

**RESPONSE ACTION OUTCOME STATEMENT  
UNDERGROUND STORAGE TANK OIL RELEASE  
MARY LEE BURBANK SCHOOL, 266 SCHOOL STREET  
CLAY PIT POND, 221 CONCORD AVENUE  
BELMONT, MASSACHUSETTS  
RTN 3-23441**

**VOLUME I OF II**

by

**Haley & Aldrich, Inc.  
Boston, Massachusetts**

Submitted to

**Massachusetts Department of Environmental Protection  
Boston, Massachusetts**

On behalf of

**Town Of Belmont  
Belmont, Massachusetts**

File No. 30660-000

April 2004

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20 April 2004  
File No. 30660-000

Massachusetts Department of Environmental Protection  
Northeast Regional Office - Emergency Response/Notification Section  
One Winter Street  
Boston, Massachusetts 02108

Attention: Bureau of Waste Site Cleanup

Subject: Response Action Outcome Statement - Underground Storage Tank Oil Release  
Mary Lee Burbank School, 266 School Street  
Clay Pit Pond, 221 Concord Avenue  
Belmont, Massachusetts  
RTN 3-23441

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On behalf of our client, the Town of Belmont, Haley & Aldrich, Inc. is pleased to submit this Response Action Outcome (RAO) Statement for Immediate Response Actions conducted at the above-referenced property. This RAO Statement has been prepared in accordance with 310 CMR 40.1056. Two RAO - Partials addressing the entire Disposal Site are provided in this report for the above referenced release. The original RAO Statement Transmittal Form (BWSC-104) is attached to this report, and a copy is included in Appendix A. In accordance with 310 CMR 40.1403(3)(f), notification of the availability of this RAO Statement has been made to municipal officials under separate cover. Copies of the notices are attached in Appendix A.

An IRA Completion Report and RAO fee are not required since the RAO is being filed within 120 days of notification. If you have any questions or require additional information, please do not hesitate to call.

Sincerely yours,  
HALEY & ALDRICH, INC.

Michael J. Cronan  
Staff Scientist

Joel S. Mooney, LSP  
Vice President

Enclosures

c: Town of Belmont; Joyce L. Munro  
DEP NERO Emergency Response; Chris Bresnahan

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# TABLE OF CONTENTS

## VOLUME I

	Page
<b>LIST OF TABLES</b>	<b>iii</b>
<b>LIST OF FIGURES</b>	<b>iii</b>
<b>1. INTRODUCTION</b>	<b>1</b>
1.1 Disposal Site Conditions	1
1.1.1 Mary Lee Burbank School	1
1.1.2 Clay Pit Pond	1
1.2 Description of the Release/Regulatory Interaction	2
1.3 Surrounding Receptors	3
1.3.1 Mary Lee Burbank School	3
1.3.2 Clay Pit Pond	4
1.4 Regulatory Approach	4
1.5 Summary of Response Actions	4
1.5.1 Burbank School	4
1.5.2 Clay Pit Pond	6
1.6 Critical Exposure Pathway Evaluation	7
<b>2. COMBINED METHOD 1 / METHOD 3 RISK CHARACTERIZATION</b>	<b>9</b>
2.1 Summary	9
2.2 General Information	9
2.3 Approach to Risk Characterization for Clay Pit Pond	11
2.4 Clay Pit Pond Hazard Identification	12
2.5 Clay Pit Pond Exposure Assessment	15
2.5.1 General	15
2.5.2 Potential Human Receptors	15
2.5.3 Potential Ecological Receptors	15
2.5.4 Applicable Soil and Groundwater Categories	15
2.5.5 Clay Pit Pond Exposure Point Concentrations	16
2.6 Method 1 Human Health, Public Welfare, and Safety Risk Characterization for Clay Pit Pond	16
2.6.1 Unrestricted Maximum Potential Site Use	16
2.7 Method 3 Ecological Risk Characterization for Clay Pit Pond	17
2.7.1 Environmental Receptors	17
2.7.2 Stage I Environmental Screening	18
2.7.3 Future Site Conditions at Clay Pit Pond	20
2.7.4 Conclusions of Ecological Risk Characterization for Clay Pit Pond	20
2.8 Uncertainty Analysis	20
2.9 Clay Pit Pond Risk Characterization Conclusions	21
<b>3. RESPONSE ACTION OUTCOME STATEMENT</b>	<b>22</b>
3.1 Limits of Disposal Site	22
3.1.1 Mary Lee Burbank School	22
3.1.2 Clay Pit Pond	22
3.2 Need for an Activity and Use Limitation	22

**TABLE OF CONTENTS**  
**(continued)**

3.3	Uncontrolled Sources	22
3.4	Operation, Maintenance and Monitoring	23
3.5	Upper Concentration Limits in Soil and Groundwater	23
3.6	Feasibility of Achieving Background	23
	3.6.1 Mary Lee Burbank School	23
	3.6.2 Clay Pit Pond	23
3.7	Conclusions	24
	3.7.1 Burbank School	24
	3.7.2 Clay Pit Pond	24
<b>4.</b>	<b>LSP OPINION</b>	<b>26</b>
<b>5.</b>	<b>LIMITATIONS</b>	<b>27</b>
	<b>REFERENCES</b>	<b>28</b>

**VOLUME I**

**TABLES**

**FIGURES**

**APPENDIX A** – Response Action Outcome Statement (BWSC-104) Transmittal Forms

**APPENDIX B** – DEP’s IRA Plan Conditional Approval Letter and Belmont Conservation Commission’s Order of Conditions

**APPENDIX C** – Weekly Field Reports

**VOLUME II**

**APPENDIX D** – Copies of Laboratory Data Sheets – Soil Samples

**APPENDIX E** – Copies of Laboratory Data Sheets – Groundwater Samples

**APPENDIX F** – Copies of Laboratory Data Sheets – Indoor Air

**APPENDIX G** – Toxicity Profiles

## LIST OF TABLES

Table No.	Title
I	Summary of Soil Quality Data – Test Borings
II	Summary of Groundwater Quality Data
III	Summary of Soil Quality Data – UST Confirmatory Samples
IV	Summary of Soil Quality Data – CPP Confirmatory Samples
V	Summary of Soil Quality Data – Stockpiles
VI	Indoor Air Quality Data
VII	Indoor Air Quality Data – Boiler Room and Storage Room
VIII	Summary of Fill Quality Data – Clay Pit Pond
IX	Soil Quality Data – Pond Soil Non-Impacted Samples
X	Comparison of Metal and PAH Levels in Soil to DEP Background Values
XI	Summary of Compounds of Concern (COC) and Exposure Point Concentrations (EPC)
XII	Comparison of Soil Exposure Point Concentrations to Method 1 Risk Characterization Standards
XIII	Comparison of Average Soil Levels to MCP Upper Concentration Limits (UCLs)

## LIST OF FIGURES

Figure No.	Title
1	Project Locus
2	Confirmatory Sample Location Plan – UST Excavation
3	Confirmatory Sample Location Plan – Drainage Excavation
4	Confirmatory Sample Location Plan – Clay Pit Pond

## **1. INTRODUCTION**

### **1.1 Disposal Site Conditions**

The Disposal Site is located on a portion of the Mary Lee Burbank (Burbank) School property at 226 School Street in Belmont, Massachusetts and a portion of Clay Pit Pond located adjacent to the Belmont High School at 221 Concord Avenue in Belmont, Massachusetts, as shown on Figure 1. A release of No. 4 fuel oil from an underground storage tank (UST) located at the Burbank School entered the Town's storm drain system and (via flow from Wellington Brook in a box culvert below Concord Avenue) ultimately discharged to Clay Pit Pond, located approximately 0.3-mile north of the Burbank School. Observations indicate the oil flowed and remained within the storm drain pipes once it entered the pipes adjacent to the UST area at the Burbank School until its discharge into Clay Pit Pond. Accordingly, the storm drain pipes and areas between the Burbank School and Clay Pit Pond are not considered to be part of the Disposal Site. Therefore, the Disposal Site is divided into two distinct areas: the Burbank School and Clay Pit Pond. This report provides Response Action Outcome Partial (RAO-P) Statements to address each portion of the Disposal Site separately - Burbank School and Clay Pit Pond.

#### **1.1.1 Mary Lee Burbank School**

A portion of the Disposal Site is located on the Mary Lee Burbank (Burbank) School property located in Belmont, Massachusetts, as shown on Figures 2 and 3. The Burbank School is bounded by School Street and Sharpe Road to the south, beyond which are private residences, private residences along Douglas and Gale Roads to the north, private residences along Richardson Road to the east, and private residences along Locust Street to the west. The Site is currently an active elementary school. Historically, the area of the Burbank School was primarily agricultural farmland through the late 1920's. The Site was first developed in about 1930 with the construction of the School.

#### **1.1.2 Clay Pit Pond**

A portion of the Disposal Site is Clay Pit Pond located along Concord Avenue in Belmont, Massachusetts, as shown on Figure 4. Clay Pit Pond is abutted by Belmont High School to the north, Concord Avenue to the south, beyond which are private residences, Underwood Street to the east, beyond which are private residences, and baseball/recreation fields to the west. Historically, the Clay Pit Pond area was occupied by several brickyards from 1888 to 1926. The Town of Belmont purchased the land in 1927. At that time, the property was a clay pit with its bottom approximately 40 feet below the elevation of Concord Avenue. The Town used the property for the disposal of municipal waste, including burning of wastes, until approximately 1933 when the dump was moved north to an adjacent area closer to the railroad line now located behind Belmont High School. At that time, Wellington Brook was diverted into the pit to form Clay Pit Pond. The dump adjacent to the railroad line was closed in 1958 and Belmont High School was built on the site of the former town dump in 1971.

The Pond currently receives stormwater from the Wellington Brook watershed (Lexington and Belmont Streets including a small part of Watertown and most of the Waverly, Belmont Center, and Cushing Square neighborhoods of Belmont), which comprises the majority of the Town of Belmont. Therefore, the Pond receives stormwater from an area of approximately 1,055 acres comprised primarily of urbanized, developed land. Stormwater received by the Pond likely contains petroleum hydrocarbons and other contaminants. As was indicated in the Clay Pit Pond Management Plan prepared by the Belmont Conservation Commission, a water sample obtained from the middle of the bank closest to Concord Avenue in 1996 contained evidence of petroleum hydrocarbons when analyzed by gas chromatography.

## **1.2 Description of the Release/Regulatory Interaction**

On Friday, 12 December 2003, it was reported to the Belmont Fire Department that oil was observed entering Clay Pit Pond from the Wellington Brook outlet. The Belmont Fire Department observed the oil in Clay Pit Pond and traced the oil through the public storm drain system back to the 10,000-gallon capacity underground storage tank (UST) containing No. 4 fuel oil at the Burbank School. The Fire Department notified Belmont Town Officials, who in turn immediately contacted Mr. Chris Bresnahan of the Massachusetts Department of Environmental Protection (DEP) and emergency response activities were initiated, both at Clay Pit Pond and at the oil UST at Burbank School.

The fuel oil from the UST release found its way into the area storm drain system (shown on Figures 2 and 3, comprised of several interconnected systems built at different times), flowed into the storm drain system down the driveway to School Street, into the storm drain system below School Street, which flows into Wellington Brook (which is in a concrete culvert below Concord Avenue), and ultimately into Clay Pit Pond at its southwest corner. As indicated above, the majority of storm drainage and street runoff in the Town of Belmont flows into Clay Pit Pond (shown on Figure 4). Accordingly, the Pond is posted for no swimming, fishing, and recreational activities. The Pond has a submerged outlet at its northeast corner.

Observations of the UST area at the Burbank School indicated the presence of oil in the man-way which housed the supply and return lines, and the tank level gage. Subsequent investigations have disclosed that the source of the release was a hole in the return line pipe at this man-way location.

Since the release appeared to be greater than 10 gallons (the reportable quantity for No. 4 fuel oil) and more than this quantity was likely released within a 24-hr period, a sudden release condition, as defined in 310 CMR 40.0411, was identified. Accordingly, DEP indicated that response actions should be handled as an Immediate Response Action (IRA), as required by 310 CMR 40.0421(1).

On 12 December 2003, DEP Emergency Response issued a hand-written Notice of Responsibility (NOR) to the Town of Belmont while implementing IRA activities at the Site. DEP issued the Town of Belmont a formal Notice of Responsibility on 22 January 2004 based on the 2-hour reporting condition at the Site. DEP subsequently assigned Release Tracking Number (RTN) 3-23441 to the release.

On 17 February 2004, Haley & Aldrich submitted an IRA Plan to DEP outlining proposed response actions. DEP provided conditional approval of the plan on 9 March 2004. Conditions included obtaining any needed approvals, permits, certifications, or conditions from the Belmont Conservation Commission and to submit an IRA Status Report, IRA Completion Report, or Response Action Outcome (RAO) Statement by 10 April 2004. As noted in the conditional approval, an Emergency Certification was obtained from the Belmont Conservation Commission to conduct IRA activities at Clay Pit Pond. The Emergency Certification period expired on 10 February 2004. Subsequently, a Notice of Intent to continue remediation activities at the Pond was filed with the Belmont Conservation Commission on 1 March 2004 and was approved by the Conservation Commission on 2 March 2004. The final Order of Conditions was issued to the Town of Belmont on 24 March 2004 to complete the cleanup of Clay Pit Pond. A copy of DEP's conditional approval letter along with a copy of Belmont Conservation Commission's Order of Conditions is provided in Appendix B.

### **1.3 Surrounding Receptors**

#### **1.3.1 Mary Lee Burbank School**

##### **1.3.1.1 Human Receptors**

The Burbank School portion of the Disposal Site includes an active elementary school located in a residential setting in Belmont. The area surrounding the Burbank School is generally characterized by private residences. Residences are located within 500 ft of the Site. Current and foreseeable human receptors at and in the immediate vicinity of the Site consist of Burbank School students and staff, residents living adjacent to the Site, utility and landscape workers, pedestrians at the Site perimeter, Site visitors, and trespassers.

##### **1.3.1.2 Ecological Receptors**

No ecological receptors have been identified at the Burbank School Site. Concrete sidewalks and paved driveways, parking areas, and recreation areas cover the release area at the Burbank School Disposal Site. Therefore, the Site is not considered to provide a viable habitat for wildlife. There are no surface water bodies on the Burbank School Site and the closest surface water body, Clay Pit Pond, is located approximately 0.3 mile north of the Site. The Site is not located within a Zone II of a public groundwater supply well, or in an Interim Wellhead Protection Area ("IWPA"), or within a Zone II aquifer protection area. There are no private drinking water supplies within 500 ft. of the Site and an Alternative Public Water Supply is available. A review of Geographic Information Systems (GIS) data provided by MassGIS indicates there are no proximal (< 500 ft) Estimated Habitats of Rare Wetlands Wildlife, Certified Vernal Pools, Priority Habitats of Rare Species, or Areas of Critical Environmental Concern (ACECs).

### **1.3.2 Clay Pit Pond**

#### **1.3.2.1 Human Receptors**

The Clay Pit Pond portion of the Disposal Site includes an active high school (Belmont High School) and a surface water body (Clay Pit Pond) located in a residential setting in Belmont. The area is generally characterized by private residences and athletic fields. Residences are located within 500 ft of the Site.

Current and foreseeable human receptors at and in the immediate vicinity of the Site consist of Belmont High School students and staff, residents living adjacent to the Site, utility and landscape workers, pedestrians at the Site perimeter, Site visitors, and trespassers.

#### **1.3.2.2 Ecological Receptors**

Potential ecological receptors at and in the immediate vicinity of the Clay Pit Pond Site consist of water fowl, vegetation, and aquatic life. The Site is not located within a Zone II of a public groundwater supply well, or in an Interim Wellhead Protection Area ("IWPA"), or within a Zone II aquifer protection area. There are no private drinking water supplies within 500 ft. of the Site and an Alternative Public Water Supply is available. A review of Geographic Information Systems (GIS) data provided by MassGIS indicates there are no proximal (<500 ft) Estimated Habitats of Rare Wetlands Wildlife, Certified Vernal Pools, Priority Habitats of Rare Species or Areas of Critical Environmental Concern (ACECs).

Further discussion of the applicable risk-based soil and groundwater categories and relevant standards are provided in the Risk Characterization in Section 2.5.4 of this report.

### **1.4 Regulatory Approach**

As indicated above, the UST release impacted two distinct and separate settings in Belmont with differing environmental conditions and potential receptors. Additionally, the mechanism for the release of No. 4 fuel oil to the environment and the media affected also differed. Accordingly, two RAO - Partial are being provided in this report to address each portion of the Disposal Site separately (Burbank School and Clay Pit Pond).

### **1.5 Summary of Response Actions**

#### **1.5.1 Burbank School**

A detailed summary of the response actions are provided in the Weekly Field Reports, included in Appendix C. The following provides a summary of response actions and other activities conducted at the Burbank School:



- The UST area was fenced and secured. Access to this area was restricted to personnel conducting response actions and school maintenance personnel.
- The oil remaining in the UST was removed and transferred into the fuel storage tank at Belmont High School, located at 221 Concord Avenue. The 10,000-gallon capacity UST was excavated, pulled from the ground, and removed off-site. The removal of the tank was observed by Belmont Fire Department personnel.
- An oil/water separator (OWS) was installed downgradient of the release area to intercept the flow of oil-impacted water before reaching the Town's storm drain system connection in School Street, and to separate the release from the Town's storm drain system. Water collected within the OWS was filtered through a bag filter, then through a mobile, activated carbon treatment system, and discharged/rerouted back into the drain system (on school property) in accordance with an Environmental Protection Agency (EPA) National Pollutant Discharge Elimination System (NPDES) Exclusion Letter. Following the completion of response actions, the treatment system was demobilized, the storm drain connections were re-established, and the OWS was abandoned in-place.
- Prior to the installation of the OWS, several drain manholes (DMHs) between the Burbank School and Clay Pit Pond were used as collection points to remove oil and oily water from the storm drain system and to mitigate the impact of the release into Clay Pit Pond.
- A test boring program, including soil and groundwater sampling and chemical testing, was conducted in the vicinity of the former UST location to evaluate the extent of the release and assess soil and groundwater quality at the Site. Six groundwater observation wells were installed in completed test borings. Locations of the test borings are indicated on Figures 2 and 3. A summary of the soil and groundwater data are provided in Tables I and II, respectively. Copies of the laboratory data sheets are provided in Appendices D and E, respectively.
- Fill, naturally-deposited soils, and drain lines impacted by the release were excavated and stockpiled onsite in a secure staging area. Stockpiles were placed on and under polyethylene.
- Confirmatory soil samples were collected at the limits of excavation and submitted to Alpha Analytical Laboratories (Alpha) of Westborough, Massachusetts for chemical analysis of extractable petroleum hydrocarbons (EPH)/volatile petroleum hydrocarbons (VPH) carbon ranges and target analytes. Locations of the confirmatory soil samples are indicated on Figures 2 and 3. A summary of the chemical analytical data is provided in Table III and copies of the laboratory data sheets are included in Appendix D.

- Indoor air quality monitoring was conducted at the Burbank School adjacent to the release area using 24-hour flow controllers and fused-silica lined Silonite 2.7-Liter canisters. A more detailed description of the indoor air evaluation and Critical Exposure Pathway is provided in Section 1.6.
- Following the installation of the OWS, all drain manholes (DMHs) between the Burbank School and Clay Pit Pond impacted by the release, as well as the Wellington Brook Culvert, were steam-cleaned using a heated power washer and biodegradable surfactants. Wash water was collected by plugging downgradient DMHs and removing the wash water with the use of a vacuum truck. Observations during these response actions indicated that oil was contained within the pipes and manholes. Absorbent boom materials placed in DMHs (as markers after cleaning) have not indicated the presence of oil.
- Remediation waste generated as a result of this IRA has been removed from the Site. Soil stockpiles were sampled and tested for facility acceptance criteria prior to disposal and removed under Bills-of-Lading. Approximately 1,200 cubic yards (cy) of excavated soils were transported off-site to appropriate receiving facilities. In accordance with 310 CMR 40.0034(5), the completed original Bills-of-Lading will be submitted to DEP within 30 days of the date of final shipment from the Disposal Site. A summary of the chemical analytical data of soils transported off-site is included as Table V. Copies of the laboratory data reports are included in Appendix D.

### 1.5.2 Clay Pit Pond

A detailed summary of the response actions are provided in the Weekly Field Reports, included in Appendix C. The following provides a summary of response actions conducted at Clay Pit Pond:

- During the course of IRA activities, multiple layers of sea boom, absorbent boom and pads were deployed to contain oil entering the Pond at the Wellington Brook outfall location. Additional sea boom and absorbent boom materials were deployed primarily along the eastern end of the Pond to contain and prevent the migration of oil blown to that end of the Pond by the wind.
- All visible floating product within the boomed areas was removed using a vacuum truck and absorbent materials. These materials were transported off-site under a Bill-of-Lading to an appropriate receiving facility. In accordance with 310 CMR 40.0034(5), the completed original Bill-of-Lading will be submitted to DEP within 30 days of the date of final shipment from the Disposal Site.
- Petroleum-impacted soils and vegetation along the perimeter of the Pond were excavated and transported off-site to appropriate receiving facilities. These materials were shipped under a Bill-of-Lading. Remediation waste generated as a result of this IRA has been removed from the Site. In accordance with

310 CMR 40.0034(5), the completed original Bill-of-Lading will be submitted to DEP within 30 days of the date of final shipment from the Disposal Site.

- Fourteen confirmatory soil samples and five background samples were collected at the limits of excavation and submitted to Alpha for chemical analysis of EPH/VPH carbon ranges and target analytes and/or total petroleum hydrocarbons. Locations of the confirmatory soil samples and background samples are indicated on Figure 4. A summary of the chemical analytical data is provided in Table IV and copies of the laboratory data sheets are included in Appendix D.

## 1.6 Critical Exposure Pathway Evaluation

A Critical Exposure Pathway (CEP) is defined as a route by which oil and/or hazardous material(s) released at a Disposal Site are transported, or are likely to be transported, to human receptors via vapor-phase emissions of measurable concentrations of oil and/or hazardous materials into the living or working space of a preschool, daycare, school, or occupied residential dwelling. Because the UST release that is subject of this RAO statement occurred adjacent to an elementary school, the possibility of intrusion of release-related constituents into the indoor air of the school was evaluated.

Haley & Aldrich conducted four rounds of indoor air sampling within the school on 16 December 2003, 3 January 2004, 20 February 2004, and 6 March 2004. Three indoor air quality samples were collected on both 16 December 2003 and 3 January 2004 within the school in the area of the building closest to the release (i.e.; ground level gymnasium, second floor classroom, third floor classroom) using 24-hour flow controllers and fused-silica lined Silonite 2.7-Liter canisters. For both the 20 February 2004 and 6 March 2004 sampling event, three additional samples were collected on both the ground floor (i.e.; classroom in the center of the structure and classroom at the opposite end of the structure from where the release had occurred) and the second floor (i.e.; classroom at the opposite end of the building from where the spill had occurred).

The 16 December 2003 sampling event was initiated soon after the UST release was discovered to ascertain indoor air quality within the building. At that time, it was discovered that an air intake into the gymnasium was located directly above the location of the UST. Shortly thereafter, as an engineering measure to preclude potential indoor air impacts the air intake was moved to the roof of the building. The second air sampling event on 3 January 2004 took place during UST removal and after the intake had been moved. The 16 December 2003 indoor air samples were collected when the School was in operation and students were present. Thus, although the heating system was on, these samples were not collected under closed building conditions (i.e.; doors opening due to normal building activity). However, the 3 January 2004, 20 February 2004, and 6 March 2004 air samples were collected when the School was not in operation and while students were not present in the building (i.e.; school vacation or on weekends). Therefore, these samples were collected under conservative, closed building conditions with the heating system operational. It should be noted that the 6 March 2004 samples were collected after the source and impacted soil located next to the building foundation was removed.

A summary of indoor air quality data is provided in Table VI and copies of the laboratory data reports are included in Appendix F. As can be seen on Table VI, no clear temporal or spatial patterns emerge when the analytical data are examined. Levels of petroleum-related constituents appear to fluctuate moderately and not in conjunction with the remedial activities occurring in relation to the release. Levels of petroleum related constituents were, at times, noted at higher levels in classrooms located on the upper floors of the building when compared to the gymnasium located on the ground floor. This finding is not consistent with expected patterns of subsurface vapor intrusion (i.e.; higher levels on lower floors). Additionally, petroleum-related constituents were detected in indoor air throughout the school after the UST and the majority fuel oil-impacted media adjacent to the building was removed from the site (6 March 2004).

In order to determine the source of the residual levels of petroleum-related contaminants in the indoor air of the structure, Haley & Aldrich conducted an assessment of the housekeeping practices in the building and an inventory of all cleaning and maintenance products kept in the building. In the boiler room of the building, which is located in the basement adjacent to the release area, several uncovered 5-gallon buckets containing motor oil were noted. Empty containers of motor oil were also observed and general poor housekeeping practices were noted. Additionally, a storage room located on the ground floor of the building was observed and several floor waxes, strippers, and sealers containing petroleum-based chemicals (e.g., Spectrowax Corporation products, among others) were noted.

In order to examine the air quality in these rooms, air samples were collected on 5 April 2004 via the same methods described above in both the boiler room and the storage room. These samples were collected over a 24-hour period while school was in session. Results of the analyses of these samples are shown on Table VII and copies of the laboratory data reports are included in Appendix F. Relatively high concentrations of petroleum-related constituents were noted despite all affected media from the release having been removed from the vicinity of the foundation wall several weeks previous.

These results indicate that the residual levels of petroleum-related compounds found in the indoor air of the school are likely related to the poor housekeeping practices at the school and the use of petroleum-based products at the school. Furthermore, response activities removed the contamination related to the UST release and removed any source for critical exposure. Thus, a CEP does not exist at the school and is not evaluated further in this RAO Statement.

## **2. COMBINED METHOD 1 / METHOD 3 RISK CHARACTERIZATION**

### **2.1 Summary**

This Section presents the results of a combined Method 1 (risk to human health, safety, and public welfare and the environment) Risk Characterization for the Mary Lee Burbank School and Clay Pit Pond Disposal Site (the "Site") located at 266 School Street and in front of 221 Concord Avenue, respectively, as shown on Figure 1 - Project Locus. The DEP RTN 3-23441 tracks the Massachusetts Contingency Plan (MCP) compliance activities that have occurred at the Site. The limits of the Site are discussed in Section 3.1 of this RAO Statement. The RAO Statement also contains information concerning the nature and extent of contamination used as the basis for defining the Site.

Results of the Risk Characterization indicate that a condition of "No Significant Risk" exists at the Site relative to human health, safety, public welfare, and the environment under current and foreseeable site conditions. The Site is divided into two distinct exposure points: (1) the area of the former underground storage tank (UST) and former stormwater drain pipes at the Burbank School property and (2) Clay Pit Pond. Potential human receptors who may come into contact with soil at the Burbank School (i.e., ingestion, dermal contact, and/or dust inhalation) currently and in the foreseeable future include utility workers conducting subsurface utility or maintenance work; students and employees of the elementary school adjacent to the Site; area residents; pedestrians at the Site perimeter; Site visitors; and trespassers. Potential human receptors who may come into contact with soil at Clay Pit Pond currently and in the foreseeable future include utility workers conducting subsurface utility or maintenance work; students and employees of the high school adjacent to the Site; area residents; pedestrians at the Site perimeter; Site visitors; and trespassers.

### **2.2 General Information**

The source of the compounds detected in soil surrounding the former UST and former stormwater drain pipes at the Burbank School, and soil at the eastern perimeter of Clay Pit Pond and on the southern shore of the Pond adjacent to the stormwater system outfall is attributed to a release of No. 4 fuel oil that occurred on 12 December 2003 and originated from the former UST at the Burbank School. Fuel oil released from the tank migrated into the stormwater drainage system at the school. This system feeds into the Town's main municipal stormwater drainage system. The end point of this system is the Wellington Brook outfall at Clay Pit Pond.

#### **2.2.1 Burbank School**

As part of Immediate Response Action (IRA) activities at the Site, the UST was exposed and removed, and contaminated soils in the area around the UST, including some soils around existing stormwater drain pipes, were excavated and removed. As discussed herein, impacted soil formerly located around the tank and associated piping was removed until no detectable levels of petroleum constituents (EPH and VPH) were found in laboratory analyzed confirmatory soil samples. Thus, soil at the school has been restored to background conditions and a condition of "No Significant Risk"

therefore exists at the Burbank School exposure point. A summary of the results of the confirmatory sample analyses is presented in Table III.

Because a condition of "No Significant Risk" has already been established at the School, this exposure point is not evaluated further in this Risk Characterization and only the Clay Pit Pond portion of the Site (the "Pond Site") is evaluated.

### 2.2.2 Clay Pit Pond

According to anecdotal information provided by Town officials and a document entitled "Clay Pit Pond Management Plan, Town of Belmont, June 1996" produced by the Belmont Conservation Commission, 21 ± acres in the area of Clay Pit Pond was the original site of several brickyards from 1888 to 1926. The Town of Belmont purchased the land in 1927. At that time, the property was a pit with its bottom approximately 40 feet below the elevation of Concord Avenue. The Town subsequently used the property for the disposal of municipal waste, including burning of wastes, until approximately 1933 when the dump was moved north to an adjacent area closer to the railroad line now located behind Belmont High School. At that time, Wellington Brook was diverted into the pit to form Clay Pit Pond. The dump adjacent to the railroad line was closed in 1958 and Belmont High School was built on the site of the former town dump in 1971.

Clay Pit Pond currently receives stormwater from the Wellington Brook watershed (Lexington and Belmont Streets including a small part of Watertown and most of the Waverly, Belmont Center, and Cushing Square neighborhoods of Belmont). Therefore, the Pond receives stormwater from an area of approximately 1,055 acres comprised primarily of urbanized, developed land. Stormwater received by the Pond likely contains petroleum hydrocarbons and other contaminants. As was indicated in the Clay Pit Pond Management Plan prepared by the Belmont Conservation Commission, a water sample obtained from the middle of the bank closest to Concord Avenue in 1996 contained evidence of petroleum hydrocarbons when analyzed by gas chromatography (although identification of the constituents could not be performed).

When the release migrated into the Pond via the Wellington Brook outfall, the No. 4 fuel oil was pushed along the top of the water via prevailing westerly winds. Most of the oil eventually impacted the eastern perimeter of the Pond and on the southern perimeter of the Pond immediately adjacent to the outfall. IRA activities at Clay Pit Pond included the placement of multiple layers of sea boom, absorbent boom and pads, and the removal of oil from the surface of the Pond with a vacuum truck at the Wellington Brook outfall location where product was observed entering the Pond. Additional sea boom and absorbent boom materials were deployed primarily along the eastern end of the Pond to contain and prevent the migration of oil. The contractor removed floating product within the boomed areas using a vacuum truck and absorbent materials. Response actions at Clay Pit Pond were conducted on a 24-hr basis for a period of approximately three weeks as directed by the LSP. After product was sufficiently contained within boom areas and the majority of product removed, response actions at the Pond were limited to normal workday, daylight hours.

Soil visibly impacted by the release at the eastern perimeter of the Pond and on the shore to the immediate south of the outfall was excavated (by hand and/or machine) and transported for disposal off-site. Remaining soil and vegetation at the Pond site that abutted impacted soil was also detergent-washed. A detailed visual examination of the Pond by the LSP and Belmont Conservation Commission members after the completion of IRA activities did not reveal the presence of any residual petroleum contamination in the Pond (i.e., no sheens were noted and no visual oil was found on the banks of the Pond or in vegetation located in or near Pond water).

After IRA activities were completed at Clay Pit Pond, several soil samples were obtained from the banks of the Pond impacted by the release (eastern shore and southern area adjacent to the outfall). These soil samples were submitted for laboratory analysis of petroleum hydrocarbons (EPH and VPH). The results of these analyses, which are considered in this Risk Characterization, are presented on Table IV and summary statistics for these samples (i.e., minimums, averages, and maximums) are presented on Table VIII. It should also be noted that five soil samples were collected from soil around the Pond in areas not impacted by the oil release from the UST at the Burbank School (three were collected on the top of the banks where Pond water does not regularly migrate, two were collected in areas where Pond water often is present). These samples were analyzed for petroleum hydrocarbons and the results of these analyses were intended to be representative of Pond site-specific soil background conditions (Table IX).

In general, the results of the analyses of samples collected from the areas of soil at the Pond impacted by the release indicated the presence of petroleum hydrocarbons - in the form of EPH carbon ranges and target analytes (Polycyclic Aromatic Hydrocarbons [PAHs]). Several of the constituents detected in soil were found both in areas impacted by the release and also in soil unaffected by the release. Therefore, the constituents detected at both locations are considered representative of background conditions.

### **2.3 Approach to Risk Characterization for Clay Pit Pond**

Consistent with Section 40.0942 of the MCP, use of a combined Method 1 and Method 3 approach was deemed appropriate for characterization of risk of harm to human health, and public welfare, safety, and the environment, respectively, for the following reasons:

- Oil or hazardous material that was present in the surface water of the Pond due to the release has been removed. Therefore, contaminants that are potentially due to the release from the UST at the Burbank School are currently confined to the soil on the banks of the Pond.
- The data set was found to be sufficient to characterize the Pond site and evaluate risk because the nature and extent of subsurface contamination at the Pond site has been adequately characterized; and
- Method 1 standards promulgated by DEP in the MCP exist for the compounds of concern.



The risk of harm to human health under unrestricted maximum potential site uses (i.e., use as a residence) was evaluated along with risk to public welfare and safety. This was accomplished by comparing the exposure point concentrations of compounds detected in soil above background values to the most stringent S-1 Method 1 soil standards. Because risk to the environment cannot be evaluated through comparison to Method 1 soil standards, evaluation of risk was accomplished through a Method 3 approach summarized in Section 2.7 of this document.

The potential for significant risk of harm to public welfare, as defined in 310 CMR 40.0994 was evaluated relative to current and future Pond site usage with regard to the existence of nuisance conditions, loss of property value, the unilateral restriction of the use of another person's property, and any other monetary or non-pecuniary costs as related to the release at the Pond site. The potential for significant risk of harm to safety, as defined in 310 CMR 40.0960 was evaluated relative to current and future Pond site usage with regard to physical harm or bodily injury as related to the release at the Site. The potential for significant risk of harm to the environment, as defined in 310 CMR 40.0995 was also evaluated relative to current and future Pond site usage.

#### **2.4 Clay Pit Pond Hazard Identification**

Fourteen soil samples were taken from soil around the perimeter of the Pond in areas that had been impacted by the release. Five soil samples were also collected from soil around the perimeter of the Pond in areas that were not impacted by the release. Data from these samples was intended to be representative of soil background conditions at the Pond. Soil quality data for both soil samples most likely to have been impacted by the release and soil samples not impacted by the release (background) are presented in Tables IV and IX, respectively.

The soil quality data for the samples most likely to have been impacted by the release were reviewed to identify the compounds of concern (COCs) for the Risk Characterization. COCs are defined as those compounds which are potentially Pond site-related and whose data are of sufficient quality for use in a quantitative Risk Characterization. The compounds detected at the Pond site consist of EPH carbon ranges, PAHs, VPH carbon ranges, and VOCs.

Generally, compounds may be excluded from the Risk Characterization if they are consistent with background levels. As was noted previously, five soil samples were taken from areas of soil at the Pond that were not impacted by the release in order to establish background conditions at Clay Pit Pond since this water body is the receiving water body for the majority of the Town and the presence of petroleum constituents and PAHs in the Pond due to stormwater is expected. As expected, both PAHs and petroleum hydrocarbons were detected in these samples. However, lower levels of constituents were found in these samples when compared to the samples taken in the areas where release impacted soil had been removed. It should be noted that this pattern of detected levels is consistent with the likely patterns of deposition of constituents that are released into the Pond via stormwater. Since the wind direction at the Pond prevails from the west, it is expected that levels of constituents would be inherently higher in soil contacted by Pond water that is located along the eastern banks of the Pond. Therefore, because the "background" soil samples are likely not representative of background conditions along the eastern bank of the Pond, they were not considered applicable in this Risk Characterization.

Because Pond site-specific background values were determined to have limited applications at this site, a comparison of maximum levels of PAHs detected in soil samples to applicable DEP background values for fill containing coal/wood ash background values is shown in Table X. The presence of coal/wood ash in the soil from the vicinity of Clay Pit Pond was expected due to the former waste disposal practices involving burning at the Pond site and previous site usage. Additionally, Haley & Aldrich personnel observed ash in soil at the Pond site during clean-up activities and soil sampling.

Based on this comparison, although the average value of the contaminants is below the background value, some PAHs were detected in individual (not all) samples at levels slightly above applicable, promulgated background values (90th percentile – discussed below). Background levels were referenced to Massachusetts Department of Environmental Protection, Technical Update: Background Levels of Polycyclic Aromatic Hydrocarbons and Metals in Soil, dated May 2002.

- Benzo(g,h,i)perylene was found at a level (3.5 mg/Kg) above the background value of 3 mg/kg for this compound in 1 of 14 samples analyzed. The average level of this compound in Pond soil most likely to have been impacted by the release is 0.784 mg/Kg.
- Benzo(k)fluoranthene was found in 1 of 14 samples at a level (4.1 mg/Kg) just slightly above the applicable background value for this compound (4 mg/Kg). The average level of benzo(k)fluoranthene detected in Pond soil samples obtained from areas most likely impacted by the fuel oil release is 1.1 mg/Kg less than the background value for this compound.
- Indeno(1,2,3-cd)pyrene was detected in 2 of 14 samples at levels (3.1 and 3.35 mg/Kg) above the applicable background value for this constituent (3 mg/Kg). The average level of indeno(1,2,3-cd)pyrene in all 14 samples obtained (0.915 mg/Kg) is less than the background value for this compound.
- Acenaphthylene was detected in 2 of 14 samples at levels (1.09 and 2.1 mg/Kg) above the applicable background value for this chemical (1 mg/Kg). The average level of acenaphthylene detected in the 14 soil samples analyzed (0.627 mg/Kg) is below the background value for this constituent.

The background values promulgated by DEP and considered most applicable for this site represent the 90th percentile values for data corresponding to 750 to 1,000 soil samples collected by the Massachusetts Highway Department as part of the Central Artery/Tunnel (CA/T) project in Boston, Massachusetts and compiled by Camp, Dresser, and McKee in 1996. Considering the previous use of the Pond site for burning municipal waste and the current use of the Pond site as the stormwater collection basin for the majority of the town, background conditions at this site are likely better represented by the 95th percentile values from the CA/T dataset. Comparison of maximum detected levels in Pond soil obtained from areas most likely to have been impacted by the release to 95th percentile values from the CA/T dataset indicate that all PAHs detected in Pond soil were found at levels below these background values with the exception of acenaphthylene.

Because 95th percentile values from the CA/T dataset were determined to be most applicable to this site considering historical and current use of the Pond, all PAHs with the exception of acenaphthylene were determined to be present at levels consistent with background in soil most likely to have been impacted by the release. Thus, compounds of concern (COC) evaluated further in this Risk Characterization include acenaphthylene, and EPH carbon ranges.

Toxicological profiles describe the potential human health hazards posed by a chemical. The profiles include, when available, the known health effects associated with acute, subchronic, and chronic exposure to a specific chemical, as well as information on the carcinogenicity, genotoxicity, and the developmental and reproductive toxicity of the chemical. The toxicity profiles for the COCs evaluated in this Risk Characterization were obtained from the Massachusetts Department of Environmental Protection Risk Assessment Shortforms and are included in Appendix G, with the exception of EPH carbon ranges (since they are comprised of a mixture of compounds and are not individual compounds).

## **2.5 Clay Pit Pond Exposure Assessment**

### **2.5.1 General**

The Pond Site is not located within a Zone II of a public groundwater supply well, or in an Interim Wellhead Protection Area (“IWPA”), or within a Zone II aquifer protection area. There are no private drinking water supplies within 500 ft of the Pond site and an Alternative Public Water Supply is available. A review of Geographic Information Systems (GIS) data provided by MassGIS indicates there are no Areas of Critical Environmental Concern (ACECs) Estimated Habitats of Rare Wetlands Wildlife, Certified Vernal Pools, or Priority Habitats of Rare Species within 500 feet of the Pond site. While Clay Pit Pond was impacted by the release, IRA activities removed fuel oil released from the UST at the Burbank School from the surface water of the Pond and soils along the shoreline of the Pond.

### **2.5.2 Potential Human Receptors**

The Pond Site is located within a mixed residential, recreational, and institutional (high school) area. An active commuter railroad line is located behind Belmont High School. Potential human receptors who may come into contact with soil at Clay Pit Pond currently and in the foreseeable future include utility workers conducting subsurface utility or maintenance work, students and employees of the high school adjacent to the Pond Site, area residents, pedestrians at the Pond Site perimeter, Pond Site visitors, and trespassers.

### **2.5.3 Potential Ecological Receptors**

The Pond Site is located in Belmont, Massachusetts, approximately 600 feet from the Cambridge City Line. The vicinity of the Pond Site is urban/suburban residential with institutional (High School), recreational (athletic fields), and transportation (railroad) uses.

According to the Clay Pit Pond Management Plan produced by the Town of Belmont’s Conservation Commission, aquatic and wetland plants, upland plants, fish, small mammals, waterfowl, birds, reptiles, and invertebrates have been identified at or in the vicinity of the Pond. Risk to these potential ecological receptors is discussed in Section 2.7 of this document.

### **2.5.4 Applicable Soil and Groundwater Categories**

#### **2.5.4.1 Groundwater**

The GW-1 category addresses groundwater as a potential drinking water source. Category GW-2 is based on the presence of an average depth to groundwater of less than 15 ft which is located within 30 ft of an existing building, and addresses the potential for volatile constituents to migrate from groundwater to indoor air. The GW-3 category is based on the default assumption of potential discharge of on-site groundwater to surface water.

Groundwater at the Pond site is categorized as GW-3, since no public or private water supply wells are identified within one-half mile radius of the Pond site, the Pond site is not located within a Zone II or IWPA of a public water supply well, and no occupied buildings are located near the potentially impacted soil at the Pond site. Observation wells were not installed at the Pond site and groundwater samples were not collected. Groundwater is not considered to be part of the Disposal Site.

#### 2.5.4.2 Soil

The soil standards, as promulgated by the MCP, consider both the potential risk of harm from direct exposure to OHM in the soil, and also the soils' leaching potential and impact on groundwater quality beneath the site. In general, identification of applicable soil categories is based on receptor and exposure information, whereby the exposure is a function of the frequency and intensity of use at the site and accessibility of the soil. For current and foreseeable Pond site conditions, Pond site soils were categorized as S-1, based on low frequency/high intensity use by children. Soils deeper than 3 ft bgs are not considered to be part of the Disposal Site and were therefore not categorized.

For the purposes of this Risk Characterization, whereby the worst-case scenario (i.e., residential site use under unrestricted future site uses) was assumed, soils at the Pond site were categorized as S-1/GW-3 for high frequency/high intensity use by children.

#### 2.5.5 Clay Pit Pond Exposure Point Concentrations

Exposure Point Concentrations (EPCs) were developed for the Pond site. Average levels of constituents detected in soil samples obtained from soil on the banks of the Pond most likely impacted by the release were considered representative of existing conditions and were used as the Exposure Point Concentrations (EPC). The average was calculated using detected levels and values of half the detection limit when the compound was not detected in a particular sample (Table XI).

A review of the soil data did not indicate the presence of "hot spots" in accordance with the definition of "hot spots" in 310 CMR 40.0006. Averaging the soil data was considered appropriate due to the limited area and extent of contamination. In addition, sampling locations were biased to areas of contamination. The acceptability of using arithmetic averaging for EPCs is based upon 310 CMR 40.0926.

### 2.6 Method 1 Human Health, Public Welfare, and Safety Risk Characterization for Clay Pit Pond

#### 2.6.1 Unrestricted Maximum Potential Site Use

Comparison of the soil exposure point concentrations to the most stringent Method 1 S-1/GW-3 standards indicates that the soil exposure point concentrations at the Pond site do not exceed these standards (Table VII). These standards evaluate the risk to

human health under unrestricted maximum potential site uses (i.e., use as a residence), which is the worst-case scenario. Use of these standards is also considered to be protective of potential exposures by receptors under current and foreseeable future site conditions (utility workers conducting subsurface utility or maintenance work, students and employees of the high school adjacent to the Pond site, area residents, pedestrians at the Pond site perimeter, Pond site visitors, and trespassers). Method 1 standards are also considered protective of public welfare. Therefore, a condition of "No Significant Risk" to human health and public welfare exists for current and foreseeable Pond site uses and conditions, as well as unrestricted potential Pond site uses and conditions, and an Activity and Use Limitation (AUL) is not required at the Pond site.

Risk to safety was characterized in accordance with 310 CMR 40.0960(3). Under current Pond site activities and uses, no open pits, lagoons, or other dangerous structures do not exist at the Pond site, nor is there any apparent threat of fire or explosion, including the presence of explosive vapors resulting from the release of COCs.

COCs at the Pond site are present at ppb or ppm levels that would not be expected to exhibit the characteristics of corrosivity, reactivity, or flammability, as defined in 310 CMR 40.0960(3) and as such, their presence would not likely pose a risk to safety.

Based on these observations, a condition of "No Significant Risk" of harm to safety is indicated, as defined in 310 CMR 40.0960(3).

## **2.7 Method 3 Ecological Risk Characterization for Clay Pit Pond**

### **2.7.1 Environmental Receptors**

Located in an urban, residential and institutional area of Belmont, Clay Pit Pond occupies approximately 13.5-acres between Belmont High School and Concord Street. The Pond is surrounded by vegetation and a footpath which is frequently used by members of the community. Concord Street is located to the south of the Pond and paved driveways are located to the west and north. Underwood and Hittinger Streets are located to the east and northeast of the Pond, respectively. The High School and associated parking lots are located to the north of the Pond, while athletic fields are located to the east of the Pond.

According to information obtained from MassGIS, the Pond site is not located in either an Estimated Habitat of Rare Wetlands Wildlife ("Estimated Habitat"), or a High Priority Site of Rare Species Habitats and Exemplary Natural Communities ("Priority Habitat"). The closest Estimated Habitat and Priority Habitat is located approximately 0.7 miles north of the Pond site. There are no certified vernal pools located on-site or within a 2,000 foot radius of the Pond site. The Pond site is not located in an Area of Critical Environmental Concern (ACEC).

Based on the above findings and observations by Haley & Aldrich personnel, potential environmental receptors on the Pond site may include upland plants, fish, small mammals, waterfowl, birds, reptiles, and invertebrates inhabiting or using the Pond

or the area around the Pond. The area around the Pond consists of trees, shrubs, and maintained (e.g., mowed periodically during warmer months) grassy areas.

### 2.7.2 Stage I Environmental Screening

The risk of harm to Pond site biota and habitats was characterized by evaluating ecological parameters in accordance with 310 CMR 40.0995. A Stage I Environmental Screening was performed to identify potentially significant exposure pathways, or readily apparent environmental harm.

An evaluation of current and potential future exposure of environmental receptors to contamination at or from the Pond site follows:

- No records or other evidence of current or past impacts of oil and/or hazardous material from the Pond site on wildlife, fish, shellfish, or other aquatic biota have been noted.
- The Wellington Brook outfall is located at the southwestern corner of the Pond. As mentioned previously, Clay Pit Pond serves as the receiving water body for stormwater from the majority of the Town. With recent heavy rains and, thus, fluctuations in water level at the Pond, trash and debris present in the water of the Pond was deposited at the high water level on the banks of the Pond after the water level had declined. Observations after this event did not indicate any impacted vegetation or debris, or any sheen on the water.
- Samples collected from Pond soil in an area not impacted by the release indicate the presence of both PAHs and petroleum hydrocarbons. This finding implies that the quality of Pond water and soil surrounding the Pond was likely historically impacted due to the primary function of the Pond as a stormwater receiving water body and due to the former use of the Pond area as a municipal waste dump. As was indicated in the Clay Pit Pond Management Plan prepared by the Belmont Conservation Commission, a water sample obtained from the middle of the bank closest to Concord Avenue contained evidence of petroleum hydrocarbons when analyzed by gas chromatography. In summary, in the absence of the Burbank School UST release, Clay Pit Pond likely contains some level of PAH and petroleum contamination.
- Based on visual observation after IRA activities were complete at the Pond (e.g., no visible oil residues on Pond water, banks, or vegetation), ambient conditions at the time of the release to the Pond (e.g., cold temperatures), and the characteristics of No. 4 fuel oil (e.g., viscous and specific gravity less than 1), surface water and soil at Clay Pit Pond likely no longer contains contamination due to the UST release at the Burbank School.
- Analytical data for soil remaining in the area of the release indicates the presence of one PAH and petroleum hydrocarbons at levels above typical background levels. However, data from samples obtained from soil located on a bank not affected by the release also indicated the presence of PAHs and



petroleum hydrocarbons. Therefore, in the absence of the release, contamination likely exists within the Pond.

- Potential exposure pathways from Pond site soil to identified ecological receptors are considered to be complete. A Terrestrial Habitat Quality Evaluation was conducted, and aquatic ecological exposure scenarios were evaluated in a Stage I Effects-Based Screening.
- It should be noted that no ecologically-based soil screening values are available for EPH carbon ranges or acenaphthylene, therefore no comparison between site-specific soil levels of these constituents and corresponding screening levels could be performed.

#### 2.7.2.1 Terrestrial Habitat Quality Evaluation

The Pond site is not located in either an “Estimated Habitat” or “Priority Habitat.” There are no certified vernal pools located on-site or within a 2000-foot radius of the Pond site. The Pond site is not located in an ACEC, and contaminant transport from surface soil at the Pond site to an ACEC is not considered possible. Terrestrial environments on the Pond site consist of the banks of the Pond and the landscaped areas around the Pond (with trees, shrubs, and maintained grass). Finally, the portions of soil at the Pond impacted by the release comprise a relatively small area (a strip of Pond soil that had been impacted by the release due to contact with oil floating on the surface water) and were hand excavated and disposed off-site. Therefore, the area affected by the release is not sufficient to support a balanced terrestrial habitat and constituents detected in the soil remaining in this area are likely present due to the historical use of the Pond as a municipal waste dump and the current use of the water body as a receiving basin for the majority of the town’s stormwater (representative of local conditions). Thus, no further assessment of the terrestrial habitat quality is necessary. A condition of “No Significant Risk of Harm” to terrestrial biota and habitats has been achieved at the portion of the disposal site located at Clay Pit Pond.

#### 2.7.2.2 Aquatic Effects-Based Screening

Based on visual observation after IRA activities were complete at the Pond (e.g., no visible oil residues on Pond water, banks, or vegetation), ambient conditions at the time of the release to the Pond (e.g., cold temperatures), the characteristics of No. 4 fuel oil (e.g., viscous and specific gravity less than 1), and the time that has elapsed since the release, surface water at Clay Pit Pond likely no longer contains contamination due to the UST release at the Burbank School. Also, as mentioned throughout this document, the water of Clay Pit Pond likely contains PAHs (due to the historical waste disposal practices in the municipal dump now located at the bottom of the Pond) and petroleum hydrocarbons (due to the Pond acting as a receiving water body for the majority of the town’s stormwater) in the absence of the UST release. Thus, due to these considerations, any residual contamination currently within the surface water of Clay Pit Pond is likely a result of local conditions.

Therefore, a condition of "No Significant Risk" of harm to aquatic ecological receptors due to the UST release at the Burbank School has been achieved at the Clay Pit Pond portion of the disposal site.

### **2.7.3 Future Site Conditions at Clay Pit Pond**

Since the source of the release (UST) and all residual contamination is soil has been removed from the Burbank School property, it is unlikely that the distribution of site-related petroleum contamination will increase in the future, and any levels of residual contamination due to the release possibly remaining in Pond site soil and surface water are expected to decrease through biodegradation over time. The PAHs and petroleum hydrocarbons detected in soil at the Pond in areas not impacted by the release are considered to be attributable to historical and current Pond site usage.

Risk of harm to the environment under future Pond site conditions was characterized by comparing the average concentrations of oil or hazardous material in Pond soil most likely impacted by the release to the MCP Upper Concentration Limits in Soil, respectively (Table VIII). Average Pond soil concentrations do not exceed applicable UCLs. Therefore, a condition of "No Significant Risk" of harm to the environment has been achieved for the Pond site under future site conditions.

### **2.7.4 Conclusions of Ecological Risk Characterization for Clay Pit Pond**

Risk of harm to the environment was characterized for all current and reasonably foreseeable Pond site activities and uses, in accordance with 310 CMR 40.0995. The Environmental Risk Characterization included an assessment of chemical data, potential contamination migration and exposure pathways, and an evaluation of biota and habitats at and in the vicinity of the Clay Pit Pond portion of the disposal site. In addition, risk of harm to the environment under future Pond site conditions was evaluated with a comparison to Upper Concentration Limits (UCLs). Results of the Environmental Risk Characterization demonstrate that any residual contamination at the Pond site is likely due to the current (stormwater) and historical (burning of municipal waste) uses of the Pond thereby representing local conditions. Therefore, a condition of "No Significant Risk" of harm to environmental resources, biota, and habitats has been achieved at the Pond site under current, reasonably foreseeable, and future site conditions, and a Stage II Environmental Risk Characterization is not required.

## **2.8 Uncertainty Analysis**

In this Risk Characterization, there is uncertainty associated with the development of the Method 1 standards, in which DEP made several assumptions. The assumptions represent generally conservative estimates based on published population information, and thus only represent receptors at the site in a general sense.

The derivation of the Method 1 standards, which includes the use of dose-response values (RfDs, RfCs, CSFs, and Unit Risk values), physical constants (solubility, odor thresholds), Ambient Water Quality Criteria, and assumptions about human and ecological receptor exposure, can contribute to uncertainty in the Risk Characterization.

Accordingly, the Method 1 standards and their application also have the following uncertainties:

- the use of dose-response information from effects observed at high doses to predict the adverse health effects that may occur following exposure to the low levels expected from human contact with the compound in the environment;
- the use of dose-response information from short-term exposure studies to predict the effects of long-term exposures, and vice versa;
- the use of dose-response information from animal studies to predict adverse health effects in humans;
- the use of dose-response information from homogeneous animal populations or health human populations to predict the adverse health effects likely to be observed in the general population consisting of individuals with a wide range of sensitivities; and
- the use of default values for daily ingestion rates, average body weights, surface area, and permeability constants, etc.

## **2.9 Clay Pit Pond Risk Characterization Conclusions**

The Pond site was evaluated according to Method 1 and Method 3 Risk Characterization requirements, 310 CMR 40.0980, using the DEP promulgated Method 1 standards. A condition of "No Significant Risk" was determined to exist at the Pond site relative to human health, safety, public welfare, and the environment for current and foreseeable future site conditions, and for unrestricted site uses (i.e.; residential and similar uses). An Activity and Use Limitation (AUL) is not required to maintain a condition of "No Significant Risk".

### **3. RESPONSE ACTION OUTCOME STATEMENT**

#### **3.1 Limits of Disposal Site**

##### **3.1.1 Mary Lee Burbank School**

The limits of the Burbank School portion of the Disposal Site are defined by the approximately 1,750 square foot UST excavation, and the interconnected excavation limits of four drain lines and associated oil-impacted pipe bedding and two catch basins impacted by No. 4 fuel oil, as shown on Figures 2 and 3. Specifically, the UST excavation extended from the southeast exterior wall of the Burbank School northwest to the catch basin located along the driveway, and from the stairway at the southwest entrance northeast to the concrete apron and building overhang. The drain line excavations extended from the UST excavation approximately 20 ft to the north, approximately 20 ft to the west, and approximately 120 ft to the south.

##### **3.1.2 Clay Pit Pond**

As No. 4 fuel oil is less dense than water and therefore floats on the surface of the water, the limits of the Disposal Site at Clay Pit Pond are defined to be the surface of the Pond and the visibly impacted soil between the high and low water lines, which consists of an approximately four inch layer of soil at the perimeter of Clay Pit Pond. The visibly impacted areas consisted of an approximately 50 foot portion of the Pond located adjacent to the Wellington Brook inlet and an approximately 1,150 foot section of the eastern perimeter of Clay Pit Pond, as shown on Figure 4.

#### **3.2 Need for an Activity and Use Limitation**

Based on the response actions, results of the chemical analytical data, and the results of the combined Method 1/ Method 3 Risk Characterization, a condition of "No Significant Risk" of harm to human health, safety, public welfare, and the environment exists at both the Burbank School and Clay Pit Pond portions of the Disposal Site for current and unrestricted Disposal Site conditions and uses (i.e.; use as a residence). Therefore, an AUL is not required to support a Response Action Outcome (RAO) for the Disposal Site.

#### **3.3 Uncontrolled Sources**

The source of contamination at the Disposal Site is attributed to a former No. 4 fuel oil UST. The UST and its associated piping have since been removed from the Disposal Site and the remaining levels of oil and/or hazardous materials in the soil pose a condition of No Significant Risk, as described in the combined Method 1/Method 3 Risk Characterization.

- In accordance with 310 CMR 40.1003(5), there are no uncontrolled sources of oil or hazardous materials (OHM) related to the UST release at the Disposal Site.
- There are no sources of OHM on the Disposal Site related to the UST release which are likely to result in an increase in concentrations of OHM in an environmental medium, either as a result of direct discharge or intermedia transfer of OHM.

- There are no identified leaking underground storage tanks, vessels, or other containers at the Disposal Site.
- There are no identified dry wells or waste disposal systems at the Disposal Site. Non-aqueous phase liquids (NAPL) are no longer identified at the Disposal Site.

Therefore, it is our opinion that there are no uncontrolled sources of OHM remaining at the Disposal Site. Accordingly, any substantial hazards posed by the Disposal Site (if any ever existed) have been eliminated.

### **3.4 Operation, Maintenance and Monitoring**

There are no remedial systems in operation at the Disposal Site. No additional operation, maintenance, or monitoring activities are required to confirm or maintain site conditions upon which this RAO is based.

### **3.5 Upper Concentration Limits in Soil and Groundwater**

OHM remaining at the Disposal Site does not exceed one or more applicable Upper Concentration Limits in soil or groundwater, as indicated in Table VIII.

### **3.6 Feasibility of Achieving Background**

#### **3.6.1 Mary Lee Burbank School**

Background is defined as those levels of oil and hazardous material that would exist in the absence of the Disposal Site of concern which are ubiquitous and consistently present in the environment at and in the Disposal Site of concern and attributable to geologic or ecological conditions. Several metals were detected above the background values for “natural” soils established in DEP’s “Background Levels of Polycyclic Aromatic Hydrocarbons and Metals in Soil, dated May 2002.” However, it is our opinion that the metals detected are representative of geologic conditions in the area and would exist in the absence of the Disposal Site. Therefore, the levels of metals detected at the Site are considered background.

Confirmatory soil samples collected at the Burbank School portion of the Disposal Site indicate that contamination resulting from the UST release has been reduced to background (i.e.; non-detectable). Impacted soil formerly located around the UST, associated piping, and drain lines was removed until no detectable levels of petroleum constituents (extractable petroleum hydrocarbons [EPH] and volatile petroleum hydrocarbons [VPH]) were found in laboratory analyzed soil samples.

In accordance with 310 CMR 40.1056(2)(e), a feasibility evaluation is not required for Class A-1 Response Action Outcomes. Thus, soil at the school has been restored to background conditions and a condition of “No Significant Risk” exists at the Burbank School.

### 3.6.2 Clay Pit Pond

Feasibility of restoration to background in accordance with 310 CMR 40.0860 is evaluated below based on methodologies presented in DEP Draft "Guidance on Evaluating the Feasibility of Achieving or Approaching Background" dated 23 June 1997. The maximum detected residual level of contaminants in the area of the release was compared to the background level for the contaminants determined from published values and site specific testing.

As indicated in Table V, response actions at the Clay Pit Pond portion of the Disposal Site did not reduce levels of contamination to background levels. One PAH, acenaphthylene, was determined to be present at levels above background in soil most likely to have been impacted by the release. However, response actions at the Site did result in conditions that approach background. According to DEP guidance, background in soil shall be considered "approached" if:

- the concentrations of oil and hazardous material at each sampling location are at or below the Method 1 S-1 standards as specified in 310 CMR 40.0900; or
- the Method 1 S-1 standards have been achieved based on sample averaging in accordance with 310 CMR 40.0926 and remedial actions have resulted in a 75% or greater reduction of the total mass or the Exposure Point Concentration of oil and/or hazardous material at the disposal site.

The maximum soil Exposure Point Concentrations do not exceed Method 1 S-1 soil standards, therefore, background levels in Disposal Site soil at Clay Pit Pond have been "approached".

## 3.7 Conclusions

### 3.7.1 Burbank School

A RAO Statement has been prepared and a copy of Form BWSC-104 is provided in Appendix A. Based on the results of the chemical analytical data and the Critical Exposure Pathway evaluation, which show a condition of "No Significant Risk" has been achieved at the Mary Lee Burbank School portion of the Disposal Site, a Class A-1 Response Action Outcome has been determined to be appropriate for this portion of the Disposal Site. The Class A-1 RAO indicates the following:

- A Permanent Solution has been achieved.
- Response actions have been conducted to:
  - achieve a condition of "No Significant Risk";
  - eliminate the source of oil and/or hazardous material; and
  - reduce the level of oil and hazardous material in the environment to background.

### 3.7.2 Clay Pit Pond

A RAO Statement has been prepared and a copy of Form BWSC-104 is provided in Appendix A. Based on the completed IRA activities and the conclusions of the Risk Characterization which show a condition of "No Significant Risk" has been achieved at the Clay Pit Pond portion of the Disposal Site, a Class A-2 Response Action Outcome has been determined to be appropriate for this portion of the Disposal Site. The Class A-2 RAO indicates the following:

- A Permanent Solution has been achieved.
- Response actions have been conducted to:
  - achieve a condition of "No Significant Risk"; and
  - eliminate the source of oil and/or hazardous material.
- The level of oil and hazardous material concentrations in the environment has approached, but has not been reduced to background.
- An Activity and Use Limitation (AUL) is not necessary to maintain a level of "No Significant Risk" at the Disposal Site.



#### 4. LSP OPINION

Joel S. Mooney is the LSP for the project. The LSP seal and signature are provided on the Response Action Outcome (RAO) Statement Transmittal Form (BWSC-104) that is submitted separately along with this document. A copy of the transmitted BWSC-104 form is included in Appendix A.

This document contains material facts, data, and other information that support the LSP Opinion that, to the best of the LSP's knowledge, information and belief, the response actions that are the subject of this submittal:

- i) have been developed and implemented in accordance with the applicable provisions of M.G.L.c.21E and 310 CMR 40.0000,
- ii) are appropriate and reasonable to accomplish the purposes of such response action as set forth in the applicable provisions of M.G.L.c.21E and 310 CMR 40.0000, and
- iii) comply with the identified provisions of all orders, permits, and approvals identified in this submittal.

## 5. LIMITATIONS

This report has been prepared for the exclusive use of DEP and the Town of Belmont. The conclusions provided by Haley & Aldrich are based solely on the work conducted and the sources of information referenced in this report. Any additional information that becomes available concerning this Disposal Site should be provided to Haley & Aldrich so that our conclusions may be reviewed and modified as necessary. This work has been undertaken in accordance with generally accepted environmental consulting practices.

## REFERENCES

1. Massachusetts Department of Environmental Protection, Bureau of Waste Site Cleanup, the Massachusetts Contingency Plan; 310 CMR 40.0000, dated 30 July 1993, and updates.
2. Massachusetts Department of Environmental Protection, The Guidance for Disposal Site Risk Characterization, In Support of the Massachusetts Contingency Plan, Interim Final Policy, dated July 1995. WSC/ORS-95-141.
3. Massachusetts Department of Environmental Protection, Office of Research and Standards, "Characterizing Risks posed by Petroleum Contaminated Sites: Implementation of DEP VPH/EPH Approach," Final Draft June 2001.
4. Massachusetts Department of Environmental Protection, Technical Update: Background Levels of Polycyclic Aromatic Hydrocarbons and Metals in Soil, dated May 2002.

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TABLE I  
SUMMARY OF SOIL QUALITY DATA - TEST BORINGS  
BURBANK SCHOOL UST RELEASE  
BELMONT, MASSACHUSETTS  
FILE NO.: 30660-000

SAMPLE DESIGNATION	MCP Reportable Concentration	HA-1 (OW) S5 01/19/04 8-10 Glaciolacustrine	HA-2 S6 12-Jan-04 11-13 Glaciolacustrine	HA-2 S7 12-Jan-04 13-15 Glaciolacustrine	HA-3(OW) S4 19-Jan-04 6-8 Glaciolacustrine	HA-4(OW) S6 13-Jan-04 10-12 Glaciolacustrine	HA-5(OW) S3 20-Jan-04 6-8 Glaciolacustrine	HA-6(OW) S6 13-Jan-04 12-14 Glaciolacustrine
SAMPLING DATE								
SAMPLE DEPTH (FT.)								
SOIL TYPE	RCS-1							
<b>EPH (mg/kg)</b>								
C9-C18 Aliphatics	1,000	ND (6.1)	ND (6.1)	ND (5.95)	ND (6.5)	ND (6.3)	ND (6.25)	ND (6.5)
C19-C36 Aliphatics	2,500	ND (6.1)	ND (6.1)	ND (5.95)	ND (6.5)	ND (6.3)	ND (6.25)	ND (6.5)
C11-C22 Aromatics	200	ND (6.1)	ND (6.1)	ND (5.95)	ND (6.5)	ND (6.3)	ND (6.25)	ND (6.5)
<b>EPH Analytes (mg/kg)</b>	NA	ND	ND	ND	ND	ND	ND	ND
<b>VPH (mg/kg)</b>								
C5-C8 Aliphatics	100	ND (1.5)	ND (1.15)	ND (1.49)	ND (1.52)	ND (1.33)	ND (1.69)	ND (1.465)
C9-C12 Aliphatics	1,000	ND (1.5)	ND (1.15)	ND (1.49)	ND (1.52)	ND (1.33)	ND (1.69)	ND (1.465)
C9-C10 Aromatics	100	ND (1.5)	ND (1.15)	ND (1.49)	ND (1.52)	ND (1.33)	ND (1.69)	ND (1.465)
<b>VPH Analytes (mg/kg)</b>	NA	ND	ND	ND	ND	ND	ND	ND
<b>MCP 14 Metals (mg/kg)</b>								
Antimony	10	ND (1.2)	-	-	ND (1.3)	ND (1.25)	ND (1.25)	ND (1.3)
Arsenic	30	8.3	-	-	11	5.7	6.4	8.3
Barium	1,000	81	-	-	83	74	74	110
Beryllium	0.7	0.73	-	-	0.85	0.58	0.66	0.85
Cadmium	30	ND (0.24)	-	-	ND (0.255)	ND (0.25)	ND (0.25)	ND (0.26)
Chromium	1,000	37	-	-	48	42	36	54
Lead	300	11	-	-	10	14	9.7	13
Mercury	20	ND (0.045)	-	-	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)
Nickel	300	27	-	-	31	30	23	36
Selenium	400	ND (1.2)	-	-	ND (1.3)	ND (1.25)	ND (1.25)	ND (0.13)
Silver	100	ND (0.24)	-	-	ND (0.255)	ND (0.25)	ND (0.25)	ND (0.26)
Thallium	8	ND (1.2)	-	-	ND (1.3)	ND (1.25)	ND (1.25)	ND (1.3)
Vanadium	400	42	-	-	50	50	41	66
Zinc	2,500	58	-	-	64	67	58	80

**ABBREVIATIONS:**

NA : Not applicable  
- : Not analyzed  
ND(2.5): Not detected; number in parentheses is one-half the laboratory detection limit

**NOTES:**

1. This table includes only those compounds detected on the dates indicated.
2. Bold values indicate an exceedance of RCS-1 criteria.

TABLE II  
 SUMMARY OF GROUNDWATER QUALITY DATA  
 BURBANK SCHOOL UST RELEASE  
 BELMONT, MASSACHUSETTS  
 FILE NO.: 30660-000

SAMPLE DESIGNATION SAMPLING DATE SCREENED INTERVAL (ft)	MCP RCGW-2 Standards	HA-1(OW) 30-Jan-04 8-18	HA-2(OW) 22-Jan-04 10-20	HA-3(OW) 22-Jan-04 8-18
<b>EPH (ug/L)</b>				
C9-C18 Aliphatics	1,000	ND (50)	ND (50)	351
C19-C36 Aliphatics	20,000	ND (50)	ND (50)	393
C11-C22 Aromatics	30,000	ND (50)	ND (50)	198
<b>EPH Analytes (ug/L)</b>	NA	ND	ND	ND
<b>VPH (ug/L)</b>				
C5-C8 Aliphatics	1,000	ND (20)	ND (20)	ND (20)
C9-C12 Aliphatics	1,000	ND (20)	ND (20)	ND (20)
C9-C10 Aromatics	4,000	ND (20)	ND (20)	ND (20)
<b>VPH Analytes (ug/L)</b>	NA	ND	ND	ND

**ABBREVIATIONS:**

NA : Not applicable

ND(2.5): Not detected; number in parentheses is one-half the laboratory detection limit

**NOTES:**

1. This table includes only those compounds detected on the dates indicated.

TABLE III  
 SUMMARY OF SOIL QUALITY DATA - UST CONFIRMATORY SAMPLES  
 BURBANK SCHOOL UST RELEASE  
 BELMONT, MASSACHUSETTS  
 FILE NO.: 30660-000

SAMPLE DESIGNATION	MCP Reportable Concentration	SSW 1-S2	SSW 2-S1	BOT 1-S1	BOT2-S1	NSW1-S1	ESW1-S4	SSW3-S1	WSW1-S2	SW-CORNER-S2	12 IN-CLAY-BOT-S1
SAMPLING DATE		02/05/04	02/05/04	02/05/04	10-Feb-04	10-Feb-04	23-Mar-04	23-Mar-04	24-Mar-04	25-Mar-04	29-Mar-04
SAMPLE DEPTH (FT.)	RCS-1	12	12	14	14	6-12	7	7	6-12	6-12	7
<b>EPH (mg/kg)</b>											
C9-C18 Aliphatics	1,000	ND (6.3)	ND (6.3)	ND (6.1)	ND (6.1)	ND (6.4)	ND (6.4)	ND (5.3)	ND (6.15)	ND (5.2)	ND (6.15)
C19-C36 Aliphatics	2,500	ND (6.3)	ND (6.3)	ND (6.1)	ND (6.1)	ND (6.4)	ND (6.4)	ND (5.3)	ND (6.15)	ND (5.2)	ND (6.15)
C11-C22 Aromatics	200	ND (6.3)	ND (6.3)	ND (6.1)	ND (6.1)	ND (6.4)	ND (6.4)	ND (5.3)	ND (6.15)	ND (5.2)	ND (6.15)
<b>EPH Analytes (mg/kg)</b>	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
<b>VPH (mg/kg)</b>											
C5-C8 Aliphatics	100	ND (1.17)	ND (1.665)	ND (1.315)	ND (1.16)	ND (1.645)	ND (1.54)	ND (0.995)	ND (2.01)	ND (1.2)	ND (1.57)
C9-C12 Aliphatics	1,000	ND (1.17)	ND (1.665)	ND (1.315)	ND (1.16)	ND (1.645)	ND (1.54)	ND (0.995)	ND (2.01)	ND (1.2)	ND (1.57)
C9-C10 Aromatics	100	ND (1.17)	ND (1.665)	ND (1.315)	ND (1.16)	ND (1.645)	ND (1.54)	ND (0.995)	ND (2.01)	ND (1.2)	ND (1.57)
<b>VPH Analytes (mg/kg)</b>	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

**ABBREVIATIONS:**

NA : Not applicable  
 ND(2.5): Not detected; number in parentheses is one-half the laboratory detection limit

**NOTES:**

1. This table includes only those compounds detected on the dates indicated.

TABLE III  
 SUMMARY OF SOIL QUALITY DATA - UST CONFIRMATORY  
 BURBANK SCHOOL UST RELEASE  
 BELMONT, MASSACHUSETTS  
 FILE NO.: 30660-000

SAMPLE DESIGNATION SAMPLING DATE SAMPLER DEPTH (FT.) NOTES	MCP Reportable Concentration RCS-1	12 IN-CLAY-ESW-S1 29-Mar-04 4-6	ESW2-S4 29-Mar-04 6-12	8 IN-CLAY-NSW-S1 30-Mar-04 6-8	6 IN-PVC-NSW-S1 30-Mar-04 6-8	8 IN-CLAY-BOT-S1 30-Mar-04 8	6 IN-PVC-SSW-S1 30-Mar-04 6-8	WSW2-S3 30-Mar-04 6-12	8 IN-CLAY-SSW-S2 30-Mar-04 6-8	6 IN-PVC-BOT-S1 30-Mar-04 8
EPH (mg/kg)	1,000	ND (6.25)	ND (5.3)	ND (6)	ND (6.15)	ND (6.3)	ND (6.15)	ND (6)	ND (5.3)	ND (6.15)
C9-C18 Aliphatics	2,500	ND (6.25)	ND (5.3)	ND (6)	ND (6.15)	ND (6.3)	ND (6.15)	ND (6)	ND (5.3)	ND (6.15)
C19-C36 Aliphatics	200	ND (6.25)	ND (5.3)	ND (6)	ND (6.15)	ND (6.3)	ND (6.15)	ND (6)	ND (5.3)	ND (6.15)
C11-C22 Aromatics		ND	ND	ND	ND	ND	ND	ND	ND	ND
EPH Analytes (mg/kg)	NA									
VPH (mg/kg)	100	ND (1.26)	ND (0.985)	ND (1.095)	ND (1.26)	ND (1.43)	ND (1.145)	ND (1.23)	ND (0.895)	ND (1.24)
C5-C8 Aliphatics	1,000	ND (1.26)	ND (0.985)	ND (1.095)	ND (1.26)	ND (1.43)	ND (1.145)	ND (1.23)	ND (0.895)	ND (1.24)
C9-C12 Aliphatics	100	ND (1.26)	ND (0.985)	ND (1.095)	ND (1.26)	ND (1.43)	ND (1.145)	ND (1.23)	ND (0.895)	ND (1.24)
C9-C10 Aromatics		ND	ND	ND	ND	ND	ND	ND	ND	ND
VPH Analytes (mg/kg)	NA									

ABBREVIATIONS:

NA : Not applicable  
 ND(2.5): Not detected; number in parentheses is one-half the laboratory detection limit

NOTES:

1. This table includes only those compounds detected on the dates indicated.

TABLE III  
 SUMMARY OF SOIL QUALITY DATA - UST CONFIRMATORY  
 BURBANK SCHOOL UST RELEASE  
 BELMONT, MASSACHUSETTS  
 FILE NO.: 30660-000

SAMPLE DESIGNATION	MCP Reportable Concentration RCS-1	8 IN-CLAY-BOTTOM 31-Mar-04 8	AB-CB-NSW-S1 31-Mar-04 6-10	AB-CB-SSW-S1 31-Mar-04 6-10	AB-CB-BOT-S1 31-Mar-04 10	12 IN-CONC-NSW1-S4 06-Apr-04 4-8	12 IN-CONC-BOTT-S3 06-Apr-04 8	12 IN-CONC-SSW1-S4 06-Apr-04 4-8	MSH-NSW-S3 06-Apr-04 6-10
<b>EPH (mg/kg)</b>									
C9-C18 Aliphatics	1,000	ND (6.25)	ND (5.9)	ND (6)	ND (5.95)	ND (5.95)	ND (5.7)	ND (6.15)	ND (6.4)
C19-C36 Aliphatics	2,500	ND (6.25)	ND (5.9)	ND (6)	ND (5.95)	ND (5.95)	ND (5.7)	ND (6.15)	ND (6.4)
C11-C22 Aromatics	200	ND (6.25)	ND (5.9)	ND (6)	ND (5.95)	ND (5.95)	ND (5.7)	ND (6.15)	ND (6.4)
<b>EPH Analytes (mg/kg)</b>	NA	ND	ND	ND	ND	ND	ND	ND	ND
<b>VPH (mg/kg)</b>									
C5-C8 Aliphatics	100	ND (1.39)	ND (0.955)	ND (1.13)	ND (1.04)	ND (1.08)	ND (1.145)	ND (1.685)	ND (1.24)
C9-C12 Aliphatics	1,000	ND (1.39)	ND (0.955)	ND (1.13)	ND (1.04)	ND (1.08)	ND (1.145)	ND (1.685)	ND (1.24)
C9-C10 Aromatics	100	ND (1.39)	ND (0.955)	ND (1.13)	ND (1.04)	ND (1.08)	ND (1.145)	ND (1.685)	ND (1.24)
<b>VPH Analytes (mg/kg)</b>	NA	ND	ND	ND	ND	ND	ND	ND	ND

**ABBREVIATIONS:**

NA : Not applicable  
 ND(2.5): Not detected; number in parentheses is one-half the laboratory detection limit

**NOTES:**

1. This table includes only those compounds detected on the dates indicated.



TABLE III  
SUMMARY OF SOIL QUALITY DATA - UST CONFIRMATORY  
BURBANK SCHOOL UST RELEASE  
BELMONT, MASSACHUSETTS  
FILE NO.: 30660-000

SAMPLE DESIGNATION SAMPLING DATE SAMPLER DEPTH (FT.) NOTES	MCP Reportable Concentration RCS-1	DMH-BOT-S3 06-Apr-04 10	CB-BOT-S3 07-Apr-04 10	CB-ESW-S3 07-Apr-04 6-8	12 IN-CONC-BOT2-S2 07-Apr-04 10	12 IN-CONC-SSW2-S2 07-Apr-04 8-10	12 IN-CONC-NSW2-S2 07-Apr-04 8-10	12 IN-CONC-NSW3-S2 08-Apr-04 7-10	12 IN-CONC-BOT3-S2 08-Apr-04 10
EPH (mg/kg) C9-C18 Aliphatics C19-C36 Aliphatics C11-C22 Aromatics	1,000	ND (6.6)	ND (5.2)	ND (5.2)	ND (5.25)	ND (5.2)	ND (5.25)	ND (6.25)	ND (6.3)
	2,500	ND (6.6)	ND (5.2)	ND (5.2)	ND (5.25)	ND (5.2)	ND (5.25)	ND (6.25)	ND (6.3)
	200	ND (6.6)	ND (5.2)	ND (5.2)	ND (5.25)	ND (5.2)	ND (5.25)	ND (6.25)	ND (6.3)
EPH Analytes (mg/kg)	N/A	ND	ND	ND	ND	ND	ND	ND	ND
VPH (mg/kg) C5-C8 Aliphatics C9-C12 Aliphatics C9-C10 Aromatics	100	ND (1.21)	ND (0.97)	ND (1.02)	ND (1.185)	ND (2.74)	ND (1.255)	ND (1.145)	ND (1.16)
	1,000	ND (1.21)	ND (0.97)	ND (1.02)	ND (1.185)	ND (2.74)	ND (1.255)	ND (1.145)	ND (1.16)
	100	ND (1.21)	ND (0.97)	ND (1.02)	ND (1.185)	ND (2.74)	ND (1.255)	ND (1.145)	ND (1.16)
VPH Analytes (mg/kg)	N/A	ND	ND	ND	ND	ND	ND	ND	ND

ABBREVIATIONS:

NA : Not applicable  
ND(2.5): Not detected; number in parentheses is one-half the laboratory detection limit

NOTES:

- This table includes only those compounds detected on the dates indicated.

TABLE III  
 SUMMARY OF SOIL QUALITY DATA - UST CONFIRMATORY  
 BURBANK SCHOOL UST RELEASE  
 BELMONT, MASSACHUSETTS  
 FILE NO.: 30660-000

SAMPLE DESIGNATION	MCP Reportable Concentration RCS-1	12 IN-CONC-SSW3-S2 08-Apr-04 7-10	8 IN-CLAY-SOUTH-S2 08-Apr-04 6-8	12 IN-CONC BOT4-S1 09-Apr-04 8	12 IN-CONC-NSW4-S1 09-Apr-04 6-8	12 IN-CONC-BOT5-S1 12-Apr-04 8	12 IN-CONC-NSW5-S1 12-Apr-04 6-8	12 IN-CONC-SSW5-S1 12-Apr-04 6-8
<b>EPH (mg/kg)</b>								
C9-C18 Aliphatics	1,000	ND (6.3)	ND (6.25)	ND (6.15)	ND (6.25)	ND (5.8)	ND (6)	ND (5.95)
C19-C36 Aliphatics	2,500	ND (6.3)	ND (6.25)	ND (6.15)	ND (6.25)	ND (5.8)	ND (6)	ND (5.95)
C11-C22 Aromatics	200	ND (6.3)	ND (6.25)	ND (6.15)	ND (6.25)	ND (5.8)	ND (6)	ND (5.95)
<b>EPH Analytes (mg/kg)</b>	NA	ND	ND	ND	ND	ND	ND	ND
<b>VPH (mg/kg)</b>								
C5-C8 Aliphatics	100	ND (1.23)	ND (1.11)	ND (1.595)	ND (1.465)	ND (1.125)	ND (1.12)	ND (1.1)
C9-C12 Aliphatics	1,000	ND (1.23)	ND (1.11)	ND (1.595)	ND (1.465)	ND (1.125)	ND (1.12)	ND (1.1)
C9-C10 Aromatics	100	ND (1.23)	ND (1.11)	ND (1.595)	ND (1.465)	ND (1.125)	ND (1.12)	ND (1.1)
<b>VPH Analytes (mg/kg)</b>	NA	ND	ND	ND	ND	ND	ND	ND

**ABBREVIATIONS:**

NA : Not applicable  
 ND(2.5): Not detected; number in parentheses is one-half the laboratory detection limit

**NOTES:**

1. This table includes only those compounds detected on the dates indicated.

TABLE III  
 SUMMARY OF SOIL QUALITY DATA - UST CONFIRMATORY  
 BURBANK SCHOOL UST RELEASE  
 BELMONT, MASSACHUSETTS  
 FILE NO.: 30660-000

SAMPLE DESIGNATION SAMPLING DATE SAMPLE DEPTH (FT.) NOTES	MCP Reportable Concentration RCS-1	12 IN-CONC-BOT6-S1 13-Apr-04 6	12 IN-CONC-NSW6-S2 13-Apr-04 4-6	12 IN-CONC-SSW6-S2 13-Apr-04 4-6	12 IN-CONC-WSW6-S2 13-Apr-04 4-6
EPH (mg/kg)	1,000				
C9-C18 Aliphatics	2,500	ND (6.1)	ND (5.25)	ND (5.25)	ND (5.25)
C19-C36 Aliphatics	200	ND (6.1)	ND (5.25)	ND (5.25)	ND (5.25)
C11-C22 Aromatics					
EPH Analytes (mg/kg)	NA	ND	ND	ND	ND
VPH (mg/kg)					
C5-C8 Aliphatics	100	ND (1.325)	ND (1.09)	ND (1.15)	ND (1.02)
C9-C12 Aliphatics	1,000	ND (1.325)	ND (1.09)	ND (1.15)	ND (1.02)
C9-C10 Aromatics	100	ND (1.325)	ND (1.09)	ND (1.15)	ND (1.02)
VPH Analytes (mg/kg)	NA	ND	ND	ND	ND

ABBREVIATIONS:

NA : Not applicable  
 ND(2.5): Not detected; number in parentheses is one-half the laboratory detection limit

NOTES:

1. This table includes only those compounds detected on the dates indicated.

TABLE IV  
SUMMARY OF SOIL QUALITY DATA - CPP CONFIRMATORY SAMPLES  
BURBANK SCHOOL UST RELEASE  
BELMONT, MASSACHUSETTS  
FILE NO.: 30660-000

SAMPLE DESIGNATION SAMPLING DATE SAMPLE DEPTH (FT.) NOTES	MCP Reportable Concentration RCS-1	BACKGROUND SAMPLES					CONFIRMATORY SAMPLES						
		BG1-S1 02/17/04 0-0.5	BG2-S1 02/17/04 0-0.5	BG3-S1 02/17/04 0-0.5	BG4-S1 09-Apr-04 0.5-1	BG6-S1 09-Apr-04 0.5-1	CCP-SW1-S1 02/17/04 0-0.5	CCP-SW2-S1 02/17/04 0-0.5	CCP-SW3-S1 10-Mar-04 0-0.5	CCP-SW4-S1 10-Mar-04 0-0.5	CCP-SW5-S1 10-Mar-04 0-0.5	CCP-SW6-S1 10-Mar-04 0-0.5	CCP-SW7-S1 10-Mar-04 0-0.5
EPH (mg/kg)	1,000	23	15	ND (5.8)	ND (7.15)	ND (6.95)	ND (6.1)	ND (6.65)	ND (19.6)	ND (7.15)	ND (21.75)	ND (6.4)	ND (7.25)
C9-C18 Aliphatics	2,500	80	30.5	32.3	15.1	ND (6.95)	42.2	28.4	83.6	32	116	ND (6.4)	21.8
C19-C36 Aliphatics	200	157	31.4	41.8	40.6	47.5	135	42.5	252	62.9	97	ND (6.4)	ND (7.25)
C11-C22 Aromatics	NA												
EPH Analytes (mg/kg)	100	ND (0.431)	ND (0.3425)	ND (0.2905)	ND (0.357)	ND (0.347)	1.09	ND (0.3335)	2.1	ND (0.357)	ND (1.085)	ND (0.3205)	ND (0.3625)
Acenaphthylene	1,000	ND (0.431)	ND (0.3425)	ND (0.2905)	ND (0.357)	ND (0.347)	0.782	ND (0.3335)	ND (0.98)	ND (0.357)	ND (1.085)	ND (0.3205)	ND (0.3625)
Anthracene	0.7	2.03	ND (0.3425)	ND (0.2905)	ND (0.357)	ND (0.347)	2.05	ND (0.3335)	2.4	0.795	ND (1.085)	ND (0.3205)	ND (0.3625)
Benzo(a)anthracene	0.7	2.47	ND (0.3425)	ND (0.2905)	ND (0.357)	ND (0.347)	2.55	ND (0.3335)	3.96	0.886	ND (1.085)	ND (0.3205)	ND (0.3625)
Benzo(a)pyrene	0.7	2.55	ND (0.3425)	ND (0.2905)	ND (0.357)	ND (0.347)	2.18	ND (0.3335)	4.57	0.795	ND (1.085)	ND (0.3205)	ND (0.3625)
Benzo(b)fluoranthene	1,000	1.59	ND (0.3425)	ND (0.2905)	ND (0.357)	ND (0.347)	1.88	ND (0.3335)	3.51	ND (0.357)	ND (1.085)	ND (0.3205)	ND (0.3625)
Benzo(k)fluoranthene	7	1.95	ND (0.3425)	ND (0.2905)	ND (0.357)	ND (0.347)	2.56	ND (0.3335)	3.88	0.943	ND (1.085)	ND (0.3205)	ND (0.3625)
Chrysene	7	2.53	ND (0.3425)	ND (0.2905)	ND (0.357)	ND (0.347)	2.5	ND (0.3335)	3.66	10.8	ND (1.085)	ND (0.3205)	ND (0.3625)
Fluoranthene	1,000	3.55	ND (0.3425)	ND (0.2905)	ND (0.357)	ND (0.347)	2.94	0.69	3.91	1.68	ND (1.085)	ND (0.3205)	ND (0.3625)
Indeno(1,2,3-cd)pyrene	0.7	1.55	ND (0.3425)	ND (0.2905)	ND (0.357)	ND (0.347)	1.62	ND (0.3335)	3.1	ND (0.357)	ND (1.085)	ND (0.3205)	ND (0.3625)
Phenanthrene	100	2.28	ND (0.3425)	ND (0.2905)	ND (0.357)	ND (0.347)	2.09	ND (0.3335)	2.03	1.24	ND (1.085)	ND (0.3205)	ND (0.3625)
Pyrene	700	3.85	ND (0.3425)	ND (0.2905)	ND (0.357)	ND (0.347)	4.04	0.782	5.33	1.78	ND (1.085)	ND (0.3205)	ND (0.3625)
VPH (mg/kg)	100	ND (2.78)	ND (2.095)	ND (1.385)	ND (1.895)	ND (1.285)	ND (1.375)	ND (1.41)	ND (3.585)	ND (1.585)	ND (7.4)	ND (1.47)	ND (1.575)
C5-C8 Aliphatics	1,000	ND (2.78)	ND (2.095)	ND (1.385)	ND (1.895)	ND (1.285)	ND (1.375)	ND (1.41)	ND (3.585)	ND (1.585)	ND (7.4)	ND (1.47)	ND (1.575)
C9-C12 Aliphatics	100	ND (2.78)	ND (2.095)	ND (1.385)	ND (1.895)	ND (1.285)	ND (1.375)	ND (1.41)	ND (3.585)	ND (1.585)	ND (7.4)	ND (1.47)	ND (1.575)
C9-C10 Aromatics	100	ND (2.78)	ND (2.095)	ND (1.385)	ND (1.895)	ND (1.285)	ND (1.375)	ND (1.41)	ND (3.585)	ND (1.585)	ND (7.4)	ND (1.47)	ND (1.575)
VPH Analytes (mg/kg)	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TFPH by GC/FID (mg/kg)	200	280	160	320	ND (70)	170	480	320					

ABBREVIATIONS:  
NA : Not applicable  
- : Not analyzed  
NDQ.5): Not detected; number in parenthesis is one-half the laboratory detection limit

NOTES:  
1. This table includes only those compounds detected on the dates indicated.  
2. Bold values indicate an exceedance of RCS-1 criteria.  
3. Bold ND values indicate that one-half the laboratory quantitation limit exceeds the RCS-1 criteria.

TABLE IV  
SUMMARY OF SOIL QUALITY DATA - CPP CONFIRMATORY  
BURBANK SCHOOL UST RELEASE  
BELMONT, MASSACHUSETTS  
FILE NO.: 30660-000

SAMPLE DESIGNATION SAMPLING DATE SAMPLE DEPTH (FT.) NOTES	MCP Reportable Concentration RCS-1	CONFIRMATORY SAMPLES											
		CCP-SW8-S1 12-Mar-04 0-0.5	CCP-SW9-S1 12-Mar-04 0-0.5	CCP-SW10-S1 12-Mar-04 0-0.5	CCP-SW11-S1 12-Mar-04 0-0.5	CCP-SW12-S1 12-Mar-04 0-0.5	CCP-SW13-S1 12-Mar-04 0-0.5	CCP-SW14-S1 12-Mar-04 0-0.5					
EPH (mg/kg)													
C9-C18 Aliphatics	1,000	ND (6.75)	ND (6.4)	251	ND (12.5)	ND (6.15)	ND (6.4)	ND (6.4)	ND (16.95)				
C19-C36 Aliphatics	2,500	16.8	ND (6.4)	547	60.1	12.8	ND (6.4)	ND (6.4)	190				
C11-C22 Aromatics	200	ND (6.75)	ND (6.4)	488	38.2	18.1	ND (6.4)	ND (6.4)	253				
EPH Analytes (mg/kg)	NA												
Acenaphthylene	100	ND (0.338)	ND (0.3205)	ND (0.373)	ND (0.625)	ND (0.3085)	ND (0.3205)	ND (0.3205)	ND (0.845)				
Anthracene	1,000	ND (0.338)	ND (0.3205)	ND (0.373)	ND (0.625)	ND (0.3085)	ND (0.3205)	ND (0.3205)	ND (0.845)				
Benzo(a)anthracene	0.7	ND (0.338)	ND (0.3205)	ND (0.373)	ND (0.625)	ND (0.3085)	ND (0.3205)	ND (0.3205)	3.2				
Benzo(b)fluoranthene	0.7	ND (0.338)	ND (0.3205)	ND (0.373)	ND (0.625)	ND (0.3085)	ND (0.3205)	ND (0.3205)	3.9				
Benzo(g,h,i)perylene	1,000	ND (0.338)	ND (0.3205)	ND (0.373)	ND (0.625)	ND (0.3085)	ND (0.3205)	ND (0.3205)	5.12				
Benzo(k)fluoranthene	7	ND (0.338)	ND (0.3205)	ND (0.373)	ND (0.625)	ND (0.3085)	ND (0.3205)	ND (0.3205)	4.14				
Chrysene	7	ND (0.338)	ND (0.3205)	1.28	ND (0.625)	ND (0.3085)	ND (0.3205)	ND (0.3205)	4.82				
Fluoranthene	1,000	ND (0.338)	ND (0.3205)	ND (0.373)	ND (0.625)	ND (0.3085)	ND (0.3205)	ND (0.3205)	8.29				
Indeno(1,2,3-cd)pyrene	0.7	ND (0.338)	ND (0.3205)	ND (0.373)	ND (0.625)	ND (0.3085)	ND (0.3205)	ND (0.3205)	3.35				
Phenanthrene	100	ND (0.338)	ND (0.3205)	2.45	ND (0.625)	ND (0.3085)	ND (0.3205)	ND (0.3205)	5.4				
Pyrene	700	ND (0.338)	ND (0.3205)	1.58	ND (0.625)	ND (0.3085)	ND (0.3205)	ND (0.3205)	7.53				
VPH (mg/kg)													
C5-C8 Aliphatics	100	ND (1.315)	ND (1.145)	ND (1.66)	ND (2.535)	ND (1.38)	ND (1.455)	ND (1.455)	ND (2.17)				
C9-C12 Aliphatics	1,000	ND (1.315)	ND (1.145)	ND (1.66)	ND (2.535)	ND (1.38)	ND (1.455)	ND (1.455)	ND (2.17)				
C9-C10 Aromatics	100	ND (1.315)	ND (1.145)	ND (1.66)	ND (2.535)	ND (1.38)	ND (1.455)	ND (1.455)	ND (2.17)				
VPH Analytes (mg/kg)	NA												
TPH by GC/FID (mg/kg)	200												

ABBREVIATIONS:

- NA : Not applicable
- : Not analyzed
- ND(2.5): Not detected; number in parentheses is one-half the laborator

NOTES:

- This table includes only those compounds detected on the dates in
- Bold values indicate an exceedance of RCS-1 criteria.
- Bold ND values indicate that one-half the laboratory quantitation

TABLE V  
SUMMARY OF SOIL QUALITY DATA - STOCKPILES  
BURBANK SCHOOL UST RELEASE  
BELMONT, MASSACHUSETTS  
FILE NO.: 30660-000

SAMPLE DESIGNATION SAMPLE DATE SAMPLE DEPTH (FT.) NOTES	MCP Reportable Concentration RCS-1	UST-STKPL-1 12/23/03 NA	UST-STKPL-2 29-Dec-03 NA	UST-STKPL2-S2 30-Dec-03 NA	UST-STKPL2-S3 30-Dec-03 NA	CLN-STKPL-1 05-Feb-04 NA	WSW I-S1 05-Feb-04 6-12	ESWI-S2 06-Feb-04 6-12	SW CORNER 06-Feb-04 10-12	UST-STKPL3-S1 09-Feb-04 NA	UST-STKPL3-S2 09-Feb-04 NA	UST-STKPL3-S3 09-Feb-04 NA
<b>VOCs (ug/kg)</b>												
Acetone	3,000	ND (1400)	ND (550)	-	-	-	-	-	-	-	-	-
n-Butylbenzene	NA	3600	2300	-	-	-	-	-	-	-	-	-
sec-Butylbenzene	NA	1200	950	-	-	-	-	-	-	-	-	-
Ethylbenzene	80,000	1200	720	-	-	-	-	-	-	-	-	-
Isopropylbenzene	1,000,000	660	490	-	-	-	-	-	-	-	-	-
p-Isopropyltoluene	100,000	1300	920	-	-	-	-	-	-	-	-	-
Naphthalene	4,000	15000	6500	-	-	-	-	-	-	-	-	-
n-Propylbenzene	100,000	1700	1000	-	-	-	-	-	-	-	-	-
Toluene	90,000	690	540	-	-	-	-	-	-	-	-	-
1,2,4-Trimethylbenzene	1,000,000	14000	8900	-	-	-	-	-	-	-	-	-
1,3,5-Trimethylbenzene	10,000	3700	2600	-	-	-	-	-	-	-	-	-
Xylenes, mixture	500,000	7700	4900	-	-	-	-	-	-	-	-	-
<b>Total VOCs (ug/kg)</b>	NA	50,750	29,820	-	-	-	-	-	-	-	-	-
<b>SVOCs (ug/kg)</b>												
Benzo(a)anthracene	700	ND (1450)	1300	-	-	-	-	-	-	-	-	-
Benzo(a)pyrene	7,000	ND (1450)	ND (550)	-	-	-	-	-	-	-	-	-
Chrysene	1,000,000	3600	2200	-	-	-	-	-	-	-	-	-
Fluoranthene	400,000	ND (1450)	ND (550)	-	-	-	-	-	-	-	-	-
Fluorene	NA	3500	1800	-	-	-	-	-	-	-	-	-
1-Methylhaphthalene	NA	23000	-	-	-	-	-	-	-	-	-	-
2-Methylhaphthalene	4,000	36000	15000	-	-	-	-	-	-	-	-	-
Naphthalene	4,000	11000	3400	-	-	-	-	-	-	-	-	-
Phenanthrene	100,000	10000	5400	-	-	-	-	-	-	-	-	-
Pyrene	700,000	4700	2400	-	-	-	-	-	-	-	-	-
<b>Total SVOCs (ug/kg)</b>	NA	91,800	31,500	-	-	-	-	-	-	-	-	-
<b>EPH (mg/kg)</b>												
C9-C18 Aliphatics	1,000	-	-	-	-	179	ND (6-3)	ND (6)	2100	-	-	-
C19-C36 Aliphatics	2,500	-	-	-	-	178	ND (6-3)	ND (6)	1430	-	-	-
C11-C22 Aromatics	200	-	-	-	-	205	ND (6-3)	ND (6)	1910	-	-	-
<b>EPH Analytes (mg/kg)</b>												
Benzo(a)anthracene	NA	-	-	-	-	ND (0.284)	ND (0.3165)	ND (0.301)	ND (0.3165)	-	-	-
Benzo(a)pyrene	0.7	-	-	-	-	ND (0.284)	ND (0.3165)	ND (0.301)	1.62	-	-	-
Benzo(g,h,i)perylene	1,000	-	-	-	-	1.03	ND (0.3165)	ND (0.301)	ND (0.3165)	-	-	-
Benzo(k)fluoranthene	7	-	-	-	-	0.64	ND (0.3165)	ND (0.301)	0.677	-	-	-
Chrysene	7	-	-	-	-	ND (0.284)	ND (0.3165)	ND (0.301)	2.99	-	-	-
Fluoranthene	1,000	-	-	-	-	ND (0.284)	ND (0.3165)	ND (0.301)	1.58	-	-	-
Fluorene	400	-	-	-	-	ND (0.284)	ND (0.3165)	ND (0.301)	4.08	-	-	-
2-Methylhaphthalene	4	-	-	-	-	1.82	ND (0.3165)	ND (0.301)	28.1	-	-	-
Naphthalene	4	-	-	-	-	ND (0.284)	ND (0.3165)	ND (0.301)	5.52	-	-	-
Phenanthrene	100	-	-	-	-	0.842	ND (0.3165)	ND (0.301)	8.01	-	-	-
Pyrene	700	-	-	-	-	0.878	ND (0.3165)	ND (0.301)	3.18	-	-	-

**TABLE V**  
**SUMMARY OF SOIL-QUALITY DATA - STOCKPILES**  
**BURBANK SCHOOL UST RELEASE**  
**BELMONT, MASSACHUSETTS**  
**FILE NO.: 30660-000**

SAMPLE DESIGNATION SAMPLING DATE SAMPLE DEPTH (FT.) NOTES	MCP Reportable Concentration RCS-1	UST-STKPL-1 12/23/03 NA	UST-STKPL-2 29-Dec-03 NA	UST-STKPL2-S2 30-Dec-03 NA	UST-STKPL2-S3 30-Dec-03 NA	CLIN-STKPL-1 05-Feb-04 NA	WSW 1-S1 05-Feb-04 6-12	ESW1-S2 06-Feb-04 6-12	SW CORNER 06-Feb-04 10-12	UST-STKPL3-S1 09-Feb-04 NA	UST-STKPL3-S2 09-Feb-04 NA	UST-STKPL3-S3 09-Feb-04 NA
<b>VPH (mg/kg)</b>												
C5-C8 Aliphatics	100	-	-	-	-	ND (0.94)	ND (1.665)	ND (1.445)	81.9	-	-	-
C9-C12 Aliphatics	1,000	-	-	-	-	14.6	11.3	ND (1.445)	152	-	-	-
C9-C10 Aromatics	100	-	-	-	-	27.7	ND (1.665)	ND (1.445)	579	-	-	-
<b>VPH Analytes (mg/kg)</b>												
Toluene	90	-	-	-	-	ND (0.05)	ND (0.083)	ND (0.072)	ND (1.3)	-	-	-
Ethylbenzene	80	-	-	-	-	ND (0.05)	ND (0.083)	ND (0.072)	3.71	-	-	-
Xylenes, mixture	500	-	-	-	-	0.146	ND (0.083)	ND (0.072)	15.65	-	-	-
Naphthalene	4	-	-	-	-	ND (0.471)	ND (0.83)	ND (0.72)	ND (13)	-	-	-
<b>TPH by GC/FID (mg/kg)</b>												
TPH	200	5,600	5200	28000	38000	-	-	-	-	16000	19000	9500
<b>RCRA 8 Metals (mg/kg)</b>												
Arsenic	30	5.8	7.4	-	-	-	-	-	-	-	-	-
Barium	1,000	66	40	-	-	-	-	-	-	-	-	-
Cadmium	30	ND (0.235)	ND (0.22)	-	-	-	-	-	-	-	-	-
Chromium	1,000	24	18	-	-	-	-	-	-	-	-	-
Lead	300	22	10	-	-	-	-	-	-	-	-	-
Mercury	20	0.12	ND (0.03)	-	-	-	-	-	-	-	-	-
Selenium	400	ND (0.465)	ND (0.445)	-	-	-	-	-	-	-	-	-
Silver	100	ND (0.235)	ND (0.22)	-	-	-	-	-	-	-	-	-
<b>PCBs (ug/kg)</b>												
Total PCBs	2,000	ND	ND	-	-	-	-	-	-	-	-	-
<b>Waste Characteristics</b>												
Corrosivity (pH)	NA	6.9	7.8	-	-	-	-	-	-	-	-	-
Ignitability (degrees F)	NA	> 150	> 150	-	-	-	-	-	-	-	-	-
Reactive Cyanide (mg/kg)	NA	ND (0.125)	ND (0.125)	-	-	-	-	-	-	-	-	-
Reactive Sulfide (mg/kg)	NA	ND (0.25)	ND (0.25)	-	-	-	-	-	-	-	-	-

**ABBREVIATIONS:**

- NA : Not applicable
- : Not analyzed
- ND(2.5): Not detected; number in parentheses is one-half the laboratory detection limit

**NOTES:**

1. This table includes only those compounds detected on the dates indicated.
2. Bold values indicate an exceedance of RCS-1 criteria.
3. Bold ND values indicate that one-half the laboratory quantitation limit exceeds the RCS-1 criteria.

TABLE V  
SUMMARY OF SOIL QUALITY DATA - STOCKPILES  
BURBANK SCHOOL UST RELEASE  
BELMONT, MASSACHUSETTS  
FILE NO.: 30660-000

SAMPLE DESIGNATION SAMPLING DATE SAMPLE DEPTH (FT.) NOTES	MCP Reportable Concentration RCS-1	UST-STKPL3-S4	ESW1-S3	ESW2-S2	WSW2-S2	UST-STKPL4-S1	UST-STKPL4-S2	UST-STKPL4-S3	UST-STKPL5-S1	UST-STKPL5-S2	UST-STKPL5-S3
		09-Feb-04	09-Feb-04	10-Feb-04	10-Feb-04	12-Feb-04	16-Feb-04	16-Mar-04	12-Feb-04	16-Feb-04	16-Mar-04
VOCs (ug/kg)											
Acetone	3,000	-	-	-	-	ND (260)	120	ND (280)	ND (1250)	ND (600)	ND (250)
n-Butylbenzene	NA	-	-	-	-	360	3.2	87	1100	ND (60)	ND (25)
sec-Butylbenzene	NA	-	-	-	-	130	ND (0.65)	ND (28)	460	ND (60)	ND (25)
Ethylbenzene	80,000	-	-	-	-	68	ND (0.65)	ND (28)	ND (125)	ND (60)	ND (25)
Isopropylbenzene	1,000,000	-	-	-	-	67	ND (0.65)	ND (28)	ND (125)	ND (60)	ND (25)
p-Isopropyltoluene	100,000	-	-	-	-	160	19	ND (28)	500	ND (60)	ND (25)
Naphthalene	4,000	-	-	-	-	1400	6.9	ND (140)	4600	720	ND (125)
n-Propylbenzene	100,000	-	-	-	-	160	ND (0.65)	ND (28)	480	ND (60)	ND (25)
Toluene	90,000	-	-	-	-	ND (38.5)	6.8	ND (42)	ND (190)	ND (90)	ND (37.5)
1,2,4-Trimethylbenzene	1,000,000	-	-	-	-	1100	10	ND (140)	4000	ND (305)	ND (125)
1,3,5-Trimethylbenzene	10,000	-	-	-	-	420	8.3	ND (140)	1300	ND (305)	ND (125)
Xylenes, mixture	500,000	-	-	-	-	430	3.9	ND (28)	1720	ND (60)	ND (25)
<b>Total VOCs (ug/kg)</b>	NA	-	-	-	-	4315	178.1	87	14160	720	ND
SVOCs (ug/kg)											
Benzo(a)anthracene	700	-	-	-	-	ND (600)	-	-	ND (1400)	-	-
Benzo(a)pyrene	700	-	-	-	-	ND (600)	-	-	ND (1400)	-	-
Chrysene	7,000	-	-	-	-	ND (600)	-	-	ND (1400)	-	-
Fluoranthene	1,000,000	-	-	-	-	ND (600)	-	-	ND (1400)	-	-
Fluorene	400,000	-	-	-	-	ND (600)	-	-	ND (1400)	-	-
1-Methylnaphthalene	NA	-	-	-	-	-	-	-	-	-	-
2-Methylnaphthalene	4,000	-	-	-	-	2000	-	-	14000	-	-
Naphthalene	4,000	-	-	-	-	ND (600)	-	-	3600	-	-
Phenanthrene	100,000	-	-	-	-	ND (600)	-	-	4600	-	-
Pyrene	700,000	-	-	-	-	ND (600)	-	-	ND (1400)	-	-
<b>Total SVOCs (ug/kg)</b>	NA	-	-	-	-	2000	-	-	22200	-	-
EPH (mg/kg)											
C9-C18 Aliphatics	1,000	-	9480	29.9	ND (6.3)	-	-	-	-	-	-
C19-C36 Aliphatics	2,500	-	6260	33.4	16.7	-	-	-	-	-	-
C11-C22 Aromatics	200	-	7720	34.7	ND (6.3)	-	-	-	-	-	-
EPH Analytes (mg/kg)											
Benzo(a)anthracene	NA	-	8.31	ND (0.3125)	ND (0.3165)	-	-	-	-	-	-
Benzo(a)pyrene	0.7	-	ND (2.66)	ND (0.3125)	ND (0.3165)	-	-	-	-	-	-
Benzo(g,h,i)perylene	0.7	-	ND (2.66)	ND (0.3125)	ND (0.3165)	-	-	-	-	-	-
Benzo(k)fluoranthene	1,000	-	ND (2.66)	ND (0.3125)	ND (0.3165)	-	-	-	-	-	-
Chrysene	7	-	10.7	ND (0.3125)	ND (0.3165)	-	-	-	-	-	-
Fluoranthene	1,000	-	ND (2.66)	ND (0.3125)	ND (0.3165)	-	-	-	-	-	-
Fluorene	400	-	10.1	ND (0.3125)	ND (0.3165)	-	-	-	-	-	-
2-Methylnaphthalene	4	-	163	ND (0.3125)	ND (0.3165)	-	-	-	-	-	-
Naphthalene	4	-	44.6	ND (0.3125)	ND (0.3165)	-	-	-	-	-	-
Phenanthrene	100	-	39.7	ND (0.3125)	ND (0.3165)	-	-	-	-	-	-
Pyrene	700	-	7.89	ND (0.3125)	ND (0.3165)	-	-	-	-	-	-



TABLE V  
SUMMARY OF SOIL QUALITY DATA - STOCKPILES  
BURBANK SCHOOL UST RELEASE  
BELMONT, MASSACHUSETTS  
FILE NO.: 30660-000

SAMPLE DESIGNATION SAMPLING DATE SAMPLE DEPTH (FT.) NOTES	MCP Reportable Concentration RCS-1	UST-STKPL3-S4 09-Feb-04 NA	ESW1-S3 09-Feb-04 7	ESW2-S2 10-Feb-04 6-12	WSW2-S2 10-Feb-04 6-12	UST-STKPL4-S1 12-Feb-04 NA	UST-STKPL4-S2 16-Feb-04 NA	UST-STKPL4-S3 16-Mar-04 NA	UST-STKPL5-S1 12-Feb-04 NA	UST-STKPL5-S2 16-Feb-04 NA	UST-STKPL5-S3 16-Mar-04 NA
<b>VPH (mg/kg)</b>											
C5-C8 Aliphatics	100	-	343	ND (1.36)	ND (1.545)	-	-	-	-	-	-
C9-C12 Aliphatics	1,000	-	1490	3.67	ND (1.545)	-	-	-	-	-	-
C9-C10 Aromatics	100	-	1430	4.91	ND (1.545)	-	-	-	-	-	-
<b>VPH Analytes (mg/kg)</b>											
Toluene	90	-	8.28	ND (0.068)	ND (0.077)	-	-	-	-	-	-
Ethylbenzene	80	-	11.4	ND (0.068)	ND (0.077)	-	-	-	-	-	-
Xylenes, mixture	500	-	47.5	ND (0.068)	ND (0.077)	-	-	-	-	-	-
Naphthalene	4	-	80.6	ND (0.68)	ND (0.77)	-	-	-	-	-	-
<b>TPH by GC/FID (mg/kg)</b>											
TPH	200	19000	-	-	-	2100	-	-	330	-	-
<b>RCRA 8 Metals (mg/kg)</b>											
Arsenic	30	-	-	-	-	9.1	-	-	8.1	-	-
Barium	1,000	-	-	-	-	57	-	-	64	-	-
Cadmium	30	-	-	-	-	ND (0.23)	-	-	ND (0.22)	-	-
Chromium	1,000	-	-	-	-	27	-	-	31	-	-
Lead	300	-	-	-	-	21	-	-	13	-	-
Mercury	20	-	-	-	-	ND (0.045)	-	-	ND (0.045)	-	-
Selenium	400	-	-	-	-	ND (0.46)	-	-	ND (1.1)	-	-
Silver	100	-	-	-	-	ND (0.23)	-	-	ND (0.22)	-	-
<b>PCBs (ug/kg)</b>											
Total PCBs	2,000	-	-	-	-	ND	-	-	ND	-	-
<b>Waste Characteristics</b>											
Corrosivity (pH)	NA	-	-	-	-	6.6	-	-	9.9	-	-
Ignitability (degrees F)	NA	-	-	-	-	>150	-	-	>150	-	-
Reactive Cyanide (mg/kg)	NA	-	-	-	-	ND (0.125)	-	-	ND (0.125)	-	-
Reactive Sulfide (mg/kg)	NA	-	-	-	-	ND (0.25)	-	-	ND (0.25)	-	-

**ABBREVIATIONS:**

- NA : Not applicable
- : Not analyzed
- ND(2.5): Not detected; number in parentheses is one-half the laboratory detection limit

**NOTES:**

1. This table includes only those compounds detected on the dates indicated.
2. Bold values indicate an exceedance of RCS-1 criteria.
3. Bold ND values indicate that one-half the laboratory quantitation limit exceeds the RCS-1 criteria.

TABLE V  
SUMMARY OF SOIL QUALITY DATA - STOCKPILES  
BURBANK SCHOOL UST RELEASE  
BELMONT, MASSACHUSETTS  
FILE NO.: 30660-000

SAMPLE DESIGNATION SAMPLING DATE SAMPLE DEPTH (FT.) NOTES	MCP Reporable Concentration RCS-1	CB-ESW-S2 25-Mar-04 6-12	CB-BOT-S2 25-Mar-04 6-12	UST-STKPL6-S1 26-Mar-04 NA	8 IN-CLAY-SOUTH 31-Mar-04 6-8	UST-STKPL6-S2 05-Apr-04 NA	UST-STKPL6-S3 05-Apr-04 NA	UST-STKPL6-S4 07-Apr-04 NA	UST-STKPL6-S5 07-Apr-04 NA	UST-STKPL6-S6 07-Apr-04 NA
<b>VOCs (ug/kg)</b>										
Acetone	3,000	-	-	ND (1000)	-	-	-	-	-	ND (340)
n-Butylbenzene	NA	-	-	1800	-	-	-	-	-	ND (34)
sec-Butylbenzene	NA	-	-	660	-	-	-	-	-	ND (34)
Ethylbenzene	80,000	-	-	ND (100)	-	-	-	-	-	ND (34)
Isopropylbenzene	1,000,000	-	-	ND (100)	-	-	-	-	-	ND (34)
p-Isopropyltoluene	100,000	-	-	360	-	-	-	-	-	ND (34)
Naphthalene	4,000	-	-	5400	-	-	-	-	-	ND (170)
n-Propylbenzene	100,000	-	-	450	-	-	-	-	-	ND (34)
Toluene	90,000	-	-	ND (150)	-	-	-	-	-	ND (50)
1,2,4-Trimethylbenzene	1,000,000	-	-	4200	-	-	-	-	-	ND (170)
1,3,5-Trimethylbenzene	10,000	-	-	1600	-	-	-	-	-	ND (170)
Xylenes, mixture	500,000	-	-	580	-	-	-	-	-	ND (34)
<b>Total VOCs (ug/kg)</b>	NA	-	-	15050	-	-	-	-	-	ND
<b>SVOCs (ug/kg)</b>										
Benzo(a)anthracene	700	-	-	1000	-	-	-	-	-	ND (300)
Benzo(a)pyrene	700	-	-	650	-	-	-	-	-	ND (300)
Chrysene	7,000	-	-	1600	-	-	-	-	-	ND (300)
Fluoranthene	1,000,000	-	-	580	-	-	-	-	-	ND (300)
Fluorene	400,000	-	-	1200	-	-	-	-	-	ND (300)
1-Methylnaphthalene	NA	-	-	-	-	-	-	-	-	-
2-Methylnaphthalene	4,000	-	-	5900	-	-	-	-	-	ND (300)
Naphthalene	4,000	-	-	620	-	-	-	-	-	ND (300)
Phenanthrene	100,000	-	-	3500	-	-	-	-	-	ND (300)
Pyrene	700,000	-	-	2200	-	-	-	-	-	ND (300)
<b>Total SVOCs (ug/kg)</b>	NA	-	-	17250	-	-	-	-	-	ND
<b>EPH (mg/kg)</b>										
C9-C18 Aliphatics	1,000	ND (5.2)	ND (5.2)	-	35.6	-	-	-	-	-
C19-C36 Aliphatics	2,500	ND (5.2)	ND (5.2)	-	25.8	-	-	-	-	-
C11-C22 Aromatics	200	ND (5.2)	ND (5.2)	-	34.2	-	-	-	-	-
<b>EPH Analytes (mg/kg)</b>										
Benzo(a)anthracene	NA	ND (0.2605)	ND (0.2605)	-	ND (0.305)	-	-	-	-	-
Benzo(a)pyrene	0.7	ND (0.2605)	ND (0.2605)	-	ND (0.305)	-	-	-	-	-
Benzo(g,h,i)perylene	1,000	ND (0.2605)	ND (0.2605)	-	ND (0.305)	-	-	-	-	-
Benzo(k)fluoranthene	7	ND (0.2605)	ND (0.2605)	-	ND (0.305)	-	-	-	-	-
Chrysene	7	ND (0.2605)	ND (0.2605)	-	ND (0.305)	-	-	-	-	-
Fluoranthene	1,000	ND (0.2605)	ND (0.2605)	-	ND (0.305)	-	-	-	-	-
Fluorene	400	ND (0.2605)	ND (0.2605)	-	ND (0.305)	-	-	-	-	-
2-Methylnaphthalene	4	ND (0.2605)	ND (0.2605)	-	ND (0.305)	-	-	-	-	-
Naphthalene	4	ND (0.2605)	ND (0.2605)	-	ND (0.305)	-	-	-	-	-
Phenanthrene	100	ND (0.2605)	ND (0.2605)	-	ND (0.305)	-	-	-	-	-
Pyrene	700	ND (0.2605)	ND (0.2605)	-	ND (0.305)	-	-	-	-	-

TABLE V  
SUMMARY OF SOIL QUALITY DATA - STOCKPILES  
BURBANK SCHOOL UST RELEASE  
BELMONT, MASSACHUSETTS  
FILE NO.: 30660-000

SAMPLE DESIGNATION SAMPLING DATE SAMPLE DEPTH (FT.) NOTES	MCP Reportable Concentration RCS-1	CB-ESW-S2 25-Mar-04 6-12	CB-BOT-S2 25-Mar-04 6-12	UST-STKPL6-S1 26-Mar-04 NA	8 IN-CLAY-SOUTH 31-Mar-04 6-8	UST-STKPL6-S2 05-Apr-04 NA	UST-STKPL6-S3 05-Apr-04 NA	UST-STKPL6-S4 07-Apr-04 NA	UST-STKPL6-S5 07-Apr-04 NA	UST-STKPL6-S6 07-Apr-04 NA
<b>VPH (mg/kg)</b>										
C3-C8 Aliphatics	100	ND (1.09)	ND (0.905)	-	ND (1.345)	-	-	-	-	-
C9-C12 Aliphatics	1,000	3.26	2.7	-	ND (1.345)	-	-	-	-	-
C9-C10 Aromatics	100	ND (1.09)	ND (0.905)	-	ND (1.345)	-	-	-	-	-
<b>VPH Analytes (mg/kg)</b>	NA									
Toluene	90	ND (0.0545)	ND (0.05)	-	ND (0.067)	-	-	-	-	-
Ethylbenzene	80	ND (0.0545)	ND (0.05)	-	ND (0.067)	-	-	-	-	-
Xylenes, mixture	500	ND (0.0545)	ND (0.05)	-	ND (0.067)	-	-	-	-	-
Naphthalene	4	ND (0.345)	ND (0.4515)	-	ND (0.67)	-	-	-	-	-
<b>TPH by GC/FID (mg/kg)</b>	200	-	-	1600	-	890	2800	ND (55)	ND (60)	ND (60)
<b>RCRA 8 Metals (mg/kg)</b>										
Arsenic	30	-	-	6.3	-	-	-	-	-	4.6
Barium	1,000	-	-	58	-	-	-	-	-	44
Cadmium	30	-	-	ND (0.225)	-	-	-	-	-	ND (0.235)
Chromium	1,000	-	-	29	-	-	-	-	-	23
Lead	300	-	-	11	-	-	-	-	-	11
Mercury	20	-	-	ND (0.045)	-	-	-	-	-	ND (0.04)
Selenium	400	-	-	ND (0.45)	-	-	-	-	-	ND (0.475)
Silver	100	-	-	ND (0.225)	-	-	-	-	-	ND (0.235)
<b>PCBs (ug/kg)</b>										
Total PCBs (ug/kg)	2,000	-	-	ND	-	-	-	-	-	ND
<b>Waste Characteristics</b>										
Corrosivity (pH)	NA	-	-	7.5	-	-	-	-	-	8.3
Ignitability (degrees F)	NA	-	-	> 150	-	-	-	-	-	> 150
Reactive Cyanide (mg/kg)	NA	-	-	ND (0.125)	-	-	-	-	-	ND (0.5)
Reactive Sulfide (mg/kg)	NA	-	-	ND (0.25)	-	-	-	-	-	ND (0.25)

**ABBREVIATIONS:**

NA : Not applicable  
 - : Not analyzed  
 ND(2.5): Not detected; number in parentheses is one-half the laboratory detection limit

**NOTES:**

- This table includes only those compounds detected on the dates indicated.
- Bold values indicate an exceedance of RCS-1 criteria.
- Bold ND values indicate that one-half the laboratory quantitation limit exceeds the RCS-1 criteria.

TABLE VI  
 INDOOR AIR QUALITY DATA  
 BURBANK SCHOOL UST RELEASE  
 BELMONT, MASSACHUSETTS  
 FILE NO.: 30660-000

SAMPLE DESIGNATION SAMPLING DATE	CAS NUMBER	BSTR-GYM 16-Dec-03	BSTR-GYM-S2 3-Jan-04	BSTR-GYM-021904 20-Feb-04	BSTR-GYM-030504 6-Mar-04
MADEP APH Method (ug/m <sup>3</sup> )					
C5-C8 Aliphatics	NA	101	41.4	31.9	44.8
C9-C12 Aliphatics	NA	93.4	32.8	ND(14.0)	ND(14.0)
Benzene	71-43-2	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)
Methyl tert-butyl ether	1634-04-4	ND(1.00)	2.02	ND(1.00)	ND(1.00)
Toluene	108-88-3	2.50	2.54	5.36	2.77
p/m-Xylene	NA	ND(2.00)	ND(2.00)	ND(2.00)	ND(2.00)

NOTES:

1. ND(0.51): Not detected. Number in parentheses is one-half the laboratory detection limit.
2. NA: Not available.
3. Samples were collected using 24-hour flow controllers and individually certified, fused-silica lined Silonite 2.7-Liter canisters.
4. Samples presented on this table were collected by Haley & Aldrich, Inc.
5. \* : Sample was mislabeled as being collected in Room 202 when it was actually collected in Room 203.

TABLE VI  
 INDOOR AIR QUALITY DATA  
 BURBANK SCHOOL UST RELEASE  
 BELMONT, MASSACHUSETTS  
 FILE NO.: 30660-000

SAMPLE DESIGNATION SAMPLING DATE	CAS NUMBER	BSTR-RM203 16-Dec-03	BSTR-RM203-S2 3-Jan-04	BSTR-RM202-021904* 20-Feb-04	BSTR-RM203-030504 6-Mar-04
MADEP APH Method (ug/m <sup>3</sup> )					
C5-C8 Aliphatics	NA	53.5	109	32.2	109
C9-C12 Aliphatics	NA	ND(14.0)	50	ND(14.0)	ND(14.0)
Benzene	71-43-2	ND(1.00)	2.18	ND(1.00)	ND(1.00)
Methyl tert-butyl ether	1634-04-4	ND(1.00)	3.87	ND(1.00)	3.48
Toluene	108-88-3	2.00	4.78	39.2	4.28
p/m-Xylene	NA	ND(2.00)	4.59	ND(2.00)	ND(2.00)

NOTES:

1. ND(0.51): Not detected. Number in parentheses is one-half the laboratory detection limit.
2. NA: Not available.
3. Samples were collected using 24-hour flow controllers and individually certified, fused-silica lined Silomat 2.7-Liter canisters.
4. Samples presented on this table were collected by Haley & Aldrich, Inc.
5. \* : Sample was mislabeled as being collected in Room 202 when it was actually collected in Room 203.

TABLE VI  
 INDOOR AIR QUALITY DATA  
 BURBANK SCHOOL UST RELEASE  
 BELMONT, MASSACHUSETTS  
 FILE NO.: 30660-000

SAMPLE DESIGNATION SAMPLING DATE	CAS NUMBER	BSTR-RM303 16-Dec-03	BSTR-RM303-S2 3-Jan-04	BSTR-RM303-021904 20-Feb-04	BSTR-RM303-030504 6-Mar-04
MADEP APH Method (ug/m <sup>3</sup> )					
C5-C8 Aliphatics	NA	65.9	87.1	ND(12.0)	32.0
C9-C12 Aliphatics	NA	ND(14.0)	50.7	110	ND(14.0)
Benzene	71-43-2	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)
Methyl tert-butyl ether	1634-04-4	ND(1.00)	3.37	ND(1.00)	2.58
Toluene	108-88-3	ND(1.00)	5.2	ND(1.00)	13.2
p/m-Xylene	NA	ND(2.00)	ND(2.00)	ND(2.00)	ND(2.00)

NOTES:

1. ND(0.51): Not detected. Number in parentheses is one-half the laboratory detection limit.
2. NA: Not available.
3. Samples were collected using 24-hour flow controllers and individually certified, fused-silica lined Silonite 2.7-Liter canisters.
4. Samples presented on this table were collected by Haley & Aldrich, Inc.
5. \*: Sample was mislabeled as being collected in Room 202 when it was actually collected in Room 203.

TABLE VI  
 INDOOR AIR QUALITY DATA  
 BURBANK SCHOOL UST RELEASE  
 BELMONT, MASSACHUSETTS  
 FILE NO.: 30660-000

SAMPLE DESIGNATION SAMPLING DATE	CAS NUMBER	BSTR-RM106-021904 20-Feb-04	BSTR-RM106-030504 6-Mar-04	BSTR-RM109-021904 20-Feb-04	BSTR-RM109-030504 6-Mar-04
MADEP APH Method (ug/m <sup>3</sup> )					
C5-C8 Aliphatics	NA	ND(12.0)	34.5	ND(12.0)	ND(12.0)
C9-C12 Aliphatics	NA	ND(14.0)	ND(14.0)	ND(14.0)	ND(14.0)
Benzene	71-43-2	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)
Methyl tert-butyl ether	1634-04-4	ND(1.00)	2.62	ND(1.00)	2.37
Toluene	108-88-3	ND(1.00)	5.49	ND(1.00)	3.03
p/m-Xylene	NA	ND(2.00)	ND(2.00)	ND(2.00)	ND(2.00)

NOTES:

1. ND(0.51): Not detected. Number in parentheses is one-half the laboratory detection limit.
2. NA: Not available.
3. Samples were collected using 24-hour flow controllers and individually certified, fused-silica lined Silonite 2.7-Liter canisters.
4. Samples presented on this table were collected by Haley & Aldrich, Inc.
5. \* : Sample was mislabeled as being collected in Room 202 when it was actually collected in Room 203.

TABLE VI  
 INDOOR AIR QUALITY DATA  
 BURBANK SCHOOL UST RELEASE  
 BELMONT, MASSACHUSETTS  
 FILE NO.: 30660-000

SAMPLE DESIGNATION SAMPLING DATE	CAS NUMBER	BSTR-RM212-021904 20-Feb-04	BSTR-RM212-030504 6-Mar-04
MADEP APH Method (ug/m <sup>3</sup> )			
C5-C8 Aliphatics	NA	ND(12.0)	ND(12.0)
C9-C12 Aliphatics	NA	ND(14.0)	ND(14.0)
Benzene	71-43-2	ND(1.00)	ND(1.00)
Methyl tert-butyl ether	1634-04-4	ND(1.00)	3.17
Toluene	108-88-3	ND(1.00)	3.91
p/m-Xylene	NA	ND(2.00)	ND(2.00)

NOTES:

1. ND(0.51): Not detected. Number in parentheses is one-half the laboratory detection limit.
2. NA: Not available.
3. Samples were collected using 24-hour flow controllers and individually certified, fused-silica lined Silonite 2.7-Liter canisters.
4. Samples presented on this table were collected by Haley & Aldrich, Inc.
5. \* : Sample was mislabeled as being collected in Room 202 when it was actually collected in Room 203.



TABLE VII  
 INDOOR AIR QUALITY DATA - BOILER ROOM AND STORAGE ROOM  
 BURBANK SCHOOL UST RELEASE  
 BELMONT, MASSACHUSETTS  
 FILE NO.: 30660-000

SAMPLE DESIGNATION SAMPLING DATE	CAS NUMBER	IAQ-STORAGE-05APR04 5-Apr-04	IAQ-BOILER_05APR04 5-Apr-04
MADEP APH Method (ug/m <sup>3</sup> )			
C5-C8 Aliphatics	NA	63.9	53.7
C9-C12 Aliphatics	NA	57.6	210
C9-C10 Aromatics	NA	57.7	72.1
Benzene	71-43-2	ND(1.00)	ND(1.00)
Methyl tert-butyl ether	1634-04-4	8.83	13.8
Toluene	108-88-3	7.64	5.56
Ethylbenzene	100-41-4	3.54	ND(2.00)
p/m-Xylene	NA	11.10	6.03
o-Xylene	95-47-6	3.24	2.44

## NOTES:

1. ND(0.51): Not detected. Number in parentheses is one-half the laboratory detection limit.
2. NA: Not available.
3. Samples were collected using 24-hour flow controllers and individually certified, fused-silica lined Silonite 2.7-Liter canisters.
4. Samples presented on this table were collected by Haley & Aldrich, Inc.

TABLE VIII  
SUMMARY OF FILL QUALITY DATA - CLAY PIT POND  
RISK CHARACTERIZATION  
BURBANK SCHOOL UST RELEASE  
BELMONT, MASSACHUSETTS  
FILE NO.: 30660-000

COMPOUND	FREQUENCY OF DETECTION	MINIMUM DETECTED CONCENTRATION (ug/kg)	AVERAGE CONCENTRATIONS (ug/kg)	MAXIMUM DETECTED CONCENTRATION (ug/kg)	SAMPLE WITH MAXIMUM CONCENTRATION
EPH					
C9-C18 Aliphatics	1 / 14	251,000	27,218	251,000	CCP-SW10-S1
C19-C36 Aliphatics	11 / 14	12,800	83,564	547,000	CCP-SW10-S1
C11-C22 Aromatics	9 / 14	18,100	101,421	488,000	CCP-SW10-S1
EPH Analytes					
Acenaphthylene	2 / 14	1,090	627	2,100	CCP-SW3-S1
Anthracene	1 / 14	782	525	782	CCP-SW1-S1
Benzo(a)anthracene	4 / 14	795	917	3,200	CCP-SW14-S1
Benzo(a)pyrene	4 / 14	886	1,120	3,960	CCP-SW3-S1
Benzo(b)fluoranthene	4 / 14	795	1,218	5,120	CCP-SW14-S1
Benzo(g,h,i)perylene	2 / 14	1,880	784	3,510	CCP-SW3-S1
Benzo(k)fluoranthene	4 / 14	943	1,136	4,140	CCP-SW14-S1
Chrysene	5 / 14	1,080	1,240	4,820	CCP-SW14-S1
Fluoranthene	5 / 14	690	1,540	8,290	CCP-SW14-S1
Indeno(1,2,3-cd)pyrene	3 / 14	1,620	915	3,350	CCP-SW14-S1
Phenanthrene	5 / 14	1,240	1,230	5,400	CCP-SW14-S1
Pyrene	6 / 14	782	1,766	7,530	CCP-SW14-S1

## NOTES:

1. Average (arithmetic mean) levels were calculated using a value of one-half the reporting limit for analytical values reported as "Not Detected" (ND).

TABLE IX  
SOIL QUALITY DATA - POND SOIL NON-IMPACTED SAMPLES  
RISK CHARACTERIZATION  
BURBANK SCHOOL UST RELEASE  
BELMONT, MASSACHUSETTS  
FILE NO.: 30660-000

SAMPLE DESIGNATION SAMPLING DATE SAMPLE DEPTH (FT.)	CAS NUMBER	BG1-S1 17-Feb-04 0-0.5	BG2-S1 17-Feb-04 0-0.5	BG3-S1 17-Feb-04 0-0.5	BG4-S1 09-Apr-04 0.5-1	BG6-S1 09-Apr-04 0.5-1	AVERAGE DETECTED LEVEL	MAXIMUM DETECTED LEVEL
<b>EPH (mg/kg)</b>								
C9-C18 Aliphatics	NA	23	15	ND (5.8)	ND (7.15)	ND (6.95)	11.6	23
C19-C36 Aliphatics	NA	80	30.5	32.3	15.1	ND (6.95)	33.0	80
C11-C22 Aromatics	NA	157	31.4	41.8	40.6	47.5	63.7	157
<b>EPH Analytes (mg/kg)</b>								
Acenaphthene	83-32-9	ND (0.431)	ND (0.343)	ND (0.291)	ND (0.357)	ND (0.347)	ND (0.354)	ND (0.431)
Acenaphthylene	208-96-8	ND (0.431)	ND (0.343)	ND (0.291)	ND (0.357)	ND (0.347)	ND (0.354)	ND (0.431)
Anthracene	120-12-7	ND (0.431)	ND (0.343)	ND (0.291)	ND (0.357)	ND (0.347)	ND (0.354)	ND (0.431)
Benzo(a)anthracene	56-55-3	2.03	ND (0.343)	ND (0.291)	ND (0.357)	ND (0.347)	0.673	2.03
Benzo(a)pyrene	50-32-8	2.47	ND (0.343)	ND (0.291)	ND (0.357)	ND (0.347)	0.761	2.47
Benzo(b)fluoranthene	205-99-2	2.55	ND (0.343)	ND (0.291)	ND (0.357)	0.713	0.851	2.55
Benzo(g,h,i)perylene	191-24-2	1.59	ND (0.343)	ND (0.291)	0.722	ND (0.347)	0.658	1.59
Benzo(k)fluoranthene	207-08-9	1.95	ND (0.343)	ND (0.291)	ND (0.357)	ND (0.347)	0.657	1.95
Chrysene	218-01-9	2.53	ND (0.343)	ND (0.291)	ND (0.357)	ND (0.347)	0.773	2.53
Dibenzo(a,h)anthracene	53-70-3	ND (0.431)	ND (0.343)	ND (0.291)	ND (0.357)	ND (0.347)	ND (0.354)	ND (0.431)
Fluoranthene	206-44-0	3.55	ND (0.343)	ND (0.291)	1.38	1.05	1.32	3.55
Fluorene	86-73-7	ND (0.431)	ND (0.343)	ND (0.291)	ND (0.357)	ND (0.347)	ND (0.354)	ND (0.431)
Indeno(1,2,3-cd)pyrene	193-39-5	1.55	ND (0.343)	ND (0.291)	ND (0.357)	ND (0.347)	0.577	1.55
2-Methylnaphthalene	91-57-6	ND (0.431)	ND (0.343)	ND (0.291)	ND (0.357)	ND (0.347)	ND (0.354)	ND (0.431)
Naphthalene	91-20-3	ND (0.431)	ND (0.343)	ND (0.291)	ND (0.357)	ND (0.347)	ND (0.354)	ND (0.431)
Phenanthrene	85-01-8	2.28	ND (0.343)	ND (0.291)	0.961	ND (0.347)	0.844	2.28
Pyrene	129-00-0	3.85	ND (0.343)	ND (0.291)	1.17	1.19	1.37	3.85
<b>VPH (mg/kg)</b>								
C5-C8 Aliphatics	NA	ND (2.78)	ND (2.095)	ND (1.385)	ND (1.895)	ND (1.285)	ND (1.89)	ND (2.78)
C9-C12 Aliphatics	NA	ND (2.78)	ND (2.095)	ND (1.385)	ND (1.895)	ND (1.285)	ND (1.89)	ND (2.78)
C9-C10 Aromatics	NA	ND (2.78)	ND (2.095)	ND (1.385)	ND (1.895)	ND (1.285)	ND (1.89)	ND (2.78)
<b>VPH Analytes (mg/kg)</b>								
Benzene	71-43-2	ND (0.139)	ND (0.105)	ND (0.069)	ND (0.095)	ND (0.065)	ND (0.0945)	ND (0.139)
Toluene	108-88-3	ND (0.139)	ND (0.105)	ND (0.069)	ND (0.095)	ND (0.065)	ND (0.0945)	ND (0.139)
Ethylbenzene	100-41-4	ND (0.139)	ND (0.105)	ND (0.069)	ND (0.095)	ND (0.065)	ND (0.0945)	ND (0.139)
Xylenes, mixture	1330-20-7	ND (0.139)	ND (0.105)	ND (0.069)	ND (0.095)	ND (0.065)	ND (0.0945)	ND (0.139)
Naphthalene	91-20-3	ND (1.39)	ND (1.05)	ND (0.69)	ND (0.95)	ND (0.645)	ND (0.945)	ND (1.39)
Methyl tert-butyl ether	1634-04-4	ND (0.278)	ND (0.21)	ND (0.139)	ND (0.19)	ND (0.129)	ND (0.189)	ND (0.278)
<b>TPH by GC/FID (mg/kg)</b>	NA	280	160	320	ND (70)	170	200	320

**ABBREVIATIONS:**

NA : Not applicable

- : Not analyzed

ND(2.5): Not detected; number in parentheses is one-half the laboratory detection limit

J: Detected below the quantitation limit for the analyte. Result is an estimated value.

VOCs: Volatile Organic Compounds analyzed by EPA Method 8260B with methanol/NaHSO<sub>4</sub> preservation.

PAHs: Polycyclic Aromatic Hydrocarbons analyzed by EPA Method 8270.

SVOCs: Semi-Volatile Organic Compounds analyzed by EPA Method 8270.

EPH: Extractable Petroleum Hydrocarbons by MADEP EPH Method.

VPH: Volatile Petroleum Hydrocarbons by MADEP VPH Method.

TPH: Total Petroleum Hydrocarbons by gas chromatography/flame ionization detector, analyzed by ASTM Method D3328.

RCRA 8 Metals analyzed by EPA Methods 6010 &amp; 7000.

TCLP: Toxicity Characteristic Leaching Procedure analyzed by EPA Method 1311.

PCBs: Polychlorinated Biphenyls analyzed by EPA Method 8080.

**NOTES:**

1. This table includes only those compounds detected on the dates indicated.
2. Bold values indicate an exceedance of RCS-1 criteria.
3. Bold ND values indicate that one-half the laboratory quantitation limit exceeds the RCS-1 criteria.

TABLE X  
 COMPARISON OF METAL AND PAH LEVELS IN SOIL TO DEP BACKGROUND VALUES  
 RISK CHARACTERIZATION  
 BURBANK SCHOOL UST RELEASE  
 BELMONT, MASSACHUSETTS  
 FILE NO.: 30660-000

COMPOUND	DEP BACKGROUND VALUES FOR FILL CONTAINING ASH (90th %) (mg/kg)	DEP BACKGROUND VALUES FOR FILL CONTAINING ASH (95th %) (mg/kg)	MAXIMUM DETECTED LEVEL IN SOIL (mg/kg)	MAXIMUM SOIL LEVEL EXCEEDS 90th % BACKGROUND	MAXIMUM SOIL LEVEL EXCEEDS 95th % BACKGROUND
<b>PAHs</b>					
Acenaphthylene	1	1.9	2.1	YES	YES
Anthracene	4	10	0.8	no	no
Benzo(a)anthracene	9	19	3.2	no	no
Benzo(a)pyrene	7	17	4.0	no	no
Benzo(b)fluoranthene	8	18	5.1	no	no
Benzo(g,h,i)perylene	3	7.7	3.5	YES	no
Benzo(k)fluoranthene	4	9.7	4.1	YES	no
Chrysene	7	18	4.8	no	no
Fluoranthene	10	33	8.3	no	no
Indeno(1,2,3-cd)pyrene	3	7.0	3.4	YES	no
Phenanthrene	20	38	5.4	no	no
Pyrene	20	35	7.5	no	no

NOTES AND ABBREVIATIONS:

1. DEP Background Values were obtained from DEP's Technical Update: Background Levels of Polycyclic Aromatic Hydrocarbons and Metals in Soil, dated May 2002.

TABLE XI  
 SUMMARY OF COMPOUNDS OF CONCERN (COC) AND EXPOSURE POINT CONCENTRATIONS (EPC)  
 RISK CHARACTERIZATION  
 BURBANK SCHOOL UST RELEASE  
 BELMONT, MASSACHUSETTS  
 FILE NO.: 30660-000

COMPOUND	SOIL EXPOSURE POINT CONCENTRATIONS (mg/Kg)
EPH	
C9-C18 Aliphatics	27
C19-C36 Aliphatics	84
C11-C22 Aromatics	101
EPH Analytes	
Acenaphthylene	0.63

NOTES:

1. Soil EPCs are average levels of constituents detected in pond soil most likely impacted by the release.

TABLE XII  
 COMPARISON OF SOIL EXPOSURE POINT CONCENTRATIONS TO METHOD 1 RISK CHARACTERIZATION STANDARDS  
 RISK CHARACTERIZATION  
 BURBANK SCHOOL UST RELEASE  
 BELMONT, MASSACHUSETTS  
 FILE NO.: 30660-000

COMPOUND	SOIL EPC (mg/kg)	METHOD 1		SOIL EPC EXCEEDS		METHOD 1		SOIL EPC EXCEEDS	
		S-1/GW-2 STANDARD (mg/kg)	S-1/GW-2 STANDARD?	S-1/GW-2 STANDARD?	S-1/GW-2 STANDARD?	S-1/GW-3 STANDARD (mg/kg)	S-1/GW-3 STANDARD?	S-1/GW-3 STANDARD?	S-1/GW-3 STANDARD?
Acenaphthylene	0.63	100	no	no	100	no	no	no	no
C11-C22 Aromatics	101	800	no	no	800	no	no	no	no
C19-C36 Aliphatics	84	2,500	no	no	2,500	no	no	no	no
C9-C18 Aliphatics	27	1,000	no	no	1,000	no	no	no	no

Notes:

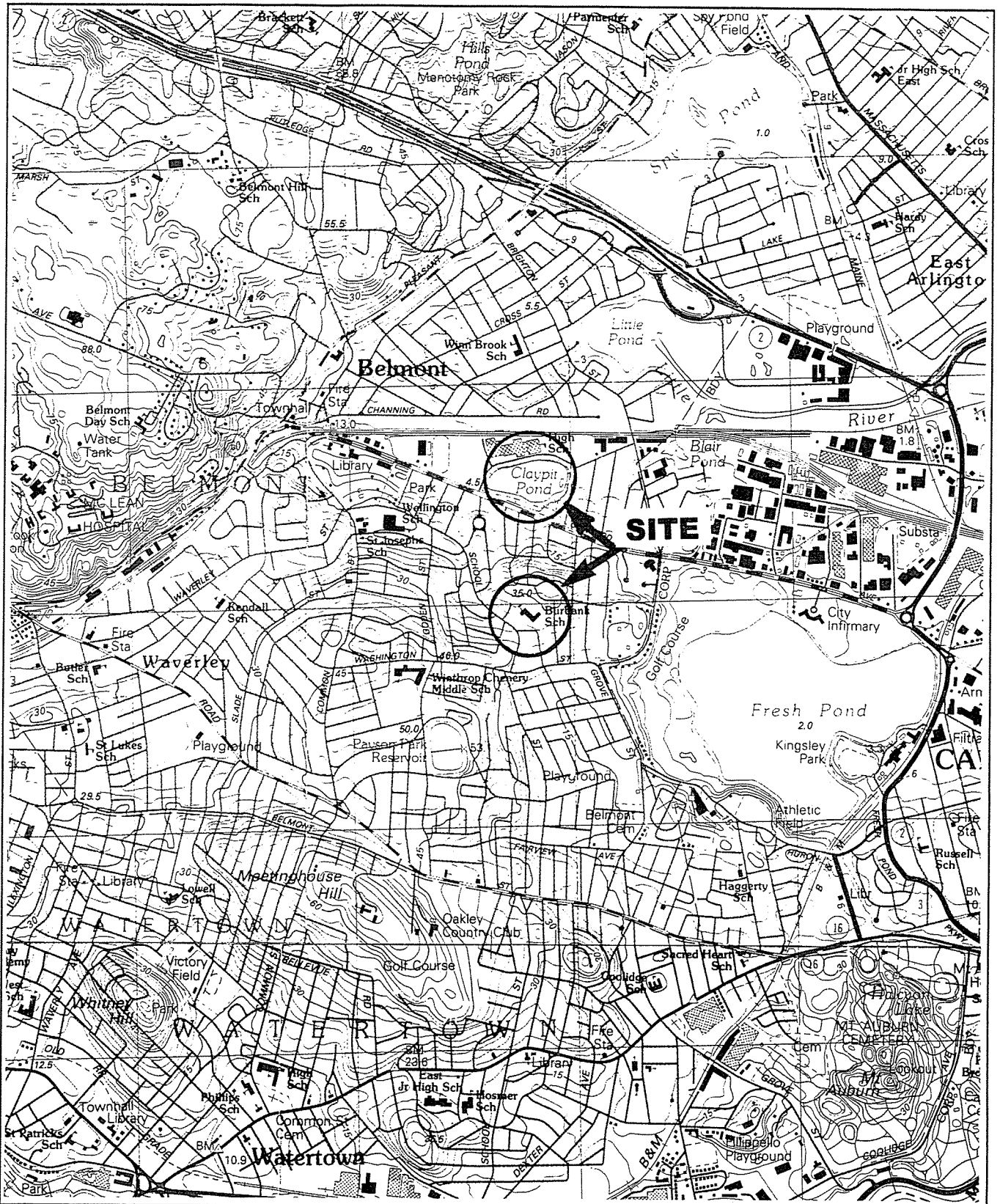
1. Soil EPC (exposure point concentration) is the average concentration detected for the compound of concern.

TABLE XIII  
 COMPARISON OF AVERAGE SOIL LEVELS TO MCP UPPER CONCENTRATION LIMITS (UCLs)  
 RISK CHARACTERIZATION  
 BURBANK SCHOOL UST RELEASE  
 BELMONT, MASSACHUSETTS  
 FILE NO.: 30660-000

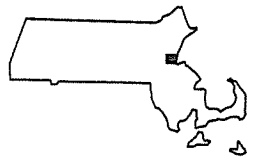
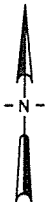
COMPOUND	AVERAGE SOIL LEVEL (mg/Kg)	UPPER CONCENTRATION LIMIT (mg/Kg)	AVERAGE SOIL LEVEL EXCEEDS MCP SOIL UCL?
Acenaphthylene	0.63	10,000	no
C11-C22 Aromatics	101	10,000	no
C19-C36 Aliphatics	84	20,000	no
C9-C18 Aliphatics	27	20,000	no

NOTES:

1. Average (arithmetic mean) levels were calculated using a value of one-half the reporting limit for analytical values reported as "Not Detected" (ND).



SITE COORDINATES: 42°23'18"N 71°09'53"W



U.S.G.S. QUADRANGLE: BOSTON NORTH, MA



UNDERGROUND  
ENGINEERING &  
ENVIRONMENTAL  
SOLUTIONS

UNDERGROUND STORAGE TANK OIL RELEASE  
MARY LEE BURBANK SCHOOL  
BELMONT, MASSACHUSETTS

**PROJECT LOCUS**

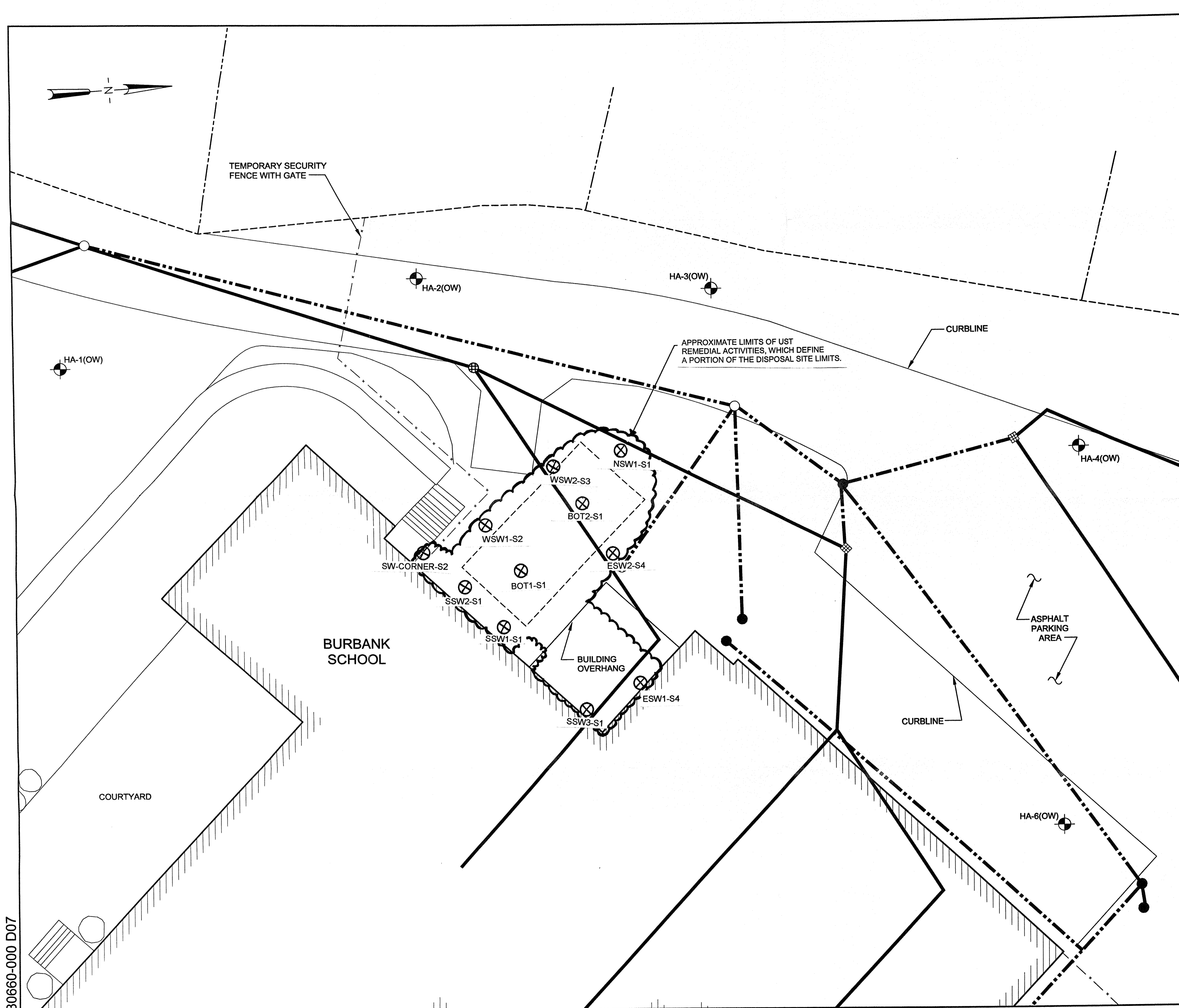
APPROXIMATE SCALE: 1:25,000

FEBRUARY 2004

30660-000 A03

FIGURE 1



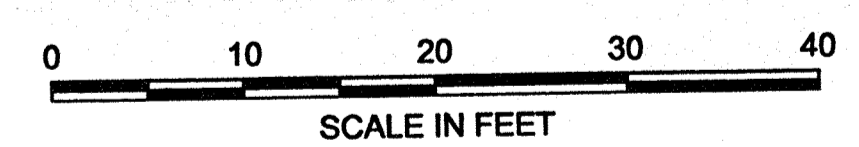


**LEGEND:**

- HA-1(OV) [Symbol] DESIGNATION AND APPROXIMATE LOCATION OF TEST BORING DRILLED BY NEW HAMPSHIRE BORING, DURING THE PERIOD 12 THROUGH 20 JANUARY 2004
- (OV) [Symbol] INDICATES OBSERVATION WELL INSTALLED IN COMPLETED BOREHOLE
- [Symbol] APPROXIMATE LOCATION OF STORM DRAINAGE INSTALLED DURING 1988 RENOVATION
- [Symbol] APPROXIMATE LOCATION OF DRAINS AND/OR STORM DRAINAGE WHICH EXISTED PRIOR TO 1988 RENOVATION
- [Symbol] DESIGNATION AND APPROXIMATE LOCATION OF CONFIRMATORY SOIL SAMPLE.
- [Symbol] APPROXIMATE LIMITS OF UST REMEDIAL ACTIVITIES, WHICH DEFINE A PORTION OF THE DISPOSAL SITE LIMITS.

**NOTES:**

1. INFORMATION OF THIS PLAN WAS TAKEN FROM A COPY OF A 1 IN EQUALS 20 FEET DRAWING ENTITLED: BELMONT SCHOOLS - ADDITIONS AND RENOVATIONS TO BURBANK SCHOOL - SITE UTILITIES PLAN, SHEET NO. CEB-1, SEQUENCE 3, DATED 18 MAY 1988, REVISION 6 - DATED 21 JUNE 1989, PREPARED BY CHARLES G. SAMIOTES, PE, INC.
2. THE ELEVATIONS OF THE PRE-1988 RENOVATION DRAIN LINES ARE NOT KNOWN.
3. WHETHER THE PRE-1988 RENOVATION DRAIN LINES WERE ABANDONED, PLUGGED, REMOVED, OR TIED INTO THE LINES INSTALLED DURING THE 1988 RENOVATION ARE NOT KNOWN.
4. LOCATIONS OF EXPLORATIONS WERE OBTAINED FROM TAPING FROM EXISTING FEATURES IN THE FIELD AND SHOULD BE CONSIDERED APPROXIMATE.



**HALEY & ALDRICH**

UNDERGROUND ENGINEERING & ENVIRONMENTAL SOLUTIONS

BURBANK SCHOOL TANK RELEASE  
BELMONT, MASSACHUSETTS

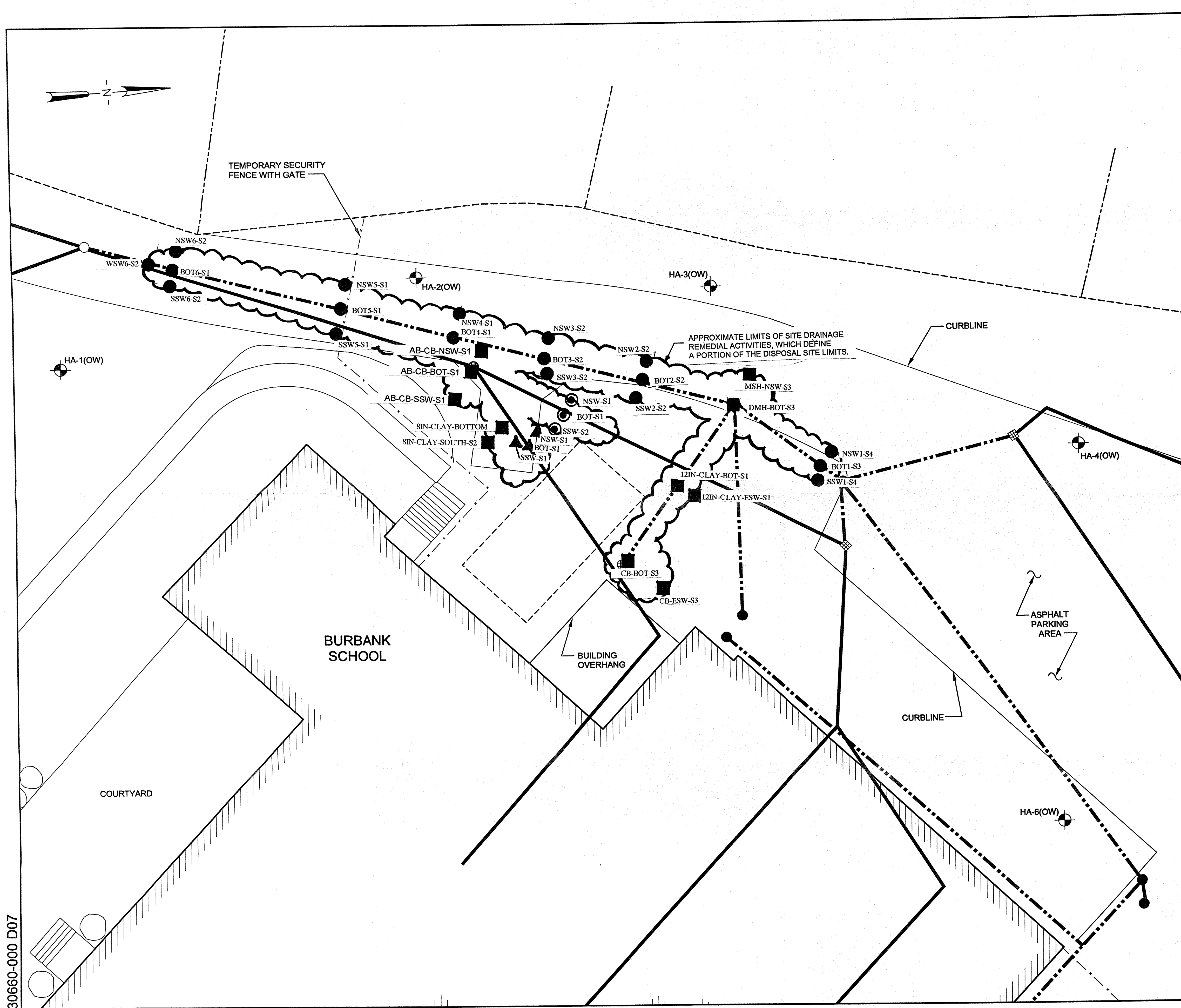
**CONFIRMATORY SAMPLE  
LOCATION PLAN - UST EXCAVATION**

SCALE: AS SHOWN

APRIL 2004

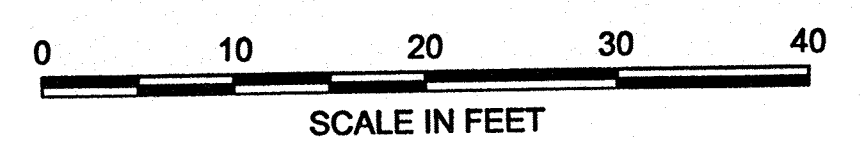
30660-000 D07

FIGURE 2



- LEGEND:**
- HA-1(OW) DESIGNATION AND APPROXIMATE LOCATION OF TEST BORING DRILLED BY NEW HAMPSHIRE BORING, DURING THE PERIOD 12 THROUGH 20 JANUARY 2004
  - (OW) INDICATES OBSERVATION WELL INSTALLED IN COMPLETED BOREHOLE
  - APPROXIMATE LOCATION OF STORM DRAINAGE INSTALLED DURING 1988 RENOVATION
  - APPROXIMATE LOCATION OF DRAINS AND/OR STORM DRAINAGE WHICH EXISTED PRIOR TO 1988 RENOVATION
  - APPROXIMATE LIMITS OF DRAINAGE REMEDIAL ACTIVITIES, WHICH DEFINE A PORTION OF THE DISPOSAL SITE LIMITS.
  - DESIGNATION AND APPROXIMATE LOCATION OF 12IN-CONC-SERIES CONFIRMATORY SOIL SAMPLES
  - DESIGNATION AND APPROXIMATE LOCATION OF 6IN-PVC-SERIES CONFIRMATORY SOIL SAMPLES
  - DESIGNATION AND APPROXIMATE LOCATION OF 8IN-CLAY-SERIES CONFIRMATORY SOIL SAMPLES
  - DESIGNATION AND APPROXIMATE LOCATION OF OTHER CONFIRMATORY SOIL SAMPLES

- NOTES:**
1. INFORMATION OF THIS PLAN WAS TAKEN FROM A COPY OF A 1 IN EQUALS 20 FEET DRAWING ENTITLED: BELMONT SCHOOLS - ADDITIONS AND RENOVATIONS TO BURBANK SCHOOL - SITE UTILITIES PLAN, SHEET NO. CEB-1, SEQUENCE 3, DATED 18 MAY 1988, REVISION 6 - DATED 21 JUNE 1989, PREPARED BY CHARLES G. SAMIOTES, PE, INC.
  2. THE ELEVATIONS OF THE PRE-1988 RENOVATION DRAIN LINES ARE NOT KNOWN.
  3. WHETHER THE PRE-1988 RENOVATION DRAIN LINES WERE ABANDONED, PLUGGED, REMOVED, OR TIED INTO THE LINES INSTALLED DURING THE 1988 RENOVATION ARE NOT KNOWN.
  4. LOCATIONS OF EXPLORATIONS WERE OBTAINED FROM TAPING FROM EXISTING FEATURES IN THE FIELD AND SHOULD BE CONSIDERED APPROXIMATE.

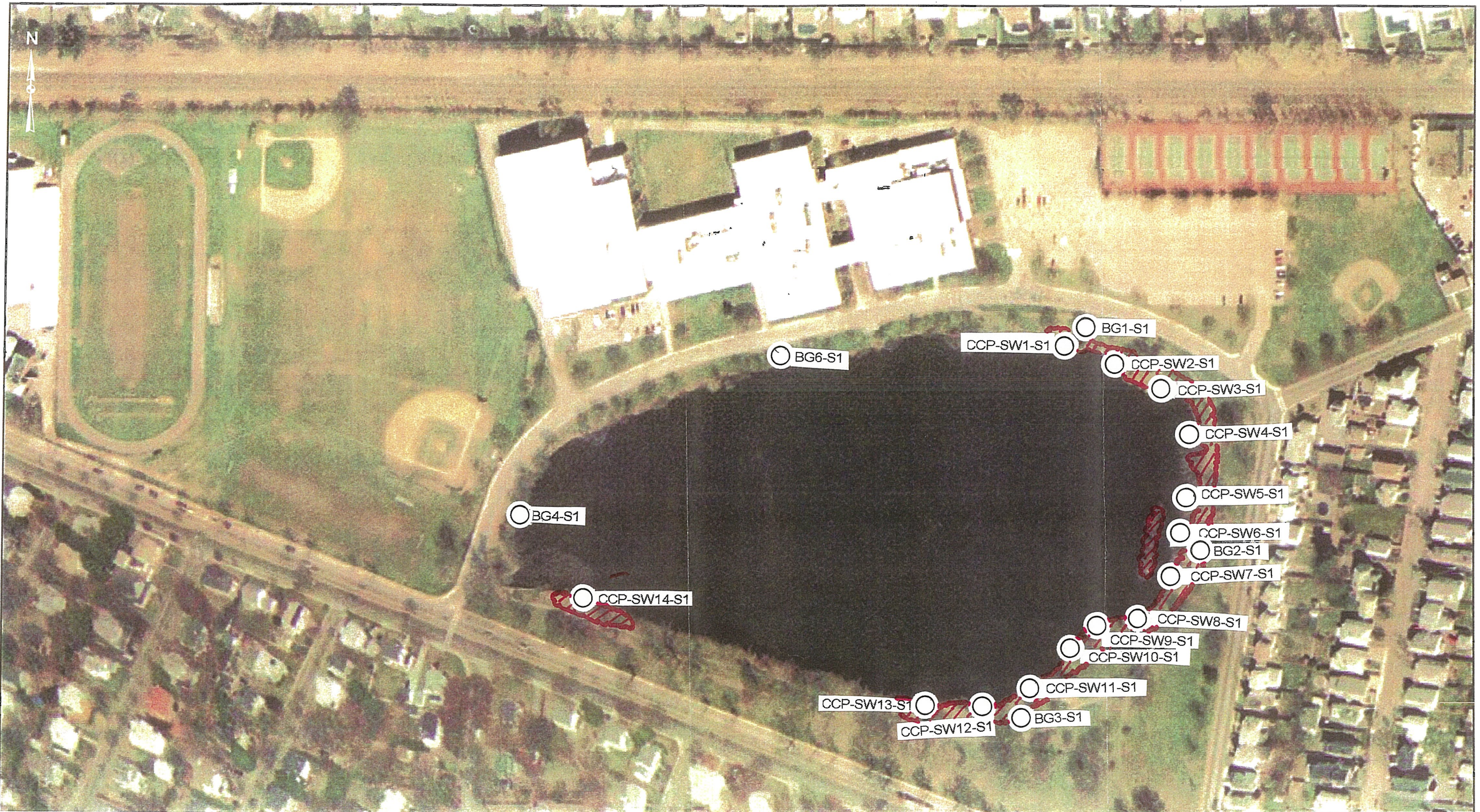



	BURBANK SCHOOL TANK RELEASE BELMONT, MASSACHUSETTS
	<b>CONFIRMATORY SAMPLE          LOCATION PLAN -          DRAINAGE EXCAVATION</b>
UNDERGROUND ENGINEERING & ENVIRONMENTAL SOLUTIONS	SCALE: AS SHOWN
	APRIL 2004

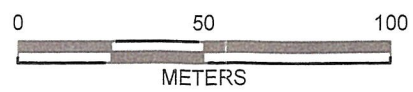
30660-000 D07

FIGURE 3





- CCP-SW1-S1 DESIGNATION AND APPROXIMATE LOCATION OF CONFIRMATORY SOIL SAMPLE.
-  APPROXIMATE LIMITS OF CLAY PIT POND REMEDIAL ACTIVITIES, WHICH DEFINE A PORTION OF THE DISPOSAL SITE LIMITS.



**HALEY & ALDRICH**  
 UNDERGROUND ENGINEERING & ENVIRONMENTAL SOLUTIONS

BURBANK SCHOOL STORAGE TANK OIL RELEASE  
 BELMONT, MASSACHUSETTS

**CONFIRMATORY SAMPLE LOCATION PLAN – CLAY PIT POND**

SCALE AS SHOWN

APRIL 2004

30660-000 ArcGIS

FIGURE 4



**APPENDIX A**

**Response Action Outcome Statement (BWSC-104) Transmittal Forms**



**RESPONSE ACTION OUTCOME (RAO) STATEMENT**

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

Release Tracking Number

3 - 23441

**A. SITE LOCATION:**

- 1. Site Name/Location Aid: Burbank School
- 2. Street Address: 266 School Street
- 3. City/Town: Belmont      4. ZIP Code: 02478-0000
- 5. Check here if a Tier Classification Submittal has been provided to DEP for this disposal site.
  - a. Tier 1A     b. Tier 1B     c. Tier 1C     d. Tier 2
- 6. If a Tier I Permit has been issued, provide Permit Number: \_\_\_\_\_

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

- 1. List Submittal Date of RAO Statement (if previously submitted): \_\_\_\_\_ mm/dd/yyyy
- 2. Submit a **Response Action Outcome (RAO) Statement**
  - a. Check here if this RAO Statement covers additional Release Tracking Numbers (RTNs). RTNs that have been previously linked to a Primary Tier Classified RTN do not need to be listed here.
  - b. Provide additional Release Tracking Number(s) covered by this RAO Statement.     -      -
- 3. Submit a **Revised Response Action Outcome Statement**
  - a. Check here if this Revised RAO Statement covers additional Release Tracking Numbers (RTNs), not listed on the RAO Statement or previously submitted Revised RAO Statements. RTNs that have been previously linked to a Primary Tier Classified RTN do not need to be listed here.
  - b. Provide additional Release Tracking Number(s) covered by this RAO Statement.     -      -
- 4. Submit a **Response Action Outcome Partial (RAO-P) Statement**  
Check above box, if any Response Actions remain to be taken to address conditions associated with this disposal site having the Primary RTN listed in the header section of this transmittal form. This RAO Statement will record only an RAO-Partial Statement for that RTN. A final RAO Statement will need to be submitted that references all RAO-Partial Statements and, if applicable, covers any remaining conditions not covered by the RAO-Partial Statements.
- 5. Submit an optional **Phase I Completion Statement** supporting an RAO Statement
- 6. Submit a **Periodic Review Opinion evaluating the status of a Temporary Solution** for a Class C RAO Statement (Section E is optional)
- 7. Submit a **Retraction** of a previously submitted **Response Action Outcome Statement** (Sections D & E are not required)

(All sections of this transmittal form must be filled out unless otherwise noted above)



**RESPONSE ACTION OUTCOME (RAO) STATEMENT**

Release Tracking Number

3 - 23441

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

**C. DESCRIPTION OF RESPONSE ACTIONS:** (check all that apply, for volumes list cumulative amounts)

- 1. Assessment and/or Monitoring Only
- 3. Deployment of Absorbent or Containment Materials
- 5. Structure Venting System
- 7. Product or NAPL Recovery
- 9. Groundwater Treatment Systems
- 11. Bioremediation
- 13. Removal of Contaminated Soils
- 2. Temporary Covers or Caps
- 4. Temporary Water Supplies
- 6. Temporary Evacuation or Relocation of Residents
- 8. Fencing and Sign Posting
- 10. Soil Vapor Extraction
- 12. Air Sparging

a. Re-use, Recycling or Treatment  i. On Site Estimated volume in cubic yards \_\_\_\_\_  
 ii. Off Site Estimated volume in cubic yards 1200

ii. Facility Name: Aggregate Industries Town: Stoughton State: MA

ii. Facility Name: \_\_\_\_\_ Town: \_\_\_\_\_ State: \_\_\_\_\_

iii. Describe: Asphalt batch

b. Landfill  i. Cover Estimated volume in cubic yards 300

Facility Name: Concord Avenue Landfill Town: Belmont State: MA

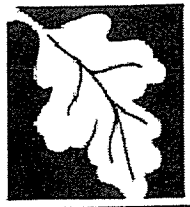
ii. Disposal Estimated volume in cubic yards \_\_\_\_\_  
 Facility Name: \_\_\_\_\_ Town: \_\_\_\_\_ State: \_\_\_\_\_

14. Removal of Drums, Tanks or Containers:

a. Describe Quantity and Amount: (1) 10,000-gallon Underground Storage Tank

b. Facility Name: James G. Grant, Co., Inc. Town: Readville State: MA

c. Facility Name: \_\_\_\_\_ Town: \_\_\_\_\_ State: \_\_\_\_\_



**RESPONSE ACTION OUTCOME (RAO) STATEMENT**

Release Tracking Number

3 - 23441

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

**C. DESCRIPTION OF RESPONSE ACTIONS (cont.):** (check all that apply, for volumes list cumulative amounts)

15. Removal of Other Contaminated Media:  
a. Specify Type and Volume: Oil impacted polyethylene sheeting, absorbent pads and booms,  
tyveks, gloves, PPE <100 cy

b. Facility Name: American Ref-Fuel Company Town: Wareham State: MA

c. Facility Name: \_\_\_\_\_ Town: \_\_\_\_\_ State: \_\_\_\_\_

16. Other Response Actions:  
Describe: Removal and off-site disposal of oil/oily water - approximately 175,000 gallons  
Installation of oil/water separator

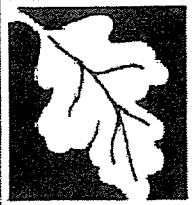
17. Use of Innovative Technologies:  
Describe: \_\_\_\_\_

**D. RESPONSE ACTION OUTCOME CLASS:**

Specify the Class of Response Action Outcome that applies to the disposal site, or site of the Threat of Release.  
Select **ONLY** one Class. \*See Note

1. **Class A-1 RAO:** Specify one of the following:  
 a. Contamination has been reduced to background levels.  b. A Threat of Release has been eliminated.
2. **Class A-2 RAO:** You **MUST** provide justification that reducing contamination to or approaching background levels is infeasible.
3. **Class A-3 RAO:** You **MUST** provide an implemented Activity and Use Limitation (AUL) and justification that reducing contamination to or approaching background levels is infeasible.
4. **Class A-4 RAO:** You **MUST** provide an implemented AUL, justification that reducing contamination to or approaching background levels is infeasible, and justification that reducing contamination to less than Upper Concentration Limits (UCLs) 15 feet below ground surface or below an engineered barrier is infeasible. If the permanent solution relies upon an engineered barrier, you must also provide a Phase III report justifying the selection of the engineered barrier.

\*Note: Two RAO classes are selected based on the outcomes of the two RAO-P's.



**RESPONSE ACTION OUTCOME (RAO) STATEMENT**

Release Tracking Number

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

3 - 23441

**D. RESPONSE ACTION OUTCOME CLASS (cont.):**

- 5. Class B-1 RAO: Specify one of the following:
  - a. Contamination is consistent with background levels
  - b. Contamination is **NOT** consistent with background levels.
- 6. Class B-2 RAO: You **MUST** provide an implemented AUL.
- 7. Class B-3 RAO: You **MUST** provide an implemented AUL and justification that reducing contamination to less than Upper Concentration Limits (UCLs) 15 feet below ground surface is infeasible.
- 8. Class C RAO: Specify one:
  - a. Monitoring
  - b. Passive Operation and Maintenance
  - c. Active Operation and Maintenance (defined at 310 CMR 40.0006)

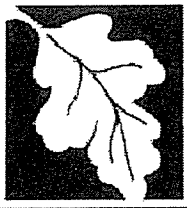
**E. RESPONSE ACTION OUTCOME INFORMATION:**

1. Specify the Risk Characterization Method(s) used to achieve the RAO described above:
  - a. Method 1
  - b. Method 2
  - c. Method 3
  - d. Method Not Applicable-Contamination reduced to or consistent with background, or Threat of Release abated
2. Specify all Soil and Groundwater Categories. More than one Soil Category and more than one Groundwater Category may apply at a Site. Be sure to check off all **APPLICABLE** categories.
  - a. Soil Category(ies) Applicable:
 

<input type="checkbox"/> i. S-1/GW-1	<input type="checkbox"/> iv. S-2/GW-1	<input type="checkbox"/> vii. S-3/GW-1
<input checked="" type="checkbox"/> ii. S-1/GW-2	<input type="checkbox"/> v. S-2/GW-2	<input type="checkbox"/> viii. S-3/GW-2
<input checked="" type="checkbox"/> iii. S-1/GW-3	<input type="checkbox"/> vi. S-2/GW-3	<input type="checkbox"/> ix. S-3/GW-3
  - b. Groundwater Category(ies) Impacted:
 

<input type="checkbox"/> i. GW-1	<input type="checkbox"/> ii. GW-2	<input type="checkbox"/> iii. GW-3	<input checked="" type="checkbox"/> iv. No Groundwater Impacted
----------------------------------	-----------------------------------	------------------------------------	---
3. Specify remediation conducted.
  - a. Check here if soil remediation was conducted.
  - b. Check here if groundwater remediation was conducted.
4. Estimate the number of acres this RAO Statement applies to: 14.0





RESPONSE ACTION OUTCOME (RAO) STATEMENT

Release Tracking Number

3 - 23441

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

F. LSP SIGNATURE AND STAMP:

I attest under the pains and penalties of perjury that I have personally examined and am familiar with this transmittal form, including any and all documents accompanying this submittal. In my professional opinion and judgment based upon application of (i) the standard of care in 309 CMR 4.02(1), (ii) the applicable provisions of 309 CMR 4.02(2) and (3), and 309 CMR 4.03(2), and (iii) the provisions of 309 CMR 4.03(3), to the best of my knowledge, information and belief,

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

I am aware that significant penalties may result, including, but not limited to, possible fines and imprisonment, if I submit information which I know to be false, inaccurate or materially incomplete.

1. LSP #: 9819

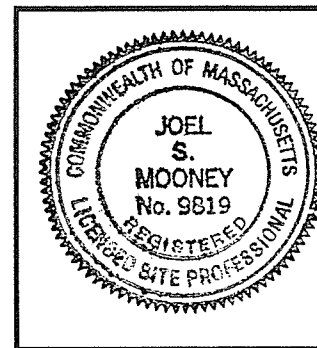
2. First Name: Joel S. 3. Last Name: Mooney

4. Telephone: (617) 886-7435 5. Ext.: 6. FAX: (617) 886-7735

7. Signature: Joel S. Mooney

8. Date: 20 APRIL 2004  
mm/dd/yyyy

9. LSP Stamp:



G. PERSON MAKING SUBMITTAL:

1. Check all that apply:  a. change in contact name  b. change of address  c. change in the person undertaking response actions

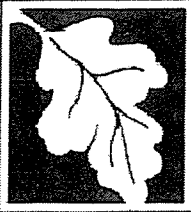
2. Name of Organization: Town of Belmont

3. Contact First Name: Joyce L. 4. Last Name: Munro

5. Street: 455 Concord Avenue 6. Title: Assistant Town Administrator

7. City/Town: Belmont 8. State: MA 9. ZIP Code: 02478-0000

10. Telephone: (617) 489-8219 11. Ext.: 12. FAX: (617) 484-4807



RESPONSE ACTION OUTCOME (RAO) STATEMENT

Release Tracking Number

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

3 - 23441

H. RELATIONSHIP TO RELEASE OR THREAT OF RELEASE OF PERSON MAKING SUBMITTAL:

- 1. RP or PRP
  - a. Owner
  - b. Operator
  - c. Generator
  - d. Transporter
  - e. Other RP or PRP Specify: \_\_\_\_\_

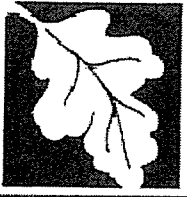
2. Fiduciary, Secured Lender or Municipality with Exempt Status (as defined by M.G.L. c. 21E, s. 2)

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

4. Any Other Person Making Submittal Specify Relationship: \_\_\_\_\_

I. REQUIRED ATTACHMENT AND SUBMITTALS:

- 1. Check here if the Response Action(s) on which this opinion is based, if any, are (were) subject to any order(s), permit(s) and/or approval(s) issued by DEP or EPA. If the box is checked, you MUST attach a statement identifying the applicable provisions thereof.
- 2. Check here to certify that the Chief Municipal Officer and the Local Board of Health have been notified of the submittal of an RAO Statement that relies on the public way/rail right-of-way exemption from the requirements of an AUL.
- 3. Check here to certify that the Chief Municipal Officer and the Local Board of Health have been notified of the submittal of a RAO Statement with instructions on how to obtain a full copy of the report.
- 4. Check here to certify that documentation is attached specifying the location of the Site, or the location and boundaries of the Disposal Site subject to this RAO Statement. If submitting an RAO Statement for a PORTION of a Disposal Site, you must document the location and boundaries for both the portion subject to this submittal and, to the extent defined, the entire Disposal Site.
- 5. Check here if required to submit one or more AULs. You must submit an AUL Transmittal Form (BWSC113) and a copy of each implemented AUL related to this RAO Statement. Specify the type of AUL(s) below: (required for Class A-3, A-4, B-2, B-3 RAO Statements)
  - a. Notice of Activity and Use Limitation
  - b. Number of Notices submitted: \_\_\_\_\_
  - c. Grant of Environmental Restriction
  - d. Number of Grants submitted: \_\_\_\_\_
- 6. If an RAO Compliance Fee is required for any of the RTNs listed on this transmittal form, check here to certify that an RAO Compliance Fee was submitted to DEP, P. O. Box 4062, Boston, MA 02211.
- 7. Check here if any non-updatable information provided on this form is incorrect, e.g. Site Address/Location Aid. Send corrections to the DEP Regional Office.
- 8. Check here to certify that the LSP Opinion containing the material facts, data, and other information is attached.



**RESPONSE ACTION OUTCOME (RAO) STATEMENT**

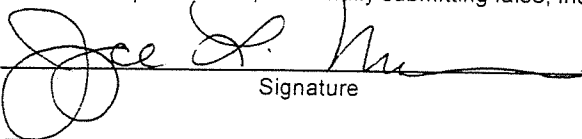
Pursuant to 310 CMR 40.0580 (Subpart E) & 40.1056 (Subpart J)

Release Tracking Number

3 - 23441

**J. CERTIFICATION OF PERSON MAKING SUBMITTAL:**

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

2. By:  3. Title: Assistant Town Administrator  
Signature

4. For: Town of Belmont 5. Date: 07/16/04  
(Name of person or entity recorded in Section G) mm/dd/yyyy

6. Check here if the address of the person providing certification is different from address recorded in Section G.

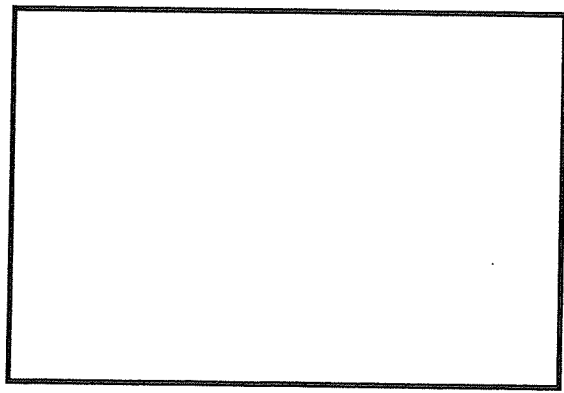
7. Street: \_\_\_\_\_

8. City/Town: \_\_\_\_\_ 9. State: \_\_\_\_\_ 10. ZIP Code: \_\_\_\_\_

11. Telephone: \_\_\_\_\_ 12. Ext.: \_\_\_\_\_ 13. FAX: \_\_\_\_\_

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

Date Stamp (DEP USE ONLY:)



**ATTACHMENT  
BWSC-104  
MARY LEE BURBANK SCHOOL  
266 SCHOOL STREET  
BELMONT, MASSACHUSETTS  
RTN 3-23441**

**I. REQUIRED ATTACHMENT AND SUBMITTALS**

1. This Immediate Response Action was subject to oral approval by the Massachusetts Department of Environmental Protection (DEP). Oral approval was granted on 12 December 2003 by Chris Bresnahan of DEP.
4. Disposal Site Limits: See attached report entitled "Response Action Outcome (RAO) Statement, Underground Storage Tank Oil Release, Mary Lee Burbank School, 266 School Street, Belmont, Massachusetts, RTN 3-23441," dated 20 April 2004.
8. LSP Opinion: See attached report entitled "Response Action Outcome (RAO) Statement, Underground Storage Tank Oil Release, Mary Lee Burbank School, 266 School Street, Belmont, Massachusetts, RTN 3-23441," dated 20 April 2004.

Haley & Aldrich, Inc.  
465 Medford St.  
Suite 2200  
Boston, MA 02129-1400  
Tel: 617.886.7400  
Fax: 617.886.7600  
HaleyAldrich.com

**HALEY &  
ALDRICH**

20 April 2004  
File No. 30660-000

Donna Moultrup  
Board of Health  
Town of Belmont  
221 Concord Avenue  
Belmont, Massachusetts 02478

Subject: Notification of Response Action Outcome Statement  
Mary Lee Burbank School  
266 School Street  
Belmont, Massachusetts  
RTN 3-23441

Dear Ms. Moultrup:

On behalf of our client, the Town of Belmont, we are notifying your office of the availability of a Response Action Outcome (RAO) Statement for the Mary Lee Burbank School underground storage tank (UST) release at the above referenced address, in accordance with the Massachusetts Contingency Plan (MCP), 310 CMR 40.1403(3)(f). Haley & Aldrich, Inc. has filed an RAO Statement for a release at this address, and this filing completes the regulatory process for this release under the MCP. This document is available for review and copying at the DEP Northeast Regional Office storage facility at 35 Congress Street, Salem, Massachusetts. Information concerning reviewing this RAO Statement can be obtained by contacting Ms. Holly Migliacci at the DEP Northeast Regional Office at (978) 740-0809.

Please do not hesitate to call if you have any questions.

Sincerely yours,  
**HALEY & ALDRICH, INC.**



Michael J. Cronan  
Staff Scientist

c: Town of Belmont; Melvin Kleckner  
Massachusetts Department of Environmental Protection; Bureau of Waste Site  
Cleanup

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California

Tucson  
Arizona

Washington  
District of Columbia

Haley & Aldrich, Inc.  
465 Medford St.  
Suite 2200  
Boston, MA 02129-1400  
  
Tel: 617.886.7400  
Fax: 617.886.7600  
HaleyAldrich.com

**HALEY &  
ALDRICH**

20 April 2004  
File No. 30660-000

Melvin Kleckner  
Town of Belmont  
221 Concord Avenue  
Belmont, Massachusetts 02478


Subject: Notification of Response Action Outcome Statement  
Mary Lee Burbank School  
266 School Street  
Belmont, Massachusetts  
RTN 3-23441

Dear Mr. Kleckner:

On behalf of our client, the Town of Belmont, we are notifying your office of the availability of a Response Action Outcome (RAO) Statement for the Mary Lee Burbank School underground storage tank (UST) release at the above referenced address, in accordance with the Massachusetts Contingency Plan (MCP), 310 CMR 40.1403(3)(f). Haley & Aldrich, Inc. has filed an RAO Statement for a release at this address, and this filing completes the regulatory process for this release under the MCP. This document is available for review and copying at the DEP Northeast Regional Office storage facility at 35 Congress Street, Salem, Massachusetts. Information concerning reviewing this RAO Statement can be obtained by contacting Ms. Holly Migliacci at the DEP Northeast Regional Office at (978) 740-0809.

Please do not hesitate to call if you have any questions.

Sincerely yours,  
HALEY & ALDRICH, INC.

  
Michael J. Cronan  
Staff Scientist

c: Town of Belmont Board of Health; Donna Moultrup  
Massachusetts Department of Environmental Protection; Bureau of Waste Site  
Cleanup

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**APPENDIX B**

**DEP's IRA Plan Conditional Approval Letter and  
Belmont Conservation Commission's Order of Conditions**



COMMONWEALTH OF MASSACHUSETTS  
EXECUTIVE OFFICE OF ENVIRONMENTAL AFFAIRS  
DEPARTMENT OF ENVIRONMENTAL PROTECTION  
Northeast Regional Office - 9<sup>th</sup> Floor  
ONE WINTER STREET, BOSTON, MA 02108 617-654-6500

MITT ROMNEY  
Governor

KERRY HEALEY  
Lieutenant Governor

ELLEN ROY HERZFELDER  
Secretary

ROBERT W. GOLLEDGE, Jr.  
Commissioner

MAR 09 2004

Town of Belmont  
455 Concord Avenue  
Belmont, MA 02478

RE: Belmont  
Burbank School  
266 School Street  
RTN: 3-23441

Attention: Ms. Joyce Munroe

**IMMEDIATE RESPONSE ACTION PLAN**  
**CONDITIONAL APPROVAL:**  
**M.G.L. c. 21E & 310 CMR 40.0000**

Dear Ms. Munroe:

On February 17, 2004, the Department of Environmental Protection (the Department or DEP) received from you (as used in this letter "you" or "yours" refers to the Town of Belmont) an Immediate Response Action (IRA) Plan for the above referenced site. The IRA plan was prepared by your Licensed Site Professional, Mr. Joel Mooney, of Hailey & Aldrich, Incorporated, in response to the sudden release of an estimated 2500 gallons of number four heating fuel that leaked from an underground storage tank system located at the site. The subject release of heating fuel was reported to DEP on December 12, 2003, at 12:30 PM, by the Belmont Fire Department.

DEP has reviewed the subject IRA Plan pursuant to Section 310 CMR 40.0420 of the Massachusetts Contingency Plan (310 CMR 40.0000 or the MCP). The purpose of this letter is to provide you with written notice of the Department's determination that the IRA Plan is approved with minor comments and conditions.

**NECESSARY RESPONSE ACTIONS**

The subject site shall not be deemed to have all the necessary and required response actions taken unless and until all substantial hazards presented by the site 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. In addition, the MCP requires persons undertaking response actions at disposal sites to perform Immediate Response Actions (IRAs) in response to "sudden releases", Imminent Hazards and Substantial Release Migration. Such persons must continue to evaluate the need for IRAs and notify the Department immediately if such a need exists. As noted above, an IRA must be conducted at the subject site. **Please, be aware that provisions of the regulations at 310 CMR 40.0414 require that IRAs must if feasible, eliminate and/or mitigate and prevent Critical Exposure Pathways (CEP).** At this time you are

This information is available in alternate format. Call April McCabe, ADA Coordinator at 1-617-556-1171. TDD Service - 1-800-298-2207.

DEP on the World Wide Web: <http://www.mass.gov/dep>

Printed on Recycled Paper



reminded that you are authorized to conduct only the specific response actions for which you have received oral or written approval from the Department. All additional Immediate Response Actions require DEP approval in accordance with 310 CMR 40.0420.

On December 12, 2003, a Field Notice of Responsibility for the release was issued to the Belmont Public Schools. Initial IRAs were verbally approved on that day in discussion with Mr. Robert Martin, a representative of the Belmont Public Schools, and Mr. Joel Mooney, a Licensed Site Professional, with Hailey and Aldrich. On January 28, 2004, the Department issued a long form Notice of Responsibility to the Belmont Public Schools containing a description of the IRAs verbally approved by the Department on December 12, 2003, and during subsequent discussions with LSP Mooney. You were provided a copy of the January 28, 2004 Notice of Responsibility containing this description of previously approved IRAs and for this reason it is not repeated in this document. The subject IRA Plan indicates that the Town of Belmont is the party undertaking response actions at this time rather than the Belmont Public Schools. It is important to note that approvals for IRAs issued while the Belmont Public Schools were conducting response actions remain in effect at this time.

The subject IRA Plan describes your substantial progress in implementing IRAs that have already been verbally approved. The subject IRA Plan also indicates additional work remains to be accomplished for each of these approved tasks not yet completed:

1. Continue to maintain site security and control access to the release area at the Burbank School.
2. Continue to assess soil, sediment, surface water, and groundwater contaminant conditions in the release area at the Burbank School and at Clay Pit Pond, as needed.
3. Continue assessment of indoor air at the Burbank School and nearby residences, as needed.
4. Continue to excavate, stockpile, and manage up to a maximum volume of 800 cubic yards of petroleum-contaminated soils from the release area at the Burbank School.
5. Continue to intercept, treat, and discharge, the flow of contaminated groundwater that has infiltrated the storm drain system at the Burbank School by routing storm water to a treatment and discharge system that you are operating in accordance with National Pollutant Discharge Elimination System letter (Permit # MA 031-148) dated December 17, 2003, obtained from the United States Environmental Protection Agency. In accordance with this approval you shall continue to manage all recovered oil and contaminated filter media properly, and discharge treated effluent to the storm water drain located below School Street.
6. Continue to periodically monitor the storm drain system between the Burbank School and Clay Pit Pond to confirm that it remains clear of visible oil impacts.
7. Identify, excavate, and properly manage up 100 cubic yards of petroleum contaminated soils, sediments, vegetation, and debris from the edge of Clay Pit Pond in accordance with an Emergency Certification obtained from the Belmont Conservation Commission on December 29, 2003. Please note that the copy of the Emergency Certification you provided to DEP on December 30, 2003, indicates that February 10, 2004 is the end date for work under that approval. If you have not completed this task by that date, it is your responsibility to obtain any needed approvals, permits, certifications, or conditions from the Belmont Conservation Commission that are required for you to proceed with this task. If this will cause any substantial delay in completing this task beyond the six-month schedule noted in the subject IRA Plan you must provide the Department with notice in your next IRA submittal.

Please note the following minor comments and conditions of approval of the subject IRA Plan:

1. Section 310 CMR 40.0424(h) of the MCP states that an IRA Plan must contain a listing of federal, state or local permits that will likely be needed to conduct the IRA. The subject IRA Plan notes that you have obtained an Emergency Certification from the Belmont Conservation Commission. As noted above, the copy of your Emergency Certification that you provided to the Department indicates that February 10, 2004 is the end date for that Emergency Certification. If you have not completed the excavation and removal of contaminated media from the edge of Clay Pit Pond, noted above as an approved IRA, by February 10, 2004, you must obtain any needed approval, permits, certifications, or conditions from the Belmont Conservation Commission that are required for you to proceed with this task.
2. The subject IRA Plan states, "An IRA Status Report and/or Completion Report will be filed on or before June 12, 2004." Section 310 CMR 40.0425(1) of the MCP states that parties conducting IRAs must submit a written IRA Status Report within 120 days from the date on which that person first communicated to the Department his or her intention to conduct that IRA. DEP previously issued a Field NOR to the Belmont Public Schools on December 12, 2003, and based upon a December 22, 2003, telephone discussion with Ms. Joyce Munroe, issued a long form NOR to the Belmont Public Schools on January 22, 2004. A Release Notification Form, signed by Ms. Munroe for the Town of Belmont, was submitted to the Department on February 17, 2004. An IRA Transmittal Form, also signed by Ms. Munroe, was submitted to DEP on February 17, 2004 as well. DEP has determined however that the Town of Belmont first communicated its intention to conduct IRAs at the site on December 12, 2003. For this reason you must submit an IRA Status report for this site by **April 10, 2004**.

At this time you are reminded that you are authorized to conduct only the specific response actions for which you have received oral or written approval from the Department. All additional Immediate Response Actions require DEP approval in accordance with 310 CMR 40.0420.

If you have any questions relative to this notice, you should contact Chris Bresnahan at the letterhead address or (978) 682-5237, extension 397. All future communications regarding this release must reference the Release Tracking Number (RTN 3-23441) contained in the subject block of this letter.

Sincerely,



Chris Bresnahan  
Environmental Engineer  
Emergency Response



David LaPusata  
Branch Chief  
Emergency Response

cc: DEP Data Entry/File  
Dr. Peter Holland, Belmont Public Schools, 644 Pleasant Street, Belmont, MA 02478  
Mr. Joel Mooney, Haley & Aldrich, Inc., 465 Medford Street, Suite 200  
Boston, MA 02129-1400

RECEIVED

MAR 15 2004

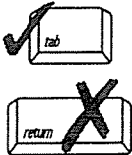
Haley & Aldrich, Inc.

Massachusetts Department of Environmental Protection  
 Bureau of Resource Protection - Wetlands  
**WPA Form 5 – Order of Conditions**  
 Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

DEP File Number:  
106-0049  
 Provided by DEP

**A. General Information**

**Important:**  
 When filling out forms on the computer, use only the tab key to move your cursor - do not use the return key.



From:

Belmont  
 Conservation Commission

**RECEIVED**

This issuance is for (check one):

- Order of Conditions  
 Amended Order of Conditions

**MAR 26 2004**

**Haley & Aldrich, Inc.**

To: Applicant:

Joyce Munroe (Town of Belmont)  
 Name  
455 Concord Avenue  
 Mailing Address  
Belmont MA 02478  
 City/Town State Zip Code

Property Owner (if different from applicant):

\_\_\_\_\_  
 Name  
 \_\_\_\_\_  
 Mailing Address  
 \_\_\_\_\_  
 City/Town State Zip Code

1. Project Location:

Clay Pit Pond - Concord Avenue Belmont  
 Street Address City/Town  
36 3  
 Assessors Map/Plat Number Parcel/Lot Number

2. Property recorded at the Registry of Deeds for:

\_\_\_\_\_  
 County Book Page

Certificate (if registered land)

3. Dates:

March 1, 2004 March 2, 2004 \_\_\_\_\_  
 Date Notice of Intent Filed Date Public Hearing Closed Date of Issuance

4. Final Approved Plans and Other Documents (attach additional plan references as needed):

2001 Aerial Photograph Revised for NOI March 1, 2004  
 Title Date

5. Final Plans and Documents Signed and Stamped by:

\_\_\_\_\_  
 Name

6. Total Fee:

Waived  
 (from Appendix B: Wetland Fee Transmittal Form)

Massachusetts Department of Environmental Protection  
Bureau of Resource Protection - Wetlands  
**WPA Form 5 – Order of Conditions**  
Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

DEP File Number:  
106-0049  
Provided by DEP

## B. Findings

Findings pursuant to the Massachusetts Wetlands Protection Act:

Following the review of the above-referenced Notice of Intent and based on the information provided in this application and presented at the public hearing, this Commission finds that the areas in which work is proposed is significant to the following interests of the Wetlands Protection Act. Check all that apply:

- |   |   |  |
|---|---|--|
| <input type="checkbox"/> Public Water Supply  | <input type="checkbox"/> Land Containing Shellfish          | <input checked="" type="checkbox"/> Prevention of Pollution        |
| <input type="checkbox"/> Private Water Supply | <input type="checkbox"/> Fisheries                          | <input checked="" type="checkbox"/> Protection of Wildlife Habitat |
| <input type="checkbox"/> Groundwater Supply   | <input checked="" type="checkbox"/> Storm Damage Prevention | <input checked="" type="checkbox"/> Flood Control                  |

Furthermore, this Commission hereby finds the project, as proposed, is: (check one of the following boxes)

**Approved** subject to:

- the following conditions which are necessary, in accordance with the performance standards set forth in the wetlands regulations, to protect those interests checked above. This Commission orders that all work shall be performed in accordance with the Notice of Intent referenced above, the following General Conditions, and any other special conditions attached to this Order. To the extent that the following conditions modify or differ from the plans, specifications, or other proposals submitted with the Notice of Intent, these conditions shall control.

**Denied** because:

- the proposed work cannot be conditioned to meet the performance standards set forth in the wetland regulations to protect those interests checked above. Therefore, work on this project may not go forward unless and until a new Notice of Intent is submitted which provides measures which are adequate to protect these interests, and a final Order of Conditions is issued.
- the information submitted by the applicant is not sufficient to describe the site, the work, or the effect of the work on the interests identified in the Wetlands Protection Act. Therefore, work on this project may not go forward unless and until a revised Notice of Intent is submitted which provides sufficient information and includes measures which are adequate to protect the Act's interests, and a final Order of Conditions is issued. A description of the specific information which is lacking and why it is necessary is attached to this Order as per 310 CMR 10.05(6)(c).

**General Conditions** (only applicable to approved projects)

1. Failure to comply with all conditions stated herein, and with all related statutes and other regulatory measures, shall be deemed cause to revoke or modify this Order.
2. The Order does not grant any property rights or any exclusive privileges; it does not authorize any injury to private property or invasion of private rights.
3. This Order does not relieve the permittee or any other person of the necessity of complying with all other applicable federal, state, or local statutes, ordinances, bylaws, or regulations.

Massachusetts Department of Environmental Protection  
Bureau of Resource Protection - Wetlands  
**WPA Form 5 – Order of Conditions**  
Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

DEP File Number:

106-0049  
Provided by DEP

**B. Findings (cont.)**

4. The work authorized hereunder shall be completed within three years from the date of this Order unless either of the following apply:
  - a. the work is a maintenance dredging project as provided for in the Act; or
  - b. the time for completion has been extended to a specified date more than three years, but less than five years, from the date of issuance. If this Order is intended to be valid for more than three years, the extension date and the special circumstances warranting the extended time period are set forth as a special condition in this Order.
5. This Order may be extended by the issuing authority for one or more periods of up to three years each upon application to the issuing authority at least 30 days prior to the expiration date of the Order.
6. Any fill used in connection with this project shall be clean fill. Any fill shall contain no trash, refuse, rubbish, or debris, including but not limited to lumber, bricks, plaster, wire, lath, paper, cardboard, pipe, tires, ashes, refrigerators, motor vehicles, or parts of any of the foregoing.
7. This Order is not final until all administrative appeal periods from this Order have elapsed, or if such an appeal has been taken, until all proceedings before the Department have been completed.
8. No work shall be undertaken until the Order has become final and then has been recorded in the Registry of Deeds or the Land Court for the district in which the land is located, within the chain of title of the affected property. In the case of recorded land, the Final Order shall also be noted in the Registry's Grantor Index under the name of the owner of the land upon which the proposed work is to be done. In the case of the registered land, the Final Order shall also be noted on the Land Court Certificate of Title of the owner of the land upon which the proposed work is done. The recording information shall be submitted to this Conservation Commission on the form at the end of this Order, which form must be stamped by the Registry of Deeds, prior to the commencement of work.
9. A sign shall be displayed at the site not less than two square feet or more than three square feet in size bearing the words,

"Massachusetts Department of Environmental Protection" [or, "MA DEP"]  
"File Number 106-0049"
10. Where the Department of Environmental Protection is requested to issue a Superseding Order, the Conservation Commission shall be a party to all agency proceedings and hearings before DEP.
11. Upon completion of the work described herein, the applicant shall submit a Request for Certificate of Compliance (WPA Form 8A) to the Conservation Commission.
12. The work shall conform to the plans and special conditions referenced in this order.
13. Any change to the plans identified in Condition #12 above shall require the applicant to inquire of the Conservation Commission in writing whether the change is significant enough to require the filing of a new Notice of Intent.
14. The Agent or members of the Conservation Commission and the Department of Environmental Protection shall have the right to enter and inspect the area subject to this Order at reasonable hours to evaluate compliance with the conditions stated in this Order, and may require the submittal of any data deemed necessary by the Conservation Commission or Department for that evaluation.

Massachusetts Department of Environmental Protection  
Bureau of Resource Protection - Wetlands  
**WPA Form 5 – Order of Conditions**  
Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

DEP File Number:

106-0049  
Provided by DEP

**B. Findings (cont.)**

15. This Order of Conditions shall apply to any successor in interest or successor in control of the property subject to this Order and to any contractor or other person performing work conditioned by this Order.
16. Prior to the start of work, and if the project involves work adjacent to a Bordering Vegetated Wetland, the boundary of the wetland in the vicinity of the proposed work area shall be marked by wooden stakes or flagging. Once in place, the wetland boundary markers shall be maintained until a Certificate of Compliance has been issued by the Conservation Commission.
17. All sedimentation barriers shall be maintained in good repair until all disturbed areas have been fully stabilized with vegetation or other means. At no time shall sediments be deposited in a wetland or water body. During construction, the applicant or his/her designee shall inspect the erosion controls on a daily basis and shall remove accumulated sediments as needed. The applicant shall immediately control any erosion problems that occur at the site and shall also immediately notify the Conservation Commission, which reserves the right to require additional erosion and/or damage prevention controls it may deem necessary. Sedimentation barriers shall serve as the limit of work unless another limit of work line has been approved by this Order.

Special Conditions (use additional paper, if necessary):

See attached

**Findings as to municipal bylaw or ordinance**

Furthermore, the \_\_\_\_\_ hereby finds (check one that applies):  
Conservation Commission

- that the proposed work cannot be conditioned to meet the standards set forth in a municipal ordinance or bylaw specifically:

Name

Municipal Ordinance or Bylaw

Therefore, work on this project may not go forward unless and until a revised Notice of Intent is submitted which provides measures which are adequate to meet these standards, and a final Order of Conditions is issued.

- that the following additional conditions are necessary to comply with a municipal ordinance or bylaw, specifically:

Name

Municipal Ordinance or Bylaw

The Commission orders that all work shall be performed in accordance with the said additional conditions and with the Notice of Intent referenced above. To the extent that the following conditions modify or differ from the plans, specifications, or other proposals submitted with the Notice of Intent, the conditions shall control.

Massachusetts Department of Environmental Protection  
Bureau of Resource Protection - Wetlands  
**WPA Form 5 – Order of Conditions**  
Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

DEP File Number:  
106-0049  
Provided by DEP

**B. Findings (cont.)**

Additional conditions relating to municipal ordinance or bylaw:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

This Order is valid for three years, unless otherwise specified as a special condition pursuant to General Conditions #4, from the date of issuance.

Date \_\_\_\_\_

This Order must be signed by a majority of the Conservation Commission. The Order must be mailed by certified mail (return receipt requested) or hand delivered to the applicant. A copy also must be mailed or hand delivered at the same time to the appropriate Department of Environmental Protection Regional Office (see Appendix A) and the property owner (if different from applicant).

Signatures:

Miriam Weil  
Kathleen M. Baskin  
Johanna Smith  
Monica King

Michael Flanagan  
Ruth D. Foyte  
Joseph W. Curran

On 24th Day Of March 2004 Month and Year

before me personally appeared

Belmont Conservation Commission

to me known to be the person described in and who executed the foregoing instrument and acknowledged that he/she executed the same as his/her free act and deed.

[Signature]  
Notary Public

January 27, 2008  
My Commission Expires

This Order is issued to the applicant as follows:

by hand delivery on

March 24, 2004

Date

by certified mail, return receipt requested, on

Date

Massachusetts Department of Environmental Protection  
Bureau of Resource Protection - Wetlands  
**WPA Form 5 – Order of Conditions**  
Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

DEP File Number:

106-0049  
Provided by DEP

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**C. Appeals**

The applicant, the owner, any person aggrieved by this Order, any owner of land abutting the land subject to this Order, or any ten residents of the city or town in which such land is located, are hereby notified of their right to request the appropriate DEP Regional Office to issue a Superseding Order of Conditions. The request must be made by certified mail or hand delivery to the Department, with the appropriate filing fee and a completed Appendix E: Request of Departmental Action Fee Transmittal Form, as provided in 310 CMR 10.03(7) within ten business days from the date of issuance of this Order. A copy of the request shall at the same time be sent by certified mail or hand delivery to the Conservation Commission and to the applicant, if he/she is not the appellant.

The request shall state clearly and concisely the objections to the Order which is being appealed and how the Order does not contribute to the protection of the interests identified in the Massachusetts Wetlands Protection Act, (M.G.L. c. 131, § 40) and is inconsistent with the wetlands regulations (310 CMR 10.00). To the extent that the Order is based on a municipal ordinance or bylaw, and not on the Massachusetts Wetlands Protection Act or regulations, the Department has no appellate jurisdiction.

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**D. Recording Information**

This Order of Conditions must be recorded in the Registry of Deeds or the Land Court for the district in which the land is located, within the chain of title of the affected property. In the case of recorded land, the Final Order shall also be noted in the Registry's Grantor Index under the name of the owner of the land subject to the Order. In the case of registered land, this Order shall also be noted on the Land Court Certificate of Title of the owner of the land subject to the Order of Conditions. The recording information on Page 7 of Form 5 shall be submitted to the Conservation Commission listed below.

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Conservation Commission



**Massachusetts Department of Environmental Protection**  
**Bureau of Resource Protection - Wetlands**  
**WPA Form 5 – Order of Conditions**  
Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

DEP File Number:

106-0049  
Provided by DEP

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**D. Recording Information (cont.)**

Detach on dotted line, have stamped by the Registry of Deeds and submit to the Conservation Commission.

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To:

\_\_\_\_\_  
Conservation Commission

Please be advised that the Order of Conditions for the Project at:

\_\_\_\_\_  
Project Location

\_\_\_\_\_  
DEP File Number

Has been recorded at the Registry of Deeds of:

\_\_\_\_\_  
County

\_\_\_\_\_  
Book

\_\_\_\_\_  
Page

for:

\_\_\_\_\_  
Property Owner

and has been noted in the chain of title of the affected property in:

\_\_\_\_\_  
Book

\_\_\_\_\_  
Page

In accordance with the Order of Conditions issued on:

\_\_\_\_\_  
Date

If recorded land, the instrument number identifying this transaction is:

\_\_\_\_\_  
Instrument Number

If registered land, the document number identifying this transaction is:

\_\_\_\_\_  
Document Number

\_\_\_\_\_  
Signature of Applicant

**Clay Pit Pond  
Special Conditions**

1. All conditions set forth in the emergency Order of Conditions previously issued shall apply to this Order of Conditions.
2. The applicant shall plant any seeds or plants only with specific approval by the Commission.

**APPENDIX C**

**Weekly Field Reports**



## WEEKLY FIELD REPORT

<b>Project</b>	BURBANK SCHOOL OIL RELEASE	<b>Report No.</b>	01
<b>Location</b>	BELMONT, MASSACHUSETTS	<b>Date</b>	13 DEC 2003
<b>Client</b>	TOWN OF BELMONT	<b>Page</b>	1 of 1
<b>Contractor</b>	NATIONAL ENVIRONMENTAL SERVICES, INC. (ENVIRONMENTAL) J.W. FLETT (EARTHWORK)	<b>File No.</b>	30660-000

### I. CONTRACTOR'S ACTIVITIES:

#### *Clay Pit Pond*

1. Deployed sea boom and multiple layers of absorbent boom materials to contain petroleum product entering Pond at Wellington Brook outlet. Also removed visible oil from Pond surface using vacuum trucks and absorbent skimming materials on a 24-hr per day basis.
2. Temporarily stored oil-impacted media (absorbent boom and pads, poly sheeting and bags, PPE) in roll-off containers located at the Belmont High School parking lot for future off-site disposition.
3. Transported and off-loaded oil and oil-impacted water recovered from the Pond into frac tanks located at the Belmont High School parking Lot for future off-site disposition.

#### *Burbank School*

1. Collected oil-impacted water at the drain manhole (DMH) located at the intersection of the Burbank School driveway and School Street using a vacuum truck on a 24-hr per day basis. Transported and off-loaded oil and oil-impacted water recovered at the DMH into frac tanks located at the Belmont High School parking Lot for future off-site disposition.
2. Partially uncovered the 10,000-gallon underground storage tank (UST) using a backhoe by removing concrete surface slab and pavement. Excavated immediately adjacent to and west of the UST toward the northern end of the tank to install an oil extraction well. Installed a 24-in diameter PVC pipe within the excavation. The contractor subsequently installed an 8-in diameter PVC pipe by telescoping within the 24-in pipe using vacuum excavation techniques, to a depth of approximately 10 ft below ground surface. Oil-impacted soils excavated were temporarily placed in lined roll-off containers at the Burbank School for future off-site disposition.
3. Collected free product within the newly installed extraction well using a vacuum truck on a 24-hr per day basis. Transported and off-loaded oil recovered within the extraction well into frac tanks located at the Belmont High School parking Lot for future off-site disposition.
4. Placed absorbent boom materials in all storm drain manholes located in School Street downgradient of the tank release. Monitored and replaced boom materials on a daily basis.

### II. FIELD REPRESENTATIVE'S ACTIVITIES:

1. Observed the activities noted above on a part-time basis.

**ATTACHMENTS:** None

#### Field Representative(s)

Joel Mooney

#### Dates On-Site

12-13 December 2003

  
Haley & Aldrich, Inc.



## WEEKLY FIELD REPORT

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Project	BURBANK SCHOOL OIL RELEASE	Report No.	02
Location	BELMONT, MASSACHUSETTS	Date	20 DEC 2003
Client	TOWN OF BELMONT	Page	1 of 2
Contractor	NATIONAL ENVIRONMENTAL SERVICES, INC. (ENVIRONMENTAL) J.W. FLETT (EARTHWORK)	File No.	30660-000

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### I. CONTRACTOR'S ACTIVITIES:

#### *Clay Pit Pond*

1. Continued 24-hr oil containment activities at Wellington Brook outlet location using sea boom and multiple layers of absorbent boom materials. Also continued to remove visible oil from Pond surface using vacuum trucks and absorbent skimming materials.
2. Worked to contain impacted areas of the Pond with absorbent boom, and limit the migration of oil within and along the perimeter of the Pond.
3. Temporarily stored oil-impacted media (absorbent boom and pads, poly sheeting and bags, PPE) in roll-off containers located at the Belmont High School parking lot for future off-site disposition.
4. Transported and off-loaded oil and oil-impacted water recovered from the Pond into frac tanks located at the Belmont High School parking lot for future off-site disposition.

#### *Burbank School*

1. Continued to collect oil-impacted water at the drain manhole (DMH) located at the intersection of the Burbank School driveway and School Street using a vacuum truck on a 24-hr per day basis. Transported and off-loaded oil and oil-impacted water recovered at the DMH into frac tanks located at the Belmont High School parking lot for future off-site disposition.
2. Continued to collect free product within the newly installed extraction well using a vacuum truck on a 24-hr per day basis. Transported and off-loaded oil recovered within the extraction well into frac tanks located at the Belmont High School parking lot for future off-site disposition. See Attachment for approximate location of extraction well.
3. Monitored and replaced absorbent boom materials in all storm drain manholes located in School Street downgradient of the tank release as necessary on a daily basis.
4. Installed two (2) 2-in submersible pumps within a DMH up-gradient from release area and plugged the out flow drain pipe with a plumber's ball. Collected and pumped storm water run-off entering the DMH above ground surface around the impacted area and discharged the water into a catch basin (CB) located in School Street.
5. Pennoni Associates, Inc. performed a pressure test of the UST on 15 December 2003. [Note: Haley & Aldrich, Inc. field representative was not present for tank test.]

### II. FIELD REPRESENTATIVE'S ACTIVITIES:

1. Observed the activities noted above on a part-time basis.
2. Spoke with Mr. Joel Mooney (H&A) and Sean Sullivan (NESI) to discuss response action activities and scheduling.



## WEEKLY FIELD REPORT

<b>Project</b>	BURBANK SCHOOL OIL RELEASE	<b>Report No.</b>	02
<b>Location</b>	BELMONT, MASSACHUSETTS	<b>Date</b>	20 DEC 2003
<b>Client</b>	TOWN OF BELMONT	<b>Page</b>	2 of 2
<b>Contractor</b>	NATIONAL ENVIRONMENTAL SERVICES, INC. (ENVIRONMENTAL) J.W. FLETT (EARTHWORK)	<b>File No.</b>	30660-000

3. On Sunday, 14 December 2003 performed ambient air monitoring using a 580B OVM Photo Ionization Detector (PID) with a 10.6e lamp in classrooms and common areas within the Burbank School adjacent to the release area. No readings above background levels were detected during the monitoring event.
4. On Monday, 15 December 2003 placed SUMMA canisters in three locations (Gymnasium, Rm. 203, and Rm. 303) within the Burbank School to test ambient air quality. The canisters were collected on Tuesday, 16 December 2003 and submitted to Alpha Analytical Laboratories of Westborough, Massachusetts, for chemical analysis.
5. On Wednesday, 17 December 2003 a small (less than 5 gallons) oil discharge occurred while off-loading collected materials from a vacuum truck to the frac tanks. The discharge occurred in an area covered with asphalt pavement, and the contractor promptly cleaned up the spill using absorbent pads and Speedy Dry absorbent material.
6. On Thursday, 18 December performed ambient air monitoring using a 580B OVM Photo Ionization Detector (PID) with a 10.6e lamp in several area homes adjacent to and potentially downgradient of the release area. No readings above background levels were detected during the monitoring events.
7. Observed a 9-ft chain-link security fence had been installed at the Burbank School tank area for perimeter security. *[Activity performed by Town contractors.]*
8. Observed gym air handler intake modified and moved above roof line of the School. *[Activity performed by Town contractors.]*
9. Observed collected storm water within the DMH up-gradient from release area to be free of an oil sheen on a daily basis.

**ATTACHMENTS:** As-Built Sketch - Extraction Well

Field Representative(s)  
Todd Butler

Dates On-Site  
14-19 December 2003

  
Haley & Aldrich, Inc.



# CALCULATIONS

File No. 30660-000

Sheet 1 of 1

Date 12/16/2003

Computed By T. BURR

Checked By [Signature]

Client TOWN OF BELMONT

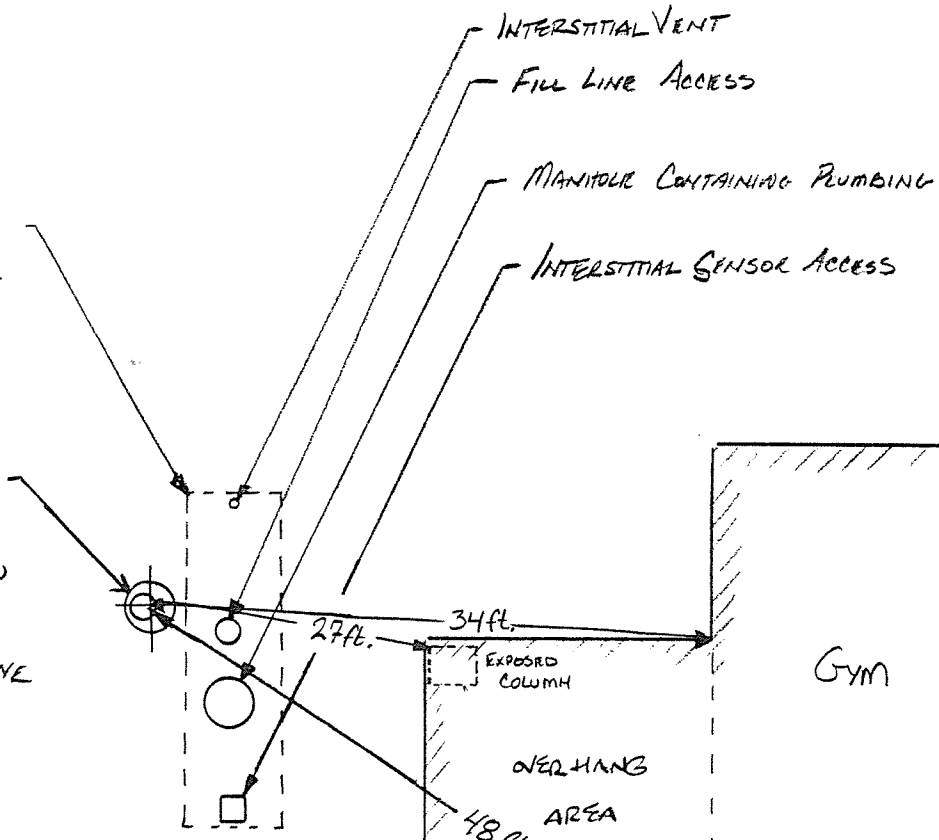
Project BURBANK SCHOOL TANK RELEASE

Subject AS BUILT OF 24"/8" RECOVER PIPE/WEEL



APPROXIMATE LOCATION OF UNDERGROUND STORAGE TANK (UST) (NOT TOTALLY UNCOVERED AT THIS TIME)

RECOVERY PIPE 8" PIPE WITHIN 24" PIPE. TOTAL DEPTH 11-FT BELOW G.S. (EMBEDDED IN EXISTING CRUSHED STONE)



Boiler Room

Gym

ENTRANCE

BURBANK SCHOOL

WFR # 2



## WEEKLY FIELD REPORT

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Project	BURBANK SCHOOL OIL RELEASE	Report No.	03
Location	BELMONT, MASSACHUSETTS	Date	27 DEC 2003
Client	TOWN OF BELMONT	Page	1 of 2
Contractor	NATIONAL ENVIRONMENTAL SERVICES, INC. (ENVIRONMENTAL) J.W. FLETT (EARTHWORK)	File No.	30660-000

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### I. CONTRACTOR'S ACTIVITIES:

#### *Clay Pit Pond*

1. Continued 24-hr oil containment activities at Wellington Brook outlet location using sea boom and multiple layers of absorbent boom materials. Also continued to remove visible oil from Pond surface using vacuum trucks and absorbent skimming materials.
2. Worked to contain impacted areas of the Pond with absorbent boom and limit the migration of oil within and along the perimeter of the Pond.
3. Temporarily stored oil-impacted media (absorbent boom and pads, poly sheeting and bags, PPE) in roll-off containers located at the Belmont High School parking lot for future off-site disposition.
4. Transported and off-loaded oil and oil-impacted water recovered from the Pond into frac tanks located at the Belmont High School parking lot for future off-site disposition.

#### *Burbank School*

1. Belmont Light Department installed a utility pole adjacent to the flag pole to provide the required power source for the on-site water treatment system.
2. Using a Caterpillar 345B excavator excavated and installed a 4,000-gallon capacity precast concrete Oil and Water Separator tank (OWS) within the Burbank School driveway along the alignment of the 10 to 12-in drain line that runs through the release area. Subgrade for the tank consisted of undisturbed naturally deposited glacial soils. Connected drain line to OWS and installed a 6-in PVC discharge pipe to tie into on-site water treatment system. No visual or olfactory evidence of contamination was observed outside the 10 to 12-inch drain line connecting into the OWS. Backfilled the excavation with previously excavated materials and placed approximately 12 to 18-in of dense graded gravel on the surface. Placed approximately 2-in of asphalt binder to restore surfaces of sidewalk areas.
3. Mobilized and installed on-site water treatment system consisting of two (2) bag filters and two (2) granular activated carbon (GAC) filtration tanks in series. Powered system and began treating oil-impacted water collected in the OWS. Discharged effluent within drain line downgradient of OWS located in driveway.
4. Using a mini-excavator excavated a shallow trench along the curb line of the driveway and installed a 4-in PVC pipe in the water treatment system discharge line to receive storm water being pumped around the impacted area (previously discharged into a CB in School Street).
5. Continued to collect oil-impacted water at the drain manhole (DMH) located at the intersection of the Burbank School driveway and School Street using a vacuum truck on a 24-hr per day basis until the installation of the OWS and water treatment system were installed/operating. Activities at the DMH location were limited to removing and replacing absorbent boom materials as needed. Transported and off-loaded oil and oil-impacted water recovered at the DMH into frac tanks located at the Belmont High School parking lot for future off-site disposition.





## WEEKLY FIELD REPORT

Project	BURBANK SCHOOL OIL RELEASE	Report No.	03
Location	BELMONT, MASSACHUSETTS	Date	27 DEC 2003
Client	TOWN OF BELMONT	Page	2 of 2
Contractor	NATIONAL ENVIRONMENTAL SERVICES, INC. (ENVIRONMENTAL) J.W. FLETT (EARTHWORK)	File No.	30660-000

- Continued to collect free product within the newly installed extraction well using a vacuum truck on a 24-hr per day basis. Transported and off-loaded oil recovered within the extraction well into frac tanks located at the Belmont High School parking lot for future off-site disposition.
- Monitored and replaced absorbent boom materials in all storm drain manholes located in School Street downgradient of the tank release as necessary on a daily basis.

### II. FIELD REPRESENTATIVE'S ACTIVITIES:

- Observed the activities noted above on a part time basis.
- Spoke with Mr. Joel Mooney (H&A) and Sean Sullivan (NESI) to discuss response action activities and scheduling.
- Observed collected storm water within the DMH up-gradient from release area to be free of an oil sheen on a daily basis.
- On Monday, 12 December 2003 collected a composite soil sample from previously excavated soil temporarily stored in roll-off containers staged in the Burbank School Parking Lot. The sample was designated UST-STKPL-1 and was submitted to Alpha Analytical Laboratories of Westborough, Massachusetts for chemical analysis.
- On Wednesday, 24 December 2003 collected influent and effluent water samples from the water treatment system for NPDES Permit compliance. Samples were designated OWS-INF-S1 and OWS-EFF-S1 and were submitted to Alpha Analytical Laboratories of Westborough, Massachusetts for chemical analysis.
- On Friday, 26 December 2003 collected influent and effluent water samples from the water treatment system for NPDES Permit compliance. Samples were designated OWS-INF-S2 and OWS-EFF-S2 and were submitted to Alpha Analytical Laboratories of Westborough, Massachusetts for chemical analysis.

ATTACHMENTS: None

#### Field Representative(s)

Todd Butler

#### Dates On-Site

22-24, 26 December 2003

  
Haley & Aldrich, Inc.



## WEEKLY FIELD REPORT

Project	BURBANK SCHOOL OIL RELEASE	Report No.	04
Location	BELMONT, MASSACHUSETTS	Date	03 JAN 2003
Client	TOWN OF BELMONT	Page	1 of 3
Contractor	NATIONAL ENVIRONMENTAL SERVICES, INC. (ENVIRONMENTAL) J.W. FLETT (EARTHWORK)	File No.	30660-000

### I. CONTRACTOR'S ACTIVITIES:

#### *Clay Pit Pond*

1. Continued 24-hr oil containment activities at Wellington Brook outlet location using sea boom and multiple layers of absorbent boom materials. Also continued to remove visible oil from Pond surface using vacuum trucks and absorbent skimming materials.
2. Worked to contain impacted areas of the Pond with absorbent boom and limit the migration of oil within and along the perimeter of the Pond.
3. Temporarily stored oil-impacted media (absorbent boom and pads, poly sheeting and bags, PPE) in roll-off containers located at the Belmont High School parking lot for future off-site disposition.
4. Transported and off-loaded oil and oil-impacted water recovered from the Pond into frac tanks located at the Belmont High School parking lot for future off-site disposition.
5. Began removal of oil-impacted loose leaf litter and brush on the east end of the Pond. Bagged collected materials and placed in roll-off containers at Belmont High School parking lot for future off-site disposition.

#### *Burbank School*

1. The contractor performed a confined space entry and cleaned the inside of the 10,000-gallon underground fuel oil storage tank.
2. Mr. Phillip Sharff (Simpson Gumpertz & Heger, Inc.) and Mr. John Burwell (Xerxes Corp.) entered the cleaned tank and visually inspected the inside of the tank. They reported that there was no visual damage noted to the inside of the tank, and the average deflection of the tank was measured to be approximately 1/2-inch.
3. Using a Caterpillar 345B Excavator excavated and stockpiled non-impacted soils from the top of the UST (from ground surface to approximately 1 ft depth). Excavated heavily impacted soils from around the UST and placed the material in a lined roll-off container(s) or stockpiled the material on polyethylene sheeting adjacent to the tank excavation (the stockpile was covered with poly sheeting at the end of the work day). Extracted the tank and placed the UST on poly sheeting and removed residual fuel oil on the exterior with oil absorbent pads. Free product was observed within the tank excavation after extraction of the tank. Refer to the Attachment 1 for approximate limits of excavation to facilitate tank removal.
4. Using a vacuum truck recovered free product from within the tank excavation before backfilling activities.
5. Using Caterpillar 345B excavator installed a 15-in diameter perforated PVC pipe vertically on top of the base slab in the center of the tank excavation to facilitate future product recovery. Backfilled around the base of the pipe with 3/4-in crushed stone, and then backfilled the remainder of the tank excavation with previously excavated impacted soils to stabilize the excavation. Refer to Attachment 2 for the location of the extraction well.



## WEEKLY FIELD REPORT

Project	BURBANK SCHOOL OIL RELEASE	Report No.	04
Location	BELMONT, MASSACHUSETTS	Date	03 JAN 2003
Client	TOWN OF BELMONT	Page	2 of 3
Contractor	NATIONAL ENVIRONMENTAL SERVICES, INC. (ENVIRONMENTAL) J.W. FLETT (EARTHWORK)	File No.	30660-000

- Continued to treat water from the OWS and discharged effluent into drain pipe within the Burbank School Driveway.
- Continued to collect free product within the newly installed extraction well using a vacuum truck on a 24-hr per day basis. Transported and off-loaded oil recovered within the extraction well into frac tanks located at the Belmont High School parking lot for future off-site disposition.
- Monitored and replaced absorbent boom materials in all storm drain manholes located in School Street downgradient of the tank release as necessary on a daily basis.
- Continued to pump storm water run-off from the previously plugged DMH up-gradient the impacted area and discharged the water into the 4-in PVC pipe connected to the water treatment system discharge pipe.

### II. FIELD REPRESENTATIVE'S ACTIVITIES:

- Observed the activities noted above on a part-time basis.
- Spoke with Mr. Joel Mooney (H&A) and Sean Sullivan (NESI) to discuss response action activities and scheduling.
- Noted that Mr. John Burwell (Xerxes Corp.), Mr. Bean (Frank Bean, Inc.), Mr. Phillip Sharff (Simpson Gumpertz & Heger Inc.), Mr. Ara D. Nalbandian (Thielsch Engineering), and Mr. Matthew Geiger (Response Environmental) were on site Monday 29 December 2003 to observe the tank removal. Mr. Nalbandian video taped the tank removal process on behalf of the Town.
- On Monday, 29 December 2003 collected a composite soil sample from the stockpile of materials excavated to facilitate the tank removal. The sample was designated UST-STKPL-2 and was submitted to Alpha Analytical Laboratories of Westborough, Massachusetts for chemical analysis.
- On Monday, 29 December 2003 collected influent and effluent water samples from the water treatment system for NPDES Permit compliance. Samples were designated OWS-INF-S3 and OWS-EFF-S3 and were submitted to Alpha Analytical Laboratories of Westborough, Massachusetts for chemical analysis.
- On Tuesday, 30 December 2003 collected two grab soil samples of oil-impacted soils from within the tank excavation. Samples were designated UST-STKPL-2-S2 and UST-STKPL-S3. The samples were submitted to Alpha Analytical Laboratories of Westborough, Massachusetts for chemical analysis.
- Noted that on Tuesday, 30 December 2003 Mr. John Burwell (Xerxes Corp.), Mr. Phillip Sharff (Simpson Gumpertz & Heger Inc.) performed a pressure test on the UST in the parking lot of the Burbank School. There was a small leak observed in the flange for the level gauge located on the top of the tank during the air pressure test, but no apparent leaks in the inner tank.
- On Friday, 2 January 2004 placed SUMMA canisters in three locations (Gymnasium, Rm. 203, and Rm. 303) within the Burbank School to test ambient air quality. The canisters were collected on Saturday, 3 January 2004 and submitted to Alpha Analytical Laboratories of Westborough, Massachusetts, for chemical analysis.



## WEEKLY FIELD REPORT

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Project	BURBANK SCHOOL OIL RELEASE	Report No.	04
Location	BELMONT, MASSACHUSETTS	Date	03 JAN 2003
Client	TOWN OF BELMONT	Page	3 of 3
Contractor	NATIONAL ENVIRONMENTAL SERVICES, INC. (ENVIRONMENTAL) J.W. FLETT (EARTHWORK)	File No.	30660-000

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9. Observed an approximately 2-in wide by 14-in long puncture in the northern end of the UST above the tank springline after extraction. The puncture penetrated the outer tank, but did not appear to penetrate the inner tank, and appeared to be from the installation of the tank.
10. Noted that a temporary above grade fuel oil storage tank was installed to provide heat for the Burbank School. *[Activity performed by Town contractors.]*
11. Noted fencing contractor installed chain link security fencing behind the Burbank School across the parking lot and up the landscaped hill, around the temporary fuel tank, and around the water treatment system.

**ATTACHMENTS:** Attachment1 – Sketch of Tank Excavation  
Attachment 2 – As-Built Sketch of Extraction Well

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**Field Representative(s)**

Todd Butler

**Dates On-Site**

29-31 December 2003,  
2-3 January 2004

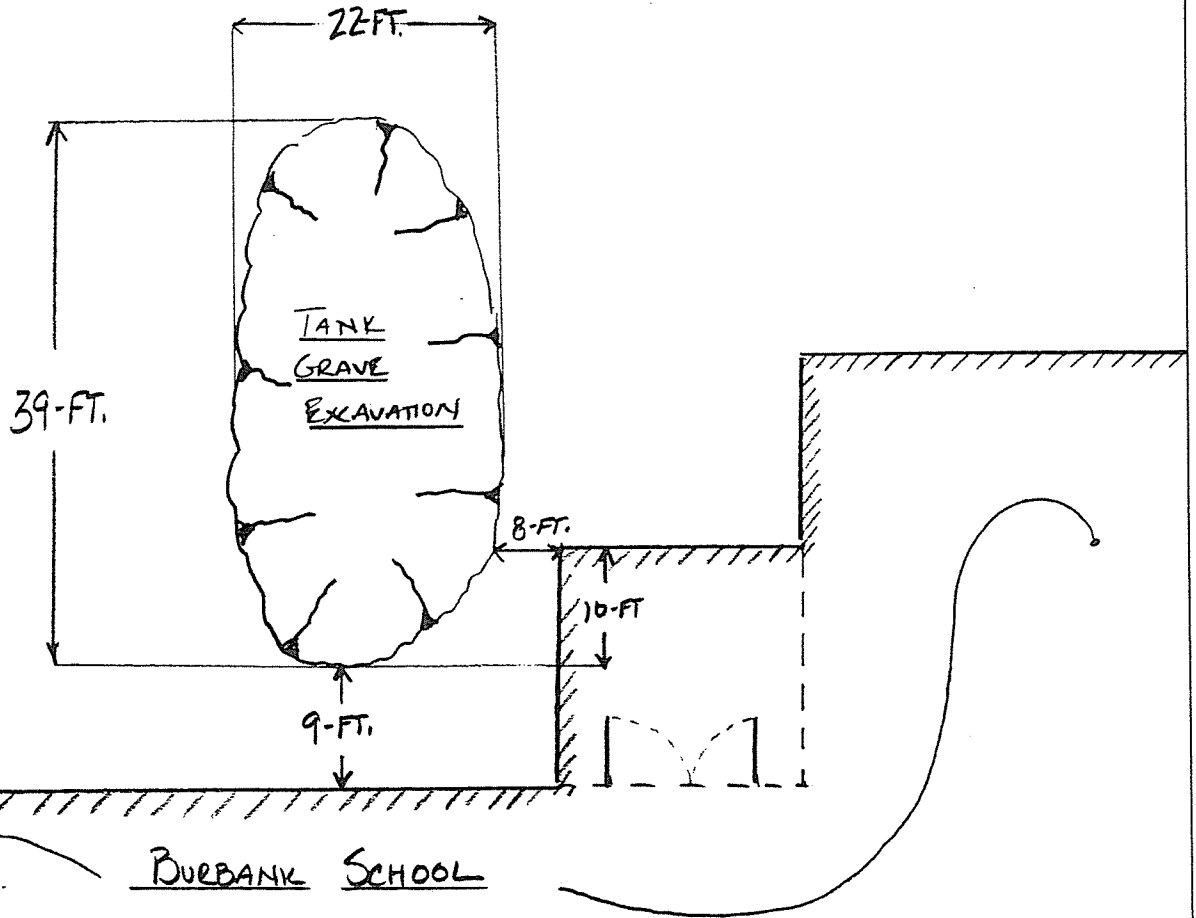
Haley & Aldrich, Inc.

Client TOWN OF BELMONT

Project BURBANK SCHOOL TANK RELEASE

Subject TANK GRAVE SKETCH

1 N



NOTES:

- 1. SKETCH NOT DRAWN TO SCALE.
- 2. EXCAVATION APPROXIMATELY 12-FT. DEPTH FROM EXISTING GROUND SURFACE.



# CALCULATIONS

File No. 30660-000

Sheet 1 of 1

Date 12/30/03

Computed By T. Butler

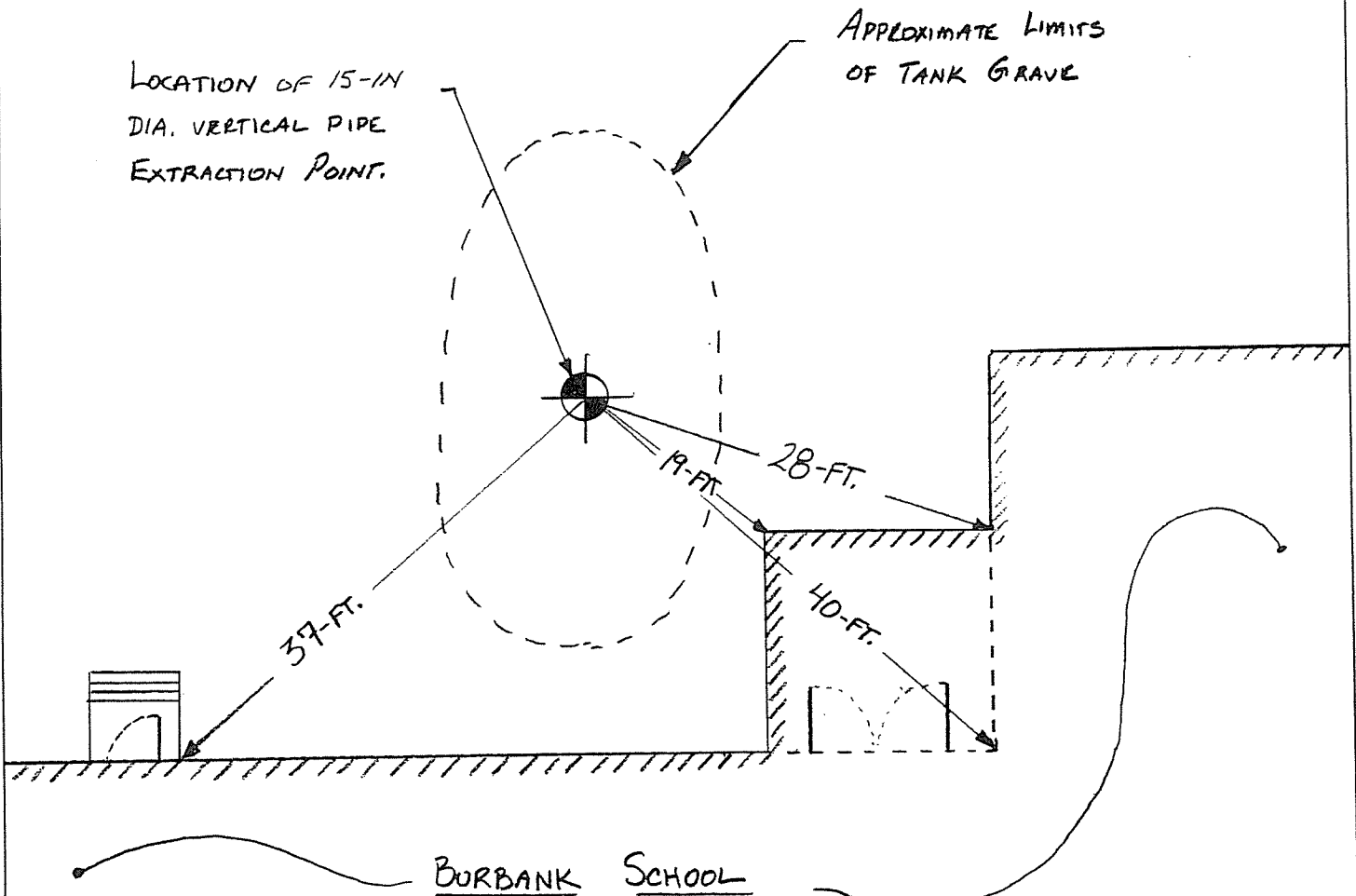
Checked By [Signature]

Client TOWN OF BELMONT

Project BURBANK SCHOOL TANK RELEASE

Subject AS BUILT OF EXTRACTION POINT

1N



### NOTES:

- 1. SKETCH NOT DRAWN TO SCALE.

ATTACHMENT 2  
WFR # 4



## WEEKLY FIELD REPORT

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Project	BURBANK SCHOOL OIL RELEASE	Report No.	05
Location	BELMONT, MASSACHUSETTS	Date	10 JAN 2003
Client	TOWN OF BELMONT	Page	1 of 2
Contractor	NATIONAL ENVIRONMENTAL SERVICES, INC. (ENVIRONMENTAL) J.W. FLETT (EARTHWORK)	File No.	30660-000

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### I. CONTRACTOR'S ACTIVITIES:

#### *Clay Pit Pond*

1. Continued oil containment activities at Wellington Brook outlet location using sea boom and multiple layers of absorbent boom materials during normal working hours. Also continued to remove visible oil from Pond surface using vacuum trucks and absorbent skimming materials.
2. Worked to contain impacted areas of the Pond with absorbent boom and limit the migration of oil within and along the perimeter of the Pond.
3. Began to clean frac tanks staged at the Belmont High School parking lot for off-site removal.
4. Temporarily stored oil-impacted media (absorbent boom and pads, poly sheeting and bags, PPE) in roll-off containers located at the Belmont High School parking lot for future off-site disposition.

#### *Burbank School*

1. Continued to treat water from the OWS and discharged effluent into drain pipe within the Burbank School Driveway.
2. Continued to collect free product within the newly installed extraction well using a vacuum truck. Transported and off-loaded oil recovered within the extraction well into frac tanks located at the Belmont High School parking lot for future off-site disposition.
3. Monitored and replaced absorbent boom materials in all storm drain manholes located in School Street downgradient of the tank release as necessary on a daily basis.
4. Continued to pump storm water run-off from the previously plugged DMH up-gradient of the impacted area and discharged the water into the 4-in PVC pipe connected to the water treatment system discharge pipe.

### II. FIELD REPRESENTATIVE'S ACTIVITIES:

1. Observed the activities noted above on a part-time basis. Contractors now working normal weekday working hours.
2. Spoke with Mr. Joel Mooney (H&A) and Sean Sullivan (NESI) to discuss response action activities and scheduling.
3. On Monday, 5 January 2004 collected influent and effluent water samples from the water treatment system for NPDES Permit compliance. Samples were designated OWS-INF-S4 and OWS-EFF-S4 and were submitted to Alpha Analytical Laboratories of Westborough, Massachusetts for Chemical Analysis.
4. On Monday, 5 January 2004 measured the free product within the extraction point located within the tank excavation with an oil and water interface probe. Results indicated approximately 0.4 ft of product at that location.



## WEEKLY FIELD REPORT

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<b>Project</b>	BURBANK SCHOOL OIL RELEASE	<b>Report No.</b>	05
<b>Location</b>	BELMONT, MASSACHUSETTS	<b>Date</b>	10 JAN 2003
<b>Client</b>	TOWN OF BELMONT	<b>Page</b>	2 of 2
<b>Contractor</b>	NATIONAL ENVIRONMENTAL SERVICES, INC. (ENVIRONMENTAL) J.W. FLETT (EARTHWORK)	<b>File No.</b>	30660-000

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5. On 6 January 2004 walked along the perimeter of Clay Pit Pond with Mr. Joel Mooney (H&A), Mr. Joseph Curro (Belmont Conservation Commission), Mr. Sean Sullivan (NESI), and Mr. Joseph Bohan (NESI) to discuss preferred method of removing impacted sediment along the bank of the Pond.

**ATTACHMENTS:** None

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Field Representative(s)  
Todd Butler

Dates On-Site  
5-7 January 2004

  
Haley & Aldrich, Inc.





## WEEKLY FIELD REPORT

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<b>Project</b>	BURBANK SCHOOL OIL RELEASE	<b>Report No.</b>	06
<b>Location</b>	BELMONT, MASSACHUSETTS	<b>Date</b>	17 JAN 2003
<b>Client</b>	TOWN OF BELMONT	<b>Page</b>	1 of 2
<b>Contractor</b>	NATIONAL ENVIRONMENTAL SERVICES, INC. (ENVIRONMENTAL) J. W. FLETT (EARTHWORK)	<b>File No.</b>	30660-000

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### I. CONTRACTOR'S ACTIVITIES:

#### *Clay Pit Pond*

1. Continued oil containment activities at Wellington Brook outlet location using sea boom and multiple layers of absorbent boom materials during normal working hours. Also continued to remove visible oil from Pond surface using vacuum trucks and absorbent skimming materials.
2. Worked to contain impacted areas of the Pond with absorbent boom and limit the migration of oil within and along the perimeter of the Pond.
3. Began to clean frac tanks staged at the Belmont High School parking lot for off-site removal.
4. Temporarily stored oil-impacted media (absorbent boom and pads, poly sheeting and bags, PPE) in roll-off containers located at the Belmont High School parking lot for future off-site disposition.

#### *Burbank School*

1. Continued to treat water from the OWS and discharged effluent into drain pipe within the Burbank School Driveway. Toward the end of the week the system froze due to extremely cold weather conditions. The contractor modified the system so that it recharges itself (i.e.; water is continuously running through the system) in an attempt to keep the system from freezing again. The system will be reset to discharge when temperatures warm up.
2. Continued to periodically collect free product within the newly installed extraction well using a vacuum truck. Transported and off-loaded oil recovered within the extraction well into frac tanks located at the Belmont High School parking lot for future off-site disposition.
3. Monitored and replaced absorbent boom materials in all storm drain manholes located in School Street downgradient of the tank release as necessary on a daily basis.
4. Continued to pump storm water run-off from the previously plugged DMH up-gradient the impacted area and discharged the water into the 4-in PVC pipe connected to the water treatment system discharge pipe.

### II. FIELD REPRESENTATIVE'S ACTIVITIES:

1. Observed the activities noted above on a part-time basis.
2. Spoke with Mr. Joel Mooney (H&A) and Sean Sullivan (NESI) to discuss response action activities and scheduling.
3. On Thursday, 15 January 2004 attempted to collect NPDES water sample from the water treatment system. The system was frozen due to the extremely cold weather. Informed Mr. Joel Mooney (H&A) and Mr. Sean Sullivan (NESI) that the water treatment system had frozen.



## WEEKLY FIELD REPORT

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<b>Project</b>	BURBANK SCHOOL OIL RELEASE	<b>Report No.</b>	06
<b>Location</b>	BELMONT, MASSACHUSETTS	<b>Date</b>	17 JAN 2003
<b>Client</b>	TOWN OF BELMONT	<b>Page</b>	2 of 2
<b>Contractor</b>	NATIONAL ENVIRONMENTAL SERVICES, INC. (ENVIRONMENTAL) J.W. FLETT (EARTHWORK)	<b>File No.</b>	30660-000

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4. On Thursday, 15 January 2004 measured the free product within the extraction point located within the tank excavation with an oil and water interface probe. Results indicated approximately 0.2 ft of product at that location.
5. Noted N.H. Boring on-site conducting test boring program around the release area. N.H. Boring completed three (3) of a planned six (6) test borings. Installed observation wells within all completed test borings.

**ATTACHMENTS:** None

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**Field Representative(s)**

Todd Butler

**Dates On-Site**

15 January 2004

  
Haley & Aldrich, Inc.

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## WEEKLY FIELD REPORT

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Project	BURBANK SCHOOL OIL RELEASE	Report No.	07
Location	BELMONT, MASSACHUSETTS	Date	24 JAN 2003
Client	TOWN OF BELMONT	Page	1 of 2
Contractor	NATIONAL ENVIRONMENTAL SERVICES, INC. (ENVIRONMENTAL) J.W. FLETT (EARTHWORK)	File No.	30660-000

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### I. CONTRACTOR'S ACTIVITIES:

#### *Clay Pit Pond*

1. Continued oil containment activities at Wellington Brook outlet location using sea boom and multiple layers of absorbent boom materials during normal working hours. Also continued to remove visible oil from Pond surface using vacuum trucks and absorbent skimming materials.
2. Worked to contain impacted areas of the Pond with absorbent boom and limit the migration of oil within and along the perimeter of the Pond.
3. Continued to clean frac tanks staged at the Belmont High School parking lot for off-site removal.
4. Temporarily stored oil-impacted media (absorbent boom and pads, poly sheeting and bags, PPE) in roll-off containers located at the Belmont High School parking lot for future off-site disposition.

#### *Burbank School*

1. Continued to treat water from the OWS and discharged effluent into drain pipe within the Burbank School Driveway. The water treatment system continued to operate under modifications made so that the system recharges itself (i.e.; water is continuously running through the system) in an attempt to keep the system from freezing again. The system will be reset to discharge when temperatures warm up.
2. Continued to periodically collect free product within the newly installed extraction well using a vacuum truck. Transported and off-loaded oil recovered within the extraction well into frac tanks located at the Belmont High School parking lot for future off-site disposition.
3. Monitored and replaced absorbent boom materials in all storm drain manholes located in School Street downgradient of the tank release as necessary on a daily basis.
4. Continued to pump storm water run-off from the previously plugged DMH up-gradient the impacted area and discharged the water into the 4-in PVC pipe connected to the water treatment system discharge pipe.
5. Began to clean storm drain system between the UST area at the Burbank School and Clay Pit Pond. The contractor completed the cleaning 8 DMH (2 in the drive of Burbank School, and 6 in School St.) with the use of a heated pressure washer and biodegradable surfactant. The contractor collected wash water by plugging the out flow pipe of downgradient DMH with a plumber's ball plug, and removing wash water with the use of a vacuum truck. Transported and off-loaded wash water recovered within the DMHs into frac tanks located at the Belmont High School parking lot for future off-site disposition. The contractor installed an absorbent boom within the DMH at the intersection of the Burbank School Drive and School St. after cleaning activities to serve as a marker for effectiveness of cleaning activities.



## WEEKLY FIELD REPORT

Project	BURBANK SCHOOL OIL RELEASE	Report No.	07
Location	BELMONT, MASSACHUSETTS	Date	24 JAN 2003
Client	TOWN OF BELMONT	Page	2 of 2
Contractor	NATIONAL ENVIRONMENTAL SERVICES, INC. (ENVIRONMENTAL) J.W. FLETT (EARTHWORK)	File No.	30660-000

### II. FIELD REPRESENTATIVE'S ACTIVITIES:

1. Observed the activities noted above on a part-time basis.
2. Spoke with Mr. Joel Mooney (H&A) and Sean Sullivan (NESI) to discuss response action activities and scheduling.
3. On Monday, 19 January 2004 measured the free product within the extraction point located within the tank excavation with an oil and water interface probe. Results indicated approximately 0.2 ft of product at that location.
4. On Wednesday, 21 January 2004 measured the free product within the extraction point located within the tank excavation with an oil and water interface probe. Results indicated approximately 0.15 ft of product at that location.
5. Noted N.H. Boring onsite conducting test boring program around the release area. N.H. Boring completed the last three (3) of a planned six (6) test borings. Installed observation wells within all completed test borings.
6. On Monday, 19 January 2004 collected influent and effluent water samples from the water treatment system for NPDES Permit compliance. Samples were designated OWS-INF-S5 and OWS-EFF-S5 and were submitted to Alpha Analytical Laboratories of Westborough, Massachusetts for chemical analysis.

ATTACHMENTS: None

Field Representative(s)  
Todd Butler

Dates On-Site  
19 - 21 January 2004

  
Haley & Aldrich, Inc.



## WEEKLY FIELD REPORT

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<b>Project</b>	BURBANK SCHOOL OIL RELEASE	<b>Report No.</b>	08
<b>Location</b>	BELMONT, MASSACHUSETTS	<b>Date</b>	31 JAN 2004
<b>Client</b>	TOWN OF BELMONT	<b>Page</b>	1 of 2
<b>Contractor</b>	NATIONAL ENVIRONMENTAL SERVICES, INC. (ENVIRONMENTAL) J.W. FLETT (EARTHWORK)	<b>File No.</b>	30660-000

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### I. CONTRACTOR'S ACTIVITIES:

#### *Clay Pit Pond*

1. Continued oil containment activities at the Wellington Brook outlet location using sea boom and multiple layers of absorbent boom materials during normal working hours. Also continued to remove visible oil from Clay Pit Pond surface using vacuum trucks and absorbent skimming materials.
2. Continued to contain impacted areas of the Pond with absorbent boom and limit the migration of oil within and along the perimeter of the Pond.
3. Continued to clean frac tanks staged at the Belmont High School parking lot for off-site removal.
4. Temporarily stored oil-impacted media (absorbent boom and pads, poly sheeting and bags, PPE) in roll-off containers located at the Belmont High School parking lot for future off-site disposition.
5. Continued power washing the masonry retaining walls of the Wellington Brook outlet location with the use of a heated pressure washer and biodegradable surfactant. Wash water was collected with a vacuum truck within a contained area of absorbent boom materials.

#### *Burbank School*

1. Continued to treat water from the OWS and discharged effluent into drain pipe within the Burbank School Driveway. The water treatment system continued to operate under modifications made so that the system recharges itself (i.e.; water is continuously running through the system) in an attempt to keep the system from freezing again. The system will be reset to discharge when temperatures warm up, or before rain events.
2. Continued to periodically collect free product within the newly installed extraction well at the center of the (former) UST excavation using a vacuum truck. Transported and off-loaded oil recovered within the extraction well into frac tanks located at the Belmont High School parking lot for future off-site disposition.
3. Continued to pump storm water run-off from the previously plugged DMH up-gradient of the impacted area and discharged the water into the 4-in PVC pipe connected to the water treatment system discharge pipe.
4. Completed cleaning the storm drain system between the UST area at the Burbank School and Clay Pit Pond. Using a heated pressure washer and biodegradable surfactant, the Contractor cleaned 7 DMHs located along School Street and the Wellington Brook culvert at the outfall location at Clay Pit Pond. The contractor collected wash water by plugging the out flow pipe of downgradient DMHs with a plumber's ball plug, and removing wash water with the use of a vacuum truck.



## WEEKLY FIELD REPORT

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<b>Project</b>	BURBANK SCHOOL OIL RELEASE	<b>Report No.</b>	08
<b>Location</b>	BELMONT, MASSACHUSETTS	<b>Date</b>	31 JAN 2004
<b>Client</b>	TOWN OF BELMONT	<b>Page</b>	2 of 2
<b>Contractor</b>	NATIONAL ENVIRONMENTAL SERVICES, INC. (ENVIRONMENTAL) J.W. FLETT (EARTHWORK)	<b>File No.</b>	30660-000

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5. Due to snow and ice cover, the Contractor was unable to directly access DMHs within the utility easement on private property between School Street and Concord Avenue. The Contractor jet-flushed this section of the storm drain system with water and biodegradable surfactant, by plugging the downstream end of the pipe, and successively filling and draining the pipe reach.
6. Transported and off-loaded wash water recovered within the DMHs (during activities 4 and 5 above) into frac tanks located at the Belmont High School parking lot for future off-site disposition. The Contractor installed an absorbent boom within the DMH at the intersection of the Burbank School Driveway and School Street to serve as a marker for the effectiveness of cleaning activities.

### II. FIELD REPRESENTATIVE'S ACTIVITIES:

1. Observed the activities noted above on a part-time basis.
2. Spoke with Mr. Joel Mooney (H&A) and Sean Sullivan (NESI) to discuss response action activities and scheduling.
3. On Monday, 26 January 2004 collected influent and effluent water samples from the water treatment system for NPDES Permit compliance. Samples were designated OWS-INF-S6 and OWS-EFF-S6 and were submitted to Alpha Analytical Laboratories of Westborough, Massachusetts for chemical analysis.

**ATTACHMENTS:** None

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**Field Representative(s)**  
Todd Butler

**Dates On-Site**  
26 January 2004

  
Haley & Aldrich, Inc.



## WEEKLY FIELD REPORT

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<b>Project</b>	BURBANK SCHOOL OIL RELEASE	<b>Report No.</b>	09
<b>Location</b>	BELMONT, MASSACHUSETTS	<b>Date</b>	07 FEB 2004
<b>Client</b>	TOWN OF BELMONT	<b>Page</b>	1 of 2
<b>Contractor</b>	NATIONAL ENVIRONMENTAL SERVICES, INC. (ENVIRONMENTAL) J.W. FLETT (EARTHWORK)	<b>File No.</b>	30660-000

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### I. CONTRACTOR'S ACTIVITIES:

#### *Clay Pit Pond*

1. Continued oil containment activities at the Wellington Brook outlet location using sea boom and multiple layers of absorbent boom materials during normal working hours. Also continued to remove visible oil from Clay Pit Pond surface using vacuum trucks and absorbent skimming materials.
2. Continued to contain impacted areas of the Pond with absorbent boom and limit the migration of oil within and along the perimeter of the Pond.
3. Continued to clean frac tanks staged at the Belmont High School parking lot for off-site removal.
4. Temporarily stored oil-impacted media (absorbent boom and pads, poly sheeting and bags, PPE) in roll-off containers located at the Belmont High School parking lot for future off-site disposition.
5. Completed power washing the masonry retaining walls of the Wellington Brook outlet location with the use of a heated pressure washer and biodegradable surfactant. Wash water was collected with a vacuum truck within a contained area of absorbent boom materials.

#### *Burbank School*

1. Continued to treat water from the OWS and discharged effluent into drain pipe within the Burbank School Driveway. The water treatment system continued to operate under modifications made so that the system recharges itself (i.e.; water is continuously running through the system) in an attempt to keep the system from freezing again. The system will be reset to discharge when temperatures warm up, or before rain events.
2. Continued to pump storm water run-off from the previously plugged DMH up-gradient of the impacted area and discharged the water into the 4-in PVC pipe connected to the water treatment system discharge pipe.
3. Using a Caterpillar 345B Excavator equipped with a straight-edged bucket, began to excavate heavily impacted soils from within the (former) tank excavation. Excavated soils (previously characterized as Group II-3 - materials meeting In-State Recycling Criteria), were transported under a Bill of Lading to Aggregate Industries, Inc, an asphalt batch recycling facility located in Stoughton, Massachusetts. Refer to Attachment 1 - Summary of Exported Materials for soil removal information. Refer to Attachment 2 - Site Sketch for approximate limits of excavation.
4. Using a Caterpillar 345B Excavator equipped with a straight-edged bucket, excavated slightly impacted soils from within the (former) tank excavation and stockpiled the material within the School parking lot on poly sheeting for chemical testing for off site disposition. The stockpiled soil was covered with poly sheeting at the end of the work day. Refer to Attachment 2 - Site Sketch for approximate limits of excavation.
5. Collected oil and oil-impacted water from within the (former) tank excavation during soil removal activities.



## WEEKLY FIELD REPORT

Project	BURBANK SCHOOL OIL RELEASE	Report No.	09
Location	BELMONT, MASSACHUSETTS	Date	07 FEB 2004
Client	TOWN OF BELMONT	Page	2 of 2
Contractor	NATIONAL ENVIRONMENTAL SERVICES, INC. (ENVIRONMENTAL) J.W. FLETT (EARTHWORK)	File No.	30660-000

- Using a Caterpillar 345B excavator removed concrete sidewalks and asphalt paving adjacent to the (former) tank excavation. Loaded one (1) Tri-Axle truck with excavated concrete and asphalt materials and transported the materials off site to FED Corp., a ABC recycling facility located in Dedham, Massachusetts.
- Using a Caterpillar 345B Excavator equipped with a pneumatic hammer removed the southern half of the (former) UST concrete hold-down pad. The reinforced concrete slab was approximately 18-in. thick. Impacted concrete was transported off site under a Material Shipping Record to Aggregate Recycling Corp., a recycling facility located in Elliot, Maine. Refer to Attachment 1 - Summary of Exported Materials for trucking summary.
- During soil excavation activities conducted within the (former) tank excavation, observed visual contamination in the southwest corner of the excavation along the face of the exterior wall of the School. The observed oil-impacted soils appeared to extend beneath a concrete utility vault and were left in place. Poly sheeting was placed over the side wall of the excavation and the excavated area was backfilled with clean, imported material. A 6-in. diameter clay drain pipe was exposed on the east side wall of the excavation. Contamination was observed within the drain pipe. Refer to Attachment 2 - Site Sketch for approximate locations of oil-impacted soils left in place and approximate location of 6-in clay drain pipe.
- Delivered two (2) 18-wheel loads (approximately 26 cy each) of granular fill from Kingstown Corp., Plymouth, Massachusetts. Using a Caterpillar 345B excavator placed imported fill within the excavation in areas where soil field screening results indicated un-impacted soils at the limits of the excavation. Refer to Attachment 2 - Site Sketch for approximate limits of fill placed.

### II. FIELD REPRESENTATIVE'S ACTIVITIES:

- Observed the activities noted above on a part-time basis.
- Spoke with Mr. Joel Mooney (H&A) and Sean Sullivan (NESI) to discuss response action activities and scheduling.
- Using a micro Flame Ionization Detector (FID) I/S periodically screened the indoor air quality of the Burbank School during soil excavation/removal activities. Refer to Attachment 3 - Summary of F.I.D. Indoor Air Quality Field Screening Results.
- Using a PetroFLAG field kit screened sidewall and bottom confirmatory soil samples to evaluate the extent of oil-impacted soils. Select confirmatory samples were submitted to Alpha Analytical Laboratories of Westborough, Massachusetts for chemical analysis. Refer to Attachment 4 - Summary of PertoFLAG Kit Soil Field Screening Results.

**ATTACHMENTS:** Attachment 1 - Summary of Exported Materials  
Attachment 2 - Site Sketch  
Attachment 3 - Summary of F.I.D. Indoor Air Quality Field Screening Results  
Attachment 4 - Summary of PertoFLAG Kit Soil Field Screening Results

Field Representative(s)  
Todd Butler

Dates On-Site  
26 January 2004

  
Haley & Aldrich, Inc.





## SUMMARY OF EXPORTED SOILS

**Project:** Mary Lee Burbank School  
 Oil Release  
**Location:** Belmont, Massachusetts

**File No.:** 30660-000  
**Week Ending:** 02/07/04  
**WFR No:** 9

CATEGORY	RECEIVING FACILITY	Week Total (cyds)	Previous Total (cyds)	New Total (cyds)	BOL/MSR Approved Quantity (cyds)
GROUP II-3: In-State Lined Landfill, Recycling or Thermal Treatment	Aggregate Industries Stoughton, Massachusetts	194	60	254	500
GROUP I-V: Solid Waste (Oil impacted Concrete)	Aggregate Recycling Corporation (ARC) Elliot, Maine	20	0	20	100
<b>Totals:</b>		<b>214</b>	<b>60</b>	<b>274</b>	<b>600</b>

**Notes:**

- 1) 18 wheel truck = 20 cubic yards
- 2) Tri-axle truck = 17 cubic yards
- 3) 10 wheel truck = 15 cubic yards
- 4) Roll-off Container = 15 cubic yards
- 5) Reported quantity estimated by Haley & Aldrich, Inc., final approved quantity based on weight slips.

**BURBANK SCHOOL OIL RELEASE  
BELMONT, MA  
FILE NO. 30660-000**

**SUMMARY OF F.I.D. INDOOR AIR QUALITY FIELD SCREENING**

Table No. 1

<b>DATE</b>	<b>TIME</b>	<b>LOCATION</b>	<b>BACKGROUND (ppm)</b>	<b>READING (ppm)</b>
4-Feb-04	1026	North Entry Foyer	0.0	0.1
4-Feb-04	1027	Gym	0.0	0.0
4-Feb-04	1028	1st/2nd Flr. Stairs and Hall	0.0	0.0
4-Feb-04	1029	Rm. 203	0.0	0.0
4-Feb-04	1030	3rd Flr. Stairs and Hall	0.0	0.0
5-Feb-04	713	North Entry Foyer	0.0	0.0
5-Feb-04	714	Gym	0.0	0.0
5-Feb-04	715	Rm. 202	0.0	0.0
5-Feb-04	716	Rm. 203	0.0	0.0
5-Feb-04	717	3rd Flr. Stairs and Hall	0.0	0.0
5-Feb-04	718	Rm. 303	0.0	0.0
5-Feb-04	1100	North Entry Foyer	0.0	0.2
5-Feb-04	1101	Gym	0.0	0.0
5-Feb-04	1103	Rm. 202	0.0	0.0
5-Feb-04	1104	Rm. 203	0.0	0.0
5-Feb-04	1106	3rd Flr. Stairs and Hall	0.0	0.0

BURBANK SCHOOL OIL RELEASE  
 BELMONT, MA  
 FILE NO. 30660-000

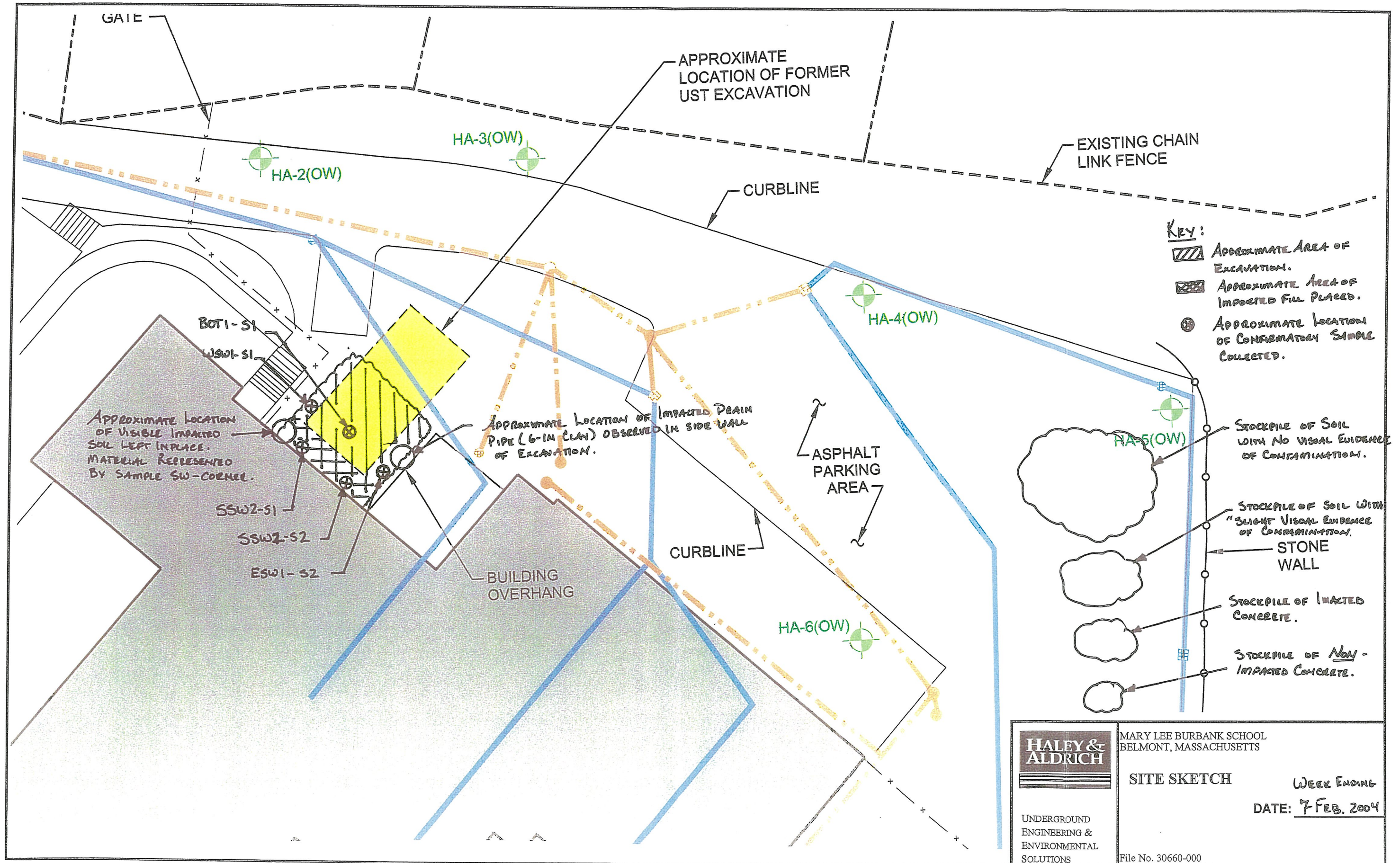
Summary of Soil Field Screening with PertoFLAG Kit

Table No. 2

DATE	TIME COLLECTED	SAMPLE I.D.	DEPTH (FT)	READING (ppm)	CONFIRMATORY SAMPLE (Y/N)	SAMPLE SUBMITTED TO LABORATORY (Y/N)
4-Feb-04	1425	SSW1-S1	12	78.0	N	N
5-Feb-04	1200	CLEAN STKPL-1	-	1009.0	N	Y
5-Feb-04	1358	SSW1-S2	12	17.0	Y	Y
5-Feb-04	1402	SSW2-S1	12	10.0	Y	Y
5-Feb-04	1412	ESW1-S1	6-12	41.0	N	N
5-Feb-04	1405	WSW1-S1	6-12	14.0	Y	Y
5-Feb-04	1417	BOT1-S1	14	12.0	Y	Y
6-Feb-04	745	ESW1-S2	6-12	0.0	Y	Y

WFR #9









## WEEKLY FIELD REPORT

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Project	BURBANK SCHOOL OIL RELEASE	Report No.	10
Location	BELMONT, MASSACHUSETTS	Date	14 FEB 2004
Client	TOWN OF BELMONT	Page	1 of 3
Contractor	NATIONAL ENVIRONMENTAL SERVICES, INC. (ENVIRONMENTAL) J.W. FLETT (EARTHWORK)	File No.	30660-000

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### I. CONTRACTOR'S ACTIVITIES:

#### *Clay Pit Pond*

1. Removed sea booms and absorbent booms at the outlet of Wellington Brook outfall into Clay Pit Pond. Installed one layer of absorbent boom at the outlet.
2. Continued to clean frac tanks staged at the Belmont High School parking lot for off-site removal.
3. Temporarily stored oil-impacted media (absorbent boom and pads, poly sheeting and bags, PPE) in roll-off containers located at the Belmont High School parking lot for future off-site disposition.

#### *Burbank School*

1. Continued to treat water from the OWS and discharged effluent into drain pipe within the Burbank School driveway. The water treatment system continued to operate under modifications made so that the system recharges itself (i.e.; water is continuously running through the system) in an attempt to keep the system from freezing. The system will be reset to discharge when temperatures warm up, or before rain events.
2. Continued to pump storm water run-off from the previously plugged DMH up-gradient the impacted area and discharged the water into the 4-in PVC pipe connected to the water treatment system discharge pipe.
3. Using a Caterpillar 345B Excavator equipped with a straight-edged bucket, completed the excavation of heavily contaminated soils from within the tank grave. Excavated soils, characterized as Group II-3 (In-State Recycling Criteria), were transported under a Bill of Lading to previously approved receiving facilities. Refer to attached summary of soil disposal for trucking summary. Refer to attached Site Sketch I for approximate limits of excavation.
4. Using a Caterpillar 345B Excavator equipped with a straight-edged bucket excavate slightly impacted soils from within the tank grave and stockpiled material within the Burbank School parking lot on poly sheeting for future disposal activities. The stockpile was covered with poly sheeting at the end of the work day. Refer to attached Site Sketch I for approximate limits of excavation.
4. Using a Vacuum Truck controlled and removed liquid contaminates (oil and oily water) that accumulated during activities within the tank grave excavation.
5. Using a Caterpillar 345B Excavator equipped with a pneumatic hammer removed the northern half of the UST base slab. The reinforced concrete slab was approximately 18-in. in thickness. Impacted concrete was transported off site under a Material Shipping Record to previously approved receiving facility. Refer to attached summary of soil disposal for trucking summary.
6. Over the weekend, a small slough of the eastern side wall of the tank grave excavation revealed additional visual contamination. The contamination appeared to extend under the column footing of the overhang supporting classroom 203. The contractor installed poly sheeting on the side wall of the excavation and backfilled with imported materials to stabilize the slope of the excavation.



## WEEKLY FIELD REPORT

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Project	BURBANK SCHOOL OIL RELEASE	Report No.	10
Location	BELMONT, MASSACHUSETTS	Date	14 FEB 2004
Client	TOWN OF BELMONT	Page	2 of 3
Contractor	NATIONAL ENVIRONMENTAL SERVICES, INC. (ENVIRONMENTAL) J.W. FLETT (EARTHWORK)	File No.	30660-000

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7. During the tank grave excavation four impacted drain pipes were exposed. Two 6-in. dia. PVC drain pipe were exposed on the eastern and western side walls of the excavation, and two 8-in. drain pipes were exposed on the northern side wall of the excavation. Oil saturated materials were observed within the drain pipes. Visual contamination with the ¾-in. crushed stone pipe bedding was also observed around a 12-in. dia. drain pipe on the eastern side wall of the excavation. The contractor removed product from the drain pipes with the use of a vacuum truck and then plugged the pipes with concrete. These drains will be remediated following bulk excavation activities, and the drains were plugged to not contaminate the backfill. The contractor installed poly sheeting along the eastern side wall of the excavation in the area of the impacted pipe bedding and backfilled to stabilize the excavation. Refer to attached Site Sketch II for approximate locations of impacted drain pipes and pipe bedding.
8. Imported thirty (30) 18-wheel loads (26± cyds ea.) of granular fill from Kingstown Corp. Plymouth, MA. Using a Caterpillar 345B excavator completed backfill of the tank grave excavation with imported fill.
9. Imported one (1) 18-wheel load (Approximately 25 cyds.) of ¾-in. crushed stone. Using a Caterpillar 345B excavator placed approximately 2-3 inches of crushed stone on the surface of the tank grave area.

### II. FIELD REPRESENTATIVE'S ACTIVITIES:

1. Observed the activities noted above on a part-time basis.
2. Spoke with Mr. Joel Mooney (H&A) and Sean Sullivan (NESI) to discuss response action activities and scheduling.
3. Using a PetroFLAG field kit screened sidewall and bottom confirmatory samples to delineate limits of contamination. Confirmatory samples collected that the field screening indicated "clean" results were submitted to Alpha Analytical Laboratories Westborough, MA. for chemical analysis. Refer to attached Table Summary of Soil Field Screening with PertoFLAG Kit for PetroFLAG field screening results. Refer to attached Site Sketch I for sample locations.
4. Collected discreet grab sample of visual contamination left in place along the eastern side wall. The sample was designated ESW1-S3. The sample was submitted to Alpha Analytical Laboratories Westborough, MA. for chemical analysis. Refer to attached Site Sketch I for approximate location of sample.
5. On 9 February 2004 at 1030 observed that the boom in the drain manhole at the intersection of the Burbank Drive and School St. contained no visual contamination.
6. On 9 February 2004 collected four discrete grab samples of remaining contaminated soils within the tank grave for disposal characterization. The samples were designated UST-STKPL3-S1 through S4. The samples were submitted to Alpha Analytical Laboratories Westborough, MA. for chemical analysis.
7. On 12 February 2004 collected composite samples of soil stockpiles located in the parking lot of the Burbank School for disposal characterization. The samples were designated UST-STKPL4-S1 and UST-STKPL5-S1. The samples were designated UST-STKPL3-S1 through S4. The samples were submitted to Alpha Analytical Laboratories Westborough, MA. for chemical analysis.



## WEEKLY FIELD REPORT

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Project	BURBANK SCHOOL OIL RELEASE	Report No.	10
Location	BELMONT, MASSACHUSETTS	Date	14 FEB 2004
Client	TOWN OF BELMONT	Page	3 of 3
Contractor	NATIONAL ENVIRONMENTAL SERVICES, INC. (ENVIRONMENTAL) J.W. FLETT (EARTHWORK)	File No.	30660-000

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ATTACHMENTS: Site Sketch I  
Site Sketch II  
Summary of Exported Soils  
Summary of Soil Field Screening with PertoFLAG Kit

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Field Representative(s)  
Todd Butler

Dates On-Site  
9 -12 February 2004

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Haley & Aldrich, Inc.

UNDERGROUND STORAGE TANK RELEASE  
 MARY LEE BURBANK SCHOOL  
 BELMONT, MASSACHUSETTS  
 FILE NO. 30660-000

SUMMARY OF PetroFLAG KIT SOIL FIELD SCREENING RESULTS

DATE	TIME COLLECTED	SAMPLE I.D.	DEPTH (FT)	READING (ppm)	CONFIRMATORY SAMPLE (Y/N)	SAMPLE SUBMITTED TO LABORATORY (Y/N)
4-Feb-04	14:25	SSW1-S1	12	78	N	N
5-Feb-04	12:00	CLEAN STKPL-1	-	1009	N	Y
5-Feb-04	13:58	SSW1-S2	12	17	Y	Y
5-Feb-04	14:02	SSW2-S1	12	10	Y	Y
5-Feb-04	14:12	ESW1-S1	6-12	41	N	N
5-Feb-04	14:05	WSW1-S1	6-12	14	Y	Y
5-Feb-04	14:17	BOT1-S1	14	12	Y	Y
6-Feb-04	7:45	ESW1-S2	6-12	0	N	Y
9-Feb-04	10:00	ESW1-S3	7	1760	N	Y
10-Feb-04	7:52	BOT2-S1	14	18	Y	Y
10-Feb-04	10:10	ESW2-S1	6-12	26	N	N
10-Feb-04	10:15	WSW2-S1	6-12	23	N	N
10-Feb-04	11:20	WSW2-S2	6-12	20	Y	Y
10-Feb-04	11:15	ESW2-S2	6-12	22	Y	Y
10-Feb-04	12:00	NSW1-S1	6-12	23	Y	Y



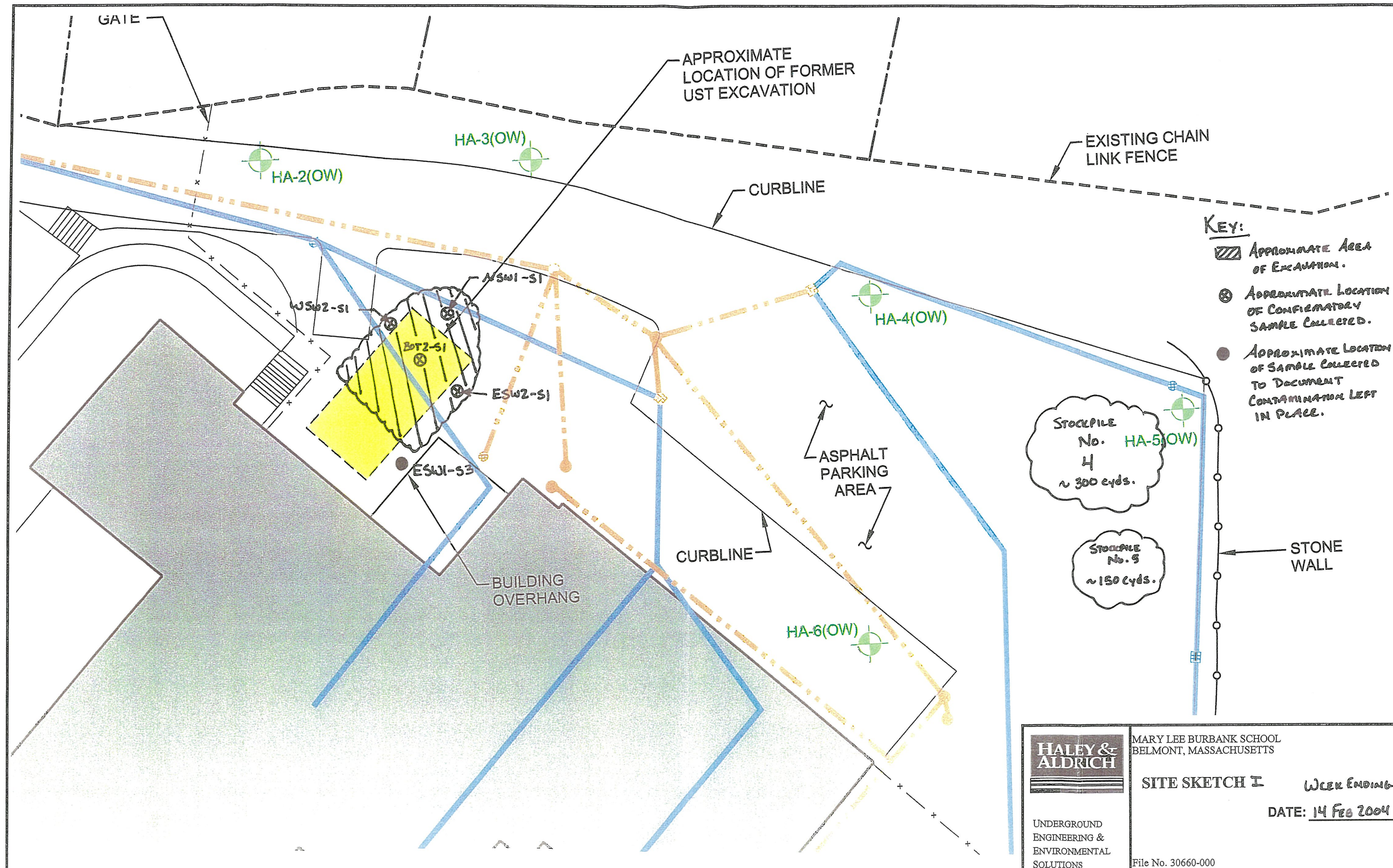


## SUMMARY OF EXPORTED SOILS

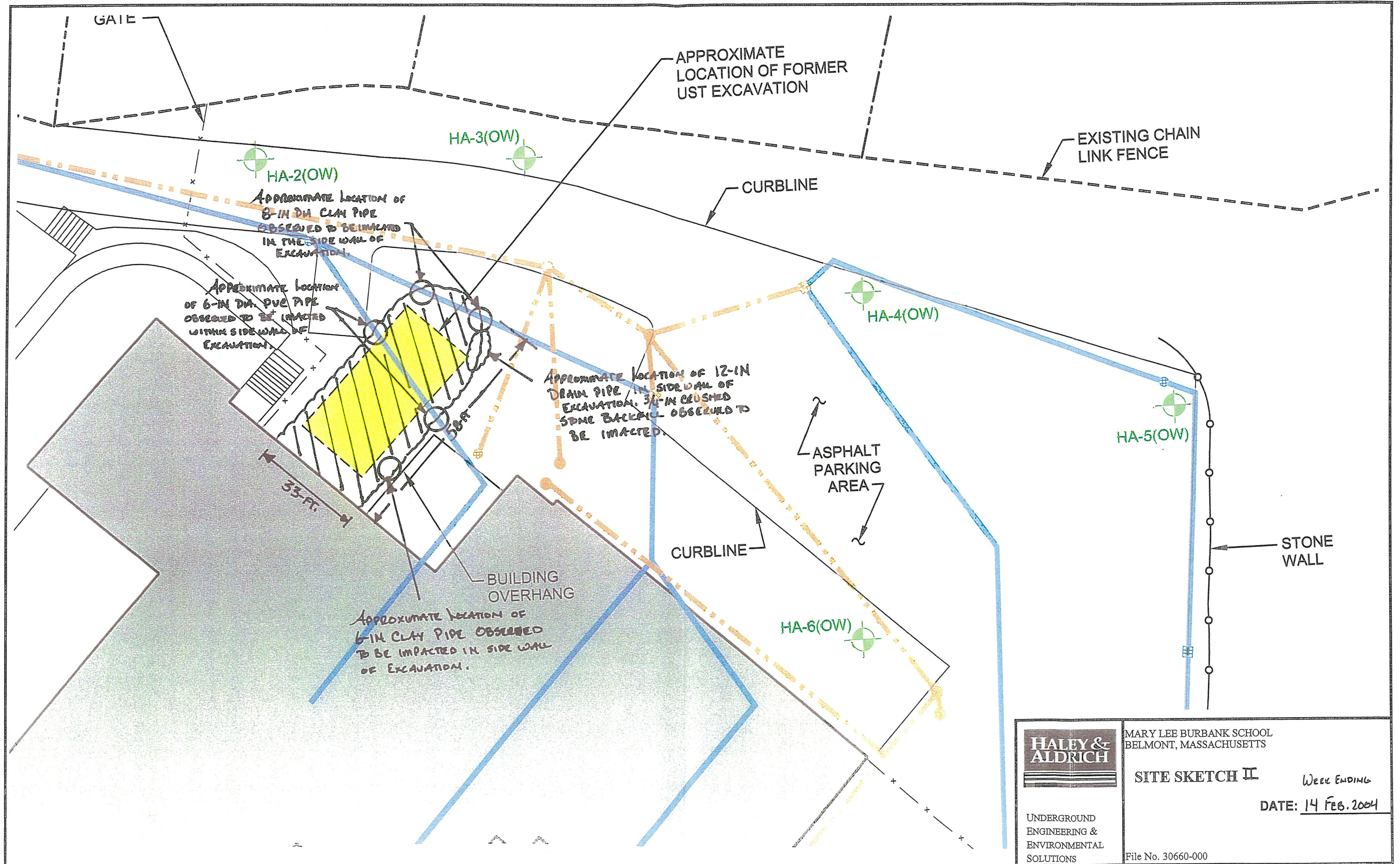
<b>Project:</b> Mary Lee Burbank School Oil Release <b>Location:</b> Belmont, Massachusetts	<b>File No.:</b> 30660-000 <b>Week Ending:</b> 02/14/04 <b>WFR No:</b> 10					
CATEGORY	RECEIVING FACILITY	Week Total (cyds)	Previous Total (cyds)	New Total (cyds)	BOL/MSR Approved Quantity (cyds)	
GROUP II-3: In-State Lined Landfill, Recycling or Thermal Treatment	Aggregate Industries Stoughton, Massachusetts	165	254	419	500	
GROUP I-V: Solid Waste (Oil impacted Concrete)	Aggregate Recycling Corporation (ARC) Elliot, Maine	0	20	20	100	
<b>Totals:</b>		<b>165</b>	<b>274</b>	<b>439</b>	<b>600</b>	

**Notes:**

- 1) 18 wheel truck = 20 cubic yards
- 2) Tri-axle truck = 17 cubic yards
- 3) 10 wheel truck = 15 cubic yards
- 4) Roll-off Container = 15 cubic yards
- 5) Reported quantity estimated by Haley & Aldrich, Inc., final approved quantity based on weight slips.







<p><b>HALEY &amp; ALDRICH</b></p>	<p>MARY LEE BURBANK SCHOOL BELMONT, MASSACHUSETTS</p>
	<p><b>SITE SKETCH II</b>      Week Ending DATE: 14 Feb. 2004</p>
<p>UNDERGROUND ENGINEERING &amp; ENVIRONMENTAL SOLUTIONS</p>	<p>File No. 30660-000</p>



## WEEKLY FIELD REPORT

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Project	BURBANK SCHOOL OIL RELEASE	Report No.	11
Location	BELMONT, MASSACHUSETTS	Date	21 FEB 2004
Client	TOWN OF BELMONT	Page	1 of 2
Contractor	NATIONAL ENVIRONMENTAL SERVICES, INC. (ENVIRONMENTAL) J.W. FLETT (EARTHWORK)	File No.	30660-000

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### I. CONTRACTOR'S ACTIVITIES:

#### *Clay Pit Pond*

1. Using a Caterpillar 304.5 Mini-Excavator and a Caterpillar 906 front-end loader excavated visually impacted soils along accessible areas of the northern and eastern shorelines. Placed impacted soils in roll-off containers. Excavated soils, characterized as Group II-3 (In-State Recycling Criteria), were transported under a Bill of Lading to previously approved receiving facilities. Refer to attached summary of soil disposal for trucking summary. Refer to attached 2001 Aerial Photograph Clay Pit Pond for approximate limits of excavation.
2. Using hand rakes and spades, grubbed leaf litter, removed impacted brush, and hand excavated impacted soils in areas not accessible to the mini-excavator along the northern, southern, and eastern shorelines. Bagged materials and placed in roll-off containers at the Belmont High School parking lot for future disposal activities. The contractor had difficulties accessing the impacted materials because ice and snow had drifted up along the eastern and southern shorelines of the pond. The contractor removed any materials accessible above the drifted ice and snow. Refer to attached 2001 Aerial Photograph Clay Pit Pond for approximate limits of grubbing and hand excavation.
3. Using a heated pressure washer with a biodegradable surfactant washed impacted roots, limbs, and trunks of trees along the northern, southern, and eastern shorelines. Collected and controlled wash water with the use of a Vector Truck and absorbent materials. Refer to attached 2001 Aerial Photograph Clay Pit Pond for approximate limits of power washing.
4. Temporarily stored oil-impacted media (absorbent boom and pads, poly sheeting and bags, PPE) in roll-off containers located at the Belmont High School parking lot for future off-site disposition.

#### *Burbank School*

1. Continued to treat water from the OWS and discharged effluent into drain pipe within the Burbank School Driveway. The water treatment system continued to operate under modifications made so that the system recharges itself (i.e.; water is continuously running through the system) in an attempt to keep the system from freezing again. The system will be reset to discharge when temperatures warm up, or before rain events.
2. Continued to pump storm water run-off from the previously plugged DMH up-gradient the impacted area and discharged the water into the 4-in PVC pipe connected to the water treatment system discharge pipe.

### II. FIELD REPRESENTATIVE'S ACTIVITIES:

1. Observed the activities noted above on a part-time basis.
2. Spoke with Mr. Joel Mooney (H&A) and Sean Sullivan (NESI) to discuss response action activities and scheduling.





## WEEKLY FIELD REPORT

<b>Project</b>	BURBANK SCHOOL OIL RELEASE	<b>Report No.</b>	11
<b>Location</b>	BELMONT, MASSACHUSETTS	<b>Date</b>	21 FEB 2004
<b>Client</b>	TOWN OF BELMONT	<b>Page</b>	2 of 2
<b>Contractor</b>	NATIONAL ENVIRONMENTAL SERVICES, INC. (ENVIRONMENTAL) J.W. FLETT (EARTHWORK)	<b>File No.</b>	30660-000

3. Using a PetroFLAG field kit screened sidewall confirmatory samples along the shoreline of Clay Pit Pond were remedial activities were completed. Confirmatory samples collected in the field were submitted to Alpha Analytical Laboratories Westborough, MA. for chemical analysis. Refer to attached 2001 Aerial Photograph Clay Pit Pond for sample locations.
4. Collected three (3) discrete grab samples around Clay Pit Pond approximately 30-ft. from the shore line to determine a background base line. Submitted samples to Alpha Analytical Laboratories Westborough, MA. for chemical analysis.
5. Noted Mr. Joseph Curro (Belmont Conservation Commission) visited the site on 17-19 February 2004. Mr. Curro requested that the contractor attempt to save as much as possible of the downed tree along the eastern shoreline. The contractor picked up the downed tree with the use of a mini-excavator and cut off and removed impacted sections of the tree, and then placed the remaining portions of tree back in the water.
6. On Thursday 19 January 2004 installed SUMMA canisters within the GYM, Rm. 106, Rm. 109, Rm. 212 Rm. 202, and Rm. 303 of the Burbank School. The canisters were collected on Friday 3 January 2004 and submitted to Alpha Analytical Laboratories for Chemical Analysis.
7. On 19 February 2004 at 1115 observed that the boom in the Drain manhole at the intersection of the Burbank drive and School Street contained no visual contamination.
8. Noted the Belmont Highway department was on site on Friday 20 February 2004 and removed piles of non-impacted brush.

**ATTACHMENTS:** 2001 Aerial Photograph Clay Pit Pond  
Summary of Exported Soils

**Field Representative(s)**

Todd Butler

**Dates On-Site**

17 -20 February 2004

  
Haley & Aldrich, Inc.



## SUMMARY OF EXPORTED SOILS

**Project:** Mary Lee Burbank School  
 Oil Release  
 Location: Belmont, Massachusetts

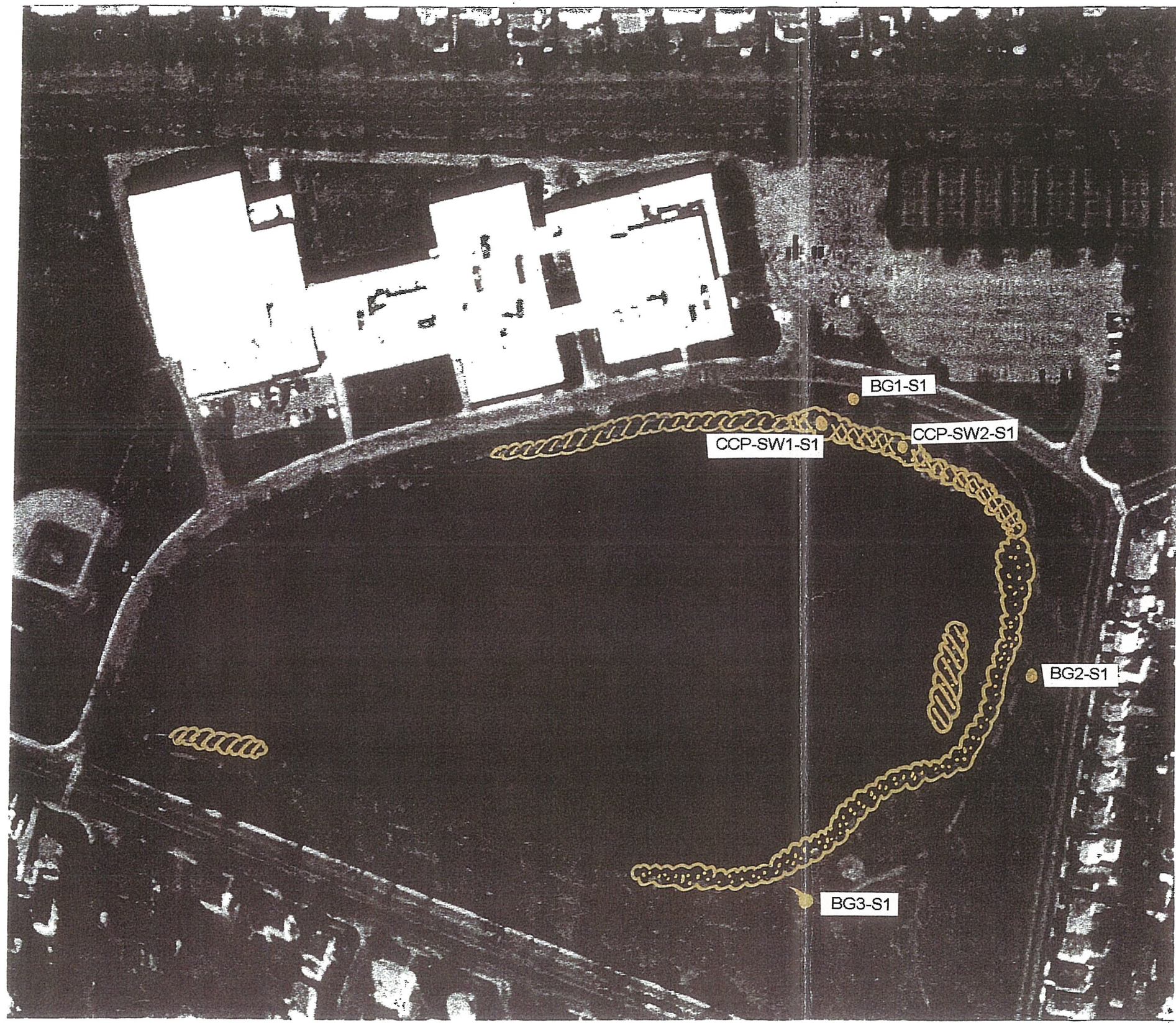
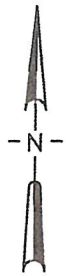
**File No.:** 30660-000  
**Week Ending:** 02/14/04  
**WFR No:** 11

CATEGORY	RECEIVING FACILITY	Week Total (cyds)	Previous Total (cyds)	New Total (cyds)	BOL/MSR Approved Quantity (cyds)
GROUP II-3: In-State Lined Landfill, Recycling or Thermal Treatment	Aggregate Industries Stoughton, Massachusetts	45	419	464	800
GROUP I-V: Solid Waste (Oil impacted Concrete)	Aggregate Recycling Corporation (ARC) Elliot, Maine	0	20	20	100





**Totals: 45 439 484 900**

- Notes:**
- 1) 18 wheel truck = 20 cubic yards
  - 2) Tri-axle truck = 17 cubic yards
  - 3) 10 wheel truck = 15 cubic yards
  - 4) Roll-off Container = 15 cubic yards
  - 5) Reported quantity estimated by Haley & Aldrich, Inc., final approved quantity based on weight slips.





KEY:

-  APPROXIMATE LIMITS OF HAND GRUBBING & HAND EXCAVATION
-  APPROXIMATE AREA OF EXCAVATION WITH MINI-EXCAVATOR
-  APPROXIMATE AREA OF HAND GRUBBING & LIMITED EXCAVATION WITH MINI-EXCAVATOR
-  APPROXIMATE LOCATION OF CONFIRMATORY SAMPLE

30660-000 B06



UNDERGROUND STORAGE TANK OIL RELEASE  
MARY LEE BURBANK SCHOOL  
BELMONT, MASSACHUSETTS

UNDERGROUND  
ENGINEERING &  
ENVIRONMENTAL  
SOLUTIONS

2001 AERIAL PHOTOGRAPH  
CLAY PIT POND

WEEK ENDING

SCALE: AS SHOWN

DATE: 21 FEB 2004





## WEEKLY FIELD REPORT

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Project	BURBANK SCHOOL OIL RELEASE	Report No.	12
Location	BELMONT, MASSACHUSETTS	Date	28 FEB 2004
Client	TOWN OF BELMONT	Page	1 of 2
Contractor	NATIONAL ENVIRONMENTAL SERVICES, INC. (ENVIRONMENTAL) J.W. FLETT (EARTHWORK)	File No.	30660-000

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### I. CONTRACTOR'S ACTIVITIES:

#### *Clay Pit Pond*

1. Using hand rakes and spades grubbed leaf litter, removed impacted brush, and hand excavated impacted soils in areas not accessible to the mini-excavator along the northern, southern, and eastern shorelines. Bagged materials and placed in roll-off containers at the Belmont High School parking lot for future disposal activities. The contractor had difficulties accessing the impacted materials because ice and snow had drifted up along the eastern and southern shorelines of the pond. The contractor removed materials accessible above the drifted ice and snow. Refer to attached 2001 Aerial Photograph Clay Pit Pond for approximate limits of grubbing and hand excavation.
2. Using a heated pressure washer with a biodegradable surfactant washed impacted roots, limbs, and trunks of trees along the northern, southern, and eastern shorelines. Collected and controlled wash water with the use of a Vector Truck and absorbent materials. Refer to attached 2001 Aerial Photograph Clay Pit Pond for approximate limits of power washing.
3. Temporarily stored oil-impacted media (absorbent boom and pads, poly sheeting and bags, PPE) in roll-off containers located at the Belmont High School parking lot for future off-site disposition.

#### *Burbank School*

1. Continued to treat water from the OWS and discharged effluent into drain pipe within the Burbank School Driveway. The water treatment system continued to operate under modifications made so that the system recharges itself (i.e.; water is continuously running through the system) in an attempt to keep the system from freezing again. The system will be reset to discharge when temperatures warm up, or before rain events.
2. Continued to pump storm water run-off from the previously plugged DMH up-gradient the impacted area and discharged the water into the 4-in PVC pipe connected to the water treatment system discharge pipe.

### II. FIELD REPRESENTATIVE'S ACTIVITIES:

1. Observed the activities noted above on a part-time basis.
2. Spoke with Mr. Joel Mooney (H&A) and Sean Sullivan (NESI) to discuss response action activities and scheduling.
3. On 27 February 2004 at 1130 observed that the boom in the drain manhole at the intersection of the Burbank Drive and School Street contained no visual contamination.
4. On 27 February 2004 at 1120 observed approximately ½-in. of product within the drain manhole in the middle of the Burbank Driveway. Observed that the drain manhole upgradient had no visual evidence of impact.





## WEEKLY FIELD REPORT

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<b>Project</b>	BURBANK SCHOOL OIL RELEASE	<b>Report No.</b>	12
<b>Location</b>	BELMONT, MASSACHUSETTS	<b>Date</b>	28 FEB 2004
<b>Client</b>	TOWN OF BELMONT	<b>Page</b>	2 of 2
<b>Contractor</b>	NATIONAL ENVIRONMENTAL SERVICES, INC. (ENVIRONMENTAL) J.W. FLETT (EARTHWORK)	<b>File No.</b>	30660-000

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5. Collected discrete grab samples from soil stockpiles associated with the tank grave excavation stored within the Burbank School parking lot. The samples were designated UST-STKPL4-S2 and UST-STKPL5-S2. The samples were submitted to Alpha Analytical Laboratories of Westborough, MA for chemical analysis.

**ATTACHMENTS:** 2001 Aerial Photograph Clay Pit Pond

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**Field Representative(s)**

Todd Butler

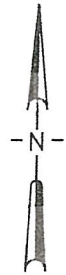
**Dates On-Site**

23, and 27 February 2004


  
Haley & Aldrich, Inc.

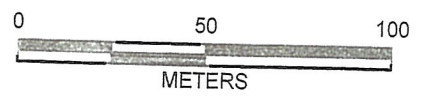
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KEY:

 APPROXIMATE LIMITS OF POWER WASHING AND HAND GRUBBING



30660-000 B06



UNDERGROUND STORAGE TANK OIL RELEASE  
MARY LEE BURBANK SCHOOL  
BELMONT, MASSACHUSETTS

2001 AERIAL PHOTOGRAPH  
CLAY PIT POND

UNDERGROUND  
ENGINEERING &  
ENVIRONMENTAL  
SOLUTIONS

SCALE: AS SHOWN  
DATE: WEEK ENDING  
28 FEB 2004

WFR NO. 12





## WEEKLY FIELD REPORT

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Project	BURBANK SCHOOL OIL RELEASE	Report No.	13
Location	BELMONT, MASSACHUSETTS	Date	13 March 2004
Client	TOWN OF BELMONT	Page	1 of 2
Contractor	NATIONAL ENVIRONMENTAL SERVICES, INC. (ENVIRONMENTAL) J.W. FLETT (EARTHWORK)	File No.	30660-000

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### I. CONTRACTOR'S ACTIVITIES:

#### *Clay Pit Pond*

1. Completed remedial activities by using hand rakes and spades to grub leaf litter, removed impacted brush, and hand excavated impacted soils in areas not accessible to the mini-excavator along the northern, southern, and eastern shorelines. Bagged materials and placed in roll-off containers at the Belmont High School parking lot for future disposal activities. Controlled sheens with the use of absorbent boom and pads. Refer to attached 2001 Aerial Photograph Clay Pit Pond for approximate limits of grubbing and hand excavation.
2. Temporarily stored oil-impacted media (absorbent boom and pads, poly sheeting and bags, PPE) in roll-off containers located at the Belmont High School parking lot for future off-site disposition.
3. Removed all absorbent boom and sea boom from within Clay Pit pond after remedial activities were completed. Bagged materials and placed in roll-off containers at the Belmont High School parking lot for future disposal activities.

#### *Burbank School*

1. Continued to treat water from the OWS and discharged effluent into drain pipe within the Burbank School Driveway. The water treatment system continued to operate under modifications made so that the system recharges itself (i.e.; water is continuously running through the system) in an attempt to keep the system from freezing again. The system will be reset to discharge when temperatures warm up, or before rain events.
2. Continued to pump storm water run-off from the previously plugged DMH up-gradient the impacted area and discharged the water into the 4-in PVC pipe connected to the water treatment system discharge pipe.
3. Using a flat bed truck equipped with a vacuum pump skimmed approximately 100 gals. of oil and water from within drain manhole in the middle of the Burbank School driveway. Transported materials off site under a Hazardous Waste Manifest.

### II. FIELD REPRESENTATIVE'S ACTIVITIES:

1. Observed the activities noted above on a part-time basis.
2. Spoke with Mr. Joel Mooney (H&A) and Sean Sullivan (NESI) to discuss response action activities and scheduling.
3. Collected confirmatory samples along the shore line of Clay Pit pond after remedial activities were completed. Samples were submitted to Alpha Analytical Laboratories of Westborough, MA for chemical analysis. Refer to attached 2001 Aerial Photograph Clay Pit Pond for approximate locations of confirmatory samples collected.
4. Noted Mr. Joseph Curro (Belmont Conservation Commission) visited the site on Friday 12 March 2004.



## WEEKLY FIELD REPORT

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<b>Project</b>	BURBANK SCHOOL OIL RELEASE	<b>Report No.</b>	13
<b>Location</b>	BELMONT, MASSACHUSETTS	<b>Date</b>	13 March 2004
<b>Client</b>	TOWN OF BELMONT	<b>Page</b>	2 of 2
<b>Contractor</b>	NATIONAL ENVIRONMENTAL SERVICES, INC. (ENVIRONMENTAL) J.W. FLETT (EARTHWORK)	<b>File No.</b>	30660-000

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**ATTACHMENTS:** 2001 Aerial Photograph Clay Pit Pond

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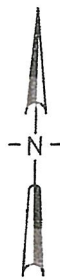
**Field Representative(s)**  
Todd Butler

**Dates On-Site**  
9 - 12 March 2004



Haley & Aldrich, Inc.

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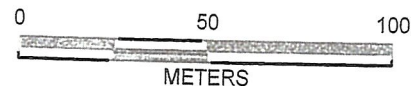





**KEY:**

-  APPROXIMATE AREA OF HAND GRUBBING AND HAND EXCAVATION.
-  APPROXIMATE LOCATION OF CONFIRMATORY SAMPLE COLLECTED

30660-000 B06



	UNDERGROUND STORAGE TANK OIL RELEASE MARY LEE BURBANK SCHOOL BELMONT, MASSACHUSETTS
	2001 AERIAL PHOTOGRAPH CLAY PIT POND Week Ending DATE: 13 March 2004
UNDERGROUND ENGINEERING & ENVIRONMENTAL SOLUTIONS	SCALE: AS SHOWN





## WEEKLY FIELD REPORT

<b>Project</b>	BURBANK SCHOOL OIL RELEASE	<b>Report No.</b>	14
<b>Location</b>	BELMONT, MASSACHUSETTS	<b>Date</b>	20 March 2004
<b>Client</b>	TOWN OF BELMONT	<b>Page</b>	1 of 1
<b>Contractor</b>	NATIONAL ENVIRONMENTAL SERVICES, INC. (ENVIRONMENTAL) J.W. FLETT (EARTHWORK)	<b>File No.</b>	30660-000

### I. CONTRACTOR'S ACTIVITIES:

#### *Clay Pit Pond*

1. No Activities.

#### *Burbank School*

1. Continued to treat water from the OWS and discharged effluent into drain pipe within the Burbank School Driveway. The water treatment system continued to operate under modifications made so that the system recharges itself (i.e.; water is continuously running through the system) in an attempt to keep the system from freezing again. The system will be reset to discharge when temperatures warm up, or before rain events.
2. Continued to pump storm water run-off from the previously plugged DMH up-gradient the impacted area and discharged the water into the 4-in PVC pipe connected to the water treatment system discharge pipe.

### II. FIELD REPRESENTATIVE'S ACTIVITIES:

1. Observed the activities noted above on a part-time basis.
2. Collected two discrete grab samples from stockpiles of soil stored within the parking lot of the Burbank School. Samples were designated UST-STKPL4-S3 and UST-STKPL5-S3, and were submitted to Alpha Analytical Laboratories of Westborough, MA for chemical analysis.
3. Laid out approximate locations of impacted drain pipes previously uncovered during tank grave excavation, and approximate locations where visual contamination was left behind during tank grave excavations.

**ATTACHMENTS:** None

Field Representative(s)  
Todd Butler

Dates On-Site  
16 March 2004

  
Haley & Aldrich, Inc.



## WEEKLY FIELD REPORT

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Project	BURBANK SCHOOL OIL RELEASE	Report No.	15
Location	BELMONT, MASSACHUSETTS	Date	27 March 2004
Client	TOWN OF BELMONT	Page	1 of 2
Contractor	NATIONAL ENVIRONMENTAL SERVICES, INC. (ENVIRONMENTAL) J.W. FLETT (EARTHWORK)	File No.	30660-000

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### I. CONTRACTOR'S ACTIVITIES:

#### *Clay Pit Pond*

1. No Activities.

#### *Burbank School*

1. Continued to treat water from the OWS and discharged effluent into drain pipe within the Burbank School Driveway. The water treatment system continued to operate under modifications made so that the system recharges itself (i.e.; water is continuously running through the system) in an attempt to keep the system from freezing again. The system will be reset to discharge when temperatures warm up, or before rain events.
2. Continued to pump storm water run-off from the previously plugged DMH up-gradient the impacted area and discharged the water into the 4-in PVC pipe connected to the water treatment system discharge pipe
3. Using a vacuum truck skimmed oil from within the drain manhole within the midpoint of the School's driveway.
4. Using a Caterpillar 315B Excavator equipped with a hoe ram broke up and removed concrete walkways and asphalt pavement within the parking lot in areas of planned excavation to remove residual contamination left behind during the initial tank grave excavation and within site drainage. Transported these non-impacted ABC materials off site to Flett yard located within the Mount Auburn Cemetery in Watertown, MA for future disposal activities.
5. Using a Caterpillar 315B excavator, excavated under the overhang of the North entrance to the Burbank School removing residual contamination left in place during initial tank grave excavation, removing impacted 6-in. PVC drain and 6-in. clay pipe. The contractor installed a new 6-in. PVC drain pipe connecting to existing un-impacted under drain system to be connected to drain manhole within the driveway of the School. Controlled any liquid product encountered with the use of a vacuum truck. Partially backfilled excavation with previously removed un-impacted overburden materials. Refer to attached site sketch for approximate limits of work, and location of new underdrain pipe.
6. Using a Caterpillar 315B excavator excavated on the west side of the tank grave along the north side the School removing residual contamination left behind during initial tank grave excavation. Backfilled excavation with previously removed un-impacted overburden materials. Refer to attached site sketch for approximate limits of work.
7. Using a Caterpillar 315B excavator excavated around and removed the catch basin and out let pipe within the side walk in front of the north entrance to the School. Excavated overburden un-impacted materials and stockpiled for reuse on site. Excavated impacted bedding materials, cleaned catch basin, and then reinstalled the catch basin and partially backfilled the excavation with previously removed un-impacted soils. Refer to attached site sketch for approximate limits of work.



## WEEKLY FIELD REPORT

<b>Project</b>	BURBANK SCHOOL OIL RELEASE	<b>Report No.</b>	15
<b>Location</b>	BELMONT, MASSACHUSETTS	<b>Date</b>	27 March 2004
<b>Client</b>	TOWN OF BELMONT	<b>Page</b>	2 of 2
<b>Contractor</b>	NATIONAL ENVIRONMENTAL SERVICES, INC. (ENVIRONMENTAL) J.W. FLETT (EARTHWORK)	<b>File No.</b>	30660-000

### II. FIELD REPRESENTATIVE'S ACTIVITIES:

1. Observed the activities noted above.
2. Collected a composite sample from stockpile of soil generated from remedial activities on the north side of the Burbank School. Sample was designated UST-STKPL6-S1 and was submitted to Alpha Analytical Laboratories of Westborough, MA for chemical analysis.
3. Using a PetroFLAG field kit screened sidewall and bottom confirmatory samples to delineate limits of contamination. Confirmatory samples collected that the field screening indicated "clean" results were submitted to Alpha Analytical Laboratories Westborough, MA. for chemical analysis. Refer to attached Table Summary of Soil Field Screening with PetroFLAG Kit for PetroFLAG field screening results. Refer to attached Site Sketch for approximate sample locations.
4. Spoke with Mr. Joel Mooney (H&A), Mr. Sean Sullivan (NESI), and Mr. Ryan Paquette (Flett) to discuss response action activities and scheduling.
5. On 21 March 2004 spoke with Mr. Richard Zacarelli (Belmont Light Dept.) via telephone concerning acceptable backfill materials under and around site electrical and communications duct banks. Mr. Zacarelli indicated that on-site materials would be acceptable for backfill materials.

**ATTACHMENTS:** Site Sketch  
PetroFLAG Summary

**Field Representative(s)**  
Todd Butler

**Dates On-Site**  
22-26 March 2004

  
Haley & Aldrich Inc.

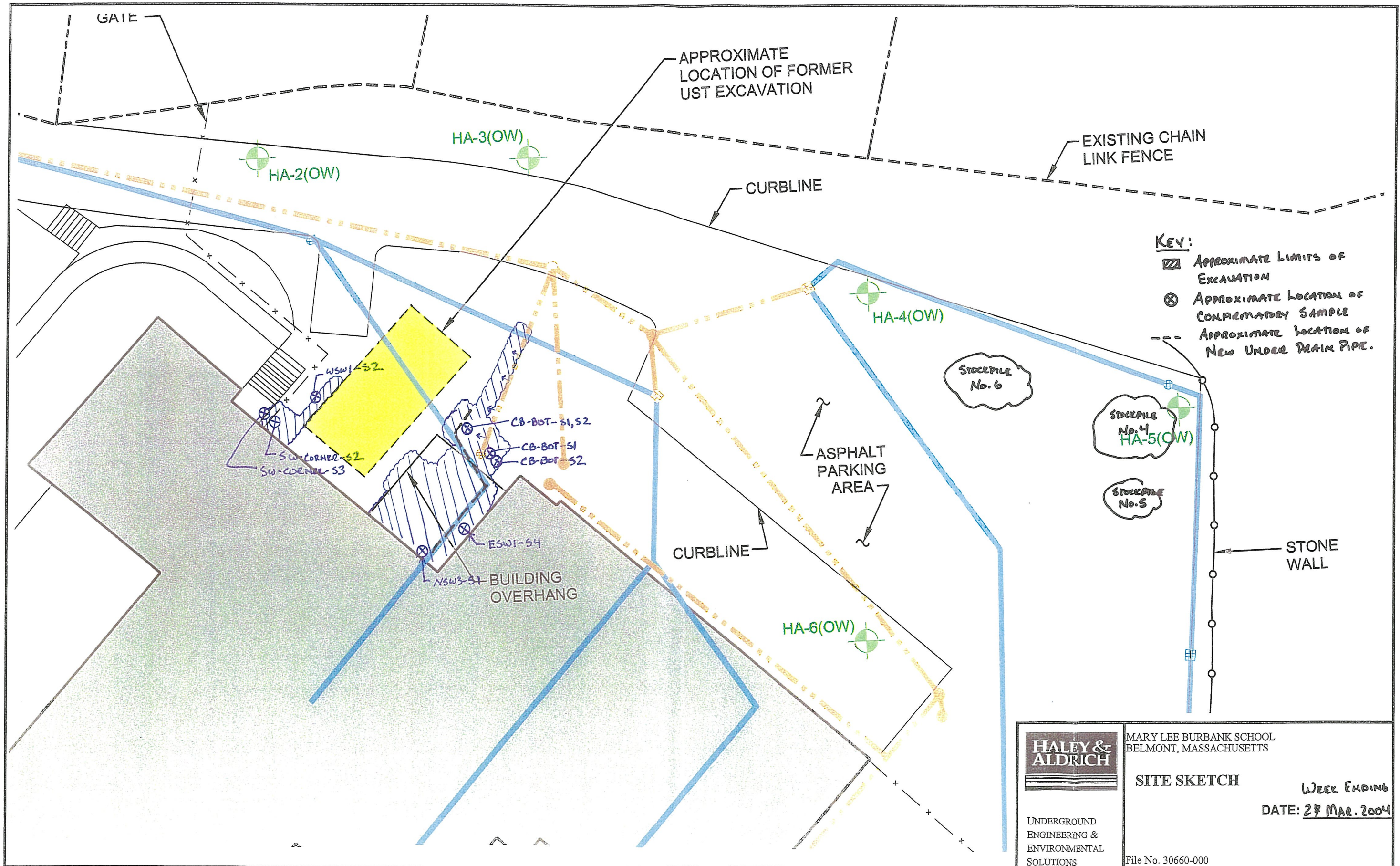


OIL RELEASE  
 MARY LEE BURBANK SCHOOL  
 BELMONT, MASSACHUSETTS  
 FILE NO. 30660-000

SUMMARY OF PetroFLAG KIT SOIL FIELD SCREENING RESULTS

DATE	TIME COLLECTED	SAMPLE I.D.	DEPTH (FT)	READING (ppm)	CONFIRMATORY SAMPLE (Y/N)
23-Mar-04	925	ESW1-S4	7	0	Y
23-Mar-04	1120	SSW3-S1	7	0	Y
24-Mar-04	1000	WSW1-S2	6-12	0	Y
25-Mar-04	800	SW-CORNER-S2	10-12	13	N
25-Mar-04	830	SW-CORNER-S3	11	0	Y
25-Mar-04	1330	CB-BOT-S1	8	39	N
25-Mar-04	1315	CB-ESW-S1	6-8	31	N
25-Mar-04	1405	CB-BOT-S2	9	0	Y
25-Mar-04	1410	CB-ESW-S2	6-8	0	Y

WFL #15



<p><b>HALEY &amp; ALDRICH</b></p> <p>UNDERGROUND ENGINEERING &amp; ENVIRONMENTAL SOLUTIONS</p>	<p>MARY LEE BURBANK SCHOOL BELMONT, MASSACHUSETTS</p>
	<p><b>SITE SKETCH</b></p> <p>WEEK ENDING DATE: <u>27 MAR. 2004</u></p> <p>File No. 30660-000</p>





## WEEKLY FIELD REPORT

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Project	BURBANK SCHOOL OIL RELEASE	Report No.	16
Location	BELMONT, MASSACHUSETTS	Date	3 April 2004
Client	TOWN OF BELMONT	Page	1 of 2
Contractor	NATIONAL ENVIRONMENTAL SERVICES, INC. (ENVIRONMENTAL) J.W. FLETT (EARTHWORK)	File No.	30660-000

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### I. CONTRACTOR'S ACTIVITIES:

#### *Clay Pit Pond*

1. No Activities.

#### *Burbank School*

1. Continued to treat water from the OWS and discharged effluent into drain pipe within the Burbank School driveway. The water treatment system continued to operate under modifications made so that the system recharges itself (i.e.; water is continuously running through the system) in an attempt to keep the system from freezing again. The system will be reset to discharge when temperatures warm up, or before rain events.
2. Continued to pump storm water run-off from the previously plugged DMH up-gradient of the impacted area and discharged the water into the 4-in PVC pipe connected to the water treatment system discharge pipe
3. Using a Caterpillar 315B excavator, excavated catch basin and outlet pipe within the sidewalk in front of the north entrance to the School. Excavated overburden un-impacted materials and stockpiled for reuse on-site. Excavated impacted bedding materials and partially backfilled the excavation with previously removed un-impacted soils. Controlled any encountered liquid product with a vacuum truck. Refer to attached site sketch for approximate limits of work.
4. Using a Caterpillar 315B excavator, excavated along the alignment of the 6-in PVC pipe previously observed within the west wall of the tank grave from the west side of the tank grave to an abandoned catch basin filled in with soil located within the parking area on the north side of the School. Excavated overburden un-impacted soils and stockpiled for reuse. Removed impacted pipe and associated impacted soils. Controlled any encountered liquid product with a vacuum truck. Observed an impacted 8-in. clay pipe within the south wall of excavation. Backfilled excavation with previously removed un-impacted soils. Remove 6-in. PVC pipe and associated impacted soils. Refer to attached site sketch for approximate limits of work.
5. Using a Caterpillar 315B excavator, excavated along the alignment of the 8-in Clay pipe previously observed within the west wall of the tank grave from the west side of the tank grave to an abandoned catch basin filled in with soil located within the parking area on the north side of the School. Excavated overburden un-impacted soils and stockpiled for reuse. Removed 8-in. Clay pipe and associated impacted soils. Controlled any encountered liquid product with a vacuum truck. Backfilled excavation with previously removed un-impacted soils. Refer to attached site sketch for approximate limits of work.
6. Using a Caterpillar 315B excavator, excavated along the alignment of the 8-in Clay pipe previously observed within the south wall of the 6-in. PVC pipe from the abandoned catch basin filled in with soil located within the parking area on the north side of the School to the west side of the tank grave excavation. Excavated overburden un-impacted soils and stockpiled for reuse. Removed 8-in. Clay pipe and associated impacted soils. Controlled any encountered liquid product with a vacuum truck. Backfilled excavation with previously removed un-impacted soils. Refer to attached site sketch for approximate limits of work.



## WEEKLY FIELD REPORT

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<b>Project</b>	BURBANK SCHOOL OIL RELEASE	<b>Report No.</b>	16
<b>Location</b>	BELMONT, MASSACHUSETTS	<b>Date</b>	3 April 2004
<b>Client</b>	TOWN OF BELMONT	<b>Page</b>	2 of 2
<b>Contractor</b>	NATIONAL ENVIRONMENTAL SERVICES, INC. (ENVIRONMENTAL) J.W. FLETT (EARTHWORK)	<b>File No.</b>	30660-000

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7. Using a Caterpillar 315B excavator, removed abandoned catch basin and associated impacted soils. Controlled any encountered liquid product with a vacuum truck. An impacted outlet pipe was observed on the west side wall of the excavation. The pipe location was marked with poly sheeting, for future remedial activities. Refer to attached site sketch for approximate limits of work.
8. Using a heated pressure washer washed abandoned drain line between existing catch basin within the parking area of the school and the excavation for the removal of the impacted 12-in. clay pipe. After the pipe was washed it was plugged at either end with mortar. Refer to attached site sketch for limits of abandoned pipe washed.

### II. FIELD REPRESENTATIVE'S ACTIVITIES:

1. Observed the activities noted above.
2. On Wednesday, 31 March 2004 collected influent and effluent water samples from the water treatment system. Samples were designated OWS-INF-S7 and OWS-EFF-S7 and were submitted to Alpha Analytical Laboratories of Westborough, Massachusetts for chemical analysis.
3. Using a PetroFLAG field kit screened sidewall and bottom confirmatory samples to delineate limits of contamination. Confirmatory samples collected that the field screening indicated "clean" results were submitted to Alpha Analytical Laboratories Westborough, MA. for chemical analysis. Refer to attached Table Summary of Soil Field Screening with PertoFLAG Kit for PetroFLAG field screening results. Refer to attached Site Sketch for approximate sample locations.
4. Spoke with Mr. Joel Mooney (H&A), Mr. Sean Sullivan (NESI), and Mr. Ryan Paquette (Flett) to discuss response action activities and scheduling.

**ATTACHMENTS:** Site Sketch  
PetroFLAG Summary

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**Field Representative(s)**

Todd Butler

**Dates On-Site**

29-31 March 2004, and 3  
April 2004

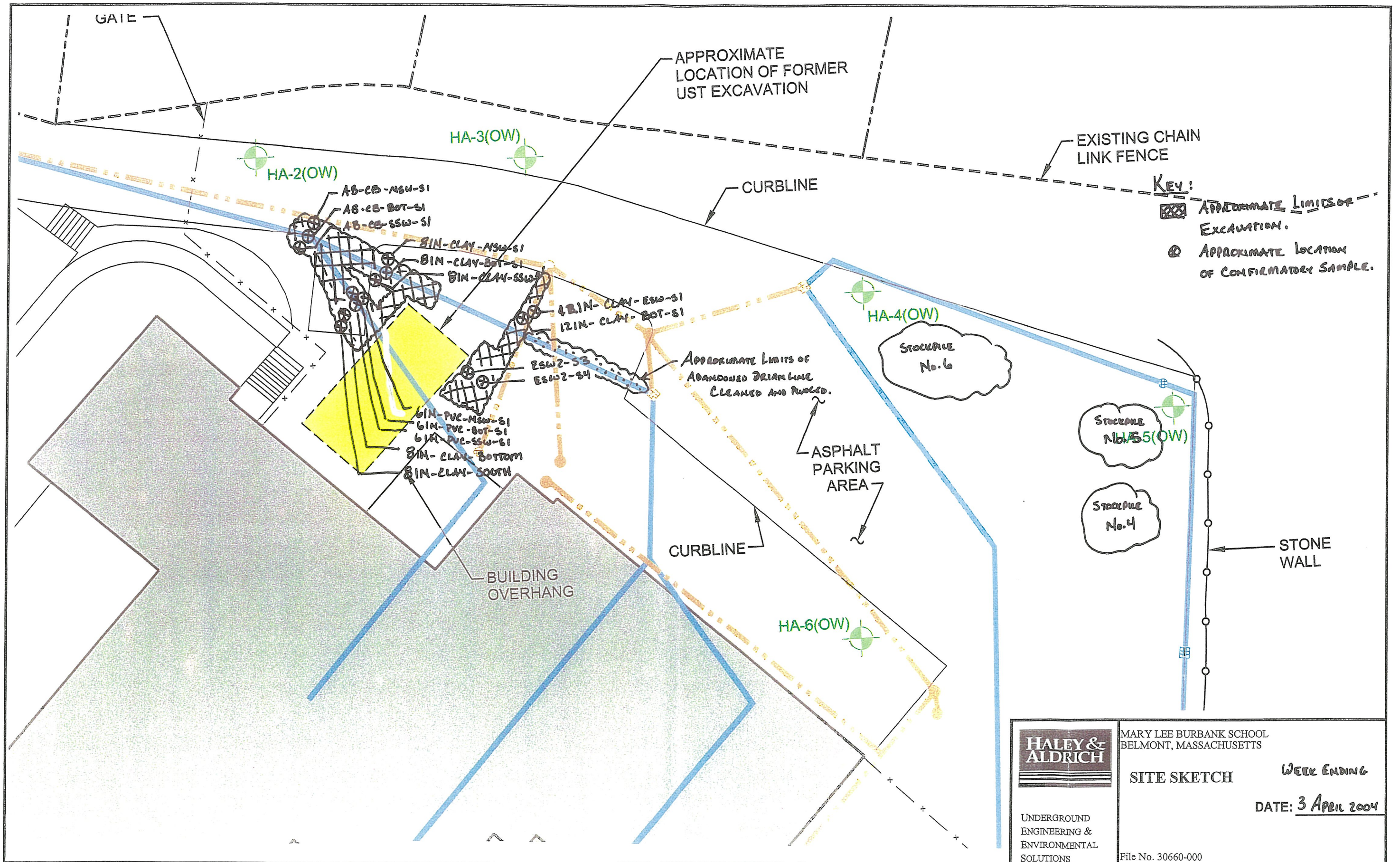
OIL RELEASE  
 MARY LEE BURBANK SCHOOL  
 BELMONT, MASSACHUSETTS  
 FILE NO. 30660-000

SUMMARY OF PetroFLAG KIT SOIL FIELD SCREENING RESULTS

DATE	TIME COLLECTED	SAMPLE I.D.	DEPTH (FT)	READING (ppm)	CONFIRMATORY SAMPLE (Y/N)
29-Mar-04	745	12-IN-CLAY-BOT-S1	7	0	Y
29-Mar-04	750	12-IN-CLAY-ESW-S1	4-6	0	Y
29-Mar-04	1205	ESW2-S3	6-12	7	N
29-Mar-04	1240	ESW2-S4	6-12	0	Y
30-Mar-04	1052	6IN-PVC-BOT-S1	8	0	Y
30-Mar-04	1058	6IN-PVC-SSW-S1	6-8	0	Y
30-Mar-04	1055	6IN-PVC-NSW-S1	6-8	0	Y
30-Mar-04	1045	WSW2-S3	6-12	0	Y
30-Mar-04	1348	8IN-CLAY-BOT-S1	8	0	Y
30-Mar-04	1357	8IN-CLAY-SSW-S1	6-8	1	N
30-Mar-04	1352	8IN-CLAY-NSW-S1	6-8	0	Y
30-Mar-04	1428	8IN-CLAY-SSW-S2	6-8	0	Y

WFR #16





<p><b>HALEY &amp; ALDRICH</b></p> <p>UNDERGROUND ENGINEERING &amp; ENVIRONMENTAL SOLUTIONS</p>	<p>MARY LEE BURBANK SCHOOL BELMONT, MASSACHUSETTS</p>
	<p><b>SITE SKETCH</b></p> <p>WEEK ENDING DATE: <u>3 April 2004</u></p> <p>File No. 30660-000</p>





## WEEKLY FIELD REPORT

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Project	BURBANK SCHOOL OIL RELEASE	Report No.	17
Location	BELMONT, MASSACHUSETTS	Date	10 April 2004
Client	TOWN OF BELMONT	Page	1 of 2
Contractor	NATIONAL ENVIRONMENTAL SERVICES, INC. (ENVIRONMENTAL) J.W. FLETT (EARTHWORK)	File No.	30660-000

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### I. CONTRACTOR'S ACTIVITIES:

#### *Clay Pit Pond*

1. No Activities.

#### *Burbank School*

1. Continued to treat water from the OWS and discharged effluent into drain pipe within the Burbank School driveway. The water treatment system continued to operate under modifications made so that the system recharges itself (i.e.; water is continuously running through the system) in an attempt to keep the system from freezing again. The system will be reset to discharge when temperatures warm up, or before rain events.
2. Continued to pump storm water run-off from the previously plugged DMH up-gradient the impacted area and discharged the water into the 4-in PVC pipe connected to the water treatment system discharge pipe
3. Using a Caterpillar 315B excavator excavated around Drain Manhole (DMH) within the driveway of the school in front of the north entrance and along the 12-in. concrete pipe alignment upgradient and downgradient of the DMH. Excavated and removed 8-in. clay outlet pipe of abandoned catch basin within the same excavation when encountered. Excavated overburden un-impacted materials and stockpiled for reuse. Removed DMH and cleaned it, removed 12-in. concrete pipe and excavated impacted pipe bedding. Controlled any encountered liquid product with a vacuum truck. Reinstalled DMH and installed new 12-in. PVC drain pipe. Backfilled excavation with previously removed un-impacted soils and imported processed gravel. Refer to attached site sketch for approximate limits of work.
4. Connected 6-in. PVC under drain pipe, and 8-in. PVC outlet pipe of catch basin to DMH within the driveway of the Burbank School. Backfilled excavation with previously removed un-impacted materials and imported processed gravel. Refer to attached site sketch for approximate limits of work.
5. Imported five (5) 18-wheel (approx. 20 cyds. ea), three (3) 10-wheel (approx. 15 cyds ea.), and one (1) 6-wheel (approx. 10 cyds. ea.) loads of processed gravel from West Roxbury Quarry, West Roxbury, MA for use as backfil.
6. Using a Caterpillar 980G pay-loader loaded trucks with stockpiled Group II-1 (In-State Unlined Landfill) soils associated with soil samples UST-STKPL4-S2, S3, and UST-STKPL5-S2, S3. Transported 7 18-wheel (approx. 20 cyds. ea.) of material off site to the Concord Avenue Landfill in Belmont, MA. Refer to attached trucking summary for soils transported off site to date.

### II. FIELD REPRESENTATIVE'S ACTIVITIES:

1. Observed the activities noted above.



## WEEKLY FIELD REPORT

<b>Project</b>	BURBANK SCHOOL OIL RELEASE	<b>Report No.</b>	17
<b>Location</b>	BELMONT, MASSACHUSETTS	<b>Date</b>	10 April 2004
<b>Client</b>	TOWN OF BELMONT	<b>Page</b>	2 of 2
<b>Contractor</b>	NATIONAL ENVIRONMENTAL SERVICES, INC. (ENVIRONMENTAL) J.W. FLETT (EARTHWORK)	<b>File No.</b>	30660-000

2. Using a PetroFLAG field kit screened sidewall and bottom confirmatory samples to delineate limits of contamination. Confirmatory samples collected that the field screening indicated "clean" results were submitted to Alpha Analytical Laboratories Westborough, MA. for chemical analysis. Refer to attached Table Summary of Soil Field Screening with PertoFLAG Kit for PetroFLAG field screening results. Refer to attached Site Sketch for approximate sample locations.
3. Spoke with Mr. Joel Mooney (H&A), Mr. Sean Sullivan (NESI), and Mr. Ryan Paquette (Flett) to discuss response action activities and scheduling.
4. Collected discrete grab samples of Stockpile No. 6 for TPH analysis. Samples were designated UST-STKPL6-S2, S3, S4, and S5. Samples were submitted to Alpha Analytical Laboratories Westborough, MA for chemical analysis.
5. Collected a composite sample of the west end of Stockpile No. 6 for disposal characterization. The sample was designated UST-STKPL6-S6 and was submitted to Alpha Analytical Laboratories Westborough, MA for chemical analysis.
6. Noted Mr. Ara Yogurtian (Town of Belmont Building Inspector/ Field Engineer) periodically stopped by the site to take measurements to new drainage installed.

**ATTACHMENTS:** Site Sketch  
PetroFLAG Summary  
Trucking Summary

**Field Representative(s)**

Todd Butler  
Michael Cronan

**Dates On-Site**

5-8 April 2004  
9 April 2004

  
Haley & Aldrich, Inc.



OIL RELEASE  
 MARY LEE BURBANK SCHOOL  
 BELMONT, MASSACHUSETTS  
 FILE NO. 30660-000

SUMMARY OF PetroFLAG KIT SOIL FIELD SCREENING RESULTS

DATE	TIME COLLECTED	SAMPLE I.D.	DEPTH (FT)	READING (ppm)	CONFIRMATORY SAMPLE (Y/N)
6-Apr-04	955	12IN-CONC-NSW1-S1	4-6	11	N
6-Apr-04	945	12IN-CONC-SSW1-S1	4-6	19	N
6-Apr-04	1045	12IN-CONC-SSW1-S2	4-6	30	N
6-Apr-04	1042	12IN-CONC-BOT1-S1	4-6	19	N
6-Apr-04	1040	12IN-CONC-NSW1-S2	4-6	31	N
6-Apr-04	1052	DMH-NSW-S1	6-8	22	N
6-Apr-04	1050	DMH-BOT-S1	8	29	N
6-Apr-04	1147	12IN-CONC-BOT1-S2	6.5	25	N
6-Apr-04	1149	12IN-CONC-SSW1-S3	4-6.5	31	N
6-Apr-04	1154	DMH-BOT-S2	8.5	48	N
6-Apr-04	1151	DMH-NSW-S2	6-8.5	65	N
6-Apr-04	1144	12IN-CONC-NSW1-S3	4-6.5	30	N
6-Apr-04	1308	12IN-CONC-NSW1-S4	4-8	0	Y
6-Apr-04	1310	12IN-CONC-BOT1-S3	8	0	Y
6-Apr-04	1312	12IN-CONC-SSW1-S4	4-8	0	Y
6-Apr-04	1315	DMH-NSW-S3	6-10	0	Y
6-Apr-04	1317	DMH-BOT-S3	10	0	Y
7-Apr-04	840	CB-BOT-S3	10	0	Y
7-Apr-04	845	CB-ESW-S3	6-8	0	Y
7-Apr-04	1309	12IN-CONC-SSW2-S1	8-9	10	N
7-Apr-04	1307	12IN-CONC-BOT2-S1	9	15	N
7-Apr-04	1310	12IN-CONC-NSW2-S1	8-9	29	N
7-Apr-04	1340	12IN-CONC-SSW2-S2	8-10	0	Y
7-Apr-04	1343	12IN-CONC-BOT2-S2	10	0	Y
7-Apr-04	1346	12IN-CONC-NSW2-S2	8-10	0	Y
8-Apr-04	930	8IN-CLAY-SOUTH-S2	6-8	0	Y
8-Apr-04	1035	12IN-CONC-NSW3-S1	7-9	15	N
8-Apr-04	1037	12IN-CONC-BOT3-S1	9	5	N
8-Apr-04	1040	12IN-CONC-SSW3-S1	7-9	8	N
8-Apr-04	1205	12IN-CONC-NSW3-S2	7-10	0	Y
8-Apr-04	1207	12IN-CONC-BOT3-S2	10	0	Y
8-Apr-04	1208	12IN-CONC-SSW3-S2	7-10	0	Y
9-Apr-04	-	12IN-CONC-NSW4-S1	6-8	46	N
9-Apr-04	-	12IN-CONC-BOT4-S1	8	38	N
9-Apr-04	947	12IN-CONC-NSW4-S2	-	60	N
9-Apr-04	947	12IN-CONC-BOT4-S2	-	40	N
9-Apr-04	1310	12IN-CONC-NSW4-S3	-	29	Y
9-Apr-04	1310	12IN-CONC-BOT4-S3	-	25	Y
9-Apr-04	1345	BACKGROUND	3-4	12	N

WFR #17



## SUMMARY OF EXPORTED SOILS

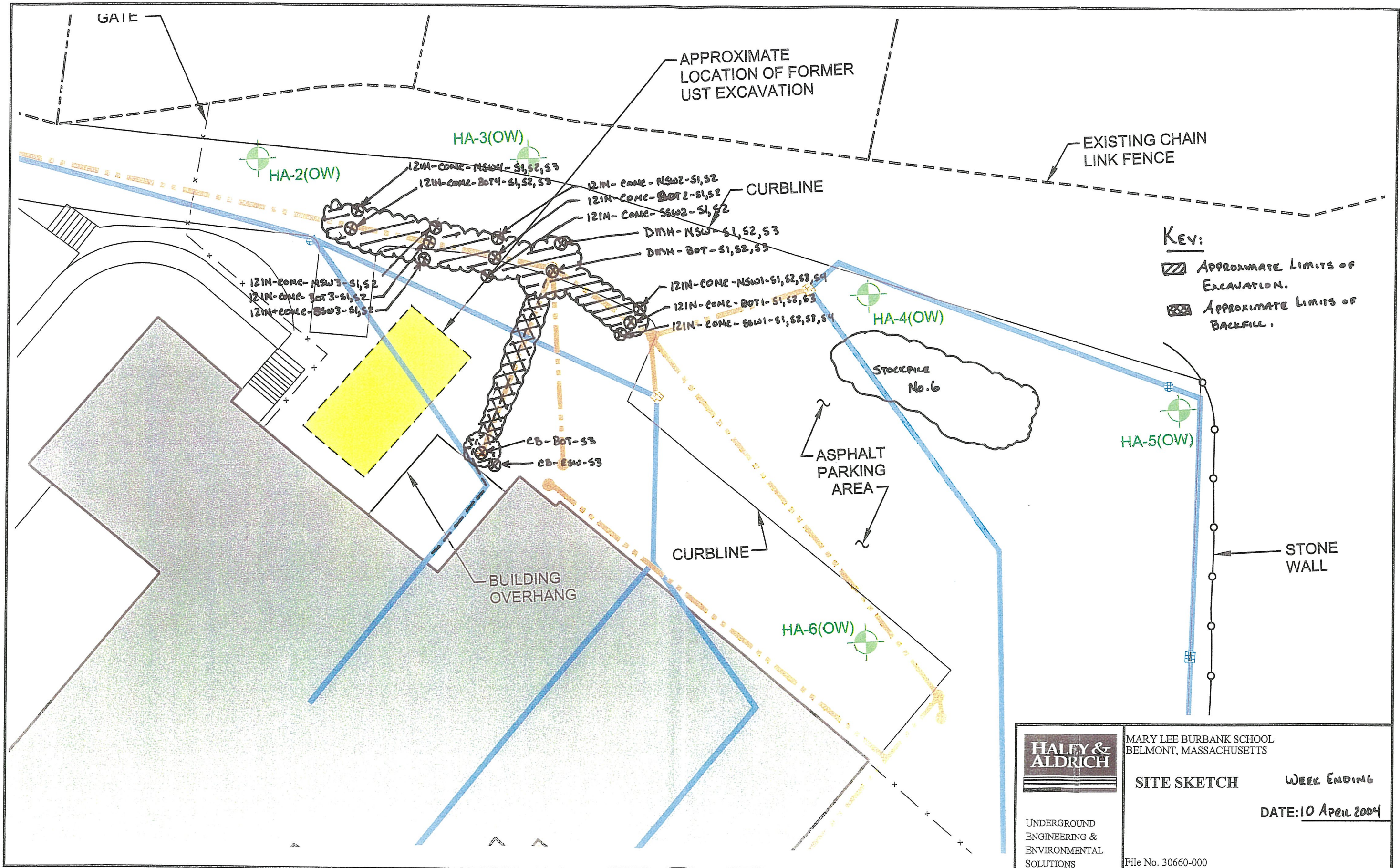
**Project:** Mary Lee Burbank School  
**Location:** Belmont, Massachusetts  
**File No.:** 30660-000  
**Week Ending:** 04/10/04  
**WFR No.:** 17

CATEGORY	RECEIVING FACILITY	Week Total (cyds)	Previous Total (cyds)	New Total (cyds)	BOLMSR Approved Quantity (cyds)
GROUP II-3: In-State Lined Landfill, Recycling or Thermal Treatment	Aggregate Industries Stoughton, Massachusetts	0	419	419	800
GROUP I-V: Solid Waste (Oil impacted Concrete)	Aggregate Recycling Corporation (ARC) Elliot, Maine	0	20	20	100
GROUP II-I: In-State Unlined Landfill	Concord Avenue Landfill Belmont, Massachusetts	140	0	140	300
		<b>Totals:</b>	<b>439</b>	<b>579</b>	<b>1,200</b>

- Notes:
- 1) 18 wheel truck = 20 cubic yards
  - 2) Tri-axle truck = 17 cubic yards
  - 3) 10 wheel truck = 15 cubic yards
  - 4) Roll-off Container = 15 cubic yards
  - 5) Reported quantity estimated by Haley & Aldrich, Inc., final approved quantity based on weight slips.

WFR #17





**Key:**  
 [Hatched Box] APPROXIMATE LIMITS OF EXCAVATION.  
 [Cross-hatched Box] APPROXIMATE LIMITS OF BACKFILL.

	MARY LEE BURBANK SCHOOL BELMONT, MASSACHUSETTS
	SITE SKETCH
UNDERGROUND ENGINEERING & ENVIRONMENTAL SOLUTIONS	WEEK ENDING DATE: 10 April 2004
File No. 30660-000	





## WEEKLY FIELD REPORT

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Project	BURBANK SCHOOL OIL RELEASE	Report No.	18
Location	BELMONT, MASSACHUSETTS	Date	17 April 2004
Client	TOWN OF BELMONT	Page	1 of 2
Contractor	NATIONAL ENVIRONMENTAL SERVICES, INC. (ENVIRONMENTAL) J.W. FLETT (EARTHWORK)	File No.	30660-000

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### I. CONTRACTOR'S ACTIVITIES:

#### *Clay Pit Pond*

1. No Activities.

#### *Burbank School*

1. Continued to treat water from the OWS and discharged effluent into drain pipe within the Burbank School Driveway until 15 April 2004. Decommissioned the water treatment system on 15 April 2004 and removed from the site, since remediation activities were completed and the OWS was disconnected from the sites drainage.
2. Continued to pump storm water run-off from the previously plugged DMH up-gradient the impacted area and discharged the water into the 4-in PVC pipe connected to the water treatment system discharge pipe until 15 April 2004. Removed water diversion system after remedial activities were completed, and the OWS was disconnected from the sites drainage, and the site's drainage was reconnected to the Town's storm water drain system.
3. Using a Caterpillar 315B excavator completed excavation of impacted materials along the 12-in. concrete pipe alignment, and completed removal of the 8-in. clay out let pipe of abandoned catch basin. Excavated overburden un-impacted materials and stockpiled for reuse. Removed 12-in. concrete pipe, 8-in. clay pipe, and excavated impacted pipe bedding. Controlled any encountered liquid product with a vacuum truck. Reinstalled installed new 12-in. PVC drain pipe. Backfilled excavation with previously removed un-impacted soils and imported processed gravel. Refer to attached site sketch for approximate limits of work. This work was completed by 13 April 2004.
4. Using a Caterpillar 980G pay-loader loaded trucks with stockpiled Group II-1 (In-State Unlined Landfill) soils associated with soil samples UST-STKPL4-S2, S3, and UST-STKPL5-S2, S3. Transported 7 18-wheel (approx. 20 cyds. ea.) of material off site to the Concord Avenue Landfill Belmont, MA. Refer to attached trucking summary for soils transported off site to date.
5. Using a Caterpillar 980G pay-loader loaded trucks with stockpiled Group II-3 (In-State Recycling) from stockpiles 4, 5, and 6. Transported 20 18-wheel (approx. 20 cyds. ea.) of material off site to the Aggregate Industries Stoughton, MA. Refer to attached trucking summary for soils transported off site to date.
6. Using a Caterpillar 315B excavator reconnected the sites drainage system to the Town's storm water drain system after remedial activities on site were completed. Cut and capped all connections to the OWS. OWS chamber remains underground.
7. Demobilized water treatment system from the site on 15 April 2004.
8. Using a heated pressure washer cleaned the inside of the OWS. Collected approximately 325 gals. of washdown water with a vacuum Truck.



## WEEKLY FIELD REPORT

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Project	BURBANK SCHOOL OIL RELEASE	Report No.	18
Location	BELMONT, MASSACHUSETTS	Date	17 April 2004
Client	TOWN OF BELMONT	Page	2 of 2
Contractor	NATIONAL ENVIRONMENTAL SERVICES, INC. (ENVIRONMENTAL) J.W. FLETT (EARTHWORK)	File No.	30660-000

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### II. FIELD REPRESENTATIVE'S ACTIVITIES:

1. Observed the activities noted above.
2. Using a PetroFLAG field kit screened sidewall and bottom confirmatory samples to delineate limits of contamination. Confirmatory samples collected that the field screening indicated "clean" results were submitted to Alpha Analytical Laboratories Westborough, MA. for chemical analysis. Refer to attached Table Summary of Soil Field Screening with PertoFLAG Kit for PetroFLAG field screening results. Refer to attached Site Sketch for approximate sample locations.
3. Spoke with Mr. Joel Mooney (H&A), Mr. Sean Sullivan (NESI), Luke Macdonald (Charter Environmental), and Mr. Ryan Paquette (Flett) to discuss response action activities and scheduling.

ATTACHMENTS: Site Sketch  
PetroFLAG Summary  
Trucking Summary

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<u>Field Representative(s)</u>	<u>Dates On-Site</u>
Todd Butler	13-16 April 2004
Michael Cronan	12 April 2004

  
Haley & Aldrich, Inc.

OIL RELEASE  
 MARY LEE BURBANK SCHOOL  
 BELMONT, MASSACHUSETTS  
 FILE NO. 30660-000

SUMMARY OF PetroFLAG KIT SOIL FIELD SCREENING RESULTS

DATE	TIME COLLECTED	SAMPLE I.D.	DEPTH (FT)	READING (ppm)	CONFIRMATORY SAMPLE (Y/N)
12-Apr-04	942	12IN-CONC-NSW5-S1	6-8	27	Y
12-Apr-04	945	12IN-CONC-BOT5-S1	8	28	Y
12-Apr-04	948	12IN-CONC-SSW5-S1	6-8	23	Y
13-Apr-04	1107	12IN-CONC-BOT6-S1	6	2	Y
13-Apr-04	1109	12IN-CONC-NSW6-S1	4-6	16	N
13-Apr-04	1111	12IN-CONC-WSW6-S1	4-6	20	N
13-Apr-04	1113	12IN-CONC-SSW6-S1	4-6	20	N
13-Apr-04	1150	12IN-CONC-NSW6-S1	4-6	4	Y
13-Apr-04	1152	12IN-CONC-WSW6-S1	4-6	6	Y
13-Apr-04	1154	12IN-CONC-SSW6-S1	4-6	2	Y



## SUMMARY OF EXPORTED SOILS

Project: Mary Lee Burbank School  
 Oil Release  
 Location: Belmont, Massachusetts

File No.: 30660-000  
 Week Ending: 04/17/04  
 WFR No: 18

CATEGORY	RECEIVING FACILITY	Week Total (cyds)	Previous Total (cyds)	New Total (cyds)	BOL/MSR
					Approved Quantity (cyds)
GROUP II-3: In-State Lined Landfill, Recycling or Thermal Treatment	Aggregate Industries Stoughton, Massachusetts	400	419	819	1,200
GROUP I-V: Solid Waste (Oil impacted Concrete)	Aggregate Recycling Corporation (ARC) Elliot, Maine	0	20	20	100
GROUP II-I: In-State Unlined Landfill	Concord Avenue Landfill Belmont, Massachusetts	140	140	280	300
<b>Totals:</b>					<b>1,600</b>

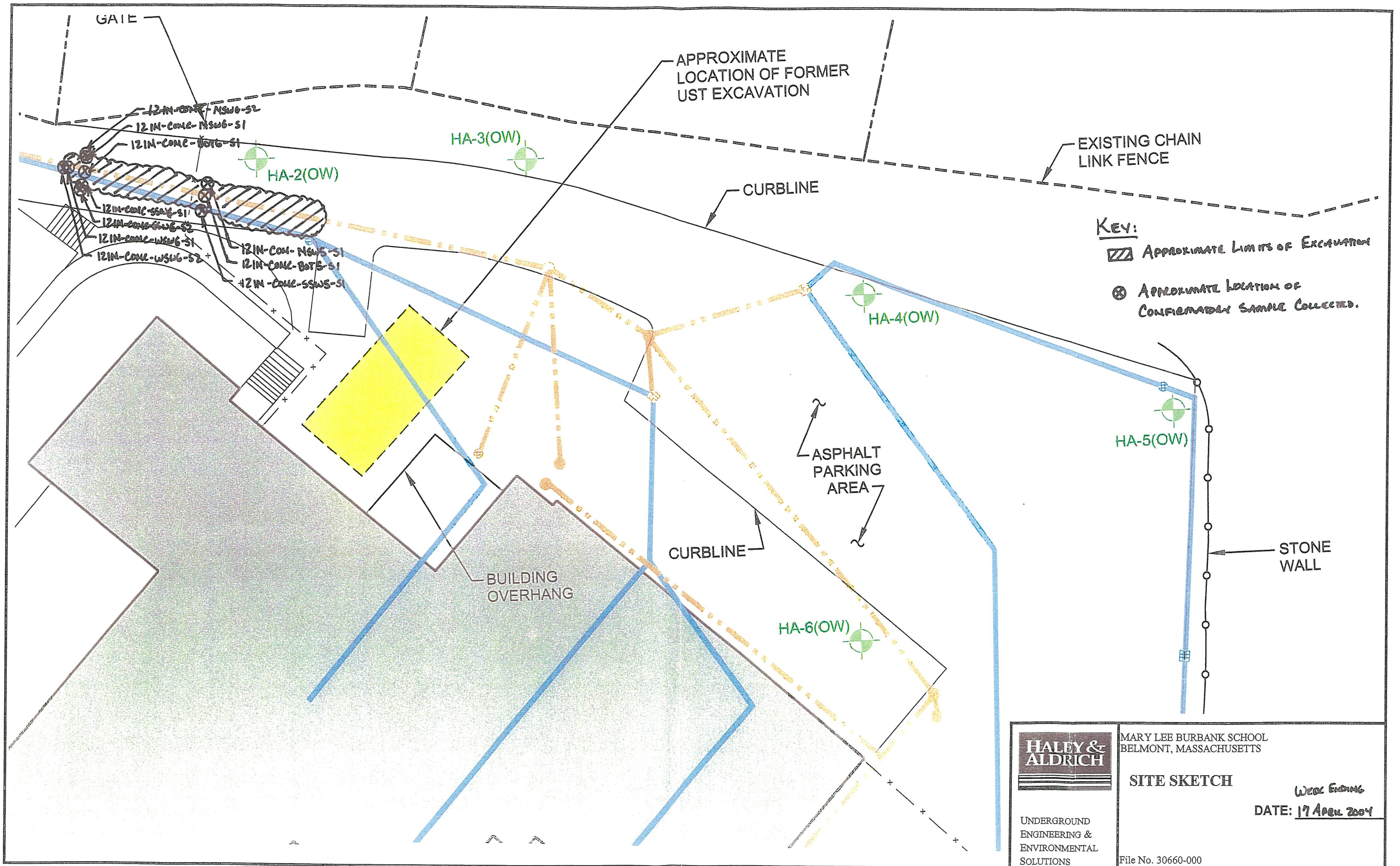
Totals: 540 579 1,119 1,600

**Notes:**

- 1) 18 wheel truck = 20 cubic yards
- 2) Tri-axle truck = 17 cubic yards
- 3) 10 wheel truck = 15 cubic yards
- 4) Roll-off Container = 15 cubic yards
- 5) Reported quantity estimated by Haley & Aldrich, Inc., final approved quantity based on weight slips.

WFR # 18





<p><b>HALCYON &amp; ALDRICH</b></p> <p>UNDERGROUND ENGINEERING &amp; ENVIRONMENTAL SOLUTIONS</p>	<p>MARY LEE BURBANK SCHOOL BELMONT, MASSACHUSETTS</p>
	<p><b>SITE SKETCH</b></p> <p>Week Ending DATE: 17 April 2004</p>
<p>File No. 30660-000</p>	

**RESPONSE ACTION OUTCOME STATEMENT  
UNDERGROUND STORAGE TANK OIL RELEASE  
MARY LEE BURBANK SCHOOL, 266 SCHOOL STREET  
CLAY PIT POND, 221 CONCORD AVENUE  
BELMONT, MASSACHUSETTS  
RTN 3-23441**

**VOLUME II OF II**

**by**

**Haley & Aldrich, Inc.  
Boston, Massachusetts**

**Submitted to**

**Massachusetts Department of Environmental Protection  
Boston, Massachusetts**

**On behalf of**

**Town Of Belmont  
Belmont, Massachusetts**

**File No. 30660-000**

**April 2004**

**HALEY &  
ALDRICH**



# TABLE OF CONTENTS

## VOLUME I

	<b>Page</b>
<b>LIST OF TABLES</b>	<b>iii</b>
<b>LIST OF FIGURES</b>	<b>iii</b>
<b>1. INTRODUCTION</b>	<b>1</b>
1.1 Disposal Site Conditions	1
1.1.1 Mary Lee Burbank School	1
1.1.2 Clay Pit Pond	1
1.2 Description of the Release/Regulatory Interaction	2
1.3 Surrounding Receptors	3
1.3.1 Mary Lee Burbank School	3
1.3.2 Clay Pit Pond	4
1.4 Regulatory Approach	4
1.5 Summary of Response Actions	4
1.5.1 Burbank School	4
1.5.2 Clay Pit Pond	6
1.6 Critical Exposure Pathway Evaluation	7
<b>2. COMBINED METHOD 1 / METHOD 3 RISK CHARACTERIZATION</b>	<b>9</b>
2.1 Summary	9
2.2 General Information	9
2.3 Approach to Risk Characterization for Clay Pit Pond	11
2.4 Clay Pit Pond Hazard Identification	12
2.5 Clay Pit Pond Exposure Assessment	15
2.5.1 General	15
2.5.2 Potential Human Receptors	15
2.5.3 Potential Ecological Receptors	15
2.5.4 Applicable Soil and Groundwater Categories	15
2.5.5 Clay Pit Pond Exposure Point Concentrations	16
2.6 Method 1 Human Health, Public Welfare, and Safety Risk Characterization for Clay Pit Pond	16
2.6.1 Unrestricted Maximum Potential Site Use	16
2.7 Method 3 Ecological Risk Characterization for Clay Pit Pond	17
2.7.1 Environmental Receptors	17
2.7.2 Stage I Environmental Screening	18
2.7.3 Future Site Conditions at Clay Pit Pond	20
2.7.4 Conclusions of Ecological Risk Characterization for Clay Pit Pond	20
2.8 Uncertainty Analysis	20
2.9 Clay Pit Pond Risk Characterization Conclusions	21
<b>3. RESPONSE ACTION OUTCOME STATEMENT</b>	<b>22</b>
3.1 Limits of Disposal Site	22
3.1.1 Mary Lee Burbank School	22
3.1.2 Clay Pit Pond	22
3.2 Need for an Activity and Use Limitation	22

## TABLE OF CONTENTS

(continued)

3.3	Uncontrolled Sources	22
3.4	Operation, Maintenance and Monitoring	23
3.5	Upper Concentration Limits in Soil and Groundwater	23
3.6	Feasibility of Achieving Background	23
	3.6.1 Mary Lee Burbank School	23
	3.6.2 Clay Pit Pond	23
3.7	Conclusions	24
	3.7.1 Burbank School	24
	3.7.2 Clay Pit Pond	24
<b>4.</b>	<b>LSP OPINION</b>	<b>26</b>
<b>5.</b>	<b>LIMITATIONS</b>	<b>27</b>
	<b>REFERENCES</b>	<b>28</b>

### VOLUME I

#### TABLES

#### FIGURES

**APPENDIX A** – Response Action Outcome Statement (BWSC-104) Transmittal Forms

**APPENDIX B** – DEP’s IRA Plan Conditional Approval Letter and Belmont Conservation Commission’s Order of Conditions

**APPENDIX C** – **Weekly Field Reports**

### VOLUME II

**APPENDIX D** – Copies of Laboratory Data Sheets – Soil Samples

**APPENDIX E** – Copies of Laboratory Data Sheets – Groundwater Samples

**APPENDIX F** – Copies of Laboratory Data Sheets – Indoor Air

**APPENDIX G** – Toxicity Profiles

**APPENDIX D**

**Copies of Laboratory Data Sheets – Soil Samples**

ALPHA ANALYTICAL LABORATORIES

Eight Walkup Drive  
Westborough, Massachusetts 01581-1019  
(508) 898-9220 www.alphalab.com

MA:M-MA086 NH:200301-A CT:PH-0574 ME:MA086 RI:65 NY:11148 NJ:MA935 Army:USACE

CERTIFICATE OF ANALYSIS

Client: Haley & Aldrich, Inc. Laboratory Job Number: L0313099  
Address: 465 Medford Street, Suite 2200  
Boston, MA 02129-1400 Date Received: 24-DEC-2003  
Attn: Mr. Steve Provencal Date Reported: 06-JAN-2004  
Project Number: 30660-000 Delivery Method: Alpha  
Site: BURBANK SCHOOL TANK RELEASE

---

ALPHA SAMPLE NUMBER	CLIENT IDENTIFICATION	SAMPLE LOCATION
L0313099-01	UST-STKPL-1	BELMONT, MA

I, the undersigned, attest under the pains and penalties of perjury that, based upon my personal inquiry of those responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

---

Authorized by: Scott McLean  
This document electronically signed

ALPHA ANALYTICAL LABORATORIES  
NARRATIVE REPORT

Laboratory Job Number: L0313099

---

Volatile Organics

L0313099-01 has elevated limits of detection due to the dilutions required by the elevated concentrations of target compounds in the sample.

Semi-Volatile Organics

L0313099-01 has elevated limits of detection due to the dilutions required by the elevated concentrations of target compounds in the sample.

The LCS, MS/MSD% recoveries for 2,4-Dinitrotoluene ( 98%, 121%/111%) are above the acceptance criteria for the method.

TPH-8100M

L0313099-01 was analyzed on a 25x dilution causing the Surrogate to be diluted out.





ALPHA ANALYTICAL LABORATORIES  
CERTIFICATE OF ANALYSIS

Laboratory Sample Number: L0313099-01  
UST-STKPL-1

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Volatile Organics 8260 via High 5035 continued				1 8260B	0105 12:33		BS
1,1,2,2-Tetrachloroethane	ND	ug/kg	280				
Benzene	ND	ug/kg	280				
Toluene	690	ug/kg	430				
Ethylbenzene	1200	ug/kg	280				
Chloromethane	ND	ug/kg	1400				
Bromomethane	ND	ug/kg	570				
Vinyl chloride	ND	ug/kg	570				
Chloroethane	ND	ug/kg	570				
1,1-Dichloroethene	ND	ug/kg	280				
trans-1,2-Dichloroethene	ND	ug/kg	430				
Trichloroethene	ND	ug/kg	280				
1,2-Dichlorobenzene	ND	ug/kg	1400				
1,3-Dichlorobenzene	ND	ug/kg	1400				
1,4-Dichlorobenzene	ND	ug/kg	1400				
Methyl tert butyl ether	ND	ug/kg	570				
p/m-Xylene	5100	ug/kg	280				
o-Xylene	2600	ug/kg	280				
cis-1,2-Dichloroethene	ND	ug/kg	280				
Dibromomethane	ND	ug/kg	2800				
1,4-Dichlorobutane	ND	ug/kg	2800				
Iodomethane	ND	ug/kg	2800				
1,2,3-Trichloropropane	ND	ug/kg	2800				
Styrene	ND	ug/kg	280				
Dichlorodifluoromethane	ND	ug/kg	2800				
Acetone	ND	ug/kg	2800				
Carbon disulfide	ND	ug/kg	2800				
2-Butanone	ND	ug/kg	2800				
Vinyl acetate	ND	ug/kg	2800				
4-Methyl-2-pentanone	ND	ug/kg	2800				
2-Hexanone	ND	ug/kg	2800				
Ethyl methacrylate	ND	ug/kg	2800				
Acrolein	ND	ug/kg	7100				
Acrylonitrile	ND	ug/kg	2800				
Bromochloromethane	ND	ug/kg	1400				
Tetrahydrofuran	ND	ug/kg	5700				
2,2-Dichloropropane	ND	ug/kg	1400				
1,2-Dibromoethane	ND	ug/kg	1400				
1,3-Dichloropropane	ND	ug/kg	1400				
1,1,1,2-Tetrachloroethane	ND	ug/kg	280				
Bromobenzene	ND	ug/kg	1400				
n-Butylbenzene	3600	ug/kg	280				
sec-Butylbenzene	1200	ug/kg	280				
tert-Butylbenzene	ND	ug/kg	1400				
o-Chlorotoluene	ND	ug/kg	1400				
p-Chlorotoluene	ND	ug/kg	1400				
1,2-Dibromo-3-chloropropane	ND	ug/kg	1400				
Hexachlorobutadiene	ND	ug/kg	1400				
Isopropylbenzene	660	ug/kg	280				
p-Isopropyltoluene	1300	ug/kg	280				

Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES  
CERTIFICATE OF ANALYSIS

Laboratory Sample Number: L0313099-01  
UST-STKPL-1

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Volatile Organics 8260 via High 5035 continued				1	8260B	0105	12:33 BS
Naphthalene	15000	ug/kg	1400				
n-Propylbenzene	1700	ug/kg	280				
1,2,3-Trichlorobenzene	ND	ug/kg	1400				
1,2,4-Trichlorobenzene	ND	ug/kg	1400				
1,3,5-Trimethylbenzene	3700	ug/kg	1400				
1,2,4-Trimethylbenzene	14000	ug/kg	1400				
trans-1,4-Dichloro-2-butene	ND	ug/kg	1400				
Ethyl ether	ND	ug/kg	1400				
Surrogate (s)	Recovery		QC Criteria				
1,2-Dichloroethane-d4	104.	%					
Toluene-d8	97.0	%					
4-Bromofluorobenzene	89.0	%					
Dibromofluoromethane	104.	%					
SVOC's by GC/MS 8270				1	8270C	1229	10:50 0103 18:06 HL
Acenaphthene	ND	ug/kg	2900				
Benzidine	ND	ug/kg	29000				
1,2,4-Trichlorobenzene	ND	ug/kg	2900				
Hexachlorobenzene	ND	ug/kg	2900				
Bis(2-chloroethyl) ether	ND	ug/kg	2900				
1-Chloronaphthalene	ND	ug/kg	2900				
2-Chloronaphthalene	ND	ug/kg	3500				
1,2-Dichlorobenzene	ND	ug/kg	2900				
1,3-Dichlorobenzene	ND	ug/kg	2900				
1,4-Dichlorobenzene	ND	ug/kg	2900				
3,3'-Dichlorobenzidine	ND	ug/kg	29000				
2,4-Dinitrotoluene	ND	ug/kg	3500				
2,6-Dinitrotoluene	ND	ug/kg	2900				
Azobenzene	ND	ug/kg	2900				
Fluoranthene	ND	ug/kg	2900				
4-Chlorophenyl phenyl ether	ND	ug/kg	2900				
4-Bromophenyl phenyl ether	ND	ug/kg	2900				
Bis(2-chloroisopropyl) ether	ND	ug/kg	2900				
Bis(2-chloroethoxy) methane	ND	ug/kg	2900				
Hexachlorobutadiene	ND	ug/kg	5900				
Hexachlorocyclopentadiene	ND	ug/kg	5900				
Hexachloroethane	ND	ug/kg	2900				
Isophorone	ND	ug/kg	2900				
Naphthalene	11000	ug/kg	2900				
Nitrobenzene	ND	ug/kg	2900				
NDPA/DPA	ND	ug/kg	8800				
n-Nitrosodi-n-propylamine	ND	ug/kg	2900				
Bis(2-ethylhexyl) phthalate	ND	ug/kg	5900				
Butyl benzyl phthalate	ND	ug/kg	2900				
Di-n-butylphthalate	ND	ug/kg	2900				
Di-n-octylphthalate	ND	ug/kg	2900				
Diethyl phthalate	ND	ug/kg	2900				
Dimethyl phthalate	ND	ug/kg	2900				

Comments: Complete list of References and Glossary of Terms found in Addendum I

**ALPHA ANALYTICAL LABORATORIES  
CERTIFICATE OF ANALYSIS**

Laboratory Sample Number: L0313099-01  
UST-STKPL-1

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
SVOC's by GC/MS 8270 continued				1	8270C	1229 10:50	0103 18:06 HL
Benzo (a) anthracene	ND	ug/kg	2900				
Benzo (a) pyrene	ND	ug/kg	2900				
Benzo (b) fluoranthene	ND	ug/kg	2900				
Benzo (k) fluoranthene	ND	ug/kg	2900				
Chrysene	3600	ug/kg	2900				
Acenaphthylene	ND	ug/kg	2900				
Anthracene	ND	ug/kg	2900				
Benzo (ghi) perylene	ND	ug/kg	2900				
Fluorene	3500	ug/kg	2900				
Phenanthrene	10000	ug/kg	2900				
Dibenzo (a, h) anthracene	ND	ug/kg	2900				
Indeno (1, 2, 3-cd) pyrene	ND	ug/kg	2900				
Pyrene	4700	ug/kg	2900				
Benzo (e) pyrene	ND	ug/kg	2900				
Biphenyl	ND	ug/kg	2900				
Perylene	ND	ug/kg	2900				
Aniline	ND	ug/kg	5900				
4-Chloroaniline	ND	ug/kg	2900				
1-Methylnaphthalene	23000	ug/kg	2900				
2-Nitroaniline	ND	ug/kg	2900				
3-Nitroaniline	ND	ug/kg	2900				
4-Nitroaniline	ND	ug/kg	4100				
Dibenzofuran	ND	ug/kg	2900				
a, a-Dimethylphenethylamine	ND	ug/kg	29000				
Hexachloropropene	ND	ug/kg	5900				
Nitrosodi-n-butylamine	ND	ug/kg	5900				
2-Methylnaphthalene	36000	ug/kg	4700				
1, 2, 4, 5-Tetrachlorobenzene	ND	ug/kg	12000				
Pentachlorobenzene	ND	ug/kg	12000				
a-Naphthylamine	ND	ug/kg	12000				
b-Naphthylamine	ND	ug/kg	12000				
Phenacetin	ND	ug/kg	5900				
Dimethoate	ND	ug/kg	12000				
4-Aminobiphenyl	ND	ug/kg	5900				
Pentachloronitrobenzene	ND	ug/kg	5900				
Isodrin	ND	ug/kg	5900				
p-Dimethylaminoazobenzene	ND	ug/kg	5900				
Chlorobenzilate	ND	ug/kg	12000				
3-Methylcholanthrene	ND	ug/kg	12000				
Ethyl Methanesulfonate	ND	ug/kg	8800				
Acetophenone	ND	ug/kg	12000				
Nitrosodipiperidine	ND	ug/kg	12000				
7, 12-Dimethylbenz (a) anthracene	ND	ug/kg	5900				
n-Nitrosodimethylamine	ND	ug/kg	29000				
2, 4, 6-Trichlorophenol	ND	ug/kg	2900				
p-Chloro-m-cresol	ND	ug/kg	2900				
2-Chlorophenol	ND	ug/kg	3500				
2, 4-Dichlorophenol	ND	ug/kg	5900				
2, 4-Dimethylphenol	ND	ug/kg	5900				

Comments: Complete list of References and Glossary of Terms found in Addendum I

**ALPHA ANALYTICAL LABORATORIES  
CERTIFICATE OF ANALYSIS**

Laboratory Sample Number: L0313099-01  
UST-STKPL-1

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
SVOC's by GC/MS 8270 continued				1	8270C	1229 10:50	0103 18:06 HL
2-Nitrophenol	ND	ug/kg	12000				
4-Nitrophenol	ND	ug/kg	5900				
2,4-Dinitrophenol	ND	ug/kg	12000				
4,6-Dinitro-o-cresol	ND	ug/kg	12000				
Pentachlorophenol	ND	ug/kg	12000				
Phenol	ND	ug/kg	4100				
2-Methylphenol	ND	ug/kg	3500				
3-Methylphenol/4-Methylphenol	ND	ug/kg	3500				
2,4,5-Trichlorophenol	ND	ug/kg	2900				
2,6-Dichlorophenol	ND	ug/kg	5900				
Benzoic Acid	ND	ug/kg	29000				
Benzyl Alcohol	ND	ug/kg	5900				
Carbazole	ND	ug/kg	2900				
Pyridine	ND	ug/kg	29000				
2-Picoline	ND	ug/kg	12000				
Pronamide	ND	ug/kg	12000				
Methyl methanesulfonate	ND	ug/kg	12000				
Surrogate (s)	Recovery		QC Criteria				
2-Fluorophenol	77.0	%	25-120				
Phenol-d6	91.0	%	10-120				
Nitrobenzene-d5	85.0	%	23-120				
2-Fluorobiphenyl	92.0	%	30-120				
2,4,6-Tribromophenol	44.0	%	19-120				
4-Terphenyl-d14	88.0	%	18-120				
Polychlorinated Biphenyls				1	8082	1229 11:40	1231 12:10 AK
Aroclor 1221	ND	ug/kg	294.				
Aroclor 1232	ND	ug/kg	294.				
Aroclor 1242/1016	ND	ug/kg	294.				
Aroclor 1248	ND	ug/kg	294.				
Aroclor 1254	ND	ug/kg	294.				
Aroclor 1260	ND	ug/kg	294.				
Surrogate (s)	Recovery		QC Criteria				
2,4,5,6-Tetrachloro-m-xylene	96.0	%	30-150				
Decachlorobiphenyl	74.0	%	30-150				
Hydrocarbon Scan by GC 8100M				1	8100M	1229 13:15	1231 09:28 JB
Mineral Spirits	ND	mg/kg	2900				
Gasoline	ND	mg/kg	2900				
Fuel Oil #2/Diesel	ND	mg/kg	2900				
Fuel Oil #4	ND	mg/kg	2900				
Fuel Oil #6	ND	mg/kg	2900				
Motor Oil	ND	mg/kg	2900				
Kerosene	ND	mg/kg	2900				
Transformer Oil	ND	mg/kg	2900				
Unknown Hydrocarbon	5600	mg/kg	2900				

Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES  
 CERTIFICATE OF ANALYSIS

Laboratory Sample Number: L0313099-01  
 UST-STKPL-1

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Hydrocarbon Scan by GC 8100M continued				1 8100M	1229 13:15	1231 09:28	JB
Surrogate(s)	Recovery			QC Criteria			
o-Terphenyl	ND	%		40-140			

---

Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES  
 QUALITY ASSURANCE BATCH DUPLICATE ANALYSIS

Laboratory Job Number: L0313099

Parameter	Value 1	Value 2	Units	RPD	RPD Limits
Solids, Total for sample(s) 01 (L0312886-15, WG159731)					
Solids, Total	88.	90.	%	2	
pH for sample(s) 01 (L0313099-01, WG159744)					
pH	6.9	7.0	SU	1	
Cyanide, Reactive for sample(s) 01 (L0313099-01, WG160061)					
Cyanide, Reactive	ND	ND	mg/kg	NC	
Sulfide, Reactive for sample(s) 01 (L0313099-01, WG160059)					
Sulfide, Reactive	ND	ND	mg/kg	NC	
Total Metals for sample(s) 01 (L0313099-01, WG160082)					
Arsenic, Total	5.8	5.9	mg/kg	2	35
Barium, Total	66.	56.	mg/kg	16	35
Cadmium, Total	ND	ND	mg/kg	NC	35
Chromium, Total	24.	21.	mg/kg	13	35
Lead, Total	22.	22.	mg/kg	0	35
Selenium, Total	ND	ND	mg/kg	NC	35
Silver, Total	ND	ND	mg/kg	NC	35
Total Metals for sample(s) 01 (L0313085-02, WG159843)					
Mercury, Total	8.6	6.8	mg/kg	23	45
Polychlorinated Biphenyls for sample(s) 01 (L0400008-02, WG159872)					
Aroclor 1221	ND	ND	ug/kg	NC	50
Aroclor 1232	ND	ND	ug/kg	NC	50
Aroclor 1242/1016	ND	ND	ug/kg	NC	50
Aroclor 1248	ND	ND	ug/kg	NC	50
Aroclor 1254	ND	ND	ug/kg	NC	50
Aroclor 1260	ND	ND	ug/kg	NC	50
Surrogate(s) Recovery QC Criteria					
2,4,5,6-Tetrachloro-m-xylene	99.0	107.	%	8	30-150
Decachlorobiphenyl	70.0	78.0	%	11	30-150
Hydrocarbon Scan by GC 8100M for sample(s) 01 (L0313108-01, WG159873)					
Mineral Spirits	ND	ND	mg/kg	NC	40
Gasoline	ND	ND	mg/kg	NC	40
Fuel Oil #2/Diesel	ND	ND	mg/kg	NC	40
Fuel Oil #4	ND	ND	mg/kg	NC	40
Fuel Oil #6	ND	ND	mg/kg	NC	40
Motor Oil	ND	ND	mg/kg	NC	40
Kerosene	ND	ND	mg/kg	NC	40
Transformer Oil	ND	ND	mg/kg	NC	40
Unknown Hydrocarbon	390	530	mg/kg	30	40



ALPHA ANALYTICAL LABORATORIES  
QUALITY ASSURANCE BATCH DUPLICATE ANALYSIS

Laboratory Job Number: L0313099

Continued

Parameter	Value 1	Value 2	Units	RPD	RPD Limits
Hydrocarbon Scan by GC 8100M for sample(s) 01 (L0313108-01, WG159873)					
Surrogate(s)		Recovery			QC Criteria
o-Terphenyl	91.0	98.0	%	7	40-140

ALPHA ANALYTICAL LABORATORIES  
 QUALITY ASSURANCE BATCH SPIKE ANALYSES

Laboratory Job Number: L0313099

Parameter	% Recovery	QC Criteria
pH LCS for sample(s) 01 (WG159744)		
pH	101	
Sulfide, Reactive LCS for sample(s) 01 (WG160059)		
Sulfide, Reactive	101	
Total Metals LCS for sample(s) 01 (WG160082)		
Arsenic, Total	97	70-140
Barium, Total	87	70-140
Cadmium, Total	94	70-140
Chromium, Total	89	70-140
Lead, Total	94	70-140
Selenium, Total	97	70-140
Silver, Total	84	70-140
Total Metals LCS for sample(s) 01 (WG159843)		
Mercury, Total	99	60-140
Volatile Organics 8260 via High 5035 LCS for sample(s) 01 (WG159976)		
Chlorobenzene	97	
Benzene	104	
Toluene	99	
1,1-Dichloroethene	96	
Trichloroethene	100	
Surrogate(s)		
1,2-Dichloroethane-d4	104	
Toluene-d8	101	
4-Bromofluorobenzene	92	
Dibromofluoromethane	109	
SVOC's by GC/MS 8270 LCS for sample(s) 01 (WG159871)		
Acenaphthene	66	31-137
1,2,4-Trichlorobenzene	51	38-107
2-Chloronaphthalene	65	
1,2-Dichlorobenzene	49	
1,4-Dichlorobenzene	50	28-104
2,4-Dinitrotoluene	98	28-89
2,6-Dinitrotoluene	88	
Fluoranthene	90	
4-Chlorophenyl phenyl ether	73	
n-Nitrosodi-n-propylamine	51	41-126
Butyl benzyl phthalate	95	
Anthracene	57	
Pyrene	92	35-142
Hexachloropropene	43	
p-Chloro-M-Cresol	65	26-103
2-Chlorophenol	45	25-102
2-Nitrophenol	50	

ALPHA ANALYTICAL LABORATORIES  
 QUALITY ASSURANCE BATCH SPIKE ANALYSES

Laboratory Job Number: L0313099

Continued

Parameter	% Recovery	QC Criteria
SVOC's by GC/MS 8270 LCS for sample(s) 01 (WG159871)		
4-Nitrophenol	81	11-114
2,4-Dinitrophenol	67	
Pentachlorophenol	82	17-109
Phenol	45	26-90
Surrogate(s)		
2-Fluorophenol	47	25-120
Phenol-d6	50	10-120
Nitrobenzene-d5	49	23-120
2-Fluorobiphenyl	59	30-120
2,4,6-Tribromophenol	36	19-120
4-Terphenyl-d14	79	18-120
Polychlorinated Biphenyls LCS for sample(s) 01 (WG159872)		
Aroclor 1242/1016	97	40-140
Aroclor 1260	90	40-140
Surrogate(s)		
2,4,5,6-Tetrachloro-m-xylene	97	30-150
Decachlorobiphenyl	79	30-150
Hydrocarbon Scan by GC 8100M LCS for sample(s) 01 (WG159873)		
Petroleum Spike	103	40-140
Surrogate(s)		
o-Terphenyl	88	40-140
Total Metals SPIKE for sample(s) 01 (L0313099-01, WG160082)		
Arsenic, Total	74	70-140
Barium, Total	57	70-140
Cadmium, Total	96	70-140
Chromium, Total	0	70-140
Lead, Total	104	70-140
Selenium, Total	83	70-140
Silver, Total	92	70-140
Total Metals SPIKE for sample(s) 01 (L0313099-01, WG159843)		
Mercury, Total	105	60-140

ALPHA ANALYTICAL LABORATORIES  
 QUALITY ASSURANCE BATCH MS/MSD ANALYSIS

Laboratory Job Number: L0313099

Parameter	MS %	MSD %	RPD	RPD Limit	MS/MSD Limits
Volatile Organics 8260 via High 5035 for sample(s) 01 (L0312886-13, WG159976)					
Chlorobenzene	100	94	6		
Benzene	98	97	2		
Toluene	100	96	4		
1,1-Dichloroethene	87	88	1		
Trichloroethene	94	95	0		
Surrogate(s)					
1,2-Dichloroethane-d4	106	101	5		
Toluene-d8	106	106	0		
4-Bromofluorobenzene	94	98	4		
Dibromofluoromethane	110	106	4		
SVOC's by GC/MS 8270 for sample(s) 01 (L0313099-01, WG159871)					
Acenaphthene	120	120	0	50	31-137
1,2,4-Trichlorobenzene	82	82	0	50	38-107
2-Chloronaphthalene	110	110	0	50	
1,2-Dichlorobenzene	68	70	3	50	
1,4-Dichlorobenzene	70	69	1	50	28-104
2,4-Dinitrotoluene	120	110	9	50	28-89
2,6-Dinitrotoluene	110	100	10	50	
Fluoranthene	140	130	7	50	
4-Chlorophenyl phenyl ether	110	100	10	50	
n-Nitrosodi-n-propylamine	85	82	4	50	41-126
Butyl benzyl phthalate	140	140	0	50	
Anthracene	79	83	5	50	
Pyrene	140	120	15	50	35-142
Hexachloropropene	54	53	2	50	
P-Chloro-M-Cresol	100	98	2	50	26-103
2-Chlorophenol	72	72	0	50	25-102
2-Nitrophenol	85	81	5	50	
4-Nitrophenol	110	98	12	50	11-114
2,4-Dinitrophenol	89	81	9	50	
Pentachlorophenol	89	81	9	50	17-109
Phenol	81	77	5	50	26-90
Surrogate(s)					
2-Fluorophenol	65	66	2		25-120
Phenol-d6	86	85	1		10-120
Nitrobenzene-d5	82	81	1		23-120
2-Fluorobiphenyl	106	101	5		30-120
2,4,6-Tribromophenol	44	46	4		19-120
4-Terphenyl-d14	111	103	7		18-120

ALPHA ANALYTICAL LABORATORIES  
 QUALITY ASSURANCE BATCH BLANK ANALYSIS

Laboratory Job Number: L0313099

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Blank Analysis for sample(s) 01 (WG160061-1)							
Cyanide, Reactive	ND	mg/kg	0.25	1 7.3		1231 08:20	AT
Blank Analysis for sample(s) 01 (WG160059-1)							
Sulfide, Reactive	ND	mg/kg	0.50	1 7.3		1231 08:20	AT
Blank Analysis for sample(s) 01 (WG160082-3)							
Total Metals				1 3051			
Arsenic, Total	ND	mg/kg	0.40	1 6010B	1230 15:15 0105	12:00	RW
Barium, Total	ND	mg/kg	0.40	1 6010B	1230 15:15 0105	12:00	RW
Cadmium, Total	ND	mg/kg	0.40	1 6010B	1230 15:15 0105	12:00	RW
Chromium, Total	ND	mg/kg	0.40	1 6010B	1230 15:15 0105	12:00	RW
Lead, Total	ND	mg/kg	2.0	1 6010B	1230 15:15 0105	12:00	RW
Selenium, Total	ND	mg/kg	0.80	1 6010B	1230 15:15 0105	12:00	RW
Silver, Total	ND	mg/kg	0.40	1 6010B	1230 15:15 0105	12:00	RW
Blank Analysis for sample(s) 01 (WG159843-4)							
Total Metals							
Mercury, Total	ND	mg/kg	0.08	1 7471A	1229 16:10 1230	12:55	DM
Blank Analysis for sample(s) 01 (WG159976-6)							
Volatile Organics 8260 via High 5035				1 8260B		0105 10:11	BS
Methylene chloride	ND	ug/kg	500				
1,1-Dichloroethane	ND	ug/kg	75.				
Chloroform	ND	ug/kg	75.				
Carbon tetrachloride	ND	ug/kg	50.				
1,2-Dichloropropane	ND	ug/kg	180				
Dibromochloromethane	ND	ug/kg	50.				
1,1,2-Trichloroethane	ND	ug/kg	75.				
Tetrachloroethene	ND	ug/kg	50.				
Chlorobenzene	ND	ug/kg	50.				
Trichlorofluoromethane	ND	ug/kg	250				
1,2-Dichloroethane	ND	ug/kg	50.				
1,1,1-Trichloroethane	ND	ug/kg	50.				
Bromodichloromethane	ND	ug/kg	50.				
trans-1,3-Dichloropropene	ND	ug/kg	50.				
cis-1,3-Dichloropropene	ND	ug/kg	50.				
1,1-Dichloropropene	ND	ug/kg	250				
Bromoform	ND	ug/kg	200				
1,1,2,2-Tetrachloroethane	ND	ug/kg	50.				
Benzene	ND	ug/kg	50.				
Toluene	ND	ug/kg	75.				
Ethylbenzene	ND	ug/kg	50.				
Chloromethane	ND	ug/kg	250				
Bromomethane	ND	ug/kg	100				

ALPHA ANALYTICAL LABORATORIES  
 QUALITY ASSURANCE BATCH BLANK ANALYSIS

Laboratory Job Number: L0313099

Continued

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Blank Analysis for sample(s) 01 (WG159976-6)							
Volatile Organics 8260 via High 5035 continued				1	8260B	0105 10:11 BS	
Vinyl chloride	ND	ug/kg	100				
Chloroethane	ND	ug/kg	100				
1,1-Dichloroethene	ND	ug/kg	50.				
trans-1,2-Dichloroethene	ND	ug/kg	75.				
Trichloroethene	ND	ug/kg	50.				
1,2-Dichlorobenzene	ND	ug/kg	250				
1,3-Dichlorobenzene	ND	ug/kg	250				
1,4-Dichlorobenzene	ND	ug/kg	250				
Methyl tert butyl ether	ND	ug/kg	100				
p/m-Xylene	ND	ug/kg	50.				
o-Xylene	ND	ug/kg	50.				
cis-1,2-Dichloroethene	ND	ug/kg	50.				
Dibromomethane	ND	ug/kg	500				
1,4-Dichlorobutane	ND	ug/kg	500				
Iodomethane	ND	ug/kg	500				
1,2,3-Trichloropropane	ND	ug/kg	500				
Styrene	ND	ug/kg	50.				
Dichlorodifluoromethane	ND	ug/kg	500				
Acetone	ND	ug/kg	500				
Carbon disulfide	ND	ug/kg	500				
2-Butanone	ND	ug/kg	500				
Vinyl acetate	ND	ug/kg	500				
4-Methyl-2-pentanone	ND	ug/kg	500				
2-Hexanone	ND	ug/kg	500				
Ethyl methacrylate	ND	ug/kg	500				
Acrolein	ND	ug/kg	1200				
Acrylonitrile	ND	ug/kg	500				
Bromochloromethane	ND	ug/kg	250				
Tetrahydrofuran	ND	ug/kg	1000				
2,2-Dichloropropane	ND	ug/kg	250				
1,2-Dibromoethane	ND	ug/kg	250				
1,3-Dichloropropane	ND	ug/kg	250				
1,1,1,2-Tetrachloroethane	ND	ug/kg	50.				
Bromobenzene	ND	ug/kg	250				
n-Butylbenzene	ND	ug/kg	50.				
sec-Butylbenzene	ND	ug/kg	50.				
tert-Butylbenzene	ND	ug/kg	250				
o-Chlorotoluene	ND	ug/kg	250				
p-Chlorotoluene	ND	ug/kg	250				
1,2-Dibromo-3-chloropropane	ND	ug/kg	250				
Hexachlorobutadiene	ND	ug/kg	250				
Isopropylbenzene	ND	ug/kg	50.				
p-Isopropyltoluene	ND	ug/kg	50.				
Naphthalene	ND	ug/kg	250				
n-Propylbenzene	ND	ug/kg	50.				
1,2,3-Trichlorobenzene	ND	ug/kg	250				
1,2,4-Trichlorobenzene	ND	ug/kg	250				

ALPHA ANALYTICAL LABORATORIES  
 QUALITY ASSURANCE BATCH BLANK ANALYSIS

Laboratory Job Number: L0313099

Continued

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Blank Analysis for sample(s) 01 (WG159976-6)							
Volatile Organics 8260 via High 5035 continued				1	8260B	0105	10:11 BS
1,3,5-Trimethylbenzene	ND	ug/kg	250				
1,2,4-Trimethylbenzene	ND	ug/kg	250				
trans-1,4-Dichloro-2-butene	ND	ug/kg	250				
Ethyl ether	ND	ug/kg	250				
Surrogate(s)		Recovery	QC Criteria				
1,2-Dichloroethane-d4	100.	%					
Toluene-d8	102.	%					
4-Bromofluorobenzene	101.	%					
Dibromofluoromethane	102.	%					
Blank Analysis for sample(s) 01 (WG159871-1)							
SVOC's by GC/MS 8270				1	8270C	1229	10:50 0101 08:26 HL
Acenaphthene	ND	ug/kg	500				
Benzidine	ND	ug/kg	5000				
1,2,4-Trichlorobenzene	ND	ug/kg	500				
Hexachlorobenzene	ND	ug/kg	500				
Bis(2-chloroethyl) ether	ND	ug/kg	500				
1-Chloronaphthalene	ND	ug/kg	500				
2-Chloronaphthalene	ND	ug/kg	600				
1,2-Dichlorobenzene	ND	ug/kg	500				
1,3-Dichlorobenzene	ND	ug/kg	500				
1,4-Dichlorobenzene	ND	ug/kg	500				
3,3'-Dichlorobenzidine	ND	ug/kg	5000				
2,4-Dinitrotoluene	ND	ug/kg	600				
2,6-Dinitrotoluene	ND	ug/kg	500				
Azobenzene	ND	ug/kg	500				
Fluoranthene	ND	ug/kg	500				
4-Chlorophenyl phenyl ether	ND	ug/kg	500				
4-Bromophenyl phenyl ether	ND	ug/kg	500				
Bis(2-chloroisopropyl) ether	ND	ug/kg	500				
Bis(2-chloroethoxy) methane	ND	ug/kg	500				
Hexachlorobutadiene	ND	ug/kg	1000				
Hexachlorocyclopentadiene	ND	ug/kg	1000				
Hexachloroethane	ND	ug/kg	500				
Isophorone	ND	ug/kg	500				
Naphthalene	ND	ug/kg	500				
Nitrobenzene	ND	ug/kg	500				
NDPA/DPA	ND	ug/kg	1500				
n-Nitrosodi-n-propylamine	ND	ug/kg	500				
Bis(2-ethylhexyl) phthalate	ND	ug/kg	1000				
Butyl benzyl phthalate	ND	ug/kg	500				
Di-n-butylphthalate	ND	ug/kg	500				
Di-n-octylphthalate	ND	ug/kg	500				
Diethyl phthalate	ND	ug/kg	500				
Dimethyl phthalate	ND	ug/kg	500				
Benzo(a) anthracene	ND	ug/kg	500				



ALPHA ANALYTICAL LABORATORIES  
 QUALITY ASSURANCE BATCH BLANK ANALYSIS

Laboratory Job Number: L0313099

Continued

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Blank Analysis for sample(s) 01 (WG159871-1)							
SVOC's by GC/MS 8270 continued				1 8270C	1229 10:50	0101	08:26 HL
Benzo(a) pyrene	ND	ug/kg	500				
Benzo(b) fluoranthene	ND	ug/kg	500				
Benzo(k) fluoranthene	ND	ug/kg	500				
Chrysene	ND	ug/kg	500				
Acenaphthylene	ND	ug/kg	500				
Anthracene	ND	ug/kg	500				
Benzo(ghi) perylene	ND	ug/kg	500				
Fluorene	ND	ug/kg	500				
Phenanthrene	ND	ug/kg	500				
Dibenzo(a,h) anthracene	ND	ug/kg	500				
Indeno(1,2,3-cd) pyrene	ND	ug/kg	500				
Pyrene	ND	ug/kg	500				
Benzo(e) pyrene	ND	ug/kg	500				
Biphenyl	ND	ug/kg	500				
Perylene	ND	ug/kg	500				
Aniline	ND	ug/kg	1000				
4-Chloroaniline	ND	ug/kg	500				
1-Methylnaphthalene	ND	ug/kg	500				
2-Nitroaniline	ND	ug/kg	500				
3-Nitroaniline	ND	ug/kg	500				
4-Nitroaniline	ND	ug/kg	700				
Dibenzofuran	ND	ug/kg	500				
a,a-Dimethylphenethylamine	ND	ug/kg	5000				
Hexachloropropene	ND	ug/kg	1000				
Nitrosodi-n-butylamine	ND	ug/kg	1000				
2-Methylnaphthalene	ND	ug/kg	800				
1,2,4,5-Tetrachlorobenzene	ND	ug/kg	2000				
Pentachlorobenzene	ND	ug/kg	2000				
a-Naphthylamine	ND	ug/kg	2000				
b-Naphthylamine	ND	ug/kg	2000				
Phenacetin	ND	ug/kg	1000				
Dimethoate	ND	ug/kg	2000				
4-Aminobiphenyl	ND	ug/kg	1000				
Pentachloronitrobenzene	ND	ug/kg	1000				
Isodrin	ND	ug/kg	1000				
p-Dimethylaminoazobenzene	ND	ug/kg	1000				
Chlorobenzilate	ND	ug/kg	2000				
3-Methylcholanthrene	ND	ug/kg	2000				
Ethyl Methanesulfonate	ND	ug/kg	1500				
Acetophenone	ND	ug/kg	2000				
Nitrosodipiperidine	ND	ug/kg	2000				
7,12-Dimethylbenz(a) anthracene	ND	ug/kg	1000				
n-Nitrosodimethylamine	ND	ug/kg	5000				
2,4,6-Trichlorophenol	ND	ug/kg	500				
p-Chloro-m-cresol	ND	ug/kg	500				
2-Chlorophenol	ND	ug/kg	600				
2,4-Dichlorophenol	ND	ug/kg	1000				

ALPHA ANALYTICAL LABORATORIES  
QUALITY ASSURANCE BATCH BLANK ANALYSIS

Laboratory Job Number: L0313099

Continued

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Blank Analysis for sample(s) 01 (WG159871-1)							
SVOC's by GC/MS 8270 continued				1 8270C	1229 10:50	0101 08:26	HL
2,4-Dimethylphenol	ND	ug/kg	1000				
2-Nitrophenol	ND	ug/kg	2000				
4-Nitrophenol	ND	ug/kg	1000				
2,4-Dinitrophenol	ND	ug/kg	2000				
4,6-Dinitro-o-cresol	ND	ug/kg	2000				
Pentachlorophenol	ND	ug/kg	2000				
Phenol	ND	ug/kg	700				
2-Methylphenol	ND	ug/kg	600				
3-Methylphenol/4-Methylphenol	ND	ug/kg	600				
2,4,5-Trichlorophenol	ND	ug/kg	500				
2,6-Dichlorophenol	ND	ug/kg	1000				
Benzoic Acid	ND	ug/kg	5000				
Benzyl Alcohol	ND	ug/kg	1000				
Carbazole	ND	ug/kg	500				
Pyridine	ND	ug/kg	5000				
2-Picoline	ND	ug/kg	2000				
Pronamide	ND	ug/kg	2000				
Methyl methanesulfonate	ND	ug/kg	2000				
Surrogate(s) Recovery QC Criteria							
2-Fluorophenol	53.0	%	25-120				
Phenol-d6	59.0	%	10-120				
Nitrobenzene-d5	56.0	%	23-120				
2-Fluorobiphenyl	59.0	%	30-120				
2,4,6-Tribromophenol	32.0	%	19-120				
4-Terphenyl-d14	87.0	%	18-120				
Blank Analysis for sample(s) 01 (WG159872-1)							
Polychlorinated Biphenyls				1 8082	1229 11:40	1231 10:17	AK
Aroclor 1221	ND	ug/kg	250.				
Aroclor 1232	ND	ug/kg	250.				
Aroclor 1242/1016	ND	ug/kg	250.				
Aroclor 1248	ND	ug/kg	250.				
Aroclor 1254	ND	ug/kg	250.				
Aroclor 1260	ND	ug/kg	250.				
Surrogate(s) Recovery QC Criteria							
2,4,5,6-Tetrachloro-m-xylene	94.0	%	30-150				
Decachlorobiphenyl	82.0	%	30-150				
Blank Analysis for sample(s) 01 (WG159873-1)							
Hydrocarbon Scan by GC 8100M				1 8100M	1229 13:15	1230 22:43	JB
Mineral Spirits	ND	mg/kg	100				
Gasoline	ND	mg/kg	100				
Fuel Oil #2/Diesel	ND	mg/kg	100				
Fuel Oil #4	ND	mg/kg	100				
Fuel Oil #6	ND	mg/kg	100				

ALPHA ANALYTICAL LABORATORIES  
 QUALITY ASSURANCE BATCH BLANK ANALYSIS

Laboratory Job Number: L0313099

Continued

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Blank Analysis for sample(s) 01 (WG159873-1)							
Hydrocarbon Scan by GC 8100M continued							
Motor Oil	ND	mg/kg	100	1 8100M	1229 13:15	1230 22:43	JB
Kerosene	ND	mg/kg	100				
Transformer Oil	ND	mg/kg	100				
Unknown Hydrocarbon	ND	mg/kg	100				
Surrogate(s)	Recovery			QC Criteria			
o-Terphenyl	84.0	%		40-140			

ALPHA ANALYTICAL LABORATORIES  
ADDENDUM I

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REFERENCES

1. Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - IIIA, 1997.
30. Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WPCF. 18th Edition. 1992.

GLOSSARY OF TERMS AND SYMBOLS

- REF Reference number in which test method may be found.  
METHOD Method number by which analysis was performed.  
ID Initials of the analyst.  
ND Not detected in comparison to the reported detection limit.

Please note that all solid samples are reported on dry weight basis unless noted otherwise.

LIMITATION OF LIABILITIES

Alpha Analytical, Inc. performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical, Inc., shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical, Inc. be held liable for any incidental consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical, Inc.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding times and splitting of samples in the field.

# CHAIN OF CUSTODY RECORD

H&A FILE NO. 30660-000 LABORATORY ALPHA DELIVERY DATE \_\_\_\_\_  
 PROJECT NAME BRANK SCHOOL TANK RELEASE ADDRESS \_\_\_\_\_ TURNAROUND TIME STANDARD  
 H&A CONTACT MAIT COONBS CONTACT \_\_\_\_\_ PROJECT MANAGER JOEL MOONEY

Sample No.	Date	Time	Depth	Type	Analysis Requested										Number of Containers	Comments (special instructions, precautions, additional method numbers, etc.)			
					VOA	ABNs	MCP Metals	Pesticides	VPH Full Suite	EPH Full Suite	Changes only	PH (specify)	TCLP (specify)	Reactivity			Ignitability	Corrosivity	
UST-STKPL-1	12/24/03	1500	---	SOIL	X		X						X					8	Laboratory to use applicable DEP CAM methods, unless otherwise directed.  ① SUCCS ② RCRA(8) METALS ③ BY GE/FID

Sampled and Relinquished by		Received by		Relinquished by		Received by		Relinquished by		Received by		SAMPLING COMMENTS
Sign	Print	Sign	Print	Sign	Print	Sign	Print	Sign	Print	Sign	Print	
Sign <u>Todd Butler</u>	Print <u>Todd Butler</u>	Sign <u>Marie Vacker</u>	Print <u>Marie Vacker</u>	Sign <u>Marie Vacker</u>	Print <u>Marie Vacker</u>	Sign <u>Marie Vacker</u>	Print <u>Marie Vacker</u>	Sign <u>Marie Vacker</u>	Print <u>Marie Vacker</u>	Sign <u>Marie Vacker</u>	Print <u>Marie Vacker</u>	
Firm <u>1417</u>	Date <u>12/24/03</u> Time <u>0600</u>	Firm <u>1418</u>	Date <u>12/24/03</u> Time <u>6:00</u>	Firm <u>1418</u>	Date <u>12/24/03</u> Time <u>12:00</u>	Firm <u>1418</u>	Date <u>12/24/03</u> Time <u>12:00</u>	Firm <u>1418</u>	Date <u>12/24/03</u> Time <u>12:00</u>	Firm <u>1418</u>	Date <u>12/24/03</u> Time <u>12:00</u>	

**LIQUID**

VOA Vial	
Amber Glass	
Plastic Bottle	
Preservative	
Volume	

**SOLID**

VOA Vial	
Amber Glass	
Clear Glass	
Preservative	
Volume	

**PRESERVATION KEY**

A Sample chilled    C NaOH    E H<sub>2</sub>SO<sub>4</sub>    G Methanol  
 B Sample filtered    D HNO<sub>3</sub>    F HCL    H Water/NaHSO<sub>4</sub> (circle)

**Required Reporting Limits and Data Quality Objectives**

RC-S1     S1     GW1  
 RC-S2     S2     GW2  
 RC-GW1     S3     GW3  
 RC-GW2

ALPHA ANALYTICAL LABORATORIES

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Westborough, Massachusetts 01581-1019  
(508) 898-9220 www.alphalab.com

MA:M-MA086 NH:200301-A CT:PH-0574 ME:MA086 RI:65 NY:11148 NJ:MA935 Army:USACE

CERTIFICATE OF ANALYSIS

Client: Haley & Aldrich, Inc. Laboratory Job Number: L0313185  
Address: 465 Medford Street, Suite 2200  
Boston, MA 02129-1400 Date Received: 30-DEC-2003  
Attn: Mr. Steve Provencal Date Reported: 06-JAN-2004  
Project Number: 30660-000 Delivery Method: Alpha  
Site: BURBANK SCHOOL TANK RELEASE

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The following questions pertain only to MCP Analytical Methods

An affirmative response to questions A,B,C & D is required for "Presumptive Certainty" status

- A. Were all samples received by the laboratory in a condition consistent with those described on their Chain-of-Custody documentation for the data set? YES
- B. Were all QA/QC procedures required for the specified analytical method(s) included in this report followed, including the requirement to note and discuss in a narrative QC data that did not meet appropriate performance standards or guidelines? YES
- C. Does the analytical data included in this report meet all the requirements for "Presumptive Certainty", as described in section 2.0 of the MADEP document CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data"? YES
- D. VPH and EPH methods only: Was the VPH or EPH method run without significant modifications, as specified in Section 11.3? NA

A response to questions E and F is required for "Presumptive Certainty" status

- E. Were all QC performance standards and recommendations for the specified method(s) achieved? YES
- F. Were results for all analyte-list compounds/elements for the specified method(s) reported? NO

Any answers of NO to the above questions are addressed in the case narrative.

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I, the undersigned, attest under the pains and penalties of perjury that, based upon my personal inquiry of those responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

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Authorized by: Scott McLean  
This document electronically signed

ALPHA ANALYTICAL LABORATORIES

Laboratory Job Number: L0313185  
Date Reported: 06-JAN-2004

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ALPHA SAMPLE NUMBER	CLIENT IDENTIFICATION	SAMPLE LOCATION
L0313185-01	UST-STKPL-2	BELMONT, MA



ALPHA ANALYTICAL LABORATORIES  
NARRATIVE REPORT

Laboratory Job Number: L0313185

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MCP Related Narratives:

Total Metals

In reference to question F, at the client's request, the samples were not analyzed for the full MCP list of compounds specified for the Method.

Extraction methods

Extraction method 3540c was used as the extraction method for the analysis of Semi-Volatile Organics and PCB.

Semi-Volatile Organics

The project-required reporting limits were not achieved for 3,3-Dichlorobenzidine.

The project-required reporting limits were not achieved for -01.

Non-MCP Related Narratives:

TPH-8100M

L0313185-01 and the associated duplicate were analyzed on a 10x dilution and have elevated limits of detection due to the dilutions required by the elevated concentrations of target compounds in the sample.



ALPHA ANALYTICAL LABORATORIES  
CERTIFICATE OF ANALYSIS

Laboratory Sample Number: L0313185-01  
UST-STKPL-2

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Volatile Organics by MCP 8260B/5035-High continued				54 8260B	0101 00:11		BT
1,1,2,2-Tetrachloroethane	ND	ug/kg	110				
Benzene	ND	ug/kg	110				
Toluene	540	ug/kg	170				
Ethylbenzene	720	ug/kg	110				
Chloromethane	ND	ug/kg	550				
Bromomethane	ND	ug/kg	220				
Vinyl chloride	ND	ug/kg	220				
Chloroethane	ND	ug/kg	220				
1,1-Dichloroethene	ND	ug/kg	110				
trans-1,2-Dichloroethene	ND	ug/kg	170				
Trichloroethene	ND	ug/kg	110				
1,2-Dichlorobenzene	ND	ug/kg	550				
1,3-Dichlorobenzene	ND	ug/kg	550				
1,4-Dichlorobenzene	ND	ug/kg	550				
Methyl tert butyl ether	ND	ug/kg	220				
p/m-Xylene	3100	ug/kg	110				
o-Xylene	1800	ug/kg	110				
cis-1,2-Dichloroethene	ND	ug/kg	110				
Dibromomethane	ND	ug/kg	1100				
1,2,3-Trichloropropane	ND	ug/kg	1100				
Styrene	ND	ug/kg	110				
Dichlorodifluoromethane	ND	ug/kg	1100				
Acetone	ND	ug/kg	1100				
Carbon disulfide	ND	ug/kg	1100				
2-Butanone	ND	ug/kg	1100				
4-Methyl-2-pentanone	ND	ug/kg	1100				
2-Hexanone	ND	ug/kg	1100				
Bromochloromethane	ND	ug/kg	550				
Tetrahydrofuran	ND	ug/kg	2200				
2,2-Dichloropropane	ND	ug/kg	550				
1,2-Dibromoethane	ND	ug/kg	550				
1,3-Dichloropropane	ND	ug/kg	550				
1,1,1,2-Tetrachloroethane	ND	ug/kg	110				
Bromobenzene	ND	ug/kg	550				
n-Butylbenzene	2300	ug/kg	110				
sec-Butylbenzene	950	ug/kg	110				
tert-Butylbenzene	ND	ug/kg	550				
o-Chlorotoluene	ND	ug/kg	550				
p-Chlorotoluene	ND	ug/kg	550				
1,2-Dibromo-3-chloropropane	ND	ug/kg	550				
Hexachlorobutadiene	ND	ug/kg	550				
Isopropylbenzene	490	ug/kg	110				
p-Isopropyltoluene	920	ug/kg	110				
Naphthalene	6500	ug/kg	550				
n-Propylbenzene	1000	ug/kg	110				
1,2,3-Trichlorobenzene	ND	ug/kg	550				
1,2,4-Trichlorobenzene	ND	ug/kg	550				
1,3,5-Trimethylbenzene	2600	ug/kg	550				
1,2,4-Trimethylbenzene	8900	ug/kg	550				

Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES  
CERTIFICATE OF ANALYSIS

Laboratory Sample Number: L0313185-01  
UST-STKPL-2

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Volatile Organics by MCP 8260B/5035-High continued				54 8260B		0101 00:11	BT
Ethyl ether	ND	ug/kg	550				
Isopropyl Ether	ND	ug/kg	440				
Ethyl-Tert-Butyl-Ether	ND	ug/kg	440				
Tertiary-Amyl Methyl Ether	ND	ug/kg	440				
1,4-Dioxane	ND	ug/kg	55000				
Surrogate(s)	Recovery		QC Criteria				
1,2-Dichloroethane-d4	99.0	%	70-130				
Toluene-d8	88.0	%	70-130				
4-Bromofluorobenzene	93.0	%	70-130				
Dibromofluoromethane	82.0	%	70-130				
Semivolatile Organics by MCP 8270C				54 8270C		1230 19:40 0103 13:34	HL
Acenaphthene	ND	ug/kg	1100				
1,2,4-Trichlorobenzene	ND	ug/kg	1100				
Hexachlorobenzene	ND	ug/kg	1100				
Bis(2-chloroethyl) ether	ND	ug/kg	1100				
2-Chloronaphthalene	ND	ug/kg	1100				
1,2-Dichlorobenzene	ND	ug/kg	1100				
1,3-Dichlorobenzene	ND	ug/kg	1100				
1,4-Dichlorobenzene	ND	ug/kg	1100				
3,3'-Dichlorobenzidine	ND	ug/kg	2200				
2,4-Dinitrotoluene	ND	ug/kg	1100				
2,6-Dinitrotoluene	ND	ug/kg	1100				
Azobenzene	ND	ug/kg	1100				
Fluoranthene	ND	ug/kg	1100				
4-Bromophenyl phenyl ether	ND	ug/kg	1100				
Bis(2-chloroisopropyl) ether	ND	ug/kg	1100				
Bis(2-chloroethoxy) methane	ND	ug/kg	1100				
Hexachlorobutadiene	ND	ug/kg	2200				
Hexachloroethane	ND	ug/kg	1100				
Isophorone	ND	ug/kg	1100				
Naphthalene	3400	ug/kg	1100				
Nitrobenzene	ND	ug/kg	1100				
Bis(2-Ethylhexyl) phthalate	ND	ug/kg	2200				
Butyl benzyl phthalate	ND	ug/kg	1100				
Di-n-butylphthalate	ND	ug/kg	1100				
Di-n-octylphthalate	ND	ug/kg	1100				
Diethyl phthalate	ND	ug/kg	1100				
Dimethyl phthalate	ND	ug/kg	1100				
Benzo(a)anthracene	1300	ug/kg	1100				
Benzo(a)pyrene	ND	ug/kg	1100				
Benzo(b)fluoranthene	ND	ug/kg	1100				
Benzo(k)fluoranthene	ND	ug/kg	1100				
Chrysene	2200	ug/kg	1100				
Acenaphthylene	ND	ug/kg	1100				
Anthracene	ND	ug/kg	1100				
Benzo(ghi)perylene	ND	ug/kg	1100				
Fluorene	1800	ug/kg	1100				

Comments: Complete list of References and Glossary of Terms found in Addendum I

**ALPHA ANALYTICAL LABORATORIES  
CERTIFICATE OF ANALYSIS**

Laboratory Sample Number: L0313185-01  
UST-STKPL-2

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Semivolatile Organics by MCP 8270C continued				54 8270C	1230 19:40	0103 13:34	HL
Phenanthrene	5400	ug/kg	1100				
Dibenzo(a,h)anthracene	ND	ug/kg	1100				
Indeno(1,2,3-cd)Pyrene	ND	ug/kg	1100				
Pyrene	2400	ug/kg	1100				
Aniline	ND	ug/kg	2200				
4-Chloroaniline	ND	ug/kg	1100				
Dibenzofuran	ND	ug/kg	1100				
2-Methylnaphthalene	15000	ug/kg	1100				
Acetophenone	ND	ug/kg	4500				
2,4,6-Trichlorophenol	ND	ug/kg	1100				
2-Chlorophenol	ND	ug/kg	1300				
2,4-Dichlorophenol	ND	ug/kg	2200				
2,4-Dimethylphenol	ND	ug/kg	1100				
2-Nitrophenol	ND	ug/kg	4500				
4-Nitrophenol	ND	ug/kg	2200				
2,4-Dinitrophenol	ND	ug/kg	4500				
Pentachlorophenol	ND	ug/kg	4500				
Phenol	ND	ug/kg	1600				
2-Methylphenol	ND	ug/kg	1300				
3-Methylphenol/4-Methylphenol	ND	ug/kg	1300				
2,4,5-Trichlorophenol	ND	ug/kg	1100				
Surrogate(s)	Recovery		QC Criteria				
2-Fluorophenol	65.0	%	30-130				
Phenol-d6	69.0	%	30-130				
Nitrobenzene-d5	77.0	%	30-130				
2-Fluorobiphenyl	74.0	%	30-130				
2,4,6-Tribromophenol	84.0	%	30-130				
4-Terphenyl-d14	74.0	%	30-130				
Polychlorinated Biphenyls by MCP 8082				54 8082	1230 19:42	0105 17:38	AK
Aroclor 1221	ND	ug/kg	112.				
Aroclor 1232	ND	ug/kg	112.				
Aroclor 1242/1016	ND	ug/kg	112.				
Aroclor 1248	ND	ug/kg	112.				
Aroclor 1254	ND	ug/kg	112.				
Aroclor 1260	ND	ug/kg	112.				
Aroclor 1262	ND	ug/kg	112.				
Aroclor 1268	ND	ug/kg	112.				
Surrogate(s)	Recovery		QC Criteria				
2,4,5,6-Tetrachloro-m-xylene	80.0	%	30-150				
Decachlorobiphenyl	65.0	%	30-150				
Hydrocarbon Scan by GC 8100M				1 8100M	1230 19:45	0106 09:26	JB
Mineral Spirits	ND	mg/kg	2200				
Gasoline	ND	mg/kg	2200				
Fuel Oil #2/Diesel	ND	mg/kg	2200				
Fuel Oil #4	ND	mg/kg	2200				

Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES  
 CERTIFICATE OF ANALYSIS

Laboratory Sample Number: L0313185-01  
 UST-STKPL-2

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Hydrocarbon Scan by GC 8100M continued				1	8100M	1230 19:45	0106 09:26 JB
Fuel Oil #6	ND	mg/kg	2200				
Motor Oil	ND	mg/kg	2200				
Kerosene	ND	mg/kg	2200				
Transformer Oil	ND	mg/kg	2200				
Unknown Hydrocarbon	5200	mg/kg	2200				
Surrogate(s)	Recovery						QC Criteria
o-Terphenyl	87.0	%					40-140

Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES  
 QUALITY ASSURANCE BATCH DUPLICATE ANALYSIS

Laboratory Job Number: L0313185

Parameter	Value 1	Value 2	Units	RPD	RPD Limits
Solids, Total for sample(s) 01 (L0313136-01, WG159992)					
Solids, Total	86.	86.	%	0	
pH for sample(s) 01 (L0313185-01, WG160013)					
pH	7.8	7.9	SU	1	
Cyanide, Reactive for sample(s) 01 (L0313099-01, WG160061)					
Cyanide, Reactive	ND	ND	mg/kg	NC	
Sulfide, Reactive for sample(s) 01 (L0313099-01, WG160059)					
Sulfide, Reactive	ND	ND	mg/kg	NC	
Hydrocarbon Scan by GC 8100M for sample(s) 01 (L0313185-01, WG160007)					
Mineral Spirits	ND	ND	mg/kg	NC	40
Gasoline	ND	ND	mg/kg	NC	40
Fuel Oil #2/Diesel	ND	ND	mg/kg	NC	40
Fuel Oil #4	ND	ND	mg/kg	NC	40
Fuel Oil #6	ND	ND	mg/kg	NC	40
Motor Oil	ND	ND	mg/kg	NC	40
Kerosene	ND	ND	mg/kg	NC	40
Transformer Oil	ND	ND	mg/kg	NC	40
Unknown Hydrocarbon	5200	3900	mg/kg	29	40
Surrogate(s)	Recovery				QC Criteria
o-Terphenyl	87.0	81.0	%	7	40-140



ALPHA ANALYTICAL LABORATORIES  
 QUALITY ASSURANCE BATCH SPIKE ANALYSES

Laboratory Job Number: L0313185

Parameter	% Recovery	QC Criteria
pH LCS for sample(s) 01 (WG160013)		
pH	100	
Sulfide, Reactive LCS for sample(s) 01 (WG160059)		
Sulfide, Reactive	101	
Total Metals LCS for sample(s) 01 (WG160143)		
Arsenic, Total	100	75-125
Barium, Total	88	75-125
Cadmium, Total	98	75-125
Chromium, Total	93	75-125
Lead, Total	98	75-125
Selenium, Total	104	75-125
Silver, Total	92	75-125
Total Metals LCS for sample(s) 01 (WG160101)		
Mercury, Total	99	75-125
Volatile Organics by MCP 8260B/5035-High LCS for sample(s) 01 (WG160323)		
Methylene chloride	104	70-130
1,1-Dichloroethane	104	70-130
Chloroform	105	70-130
Carbon tetrachloride	109	70-130
1,2-Dichloropropane	100	70-130
Dibromochloromethane	94	70-130
1,1,2-Trichloroethane	102	70-130
Tetrachloroethene	104	70-130
Chlorobenzene	104	70-130
Trichlorofluoromethane	118	70-130
1,2-Dichloroethane	116	70-130
1,1,1-Trichloroethane	114	70-130
Bromodichloromethane	99	70-130
trans-1,3-Dichloropropene	101	70-130
cis-1,3-Dichloropropene	103	70-130
1,1-Dichloropropene	105	70-130
Bromoform	99	70-130
1,1,2,2-Tetrachloroethane	112	70-130
Benzene	103	70-130
Toluene	101	70-130
Ethylbenzene	112	70-130
Chloromethane	93	70-130
Bromomethane	104	70-130
Vinyl chloride	101	70-130
Chloroethane	108	70-130
1,1-Dichloroethene	90	70-130
trans-1,2-Dichloroethene	95	70-130
Trichloroethene	104	70-130
1,2-Dichlorobenzene	105	70-130
1,3-Dichlorobenzene	107	70-130

ALPHA ANALYTICAL LABORATORIES  
 QUALITY ASSURANCE BATCH SPIKE ANALYSES

Laboratory Job Number: L0313185

Continued

Parameter	% Recovery	QC Criteria
Volatile Organics by MCP 8260B/5035-High LCS for sample(s) 01 (WG160323)		
1,4-Dichlorobenzene	102	70-130
Methyl tert butyl ether	81	70-130
p/m-Xylene	110	70-130
o-Xylene	106	70-130
cis-1,2-Dichloroethene	95	70-130
Dibromomethane	107	70-130
1,2,3-Trichloropropane	112	70-130
Styrene	107	70-130
Dichlorodifluoromethane	79	70-130
Acetone	124	70-130
Carbon disulfide	94	70-130
2-Butanone	88	70-130
4-Methyl-2-pentanone	91	70-130
2-Hexanone	95	70-130
Bromochloromethane	106	70-130
Tetrahydrofuran	96	70-130
2,2-Dichloropropane	109	70-130
1,2-Dibromoethane	101	70-130
1,3-Dichloropropane	103	70-130
1,1,1,2-Tetrachloroethane	111	70-130
Bromobenzene	103	70-130
n-Butylbenzene	110	70-130
sec-Butylbenzene	113	70-130
tert-Butylbenzene	111	70-130
o-Chlorotoluene	114	70-130
p-Chlorotoluene	111	70-130
1,2-Dibromo-3-chloropropane	110	70-130
Hexachlorobutadiene	114	70-130
Isopropylbenzene	108	70-130
p-Isopropyltoluene	111	70-130
Naphthalene	102	70-130
n-Propylbenzene	114	70-130
1,2,3-Trichlorobenzene	100	70-130
1,2,4-Trichlorobenzene	99	70-130
1,3,5-Trimethylbenzene	113	70-130
1,2,4-Trimethylbenzene	112	70-130
Ethyl ether	99	70-130
Isopropyl Ether	90	70-130
Ethyl-Tert-Butyl-Ether	86	70-130
Tertiary-Amyl Methyl Ether	85	70-130
1,4-Dioxane	108	70-130
Surrogate(s)		
1,2-Dichloroethane-d4	103	70-130
Toluene-d8	88	70-130
4-Bromofluorobenzene	97	70-130
Dibromofluoromethane	90	70-130

ALPHA ANALYTICAL LABORATORIES  
 QUALITY ASSURANCE BATCH SPIKE ANALYSES

Laboratory Job Number: L0313185

Continued

Parameter	% Recovery	QC Criteria
Semivolatile Organics by MCP 8270C LCS for sample(s) 01 (WG160000)		
Acenaphthene	78	40-140
1,2,4-Trichlorobenzene	61	40-140
Hexachlorobenzene	78	40-140
Bis(2-chloroethyl) ether	58	40-140
2-Chloronaphthalene	63	40-140
1,2-Dichlorobenzene	56	40-140
1,3-Dichlorobenzene	55	40-140
1,4-Dichlorobenzene	55	40-140
3,3'-Dichlorobenzidine	110	40-140
2,4-Dinitrotoluene	100	40-140
2,6-Dinitrotoluene	80	40-140
Azobenzene	89	40-140
Fluoranthene	88	40-140
4-Bromophenyl phenyl ether	79	40-140
Bis(2-chloroisopropyl) ether	63	40-140
Bis(2-chloroethoxy) methane	56	40-140
Hexachlorobutadiene	59	40-140
Hexachloroethane	56	40-140
Isophorone	60	40-140
Naphthalene	63	40-140
Nitrobenzene	69	40-140
Bis(2-Ethylhexyl) phthalate	97	40-140
Butyl benzyl phthalate	88	40-140
Di-n-butylphthalate	91	40-140
Di-n-octylphthalate	95	40-140
Diethyl phthalate	95	40-140
Dimethyl phthalate	87	40-140
Benzo(a) anthracene	96	40-140
Benzo(a) pyrene	95	40-140
Benzo(b) fluoranthene	99	40-140
Benzo(k) fluoranthene	100	40-140
Chrysene	93	40-140
Acenaphthylene	64	40-140
Anthracene	90	40-140
Benzo(ghi) perylene	96	40-140
Fluorene	84	40-140
Phenanthrene	91	40-140
Dibenzo(a,h) anthracene	96	40-140
Indeno(1,2,3-cd) Pyrene	96	40-140
Pyrene	86	40-140
Aniline	87	40-140
4-Chloroaniline	64	40-140
Dibenzofuran	80	40-140
2-Methylnaphthalene	59	40-140
Acetophenone	59	40-140
2,4,6-Trichlorophenol	64	30-130
2-Chlorophenol	53	30-130
2,4-Dichlorophenol	60	30-130

ALPHA ANALYTICAL LABORATORIES  
 QUALITY ASSURANCE BATCH SPIKE ANALYSES

Laboratory Job Number: L0313185

Continued

Parameter	% Recovery	QC Criteria
Semivolatile Organics by MCP 8270C LCS for sample(s) 01 (WG160000)		
2,4-Dimethylphenol	34	30-130
2-Nitrophenol	51	30-130
4-Nitrophenol	83	30-130
2,4-Dinitrophenol	75	30-130
Pentachlorophenol	82	30-130
Phenol	54	30-130
2-Methylphenol	48	30-130
3-Methylphenol/4-Methylphenol	48	30-130
2,4,5-Trichlorophenol	66	30-130
Surrogate(s)		
2-Fluorophenol	54	30-130
Phenol-d6	54	30-130
Nitrobenzene-d5	58	30-130
2-Fluorobiphenyl	62	30-130
2,4,6-Tribromophenol	100	30-130
4-Terphenyl-d14	74	30-130
Polychlorinated Biphenyls by MCP 8082 LCS for sample(s) 01 (WG160002)		
Aroclor 1242/1016	89	40-140
Aroclor 1260	87	40-140
Surrogate(s)		
2,4,5,6-Tetrachloro-m-xylene	80	30-150
Decachlorobiphenyl	62	30-150
Hydrocarbon Scan by GC 8100M LCS for sample(s) 01 (WG160007)		
Petroleum Spike	96	40-140
Surrogate(s)		
o-Terphenyl	103	40-140

ALPHA ANALYTICAL LABORATORIES  
 QUALITY ASSURANCE BATCH BLANK ANALYSIS

Laboratory Job Number: L0313185

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Blank Analysis for sample(s) 01 (WG160061-1)							
Cyanide, Reactive	ND	mg/kg	0.25	1 7.3			1231 08:20 AT
Blank Analysis for sample(s) 01 (WG160059-1)							
Sulfide, Reactive	ND	mg/kg	0.50	1 7.3			1231 08:20 AT
Blank Analysis for sample(s) 01 (WG160143-1)							
Total Metals				1 3051			
Arsenic, Total	ND	mg/kg	0.40	54 6010B	1231 13:00	0105 08:40	RW
Barium, Total	ND	mg/kg	0.40	54 6010B	1231 13:00	0105 08:40	RW
Cadmium, Total	ND	mg/kg	0.40	54 6010B	1231 13:00	0105 08:40	RW
Chromium, Total	ND	mg/kg	0.40	54 6010B	1231 13:00	0105 08:40	RW
Lead, Total	ND	mg/kg	2.0	54 6010B	1231 13:00	0105 08:40	RW
Selenium, Total	ND	mg/kg	0.80	54 6010B	1231 13:00	0105 08:40	RW
Silver, Total	ND	mg/kg	0.40	54 6010B	1231 13:00	0105 08:40	RW
Blank Analysis for sample(s) 01 (WG160101-2)							
Total Metals							
Mercury, Total	ND	mg/kg	0.08	54 7471A	1231 14:15	0105 09:55	DM
Blank Analysis for sample(s) 01 (WG160323-2)							
Volatile Organics by MCP 8260B/5035-High				54 8260B			1231 23:27 BT
Methylene chloride	ND	ug/kg	500				
1,1-Dichloroethane	ND	ug/kg	75.				
Chloroform	ND	ug/kg	75.				
Carbon tetrachloride	ND	ug/kg	50.				
1,2-Dichloropropane	ND	ug/kg	180				
Dibromochloromethane	ND	ug/kg	50.				
1,1,2-Trichloroethane	ND	ug/kg	75.				
Tetrachloroethene	ND	ug/kg	50.				
Chlorobenzene	ND	ug/kg	50.				
Trichlorofluoromethane	ND	ug/kg	250				
1,2-Dichloroethane	ND	ug/kg	50.				
1,1,1-Trichloroethane	ND	ug/kg	50.				
Bromodichloromethane	ND	ug/kg	50.				
trans-1,3-Dichloropropene	ND	ug/kg	50.				
cis-1,3-Dichloropropene	ND	ug/kg	50.				
1,1-Dichloropropene	ND	ug/kg	250				
Bromoform	ND	ug/kg	200				
1,1,2,2-Tetrachloroethane	ND	ug/kg	50.				
Benzene	ND	ug/kg	50.				
Toluene	ND	ug/kg	75.				
Ethylbenzene	ND	ug/kg	50.				
Chloromethane	ND	ug/kg	250				
Bromomethane	ND	ug/kg	100				

ALPHA ANALYTICAL LABORATORIES  
 QUALITY ASSURANCE BATCH BLANK ANALYSIS

Laboratory Job Number: L0313185

Continued

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Blank Analysis for sample(s) 01 (WG160323-2)							
Volatile Organics by MCP 8260B/5035-High continued				54 8260B		1231 23:27 BT	
Vinyl chloride	ND	ug/kg	100				
Chloroethane	ND	ug/kg	100				
1,1-Dichloroethene	ND	ug/kg	50.				
trans-1,2-Dichloroethene	ND	ug/kg	75.				
Trichloroethene	ND	ug/kg	50.				
1,2-Dichlorobenzene	ND	ug/kg	250				
1,3-Dichlorobenzene	ND	ug/kg	250				
1,4-Dichlorobenzene	ND	ug/kg	250				
Methyl tert butyl ether	ND	ug/kg	100				
p/m-Xylene	ND	ug/kg	50.				
o-Xylene	ND	ug/kg	50.				
cis-1,2-Dichloroethene	ND	ug/kg	50.				
Dibromomethane	ND	ug/kg	500				
1,2,3-Trichloropropane	ND	ug/kg	500				
Styrene	ND	ug/kg	50.				
Dichlorodifluoromethane	ND	ug/kg	500				
Acetone	ND	ug/kg	500				
Carbon disulfide	ND	ug/kg	500				
2-Butanone	ND	ug/kg	500				
4-Methyl-2-pentanone	ND	ug/kg	500				
2-Hexanone	ND	ug/kg	500				
Bromochloromethane	ND	ug/kg	250				
Tetrahydrofuran	ND	ug/kg	1000				
2,2-Dichloropropane	ND	ug/kg	250				
1,2-Dibromoethane	ND	ug/kg	250				
1,3-Dichloropropane	ND	ug/kg	250				
1,1,1,2-Tetrachloroethane	ND	ug/kg	50.				
Bromobenzene	ND	ug/kg	250				
n-Butylbenzene	ND	ug/kg	50.				
sec-Butylbenzene	ND	ug/kg	50.				
tert-Butylbenzene	ND	ug/kg	250				
o-Chlorotoluene	ND	ug/kg	250				
p-Chlorotoluene	ND	ug/kg	250				
1,2-Dibromo-3-chloropropane	ND	ug/kg	250				
Hexachlorobutadiene	ND	ug/kg	250				
Isopropylbenzene	ND	ug/kg	50.				
p-Isopropyltoluene	ND	ug/kg	50.				
Naphthalene	ND	ug/kg	250				
n-Propylbenzene	ND	ug/kg	50.				
1,2,3-Trichlorobenzene	ND	ug/kg	250				
1,2,4-Trichlorobenzene	ND	ug/kg	250				
1,3,5-Trimethylbenzene	ND	ug/kg	250				
1,2,4-Trimethylbenzene	ND	ug/kg	250				
Ethyl ether	ND	ug/kg	250				
Isopropyl Ether	ND	ug/kg	200				
Ethyl-Tert-Butyl-Ether	ND	ug/kg	200				
Tertiary-Amyl Methyl Ether	ND	ug/kg	200				

ALPHA ANALYTICAL LABORATORIES  
 QUALITY ASSURANCE BATCH BLANK ANALYSIS

Laboratory Job Number: L0313185

Continued

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Blank Analysis for sample(s) 01 (WG160323-2)							
Volatile Organics by MCP 8260B/5035-High continued							
				54 8260B		1231 23:27	BT
1,4-Dioxane	ND	ug/kg	25000				
Surrogate(s) Recovery QC Criteria							
1,2-Dichloroethane-d4	97.0	%	70-130				
Toluene-d8	86.0	%	70-130				
4-Bromofluorobenzene	96.0	%	70-130				
Dibromofluoromethane	78.0	%	70-130				
Blank Analysis for sample(s) 01 (WG160000-1)							
Semivolatile Organics by MCP 8270C							
				54 8270C		1230 19:40 0103 12:02	HL
Acenaphthene	ND	ug/kg	1000				
1,2,4-Trichlorobenzene	ND	ug/kg	1000				
Hexachlorobenzene	ND	ug/kg	1000				
Bis(2-chloroethyl) ether	ND	ug/kg	1000				
2-Chloronaphthalene	ND	ug/kg	1000				
1,2-Dichlorobenzene	ND	ug/kg	1000				
1,3-Dichlorobenzene	ND	ug/kg	1000				
1,4-Dichlorobenzene	ND	ug/kg	1000				
3,3'-Dichlorobenzidine	ND	ug/kg	2000				
2,4-Dinitrotoluene	ND	ug/kg	1000				
2,6-Dinitrotoluene	ND	ug/kg	1000				
Azobenzene	ND	ug/kg	1000				
Fluoranthene	ND	ug/kg	1000				
4-Bromophenyl phenyl ether	ND	ug/kg	1000				
Bis(2-chloroisopropyl) ether	ND	ug/kg	1000				
Bis(2-chloroethoxy) methane	ND	ug/kg	1000				
Hexachlorobutadiene	ND	ug/kg	2000				
Hexachloroethane	ND	ug/kg	1000				
Isophorone	ND	ug/kg	1000				
Naphthalene	ND	ug/kg	1000				
Nitrobenzene	ND	ug/kg	1000				
Bis(2-Ethylhexyl) phthalate	ND	ug/kg	2000				
Butyl benzyl phthalate	ND	ug/kg	1000				
Di-n-butylphthalate	ND	ug/kg	1000				
Di-n-octylphthalate	ND	ug/kg	1000				
Diethyl phthalate	ND	ug/kg	1000				
Dimethyl phthalate	ND	ug/kg	1000				
Benzo(a) anthracene	ND	ug/kg	1000				
Benzo(a) pyrene	ND	ug/kg	1000				
Benzo(b) fluoranthene	ND	ug/kg	1000				
Benzo(k) fluoranthene	ND	ug/kg	1000				
Chrysene	ND	ug/kg	1000				
Acenaphthylene	ND	ug/kg	1000				
Anthracene	ND	ug/kg	1000				
Benzo(ghi) perylene	ND	ug/kg	1000				
Fluorene	ND	ug/kg	1000				
Phenanthrene	ND	ug/kg	1000				



ALPHA ANALYTICAL LABORATORIES  
QUALITY ASSURANCE BATCH BLANK ANALYSIS

Laboratory Job Number: L0313185

Continued

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Blank Analysis for sample(s) 01 (WG160000-1)							
Semivolatile Organics by MCP 8270C continued							
				54 8270C	1230 19:40	0103 12:02	HL
Dibenzo(a,h)anthracene	ND	ug/kg	1000				
Indeno(1,2,3-cd)Pyrene	ND	ug/kg	1000				
Pyrene	ND	ug/kg	1000				
Aniline	ND	ug/kg	2000				
4-Chloroaniline	ND	ug/kg	1000				
Dibenzofuran	ND	ug/kg	1000				
2-Methylnaphthalene	ND	ug/kg	1000				
Acetophenone	ND	ug/kg	4000				
2,4,6-Trichlorophenol	ND	ug/kg	1000				
2-Chlorophenol	ND	ug/kg	1200				
2,4-Dichlorophenol	ND	ug/kg	2000				
2,4-Dimethylphenol	ND	ug/kg	1000				
2-Nitrophenol	ND	ug/kg	4000				
4-Nitrophenol	ND	ug/kg	2000				
2,4-Dinitrophenol	ND	ug/kg	4000				
Pentachlorophenol	ND	ug/kg	4000				
Phenol	ND	ug/kg	1400				
2-Methylphenol	ND	ug/kg	1200				
3-Methylphenol/4-Methylphenol	ND	ug/kg	1200				
2,4,5-Trichlorophenol	ND	ug/kg	1000				
Surrogate(s)	Recovery		QC Criteria				
2-Fluorophenol	60.0	%	30-130				
Phenol-d6	60.0	%	30-130				
Nitrobenzene-d5	63.0	%	30-130				
2-Fluorobiphenyl	58.0	%	30-130				
2,4,6-Tribromophenol	89.0	%	30-130				
4-Terphenyl-d14	76.0	%	30-130				
Blank Analysis for sample(s) 01 (WG160002-1)							
Polychlorinated Biphenyls by MCP 8082							
				54 8082	1230 19:42	0103 23:37	AK
Aroclor 1221	ND	ug/kg	100.				
Aroclor 1232	ND	ug/kg	100.				
Aroclor 1242/1016	ND	ug/kg	100.				
Aroclor 1248	ND	ug/kg	100.				
Aroclor 1254	ND	ug/kg	100.				
Aroclor 1260	ND	ug/kg	100.				
Aroclor 1262	ND	ug/kg	100.				
Aroclor 1268	ND	ug/kg	100.				
Surrogate(s)	Recovery		QC Criteria				
2,4,5,6-Tetrachloro-m-xylene	80.0	%	30-150				
Decachlorobiphenyl	61.0	%	30-150				
Blank Analysis for sample(s) 01 (WG160007-1)							
Hydrocarbon Scan by GC 8100M							
				1 8100M	1230 19:45	0105 14:35	JB
Mineral Spirits	ND	mg/kg	200				

ALPHA ANALYTICAL LABORATORIES  
 QUALITY ASSURANCE BATCH BLANK ANALYSIS

Laboratory Job Number: L0313185

Continued

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Blank Analysis for sample(s) 01 (WG160007-1)							
Hydrocarbon Scan by GC 8100M continued							
				1	8100M	1230 19:45	0105 14:35 JB
Gasoline	ND	mg/kg	200				
Fuel Oil #2/Diesel	ND	mg/kg	200				
Fuel Oil #4	ND	mg/kg	200				
Fuel Oil #6	ND	mg/kg	200				
Motor Oil	ND	mg/kg	200				
Kerosene	ND	mg/kg	200				
Transformer Oil	ND	mg/kg	200				
Unknown Hydrocarbon	ND	mg/kg	200				
Surrogate(s)	Recovery		QC Criteria				
o-Terphenyl	87.0	%	40-140				

**ALPHA ANALYTICAL LABORATORIES  
ADDENDUM I**

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**REFERENCES**

1. Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - IIIA, 1997.
30. Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WPCF. 18th Edition. 1992.
54. Compendium of Quality Assurance and Quality Control Requirements and Performance Standards for Selected Analytical Methods. MADEP BWSC. Final Methods. May 2003.

**GLOSSARY OF TERMS AND SYMBOLS**

REF Reference number in which test method may be found.  
METHOD Method number by which analysis was performed.  
ID Initials of the analyst.  
ND Not detected in comparison to the reported detection limit.

Please note that all solid samples are reported on dry weight basis unless noted otherwise.

**LIMITATION OF LIABILITIES**

Alpha Analytical, Inc. performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical, Inc., shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical, Inc. be held liable for any incidental consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical, Inc.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding times and splitting of samples in the field.

**ALPHA ANALYTICAL LABORATORIES  
LOGIN SPECIFIC INFORMATION**

Laboratory Job Number: L0313185

Were project specific reporting limits specified? YES

**Cooler Information**

Cooler	Custody Seal
A	Absent

**Container Information**

Container ID	Container Type	Cooler	pH	Temp	Pres	Seal	Analysis
L0313185-01A	Vial MeOH preserved	A	N/A	0.8 C	Y	Absent	MCP-8260H
L0313185-01B	Vial NaHSO4 preserved	A	N/A	0.8 C	Y	Absent	MCP-8260H
L0313185-01C	Vial NaHSO4 preserved	A	N/A	0.8 C	Y	Absent	MCP-8260H
L0313185-01D	Vial NaHSO4 preserved	A	N/A	0.8 C	Y	Absent	MCP-8260H
L0313185-01E	Plastic 2oz unpreserved for Tota	A	N/A	0.8 C	Y	Absent	TS
L0313185-01F	Amber 100ml unpreserved	A	N/A	0.8 C	Y	Absent	MCP-8082, MCP-8270, TPH-8100
L0313185-01G	Amber 250ml unpreserved	A	N/A	0.8 C	Y	Absent	AG-TI, AS-TI, BA-TI, CD-TI, CR-TI, HG-T, PB-TI, PREPT, SE-TI
L0313185-01H	Amber 250ml unpreserved	A	N/A	0.8 C	Y	Absent	FLASH, PH-9045, REACTCN, REACTS

**Container Comments**

Container ID	Comments
L0313185-01E	This container has not been properly returned to CUSTODY! It was last assigned to THOANG for department CUSTODY on 12/30/03 18:23 .

# CHAIN OF CUSTODY RECORD

PHONE (017) 886-7400  
 Fax (617) 886-7600  
 Page 1 of 1  
 DELIVERY DATE 12/30/03  
 TURNAROUND TIME 3 DAYS  
 PROJECT MANAGER *John Rooney*

LABORATORY ALPHA  
 ADDRESS  
 CONTACT

H&A FILE NO. 30660-000  
 PROJECT NAME *BORLYN SALER TANK RELEASE*  
 H&A CONTACT *PHI COONS*

Sample No.	Date	Time	Depth	Type	Analysis Requested										Number of Containers	Comments (special instructions, precautions, additional method numbers, etc.)
					VOA	ABNs PAH only	MCP Metals	Pesticides	VPH Full Suite C-ranges only	EPH Full Suite C-ranges only	TPH (specify)	TCLP (specify)	Reactivity	Ignitability		
151-STEP-2	12/10/03	1800	-	SPL	X				X	X	X	X	X	X	8	Laboratory to use applicable DEP CAM methods, unless otherwise directed.  ① by GC/FID ② SVOCS ③ RCRA(8) METALS
LIQUID																
SOLID																
PRESERVATION KEY																
A Sample chilled C NaOH E H <sub>2</sub> SO <sub>4</sub> G Methanol																
B Sample filtered D HNO <sub>3</sub> F HCL H Water/NaHSO <sub>4</sub> (circle)																

Received by *Desmond Crawford*  
 Sign *[Signature]*  
 Print DESMOND CRAWFORD  
 Firm H&A  
 Date 12/29/03 Time 20:00

Relinquished by *Desmond Crawford*  
 Sign *[Signature]*  
 Print DESMOND CRAWFORD  
 Firm H&A  
 Date 12/30/03 Time 15:00

Received by *[Signature]*  
 Sign *[Signature]*  
 Print [Signature]  
 Firm [Signature]  
 Date 12/30/03 Time 15:00

Relinquished by *[Signature]*  
 Sign *[Signature]*  
 Print [Signature]  
 Firm [Signature]  
 Date 12/30/03 Time 17:00

Required Reporting Limits and Data Quality Objectives  
 RC-S1  S1  GW1  
 RC-S2  S2  GW2  
 RC-GW1  S3  GW3  
 RC-GW2

If Presumptive Certainty Data Package is needed, initial all sections:  
 The required minimum field QC samples, as designated in BWSC CAM-VII have been or will be collected, as appropriate, to meet the requirements of Presumptive Certainty.  
 Matrix Spike (MS) samples for MCP Metals and/or Cyanide are included and identified herein.  
 This Chain of Custody Record (specify) \_\_\_\_\_ includes \_\_\_\_\_ does not include samples defined as Drinking Water Samples.  
 If this Chain of Custody Record identifies samples defined as Drinking Water Samples, Trip Blanks and Field Duplicates are included and analysis of TICs are required, as appropriate. Laboratory should (specify if applicable) \_\_\_\_\_ hold for contingency testing the Drinking Water Field Duplicate and Drinking Water Trip Blank samples.

ALPHA ANALYTICAL LABORATORIES

Eight Walkup Drive  
Westborough, Massachusetts 01581-1019  
(508) 898-9220 www.alphalab.com

MA:M-MA086 NH:200301-A CT:PH-0574 ME:MA086 RI:65 NY:11148 NJ:MA935 Army:USACE

CERTIFICATE OF ANALYSIS

Client: Haley & Aldrich, Inc. Laboratory Job Number: L0313184  
Address: 465 Medford Street, Suite 2200  
Boston, MA 02129-1400 Date Received: 30-DEC-2003  
Attn: Mr. Steve Provencal Date Reported: 06-JAN-2004  
Project Number: 30660-000 Delivery Method: Alpha  
Site: BURBANK SCHOOL TANK RELEASE

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ALPHA SAMPLE NUMBER	CLIENT IDENTIFICATION	SAMPLE LOCATION
L0313184-01	UST-STKPL2-S2	BELMONT, MA
L0313184-02	UST-STKPL2-S3	BELMONT, MA

I, the undersigned, attest under the pains and penalties of perjury that, based upon my personal inquiry of those responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

---

Authorized by: Scott McLean  
This document electronically signed

ALPHA ANALYTICAL LABORATORIES  
NARRATIVE REPORT

Laboratory Job Number: L0313184

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TPH-8100M

Due to sample matrix interference, L0313184-01, -02, and the associated Duplicate were analyzed on a 10x dilution.







ALPHA ANALYTICAL LABORATORIES  
 QUALITY ASSURANCE BATCH DUPLICATE ANALYSIS

Laboratory Job Number: L0313184

Parameter	Value 1	Value 2	Units	RPD	RPD Limits
Solids, Total for sample(s) 01-02 (L0313184-01, WG159997)					
Solids, Total	92.	88.	%	4	
Hydrocarbon Scan by GC 8100M for sample(s) 01-02 (L0313184-01, WG160004)					
Mineral Spirits	ND	ND	mg/kg	NC	40
Gasoline	ND	ND	mg/kg	NC	40
Fuel Oil #2/Diesel	ND	ND	mg/kg	NC	40
Fuel Oil #4	ND	ND	mg/kg	NC	40
Fuel Oil #6	ND	ND	mg/kg	NC	40
Motor Oil	ND	ND	mg/kg	NC	40
Kerosene	ND	ND	mg/kg	NC	40
Transformer Oil	ND	ND	mg/kg	NC	40
Unknown Hydrocarbon	28000	28000	mg/kg	0	40
Surrogate(s)	Recovery				QC Criteria
o-Terphenyl	105.	107.	%	2	40-140

ALPHA ANALYTICAL LABORATORIES  
QUALITY ASSURANCE BATCH SPIKE ANALYSES

Laboratory Job Number: L0313184

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Parameter	% Recovery	QC Criteria
Hydrocarbon Scan by GC 8100M LCS for sample(s)		01-02 (WG160004)
Petroleum Spike	111	40-140
Surrogate(s)		
o-Terphenyl	99	40-140

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ALPHA ANALYTICAL LABORATORIES  
 QUALITY ASSURANCE BATCH BLANK ANALYSIS

Laboratory Job Number: L0313184

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Blank Analysis for sample(s) 01-02 (WG160004-1)							
Hydrocarbon Scan by GC 8100M				1 8100M		1230 19:42 0105 14:35	JB
Mineral Spirits	ND	mg/kg	1000				
Gasoline	ND	mg/kg	1000				
Fuel Oil #2/Diesel	ND	mg/kg	1000				
Fuel Oil #4	ND	mg/kg	1000				
Fuel Oil #6	ND	mg/kg	1000				
Motor Oil	ND	mg/kg	1000				
Kerosene	ND	mg/kg	1000				
Transformer Oil	ND	mg/kg	1000				
Unknown Hydrocarbon	ND	mg/kg	1000				
Surrogate(s)	Recovery			QC Criteria			
o-Terphenyl	102.	%		40-140			

**ALPHA ANALYTICAL LABORATORIES  
ADDENDUM I**

---

**REFERENCES**

1. Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - IIIA, 1997.
  
30. Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WPCF. 18th Edition. 1992.

**GLOSSARY OF TERMS AND SYMBOLS**

REF Reference number in which test method may be found.  
METHOD Method number by which analysis was performed.  
ID Initials of the analyst.  
ND Not detected in comparison to the reported detection limit.

Please note that all solid samples are reported on dry weight basis unless noted otherwise.

**LIMITATION OF LIABILITIES**

Alpha Analytical, Inc. performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical, Inc., shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical, Inc. be held liable for any incidental consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical, Inc.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding times and splitting of samples in the field.



465 Medford St.,  
Suite 2200,  
Boston, MA 02129-1400

# CHAIN OF CUSTODY RECORD

Fax (617) 886-7600

Page 1 of 1

H&A FILE NO. 30660-000 DELIVERY DATE 12/30/03

PROJECT NAME BURNABK SCHOOL TANK RELEASE TURNAROUND TIME 3 DAYS

H&A CONTACT DAVE CORNIBS PROJECT MANAGER SK Moonen

LABORATORY ALPHA

ADDRESS \_\_\_\_\_

CONTACT \_\_\_\_\_

Sample No.	Date	Time	Depth (ft)	Type	Analysis Requested										Number of Containers	Comments (special instructions, precautions, additional method numbers, etc.)			
					VOA	ABNs PAH only	MCP Metals	PCBs	VPH Full Suite C-ranges only	EPH Full Suite C-ranges only	TPH (specif)	TPH (specif)	Reactivity	Ignitability			Corrosivity		
VST-STPL2-52	12/30/03	1000	12	SOIL								X					1	Laboratory to use applicable DEP CAM methods, unless otherwise directed.  ① TPH 6-1 GC/FID	
VST-STPL2-53	12/30/03	1000	12	SOIL								X					1		
Received by					LIQUID														
Sign	DESmond Crawford																		
Print	DESmond Crawford																		
Firm	M&A																		
Date	12/30/03 Time 14:15																		
Relinquished by					SOLID														
Sign	DESmond Crawford																		
Print	DESmond Crawford																		
Firm	M&A																		
Date	12/30/03 Time 15:50																		
Received by					PRESERVATION KEY														
Sign	[Signature]				A Sample chilled C NaOH E H <sub>2</sub> SO <sub>4</sub> G Methanol														
Print	[Signature]				B Sample filtered D HNO <sub>3</sub> F HCL H Water/NaFISO <sub>4</sub> (circle)														
Firm	[Signature]																		
Date	12/30 Time 17:00																		

**If Presumptive Certainty Data Package is needed, initial all sections:**

The required minimum field QC samples, as designated in BWSC CAM-VII have been or will be collected, as appropriate, to meet the requirements of Presumptive Certainty.

Matrix Spike (MS) samples for MCP Metals and/or Cyanide are included and identified herein.

This Chain of Custody Record (specify) \_\_\_\_\_ includes \_\_\_\_\_ does not include samples defined as Drinking Water Samples.

If this Chain of Custody Record identifies samples defined as Drinking Water Samples, Trip Blanks and Field Duplicates are included and analysis of TICs are required, as appropriate. Laboratory should (specify if applicable) \_\_\_\_\_ analyze \_\_\_\_\_ hold for contingency testing the Drinking Water Duplicate and Drinking Water Trip Blank samples.

Required Reporting Limits and Data Quality Objectives

RC-S1  S1  GW1

RC-S2  S2  GW2

RC-GW1  S3  GW3

RC-GW2

ALPHA ANALYTICAL LABORATORIES

Eight Walkup Drive  
Westborough, Massachusetts 01581-1019  
(508) 898-9220 www.alphalab.com

MA:M-MA086 NH:200301-A CT:PH-0574 ME:MA086 RI:65 NY:11148 NJ:MA935 Army:USACE

CERTIFICATE OF ANALYSIS

Client: Haley & Aldrich, Inc. Laboratory Job Number: L0400230  
Address: 465 Medford Street, Suite 2200  
Boston, MA 02129-1400 Date Received: 12-JAN-2004  
Attn: Mr. Steve Provencal Date Reported: 14-JAN-2004  
Project Number: 30660-000 Delivery Method: Alpha  
Site: BELMONT SCHOOLS

---

The following questions pertain only to MCP Analytical Methods

An affirmative response to questions A,B,C & D is required for "Presumptive Certainty" status

- A. Were all samples received by the laboratory in a condition consistent with those described on their Chain-of-Custody documentation for the data set? YES
- B. Were all QA/QC procedures required for the specified analytical method(s) included in this report followed, including the requirement to note and discuss in a narrative QC data that did not meet appropriate performance standards or guidelines? YES
- C. Does the analytical data included in this report meet all the requirements for "Presumptive Certainty", as described in section 2.0 of the MADEP document CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data"? YES
- D. VPH and EPH methods only: Was the VPH or EPH method run without significant modifications, as specified in Section 11.3? YES

A response to questions E and F is required for "Presumptive Certainty" status

- E. Were all QC performance standards and recommendations for the specified method(s) achieved? YES
- F. Were results for all analyte-list compounds/elements for the specified method(s) reported? YES

Any answers of NO to the above questions are addressed in the case narrative.

---

I, the undersigned, attest under the pains and penalties of perjury that, based upon my personal inquiry of those responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

---

Authorized by: Scott McLean  
This document electronically signed

ALPHA ANALYTICAL LABORATORIES

Laboratory Job Number: L0400230

Date Reported: 14-JAN-2004

---

ALPHA SAMPLE NUMBER	CLIENT IDENTIFICATION	SAMPLE LOCATION
L0400230-01	HA-2 S6	BELMONT, MA
L0400230-02	HA-2 S7	BELMONT, MA
L0400230-03	TB-1	ALPHA



ALPHA ANALYTICAL LABORATORIES  
NARRATIVE REPORT

Laboratory Job Number: L0400230

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MCP Related Narratives

Extraction methods

Extraction method 3545 was used as the extraction method for the analysis of EPH by method 98-1.

Report Submission

All MCP required questions were answered with affirmative responses, therefore, there are no relevant data issues to discuss.



ALPHA ANALYTICAL LABORATORIES  
CERTIFICATE OF ANALYSIS

Laboratory Sample Number: L0400230-01  
HA-2 S6

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Volatile Petroleum Hydrocarbons				47 98-1		0113 10:28 MM	

Quality Control Information

Condition of sample received:	Satisfactory	
Sample temperature upon receipt:	Received on Ice	
Were samples received in methanol?	Covering the Soil	
Methanol ratio:	1:1 +/- 25%	
Were all QA/QC procedures REQUIRED by the method followed?		YES
Were all performance/acceptance standards for the required procedures achieved?		YES
Were significant modifications made to the method as specified in Sect 11.3?		NO
Please note to subtract the method blank from the stated result.		
The normal acceptance range for the surrogate, 2,5-Dibromotoluene, is 70-130%.		

C5-C8 Aliphatics, Unadjusted	ND	mg/kg	2.30
C9-C12 Aliphatics, Unadjusted	ND	mg/kg	2.30
C9-C10 Aromatics	ND	mg/kg	2.30
C5-C8 Aliphatics, Adjusted	ND	mg/kg	2.30
C9-C12 Aliphatics, Adjusted	ND	mg/kg	2.30
Benzene	ND	mg/kg	0.115
Toluene	ND	mg/kg	0.115
Ethylbenzene	ND	mg/kg	0.115
p/m-Xylene	ND	mg/kg	0.115
o-Xylene	ND	mg/kg	0.115
Methyl tert butyl ether	ND	mg/kg	0.230
Naphthalene	ND	mg/kg	1.15
Surrogate(s)	Recovery		QC Criteria
2,5-Dibromotoluene-PID	115.	%	70-130
2,5-Dibromotoluene-FID	117.	%	70-130

Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES  
CERTIFICATE OF ANALYSIS

Laboratory Sample Number: L0400230-01  
HA-2 S6

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	

Extractable Petroleum Hydrocarbons				46 98-1		0112 17:00 0113 15:46 BJ	
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Quality Control Information

Condition of sample received:	Satisfactory	
Sample temperature upon receipt:	Received on Ice	
Sample extraction method:	Extracted Per the Method	
Were all QA/QC procedures REQUIRED by the method followed?		YES
Were all performance/acceptance standards for the required procedures achieved?		YES
Were significant modifications made to the method as specified in Sect 11.3?		NO
Please note to subtract the method blank from the stated result.		
The normal acceptance range for the extraction surrogates, Chloro-octadecane and o-Terphenyl, is 40-140%.		
The normal acceptance range for the fractionation surrogates, 2-Fluorobiphenyl and 2-Bromonaphthalene, is 40-140%.		

C9-C18 Aliphatics	ND	mg/kg	12.2
C19-C36 Aliphatics	ND	mg/kg	12.2
C11-C22 Aromatics, Unadjusted	ND	mg/kg	12.2
C11-C22 Aromatics, Adjusted	ND	mg/kg	12.2
Naphthalene	ND	mg/kg	0.610
2-Methylnaphthalene	ND	mg/kg	0.610
Acenaphthylene	ND	mg/kg	0.610
Acenaphthene	ND	mg/kg	0.610
Fluorene	ND	mg/kg	0.610
Phenanthrene	ND	mg/kg	0.610
Anthracene	ND	mg/kg	0.610
Fluoranthene	ND	mg/kg	0.610
Pyrene	ND	mg/kg	0.610
Benzo (a) anthracene	ND	mg/kg	0.610
Chrysene	ND	mg/kg	0.610
Benzo (b) fluoranthene	ND	mg/kg	0.610
Benzo (k) fluoranthene	ND	mg/kg	0.610
Benzo (a) pyrene	ND	mg/kg	0.610
Indeno (1,2,3-cd) Pyrene	ND	mg/kg	0.610
Dibenzo (a,h) anthracene	ND	mg/kg	0.610
Benzo (g,h,i) perylene	ND	mg/kg	0.610

Surrogate (s)	Recovery		QC Criteria
Chloro-Octadecane	51.0	%	40-140
o-Terphenyl	67.0	%	40-140
2-Fluorobiphenyl	79.0	%	40-140
2-Bromonaphthalene	80.0	%	40-140

Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES  
 CERTIFICATE OF ANALYSIS

MA:M-MA086 NH:200301-A CT:PH-0574 ME:MA086 RI:65 NY:11148 NJ:MA935 Army:USACE

Laboratory Sample Number: L0400230-02

Date Collected: 12-JAN-2004 13:45

HA-2 S7

Date Received : 12-JAN-2004

Sample Matrix:

SOIL

Date Reported : 14-JAN-2004

Condition of Sample: Satisfactory

Field Prep: None

Number & Type of Containers: 1-Amber,2-Vial

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Solids, Total	84.	%	0.10	30 2540G		0112 18:00	LK

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Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES  
CERTIFICATE OF ANALYSIS

Laboratory Sample Number: L0400230-02  
HA-2 S7

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	

Volatile Petroleum Hydrocarbons			47 98-1			0113 11:40 MM	
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Quality Control Information

Condition of sample received:	Satisfactory	
Sample temperature upon receipt:	Received on Ice	
Were samples received in methanol?	Covering the Soil	
Methanol ratio:	1:1 +/- 25%	
Were all QA/QC procedures REQUIRED by the method followed?		YES
Were all performance/acceptance standards for the required procedures achieved?		YES
Were significant modifications made to the method as specified in Sect 11.3?		NO
Please note to subtract the method blank from the stated result.		
The normal acceptance range for the surrogate, 2,5-Dibromotoluene, is 70-130%.		

C5-C8 Aliphatics, Unadjusted	ND	mg/kg	2.98
C9-C12 Aliphatics, Unadjusted	ND	mg/kg	2.98
C9-C10 Aromatics	ND	mg/kg	2.98
C5-C8 Aliphatics, Adjusted	ND	mg/kg	2.98
C9-C12 Aliphatics, Adjusted	ND	mg/kg	2.98
Benzene	ND	mg/kg	0.149
Toluene	ND	mg/kg	0.149
Ethylbenzene	ND	mg/kg	0.149
p/m-Xylene	ND	mg/kg	0.149
o-Xylene	ND	mg/kg	0.149
Methyl tert butyl ether	ND	mg/kg	0.298
Naphthalene	ND	mg/kg	1.49
Surrogate(s)	Recovery		QC Criteria
2,5-Dibromotoluene-PID	116.	%	70-130
2,5-Dibromotoluene-FID	129.	%	70-130

Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES  
CERTIFICATE OF ANALYSIS

Sample Number: L0400230-02  
HA-2 S7

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Extractable Petroleum Hydrocarbons				46 98-1	0112 17:00	0113 16:31	BJ

Quality Control Information

Condition of sample received: Satisfactory  
 Sample temperature upon receipt: Received on Ice  
 Sample extraction method: Extracted Per the Method  
 Were all QA/QC procedures REQUIRED by the method followed? YES  
 Were all performance/acceptance standards for the required procedures achieved? YES  
 Were significant modifications made to the method as specified in Sect 11.3? NO  
 Please note to subtract the method blank from the stated result.  
 The normal acceptance range for the extraction surrogates, Chloro-octadecane and o-Terphenyl, is 40-140%.  
 The normal acceptance range for the fractionation surrogates, 2-Fluorobiphenyl and 2-Bromonaphthalene, is 40-140%.

C9-C18 Aliphatics	ND	mg/kg	11.9
C19-C36 Aliphatics	ND	mg/kg	11.9
C11-C22 Aromatics, Unadjusted	ND	mg/kg	11.9
C11-C22 Aromatics, Adjusted	ND	mg/kg	11.9
Naphthalene	ND	mg/kg	0.595
2-Methylnaphthalene	ND	mg/kg	0.595
Acenaphthylene	ND	mg/kg	0.595
Acenaphthene	ND	mg/kg	0.595
Fluorene	ND	mg/kg	0.595
Phenanthrene	ND	mg/kg	0.595
Anthracene	ND	mg/kg	0.595
Fluoranthene	ND	mg/kg	0.595
Pyrene	ND	mg/kg	0.595
Benzo(a)anthracene	ND	mg/kg	0.595
Chrysene	ND	mg/kg	0.595
Benzo(b)fluoranthene	ND	mg/kg	0.595
Benzo(k)fluoranthene	ND	mg/kg	0.595
Benzo(a)pyrene	ND	mg/kg	0.595
Indeno(1,2,3-cd)Pyrene	ND	mg/kg	0.595
Dibenzo(a,h)anthracene	ND	mg/kg	0.595
Benzo(g,h,i)perylene	ND	mg/kg	0.595

Surrogate(s)	Recovery		QC Criteria
Chloro-Octadecane	45.0	%	40-140
o-Terphenyl	68.0	%	40-140
2-Fluorobiphenyl	73.0	%	40-140
2-Bromonaphthalene	75.0	%	40-140

Comments: Complete list of References and Glossary of Terms found in Addendum I





ALPHA ANALYTICAL LABORATORIES  
 QUALITY ASSURANCE BATCH DUPLICATE ANALYSIS

Laboratory Job Number: L0400230

Parameter	Value 1	Value 2	Units	RPD	RPD Limits
Solids, Total for sample(s) 01-02 (L0400230-01, WG160840)					
Solids, Total	82.	83.	%	1	
Volatile Petroleum Hydrocarbons for sample(s) 02-03 (L0400096-01, WG160662)					
C5-C8 Aliphatics	ND	ND	mg/kg	NC	50
C9-C12 Aliphatics	ND	ND	mg/kg	NC	50
C9-C10 Aromatics	ND	ND	mg/kg	NC	50
C5-C8 Aliphatics, Adjusted	ND	ND	mg/kg	NC	50
C9-C12 Aliphatics, Adjusted	ND	ND	mg/kg	NC	50
Benzene	ND	ND	mg/kg	NC	50
Toluene	ND	ND	mg/kg	NC	50
Ethylbenzene	ND	ND	mg/kg	NC	50
p/m-Xylene	ND	ND	mg/kg	NC	50
o-Xylene	ND	ND	mg/kg	NC	50
Methyl tert butyl ether	ND	ND	mg/kg	NC	50
Naphthalene	ND	ND	mg/kg	NC	50
Surrogate(s) Recovery QC Criteria					
2,5-Dibromotoluene-PID	96.0	96.0	%	0	70-130
2,5-Dibromotoluene-FID	98.0	98.0	%	0	70-130
Volatile Petroleum Hydrocarbons for sample(s) 01 (L0400206-19, WG160872)					
C5-C8 Aliphatics	ND	ND	mg/kg	NC	50
C9-C12 Aliphatics	ND	ND	mg/kg	NC	50
C9-C10 Aromatics	ND	ND	mg/kg	NC	50
C5-C8 Aliphatics, Adjusted	ND	ND	mg/kg	NC	50
C9-C12 Aliphatics, Adjusted	ND	ND	mg/kg	NC	50
Benzene	ND	ND	mg/kg	NC	50
Toluene	ND	ND	mg/kg	NC	50
Ethylbenzene	ND	ND	mg/kg	NC	50
p/m-Xylene	ND	ND	mg/kg	NC	50
o-Xylene	ND	ND	mg/kg	NC	50
Methyl tert butyl ether	ND	ND	mg/kg	NC	50
Naphthalene	ND	ND	mg/kg	NC	50
Surrogate(s) Recovery QC Criteria					
2,5-Dibromotoluene-PID	101.	104.	%	3	70-130
2,5-Dibromotoluene-FID	100.	104.	%	4	70-130
Extractable Petroleum Hydrocarbons for sample(s) 01-02 (L0400230-01, WG160844)					
C9-C18 Aliphatics	ND	ND	mg/kg	NC	50
C19-C36 Aliphatics	ND	ND	mg/kg	NC	50
C11-C22 Aromatics	ND	ND	mg/kg	NC	50
C11-C22 Aromatics, Adjusted	ND	ND	mg/kg	NC	50
Naphthalene	ND	ND	mg/kg	NC	50
2-Methylnaphthalene	ND	ND	mg/kg	NC	50
Acenaphthylene	ND	ND	mg/kg	NC	50
Acenaphthene	ND	ND	mg/kg	NC	50
Fluorene	ND	ND	mg/kg	NC	50

ALPHA ANALYTICAL LABORATORIES  
 QUALITY ASSURANCE BATCH DUPLICATE ANALYSIS

Laboratory Job Number: L0400230

Continued

Parameter	Value 1	Value 2	Units	RPD	RPD Limits
Extractable Petroleum Hydrocarbons for sample(s) 01-02 (L0400230-01, WG160844)					
Phenanthrene	ND	ND	mg/kg	NC	50
Anthracene	ND	ND	mg/kg	NC	50
Fluoranthene	ND	ND	mg/kg	NC	50
Pyrene	ND	ND	mg/kg	NC	50
Benzo (a) anthracene	ND	ND	mg/kg	NC	50
Chrysene	ND	ND	mg/kg	NC	50
Benzo (b) fluoranthene	ND	ND	mg/kg	NC	50
Benzo (k) fluoranthene	ND	ND	mg/kg	NC	50
Benzo (a) pyrene	ND	ND	mg/kg	NC	50
Indeno (1, 2, 3- cd) Pyrene	ND	ND	mg/kg	NC	50
Dibenzo (a, h) anthracene	ND	ND	mg/kg	NC	50
Benzo (ghi) perylene	ND	ND	mg/kg	NC	50
Surrogate (s)	Recovery				QC Criteria
Chloro-Octadecane	51.0	46.0	%	10	40-140
o-Terphenyl	67.0	62.0	%	8	40-140
2-Fluorobiphenyl	79.0	68.0	%	15	40-140
2-Bromonaphthalene	80.0	70.0	%	13	40-140

ALPHA ANALYTICAL LABORATORIES  
 QUALITY ASSURANCE BATCH SPIKE ANALYSES

Laboratory Job Number: L0400230

Parameter	% Recovery	QC Criteria
Volatile Petroleum Hydrocarbons LCS for sample(s) 02-03 (WG160662)		
Benzene	110	70-130
Toluene	110	70-130
Ethylbenzene	111	70-130
p/m-Xylene	101	70-130
o-Xylene	112	70-130
Methyl tert butyl ether	104	70-130
Naphthalene	99	70-130
Surrogate(s)		
2,5-Dibromotoluene-PID	97	70-130
2,5-Dibromotoluene-FID	94	70-130
Volatile Petroleum Hydrocarbons LCS for sample(s) 01 (WG160872)		
Benzene	90	70-130
Toluene	96	70-130
Ethylbenzene	99	70-130
p/m-Xylene	99	70-130
o-Xylene	99	70-130
Methyl tert butyl ether	84	70-130
Naphthalene	98	70-130
Surrogate(s)		
2,5-Dibromotoluene-PID	108	70-130
2,5-Dibromotoluene-FID	106	70-130
Extractable Petroleum Hydrocarbons LCS for sample(s) 01-02 (WG160844)		
Naphthalene	54	40-140
Acenaphthene	59	40-140
Anthracene	81	40-140
Pyrene	89	40-140
Chrysene	94	40-140
Nonane (C9)	47	40-140
Tetradecane (C14)	61	40-140
Nonadecane (C19)	76	40-140
Eicosane (C20)	78	40-140
Octacosane (C28)	76	40-140
Surrogate(s)		
Chloro-Octadecane	68	40-140
o-Terphenyl	85	40-140
2-Fluorobiphenyl	73	40-140
2-Bromonaphthalene	76	40-140

ALPHA ANALYTICAL LABORATORIES  
 QUALITY ASSURANCE BATCH BLANK ANALYSIS

Laboratory Job Number: L0400230

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Blank Analysis for sample(s) 02-03 (WG160662-6)							
Volatile Petroleum Hydrocarbons				47 98-1		0113 08:42	MM
C5-C8 Aliphatics, Unadjusted	ND	mg/kg	2.00				
C9-C12 Aliphatics, Unadjusted	ND	mg/kg	2.00				
C9-C10 Aromatics	ND	mg/kg	2.00				
C5-C8 Aliphatics, Adjusted	ND	mg/kg	2.00				
C9-C12 Aliphatics, Adjusted	ND	mg/kg	2.00				
Benzene	ND	mg/kg	0.100				
Toluene	ND	mg/kg	0.100				
Ethylbenzene	ND	mg/kg	0.100				
p/m-Xylene	ND	mg/kg	0.100				
o-Xylene	ND	mg/kg	0.100				
Methyl tert butyl ether	ND	mg/kg	0.200				
Naphthalene	ND	mg/kg	1.00				
Surrogate(s)	Recovery		QC Criteria				
2,5-Dibromotoluene-PID	110.	%	70-130				
2,5-Dibromotoluene-FID	120.	%	70-130				
Blank Analysis for sample(s) 01 (WG160872-4)							
Volatile Petroleum Hydrocarbons				47 98-1		0113 08:43	MM
C5-C8 Aliphatics, Unadjusted	ND	mg/kg	2.00				
C9-C12 Aliphatics, Unadjusted	ND	mg/kg	2.00				
C9-C10 Aromatics	ND	mg/kg	2.00				
C5-C8 Aliphatics, Adjusted	ND	mg/kg	2.00				
C9-C12 Aliphatics, Adjusted	ND	mg/kg	2.00				
Benzene	ND	mg/kg	0.100				
Toluene	ND	mg/kg	0.100				
Ethylbenzene	ND	mg/kg	0.100				
p/m-Xylene	ND	mg/kg	0.100				
o-Xylene	ND	mg/kg	0.100				
Methyl tert butyl ether	ND	mg/kg	0.200				
Naphthalene	ND	mg/kg	1.00				
Surrogate(s)	Recovery		QC Criteria				
2,5-Dibromotoluene-PID	110.	%	70-130				
2,5-Dibromotoluene-FID	113.	%	70-130				
Blank Analysis for sample(s) 01-02 (WG160844-1)							
Extractable Petroleum Hydrocarbons				46 98-1		0112 17:00	0113 13:31 BJ
C9-C18 Aliphatics	ND	mg/kg	10.0				
C19-C36 Aliphatics	ND	mg/kg	10.0				
C11-C22 Aromatics, Unadjusted	ND	mg/kg	10.0				
C11-C22 Aromatics, Adjusted	ND	mg/kg	10.0				
Naphthalene	ND	mg/kg	0.500				
2-Methylnaphthalene	ND	mg/kg	0.500				
Acenaphthylene	ND	mg/kg	0.500				
Acenaphthene	ND	mg/kg	0.500				
Fluorene	ND	mg/kg	0.500				

ALPHA ANALYTICAL LABORATORIES  
 QUALITY ASSURANCE BATCH BLANK ANALYSIS

Laboratory Job Number: L0400230

Continued

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Blank Analysis for sample(s) 01-02 (WG160844-1)							
Extractable Petroleum Hydrocarbons	continued			46 98-1		0112 17:00	0113 13:31 BJ
Phenanthrene	ND	mg/kg	0.500				
Anthracene	ND	mg/kg	0.500				
Fluoranthene	ND	mg/kg	0.500				
Pyrene	ND	mg/kg	0.500				
Benzo (a) anthracene	ND	mg/kg	0.500				
Chrysene	ND	mg/kg	0.500				
Benzo (b) fluoranthene	ND	mg/kg	0.500				
Benzo (k) fluoranthene	ND	mg/kg	0.500				
Benzo (a) pyrene	ND	mg/kg	0.500				
Indeno (1, 2, 3-cd) Pyrene	ND	mg/kg	0.500				
Dibenzo (a, h) anthracene	ND	mg/kg	0.500				
Benzo (g, h, i) perylene	ND	mg/kg	0.500				
Surrogate (s)	Recovery		QC Criteria				
Chloro-Octadecane	76.0	%	40-140				
o-Terphenyl	83.0	%	40-140				
2-Fluorobiphenyl	76.0	%	40-140				
2-Bromonaphthalene	78.0	%	40-140				

ALPHA ANALYTICAL LABORATORIES  
ADDENDUM I

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REFERENCES

30. Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WPCF. 18th Edition. 1992.
46. Method for the Determination of Extractable Petroleum Hydrocarbons (EPH), Massachusetts Department of Environmental Protection, (MADEP-EPH-98-1), January 1998.
47. Method for the Determination of Volatile Petroleum Hydrocarbons (VPH), Massachusetts Department of Environmental Protection, (MADEP-VPH-98-1), January 1998.

GLOSSARY OF TERMS AND SYMBOLS

REF Reference number in which test method may be found.  
METHOD Method number by which analysis was performed.  
ID Initials of the analyst.  
ND Not detected in comparison to the reported detection limit.

Please note that all solid samples are reported on dry weight basis unless noted otherwise.

LIMITATION OF LIABILITIES

Alpha Analytical, Inc. performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical, Inc., shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical, Inc. be held liable for any incidental consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical, Inc.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding times and splitting of samples in the field.

ALPHA ANALYTICAL LABORATORIES  
LOGIN SPECIFIC INFORMATION

Laboratory Job Number: L0400230

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Were project specific reporting limits specified? YES

Cooler Information

Cooler	Custody Seal
A	Absent

Container Information

Container ID	Container Type	Cooler	pH	Temp	Pres	Seal	Analysis
L0400230-01A	Vial MeOH preserved	A	N/A	2.1 C	Y	Absent	VPH-DELUX
L0400230-01B	Vial MeOH preserved	A	N/A	2.1 C	Y	Absent	VPH-DELUX
L0400230-01C	Amber 250ml unpreserved	A	N/A	2.1 C	Y	Absent	EPH-DELUX, TS
L0400230-02A	Vial MeOH preserved	A	N/A	2.1 C	Y	Absent	VPH-DELUX
L0400230-02B	Vial MeOH preserved	A	N/A	2.1 C	Y	Absent	VPH-DELUX
L0400230-02C	Amber 250ml unpreserved	A	N/A	2.1 C	Y	Absent	EPH-DELUX, TS
L0400230-03A	Vial MeOH preserved	A	N/A	2.1 C	Y	Absent	VPH-DELUX

Container Comments

Container ID	Comments
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# CHAIN OF CUSTODY RECORD

Phone (617) 886-7400  
 Fax (617) 886-7600  
 Page 1 of 1

H&A FILE NO. 30660-02  
 PROJECT NAME BELMONT SCHOOLS  
 H&A CONTACT S. PAVLIK  
 LABORATORY ALPHA  
 ADDRESS WESTBROOK MA  
 CONTACT \_\_\_\_\_  
 DELIVERY DATE 12 JANV 04  
 TURNAROUND TIME 7AM  
 PROJECT MANAGER SE MURPHY

Sample No.	Date	Time	Depth	Type	Analysis Requested											Number of Containers	Comments (special instructions, precautions, additional method numbers, etc.)	
					VOA	ABNs PAH only	MCP Metals	Pesticides PCBs	VPH Full Suite Changes only	PHH Full Suite Changes only	TPH (specify)	TCLP (specify)	Reactivity Ignitability Corrosivity					
HA-2-56	12/10/04	13:40	11-13	SOIL													3	Laboratory to use applicable DEP CAM methods, unless otherwise directed.
HA-2-57	12/10/04	13:45	13-15	SOIL													3	
TB-1	1/09/04	13:00	---	---													1	
Sampled and Relinquished by Sign <u>[Signature]</u> Print <u>Leo Laddie</u> Firm <u>Alpha</u> Date <u>1-12-04</u> Time <u>1500</u> Relinquished by Sign <u>[Signature]</u> Print <u>[Signature]</u> Firm <u>[Signature]</u> Date <u>1/12/04</u> Time <u>1600</u>					LIQUID VOA Vial Amber Glass Plastic Bottle Preservative Volume SOLID VOA Vial Amber Glass Clear Glass Preservative Volume											Sampling Comments TOTAL: 7		
Evidence samples were tampered with? YES NO If YES, please explain in section below.																		

**Presumptive Certainty Data Package (Laboratory to use applicable DEP CAM methods)**

**Presumptive Certainty Data Package is needed, initial all sections:**

The required minimum field QC samples, as designated in BWSC CAM-VII have been or will be collected, as appropriate, to meet the requirements of Presumptive Certainty.

Matrix Spike (MS) samples for MCP Metals and/or Cyanide are included and identified herein.

This Chain of Custody Record (specify) X does not include samples defined as Drinking Water Samples.

If this Chain of Custody Record identifies samples defined as Drinking Water Samples, Trip Blanks and Field Duplicates are included and identified and analysis of TICs are required, as appropriate. Laboratory should (specify if applicable) analyze \_\_\_\_\_ hold for contingency testing the Drinking Water Field Duplicate and Drinking Water Trip Blank samples.

**Required Reporting Limits and Data Quality Objectives**

RC-S1  
 RC-S2  
 RC-GW1  
 RC-GW2  
 S1  
 S2  
 S3  
 GW1  
 GW2  
 GW3



ALPHA ANALYTICAL LABORATORIES

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Westborough, Massachusetts 01581-1019  
(508) 898-9220 www.alphalab.com

MA:M-MA086 NH:200301-A CT:PH-0574 ME:MA086 RI:65 NY:11148 NJ:MA935 Army:USACE

CERTIFICATE OF ANALYSIS

Client: Haley & Aldrich, Inc. Laboratory Job Number: L0400291  
Address: 465 Medford Street, Suite 2200  
Boston, MA 02129-1400 Date Received: 13-JAN-2004  
Attn: Mr. Steve Provencal Date Reported: 20-JAN-2004  
Project Number: 30660-000 Delivery Method: Alpha  
Site: BELMONT SCHOOLS

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The following questions pertain only to MCP Analytical Methods

An affirmative response to questions A,B,C & D is required for "Presumptive Certainty" status

- A. Were all samples received by the laboratory in a condition consistent with those described on their Chain-of-Custody documentation for the data set? YES
- B. Were all QA/QC procedures required for the specified analytical method(s) included in this report followed, including the requirement to note and discuss in a narrative QC data that did not meet appropriate performance standards or guidelines? YES
- C. Does the analytical data included in this report meet all the requirements for "Presumptive Certainty", as described in section 2.0 of the MADEP document CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data"? YES
- D. VPH and EPH methods only: Was the VPH or EPH method run without significant modifications, as specified in Section 11.3? YES

A response to questions E and F is required for "Presumptive Certainty" status

- E. Were all QC performance standards and recommendations for the specified method(s) achieved? YES
- F. Were results for all analyte-list compounds/elements for the specified method(s) reported? YES

Any answers of NO to the above questions are addressed in the case narrative.

---

I, the undersigned, attest under the pains and penalties of perjury that, based upon my personal inquiry of those responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

---

Authorized by: James Todaro  
This document electronically signed

ALPHA ANALYTICAL LABORATORIES

Laboratory Job Number: L0400291  
Date Reported: 20-JAN-2004

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ALPHA SAMPLE NUMBER	CLIENT IDENTIFICATION	SAMPLE LOCATION
L0400291-01	HA-6 (OW) S6	BELMONT, MA
L0400291-02	HA-4 (OW) S6	BELMONT, MA

ALPHA ANALYTICAL LABORATORIES  
NARRATIVE REPORT

Laboratory Job Number: L0400291

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All MCP required questions were answered with affirmative responses, therefore, there are no relevant data issues to discuss.

Total Metals

Due to matrix interference, -01 and -02 required a 5x dilution prior to analysis for SE and Tl.

ALPHA ANALYTICAL LABORATORIES  
CERTIFICATE OF ANALYSIS

MA:M-MA086 NH:200301-A CT:PH-0574 ME:MA086 RI:65 NY:11148 NJ:MA935 Army:USACE

Laboratory Sample Number: L0400291-01  
 HA-6 (OW) S6  
 Sample Matrix: SOIL  
 Condition of Sample: Satisfactory  
 Number & Type of Containers: 1-Amber  
 Date Collected: 13-JAN-2004 10:45  
 Date Received : 13-JAN-2004  
 Date Reported : 20-JAN-2004  
 Field Prep: None

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Solids, Total	77.	%	0.10	30 2540G		0113 20:00	LK
Total Metals				1 3051			
Antimony, Total	ND	mg/kg	2.6	54 6010B	0114 15:30	0115 16:07	MG
Arsenic, Total	8.3	mg/kg	0.52	54 6010B	0114 15:30	0115 16:07	MG
Barium, Total	110	mg/kg	0.52	54 6010B	0114 15:30	0115 16:07	MG
Beryllium, Total	0.85	mg/kg	0.26	54 6010B	0114 15:30	0115 16:07	MG
Cadmium, Total	ND	mg/kg	0.52	54 6010B	0114 15:30	0115 16:07	MG
Chromium, Total	54.	mg/kg	0.52	54 6010B	0114 15:30	0115 16:07	MG
Lead, Total	13.	mg/kg	2.6	54 6010B	0114 15:30	0115 16:07	MG
Mercury, Total	ND	mg/kg	0.10	54 7471A	0114 12:35	0115 13:15	DM
Nickel, Total	36.	mg/kg	1.3	54 6010B	0114 15:30	0115 16:07	MG
Selenium, Total	ND	mg/kg	2.6	54 6010B	0114 15:30	0116 10:55	MG
Silver, Total	ND	mg/kg	0.52	54 6010B	0114 15:30	0115 16:07	MG
Thallium, Total	ND	mg/kg	2.6	54 6010B	0114 15:30	0116 10:55	MG
Vanadium, Total	66.	mg/kg	0.52	54 6010B	0114 15:30	0115 16:07	MG
Zinc, Total	80.	mg/kg	2.6	54 6010B	0114 15:30	0115 16:07	MG

Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES  
 CERTIFICATE OF ANALYSIS

MA:M-MA086 NH:200301-A CT:PH-0574 ME:MA086 RI:65 NY:11148 NJ:MA935 Army:USACE

Laboratory Sample Number: L0400291-02 Date Collected: 13-JAN-2004 13:10  
 HA-4(OW) S6 Date Received : 13-JAN-2004  
 Sample Matrix: SOIL Date Reported : 20-JAN-2004  
 Condition of Sample: Satisfactory Field Prep: None  
 Number & Type of Containers: 1-Amber

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Solids, Total	79.	%	0.10	30 2540G		0113 20:00	LK
Total Metals				1 3051			
Antimony, Total	ND	mg/kg	2.5	54 6010B	0114 15:30	0115 16:11	MG
Arsenic, Total	5.7	mg/kg	0.50	54 6010B	0114 15:30	0115 16:11	MG
Barium, Total	74.	mg/kg	0.50	54 6010B	0114 15:30	0115 16:11	MG
Beryllium, Total	0.58	mg/kg	0.25	54 6010B	0114 15:30	0115 16:11	MG
Cadmium, Total	ND	mg/kg	0.50	54 6010B	0114 15:30	0115 16:11	MG
Chromium, Total	42.	mg/kg	0.50	54 6010B	0114 15:30	0115 16:11	MG
Lead, Total	14.	mg/kg	2.5	54 6010B	0114 15:30	0115 16:11	MG
Mercury, Total	ND	mg/kg	0.10	54 7471A	0114 12:35	0115 13:17	DM
Nickel, Total	30.	mg/kg	1.3	54 6010B	0114 15:30	0115 16:11	MG
Selenium, Total	ND	mg/kg	2.5	54 6010B	0114 15:30	0116 11:00	MG
Silver, Total	ND	mg/kg	0.50	54 6010B	0114 15:30	0115 16:11	MG
Thallium, Total	ND	mg/kg	2.5	54 6010B	0114 15:30	0116 11:00	MG
Vanadium, Total	50.	mg/kg	0.50	54 6010B	0114 15:30	0115 16:11	MG
Zinc, Total	67.	mg/kg	2.5	54 6010B	0114 15:30	0115 16:11	MG

Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES  
QUALITY ASSURANCE BATCH DUPLICATE ANALYSIS

Laboratory Job Number: L0400291

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Parameter	Value 1	Value 2	Units	RPD	RPD Limits
<hr/>					
	Solids, Total for sample(s) 01-02 (L0400008-12, WG161218)				
Solids, Total	88.	87.	%	1	

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ALPHA ANALYTICAL LABORATORIES  
QUALITY ASSURANCE BATCH SPIKE ANALYSES

Laboratory Job Number: L0400291

Parameter	% Recovery	QC Criteria
Total Metals LCS for sample(s) 01-02 (WG161027)		
Antimony, Total	85	75-125
Arsenic, Total	96	75-125
Barium, Total	88	75-125
Beryllium, Total	90	75-125
Cadmium, Total	93	75-125
Chromium, Total	93	75-125
Lead, Total	98	75-125
Nickel, Total	90	75-125
Selenium, Total	98	75-125
Silver, Total	84	75-125
Thallium, Total	94	75-125
Vanadium, Total	90	75-125
Zinc, Total	90	75-125
Total Metals LCS for sample(s) 01-02 (WG160987)		
Mercury, Total	97	75-125

ALPHA ANALYTICAL LABORATORIES  
 QUALITY ASSURANCE BATCH BLANK ANALYSIS

Laboratory Job Number: L0400291

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Blank Analysis for sample(s) 01-02 (WG161027-1)							
Total Metals				1 3051			
Antimony, Total	ND	mg/kg	2.0	54 6010B	0114 15:30	0115 15:20	MG
Arsenic, Total	ND	mg/kg	0.40	54 6010B	0114 15:30	0115 15:20	MG
Barium, Total	ND	mg/kg	0.40	54 6010B	0114 15:30	0115 15:20	MG
Beryllium, Total	ND	mg/kg	0.20	54 6010B	0114 15:30	0115 15:20	MG
Cadmium, Total	ND	mg/kg	0.40	54 6010B	0114 15:30	0115 15:20	MG
Chromium, Total	ND	mg/kg	0.40	54 6010B	0114 15:30	0115 15:20	MG
Lead, Total	ND	mg/kg	2.0	54 6010B	0114 15:30	0115 15:20	MG
Nickel, Total	ND	mg/kg	1.0	54 6010B	0114 15:30	0115 15:20	MG
Selenium, Total	ND	mg/kg	0.80	54 6010B	0114 15:30	0115 15:20	MG
Silver, Total	ND	mg/kg	0.40	54 6010B	0114 15:30	0115 15:20	MG
Thallium, Total	ND	mg/kg	0.40	54 6010B	0114 15:30	0115 15:20	MG
Vanadium, Total	ND	mg/kg	0.40	54 6010B	0114 15:30	0115 15:20	MG
Zinc, Total	ND	mg/kg	2.0	54 6010B	0114 15:30	0115 15:20	MG

Blank Analysis for sample(s) 01-02 (WG160987-2)

Total Metals							
Mercury, Total	ND	mg/kg	0.08	54 7471A	0114 12:35	0115 13:12	DM



ALPHA ANALYTICAL LABORATORIES  
ADDENDUM I

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REFERENCES

1. Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - IIIA, 1997.
30. Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WPCF. 18th Edition. 1992.
54. Compendium of Quality Assurance and Quality Control Requirements and Performance Standards for Selected Analytical Methods. MADEP BWSC. Final Methods. May 2003.

GLOSSARY OF TERMS AND SYMBOLS

REF Reference number in which test method may be found.  
METHOD Method number by which analysis was performed.  
ID Initials of the analyst.  
ND Not detected in comparison to the reported detection limit.

Please note that all solid samples are reported on dry weight basis unless noted otherwise.

LIMITATION OF LIABILITIES

Alpha Analytical, Inc. performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical, Inc., shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical, Inc. be held liable for any incidental consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical, Inc.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding times and splitting of samples in the field.

ALPHA ANALYTICAL LABORATORIES  
LOGIN SPECIFIC INFORMATION

Laboratory Job Number: L0400291

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Were project specific reporting limits specified? YES

Cooler Information

Cooler	Custody Seal
A	Absent

Container Information

Container ID	Container Type	Cooler	pH	Temp	Pres	Seal	Analysis
L0400291-01A	Amber 250ml unpreserved	A	N/A	1.3 C	Y	Absent	AG-TI, AS-TI, BA-TI, BE-TI, CD-TI, CR-TI, HG-T, NI-TI, PB-TI, PREPT, SB-TI, SE-TI, TL-TI, V-TI, ZN-TI
L0400291-02A	Amber 250ml unpreserved	A	N/A	1.3 C	Y	Absent	AG-TI, AS-TI, BA-TI, BE-TI, CD-TI, CR-TI, HG-T, NI-TI, PB-TI, PREPT, SB-TI, SE-TI, TL-TI, V-TI, ZN-TI

Container Comments

Container ID    Comments

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# CHAIN OF CUSTODY RECORD

H&A FILE NO. 30660-000 LABORATORY ALPHA DELIVERY DATE \_\_\_\_\_  
 PROJECT NAME BEAUMONT SCAROLS ADDRESS WESTFIELD MA TURNAROUND TIME 24hr  
 H&A CONTACT S. PROVENZA CONTACT \_\_\_\_\_ PROJECT MANAGER S. MOONEY

Sample No.	Date	Time	Depth	Type	Analysis Requested										Number of Containers	Comments (special instructions, precautions, additional method numbers, etc.)			
					VOA	ABNs	PAH only	MCP Metals	Pesticides	PCBs	VPH	Phenolics	Chlorides only	PH			Full suite	TPH (specify)	TCLP (specify)
HA-(low)56	13 JAN	10:45	12-14	SOIL	X													4	Laboratory to use applicable DEP CAM methods, unless otherwise directed. EPH/vph TARGET ANALYSIS
HA-(low)56	13 JAN	13:10	10'-12.0	SOIL	X													4	
TRIP BLANK																		1	

Sampled and Relinquished by	Received by	LIQUID				SOLID			
		Sign	Print	Date	Time	Sign	Print	Date	Time
Sign <u>[Signature]</u> Print <u>David M. Pugh</u> Firm <u>DAVID M PUGH</u> Date <u>13 JAN 15:10</u>	Sign <u>[Signature]</u> Print <u>[Name]</u> Firm <u>[Firm]</u> Date <u>1/13</u> Time <u>15:10</u>								
Sign <u>[Signature]</u> Print <u>[Name]</u> Firm <u>[Firm]</u> Date <u>1/13</u> Time <u>18:45</u>	Sign <u>[Signature]</u> Print <u>[Name]</u> Firm <u>[Firm]</u> Date <u>1/13</u> Time <u>18:45</u>								

Sign	Print	Date	Time

**Preservative Key**  
 A Sample chilled    C NaOH    E H<sub>2</sub>SO<sub>4</sub>    G Methanol  
 B Sample filtered    D HNO<sub>3</sub>    F HCL    H Water/NaHSO<sub>4</sub> (circle)

**Required Reporting Limits and Data Quality Objectives**  
 RC-S1     S1     GW1  
 RC-S2     S2     GW2  
 RC-GW1     S3     GW3  
 RC-GW2

**Evidence samples were tampered with? YES NO**  
 If YES, please explain in section below.

**Presumptive Certainty Data Package is needed, initial all sections:**  
 The required minimum field QC samples, as designated in BWSC CAM-VII have been or will be collected, as appropriate, to meet the requirements of Presumptive Certainty.  
 Matrix Spike (MS) samples for MCP Metals and/or Cyanide are included and identified herein.  
 This Chain of Custody Record (specify) X does not include samples defined as Drinking Water Samples.  
 If this Chain of Custody Record identifies samples defined as Drinking Water Samples, Trip Blanks and Field Duplicates are included and analysis of TICs are required, as appropriate. Laboratory should (specify if applicable) analyze hold for contingency testing the Drinking Water Field Duplicate and Drinking Water Trip Blank samples.

ALPHA ANALYTICAL LABORATORIES

Eight Walkup Drive  
Westborough, Massachusetts 01581-1019  
(508) 898-9220 www.alphalab.com

MA:M-MA086 NH:200301-A CT:PH-0574 ME:MA086 RI:65 NY:11148 NJ:MA935 Army:USACE

CERTIFICATE OF ANALYSIS

Client: Haley & Aldrich, Inc. Laboratory Job Number: L0400286  
Address: 465 Medford Street, Suite 2200  
Boston, MA 02129-1400 Date Received: 13-JAN-2004  
Attn: Mr. Steve Provencal Date Reported: 15-JAN-2004  
Project Number: 30660-000 Delivery Method: Alpha  
Site: BELMONT SCHOOLS

---

The following questions pertain only to MCP Analytical Methods

An affirmative response to questions A,B,C & D is required for "Presumptive Certainty" status

- A. Were all samples received by the laboratory in a condition consistent with those described on their Chain-of-Custody documentation for the data set? YES
- B. Were all QA/QC procedures required for the specified analytical method(s) included in this report followed, including the requirement to note and discuss in a narrative QC data that did not meet appropriate performance standards or guidelines? YES
- C. Does the analytical data included in this report meet all the requirements for "Presumptive Certainty", as described in section 2.0 of the MADEP document CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data"? YES
- D. VPH and EPH methods only: Was the VPH or EPH method run without significant modifications, as specified in Section 11.3? YES

A response to questions E and F is required for "Presumptive Certainty" status

- E. Were all QC performance standards and recommendations for the specified method(s) achieved? YES
- F. Were results for all analyte-list compounds/elements for the specified method(s) reported? YES

Any answers of NO to the above questions are addressed in the case narrative.

---

I, the undersigned, attest under the pains and penalties of perjury that, based upon my personal inquiry of those responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

---

Authorized by: Scott McLean  
This document electronically signed

ALPHA ANALYTICAL LABORATORIES

Laboratory Job Number: L0400286  
Date Reported: 15-JAN-2004

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ALPHA SAMPLE NUMBER	CLIENT IDENTIFICATION	SAMPLE LOCATION
L0400286-01	HA-6 (OW) S6	BELMONT, MA
L0400286-02	HA-4 (OW) S6	BELMONT, MA
L0400286-03	TRIP BLANK	BELMONT, MA

ALPHA ANALYTICAL LABORATORIES  
NARRATIVE REPORT

Laboratory Job Number: L0400286

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MCP Related Narratives

Extraction methods

Extraction method 3545 was used as the extraction method for the analysis of EPH by method 98-1.

Report Submission

All MCP required questions were answered with affirmative responses, therefore, there are no relevant data issues to discuss.

ALPHA ANALYTICAL LABORATORIES  
CERTIFICATE OF ANALYSIS

MA:M-MA086 NH:200301-A CT:PH-0574 ME:MA086 RI:65 NY:11148 NJ:MA935 Army:USACE

Laboratory Sample Number: L0400286-01  
HA-6 (OW) S6  
Sample Matrix: SOIL  
Condition of Sample: Satisfactory  
Number & Type of Containers: 2-Amber,2-Vial  
Date Collected: 13-JAN-2004 10:45  
Date Received : 13-JAN-2004  
Date Reported : 15-JAN-2004  
Field Prep: None

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Solids, Total	77.	%	0.10	30 2540G		0113 20:00	LK

Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES  
CERTIFICATE OF ANALYSIS

Laboratory Sample Number: L0400286-01  
HA-6 (OW) S6

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	

Volatile Petroleum Hydrocarbons			47 98-1			0114 10:35 MM	
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Quality Control Information

Condition of sample received:	Satisfactory	
Sample temperature upon receipt:	Received on Ice	
Were samples received in methanol?	Covering the Soil	
Methanol ratio:	1:1 +/- 25%	
Were all QA/QC procedures REQUIRED by the method followed?		YES
Were all performance/acceptance standards for the required procedures achieved?		YES
Were significant modifications made to the method as specified in Sect 11.3?		NO
Please note to subtract the method blank from the stated result.		
The normal acceptance range for the surrogate, 2,5-Dibromotoluene, is 70-130%.		

C5-C8 Aliphatics, Unadjusted	ND	mg/kg	2.93
C9-C12 Aliphatics, Unadjusted	ND	mg/kg	2.93
C9-C10 Aromatics	ND	mg/kg	2.93
C5-C8 Aliphatics, Adjusted	ND	mg/kg	2.93
C9-C12 Aliphatics, Adjusted	ND	mg/kg	2.93
Benzene	ND	mg/kg	0.146
Toluene	ND	mg/kg	0.146
Ethylbenzene	ND	mg/kg	0.146
p/m-Xylene	ND	mg/kg	0.146
o-Xylene	ND	mg/kg	0.146
Methyl tert butyl ether	ND	mg/kg	0.293
Naphthalene	ND	mg/kg	1.46

Surrogate(s)	Recovery		QC Criteria
2,5-Dibromotoluene-PID	112.	%	70-130
2,5-Dibromotoluene-FID	121.	%	70-130

Comments: Complete list of References and Glossary of Terms found in Addendum I



ALPHA ANALYTICAL LABORATORIES  
CERTIFICATE OF ANALYSIS

Laboratory Sample Number: L0400286-01  
HA-6 (OW) S6

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	

Extractable Petroleum Hydrocarbons				46 98-1	0113 19:00	0115 05:31	BJ
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Quality Control Information

Condition of sample received:	Satisfactory	
Sample temperature upon receipt:	Received on Ice	
Sample extraction method:	Extracted Per the Method	
Were all QA/QC procedures REQUIRED by the method followed?		YES
Were all performance/acceptance standards for the required procedures achieved?		YES
Were significant modifications made to the method as specified in Sect 11.3?		NO
Please note to subtract the method blank from the stated result.		
The normal acceptance range for the extraction surrogates, Chloro-octadecane and o-Terphenyl, is 40-140%.		
The normal acceptance range for the fractionation surrogates, 2-Fluorobiphenyl and 2-Bromonaphthalene, is 40-140%.		

C9-C18 Aliphatics	ND	mg/kg	13.0
C19-C36 Aliphatics	ND	mg/kg	13.0
C11-C22 Aromatics, Unadjusted	ND	mg/kg	13.0
C11-C22 Aromatics, Adjusted	ND	mg/kg	13.0
Naphthalene	ND	mg/kg	0.649
2-Methylnaphthalene	ND	mg/kg	0.649
Acenaphthylene	ND	mg/kg	0.649
Acenaphthene	ND	mg/kg	0.649
Fluorene	ND	mg/kg	0.649
Phenanthrene	ND	mg/kg	0.649
Anthracene	ND	mg/kg	0.649
Fluoranthene	ND	mg/kg	0.649
Pyrene	ND	mg/kg	0.649
Benzo (a) anthracene	ND	mg/kg	0.649
Chrysene	ND	mg/kg	0.649
Benzo (b) fluoranthene	ND	mg/kg	0.649
Benzo (k) fluoranthene	ND	mg/kg	0.649
Benzo (a) pyrene	ND	mg/kg	0.649
Indeno (1,2,3-cd) Pyrene	ND	mg/kg	0.649
Dibenzo (a,h) anthracene	ND	mg/kg	0.649
Benzo (g,h,i) perylene	ND	mg/kg	0.649

Surrogate (s)	Recovery		QC Criteria
Chloro-Octadecane	50.0	%	40-140
o-Terphenyl	60.0	%	40-140
2-Fluorobiphenyl	60.0	%	40-140
2-Bromonaphthalene	49.0	%	40-140

Comments: Complete list of References and Glossary of Terms found in Addendum I



ALPHA ANALYTICAL LABORATORIES  
CERTIFICATE OF ANALYSIS

Laboratory Sample Number: L0400286-02  
HA-4 (OW) S6

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE PREP      ANAL	ID
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Volatile Petroleum Hydrocarbons				47 98-1		0114 11:25 MM
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Quality Control Information

Condition of sample received:	Satisfactory
Sample temperature upon receipt:	Received on Ice
Were samples received in methanol?	Covering the Soil
Methanol ratio:	1:1 +/- 25%
Were all QA/QC procedures REQUIRED by the method followed?	YES
Were all performance/acceptance standards for the required procedures achieved?	YES
Were significant modifications made to the method as specified in Sect 11.3?	NO
Please note to subtract the method blank from the stated result.	
The normal acceptance range for the surrogate, 2,5-Dibromotoluene, is 70-130%.	

C5-C8 Aliphatics, Unadjusted	ND	mg/kg	2.66		
C9-C12 Aliphatics, Unadjusted	ND	mg/kg	2.66		
C9-C10 Aromatics	ND	mg/kg	2.66		
C5-C8 Aliphatics, Adjusted	ND	mg/kg	2.66		
C9-C12 Aliphatics, Adjusted	ND	mg/kg	2.66		
Benzene	ND	mg/kg	0.133		
Toluene	ND	mg/kg	0.133		
Ethylbenzene	ND	mg/kg	0.133		
p/m-Xylene	ND	mg/kg	0.133		
o-Xylene	ND	mg/kg	0.133		
Methyl tert butyl ether	ND	mg/kg	0.266		
Naphthalene	ND	mg/kg	1.33		
Surrogate(s)	Recovery			QC Criteria	
2,5-Dibromotoluene-PID	112.	%		70-130	
2,5-Dibromotoluene-FID	124.	%		70-130	

Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES  
CERTIFICATE OF ANALYSIS

Laboratory Sample Number: L0400286-02  
HA-4 (OW) S6

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE PREP      ANAL	ID
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Extractable Petroleum Hydrocarbons			46	98-1	0113 19:00	0115 06:20 BJ
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Quality Control Information

Condition of sample received:	Satisfactory	
Sample temperature upon receipt:	Received on Ice	
Sample extraction method:	Extracted Per the Method	
Were all QA/QC procedures REQUIRED by the method followed?		YES
Were all performance/acceptance standards for the required procedures achieved?		YES
Were significant modifications made to the method as specified in Sect 11.3?		NO
Please note to subtract the method blank from the stated result.		
The normal acceptance range for the extraction surrogates, Chloro-octadecane and o-Terphenyl, is 40-140%.		
The normal acceptance range for the fractionation surrogates, 2-Fluorobiphenyl and 2-Bromonaphthalene, is 40-140%.		

C9-C18 Aliphatics	ND	mg/kg	12.6
C19-C36 Aliphatics	ND	mg/kg	12.6
C11-C22 Aromatics, Unadjusted	ND	mg/kg	12.6
C11-C22 Aromatics, Adjusted	ND	mg/kg	12.6
Naphthalene	ND	mg/kg	0.633
2-Methylnaphthalene	ND	mg/kg	0.633
Acenaphthylene	ND	mg/kg	0.633
Acenaphthene	ND	mg/kg	0.633
Fluorene	ND	mg/kg	0.633
Phenanthrene	ND	mg/kg	0.633
Anthracene	ND	mg/kg	0.633
Fluoranthene	ND	mg/kg	0.633
Pyrene	ND	mg/kg	0.633
Benzo(a)anthracene	ND	mg/kg	0.633
Chrysene	ND	mg/kg	0.633
Benzo(b)fluoranthene	ND	mg/kg	0.633
Benzo(k)fluoranthene	ND	mg/kg	0.633
Benzo(a)pyrene	ND	mg/kg	0.633
Indeno(1,2,3-cd)Pyrene	ND	mg/kg	0.633
Dibenzo(a,h)anthracene	ND	mg/kg	0.633
Benzo(g,h,i)perylene	ND	mg/kg	0.633

Surrogate(s)	Recovery		QC Criteria
Chloro-Octadecane	56.0	%	40-140
o-Terphenyl	68.0	%	40-140
2-Fluorobiphenyl	75.0	%	40-140
2-Bromonaphthalene	67.0	%	40-140

Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES  
CERTIFICATE OF ANALYSIS

MA:M-MA086 NH:200301-A CT:PH-0574 ME:MA086 RI:65 NY:11148 NJ:MA935 Army:USACE

Laboratory Sample Number: L0400286-03	Date Collected: 09-JAN-2004 13:00
Sample Matrix: TRIP BLANK	Date Received : 13-JAN-2004
Sample Matrix: SOIL	Date Reported : 15-JAN-2004
Condition of Sample: Satisfactory	Field Prep: None
Number & Type of Containers: 1-Vial	

Comments:  
Results are reported on an 'AS RECEIVED' basis.

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE PREP ANAL	ID
Volatile Petroleum Hydrocarbons				47 98-1		0114 09:44 MM

Quality Control Information

Condition of sample received:	Satisfactory
Sample temperature upon receipt:	Received on Ice
Were samples received in methanol?	Covering the Soil
Methanol ratio:	1:1 +/- 25%
Were all QA/QC procedures REQUIRED by the method followed?	YES
Were all performance/acceptance standards for the required procedures achieved?	YES
Were significant modifications made to the method as specified in Sect 11.3?	NO

Please note to subtract the method blank from the stated result.  
The normal acceptance range for the surrogate, 2,5-Dibromotoluene, is 70-130%.

C5-C8 Aliphatics, Unadjusted	ND	mg/kg	2.00
C9-C12 Aliphatics, Unadjusted	ND	mg/kg	2.00
C9-C10 Aromatics	ND	mg/kg	2.00
C5-C8 Aliphatics, Adjusted	ND	mg/kg	2.00
C9-C12 Aliphatics, Adjusted	ND	mg/kg	2.00
Benzene	ND	mg/kg	0.100
Toluene	ND	mg/kg	0.100
Ethylbenzene	ND	mg/kg	0.100
p/m-Xylene	ND	mg/kg	0.100
o-Xylene	ND	mg/kg	0.100
Methyl tert butyl ether	ND	mg/kg	0.200
Naphthalene	ND	mg/kg	1.00
Surrogate(s)	Recovery		QC Criteria
2,5-Dibromotoluene-PID	110.	%	70-130
2,5-Dibromotoluene-FID	117.	%	70-130

Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES  
 QUALITY ASSURANCE BATCH DUPLICATE ANALYSIS

Laboratory Job Number: L0400286

Parameter	Value 1	Value 2	Units	RPD	RPD Limits
Solids, Total for sample(s) 01-02 (L0400274-01, WG160952)					
Solids, Total	88.	87.	%	1	
Volatile Petroleum Hydrocarbons for sample(s) 01-03 (L0400096-01, WG160662)					
C5-C8 Aliphatics	ND	ND	mg/kg	NC	50
C9-C12 Aliphatics	ND	ND	mg/kg	NC	50
C9-C10 Aromatics	ND	ND	mg/kg	NC	50
C5-C8 Aliphatics, Adjusted	ND	ND	mg/kg	NC	50
C9-C12 Aliphatics, Adjusted	ND	ND	mg/kg	NC	50
Benzene	ND	ND	mg/kg	NC	50
Toluene	ND	ND	mg/kg	NC	50
Ethylbenzene	ND	ND	mg/kg	NC	50
p/m-Xylene	ND	ND	mg/kg	NC	50
o-Xylene	ND	ND	mg/kg	NC	50
Methyl tert butyl ether	ND	ND	mg/kg	NC	50
Naphthalene	ND	ND	mg/kg	NC	50
Surrogate(s) Recovery QC Criteria					
2,5-Dibromotoluene-PID	96.0	96.0	%	0	70-130
2,5-Dibromotoluene-FID	98.0	98.0	%	0	70-130
Extractable Petroleum Hydrocarbons for sample(s) 01-02 (L0400286-02, WG160954)					
C9-C18 Aliphatics	ND	ND	mg/kg	NC	50
C19-C36 Aliphatics	ND	ND	mg/kg	NC	50
C11-C22 Aromatics	ND	ND	mg/kg	NC	50
C11-C22 Aromatics, Adjusted	ND	ND	mg/kg	NC	50
Naphthalene	ND	ND	mg/kg	NC	50
2-Methylnaphthalene	ND	ND	mg/kg	NC	50
Acenaphthylene	ND	ND	mg/kg	NC	50
Acenaphthene	ND	ND	mg/kg	NC	50
Fluorene	ND	ND	mg/kg	NC	50
Phenanthrene	ND	ND	mg/kg	NC	50
Anthracene	ND	ND	mg/kg	NC	50
Fluoranthene	ND	ND	mg/kg	NC	50
Pyrene	ND	ND	mg/kg	NC	50
Benzo (a) anthracene	ND	ND	mg/kg	NC	50
Chrysene	ND	ND	mg/kg	NC	50
Benzo (b) fluoranthene	ND	ND	mg/kg	NC	50
Benzo (k) fluoranthene	ND	ND	mg/kg	NC	50
Benzo (a) pyrene	ND	ND	mg/kg	NC	50
Indeno (1,2,3-cd) Pyrene	ND	ND	mg/kg	NC	50
Dibenzo (a, h) anthracene	ND	ND	mg/kg	NC	50
Benzo (ghi) perylene	ND	ND	mg/kg	NC	50
Surrogate(s) Recovery QC Criteria					
Chloro-Octadecane	56.0	52.0	%	7	40-140
o-Terphenyl	68.0	57.0	%	18	40-140
2-Fluorobiphenyl	75.0	62.0	%	19	40-140
2-Bromonaphthalene	67.0	57.0	%	16	40-140

ALPHA ANALYTICAL LABORATORIES  
 QUALITY ASSURANCE BATCH SPIKE ANALYSES

Laboratory Job Number: L0400286

Parameter	% Recovery	QC Criteria
Volatile Petroleum Hydrocarbons LCS for sample(s) 01-03 (WG160662)		
Benzene	110	70-130
Toluene	110	70-130
Ethylbenzene	111	70-130
p/m-Xylene	101	70-130
o-Xylene	112	70-130
Methyl tert butyl ether	104	70-130
Naphthalene	99	70-130
Surrogate(s)		
2,5-Dibromotoluene-PID	97	70-130
2,5-Dibromotoluene-FID	94	70-130
Extractable Petroleum Hydrocarbons LCS for sample(s) 01-02 (WG160954)		
Naphthalene	46	40-140
Acenaphthene	55	40-140
Anthracene	70	40-140
Pyrene	82	40-140
Chrysene	81	40-140
Nonane (C9)	46	40-140
Tetradecane (C14)	63	40-140
Nonadecane (C19)	78	40-140
Eicosane (C20)	80	40-140
Octacosane (C28)	75	40-140
Surrogate(s)		
Chloro-Octadecane	62	40-140
o-Terphenyl	75	40-140
2-Fluorobiphenyl	60	40-140
2-Bromonaphthalene	50	40-140

ALPHA ANALYTICAL LABORATORIES  
 QUALITY ASSURANCE BATCH BLANK ANALYSIS

Laboratory Job Number: L0400286

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Blank Analysis for sample(s) 01-03 (WG160662-7)							
Volatile Petroleum Hydrocarbons				47 98-1		0114 08:46 MM	
C5-C8 Aliphatics, Unadjusted	ND	mg/kg	2.00				
C9-C12 Aliphatics, Unadjusted	ND	mg/kg	2.00				
C9-C10 Aromatics	ND	mg/kg	2.00				
C5-C8 Aliphatics, Adjusted	ND	mg/kg	2.00				
C9-C12 Aliphatics, Adjusted	ND	mg/kg	2.00				
Benzene	ND	mg/kg	0.100				
Toluene	ND	mg/kg	0.100				
Ethylbenzene	ND	mg/kg	0.100				
p/m-Xylene	ND	mg/kg	0.100				
o-Xylene	ND	mg/kg	0.100				
Methyl tert butyl ether	ND	mg/kg	0.200				
Naphthalene	ND	mg/kg	1.00				
Surrogate (s)		Recovery		QC Criteria			
2,5-Dibromotoluene-PID	125.	%	70-130				
2,5-Dibromotoluene-FID	128.	%	70-130				
Blank Analysis for sample(s) 01-02 (WG160954-1)							
Extractable Petroleum Hydrocarbons				46 98-1		0113 19:00 0115 03:04 BJ	
C9-C18 Aliphatics	ND	mg/kg	10.0				
C19-C36 Aliphatics	ND	mg/kg	10.0				
C11-C22 Aromatics, Unadjusted	ND	mg/kg	10.0				
C11-C22 Aromatics, Adjusted	ND	mg/kg	10.0				
Naphthalene	ND	mg/kg	0.500				
2-Methylnaphthalene	ND	mg/kg	0.500				
Acenaphthylene	ND	mg/kg	0.500				
Acenaphthene	ND	mg/kg	0.500				
Fluorene	ND	mg/kg	0.500				
Phenanthrene	ND	mg/kg	0.500				
Anthracene	ND	mg/kg	0.500				
Fluoranthene	ND	mg/kg	0.500				
Pyrene	ND	mg/kg	0.500				
Benzo (a) anthracene	ND	mg/kg	0.500				
Chrysene	ND	mg/kg	0.500				
Benzo (b) fluoranthene	ND	mg/kg	0.500				
Benzo (k) fluoranthene	ND	mg/kg	0.500				
Benzo (a) pyrene	ND	mg/kg	0.500				
Indeno (1,2,3-cd) Pyrene	ND	mg/kg	0.500				
Dibenzo (a,h) anthracene	ND	mg/kg	0.500				
Benzo (g,h,i) perylene	ND	mg/kg	0.500				
Surrogate (s)		Recovery		QC Criteria			
Chloro-Octadecane	62.0	%	40-140				
o-Terphenyl	68.0	%	40-140				
2-Fluorobiphenyl	68.0	%	40-140				
2-Bromonaphthalene	58.0	%	40-140				



ALPHA ANALYTICAL LABORATORIES  
ADDENDUM I

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REFERENCES

30. Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WPCF. 18th Edition. 1992.
46. Method for the Determination of Extractable Petroleum Hydrocarbons (EPH), Massachusetts Department of Environmental Protection, (MADEP-EPH-98-1), January 1998.
47. Method for the Determination of Volatile Petroleum Hydrocarbons (VPH), Massachusetts Department of Environmental Protection, (MADEP-VPH-98-1), January 1998.

GLOSSARY OF TERMS AND SYMBOLS

REF Reference number in which test method may be found.  
METHOD Method number by which analysis was performed.  
ID Initials of the analyst.  
ND Not detected in comparison to the reported detection limit.

Please note that all solid samples are reported on dry weight basis unless noted otherwise.

LIMITATION OF LIABILITIES

Alpha Analytical, Inc. performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical, Inc., shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical, Inc. be held liable for any incidental consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical, Inc.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding times and splitting of samples in the field.

**ALPHA ANALYTICAL LABORATORIES  
LOGIN SPECIFIC INFORMATION**

Laboratory Job Number: L0400286

Were project specific reporting limits specified? YES

**Cooler Information**

Cooler	Custody Seal
A	Absent

**Container Information**

Container ID	Container Type	Cooler	pH	Temp	Pres	Seal	Analysis
L0400286-01A	Vial MeOH preserved	A	N/A	1.3 C	Y	Absent	VPH-DELUX
L0400286-01B	Vial MeOH preserved	A	N/A	1.3 C	Y	Absent	VPH-DELUX
L0400286-01C	Amber 250ml unpreserved	A	N/A	1.3 C	Y	Absent	EPH-DELUX, TS
L0400286-01D	Amber 250ml unpreserved	A	N/A	1.3 C	Y	Absent	AG-TI, AS-TI, BA-TI, BE-TI, CD-TI, CR-TI, HG-T, NI-TI, PB-TI, PREPT, SB-TI, SE-TI, TL-TI, V-TI, ZN-TI
L0400286-02A	Vial MeOH preserved	A	N/A	1.3 C	Y	Absent	VPH-DELUX
L0400286-02B	Vial MeOH preserved	A	N/A	1.3 C	Y	Absent	VPH-DELUX
L0400286-02C	Amber 250ml unpreserved	A	N/A	1.3 C	Y	Absent	EPH-DELUX, TS
L0400286-02D	Amber 250ml unpreserved	A	N/A	1.3 C	Y	Absent	AG-TI, AS-TI, BA-TI, BE-TI, CD-TI, CR-TI, HG-T, NI-TI, PB-TI, PREPT, SB-TI, SE-TI, TL-TI, V-TI, ZN-TI
L0400286-03A	Vial MeOH preserved	A	N/A	1.3 C	Y	Absent	VPH-DELUX

**Container Comments**

Container ID    Comments

# CHAIN OF CUSTODY RECORD

H&A FILE NO. 50660-000 DELIVERY DATE ALPHA  
 PROJECT NAME BELMONT STADIUM TURNAROUND TIME 24H  
 H&A CONTACT S. POINTELL PROJECT MANAGER S. POINTELL

Sample No.	Date	Time	Depth	Type	Analysis Requested										Number of Containers	Comments (special instructions, precautions, additional method numbers, etc.)			
					VOA	ABNs PAH only	MCP Metals	Pesticides PCBs	PAH	PAH Suite	PAH Suite	PAH Suite	PAH Suite	PAH Suite			PAH Suite	PAH Suite	PAH Suite
HA-(low)56	B31AN	10:45	12-14	SOIL		X												4	Laboratory to use applicable DEP CAM methods, unless otherwise directed. <b>EPA/VPH TARGET ANALYSIS</b>
HA-(low)56	B31AN	13:10	10.0-12.0	SOIL		X												4	
TRIP B31AN																		1	

Sampled and Relinquished by	Received by	LIQUID					SOLID							
		VOA Vial	Amber Glass	Plastic Bottle	Preservative	Volume	VOA Vial	Amber Glass	Clear Glass	Preservative	Volume			
Sign: <u>[Signature]</u> Print: <u>[Signature]</u> Firm: <u>[Signature]</u> Date: <u>13 JAN 14</u> Time: <u>15:10</u>	Sign: <u>[Signature]</u> Print: <u>[Signature]</u> Firm: <u>[Signature]</u> Date: <u>11/13</u> Time: <u>15:10</u>													

Evidence samples were tampered with? YES NO  
 IF YES, please explain in section below.

Preservation Key:  
 A Sample chilled    C NaOH    E H<sub>2</sub>SO<sub>4</sub>    G Methanol  
 B Sample filtered    D HNO<sub>3</sub>    F HCL    H Water/Nafisom (circle)

If Presumptive Certainty Data Package is needed, initial all sections:  
 The required minimum field QC samples, as designated in BWSC CAM-VII have been or will be collected, as appropriate, to meet the requirements of Presumptive Certainty.  
 Matrix Spike (MS) samples for MCP Metals and/or Cyanide are included and identified herein.  
 This Chain of Custody Record (specify) X does not include samples defined as Drinking Water Samples.  
 If this Chain of Custody Record identifies samples defined as Drinking Water Samples, Trip Blanks and Field Duplicates are included and analysis of TICs are required, as appropriate. Laboratory should (specify if applicable) analyze hold for contingency testing the Drinking Water Field Duplicate and Drinking Water Trip Blank samples.

Required Reporting Limits and Data Quality Objectives:  
 RC-S1     S1     GW1  
 RC-S2     S2     GW2  
 RC-GW1     S3     GW3  
 RC-GW2

ALPHA ANALYTICAL LABORATORIES

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(508) 898-9220 www.alphalab.com

MA:M-MA086 NH:200301-A CT:PH-0574 ME:MA086 RI:65 NY:11148 NJ:MA935 Army:USACE

CERTIFICATE OF ANALYSIS

Client: Haley & Aldrich, Inc. Laboratory Job Number: L0400457  
Address: 465 Medford Street, Suite 2200  
Boston, MA 02129-1400 Date Received: 20-JAN-2004  
Attn: Mr. Steve Provencal Date Reported: 22-JAN-2004  
Project Number: 30660-000 Delivery Method: Alpha  
Site: BELMONT SCHOOLS

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The following questions pertain only to MCP Analytical Methods

An affirmative response to questions A,B,C & D is required for "Presumptive Certainty" status

- A. Were all samples received by the laboratory in a condition consistent with those described on their Chain-of-Custody documentation for the data set? YES
- B. Were all QA/QC procedures required for the specified analytical method(s) included in this report followed, including the requirement to note and discuss in a narrative QC data that did not meet appropriate performance standards or guidelines? YES
- C. Does the analytical data included in this report meet all the requirements for "Presumptive Certainty", as described in section 2.0 of the MADEP document CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data"? YES
- D. VPH and EPH methods only: Was the VPH or EPH method run without significant modifications, as specified in Section 11.3? YES

A response to questions E and F is required for "Presumptive Certainty" status

- E. Were all QC performance standards and recommendations for the specified method(s) achieved? YES
- F. Were results for all analyte-list compounds/elements for the specified method(s) reported? YES

Any answers of NO to the above questions are addressed in the case narrative.

---

I, the undersigned, attest under the pains and penalties of perjury that, based upon my personal inquiry of those responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

---

Authorized by: Scott McLean  
This document electronically signed

ALPHA ANALYTICAL LABORATORIES

Laboratory Job Number: L0400457  
Date Reported: 22-JAN-2004

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ALPHA SAMPLE NUMBER	CLIENT IDENTIFICATION	SAMPLE LOCATION
L0400457-01	HA-5 (OW) S3	BELMONT, MA
L0400457-02	TRIP BLANK	BELMONT, MA

ALPHA ANALYTICAL LABORATORIES  
NARRATIVE REPORT

Laboratory Job Number: L0400457

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Extraction methods

Extraction method 3545 was used as the extraction method for the analysis of EPH by Method 98-1.

All MCP required questions were answered with affirmative responses, therefore, there are no relevant data issues to discuss.



ALPHA ANALYTICAL LABORATORIES  
CERTIFICATE OF ANALYSIS

Laboratory Sample Number: L0400457-01  
HA-5 (OW) S3

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Volatile Petroleum Hydrocarbons				47 98-1		0121 10:22	MM

Quality Control Information

Condition of sample received:	Satisfactory	
Sample temperature upon receipt:	Received on Ice	
Were samples received in methanol?	Covering the Soil	
Methanol ratio:	1:1 +/- 25%	
Were all QA/QC procedures REQUIRED by the method followed?		YES
Were all performance/acceptance standards for the required procedures achieved?		YES
Were significant modifications made to the method as specified in Sect 11.3?		NO
Please note to subtract the method blank from the stated result.		
The normal acceptance range for the surrogate, 2,5-Dibromotoluene, is 70-130%.		

C5-C8 Aliphatics, Unadjusted	ND	mg/kg	3.38
C9-C12 Aliphatics, Unadjusted	ND	mg/kg	3.38
C9-C10 Aromatics	ND	mg/kg	3.38
C5-C8 Aliphatics, Adjusted	ND	mg/kg	3.38
C9-C12 Aliphatics, Adjusted	ND	mg/kg	3.38
Benzene	ND	mg/kg	0.169
Toluene	ND	mg/kg	0.169
Ethylbenzene	ND	mg/kg	0.169
p/m-Xylene	ND	mg/kg	0.169
o-Xylene	ND	mg/kg	0.169
Methyl tert butyl ether	ND	mg/kg	0.338
Naphthalene	ND	mg/kg	1.69

Surrogate(s)	Recovery		QC Criteria
2,5-Dibromotoluene-PID	106.	%	70-130
2,5-Dibromotoluene-FID	125.	%	70-130

Comments: Complete list of References and Glossary of Terms found in Addendum I



ALPHA ANALYTICAL LABORATORIES  
CERTIFICATE OF ANALYSIS

Laboratory Sample Number: L0400457-01  
HA-5 (OW) S3

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Extractable Petroleum Hydrocarbons				46 98-1	0120 20:25	0122 13:03	BJ

Quality Control Information

Condition of sample received:	Satisfactory	
Sample temperature upon receipt:	Received on Ice	
Sample extraction method:	Extracted Per the Method	
Were all QA/QC procedures REQUIRED by the method followed?		YES
Were all performance/acceptance standards for the required procedures achieved?		YES
Were significant modifications made to the method as specified in Sect 11.3?		NO

Please note to subtract the method blank from the stated result.  
The normal acceptance range for the extraction surrogates, Chloro-octadecane and o-Terphenyl, is 40-140%.  
The normal acceptance range for the fractionation surrogates, 2-Fluorobiphenyl and 2-Bromonaphthalene, is 40-140%.

C9-C18 Aliphatics	ND	mg/kg	12.5
C19-C36 Aliphatics	ND	mg/kg	12.5
C11-C22 Aromatics, Unadjusted	ND	mg/kg	12.5
C11-C22 Aromatics, Adjusted	ND	mg/kg	12.5
Naphthalene	ND	mg/kg	0.625
2-Methylnaphthalene	ND	mg/kg	0.625
Acenaphthylene	ND	mg/kg	0.625
Acenaphthene	ND	mg/kg	0.625
Fluorene	ND	mg/kg	0.625
Phenanthrene	ND	mg/kg	0.625
Anthracene	ND	mg/kg	0.625
Fluoranthene	ND	mg/kg	0.625
Pyrene	ND	mg/kg	0.625
Benzo(a)anthracene	ND	mg/kg	0.625
Chrysene	ND	mg/kg	0.625
Benzo(b)fluoranthene	ND	mg/kg	0.625
Benzo(k)fluoranthene	ND	mg/kg	0.625
Benzo(a)pyrene	ND	mg/kg	0.625
Indeno(1,2,3-cd)Pyrene	ND	mg/kg	0.625
Dibenzo(a,h)anthracene	ND	mg/kg	0.625
Benzo(g,h,i)perylene	ND	mg/kg	0.625

Surrogate(s)	Recovery		QC Criteria
Chloro-Octadecane	45.0	%	40-140
o-Terphenyl	60.0	%	40-140
2-Fluorobiphenyl	73.0	%	40-140
2-Bromonaphthalene	75.0	%	40-140

Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES  
CERTIFICATE OF ANALYSIS

MA:M-MA086 NH:200301-A CT:PH-0574 ME:MA086 RI:65 NY:11148 NJ:MA935 Army:USACE

Laboratory Sample Number: L0400457-02 Date Collected: 09-JAN-2004 13:00  
TRIP BLANK Date Received : 20-JAN-2004  
Sample Matrix: SOIL Date Reported : 22-JAN-2004  
Condition of Sample: Satisfactory Field Prep: None  
Number & Type of Containers: 1-Vial

Comments:  
Results are reported on an 'AS RECEIVED' basis.

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	

Volatile Petroleum Hydrocarbons 47 98-1 0121 09:31 MM

Quality Control Information

Condition of sample received: Satisfactory  
Sample temperature upon receipt: Received on Ice  
Were samples received in methanol? Covering the Soil  
Methanol ratio: 1:1 +/- 25%  
Were all QA/QC procedures REQUIRED by the method followed? YES  
Were all performance/acceptance standards for the required procedures achieved? YES  
Were significant modifications made to the method as specified in Sect 11.3? NO  
Please note to subtract the method blank from the stated result.  
The normal acceptance range for the surrogate, 2,5-Dibromotoluene, is 70-130%.

C5-C8 Aliphatics, Unadjusted	ND	mg/kg	2.00
C9-C12 Aliphatics, Unadjusted	ND	mg/kg	2.00
C9-C10 Aromatics	ND	mg/kg	2.00
C5-C8 Aliphatics, Adjusted	ND	mg/kg	2.00
C9-C12 Aliphatics, Adjusted	ND	mg/kg	2.00
Benzene	ND	mg/kg	0.100
Toluene	ND	mg/kg	0.100
Ethylbenzene	ND	mg/kg	0.100
p/m-Xylene	ND	mg/kg	0.100
o-Xylene	ND	mg/kg	0.100
Methyl tert butyl ether	ND	mg/kg	0.200
Naphthalene	ND	mg/kg	1.00
Surrogate(s)	Recovery		QC Criteria
2,5-Dibromotoluene-PID	103.	%	70-130
2,5-Dibromotoluene-FID	121.	%	70-130

Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES  
QUALITY ASSURANCE BATCH DUPLICATE ANALYSIS

Laboratory Job Number: L0400457

Parameter	Value 1	Value 2	Units	RPD	RPD Limits
Solids, Total for sample(s) 01 (L0400456-01, WG161340)					
Solids, Total	82.	82.	%	0	
Volatile Petroleum Hydrocarbons for sample(s) 01-02 (L0400373-01, WG161155)					
C5-C8 Aliphatics	ND	ND	mg/kg	NC	50
C9-C12 Aliphatics	ND	ND	mg/kg	NC	50
C9-C10 Aromatics	ND	ND	mg/kg	NC	50
C5-C8 Aliphatics, Adjusted	ND	ND	mg/kg	NC	50
C9-C12 Aliphatics, Adjusted	ND	ND	mg/kg	NC	50
Benzene	ND	ND	mg/kg	NC	50
Toluene	ND	ND	mg/kg	NC	50
Ethylbenzene	ND	ND	mg/kg	NC	50
p/m-Xylene	ND	ND	mg/kg	NC	50
o-Xylene	ND	ND	mg/kg	NC	50
Methyl tert butyl ether	ND	ND	mg/kg	NC	50
Naphthalene	ND	ND	mg/kg	NC	50
Surrogate(s)	Recovery				QC Criteria
2,5-Dibromotoluene-PID	110.	108.	%	2	70-130
2,5-Dibromotoluene-FID	127.	123.	%	3	70-130
Extractable Petroleum Hydrocarbons for sample(s) 01 (L0400456-01, WG161344)					
C9-C18 Aliphatics	ND	ND	mg/kg	NC	50
C19-C36 Aliphatics	ND	ND	mg/kg	NC	50
C11-C22 Aromatics	ND	ND	mg/kg	NC	50
C11-C22 Aromatics, Adjusted	ND	ND	mg/kg	NC	50
Naphthalene	ND	ND	mg/kg	NC	50
2-Methylnaphthalene	ND	ND	mg/kg	NC	50
Acenaphthylene	ND	ND	mg/kg	NC	50
Acenaphthene	ND	ND	mg/kg	NC	50
Fluorene	ND	ND	mg/kg	NC	50
Phenanthrene	ND	ND	mg/kg	NC	50
Anthracene	ND	ND	mg/kg	NC	50
Fluoranthene	ND	ND	mg/kg	NC	50
Pyrene	ND	ND	mg/kg	NC	50
Benzo(a)anthracene	ND	ND	mg/kg	NC	50
Chrysene	ND	ND	mg/kg	NC	50
Benzo(b)fluoranthene	ND	ND	mg/kg	NC	50
Benzo(k)fluoranthene	ND	ND	mg/kg	NC	50
Benzo(a)pyrene	ND	ND	mg/kg	NC	50
Indeno(1,2,3-cd)Pyrene	ND	ND	mg/kg	NC	50
Dibenzo(a,h)anthracene	ND	ND	mg/kg	NC	50
Benzo(ghi)perylene	ND	ND	mg/kg	NC	50
Surrogate(s)	Recovery				QC Criteria
Chloro-Octadecane	59.0	39.0	%	41	40-140
o-Terphenyl	63.0	57.0	%	10	40-140
2-Fluorobiphenyl	79.0	77.0	%	3	40-140
2-Bromonaphthalene	80.0	79.0	%	1	40-140

ALPHA ANALYTICAL LABORATORIES  
QUALITY ASSURANCE BATCH SPIKE ANALYSES

Laboratory Job Number: L0400457

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Parameter	% Recovery	QC Criteria
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          Volatile Petroleum Hydrocarbons LCS for sample(s) 01-02 (WG161155)

Benzene	107	70-130
Toluene	98	70-130
Ethylbenzene	109	70-130
p/m-Xylene	103	70-130
o-Xylene	100	70-130
Methyl tert butyl ether	97	70-130
Naphthalene	108	70-130
Surrogate(s)		
2,5-Dibromotoluene-PID	105	70-130
2,5-Dibromotoluene-FID	121	70-130

          Extractable Petroleum Hydrocarbons LCS for sample(s) 01 (WG161344)

Naphthalene	47	40-140
Acenaphthene	56	40-140
Anthracene	73	40-140
Pyrene	81	40-140
Chrysene	85	40-140
Nonane (C9)	50	40-140
Tetradecane (C14)	64	40-140
Nonadecane (C19)	80	40-140
Eicosane (C20)	82	40-140
Octacosane (C28)	80	40-140
Surrogate(s)		
Chloro-Octadecane	64	40-140
o-Terphenyl	77	40-140
2-Fluorobiphenyl	71	40-140
2-Bromonaphthalene	73	40-140

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ALPHA ANALYTICAL LABORATORIES  
 QUALITY ASSURANCE BATCH BLANK ANALYSIS

Laboratory Job Number: L0400457

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Blank Analysis for sample(s) 01-02 (WG161155-4)							
Volatile Petroleum Hydrocarbons				47 98-1		0121 08:41 MM	
C5-C8 Aliphatics, Unadjusted	ND	mg/kg	2.00				
C9-C12 Aliphatics, Unadjusted	ND	mg/kg	2.00				
C9-C10 Aromatics	ND	mg/kg	2.00				
C5-C8 Aliphatics, Adjusted	ND	mg/kg	2.00				
C9-C12 Aliphatics, Adjusted	ND	mg/kg	2.00				
Benzene	ND	mg/kg	0.100				
Toluene	ND	mg/kg	0.100				
Ethylbenzene	ND	mg/kg	0.100				
p/m-Xylene	ND	mg/kg	0.100				
o-Xylene	ND	mg/kg	0.100				
Methyl tert butyl ether	ND	mg/kg	0.200				
Naphthalene	ND	mg/kg	1.00				
Surrogate(s)		Recovery		QC Criteria			
2,5-Dibromotoluene-PID	95.0	%	70-130				
2,5-Dibromotoluene-FID	109.	%	70-130				
Blank Analysis for sample(s) 01 (WG161344-1)							
Extractable Petroleum Hydrocarbons				46 98-1		0120 20:25 0122 10:03 BJ	
C9-C18 Aliphatics	ND	mg/kg	10.0				
C19-C36 Aliphatics	ND	mg/kg	10.0				
C11-C22 Aromatics, Unadjusted	ND	mg/kg	10.0				
C11-C22 Aromatics, Adjusted	ND	mg/kg	10.0				
Naphthalene	ND	mg/kg	0.500				
2-Methylnaphthalene	ND	mg/kg	0.500				
Acenaphthylene	ND	mg/kg	0.500				
Acenaphthene	ND	mg/kg	0.500				
Fluorene	ND	mg/kg	0.500				
Phenanthrene	ND	mg/kg	0.500				
Anthracene	ND	mg/kg	0.500				
Fluoranthene	ND	mg/kg	0.500				
Pyrene	ND	mg/kg	0.500				
Benzo(a)anthracene	ND	mg/kg	0.500				
Chrysene	ND	mg/kg	0.500				
Benzo(b)fluoranthene	ND	mg/kg	0.500				
Benzo(k)fluoranthene	ND	mg/kg	0.500				
Benzo(a)pyrene	ND	mg/kg	0.500				
Indeno(1,2,3-cd)Pyrene	ND	mg/kg	0.500				
Dibenzo(a,h)anthracene	ND	mg/kg	0.500				
Benzo(g,h,i)perylene	ND	mg/kg	0.500				
Surrogate(s)		Recovery		QC Criteria			
Chloro-Octadecane	52.0	%	40-140				
o-Terphenyl	73.0	%	40-140				
2-Fluorobiphenyl	66.0	%	40-140				
2-Bromonaphthalene	67.0	%	40-140				

ALPHA ANALYTICAL LABORATORIES  
ADDENDUM I

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REFERENCES

30. Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WPCF. 18th Edition. 1992.
46. Method for the Determination of Extractable Petroleum Hydrocarbons (EPH), Massachusetts Department of Environmental Protection, (MADEP-EPH-98-1), January 1998.
47. Method for the Determination of Volatile Petroleum Hydrocarbons (VPH), Massachusetts Department of Environmental Protection, (MADEP-VPH-98-1), January 1998.

GLOSSARY OF TERMS AND SYMBOLS

REF Reference number in which test method may be found.  
METHOD Method number by which analysis was performed.  
ID Initials of the analyst.  
ND Not detected in comparison to the reported detection limit.

Please note that all solid samples are reported on dry weight basis unless noted otherwise.

LIMITATION OF LIABILITIES

Alpha Analytical, Inc. performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical, Inc., shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical, Inc. be held liable for any incidental consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical, Inc.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding times and splitting of samples in the field.

ALPHA ANALYTICAL LABORATORIES  
LOGIN SPECIFIC INFORMATION

Laboratory Job Number: L0400457

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Were project specific reporting limits specified? YES

Cooler Information

Cooler	Custody Seal
A	Absent

Container Information

Container ID	Container Type	Cooler	pH	Temp	Pres	Seal	Analysis
L0400457-01A	Vial MeOH preserved	A	N/A	3 C	Y	Absent	VPH-DELUX
L0400457-01B	Vial MeOH preserved	A	N/A	3 C	Y	Absent	VPH-DELUX
L0400457-01C	Amber 250ml unpreserved	A	N/A	3 C	Y	Absent	EPH-DELUX, TS
L0400457-01D	Amber 250ml unpreserved	A	N/A	3 C	Y	Absent	EPH-DELUX, TS
L0400457-02A	Vial MeOH preserved	A	N/A	3 C	Y	Absent	VPH-DELUX

Container Comments

Container ID	Comments
L0400457-01A	Temp. probe, Temp. blank frozen.
L0400457-01B	Temp. probe, Temp. blank frozen.
L0400457-01C	Temp. probe, Temp. blank frozen.
L0400457-01D	Temp. probe, Temp. blank frozen.
L0400457-02A	Temp. probe, Temp. blank frozen.

# CHAIN OF CUSTODY RECORD

H&A FILE NO. 30660-000 LABORATORY Alpha DELIVERY DATE \_\_\_\_\_  
 PROJECT NAME Belmont Schools ADDRESS Westboro, MA TURNAROUND TIME 24 hr  
 H&A CONTACT S. Pruvaca CONTACT \_\_\_\_\_ PROJECT MANAGER J. Mooney

Sample No.	Date	Time	Depth	Type	Analysis Requested										Number of Containers	Comments (special instructions, precautions, additional method numbers, etc.)			
					VOA	ABNs	PAH only	MCP Metals	PCBs	VPB	EPH	TPH (specify)	TCLP (specify)	Reactivity			Ignitability	Corrosivity	
HAS(20) 53	1/29/04	0930	6-8'	Soil	<input checked="" type="checkbox"/>													4	Laboratory to use applicable DEP CAM methods, unless otherwise directed. EPH/VPB and target analytes
TRIP BLANK	1/9/04	1300	-	-														1	MCP MEMOS TRIP BLANK
																		5	TOTAL

Sampled and Relinquished by Sign Print Firm Date Time	Received by Sign Print Firm Date Time	LIQUID					SOLID				
		VOA Vial	Amber Glass	Plastic Bottle	Preservative	Volume	VOA Vial	Amber Glass	Clear Glass	Preservative	Volume
Matthew Wilson 1/29/04 15:30	Matthew Wilson 1/29/04 17:15										
Matthew Wilson 1/29/04 15:30	Matthew Wilson 1/29/04 17:15										

**Presumptive Certainty Data Package (Laboratory to use applicable DEP CAM methods)**

**PRESERVATION KEY**  
 A Sample chilled    C NaOH    E H<sub>2</sub>SO<sub>4</sub>    G Methanol  
 B Sample filtered    D HNO<sub>3</sub>    F HCL    H Water/NaHSO<sub>4</sub> (circle)

**Required Reporting Limits and Data Quality Objectives**  
 RC-S1     S1     GW1  
 RC-S2     S2     GW2  
 RC-GW1     S3     GW3  
 RC-GW2

**If Presumptive Certainty Data Package is needed, initial all sections:**  
 MJD The required minimum field QC samples, as designated in BWSC CAM-VII have been or will be collected, as appropriate, to meet the requirements of Presumptive Certainty.  
 Matrix Spike (MS) samples for MCP Metals and/or Cyanide are included and identified herein.  
 This Chain of Custody Record (specify)  includes \_\_\_\_\_ does not include samples defined as Drinking Water Samples.  
 If this Chain of Custody Record identifies samples defined as Drinking Water Samples, Trip Blanks and Field Duplicates are included and identified and analysis of TICs are required, as appropriate. Laboratory should (specify if applicable) \_\_\_\_\_ analyze \_\_\_\_\_ hold for contingency testing the Drinking Water Field Duplicate and Drinking Water Trip Blank samples.



ALPHA ANALYTICAL LABORATORIES

Eight Walkup Drive  
Westborough, Massachusetts 01581-1019  
(508) 898-9220 www.alphalab.com

MA:M-MA086 NH:200301-A CT:PH-0574 ME:MA086 RI:65 NY:11148 NJ:MA935 Army:USACE

CERTIFICATE OF ANALYSIS

Client: Haley & Aldrich, Inc. Laboratory Job Number: L0400456  
Address: 465 Medford Street, Suite 2200  
Boston, MA 02129-1400 Date Received: 20-JAN-2004  
Attn: Mr. Steve Provencal Date Reported: 23-JAN-2004  
Project Number: 30660-000 Delivery Method: Alpha  
Site: BELMONT SCHOOLS

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The following questions pertain only to MCP Analytical Methods

An affirmative response to questions A,B,C & D is required for "Presumptive Certainty" status

- A. Were all samples received by the laboratory in a condition consistent with those described on their Chain-of-Custody documentation for the data set? YES
- B. Were all QA/QC procedures required for the specified analytical method(s) included in this report followed, including the requirement to note and discuss in a narrative QC data that did not meet appropriate performance standards or guidelines? YES
- C. Does the analytical data included in this report meet all the requirements for "Presumptive Certainty", as described in section 2.0 of the MADEP document CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data"? YES
- D. VPH and EPH methods only: Was the VPH or EPH method run without significant modifications, as specified in Section 11.3? YES

A response to questions E and F is required for "Presumptive Certainty" status

- E. Were all QC performance standards and recommendations for the specified method(s) achieved? YES
- F. Were results for all analyte-list compounds/elements for the specified method(s) reported? YES

Any answers of NO to the above questions are addressed in the case narrative.

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I, the undersigned, attest under the pains and penalties of perjury that, based upon my personal inquiry of those responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

---

Authorized by: Scott McLean  
This document electronically signed

ALPHA ANALYTICAL LABORATORIES

Laboratory Job Number: L0400456  
Date Reported: 23-JAN-2004

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ALPHA SAMPLE NUMBER	CLIENT IDENTIFICATION	SAMPLE LOCATION
L0400456-01	HA-1 (OW) S5	BELMONT, MA
L0400456-02	HA-3 (OW) S4	BELMONT, MA

ALPHA ANALYTICAL LABORATORIES  
NARRATIVE REPORT

Laboratory Job Number: L0400456

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Extraction methods

Extraction method 3545 was used as the extraction method for the analysis of EPH by Method 98-1.

All MCP required questions were answered with affirmative responses, therefore, there are no relevant data issues to discuss.

ALPHA ANALYTICAL LABORATORIES  
 CERTIFICATE OF ANALYSIS

MA:M-MA086 NH:200301-A CT:PH-0574 ME:MA086 RI:65 NY:11148 NJ:MA935 Army:USACE

Laboratory Sample Number: L0400456-01	Date Collected: 19-JAN-2004 11:00
HA-1 (OW) S5	Date Received : 20-JAN-2004
Sample Matrix: SOIL	Date Reported : 23-JAN-2004
Condition of Sample: Satisfactory	Field Prep: None
Number & Type of Containers: 1-Amber,2-Vial	

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Solids, Total	82.	%	0.10	30 2540G		0121 09:00	ST

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Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES  
CERTIFICATE OF ANALYSIS

Laboratory Sample Number: L0400456-01  
HA-1 (OW) S5

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	

Volatile Petroleum Hydrocarbons	47 98-1	0121 11:12 MM
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Quality Control Information

Condition of sample received:	Satisfactory
Sample temperature upon receipt:	Received on Ice
Were samples received in methanol?	Covering the Soil
Methanol ratio:	1:1 +/- 25%
Were all QA/QC procedures REQUIRED by the method followed?	YES
Were all performance/acceptance standards for the required procedures achieved?	YES
Were significant modifications made to the method as specified in Sect 11.3?	NO
Please note to subtract the method blank from the stated result.	
The normal acceptance range for the surrogate, 2,5-Dibromotoluene, is 70-130%.	

C5-C8 Aliphatics, Unadjusted	ND	mg/kg	3.00
C9-C12 Aliphatics, Unadjusted	ND	mg/kg	3.00
C9-C10 Aromatics	ND	mg/kg	3.00
C5-C8 Aliphatics, Adjusted	ND	mg/kg	3.00
C9-C12 Aliphatics, Adjusted	ND	mg/kg	3.00
Benzene	ND	mg/kg	0.150
Toluene	ND	mg/kg	0.150
Ethylbenzene	ND	mg/kg	0.150
p/m-Xylene	ND	mg/kg	0.150
o-Xylene	ND	mg/kg	0.150
Methyl tert butyl ether	ND	mg/kg	0.300
Naphthalene	ND	mg/kg	1.50
Surrogate(s)	Recovery		QC Criteria
2,5-Dibromotoluene-PID	103.	%	70-130
2,5-Dibromotoluene-FID	123.	%	70-130

Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES  
CERTIFICATE OF ANALYSIS

Laboratory Sample Number: L0400456-01  
HA-1 (OW) S5

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Extractable Petroleum Hydrocarbons				46 98-1		0120 20:25 0122 10:46	BJ

Quality Control Information

Condition of sample received:	Satisfactory	
Sample temperature upon receipt:	Received on Ice	
Sample extraction method:	Extracted Per the Method	
Were all QA/QC procedures REQUIRED by the method followed?		YES
Were all performance/acceptance standards for the required procedures achieved?		YES
Were significant modifications made to the method as specified in Sect 11.3?		NO

Please note to subtract the method blank from the stated result.  
The normal acceptance range for the extraction surrogates, Chloro-octadecane and o-Terphenyl, is 40-140%.  
The normal acceptance range for the fractionation surrogates, 2-Fluorobiphenyl and 2-Bromonaphthalene, is 40-140%.

C9-C18 Aliphatics	ND	mg/kg	12.2
C19-C36 Aliphatics	ND	mg/kg	12.2
C11-C22 Aromatics, Unadjusted	ND	mg/kg	12.2
C11-C22 Aromatics, Adjusted	ND	mg/kg	12.2
Naphthalene	ND	mg/kg	0.610
2-Methylnaphthalene	ND	mg/kg	0.610
Acenaphthylene	ND	mg/kg	0.610
Acenaphthene	ND	mg/kg	0.610
Fluorene	ND	mg/kg	0.610
Phenanthrene	ND	mg/kg	0.610
Anthracene	ND	mg/kg	0.610
Fluoranthene	ND	mg/kg	0.610
Pyrene	ND	mg/kg	0.610
Benzo (a) anthracene	ND	mg/kg	0.610
Chrysene	ND	mg/kg	0.610
Benzo (b) fluoranthene	ND	mg/kg	0.610
Benzo (k) fluoranthene	ND	mg/kg	0.610
Benzo (a) pyrene	ND	mg/kg	0.610
Indeno (1, 2, 3-cd) Pyrene	ND	mg/kg	0.610
Dibenzo (a, h) anthracene	ND	mg/kg	0.610
Benzo (g, h, i) perylene	ND	mg/kg	0.610

Surrogate (s)	Recovery		QC Criteria
Chloro-Octadecane	59.0	%	40-140
o-Terphenyl	63.0	%	40-140
2-Fluorobiphenyl	79.0	%	40-140
2-Bromonaphthalene	80.0	%	40-140

Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES  
CERTIFICATE OF ANALYSIS

MA:M-MA086 NH:200301-A CT:PH-0574 ME:MA086 RI:65 NY:11148 NJ:MA935 Army:USACE

Laboratory Sample Number: L0400456-02  
 HA-3 (OW) S4  
 Sample Matrix: SOIL  
 Condition of Sample: Satisfactory  
 Number & Type of Containers: 2-Amber,2-Vial

Date Collected: 19-JAN-2004 14:00  
 Date Received : 20-JAN-2004  
 Date Reported : 23-JAN-2004  
 Field Prep: None

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Solids, Total	77.	%	0.10	30 2540G	0121	09:00	ST

Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES  
CERTIFICATE OF ANALYSIS

Laboratory Sample Number: L0400456-02  
HA-3 (OW) S4

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Volatile Petroleum Hydrocarbons				47 98-1		0121 12:03	MM

Quality Control Information

Condition of sample received:	Satisfactory	
Sample temperature upon receipt:	Received on Ice	
Were samples received in methanol?	Covering the Soil	
Methanol ratio:	1:1 +/- 25%	
Were all QA/QC procedures REQUIRED by the method followed?		YES
Were all performance/acceptance standards for the required procedures achieved?		YES
Were significant modifications made to the method as specified in Sect 11.3?		NO
Please note to subtract the method blank from the stated result.		
The normal acceptance range for the surrogate, 2,5-Dibromotoluene, is 70-130%.		

C5-C8 Aliphatics, Unadjusted	ND	mg/kg	3.04
C9-C12 Aliphatics, Unadjusted	ND	mg/kg	3.04
C9-C10 Aromatics	ND	mg/kg	3.04
C5-C8 Aliphatics, Adjusted	ND	mg/kg	3.04
C9-C12 Aliphatics, Adjusted	ND	mg/kg	3.04
Benzene	ND	mg/kg	0.152
Toluene	ND	mg/kg	0.152
Ethylbenzene	ND	mg/kg	0.152
p/m-Xylene	ND	mg/kg	0.152
o-Xylene	ND	mg/kg	0.152
Methyl tert butyl ether	ND	mg/kg	0.304
Naphthalene	ND	mg/kg	1.52

Surrogate(s)	Recovery		QC Criteria
2,5-Dibromotoluene-PID	102.	%	70-130
2,5-Dibromotoluene-FID	124.	%	70-130

Comments: Complete list of References and Glossary of Terms found in Addendum I



ALPHA ANALYTICAL LABORATORIES  
CERTIFICATE OF ANALYSIS

Laboratory Sample Number: L0400456-02  
HA-3 (OW) S4

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	

Extractable Petroleum Hydrocarbons				46 98-1		0122 15:10	0123 10:10	BJ
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Quality Control Information

Condition of sample received:	Satisfactory	
Sample temperature upon receipt:	Received on Ice	
Sample extraction method:	Extracted Per the Method	
Were all QA/QC procedures REQUIRED by the method followed?		YES
Were all performance/acceptance standards for the required procedures achieved?		YES
Were significant modifications made to the method as specified in Sect 11.3?		NO
Please note to subtract the method blank from the stated result.		
The normal acceptance range for the extraction surrogates, Chloro-octadecane and o-Terphenyl, is 40-140%.		
The normal acceptance range for the fractionation surrogates, 2-Fluorobiphenyl and 2-Bromonaphthalene, is 40-140%.		

C9-C18 Aliphatics	ND	mg/kg	13.0
C19-C36 Aliphatics	ND	mg/kg	13.0
C11-C22 Aromatics, Unadjusted	ND	mg/kg	13.0
C11-C22 Aromatics, Adjusted	ND	mg/kg	13.0
Naphthalene	ND	mg/kg	0.649
2-Methylnaphthalene	ND	mg/kg	0.649
Acenaphthylene	ND	mg/kg	0.649
Acenaphthene	ND	mg/kg	0.649
Fluorene	ND	mg/kg	0.649
Phenanthrene	ND	mg/kg	0.649
Anthracene	ND	mg/kg	0.649
Fluoranthene	ND	mg/kg	0.649
Pyrene	ND	mg/kg	0.649
Benzo (a) anthracene	ND	mg/kg	0.649
Chrysene	ND	mg/kg	0.649
Benzo (b) fluoranthene	ND	mg/kg	0.649
Benzo (k) fluoranthene	ND	mg/kg	0.649
Benzo (a) pyrene	ND	mg/kg	0.649
Indeno (1,2,3-cd) Pyrene	ND	mg/kg	0.649
Dibenzo (a,h) anthracene	ND	mg/kg	0.649
Benzo (g,h,i) perylene	ND	mg/kg	0.649

Surrogate (s)	Recovery		QC Criteria
Chloro-Octadecane	55.0	%	40-140
o-Terphenyl	74.0	%	40-140
2-Fluorobiphenyl	75.0	%	40-140
2-Bromonaphthalene	72.0	%	40-140

Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES  
QUALITY ASSURANCE BATCH DUPLICATE ANALYSIS

Laboratory Job Number: L0400456

Parameter	Value 1	Value 2	Units	RPD	RPD Limits
Solids, Total for sample(s) 01-02 (L0400456-01, WG161340)					
Solids, Total	82.	82.	%	0	
Volatile Petroleum Hydrocarbons for sample(s) 01-02 (L0400373-01, WG161155)					
C5-C8 Aliphatics	ND	ND	mg/kg	NC	50
C9-C12 Aliphatics	ND	ND	mg/kg	NC	50
C9-C10 Aromatics	ND	ND	mg/kg	NC	50
C5-C8 Aliphatics, Adjusted	ND	ND	mg/kg	NC	50
C9-C12 Aliphatics, Adjusted	ND	ND	mg/kg	NC	50
Benzene	ND	ND	mg/kg	NC	50
Toluene	ND	ND	mg/kg	NC	50
Ethylbenzene	ND	ND	mg/kg	NC	50
p/m-Xylene	ND	ND	mg/kg	NC	50
o-Xylene	ND	ND	mg/kg	NC	50
Methyl tert butyl ether	ND	ND	mg/kg	NC	50
Naphthalene	ND	ND	mg/kg	NC	50
Surrogate(s)	Recovery				QC Criteria
2,5-Dibromotoluene-PID	110.	108.	%	2	70-130
2,5-Dibromotoluene-FID	127.	123.	%	3	70-130
Extractable Petroleum Hydrocarbons for sample(s) 02 (L0400456-02, WG161442)					
C9-C18 Aliphatics	ND	ND	mg/kg	NC	50
C19-C36 Aliphatics	ND	ND	mg/kg	NC	50
C11-C22 Aromatics	ND	ND	mg/kg	NC	50
C11-C22 Aromatics, Adjusted	ND	ND	mg/kg	NC	50
Naphthalene	ND	ND	mg/kg	NC	50
2-Methylnaphthalene	ND	ND	mg/kg	NC	50
Acenaphthylene	ND	ND	mg/kg	NC	50
Acenaphthene	ND	ND	mg/kg	NC	50
Fluorene	ND	ND	mg/kg	NC	50
Phenanthrene	ND	ND	mg/kg	NC	50
Anthracene	ND	ND	mg/kg	NC	50
Fluoranthene	ND	ND	mg/kg	NC	50
Pyrene	ND	ND	mg/kg	NC	50
Benzo(a)anthracene	ND	ND	mg/kg	NC	50
Chrysene	ND	ND	mg/kg	NC	50
Benzo(b)fluoranthene	ND	ND	mg/kg	NC	50
Benzo(k)fluoranthene	ND	ND	mg/kg	NC	50
Benzo(a)pyrene	ND	ND	mg/kg	NC	50
Indeno(1,2,3-cd)Pyrene	ND	ND	mg/kg	NC	50
Dibenzo(a,h)anthracene	ND	ND	mg/kg	NC	50
Benzo(ghi)perylene	ND	ND	mg/kg	NC	50
Surrogate(s)	Recovery				QC Criteria
Chloro-Octadecane	55.0	49.0	%	12	40-140
o-Terphenyl	74.0	61.0	%	19	40-140
2-Fluorobiphenyl	75.0	70.0	%	7	40-140
2-Bromonaphthalene	72.0	44.0	%	48	40-140

ALPHA ANALYTICAL LABORATORIES  
 QUALITY ASSURANCE BATCH DUPLICATE ANALYSIS

Laboratory Job Number: L0400456

Continued

Parameter	Value 1	Value 2	Units	RPD	RPD Limits
Extractable Petroleum Hydrocarbons for sample(s) 01 (L0400456-01, WG161344)					
C9-C18 Aliphatics	ND	ND	mg/kg	NC	50
C19-C36 Aliphatics	ND	ND	mg/kg	NC	50
C11-C22 Aromatics	ND	ND	mg/kg	NC	50
C11-C22 Aromatics, Adjusted	ND	ND	mg/kg	NC	50
Naphthalene	ND	ND	mg/kg	NC	50
2-Methylnaphthalene	ND	ND	mg/kg	NC	50
Acenaphthylene	ND	ND	mg/kg	NC	50
Acenaphthene	ND	ND	mg/kg	NC	50
Fluorene	ND	ND	mg/kg	NC	50
Phenanthrene	ND	ND	mg/kg	NC	50
Anthracene	ND	ND	mg/kg	NC	50
Fluoranthene	ND	ND	mg/kg	NC	50
Pyrene	ND	ND	mg/kg	NC	50
Benzo(a)anthracene	ND	ND	mg/kg	NC	50
Chrysene	ND	ND	mg/kg	NC	50
Benzo(b)fluoranthene	ND	ND	mg/kg	NC	50
Benzo(k)fluoranthene	ND	ND	mg/kg	NC	50
Benzo(a)pyrene	ND	ND	mg/kg	NC	50
Indeno(1,2,3-cd)Pyrene	ND	ND	mg/kg	NC	50
Dibenzo(a,h)anthracene	ND	ND	mg/kg	NC	50
Benzo(ghi)perylene	ND	ND	mg/kg	NC	50
Surrogate(s)	Recovery				QC Criteria
Chloro-Octadecane	59.0	39.0	%	41	40-140
o-Terphenyl	63.0	57.0	%	10	40-140
2-Fluorobiphenyl	79.0	77.0	%	3	40-140
2-Bromonaphthalene	80.0	79.0	%	1	40-140

ALPHA ANALYTICAL LABORATORIES  
QUALITY ASSURANCE BATCH SPIKE ANALYSES

Laboratory Job Number: L0400456

Parameter	% Recovery	QC Criteria
Volatile Petroleum Hydrocarbons LCS for sample(s) 01-02 (WG161155)		
Benzene	107	70-130
Toluene	98	70-130
Ethylbenzene	109	70-130
p/m-Xylene	103	70-130
o-Xylene	100	70-130
Methyl tert butyl ether	97	70-130
Naphthalene	108	70-130
Surrogate(s)		
2,5-Dibromotoluene-PID	105	70-130
2,5-Dibromotoluene-FID	121	70-130
Extractable Petroleum Hydrocarbons LCS for sample(s) 02 (WG161442)		
Naphthalene	57	40-140
Acenaphthene	64	40-140
Anthracene	72	40-140
Pyrene	80	40-140
Chrysene	82	40-140
Nonane (C9)	52	40-140
Tetradecane (C14)	68	40-140
Nonadecane (C19)	82	40-140
Eicosane (C20)	85	40-140
Octacosane (C28)	81	40-140
Surrogate(s)		
Chloro-Octadecane	63	40-140
o-Terphenyl	78	40-140
2-Fluorobiphenyl	75	40-140
2-Bromonaphthalene	74	40-140
Extractable Petroleum Hydrocarbons LCS for sample(s) 01 (WG161344)		
Naphthalene	47	40-140
Acenaphthene	56	40-140
Anthracene	73	40-140
Pyrene	81	40-140
Chrysene	85	40-140
Nonane (C9)	50	40-140
Tetradecane (C14)	64	40-140
Nonadecane (C19)	80	40-140
Eicosane (C20)	82	40-140
Octacosane (C28)	80	40-140
Surrogate(s)		
Chloro-Octadecane	64	40-140
o-Terphenyl	77	40-140
2-Fluorobiphenyl	71	40-140
2-Bromonaphthalene	73	40-140

ALPHA ANALYTICAL LABORATORIES  
QUALITY ASSURANCE BATCH BLANK ANALYSIS

Laboratory Job Number: L0400456

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Blank Analysis for sample(s) 01-02 (WG161155-4)							
Volatile Petroleum Hydrocarbons				47 98-1		0121 08:41	MM
C5-C8 Aliphatics, Unadjusted	ND	mg/kg	2.00				
C9-C12 Aliphatics, Unadjusted	ND	mg/kg	2.00				
C9-C10 Aromatics	ND	mg/kg	2.00				
C5-C8 Aliphatics, Adjusted	ND	mg/kg	2.00				
C9-C12 Aliphatics, Adjusted	ND	mg/kg	2.00				
Benzene	ND	mg/kg	0.100				
Toluene	ND	mg/kg	0.100				
Ethylbenzene	ND	mg/kg	0.100				
p/m-Xylene	ND	mg/kg	0.100				
o-Xylene	ND	mg/kg	0.100				
Methyl tert butyl ether	ND	mg/kg	0.200				
Naphthalene	ND	mg/kg	1.00				
Surrogate (s) Recovery QC Criteria							
2,5-Dibromotoluene-PID	95.0	%					70-130
2,5-Dibromotoluene-FID	109.	%					70-130
Blank Analysis for sample(s) 02 (WG161442-1)							
Extractable Petroleum Hydrocarbons				46 98-1		0122 12:45	0123 08:32 BJ
C9-C18 Aliphatics	ND	mg/kg	10.0				
C19-C36 Aliphatics	ND	mg/kg	10.0				
C11-C22 Aromatics, Unadjusted	ND	mg/kg	10.0				
C11-C22 Aromatics, Adjusted	ND	mg/kg	10.0				
Naphthalene	ND	mg/kg	0.500				
2-Methylnaphthalene	ND	mg/kg	0.500				
Acenaphthylene	ND	mg/kg	0.500				
Acenaphthene	ND	mg/kg	0.500				
Fluorene	ND	mg/kg	0.500				
Phenanthrene	ND	mg/kg	0.500				
Anthracene	ND	mg/kg	0.500				
Fluoranthene	ND	mg/kg	0.500				
Pyrene	ND	mg/kg	0.500				
Benzo (a) anthracene	ND	mg/kg	0.500				
Chrysene	ND	mg/kg	0.500				
Benzo (b) fluoranthene	ND	mg/kg	0.500				
Benzo (k) fluoranthene	ND	mg/kg	0.500				
Benzo (a) pyrene	ND	mg/kg	0.500				
Indeno (1, 2, 3-cd) Pyrene	ND	mg/kg	0.500				
Dibenzo (a, h) anthracene	ND	mg/kg	0.500				
Benzo (g, h, i) perylene	ND	mg/kg	0.500				
Surrogate (s) Recovery QC Criteria							
Chloro-Octadecane	50.0	%					40-140
o-Terphenyl	69.0	%					40-140
o-Fluorobiphenyl	73.0	%					40-140
o-Bromonaphthalene	69.0	%					40-140

ALPHA ANALYTICAL LABORATORIES  
 QUALITY ASSURANCE BATCH BLANK ANALYSIS

Laboratory Job Number: L0400456

Continued

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Blank Analysis for sample(s) 01 (WG161344-1)							
Extractable Petroleum Hydrocarbons				46 98-1		0120 20:25	0122 10:03 BJ
C9-C18 Aliphatics	ND	mg/kg	10.0				
C19-C36 Aliphatics	ND	mg/kg	10.0				
C11-C22 Aromatics, Unadjusted	ND	mg/kg	10.0				
C11-C22 Aromatics, Adjusted	ND	mg/kg	10.0				
Naphthalene	ND	mg/kg	0.500				
2-Methylnaphthalene	ND	mg/kg	0.500				
Acenaphthylene	ND	mg/kg	0.500				
Acenaphthene	ND	mg/kg	0.500				
Fluorene	ND	mg/kg	0.500				
Phenanthrene	ND	mg/kg	0.500				
Anthracene	ND	mg/kg	0.500				
Fluoranthene	ND	mg/kg	0.500				
Pyrene	ND	mg/kg	0.500				
Benzo (a) anthracene	ND	mg/kg	0.500				
Chrysene	ND	mg/kg	0.500				
Benzo (b) fluoranthene	ND	mg/kg	0.500				
Benzo (k) fluoranthene	ND	mg/kg	0.500				
Benzo (a) pyrene	ND	mg/kg	0.500				
Indeno (1, 2, 3-cd) Pyrene	ND	mg/kg	0.500				
Dibenzo (a, h) anthracene	ND	mg/kg	0.500				
Benzo (g, h, i) perylene	ND	mg/kg	0.500				
Surrogate (s)	Recovery			QC Criteria			
Chloro-Octadecane	52.0	%		40-140			
o-Terphenyl	73.0	%		40-140			
2-Fluorobiphenyl	66.0	%		40-140			
2-Bromonaphthalene	67.0	%		40-140			

ALPHA ANALYTICAL LABORATORIES  
ADDENDUM I

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REFERENCES

30. Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WPCF. 18th Edition. 1992.
46. Method for the Determination of Extractable Petroleum Hydrocarbons (EPH), Massachusetts Department of Environmental Protection, (MADEP-EPH-98-1), January 1998.
47. Method for the Determination of Volatile Petroleum Hydrocarbons (VPH), Massachusetts Department of Environmental Protection, (MADEP-VPH-98-1), January 1998.

GLOSSARY OF TERMS AND SYMBOLS

REF Reference number in which test method may be found.  
METHOD Method number by which analysis was performed.  
ID Initials of the analyst.  
ND Not detected in comparison to the reported detection limit.

Please note that all solid samples are reported on dry weight basis unless noted otherwise.

LIMITATION OF LIABILITIES

Alpha Analytical, Inc. performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical, Inc., shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical, Inc. be held liable for any incidental consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical, Inc.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding times and splitting of samples in the field.

ALPHA ANALYTICAL LABORATORIES  
LOGIN SPECIFIC INFORMATION

Laboratory Job Number: L0400456

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Were project specific reporting limits specified? YES

Cooler Information

Cooler	Custody Seal
A	Absent

Container Information

Container ID	Container Type	Cooler	pH	Temp	Pres	Seal	Analysis
L0400456-01B	Amber 250ml unpreserved	A	NA	3 C	Y	Absent	EPH-DELUX, TS
L0400456-01C	Vial MeOH preserved	A	NA	3 C	Y	Absent	VPH-DELUX
L0400456-01D	Vial MeOH preserved	A	NA	3 C	Y	Absent	VPH-DELUX
L0400456-02A	Amber 250ml unpreserved	A	NA	3 C	Y	Absent	VPH-DELUX
L0400456-02B	Amber 250ml unpreserved	A	NA	3 C	Y	Absent	EPH-DELUX, TS
L0400456-02C	Vial MeOH preserved	A	NA	3 C	Y	Absent	VPH-DELUX
L0400456-02D	Vial MeOH preserved	A	NA	3 C	Y	Absent	VPH-DELUX

Container Comments

Container ID	Comments
L0400456-01B	Temp. Probe, Temp. Blank frozen.
L0400456-01C	Temp. Probe, Temp. Blank frozen.
L0400456-01D	Temp. Probe, Temp. Blank frozen.
L0400456-02A	Temp. Probe, Temp. Blank frozen.
L0400456-02B	Temp. Probe, Temp. Blank frozen.
L0400456-02C	Temp. Probe, Temp. Blank frozen.
L0400456-02D	Temp. Probe, Temp. Blank frozen.





465 Medford St.,  
Suite 2200,  
Boston, MA 02129-1400

# CHAIN OF CUSTODY RECORD

Fax (617) 886-7600

Page 1 of 1

H&A FILE NO. 0660-000 DELIVERY DATE \_\_\_\_\_  
 PROJECT NAME Belmont Schools TURNAROUND TIME 24 hr  
 H&A CONTACT S. P. FAVINCA PROJECT MANAGER J. McManey

Sample No.	Date	Time	Depth	Type	Analysis Requested										Number of Containers	Comments (special instructions, precautions, additional method numbers, etc.)	
					VOA	ABNs	MCP Metals	Pesticides	PCBs	VPH Full Suite	EPA Full Suite	C-ranges only	TPH (specify)	TCLP (specify)			Reactivity
HA-1 (w)	5/19/04	1100	8-10'	Soil	X											4	Laboratory to use applicable DEP CAM methods, unless otherwise directed. EPA/VPHT and Target Analytes
HA-3 (w)	5/19/04	1400	6-8'	Soil	X											4	MCP METALS
					LIQUID										8		TOTAL
					SOLID												

**Received by**  
 Sign: [Signature]  
 Print: D. Ladebacher  
 Firm: Alpha  
 Date: 1/20/04 Time: 1845

**Relinquished by**  
 Sign: [Signature]  
 Print: Matthew Rodson  
 Firm: Alpha  
 Date: 1/20/04 Time: 16:30

**Received by**  
 Sign: [Signature]  
 Print: [Signature]  
 Firm: [Signature]  
 Date: 1/20/04 Time: 1845

**Relinquished by**  
 Sign: \_\_\_\_\_  
 Print: \_\_\_\_\_  
 Firm: \_\_\_\_\_  
 Date: \_\_\_\_\_ Time: \_\_\_\_\_

**Preservative Key**  
 A Sample Chilled  
 B Sample Filtered  
 C NaOH  
 D HNO<sub>3</sub>  
 E H<sub>2</sub>SO<sub>4</sub>  
 F HCL  
 G Methanol  
 H Water/NaHSO<sub>4</sub> (circle)

**Evidence samples were tampered with? YES NO**  
 If YES, please explain in section below.

**Required Reporting Limits and Data Quality Objectives**  
 RC-S1  S1  GW1  
 RC-S2  S2  GW2  
 RC-GW1  S3  GW3  
 RC-GW2

**If Presumptive Certainty Data Package is needed, initial all sections:**  
 The required minimum field QC samples, as designated in BWSC CAM-VII have been or will be collected, as appropriate, to meet the requirements of Presumptive Certainty.  
 Matrix Spike (MS) samples for MCP Metals and/or Cyanide are included and identified herein.  
 This Chain of Custody Record (specify) MS does not include samples defined as Drinking Water Samples.  
 If this Chain of Custody Record identifies samples defined as Drinking Water Samples, Trip Blanks and Field Duplicates are included and identified and analysis of TICs are required, as appropriate. Laboratory should (specify if applicable) \_\_\_\_\_ hold for contingency testing the Drinking Water Field Duplicate and Drinking Water Trip Blank samples.

ALPHA ANALYTICAL LABORATORIES

Eight Walkup Drive  
Westborough, Massachusetts 01581-1019  
(508) 898-9220 www.alphalab.com

MA:M-MA086 NH:200301-A CT:PH-0574 ME:MA086 RI:65 NY:11148 NJ:MA935 Army:USACE

CERTIFICATE OF ANALYSIS

Client: Haley & Aldrich, Inc. Laboratory Job Number: L0400461  
Address: 465 Medford Street, Suite 2200  
Boston, MA 02129-1400 Date Received: 20-JAN-2004  
Attn: Mr. Steve Provencal Date Reported: 27-JAN-2004  
Project Number: 30660-000 Delivery Method: Alpha  
Site: BELMONT SCHOOLS

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The following questions pertain only to MCP Analytical Methods

An affirmative response to questions A,B,C & D is required for "Presumptive Certainty" status

- A. Were all samples received by the laboratory in a condition consistent with those described on their Chain-of-Custody documentation for the data set? YES
- B. Were all QA/QC procedures required for the specified analytical method(s) included in this report followed, including the requirement to note and discuss in a narrative QC data that did not meet appropriate performance standards or guidelines? YES
- C. Does the analytical data included in this report meet all the requirements for "Presumptive Certainty", as described in section 2.0 of the MADEP document CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data"? YES
- D. VPH and EPH methods only: Was the VPH or EPH method run without significant modifications, as specified in Section 11.3? N/A

A response to questions E and F is required for "Presumptive Certainty" status

- E. Were all QC performance standards and recommendations for the specified method(s) achieved? YES
- F. Were results for all analyte-list compounds/elements for the specified method(s) reported? YES

Any answers of NO to the above questions are addressed in the case narrative.

---

I, the undersigned, attest under the pains and penalties of perjury that, based upon my personal inquiry of those responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

---

Authorized by: Scott McLean

This document electronically signed

ALPHA ANALYTICAL LABORATORIES

Laboratory Job Number: L0400461  
Date Reported: 27-JAN-2004

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SAMPLE NUMBER	CLIENT IDENTIFICATION	SAMPLE LOCATION
L0400461-01	HA-1 (OW) S5	BELMONT, MA
L0400461-02	HA-3 (OW) S4	BELMONT, MA

ALPHA ANALYTICAL LABORATORIES  
NARRATIVE REPORT

Laboratory Job Number: L0400461

---

MCP Related Narratives

Metals

L0400461-01 and -02 have elevated limits of detection for Selenium and Thallium due to analytical dilutions required by the matrix of the samples.



ALPHA ANALYTICAL LABORATORIES  
CERTIFICATE OF ANALYSIS

MA:M-MA086 NH:200301-A CT:PH-0574 ME:MA086 RI:65 NY:11148 NJ:MA935 Army:USACE

Laboratory Sample Number: L0400461-02  
HA-3 (OW) S4  
Sample Matrix: SOIL

Date Collected: 19-JAN-2004 14:00  
Date Received : 20-JAN-2004  
Date Reported : 27-JAN-2004

Condition of Sample: Satisfactory

Field Prep: None

Number & Type of Containers: 1-Amber

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Solids, Total	77.	%	0.10	30 2540G		0121 09:00	ST
Total Metals				1 3051			
Antimony, Total	ND	mg/kg	2.6	54 6010B	0120 20:00	0121 15:39	MG
Arsenic, Total	11.	mg/kg	0.51	54 6010B	0120 20:00	0121 15:39	MG
Barium, Total	83.	mg/kg	0.51	54 6010B	0120 20:00	0121 15:39	MG
Beryllium, Total	0.85	mg/kg	0.26	54 6010B	0120 20:00	0121 15:39	MG
Cadmium, Total	ND	mg/kg	0.51	54 6010B	0120 20:00	0121 15:39	MG
Chromium, Total	48.	mg/kg	0.51	54 6010B	0120 20:00	0121 15:39	MG
Lead, Total	10.	mg/kg	2.6	54 6010B	0120 20:00	0121 15:39	MG
Mercury, Total	ND	mg/kg	0.1	54 7471A	0120 16:35	0121 10:18	DM
Nickel, Total	31.	mg/kg	1.3	54 6010B	0120 20:00	0121 15:39	MG
Selenium, Total	ND	mg/kg	2.6	54 6010B	0120 20:00	0122 11:45	MG
Silver, Total	ND	mg/kg	0.51	54 6010B	0120 20:00	0121 15:39	MG
Thallium, Total	ND	mg/kg	2.6	54 6010B	0120 20:00	0122 11:45	MG
Vanadium, Total	50.	mg/kg	0.51	54 6010B	0120 20:00	0121 15:39	MG
Zinc, Total	64.	mg/kg	2.6	54 6010B	0120 20:00	0121 15:39	MG

Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES  
QUALITY ASSURANCE BATCH DUPLICATE ANALYSIS

Laboratory Job Number: L0400461

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Parameter	Value 1	Value 2	Units	RPD	RPD Limits
<hr/>					
	Solids, Total for sample(s) 01-02 (L0400461-01, WG161432)				
Solids, Total	82.	82.	%	0	

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ALPHA ANALYTICAL LABORATORIES  
 QUALITY ASSURANCE BATCH SPIKE ANALYSES

Laboratory Job Number: L0400461

Parameter	% Recovery	QC Criteria
Total Metals LCS for sample(s) 01-02 (WG161346)		
Antimony, Total	92	75-125
Arsenic, Total	104	75-125
Barium, Total	96	75-125
Beryllium, Total	97	75-125
Cadmium, Total	90	75-125
Chromium, Total	94	75-125
Lead, Total	100	75-125
Nickel, Total	92	75-125
Selenium, Total	104	75-125
Silver, Total	94	75-125
Thallium, Total	100	75-125
Vanadium, Total	92	75-125
Zinc, Total	107	75-125
Total Metals LCS for sample(s) 01-02 (WG161319)		
Mercury, Total	98	75-125



ALPHA ANALYTICAL LABORATORIES  
 QUALITY ASSURANCE BATCH BLANK ANALYSIS

Laboratory Job Number: L0400461

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Blank Analysis for sample(s) 01-02 (WG161346-1)							
Total Metals				1	3051		
Antimony, Total	ND	mg/kg	2.0	54 6010B	0120 20:00	0121 15:20	MG
Arsenic, Total	ND	mg/kg	0.40	54 6010B	0120 20:00	0121 15:20	MG
Barium, Total	ND	mg/kg	0.40	54 6010B	0120 20:00	0121 15:20	MG
Beryllium, Total	ND	mg/kg	0.20	54 6010B	0120 20:00	0121 15:20	MG
Cadmium, Total	ND	mg/kg	0.40	54 6010B	0120 20:00	0121 15:20	MG
Chromium, Total	ND	mg/kg	0.40	54 6010B	0120 20:00	0121 15:20	MG
Lead, Total	ND	mg/kg	2.0	54 6010B	0120 20:00	0121 15:20	MG
Nickel, Total	ND	mg/kg	1.0	54 6010B	0120 20:00	0121 15:20	MG
Selenium, Total	ND	mg/kg	0.80	54 6010B	0120 20:00	0121 15:20	MG
Silver, Total	ND	mg/kg	0.40	54 6010B	0120 20:00	0121 15:20	MG
Thallium, Total	ND	mg/kg	0.40	54 6010B	0120 20:00	0121 15:20	MG
Vanadium, Total	ND	mg/kg	0.40	54 6010B	0120 20:00	0121 15:20	MG
Zinc, Total	ND	mg/kg	2.0	54 6010B	0120 20:00	0121 15:20	MG

Blank Analysis for sample(s) 01-02 (WG161319-2)							
Total Metals							
Mercury, Total	ND	mg/kg	0.08	54 7471A	0120 16:35	0121 10:10	DM

ALPHA ANALYTICAL LABORATORIES  
ADDENDUM I

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REFERENCES

1. Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - IIIA, 1997.
30. Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WPCF. 18th Edition. 1992.
54. Compendium of Quality Assurance and Quality Control Requirements and Performance Standards for Selected Analytical Methods. MADEP BWSC. Final Methods. May 2003.

GLOSSARY OF TERMS AND SYMBOLS

REF Reference number in which test method may be found.  
METHOD Method number by which analysis was performed.  
ID Initials of the analyst.  
ND Not detected in comparison to the reported detection limit.

Please note that all solid samples are reported on dry weight basis unless noted otherwise.

LIMITATION OF LIABILITIES

Alpha Analytical, Inc. performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical, Inc., shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical, Inc. be held liable for any incidental consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical, Inc.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding times and splitting of samples in the field.

ALPHA ANALYTICAL LABORATORIES  
LOGIN SPECIFIC INFORMATION

Laboratory Job Number: L0400461

---

Were project specific reporting limits specified? YES

Cooler Information

Cooler	Custody Seal
A	Absent

Container Information

Container ID	Container Type	Cooler	pH	Temp	Pres Seal	Analysis
L0400461-01A	Amber 250ml unpreserved	A	N/A	3 C	Y Absent	AG-TI, AS-TI, BA-TI, BE-TI, CD-TI, CR-TI, HG-T, NI-TI, PB-TI, PREPT, SB-TI, SE-TI, TL-TI, V-TI, ZN-TI
L0400461-02A	Amber 250ml unpreserved	A	N/A	3 C	Y Absent	AG-TI, AS-TI, BA-TI, BE-TI, CD-TI, CR-TI, HG-T, NI-TI, PB-TI, PREPT, SB-TI, SE-TI, TL-TI, V-TI, ZN-TI

Container Comments

Container ID	Comments
L0400461-01A	Temp. Probe, Temp. Blank frozen.
L0400461-02A	Temp. Probe, Temp. Blank frozen.

H&A FILE NO. 3060-000 DELIVERY DATE \_\_\_\_\_  
 PROJECT NAME Belmont Schools TURNAROUND TIME 24 Hr  
 H&A CONTACT St. Provisea LABORATORY Alpha Westboro, MA PROJECT MANAGER J. Rooney

Sample No.	Date	Time	Depth	Type	VOA	ABNs PAH only	MCP Metals	Pesticides PCBs	VPJ Full Site	EPH Full Site	C-Changes only Full Site	TFH (specify)	TCLP (specify)	Reactivity Ignitability Corrosivity	Number of Containers	Comments (special instructions, precautions, additional method numbers, etc.)
HA-1 (w)	5/19/03	1400	8-10'	Soil			X								7	Laboratory to use applicable DEP CAM methods, unless otherwise directed. EPA/VPH and Target Analytes
HA-3 (w)	5/19/03	1400	6-8'	Soil			X								4	MCP METALS
<b>TOTALS</b>																

Sampled and Relinquished by		Received by		LIQUID					SOLID					PRESERVATION KEY									
Sign	Print	Sign	Print	VOA Vial	Amber Glass	Plastic Bottle	Preservative	Volume	VOA Vial	Amber Glass	Clear Glass	Preservative	Volume	A	B	C	D	E	F	G	H		
<i>[Signature]</i>	Matthew Rodson	<i>[Signature]</i>	Matthew Rodson																				
Date	5/19/03	Time	16:30																				
Relinquished by		Received by		LIQUID					SOLID					PRESERVATION KEY									
<i>[Signature]</i>	[Signature]	<i>[Signature]</i>	Stachnowski																				
Date	1/29/04	Time	18:45																				

Evidence samples were tampered with? YES NO  
 IF YES, please explain in section below.

Required Reporting Limits and Data Quality Objectives  
 RC-S1  S1  GW1  
 RC-S2  S2  GW2  
 RC-GW1  S3  GW3  
 RC-GW2

If Presumptive Certainty Data Package is needed, initial all sections:  
 The required minimum field QC samples, as designated in BWSC CAM-VII have been or will be collected, as appropriate, to meet the requirements of Presumptive Certainty.  
 Matrix Spike (MS) samples for MCP Metals and/or Cyanide are included and identified herein.  
 This Chain of Custody Record (specify) MS does not include samples defined as Drinking Water Samples.  
 If this Chain of Custody Record identifies samples defined as Drinking Water Samples, Trip Blanks and Field Duplicates are included and analysis of TICs are required, as appropriate. Laboratory should (specify if applicable) analyze hold for contingency testing the Drinking Water Field Duplicate and Drinking Water Trip Blank samples.

Presumptive Certainty Data Package (Laboratory to use applicable DEP CAM methods)

WHITE - Laboratory      CANARY - Project Manager      PINK - Haley & Aldrich Laboratory      GOLDENROD - Haley & Aldrich Contact      AUGUST 2003

ALPHA ANALYTICAL LABORATORIES

Eight Walkup Drive  
Westborough, Massachusetts 01581-1019  
(508) 898-9220 www.alphalab.com

MA:M-MA086 NH:200301-A CT:PH-0574 ME:MA086 RI:65 NY:11148 NJ:MA935 Army:USACE

CERTIFICATE OF ANALYSIS

Client: Haley & Aldrich, Inc. Laboratory Job Number: L0400462  
Address: 465 Medford Street, Suite 2200  
Boston, MA 02129-1400 Date Received: 20-JAN-2004  
Attn: Mr. Steve Provencal Date Reported: 27-JAN-2004  
Project Number: 30660-000 Delivery Method: Alpha  
Site: BELMONT SCHOOLS

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The following questions pertain only to MCP Analytical Methods

An affirmative response to questions A,B,C & D is required for "Presumptive Certainty" status

- A. Were all samples received by the laboratory in a condition consistent with those described on their Chain-of-Custody documentation for the data set? YES
- B. Were all QA/QC procedures required for the specified analytical method(s) included in this report followed, including the requirement to note and discuss in a narrative QC data that did not meet appropriate performance standards or guidelines? YES
- C. Does the analytical data included in this report meet all the requirements for "Presumptive Certainty", as described in section 2.0 of the MADEP document CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data"? YES
- D. VPH and EPH methods only: Was the VPH or EPH method run without significant modifications, as specified in Section 11.3? N/A

A response to questions E and F is required for "Presumptive Certainty" status

- E. Were all QC performance standards and recommendations for the specified method(s) achieved? YES
- F. Were results for all analyte-list compounds/elements for the specified method(s) reported? YES

Any answers of NO to the above questions are addressed in the case narrative.

---

I, the undersigned, attest under the pains and penalties of perjury that, based upon my personal inquiry of those responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

---

Authorized by: Scott McLean  
This document electronically signed

ALPHA ANALYTICAL LABORATORIES

Laboratory Job Number: L0400462  
Date Reported: 27-JAN-2004

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ALPHA SAMPLE NUMBER	CLIENT IDENTIFICATION	SAMPLE LOCATION
L0400462-01	HA-5 (OW) S3	BELMONT, MA

ALPHA ANALYTICAL LABORATORIES  
NARRATIVE REPORT

Laboratory Job Number: L0400462

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MCP Related Narratives

Metals

L0400462-01 has elevated limits of detection for Selenium and Thallium due to analytical dilutions required by the matrix of the sample.





ALPHA ANALYTICAL LABORATORIES  
QUALITY ASSURANCE BATCH DUPLICATE ANALYSIS

Laboratory Job Number: L0400462

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Parameter	Value 1	Value 2	Units	RPD	RPD Limits
	Solids, Total for sample(s) 01 (L0400461-01, WG161432)				
Solids, Total	82.	82.	%	0	

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ALPHA ANALYTICAL LABORATORIES  
 QUALITY ASSURANCE BATCH SPIKE ANALYSES

Laboratory Job Number: L0400462

Parameter	% Recovery	QC Criteria
Total Metals LCS for sample(s) 01 (WG161346)		
Antimony, Total	92	75-125
Arsenic, Total	104	75-125
Barium, Total	96	75-125
Beryllium, Total	97	75-125
Cadmium, Total	90	75-125
Chromium, Total	94	75-125
Lead, Total	100	75-125
Nickel, Total	92	75-125
Selenium, Total	104	75-125
Silver, Total	94	75-125
Thallium, Total	100	75-125
Vanadium, Total	92	75-125
Zinc, Total	107	75-125
Total Metals LCS for sample(s) 01 (WG161319)		
Mercury, Total	98	75-125

ALPHA ANALYTICAL LABORATORIES  
 QUALITY ASSURANCE BATCH BLANK ANALYSIS

Laboratory Job Number: L0400462

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Blank Analysis for sample(s) 01 (WG161346-1)							
Total Metals				1	3051		
Antimony, Total	ND	mg/kg	2.0	54 6010B	0120 20:00	0121 15:20	MG
Arsenic, Total	ND	mg/kg	0.40	54 6010B	0120 20:00	0121 15:20	MG
Barium, Total	ND	mg/kg	0.40	54 6010B	0120 20:00	0121 15:20	MG
Beryllium, Total	ND	mg/kg	0.20	54 6010B	0120 20:00	0121 15:20	MG
Cadmium, Total	ND	mg/kg	0.40	54 6010B	0120 20:00	0121 15:20	MG
Chromium, Total	ND	mg/kg	0.40	54 6010B	0120 20:00	0121 15:20	MG
Lead, Total	ND	mg/kg	2.0	54 6010B	0120 20:00	0121 15:20	MG
Nickel, Total	ND	mg/kg	1.0	54 6010B	0120 20:00	0121 15:20	MG
Selenium, Total	ND	mg/kg	0.80	54 6010B	0120 20:00	0121 15:20	MG
Silver, Total	ND	mg/kg	0.40	54 6010B	0120 20:00	0121 15:20	MG
Thallium, Total	ND	mg/kg	0.40	54 6010B	0120 20:00	0121 15:20	MG
Vanadium, Total	ND	mg/kg	0.40	54 6010B	0120 20:00	0121 15:20	MG
Zinc, Total	ND	mg/kg	2.0	54 6010B	0120 20:00	0121 15:20	MG

Blank Analysis for sample(s) 01 (WG161319-2)

Total Metals							
Mercury, Total	ND	mg/kg	0.08	54 7471A	0120 16:35	0121 10:10	DM

ALPHA ANALYTICAL LABORATORIES  
ADDENDUM I

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REFERENCES

1. Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - IIIA, 1997.
30. Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WPCF. 18th Edition. 1992.
54. Compendium of Quality Assurance and Quality Control Requirements and Performance Standards for Selected Analytical Methods. MADEP BWSC. Final Methods. May 2003.

GLOSSARY OF TERMS AND SYMBOLS

REF Reference number in which test method may be found.  
METHOD Method number by which analysis was performed.  
ID Initials of the analyst.  
ND Not detected in comparison to the reported detection limit.

Please note that all solid samples are reported on dry weight basis unless noted otherwise.

LIMITATION OF LIABILITIES

Alpha Analytical, Inc. performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical, Inc., shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical, Inc. be held liable for any incidental consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical, Inc.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding times and splitting of samples in the field.

ALPHA ANALYTICAL LABORATORIES  
LOGIN SPECIFIC INFORMATION

Laboratory Job Number: L0400462

---

Were project specific reporting limits specified? YES

Cooler Information

Cooler	Custody Seal
A	Absent

---

Container Information

Container ID	Container Type	Cooler	pH	Temp	Pres Seal	Analysis
L0400462-01A	Amber 250ml unpreserved	A	N/A	3 C	Y Absent	AG-TI, AS-TI, BA-TI, BE-TI, CD-TI, CR-TI, HG-T, NI-TI, PB-TI, PREPT, SB-TI, SE-TI, TL-TI, V-TI, ZN-TI

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Container Comments

Container ID	Comments
L0400462-01A	Temp. Probe, Temp. Blank frozen.

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# CHAIN OF CUSTODY RECORD

H&A FILE NO. 30660-000 DELIVERY DATE \_\_\_\_\_  
 PROJECT NAME Belmont Schools TURNAROUND TIME 24 hr  
 H&A CONTACT S. Prohaska PROJECT MANAGER J. Mooney

LABORATORY Alpha ADDRESS Westboro, MA  
 CONTACT \_\_\_\_\_

Sample No.	Date	Time	Depth	Type	Analysis Requested										Number of Containers	Comments (special instructions, precautions, additional method numbers, etc.)	
					VOA	ABNs PAH only	MCP Metals	Pesticides PCBs	VPH Full Site Changes only	EPH Full Site Changes only	TPH (specify)	TCLP (specify)	Reactivity Ignitability Corrosivity				
HAS(02) 53	1/29/04	0930	6-8'	Soil												4	Laboratory to use applicable DEP CAM methods, unless otherwise directed. EPH/VPH and target Analytes
TRIP BLANK	1/29/04	1300														1	MCP METALS TRIP BLANK
																5	TRIP BLANK
LIQUID																	
Received by _____																	
Signed _____																	
Print _____																	
Firm _____																	
Date _____ Time _____																	
Relinquished by _____																	
Signed _____																	
Print _____																	
Firm _____																	
Date _____ Time _____																	
SOLID																	
Received by _____																	
Signed _____																	
Print _____																	
Firm _____																	
Date _____ Time _____																	
Relinquished by _____																	
Signed _____																	
Print _____																	
Firm _____																	
Date _____ Time _____																	

**Presumptive Certainty Data Package (Laboratory to use applicable DEP CAM methods)**

**Preservation Key:**  
 A Sample chilled    C NaOH    E H<sub>2</sub>SO<sub>4</sub>    G Methanol  
 B Sample filtered    D HNO<sub>3</sub>    F HCL    H Water/NaHSO<sub>4</sub> (circle)

**Required Reporting Limits and Data Quality Objectives:**  
 RC-S1     S1     GW1  
 RC-S2     S2     GW2  
 RC-GW1     S3     GW3  
 RC-GW2

**Evidence samples were tampered with? YES NO**  
 If YES, please explain in section below.

**IF Presumptive Certainty Data Package is needed, initial all sections:**  
 The required minimum field QC samples, as designated in BWS CAM-VII have been or will be collected, as appropriate, to meet the requirements of Presumptive Certainty.  
 Matrix Spike (MS) samples for MCP Metals and/or Cyanide are included and identified herein.  
 This Chain of Custody Record (specify) \_\_\_\_\_ includes \_\_\_\_\_ does not include samples defined as Drinking Water Samples.  
 If this Chain of Custody Record identifies samples defined as Drinking Water Samples, Trip Blanks and Field Duplicates are included and identified and analysis of TICs are required, as appropriate. Laboratory should (specify if applicable) analyze \_\_\_\_\_ hold for contingency testing the Drinking Water Field Duplicate and Drinking Water Trip Blank samples.

ALPHA ANALYTICAL LABORATORIES

Eight Walkup Drive  
Westborough, Massachusetts 01581-1019  
(508) 898-9220 www.alphalab.com

MA:M-MA086 NH:200301-A CT:PH-0574 ME:MA086 RI:65 NY:11148 NJ:MA935 Army:USACE

CERTIFICATE OF ANALYSIS

Client: Haley & Aldrich, Inc. Laboratory Job Number: L0401059  
Address: 465 Medford Street, Suite 2200  
Boston, MA 02129-1400 Date Received: 06-FEB-2004  
Attn: Mr. Steve Provencal Date Reported: 10-FEB-2004  
Project Number: 30660-000 Delivery Method: Alpha  
Site: BURBANK SCHOOL OIL RELEASE

---

The following questions pertain only to MCP Analytical Methods

An affirmative response to questions A,B,C & D is required for "Presumptive Certainty" status

- A. Were all samples received by the laboratory in a condition consistent with those described on their Chain-of-Custody documentation for the data set? YES
- B. Were all QA/QC procedures required for the specified analytical method(s) included in this report followed, including the requirement to note and discuss in a narrative QC data that did not meet appropriate performance standards or guidelines? YES
- C. Does the analytical data included in this report meet all the requirements for "Presumptive Certainty", as described in section 2.0 of the MADEP document CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data"? YES
- D. VPH and EPH methods only: Was the VPH or EPH method run without significant modifications, as specified in Section 11.3? YES

A response to questions E and F is required for "Presumptive Certainty" status

- E. Were all QC performance standards and recommendations for the specified method(s) achieved? NO
- F. Were results for all analyte-list compounds/elements for the specified method(s) reported? YES

Any answers of NO to the above questions are addressed in the case narrative.

---

I, the undersigned, attest under the pains and penalties of perjury that, based upon my personal inquiry of those responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

---

Authorized by: Scott McLean  
This document electronically signed

ALPHA ANALYTICAL LABORATORIES

Laboratory Job Number: L0401059

Date Reported: 10-FEB-2004

---

ALPHA SAMPLE NUMBER	CLIENT IDENTIFICATION	SAMPLE LOCATION
L0401059-01	ESW1-S2	BELMONT, MA
L0401059-02	SW-CORNER	BELMONT, MA



ALPHA ANALYTICAL LABORATORIES  
NARRATIVE REPORT

Laboratory Job Number: L0401059

---

Extraction methods

Extraction method 3545 was used as the extraction method for the analysis of EPH by Method 98-1.

EPH

In reference to question E, The Surrogate % Recovery for o-Terphenyl is above acceptable limits. This is attribute to the co elution of product and surrogate.

VPH

L0401059-02 has elevated limits of detection due to the dilutions required by the elevated concentrations of target compounds in the sample.



ALPHA ANALYTICAL LABORATORIES  
CERTIFICATE OF ANALYSIS

Laboratory Sample Number: L0401059-01  
ESW1-S2

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE PREP      ANAL	ID
-----------	--------	-------	-----	------------	------------------------	----

Volatile Petroleum Hydrocarbons				47 98-1		0209 12:15 MM
---------------------------------	--	--	--	---------	--	---------------

Quality Control Information

Condition of sample received:	Satisfactory	
Sample temperature upon receipt:	Received on Ice	
Were samples received in methanol?	Covering the Soil	
Methanol ratio:	1:1 +/- 25%	
Were all QA/QC procedures REQUIRED by the method followed?		YES
Were all performance/acceptance standards for the required procedures achieved?		YES
Were significant modifications made to the method as specified in Sect 11.3?		NO
Please note to subtract the method blank from the stated result.		
The normal acceptance range for the surrogate, 2,5-Dibromotoluene, is 70-130%.		

C5-C8 Aliphatics, Unadjusted	ND	mg/kg	2.89
C9-C12 Aliphatics, Unadjusted	ND	mg/kg	2.89
C9-C10 Aromatics	ND	mg/kg	2.89
C5-C8 Aliphatics, Adjusted	ND	mg/kg	2.89
C9-C12 Aliphatics, Adjusted	ND	mg/kg	2.89
Benzene	ND	mg/kg	0.144
Toluene	ND	mg/kg	0.144
Ethylbenzene	ND	mg/kg	0.144
p/m-Xylene	ND	mg/kg	0.144
o-Xylene	ND	mg/kg	0.144
Methyl tert butyl ether	ND	mg/kg	0.289
Naphthalene	ND	mg/kg	1.44

Surrogate(s)	Recovery		QC Criteria
2,5-Dibromotoluene-PID	99.0	%	70-130
2,5-Dibromotoluene-FID	100.	%	70-130

Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES  
CERTIFICATE OF ANALYSIS

Laboratory Sample Number: L0401059-01  
ESW1-S2

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE PREP      ANAL	ID
-----------	--------	-------	-----	------------	------------------------	----

Extractable Petroleum Hydrocarbons				46 98-1	0208 14:45 0210 14:54 LL	
------------------------------------	--	--	--	---------	--------------------------	--

Quality Control Information

Condition of sample received:	Satisfactory	
Sample temperature upon receipt:	Received on Ice	
Sample extraction method:	Extracted Per the Method	
Were all QA/QC procedures REQUIRED by the method followed?		YES
Were all performance/acceptance standards for the required procedures achieved?		YES
Were significant modifications made to the method as specified in Sect 11.3?		NO
Please note to subtract the method blank from the stated result.		
The normal acceptance range for the extraction surrogates, Chloro-octadecane and o-Terphenyl, is 40-140%.		
The normal acceptance range for the fractionation surrogates, 2-Fluorobiphenyl and 2-Bromonaphthalene, is 40-140%.		

C9-C18 Aliphatics	ND	mg/kg	12.0
C19-C36 Aliphatics	ND	mg/kg	12.0
C11-C22 Aromatics, Unadjusted	ND	mg/kg	12.0
C11-C22 Aromatics, Adjusted	ND	mg/kg	12.0
Naphthalene	ND	mg/kg	0.602
2-Methylnaphthalene	ND	mg/kg	0.602
Acenaphthylene	ND	mg/kg	0.602
Acenaphthene	ND	mg/kg	0.602
Fluorene	ND	mg/kg	0.602
Phenanthrene	ND	mg/kg	0.602
Anthracene	ND	mg/kg	0.602
Fluoranthene	ND	mg/kg	0.602
Pyrene	ND	mg/kg	0.602
Benzo(a)anthracene	ND	mg/kg	0.602
Chrysene	ND	mg/kg	0.602
Benzo(b)fluoranthene	ND	mg/kg	0.602
Benzo(k)fluoranthene	ND	mg/kg	0.602
Benzo(a)pyrene	ND	mg/kg	0.602
Indeno(1,2,3-cd)Pyrene	ND	mg/kg	0.602
Dibenzo(a,h)anthracene	ND	mg/kg	0.602
Benzo(g,h,i)perylene	ND	mg/kg	0.602

Surrogate(s)	Recovery		QC Criteria
Chloro-Octadecane	45.0	%	40-140
o-Terphenyl	65.0	%	40-140
2-Fluorobiphenyl	53.0	%	40-140
2-Bromonaphthalene	48.0	%	40-140

Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES  
CERTIFICATE OF ANALYSIS

MA:M-MA086 NH:200301-A CT:PH-0574 ME:MA086 RI:65 NY:11148 NJ:MA935 Army:USACE

Laboratory Sample Number: L0401059-02

Date Collected: 06-FEB-2004 10:00

SW-CORNER

Date Received : 06-FEB-2004

Sample Matrix:

SOIL

Date Reported : 10-FEB-2004

Condition of Sample: Satisfactory

Field Prep: None

Number & Type of Containers: 1-Amber,1-Vial

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Solids, Total	79.	%	0.10	30 2540G		0206 22:00	LK

Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES  
CERTIFICATE OF ANALYSIS

Laboratory Sample Number: L0401059-02  
SW-CORNER

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE PREP    ANAL	ID
-----------	--------	-------	-----	------------	----------------------	----

Volatile Petroleum Hydrocarbons			47 98-1		0209 13:05 MM	
---------------------------------	--	--	---------	--	---------------	--

Quality Control Information

Condition of sample received:	Satisfactory	
Sample temperature upon receipt:	Received on Ice	
Were samples received in methanol?	Covering the Soil	
Methanol ratio:	1:1 +/- 25%	
Were all QA/QC procedures REQUIRED by the method followed?		YES
Were all performance/acceptance standards for the required procedures achieved?		YES
Were significant modifications made to the method as specified in Sect 11.3?		NO
Please note to subtract the method blank from the stated result.		
The normal acceptance range for the surrogate, 2,5-Dibromotoluene, is 70-130%.		

C5-C8 Aliphatics, Unadjusted	81.9	mg/kg	52.0
C9-C12 Aliphatics, Unadjusted	751.	mg/kg	52.0
C9-C10 Aromatics	579.	mg/kg	52.0
C5-C8 Aliphatics, Adjusted	81.9	mg/kg	52.0
C9-C12 Aliphatics, Adjusted	152.	mg/kg	52.0
Benzene	ND	mg/kg	2.60
Toluene	ND	mg/kg	2.60
Ethylbenzene	3.71	mg/kg	2.60
p/m-Xylene	8.08	mg/kg	2.60
o-Xylene	7.57	mg/kg	2.60
Methyl tert butyl ether	ND	mg/kg	5.20
Naphthalene	ND	mg/kg	26.0

Surrogate(s)	Recovery	%	QC Criteria
2,5-Dibromotoluene-PID	101.	%	70-130
2,5-Dibromotoluene-FID	99.0	%	70-130

Comments: Complete list of References and Glossary of Terms found in Addendum I

**ALPHA ANALYTICAL LABORATORIES  
CERTIFICATE OF ANALYSIS**

Laboratory Sample Number: L0401059-02  
SW-CORNER

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	

Extractable Petroleum Hydrocarbons	46 98-1	0208 14:45 0210 06:46 LL
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Quality Control Information

Condition of sample received:	Satisfactory
Sample temperature upon receipt:	Received on Ice
Sample extraction method:	Extracted Per the Method
Were all QA/QC procedures REQUIRED by the method followed?	YES
Were all performance/acceptance standards for the required procedures achieved?	NO
1. One or more of the extraction surrogate recoveries were greater than 140%.	
Were significant modifications made to the method as specified in Sect 11.3?	NO
Please note to subtract the method blank from the stated result.	
The normal acceptance range for the extraction surrogates, Chloro-octadecane and o-Terphenyl, is 40-140%.	
The normal acceptance range for the fractionation surrogates, 2-Fluorobiphenyl and 2-Bromonaphthalene, is 40-140%.	

C9-C18 Aliphatics	2100	mg/kg	12.6
C19-C36 Aliphatics	1430	mg/kg	12.6
C11-C22 Aromatics, Unadjusted	1960	mg/kg	12.6
C11-C22 Aromatics, Adjusted	1910	mg/kg	12.6
Naphthalene	5.52	mg/kg	0.633
2-Methylnaphthalene	28.1	mg/kg	0.633
Acenaphthylene	ND	mg/kg	0.633
Acenaphthene	ND	mg/kg	0.633
Fluorene	4.08	mg/kg	0.633
Phenanthrene	8.01	mg/kg	0.633
Anthracene	ND	mg/kg	0.633
Fluoranthene	1.58	mg/kg	0.633
Pyrene	3.18	mg/kg	0.633
Benzo (a) anthracene	ND	mg/kg	0.633
Chrysene	2.99	mg/kg	0.633
Benzo (b) fluoranthene	ND	mg/kg	0.633
Benzo (k) fluoranthene	0.677	mg/kg	0.633
Benzo (a) pyrene	1.62	mg/kg	0.633
Indeno (1,2,3-cd) Pyrene	ND	mg/kg	0.633
Dibenzo (a,h) anthracene	ND	mg/kg	0.633
Benzo (g,h,i) perylene	ND	mg/kg	0.633

Surrogate(s)	Recovery		QC Criteria
Chloro-Octadecane	74.0	%	40-140
o-Terphenyl	438.	%	40-140
2-Fluorobiphenyl	108.	%	40-140
2-Bromonaphthalene	123.	%	40-140

Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES  
 QUALITY ASSURANCE BATCH DUPLICATE ANALYSIS

Laboratory Job Number: L0401059

Parameter	Value 1	Value 2	Units	RPD	RPD Limits
Solids, Total for sample(s) 01-02 (L0401059-01, WG162521)					
Solids, Total	83.	83.	%	0	
Volatile Petroleum Hydrocarbons for sample(s) 01-02 (L0401013-01, WG162579)					
C5-C8 Aliphatics	ND	ND	mg/kg	NC	50
C9-C12 Aliphatics	ND	ND	mg/kg	NC	50
C9-C10 Aromatics	ND	ND	mg/kg	NC	50
C5-C8 Aliphatics, Adjusted	ND	ND	mg/kg	NC	50
C9-C12 Aliphatics, Adjusted	ND	ND	mg/kg	NC	50
Benzene	ND	ND	mg/kg	NC	50
Toluene	ND	ND	mg/kg	NC	50
Ethylbenzene	ND	ND	mg/kg	NC	50
p/m-Xylene	ND	ND	mg/kg	NC	50
o-Xylene	ND	ND	mg/kg	NC	50
Methyl tert butyl ether	ND	ND	mg/kg	NC	50
Naphthalene	ND	ND	mg/kg	NC	50
Surrogate(s) Recovery QC Criteria					
2,5-Dibromotoluene-PID	110.	97.0	%	13	70-130
2,5-Dibromotoluene-FID	104.	98.0	%	6	70-130
Extractable Petroleum Hydrocarbons for sample(s) 01-02 (L0401059-01, WG162559)					
C9-C18 Aliphatics	ND	ND	mg/kg	NC	50
C19-C36 Aliphatics	ND	ND	mg/kg	NC	50
C11-C22 Aromatics	ND	ND	mg/kg	NC	50
C11-C22 Aromatics, Adjusted	ND	ND	mg/kg	NC	50
Naphthalene	ND	ND	mg/kg	NC	50
2-Methylnaphthalene	ND	ND	mg/kg	NC	50
Acenaphthylene	ND	ND	mg/kg	NC	50
Acenaphthene	ND	ND	mg/kg	NC	50
Fluorene	ND	ND	mg/kg	NC	50
Phenanthrene	ND	ND	mg/kg	NC	50
Anthracene	ND	ND	mg/kg	NC	50
Fluoranthene	ND	ND	mg/kg	NC	50
Pyrene	ND	ND	mg/kg	NC	50
Benzo(a) anthracene	ND	ND	mg/kg	NC	50
Chrysene	ND	ND	mg/kg	NC	50
Benzo(b) fluoranthene	ND	ND	mg/kg	NC	50
Benzo(k) fluoranthene	ND	ND	mg/kg	NC	50
Benzo(a) pyrene	ND	ND	mg/kg	NC	50
Indeno(1,2,3-cd) Pyrene	ND	ND	mg/kg	NC	50
Dibenzo(a,h) anthracene	ND	ND	mg/kg	NC	50
Benzo(ghi) perylene	ND	ND	mg/kg	NC	50
Surrogate(s) Recovery QC Criteria					
Chloro-Octadecane	45.0	44.0	%	2	40-140
o-Terphenyl	65.0	63.0	%	3	40-140
2-Fluorobiphenyl	53.0	59.0	%	11	40-140
2-Bromonaphthalene	48.0	56.0	%	15	40-140



ALPHA ANALYTICAL LABORATORIES  
 QUALITY ASSURANCE BATCH SPIKE ANALYSES

Laboratory Job Number: L0401059

Parameter	% Recovery	QC Criteria
Volatile Petroleum Hydrocarbons LCS for sample(s) 01-02 (WG162579)		
Benzene	120	70-130
Toluene	108	70-130
Ethylbenzene	112	70-130
p/m-Xylene	98	70-130
o-Xylene	114	70-130
Methyl tert butyl ether	102	70-130
Naphthalene	106	70-130
Surrogate(s)		
2,5-Dibromotoluene-PID	107	70-130
2,5-Dibromotoluene-FID	106	70-130
Extractable Petroleum Hydrocarbons LCS for sample(s) 01-02 (WG162559)		
Naphthalene	50	40-140
Acenaphthene	56	40-140
Anthracene	75	40-140
Pyrene	80	40-140
Chrysene	83	40-140
Nonane (C9)	52	40-140
Tetradecane (C14)	64	40-140
Nonadecane (C19)	80	40-140
Eicosane (C20)	80	40-140
Octacosane (C28)	76	40-140
Surrogate(s)		
Chloro-Octadecane	66	40-140
o-Terphenyl	79	40-140
2-Fluorobiphenyl	64	40-140
2-Bromonaphthalene	60	40-140

ALPHA ANALYTICAL LABORATORIES  
 QUALITY ASSURANCE BATCH BLANK ANALYSIS

Laboratory Job Number: L0401059

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Blank Analysis for sample(s) 01-02 (WG162579-4)							
Volatile Petroleum Hydrocarbons				47 98-1		0209 10:08 MM	
C5-C8 Aliphatics, Unadjusted	ND	mg/kg	2.00				
C9-C12 Aliphatics, Unadjusted	ND	mg/kg	2.00				
C9-C10 Aromatics	ND	mg/kg	2.00				
C5-C8 Aliphatics, Adjusted	ND	mg/kg	2.00				
C9-C12 Aliphatics, Adjusted	ND	mg/kg	2.00				
Benzene	ND	mg/kg	0.100				
Toluene	ND	mg/kg	0.100				
Ethylbenzene	ND	mg/kg	0.100				
p/m-Xylene	ND	mg/kg	0.100				
o-Xylene	ND	mg/kg	0.100				
Methyl tert butyl ether	ND	mg/kg	0.200				
Naphthalene	ND	mg/kg	1.00				
Surrogate (s)		Recovery		QC Criteria			
2,5-Dibromotoluene-PID	112.	%	70-130				
2,5-Dibromotoluene-FID	108.	%	70-130				
Blank Analysis for sample(s) 01-02 (WG162559-1)							
Extractable Petroleum Hydrocarbons				46 98-1		0208 14:45 0210 13:16 LL	
C9-C18 Aliphatics	ND	mg/kg	10.0				
C19-C36 Aliphatics	ND	mg/kg	10.0				
C11-C22 Aromatics, Unadjusted	ND	mg/kg	10.0				
C11-C22 Aromatics, Adjusted	ND	mg/kg	10.0				
Naphthalene	ND	mg/kg	0.500				
2-Methylnaphthalene	ND	mg/kg	0.500				
Acenaphthylene	ND	mg/kg	0.500				
Acenaphthene	ND	mg/kg	0.500				
Fluorene	ND	mg/kg	0.500				
Phenanthrene	ND	mg/kg	0.500				
Anthracene	ND	mg/kg	0.500				
Fluoranthene	ND	mg/kg	0.500				
Pyrene	ND	mg/kg	0.500				
Benzo (a) anthracene	ND	mg/kg	0.500				
Chrysene	ND	mg/kg	0.500				
Benzo (b) fluoranthene	ND	mg/kg	0.500				
Benzo (k) fluoranthene	ND	mg/kg	0.500				
Benzo (a) pyrene	ND	mg/kg	0.500				
Indeno (1,2,3-cd) Pyrene	ND	mg/kg	0.500				
Dibenzo (a,h) anthracene	ND	mg/kg	0.500				
Benzo (g,h,i) perylene	ND	mg/kg	0.500				
Surrogate (s)		Recovery		QC Criteria			
Chloro-Octadecane	50.0	%	40-140				
o-Terphenyl	67.0	%	40-140				
2-Fluorobiphenyl	59.0	%	40-140				
2-Bromonaphthalene	55.0	%	40-140				

ALPHA ANALYTICAL LABORATORIES  
ADDENDUM I

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REFERENCES

30. Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WPCF. 18th Edition. 1992.
46. Method for the Determination of Extractable Petroleum Hydrocarbons (EPH), Massachusetts Department of Environmental Protection, (MADEP-EPH-98-1), January 1998.
47. Method for the Determination of Volatile Petroleum Hydrocarbons (VPH), Massachusetts Department of Environmental Protection, (MADEP-VPH-98-1), January 1998.

GLOSSARY OF TERMS AND SYMBOLS

REF Reference number in which test method may be found.  
METHOD Method number by which analysis was performed.  
ID Initials of the analyst.  
ND Not detected in comparison to the reported detection limit.

Please note that all solid samples are reported on dry weight basis unless noted otherwise.

LIMITATION OF LIABILITIES

Alpha Analytical, Inc. performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical, Inc., shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical, Inc. be held liable for any incidental consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical, Inc.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding times and splitting of samples in the field.

ALPHA ANALYTICAL LABORATORIES  
LOGIN SPECIFIC INFORMATION

Laboratory Job Number: L0401059

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Were project specific reporting limits specified? YES

Cooler Information

Cooler	Custody Seal
A	Absent

Container Information

Container ID	Container Type	Cooler	pH	Temp	Pres	Seal	Analysis
L0401059-01A	Vial MeOH preserved	A	N/A	2.1 C	Y	Absent	VPH-DELUX
L0401059-01B	Amber 100ml unpreserved	A	N/A	2.1 C	Y	Absent	EPH-DELUX, TS
L0401059-02A	Vial MeOH preserved	A	N/A	2.1 C	Y	Absent	VPH-DELUX
L0401059-02B	Amber 100ml unpreserved	A	N/A	2.1 C	Y	Absent	EPH-DELUX, TS

Container Comments

Container ID    Comments

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ALPHA ANALYTICAL LABORATORIES

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(508) 898-9220 www.alphalab.com

MA:M-MA086 NH:200301-A CT:PH-0574 ME:MA086 RI:65 NY:11148 NJ:MA935 Army:USACE

CERTIFICATE OF ANALYSIS

Client: Haley & Aldrich, Inc. Laboratory Job Number: L0401013  
Address: 465 Medford Street, Suite 2200  
Boston, MA 02129-1400 Date Received: 05-FEB-2004  
Attn: Mr. Steve Provencal Date Reported: 11-FEB-2004  
Project Number: 30660-000 Delivery Method: Alpha  
Site: BURBANK SCHOOL OIL RELEASE

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The following questions pertain only to MCP Analytical Methods

An affirmative response to questions A,B,C & D is required for "Presumptive Certainty" status

- A. Were all samples received by the laboratory in a condition consistent with those described on their Chain-of-Custody documentation for the data set? YES
- B. Were all QA/QC procedures required for the specified analytical method(s) included in this report followed, including the requirement to note and discuss in a narrative QC data that did not meet appropriate performance standards or guidelines? YES
- C. Does the analytical data included in this report meet all the requirements for "Presumptive Certainty", as described in section 2.0 of the MADEP document CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data"? YES
- D. VPH and EPH methods only: Was the VPH or EPH method run without significant modifications, as specified in Section 11.3? YES

A response to questions E and F is required for "Presumptive Certainty" status

- E. Were all QC performance standards and recommendations for the specified method(s) achieved? YES
- F. Were results for all analyte-list compounds/elements for the specified method(s) reported? YES

Any answers of NO to the above questions are addressed in the case narrative.

---

I, the undersigned, attest under the pains and penalties of perjury that, based upon my personal inquiry of those responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

---

Authorized by: Scott McLean  
This document electronically signed

ALPHA ANALYTICAL LABORATORIES

Laboratory Job Number: L0401013  
Date Reported: 11-FEB-2004

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ALPHA SAMPLE NUMBER	CLIENT IDENTIFICATION	SAMPLE LOCATION
L0401013-01	SSW 1-S2	BELMONT, MA
L0401013-02	SSW 2-S1	BELMONT, MA
L0401013-03	WSW 1-S1	BELMONT, MA
L0401013-04	BOT 1-S1	BELMONT, MA
L0401013-05	CLN-STKPL-1	BELMONT, MA

ALPHA ANALYTICAL LABORATORIES  
NARRATIVE REPORT

Laboratory Job Number: L0401013

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MCP Related Narratives

Extraction methods

Extraction method 3545 was used as the extraction method for the analysis of EPH by method 98-1.

Report Submission

All MCP required questions were answered with affirmative responses, therefore, there are no relevant data issues to discuss.





ALPHA ANALYTICAL LABORATORIES  
CERTIFICATE OF ANALYSIS

Laboratory Sample Number: L0401013-01  
SSW 1-S2

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE PREP      ANAL	ID
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Volatile Petroleum Hydrocarbons			47 98-1		0206 14:39 MM	
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Quality Control Information

Condition of sample received:	Satisfactory	
Sample temperature upon receipt:	Received on Ice	
Were samples received in methanol?	Covering the Soil	
Methanol ratio:	1:1 +/- 25%	
Were all QA/QC procedures REQUIRED by the method followed?		YES
Were all performance/acceptance standards for the required procedures achieved?		YES
Were significant modifications made to the method as specified in Sect 11.3?		NO
Please note to subtract the method blank from the stated result.		
The normal acceptance range for the surrogate, 2,5-Dibromotoluene, is 70-130%.		

C5-C8 Aliphatics, Unadjusted	ND	mg/kg	2.34
C9-C12 Aliphatics, Unadjusted	ND	mg/kg	2.34
C9-C10 Aromatics	ND	mg/kg	2.34
C5-C8 Aliphatics, Adjusted	ND	mg/kg	2.34
C9-C12 Aliphatics, Adjusted	ND	mg/kg	2.34
Benzene	ND	mg/kg	0.117
Toluene	ND	mg/kg	0.117
Ethylbenzene	ND	mg/kg	0.117
p/m-Xylene	ND	mg/kg	0.117
o-Xylene	ND	mg/kg	0.117
Methyl tert butyl ether	ND	mg/kg	0.234
Naphthalene	ND	mg/kg	1.17

Surrogate(s)	Recovery	%	QC Criteria
2,5-Dibromotoluene-PID	110.	%	70-130
2,5-Dibromotoluene-FID	104.	%	70-130

Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES  
CERTIFICATE OF ANALYSIS

Laboratory Sample Number: L0401013-01  
SSW 1-S2

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Extractable Petroleum Hydrocarbons				46 98-1	0205 22:10	0210 12:01	JB

Quality Control Information

Condition of sample received:	Satisfactory	
Sample temperature upon receipt:	Received on Ice	
Sample extraction method:	Extracted Per the Method	
Were all QA/QC procedures REQUIRED by the method followed?		YES
Were all performance/acceptance standards for the required procedures achieved?		YES
Were significant modifications made to the method as specified in Sect 11.3?		NO

Please note to subtract the method blank from the stated result.  
The normal acceptance range for the extraction surrogates, Chloro-octadecane and o-Terphenyl, is 40-140%.  
The normal acceptance range for the fractionation surrogates, 2-Fluorobiphenyl and 2-Bromonaphthalene, is 40-140%.

C9-C18 Aliphatics	ND	mg/kg	12.6
C19-C36 Aliphatics	ND	mg/kg	12.6
C11-C22 Aromatics, Unadjusted	ND	mg/kg	12.6
C11-C22 Aromatics, Adjusted	ND	mg/kg	12.6
Naphthalene	ND	mg/kg	0.633
2-Methylnaphthalene	ND	mg/kg	0.633
Acenaphthylene	ND	mg/kg	0.633
Acenaphthene	ND	mg/kg	0.633
Fluorene	ND	mg/kg	0.633
Phenanthrene	ND	mg/kg	0.633
Anthracene	ND	mg/kg	0.633
Fluoranthene	ND	mg/kg	0.633
Pyrene	ND	mg/kg	0.633
Benzo (a) anthracene	ND	mg/kg	0.633
Chrysene	ND	mg/kg	0.633
Benzo (b) fluoranthene	ND	mg/kg	0.633
Benzo (k) fluoranthene	ND	mg/kg	0.633
Benzo (a) pyrene	ND	mg/kg	0.633
Indeno (1, 2, 3-cd) Pyrene	ND	mg/kg	0.633
Dibenzo (a, h) anthracene	ND	mg/kg	0.633
Benzo (g, h, i) perylene	ND	mg/kg	0.633

Surrogate (s)	Recovery		QC Criteria
Chloro-Octadecane	55.0	%	40-140
o-Terphenyl	67.0	%	40-140
2-Fluorobiphenyl	74.0	%	40-140
2-Bromonaphthalene	77.0	%	40-140

Comments: Complete list of References and Glossary of Terms found in Addendum I



ALPHA ANALYTICAL LABORATORIES  
CERTIFICATE OF ANALYSIS

Laboratory Sample Number: L0401013-02  
SSW 2-S1

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Volatile Petroleum Hydrocarbons				47 98-1		0206 17:11 MM	

Quality Control Information

Condition of sample received:	Satisfactory	
Sample temperature upon receipt:	Received on Ice	
Were samples received in methanol?	Covering the Soil	
Methanol ratio:	1:1 +/- 25%	
Were all QA/QC procedures REQUIRED by the method followed?		YES
Were all performance/acceptance standards for the required procedures achieved?		YES
Were significant modifications made to the method as specified in Sect 11.3?		NO
Please note to subtract the method blank from the stated result.		
The normal acceptance range for the surrogate, 2,5-Dibromotoluene, is 70-130%.		

C5-C8 Aliphatics, Unadjusted	ND	mg/kg	3.33
C9-C12 Aliphatics, Unadjusted	ND	mg/kg	3.33
C9-C10 Aromatics	ND	mg/kg	3.33
C5-C8 Aliphatics, Adjusted	ND	mg/kg	3.33
C9-C12 Aliphatics, Adjusted	ND	mg/kg	3.33
Benzene	ND	mg/kg	0.166
Toluene	ND	mg/kg	0.166
Ethylbenzene	ND	mg/kg	0.166
p/m-Xylene	ND	mg/kg	0.166
o-Xylene	ND	mg/kg	0.166
Methyl tert butyl ether	ND	mg/kg	0.333
Naphthalene	ND	mg/kg	1.66
Surrogate(s)	Recovery		QC Criteria
2,5-Dibromotoluene-PID	101.	%	70-130
2,5-Dibromotoluene-FID	102.	%	70-130

Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES  
CERTIFICATE OF ANALYSIS

Laboratory Sample Number: L0401013-02  
SSW 2-S1

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE PREP      ANAL	ID
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Extractable Petroleum Hydrocarbons				46 98-1	0205 22:10 0210 12:46	JB
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Quality Control Information

Condition of sample received:	Satisfactory	
Sample temperature upon receipt:	Received on Ice	
Sample extraction method:	Extracted Per the Method	
Were all QA/QC procedures REQUIRED by the method followed?		YES
Were all performance/acceptance standards for the required procedures achieved?		YES
Were significant modifications made to the method as specified in Sect 11.3?		NO
Please note to subtract the method blank from the stated result.		
The normal acceptance range for the extraction surrogates, Chloro-octadecane and o-Terphenyl, is 40-140%.		
The normal acceptance range for the fractionation surrogates, 2-Fluorobiphenyl and 2-Bromonaphthalene, is 40-140%.		

C9-C18 Aliphatics	ND	mg/kg	12.6
C19-C36 Aliphatics	ND	mg/kg	12.6
C11-C22 Aromatics, Unadjusted	ND	mg/kg	12.6
C11-C22 Aromatics, Adjusted	ND	mg/kg	12.6
Naphthalene	ND	mg/kg	0.633
2-Methylnaphthalene	ND	mg/kg	0.633
Acenaphthylene	ND	mg/kg	0.633
Acenaphthene	ND	mg/kg	0.633
Fluorene	ND	mg/kg	0.633
Phenanthrene	ND	mg/kg	0.633
Anthracene	ND	mg/kg	0.633
Fluoranthene	ND	mg/kg	0.633
Pyrene	ND	mg/kg	0.633
Benzo (a) anthracene	ND	mg/kg	0.633
Chrysene	ND	mg/kg	0.633
Benzo (b) fluoranthene	ND	mg/kg	0.633
Benzo (k) fluoranthene	ND	mg/kg	0.633
Benzo (a) pyrene	ND	mg/kg	0.633
Indeno (1, 2, 3- cd) Pyrene	ND	mg/kg	0.633
Dibenzo (a, h) anthracene	ND	mg/kg	0.633
Benzo (g, h, i) perylene	ND	mg/kg	0.633

Surrogate (s)	Recovery		QC Criteria
Chloro-Octadecane	54.0	%	40-140
o-Terphenyl	60.0	%	40-140
2-Fluorobiphenyl	59.0	%	40-140
2-Bromonaphthalene	59.0	%	40-140

Comments: Complete list of References and Glossary of Terms found in Addendum I



ALPHA ANALYTICAL LABORATORIES  
CERTIFICATE OF ANALYSIS

Laboratory Sample Number: L0401013-03  
WSW 1-S1

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE PREP      ANAL	ID
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Volatile Petroleum Hydrocarbons				47 98-1	0206 18:01 MM	
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Quality Control Information

Condition of sample received:	Satisfactory	
Sample temperature upon receipt:	Received on Ice	
Were samples received in methanol?	Covering the Soil	
Methanol ratio:	1:1 +/- 25%	
Were all QA/QC procedures REQUIRED by the method followed?		YES
Were all performance/acceptance standards for the required procedures achieved?		YES
Were significant modifications made to the method as specified in Sect 11.3?		NO
Please note to subtract the method blank from the stated result.		
The normal acceptance range for the surrogate, 2,5-Dibromotoluene, is 70-130%.		

C5-C8 Aliphatics, Unadjusted	ND	mg/kg	3.33
C9-C12 Aliphatics, Unadjusted	11.3	mg/kg	3.33
C9-C10 Aromatics	ND	mg/kg	3.33
C5-C8 Aliphatics, Adjusted	ND	mg/kg	3.33
C9-C12 Aliphatics, Adjusted	11.3	mg/kg	3.33
Benzene	ND	mg/kg	0.166
Toluene	ND	mg/kg	0.166
Ethylbenzene	ND	mg/kg	0.166
p/m-Xylene	ND	mg/kg	0.166
o-Xylene	ND	mg/kg	0.166
Methyl tert butyl ether	ND	mg/kg	0.333
Naphthalene	ND	mg/kg	1.66
 Surrogate (s)	 Recovery		 QC Criteria
2,5-Dibromotoluene-PID	99.0	%	70-130
2,5-Dibromotoluene-FID	91.0	%	70-130

Comments: Complete list of References and Glossary of Terms found in Addendum I



ALPHA ANALYTICAL LABORATORIES  
CERTIFICATE OF ANALYSIS

Laboratory Sample Number: L0401013-03  
WSW 1-S1

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	

Extractable Petroleum Hydrocarbons	46 98-1	0205 22:10 0211 08:32 JB
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Quality Control Information

Condition of sample received:	Satisfactory	
Sample temperature upon receipt:	Received on Ice	
Sample extraction method:	Extracted Per the Method	
Were all QA/QC procedures REQUIRED by the method followed?		YES
Were all performance/acceptance standards for the required procedures achieved?		YES
Were significant modifications made to the method as specified in Sect 11.3?		NO

Please note to subtract the method blank from the stated result.  
The normal acceptance range for the extraction surrogates, Chloro-octadecane and o-Terphenyl, is 40-140%.  
The normal acceptance range for the fractionation surrogates, 2-Fluorobiphenyl and 2-Bromonaphthalene, is 40-140%.

C9-C18 Aliphatics	ND	mg/kg	12.6
C19-C36 Aliphatics	ND	mg/kg	12.6
C11-C22 Aromatics, Unadjusted	ND	mg/kg	12.6
C11-C22 Aromatics, Adjusted	ND	mg/kg	12.6
Naphthalene	ND	mg/kg	0.633
2-Methylnaphthalene	ND	mg/kg	0.633
Acenaphthylene	ND	mg/kg	0.633
Acenaphthene	ND	mg/kg	0.633
Fluorene	ND	mg/kg	0.633
Phenanthrene	ND	mg/kg	0.633
Anthracene	ND	mg/kg	0.633
Fluoranthene	ND	mg/kg	0.633
Pyrene	ND	mg/kg	0.633
Benzo (a) anthracene	ND	mg/kg	0.633
Chrysene	ND	mg/kg	0.633
Benzo (b) fluoranthene	ND	mg/kg	0.633
Benzo (k) fluoranthene	ND	mg/kg	0.633
Benzo (a) pyrene	ND	mg/kg	0.633
Indeno (1, 2, 3 -cd) Pyrene	ND	mg/kg	0.633
Dibenzo (a, h) anthracene	ND	mg/kg	0.633
Benzo (g, h, i) perylene	ND	mg/kg	0.633

Surrogate (s)	Recovery		QC Criteria
Chloro-Octadecane	50.0	%	40-140
o-Terphenyl	64.0	%	40-140
2-Fluorobiphenyl	65.0	%	40-140
2-Bromonaphthalene	65.0	%	40-140

Comments: Complete list of References and Glossary of Terms found in Addendum I



ALPHA ANALYTICAL LABORATORIES  
CERTIFICATE OF ANALYSIS

Laboratory Sample Number: L0401013-04  
BOT 1-S1

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE PREP      ANAL	ID
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Volatile Petroleum Hydrocarbons			47 98-1		0206 18:52 MM	
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Quality Control Information

Condition of sample received:	Satisfactory	
Sample temperature upon receipt:	Received on Ice	
Were samples received in methanol?	Covering the Soil	
Methanol ratio:	1:1 +/- 25%	
Were all QA/QC procedures REQUIRED by the method followed?		YES
Were all performance/acceptance standards for the required procedures achieved?		YES
Were significant modifications made to the method as specified in Sect 11.3?		NO
Please note to subtract the method blank from the stated result.		
The normal acceptance range for the surrogate, 2,5-Dibromotoluene, is 70-130%.		

C5-C8 Aliphatics, Unadjusted	ND	mg/kg	2.63
C9-C12 Aliphatics, Unadjusted	ND	mg/kg	2.63
C9-C10 Aromatics	ND	mg/kg	2.63
C5-C8 Aliphatics, Adjusted	ND	mg/kg	2.63
C9-C12 Aliphatics, Adjusted	ND	mg/kg	2.63
Benzene	ND	mg/kg	0.132
Toluene	ND	mg/kg	0.132
Ethylbenzene	ND	mg/kg	0.132
p/m-Xylene	ND	mg/kg	0.132
o-Xylene	ND	mg/kg	0.132
Methyl tert butyl ether	ND	mg/kg	0.263
Naphthalene	ND	mg/kg	1.32

Surrogate(s)	Recovery	QC Criteria
2,5-Dibromotoluene-PID	106. %	70-130
2,5-Dibromotoluene-FID	103. %	70-130

Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES  
CERTIFICATE OF ANALYSIS

Laboratory Sample Number: L0401013-04  
BOT 1-S1

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	

Extractable Petroleum Hydrocarbons				46 98-1		0205 22:10	0211 09:21	JB
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Quality Control Information

Condition of sample received:	Satisfactory	
Sample temperature upon receipt:	Received on Ice	
Sample extraction method:	Extracted Per the Method	
Were all QA/QC procedures REQUIRED by the method followed?		YES
Were all performance/acceptance standards for the required procedures achieved?		YES
Were significant modifications made to the method as specified in Sect 11.3?		NO
Please note to subtract the method blank from the stated result.		
The normal acceptance range for the extraction surrogates, Chloro-octadecane and o-Terphenyl, is 40-140%.		
The normal acceptance range for the fractionation surrogates, 2-Fluorobiphenyl and 2-Bromonaphthalene, is 40-140%.		

C9-C18 Aliphatics	ND	mg/kg	12.2
C19-C36 Aliphatics	ND	mg/kg	12.2
C11-C22 Aromatics, Unadjusted	ND	mg/kg	12.2
C11-C22 Aromatics, Adjusted	ND	mg/kg	12.2
Naphthalene	ND	mg/kg	0.610
2-Methylnaphthalene	ND	mg/kg	0.610
Acenaphthylene	ND	mg/kg	0.610
Acenaphthene	ND	mg/kg	0.610
Fluorene	ND	mg/kg	0.610
Phenanthrene	ND	mg/kg	0.610
Anthracene	ND	mg/kg	0.610
Fluoranthene	ND	mg/kg	0.610
Pyrene	ND	mg/kg	0.610
Benzo (a) anthracene	ND	mg/kg	0.610
Chrysene	ND	mg/kg	0.610
Benzo (b) fluoranthene	ND	mg/kg	0.610
Benzo (k) fluoranthene	ND	mg/kg	0.610
Benzo (a) pyrene	ND	mg/kg	0.610
Indeno (1, 2, 3- cd) Pyrene	ND	mg/kg	0.610
Dibenzo (a, h) anthracene	ND	mg/kg	0.610
Benzo (g, h, i) perylene	ND	mg/kg	0.610

Surrogate(s)	Recovery		QC Criteria
Chloro-Octadecane	53.0	%	40-140
o-Terphenyl	65.0	%	40-140
2-Fluorobiphenyl	64.0	%	40-140
2-Bromonaphthalene	64.0	%	40-140

Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES  
 CERTIFICATE OF ANALYSIS

MA:M-MA086 NH:200301-A CT:PH-0574 ME:MA086 RI:65 NY:11148 NJ:MA935 Army:USACE

Laboratory Sample Number: L0401013-05 Date Collected: 05-FEB-2004 12:00  
 CLN-STKPL-1 Date Received : 05-FEB-2004  
 Sample Matrix: SOIL Date Reported : 11-FEB-2004  
 Condition of Sample: Satisfactory Field Prep: None  
 Number & Type of Containers: 1-Amber,1-Vial

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Solids, Total	88.	%	0.10	30 2540G		0206 19:00	LK

Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES  
CERTIFICATE OF ANALYSIS

Laboratory Sample Number: L0401013-05  
CLN-STKPL-1

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	

Volatile Petroleum Hydrocarbons				47 98-1		0206 20:33 MM	
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Quality Control Information

Condition of sample received:	Satisfactory	
Sample temperature upon receipt:	Received on Ice	
Were samples received in methanol?	Covering the Soil	
Methanol ratio:	1:1 +/- 25%	
Were all QA/QC procedures REQUIRED by the method followed?		YES
Were all performance/acceptance standards for the required procedures achieved?		YES
Were significant modifications made to the method as specified in Sect 11.3?		NO
Please note to subtract the method blank from the stated result.		
The normal acceptance range for the surrogate, 2,5-Dibromotoluene, is 70-130%.		

C5-C8 Aliphatics, Unadjusted	ND	mg/kg	1.88
C9-C12 Aliphatics, Unadjusted	42.6	mg/kg	1.88
C9-C10 Aromatics	27.7	mg/kg	1.88
C5-C8 Aliphatics, Adjusted	ND	mg/kg	1.88
C9-C12 Aliphatics, Adjusted	14.6	mg/kg	1.88
Benzene	ND	mg/kg	0.100
Toluene	ND	mg/kg	0.100
Ethylbenzene	ND	mg/kg	0.100
p/m-Xylene	0.146	mg/kg	0.100
o-Xylene	ND	mg/kg	0.100
Methyl tert butyl ether	ND	mg/kg	0.188
Naphthalene	ND	mg/kg	0.942

Surrogate (s)	Recovery		QC Criteria
2,5-Dibromotoluene-PID	101.	%	70-130
2,5-Dibromotoluene-FID	105.	%	70-130

Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES  
CERTIFICATE OF ANALYSIS

Laboratory Sample Number: L0401013-05  
CLN-STKPL-1

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	

Extractable Petroleum Hydrocarbons	46 98-1	0205 22:10	0209 20:59	JB
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Quality Control Information

Condition of sample received:	Satisfactory	
Sample temperature upon receipt:	Received on Ice	
Sample extraction method:	Extracted Per the Method	
Were all QA/QC procedures REQUIRED by the method followed?		YES
Were all performance/acceptance standards for the required procedures achieved?		YES
Were significant modifications made to the method as specified in Sect 11.3?		NO

Please note to subtract the method blank from the stated result.  
The normal acceptance range for the extraction surrogates, Chloro-octadecane and o-Terphenyl, is 40-140%.  
The normal acceptance range for the fractionation surrogates, 2-Fluorobiphenyl and 2-Bromonaphthalene, is 40-140%.

C9-C18 Aliphatics	179.	mg/kg	11.4
C19-C36 Aliphatics	178.	mg/kg	11.4
C11-C22 Aromatics, Unadjusted	211.	mg/kg	11.4
C11-C22 Aromatics, Adjusted	205.	mg/kg	11.4
Naphthalene	ND	mg/kg	0.568
2-Methylnaphthalene	1.82	mg/kg	0.568
Acenaphthylene	ND	mg/kg	0.568
Acenaphthene	ND	mg/kg	0.568
Fluorene	ND	mg/kg	0.568
Phenanthrene	0.842	mg/kg	0.568
Anthracene	ND	mg/kg	0.568
Fluoranthene	ND	mg/kg	0.568
Pyrene	0.878	mg/kg	0.568
Benzo (a) anthracene	ND	mg/kg	0.568
Chrysene	0.640	mg/kg	0.568
Benzo (b) fluoranthene	ND	mg/kg	0.568
Benzo (k) fluoranthene	ND	mg/kg	0.568
Benzo (a) pyrene	ND	mg/kg	0.568
Indeno (1, 2, 3-cd) Pyrene	ND	mg/kg	0.568
Dibenzo (a, h) anthracene	ND	mg/kg	0.568
Benzo (g, h, i) perylene	1.03	mg/kg	0.568

Surrogate (s)	Recovery		QC Criteria
Chloro-Octadecane	77.0	%	40-140
o-Terphenyl	120.	%	40-140
2-Fluorobiphenyl	72.0	%	40-140
2-Bromonaphthalene	75.0	%	40-140

Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES  
 QUALITY ASSURANCE BATCH DUPLICATE ANALYSIS

Laboratory Job Number: L0401013

Parameter	Value 1	Value 2	Units	RPD	RPD Limits
Solids, Total for sample(s) 01-05 (L0400976-01, WG162491)					
Solids, Total	87.	88.	%	1	
Volatile Petroleum Hydrocarbons for sample(s) 05 (L0400816-01, WG162219)					
C5-C8 Aliphatics	13.0	12.0	mg/kg	8	50
C9-C12 Aliphatics	24.5	23.8	mg/kg	3	50
C9-C10 Aromatics	14.9	15.7	mg/kg	5	50
C5-C8 Aliphatics, Adjusted	12.3	11.4	mg/kg	8	50
C9-C12 Aliphatics, Adjusted	8.87	7.39	mg/kg	18	50
Benzene	0.490	0.478	mg/kg	2	50
Toluene	0.179	0.173	mg/kg	3	50
Ethylbenzene	0.292	0.288	mg/kg	1	50
p/m-Xylene	0.434	0.408	mg/kg	6	50
o-Xylene	ND	ND	mg/kg	NC	50
Methyl tert butyl ether	ND	ND	mg/kg	NC	50
Naphthalene	ND	ND	mg/kg	NC	50
Surrogate(s) Recovery QC Criteria					
2,5-Dibromotoluene-PID	120.	116.	%	3	70-130
2,5-Dibromotoluene-FID	101.	98.0	%	3	70-130
Volatile Petroleum Hydrocarbons for sample(s) 01-04 (L0401013-01, WG162579)					
C5-C8 Aliphatics	ND	ND	mg/kg	NC	50
C9-C12 Aliphatics	ND	ND	mg/kg	NC	50
C9-C10 Aromatics	ND	ND	mg/kg	NC	50
C5-C8 Aliphatics, Adjusted	ND	ND	mg/kg	NC	50
C9-C12 Aliphatics, Adjusted	ND	ND	mg/kg	NC	50
Benzene	ND	ND	mg/kg	NC	50
Toluene	ND	ND	mg/kg	NC	50
Ethylbenzene	ND	ND	mg/kg	NC	50
p/m-Xylene	ND	ND	mg/kg	NC	50
o-Xylene	ND	ND	mg/kg	NC	50
Methyl tert butyl ether	ND	ND	mg/kg	NC	50
Naphthalene	ND	ND	mg/kg	NC	50
Surrogate(s) Recovery QC Criteria					
2,5-Dibromotoluene-PID	110.	97.0	%	13	70-130
2,5-Dibromotoluene-FID	104.	98.0	%	6	70-130
Extractable Petroleum Hydrocarbons for sample(s) 01-05 (L0401013-05, WG162404)					
C9-C18 Aliphatics	179.	128.	mg/kg	33	50
C19-C36 Aliphatics	178.	125.	mg/kg	35	50
C11-C22 Aromatics	211.	166.	mg/kg	24	50
C11-C22 Aromatics, Adjusted	205.	163.	mg/kg	23	50
Naphthalene	ND	ND	mg/kg	NC	50
2-Methylnaphthalene	1.82	1.48	mg/kg	21	50
Acenaphthylene	ND	ND	mg/kg	NC	50
Acenaphthene	ND	ND	mg/kg	NC	50
Fluorene	ND	ND	mg/kg	NC	50



ALPHA ANALYTICAL LABORATORIES  
 QUALITY ASSURANCE BATCH DUPLICATE ANALYSIS

Laboratory Job Number: L0401013

Continued

Parameter	Value 1	Value 2	Units	RPD	RPD Limits
Extractable Petroleum Hydrocarbons for sample(s) 01-05 (L0401013-05, WG162404)					
Phenanthrene	0.842	0.575	mg/kg	38	50
Anthracene	ND	ND	mg/kg	NC	50
Fluoranthene	ND	ND	mg/kg	NC	50
Pyrene	0.878	0.578	mg/kg	41	50
Benzo(a)anthracene	ND	ND	mg/kg	NC	50
Chrysene	0.640	ND	mg/kg	NC	50
Benzo(b)fluoranthene	ND	ND	mg/kg	NC	50
Benzo(k)fluoranthene	ND	ND	mg/kg	NC	50
Benzo(a)pyrene	ND	ND	mg/kg	NC	50
Indeno(1,2,3-cd)Pyrene	ND	ND	mg/kg	NC	50
Dibenzo(a,h)anthracene	ND	ND	mg/kg	NC	50
Benzo(ghi)perylene	1.03	0.815	mg/kg	23	50
Surrogate(s)	Recovery				QC Criteria
Chloro-Octadecane	77.0	57.0	%	30	40-140
o-Terphenyl	120.	103.	%	15	40-140
2-Fluorobiphenyl	72.0	76.0	%	5	40-140
2-Bromonaphthalene	75.0	75.0	%	0	40-140

ALPHA ANALYTICAL LABORATORIES  
 QUALITY ASSURANCE BATCH SPIKE ANALYSES

Laboratory Job Number: L0401013

Parameter	% Recovery	QC Criteria
Volatile Petroleum Hydrocarbons LCS for sample(s) 05 (WG162219)		
Benzene	123	70-130
Toluene	111	70-130
Ethylbenzene	125	70-130
p/m-Xylene	108	70-130
o-Xylene	116	70-130
Methyl tert butyl ether	117	70-130
Naphthalene	110	70-130
Surrogate(s)		
2,5-Dibromotoluene-PID	113	70-130
2,5-Dibromotoluene-FID	102	70-130
Volatile Petroleum Hydrocarbons LCS for sample(s) 01-04 (WG162579)		
Benzene	120	70-130
Toluene	108	70-130
Ethylbenzene	112	70-130
p/m-Xylene	98	70-130
o-Xylene	114	70-130
Methyl tert butyl ether	102	70-130
Naphthalene	106	70-130
Surrogate(s)		
2,5-Dibromotoluene-PID	107	70-130
2,5-Dibromotoluene-FID	106	70-130
Extractable Petroleum Hydrocarbons LCS for sample(s) 01-05 (WG162404)		
Naphthalene	55	40-140
Acenaphthene	60	40-140
Anthracene	72	40-140
Pyrene	86	40-140
Chrysene	89	40-140
Nonane (C9)	53	40-140
Tetradecane (C14)	67	40-140
Nonadecane (C19)	89	40-140
Eicosane (C20)	90	40-140
Octacosane (C28)	84	40-140
Surrogate(s)		
Chloro-Octadecane	72	40-140
o-Terphenyl	92	40-140
2-Fluorobiphenyl	68	40-140
2-Bromonaphthalene	70	40-140

ALPHA ANALYTICAL LABORATORIES  
QUALITY ASSURANCE BATCH BLANK ANALYSIS

Laboratory Job Number: L0401013

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Blank Analysis for sample(s) 05 (WG162219-6)							
Volatile Petroleum Hydrocarbons				47 98-1		0206 09:35	MM
C5-C8 Aliphatics, Unadjusted	ND	mg/kg	2.00				
C9-C12 Aliphatics, Unadjusted	ND	mg/kg	2.00				
C9-C10 Aromatics	ND	mg/kg	2.00				
C5-C8 Aliphatics, Adjusted	ND	mg/kg	2.00				
C9-C12 Aliphatics, Adjusted	ND	mg/kg	2.00				
Benzene	ND	mg/kg	0.100				
Toluene	ND	mg/kg	0.100				
Ethylbenzene	ND	mg/kg	0.100				
p/m-Xylene	ND	mg/kg	0.100				
o-Xylene	ND	mg/kg	0.100				
Methyl tert butyl ether	ND	mg/kg	0.200				
Naphthalene	ND	mg/kg	1.00				
Surrogate(s)		Recovery		QC Criteria			
2,5-Dibromotoluene-PID	108.	%	70-130				
2,5-Dibromotoluene-FID	99.0	%	70-130				
Blank Analysis for sample(s) 01-04 (WG162579-3)							
Volatile Petroleum Hydrocarbons				47 98-1		0206 09:35	MM
C5-C8 Aliphatics, Unadjusted	ND	mg/kg	2.00				
C9-C12 Aliphatics, Unadjusted	ND	mg/kg	2.00				
C9-C10 Aromatics	ND	mg/kg	2.00				
C5-C8 Aliphatics, Adjusted	ND	mg/kg	2.00				
C9-C12 Aliphatics, Adjusted	ND	mg/kg	2.00				
Benzene	ND	mg/kg	0.100				
Toluene	ND	mg/kg	0.100				
Ethylbenzene	ND	mg/kg	0.100				
p/m-Xylene	ND	mg/kg	0.100				
o-Xylene	ND	mg/kg	0.100				
Methyl tert butyl ether	ND	mg/kg	0.200				
Naphthalene	ND	mg/kg	1.00				
Surrogate(s)		Recovery		QC Criteria			
2,5-Dibromotoluene-PID	108.	%	70-130				
2,5-Dibromotoluene-FID	99.0	%	70-130				
Blank Analysis for sample(s) 01-05 (WG162404-1)							
Extractable Petroleum Hydrocarbons				46 98-1		0205 22:10	0211 07:43 JB
C9-C18 Aliphatics	ND	mg/kg	10.0				
C19-C36 Aliphatics	ND	mg/kg	10.0				
C11-C22 Aromatics, Unadjusted	ND	mg/kg	10.0				
C11-C22 Aromatics, Adjusted	ND	mg/kg	10.0				
Naphthalene	ND	mg/kg	0.500				
2-Methylnaphthalene	ND	mg/kg	0.500				
Acenaphthylene	ND	mg/kg	0.500				
Acenaphthene	ND	mg/kg	0.500				
Fluorene	ND	mg/kg	0.500				

ALPHA ANALYTICAL LABORATORIES  
 QUALITY ASSURANCE BATCH BLANK ANALYSIS

Laboratory Job Number: L0401013

Continued

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Blank Analysis for sample(s) 01-05 (WG162404-1)							
Extractable Petroleum Hydrocarbons continued				46 98-1		0205 22:10	0211 07:43 JB
Phenanthrene	ND	mg/kg	0.500				
Anthracene	ND	mg/kg	0.500				
Fluoranthene	ND	mg/kg	0.500				
Pyrene	ND	mg/kg	0.500				
Benzo (a) anthracene	ND	mg/kg	0.500				
Chrysene	ND	mg/kg	0.500				
Benzo (b) fluoranthene	ND	mg/kg	0.500				
Benzo (k) fluoranthene	ND	mg/kg	0.500				
Benzo (a) pyrene	ND	mg/kg	0.500				
Indeno (1,2,3-cd) Pyrene	ND	mg/kg	0.500				
Dibenzo (a,h) anthracene	ND	mg/kg	0.500				
Benzo (g,h,i) perylene	ND	mg/kg	0.500				
Surrogate (s)	Recovery			QC Criteria			
Chloro-Octadecane	55.0	%		40-140			
o-Terphenyl	60.0	%		40-140			
2-Fluorobiphenyl	66.0	%		40-140			
2-Bromonaphthalene	64.0	%		40-140			

ALPHA ANALYTICAL LABORATORIES  
ADDENDUM I

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REFERENCES

30. Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WPCF. 18th Edition. 1992.
46. Method for the Determination of Extractable Petroleum Hydrocarbons (EPH), Massachusetts Department of Environmental Protection, (MADEP-EPH-98-1), January 1998.
47. Method for the Determination of Volatile Petroleum Hydrocarbons (VPH), Massachusetts Department of Environmental Protection, (MADEP-VPH-98-1), January 1998.

GLOSSARY OF TERMS AND SYMBOLS

REF Reference number in which test method may be found.  
METHOD Method number by which analysis was performed.  
ID Initials of the analyst.  
ND Not detected in comparison to the reported detection limit.

Please note that all solid samples are reported on dry weight basis unless noted otherwise.

LIMITATION OF LIABILITIES

Alpha Analytical, Inc. performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical, Inc., shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical, Inc. be held liable for any incidental consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical, Inc.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding times and splitting of samples in the field.

ALPHA ANALYTICAL LABORATORIES  
LOGIN SPECIFIC INFORMATION

Laboratory Job Number: L0401013

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Were project specific reporting limits specified? YES

Cooler Information

Cooler	Custody Seal
A	Absent
B	Absent

Container Information

Container ID	Container Type	Cooler	pH	Temp	Pres	Seal	Analysis
L0401013-01A	Vial MeOH preserved	A	N/A	0.6C	Y	Absent	VPH-DELUX
L0401013-01B	Amber 100ml unpreserved	A	N/A	0.6C	Y	Absent	EPH-DELUX, TS
L0401013-02A	Vial MeOH preserved	A	N/A	0.6C	Y	Absent	VPH-DELUX
L0401013-02B	Amber 100ml unpreserved	A	N/A	0.6C	Y	Absent	EPH-DELUX, TS
L0401013-03A	Vial MeOH preserved	A	N/A	0.6C	Y	Absent	VPH-DELUX
L0401013-03B	Amber 100ml unpreserved	A	N/A	0.6C	Y	Absent	EPH-DELUX, TS
L0401013-04A	Vial MeOH preserved	A	N/A	0.6C	Y	Absent	VPH-DELUX
L0401013-04B	Amber 100ml unpreserved	A	N/A	0.6C	Y	Absent	EPH-DELUX, TS
L0401013-05A	Vial MeOH preserved	A	N/A	0.6C	Y	Absent	VPH-DELUX
L0401013-05B	Amber 100ml unpreserved	A	N/A	0.6C	Y	Absent	EPH-DELUX, TS

Container Comments

Container ID    Comments

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ALPHA ANALYTICAL LABORATORIES

Eight Walkup Drive  
Westborough, Massachusetts 01581-1019  
(508) 898-9220 www.alphalab.com

MA:M-MA086 NH:200301-A CT:PH-0574 ME:MA086 RI:65 NY:11148 NJ:MA935 Army:USACE

CERTIFICATE OF ANALYSIS

Client: Haley & Aldrich, Inc. Laboratory Job Number: L0401094  
Address: 465 Medford Street, Suite 2200  
Boston, MA 02129-1400 Date Received: 09-FEB-2004  
Attn: Mr. Steve Provencal Date Reported: 11-FEB-2004  
Project Number: 30660-000 Delivery Method: Alpha  
Site: BURBANK SCHOOL OIL RELEASE

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ALPHA SAMPLE NUMBER	CLIENT IDENTIFICATION	SAMPLE LOCATION
L0401094-01	UST-STKPL3-S1	BELMONT, MA
L0401094-02	UST-STKPL3-S2	BELMONT, MA
L0401094-03	UST-STKPL3-S3	BELMONT, MA
L0401094-04	UST-STKPL3-S4	BELMONT, MA

I, the undersigned, attest under the pains and penalties of perjury that, based upon my personal inquiry of those responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

---

Authorized by: Scott McLean  
This document electronically signed



ALPHA ANALYTICAL LABORATORIES  
NARRATIVE REPORT

Laboratory Job Number: L0401094

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TPH-8100

L0401094-01, -02 and -04 have elevated limits of detection due to the 20x dilutions required by the matrix interferences encountered during the extraction, concentration, and/or digestion of the samples.

L0401094-03 has elevated limits of detection due to the 10x dilution required by the matrix interferences encountered during the extraction, concentration, and/or digestion of the sample.



ALPHA ANALYTICAL LABORATORIES  
 CERTIFICATE OF ANALYSIS

MA:M-MA086 NH:200301-A CT:PH-0574 ME:MA086 RI:65 NY:11148 NJ:MA935 Army:USACE

Laboratory Sample Number: L0401094-02	Date Collected: 09-FEB-2004 13:58
UST-STKPL3-S2	Date Received : 09-FEB-2004
Sample Matrix: SOIL	Date Reported : 11-FEB-2004
Condition of Sample: Satisfactory	Field Prep: None
Number & Type of Containers: 1-Amber	

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Solids, Total	92.	%	0.10	30 2540G		0210 11:08	ST
Hydrocarbon Scan by GC 8100M				1 8100M	0210 08:50	0211 12:26	JB
Mineral Spirits	ND	mg/kg	2200				
Gasoline	ND	mg/kg	2200				
Fuel Oil #2/Diesel	ND	mg/kg	2200				
Fuel Oil #4	ND	mg/kg	2200				
Fuel Oil #6	ND	mg/kg	2200				
Motor Oil	ND	mg/kg	2200				
Kerosene	ND	mg/kg	2200				
Transformer Oil	ND	mg/kg	2200				
Unknown Hydrocarbon	19000	mg/kg	2200				
Surrogate(s)	Recovery		QC Criteria				
o-Terphenyl	130.	%	40-140				

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Comments: Complete list of References and Glossary of Terms found in Addendum I



ALPHA ANALYTICAL LABORATORIES  
CERTIFICATE OF ANALYSIS

MA:M-MA086 NH:200301-A CT:PH-0574 ME:MA086 RI:65 NY:11148 NJ:MA935 Army:USACE

Laboratory Sample Number: L0401094-04 Date Collected: 09-FEB-2004 14:02  
UST-STKPL3-S4 Date Received: 09-FEB-2004  
Sample Matrix: SOIL Date Reported: 11-FEB-2004  
Condition of Sample: Satisfactory Field Prep: None  
Number & Type of Containers: 1-Amber

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE PREP	DATE ANAL	ID
Solids, Total	86.	%	0.10	30 2540G		0210 11:08	ST
Hydrocarbon Scan by GC 8100M				1 8100M	0210 08:50	0211 11:27	JB
Mineral Spirits	ND	mg/kg	2300				
Gasoline	ND	mg/kg	2300				
Fuel Oil #2/Diesel	ND	mg/kg	2300				
Fuel Oil #4	ND	mg/kg	2300				
Fuel Oil #6	ND	mg/kg	2300				
Motor Oil	ND	mg/kg	2300				
Kerosene	ND	mg/kg	2300				
Transformer Oil	ND	mg/kg	2300				
Unknown Hydrocarbon	19000	mg/kg	2300				
Surrogate(s)	Recovery			QC Criteria			
o-Terphenyl	139.	%		40-140			

Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES  
 QUALITY ASSURANCE BATCH DUPLICATE ANALYSIS

Laboratory Job Number: L0401094

Parameter	Value 1	Value 2	Units	RPD	RPD Limits
Solids, Total for sample(s) 01-04 (L0401094-01, WG162656)					
Solids, Total	92.	92.	%	0	
Hydrocarbon Scan by GC 8100M for sample(s) 01-04 (L0401094-02, WG162694)					
Mineral Spirits	ND	ND	mg/kg	NC	40
Gasoline	ND	ND	mg/kg	NC	40
Fuel Oil #2/Diesel	ND	ND	mg/kg	NC	40
Fuel Oil #4	ND	ND	mg/kg	NC	40
Fuel Oil #6	ND	ND	mg/kg	NC	40
Motor Oil	ND	ND	mg/kg	NC	40
Kerosene	ND	ND	mg/kg	NC	40
Transformer Oil	ND	ND	mg/kg	NC	40
Unknown Hydrocarbon	19000	20000	mg/kg	5	40
Surrogate(s)	Recovery				QC Criteria
o-Terphenyl	130.	97.0	%	29	40-140

ALPHA ANALYTICAL LABORATORIES  
QUALITY ASSURANCE BATCH SPIKE ANALYSES

Laboratory Job Number: L0401094

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Parameter	% Recovery	QC Criteria
Hydrocarbon Scan by GC 8100M LCS for sample(s) 01-04 (WG162694)		
Petroleum Spike	130	40-140
Surrogate(s)		
o-Terphenyl	99	40-140

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ALPHA ANALYTICAL LABORATORIES  
 QUALITY ASSURANCE BATCH BLANK ANALYSIS

Laboratory Job Number: L0401094

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Blank Analysis for sample(s) 01-04 (WG162694-1)							
Hydrocarbon Scan by GC 8100M				1 8100M	0210 08:50	0211 13:37	JB
Mineral Spirits	ND	mg/kg	200				
Gasoline	ND	mg/kg	200				
Fuel Oil #2/Diesel	ND	mg/kg	200				
Fuel Oil #4	ND	mg/kg	200				
Fuel Oil #6	ND	mg/kg	200				
Motor Oil	ND	mg/kg	200				
Kerosene	ND	mg/kg	200				
Transformer Oil	ND	mg/kg	200				
Unknown Hydrocarbon	ND	mg/kg	200				
Surrogate (s)	Recovery		QC Criteria				
o-Terphenyl	74.0	%	40-140				



ALPHA ANALYTICAL LABORATORIES  
ADDENDUM I

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REFERENCES

1. Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - IIIA, 1997.
30. Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WPCF. 18th Edition. 1992.

GLOSSARY OF TERMS AND SYMBOLS

- REF Reference number in which test method may be found.  
METHOD Method number by which analysis was performed.  
ID Initials of the analyst.  
ND Not detected in comparison to the reported detection limit.

Please note that all solid samples are reported on dry weight basis unless noted otherwise.

LIMITATION OF LIABILITIES

Alpha Analytical, Inc. performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical, Inc., shall be to re-perform the work at its own expense. In no event shall Alpha Analytical, Inc. be held liable for any incidental consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical, Inc.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding times and splitting of samples in the field.

**CHAIN OF CUSTODY RECORD**

HA&A FILE NO. 30660-000 LABORATORY ADH DELIVERY DATE \_\_\_\_\_  
 PROJECT NAME BOBBYK SUTHER ON RAISE ADDRESS \_\_\_\_\_ TURNAROUND TIME 42 HRS  
 HA&A CONTACT MATT CUMBS CONTACT \_\_\_\_\_ PROJECT MANAGER ORL MERRY

Sample No.	Date	Time	Depth	Type	Analysis Requested								Number of Containers	Comments (special instructions, precautions, additional method numbers, etc.)		
					VOA	ABNs PAH only	MCP Metals	Pesticides PCBs	VPH Full Suite C-ranges only	EPH Full Suite C-ranges only	TPH (specify) ①	TCLP (specify)			Reactivity Ignitability Comrosity	
USI-SITDL3-S1	2/9/04	1355	-	SOIL							X			1	Laboratory to use applicable DEP CAM methods, unless otherwise directed.  ① METHOD 8100	
USI-SITDL3-S2		1357	-	"							X			1		
USI-SITDL3-S3		1400	-	"							X			1		
USI-SITDL3-S4		1402	-	"							X			1		
<b>LIQUID</b>																
Sign <u>Todd Burrell</u>	Received by <u>[Signature]</u>	Sign <u>[Signature]</u>													VOA Vial	Sampling Comments
Print <u>Todd Burrell</u>	Print <u>[Signature]</u>	Print <u>[Signature]</u>													Amber Glass	
Firm <u>H+A</u>	Firm <u>[Signature]</u>	Firm <u>[Signature]</u>													Plastic Bottle	
Date <u>2/9/04</u> Time _____	Date <u>2/9/04</u> Time _____	Date _____ Time _____													Preservative	
Relinquished by _____	Relinquished by _____	Received by _____													Volume	
Print <u>[Signature]</u>	Print <u>[Signature]</u>	Print <u>[Signature]</u>													VOA Vial	
Firm _____	Firm _____	Firm <u>ADH</u>													Amber Glass	
Date <u>2/9/04</u> Time <u>1955</u>	Date <u>2/9/04</u> Time <u>1955</u>	Date _____ Time _____													Clear Glass	
Relinquished by _____	Relinquished by _____	Received by _____													Preservative	
Sign _____	Sign _____	Sign _____													Volume	
Print _____	Print _____	Print _____													VOA Vial	
Firm _____	Firm _____	Firm _____													Amber Glass	
Date _____ Time _____	Date _____ Time _____	Date _____ Time _____													Clear Glass	
Relinquished by _____	Relinquished by _____	Received by _____													Preservative	

**Presumptive Certainty Data Package (Laboratory to use applicable DEP CAM methods)**

**Presumptive Certainty Data Package is needed, initial all sections:**  
 The required minimum field QC samples, as designated in BWSC CAM-VII have been or will be collected, as appropriate, to meet the requirements of Presumptive Certainty.  
 Matrix Spike (MS) samples for MCP Metals and/or Cyanide are included and identified herein.  
 This Chain of Custody Record (specify) \_\_\_\_\_ includes \_\_\_\_\_ does not include samples defined as Drinking Water Samples.  
 If this Chain of Custody Record identifies samples defined as Drinking Water Samples, Trip Blanks and Field Duplicates are included and identified and analysis of TICs are required, as appropriate. Laboratory should (specify if applicable) \_\_\_\_\_ analyze \_\_\_\_\_ hold for contingency testing the Drinking Water Field Duplicate and Drinking Water Trip Blank samples.

**Required Reporting Limits and Data Quality Objectives**

<input type="checkbox"/> RC-S1	<input type="checkbox"/> S1	<input type="checkbox"/> GW1
<input type="checkbox"/> RC-S2	<input type="checkbox"/> S2	<input type="checkbox"/> GW2
<input type="checkbox"/> RC-GW1	<input type="checkbox"/> S3	<input type="checkbox"/> GW3
<input type="checkbox"/> RC-GW2		

ALPHA ANALYTICAL LABORATORIES

Eight Walkup Drive  
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(508) 898-9220 www.alphalab.com

MA:M-MA086 NH:200301-A CT:PH-0574 ME:MA086 RI:65 NY:11148 NJ:MA935 Army:USACE

CERTIFICATE OF ANALYSIS

Client: Haley & Aldrich, Inc. Laboratory Job Number: L0401095  
Address: 465 Medford Street, Suite 2200  
Boston, MA 02129-1400 Date Received: 09-FEB-2004  
Attn: Mr. Steve Provencal Date Reported: 12-FEB-2004  
Project Number: 30660-000 Delivery Method: Alpha  
Site: BURBANK SCHOOL OIL RELEASE

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The following questions pertain only to MCP Analytical Methods

An affirmative response to questions A,B,C & D is required for "Presumptive Certainty" status

- A. Were all samples received by the laboratory in a condition consistent with those described on their Chain-of-Custody documentation for the data set? YES
- B. Were all QA/QC procedures required for the specified analytical method(s) included in this report followed, including the requirement to note and discuss in a narrative QC data that did not meet appropriate performance standards or guidelines? YES
- C. Does the analytical data included in this report meet all the requirements for "Presumptive Certainty", as described in section 2.0 of the MADEP document CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data"? YES
- D. VPH and EPH methods only: Was the VPH or EPH method run without significant modifications, as specified in Section 11.3? YES

A response to questions E and F is required for "Presumptive Certainty" status

- E. Were all QC performance standards and recommendations for the specified method(s) achieved? YES
- F. Were results for all analyte-list compounds/elements for the specified method(s) reported? YES

Any answers of NO to the above questions are addressed in the case narrative.

---

I, the undersigned, attest under the pains and penalties of perjury that, based upon my personal inquiry of those responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

---

Authorized by: Scott McLean  
This document electronically signed

ALPHA ANALYTICAL LABORATORIES

Laboratory Job Number: L0401095  
Date Reported: 12-FEB-2004

---

ALPHA SAMPLE NUMBER	CLIENT IDENTIFICATION	SAMPLE LOCATION
L0401095-01	ESW1-S3	BELMONT, MA

ALPHA ANALYTICAL LABORATORIES  
NARRATIVE REPORT

Laboratory Job Number: L0401095

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MCP Related Narratives

Extraction methods

Extraction method 3545 was used as the extraction method for the analysis of EPH by method 98-1.

VPH

L0401095-01 has elevated limits of detection due to the dilutions required by the elevated concentrations of target compounds in the sample.

EPH

L0401095-01 has elevated limits of detection due to the 10x dilution required by the elevated concentrations of target compounds in the sample.



ALPHA ANALYTICAL LABORATORIES  
CERTIFICATE OF ANALYSIS

Laboratory Sample Number: L0401095-01  
ESW1-S3

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	

Volatile Petroleum Hydrocarbons	47 98-1	0210 21:10 MM
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Quality Control Information

Condition of sample received:	Satisfactory	
Sample temperature upon receipt:	Received on Ice	
Were samples received in methanol?	Covering the Soil	
Methanol ratio:	1:1 +/- 25%	
Were all QA/QC procedures REQUIRED by the method followed?		YES
Were all performance/acceptance standards for the required procedures achieved?		YES
Were significant modifications made to the method as specified in Sect 11.3?		NO
Please note to subtract the method blank from the stated result.		
The normal acceptance range for the surrogate, 2,5-Dibromotoluene, is 70-130%.		

C5-C8 Aliphatics, Unadjusted	351.	mg/kg	39.2
C9-C12 Aliphatics, Unadjusted	2980	mg/kg	39.2
C9-C10 Aromatics	1430	mg/kg	39.2
C5-C8 Aliphatics, Adjusted	343.	mg/kg	39.2
C9-C12 Aliphatics, Adjusted	1490	mg/kg	39.2
Benzene	ND	mg/kg	1.96
Toluene	8.28	mg/kg	1.96
Ethylbenzene	11.4	mg/kg	1.96
p/m-Xylene	28.6	mg/kg	1.96
o-Xylene	18.9	mg/kg	1.96
Methyl tert butyl ether	ND	mg/kg	3.92
Naphthalene	80.6	mg/kg	19.6

Surrogate(s)	Recovery		QC Criteria
2,5-Dibromotoluene-PID	96.0	%	70-130
2,5-Dibromotoluene-FID	95.0	%	70-130

Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES  
CERTIFICATE OF ANALYSIS

Laboratory Sample Number: L0401095-01  
ESW1-S3

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	

Extractable Petroleum Hydrocarbons				46 98-1		0210 18:50	0212 10:14 LL
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Quality Control Information

Condition of sample received:	Satisfactory	
Sample temperature upon receipt:	Received on Ice	
Sample extraction method:	Extracted Per the Method	
Were all QA/QC procedures REQUIRED by the method followed?		YES
Were all performance/acceptance standards for the required procedures achieved?		YES
Were significant modifications made to the method as specified in Sect 11.3?		NO
Please note to subtract the method blank from the stated result.		
The normal acceptance range for the extraction surrogates, Chloro-octadecane and o-Terphenyl, is 40-140%.		
The normal acceptance range for the fractionation surrogates, 2-Fluorobiphenyl and 2-Bromonaphthalene, is 40-140%.		

C9-C18 Aliphatics	9480	mg/kg	106.
C19-C36 Aliphatics	6260	mg/kg	106.
C11-C22 Aromatics, Unadjusted	8000	mg/kg	106.
C11-C22 Aromatics, Adjusted	7720	mg/kg	106.
Naphthalene	44.6	mg/kg	5.32
2-Methylnaphthalene	163.	mg/kg	5.32
Acenaphthylene	ND	mg/kg	5.32
Acenaphthene	ND	mg/kg	5.32
Fluorene	10.1	mg/kg	5.32
Phenanthrene	39.7	mg/kg	5.32
Anthracene	ND	mg/kg	5.32
Fluoranthene	ND	mg/kg	5.32
Pyrene	7.89	mg/kg	5.32
Benzo(a)anthracene	8.31	mg/kg	5.32
Chrysene	10.7	mg/kg	5.32
Benzo(b)fluoranthene	ND	mg/kg	5.32
Benzo(k)fluoranthene	ND	mg/kg	5.32
Benzo(a)pyrene	ND	mg/kg	5.32
Indeno(1,2,3-cd)Pyrene	ND	mg/kg	5.32
Dibenzo(a,h)anthracene	ND	mg/kg	5.32
Benzo(g,h,i)perylene	ND	mg/kg	5.32

Surrogate(s)	Recovery		QC Criteria
Chloro-Octadecane	65.0	%	40-140
o-Terphenyl	97.0	%	40-140
2-Fluorobiphenyl	117.	%	40-140
2-Bromonaphthalene	90.0	%	40-140

Comments: Complete list of References and Glossary of Terms found in Addendum I



ALPHA ANALYTICAL LABORATORIES  
QUALITY ASSURANCE BATCH DUPLICATE ANALYSIS

Laboratory Job Number: L0401095

Parameter	Value 1	Value 2	Units	RPD	RPD Limits
Solids, Total for sample(s) 01 (L0401094-01, WG162656)					
Solids, Total	92.	92.	%	0	
Volatile Petroleum Hydrocarbons for sample(s) 01 (L0401096-03, WG162744)					
C5-C8 Aliphatics	6.18	6.70	mg/kg	8	50
C9-C12 Aliphatics	147.	138.	mg/kg	6	50
C9-C10 Aromatics	77.8	76.4	mg/kg	2	50
C5-C8 Aliphatics, Adjusted	6.18	6.70	mg/kg	8	50
C9-C12 Aliphatics, Adjusted	68.8	61.4	mg/kg	11	50
Benzene	ND	ND	mg/kg	NC	50
Toluene	ND	ND	mg/kg	NC	50
Ethylbenzene	ND	ND	mg/kg	NC	50
p/m-Xylene	ND	ND	mg/kg	NC	50
o-Xylene	ND	ND	mg/kg	NC	50
Methyl tert butyl ether	ND	ND	mg/kg	NC	50
Naphthalene	ND	ND	mg/kg	NC	50
Surrogate(s) Recovery QC Criteria					
2,5-Dibromotoluene-PID	93.0	96.0	%	3	70-130
2,5-Dibromotoluene-FID	93.0	98.0	%	5	70-130
Extractable Petroleum Hydrocarbons for sample(s) 01 (L0401095-01, WG162780)					
C9-C18 Aliphatics	9480	8900	mg/kg	6	50
C19-C36 Aliphatics	6260	5800	mg/kg	8	50
C11-C22 Aromatics	8000	7850	mg/kg	2	50
C11-C22 Aromatics, Adjusted	7720	7570	mg/kg	2	50
Naphthalene	44.6	46.8	mg/kg	5	50
2-Methylnaphthalene	163.	158.	mg/kg	3	50
Acenaphthylene	ND	ND	mg/kg	NC	50
Acenaphthene	ND	ND	mg/kg	NC	50
Fluorene	10.1	9.73	mg/kg	4	50
Phenanthrene	39.7	35.8	mg/kg	10	50
Anthracene	ND	ND	mg/kg	NC	50
Fluoranthene	ND	ND	mg/kg	NC	50
Pyrene	7.89	7.71	mg/kg	2	50
Benzo(a)anthracene	8.31	8.41	mg/kg	1	50
Chrysene	10.7	10.2	mg/kg	5	50
Benzo(b)fluoranthene	ND	ND	mg/kg	NC	50
Benzo(k)fluoranthene	ND	ND	mg/kg	NC	50
Benzo(a)pyrene	ND	ND	mg/kg	NC	50
Indeno(1,2,3-cd)Pyrene	ND	ND	mg/kg	NC	50
Dibenzo(a,h)anthracene	ND	ND	mg/kg	NC	50
Benzo(ghi)perylene	ND	ND	mg/kg	NC	50
Surrogate(s) Recovery QC Criteria					
Chloro-Octadecane	65.0	45.0	%	36	40-140
o-Terphenyl	97.0	99.0	%	2	40-140
2-Fluorobiphenyl	117.	173.	%	39	40-140
2-Bromonaphthalene	90.0	91.0	%	1	40-140

ALPHA ANALYTICAL LABORATORIES  
QUALITY ASSURANCE BATCH SPIKE ANALYSES

Laboratory Job Number: L0401095

Parameter	% Recovery	QC Criteria
Volatile Petroleum Hydrocarbons LCS for sample(s) 01 (WG162744)		
Benzene	94	70-130
Toluene	90	70-130
Ethylbenzene	88	70-130
p/m-Xylene	88	70-130
o-Xylene	90	70-130
Methyl tert butyl ether	86	70-130
Naphthalene	97	70-130
Surrogate(s)		
2,5-Dibromotoluene-PID	98	70-130
2,5-Dibromotoluene-FID	96	70-130
Extractable Petroleum Hydrocarbons LCS for sample(s) 01 (WG162780)		
Naphthalene	42	40-140
Acenaphthene	51	40-140
Anthracene	68	40-140
Pyrene	79	40-140
Chrysene	80	40-140
Nonane (C9)	43	40-140
Tetradecane (C14)	56	40-140
Nonadecane (C19)	76	40-140
Eicosane (C20)	78	40-140
Octacosane (C28)	76	40-140
Surrogate(s)		
Chloro-Octadecane	53	40-140
o-Terphenyl	75	40-140
2-Fluorobiphenyl	60	40-140
2-Bromonaphthalene	59	40-140

ALPHA ANALYTICAL LABORATORIES  
 QUALITY ASSURANCE BATCH BLANK ANALYSIS

Laboratory Job Number: L0401095

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Blank Analysis for sample(s) 01 (WG162744-3)							
Volatile Petroleum Hydrocarbons <span style="float: right;">47 98-1 <span style="margin-left: 100px;">0210 09:24 MM</span></span>							
C5-C8 Aliphatics, Unadjusted	ND	mg/kg	2.00				
C9-C12 Aliphatics, Unadjusted	ND	mg/kg	2.00				
C9-C10 Aromatics	ND	mg/kg	2.00				
C5-C8 Aliphatics, Adjusted	ND	mg/kg	2.00				
C9-C12 Aliphatics, Adjusted	ND	mg/kg	2.00				
Benzene	ND	mg/kg	0.100				
Toluene	ND	mg/kg	0.100				
Ethylbenzene	ND	mg/kg	0.100				
p/m-Xylene	ND	mg/kg	0.100				
o-Xylene	ND	mg/kg	0.100				
Methyl tert butyl ether	ND	mg/kg	0.200				
Naphthalene	ND	mg/kg	1.00				
Surrogate(s) <span style="float: right;">QC Criteria</span>							
2,5-Dibromotoluene-PID	106.	%	70-130				
2,5-Dibromotoluene-FID	103.	%	70-130				
Blank Analysis for sample(s) 01 (WG162780-1)							
Extractable Petroleum Hydrocarbons <span style="float: right;">46 98-1 <span style="margin-left: 100px;">0210 18:50 0211 21:10 LL</span></span>							
C9-C18 Aliphatics	ND	mg/kg	20.0				
C19-C36 Aliphatics	ND	mg/kg	20.0				
C11-C22 Aromatics, Unadjusted	ND	mg/kg	20.0				
C11-C22 Aromatics, Adjusted	ND	mg/kg	20.0				
Naphthalene	ND	mg/kg	1.00				
2-Methylnaphthalene	ND	mg/kg	1.00				
Acenaphthylene	ND	mg/kg	1.00				
Acenaphthene	ND	mg/kg	1.00				
Fluorene	ND	mg/kg	1.00				
Phenanthrene	ND	mg/kg	1.00				
Anthracene	ND	mg/kg	1.00				
Fluoranthene	ND	mg/kg	1.00				
Pyrene	ND	mg/kg	1.00				
Benzo(a)anthracene	ND	mg/kg	1.00				
Chrysene	ND	mg/kg	1.00				
Benzo(b)fluoranthene	ND	mg/kg	1.00				
Benzo(k)fluoranthene	ND	mg/kg	1.00				
Benzo(a)pyrene	ND	mg/kg	1.00				
Indeno(1,2,3-cd)Pyrene	ND	mg/kg	1.00				
Dibenzo(a,h)anthracene	ND	mg/kg	1.00				
Benzo(g,h,i)perylene	ND	mg/kg	1.00				
Surrogate(s) <span style="float: right;">QC Criteria</span>							
Chloro-Octadecane	53.0	%	40-140				
o-Terphenyl	69.0	%	40-140				
2-Fluorobiphenyl	69.0	%	40-140				
2-Bromonaphthalene	65.0	%	40-140				

ALPHA ANALYTICAL LABORATORIES  
ADDENDUM I

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REFERENCES

30. Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WPCF. 18th Edition. 1992.
46. Method for the Determination of Extractable Petroleum Hydrocarbons (EPH), Massachusetts Department of Environmental Protection, (MADEP-EPH-98-1), January 1998.
47. Method for the Determination of Volatile Petroleum Hydrocarbons (VPH), Massachusetts Department of Environmental Protection, (MADEP-VPH-98-1), January 1998.

GLOSSARY OF TERMS AND SYMBOLS

REF Reference number in which test method may be found.  
METHOD Method number by which analysis was performed.  
ID Initials of the analyst.  
ND Not detected in comparison to the reported detection limit.

Please note that all solid samples are reported on dry weight basis unless noted otherwise.

LIMITATION OF LIABILITIES

Alpha Analytical, Inc. performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical, Inc., shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical, Inc. be held liable for any incidental consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical, Inc.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding times and splitting of samples in the field.

ALPHA ANALYTICAL LABORATORIES  
LOGIN SPECIFIC INFORMATION

Laboratory Job Number: L0401095

---

Were project specific reporting limits specified? YES

Cooler Information

Cooler	Custody Seal
A	Absent

---

Container Information

Container ID	Container Type	Cooler	pH	Temp	Pres	Seal	Analysis
L0401095-01A	Vial MeOH preserved	A	NA	0.4 C	Y	Absent	VPH-DELUX
L0401095-01B	Amber 100ml unpreserved	A	NA	0.4 C	Y	Absent	EPH-DELUX, TS

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Container Comments

Container ID	Comments
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# CHAIN OF CUSTODY RECORD

H&A FILE NO. Oil  
 PROJECT NAME Drinking Water Revises  
 H&A CONTACT MAT COMBS  
 LABORATORY ALPHA  
 ADDRESS  
 CONTACT  
 DELIVERY DATE  
 TURNAROUND TIME 2.3 DAY  
 PROJECT MANAGER John Morley

Sample No.	Date	Time	Depth	Type	Analysis Requested										Number of Containers	Comments (special instructions, precautions, additional method numbers, etc.)								
					VOA	ABNs	MCP Metals	Pesticides	PCBs	BPA	Full Suite	C-ranges only	TPH (specify)	TCLP (specify)			Reactivity	Ignitability	Corrosivity					
ESW1-S3	2/19/04	1000	7	50/L																				Laboratory to use applicable DEP CAM methods, unless otherwise directed. QX2 EPH/UPH AND TARGET ANALYTES
LIQUID																								
SOLID																								
PRESERVATION KEY																								
A Sample chilled C NaOH E H <sub>2</sub> SO <sub>4</sub> G Methanol																								
B Sample filtered D HNO <sub>3</sub> F HCL II Water/NaHSO <sub>4</sub> (circle)																								

**Received by**  
 Sign [Signature]  
 Print Todd Butler  
 Firm HF IT  
 Date 2/19/04 Time 1740

**Relinquished by**  
 Sign [Signature]  
 Print Alpha  
 Firm Alpha  
 Date 2/19/04 Time 1955

**Received by**  
 Sign  
 Print  
 Firm  
 Date  
 Time

**Relinquished by**  
 Sign  
 Print  
 Firm  
 Date  
 Time

**Presumptive Certainty Data Package (Laboratory to use applicable DEP CAM methods)**

**Required Reporting Limits and Data Quality Objectives**

RC-S1  S1  GW1   
 RC-S2  S2  GW2   
 RC-GW1  S3  GW3   
 RC-GW2

**Evidence samples were tampered with? YES NO**  
 If YES, please explain in section below.

**If Presumptive Certainty Data Package is needed, initial all sections:**  
 The required minimum field QC samples, as designated in BWSC CAM-VII have been or will be collected, as appropriate, to meet the requirements of Presumptive Certainty.  
 Matrix Spike (MS) samples for MCP Metals and/or Cyanide are included and identified herein.  
 This Chain of Custody Record (specify) \_\_\_\_\_ includes \_\_\_\_\_ does not include samples defined as Drinking Water Samples.  
 If this Chain of Custody Record identifies samples defined as Drinking Water Samples, Trip Blanks and Field Duplicates are included and identified and analysis of TICs are required, as appropriate. Laboratory should (specify if applicable) \_\_\_\_\_ analyze \_\_\_\_\_ hold for contingency testing the Drinking Water Field Duplicate and Drinking Water Trip Blank samples.

ALPHA ANALYTICAL LABORATORIES

Eight Walkup Drive  
Westborough, Massachusetts 01581-1019  
(508) 898-9220 www.alphalab.com

MA:M-MA086 NH:200301-A CT:PH-0574 ME:MA086 RI:65 NY:11148 NJ:MA935 Army:USACE

CERTIFICATE OF ANALYSIS

Client: Haley & Aldrich, Inc. Laboratory Job Number: L0401138  
Address: 465 Medford Street, Suite 2200  
Boston, MA 02129-1400 Date Received: 10-FEB-2004  
Attn: Mr. Steve Provencal Date Reported: 13-FEB-2004  
Project Number: 30660-000 Delivery Method: Alpha  
Site: BURBANK SCHOOL OIL RELEASE

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The following questions pertain only to MCP Analytical Methods

An affirmative response to questions A,B,C & D is required for "Presumptive Certainty" status

- A. Were all samples received by the laboratory in a condition consistent with those described on their Chain-of-Custody documentation for the data set? YES
- B. Were all QA/QC procedures required for the specified analytical method(s) included in this report followed, including the requirement to note and discuss in a narrative QC data that did not meet appropriate performance standards or guidelines? YES
- C. Does the analytical data included in this report meet all the requirements for "Presumptive Certainty", as described in section 2.0 of the MADEP document CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data"? YES
- D. VPH and EPH methods only: Was the VPH or EPH method run without significant modifications, as specified in Section 11.3? YES

A response to questions E and F is required for "Presumptive Certainty" status

- E. Were all QC performance standards and recommendations for the specified method(s) achieved? YES
- F. Were results for all analyte-list compounds/elements for the specified method(s) reported? YES

Any answers of NO to the above questions are addressed in the case narrative.

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I, the undersigned, attest under the pains and penalties of perjury that, based upon my personal inquiry of those responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

---

Authorized by: Scott McLean

This document electronically signed

ALPHA ANALYTICAL LABORATORIES

Laboratory Job Number: L0401138  
Date Reported: 13-FEB-2004

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ALPHA SAMPLE NUMBER	CLIENT IDENTIFICATION	SAMPLE LOCATION
L0401138-01	BOT2-S1	BELMONT, MA
L0401138-02	ESW2-S2	BELMONT, MA
L0401138-03	WSW2-S2	BELMONT, MA
L0401138-04	NSW1-S1	BELMONT, MA



ALPHA ANALYTICAL LABORATORIES  
NARRATIVE REPORT

Laboratory Job Number: L0401138

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MCP Related Narratives

Extraction methods

Extraction method 3545 was used as the extraction method for the analysis of EPH by method 98-1.

Report Submission

All MCP required questions were answered with affirmative responses, therefore, there are no relevant data issues to discuss.



ALPHA ANALYTICAL LABORATORIES  
CERTIFICATE OF ANALYSIS

Laboratory Sample Number: L0401138-01  
BOT2-S1

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	

Volatile Petroleum Hydrocarbons	47 98-1				0211 14:57 MM	
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Quality Control Information

Condition of sample received:	Satisfactory	
Sample temperature upon receipt:	Received on Ice	
Were samples received in methanol?	Covering the Soil	
Methanol ratio:	1:1 +/- 25%	
Were all QA/QC procedures REQUIRED by the method followed?		YES
Were all performance/acceptance standards for the required procedures achieved?		YES
Were significant modifications made to the method as specified in Sect 11.3?		NO
Please note to subtract the method blank from the stated result.		
The normal acceptance range for the surrogate, 2,5-Dibromotoluene, is 70-130%.		

C5-C8 Aliphatics, Unadjusted	ND	mg/kg	2.32	
C9-C12 Aliphatics, Unadjusted	ND	mg/kg	2.32	
C9-C10 Aromatics	ND	mg/kg	2.32	
C5-C8 Aliphatics, Adjusted	ND	mg/kg	2.32	
C9-C12 Aliphatics, Adjusted	ND	mg/kg	2.32	
Benzene	ND	mg/kg	0.116	
Toluene	ND	mg/kg	0.116	
Ethylbenzene	ND	mg/kg	0.116	
p/m-Xylene	ND	mg/kg	0.116	
o-Xylene	ND	mg/kg	0.116	
Methyl tert butyl ether	ND	mg/kg	0.232	
Naphthalene	ND	mg/kg	1.16	

Surrogate(s)	Recovery			QC Criteria
2,5-Dibromotoluene-PID	92.0	%		70-130
2,5-Dibromotoluene-FID	103.	%		70-130

Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES  
CERTIFICATE OF ANALYSIS

Laboratory Sample Number: L0401138-01  
BOT2-S1

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	

Extractable Petroleum Hydrocarbons	46 98-1	0210 18:50 0211 23:37 LL
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Quality Control Information

Condition of sample received:	Satisfactory	
Sample temperature upon receipt:	Received on Ice	
Sample extraction method:	Extracted Per the Method	
Were all QA/QC procedures REQUIRED by the method followed?		YES
Were all performance/acceptance standards for the required procedures achieved?		YES
Were significant modifications made to the method as specified in Sect 11.3?		NO

Please note to subtract the method blank from the stated result.  
The normal acceptance range for the extraction surrogates, Chloro-octadecane and o-Terphenyl, is 40-140%.  
The normal acceptance range for the fractionation surrogates, 2-Fluorobiphenyl and 2-Bromonaphthalene, is 40-140%.

C9-C18 Aliphatics	ND	mg/kg	12.2
C19-C36 Aliphatics	ND	mg/kg	12.2
C11-C22 Aromatics, Unadjusted	ND	mg/kg	12.2
C11-C22 Aromatics, Adjusted	ND	mg/kg	12.2
Naphthalene	ND	mg/kg	0.610
2-Methylnaphthalene	ND	mg/kg	0.610
Acenaphthylene	ND	mg/kg	0.610
Acenaphthene	ND	mg/kg	0.610
Fluorene	ND	mg/kg	0.610
Phenanthrene	ND	mg/kg	0.610
Anthracene	ND	mg/kg	0.610
Fluoranthene	ND	mg/kg	0.610
Pyrene	ND	mg/kg	0.610
Benzo (a) anthracene	ND	mg/kg	0.610
Chrysene	ND	mg/kg	0.610
Benzo (b) fluoranthene	ND	mg/kg	0.610
Benzo (k) fluoranthene	ND	mg/kg	0.610
Benzo (a) pyrene	ND	mg/kg	0.610
Indeno (1, 2, 3 -cd) Pyrene	ND	mg/kg	0.610
Dibenzo (a, h) anthracene	ND	mg/kg	0.610
Benzo (g, h, i) perylene	ND	mg/kg	0.610

Surrogate (s)	Recovery		QC Criteria
Chloro-Octadecane	47.0	%	40-140
o-Terphenyl	74.0	%	40-140
2-Fluorobiphenyl	67.0	%	40-140
2-Bromonaphthalene	65.0	%	40-140

Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES  
CERTIFICATE OF ANALYSIS

MA:M-MA086 NH:200301-A CT:PH-0574 ME:MA086 RI:65 NY:11148 NJ:MA935 Army:USACE

Laboratory Sample Number: L0401138-02

ESW2-S2

Sample Matrix:

SOIL

Date Collected: 10-FEB-2004 11:15

Date Received : 10-FEB-2004

Date Reported : 13-FEB-2004

Condition of Sample: Satisfactory

Field Prep: None

Number & Type of Containers: 1-Amber,1-Vial

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE PREP ANAL	ID
Solids, Total	80.	%	0.10	30 2540G	0210 22:00	LK

Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES  
CERTIFICATE OF ANALYSIS

Laboratory Sample Number: L0401138-02  
ESW2-S2

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	

Volatile Petroleum Hydrocarbons 47 98-1 0211 15:48 MM

Quality Control Information

Condition of sample received:	Satisfactory	
Sample temperature upon receipt:	Received on Ice	
Were samples received in methanol?	Covering the Soil	
Methanol ratio:	1:1 +/- 25%	
Were all QA/QC procedures REQUIRED by the method followed?		YES
Were all performance/acceptance standards for the required procedures achieved?		YES
Were significant modifications made to the method as specified in Sect 11.3?		NO
Please note to subtract the method blank from the stated result.		
The normal acceptance range for the surrogate, 2,5-Dibromotoluene, is 70-130%.		

C5-C8 Aliphatics, Unadjusted	ND	mg/kg	2.72	
C9-C12 Aliphatics, Unadjusted	8.58	mg/kg	2.72	
C9-C10 Aromatics	4.91	mg/kg	2.72	
C5-C8 Aliphatics, Adjusted	ND	mg/kg	2.72	
C9-C12 Aliphatics, Adjusted	3.67	mg/kg	2.72	
Benzene	ND	mg/kg	0.136	
Toluene	ND	mg/kg	0.136	
Ethylbenzene	ND	mg/kg	0.136	
p/m-Xylene	ND	mg/kg	0.136	
o-Xylene	ND	mg/kg	0.136	
Methyl tert butyl ether	ND	mg/kg	0.272	
Naphthalene	ND	mg/kg	1.36	

Surrogate(s)	Recovery		QC Criteria	
2,5-Dibromotoluene-PID	97.0	%	70-130	
2,5-Dibromotoluene-FID	101.	%	70-130	

Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES  
CERTIFICATE OF ANALYSIS

Laboratory Sample Number: L0401138-02  
ESW2-S2

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE PREP    ANAL	ID
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Extractable Petroleum Hydrocarbons	46 98-1	0210 18:50 0212 00:26 LL
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Quality Control Information

Condition of sample received:	Satisfactory	
Sample temperature upon receipt:	Received on Ice	
Sample extraction method:	Extracted Per the Method	
Were all QA/QC procedures REQUIRED by the method followed?		YES
Were all performance/acceptance standards for the required procedures achieved?		YES
Were significant modifications made to the method as specified in Sect 11.3?		NO
Please note to subtract the method blank from the stated result.		
The normal acceptance range for the extraction surrogates, Chloro-octadecane and o-Terphenyl, is 40-140%.		
The normal acceptance range for the fractionation surrogates, 2-Fluorobiphenyl and 2-Bromonaphthalene, is 40-140%.		

C9-C18 Aliphatics	29.9	mg/kg	12.5
C19-C36 Aliphatics	33.4	mg/kg	12.5
C11-C22 Aromatics, Unadjusted	34.7	mg/kg	12.5
C11-C22 Aromatics, Adjusted	34.7	mg/kg	12.5
Naphthalene	ND	mg/kg	0.625
2-Methylnaphthalene	ND	mg/kg	0.625
Acenaphthylene	ND	mg/kg	0.625
Acenaphthene	ND	mg/kg	0.625
Fluorene	ND	mg/kg	0.625
Phenanthrene	ND	mg/kg	0.625
Anthracene	ND	mg/kg	0.625
Fluoranthene	ND	mg/kg	0.625
Pyrene	ND	mg/kg	0.625
Benzo (a) anthracene	ND	mg/kg	0.625
Chrysene	ND	mg/kg	0.625
Benzo (b) fluoranthene	ND	mg/kg	0.625
Benzo (k) fluoranthene	ND	mg/kg	0.625
Benzo (a) pyrene	ND	mg/kg	0.625
Indeno (1, 2, 3-cd) Pyrene	ND	mg/kg	0.625
Dibenzo (a, h) anthracene	ND	mg/kg	0.625
Benzo (g, h, i) perylene	ND	mg/kg	0.625

Surrogate (s)	Recovery		QC Criteria
Chloro-Octadecane	56.0	%	40-140
o-Terphenyl	71.0	%	40-140
2-Fluorobiphenyl	69.0	%	40-140
2-Bromonaphthalene	67.0	%	40-140

Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES  
CERTIFICATE OF ANALYSIS

MA:M-MA086 NH:200301-A CT:PH-0574 ME:MA086 RI:65 NY:11148 NJ:MA935 Army:USACE

Laboratory Sample Number: L0401138-03

Date Collected: 10-FEB-2004 11:20

WSW2-S2

Date Received : 10-FEB-2004

Sample Matrix:

SOIL

Date Reported : 13-FEB-2004

Condition of Sample: Satisfactory

Field Prep: None

Number & Type of Containers: 1-Amber,1-Vial

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Solids, Total	79.	%	0.10	30 2540G		0210 22:00	LK

Comments: Complete list of References and Glossary of Terms found in Addendum I



ALPHA ANALYTICAL LABORATORIES  
CERTIFICATE OF ANALYSIS

Laboratory Sample Number: L0401138-03  
WSW2-S2

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	

Volatile Petroleum Hydrocarbons	47 98-1	0211 16:39 MM
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Quality Control Information

Condition of sample received:	Satisfactory
Sample temperature upon receipt:	Received on Ice
Were samples received in methanol?	Covering the Soil
Methanol ratio:	1:1 +/- 25%
Were all QA/QC procedures REQUIRED by the method followed?	YES
Were all performance/acceptance standards for the required procedures achieved?	YES
Were significant modifications made to the method as specified in Sect 11.3?	NO

Please note to subtract the method blank from the stated result.  
The normal acceptance range for the surrogate, 2,5-Dibromotoluene, is 70-130%.

C5-C8 Aliphatics, Unadjusted	ND	mg/kg	3.09
C9-C12 Aliphatics, Unadjusted	ND	mg/kg	3.09
C9-C10 Aromatics	ND	mg/kg	3.09
C5-C8 Aliphatics, Adjusted	ND	mg/kg	3.09
C9-C12 Aliphatics, Adjusted	ND	mg/kg	3.09
Benzene	ND	mg/kg	0.154
Toluene	ND	mg/kg	0.154
Ethylbenzene	ND	mg/kg	0.154
p/m-Xylene	ND	mg/kg	0.154
o-Xylene	ND	mg/kg	0.154
Methyl tert butyl ether	ND	mg/kg	0.309
Naphthalene	ND	mg/kg	1.54

Surrogate(s)	Recovery		QC Criteria
2,5-Dibromotoluene-PID	86.0	%	70-130
2,5-Dibromotoluene-FID	96.0	%	70-130

Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES  
CERTIFICATE OF ANALYSIS

Laboratory Sample Number: L0401138-03  
WSW2-S2

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	

Extractable Petroleum Hydrocarbons	46 98-1	0210 18:50	0212 01:15	LL
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Quality Control Information

Condition of sample received:	Satisfactory	
Sample temperature upon receipt:	Received on Ice	
Sample extraction method:	Extracted Per the Method	
Were all QA/QC procedures REQUIRED by the method followed?		YES
Were all performance/acceptance standards for the required procedures achieved?		YES
Were significant modifications made to the method as specified in Sect 11.3?		NO

Please note to subtract the method blank from the stated result.  
The normal acceptance range for the extraction surrogates, Chloro-octadecane and o-Terphenyl, is 40-140%.  
The normal acceptance range for the fractionation surrogates, 2-Fluorobiphenyl and 2-Bromonaphthalene, is 40-140%.

C9-C18 Aliphatics	ND	mg/kg	12.6
C19-C36 Aliphatics	16.7	mg/kg	12.6
C11-C22 Aromatics, Unadjusted	ND	mg/kg	12.6
C11-C22 Aromatics, Adjusted	ND	mg/kg	12.6
Naphthalene	ND	mg/kg	0.633
2-Methylnaphthalene	ND	mg/kg	0.633
Acenaphthylene	ND	mg/kg	0.633
Acenaphthene	ND	mg/kg	0.633
Fluorene	ND	mg/kg	0.633
Phenanthrene	ND	mg/kg	0.633
Anthracene	ND	mg/kg	0.633
Fluoranthene	ND	mg/kg	0.633
Pyrene	ND	mg/kg	0.633
Benzo (a) anthracene	ND	mg/kg	0.633
Chrysene	ND	mg/kg	0.633
Benzo (b) fluoranthene	ND	mg/kg	0.633
Benzo (k) fluoranthene	ND	mg/kg	0.633
Benzo (a) pyrene	ND	mg/kg	0.633
Indeno (1,2,3-cd) Pyrene	ND	mg/kg	0.633
Dibenzo (a,h) anthracene	ND	mg/kg	0.633
Benzo (g,h,i) perylene	ND	mg/kg	0.633

Surrogate (s)	Recovery		QC Criteria
Chloro-Octadecane	41.0	%	40-140
o-Terphenyl	63.0	%	40-140
2-Fluorobiphenyl	63.0	%	40-140
2-Bromonaphthalene	62.0	%	40-140

Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES  
CERTIFICATE OF ANALYSIS

MA:M-MA086 NH:200301-A CT:PH-0574 ME:MA086 RI:65 NY:11148 NJ:MA935 Army:USACE

Laboratory Sample Number: L0401138-04                    Date Collected: 10-FEB-2004 12:00  
  NSW1-S1                                      Date Received : 10-FEB-2004  
Sample Matrix:    SOIL    Date Reported : 13-FEB-2004  
Condition of Sample:                Satisfactory                                      Field Prep:            None  
Number & Type of Containers: 1-Amber,1-Vial

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PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Solids, Total	78.	%	0.10	30 2540G		0210 22:00	LK

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Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES  
CERTIFICATE OF ANALYSIS

Laboratory Sample Number: L0401138-04  
NSW1-S1

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Volatile Petroleum Hydrocarbons				47 98-1		0211 17:29 MM	

Quality Control Information

Condition of sample received:	Satisfactory	
Sample temperature upon receipt:	Received on Ice	
Were samples received in methanol?	Covering the Soil	
Methanol ratio:	1:1 +/- 25%	
Were all QA/QC procedures REQUIRED by the method followed?		YES
Were all performance/acceptance standards for the required procedures achieved?		YES
Were significant modifications made to the method as specified in Sect 11.3?		NO
Please note to subtract the method blank from the stated result.		
The normal acceptance range for the surrogate, 2,5-Dibromotoluene, is 70-130%.		

C5-C8 Aliphatics, Unadjusted	ND	mg/kg	3.29
C9-C12 Aliphatics, Unadjusted	ND	mg/kg	3.29
C9-C10 Aromatics	ND	mg/kg	3.29
C5-C8 Aliphatics, Adjusted	ND	mg/kg	3.29
C9-C12 Aliphatics, Adjusted	ND	mg/kg	3.29
Benzene	ND	mg/kg	0.164
Toluene	ND	mg/kg	0.164
Ethylbenzene	ND	mg/kg	0.164
p/m-Xylene	ND	mg/kg	0.164
o-Xylene	ND	mg/kg	0.164
Methyl tert butyl ether	ND	mg/kg	0.329
Naphthalene	ND	mg/kg	1.64
Surrogate(s)	Recovery		QC Criteria
2,5-Dibromotoluene-PID	93.0	%	70-130
2,5-Dibromotoluene-FID	99.0	%	70-130

Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES  
CERTIFICATE OF ANALYSIS

Laboratory Sample Number: L0401138-04  
NSW1-S1

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	

Extractable Petroleum Hydrocarbons			46 98-1		0210 18:50	0212 02:04	LL
------------------------------------	--	--	---------	--	------------	------------	----

Quality Control Information

Condition of sample received:	Satisfactory	
Sample temperature upon receipt:	Received on Ice	
Sample extraction method:	Extracted Per the Method	
Were all QA/QC procedures REQUIRED by the method followed?		YES
Were all performance/acceptance standards for the required procedures achieved?		YES
Were significant modifications made to the method as specified in Sect 11.3?		NO
Please note to subtract the method blank from the stated result.		
The normal acceptance range for the extraction surrogates, Chloro-octadecane and o-Terphenyl, is 40-140%.		
The normal acceptance range for the fractionation surrogates, 2-Fluorobiphenyl and 2-Bromonaphthalene, is 40-140%.		

C9-C18 Aliphatics	ND	mg/kg	12.8
C19-C36 Aliphatics	ND	mg/kg	12.8
C11-C22 Aromatics, Unadjusted	ND	mg/kg	12.8
C11-C22 Aromatics, Adjusted	ND	mg/kg	12.8
Naphthalene	ND	mg/kg	0.641
2-Methylnaphthalene	ND	mg/kg	0.641
Acenaphthylene	ND	mg/kg	0.641
Acenaphthene	ND	mg/kg	0.641
Fluorene	ND	mg/kg	0.641
Phenanthrene	ND	mg/kg	0.641
Anthracene	ND	mg/kg	0.641
Fluoranthene	ND	mg/kg	0.641
Pyrene	ND	mg/kg	0.641
Benzo(a)anthracene	ND	mg/kg	0.641
Chrysene	ND	mg/kg	0.641
Benzo(b)fluoranthene	ND	mg/kg	0.641
Benzo(k)fluoranthene	ND	mg/kg	0.641
Benzo(a)pyrene	ND	mg/kg	0.641
Indeno(1,2,3-cd)Pyrene	ND	mg/kg	0.641
Dibenzo(a,h)anthracene	ND	mg/kg	0.641
Benzo(g,h,i)perylene	ND	mg/kg	0.641
Surrogate(s)	Recovery		QC Criteria
Chloro-Octadecane	47.0	%	40-140
o-Terphenyl	70.0	%	40-140
2-Fluorobiphenyl	71.0	%	40-140
2-Bromonaphthalene	69.0	%	40-140

Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES  
 QUALITY ASSURANCE BATCH DUPLICATE ANALYSIS

Laboratory Job Number: L0401138

Parameter	Value 1	Value 2	Units	RPD	RPD Limits
Solids, Total for sample(s) 01-04 (L0401131-01, WG162729)					
Solids, Total	86.	86.	%	0	
Volatile Petroleum Hydrocarbons for sample(s) 01-04 (L0401013-01, WG162579)					
C5-C8 Aliphatics	ND	ND	mg/kg	NC	50
C9-C12 Aliphatics	ND	ND	mg/kg	NC	50
C9-C10 Aromatics	ND	ND	mg/kg	NC	50
C5-C8 Aliphatics, Adjusted	ND	ND	mg/kg	NC	50
C9-C12 Aliphatics, Adjusted	ND	ND	mg/kg	NC	50
Benzene	ND	ND	mg/kg	NC	50
Toluene	ND	ND	mg/kg	NC	50
Ethylbenzene	ND	ND	mg/kg	NC	50
p/m-Xylene	ND	ND	mg/kg	NC	50
o-Xylene	ND	ND	mg/kg	NC	50
Methyl tert butyl ether	ND	ND	mg/kg	NC	50
Naphthalene	ND	ND	mg/kg	NC	50
Surrogate(s)	Recovery				QC Criteria
2,5-Dibromotoluene-PID	110.	97.0	%	13	70-130
2,5-Dibromotoluene-FID	104.	98.0	%	6	70-130
Extractable Petroleum Hydrocarbons for sample(s) 01-04 (L0401138-01, WG162781)					
C9-C18 Aliphatics	ND	13.6	mg/kg	NC	50
C19-C36 Aliphatics	ND	ND	mg/kg	NC	50
C11-C22 Aromatics	ND	ND	mg/kg	NC	50
C11-C22 Aromatics, Adjusted	ND	ND	mg/kg	NC	50
Naphthalene	ND	ND	mg/kg	NC	50
2-Methylnaphthalene	ND	ND	mg/kg	NC	50
Acenaphthylene	ND	ND	mg/kg	NC	50
Acenaphthene	ND	ND	mg/kg	NC	50
Fluorene	ND	ND	mg/kg	NC	50
Phenanthrene	ND	ND	mg/kg	NC	50
Anthracene	ND	ND	mg/kg	NC	50
Fluoranthene	ND	ND	mg/kg	NC	50
Pyrene	ND	ND	mg/kg	NC	50
Benzo(a)anthracene	ND	ND	mg/kg	NC	50
Chrysene	ND	ND	mg/kg	NC	50
Benzo(b)fluoranthene	ND	ND	mg/kg	NC	50
Benzo(k)fluoranthene	ND	ND	mg/kg	NC	50
Benzo(a)pyrene	ND	ND	mg/kg	NC	50
Indeno(1,2,3-cd)Pyrene	ND	ND	mg/kg	NC	50
Dibenzo(a,h)anthracene	ND	ND	mg/kg	NC	50
Benzo(ghi)perylene	ND	ND	mg/kg	NC	50
Surrogate(s)	Recovery				QC Criteria
Chloro-Octadecane	47.0	51.0	%	8	40-140
o-Terphenyl	74.0	72.0	%	3	40-140
2-Fluorobiphenyl	67.0	74.0	%	10	40-140
2-Bromonaphthalene	65.0	73.0	%	12	40-140

ALPHA ANALYTICAL LABORATORIES  
 QUALITY ASSURANCE BATCH SPIKE ANALYSES

Laboratory Job Number: L0401138

Parameter	% Recovery	QC Criteria
Volatile Petroleum Hydrocarbons LCS for sample(s) 01-04 (WG162579)		
Benzene	120	70-130
Toluene	108	70-130
Ethylbenzene	112	70-130
p/m-Xylene	98	70-130
o-Xylene	114	70-130
Methyl tert butyl ether	102	70-130
Naphthalene	106	70-130
Surrogate(s)		
2,5-Dibromotoluene-PID	107	70-130
2,5-Dibromotoluene-FID	106	70-130
Extractable Petroleum Hydrocarbons LCS for sample(s) 01-04 (WG162781)		
Naphthalene	42	40-140
Acenaphthene	51	40-140
Anthracene	68	40-140
Pyrene	79	40-140
Chrysene	80	40-140
Nonane (C9)	43	40-140
Tetradecane (C14)	56	40-140
Nonadecane (C19)	76	40-140
Eicosane (C20)	78	40-140
Octacosane (C28)	76	40-140
Surrogate(s)		
Chloro-Octadecane	53	40-140
o-Terphenyl	75	40-140
2-Fluorobiphenyl	60	40-140
2-Bromonaphthalene	59	40-140

ALPHA ANALYTICAL LABORATORIES  
 QUALITY ASSURANCE BATCH BLANK ANALYSIS

Laboratory Job Number: L0401138

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Blank Analysis for sample(s) 01-04 (WG162579-6)							
Volatile Petroleum Hydrocarbons				47 98-1		0211 09:09	MM
C5-C8 Aliphatics, Unadjusted	ND	mg/kg	2.00				
C9-C12 Aliphatics, Unadjusted	ND	mg/kg	2.00				
C9-C10 Aromatics	ND	mg/kg	2.00				
C5-C8 Aliphatics, Adjusted	ND	mg/kg	2.00				
C9-C12 Aliphatics, Adjusted	ND	mg/kg	2.00				
Benzene	ND	mg/kg	0.100				
Toluene	ND	mg/kg	0.100				
Ethylbenzene	ND	mg/kg	0.100				
p/m-Xylene	ND	mg/kg	0.100				
o-Xylene	ND	mg/kg	0.100				
Methyl tert butyl ether	ND	mg/kg	0.200				
Naphthalene	ND	mg/kg	1.00				
Surrogate (s)		Recovery		QC Criteria			
2,5-Dibromotoluene-PID	96.0	%	70-130				
2,5-Dibromotoluene-FID	106.	%	70-130				
Blank Analysis for sample(s) 01-04 (WG162781-1)							
Extractable Petroleum Hydrocarbons				46 98-1		0210 18:50	0211 21:10 LL
C9-C18 Aliphatics	ND	mg/kg	10.0				
C19-C36 Aliphatics	ND	mg/kg	10.0				
C11-C22 Aromatics, Unadjusted	ND	mg/kg	10.0				
C11-C22 Aromatics, Adjusted	ND	mg/kg	10.0				
Naphthalene	ND	mg/kg	0.500				
2-Methylnaphthalene	ND	mg/kg	0.500				
Acenaphthylene	ND	mg/kg	0.500				
Acenaphthene	ND	mg/kg	0.500				
Fluorene	ND	mg/kg	0.500				
Phenanthrene	ND	mg/kg	0.500				
Anthracene	ND	mg/kg	0.500				
Fluoranthene	ND	mg/kg	0.500				
Pyrene	ND	mg/kg	0.500				
Benzo(a)anthracene	ND	mg/kg	0.500				
Chrysene	ND	mg/kg	0.500				
Benzo(b)fluoranthene	ND	mg/kg	0.500				
Benzo(k)fluoranthene	ND	mg/kg	0.500				
Benzo(a)pyrene	ND	mg/kg	0.500				
Indeno(1,2,3-cd)Pyrene	ND	mg/kg	0.500				
Dibenzo(a,h)anthracene	ND	mg/kg	0.500				
Benzo(g,h,i)perylene	ND	mg/kg	0.500				
Surrogate (s)		Recovery		QC Criteria			
Chloro-Octadecane	53.0	%	40-140				
o-Terphenyl	69.0	%	40-140				
2-Fluorobiphenyl	69.0	%	40-140				
2-Bromonaphthalene	65.0	%	40-140				



ALPHA ANALYTICAL LABORATORIES  
ADDENDUM I

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REFERENCES

30. Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WPCF. 18th Edition. 1992.
46. Method for the Determination of Extractable Petroleum Hydrocarbons (EPH), Massachusetts Department of Environmental Protection, (MADEP-EPH-98-1), January 1998.
47. Method for the Determination of Volatile Petroleum Hydrocarbons (VPH), Massachusetts Department of Environmental Protection, (MADEP-VPH-98-1), January 1998.

GLOSSARY OF TERMS AND SYMBOLS

REF Reference number in which test method may be found.  
METHOD Method number by which analysis was performed.  
ID Initials of the analyst.  
ND Not detected in comparison to the reported detection limit.

Please note that all solid samples are reported on dry weight basis unless noted otherwise.

LIMITATION OF LIABILITIES

Alpha Analytical, Inc. performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical, Inc., shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical, Inc. be held liable for any incidental consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical, Inc.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding times and splitting of samples in the field.

ALPHA ANALYTICAL LABORATORIES  
LOGIN SPECIFIC INFORMATION

Laboratory Job Number: L0401138

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Were project specific reporting limits specified? YES

Cooler Information

Cooler	Custody Seal
A	Absent

Container Information

Container ID	Container Type	Cooler	pH	Temp	Pres	Seal	Analysis
L0401138-01A	Vial MeOH preserved	A	NA	4.4 C	Y	Absent	VPH-DELUX
L0401138-01B	Amber 100ml unpreserved	A	NA	4.4 C	Y	Absent	EPH-DELUX, TS
L0401138-02A	Vial MeOH preserved	A	NA	4.4 C	Y	Absent	VPH-DELUX
L0401138-02B	Amber 250ml unpreserved	A	NA	4.4 C	Y	Absent	EPH-DELUX, TS
L0401138-03A	Vial MeOH preserved	A	NA	4.4 C	Y	Absent	VPH-DELUX
L0401138-03B	Amber 250ml unpreserved	A	NA	4.4 C	Y	Absent	EPH-DELUX, TS
L0401138-04A	Vial MeOH preserved	A	NA	4.4 C	Y	Absent	VPH-DELUX
L0401138-04B	Amber 250ml unpreserved	A	NA	4.4 C	Y	Absent	EPH-DELUX, TS

Container Comments

Container ID	Comments
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# CHAIN OF CUSTODY RECORD

H&A FILE NO. 30660-000 LABORATORY ALHA DELIVERY DATE \_\_\_\_\_  
 PROJECT NAME BUBBANK SEWER OIL RELEASE ADDRESS \_\_\_\_\_ TURNAROUND TIME 2-3 DAYS  
 H&A CONTACT Matt Combs CONTACT \_\_\_\_\_ PROJECT MANAGER JANEL MORSEY

Sample No.	Date	Time	Depth	Type	Analysis Requested										Number of Containers	Comments (special instructions, precautions, additional method numbers, etc.)				
					VOA	ABNs	MCP Metals	Pesticides	PCBs	VPH	Full Suite	C-Changes only	EPH	Full Suite			C-Changes only	TPH (specify)	TCLP (specify)	Reactivity
B012-S1	2/10/04	0752	14	SOIL							X	X							2	Laboratory to use applicable DEP CAM methods, unless otherwise directed.
ESW2-S2	"	1115	0-12	"							X	X							2	OPD EPH/VPH
WSW2-S2	"	1120	6-12	"							X	X							2	AND FAVORIC ANALYTICS
NSW1-S1	"	1200	11	"							X	X							2	

Sampled and Relinquished by		Received by	
Sign <i>Todd Blute</i>	Print Todd Blute	Sign <i>[Signature]</i>	Print [Name]
Sign <i>[Signature]</i>	Print [Name]	Sign <i>[Signature]</i>	Print [Name]
Sign <i>[Signature]</i>	Print [Name]	Sign <i>[Signature]</i>	Print [Name]
Date 2/10/04 Time 1920		Date 2/10/04 Time 1920	

Sampled and Relinquished by		Received by	
Sign <i>[Signature]</i>	Print [Name]	Sign <i>[Signature]</i>	Print [Name]
Sign <i>[Signature]</i>	Print [Name]	Sign <i>[Signature]</i>	Print [Name]
Date 2/10/04 Time 1920		Date 2/10/04 Time 1920	

**LIQUID**

VOA Vial  
 Amber Glass  
 Plastic Bottle  
 Preservative  
 Volume

**SOLID**

VOA Vial  
 Amber Glass  
 Clear Glass  
 Preservative  
 Volume

**PRESERVATION KEY**

A Sample chilled C NaOH E H<sub>2</sub>SO<sub>4</sub> G Methanol  
 B Sample filtered D HNO<sub>3</sub> F HCL H Water/NaHSO<sub>4</sub> (circle)

**Required Reporting Limits and Data Quality Objectives**

RC-S1  S1  GW1  
 RC-S2  S2  GW2  
 RC-GW1  S3  GW3  
 RC-GW2

**If Presumptive Certainty Data Package is needed, initial all sections:**  
 The required minimum field QC samples, as designated in BWS CAM-VII have been or will be collected, as appropriate, to meet the requirements of Presumptive Certainty.  
 Matrix Spike (MS) samples for MCP Metals and/or Cyanide are included and identified herein.  
 This Chain of Custody Record (specify) \_\_\_\_\_ includes \_\_\_\_\_ does not include samples defined as Drinking Water Samples.  
 If this Chain of Custody Record identifies samples defined as Drinking Water Samples, Trip Blanks and Field Duplicates are included and identified and analysis of TICs are required, as appropriate. Laboratory should (specify if applicable) \_\_\_\_\_ analyze \_\_\_\_\_ hold for contingency testing the Drinking Water Field Duplicate and Drinking Water Trip Blank samples.

ALPHA ANALYTICAL LABORATORIES

Eight Walkup Drive  
Westborough, Massachusetts 01581-1019  
(508) 898-9220 www.alphalab.com

MA:M-MA086 NH:200301-A CT:PH-0574 ME:MA086 RI:65 NY:11148 NJ:MA935 Army:USACE

CERTIFICATE OF ANALYSIS

Client: Haley & Aldrich, Inc. Laboratory Job Number: L0401284  
Address: 465 Medford Street, Suite 2200  
Boston, MA 02129-1400 Date Received: 12-FEB-2004  
Attn: Mr. Steve Provencal Date Reported: 17-FEB-2004  
Project Number: 30660-000 Delivery Method: Alpha  
Site: BURBANK SCHOOL OIL RELEASE

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The following questions pertain only to MCP Analytical Methods

An affirmative response to questions A,B,C & D is required for "Presumptive Certainty" status

- A. Were all samples received by the laboratory in a condition consistent with those described on their Chain-of-Custody documentation for the data set? YES
- B. Were all QA/QC procedures required for the specified analytical method(s) included in this report followed, including the requirement to note and discuss in a narrative QC data that did not meet appropriate performance standards or guidelines? YES
- C. Does the analytical data included in this report meet all the requirements for "Presumptive Certainty", as described in section 2.0 of the MADEP document CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data"? YES
- D. VPH and EPH methods only: Was the VPH or EPH method run without significant modifications, as specified in Section 11.3? NA

A response to questions E and F is required for "Presumptive Certainty" status

- E. Were all QC performance standards and recommendations for the specified method(s) achieved? NO
- F. Were results for all analyte-list compounds/elements for the specified method(s) reported? NO

Any answers of NO to the above questions are addressed in the case narrative.

---

I, the undersigned, attest under the pains and penalties of perjury that, based upon my personal inquiry of those responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

---

Authorized by: James Todaro  
This document electronically signed

ALPHA ANALYTICAL LABORATORIES

Laboratory Job Number: L0401284  
Date Reported: 17-FEB-2004

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HA SAMPLE NUMBER	CLIENT IDENTIFICATION	SAMPLE LOCATION
L0401284-01	UST-STKPL4-S1	BELMONT, MA
L0401284-02	UST-STKPL5-S1	BELMONT, MA
L0401284-03	TRIP BLANK	BELMONT, MA

ALPHA ANALYTICAL LABORATORIES  
NARRATIVE REPORT

Laboratory Job Number: L0401284

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MCP Related Narratives

Extraction methods

Extraction method 3545 was used as the extraction method for the analysis of PCB by method 8082 and for the analysis of SemiVolatile Organics by method 8270C.

Metals

In reference to question F, at the client's request, the samples were analyzed only for the compounds specified on the chain of custody.

L0401284-02 has an elevated limit of detection for Selenium due to dilutions required by the matrix interferences encountered during the analysis of the sample.

Volatile Organics

L0401284-02 has elevated limits of detection due to the dilutions required by the elevated concentrations of target compounds in the sample.

SemiVolatile Organics

The RCS-1/S-1 limit was not achieved for 3,3'-Dichlorobenzidine.

The project required reporting limits were not achieved on L0401284-01 due to the 2x dilution required by the elevated concentrations of target compounds in the sample.

The project required reporting limits were not achieved on L0401284-02 due to the 5x dilution required by the elevated concentrations of target compounds in the sample.

In reference to question E, the LCS % recovery for Aniline (39%) is below the acceptance criteria for the method.

Non-MCP Related Narratives

TPH-8100

L0401284-01 has elevated limits of detection due to the 5x dilution required by the elevated concentrations of target compounds in the sample.

ALPHA ANALYTICAL LABORATORIES  
CERTIFICATE OF ANALYSIS

MA:M-MA086 NH:200301-A CT:PH-0574 ME:MA086 RI:65 NY:11148 NJ:MA935 Army:USACE

Laboratory Sample Number: L0401284-01	Date Collected: 12-FEB-2004 07:30
UST-STKPL4-S1	Date Received : 12-FEB-2004
Sample Matrix: SOIL	Date Reported : 17-FEB-2004
Condition of Sample: Satisfactory	Field Prep: None
Number & Type of Containers: 2-Amber,1-Vial	

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Solids, Total	86.	%	0.10	30 2540G	0212	23:00	LK
pH	6.6	SU	-	1 9045C	0212	21:30	LK
Flash Point	>150	deg F	70	1 1010	0216	10:00	ST
Cyanide, Reactive	ND	mg/kg	0.25	1 7.3	0213	15:00	JT
Sulfide, Reactive	ND	mg/kg	0.50	1 7.3	0213	15:00	JT
Total Metals				1 3051			
Arsenic, Total	9.1	mg/kg	0.46	54 6010B	0213	17:30	0216 13:39 MG
Barium, Total	57.	mg/kg	0.46	54 6010B	0213	17:30	0216 13:39 MG
Cadmium, Total	ND	mg/kg	0.46	54 6010B	0213	17:30	0216 13:39 MG
Chromium, Total	27.	mg/kg	0.46	54 6010B	0213	17:30	0216 13:39 MG
Lead, Total	21.	mg/kg	2.3	54 6010B	0213	17:30	0216 13:39 MG
Mercury, Total	ND	mg/kg	0.09	54 7471A	0213	15:25	0216 12:56 DM
Selenium, Total	ND	mg/kg	0.92	54 6010B	0213	17:30	0216 13:39 MG
Silver, Total	ND	mg/kg	0.46	54 6010B	0213	17:30	0216 13:39 MG
Volatile Organics by MCP 8260B/5035-High				54 8260B	0214	14:00	BT
Methylene chloride	ND	ug/kg	520				
1,1-Dichloroethane	ND	ug/kg	77.				
Chloroform	ND	ug/kg	77.				
Carbon tetrachloride	ND	ug/kg	52.				
1,2-Dichloropropane	ND	ug/kg	180				
Dibromochloromethane	ND	ug/kg	52.				
1,1,2-Trichloroethane	ND	ug/kg	77.				
Tetrachloroethene	ND	ug/kg	52.				
Chlorobenzene	ND	ug/kg	52.				
Trichlorofluoromethane	ND	ug/kg	260				
1,2-Dichloroethane	ND	ug/kg	52.				
1,1,1-Trichloroethane	ND	ug/kg	52.				
Bromodichloromethane	ND	ug/kg	52.				
trans-1,3-Dichloropropene	ND	ug/kg	52.				
cis-1,3-Dichloropropene	ND	ug/kg	52.				
1,1-Dichloropropene	ND	ug/kg	260				
Bromoform	ND	ug/kg	210				

Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES  
CERTIFICATE OF ANALYSIS

Laboratory Sample Number: L0401284-01  
UST-STKPL4-S1

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Volatile Organics by MCP 8260B/5035-High continued				54 8260B		0214 14:00 BT	
1,1,2,2-Tetrachloroethane	ND	ug/kg	52.				
Benzene	ND	ug/kg	52.				
Toluene	ND	ug/kg	77.				
Ethylbenzene	68.	ug/kg	52.				
Chloromethane	ND	ug/kg	260				
Bromomethane	ND	ug/kg	100				
Vinyl chloride	ND	ug/kg	100				
Chloroethane	ND	ug/kg	100				
1,1-Dichloroethene	ND	ug/kg	52.				
trans-1,2-Dichloroethene	ND	ug/kg	77.				
Trichloroethene	ND	ug/kg	52.				
1,2-Dichlorobenzene	ND	ug/kg	260				
1,3-Dichlorobenzene	ND	ug/kg	260				
1,4-Dichlorobenzene	ND	ug/kg	260				
Methyl tert butyl ether	ND	ug/kg	100				
p/m-Xylene	210	ug/kg	52.				
o-Xylene	220	ug/kg	52.				
cis-1,2-Dichloroethene	ND	ug/kg	52.				
Dibromomethane	ND	ug/kg	520				
1,2,3-Trichloropropane	ND	ug/kg	520				
Styrene	ND	ug/kg	52.				
Dichlorodifluoromethane	ND	ug/kg	520				
Acetone	ND	ug/kg	520				
Carbon disulfide	ND	ug/kg	520				
2-Butanone	ND	ug/kg	520				
4-Methyl-2-pentanone	ND	ug/kg	520				
2-Hexanone	ND	ug/kg	520				
Bromochloromethane	ND	ug/kg	260				
Tetrahydrofuran	ND	ug/kg	1000				
2,2-Dichloropropane	ND	ug/kg	260				
1,2-Dibromoethane	ND	ug/kg	260				
1,3-Dichloropropane	ND	ug/kg	260				
1,1,1,2-Tetrachloroethane	ND	ug/kg	52.				
Bromobenzene	ND	ug/kg	260				
n-Butylbenzene	360	ug/kg	52.				
sec-Butylbenzene	150	ug/kg	52.				
tert-Butylbenzene	ND	ug/kg	260				
o-Chlorotoluene	ND	ug/kg	260				
p-Chlorotoluene	ND	ug/kg	260				
1,2-Dibromo-3-chloropropane	ND	ug/kg	260				
Hexachlorobutadiene	ND	ug/kg	260				
Isopropylbenzene	67.	ug/kg	52.				
p-Isopropyltoluene	160	ug/kg	52.				
Naphthalene	1400	ug/kg	260				
n-Propylbenzene	160	ug/kg	52.				
1,2,3-Trichlorobenzene	ND	ug/kg	260				
1,2,4-Trichlorobenzene	ND	ug/kg	260				
1,3,5-Trimethylbenzene	420	ug/kg	260				
1,2,4-Trimethylbenzene	1100	ug/kg	260				

Comments: Complete list of References and Glossary of Terms found in Addendum I



ALPHA ANALYTICAL LABORATORIES  
CERTIFICATE OF ANALYSIS

Laboratory Sample Number: L0401284-01  
UST-STKPL4-S1

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Volatile Organics by MCP 8260B/5035-High continued				54 8260B		0214 14:00	BT
Ethyl ether	ND	ug/kg	260				
Isopropyl Ether	ND	ug/kg	210				
Ethyl-Tert-Butyl-Ether	ND	ug/kg	210				
Tertiary-Amyl Methyl Ether	ND	ug/kg	210				
1,4-Dioxane	ND	ug/kg	26000				
Surrogate (s)	Recovery		QC Criteria				
1,2-Dichloroethane-d4	94.0	%	70-130				
Toluene-d8	98.0	%	70-130				
4-Bromofluorobenzene	97.0	%	70-130				
Dibromofluoromethane	90.0	%	70-130				
Semivolatile Organics by MCP 8270C				54 8270C		0212 16:40	0213 19:40 HL
Acenaphthene	ND	ug/kg	1200				
1,2,4-Trichlorobenzene	ND	ug/kg	1200				
Hexachlorobenzene	ND	ug/kg	1200				
Bis(2-chloroethyl) ether	ND	ug/kg	1200				
2-Chloronaphthalene	ND	ug/kg	1200				
1,2-Dichlorobenzene	ND	ug/kg	1200				
1,3-Dichlorobenzene	ND	ug/kg	1200				
1,4-Dichlorobenzene	ND	ug/kg	1200				
3,3'-Dichlorobenzidine	ND	ug/kg	2300				
2,4-Dinitrotoluene	ND	ug/kg	1200				
2,6-Dinitrotoluene	ND	ug/kg	1200				
Azobenzene	ND	ug/kg	1200				
Fluoranthene	ND	ug/kg	1200				
4-Bromophenyl phenyl ether	ND	ug/kg	1200				
Bis(2-chloroisopropyl) ether	ND	ug/kg	1200				
Bis(2-chloroethoxy) methane	ND	ug/kg	1200				
Hexachlorobutadiene	ND	ug/kg	2300				
Hexachloroethane	ND	ug/kg	1200				
Isophorone	ND	ug/kg	1200				
Naphthalene	ND	ug/kg	1200				
Nitrobenzene	ND	ug/kg	1200				
Bis(2-Ethylhexyl) phthalate	ND	ug/kg	2300				
Butyl benzyl phthalate	ND	ug/kg	1200				
Di-n-butylphthalate	ND	ug/kg	1200				
Di-n-octylphthalate	ND	ug/kg	1200				
Diethyl phthalate	ND	ug/kg	1200				
Dimethyl phthalate	ND	ug/kg	1200				
Benzo (a) anthracene	ND	ug/kg	1200				
Benzo (a) pyrene	ND	ug/kg	1200				
Benzo (b) fluoranthene	ND	ug/kg	1200				
Benzo (k) fluoranthene	ND	ug/kg	1200				
Chrysene	ND	ug/kg	1200				
Acenaphthylene	ND	ug/kg	1200				
Anthracene	ND	ug/kg	1200				
Benzo (ghi) perylene	ND	ug/kg	1200				
Fluorene	ND	ug/kg	1200				

Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES  
CERTIFICATE OF ANALYSIS

Laboratory Sample Number: L0401284-01  
UST-STKPL4-S1

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Semivolatile Organics by MCP 8270C continued				54 8270C	0212 16:40	0213 19:40	HL
Phenanthrene	ND	ug/kg	1200				
Dibenzo (a, h)anthracene	ND	ug/kg	1200				
Indeno (1, 2, 3- cd) Pyrene	ND	ug/kg	1200				
Pyrene	ND	ug/kg	1200				
Aniline	ND	ug/kg	2300				
4-Chloroaniline	ND	ug/kg	1200				
Dibenzofuran	ND	ug/kg	1200				
2-Methylnaphthalene	2000	ug/kg	1200				
Acetophenone	ND	ug/kg	4600				
2, 4, 6-Trichlorophenol	ND	ug/kg	1200				
2-Chlorophenol	ND	ug/kg	1400				
2, 4-Dichlorophenol	ND	ug/kg	2300				
2, 4-Dimethylphenol	ND	ug/kg	1200				
2-Nitrophenol	ND	ug/kg	4600				
4-Nitrophenol	ND	ug/kg	2300				
2, 4-Dinitrophenol	ND	ug/kg	4600				
Pentachlorophenol	ND	ug/kg	4600				
Phenol	ND	ug/kg	1600				
2-Methylphenol	ND	ug/kg	1400				
3-Methylphenol/4-Methylphenol	ND	ug/kg	1400				
2, 4, 5-Trichlorophenol	ND	ug/kg	1200				
Surrogate (s)	Recovery		QC Criteria				
2-Fluorophenol	45.0	%	30-130				
Phenol-d6	50.0	%	30-130				
Nitrobenzene-d5	47.0	%	30-130				
2-Fluorobiphenyl	64.0	%	30-130				
2, 4, 6-Tribromophenol	39.0	%	30-130				
4-Terphenyl-d14	78.0	%	30-130				
Polychlorinated Biphenyls by MCP 8082				54 8082	0212 21:30	0214 13:09	AK
Aroclor 1221	ND	ug/kg	58.1				
Aroclor 1232	ND	ug/kg	58.1				
Aroclor 1242/1016	ND	ug/kg	58.1				
Aroclor 1248	ND	ug/kg	58.1				
Aroclor 1254	ND	ug/kg	58.1				
Aroclor 1260	ND	ug/kg	58.1				
Aroclor 1262	ND	ug/kg	58.1				
Aroclor 1268	ND	ug/kg	58.1				
Surrogate (s)	Recovery		QC Criteria				
2, 4, 5, 6-Tetrachloro-m-xylene	63.0	%	30-150				
Decachlorobiphenyl	64.0	%	30-150				
Polychlorinated Biphenyls by MCP 8082				54 8082	0212 21:30	0214 13:09	AK
Surrogate (s)	Recovery		QC Criteria				
2, 4, 5, 6-Tetrachloro-m-xylene	58.0	%	30-150				
Decachlorobiphenyl	58.0	%	30-150				

Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES  
CERTIFICATE OF ANALYSIS

Laboratory Sample Number: L0401284-01  
UST-STKPL4-S1

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Hydrocarbon Scan by GC 8100M				1 8100M	0212 21:00	0216 15:41	JB
Mineral Spirits	ND	mg/kg	580				
Gasoline	ND	mg/kg	580				
Fuel Oil #2/Diesel	ND	mg/kg	580				
Fuel Oil #4	ND	mg/kg	580				
Fuel Oil #6	2100	mg/kg	580				
Motor Oil	ND	mg/kg	580				
Kerosene	ND	mg/kg	580				
Transformer Oil	ND	mg/kg	580				
Unknown Hydrocarbon	ND	mg/kg	580				
Surrogate(s)	Recovery		QC Criteria				
o-Terphenyl	92.0	%	40-140				

Comments: Complete list of References and Glossary of Terms found in Addendum I



ALPHA ANALYTICAL LABORATORIES  
CERTIFICATE OF ANALYSIS

Laboratory Sample Number: L0401284-02  
UST-STKPL5-S1

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Volatile Organics by MCP 8260B/5035-High continued				54 8260B		0217 11:03 BT	
1,1,2,2-Tetrachloroethane	ND	ug/kg	250				
Benzene	ND	ug/kg	250				
Toluene	ND	ug/kg	380				
Ethylbenzene	ND	ug/kg	250				
Chloromethane	ND	ug/kg	1200				
Bromomethane	ND	ug/kg	500				
Vinyl chloride	ND	ug/kg	500				
Chloroethane	ND	ug/kg	500				
1,1-Dichloroethene	ND	ug/kg	250				
trans-1,2-Dichloroethene	ND	ug/kg	380				
Trichloroethene	ND	ug/kg	250				
1,2-Dichlorobenzene	ND	ug/kg	1200				
1,3-Dichlorobenzene	ND	ug/kg	1200				
1,4-Dichlorobenzene	ND	ug/kg	1200				
Methyl tert butyl ether	ND	ug/kg	500				
p/m-Xylene	960	ug/kg	250				
o-Xylene	760	ug/kg	250				
cis-1,2-Dichloroethene	ND	ug/kg	250				
Dibromomethane	ND	ug/kg	2500				
1,2,3-Trichloropropane	ND	ug/kg	2500				
Styrene	ND	ug/kg	250				
Dichlorodifluoromethane	ND	ug/kg	2500				
Acetone	ND	ug/kg	2500				
Carbon disulfide	ND	ug/kg	2500				
2-Butanone	ND	ug/kg	2500				
4-Methyl-2-pentanone	ND	ug/kg	2500				
2-Hexanone	ND	ug/kg	2500				
Bromochloromethane	ND	ug/kg	1200				
Tetrahydrofuran	ND	ug/kg	5000				
2,2-Dichloropropane	ND	ug/kg	1200				
1,2-Dibromoethane	ND	ug/kg	1200				
1,3-Dichloropropane	ND	ug/kg	1200				
1,1,1,2-Tetrachloroethane	ND	ug/kg	250				
Bromobenzene	ND	ug/kg	1200				
n-Butylbenzene	1100	ug/kg	250				
sec-Butylbenzene	460	ug/kg	250				
tert-Butylbenzene	ND	ug/kg	1200				
o-Chlorotoluene	ND	ug/kg	1200				
p-Chlorotoluene	ND	ug/kg	1200				
1,2-Dibromo-3-chloropropane	ND	ug/kg	1200				
Hexachlorobutadiene	ND	ug/kg	1200				
Isopropylbenzene	ND	ug/kg	250				
p-Isopropyltoluene	500	ug/kg	250				
Naphthalene	4600	ug/kg	1200				
n-Propylbenzene	480	ug/kg	250				
1,2,3-Trichlorobenzene	ND	ug/kg	1200				
1,2,4-Trichlorobenzene	ND	ug/kg	1200				
1,3,5-Trimethylbenzene	1300	ug/kg	1200				
1,2,4-Trimethylbenzene	4000	ug/kg	1200				

Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES  
CERTIFICATE OF ANALYSIS

Laboratory Sample Number: L0401284-02  
UST-STKPL5-S1

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Volatile Organics by MCP 8260B/5035-High continued				54 8260B	0217 11:03		BT
Ethyl ether	ND	ug/kg	1200				
Isopropyl Ether	ND	ug/kg	1000				
Ethyl-Tert-Butyl-Ether	ND	ug/kg	1000				
Tertiary-Amyl Methyl Ether	ND	ug/kg	1000				
1,4-Dioxane	ND	ug/kg	120000				
Surrogate(s)	Recovery		QC Criteria				
1,2-Dichloroethane-d4	97.0	%	70-130				
Toluene-d8	100.	%	70-130				
4-Bromofluorobenzene	94.0	%	70-130				
Dibromofluoromethane	93.0	%	70-130				
Semivolatile Organics by MCP 8270C				54 8270C	0212 16:40		0213 20:25 HL
Acenaphthene	ND	ug/kg	2800				
1,2,4-Trichlorobenzene	ND	ug/kg	2800				
Hexachlorobenzene	ND	ug/kg	2800				
Bis(2-chloroethyl) ether	ND	ug/kg	2800				
2-Chloronaphthalene	ND	ug/kg	2800				
1,2-Dichlorobenzene	ND	ug/kg	2800				
1,3-Dichlorobenzene	ND	ug/kg	2800				
1,4-Dichlorobenzene	ND	ug/kg	2800				
3,3'-Dichlorobenzidine	ND	ug/kg	5700				
2,4-Dinitrotoluene	ND	ug/kg	2800				
2,6-Dinitrotoluene	ND	ug/kg	2800				
Azobenzene	ND	ug/kg	2800				
Fluoranthene	ND	ug/kg	2800				
4-Bromophenyl phenyl ether	ND	ug/kg	2800				
Bis(2-chloroisopropyl) ether	ND	ug/kg	2800				
Bis(2-chloroethoxy) methane	ND	ug/kg	2800				
Hexachlorobutadiene	ND	ug/kg	5700				
Hexachloroethane	ND	ug/kg	2800				
Isophorone	ND	ug/kg	2800				
Naphthalene	3600	ug/kg	2800				
Nitrobenzene	ND	ug/kg	2800				
Bis(2-Ethylhexyl) phthalate	ND	ug/kg	5700				
Butyl benzyl phthalate	ND	ug/kg	2800				
Di-n-butylphthalate	ND	ug/kg	2800				
Di-n-octylphthalate	ND	ug/kg	2800				
Diethyl phthalate	ND	ug/kg	2800				
Dimethyl phthalate	ND	ug/kg	2800				
Benzo(a) anthracene	ND	ug/kg	2800				
Benzo(a) pyrene	ND	ug/kg	2800				
Benzo(b) fluoranthene	ND	ug/kg	2800				
Benzo(k) fluoranthene	ND	ug/kg	2800				
Chrysene	ND	ug/kg	2800				
Acenaphthylene	ND	ug/kg	2800				
Anthracene	ND	ug/kg	2800				
Benzo(ghi) perylene	ND	ug/kg	2800				
Fluorene	ND	ug/kg	2800				

Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES  
CERTIFICATE OF ANALYSIS

Laboratory Sample Number: L0401284-02  
UST-STKPL5-S1

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Semivolatile Organics by MCP 8270C continued				54 8270C	0212 16:40	0213 20:25	HL
Phenanthrene	4600	ug/kg	2800				
Dibenzo (a, h) anthracene	ND	ug/kg	2800				
Indeno (1, 2, 3-cd) Pyrene	ND	ug/kg	2800				
Pyrene	ND	ug/kg	2800				
Aniline	ND	ug/kg	5700				
4-Chloroaniline	ND	ug/kg	2800				
Dibenzofuran	ND	ug/kg	2800				
2-Methylnaphthalene	14000	ug/kg	2800				
Acetophenone	ND	ug/kg	11000				
2, 4, 6-Trichlorophenol	ND	ug/kg	2800				
2-Chlorophenol	ND	ug/kg	3400				
2, 4-Dichlorophenol	ND	ug/kg	5700				
2, 4-Dimethylphenol	ND	ug/kg	2800				
2-Nitrophenol	ND	ug/kg	11000				
4-Nitrophenol	ND	ug/kg	5700				
2, 4-Dinitrophenol	ND	ug/kg	11000				
Pentachlorophenol	ND	ug/kg	11000				
Phenol	ND	ug/kg	4000				
2-Methylphenol	ND	ug/kg	3400				
3-Methylphenol/4-Methylphenol	ND	ug/kg	3400				
2, 4, 5-Trichlorophenol	ND	ug/kg	2800				
Surrogate (s)	Recovery		QC Criteria				
2-Fluorophenol	67.0	%	30-130				
Phenol-d6	77.0	%	30-130				
Nitrobenzene-d5	79.0	%	30-130				
2-Fluorobiphenyl	86.0	%	30-130				
2, 4, 6-Tribromophenol	37.0	%	30-130				
4-Terphenyl-d14	87.0	%	30-130				
Polychlorinated Biphenyls by MCP 8082				54 8082	0212 21:30	0214 13:37	AK
Aroclor 1221	ND	ug/kg	56.8				
Aroclor 1232	ND	ug/kg	56.8				
Aroclor 1242/1016	ND	ug/kg	56.8				
Aroclor 1248	ND	ug/kg	56.8				
Aroclor 1254	ND	ug/kg	56.8				
Aroclor 1260	ND	ug/kg	56.8				
Aroclor 1262	ND	ug/kg	56.8				
Aroclor 1268	ND	ug/kg	56.8				
Surrogate (s)	Recovery		QC Criteria				
2, 4, 5, 6-Tetrachloro-m-xylene	52.0	%	30-150				
Decachlorobiphenyl	51.0	%	30-150				
Polychlorinated Biphenyls by MCP 8082				54 8082	0212 21:30	0214 13:37	AK
Surrogate (s)	Recovery		QC Criteria				
2, 4, 5, 6-Tetrachloro-m-xylene	49.0	%	30-150				
Decachlorobiphenyl	49.0	%	30-150				

Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES  
CERTIFICATE OF ANALYSIS

Laboratory Sample Number: L0401284-02  
UST-STKPL5-S1

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Hydrocarbon Scan by GC 8100M					1 8100M	0212 21:00	0213 23:45 JB
Mineral Spirits	ND	mg/kg	110				
Gasoline	ND	mg/kg	110				
Fuel Oil #2/Diesel	ND	mg/kg	110				
Fuel Oil #4	ND	mg/kg	110				
Fuel Oil #6	ND	mg/kg	110				
Motor Oil	ND	mg/kg	110				
Kerosene	ND	mg/kg	110				
Transformer Oil	ND	mg/kg	110				
Unknown Hydrocarbon	330	mg/kg	110				
Surrogate(s)	Recovery			QC Criteria			
o-Terphenyl	68.0	%		40-140			

Comments: Complete list of References and Glossary of Terms found in Addendum I



ALPHA ANALYTICAL LABORATORIES  
 CERTIFICATE OF ANALYSIS

MA:M-MA086 NH:200301-A CT:PH-0574 ME:MA086 RI:65 NY:11148 NJ:MA935 Army:USACE

Laboratory Sample Number: L0401284-03  
 TRIP BLANK  
 Sample Matrix: SOIL

Date Collected: 11-FEB-2004 09:20  
 Date Received : 12-FEB-2004  
 Date Reported : 17-FEB-2004

Condition of Sample: Satisfactory

Field Prep: None

Number & Type of Containers: 1-Vial

Comments:

Results are reported on an 'AS RECEIVED' basis.

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Volatile Organics by MCP 8260B/5035-High				54 8260B		0214 15:37	BT
Methylene chloride	ND	ug/kg	500				
1,1-Dichloroethane	ND	ug/kg	75.				
Chloroform	ND	ug/kg	75.				
Carbon tetrachloride	ND	ug/kg	50.				
1,2-Dichloropropane	ND	ug/kg	180				
Dibromochloromethane	ND	ug/kg	50.				
1,1,2-Trichloroethane	ND	ug/kg	75.				
Tetrachloroethene	ND	ug/kg	50.				
Chlorobenzene	ND	ug/kg	50.				
Trichlorofluoromethane	ND	ug/kg	250				
1,2-Dichloroethane	ND	ug/kg	50.				
1,1,1-Trichloroethane	ND	ug/kg	50.				
Bromodichloromethane	ND	ug/kg	50.				
trans-1,3-Dichloropropene	ND	ug/kg	50.				
cis-1,3-Dichloropropene	ND	ug/kg	50.				
1,1-Dichloropropene	ND	ug/kg	250				
Bromoform	ND	ug/kg	200				
1,1,2,2-Tetrachloroethane	ND	ug/kg	50.				
Benzene	ND	ug/kg	50.				
Toluene	ND	ug/kg	75.				
Ethylbenzene	ND	ug/kg	50.				
Chloromethane	ND	ug/kg	250				
Bromomethane	ND	ug/kg	100				
Vinyl chloride	ND	ug/kg	100				
Chloroethane	ND	ug/kg	100				
1,1-Dichloroethene	ND	ug/kg	50.				
trans-1,2-Dichloroethene	ND	ug/kg	75.				
Trichloroethene	ND	ug/kg	50.				
1,2-Dichlorobenzene	ND	ug/kg	250				
1,3-Dichlorobenzene	ND	ug/kg	250				
1,4-Dichlorobenzene	ND	ug/kg	250				
Methyl tert butyl ether	ND	ug/kg	100				
p/m-Xylene	ND	ug/kg	50.				
o-Xylene	ND	ug/kg	50.				
cis-1,2-Dichloroethene	ND	ug/kg	50.				

Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES  
CERTIFICATE OF ANALYSIS

Laboratory Sample Number: L0401284-03  
TRIP BLANK

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Volatile Organics by MCP 8260B/5035-High continued				54 8260B		0214 15:37 BT	
Dibromomethane	ND	ug/kg	500				
1,2,3-Trichloropropane	ND	ug/kg	500				
Styrene	ND	ug/kg	50.				
Dichlorodifluoromethane	ND	ug/kg	500				
Acetone	ND	ug/kg	500				
Carbon disulfide	ND	ug/kg	500				
2-Butanone	ND	ug/kg	500				
4-Methyl-2-pentanone	ND	ug/kg	500				
2-Hexanone	ND	ug/kg	500				
Bromochloromethane	ND	ug/kg	250				
Tetrahydrofuran	ND	ug/kg	1000				
2,2-Dichloropropane	ND	ug/kg	250				
1,2-Dibromoethane	ND	ug/kg	250				
1,3-Dichloropropane	ND	ug/kg	250				
1,1,1,2-Tetrachloroethane	ND	ug/kg	50.				
Bromobenzene	ND	ug/kg	250				
n-Butylbenzene	ND	ug/kg	50.				
sec-Butylbenzene	ND	ug/kg	50.				
tert-Butylbenzene	ND	ug/kg	250				
o-Chlorotoluene	ND	ug/kg	250				
p-Chlorotoluene	ND	ug/kg	250				
1,2-Dibromo-3-chloropropane	ND	ug/kg	250				
Hexachlorobutadiene	ND	ug/kg	250				
Isopropylbenzene	ND	ug/kg	50.				
p-Isopropyltoluene	ND	ug/kg	50.				
Naphthalene	ND	ug/kg	250				
n-Propylbenzene	ND	ug/kg	50.				
1,2,3-Trichlorobenzene	ND	ug/kg	250				
1,2,4-Trichlorobenzene	ND	ug/kg	250				
1,3,5-Trimethylbenzene	ND	ug/kg	250				
1,2,4-Trimethylbenzene	ND	ug/kg	250				
Ethyl ether	ND	ug/kg	250				
Isopropyl Ether	ND	ug/kg	200				
Ethyl-Tert-Butyl-Ether	ND	ug/kg	200				
Tertiary-Amyl Methyl Ether	ND	ug/kg	200				
1,4-Dioxane	ND	ug/kg	25000				
Surrogate (s)	Recovery		QC Criteria				
1,2-Dichloroethane-d4	93.0	%	70-130				
Toluene-d8	98.0	%	70-130				
4-Bromofluorobenzene	99.0	%	70-130				
Dibromofluoromethane	88.0	%	70-130				

Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES  
 QUALITY ASSURANCE BATCH DUPLICATE ANALYSIS

Laboratory Job Number: L0401284

Parameter	Value 1	Value 2	Units	RPD	RPD Limits
Solids, Total for sample(s) 01-02 (L0401257-01, WG162954)					
Solids, Total	78.	78.	%	0	
pH for sample(s) 01-02 (L0401284-01, WG162953)					
pH	6.6	6.8	SU	3	
Cyanide, Reactive for sample(s) 01-02 (L0401145-07, WG163076)					
Cyanide, Reactive	ND	ND	mg/kg	NC	
Sulfide, Reactive for sample(s) 01-02 (L0401145-07, WG163075)					
Sulfide, Reactive	12.	12.	mg/kg	0	
Hydrocarbon Scan by GC 8100M for sample(s) 01-02 (L0401164-02, WG162987)					
Mineral Spirits	ND	ND	mg/kg	NC	40
Gasoline	ND	ND	mg/kg	NC	40
Fuel Oil #2/Diesel	ND	ND	mg/kg	NC	40
Fuel Oil #4	ND	ND	mg/kg	NC	40
Fuel Oil #6	ND	ND	mg/kg	NC	40
Motor Oil	ND	ND	mg/kg	NC	40
Kerosene	ND	ND	mg/kg	NC	40
Transformer Oil	ND	ND	mg/kg	NC	40
Unknown Hydrocarbon	250	200	mg/kg	22	40
Surrogate(s)	Recovery				QC Criteria
o-Terphenyl	61.0	65.0	%	6	40-140

ALPHA ANALYTICAL LABORATORIES  
 QUALITY ASSURANCE BATCH SPIKE ANALYSES

Laboratory Job Number: L0401284

Parameter	% Recovery	QC Criteria
pH LCS for sample(s) 01-02 (WG162953)		
pH	101	
Sulfide, Reactive LCS for sample(s) 01-02 (WG163075)		
Sulfide, Reactive	84	
Total Metals LCS for sample(s) 01-02 (WG163108)		
Arsenic, Total	110	75-125
Barium, Total	100	75-125
Cadmium, Total	99	75-125
Chromium, Total	101	75-125
Lead, Total	104	75-125
Selenium, Total	110	75-125
Silver, Total	101	75-125
Total Metals LCS for sample(s) 01-02 (WG163033)		
Mercury, Total	97	75-125
Volatile Organics by MCP 8260B/5035-High LCS for sample(s) 01,03 (WG162641)		
Methylene chloride	99	70-130
1,1-Dichloroethane	95	70-130
Chloroform	98	70-130
Carbon tetrachloride	98	70-130
1,2-Dichloropropane	99	70-130
Dibromochloromethane	95	70-130
1,1,2-Trichloroethane	95	70-130
Tetrachloroethene	101	70-130
Chlorobenzene	94	70-130
Trichlorofluoromethane	96	70-130
1,2-Dichloroethane	96	70-130
1,1,1-Trichloroethane	100	70-130
Bromodichloromethane	98	70-130
trans-1,3-Dichloropropene	91	70-130
cis-1,3-Dichloropropene	97	70-130
1,1-Dichloropropene	92	70-130
Bromoform	98	70-130
1,1,2,2-Tetrachloroethane	91	70-130
Benzene	93	70-130
Toluene	96	70-130
Ethylbenzene	99	70-130
Chloromethane	102	70-130
Bromomethane	112	70-130
Vinyl chloride	117	70-130
Chloroethane	99	70-130
1,1-Dichloroethene	86	70-130
trans-1,2-Dichloroethene	89	70-130
Trichloroethene	102	70-130
1,2-Dichlorobenzene	96	70-130
1,3-Dichlorobenzene	96	70-130

ALPHA ANALYTICAL LABORATORIES  
 QUALITY ASSURANCE BATCH SPIKE ANALYSES

Laboratory Job Number: L0401284

Continued

Parameter	% Recovery	QC Criteria
Volatile Organics by MCP 8260B/5035-High LCS for sample(s) 01,03 (WG162641)		
1,4-Dichlorobenzene	95	70-130
Methyl tert butyl ether	98	70-130
p/m-Xylene	99	70-130
o-Xylene	98	70-130
cis-1,2-Dichloroethene	91	70-130
Dibromomethane	97	70-130
1,2,3-Trichloropropane	97	70-130
Styrene	101	70-130
Dichlorodifluoromethane	103	70-130
Acetone	102	70-130
Carbon disulfide	97	70-130
2-Butanone	99	70-130
4-Methyl-2-pentanone	96	70-130
2-Hexanone	100	70-130
Bromochloromethane	100	70-130
Tetrahydrofuran	95	70-130
2,2-Dichloropropane	100	70-130
1,2-Dibromoethane	97	70-130
1,3-Dichloropropane	97	70-130
1,1,1,2-Tetrachloroethane	101	70-130
Bromobenzene	99	70-130
n-Butylbenzene	96	70-130
sec-Butylbenzene	97	70-130
tert-Butylbenzene	99	70-130
o-Chlorotoluene	98	70-130
p-Chlorotoluene	98	70-130
1,2-Dibromo-3-chloropropane	95	70-130
Hexachlorobutadiene	99	70-130
Isopropylbenzene	97	70-130
p-Isopropyltoluene	100	70-130
Naphthalene	98	70-130
n-Propylbenzene	99	70-130
1,2,3-Trichlorobenzene	99	70-130
1,2,4-Trichlorobenzene	98	70-130
1,3,5-Trimethylbenzene	101	70-130
1,2,4-Trimethylbenzene	103	70-130
Ethyl ether	99	70-130
Isopropyl Ether	96	70-130
Ethyl-Tert-Butyl-Ether	96	70-130
Tertiary-Amyl Methyl Ether	97	70-130
1,4-Dioxane	93	70-130
Surrogate (s)		
1,2-Dichloroethane-d4	99	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	98	70-130
Dibromofluoromethane	96	70-130

ALPHA ANALYTICAL LABORATORIES  
 QUALITY ASSURANCE BATCH SPIKE ANALYSES

Laboratory Job Number: L0401284

Continued

Parameter	% Recovery	QC Criteria
Volatile Organics by MCP 8260B/5035-High LCS for sample(s) 02 (WG163002)		
Methylene chloride	95	70-130
1,1-Dichloroethane	93	70-130
Chloroform	94	70-130
Carbon tetrachloride	95	70-130
1,2-Dichloropropane	97	70-130
Dibromochloromethane	92	70-130
1,1,2-Trichloroethane	93	70-130
Tetrachloroethene	101	70-130
Chlorobenzene	98	70-130
Trichlorofluoromethane	92	70-130
1,2-Dichloroethane	89	70-130
1,1,1-Trichloroethane	95	70-130
Bromodichloromethane	91	70-130
trans-1,3-Dichloropropene	90	70-130
cis-1,3-Dichloropropene	96	70-130
1,1-Dichloropropene	93	70-130
Bromoform	99	70-130
1,1,2,2-Tetrachloroethane	87	70-130
Benzene	94	70-130
Toluene	95	70-130
Ethylbenzene	101	70-130
Chloromethane	109	70-130
Bromomethane	107	70-130
Vinyl chloride	116	70-130
Chloroethane	97	70-130
1,1-Dichloroethene	92	70-130
trans-1,2-Dichloroethene	90	70-130
Trichloroethene	100	70-130
1,2-Dichlorobenzene	96	70-130
1,3-Dichlorobenzene	97	70-130
1,4-Dichlorobenzene	98	70-130
Methyl tert butyl ether	91	70-130
p/m-Xylene	102	70-130
o-Xylene	102	70-130
cis-1,2-Dichloroethene	93	70-130
Dibromomethane	93	70-130
1,2,3-Trichloropropane	93	70-130
Styrene	104	70-130
Dichlorodifluoromethane	94	70-130
Acetone	92	70-130
Carbon disulfide	97	70-130
2-Butanone	90	70-130
4-Methyl-2-pentanone	98	70-130
2-Hexanone	95	70-130
Bromochloromethane	100	70-130
Tetrahydrofuran	90	70-130
2,2-Dichloropropane	99	70-130
1,2-Dibromoethane	96	70-130

ALPHA ANALYTICAL LABORATORIES  
 QUALITY ASSURANCE BATCH SPIKE ANALYSES

Laboratory Job Number: L0401284

Continued

Parameter	% Recovery	QC Criteria
Volatile Organics by MCP 8260B/5035-High LCS for sample(s) 02 (WG163002)		
1,3-Dichloropropane	93	70-130
1,1,1,2-Tetrachloroethane	101	70-130
Bromobenzene	101	70-130
n-Butylbenzene	101	70-130
sec-Butylbenzene	101	70-130
tert-Butylbenzene	102	70-130
o-Chlorotoluene	99	70-130
p-Chlorotoluene	98	70-130
1,2-Dibromo-3-chloropropane	90	70-130
Hexachlorobutadiene	102	70-130
Isopropylbenzene	100	70-130
p-Isopropyltoluene	103	70-130
Naphthalene	104	70-130
n-Propylbenzene	102	70-130
1,2,3-Trichlorobenzene	100	70-130
1,2,4-Trichlorobenzene	100	70-130
1,3,5-Trimethylbenzene	104	70-130
1,2,4-Trimethylbenzene	105	70-130
Ethyl ether	93	70-130
Isopropyl Ether	92	70-130
Ethyl-Tert-Butyl-Ether	94	70-130
Tertiary-Amyl Methyl Ether	97	70-130
1,4-Dioxane	89	70-130
Surrogate (s)		
1,2-Dichloroethane-d4	93	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	96	70-130
Dibromofluoromethane	97	70-130
Semivolatile Organics by MCP 8270C LCS for sample(s) 01-02 (WG162976)		
Acenaphthene	68	40-140
1,2,4-Trichlorobenzene	60	40-140
Hexachlorobenzene	90	40-140
Bis(2-chloroethyl) ether	55	40-140
2-Chloronaphthalene	68	40-140
1,2-Dichlorobenzene	54	40-140
1,3-Dichlorobenzene	54	40-140
1,4-Dichlorobenzene	55	40-140
3,3'-Dichlorobenzidine	88	40-140
2,4-Dinitrotoluene	120	40-140
2,6-Dinitrotoluene	100	40-140
Azobenzene	91	40-140
Fluoranthene	97	40-140
4-Bromophenyl phenyl ether	89	40-140
Bis(2-chloroisopropyl) ether	53	40-140
Bis(2-chloroethoxy) methane	53	40-140
Hexachlorobutadiene	61	40-140

ALPHA ANALYTICAL LABORATORIES  
 QUALITY ASSURANCE BATCH SPIKE ANALYSES

Laboratory Job Number: L0401284

Continued

Parameter	% Recovery	QC Criteria
Semivolatile Organics by MCP 8270C LCS for sample(s) 01-02 (WG162976)		
Hexachloroethane	54	40-140
Isophorone	54	40-140
Naphthalene	59	40-140
Nitrobenzene	59	40-140
Bis(2-Ethylhexyl) phthalate	110	40-140
Butyl benzyl phthalate	100	40-140
Di-n-butylphthalate	100	40-140
Di-n-octylphthalate	120	40-140
Diethyl phthalate	96	40-140
Dimethyl phthalate	84	40-140
Benzo(a)anthracene	100	40-140
Benzo(a)pyrene	100	40-140
Benzo(b)fluoranthene	110	40-140
Benzo(k)fluoranthene	100	40-140
Chrysene	95	40-140
Acenaphthylene	66	40-140
Anthracene	94	40-140
Benzo(ghi)perylene	110	40-140
Fluorene	82	40-140
Phenanthrene	91	40-140
Dibenzo(a,h)anthracene	110	40-140
Indeno(1,2,3-cd)Pyrene	110	40-140
Pyrene	96	40-140
Aniline	39	40-140
4-Chloroaniline	50	40-140
Dibenzofuran	72	40-140
2-Methylnaphthalene	59	40-140
Acetophenone	55	40-140
2,4,6-Trichlorophenol	75	30-130
2-Chlorophenol	54	30-130
2,4-Dichlorophenol	59	30-130
2,4-Dimethylphenol	48	30-130
2-Nitrophenol	56	30-130
4-Nitrophenol	79	30-130
2,4-Dinitrophenol	81	30-130
Pentachlorophenol	85	30-130
Phenol	51	30-130
2-Methylphenol	51	30-130
3-Methylphenol/4-Methylphenol	51	30-130
2,4,5-Trichlorophenol	80	30-130
Surrogate(s)		
2-Fluorophenol	48	30-130
Phenol-d6	51	30-130
Nitrobenzene-d5	52	30-130
2-Fluorobiphenyl	59	30-130
2,4,6-Tribromophenol	43	30-130
4-Terphenyl-d14	77	30-130



ALPHA ANALYTICAL LABORATORIES  
QUALITY ASSURANCE BATCH SPIKE ANALYSES

Laboratory Job Number: L0401284

Continued

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Parameter	% Recovery	QC Criteria
Polychlorinated Biphenyls by MCP 8082 LCS for sample(s) 01-02 (WG162984)		
Aroclor 1242/1016	80	40-140
Aroclor 1260	88	40-140
Surrogate(s)		
2,4,5,6-Tetrachloro-m-xylene	69	30-150
2,4,5,6-Tetrachloro-m-xylene	68	30-150
Decachlorobiphenyl	81	30-150
Decachlorobiphenyl	74	30-150
Hydrocarbon Scan by GC 8100M LCS for sample(s) 01-02 (WG162987)		
Petroleum Spike	71	40-140
Surrogate(s)		
o-Terphenyl	70	40-140

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ALPHA ANALYTICAL LABORATORIES  
 QUALITY ASSURANCE BATCH BLANK ANALYSIS

Laboratory Job Number: L0401284

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Blank Analysis for sample(s) 01-02 (WG163076-1)							
Cyanide, Reactive	ND	mg/kg	0.25	1 7.3		0213 15:00	JT
Blank Analysis for sample(s) 01-02 (WG163075-1)							
Sulfide, Reactive	ND	mg/kg	0.50	1 7.3		0213 15:00	JT
Blank Analysis for sample(s) 01-02 (WG163108-1)							
Total Metals				1 3051			
Arsenic, Total	ND	mg/kg	0.40	54 6010B	0213 17:30	0216 12:20	MG
Barium, Total	ND	mg/kg	0.40	54 6010B	0213 17:30	0216 12:20	MG
Cadmium, Total	ND	mg/kg	0.40	54 6010B	0213 17:30	0216 12:20	MG
Chromium, Total	ND	mg/kg	0.40	54 6010B	0213 17:30	0216 12:20	MG
Lead, Total	ND	mg/kg	2.0	54 6010B	0213 17:30	0216 12:20	MG
Selenium, Total	ND	mg/kg	0.80	54 6010B	0213 17:30	0216 12:20	MG
Silver, Total	ND	mg/kg	0.40	54 6010B	0213 17:30	0216 12:20	MG
Blank Analysis for sample(s) 01-02 (WG163033-2)							
Total Metals							
Mercury, Total	ND	mg/kg	0.08	54 7471A	0213 15:25	0216 12:29	DM
Blank Analysis for sample(s) 01,03 (WG162641-4)							
Volatile Organics by MCP 8260B/5035-High				54 8260B		0214 09:59	BT
Methylene chloride	ND	ug/kg	500				
1,1-Dichloroethane	ND	ug/kg	75.				
Chloroform	ND	ug/kg	75.				
Carbon tetrachloride	ND	ug/kg	50.				
1,2-Dichloropropane	ND	ug/kg	180				
Dibromochloromethane	ND	ug/kg	50.				
1,1,2-Trichloroethane	ND	ug/kg	75.				
Tetrachloroethene	ND	ug/kg	50.				
Chlorobenzene	ND	ug/kg	50.				
Trichlorofluoromethane	ND	ug/kg	250				
1,2-Dichloroethane	ND	ug/kg	50.				
1,1,1-Trichloroethane	ND	ug/kg	50.				
Bromodichloromethane	ND	ug/kg	50.				
trans-1,3-Dichloropropene	ND	ug/kg	50.				
cis-1,3-Dichloropropene	ND	ug/kg	50.				
1,1-Dichloropropene	ND	ug/kg	250				
Bromoform	ND	ug/kg	200				
1,1,2,2-Tetrachloroethane	ND	ug/kg	50.				
Benzene	ND	ug/kg	50.				
Poluene	ND	ug/kg	75.				
Ethylbenzene	ND	ug/kg	50.				
Chloromethane	ND	ug/kg	250				
Bromomethane	ND	ug/kg	100				

ALPHA ANALYTICAL LABORATORIES  
QUALITY ASSURANCE BATCH BLANK ANALYSIS

Laboratory Job Number: L0401284

Continued

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Blank Analysis for sample(s) 01,03 (WG162641-4)							
Volatile Organics by MCP 8260B/5035-High continued					54 8260B		0214 09:59 BT
Vinyl chloride	ND	ug/kg	100				
Chloroethane	ND	ug/kg	100				
1,1-Dichloroethene	ND	ug/kg	50.				
trans-1,2-Dichloroethene	ND	ug/kg	75.				
Trichloroethene	ND	ug/kg	50.				
1,2-Dichlorobenzene	ND	ug/kg	250				
1,3-Dichlorobenzene	ND	ug/kg	250				
1,4-Dichlorobenzene	ND	ug/kg	250				
Methyl tert butyl ether	ND	ug/kg	100				
p/m-Xylene	ND	ug/kg	50.				
o-Xylene	ND	ug/kg	50.				
cis-1,2-Dichloroethene	ND	ug/kg	50.				
Dibromomethane	ND	ug/kg	500				
1,2,3-Trichloropropane	ND	ug/kg	500				
Styrene	ND	ug/kg	50.				
Dichlorodifluoromethane	ND	ug/kg	500				
Acetone	ND	ug/kg	500				
Carbon disulfide	ND	ug/kg	500				
2-Butanone	ND	ug/kg	500				
4-Methyl-2-pentanone	ND	ug/kg	500				
2-Hexanone	ND	ug/kg	500				
Bromochloromethane	ND	ug/kg	250				
Tetrahydrofuran	ND	ug/kg	1000				
2,2-Dichloropropane	ND	ug/kg	250				
1,2-Dibromoethane	ND	ug/kg	250				
1,3-Dichloropropane	ND	ug/kg	250				
1,1,1,2-Tetrachloroethane	ND	ug/kg	50.				
Bromobenzene	ND	ug/kg	250				
n-Butylbenzene	ND	ug/kg	50.				
sec-Butylbenzene	ND	ug/kg	50.				
tert-Butylbenzene	ND	ug/kg	250				
o-Chlorotoluene	ND	ug/kg	250				
p-Chlorotoluene	ND	ug/kg	250				
1,2-Dibromo-3-chloropropane	ND	ug/kg	250				
Hexachlorobutadiene	ND	ug/kg	250				
Isopropylbenzene	ND	ug/kg	50.				
p-Isopropyltoluene	ND	ug/kg	50.				
Naphthalene	ND	ug/kg	250				
n-Propylbenzene	ND	ug/kg	50.				
1,2,3-Trichlorobenzene	ND	ug/kg	250				
1,2,4-Trichlorobenzene	ND	ug/kg	250				
1,3,5-Trimethylbenzene	ND	ug/kg	250				
1,2,4-Trimethylbenzene	ND	ug/kg	250				
Ethyl ether	ND	ug/kg	250				
Isopropyl Ether	ND	ug/kg	200				
Ethyl-Tert-Butyl-Ether	ND	ug/kg	200				
Tertiary-Amyl Methyl Ether	ND	ug/kg	200				

ALPHA ANALYTICAL LABORATORIES  
QUALITY ASSURANCE BATCH BLANK ANALYSIS

Laboratory Job Number: L0401284

Continued

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Blank Analysis for sample(s) 01,03 (WG162641-4)							
Volatile Organics by MCP 8260B/5035-High continued				54	8260B	0214	09:59 BT
1,4-Dioxane	ND	ug/kg	25000				
Surrogate(s) Recovery QC Criteria							
1,2-Dichloroethane-d4	101.	%	70-130				
Toluene-d8	98.0	%	70-130				
4-Bromofluorobenzene	98.0	%	70-130				
Dibromofluoromethane	91.0	%	70-130				
Blank Analysis for sample(s) 02 (WG163002-6)							
Volatile Organics by MCP 8260B/5035-High				54	8260B	0217	10:14 BT
Methylene chloride	ND	ug/kg	500				
1,1-Dichloroethane	ND	ug/kg	75.				
Chloroform	ND	ug/kg	75.				
Carbon tetrachloride	ND	ug/kg	50.				
1,2-Dichloropropane	ND	ug/kg	180				
Dibromochloromethane	ND	ug/kg	50.				
1,1,2-Trichloroethane	ND	ug/kg	75.				
Tetrachloroethene	ND	ug/kg	50.				
Chlorobenzene	ND	ug/kg	50.				
Trichlorofluoromethane	ND	ug/kg	250				
1,2-Dichloroethane	ND	ug/kg	50.				
1,1,1-Trichloroethane	ND	ug/kg	50.				
Bromodichloromethane	ND	ug/kg	50.				
trans-1,3-Dichloropropene	ND	ug/kg	50.				
cis-1,3-Dichloropropene	ND	ug/kg	50.				
1,1-Dichloropropene	ND	ug/kg	250				
Bromoform	ND	ug/kg	200				
1,1,2,2-Tetrachloroethane	ND	ug/kg	50.				
Benzene	ND	ug/kg	50.				
Toluene	ND	ug/kg	75.				
Ethylbenzene	ND	ug/kg	50.				
Chloromethane	ND	ug/kg	250				
Bromomethane	ND	ug/kg	100				
Vinyl chloride	ND	ug/kg	100				
Chloroethane	ND	ug/kg	100				
1,1-Dichloroethene	ND	ug/kg	50.				
trans-1,2-Dichloroethene	ND	ug/kg	75.				
Trichloroethene	ND	ug/kg	50.				
1,2-Dichlorobenzene	ND	ug/kg	250				
1,3-Dichlorobenzene	ND	ug/kg	250				
1,4-Dichlorobenzene	ND	ug/kg	250				
Methyl tert butyl ether	ND	ug/kg	100				
p/m-Xylene	ND	ug/kg	50.				
o-Xylene	ND	ug/kg	50.				
cis-1,2-Dichloroethene	ND	ug/kg	50.				
Dibromomethane	ND	ug/kg	500				
1,2,3-Trichloropropane	ND	ug/kg	500				

ALPHA ANALYTICAL LABORATORIES  
QUALITY ASSURANCE BATCH BLANK ANALYSIS

Laboratory Job Number: L0401284

Continued

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Blank Analysis for sample(s) 02 (WG163002-6)							
Volatile Organics by MCP 8260B/5035-High continued				54 8260B		0217 10:14 BT	
Styrene	ND	ug/kg	50.				
Dichlorodifluoromethane	ND	ug/kg	500				
Acetone	ND	ug/kg	500				
Carbon disulfide	ND	ug/kg	500				
2-Butanone	ND	ug/kg	500				
4-Methyl-2-pentanone	ND	ug/kg	500				
2-Hexanone	ND	ug/kg	500				
Bromochloromethane	ND	ug/kg	250				
Tetrahydrofuran	ND	ug/kg	1000				
2,2-Dichloropropane	ND	ug/kg	250				
1,2-Dibromoethane	ND	ug/kg	250				
1,3-Dichloropropane	ND	ug/kg	250				
1,1,1,2-Tetrachloroethane	ND	ug/kg	50.				
Bromobenzene	ND	ug/kg	250				
n-Butylbenzene	ND	ug/kg	50.				
sec-Butylbenzene	ND	ug/kg	50.				
tert-Butylbenzene	ND	ug/kg	250				
o-Chlorotoluene	ND	ug/kg	250				
p-Chlorotoluene	ND	ug/kg	250				
1,2-Dibromo-3-chloropropane	ND	ug/kg	250				
Hexachlorobutadiene	ND	ug/kg	250				
Isopropylbenzene	ND	ug/kg	50.				
p-Isopropyltoluene	ND	ug/kg	50.				
Naphthalene	ND	ug/kg	250				
n-Propylbenzene	ND	ug/kg	50.				
1,2,3-Trichlorobenzene	ND	ug/kg	250				
1,2,4-Trichlorobenzene	ND	ug/kg	250				
1,3,5-Trimethylbenzene	ND	ug/kg	250				
1,2,4-Trimethylbenzene	ND	ug/kg	250				
Ethyl ether	ND	ug/kg	250				
Isopropyl Ether	ND	ug/kg	200				
Ethyl-Tert-Butyl-Ether	ND	ug/kg	200				
Tertiary-Amyl Methyl Ether	ND	ug/kg	200				
1,4-Dioxane	ND	ug/kg	25000				
Surrogate(s) Recovery QC Criteria							
1,2-Dichloroethane-d4	96.0	%					70-130
Toluene-d8	104.	%					70-130
4-Bromofluorobenzene	99.0	%					70-130
Dibromofluoromethane	93.0	%					70-130
Blank Analysis for sample(s) 01-02 (WG162976-1)							
Semivolatile Organics by MCP 8270C				54 8270C		0212 16:40 0213 15:04 HL	
Acenaphthene	ND	ug/kg	500				
1,2,4-Trichlorobenzene	ND	ug/kg	500				
Hexachlorobenzene	ND	ug/kg	500				
Bis(2-chloroethyl) ether	ND	ug/kg	500				

ALPHA ANALYTICAL LABORATORIES  
QUALITY ASSURANCE BATCH BLANK ANALYSIS

Laboratory Job Number: L0401284

Continued

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Blank Analysis for sample(s) 01-02 (WG162976-1)							
Semivolatile Organics by MCP 8270C continued				54 8270C	0212 16:40	0213 15:04	HL
2-Chloronaphthalene	ND	ug/kg	500				
1,2-Dichlorobenzene	ND	ug/kg	500				
1,3-Dichlorobenzene	ND	ug/kg	500				
1,4-Dichlorobenzene	ND	ug/kg	500				
3,3'-Dichlorobenzidine	ND	ug/kg	1000				
2,4-Dinitrotoluene	ND	ug/kg	500				
2,6-Dinitrotoluene	ND	ug/kg	500				
Azobenzene	ND	ug/kg	500				
Fluoranthene	ND	ug/kg	500				
4-Bromophenyl phenyl ether	ND	ug/kg	500				
Bis(2-chloroisopropyl) ether	ND	ug/kg	500				
Bis(2-chloroethoxy) methane	ND	ug/kg	500				
Hexachlorobutadiene	ND	ug/kg	1000				
Hexachloroethane	ND	ug/kg	500				
Isophorone	ND	ug/kg	500				
Naphthalene	ND	ug/kg	500				
Nitrobenzene	ND	ug/kg	500				
Bis(2-Ethylhexyl) phthalate	ND	ug/kg	1000				
Butyl benzyl phthalate	ND	ug/kg	500				
Di-n-butylphthalate	ND	ug/kg	500				
Di-n-octylphthalate	ND	ug/kg	500				
Diethyl phthalate	ND	ug/kg	500				
Dimethyl phthalate	ND	ug/kg	500				
Benzo (a) anthracene	ND	ug/kg	500				
Benzo (a) pyrene	ND	ug/kg	500				
Benzo (b) fluoranthene	ND	ug/kg	500				
Benzo (k) fluoranthene	ND	ug/kg	500				
Chrysene	ND	ug/kg	500				
Acenaphthylene	ND	ug/kg	500				
Anthracene	ND	ug/kg	500				
Benzo (ghi) perylene	ND	ug/kg	500				
Fluorene	ND	ug/kg	500				
Phenanthrene	ND	ug/kg	500				
Dibenzo (a, h) anthracene	ND	ug/kg	500				
Indeno (1, 2, 3 -cd) Pyrene	ND	ug/kg	500				
Pyrene	ND	ug/kg	500				
Aniline	ND	ug/kg	1000				
4-Chloroaniline	ND	ug/kg	500				
Dibenzofuran	ND	ug/kg	500				
2-Methylnaphthalene	ND	ug/kg	500				
Acetophenone	ND	ug/kg	2000				
2,4,6-Trichlorophenol	ND	ug/kg	500				
2-Chlorophenol	ND	ug/kg	600				
2,4-Dichlorophenol	ND	ug/kg	1000				
2,4-Dimethylphenol	ND	ug/kg	500				
2-Nitrophenol	ND	ug/kg	2000				
4-Nitrophenol	ND	ug/kg	1000				

ALPHA ANALYTICAL LABORATORIES  
QUALITY ASSURANCE BATCH BLANK ANALYSIS

Laboratory Job Number: L0401284

Continued

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Blank Analysis for sample(s) 01-02 (WG162976-1)							
Semivolatile Organics by MCP 8270C continued							
				54 8270C	0212 16:40	0213 15:04	HL
2,4-Dinitrophenol	ND	ug/kg	2000				
Pentachlorophenol	ND	ug/kg	2000				
Phenol	ND	ug/kg	700				
2-Methylphenol	ND	ug/kg	600				
3-Methylphenol/4-Methylphenol	ND	ug/kg	600				
2,4,5-Trichlorophenol	ND	ug/kg	500				
Surrogate(s)	Recovery						QC Criteria
2-Fluorophenol	53.0	%	30-130				
Phenol-d6	55.0	%	30-130				
Nitrobenzene-d5	58.0	%	30-130				
2-Fluorobiphenyl	60.0	%	30-130				
2,4,6-Tribromophenol	36.0	%	30-130				
4-Terphenyl-d14	81.0	%	30-130				
Blank Analysis for sample(s) 01-02 (WG162984-1)							
Polychlorinated Biphenyls by MCP 8082							
				54 8082	0212 21:30	0213 11:39	AK
Surrogate(s)	Recovery						QC Criteria
2,4,5,6-Tetrachloro-m-xylene	96.0	%	30-150				
Decachlorobiphenyl	112.	%	30-150				
Blank Analysis for sample(s) 01-02 (WG162984-1)							
Polychlorinated Biphenyls by MCP 8082							
				54 8082	0212 21:30	0213 11:39	AK
Aroclor 1221	ND	ug/kg	200.				
Aroclor 1232	ND	ug/kg	200.				
Aroclor 1242/1016	ND	ug/kg	200.				
Aroclor 1248	ND	ug/kg	200.				
Aroclor 1254	ND	ug/kg	200.				
Aroclor 1260	ND	ug/kg	200.				
Aroclor 1262	ND	ug/kg	200.				
Aroclor 1268	ND	ug/kg	200.				
Surrogate(s)	Recovery						QC Criteria
2,4,5,6-Tetrachloro-m-xylene	92.0	%	30-150				
Decachlorobiphenyl	101.	%	30-150				
Blank Analysis for sample(s) 01-02 (WG162987-1)							
Hydrocarbon Scan by GC 8100M							
				1 8100M	0212 21:00	0213 18:27	JB
Mineral Spirits	ND	mg/kg	100				
Gasoline	ND	mg/kg	100				
Fuel Oil #2/Diesel	ND	mg/kg	100				
Fuel Oil #4	ND	mg/kg	100				
Fuel Oil #6	ND	mg/kg	100				
Motor Oil	ND	mg/kg	100				
Kerosene	ND	mg/kg	100				
Transformer Oil	ND	mg/kg	100				

ALPHA ANALYTICAL LABORATORIES  
 QUALITY ASSURANCE BATCH BLANK ANALYSIS

Laboratory Job Number: L0401284

Continued

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Blank Analysis for sample(s) 01-02 (WG162987-1)							
Hydrocarbon Scan by GC 8100M continued				1	8100M	0212 21:00	0213 18:27 JB
Unknown Hydrocarbon	ND	mg/kg	100				
Surrogate(s)	Recovery			QC Criteria			
o-Terphenyl	72.0	%		40-140			



ALPHA ANALYTICAL LABORATORIES  
ADDENDUM I

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REFERENCES

1. Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - IIIA, 1997.
30. Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WPCF. 18th Edition. 1992.
54. Compendium of Quality Assurance and Quality Control Requirements and Performance Standards for Selected Analytical Methods. MADEP BWSC. Final Methods. May 2003.

GLOSSARY OF TERMS AND SYMBOLS

REF Reference number in which test method may be found.  
METHOD Method number by which analysis was performed.  
ID Initials of the analyst.  
ND Not detected in comparison to the reported detection limit.

Please note that all solid samples are reported on dry weight basis unless noted otherwise.

LIMITATION OF LIABILITIES

Alpha Analytical, Inc. performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical, Inc., shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical, Inc. be held liable for any incidental consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical, Inc.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding times and splitting of samples in the field.

ALPHA ANALYTICAL LABORATORIES  
 LOGIN SPECIFIC INFORMATION

Laboratory Job Number: L0401284

Were project specific reporting limits specified? YES

Cooler Information

Cooler	Custody Seal
A	Absent

Container Information

Container ID	Container Type	Cooler	pH	Temp	Pres	Seal	Analysis
L0401284-01A	Vial MeOH preserved	A	NA	0.4 C	Y	Absent	MCP-8260H
L0401284-01B	Amber 250ml unpreserved	A	NA	0.4 C	Y	Absent	AG-TI, AS-TI, BA-TI, CD-TI, CR-TI, HG-T, MCP-8082, MCP-8270, PB-TI, PREPT, SE-TI, TPH-8100
L0401284-01C	Amber 250ml unpreserved	A	NA	0.4 C	Y	Absent	FLASH, PH-9045, REACTCN, REACTS, TS
L0401284-02A	Vial MeOH preserved	A	NA	0.4 C	Y	Absent	MCP-8260H
L0401284-02B	Amber 250ml unpreserved	A	NA	0.4 C	Y	Absent	AG-TI, AS-TI, BA-TI, CD-TI, CR-TI, HG-T, MCP-8082, MCP-8270, PB-TI, PREPT, SE-TI, TPH-8100
L0401284-02C	Amber 250ml unpreserved	A	NA	0.4 C	Y	Absent	FLASH, PH-9045, REACTCN, REACTS, TS
L0401284-03A	Vial MeOH preserved	A	NA	0.4 C	Y	Absent	MCP-8260H

Container Comments

Container ID    Comments

# CHAIN OF CUSTODY RECORD

LABORATORY ADDRESS CONTACT  
 DELIVERY DATE TURNAROUND TIME PROJECT MANAGER  
 H&A FILE NO. 30600-000  
 PROJECT NAME BARNBANK SENIOR OIL RELEASE  
 H&A CONTACT Matt Coombs

Sample No.	Date	Time	Depth	Type	Analysis Requested										Number of Containers	Comments (special instructions, precautions, additional method numbers, etc.)	
					VOA	ABNs PAH only	MCP Metals	Pesticides PCBs	VPH	Full Suite C-changes only	EPA Full Suite	C-changes only	TPH (specify)	TCLP (specify)			Reactivity Ignitability
U15T-SAMPLE 4-S1	2/12/04	08:50 AM	---	SOLID	X								X	X	X	3	Laboratory to use applicable DEP CAM methods, unless otherwise directed. ① VOCs (8260 HIGH) ② TPH by GC-FID (8000M) ③ WASTE CHARACTERISTICS (Flash, reactivity, pH) ④ ACRA 8 METALS ⑤ SVOCs (8270)
U15T-SAMPLE 5-S1	"	09:00 AM	---	"	X								X	X	X	3	
TRIP 2260 HIGH	2/10/04	12:00	---	---	X												
Received by					LIQUID										Sampling Comments		
Sign: <i>Todd Bunker</i>	Print: Todd Bunker	Firm: 779A	Date: 2/12/04	Time: 1910													
Relinquished by					SOLID										Evidence samples were tampered with? YES NO		
Sign: <i>D. Lachy</i>	Print: D. Lachy	Firm: 779A	Date: 2/12/04	Time: 1910											If YES, please explain in section below.		
Received by					PRESERVATION KEY										Required Reporting Limits and Data Quality Objectives		
Sign:	Print:	Firm:	Date:	Time:	A	B	C	D	E	F	G	H				<input type="checkbox"/> RC-S1 <input type="checkbox"/> RC-S2 <input type="checkbox"/> RC-GW1 <input type="checkbox"/> RC-GW2 <input checked="" type="checkbox"/> S1 <input type="checkbox"/> S2 <input type="checkbox"/> S3 <input type="checkbox"/> GW1 <input checked="" type="checkbox"/> GW2 <input checked="" type="checkbox"/> GW3	

**If Presumptive Certainty Data Package is needed, initial all sections:**  
 YES The required minimum field QC samples, as designated in BWSC CAM-VII have been or will be collected, as appropriate, to meet the requirements of Presumptive Certainty.  
 NO Matrix Spike (MS) samples for MCP Metals and/or Cyanide are included and identified herein.  
 N/A This Chain of Custody Record (specify) includes does not include samples defined as Drinking Water Samples.  
 N/A If this Chain of Custody Record identifies samples defined as Drinking Water Samples, Trip Blanks and Field Duplicates are included and identified and analysis of TICs are required, as appropriate. Laboratory should (specify if applicable) hold for contingency testing the Drinking Water Field Duplicate and Drinking Water Trip Blank samples.

WHITE - Laboratory CANARY - Project Manager GOLDENROD - Haley & Aldrich Contact  
 PINK - Haley & Aldrich Laboratory

ALPHA ANALYTICAL LABORATORIES

Eight Walkup Drive  
Westborough, Massachusetts 01581-1019  
(508) 898-9220 www.alphalab.com

MA:M-MA086 NH:200301-A CT:PH-0574 ME:MA086 RI:65 NY:11148 NJ:MA935 Army:USACE

CERTIFICATE OF ANALYSIS

Client: Haley & Aldrich, Inc. Laboratory Job Number: L0401423  
Address: 465 Medford Street, Suite 2200  
Boston, MA 02129-1400 Date Received: 17-FEB-2004  
Attn: Mr. Steve Provencal Date Reported: 18-FEB-2004  
Project Number: 30660-000 Delivery Method: Alpha  
Site: BURBANK SCHOOL

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ALPHA SAMPLE NUMBER	CLIENT IDENTIFICATION	SAMPLE LOCATION
L0401423-01	BG1-S1	BELMONT, MA
L0401423-02	BG2-S1	BELMONT, MA
L0401423-03	BG3-S1	BELMONT, MA
L0401423-04	CCP-SW1-S1	BELMONT, MA
L0401423-05	CCP-SW2-S1	BELMONT, MA

I, the undersigned, attest under the pains and penalties of perjury that, based upon my personal inquiry of those responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

---

Authorized by: James Todaro  
This document electronically signed

ALPHA ANALYTICAL LABORATORIES  
CERTIFICATE OF ANALYSIS

MA:M-MA086 NH:200301-A CT:PH-0574 ME:MA086 RI:65 NY:11148 NJ:MA935 Army:USACE

Laboratory Sample Number: L0401423-01 Date Collected: 17-FEB-2004 14:00  
BG1-S1 Date Received : 17-FEB-2004  
Sample Matrix: SOIL Date Reported : 18-FEB-2004  
Condition of Sample: Satisfactory Field Prep: None  
Number & Type of Containers: 1-Amber

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Solids, Total	58.	%	0.10	30 2540G			0218 08:15 ED
Hydrocarbon Scan by GC 8100M				1 8100M	0217 15:40	0218 13:20	JB
Mineral Spirits	ND	mg/kg	170				
Gasoline	ND	mg/kg	170				
Fuel Oil #2/Diesel	ND	mg/kg	170				
Fuel Oil #4	ND	mg/kg	170				
Fuel Oil #6	ND	mg/kg	170				
Motor Oil	ND	mg/kg	170				
Kerosene	ND	mg/kg	170				
Transformer Oil	ND	mg/kg	170				
Unknown Hydrocarbon	280	mg/kg	170				
Surrogate(s)	Recovery		QC Criteria				
o-Terphenyl	92.0	%	40-140				

Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES  
CERTIFICATE OF ANALYSIS

MA:M-MA086 NH:200301-A CT:PH-0574 ME:MA086 RI:65 NY:11148 NJ:MA935 Army:USACE

Laboratory Sample Number: L0401423-02

Date Collected: 17-FEB-2004 13:56

BG2-S1

Date Received : 17-FEB-2004

Sample Matrix:

SOIL

Date Reported : 18-FEB-2004

Condition of Sample: Satisfactory

Field Prep: None

Number & Type of Containers: 1-Amber

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Solids, Total	73.	%	0.10	30 2540G			0218 08:15 ED
Hydrocarbon Scan by GC 8100M				1 8100M	0217 15:40		0218 13:20 JB
Mineral Spirits	ND	mg/kg	140				
Gasoline	ND	mg/kg	140				
Fuel Oil #2/Diesel	ND	mg/kg	140				
Fuel Oil #4	ND	mg/kg	140				
Fuel Oil #6	ND	mg/kg	140				
Motor Oil	ND	mg/kg	140				
Kerosene	ND	mg/kg	140				
Transformer Oil	ND	mg/kg	140				
Unknown Hydrocarbon	160	mg/kg	140				
Surrogate(s)	Recovery		QC Criteria				
o-Terphenyl	79.0	%	40-140				

Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES  
CERTIFICATE OF ANALYSIS

MA:M-MA086 NH:200301-A CT:PH-0574 ME:MA086 RI:65 NY:11148 NJ:MA935 Army:USACE

Laboratory Sample Number: L0401423-03  
 BG3-S1  
 Sample Matrix: SOIL  
 Condition of Sample: Satisfactory  
 Number & Type of Containers: 1-Amber  
 Date Collected: 17-FEB-2004 13:51  
 Date Received : 17-FEB-2004  
 Date Reported : 18-FEB-2004  
 Field Prep: None

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Solids, Total	86.	%	0.10	30 2540G		0217 23:45	LK
Hydrocarbon Scan by GC 8100M				1 8100M		0217 15:40	0218 14:23 JB
Mineral Spirits	ND	mg/kg	120				
Gasoline	ND	mg/kg	120				
Fuel Oil #2/Diesel	ND	mg/kg	120				
Fuel Oil #4	ND	mg/kg	120				
Fuel Oil #6	ND	mg/kg	120				
Motor Oil	ND	mg/kg	120				
Kerosene	ND	mg/kg	120				
Transformer Oil	ND	mg/kg	120				
Unknown Hydrocarbon	320	mg/kg	120				
Surrogate(s)	Recovery			QC Criteria			
o-Terphenyl	89.0	%		40-140			

Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES  
 CERTIFICATE OF ANALYSIS

MA:M-MA086 NH:200301-A CT:PH-0574 ME:MA086 RI:65 NY:11148 NJ:MA935 Army:USACE

Laboratory Sample Number: L0401423-04

Date Collected: 17-FEB-2004 09:12

CCP-SW1-S1

Date Received : 17-FEB-2004

Sample Matrix:

SOIL

Date Reported : 18-FEB-2004

Condition of Sample: Satisfactory

Field Prep: None

Number & Type of Containers: 1-Amber

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Solids, Total	82.	%	0.10	30 2540G		0218 08:15	ED
Hydrocarbon Scan by GC 8100M				1 8100M	0217 15:40	0218 11:17	JB
Mineral Spirits	ND	mg/kg	120				
Gasoline	ND	mg/kg	120				
Fuel Oil #2/Diesel	ND	mg/kg	120				
Fuel Oil #4	ND	mg/kg	120				
Fuel Oil #6	ND	mg/kg	120				
Motor Oil	ND	mg/kg	120				
Kerosene	ND	mg/kg	120				
Transformer Oil	ND	mg/kg	120				
Unknown Hydrocarbon	480	mg/kg	120				
Surrogate(s)	Recovery			QC Criteria			
o-Terphenyl	98.0	%		40-140			

Comments: Complete list of References and Glossary of Terms found in Addendum I



ALPHA ANALYTICAL LABORATORIES  
 CERTIFICATE OF ANALYSIS

MA:M-MA086 NH:200301-A CT:PH-0574 ME:MA086 RI:65 NY:11148 NJ:MA935 Army:USACE

Laboratory Sample Number: L0401423-05	Date Collected: 17-FEB-2004 11:00
CCP-SW2-S1	Date Received : 17-FEB-2004
Sample Matrix:                          SOIL	Date Reported : 18-FEB-2004
Condition of Sample:          Satisfactory	Field Prep:          None
Number & Type of Containers: 1-Amber	

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Solids, Total	75.	%	0.10	30 2540G		0217 23:45	LK
Hydrocarbon Scan by GC 8100M				1 8100M		0217 15:40	0218 12:16 JB
Mineral Spirits	ND	mg/kg	130				
Gasoline	ND	mg/kg	130				
Fuel Oil #2/Diesel	ND	mg/kg	130				
Fuel Oil #4	ND	mg/kg	130				
Fuel Oil #6	ND	mg/kg	130				
Motor Oil	ND	mg/kg	130				
Kerosene	ND	mg/kg	130				
Transformer Oil	ND	mg/kg	130				
Unknown Hydrocarbon	320	mg/kg	130				
Surrogate(s)	Recovery			QC Criteria			
o-Terphenyl	88.0	%		40-140			

Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES  
 QUALITY ASSURANCE BATCH DUPLICATE ANALYSIS

Laboratory Job Number: L0401423

Parameter	Value 1	Value 2	Units	RPD	RPD Limits
Solids, Total for sample(s) 03,05 (L0401300-01, WG163317)					
Solids, Total	91.	91.	%	0	
Solids, Total for sample(s) 01-02,04 (L0401423-01, WG163328)					
Solids, Total	58.	60.	%	3	
Hydrocarbon Scan by GC 8100M for sample(s) 01-05 (L0401385-02, WG163309)					
Mineral Spirits	ND	ND	mg/kg	NC	40
Gasoline	ND	ND	mg/kg	NC	40
Fuel Oil #2/Diesel	ND	ND	mg/kg	NC	40
Fuel Oil #4	ND	ND	mg/kg	NC	40
Fuel Oil #6	ND	ND	mg/kg	NC	40
Motor Oil	ND	ND	mg/kg	NC	40
Kerosene	ND	ND	mg/kg	NC	40
Transformer Oil	ND	ND	mg/kg	NC	40
Unknown Hydrocarbon	370	330	mg/kg	11	40
Surrogate(s)	Recovery				QC Criteria
o-Terphenyl	96.0	87.0	%	10	40-140

ALPHA ANALYTICAL LABORATORIES  
QUALITY ASSURANCE BATCH SPIKE ANALYSES

Laboratory Job Number: L0401423

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Parameter	% Recovery	QC Criteria
Hydrocarbon Scan by GC 8100M LCS for sample(s) 01-05 (WG163309)		
Petroleum Spike	101	40-140
Surrogate(s)		
o-Terphenyl	99	40-140

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ALPHA ANALYTICAL LABORATORIES  
 QUALITY ASSURANCE BATCH BLANK ANALYSIS

Laboratory Job Number: L0401423

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Blank Analysis for sample(s) 01-05 (WG163309-1)							
Hydrocarbon Scan by GC 8100M				1	8100M	0217 15:40	0218 09:08 JB
Mineral Spirits	ND	mg/kg	100				
Gasoline	ND	mg/kg	100				
Fuel Oil #2/Diesel	ND	mg/kg	100				
Fuel Oil #4	ND	mg/kg	100				
Fuel Oil #6	ND	mg/kg	100				
Motor Oil	ND	mg/kg	100				
Kerosene	ND	mg/kg	100				
Transformer Oil	ND	mg/kg	100				
Unknown Hydrocarbon	ND	mg/kg	100				
Surrogate(s)	Recovery		QC Criteria				
o-Terphenyl	90.0	%	40-140				

ALPHA ANALYTICAL LABORATORIES  
ADDENDUM I

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REFERENCES

1. Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - IIIA, 1997.
30. Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WPCF. 18th Edition. 1992.

GLOSSARY OF TERMS AND SYMBOLS

REF Reference number in which test method may be found.  
METHOD Method number by which analysis was performed.  
ID Initials of the analyst.  
ND Not detected in comparison to the reported detection limit.

Please note that all solid samples are reported on dry weight basis unless noted otherwise.

LIMITATION OF LIABILITIES

Alpha Analytical, Inc. performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical, Inc., shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical, Inc. be held liable for any incidental consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical, Inc.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding times and splitting of samples in the field.

**CHAIN OF CUSTODY RECORD**

H&A FILE NO. 30660-2002  
PROJECT NAME BRYANT SCHOOL  
H&A CONTACT MAT CARROLL

LABORATORY ADDRESS FOHA  
CONTACT

DELIVERY DATE 2-17-2004  
TURNAROUND TIME SEE COMMENTS  
PROJECT MANAGER JANEL DEWNEY

Sample No.	Date	Time	Depth	Type	Analysis Requested										Number of Containers	Comments (special instructions, precautions, additional method numbers, etc.)			
					VOA	ABNs PAH only	MCP Metals	Pesticides PCBs	① VPH Full Suite C-ranges only	② EPH Full Suite C-ranges only	③ TPH (specify)	TCLP (specify)	Reactivity Ignitability Corrosivity						
BG1-S1	2/17/04	1400		SOIL					X	X	X						2	Laboratory to use applicable DEP CAM methods, unless otherwise directed. ① #2 EPH/VPH & TARGT ANALYTICS ② TPH BY QM71 * TPH REMOVED 2/17/04 * EPH/TPH REMOVED 2-3 DMY'S	
BG2-S4		1356							X	X	X						2		
BG3-S1		1351							X	X	X						2		
CEL-SW1-S1		0912							X	X	X						2		
CEL-SW2-S1		1100							X	X	X						2		
Sampled and Relinquished by Sign <u>Todd Bulte</u> Print <u>Todd Bulte</u> Firm <u>145-A</u> Date <u>2/17/04</u> Time <u>1525</u>					Received by Sign <u>[Signature]</u> Print <u>[Signature]</u> Firm <u>[Signature]</u> Date <u>2/17/04</u> Time <u>1525</u>					Relinquished by Sign <u>[Signature]</u> Print <u>[Signature]</u> Firm <u>[Signature]</u> Date <u>2/17/04</u> Time <u>1525</u>					Received by Sign <u>[Signature]</u> Print <u>[Signature]</u> Firm <u>[Signature]</u> Date <u>2/17/04</u> Time <u>1525</u>				
Sign <u>[Signature]</u> Print <u>[Signature]</u> Firm <u>[Signature]</u> Date <u>2/17/04</u> Time <u>1345</u>					Sign <u>[Signature]</u> Print <u>[Signature]</u> Firm <u>[Signature]</u> Date <u>2/17/04</u> Time <u>1345</u>					Sign <u>[Signature]</u> Print <u>[Signature]</u> Firm <u>[Signature]</u> Date <u>2/17/04</u> Time <u>1345</u>					Sign <u>[Signature]</u> Print <u>[Signature]</u> Firm <u>[Signature]</u> Date <u>2/17/04</u> Time <u>1345</u>				

**Presumptive Certainty Data Package (Laboratory to use applicable DEP CAM methods)**

If Presumptive Certainty Data Package is needed, initial all sections:  
The required minimum field QC samples, as designated in BW&C CAM-VII have been or will be collected, as appropriate, to meet the requirements of Presumptive Certainty.  
Matrix Spike (MS) samples for MCP Metals and/or Cyanide are included and identified herein.  
This Chain of Custody Record (specify) \_\_\_\_\_ includes \_\_\_\_\_ does not include samples defined as Drinking Water Samples.  
If this Chain of Custody Record identifies samples defined as Drinking Water Samples, Trip Blanks and Field Duplicates are included and identified and analysis of TICs are required, as appropriate. Laboratory should (specify if applicable) \_\_\_\_\_ analyze \_\_\_\_\_ hold for contingency testing the Drinking Water Field Duplicate and Drinking Water Trip Blank samples.

**PRESERVATION KEY**

A Sample chilled	C NaOH	E H <sub>2</sub> SO <sub>4</sub>	G Methanol
B Sample filtered	D HNO <sub>3</sub>	F HCL	H Water/NaHSO <sub>4</sub> (circle)

**Required Reporting Limits and Data Quality Objectives**

- RC-S1
- RC-S2
- RC-GW1
- RC-GW2
- S1
- S2
- S3
- GW1
- GW2
- GW3

ALPHA ANALYTICAL LABORATORIES

Eight Walkup Drive  
Westborough, Massachusetts 01581-1019  
(508) 898-9220 www.alphalab.com

MA:M-MA086 NH:200301-A CT:PH-0574 ME:MA086 RI:65 NY:11148 NJ:MA935 Army:USACE

CERTIFICATE OF ANALYSIS

Client: Haley & Aldrich, Inc. Laboratory Job Number: L0401424  
Address: 465 Medford Street, Suite 2200  
Boston, MA 02129-1400 Date Received: 17-FEB-2004  
Attn: Mr. Steve Provencal Date Reported: 20-FEB-2004  
Project Number: 30660-000 Delivery Method: Alpha  
Site: BURBANK SCHOOL

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The following questions pertain only to MCP Analytical Methods

An affirmative response to questions A,B,C & D is required for "Presumptive Certainty" status

- A. Were all samples received by the laboratory in a condition consistent with those described on their Chain-of-Custody documentation for the data set? YES
- B. Were all QA/QC procedures required for the specified analytical method(s) included in this report followed, including the requirement to note and discuss in a narrative QC data that did not meet appropriate performance standards or guidelines? YES
- C. Does the analytical data included in this report meet all the requirements for "Presumptive Certainty", as described in section 2.0 of the MADEP document CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data"? YES
- D. VPH and EPH methods only: Was the VPH or EPH method run without significant modifications, as specified in Section 11.3? YES

A response to questions E and F is required for "Presumptive Certainty" status

- E. Were all QC performance standards and recommendations for the specified method(s) achieved? YES
- F. Were results for all analyte-list compounds/elements for the specified method(s) reported? YES

Any answers of NO to the above questions are addressed in the case narrative.

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I, the undersigned, attest under the pains and penalties of perjury that, based upon my personal inquiry of those responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

---

Authorized by: James Todaro  
This document electronically signed

ALPHA ANALYTICAL LABORATORIES

Laboratory Job Number: L0401424

Date Reported: 20-FEB-2004

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ALPHA SAMPLE NUMBER	CLIENT IDENTIFICATION	SAMPLE LOCATION
L0401424-01	BG1-SS1	BELMONT, MA
L0401424-02	BG2-SS1	BELMONT, MA
L0401424-03	BG3-SS1	BELMONT, MA
L0401424-04	CCP-SW1-S1	BELMONT, MA
L0401424-05	CCP-SW2-S1	BELMONT, MA



ALPHA ANALYTICAL LABORATORIES  
NARRATIVE REPORT

Laboratory Job Number: L0401424

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MCP Related Narratives

Extraction methods

Extraction method 3545 was used as the extraction method for the analysis of EPH by method 98-1.

Report Submission

All MCP required questions were answered with affirmative responses, therefore, there are no relevant data issues to discuss.

ALPHA ANALYTICAL LABORATORIES  
 CERTIFICATE OF ANALYSIS

MA:M-MA086 NH:200301-A CT:PH-0574 ME:MA086 RI:65 NY:11148 NJ:MA935 Army:USACE

Laboratory Sample Number: L0401424-01  
 BG1-SS1  
 Sample Matrix: SOIL  
 Condition of Sample: Satisfactory  
 Number & Type of Containers: 1-Amber,1-Vial  
 Date Collected: 17-FEB-2004 14:00  
 Date Received : 17-FEB-2004  
 Date Reported : 20-FEB-2004  
 Field Prep: None

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Solids, Total	58.	%	0.10	30 2540G	0218	08:15	ED

Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES  
CERTIFICATE OF ANALYSIS

Laboratory Sample Number: L0401424-01  
BG1-SS1

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Volatile Petroleum Hydrocarbons				47 98-1		0218 12:05	PS

Quality Control Information

Condition of sample received:	Satisfactory	
Sample temperature upon receipt:	Received on Ice	
Were samples received in methanol?	Covering the Soil	
Methanol ratio:	Below 1:1 +/- 25%	
Were all QA/QC procedures REQUIRED by the method followed?		YES
Were all performance/acceptance standards for the required procedures achieved?		YES
Were significant modifications made to the method as specified in Sect 11.3?		NO
The normal acceptance range for the surrogate, 2,5-Dibromotoluene, is 70-130%.		

C5-C8 Aliphatics, Unadjusted	ND	mg/kg	5.56
C9-C12 Aliphatics, Unadjusted	ND	mg/kg	5.56
C9-C10 Aromatics	ND	mg/kg	5.56
C5-C8 Aliphatics, Adjusted	ND	mg/kg	5.56
C9-C12 Aliphatics, Adjusted	ND	mg/kg	5.56
Benzene	ND	mg/kg	0.278
Toluene	ND	mg/kg	0.278
Ethylbenzene	ND	mg/kg	0.278
p/m-Xylene	ND	mg/kg	0.278
o-Xylene	ND	mg/kg	0.278
Methyl tert butyl ether	ND	mg/kg	0.556
Naphthalene	ND	mg/kg	2.78

Surrogate(s)	Recovery		QC Criteria
2,5-Dibromotoluene-PID	93.0	%	70-130
2,5-Dibromotoluene-FID	96.0	%	70-130

Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES  
CERTIFICATE OF ANALYSIS

Laboratory Sample Number: L0401424-01  
BG1-SS1

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	

Extractable Petroleum Hydrocarbons				46 98-1		0217 17:25	0219 21:48	LL
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Quality Control Information

Condition of sample received:	Satisfactory	
Sample temperature upon receipt:	Received on Ice	
Sample extraction method:	Extracted Per the Method	
Were all QA/QC procedures REQUIRED by the method followed?		YES
Were all performance/acceptance standards for the required procedures achieved?		YES
Were significant modifications made to the method as specified in Sect 11.3?		NO
The normal acceptance range for the extraction surrogates, Chloro-octadecane and o-Terphenyl, is 40-140%.		
The normal acceptance range for the fractionation surrogates, 2-Fluorobiphenyl and 2-Bromonaphthalene, is 40-140%.		

C9-C18 Aliphatics	23.0	mg/kg	17.2
C19-C36 Aliphatics	80.0	mg/kg	17.2
C11-C22 Aromatics, Unadjusted	182.	mg/kg	17.2
C11-C22 Aromatics, Adjusted	157.	mg/kg	17.2
Naphthalene	ND	mg/kg	0.862
2-Methylnaphthalene	ND	mg/kg	0.862
Acenaphthylene	ND	mg/kg	0.862
Acenaphthene	ND	mg/kg	0.862
Fluorene	ND	mg/kg	0.862
Phenanthrene	2.28	mg/kg	0.862
Anthracene	ND	mg/kg	0.862
Fluoranthene	3.55	mg/kg	0.862
Pyrene	3.85	mg/kg	0.862
Benzo (a) anthracene	2.03	mg/kg	0.862
Chrysene	2.53	mg/kg	0.862
Benzo (b) fluoranthene	2.55	mg/kg	0.862
Benzo (k) fluoranthene	1.95	mg/kg	0.862
Benzo (a) pyrene	2.47	mg/kg	0.862
Indeno (1, 2, 3-cd) Pyrene	1.55	mg/kg	0.862
Dibenzo (a, h) anthracene	ND	mg/kg	0.862
Benzo (g, h, i) perylene	1.59	mg/kg	0.862

Surrogate (s)	Recovery		QC Criteria
Chloro-Octadecane	71.0	%	40-140
o-Terphenyl	100.	%	40-140
2-Fluorobiphenyl	78.0	%	40-140
2-Bromonaphthalene	84.0	%	40-140

Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES  
 CERTIFICATE OF ANALYSIS

MA:M-MA086 NH:200301-A CT:PH-0574 ME:MA086 RI:65 NY:11148 NJ:MA935 Army:USACE

Laboratory Sample Number: L0401424-02	Date Collected: 17-FEB-2004 13:56
BG2-SS1	Date Received : 17-FEB-2004
Sample Matrix:                          SOIL	Date Reported : 20-FEB-2004
Condition of Sample:          Satisfactory	Field Prep:          None
Number & Type of Containers: 1-Amber,1-Vial	

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Solids, Total	73.	%	0.10	30 2540G		0218 08:15	ED

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Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES  
CERTIFICATE OF ANALYSIS

Laboratory Sample Number: L0401424-02  
BG2-SS1

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	

Volatile Petroleum Hydrocarbons	47 98-1						0218 14:37 PS
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Quality Control Information

Condition of sample received:	Satisfactory	
Sample temperature upon receipt:	Received on Ice	
Were samples received in methanol?	Covering the Soil	
Methanol ratio:	Below 1:1 +/- 25%	
Were all QA/QC procedures REQUIRED by the method followed?		YES
Were all performance/acceptance standards for the required procedures achieved?		YES
Were significant modifications made to the method as specified in Sect 11.3?		NO
The normal acceptance range for the surrogate, 2,5-Dibromotoluene, is 70-130%.		

C5-C8 Aliphatics, Unadjusted	ND	mg/kg	4.19		
C9-C12 Aliphatics, Unadjusted	ND	mg/kg	4.19		
C9-C10 Aromatics	ND	mg/kg	4.19		
C5-C8 Aliphatics, Adjusted	ND	mg/kg	4.19		
C9-C12 Aliphatics, Adjusted	ND	mg/kg	4.19		
Benzene	ND	mg/kg	0.210		
Toluene	ND	mg/kg	0.210		
Ethylbenzene	ND	mg/kg	0.210		
p/m-Xylene	ND	mg/kg	0.210		
o-Xylene	ND	mg/kg	0.210		
Methyl tert butyl ether	ND	mg/kg	0.419		
Naphthalene	ND	mg/kg	2.10		
Surrogate(s)	Recovery			QC Criteria	
2,5-Dibromotoluene-PID	92.0	%		70-130	
2,5-Dibromotoluene-FID	101.	%		70-130	

Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES  
CERTIFICATE OF ANALYSIS

Laboratory Sample Number: L0401424-02  
BG2-SS1

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	

Extractable Petroleum Hydrocarbons	46 98-1	0217 17:25 0219 22:34 LL
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Quality Control Information

Condition of sample received:	Satisfactory	
Sample temperature upon receipt:	Received on Ice	
Sample extraction method:	Extracted Per the Method	
Were all QA/QC procedures REQUIRED by the method followed?		YES
Were all performance/acceptance standards for the required procedures achieved?		YES
Were significant modifications made to the method as specified in Sect 11.3?		NO
The normal acceptance range for the extraction surrogates, Chloro-octadecane and o-Terphenyl, is 40-140%.		
The normal acceptance range for the fractionation surrogates, 2-Fluorobiphenyl and 2-Bromonaphthalene, is 40-140%.		

C9-C18 Aliphatics	15.0	mg/kg	13.7
C19-C36 Aliphatics	30.5	mg/kg	13.7
C11-C22 Aromatics, Unadjusted	31.4	mg/kg	13.7
C11-C22 Aromatics, Adjusted	31.4	mg/kg	13.7
Naphthalene	ND	mg/kg	0.685
2-Methylnaphthalene	ND	mg/kg	0.685
Acenaphthylene	ND	mg/kg	0.685
Acenaphthene	ND	mg/kg	0.685
Fluorene	ND	mg/kg	0.685
Phenanthrene	ND	mg/kg	0.685
Anthracene	ND	mg/kg	0.685
Fluoranthene	ND	mg/kg	0.685
Pyrene	ND	mg/kg	0.685
Benzo(a)anthracene	ND	mg/kg	0.685
Chrysene	ND	mg/kg	0.685
Benzo(b)fluoranthene	ND	mg/kg	0.685
Benzo(k)fluoranthene	ND	mg/kg	0.685
Benzo(a)pyrene	ND	mg/kg	0.685
Indeno(1,2,3-cd)Pyrene	ND	mg/kg	0.685
Dibenzo(a,h)anthracene	ND	mg/kg	0.685
Benzo(g,h,i)perylene	ND	mg/kg	0.685

Surrogate(s)	Recovery		QC Criteria
Chloro-Octadecane	70.0	%	40-140
o-Terphenyl	79.0	%	40-140
2-Fluorobiphenyl	78.0	%	40-140
2-Bromonaphthalene	83.0	%	40-140

Comments: Complete list of References and Glossary of Terms found in Addendum I





ALPHA ANALYTICAL LABORATORIES  
CERTIFICATE OF ANALYSIS

Laboratory Sample Number: L0401424-03  
BG3-SS1

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	

Volatile Petroleum Hydrocarbons	47 98-1	0218 15:28 PS
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Quality Control Information

Condition of sample received:	Satisfactory	
Sample temperature upon receipt:	Received on Ice	
Were samples received in methanol?	Covering the Soil	
Methanol ratio:	1:1 +/- 25%	
Were all QA/QC procedures REQUIRED by the method followed?		YES
Were all performance/acceptance standards for the required procedures achieved?		YES
Were significant modifications made to the method as specified in Sect 11.3?		NO
The normal acceptance range for the surrogate, 2,5-Dibromotoluene, is 70-130%.		

C5-C8 Aliphatics, Unadjusted	ND	mg/kg	2.77
C9-C12 Aliphatics, Unadjusted	ND	mg/kg	2.77
C9-C10 Aromatics	ND	mg/kg	2.77
C5-C8 Aliphatics, Adjusted	ND	mg/kg	2.77
C9-C12 Aliphatics, Adjusted	ND	mg/kg	2.77
Benzene	ND	mg/kg	0.138
Toluene	ND	mg/kg	0.138
Ethylbenzene	ND	mg/kg	0.138
p/m-Xylene	ND	mg/kg	0.138
o-Xylene	ND	mg/kg	0.138
Methyl tert butyl ether	ND	mg/kg	0.277
Naphthalene	ND	mg/kg	1.38

Surrogate(s)	Recovery		QC Criteria
2,5-Dibromotoluene-PID	90.0	%	70-130
2,5-Dibromotoluene-FID	95.0	%	70-130

Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES  
CERTIFICATE OF ANALYSIS

Laboratory Sample Number: L0401424-03  
BG3-SS1

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE PREP    ANAL	ID
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Extractable Petroleum Hydrocarbons				46 98-1	0217 17:25 0219 23:19	LL
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Quality Control Information

Condition of sample received:	Satisfactory	
Sample temperature upon receipt:	Received on Ice	
Sample extraction method:	Extracted Per the Method	
Were all QA/QC procedures REQUIRED by the method followed?		YES
Were all performance/acceptance standards for the required procedures achieved?		YES
Were significant modifications made to the method as specified in Sect 11.3?		NO
The normal acceptance range for the extraction surrogates, Chloro-octadecane and o-Terphenyl, is 40-140%.		
The normal acceptance range for the fractionation surrogates, 2-Fluorobiphenyl and 2-Bromonaphthalene, is 40-140%.		

C9-C18 Aliphatics	ND	mg/kg	11.6
C19-C36 Aliphatics	32.3	mg/kg	11.6
C11-C22 Aromatics, Unadjusted	41.8	mg/kg	11.6
C11-C22 Aromatics, Adjusted	41.8	mg/kg	11.6
Naphthalene	ND	mg/kg	0.581
2-Methylnaphthalene	ND	mg/kg	0.581
Acenaphthylene	ND	mg/kg	0.581
Acenaphthene	ND	mg/kg	0.581
Fluorene	ND	mg/kg	0.581
Phenanthrene	ND	mg/kg	0.581
Anthracene	ND	mg/kg	0.581
Fluoranthene	ND	mg/kg	0.581
Pyrene	ND	mg/kg	0.581
Benzo(a)anthracene	ND	mg/kg	0.581
Chrysene	ND	mg/kg	0.581
Benzo(b)fluoranthene	ND	mg/kg	0.581
Benzo(k)fluoranthene	ND	mg/kg	0.581
Benzo(a)pyrene	ND	mg/kg	0.581
Indeno(1,2,3-cd)Pyrene	ND	mg/kg	0.581
Dibenzo(a,h)anthracene	ND	mg/kg	0.581
Benzo(g,h,i)perylene	ND	mg/kg	0.581

Surrogate(s)	Recovery		QC Criteria
Chloro-Octadecane	62.0	%	40-140
o-Terphenyl	78.0	%	40-140
2-Fluorobiphenyl	70.0	%	40-140
2-Bromonaphthalene	74.0	%	40-140

Comments: Complete list of References and Glossary of Terms found in Addendum I



ALPHA ANALYTICAL LABORATORIES  
CERTIFICATE OF ANALYSIS

Laboratory Sample Number: L0401424-04  
CCP-SW1-S1

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	

Volatile Petroleum Hydrocarbons			47	98-1		0218	16:18	PS
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Quality Control Information

Condition of sample received:	Satisfactory	
Sample temperature upon receipt:	Received on Ice	
Were samples received in methanol?	Covering the Soil	
Methanol ratio:	1:1 +/- 25%	
Were all QA/QC procedures REQUIRED by the method followed?		YES
Were all performance/acceptance standards for the required procedures achieved?		YES
Were significant modifications made to the method as specified in Sect 11.3?		NO
The normal acceptance range for the surrogate, 2,5-Dibromotoluene, is 70-130%.		

C5-C8 Aliphatics, Unadjusted	ND	mg/kg	2.75	
C9-C12 Aliphatics, Unadjusted	ND	mg/kg	2.75	
C9-C10 Aromatics	ND	mg/kg	2.75	
C5-C8 Aliphatics, Adjusted	ND	mg/kg	2.75	
C9-C12 Aliphatics, Adjusted	ND	mg/kg	2.75	
Benzene	ND	mg/kg	0.138	
Toluene	ND	mg/kg	0.138	
Ethylbenzene	ND	mg/kg	0.138	
p/m-Xylene	ND	mg/kg	0.138	
o-Xylene	ND	mg/kg	0.138	
Methyl tert butyl ether	ND	mg/kg	0.275	
Naphthalene	ND	mg/kg	1.38	

Surrogate(s)	Recovery		QC Criteria
2,5-Dibromotoluene-PID	99.0	%	70-130
2,5-Dibromotoluene-FID	106.	%	70-130

Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES  
CERTIFICATE OF ANALYSIS

Laboratory Sample Number: L0401424-04  
CCP-SW1-S1

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE PREP    ANAL	ID
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Extractable Petroleum Hydrocarbons	46 98-1	0217 17:25 0220 00:05 LL
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Quality Control Information

Condition of sample received:	Satisfactory	
Sample temperature upon receipt:	Received on Ice	
Sample extraction method:	Extracted Per the Method	
Were all QA/QC procedures REQUIRED by the method followed?		YES
Were all performance/acceptance standards for the required procedures achieved?		YES
Were significant modifications made to the method as specified in Sect 11.3?		NO
The normal acceptance range for the extraction surrogates, Chloro-octadecane and o-Terphenyl, is 40-140%.		
The normal acceptance range for the fractionation surrogates, 2-Fluorobiphenyl and 2-Bromonaphthalene, is 40-140%.		

C9-C18 Aliphatics	ND	mg/kg	12.2
C19-C36 Aliphatics	42.2	mg/kg	12.2
C11-C22 Aromatics, Unadjusted	161.	mg/kg	12.2
C11-C22 Aromatics, Adjusted	135.	mg/kg	12.2
Naphthalene	ND	mg/kg	0.610
2-Methylnaphthalene	ND	mg/kg	0.610
Acenaphthylene	1.09	mg/kg	0.610
Acenaphthene	ND	mg/kg	0.610
Fluorene	ND	mg/kg	0.610
Phenanthrene	2.09	mg/kg	0.610
Anthracene	0.782	mg/kg	0.610
Fluoranthene	2.94	mg/kg	0.610
Pyrene	4.04	mg/kg	0.610
Benzo (a) anthracene	2.05	mg/kg	0.610
Chrysene	2.50	mg/kg	0.610
Benzo (b) fluoranthene	2.18	mg/kg	0.610
Benzo (k) fluoranthene	2.56	mg/kg	0.610
Benzo (a) pyrene	2.55	mg/kg	0.610
Indeno (1,2,3-cd) Pyrene	1.62	mg/kg	0.610
Dibenzo (a,h) anthracene	ND	mg/kg	0.610
Benzo (g,h,i) perylene	1.88	mg/kg	0.610
Surrogate (s)	Recovery		QC Criteria
Chloro-Octadecane	57.0	%	40-140
o-Terphenyl	108.	%	40-140
2-Fluorobiphenyl	70.0	%	40-140
2-Bromonaphthalene	82.0	%	40-140

Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES  
CERTIFICATE OF ANALYSIS

MA:M-MA086 NH:200301-A CT:PH-0574 ME:MA086 RI:65 NY:11148 NJ:MA935 Army:USACE

Laboratory Sample Number: L0401424-05  
CCP-SW2-S1  
Sample Matrix: SOIL

Date Collected: 17-FEB-2004 11:00  
Date Received : 17-FEB-2004  
Date Reported : 20-FEB-2004

Condition of Sample: Satisfactory

Field Prep: None

Number & Type of Containers: 1-Amber,1-Vial

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Solids, Total	75.	%	0.10	30 2540G		0217 23:45	ST

Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES  
CERTIFICATE OF ANALYSIS

Laboratory Sample Number: L0401424-05  
CCP-SW2-S1

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE PREP      ANAL	ID
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Volatile Petroleum Hydrocarbons	47 98-1	0218 17:09 PS
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Quality Control Information

Condition of sample received:	Satisfactory	
Sample temperature upon receipt:	Received on Ice	
Were samples received in methanol?	Covering the Soil	
Methanol ratio:	1:1 +/- 25%	
Were all QA/QC procedures REQUIRED by the method followed?		YES
Were all performance/acceptance standards for the required procedures achieved?		YES
Were significant modifications made to the method as specified in Sect 11.3?		NO
The normal acceptance range for the surrogate, 2,5-Dibromotoluene, is 70-130%.		

C5-C8 Aliphatics, Unadjusted	ND	mg/kg	2.82
C9-C12 Aliphatics, Unadjusted	ND	mg/kg	2.82
C9-C10 Aromatics	ND	mg/kg	2.82
C5-C8 Aliphatics, Adjusted	ND	mg/kg	2.82
C9-C12 Aliphatics, Adjusted	ND	mg/kg	2.82
Benzene	ND	mg/kg	0.141
Toluene	ND	mg/kg	0.141
Ethylbenzene	ND	mg/kg	0.141
p/m-Xylene	ND	mg/kg	0.141
o-Xylene	ND	mg/kg	0.141
Methyl tert butyl ether	ND	mg/kg	0.282
Naphthalene	ND	mg/kg	1.41
Surrogate(s)	Recovery		QC Criteria
2,5-Dibromotoluene-PID	79.0	%	70-130
2,5-Dibromotoluene-FID	86.0	%	70-130

Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES  
CERTIFICATE OF ANALYSIS

Laboratory Sample Number: L0401424-05  
CCP-SW2-S1

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	

Extractable Petroleum Hydrocarbons	46 98-1	0217 17:25 0220 00:51 LL
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Quality Control Information

Condition of sample received:	Satisfactory	
Sample temperature upon receipt:	Received on Ice	
Sample extraction method:	Extracted Per the Method	
Were all QA/QC procedures REQUIRED by the method followed?		YES
Were all performance/acceptance standards for the required procedures achieved?		YES
Were significant modifications made to the method as specified in Sect 11.3?		NO
The normal acceptance range for the extraction surrogates, Chloro-octadecane and o-Terphenyl, is 40-140%.		
The normal acceptance range for the fractionation surrogates, 2-Fluorobiphenyl and 2-Bromonaphthalene, is 40-140%.		

C9-C18 Aliphatics	ND	mg/kg	13.3
C19-C36 Aliphatics	28.4	mg/kg	13.3
C11-C22 Aromatics, Unadjusted	44.0	mg/kg	13.3
C11-C22 Aromatics, Adjusted	42.5	mg/kg	13.3
Naphthalene	ND	mg/kg	0.667
2-Methylnaphthalene	ND	mg/kg	0.667
Acenaphthylene	ND	mg/kg	0.667
Acenaphthene	ND	mg/kg	0.667
Fluorene	ND	mg/kg	0.667
Phenanthrene	ND	mg/kg	0.667
Anthracene	ND	mg/kg	0.667
Fluoranthene	0.690	mg/kg	0.667
Pyrene	0.782	mg/kg	0.667
Benzo(a)anthracene	ND	mg/kg	0.667
Chrysene	ND	mg/kg	0.667
Benzo(b)fluoranthene	ND	mg/kg	0.667
Benzo(k)fluoranthene	ND	mg/kg	0.667
Benzo(a)pyrene	ND	mg/kg	0.667
Indeno(1,2,3-cd)Pyrene	ND	mg/kg	0.667
Dibenzo(a,h)anthracene	ND	mg/kg	0.667
Benzo(g,h,i)perylene	ND	mg/kg	0.667

Surrogate(s)	Recovery		QC Criteria
Chloro-Octadecane	56.0	%	40-140
o-Terphenyl	77.0	%	40-140
2-Fluorobiphenyl	76.0	%	40-140
2-Bromonaphthalene	77.0	%	40-140

Comments: Complete list of References and Glossary of Terms found in Addendum I



ALPHA ANALYTICAL LABORATORIES  
QUALITY ASSURANCE BATCH DUPLICATE ANALYSIS

Laboratory Job Number: L0401424

Parameter	Value 1	Value 2	Units	RPD	RPD Limits
Solids, Total for sample(s) 01-02,04 (L0401423-01, WG163328)					
Solids, Total	58.	60.	%	3	
Volatile Petroleum Hydrocarbons for sample(s) 01-05 (L0401424-01, WG163439)					
C5-C8 Aliphatics	ND	ND	mg/kg	NC	50
C9-C12 Aliphatics	ND	ND	mg/kg	NC	50
C9-C10 Aromatics	ND	ND	mg/kg	NC	50
C5-C8 Aliphatics, Adjusted	ND	ND	mg/kg	NC	50
C9-C12 Aliphatics, Adjusted	ND	ND	mg/kg	NC	50
Benzene	ND	ND	mg/kg	NC	50
Toluene	ND	ND	mg/kg	NC	50
Ethylbenzene	ND	ND	mg/kg	NC	50
p/m-Xylene	ND	ND	mg/kg	NC	50
o-Xylene	ND	ND	mg/kg	NC	50
Methyl tert butyl ether	ND	ND	mg/kg	NC	50
Naphthalene	ND	ND	mg/kg	NC	50
Surrogate(s)	Recovery				QC Criteria
2,5-Dibromotoluene-PID	93.0	87.0	%	7	70-130
2,5-Dibromotoluene-FID	96.0	93.0	%	3	70-130
Extractable Petroleum Hydrocarbons for sample(s) 01-05 (L0401328-02, WG163304)					
C9-C18 Aliphatics	ND	10.5	mg/kg	NC	50
C19-C36 Aliphatics	12.9	13.2	mg/kg	2	50
C11-C22 Aromatics	ND	ND	mg/kg	NC	50
C11-C22 Aromatics, Adjusted	ND	ND	mg/kg	NC	50
Naphthalene	ND	ND	mg/kg	NC	50
2-Methylnaphthalene	ND	ND	mg/kg	NC	50
Acenaphthylene	ND	ND	mg/kg	NC	50
Acenaphthene	ND	ND	mg/kg	NC	50
Fluorene	ND	ND	mg/kg	NC	50
Phenanthrene	ND	ND	mg/kg	NC	50
Anthracene	ND	ND	mg/kg	NC	50
Fluoranthene	ND	ND	mg/kg	NC	50
Pyrene	ND	ND	mg/kg	NC	50
Benzo (a) anthracene	ND	ND	mg/kg	NC	50
Chrysene	ND	ND	mg/kg	NC	50
Benzo (b) fluoranthene	ND	ND	mg/kg	NC	50
Benzo (k) fluoranthene	ND	ND	mg/kg	NC	50
Benzo (a) pyrene	ND	ND	mg/kg	NC	50
Indeno (1,2,3-cd) Pyrene	ND	ND	mg/kg	NC	50
Dibenzo (a,h) anthracene	ND	ND	mg/kg	NC	50
Benzo (ghi) perylene	ND	ND	mg/kg	NC	50
Surrogate(s)	Recovery				QC Criteria
Chloro-Octadecane	49.0	55.0	%	12	40-140
o-Terphenyl	66.0	63.0	%	5	40-140
2-Fluorobiphenyl	81.0	69.0	%	16	40-140
2-Bromonaphthalene	83.0	74.0	%	11	40-140

ALPHA ANALYTICAL LABORATORIES  
QUALITY ASSURANCE BATCH SPIKE ANALYSES

Laboratory Job Number: L0401424

Parameter	% Recovery	QC Criteria
Volatile Petroleum Hydrocarbons LCS for sample(s) 01-05 (WG163439)		
Benzene	109	70-130
Toluene	99	70-130
Ethylbenzene	114	70-130
p/m-Xylene	100	70-130
o-Xylene	103	70-130
Methyl tert butyl ether	94	70-130
Naphthalene	107	70-130
Surrogate (s)		
2,5-Dibromotoluene-PID	104	70-130
2,5-Dibromotoluene-FID	106	70-130
Extractable Petroleum Hydrocarbons LCS for sample(s) 01-05 (WG163304)		
Naphthalene	40	40-140
Acenaphthene	47	40-140
Anthracene	79	40-140
Pyrene	80	40-140
Chrysene	84	40-140
Nonane (C9)	47	40-140
Tetradecane (C14)	53	40-140
Nonadecane (C19)	74	40-140
Eicosane (C20)	73	40-140
Octacosane (C28)	70	40-140
Surrogate (s)		
Chloro-Octadecane	60	40-140
o-Terphenyl	92	40-140
2-Fluorobiphenyl	63	40-140
2-Bromonaphthalene	71	40-140

ALPHA ANALYTICAL LABORATORIES  
QUALITY ASSURANCE BATCH BLANK ANALYSIS

Laboratory Job Number: L0401424

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Blank Analysis for sample(s) 01-05 (WG163439-3)							
Volatile Petroleum Hydrocarbons				47 98-1		0218 10:00 PS	
C5-C8 Aliphatics, Unadjusted	ND	mg/kg	2.00				
C9-C12 Aliphatics, Unadjusted	ND	mg/kg	2.00				
C9-C10 Aromatics	ND	mg/kg	2.00				
C5-C8 Aliphatics, Adjusted	ND	mg/kg	2.00				
C9-C12 Aliphatics, Adjusted	ND	mg/kg	2.00				
Benzene	ND	mg/kg	0.100				
Toluene	ND	mg/kg	0.100				
Ethylbenzene	ND	mg/kg	0.100				
p/m-Xylene	ND	mg/kg	0.100				
o-Xylene	ND	mg/kg	0.100				
Methyl tert butyl ether	ND	mg/kg	0.200				
Naphthalene	ND	mg/kg	1.00				
Surrogate(s)	Recovery		QC Criteria				
2,5-Dibromotoluene-PID	93.0	%	70-130				
2,5-Dibromotoluene-FID	98.0	%	70-130				
Blank Analysis for sample(s) 01-05 (WG163304-1)							
Extractable Petroleum Hydrocarbons				46 98-1		0217 17:25 0220 10:34 LL	
C9-C18 Aliphatics	ND	mg/kg	10.0				
C19-C36 Aliphatics	ND	mg/kg	10.0				
C11-C22 Aromatics, Unadjusted	ND	mg/kg	10.0				
C11-C22 Aromatics, Adjusted	ND	mg/kg	10.0				
Naphthalene	ND	mg/kg	0.500				
2-Methylnaphthalene	ND	mg/kg	0.500				
Acenaphthylene	ND	mg/kg	0.500				
Acenaphthene	ND	mg/kg	0.500				
Fluorene	ND	mg/kg	0.500				
Phenanthrene	ND	mg/kg	0.500				
Anthracene	ND	mg/kg	0.500				
Fluoranthene	ND	mg/kg	0.500				
Pyrene	ND	mg/kg	0.500				
Benzo(a)anthracene	ND	mg/kg	0.500				
Chrysene	ND	mg/kg	0.500				
Benzo(b)fluoranthene	ND	mg/kg	0.500				
Benzo(k)fluoranthene	ND	mg/kg	0.500				
Benzo(a)pyrene	ND	mg/kg	0.500				
Indeno(1,2,3-cd)Pyrene	ND	mg/kg	0.500				
Dibenzo(a,h)anthracene	ND	mg/kg	0.500				
Benzo(g,h,i)perylene	ND	mg/kg	0.500				
Surrogate(s)	Recovery		QC Criteria				
Chloro-Octadecane	55.0	%	40-140				
o-Terphenyl	56.0	%	40-140				
2-Fluorobiphenyl	60.0	%	40-140				
2-Bromonaphthalene	60.0	%	40-140				

ALPHA ANALYTICAL LABORATORIES  
ADDENDUM I

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REFERENCES

30. Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WPCF. 18th Edition. 1992.
46. Method for the Determination of Extractable Petroleum Hydrocarbons (EPH), Massachusetts Department of Environmental Protection, (MADEP-EPH-98-1), January 1998.
47. Method for the Determination of Volatile Petroleum Hydrocarbons (VPH), Massachusetts Department of Environmental Protection, (MADEP-VPH-98-1), January 1998.

GLOSSARY OF TERMS AND SYMBOLS

REF Reference number in which test method may be found.  
METHOD Method number by which analysis was performed.  
ID Initials of the analyst.  
ND Not detected in comparison to the reported detection limit.

Please note that all solid samples are reported on dry weight basis unless noted otherwise.

LIMITATION OF LIABILITIES

Alpha Analytical, Inc. performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical, Inc., shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical, Inc. be held liable for any incidental consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical, Inc.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding times and splitting of samples in the field.

ALPHA ANALYTICAL LABORATORIES  
LOGIN SPECIFIC INFORMATION

Laboratory Job Number: L0401424

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Were project specific reporting limits specified? YES

Cooler Information

Cooler	Custody Seal
A	Absent

Container Information

Container ID	Container Type	Cooler	pH	Temp	Pres	Seal	Analysis
L0401424-01A	Vial MeOH preserved	A	N/A	0.6 C	Y	Absent	VPH-DELUX
L0401424-01B	Amber 100ml unpreserved	A	N/A	0.6 C	Y	Absent	EPH-DELUX
L0401424-02A	Vial MeOH preserved	A	N/A	0.6 C	Y	Absent	VPH-DELUX
L0401424-02B	Amber 100ml unpreserved	A	N/A	0.6 C	Y	Absent	EPH-DELUX
L0401424-03A	Vial MeOH preserved	A	N/A	0.6 C	Y	Absent	VPH-DELUX
L0401424-03B	Amber 100ml unpreserved	A	N/A	0.6 C	Y	Absent	EPH-DELUX
L0401424-04A	Vial MeOH preserved	A	N/A	0.6 C	Y	Absent	VPH-DELUX
L0401424-04B	Amber 250ml unpreserved	A	N/A	0.6 C	Y	Absent	EPH-DELUX
L0401424-05A	Vial MeOH preserved	A	N/A	0.6 C	Y	Absent	VPH-DELUX
L0401424-05B	Amber 250ml unpreserved	A	N/A	0.6 C	Y	Absent	EPH-DELUX

Container Comments

Container ID	Comments
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# CHAIN OF CUSTODY RECORD

H&A FILE NO. 30660-000 LABORATORY ALPHA DELIVERY DATE 2-17-2004

PROJECT NAME Boston School ADDRESS \_\_\_\_\_ TURNAROUND TIME See Comments

H&A CONTACT Matt Carnes CONTACT \_\_\_\_\_ PROJECT MANAGER Jean Morley

Sample No.	Date	Time	Depth	Type	Analysis Requested										Number of Containers	Comments (special instructions, precautions, additional method numbers, etc.)		
					VOA	ABNs PAH only	MCP Metals	Pesticides	VPs Full Suite	EPH C-ranges only	Full Suite	C-ranges only	TFH specify	TCLP specify			Reactivity Ignitability	Compositivity
DG1-S1	2/17/04	1900	-	SOIL													2	Laboratory to use applicable DEP CAM methods, unless otherwise directed. ① ② EPH/UPH & TARGET ANALYTICS ③ TPH BY BROWN ④ EPH/UPH TURBIDITY 2-3 DAYS
DG2-S1		1356	-														2	
DG3-S1		1351	-														2	
CEP-SW1-S1		0912	-														2	
CEP-SW2-S1		1100	-														2	

Sampled and Relinquished by		Received by		Type	
Sign	Print	Sign	Print	Sign	Print
<i>[Signature]</i>	Todd Bulbo	<i>[Signature]</i>	[Blank]	LIQUID	VOA Vial
<i>[Signature]</i>	Bob Bure	<i>[Signature]</i>	[Blank]		Amber Glass
<i>[Signature]</i>	175A	<i>[Signature]</i>	[Blank]		Plastic Bottle
Date	2/17/04	Date	2/17/04		Preservative
Time	1525	Time	1525		Volume
Relinquished by	<i>[Signature]</i>	Received by	<i>[Signature]</i>	SOLID	VOA Vial
Sign	<i>[Signature]</i>	Sign	<i>[Signature]</i>		Amber Glass
Print	Adler Desic	Print	Adler Desic		Clear Glass
Firm	ALDRICH	Firm	ALDRICH		Preservative
Date	2/17/04	Date	2/17/04		Volume
Time	1745	Time	1745		
Relinquished by	<i>[Signature]</i>	Received by	<i>[Signature]</i>		
Sign	<i>[Signature]</i>	Sign	<i>[Signature]</i>		
Print	[Blank]	Print	[Blank]		
Firm	[Blank]	Firm	[Blank]		
Date	[Blank]	Date	[Blank]		
Time	[Blank]	Time	[Blank]		

**Presumptive Certainty Data Package (Laboratory to use applicable DEP CAM methods)**

**PRESERVATION KEY**

A Sample chilled    C NaOH    E H<sub>2</sub>SO<sub>4</sub>    G Methanol

B Sample filtered    D HNO<sub>3</sub>    F HCL    H Water/NaHSO<sub>4</sub> (circle)

**Required Reporting Limits and Data Quality**

Objectives

RC-S1     S1     GW1

RC-S2     S2     GW2

RC-GW1     S3     GW3

RC-GW2

**If Presumptive Certainty Data Package is needed, initial all sections:**

The required minimum field QC samples, as designated in BWSC CAM-VII have been or will be collected, as appropriate, to meet the requirements of Presumptive Certainty.

Matrix Spike (MS) samples for MCP Metals and/or Cyanide are included and identified herein.

This Chain of Custody Record (specify) \_\_\_\_\_ does not include samples defined as Drinking Water Samples.

If this Chain of Custody Record identifies samples defined as Drinking Water Samples, Trip Blanks and Field Duplicates are included and analysis of TICs are required, as appropriate. Laboratory should (specify if applicable) \_\_\_\_\_ analyze \_\_\_\_\_ hold for contingency testing the Drinking Water Field Duplicate and Drinking Water Trip Blank samples.

ALPHA ANALYTICAL LABORATORIES

Eight Walkup Drive  
Westborough, Massachusetts 01581-1019  
(508) 898-9220 www.alphalab.com

MA:M-MA086 NH:200301-A CT:PH-0574 ME:MA086 RI:65 NY:11148 NJ:MA935 Army:USACE

CERTIFICATE OF ANALYSIS

Client: Haley & Aldrich, Inc. Laboratory Job Number: L0401927  
Address: 465 Medford Street, Suite 2200  
Boston, MA 02129-1400 Date Received: 01-MAR-2004  
Attn: Mr. Steve Provencal Date Reported: 04-MAR-2004  
Project Number: 30660-000 Delivery Method: Alpha  
Site: BURBANK SCHOOL

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The following questions pertain only to MCP Analytical Methods

An affirmative response to questions A,B,C & D is required for "Presumptive Certainty" status

- A. Were all samples received by the laboratory in a condition consistent with those described on their Chain-of-Custody documentation for the data set? YES
- B. Were all QA/QC procedures required for the specified analytical method(s) included in this report followed, including the requirement to note and discuss in a narrative QC data that did not meet appropriate performance standards or guidelines? YES
- C. Does the analytical data included in this report meet all the requirements for "Presumptive Certainty", as described in section 2.0 of the MADEP document CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data"? YES
- D. VPH and EPH methods only: Was the VPH or EPH method run without significant modifications, as specified in Section 11.3? NA

A response to questions E and F is required for "Presumptive Certainty" status

- E. Were all QC performance standards and recommendations for the specified method(s) achieved? YES
- F. Were results for all analyte-list compounds/elements for the specified method(s) reported? YES

Any answers of NO to the above questions are addressed in the case narrative.

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I, the undersigned, attest under the pains and penalties of perjury that, based upon my personal inquiry of those responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

---

Authorized by: Scott McLean  
This document electronically signed

ALPHA ANALYTICAL LABORATORIES

Laboratory Job Number: L0401927  
Date Reported: 04-MAR-2004

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ALPHA SAMPLE NUMBER	CLIENT IDENTIFICATION	SAMPLE LOCATION
L0401927-01	UST-STKPL4-S2	BELMONT, MA
L0401927-02	UST-STKPL5-S2	BELMONT, MA



ALPHA ANALYTICAL LABORATORIES  
NARRATIVE REPORT

Laboratory Job Number: L0401927

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MCP Related Narratives

Report Submission

All MCP required questions were answered with affirmative responses, therefore, there are no relevant data issues to discuss.



ALPHA ANALYTICAL LABORATORIES  
CERTIFICATE OF ANALYSIS

Laboratory Sample Number: L0401927-01  
UST-STKPL4-S2

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Volatile Organics by MCP 8260B/5035-Low continued				54 8260B	0304 00:16 BT		
1,2,3-Trichloropropane	ND	ug/kg	13.				
Styrene	ND	ug/kg	1.3				
Dichlorodifluoromethane	ND	ug/kg	13.				
Acetone	120	ug/kg	13.				
Carbon disulfide	ND	ug/kg	13.				
2-Butanone	ND	ug/kg	13.				
4-Methyl-2-pentanone	ND	ug/kg	13.				
2-Hexanone	ND	ug/kg	13.				
Bromochloromethane	ND	ug/kg	6.5				
Tetrahydrofuran	ND	ug/kg	26.				
2,2-Dichloropropane	ND	ug/kg	6.5				
1,2-Dibromoethane	ND	ug/kg	6.5				
1,3-Dichloropropane	ND	ug/kg	6.5				
1,1,1,2-Tetrachloroethane	ND	ug/kg	1.3				
Bromobenzene	ND	ug/kg	6.5				
n-Butylbenzene	3.2	ug/kg	1.3				
sec-Butylbenzene	ND	ug/kg	1.3				
tert-Butylbenzene	ND	ug/kg	6.5				
o-Chlorotoluene	ND	ug/kg	6.5				
p-Chlorotoluene	ND	ug/kg	6.5				
1,2-Dibromo-3-chloropropane	ND	ug/kg	6.5				
Hexachlorobutadiene	ND	ug/kg	6.5				
Isopropylbenzene	ND	ug/kg	1.3				
p-Isopropyltoluene	19.	ug/kg	1.3				
Naphthalene	6.9	ug/kg	6.5				
n-Propylbenzene	ND	ug/kg	1.3				
1,2,3-Trichlorobenzene	ND	ug/kg	6.5				
1,2,4-Trichlorobenzene	ND	ug/kg	6.5				
1,3,5-Trimethylbenzene	8.3	ug/kg	6.5				
1,2,4-Trimethylbenzene	10.	ug/kg	6.5				
Ethyl ether	ND	ug/kg	6.5				
Isopropyl Ether	ND	ug/kg	5.2				
Ethyl-Tert-Butyl-Ether	ND	ug/kg	5.2				
Tertiary-Amyl Methyl Ether	ND	ug/kg	5.2				
1,4-Dioxane	ND	ug/kg	650				
Surrogate (s)	Recovery			QC Criteria			
1,2-Dichloroethane-d4	98.0	%		70-130			
Toluene-d8	88.0	%		70-130			
4-Bromofluorobenzene	96.0	%		70-130			
Dibromofluoromethane	85.0	%		70-130			

Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES  
 CERTIFICATE OF ANALYSIS

MA:M-MA086 NH:200301-A CT:PH-0574 ME:MA086 RI:65 NY:11148 NJ:MA935 Army:USACE

Laboratory Sample Number: L0401927-02 Date Collected: 26-FEB-2004 16:00  
 UST-STKPL5-S2 Date Received : 01-MAR-2004  
 Sample Matrix: SOIL Date Reported : 04-MAR-2004  
 Condition of Sample: Satisfactory Field Prep: None  
 Number & Type of Containers: 1-Plastic,4-Vial

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Solids, Total	89.	%	0.10	30 2540G		0301 22:00	LK
Volatile Organics by MCP 8260B/5035-High				54 8260B		0302 16:10	BT
Methylene chloride	ND	ug/kg	1200				
1,1-Dichloroethane	ND	ug/kg	180				
Chloroform	ND	ug/kg	180				
Carbon tetrachloride	ND	ug/kg	120				
1,2-Dichloropropane	ND	ug/kg	430				
Dibromochloromethane	ND	ug/kg	120				
1,1,2-Trichloroethane	ND	ug/kg	180				
Tetrachloroethene	ND	ug/kg	120				
Chlorobenzene	ND	ug/kg	120				
Trichlorofluoromethane	ND	ug/kg	610				
1,2-Dichloroethane	ND	ug/kg	120				
1,1,1-Trichloroethane	ND	ug/kg	120				
Bromodichloromethane	ND	ug/kg	120				
trans-1,3-Dichloropropene	ND	ug/kg	120				
cis-1,3-Dichloropropene	ND	ug/kg	120				
1,1-Dichloropropene	ND	ug/kg	610				
Bromoform	ND	ug/kg	490				
1,1,2,2-Tetrachloroethane	ND	ug/kg	120				
Benzene	ND	ug/kg	120				
Toluene	ND	ug/kg	180				
Ethylbenzene	ND	ug/kg	120				
Chloromethane	ND	ug/kg	610				
Bromomethane	ND	ug/kg	240				
Vinyl chloride	ND	ug/kg	240				
Chloroethane	ND	ug/kg	240				
1,1-Dichloroethene	ND	ug/kg	120				
trans-1,2-Dichloroethene	ND	ug/kg	180				
Trichloroethene	ND	ug/kg	120				
1,2-Dichlorobenzene	ND	ug/kg	610				
1,3-Dichlorobenzene	ND	ug/kg	610				
1,4-Dichlorobenzene	ND	ug/kg	610				
Methyl tert butyl ether	ND	ug/kg	240				
p/m-Xylene	ND	ug/kg	120				
o-Xylene	ND	ug/kg	120				
cis-1,2-Dichloroethene	ND	ug/kg	120				
Dibromomethane	ND	ug/kg	1200				

Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES  
CERTIFICATE OF ANALYSIS

Laboratory Sample Number: L0401927-02  
UST-STKPL5-S2

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Volatile Organics by MCP 8260B/5035-High continued				54 8260B	0302 16:10		BT
1,2,3-Trichloropropane	ND	ug/kg	1200				
Styrene	ND	ug/kg	120				
Dichlorodifluoromethane	ND	ug/kg	1200				
Acetone	ND	ug/kg	1200				
Carbon disulfide	ND	ug/kg	1200				
2-Butanone	ND	ug/kg	1200				
4-Methyl-2-pentanone	ND	ug/kg	1200				
2-Hexanone	ND	ug/kg	1200				
Bromochloromethane	ND	ug/kg	610				
Tetrahydrofuran	ND	ug/kg	2400				
2,2-Dichloropropane	ND	ug/kg	610				
1,2-Dibromoethane	ND	ug/kg	610				
1,3-Dichloropropane	ND	ug/kg	610				
1,1,1,2-Tetrachloroethane	ND	ug/kg	120				
Bromobenzene	ND	ug/kg	610				
n-Butylbenzene	ND	ug/kg	120				
sec-Butylbenzene	ND	ug/kg	120				
tert-Butylbenzene	ND	ug/kg	610				
o-Chlorotoluene	ND	ug/kg	610				
p-Chlorotoluene	ND	ug/kg	610				
1,2-Dibromo-3-chloropropane	ND	ug/kg	610				
Hexachlorobutadiene	ND	ug/kg	610				
Isopropylbenzene	ND	ug/kg	120				
p-Isopropyltoluene	ND	ug/kg	120				
Naphthalene	720	ug/kg	610				
n-Propylbenzene	ND	ug/kg	120				
1,2,3-Trichlorobenzene	ND	ug/kg	610				
1,2,4-Trichlorobenzene	ND	ug/kg	610				
1,3,5-Trimethylbenzene	ND	ug/kg	610				
1,2,4-Trimethylbenzene	ND	ug/kg	610				
Ethyl ether	ND	ug/kg	610				
Isopropyl Ether	ND	ug/kg	490				
Ethyl-Tert-Butyl-Ether	ND	ug/kg	490				
Tertiary-Amyl Methyl Ether	ND	ug/kg	490				
1,4-Dioxane	ND	ug/kg	61000				
Surrogate (s)	Recovery			QC Criteria			
1,2-Dichloroethane-d4	94.0	%		70-130			
Toluene-d8	78.0	%		70-130			
4-Bromofluorobenzene	76.0	%		70-130			
Dibromofluoromethane	79.0	%		70-130			

Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES  
QUALITY ASSURANCE BATCH DUPLICATE ANALYSIS

Laboratory Job Number: L0401927

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Parameter	Value 1	Value 2	Units	RPD	RPD Limits
Solids, Total	88.	89.	%	1	

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Solids, Total for sample(s) 01-02 (L0401901-01, WG164358)

ALPHA ANALYTICAL LABORATORIES  
 QUALITY ASSURANCE BATCH SPIKE ANALYSES

Laboratory Job Number: L0401927

Parameter	% Recovery	QC Criteria
Volatile Organics by MCP 8260B/5035-Low LCS for sample(s) 01 (WG164091)		
Methylene chloride	100	70-130
1,1-Dichloroethane	97	70-130
Chloroform	101	70-130
Carbon tetrachloride	104	70-130
1,2-Dichloropropane	93	70-130
Dibromochloromethane	97	70-130
1,1,2-Trichloroethane	96	70-130
Tetrachloroethene	97	70-130
Chlorobenzene	88	70-130
Trichlorofluoromethane	102	70-130
1,2-Dichloroethane	107	70-130
1,1,1-Trichloroethane	107	70-130
Bromodichloromethane	100	70-130
trans-1,3-Dichloropropene	92	70-130
cis-1,3-Dichloropropene	94	70-130
1,1-Dichloropropene	90	70-130
Bromoform	103	70-130
1,1,2,2-Tetrachloroethane	79	70-130
Benzene	90	70-130
Toluene	91	70-130
Ethylbenzene	96	70-130
Chloromethane	91	70-130
Bromomethane	92	70-130
Vinyl chloride	106	70-130
Chloroethane	93	70-130
1,1-Dichloroethene	90	70-130
trans-1,2-Dichloroethene	94	70-130
Trichloroethene	104	70-130
1,2-Dichlorobenzene	90	70-130
1,3-Dichlorobenzene	90	70-130
1,4-Dichlorobenzene	91	70-130
Methyl tert butyl ether	108	70-130
p/m-Xylene	93	70-130
o-Xylene	91	70-130
cis-1,2-Dichloroethene	86	70-130
Dibromomethane	99	70-130
1,2,3-Trichloropropane	97	70-130
Styrene	95	70-130
Dichlorodifluoromethane	75	70-130
Acetone	113	70-130
Carbon disulfide	93	70-130
2-Butanone	94	70-130
4-Methyl-2-pentanone	93	70-130
2-Hexanone	92	70-130
Bromochloromethane	98	70-130
Tetrahydrofuran	107	70-130
2,2-Dichloropropane	105	70-130
1,2-Dibromoethane	96	70-130

ALPHA ANALYTICAL LABORATORIES  
 QUALITY ASSURANCE BATCH SPIKE ANALYSES

Laboratory Job Number: L0401927

Continued

Parameter	% Recovery	QC Criteria
Volatile Organics by MCP 8260B/5035-Low LCS for sample(s) 01 (WG164091)		
1,3-Dichloropropane	96	70-130
1,1,1,2-Tetrachloroethane	101	70-130
Bromobenzene	95	70-130
n-Butylbenzene	97	70-130
sec-Butylbenzene	94	70-130
tert-Butylbenzene	95	70-130
o-Chlorotoluene	98	70-130
p-Chlorotoluene	95	70-130
1,2-Dibromo-3-chloropropane	99	70-130
Hexachlorobutadiene	99	70-130
Isopropylbenzene	94	70-130
p-Isopropyltoluene	97	70-130
Naphthalene	102	70-130
n-Propylbenzene	97	70-130
1,2,3-Trichlorobenzene	96	70-130
1,2,4-Trichlorobenzene	94	70-130
1,3,5-Trimethylbenzene	100	70-130
1,2,4-Trimethylbenzene	101	70-130
Ethyl ether	106	70-130
Isopropyl Ether	93	70-130
Ethyl-Tert-Butyl-Ether	94	70-130
Tertiary-Amyl Methyl Ether	94	70-130
1,4-Dioxane	103	70-130
Surrogate (s)		
1,2-Dichloroethane-d4	97	70-130
Toluene-d8	81	70-130
4-Bromofluorobenzene	82	70-130
Dibromofluoromethane	85	70-130
Volatile Organics by MCP 8260B/5035-High LCS for sample(s) 02 (WG164225)		
Methylene chloride	101	70-130
1,1-Dichloroethane	99	70-130
Chloroform	106	70-130
Carbon tetrachloride	114	70-130
1,2-Dichloropropane	92	70-130
Dibromochloromethane	107	70-130
1,1,2-Trichloroethane	98	70-130
Tetrachloroethene	101	70-130
Chlorobenzene	88	70-130
Trichlorofluoromethane	118	70-130
1,2-Dichloroethane	115	70-130
1,1,1-Trichloroethane	114	70-130
Bromodichloromethane	110	70-130
trans-1,3-Dichloropropene	99	70-130
cis-1,3-Dichloropropene	97	70-130
1,1-Dichloropropene	91	70-130
Bromoform	106	70-130



ALPHA ANALYTICAL LABORATORIES  
QUALITY ASSURANCE BATCH SPIKE ANALYSES

Laboratory Job Number: L0401927

Continued

Parameter	% Recovery	QC Criteria
Volatile Organics by MCP 8260B/5035-High LCS for sample(s) 02 (WG164225)		
1,1,2,2-Tetrachloroethane	82	70-130
Benzene	88	70-130
Toluene	93	70-130
Ethylbenzene	98	70-130
Chloromethane	100	70-130
Bromomethane	97	70-130
Vinyl chloride	120	70-130
Chloroethane	95	70-130
1,1-Dichloroethene	94	70-130
trans-1,2-Dichloroethene	95	70-130
Trichloroethene	107	70-130
1,2-Dichlorobenzene	94	70-130
1,3-Dichlorobenzene	93	70-130
1,4-Dichlorobenzene	94	70-130
Methyl tert butyl ether	113	70-130
p/m-Xylene	94	70-130
o-Xylene	92	70-130
cis-1,2-Dichloroethene	90	70-130
Dibromomethane	111	70-130
1,2,3-Trichloropropane	100	70-130
Styrene	95	70-130
Dichlorodifluoromethane	74	70-130
Acetone	121	70-130
Carbon disulfide	97	70-130
2-Butanone	102	70-130
4-Methyl-2-pentanone	95	70-130
2-Hexanone	99	70-130
Bromochloromethane	95	70-130
Tetrahydrofuran	97	70-130
2,2-Dichloropropane	113	70-130
1,2-Dibromoethane	100	70-130
1,3-Dichloropropane	99	70-130
1,1,1,2-Tetrachloroethane	107	70-130
Bromobenzene	98	70-130
n-Butylbenzene	102	70-130
sec-Butylbenzene	98	70-130
tert-Butylbenzene	98	70-130
o-Chlorotoluene	103	70-130
p-Chlorotoluene	101	70-130
1,2-Dibromo-3-chloropropane	104	70-130
Hexachlorobutadiene	102	70-130
Isopropylbenzene	98	70-130
p-Isopropyltoluene	100	70-130
Naphthalene	101	70-130
n-Propylbenzene	100	70-130
1,2,3-Trichlorobenzene	97	70-130
1,2,4-Trichlorobenzene	95	70-130
1,3,5-Trimethylbenzene	104	70-130

ALPHA ANALYTICAL LABORATORIES  
QUALITY ASSURANCE BATCH SPIKE ANALYSES

Laboratory Job Number: L0401927

Continued

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Parameter	% Recovery	QC Criteria
Volatile Organics by MCP 8260B/5035-High LCS for sample(s) 02 (WG164225)		
1,2,4-Trimethylbenzene	106	70-130
Ethyl ether	109	70-130
Isopropyl Ether	92	70-130
Ethyl-Tert-Butyl-Ether	92	70-130
Tertiary-Amyl Methyl Ether	90	70-130
1,4-Dioxane	95	70-130
Surrogate (s)		
1,2-Dichloroethane-d4	102	70-130
Toluene-d8	81	70-130
4-Bromofluorobenzene	82	70-130
Dibromofluoromethane	86	70-130

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ALPHA ANALYTICAL LABORATORIES  
 QUALITY ASSURANCE BATCH BLANK ANALYSIS

Laboratory Job Number: L0401927

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Blank Analysis for sample(s) 01 (WG164091-8)							
Volatile Organics by MCP 8260B/5035-Low				54 8260B		0303 15:24	BT
Methylene chloride	ND	ug/kg	10.				
1,1-Dichloroethane	ND	ug/kg	1.5				
Chloroform	ND	ug/kg	1.5				
Carbon tetrachloride	ND	ug/kg	1.0				
1,2-Dichloropropane	ND	ug/kg	3.5				
Dibromochloromethane	ND	ug/kg	1.0				
1,1,2-Trichloroethane	ND	ug/kg	1.5				
Tetrachloroethene	ND	ug/kg	1.0				
Chlorobenzene	ND	ug/kg	1.0				
Trichlorofluoromethane	ND	ug/kg	5.0				
1,2-Dichloroethane	ND	ug/kg	1.0				
1,1,1-Trichloroethane	ND	ug/kg	1.0				
Bromodichloromethane	ND	ug/kg	1.0				
trans-1,3-Dichloropropene	ND	ug/kg	1.0				
cis-1,3-Dichloropropene	ND	ug/kg	1.0				
1,1-Dichloropropene	ND	ug/kg	5.0				
Bromoform	ND	ug/kg	4.0				
1,1,2,2-Tetrachloroethane	ND	ug/kg	1.0				
Benzene	ND	ug/kg	1.0				
Toluene	ND	ug/kg	1.5				
Ethylbenzene	ND	ug/kg	1.0				
Chloromethane	ND	ug/kg	5.0				
Bromomethane	ND	ug/kg	2.0				
Vinyl chloride	ND	ug/kg	2.0				
Chloroethane	ND	ug/kg	2.0				
1,1-Dichloroethene	ND	ug/kg	1.0				
trans-1,2-Dichloroethene	ND	ug/kg	1.5				
Trichloroethene	ND	ug/kg	1.0				
1,2-Dichlorobenzene	ND	ug/kg	5.0				
1,3-Dichlorobenzene	ND	ug/kg	5.0				
1,4-Dichlorobenzene	ND	ug/kg	5.0				
Methyl tert butyl ether	ND	ug/kg	2.0				
p/m-Xylene	ND	ug/kg	1.0				
o-Xylene	ND	ug/kg	1.0				
cis-1,2-Dichloroethene	ND	ug/kg	1.0				
Dibromomethane	ND	ug/kg	10.				
1,2,3-Trichloropropane	ND	ug/kg	10.				
Styrene	ND	ug/kg	1.0				
Dichlorodifluoromethane	ND	ug/kg	10.				
Acetone	ND	ug/kg	10.				
Carbon disulfide	ND	ug/kg	10.				
2-Butanone	ND	ug/kg	10.				
4-Methyl-2-pentanone	ND	ug/kg	10.				
2-Hexanone	ND	ug/kg	10.				
Bromochloromethane	ND	ug/kg	5.0				
Tetrahydrofuran	ND	ug/kg	20.				
2,2-Dichloropropane	ND	ug/kg	5.0				

ALPHA ANALYTICAL LABORATORIES  
QUALITY ASSURANCE BATCH BLANK ANALYSIS

Laboratory Job Number: L0401927

Continued

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Blank Analysis for sample(s) 01 (WG164091-8)							
Volatile Organics by MCP 8260B/5035-Low continued				54 8260B		0303 15:24 BT	
1,2-Dibromoethane	ND	ug/kg	5.0				
1,3-Dichloropropane	ND	ug/kg	5.0				
1,1,1,2-Tetrachloroethane	ND	ug/kg	1.0				
Bromobenzene	ND	ug/kg	5.0				
n-Butylbenzene	ND	ug/kg	1.0				
sec-Butylbenzene	ND	ug/kg	1.0				
tert-Butylbenzene	ND	ug/kg	5.0				
o-Chlorotoluene	ND	ug/kg	5.0				
p-Chlorotoluene	ND	ug/kg	5.0				
1,2-Dibromo-3-chloropropane	ND	ug/kg	5.0				
Hexachlorobutadiene	ND	ug/kg	5.0				
Isopropylbenzene	ND	ug/kg	1.0				
p-Isopropyltoluene	ND	ug/kg	1.0				
Naphthalene	ND	ug/kg	5.0				
n-Propylbenzene	ND	ug/kg	1.0				
1,2,3-Trichlorobenzene	ND	ug/kg	5.0				
1,2,4-Trichlorobenzene	ND	ug/kg	5.0				
1,3,5-Trimethylbenzene	ND	ug/kg	5.0				
1,2,4-Trimethylbenzene	ND	ug/kg	5.0				
Ethyl ether	ND	ug/kg	5.0				
Isopropyl Ether	ND	ug/kg	4.0				
Ethyl-Tert-Butyl-Ether	ND	ug/kg	4.0				
Tertiary-Amyl Methyl Ether	ND	ug/kg	4.0				
1,4-Dioxane	ND	ug/kg	500				
Surrogate(s)	Recovery		QC Criteria				
1,2-Dichloroethane-d4	99.0	%	70-130				
Toluene-d8	78.0	%	70-130				
4-Bromofluorobenzene	81.0	%	70-130				
Dibromofluoromethane	84.0	%	70-130				
Blank Analysis for sample(s) 02 (WG164225-8)							
Volatile Organics by MCP 8260B/5035-High				54 8260B		0302 13:45 BT	
Methylene chloride	ND	ug/kg	500				
1,1-Dichloroethane	ND	ug/kg	75.				
Chloroform	ND	ug/kg	75.				
Carbon tetrachloride	ND	ug/kg	50.				
1,2-Dichloropropane	ND	ug/kg	180				
Dibromochloromethane	ND	ug/kg	50.				
1,1,2-Trichloroethane	ND	ug/kg	75.				
Tetrachloroethene	ND	ug/kg	50.				
Chlorobenzene	ND	ug/kg	50.				
Trichlorofluoromethane	ND	ug/kg	250				
1,2-Dichloroethane	ND	ug/kg	50.				
1,1,1-Trichloroethane	ND	ug/kg	50.				
Bromodichloromethane	ND	ug/kg	50.				
trans-1,3-Dichloropropene	ND	ug/kg	50.				

ALPHA ANALYTICAL LABORATORIES  
 QUALITY ASSURANCE BATCH BLANK ANALYSIS

Laboratory Job Number: L0401927

Continued

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Blank Analysis for sample(s) 02 (WG164225-8)							
Volatile Organics by MCP 8260B/5035-High continued				54 8260B		0302 13:45	BT
cis-1,3-Dichloropropene	ND	ug/kg	50.				
1,1-Dichloropropene	ND	ug/kg	250				
Bromoform	ND	ug/kg	200				
1,1,2,2-Tetrachloroethane	ND	ug/kg	50.				
Benzene	ND	ug/kg	50.				
Toluene	ND	ug/kg	75.				
Ethylbenzene	ND	ug/kg	50.				
Chloromethane	ND	ug/kg	250				
Bromomethane	ND	ug/kg	100				
Vinyl chloride	ND	ug/kg	100				
Chloroethane	ND	ug/kg	100				
1,1-Dichloroethene	ND	ug/kg	50.				
trans-1,2-Dichloroethene	ND	ug/kg	75.				
Trichloroethene	ND	ug/kg	50.				
1,2-Dichlorobenzene	ND	ug/kg	250				
1,3-Dichlorobenzene	ND	ug/kg	250				
1,4-Dichlorobenzene	ND	ug/kg	250				
Methyl tert butyl ether	ND	ug/kg	100				
p/m-Xylene	ND	ug/kg	50.				
o-Xylene	ND	ug/kg	50.				
cis-1,2-Dichloroethene	ND	ug/kg	50.				
Dibromomethane	ND	ug/kg	500				
1,2,3-Trichloropropane	ND	ug/kg	500				
Styrene	ND	ug/kg	50.				
Dichlorodifluoromethane	ND	ug/kg	500				
Acetone	ND	ug/kg	500				
Carbon disulfide	ND	ug/kg	500				
2-Butanone	ND	ug/kg	500				
4-Methyl-2-pentanone	ND	ug/kg	500				
2-Hexanone	ND	ug/kg	500				
Bromochloromethane	ND	ug/kg	250				
Tetrahydrofuran	ND	ug/kg	1000				
2,2-Dichloropropane	ND	ug/kg	250				
1,2-Dibromoethane	ND	ug/kg	250				
1,3-Dichloropropane	ND	ug/kg	250				
1,1,1,2-Tetrachloroethane	ND	ug/kg	50.				
Bromobenzene	ND	ug/kg	250				
n-Butylbenzene	ND	ug/kg	50.				
sec-Butylbenzene	ND	ug/kg	50.				
tert-Butylbenzene	ND	ug/kg	250				
o-Chlorotoluene	ND	ug/kg	250				
p-Chlorotoluene	ND	ug/kg	250				
1,2-Dibromo-3-chloropropane	ND	ug/kg	250				
Hexachlorobutadiene	ND	ug/kg	250				
Isopropylbenzene	ND	ug/kg	50.				
p-Isopropyltoluene	ND	ug/kg	50.				
Naphthalene	ND	ug/kg	250				

ALPHA ANALYTICAL LABORATORIES  
 QUALITY ASSURANCE BATCH BLANK ANALYSIS

Laboratory Job Number: L0401927

Continued

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Blank Analysis for sample(s) 02 (WG164225-8)							
Volatile Organics by MCP 8260B/5035-High continued							
				54 8260B		0302 13:45	BT
n-Propylbenzene	ND	ug/kg	50.				
1,2,3-Trichlorobenzene	ND	ug/kg	250				
1,2,4-Trichlorobenzene	ND	ug/kg	250				
1,3,5-Trimethylbenzene	ND	ug/kg	250				
1,2,4-Trimethylbenzene	ND	ug/kg	250				
Ethyl ether	ND	ug/kg	250				
Isopropyl Ether	ND	ug/kg	200				
Ethyl-Tert-Butyl-Ether	ND	ug/kg	200				
Tertiary-Amyl Methyl Ether	ND	ug/kg	200				
1,4-Dioxane	ND	ug/kg	25000				
Surrogate (s)	Recovery			QC Criteria			
1,2-Dichloroethane-d4	114.	%		70-130			
Toluene-d8	78.0	%		70-130			
4-Bromofluorobenzene	83.0	%		70-130			
Dibromofluoromethane	88.0	%		70-130			

ALPHA ANALYTICAL LABORATORIES  
ADDENDUM I

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REFERENCES

30. Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WPCF. 18th Edition. 1992.
54. Compendium of Quality Assurance and Quality Control Requirements and Performance Standards for Selected Analytical Methods. MADEP BWSC. Final Methods. May 2003.

GLOSSARY OF TERMS AND SYMBOLS

REF Reference number in which test method may be found.  
METHOD Method number by which analysis was performed.  
ID Initials of the analyst.  
ND Not detected in comparison to the reported detection limit.

Please note that all solid samples are reported on dry weight basis unless noted otherwise.

LIMITATION OF LIABILITIES

Alpha Analytical, Inc. performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical, Inc., shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical, Inc. be held liable for any incidental consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical, Inc.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding times and splitting of samples in the field.

ALPHA ANALYTICAL LABORATORIES  
LOGIN SPECIFIC INFORMATION

Laboratory Job Number: L0401927

Were project specific reporting limits specified? YES

**Cooler Information**

Cooler                      Custody Seal

A                              Absent

**Container Information**

Container ID	Container Type	Cooler	pH	Temp	Pres	Seal	Analysis
L0401927-01A	Vial MeOH preserved	A	NA	1.1 C	Y	Absent	MCP-8260L-G
L0401927-01B	Vial NaHSO4 preserved	A	NA	1.1 C	Y	Absent	MCP-8260L-G
L0401927-01C	Vial NaHSO4 preserved	A	NA	1.1 C	Y	Absent	MCP-8260L-G
L0401927-01D	Vial NaHSO4 preserved	A	NA	1.1 C	Y	Absent	MCP-8260L-G
L0401927-01E	Plastic 2oz unpreserved for Tota	A	NA	1.1 C	Y	Absent	TS
L0401927-02A	Vial MeOH preserved	A	NA	1.1 C	Y	Absent	MCP-8260H
L0401927-02B	Vial NaHSO4 preserved	A	NA	1.1 C	Y	Absent	MCP-8260H
L0401927-02C	Vial NaHSO4 preserved	A	NA	1.1 C	Y	Absent	MCP-8260H
L0401927-02D	Vial NaHSO4 preserved	A	NA	1.1 C	Y	Absent	MCP-8260H
L0401927-02E	Plastic 2oz unpreserved for Tota	A	NA	1.1 C	Y	Absent	TS

**Container Comments**

Container ID    Comments



# CHAIN OF CUSTODY RECORD

H&A FILE NO. 30660-000  
 LABORATORY ALPHA  
 PROJECT NAME BROADWAY SOURCE  
 ADDRESS ALPHA  
 H&A CONTACT SIEVE PRODUCTIONS  
 CONTACT

DELIVERY DATE 03/01/04  
 TURNAROUND TIME 3 Days  
 PROJECT MANAGER John Moroney

Sample No.	Date	Time	Depth	Type	Analysis Requested										Number of Containers	Comments (special instructions, precautions, additional method numbers, etc.)	
					VOA	ABNs only	MCP Metals	PCBs	VPH Full Suite	EPH Full Suite	C-ranges only	TPH (specify)	TCLP (specify)	Reactivity			Ignitability
VST-SWAY-52	2/24/04	1600	-	SOIL	X											54	Laboratory to use applicable DEP CAM methods, unless otherwise directed.  ① VOC's MENT 8260 ② TONYL SOLIDS
VST-SWAY-52	"	"	-	SOIL	X											54	
					LIQUID												
Received by																	
Sign <u>Deborah Crawford</u>																	
Print <u>DESMOND CRAWFORD</u>																	
Firm <u>AAA</u>																	
Date <u>02/26/04</u> Time <u>17:00</u>																	
Relinquished by																	
Sign <u>Deborah Crawford</u>																	
Print <u>DESMOND CRAWFORD</u>																	
Firm <u>AAA</u>																	
Date <u>03/01/04</u> Time <u>15:45</u>																	
Received by																	
Sign <u>Adrian D'Amico</u>																	
Print <u>Adrian D'Amico</u>																	
Firm <u>AAA</u>																	
Date <u>03/01/04</u> Time <u>19:10</u>																	
Relinquished by																	
Sign <u>Adrian D'Amico</u>																	
Print <u>Adrian D'Amico</u>																	
Firm <u>AAA</u>																	
Date <u>3/1/04</u> Time <u>18:10</u>																	

**LIQUID**

**SOLID**

**PRESERVATION KEY**

A Sample chilled    C NaOH    E H<sub>2</sub>SO<sub>4</sub>    G Methanol  
 B Sample filtered    D HNO<sub>3</sub>    F HCL    H Water/NaHSO<sub>4</sub> (circle)

Presumptive Certainty Data Package (Laboratory to use applicable DEP CAM methods)

**Required Reporting Limits and Data Quality Objectives**

RC-S1     S1     GW1  
 RC-S2     S2     GW2  
 RC-GW1     S3     GW3  
 RC-GW2

**Evidence samples were tampered with? YES NO**  
 If YES, please explain in section below.

**If Presumptive Certainty Data Package is needed, initial all sections:**

The required minimum field QC samples, as designated in BWSC CAM-VII have been or will be collected, as appropriate, to meet the requirements of Presumptive Certainty.

Matrix Spike (MS) samples for MCP Metals and/or Cyanide are included and identified herein.

This Chain of Custody Record (specify) \_\_\_\_\_ includes \_\_\_\_\_ does not include samples defined as Drinking Water Samples.

If this Chain of Custody Record identifies samples defined as Drinking Water Samples, Trip Blanks and Field Duplicates are included and identified and analysis of TICs are required, as appropriate. Laboratory should (specify if applicable) \_\_\_\_\_ hold for contingency testing the Drinking Water Duplicate and Drinking Water Trip Blank samples.

ALPHA ANALYTICAL LABORATORIES

Eight Walkup Drive  
Westborough, Massachusetts 01581-1019  
(508) 898-9220 www.alphalab.com

MA:M-MA086 NH:200301-A CT:PH-0574 ME:MA086 RI:65 NY:11148 NJ:MA935 Army:USACE

CERTIFICATE OF ANALYSIS

Client: Haley & Aldrich, Inc. Laboratory Job Number: L0402296  
Address: 465 Medford Street, Suite 2200  
Boston, MA 02129-1400 Date Received: 10-MAR-2004  
Attn: Mr. Steve Provencal Date Reported: 18-MAR-2004  
Project Number: 30660-000 Delivery Method: Alpha  
Site: BURBANK SCHOOL TANK RELEASE

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The following questions pertain only to MCP Analytical Methods

An affirmative response to questions A,B,C & D is required for "Presumptive Certainty" status

- A. Were all samples received by the laboratory in a condition consistent with those described on their Chain-of-Custody documentation for the data set? YES
- B. Were all QA/QC procedures required for the specified analytical method(s) included in this report followed, including the requirement to note and discuss in a narrative QC data that did not meet appropriate performance standards or guidelines? YES
- C. Does the analytical data included in this report meet all the requirements for "Presumptive Certainty", as described in section 2.0 of the MADEP document CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data"? YES
- D. VPH and EPH methods only: Was the VPH or EPH method run without significant modifications, as specified in Section 11.3? YES

A response to questions E and F is required for "Presumptive Certainty" status

- E. Were all QC performance standards and recommendations for the specified method(s) achieved? NO
- F. Were results for all analyte-list compounds/elements for the specified method(s) reported? YES

Any answers of NO to the above questions are addressed in the case narrative.

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I, the undersigned, attest under the pains and penalties of perjury that, based upon my personal inquiry of those responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

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Authorized by: Scott McLean

This document electronically signed

ALPHA ANALYTICAL LABORATORIES

Laboratory Job Number: L0402296  
Date Reported: 18-MAR-2004

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ALPHA SAMPLE NUMBER	CLIENT IDENTIFICATION	SAMPLE LOCATION
L0402296-01	CCP-SW3-S1	BELMONT, MA
L0402296-02	CCP-SW4-S1	BELMONT, MA
L0402296-03	CCP-SW5-S1	BELMONT, MA
L0402296-04	CCP-SW6-S1	BELMONT, MA
L0402296-05	CCP-SW7-S1	BELMONT, MA
L0402296-06	TRIP BLANK	BELMONT, MA

ALPHA ANALYTICAL LABORATORIES  
NARRATIVE REPORT

Laboratory Job Number: L0402296

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Extraction methods

Extraction method 3545 was used as the extraction method for the analysis of EPH by Method 98-1.

EPH

L0402296-01 has elevated limits of detection due to 2x dilutions required by the matrix interferences encountered during the extraction, concentration, and/or digestion of the sample.

In reference to question E, one or more surrogate percent recoveries on L0402296-03 are below the acceptance criteria for the method apparently due to sample matrix (1-chlorooctadecane and o-Terphenyl). Re-extraction was performed within hold time and confirmed the original results with one or more surrogate percent recoveries below the acceptance criteria for the method (1-chlorooctadecane and o-Terphenyl). Both sets of data have been reported.

ALPHA ANALYTICAL LABORATORIES  
CERTIFICATE OF ANALYSIS

MA:M-MA086 NH:200301-A CT:PH-0574 ME:MA086 RI:65 NY:11148 NJ:MA935 Army:USACE

Laboratory Sample Number: L0402296-01

Date Collected: 10-MAR-2004 11:35

CCP-SW3-S1

Date Received : 10-MAR-2004

Sample Matrix:

SOIL

Date Reported : 18-MAR-2004

Condition of Sample: Satisfactory

Field Prep: None

Number & Type of Containers: 1-Amber,1-Vial

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Solids, Total	51.	%	0.10	30 2540G		0311 19:15 DD	

Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES  
CERTIFICATE OF ANALYSIS

Laboratory Sample Number: L0402296-01  
CCP-SW3-S1

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	

Volatile Petroleum Hydrocarbons				47 98-1			0311 11:01 PS
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Quality Control Information

Condition of sample received:	Satisfactory	
Sample temperature upon receipt:	Received on Ice	
Were samples received in methanol?	Covering the Soil	
Methanol ratio:	Below 1:1 +/- 25%	
Were all QA/QC procedures REQUIRED by the method followed?		YES
Were all performance/acceptance standards for the required procedures achieved?		YES
Were significant modifications made to the method as specified in Sect 11.3?		NO
The normal acceptance range for the surrogate, 2,5-Dibromotoluene, is 70-130%.		

C5-C8 Aliphatics, Unadjusted	ND	mg/kg	7.17
C9-C12 Aliphatics, Unadjusted	ND	mg/kg	7.17
C9-C10 Aromatics	ND	mg/kg	7.17
C5-C8 Aliphatics, Adjusted	ND	mg/kg	7.17
C9-C12 Aliphatics, Adjusted	ND	mg/kg	7.17
Benzene	ND	mg/kg	0.359
Toluene	ND	mg/kg	0.359
Ethylbenzene	ND	mg/kg	0.359
p/m-Xylene	ND	mg/kg	0.359
o-Xylene	ND	mg/kg	0.359
Methyl tert butyl ether	ND	mg/kg	0.717
Naphthalene	ND	mg/kg	3.59

Surrogate(s)	Recovery		QC Criteria
2,5-Dibromotoluene-PID	98.0	%	70-130
2,5-Dibromotoluene-FID	97.0	%	70-130

Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES  
CERTIFICATE OF ANALYSIS

Laboratory Sample Number: L0402296-01  
CCP-SW3-S1

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	

Extractable Petroleum Hydrocarbons				46 98-1	0311 10:30	0317 05:07	LL
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Quality Control Information

Condition of sample received:	Satisfactory	
Sample temperature upon receipt:	Received on Ice	
Sample extraction method:	Extracted Per the Method	
Were all QA/QC procedures REQUIRED by the method followed?		YES
Were all performance/acceptance standards for the required procedures achieved?		YES
Were significant modifications made to the method as specified in Sect 11.3?		NO
The normal acceptance range for the extraction surrogates, Chloro-octadecane and o-Terphenyl, is 40-140%.		
The normal acceptance range for the fractionation surrogates, 2-Fluorobiphenyl and 2-Bromonaphthalene, is 40-140%.		

C9-C18 Aliphatics	ND	mg/kg	39.2
C19-C36 Aliphatics	83.6	mg/kg	39.2
C11-C22 Aromatics, Unadjusted	291.	mg/kg	39.2
C11-C22 Aromatics, Adjusted	252.	mg/kg	39.2
Naphthalene	ND	mg/kg	1.96
2-Methylnaphthalene	ND	mg/kg	1.96
Acenaphthylene	2.10	mg/kg	1.96
Acenaphthene	ND	mg/kg	1.96
Fluorene	ND	mg/kg	1.96
Phenanthrene	2.03	mg/kg	1.96
Anthracene	ND	mg/kg	1.96
Fluoranthene	3.91	mg/kg	1.96
Pyrene	5.33	mg/kg	1.96
Benzo (a) anthracene	2.40	mg/kg	1.96
Chrysene	3.66	mg/kg	1.96
Benzo (b) fluoranthene	4.57	mg/kg	1.96
Benzo (k) fluoranthene	3.88	mg/kg	1.96
Benzo (a) pyrene	3.96	mg/kg	1.96
Indeno (1, 2, 3-cd) Pyrene	3.10	mg/kg	1.96
Dibenzo (a, h) anthracene	ND	mg/kg	1.96
Benzo (g, h, i) perylene	3.51	mg/kg	1.96

Surrogate (s)	Recovery		QC Criteria
Chloro-Octadecane	46.0	%	40-140
o-Terphenyl	85.0	%	40-140
2-Fluorobiphenyl	78.0	%	40-140
2-Bromonaphthalene	83.0	%	40-140

Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES  
 CERTIFICATE OF ANALYSIS

MA:M-MA086 NH:200301-A CT:PH-0574 ME:MA086 RI:65 NY:11148 NJ:MA935 Army:USACE

Laboratory Sample Number: L0402296-02	Date Collected: 10-MAR-2004 11:40
CCP-SW4-S1	Date Received : 10-MAR-2004
Sample Matrix:                          SOIL	Date Reported : 18-MAR-2004
Condition of Sample:          Satisfactory	Field Prep:          None
Number & Type of Containers: 1-Amber,1-Vial	

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Solids, Total	70.	%	0.10	30 2540G		0311 19:15 DD	

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Comments: Complete list of References and Glossary of Terms found in Addendum I



ALPHA ANALYTICAL LABORATORIES  
CERTIFICATE OF ANALYSIS

Laboratory Sample Number: L0402296-02  
CCP-SW4-S1

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	

Volatile Petroleum Hydrocarbons				47 98-1		0311 11:52 PS	
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Quality Control Information

Condition of sample received:	Satisfactory	
Sample temperature upon receipt:	Received on Ice	
Were samples received in methanol?	Covering the Soil	
Methanol ratio:	1:1 +/- 25%	
Were all QA/QC procedures REQUIRED by the method followed?		YES
Were all performance/acceptance standards for the required procedures achieved?		YES
Were significant modifications made to the method as specified in Sect 11.3?		NO
The normal acceptance range for the surrogate, 2,5-Dibromotoluene, is 70-130%.		

C5-C8 Aliphatics, Unadjusted	ND	mg/kg	3.17
C9-C12 Aliphatics, Unadjusted	ND	mg/kg	3.17
C9-C10 Aromatics	ND	mg/kg	3.17
C5-C8 Aliphatics, Adjusted	ND	mg/kg	3.17
C9-C12 Aliphatics, Adjusted	ND	mg/kg	3.17
Benzene	ND	mg/kg	0.159
Toluene	ND	mg/kg	0.159
Ethylbenzene	ND	mg/kg	0.159
p/m-Xylene	ND	mg/kg	0.159
o-Xylene	ND	mg/kg	0.159
Methyl tert butyl ether	ND	mg/kg	0.317
Naphthalene	ND	mg/kg	1.59

Surrogate(s)	Recovery		QC Criteria
2,5-Dibromotoluene-PID	95.0	%	70-130
2,5-Dibromotoluene-FID	97.0	%	70-130

Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES  
CERTIFICATE OF ANALYSIS

Laboratory Sample Number: L0402296-02  
CCP-SW4-S1

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	

Extractable Petroleum Hydrocarbons			46 98-1		0311 10:30	0317 05:53	LL
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Quality Control Information

Condition of sample received:	Satisfactory	
Sample temperature upon receipt:	Received on Ice	
Sample extraction method:	Extracted Per the Method	
Were all QA/QC procedures REQUIRED by the method followed?		YES
Were all performance/acceptance standards for the required procedures achieved?		YES
Were significant modifications made to the method as specified in Sect 11.3?		NO
The normal acceptance range for the extraction surrogates, Chloro-octadecane and o-Terphenyl, is 40-140%.		
The normal acceptance range for the fractionation surrogates, 2-Fluorobiphenyl and 2-Bromonaphthalene, is 40-140%.		

C9-C18 Aliphatics	ND	mg/kg	14.3
C19-C36 Aliphatics	32.0	mg/kg	14.3
C11-C22 Aromatics, Unadjusted	72.1	mg/kg	14.3
C11-C22 Aromatics, Adjusted	62.9	mg/kg	14.3
Naphthalene	ND	mg/kg	0.714
2-Methylnaphthalene	ND	mg/kg	0.714
Acenaphthylene	ND	mg/kg	0.714
Acenaphthene	ND	mg/kg	0.714
Fluorene	ND	mg/kg	0.714
Phenanthrene	1.24	mg/kg	0.714
Anthracene	ND	mg/kg	0.714
Fluoranthene	1.68	mg/kg	0.714
Pyrene	1.78	mg/kg	0.714
Benzo (a) anthracene	0.795	mg/kg	0.714
Chrysene	1.08	mg/kg	0.714
Benzo (b) fluoranthene	0.795	mg/kg	0.714
Benzo (k) fluoranthene	0.943	mg/kg	0.714
Benzo (a) pyrene	0.886	mg/kg	0.714
Indeno (1, 2, 3- cd) Pyrene	ND	mg/kg	0.714
Dibenzo (a, h) anthracene	ND	mg/kg	0.714
Benzo (g, h, i) perylene	ND	mg/kg	0.714
Surrogate (s)	Recovery		QC Criteria
Chloro-Octadecane	53.0	%	40-140
o-Terphenyl	74.0	%	40-140
2-Fluorobiphenyl	81.0	%	40-140
2-Bromonaphthalene	83.0	%	40-140

Comments: Complete list of References and Glossary of Terms found in Addendum I



ALPHA ANALYTICAL LABORATORIES  
CERTIFICATE OF ANALYSIS

Laboratory Sample Number: L0402296-03  
CCP-SW5-S1

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Volatile Petroleum Hydrocarbons			47	98-1	0311	12:42	PS

Quality Control Information

Condition of sample received:	Satisfactory	
Sample temperature upon receipt:	Received on Ice	
Were samples received in methanol?	Covering the Soil	
Methanol ratio:	Below 1:1 +/- 25%	
Were all QA/QC procedures REQUIRED by the method followed?		YES
Were all performance/acceptance standards for the required procedures achieved?		YES
Were significant modifications made to the method as specified in Sect 11.3?		NO
The normal acceptance range for the surrogate, 2,5-Dibromotoluene, is 70-130%.		

C5-C8 Aliphatics, Unadjusted	ND	mg/kg	14.8
C9-C12 Aliphatics, Unadjusted	ND	mg/kg	14.8
C9-C10 Aromatics	ND	mg/kg	14.8
C5-C8 Aliphatics, Adjusted	ND	mg/kg	14.8
C9-C12 Aliphatics, Adjusted	ND	mg/kg	14.8
Benzene	ND	mg/kg	0.741
Toluene	ND	mg/kg	0.741
Ethylbenzene	ND	mg/kg	0.741
p/m-Xylene	ND	mg/kg	0.741
o-Xylene	ND	mg/kg	0.741
Methyl tert butyl ether	ND	mg/kg	1.48
Naphthalene	ND	mg/kg	7.41

Surrogate(s)	Recovery		QC Criteria
2,5-Dibromotoluene-PID	101.	%	70-130
2,5-Dibromotoluene-FID	100.	%	70-130

Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES  
CERTIFICATE OF ANALYSIS

Laboratory Sample Number: L0402296-03  
CCP-SW5-S1

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Extractable Petroleum Hydrocarbons				46 98-1		0311 10:30	0317 04:22 LL

Quality Control Information

Condition of sample received: Satisfactory  
Sample temperature upon receipt: Received on Ice  
Sample extraction method: Extracted Per the Method  
Were all QA/QC procedures REQUIRED by the method followed? YES  
Were all performance/acceptance standards for the required procedures achieved? NO  
    1. One or more of the extraction surrogate recoveries were less than 40%.  
Were significant modifications made to the method as specified in Sect 11.3? NO  
The normal acceptance range for the extraction surrogates, Chloro-octadecane and o-Terphenyl, is 40-140%.  
The normal acceptance range for the fractionation surrogates, 2-Fluorobiphenyl and 2-Bromonaphthalene, is 40-140%.

C9-C18 Aliphatics	ND	mg/kg	43.5
C19-C36 Aliphatics	116.	mg/kg	43.5
C11-C22 Aromatics, Unadjusted	97.0	mg/kg	43.5
C11-C22 Aromatics, Adjusted	97.0	mg/kg	43.5
Naphthalene	ND	mg/kg	2.17
2-Methylnaphthalene	ND	mg/kg	2.17
Acenaphthylene	ND	mg/kg	2.17
Acenaphthene	ND	mg/kg	2.17
Fluorene	ND	mg/kg	2.17
Phenanthrene	ND	mg/kg	2.17
Anthracene	ND	mg/kg	2.17
Fluoranthene	ND	mg/kg	2.17
Pyrene	ND	mg/kg	2.17
Benzo (a) anthracene	ND	mg/kg	2.17
Chrysene	ND	mg/kg	2.17
Benzo (b) fluoranthene	ND	mg/kg	2.17
Benzo (k) fluoranthene	ND	mg/kg	2.17
Benzo (a) pyrene	ND	mg/kg	2.17
Indeno (1, 2, 3-cd) Pyrene	ND	mg/kg	2.17
Dibenzo (a, h) anthracene	ND	mg/kg	2.17
Benzo (g, h, i) perylene	ND	mg/kg	2.17

Surrogate (s)	Recovery		QC Criteria
Chloro-Octadecane	27.0	%	40-140
o-Terphenyl	34.0	%	40-140
2-Fluorobiphenyl	83.0	%	40-140
2-Bromonaphthalene	84.0	%	40-140

Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES  
CERTIFICATE OF ANALYSIS

Laboratory Sample Number: L0402296-03  
CCP-SW5-S1

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Extractable Petroleum Hydrocarbons				46 98-1		0317 12:00	0318 12:58 LL

Quality Control Information

Condition of sample received:	Satisfactory	
Sample temperature upon receipt:	Received on Ice	
Sample extraction method:	Extracted Per the Method	
Were all QA/QC procedures REQUIRED by the method followed?		YES
Were all performance/acceptance standards for the required procedures achieved?		NO
1. One or more of the extraction surrogate recoveries were less than 40%.		
Were significant modifications made to the method as specified in Sect 11.3?		NO
The normal acceptance range for the extraction surrogates, Chloro-octadecane and o-Terphenyl, is 40-140%.		
The normal acceptance range for the fractionation surrogates, 2-Fluorobiphenyl and 2-Bromonaphthalene, is 40-140%.		

C9-C18 Aliphatics	ND	mg/kg	43.5
C19-C36 Aliphatics	139.	mg/kg	43.5
C11-C22 Aromatics, Unadjusted	52.3	mg/kg	43.5
C11-C22 Aromatics, Adjusted	52.3	mg/kg	43.5
Naphthalene	ND	mg/kg	2.17
2-Methylnaphthalene	ND	mg/kg	2.17
Acenaphthylene	ND	mg/kg	2.17
Acenaphthene	ND	mg/kg	2.17
Fluorene	ND	mg/kg	2.17
Phenanthrene	ND	mg/kg	2.17
Anthracene	ND	mg/kg	2.17
Fluoranthene	ND	mg/kg	2.17
Pyrene	ND	mg/kg	2.17
Benzo (a) anthracene	ND	mg/kg	2.17
Chrysene	ND	mg/kg	2.17
Benzo (b) fluoranthene	ND	mg/kg	2.17
Benzo (k) fluoranthene	ND	mg/kg	2.17
Benzo (a) pyrene	ND	mg/kg	2.17
Indeno (1,2,3-cd) Pyrene	ND	mg/kg	2.17
Dibenzo (a,h) anthracene	ND	mg/kg	2.17
Benzo (g,h,i) perylene	ND	mg/kg	2.17
Surrogate (s)	Recovery		QC Criteria
Chloro-Octadecane	27.0	%	40-140
o-Terphenyl	35.0	%	40-140
2-Fluorobiphenyl	79.0	%	40-140
2-Bromonaphthalene	78.0	%	40-140

Comments: Complete list of References and Glossary of Terms found in Addendum I



ALPHA ANALYTICAL LABORATORIES  
CERTIFICATE OF ANALYSIS

Laboratory Sample Number: L0402296-04  
CCP-SW6-S1

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE PREP      ANAL	ID
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Volatile Petroleum Hydrocarbons				47 98-1	0312 00:27 PS	
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Quality Control Information

Condition of sample received:	Satisfactory	
Sample temperature upon receipt:	Received on Ice	
Were samples received in methanol?	Covering the Soil	
Methanol ratio:	1:1 +/- 25%	
Were all QA/QC procedures REQUIRED by the method followed?		YES
Were all performance/acceptance standards for the required procedures achieved?		YES
Were significant modifications made to the method as specified in Sect 11.3?		NO
The normal acceptance range for the surrogate, 2,5-Dibromotoluene, is 70-130%.		

C5-C8 Aliphatics, Unadjusted	ND	mg/kg	2.94	
C9-C12 Aliphatics, Unadjusted	ND	mg/kg	2.94	
C9-C10 Aromatics	ND	mg/kg	2.94	
C5-C8 Aliphatics, Adjusted	ND	mg/kg	2.94	
C9-C12 Aliphatics, Adjusted	ND	mg/kg	2.94	
Benzene	ND	mg/kg	0.147	
Toluene	ND	mg/kg	0.147	
Ethylbenzene	ND	mg/kg	0.147	
p/m-Xylene	ND	mg/kg	0.147	
o-Xylene	ND	mg/kg	0.147	
Methyl tert butyl ether	ND	mg/kg	0.294	
Naphthalene	ND	mg/kg	1.47	
Surrogate(s)	Recovery			QC Criteria
2,5-Dibromotoluene-PID	94.0	%		70-130
2,5-Dibromotoluene-FID	94.0	%		70-130

Comments: Complete list of References and Glossary of Terms found in Addendum I



ALPHA ANALYTICAL LABORATORIES  
CERTIFICATE OF ANALYSIS

Laboratory Sample Number: L0402296-04  
CCP-SW6-S1

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE PREP      ANAL	ID
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Extractable Petroleum Hydrocarbons	46 98-1	0318 12:00 0318 11:26 LL
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Quality Control Information

Condition of sample received:	Satisfactory	
Sample temperature upon receipt:	Received on Ice	
Sample extraction method:	Extracted Per the Method	
Were all QA/QC procedures REQUIRED by the method followed?		YES
Were all performance/acceptance standards for the required procedures achieved?		YES
Were significant modifications made to the method as specified in Sect 11.3?		NO
The normal acceptance range for the extraction surrogates, Chloro-octadecane and o-Terphenyl, is 40-140%.		
The normal acceptance range for the fractionation surrogates, 2-Fluorobiphenyl and 2-Bromonaphthalene, is 40-140%.		

C9-C18 Aliphatics	ND	mg/kg	12.8
C19-C36 Aliphatics	ND	mg/kg	12.8
C11-C22 Aromatics, Unadjusted	ND	mg/kg	12.8
C11-C22 Aromatics, Adjusted	ND	mg/kg	12.8
Naphthalene	ND	mg/kg	0.641
2-Methylnaphthalene	ND	mg/kg	0.641
Acenaphthylene	ND	mg/kg	0.641
Acenaphthene	ND	mg/kg	0.641
Fluorene	ND	mg/kg	0.641
Phenanthrene	ND	mg/kg	0.641
Anthracene	ND	mg/kg	0.641
Fluoranthene	ND	mg/kg	0.641
Pyrene	ND	mg/kg	0.641
Benzo (a) anthracene	ND	mg/kg	0.641
Chrysene	ND	mg/kg	0.641
Benzo (b) fluoranthene	ND	mg/kg	0.641
Benzo (k) fluoranthene	ND	mg/kg	0.641
Benzo (a) pyrene	ND	mg/kg	0.641
Indeno (1,2,3-cd) Pyrene	ND	mg/kg	0.641
Dibenzo (a,h) anthracene	ND	mg/kg	0.641
Benzo (g,h,i) perylene	ND	mg/kg	0.641

Surrogate (s)	Recovery	%	QC Criteria
Chloro-Octadecane	45.0	%	40-140
o-Terphenyl	54.0	%	40-140
2-Fluorobiphenyl	72.0	%	40-140
2-Bromonaphthalene	74.0	%	40-140

Comments: Complete list of References and Glossary of Terms found in Addendum I



ALPHA ANALYTICAL LABORATORIES  
CERTIFICATE OF ANALYSIS

Laboratory Sample Number: L0402296-05  
CCP-SW7-S1

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	

Volatile Petroleum Hydrocarbons	47 98-1	0312 01:18 PS
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Quality Control Information

Condition of sample received:	Satisfactory
Sample temperature upon receipt:	Received on Ice
Were samples received in methanol?	Covering the Soil
Methanol ratio:	1:1 +/- 25%
Were all QA/QC procedures REQUIRED by the method followed?	YES
Were all performance/acceptance standards for the required procedures achieved?	YES
Were significant modifications made to the method as specified in Sect 11.3?	NO
The normal acceptance range for the surrogate, 2,5-Dibromotoluene, is 70-130%.	

C5-C8 Aliphatics, Unadjusted	ND	mg/kg	3.15
C9-C12 Aliphatics, Unadjusted	ND	mg/kg	3.15
C9-C10 Aromatics	ND	mg/kg	3.15
C5-C8 Aliphatics, Adjusted	ND	mg/kg	3.15
C9-C12 Aliphatics, Adjusted	ND	mg/kg	3.15
Benzene	ND	mg/kg	0.158
Toluene	ND	mg/kg	0.158
Ethylbenzene	ND	mg/kg	0.158
p/m-Xylene	ND	mg/kg	0.158
o-Xylene	ND	mg/kg	0.158
Methyl tert butyl ether	ND	mg/kg	0.315
Naphthalene	ND	mg/kg	1.58

Surrogate(s)	Recovery		QC Criteria
2,5-Dibromotoluene-PID	85.0	%	70-130
2,5-Dibromotoluene-FID	87.0	%	70-130

Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES  
CERTIFICATE OF ANALYSIS

Laboratory Sample Number: L0402296-05  
CCP-SW7-S1

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	

Extractable Petroleum Hydrocarbons			46 98-1		0318 12:00	0318 12:15	LL
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Quality Control Information

Condition of sample received:	Satisfactory	
Sample temperature upon receipt:	Received on Ice	
Sample extraction method:	Extracted Per the Method	
Were all QA/QC procedures REQUIRED by the method followed?		YES
Were all performance/acceptance standards for the required procedures achieved?		YES
Were significant modifications made to the method as specified in Sect 11.3?		NO
The normal acceptance range for the extraction surrogates, Chloro-octadecane and o-Terphenyl, is 40-140%.		
The normal acceptance range for the fractionation surrogates, 2-Fluorobiphenyl and 2-Bromonaphthalene, is 40-140%.		

C9-C18 Aliphatics	ND	mg/kg	14.5
C19-C36 Aliphatics	21.8	mg/kg	14.5
C11-C22 Aromatics, Unadjusted	ND	mg/kg	14.5
C11-C22 Aromatics, Adjusted	ND	mg/kg	14.5
Naphthalene	ND	mg/kg	0.725
2-Methylnaphthalene	ND	mg/kg	0.725
Acenaphthylene	ND	mg/kg	0.725
Acenaphthene	ND	mg/kg	0.725
Fluorene	ND	mg/kg	0.725
Phenanthrene	ND	mg/kg	0.725
Anthracene	ND	mg/kg	0.725
Fluoranthene	ND	mg/kg	0.725
Pyrene	ND	mg/kg	0.725
Benzo (a) anthracene	ND	mg/kg	0.725
Chrysene	ND	mg/kg	0.725
Benzo (b) fluoranthene	ND	mg/kg	0.725
Benzo (k) fluoranthene	ND	mg/kg	0.725
Benzo (a) pyrene	ND	mg/kg	0.725
Indeno (1, 2, 3- cd) Pyrene	ND	mg/kg	0.725
Dibenzo (a, h) anthracene	ND	mg/kg	0.725
Benzo (g, h, i) perylene	ND	mg/kg	0.725

Surrogate (s)	Recovery		QC Criteria
Chloro-Octadecane	52.0	%	40-140
o-Terphenyl	63.0	%	40-140
2-Fluorobiphenyl	74.0	%	40-140
2-Bromonaphthalene	74.0	%	40-140

Comments: Complete list of References and Glossary of Terms found in Addendum I



ALPHA ANALYTICAL LABORATORIES  
 QUALITY ASSURANCE BATCH DUPLICATE ANALYSIS

Laboratory Job Number: L0402296

Parameter	Value 1	Value 2	Units	RPD	RPD Limits
Solids, Total for sample(s) 01-05 (L0402295-01, WG165160)					
Solids, Total	86.	86.	%	0	
Volatile Petroleum Hydrocarbons for sample(s) 01-06 (L0402161-02, WG164984)					
C5-C8 Aliphatics	ND	ND	mg/kg	NC	50
C9-C12 Aliphatics	ND	ND	mg/kg	NC	50
C9-C10 Aromatics	ND	ND	mg/kg	NC	50
C5-C8 Aliphatics, Adjusted	ND	ND	mg/kg	NC	50
C9-C12 Aliphatics, Adjusted	ND	ND	mg/kg	NC	50
Benzene	ND	ND	mg/kg	NC	50
Toluene	ND	ND	mg/kg	NC	50
Ethylbenzene	ND	ND	mg/kg	NC	50
p/m-Xylene	ND	ND	mg/kg	NC	50
o-Xylene	ND	ND	mg/kg	NC	50
Methyl tert butyl ether	ND	ND	mg/kg	NC	50
Naphthalene	ND	ND	mg/kg	NC	50
Surrogate(s)	Recovery				QC Criteria
2,5-Dibromotoluene-PID	98.0	105.	%	7	70-130
2,5-Dibromotoluene-FID	91.0	101.	%	10	70-130
Extractable Petroleum Hydrocarbons for sample(s) 01-03 (L0402271-01, WG165145)					
C9-C18 Aliphatics	183.	171.	mg/kg	7	50
C19-C36 Aliphatics	651.	682.	mg/kg	5	50
C11-C22 Aromatics	368.	333.	mg/kg	10	50
C11-C22 Aromatics, Adjusted	367.	332.	mg/kg	10	50
Surrogate(s)	Recovery				QC Criteria
Chloro-Octadecane	65.0	63.0	%	3	40-140
o-Terphenyl	85.0	83.0	%	2	40-140
2-Fluorobiphenyl	77.0	83.0	%	8	40-140
2-Bromonaphthalene	88.0	91.0	%	3	40-140
Extractable Petroleum Hydrocarbons for sample(s) 04-05 (L0401911-21, WG165661)					
C9-C18 Aliphatics	ND	ND	mg/kg	NC	50
C19-C36 Aliphatics	34.8	31.9	mg/kg	9	50
C11-C22 Aromatics	10.8	12.0	mg/kg	11	50
C11-C22 Aromatics, Adjusted	10.8	12.0	mg/kg	11	50
Naphthalene	ND	ND	mg/kg	NC	50
2-Methylnaphthalene	ND	ND	mg/kg	NC	50
Acenaphthylene	ND	ND	mg/kg	NC	50
Acenaphthene	ND	ND	mg/kg	NC	50
Fluorene	ND	ND	mg/kg	NC	50
Phenanthrene	ND	ND	mg/kg	NC	50
Anthracene	ND	ND	mg/kg	NC	50
Fluoranthene	ND	ND	mg/kg	NC	50
Pyrene	ND	ND	mg/kg	NC	50
Benzo(a)anthracene	ND	ND	mg/kg	NC	50
Chrysene	ND	ND	mg/kg	NC	50

ALPHA ANALYTICAL LABORATORIES  
 QUALITY ASSURANCE BATCH DUPLICATE ANALYSIS

Laboratory Job Number: L0402296

Continued

Parameter	Value 1	Value 2	Units	RPD	RPD Limits
Extractable Petroleum Hydrocarbons for sample(s) 04-05 (L0401911-21, WG165661)					
Benzo (b) fluoranthene	ND	ND	mg/kg	NC	50
Benzo (k) fluoranthene	ND	ND	mg/kg	NC	50
Benzo (a) pyrene	ND	ND	mg/kg	NC	50
Indeno (1, 2, 3-cd) Pyrene	ND	ND	mg/kg	NC	50
Dibenzo (a, h) anthracene	ND	ND	mg/kg	NC	50
Benzo (ghi) perylene	ND	ND	mg/kg	NC	50
Surrogate (s)	Recovery				QC Criteria
Chloro-Octadecane	25.0	27.0	%	8	40-140
o-Terphenyl	35.0	35.0	%	0	40-140
2-Fluorobiphenyl	75.0	79.0	%	5	40-140
2-Bromonaphthalene	74.0	78.0	%	5	40-140

ALPHA ANALYTICAL LABORATORIES  
 QUALITY ASSURANCE BATCH SPIKE ANALYSES

Laboratory Job Number: L0402296

Parameter	% Recovery	QC Criteria
Volatile Petroleum Hydrocarbons LCS for sample(s) 01-06 (WG164984)		
Benzene	112	70-130
Toluene	100	70-130
Ethylbenzene	105	70-130
p/m-Xylene	92	70-130
o-Xylene	104	70-130
Methyl tert butyl ether	95	70-130
Naphthalene	100	70-130
Surrogate(s)		
2,5-Dibromotoluene-PID	98	70-130
2,5-Dibromotoluene-FID	91	70-130
Extractable Petroleum Hydrocarbons LCS for sample(s) 01-03 (WG165145)		
Naphthalene	58	40-140
Acenaphthene	63	40-140
Anthracene	83	40-140
Pyrene	82	40-140
Chrysene	85	40-140
Nonane (C9)	52	40-140
Tetradecane (C14)	63	40-140
Nonadecane (C19)	78	40-140
Eicosane (C20)	77	40-140
Octacosane (C28)	74	40-140
Surrogate(s)		
Chloro-Octadecane	57	40-140
o-Terphenyl	96	40-140
2-Fluorobiphenyl	75	40-140
2-Bromonaphthalene	77	40-140
Extractable Petroleum Hydrocarbons LCS for sample(s) 04-05 (WG165661)		
Naphthalene	52	40-140
Acenaphthene	62	40-140
Anthracene	77	40-140
Pyrene	80	40-140
Chrysene	83	40-140
Nonane (C9)	51	40-140
Tetradecane (C14)	67	40-140
Nonadecane (C19)	84	40-140
Eicosane (C20)	83	40-140
Octacosane (C28)	81	40-140
Surrogate(s)		
Chloro-Octadecane	64	40-140
o-Terphenyl	77	40-140
2-Fluorobiphenyl	76	40-140
2-Bromonaphthalene	71	40-140



ALPHA ANALYTICAL LABORATORIES  
QUALITY ASSURANCE BATCH BLANK ANALYSIS

Laboratory Job Number: L0402296

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Blank Analysis for sample(s) 01-06 (WG164984-5)							
Volatile Petroleum Hydrocarbons				47 98-1		0311 08:19 PS	
C5-C8 Aliphatics, Unadjusted	ND	mg/kg	2.00				
C9-C12 Aliphatics, Unadjusted	ND	mg/kg	2.00				
C9-C10 Aromatics	ND	mg/kg	2.00				
C5-C8 Aliphatics, Adjusted	ND	mg/kg	2.00				
C9-C12 Aliphatics, Adjusted	ND	mg/kg	2.00				
Benzene	ND	mg/kg	0.100				
Toluene	ND	mg/kg	0.100				
Ethylbenzene	ND	mg/kg	0.100				
p/m-Xylene	ND	mg/kg	0.100				
o-Xylene	ND	mg/kg	0.100				
Methyl tert butyl ether	ND	mg/kg	0.200				
Naphthalene	ND	mg/kg	1.00				
Surrogate(s)	Recovery		QC Criteria				
2,5-Dibromotoluene-PID	102.	%	70-130				
2,5-Dibromotoluene-FID	99.0	%	70-130				
Blank Analysis for sample(s) 01-03 (WG165145-1)							
Extractable Petroleum Hydrocarbons				46 98-1		0311 10:30 0316 07:46 LL	
C9-C18 Aliphatics	ND	mg/kg	10.0				
C19-C36 Aliphatics	ND	mg/kg	10.0				
C11-C22 Aromatics, Unadjusted	ND	mg/kg	10.0				
C11-C22 Aromatics, Adjusted	ND	mg/kg	10.0				
Naphthalene	ND	mg/kg	0.500				
2-Methylnaphthalene	ND	mg/kg	0.500				
Acenaphthylene	ND	mg/kg	0.500				
Acenaphthene	ND	mg/kg	0.500				
Fluorene	ND	mg/kg	0.500				
Phenanthrene	ND	mg/kg	0.500				
Anthracene	ND	mg/kg	0.500				
Fluoranthene	ND	mg/kg	0.500				
Pyrene	ND	mg/kg	0.500				
Benzo (a) anthracene	ND	mg/kg	0.500				
Chrysene	ND	mg/kg	0.500				
Benzo (b) fluoranthene	ND	mg/kg	0.500				
Benzo (k) fluoranthene	ND	mg/kg	0.500				
Benzo (a) pyrene	ND	mg/kg	0.500				
Indeno (1,2,3-cd) Pyrene	ND	mg/kg	0.500				
Dibenzo (a,h) anthracene	ND	mg/kg	0.500				
Benzo (g,h,i) perylene	ND	mg/kg	0.500				
Surrogate(s)	Recovery		QC Criteria				
Chloro-Octadecane	59.0	%	40-140				
o-Terphenyl	75.0	%	40-140				
2-Fluorobiphenyl	75.0	%	40-140				
2-Bromonaphthalene	77.0	%	40-140				

ALPHA ANALYTICAL LABORATORIES  
 QUALITY ASSURANCE BATCH BLANK ANALYSIS

Laboratory Job Number: L0402296

Continued

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Blank Analysis for sample(s) 04-05 (WG165661-1)							
Extractable Petroleum Hydrocarbons				46 98-1		0318 12:00	0318 13:20 LL
C9-C18 Aliphatics	ND	mg/kg	10.0				
C19-C36 Aliphatics	ND	mg/kg	10.0				
C11-C22 Aromatics, Unadjusted	ND	mg/kg	10.0				
C11-C22 Aromatics, Adjusted	ND	mg/kg	10.0				
Naphthalene	ND	mg/kg	0.500				
2-Methylnaphthalene	ND	mg/kg	0.500				
Acenaphthylene	ND	mg/kg	0.500				
Acenaphthene	ND	mg/kg	0.500				
Fluorene	ND	mg/kg	0.500				
Phenanthrene	ND	mg/kg	0.500				
Anthracene	ND	mg/kg	0.500				
Fluoranthene	ND	mg/kg	0.500				
Pyrene	ND	mg/kg	0.500				
Benzo(a)anthracene	ND	mg/kg	0.500				
Chrysene	ND	mg/kg	0.500				
Benzo(b)fluoranthene	ND	mg/kg	0.500				
Benzo(k)fluoranthene	ND	mg/kg	0.500				
Benzo(a)pyrene	ND	mg/kg	0.500				
Indeno(1,2,3-cd)Pyrene	ND	mg/kg	0.500				
Dibenzo(a,h)anthracene	ND	mg/kg	0.500				
Benzo(g,h,i)perylene	ND	mg/kg	0.500				
Surrogate(s)	Recovery			QC Criteria			
Chloro-Octadecane	65.0	%		40-140			
o-Terphenyl	85.0	%		40-140			
2-Fluorobiphenyl	85.0	%		40-140			
2-Bromonaphthalene	84.0	%		40-140			

ALPHA ANALYTICAL LABORATORIES  
ADDENDUM I

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REFERENCES

30. Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WPCF. 18th Edition. 1992.
46. Method for the Determination of Extractable Petroleum Hydrocarbons (EPH), Massachusetts Department of Environmental Protection, (MADEP-EPH-98-1), January 1998.
47. Method for the Determination of Volatile Petroleum Hydrocarbons (VPH), Massachusetts Department of Environmental Protection, (MADEP-VPH-98-1), January 1998.

GLOSSARY OF TERMS AND SYMBOLS

REF Reference number in which test method may be found.  
METHOD Method number by which analysis was performed.  
ID Initials of the analyst.  
ND Not detected in comparison to the reported detection limit.

Please note that all solid samples are reported on dry weight basis unless noted otherwise.

LIMITATION OF LIABILITIES

Alpha Analytical, Inc. performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical, Inc., shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical, Inc. be held liable for any incidental consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical, Inc.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding times and splitting of samples in the field.

ALPHA ANALYTICAL LABORATORIES  
LOGIN SPECIFIC INFORMATION

Laboratory Job Number: L0402296

Were project specific reporting limits specified?

YES

Cooler Information

Cooler	Custody Seal
A	Absent

Container Information

Container ID	Container Type	Cooler	pH	Temp	Pres	Seal	Analysis
L0402296-01A	Vial MeOH preserved	A	N/A	2.8 C	Y	Absent	VPH-DELUX
L0402296-01B	Amber 250ml unpreserved	A	N/A	2.8 C	Y	Absent	EPH-DELUX, TS
L0402296-02A	Vial MeOH preserved	A	N/A	2.8 C	Y	Absent	VPH-DELUX
L0402296-02B	Amber 250ml unpreserved	A	N/A	2.8 C	Y	Absent	EPH-DELUX, TS
L0402296-03A	Vial MeOH preserved	A	N/A	2.8 C	Y	Absent	VPH-DELUX
L0402296-03B	Amber 250ml unpreserved	A	N/A	2.8 C	Y	Absent	EPH-DELUX, TS
L0402296-04A	Vial MeOH preserved	A	N/A	2.8 C	Y	Absent	VPH-DELUX
L0402296-04B	Amber 250ml unpreserved	A	N/A	2.8 C	Y	Absent	EPH-DELUX, TS
L0402296-05A	Vial MeOH preserved	A	N/A	2.8 C	Y	Absent	VPH-DELUX
L0402296-05B	Amber 250ml unpreserved	A	N/A	2.8 C	Y	Absent	EPH-DELUX, TS
L0402296-06A	Vial MeOH preserved	A	N/A	2.8 C	Y	Absent	VPH-DELUX

Container Comments

Container ID    Comments

# CHAIN OF CUSTODY RECORD

Fax (617) 886-7600  
 Page 1 of 1

H&A FILE NO. 30600-000 LABORATORY HAHA DELIVERY DATE 03/10/04  
 PROJECT NAME BURBANK SCHOOL ADDRESS WILMINGTON, MA TURNAROUND TIME 5 DAYS  
 H&A CONTACT STEVE PAVENSER CONTACT  PROJECT MANAGER John Morarty

Sample No.	Date	Time	Depth (ft.)	Type	Analysis Requested										Number of Containers	Comments (special instructions, precautions, additional method numbers, etc.)		
					VOA	ABNs only	MCP Metals	Pesticides PCBs	Full Suite C-changes only	Full Suite	TPH (specif.)	TCLP (specif.)	Reactivity	Ignitability			Corrosivity	
CCP-SW3-S1	3/10/04	1155	0-4	SOIL		X				X							2	Laboratory to use applicable DEP CAM methods, unless otherwise directed. <b>NO EPH/UPH AND TARGET ANALYTES.</b>
CCP-SW4-S1		1140				X				X							2	
CCP-SW5-S1		1150				X				X							2	
CCP-SW6-S1		1205				X				X							2	
CCP-SW7-S1		1215				X				X							2	
TRIP BLANK						X											1	

Sampled and Relinquished by	Received by	LIQUID						SOLID					
		VOA Vial	Amber Glass	Plastic Bottle	Preservative	Volume	VOA Vial	Amber Glass	Clear Glass	Preservative	Volume		
Sign <u>Todd Butler</u> Print <u>Todd Butler</u> Firm <u>HAHA</u> Date <u>3/10/04</u> Time <u>1445</u>	Sign <u>Desmond Crawford</u> Print <u>Desmond Crawford</u> Firm <u>HAHA</u> Date <u>3/10/04</u> Time <u>14:45</u>												
Relinquished by <u>Desmond Crawford</u> Sign <u>Desmond Crawford</u> Print <u>Desmond Crawford</u> Firm <u>HAHA</u> Date <u>3/10/04</u> Time <u>16:05</u>	Received by <u>Kim Ballen</u> Sign <u>Kim Ballen</u> Print <u>Kim Ballen</u> Firm <u>HAHA</u> Date <u>3/10/04</u> Time <u>1745</u>												

**Presumptive Certainty Data Package (Laboratory to use applicable DEP CAM methods)**

**Preservation Key:**  
 A Sample chilled    C NaOH    E H<sub>2</sub>SO<sub>4</sub>    G Methanol  
 B Sample filtered    D HNO<sub>3</sub>    F HCL    H Water/NaHSO<sub>4</sub> (circle)

**Required Reporting Limits and Data Quality Objectives**

RC-S1  RC-S2  RC-GW1  RC-GW2  RC-GW3

S1  S2  S3

Evidence samples were tampered with? YES NO

If YES, please explain in section below.

ALPHA ANALYTICAL LABORATORIES

Eight Walkup Drive  
Westborough, Massachusetts 01581-1019  
(508) 898-9220 www.alphalab.com

MA:M-MA086 NH:200301-A CT:PH-0574 ME:MA086 RI:65 NY:11148 NJ:MA935 Army:USACE

CERTIFICATE OF ANALYSIS

Client: Haley & Aldrich, Inc. Laboratory Job Number: L0402475  
Address: 465 Medford Street, Suite 2200  
Boston, MA 02129-1400 Date Received: 16-MAR-2004  
Attn: Mr. Steve Provencal Date Reported: 18-MAR-2004  
Project Number: 30660-000 Delivery Method: Alpha  
Site: BURBANK SCHOOL

The following questions pertain only to MCP Analytical Methods

An affirmative response to questions A,B,C & D is required for "Presumptive Certainty" status

- A. Were all samples received by the laboratory in a condition consistent with those described on their Chain-of-Custody documentation for the data set? YES
- B. Were all QA/QC procedures required for the specified analytical method(s) included in this report followed, including the requirement to note and discuss in a narrative QC data that did not meet appropriate performance standards or guidelines? YES
- C. Does the analytical data included in this report meet all the requirements for "Presumptive Certainty", as described in section 2.0 of the MADEP document CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data"? YES
- D. VPH and EPH methods only: Was the VPH or EPH method run without significant modifications, as specified in Section 11.3? NA

A response to questions E and F is required for "Presumptive Certainty" status

- E. Were all QC performance standards and recommendations for the specified method(s) achieved? NO
- F. Were results for all analyte-list compounds/elements for the specified method(s) reported? YES

Any answers of NO to the above questions are addressed in the case narrative.

I, the undersigned, attest under the pains and penalties of perjury that, based upon my personal inquiry of those responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized by: Scott McLean  
This document electronically signed

ALPHA ANALYTICAL LABORATORIES

Laboratory Job Number: L0402475

Date Reported: 18-MAR-2004

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ALPHA SAMPLE NUMBER	CLIENT IDENTIFICATION	SAMPLE LOCATION
L0402475-01	UST-STKPL4-S3	BELMONT, MA
L0402475-02	UST-STKPL5-S3	BELMONT, MA

ALPHA ANALYTICAL LABORATORIES  
NARRATIVE REPORT

Laboratory Job Number: L0402475

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Volatile Organics

The analysis of Volatile Organics by EPA Method 5035/8260B Low-Level could not be performed due to the high concentrations of non-target compounds present in the samples.

In reference to question E, the LCS has a low recovery for dichlorodifluoromethane, a known difficult analyte. The LCS also has high recoveries for Tetrahydrofuran, sec butyl benzene, and p-isopropyl toluene.





ALPHA ANALYTICAL LABORATORIES  
CERTIFICATE OF ANALYSIS

Laboratory Sample Number: L0402475-01  
UST-STKPL4-S3

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Volatile Organics by MCP 8260B/5035-High continued				54 8260B	0318 10:25 RY		
1,2,3-Trichloropropane	ND	ug/kg	560				
Styrene	ND	ug/kg	56.				
Dichlorodifluoromethane	ND	ug/kg	560				
Acetone	ND	ug/kg	560				
Carbon disulfide	ND	ug/kg	560				
2-Butanone	ND	ug/kg	560				
4-Methyl-2-pentanone	ND	ug/kg	560				
2-Hexanone	ND	ug/kg	560				
Bromochloromethane	ND	ug/kg	280				
Tetrahydrofuran	ND	ug/kg	1100				
2,2-Dichloropropane	ND	ug/kg	280				
1,2-Dibromoethane	ND	ug/kg	280				
1,3-Dichloropropane	ND	ug/kg	280				
1,1,1,2-Tetrachloroethane	ND	ug/kg	56.				
Bromobenzene	ND	ug/kg	280				
n-Butylbenzene	87.	ug/kg	56.				
sec-Butylbenzene	ND	ug/kg	56.				
tert-Butylbenzene	ND	ug/kg	280				
o-Chlorotoluene	ND	ug/kg	280				
p-Chlorotoluene	ND	ug/kg	280				
1,2-Dibromo-3-chloropropane	ND	ug/kg	280				
Hexachlorobutadiene	ND	ug/kg	280				
Isopropylbenzene	ND	ug/kg	56.				
p-Isopropyltoluene	ND	ug/kg	56.				
Naphthalene	ND	ug/kg	280				
n-Propylbenzene	ND	ug/kg	56.				
1,2,3-Trichlorobenzene	ND	ug/kg	280				
1,2,4-Trichlorobenzene	ND	ug/kg	280				
1,3,5-Trimethylbenzene	ND	ug/kg	280				
1,2,4-Trimethylbenzene	ND	ug/kg	280				
Ethyl ether	ND	ug/kg	280				
Isopropyl Ether	ND	ug/kg	220				
Ethyl-Tert-Butyl-Ether	ND	ug/kg	220				
Tertiary-Amyl Methyl Ether	ND	ug/kg	220				
1,4-Dioxane	ND	ug/kg	28000				
Surrogate (s)	Recovery		QC Criteria				
1,2-Dichloroethane-d4	98.0	%	70-130				
Toluene-d8	98.0	%	70-130				
4-Bromofluorobenzene	83.0	%	70-130				
Dibromofluoromethane	92.0	%	70-130				

Comments: Complete list of References and Glossary of Terms found in Addendum I



ALPHA ANALYTICAL LABORATORIES  
CERTIFICATE OF ANALYSIS

Laboratory Sample Number: L0402475-02  
UST-STKPL5-S3

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Volatile Organics by MCP 8260B/5035-High continued				54 8260B	0318 11:01		RY
1,2,3-Trichloropropane	ND	ug/kg	500				
Styrene	ND	ug/kg	50.				
Dichlorodifluoromethane	ND	ug/kg	500				
Acetone	ND	ug/kg	500				
Carbon disulfide	ND	ug/kg	500				
2-Butanone	ND	ug/kg	500				
4-Methyl-2-pentanone	ND	ug/kg	500				
2-Hexanone	ND	ug/kg	500				
Bromochloromethane	ND	ug/kg	250				
Tetrahydrofuran	ND	ug/kg	1000				
2,2-Dichloropropane	ND	ug/kg	250				
1,2-Dibromoethane	ND	ug/kg	250				
1,3-Dichloropropane	ND	ug/kg	250				
1,1,1,2-Tetrachloroethane	ND	ug/kg	50.				
Bromobenzene	ND	ug/kg	250				
n-Butylbenzene	ND	ug/kg	50.				
sec-Butylbenzene	ND	ug/kg	50.				
tert-Butylbenzene	ND	ug/kg	250				
o-Chlorotoluene	ND	ug/kg	250				
p-Chlorotoluene	ND	ug/kg	250				
1,2-Dibromo-3-chloropropane	ND	ug/kg	250				
Hexachlorobutadiene	ND	ug/kg	250				
Isopropylbenzene	ND	ug/kg	50.				
p-Isopropyltoluene	ND	ug/kg	50.				
Naphthalene	ND	ug/kg	250				
n-Propylbenzene	ND	ug/kg	50.				
1,2,3-Trichlorobenzene	ND	ug/kg	250				
1,2,4-Trichlorobenzene	ND	ug/kg	250				
1,3,5-Trimethylbenzene	ND	ug/kg	250				
1,2,4-Trimethylbenzene	ND	ug/kg	250				
Ethyl ether	ND	ug/kg	250				
Isopropyl Ether	ND	ug/kg	200				
Ethyl-Tert-Butyl-Ether	ND	ug/kg	200				
Tertiary-Amyl Methyl Ether	ND	ug/kg	200				
1,4-Dioxane	ND	ug/kg	25000				
Surrogate (s)	Recovery			QC Criteria			
1,2-Dichloroethane-d4	103.	%		70-130			
Toluene-d8	95.0	%		70-130			
4-Bromofluorobenzene	84.0	%		70-130			
Dibromofluoromethane	92.0	%		70-130			

Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES  
QUALITY ASSURANCE BATCH DUPLICATE ANALYSIS

Laboratory Job Number: L0402475

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Parameter	Value 1	Value 2	Units	RPD	RPD Limits
<hr/>					
	Solids, Total for sample(s) 01-02 (L0402475-01, WG165581)				
Solids, Total	89.	91.	%	2	

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ALPHA ANALYTICAL LABORATORIES  
 QUALITY ASSURANCE BATCH SPIKE ANALYSES

Laboratory Job Number: L0402475

Parameter	% Recovery	QC Criteria
Volatile Organics by MCP 8260B/5035-High LCS for sample(s) 01-02 (WG165641)		
Methylene chloride	84	70-130
1,1-Dichloroethane	97	70-130
Chloroform	100	70-130
Carbon tetrachloride	110	70-130
1,2-Dichloropropane	95	70-130
Dibromochloromethane	97	70-130
1,1,2-Trichloroethane	96	70-130
Tetrachloroethene	110	70-130
Chlorobenzene	108	70-130
Trichlorofluoromethane	90	70-130
1,2-Dichloroethane	97	70-130
1,1,1-Trichloroethane	104	70-130
Bromodichloromethane	100	70-130
trans-1,3-Dichloropropene	92	70-130
cis-1,3-Dichloropropene	94	70-130
1,1-Dichloropropene	94	70-130
Bromoform	95	70-130
1,1,2,2-Tetrachloroethane	73	70-130
Benzene	95	70-130
Toluene	105	70-130
Ethylbenzene	114	70-130
Chloromethane	71	70-130
Bromomethane	75	70-130
Vinyl chloride	81	70-130
Chloroethane	83	70-130
1,1-Dichloroethene	84	70-130
trans-1,2-Dichloroethene	91	70-130
Trichloroethene	97	70-130
1,2-Dichlorobenzene	108	70-130
1,3-Dichlorobenzene	115	70-130
1,4-Dichlorobenzene	110	70-130
Methyl tert butyl ether	85	70-130
p/m-Xylene	117	70-130
o-Xylene	116	70-130
cis-1,2-Dichloroethene	97	70-130
Dibromomethane	96	70-130
1,2,3-Trichloropropane	72	70-130
Styrene	110	70-130
Dichlorodifluoromethane	61	70-130
Acetone	84	70-130
Carbon disulfide	84	70-130
2-Butanone	72	70-130
4-Methyl-2-pentanone	78	70-130
2-Hexanone	75	70-130
Bromochloromethane	97	70-130
Tetrahydrofuran	322	70-130
2,2-Dichloropropane	103	70-130
1,2-Dibromoethane	101	70-130

ALPHA ANALYTICAL LABORATORIES  
QUALITY ASSURANCE BATCH SPIKE ANALYSES

Laboratory Job Number: L0402475

Continued

Parameter	% Recovery	QC Criteria
Volatile Organics by MCP 8260B/5035-High LCS for sample(s) 01-02 (WG165641)		
1,3-Dichloropropane	95	70-130
1,1,1,2-Tetrachloroethane	107	70-130
Bromobenzene	86	70-130
n-Butylbenzene	124	70-130
sec-Butylbenzene	142	70-130
tert-Butylbenzene	130	70-130
o-Chlorotoluene	112	70-130
p-Chlorotoluene	107	70-130
1,2-Dibromo-3-chloropropane	82	70-130
Hexachlorobutadiene	90	70-130
Isopropylbenzene	127	70-130
p-Isopropyltoluene	133	70-130
Naphthalene	93	70-130
n-Propylbenzene	121	70-130
1,2,3-Trichlorobenzene	97	70-130
1,2,4-Trichlorobenzene	103	70-130
1,3,5-Trimethylbenzene	125	70-130
1,2,4-Trimethylbenzene	125	70-130
Ethyl ether	88	70-130
Isopropyl Ether	70	70-130
Ethyl-Tert-Butyl-Ether	71	70-130
Tertiary-Amyl Methyl Ether	73	70-130
1,4-Dioxane	83	70-130
Surrogate (s)		
1,2-Dichloroethane-d4	103	70-130
Toluene-d8	97	70-130
4-Bromofluorobenzene	79	70-130
Dibromofluoromethane	96	70-130

ALPHA ANALYTICAL LABORATORIES  
 QUALITY ASSURANCE BATCH BLANK ANALYSIS

Laboratory Job Number: L0402475

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Blank Analysis for sample(s) 01-02 (WG165641-2)							
Volatile Organics by MCP 8260B/5035-High				54 8260B		0318 09:42	RY
Methylene chloride	ND	ug/kg	500				
1,1-Dichloroethane	ND	ug/kg	75.				
Chloroform	ND	ug/kg	75.				
Carbon tetrachloride	ND	ug/kg	50.				
1,2-Dichloropropane	ND	ug/kg	180				
Dibromochloromethane	ND	ug/kg	50.				
1,1,2-Trichloroethane	ND	ug/kg	75.				
Tetrachloroethene	ND	ug/kg	50.				
Chlorobenzene	ND	ug/kg	50.				
Trichlorofluoromethane	ND	ug/kg	250				
1,2-Dichloroethane	ND	ug/kg	50.				
1,1,1-Trichloroethane	ND	ug/kg	50.				
Bromodichloromethane	ND	ug/kg	50.				
trans-1,3-Dichloropropene	ND	ug/kg	50.				
cis-1,3-Dichloropropene	ND	ug/kg	50.				
1,1-Dichloropropene	ND	ug/kg	250				
Bromoform	ND	ug/kg	200				
1,1,2,2-Tetrachloroethane	ND	ug/kg	50.				
Benzene	ND	ug/kg	50.				
Toluene	ND	ug/kg	75.				
Ethylbenzene	ND	ug/kg	50.				
Chloromethane	ND	ug/kg	250				
Bromomethane	ND	ug/kg	100				
Vinyl chloride	ND	ug/kg	100				
Chloroethane	ND	ug/kg	100				
1,1-Dichloroethene	ND	ug/kg	50.				
trans-1,2-Dichloroethene	ND	ug/kg	75.				
Trichloroethene	ND	ug/kg	50.				
1,2-Dichlorobenzene	ND	ug/kg	250				
1,3-Dichlorobenzene	ND	ug/kg	250				
1,4-Dichlorobenzene	ND	ug/kg	250				
Methyl tert butyl ether	ND	ug/kg	100				
p/m-Xylene	ND	ug/kg	50.				
o-Xylene	ND	ug/kg	50.				
cis-1,2-Dichloroethene	ND	ug/kg	50.				
Dibromomethane	ND	ug/kg	500				
1,2,3-Trichloropropane	ND	ug/kg	500				
Styrene	ND	ug/kg	50.				
Dichlorodifluoromethane	ND	ug/kg	500				
Acetone	ND	ug/kg	500				
Carbon disulfide	ND	ug/kg	500				
2-Butanone	ND	ug/kg	500				
4-Methyl-2-pentanone	ND	ug/kg	500				
2-Hexanone	ND	ug/kg	500				
Bromochloromethane	ND	ug/kg	250				
Tetrahydrofuran	ND	ug/kg	1000				
2,2-Dichloropropane	ND	ug/kg	250				



ALPHA ANALYTICAL LABORATORIES  
 QUALITY ASSURANCE BATCH BLANK ANALYSIS

Laboratory Job Number: L0402475

Continued

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Blank Analysis for sample(s) 01-02 (WG165641-2)							
Volatile Organics by MCP 8260B/5035-High continued				54 8260B	0318 09:42 RY		
1,2-Dibromoethane	ND	ug/kg	250				
1,3-Dichloropropane	ND	ug/kg	250				
1,1,1,2-Tetrachloroethane	ND	ug/kg	50.				
Bromobenzene	ND	ug/kg	250				
n-Butylbenzene	ND	ug/kg	50.				
sec-Butylbenzene	ND	ug/kg	50.				
tert-Butylbenzene	ND	ug/kg	250				
o-Chlorotoluene	ND	ug/kg	250				
p-Chlorotoluene	ND	ug/kg	250				
1,2-Dibromo-3-chloropropane	ND	ug/kg	250				
Hexachlorobutadiene	ND	ug/kg	250				
Isopropylbenzene	ND	ug/kg	50.				
p-Isopropyltoluene	ND	ug/kg	50.				
Naphthalene	ND	ug/kg	250				
n-Propylbenzene	ND	ug/kg	50.				
1,2,3-Trichlorobenzene	ND	ug/kg	250				
1,2,4-Trichlorobenzene	ND	ug/kg	250				
1,3,5-Trimethylbenzene	ND	ug/kg	250				
1,2,4-Trimethylbenzene	ND	ug/kg	250				
Ethyl ether	ND	ug/kg	250				
Isopropyl Ether	ND	ug/kg	200				
Ethyl-Tert-Butyl-Ether	ND	ug/kg	200				
Tertiary-Amyl Methyl Ether	ND	ug/kg	200				
1,4-Dioxane	ND	ug/kg	25000				
Surrogate (s)	Recovery			QC Criteria			
1,2-Dichloroethane-d4	102.	%		70-130			
Toluene-d8	96.0	%		70-130			
4-Bromofluorobenzene	89.0	%		70-130			
Dibromofluoromethane	96.0	%		70-130			

ALPHA ANALYTICAL LABORATORIES  
ADDENDUM I

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REFERENCES

30. Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WPCF. 18th Edition. 1992.
54. Compendium of Quality Assurance and Quality Control Requirements and Performance Standards for Selected Analytical Methods. MADEP BWSC. Final Methods. May 2003.

GLOSSARY OF TERMS AND SYMBOLS

REF Reference number in which test method may be found.  
METHOD Method number by which analysis was performed.  
ID Initials of the analyst.  
ND Not detected in comparison to the reported detection limit.

Please note that all solid samples are reported on dry weight basis unless noted otherwise.

LIMITATION OF LIABILITIES

Alpha Analytical, Inc. performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical, Inc., shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical, Inc. be held liable for any incidental consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical, Inc.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding times and splitting of samples in the field.

ALPHA ANALYTICAL LABORATORIES  
LOGIN SPECIFIC INFORMATION

Laboratory Job Number: L0402475

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Were project specific reporting limits specified? YES

Cooler Information

Cooler Custody Seal

---

C Absent

Container Information

Container ID	Container Type	Cooler	pH	Temp	Pres	Seal	Analysis
L0402475-01A	Vial MeOH preserved	C	N/A	0.7C	Y	Absent	MCP-8260H
L0402475-01B	Vial NaHSO4 preserved	C	N/A	0.7C	Y	Absent	MCP-8260H
L0402475-01C	Vial NaHSO4 preserved	C	N/A	0.7C	Y	Absent	MCP-8260H
L0402475-01D	Vial NaHSO4 preserved	C	N/A	0.7C	Y	Absent	MCP-8260H
L0402475-01E	Plastic 2oz unpreserved for TS	C	N/A	0.7C	Y	Absent	TS
L0402475-02A	Vial MeOH preserved	C	N/A	0.7C	Y	Absent	MCP-8260H
L0402475-02B	Vial NaHSO4 preserved	C	N/A	0.7C	Y	Absent	MCP-8260H
L0402475-02C	Vial NaHSO4 preserved	C	N/A	0.7C	Y	Absent	MCP-8260H
L0402475-02D	Vial NaHSO4 preserved	C	N/A	0.7C	Y	Absent	MCP-8260H
L0402475-02E	Plastic 2oz unpreserved for TS	C	N/A	0.7C	Y	Absent	TS

Container Comments

Container ID Comments

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# CHAIN OF CUSTODY RECORD

H&A FILE NO. 30600-000 LABORATORY APMA DELIVERY DATE 3/16/04 Page 1 of 1  
 PROJECT NAME BOBBAL SUDL ADDRESS STREET PROVIDER TURNAROUND TIME 3 DAYS  
 H&A CONTACT STREET PROVIDER CONTACT JOHN MANN PROJECT MANAGER

Sample No.	Date	Time	Depth	Type	Analysis Requested											Number of Containers	Comments (special instructions, precautions, additional method numbers, etc.)							
					VOA	ABNs	MCP Metals	Pesticides	VPH	Full Suite	C-ranges only	EPH	Full Suite	C-ranges only	TPH (specify)			TCLP (specify)	Reactivity	Ignitability	Consoity			
USI-STPLM-53	3/16/04	1300	—	SOIL	X																			Laboratory to use applicable DEP CAM methods, unless otherwise directed.
USI-STPL5-53	"	1315	—	SOIL	X																			OW's 8260 ② Terra Solids
Sampled and Relinquished by					LIQUID																			
Sign	Received by	Sign																	VOA Vial					
Print	Print	Print																	Amber Glass					
Firm	Firm	Firm																	Plastic Bottle					
Date	Date	Date																	Preservative					
Relinquished by	Relinquished by	Relinquished by																	Volume					
Sign	Sign	Sign																	SOLID					
Print	Print	Print																	VOA Vial					
Firm	Firm	Firm																	Amber Glass					
Date	Date	Date																	Clear Glass					
Relinquished by	Relinquished by	Relinquished by																	Preservative					
Sign	Sign	Sign																	Volume					
Print	Print	Print																	PRESERVATION KEY					
Firm	Firm	Firm																	A Sample chilled	C NaOH	E H <sub>2</sub> SO <sub>4</sub>	G Methanol		
Date	Date	Date																	B Sample filtered	D HNO <sub>3</sub>	F HCL	H Water/NaHSO <sub>4</sub> (circle)		
Sign	Sign	Sign																						
Print	Print	Print																						
Firm	Firm	Firm																						
Date	Date	Date																						

**Required Reporting Limits and Data Quality Objectives**  
 RC-S1  S1  GW1  
 RC-S2  S2  GW2  
 RC-GW1  S3  GW3  
 RC-GW2

**Evidence samples were tampered with? YES NO**  
 IF YES, please explain in section below.

**Presumptive Certainty Data Package (Laboratory to use applicable DEP CAM methods)**  
 A Sample chilled C NaOH E H<sub>2</sub>SO<sub>4</sub> G Methanol  
 B Sample filtered D HNO<sub>3</sub> F HCL H Water/NaHSO<sub>4</sub> (circle)

**If Presumptive Certainty Data Package is needed, initial all sections:**  
 The required minimum field QC samples, as designated in BWSC CAM-VII have been or will be collected, as appropriate, to meet the requirements of Presumptive Certainty.  
 Matrix Spike (MS) samples for MCP Metals and/or Cyanide are included and identified herein.  
 This Chain of Custody Record (specify) MS does not include samples defined as Drinking Water Samples.  
 If this Chain of Custody Record identifies samples defined as Drinking Water Samples, Trip Blanks and Field Duplicates are included and analysis of TICs are required, as appropriate. Laboratory should (specify if applicable) analyze hold for contingency testing the Drinking Water Duplicate and Drinking Water Trip Blank samples.

ALPHA ANALYTICAL LABORATORIES

Eight Walkup Drive  
Westborough, Massachusetts 01581-1019  
(508) 898-9220 www.alphalab.com

MA:M-MA086 NH:200301-A CT:PH-0574 ME:MA086 RI:65 NY:11148 NJ:MA935 Army:USACE

CERTIFICATE OF ANALYSIS

Client: Haley & Aldrich, Inc. Laboratory Job Number: L0402380  
Address: 465 Medford Street, Suite 2200  
Boston, MA 02129-1400 Date Received: 12-MAR-2004  
Attn: Mr. Steve Provencal Date Reported: 19-MAR-2004  
Project Number: 30660-000 Delivery Method: Alpha  
Site: BURBANK SCHOOL TANK RELEASE

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The following questions pertain only to MCP Analytical Methods

An affirmative response to questions A,B,C & D is required for "Presumptive Certainty" status

- A. Were all samples received by the laboratory in a condition consistent with those described on their Chain-of-Custody documentation for the data set? YES
- B. Were all QA/QC procedures required for the specified analytical method(s) included in this report followed, including the requirement to note and discuss in a narrative QC data that did not meet appropriate performance standards or guidelines? YES
- C. Does the analytical data included in this report meet all the requirements for "Presumptive Certainty", as described in section 2.0 of the MADEP document CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data"? YES
- D. VPH and EPH methods only: Was the VPH or EPH method run without significant modifications, as specified in Section 11.3? YES

A response to questions E and F is required for "Presumptive Certainty" status

- E. Were all QC performance standards and recommendations for the specified method(s) achieved? NO
- F. Were results for all analyte-list compounds/elements for the specified method(s) reported? YES

Any answers of NO to the above questions are addressed in the case narrative.

---

I, the undersigned, attest under the pains and penalties of perjury that, based upon my personal inquiry of those responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

---

Authorized by: Scott McLean  
This document electronically signed

ALPHA ANALYTICAL LABORATORIES

Laboratory Job Number: L0402380  
Date Reported: 19-MAR-2004

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ALPHA SAMPLE NUMBER	CLIENT IDENTIFICATION	SAMPLE LOCATION
L0402380-01	CCP-SW8-S1	BELMONT, MA
L0402380-02	CCP-SW9-S1	BELMONT, MA
L0402380-03	CCP-SW10-S1	BELMONT, MA
L0402380-04	CCP-SW11-S1	BELMONT, MA
L0402380-05	CCP-SW12-S1	BELMONT, MA
L0402380-06	CCP-SW13-S1	BELMONT, MA
L0402380-07	CCP-SW14-S1	BELMONT, MA

ALPHA ANALYTICAL LABORATORIES  
NARRATIVE REPORT

Laboratory Job Number: L0402380

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MCP Related Narratives

Extraction methods

Extraction method 3545 was used as the extraction method for the analysis of EPH by method 98-1.

EPH

The S-1 limits could not be achieved on L0402380-03, -04 and -07 due to sample matrix.

In reference to question E, the surrogate % recovery for o-Terphenyl (176%) on L0402380-03 is above the acceptance criteria for the method due to co-elution of product with surrogate

ALPHA ANALYTICAL LABORATORIES  
CERTIFICATE OF ANALYSIS

MA:M-MA086 NH:200301-A CT:PH-0574 ME:MA086 RI:65 NY:11148 NJ:MA935 Army:USACE

Laboratory Sample Number: L0402380-01  
CCP-SW8-S1  
Sample Matrix: SOIL

Date Collected: 12-MAR-2004 09:10  
Date Received : 12-MAR-2004  
Date Reported : 19-MAR-2004

Condition of Sample: Satisfactory

Field Prep: None

Number & Type of Containers: 1-Amber,1-Vial

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Solids, Total	74.	%	0.10	30 2540G		0316 18:15	LK

Comments: Complete list of References and Glossary of Terms found in Addendum I



ALPHA ANALYTICAL LABORATORIES  
CERTIFICATE OF ANALYSIS

Laboratory Sample Number: L0402380-01  
CCP-SW8-S1

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	

Volatile Petroleum Hydrocarbons				47 98-1		0316 19:52	PS
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Quality Control Information

Condition of sample received:	Satisfactory	
Sample temperature upon receipt:	Received on Ice	
Were samples received in methanol?	Covering the Soil	
Methanol ratio:	1:1 +/- 25%	
Were all QA/QC procedures REQUIRED by the method followed?		YES
Were all performance/acceptance standards for the required procedures achieved?		YES
Were significant modifications made to the method as specified in Sect 11.3?		NO
The normal acceptance range for the surrogate, 2,5-Dibromotoluene, is 70-130%.		

C5-C8 Aliphatics, Unadjusted	ND	mg/kg	2.63
C9-C12 Aliphatics, Unadjusted	ND	mg/kg	2.63
C9-C10 Aromatics	ND	mg/kg	2.63
C5-C8 Aliphatics, Adjusted	ND	mg/kg	2.63
C9-C12 Aliphatics, Adjusted	ND	mg/kg	2.63
Benzene	ND	mg/kg	0.132
Toluene	ND	mg/kg	0.132
Ethylbenzene	ND	mg/kg	0.132
p/m-Xylene	ND	mg/kg	0.132
o-Xylene	ND	mg/kg	0.132
Methyl tert butyl ether	ND	mg/kg	0.263
Naphthalene	ND	mg/kg	1.32
Surrogate(s)	Recovery		QC Criteria
2,5-Dibromotoluene-PID	93.0	%	70-130
2,5-Dibromotoluene-FID	98.0	%	70-130

Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES  
CERTIFICATE OF ANALYSIS

Laboratory Sample Number: L0402380-01  
CCP-SW8-S1

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE PREP    ANAL	ID
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Extractable Petroleum Hydrocarbons			46 98-1		0315 20:00 0319 00:24 LL	
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Quality Control Information

Condition of sample received:	Satisfactory	
Sample temperature upon receipt:	Received on Ice	
Sample extraction method:	Extracted Per the Method	
Were all QA/QC procedures REQUIRED by the method followed?		YES
Were all performance/acceptance standards for the required procedures achieved?		YES
Were significant modifications made to the method as specified in Sect 11.3?		NO
The normal acceptance range for the extraction surrogates, Chloro-octadecane and o-Terphenyl, is 40-140%.		
The normal acceptance range for the fractionation surrogates, 2-Fluorobiphenyl and 2-Bromonaphthalene, is 40-140%.		

C9-C18 Aliphatics	ND	mg/kg	13.5
C19-C36 Aliphatics	16.8	mg/kg	13.5
C11-C22 Aromatics, Unadjusted	ND	mg/kg	13.5
C11-C22 Aromatics, Adjusted	ND	mg/kg	13.5
Naphthalene	ND	mg/kg	0.676
2-Methylnaphthalene	ND	mg/kg	0.676
Acenaphthylene	ND	mg/kg	0.676
Acenaphthene	ND	mg/kg	0.676
Fluorene	ND	mg/kg	0.676
Phenanthrene	ND	mg/kg	0.676
Anthracene	ND	mg/kg	0.676
Fluoranthene	ND	mg/kg	0.676
Pyrene	ND	mg/kg	0.676
Benzo (a) anthracene	ND	mg/kg	0.676
Chrysene	ND	mg/kg	0.676
Benzo (b) fluoranthene	ND	mg/kg	0.676
Benzo (k) fluoranthene	ND	mg/kg	0.676
Benzo (a) pyrene	ND	mg/kg	0.676
Indeno (1,2,3-cd) Pyrene	ND	mg/kg	0.676
Dibenzo (a,h) anthracene	ND	mg/kg	0.676
Benzo (g,h,i) perylene	ND	mg/kg	0.676

Surrogate (s)	Recovery	%	QC Criteria
Chloro-Octadecane	53.0	%	40-140
o-Terphenyl	75.0	%	40-140
2-Fluorobiphenyl	91.0	%	40-140
2-Bromonaphthalene	92.0	%	40-140

Comments: Complete list of References and Glossary of Terms found in Addendum I



ALPHA ANALYTICAL LABORATORIES  
CERTIFICATE OF ANALYSIS

Laboratory Sample Number: L0402380-02  
CCP-SW9-S1

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE PREP      ANAL	ID
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Volatile Petroleum Hydrocarbons			47 98-1		0316 20:42 PS	
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Quality Control Information

Condition of sample received:	Satisfactory	
Sample temperature upon receipt:	Received on Ice	
Were samples received in methanol?	Covering the Soil	
Methanol ratio:	1:1 +/- 25%	
Were all QA/QC procedures REQUIRED by the method followed?		YES
Were all performance/acceptance standards for the required procedures achieved?		YES
Were significant modifications made to the method as specified in Sect 11.3?		NO
The normal acceptance range for the surrogate, 2,5-Dibromotoluene, is 70-130%.		

C5-C8 Aliphatics, Unadjusted	ND	mg/kg	2.29		
C9-C12 Aliphatics, Unadjusted	ND	mg/kg	2.29		
C9-C10 Aromatics	ND	mg/kg	2.29		
C5-C8 Aliphatics, Adjusted	ND	mg/kg	2.29		
C9-C12 Aliphatics, Adjusted	ND	mg/kg	2.29		
Benzene	ND	mg/kg	0.114		
Toluene	ND	mg/kg	0.114		
Ethylbenzene	ND	mg/kg	0.114		
p/m-Xylene	ND	mg/kg	0.114		
o-Xylene	ND	mg/kg	0.114		
Methyl tert butyl ether	ND	mg/kg	0.229		
Naphthalene	ND	mg/kg	1.14		

Surrogate(s)	Recovery		QC Criteria		
2,5-Dibromotoluene-PID	95.0	%	70-130		
2,5-Dibromotoluene-FID	99.0	%	70-130		

Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES  
CERTIFICATE OF ANALYSIS

Laboratory Sample Number: L0402380-02  
CCP-SW9-S1

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	

Extractable Petroleum Hydrocarbons	46 98-1	0315 20:00 0319 01:09 LL
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Quality Control Information

Condition of sample received:	Satisfactory	
Sample temperature upon receipt:	Received on Ice	
Sample extraction method:	Extracted Per the Method	
Were all QA/QC procedures REQUIRED by the method followed?		YES
Were all performance/acceptance standards for the required procedures achieved?		YES
Were significant modifications made to the method as specified in Sect 11.3?		NO
The normal acceptance range for the extraction surrogates, Chloro-octadecane and o-Terphenyl, is 40-140%.		
The normal acceptance range for the fractionation surrogates, 2-Fluorobiphenyl and 2-Bromonaphthalene, is 40-140%.		

C9-C18 Aliphatics	ND	mg/kg	12.8
C19-C36 Aliphatics	ND	mg/kg	12.8
C11-C22 Aromatics, Unadjusted	ND	mg/kg	12.8
C11-C22 Aromatics, Adjusted	ND	mg/kg	12.8
Naphthalene	ND	mg/kg	0.641
2-Methylnaphthalene	ND	mg/kg	0.641
Acenaphthylene	ND	mg/kg	0.641
Acenaphthene	ND	mg/kg	0.641
Fluorene	ND	mg/kg	0.641
Phenanthrene	ND	mg/kg	0.641
Anthracene	ND	mg/kg	0.641
Fluoranthene	ND	mg/kg	0.641
Pyrene	ND	mg/kg	0.641
Benzo (a) anthracene	ND	mg/kg	0.641
Chrysene	ND	mg/kg	0.641
Benzo (b) fluoranthene	ND	mg/kg	0.641
Benzo (k) fluoranthene	ND	mg/kg	0.641
Benzo (a) pyrene	ND	mg/kg	0.641
Indeno (1, 2, 3 -cd) Pyrene	ND	mg/kg	0.641
Dibenzo (a, h) anthracene	ND	mg/kg	0.641
Benzo (g, h, i) perylene	ND	mg/kg	0.641

Surrogate (s)	Recoverv	%	QC Criteria
Chloro-Octadecane	63.0	%	40-140
o-Terphenyl	78.0	%	40-140
2-Fluorobiphenyl	88.0	%	40-140
2-Bromonaphthalene	87.0	%	40-140

Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES  
CERTIFICATE OF ANALYSIS

MA:M-MA086 NH:200301-A CT:PH-0574 ME:MA086 RI:65 NY:11148 NJ:MA935 Army:USACE

Laboratory Sample Number: L0402380-03

Date Collected: 12-MAR-2004 09:22

CCP-SW10-S1

Date Received : 12-MAR-2004

Sample Matrix:

SOIL

Date Reported : 19-MAR-2004

Condition of Sample: Satisfactory

Field Prep: None

Number & Type of Containers: 1-Amber,1-Vial

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Solids, Total	67.	%	0.10	30 2540G		0316 18:15	LK

Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES  
CERTIFICATE OF ANALYSIS

Laboratory Sample Number: L0402380-03  
CCP-SW10-S1

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	

Volatile Petroleum Hydrocarbons	47 98-1	0316 21:33 PS
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Quality Control Information

Condition of sample received:	Satisfactory	
Sample temperature upon receipt:	Received on Ice	
Were samples received in methanol?	Covering the Soil	
Methanol ratio:	1:1 +/- 25%	
Were all QA/QC procedures REQUIRED by the method followed?		YES
Were all performance/acceptance standards for the required procedures achieved?		YES
Were significant modifications made to the method as specified in Sect 11.3?		NO
The normal acceptance range for the surrogate, 2,5-Dibromotoluene, is 70-130%.		

C5-C8 Aliphatics, Unadjusted	ND	mg/kg	3.32
C9-C12 Aliphatics, Unadjusted	ND	mg/kg	3.32
C9-C10 Aromatics	ND	mg/kg	3.32
C5-C8 Aliphatics, Adjusted	ND	mg/kg	3.32
C9-C12 Aliphatics, Adjusted	ND	mg/kg	3.32
Benzene	ND	mg/kg	0.166
Toluene	ND	mg/kg	0.166
Ethylbenzene	ND	mg/kg	0.166
p/m-Xylene	ND	mg/kg	0.166
o-Xylene	ND	mg/kg	0.166
Methyl tert butyl ether	ND	mg/kg	0.332
Naphthalene	ND	mg/kg	1.66
Surrogate(s)	Recovery		QC Criteria
2,5-Dibromotoluene-PID	77.0	%	70-130
2,5-Dibromotoluene-FID	83.0	%	70-130

Comments: Complete list of References and Glossary of Terms found in Addendum I

**ALPHA ANALYTICAL LABORATORIES  
CERTIFICATE OF ANALYSIS**

Laboratory Sample Number: L0402380-03  
CCP-SW10-S1

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE PREP      ANAL	ID
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Extractable Petroleum Hydrocarbons			46 98-1		0315 20:00 0319 01:55 LL	
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Quality Control Information

Condition of sample received:	Satisfactory
Sample temperature upon receipt:	Received on Ice
Sample extraction method:	Extracted Per the Method
Were all QA/QC procedures REQUIRED by the method followed?	YES
Were all performance/acceptance standards for the required procedures achieved?	NO
1. One or more of the extraction surrogate recoveries were greater than 140%.	
Were significant modifications made to the method as specified in Sect 11.3?	NO
The normal acceptance range for the extraction surrogates, Chloro-octadecane and o-Terphenyl, is 40-140%.	
The normal acceptance range for the fractionation surrogates, 2-Fluorobiphenyl and 2-Bromonaphthalene, is 40-140%.	

C9-C18 Aliphatics	251.	mg/kg	14.9
C19-C36 Aliphatics	547.	mg/kg	14.9
C11-C22 Aromatics, Unadjusted	494.	mg/kg	14.9
C11-C22 Aromatics, Adjusted	488.	mg/kg	14.9
Naphthalene	ND	mg/kg	0.746
2-Methylnaphthalene	ND	mg/kg	0.746
Acenaphthylene	ND	mg/kg	0.746
Acenaphthene	ND	mg/kg	0.746
Fluorene	ND	mg/kg	0.746
Phenanthrene	2.45	mg/kg	0.746
Anthracene	ND	mg/kg	0.746
Fluoranthene	ND	mg/kg	0.746
Pyrene	1.58	mg/kg	0.746
Benzo (a) anthracene	ND	mg/kg	0.746
Chrysene	1.28	mg/kg	0.746
Benzo (b) fluoranthene	ND	mg/kg	0.746
Benzo (k) fluoranthene	ND	mg/kg	0.746
Benzo (a) pyrene	ND	mg/kg	0.746
Indeno (1,2,3-cd) Pyrene	ND	mg/kg	0.746
Dibenzo (a, h) anthracene	ND	mg/kg	0.746
Benzo (g, h, i) perylene	ND	mg/kg	0.746

Surrogate(s)	Recovery		QC Criteria
Chloro-Octadecane	79.0	%	40-140
o-Terphenyl	176.	%	40-140
2-Fluorobiphenyl	91.0	%	40-140
2-Bromonaphthalene	95.0	%	40-140

Comments: Complete list of References and Glossary of Terms found in Addendum I



ALPHA ANALYTICAL LABORATORIES  
CERTIFICATE OF ANALYSIS

MA:M-MA086 NH:200301-A CT:PH-0574 ME:MA086 RI:65 NY:11148 NJ:MA935 Army:USACE

Laboratory Sample Number: L0402380-04  
CCP-SW11-S1  
Sample Matrix: SOIL

Date Collected: 12-MAR-2004 09:35  
Date Received : 12-MAR-2004  
Date Reported : 19-MAR-2004

Condition of Sample: Satisfactory

Field Prep: None

Number & Type of Containers: 1-Amber,1-Vial

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Solids, Total	40.	%	0.10	30 2540G		0316 18:15	LK

Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES  
CERTIFICATE OF ANALYSIS

Laboratory Sample Number: L0402380-04  
CCP-SW11-S1

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE PREP      ANAL	ID
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Volatile Petroleum Hydrocarbons	47 98-1				0316 23:14 PS	
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Quality Control Information

Condition of sample received:	Satisfactory	
Sample temperature upon receipt:	Received on Ice	
Were samples received in methanol?	Covering the Soil	
Methanol ratio:	1:1 +/- 25%	
Were all QA/QC procedures REQUIRED by the method followed?		YES
Were all performance/acceptance standards for the required procedures achieved?		YES
Were significant modifications made to the method as specified in Sect 11.3?		NO
The normal acceptance range for the surrogate, 2,5-Dibromotoluene, is 70-130%.		

C5-C8 Aliphatics, Unadjusted	ND	mg/kg	5.07		
C9-C12 Aliphatics, Unadjusted	ND	mg/kg	5.07		
C9-C10 Aromatics	ND	mg/kg	5.07		
C5-C8 Aliphatics, Adjusted	ND	mg/kg	5.07		
C9-C12 Aliphatics, Adjusted	ND	mg/kg	5.07		
Benzene	ND	mg/kg	0.253		
Toluene	ND	mg/kg	0.253		
Ethylbenzene	ND	mg/kg	0.253		
p/m-Xylene	ND	mg/kg	0.253		
o-Xylene	ND	mg/kg	0.253		
Methyl tert butyl ether	ND	mg/kg	0.507		
Naphthalene	ND	mg/kg	2.53		

Surrogate(s)	Recovery		QC Criteria		
2,5-Dibromotoluene-PID	86.0	%	70-130		
2,5-Dibromotoluene-FID	92.0	%	70-130		

Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES  
CERTIFICATE OF ANALYSIS

Laboratory Sample Number: L0402380-04  
CCP-SW11-S1

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	

Extractable Petroleum Hydrocarbons				46 98-1		0315 20:00 0319 02:41 LL	
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Quality Control Information

Condition of sample received:	Satisfactory	
Sample temperature upon receipt:	Received on Ice	
Sample extraction method:	Extracted Per the Method	
Were all QA/QC procedures REQUIRED by the method followed?		YES
Were all performance/acceptance standards for the required procedures achieved?		YES
Were significant modifications made to the method as specified in Sect 11.3?		NO
The normal acceptance range for the extraction surrogates, Chloro-octadecane and o-Terphenyl, is 40-140%.		
The normal acceptance range for the fractionation surrogates, 2-Fluorobiphenyl and 2-Bromonaphthalene, is 40-140%.		

C9-C18 Aliphatics	ND	mg/kg	25.0
C19-C36 Aliphatics	60.1	mg/kg	25.0
C11-C22 Aromatics, Unadjusted	38.2	mg/kg	25.0
C11-C22 Aromatics, Adjusted	38.2	mg/kg	25.0
Naphthalene	ND	mg/kg	1.25
2-Methylnaphthalene	ND	mg/kg	1.25
Acenaphthylene	ND	mg/kg	1.25
Acenaphthene	ND	mg/kg	1.25
Fluorene	ND	mg/kg	1.25
Phenanthrene	ND	mg/kg	1.25
Anthracene	ND	mg/kg	1.25
Fluoranthene	ND	mg/kg	1.25
Pyrene	ND	mg/kg	1.25
Benzo (a) anthracene	ND	mg/kg	1.25
Chrysene	ND	mg/kg	1.25
Benzo (b) fluoranthene	ND	mg/kg	1.25
Benzo (k) fluoranthene	ND	mg/kg	1.25
Benzo (a) pyrene	ND	mg/kg	1.25
Indeno (1, 2, 3-cd) Pyrene	ND	mg/kg	1.25
Dibenzo (a, h) anthracene	ND	mg/kg	1.25
Benzo (g, h, i) perylene	ND	mg/kg	1.25

Surrogate (s)	Recovery		QC Criteria
Chloro-Octadecane	56.0	%	40-140
o-Terphenyl	66.0	%	40-140
2-Fluorobiphenyl	86.0	%	40-140
2-Bromonaphthalene	85.0	%	40-140

Comments: Complete list of References and Glossary of Terms found in Addendum I



ALPHA ANALYTICAL LABORATORIES  
CERTIFICATE OF ANALYSIS

Laboratory Sample Number: L0402380-05  
CCP-SW12-S1

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	

Volatile Petroleum Hydrocarbons	47 98-1	0317 00:05 PS
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Quality Control Information

Condition of sample received:	Satisfactory	
Sample temperature upon receipt:	Received on Ice	
Were samples received in methanol?	Covering the Soil	
Methanol ratio:	1:1 +/- 25%	
Were all QA/QC procedures REQUIRED by the method followed?		YES
Were all performance/acceptance standards for the required procedures achieved?		YES
Were significant modifications made to the method as specified in Sect 11.3?		NO
The normal acceptance range for the surrogate, 2,5-Dibromotoluene, is 70-130%.		

C5-C8 Aliphatics, Unadjusted	ND	mg/kg	2.76	
C9-C12 Aliphatics, Unadjusted	ND	mg/kg	2.76	
C9-C10 Aromatics	ND	mg/kg	2.76	
C5-C8 Aliphatics, Adjusted	ND	mg/kg	2.76	
C9-C12 Aliphatics, Adjusted	ND	mg/kg	2.76	
Benzene	ND	mg/kg	0.138	
Toluene	ND	mg/kg	0.138	
Ethylbenzene	ND	mg/kg	0.138	
p/m-Xylene	ND	mg/kg	0.138	
o-Xylene	ND	mg/kg	0.138	
Methyl tert butyl ether	ND	mg/kg	0.276	
Naphthalene	ND	mg/kg	1.38	

Surrogate(s)	Recovery		QC Criteria	
2,5-Dibromotoluene-PID	88.0	%	70-130	
2,5-Dibromotoluene-FID	98.0	%	70-130	

Comments: Complete list of References and Glossary of Terms found in Addendum I

**ALPHA ANALYTICAL LABORATORIES  
CERTIFICATE OF ANALYSIS**

Laboratory Sample Number: L0402380-05  
CCP-SW12-S1

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	

Extractable Petroleum Hydrocarbons				46 98-1	0315 20:00	0319 03:26	LL
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Quality Control Information

Condition of sample received:	Satisfactory	
Sample temperature upon receipt:	Received on Ice	
Sample extraction method:	Extracted Per the Method	
Were all QA/QC procedures REQUIRED by the method followed?		YES
Were all performance/acceptance standards for the required procedures achieved?		YES
Were significant modifications made to the method as specified in Sect 11.3?		NO
The normal acceptance range for the extraction surrogates, Chloro-octadecane and o-Terphenyl, is 40-140%.		
The normal acceptance range for the fractionation surrogates, 2-Fluorobiphenyl and 2-Bromonaphthalene, is 40-140%.		

C9-C18 Aliphatics	ND	mg/kg	12.3
C19-C36 Aliphatics	12.8	mg/kg	12.3
C11-C22 Aromatics, Unadjusted	18.1	mg/kg	12.3
C11-C22 Aromatics, Adjusted	18.1	mg/kg	12.3
Naphthalene	ND	mg/kg	0.617
2-Methylnaphthalene	ND	mg/kg	0.617
Acenaphthylene	ND	mg/kg	0.617
Acenaphthene	ND	mg/kg	0.617
Fluorene	ND	mg/kg	0.617
Phenanthrene	ND	mg/kg	0.617
Anthracene	ND	mg/kg	0.617
Fluoranthene	ND	mg/kg	0.617
Pyrene	ND	mg/kg	0.617
Benzo(a)anthracene	ND	mg/kg	0.617
Chrysene	ND	mg/kg	0.617
Benzo(b)fluoranthene	ND	mg/kg	0.617
Benzo(k)fluoranthene	ND	mg/kg	0.617
Benzo(a)pyrene	ND	mg/kg	0.617
Indeno(1,2,3-cd)Pyrene	ND	mg/kg	0.617
Dibenzo(a,h)anthracene	ND	mg/kg	0.617
Benzo(g,h,i)perylene	ND	mg/kg	0.617

Surrogate(s)	Recovery		QC Criteria
Chloro-Octadecane	61.0	%	40-140
o-Terphenyl	80.0	%	40-140
2-Fluorobiphenyl	83.0	%	40-140
2-Bromonaphthalene	86.0	%	40-140

Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES  
CERTIFICATE OF ANALYSIS

MA:M-MA086 NH:200301-A CT:PH-0574 ME:MA086 RI:65 NY:11148 NJ:MA935 Army:USACE

Laboratory Sample Number: L0402380-06  
CCP-SW13-S1  
Sample Matrix: SOIL

Date Collected: 12-MAR-2004 09:55  
Date Received : 12-MAR-2004  
Date Reported : 19-MAR-2004

Condition of Sample: Satisfactory

Field Prep: None

Number & Type of Containers: 1-Amber,1-Vial

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Solids, Total	78.	%	0.10	30 2540G		0316 18:15	LK

Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES  
CERTIFICATE OF ANALYSIS

Laboratory Sample Number: L0402380-06  
CCP-SW13-S1

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE PREP      ANAL	ID
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Volatile Petroleum Hydrocarbons				47 98-1	0317 00:55 PS	
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Quality Control Information

Condition of sample received:	Satisfactory	
Sample temperature upon receipt:	Received on Ice	
Were samples received in methanol?	Covering the Soil	
Methanol ratio:	1:1 +/- 25%	
Were all QA/QC procedures REQUIRED by the method followed?		YES
Were all performance/acceptance standards for the required procedures achieved?		YES
Were significant modifications made to the method as specified in Sect 11.3?		NO
The normal acceptance range for the surrogate, 2,5-Dibromotoluene, is 70-130%.		

C5-C8 Aliphatics, Unadjusted	ND	mg/kg	2.91	
C9-C12 Aliphatics, Unadjusted	ND	mg/kg	2.91	
C9-C10 Aromatics	ND	mg/kg	2.91	
C5-C8 Aliphatics, Adjusted	ND	mg/kg	2.91	
C9-C12 Aliphatics, Adjusted	ND	mg/kg	2.91	
Benzene	ND	mg/kg	0.146	
Toluene	ND	mg/kg	0.146	
Ethylbenzene	ND	mg/kg	0.146	
p/m-Xylene	ND	mg/kg	0.146	
o-Xylene	ND	mg/kg	0.146	
Methyl tert butyl ether	ND	mg/kg	0.291	
Naphthalene	ND	mg/kg	1.46	

Surrogate(s)	Recovery		QC Criteria	
2,5-Dibromotoluene-PID	76.0	%	70-130	
2,5-Dibromotoluene-FID	81.0	%	70-130	

Comments: Complete list of References and Glossary of Terms found in Addendum I



ALPHA ANALYTICAL LABORATORIES  
CERTIFICATE OF ANALYSIS

Laboratory Sample Number: L0402380-06  
CCP-SW13-S1

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Extractable Petroleum Hydrocarbons				46 98-1		0315 20:00	0318 22:53 LL

Quality Control Information

Condition of sample received:	Satisfactory	
Sample temperature upon receipt:	Received on Ice	
Sample extraction method:	Extracted Per the Method	
Were all QA/QC procedures REQUIRED by the method followed?		YES
Were all performance/acceptance standards for the required procedures achieved?		YES
Were significant modifications made to the method as specified in Sect 11.3?		NO
The normal acceptance range for the extraction surrogates, Chloro-octadecane and o-Terphenyl, is 40-140%.		
The normal acceptance range for the fractionation surrogates, 2-Fluorobiphenyl and 2-Bromonaphthalene, is 40-140%.		

C9-C18 Aliphatics	ND	mg/kg	12.8
C19-C36 Aliphatics	ND	mg/kg	12.8
C11-C22 Aromatics, Unadjusted	ND	mg/kg	12.8
C11-C22 Aromatics, Adjusted	ND	mg/kg	12.8
Naphthalene	ND	mg/kg	0.641
2-Methylnaphthalene	ND	mg/kg	0.641
Acenaphthylene	ND	mg/kg	0.641
Acenaphthene	ND	mg/kg	0.641
Fluorene	ND	mg/kg	0.641
Phenanthrene	ND	mg/kg	0.641
Anthracene	ND	mg/kg	0.641
Fluoranthene	ND	mg/kg	0.641
Pyrene	ND	mg/kg	0.641
Benzo (a) anthracene	ND	mg/kg	0.641
Chrysene	ND	mg/kg	0.641
Benzo (b) fluoranthene	ND	mg/kg	0.641
Benzo (k) fluoranthene	ND	mg/kg	0.641
Benzo (a) pyrene	ND	mg/kg	0.641
Indeno (1,2,3-cd) Pyrene	ND	mg/kg	0.641
Dibenzo (a,h) anthracene	ND	mg/kg	0.641
Benzo (g,h,i) perylene	ND	mg/kg	0.641
Surrogate (s)	Recovery		QC Criteria
Chloro-Octadecane	41.0	%	40-140
o-Terphenyl	57.0	%	40-140
2-Fluorobiphenyl	76.0	%	40-140
2-Bromonaphthalene	77.0	%	40-140

Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES  
 CERTIFICATE OF ANALYSIS

MA:M-MA086 NH:200301-A CT:PH-0574 ME:MA086 RI:65 NY:11148 NJ:MA935 Army:USACE

Laboratory Sample Number: L0402380-07  
 CCP-SW14-S1  
 Sample Matrix: SOIL  
 Condition of Sample: Satisfactory  
 Number & Type of Containers: 1-Amber,1-Vial  
 Date Collected: 12-MAR-2004 10:50  
 Date Received : 12-MAR-2004  
 Date Reported : 19-MAR-2004  
 Field Prep: None

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Solids, Total	59.	%	0.10	30 2540G	0316	18:15	LK

Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES  
CERTIFICATE OF ANALYSIS

Laboratory Sample Number: L0402380-07  
CCP-SW14-S1

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	

Volatile Petroleum Hydrocarbons	47 98-1	0317 01:46 PS
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Quality Control Information

Condition of sample received:	Satisfactory	
Sample temperature upon receipt:	Received on Ice	
Were samples received in methanol?	Covering the Soil	
Methanol ratio:	1:1 +/- 25%	
Were all QA/QC procedures REQUIRED by the method followed?		YES
Were all performance/acceptance standards for the required procedures achieved?		YES
Were significant modifications made to the method as specified in Sect 11.3?		NO
The normal acceptance range for the surrogate, 2,5-Dibromotoluene, is 70-130%.		

C5-C8 Aliphatics, Unadjusted	ND	mg/kg	4.34
C9-C12 Aliphatics, Unadjusted	ND	mg/kg	4.34
C9-C10 Aromatics	ND	mg/kg	4.34
C5-C8 Aliphatics, Adjusted	ND	mg/kg	4.34
C9-C12 Aliphatics, Adjusted	ND	mg/kg	4.34
Benzene	ND	mg/kg	0.217
Toluene	ND	mg/kg	0.217
Ethylbenzene	ND	mg/kg	0.217
p/m-Xylene	ND	mg/kg	0.217
o-Xylene	ND	mg/kg	0.217
Methyl tert butyl ether	ND	mg/kg	0.434
Naphthalene	ND	mg/kg	2.17

Surrogate(s)	Recovery		QC Criteria
2,5-Dibromotoluene-PID	78.0	%	70-130
2,5-Dibromotoluene-FID	88.0	%	70-130

Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES  
CERTIFICATE OF ANALYSIS

Laboratory Sample Number: L0402380-07  
CCP-SW14-S1

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	

Extractable Petroleum Hydrocarbons	46 98-1				0315 20:00	0319 04:12	LL
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Quality Control Information

Condition of sample received:	Satisfactory	
Sample temperature upon receipt:	Received on Ice	
Sample extraction method:	Extracted Per the Method	
Were all QA/QC procedures REQUIRED by the method followed?		YES
Were all performance/acceptance standards for the required procedures achieved?		YES
Were significant modifications made to the method as specified in Sect 11.3?		NO
The normal acceptance range for the extraction surrogates, Chloro-octadecane and o-Terphenyl, is 40-140%.		
The normal acceptance range for the fractionation surrogates, 2-Fluorobiphenyl and 2-Bromonaphthalene, is 40-140%.		

C9-C18 Aliphatics	ND	mg/kg	33.9
C19-C36 Aliphatics	190.	mg/kg	33.9
C11-C22 Aromatics, Unadjusted	299.	mg/kg	33.9
C11-C22 Aromatics, Adjusted	253.	mg/kg	33.9
Naphthalene	ND	mg/kg	1.69
2-Methylnaphthalene	ND	mg/kg	1.69
Acenaphthylene	ND	mg/kg	1.69
Acenaphthene	ND	mg/kg	1.69
Fluorene	ND	mg/kg	1.69
Phenanthrene	5.40	mg/kg	1.69
Anthracene	ND	mg/kg	1.69
Fluoranthene	8.29	mg/kg	1.69
Pyrene	7.53	mg/kg	1.69
Benzo (a) anthracene	3.20	mg/kg	1.69
Chrysene	4.82	mg/kg	1.69
Benzo (b) fluoranthene	5.12	mg/kg	1.69
Benzo (k) fluoranthene	4.14	mg/kg	1.69
Benzo (a) pyrene	3.90	mg/kg	1.69
Indeno (1, 2, 3-cd) Pyrene	3.35	mg/kg	1.69
Dibenzo (a, h) anthracene	ND	mg/kg	1.69
Benzo (g, h, i) perylene	ND	mg/kg	1.69

Surrogate (s)	Recovery		QC Criteria
Chloro-Octadecane	65.0	%	40-140
o-Terphenyl	116.	%	40-140
2-Fluorobiphenyl	82.0	%	40-140
2-Bromonaphthalene	87.0	%	40-140

Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES  
 QUALITY ASSURANCE BATCH DUPLICATE ANALYSIS

Job Number: L0402380

Parameter	Value 1	Value 2	Units	RPD	RPD Limits
Solids, Total for sample(s) 01-07 (L0402335-01, WG165442)					
Solids, Total	88.	87.	%	1	
Volatile Petroleum Hydrocarbons for sample(s) 01-02,06-07 (L0402332-15, WG165316)					
C5-C8 Aliphatics	ND	ND	mg/kg	NC	50
C9-C12 Aliphatics	ND	ND	mg/kg	NC	50
C9-C10 Aromatics	ND	ND	mg/kg	NC	50
C5-C8 Aliphatics, Adjusted	ND	ND	mg/kg	NC	50
C9-C12 Aliphatics, Adjusted	ND	ND	mg/kg	NC	50
Benzene	ND	ND	mg/kg	NC	50
Toluene	ND	ND	mg/kg	NC	50
Ethylbenzene	ND	ND	mg/kg	NC	50
p/m-Xylene	ND	ND	mg/kg	NC	50
o-Xylene	ND	ND	mg/kg	NC	50
Methyl tert butyl ether	ND	ND	mg/kg	NC	50
Naphthalene	ND	ND	mg/kg	NC	50
Surrogate(s)	Recovery			QC Criteria	
2,5-Dibromotoluene-PID	87.0	80.0	%	8	70-130
2,5-Dibromotoluene-FID	92.0	81.0	%	13	70-130
Volatile Petroleum Hydrocarbons for sample(s) 03-05 (L0402380-03, WG165623)					
C5-C8 Aliphatics	ND	ND	mg/kg	NC	50
C9-C12 Aliphatics	ND	ND	mg/kg	NC	50
C9-C10 Aromatics	ND	ND	mg/kg	NC	50
C5-C8 Aliphatics, Adjusted	ND	ND	mg/kg	NC	50
C9-C12 Aliphatics, Adjusted	ND	ND	mg/kg	NC	50
Benzene	ND	ND	mg/kg	NC	50
Toluene	ND	ND	mg/kg	NC	50
Ethylbenzene	ND	ND	mg/kg	NC	50
p/m-Xylene	ND	ND	mg/kg	NC	50
o-Xylene	ND	ND	mg/kg	NC	50
Methyl tert butyl ether	ND	ND	mg/kg	NC	50
Naphthalene	ND	ND	mg/kg	NC	50
Surrogate(s)	Recovery			QC Criteria	
2,5-Dibromotoluene-PID	77.0	93.0	%	19	70-130
2,5-Dibromotoluene-FID	83.0	109.	%	27	70-130
Extractable Petroleum Hydrocarbons for sample(s) 01-07 (L0402380-06, WG165363)					
C9-C18 Aliphatics	ND	ND	mg/kg	NC	50
C19-C36 Aliphatics	ND	12.8	mg/kg	NC	50
C11-C22 Aromatics	ND	ND	mg/kg	NC	50
C11-C22 Aromatics, Adjusted	ND	ND	mg/kg	NC	50
Naphthalene	ND	ND	mg/kg	NC	50
2-Methylnaphthalene	ND	ND	mg/kg	NC	50
Acenaphthylene	ND	ND	mg/kg	NC	50
Acenaphthene	ND	ND	mg/kg	NC	50
Fluorene	ND	ND	mg/kg	NC	50

ALPHA ANALYTICAL LABORATORIES  
 QUALITY ASSURANCE BATCH DUPLICATE ANALYSIS

Laboratory Job Number: L0402380

Continued

Parameter	Value 1	Value 2	Units	RPD	RPD Limits
Extractable Petroleum Hydrocarbons for sample(s) 01-07 (L0402380-06, WG165363)					
Phenanthrene	ND	ND	mg/kg	NC	50
Anthracene	ND	ND	mg/kg	NC	50
Fluoranthene	ND	ND	mg/kg	NC	50
Pyrene	ND	ND	mg/kg	NC	50
Benzo (a) anthracene	ND	ND	mg/kg	NC	50
Chrysene	ND	ND	mg/kg	NC	50
Benzo (b) fluoranthene	ND	ND	mg/kg	NC	50
Benzo (k) fluoranthene	ND	ND	mg/kg	NC	50
Benzo (a) pyrene	ND	ND	mg/kg	NC	50
Indeno (1, 2, 3-cd) Pyrene	ND	ND	mg/kg	NC	50
Dibenzo (a, h) anthracene	ND	ND	mg/kg	NC	50
Benzo (ghi) perylene	ND	ND	mg/kg	NC	50
Surrogate (s)	Recovery				QC Criteria
Chloro-Octadecane	41.0	39.0	%	5	40-140
o-Terphenyl	57.0	52.0	%	9	40-140
2-Fluorobiphenyl	76.0	82.0	%	8	40-140
2-Bromonaphthalene	77.0	84.0	%	9	40-140

ALPHA ANALYTICAL LABORATORIES  
QUALITY ASSURANCE BATCH SPIKE ANALYSES

Laboratory Job Number: L0402380

Parameter	% Recovery	QC Criteria
Volatile Petroleum Hydrocarbons LCS for sample(s) 01-02,06-07 (WG165316)		
Benzene	99	70-130
Toluene	89	70-130
Ethylbenzene	104	70-130
p/m-Xylene	93	70-130
o-Xylene	93	70-130
Methyl tert butyl ether	85	70-130
Naphthalene	92	70-130
Surrogate(s)		
2,5-Dibromotoluene-PID	93	70-130
2,5-Dibromotoluene-FID	97	70-130
Volatile Petroleum Hydrocarbons LCS for sample(s) 03-05 (WG165623)		
Benzene	95	70-130
Toluene	86	70-130
Ethylbenzene	102	70-130
p/m-Xylene	92	70-130
o-Xylene	91	70-130
Methyl tert butyl ether	82	70-130
Naphthalene	92	70-130
Surrogate(s)		
2,5-Dibromotoluene-PID	92	70-130
2,5-Dibromotoluene-FID	97	70-130
Extractable Petroleum Hydrocarbons LCS for sample(s) 01-07 (WG165363)		
Naphthalene	65	40-140
Acenaphthene	69	40-140
Anthracene	90	40-140
Pyrene	92	40-140
Chrysene	98	40-140
Nonane (C9)	61	40-140
Tetradecane (C14)	74	40-140
Nonadecane (C19)	96	40-140
Eicosane (C20)	96	40-140
Octacosane (C28)	93	40-140
Surrogate(s)		
Chloro-Octadecane	75	40-140
o-Terphenyl	95	40-140
2-Fluorobiphenyl	86	40-140
2-Bromonaphthalene	87	40-140

ALPHA ANALYTICAL LABORATORIES  
 QUALITY ASSURANCE BATCH BLANK ANALYSIS

Laboratory Job Number: L0402380

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Blank Analysis for sample(s) 01-02,06-07 (WG165316-5)							
Volatile Petroleum Hydrocarbons				47 98-1		0316 08:12 PS	
C5-C8 Aliphatics, Unadjusted	ND	mg/kg	2.00				
C9-C12 Aliphatics, Unadjusted	ND	mg/kg	2.00				
C9-C10 Aromatics	ND	mg/kg	2.00				
C5-C8 Aliphatics, Adjusted	ND	mg/kg	2.00				
C9-C12 Aliphatics, Adjusted	ND	mg/kg	2.00				
Benzene	ND	mg/kg	0.100				
Toluene	ND	mg/kg	0.100				
Ethylbenzene	ND	mg/kg	0.100				
p/m-Xylene	ND	mg/kg	0.100				
o-Xylene	ND	mg/kg	0.100				
Methyl tert butyl ether	ND	mg/kg	0.200				
Naphthalene	ND	mg/kg	1.00				
Surrogate(s)	Recovery			QC Criteria			
2,5-Dibromotoluene-PID	94.0	%		70-130			
2,5-Dibromotoluene-FID	97.0	%		70-130			
Blank Analysis for sample(s) 03-05 (WG165623-3)							
Volatile Petroleum Hydrocarbons				47 98-1		0316 08:12 PS	
C5-C8 Aliphatics, Unadjusted	ND	mg/kg	2.00				
C9-C12 Aliphatics, Unadjusted	ND	mg/kg	2.00				
C9-C10 Aromatics	ND	mg/kg	2.00				
C5-C8 Aliphatics, Adjusted	ND	mg/kg	2.00				
C9-C12 Aliphatics, Adjusted	ND	mg/kg	2.00				
Benzene	ND	mg/kg	0.100				
Toluene	ND	mg/kg	0.100				
Ethylbenzene	ND	mg/kg	0.100				
p/m-Xylene	ND	mg/kg	0.100				
o-Xylene	ND	mg/kg	0.100				
Methyl tert butyl ether	ND	mg/kg	0.200				
Naphthalene	ND	mg/kg	1.00				
Surrogate(s)	Recovery			QC Criteria			
2,5-Dibromotoluene-PID	94.0	%		70-130			
2,5-Dibromotoluene-FID	97.0	%		70-130			
Blank Analysis for sample(s) 01-07 (WG165363-1)							
Extractable Petroleum Hydrocarbons				46 98-1		0315 20:00 0318 21:21 LL	
C9-C18 Aliphatics	ND	mg/kg	10.0				
C19-C36 Aliphatics	ND	mg/kg	10.0				
C11-C22 Aromatics, Unadjusted	ND	mg/kg	10.0				
C11-C22 Aromatics, Adjusted	ND	mg/kg	10.0				
Naphthalene	ND	mg/kg	0.500				
2-Methylnaphthalene	ND	mg/kg	0.500				
Acenaphthylene	ND	mg/kg	0.500				
Acenaphthene	ND	mg/kg	0.500				
Fluorene	ND	mg/kg	0.500				



ALPHA ANALYTICAL LABORATORIES  
 QUALITY ASSURANCE BATCH BLANK ANALYSIS

Laboratory Job Number: L0402380

Continued

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Blank Analysis for sample(s) 01-07 (WG165363-1)							
Extractable Petroleum Hydrocarbons continued				46 98-1		0315 20:00	0318 21:21 LL
Phenanthrene	ND	mg/kg	0.500				
Anthracene	ND	mg/kg	0.500				
Fluoranthene	ND	mg/kg	0.500				
Pyrene	ND	mg/kg	0.500				
Benzo (a) anthracene	ND	mg/kg	0.500				
Chrysene	ND	mg/kg	0.500				
Benzo (b) fluoranthene	ND	mg/kg	0.500				
Benzo (k) fluoranthene	ND	mg/kg	0.500				
Benzo (a) pyrene	ND	mg/kg	0.500				
Indeno (1, 2, 3-cd) Pyrene	ND	mg/kg	0.500				
Dibenzo (a, h) anthracene	ND	mg/kg	0.500				
Benzo (g, h, i) perylene	ND	mg/kg	0.500				
Surrogate (s)	Recovery			QC Criteria			
Chloro-Octadecane	59.0	%		40-140			
o-Terphenyl	74.0	%		40-140			
2-Fluorobiphenyl	82.0	%		40-140			
2-Bromonaphthalene	83.0	%		40-140			

ALPHA ANALYTICAL LABORATORIES  
ADDENDUM I

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REFERENCES

30. Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WPCF. 18th Edition. 1992.
46. Method for the Determination of Extractable Petroleum Hydrocarbons (EPH), Massachusetts Department of Environmental Protection, (MADEP-EPH-98-1), January 1998.
47. Method for the Determination of Volatile Petroleum Hydrocarbons (VPH), Massachusetts Department of Environmental Protection, (MADEP-VPH-98-1), January 1998.

GLOSSARY OF TERMS AND SYMBOLS

REF Reference number in which test method may be found.  
METHOD Method number by which analysis was performed.  
ID Initials of the analyst.  
ND Not detected in comparison to the reported detection limit.

Please note that all solid samples are reported on dry weight basis unless noted otherwise.

LIMITATION OF LIABILITIES

Alpha Analytical, Inc. performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical, Inc., shall be to re-perform the work at its own expense. In no event shall Alpha Analytical, Inc. be held liable for any incidental consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical, Inc.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding times and splitting of samples in the field.

ALPHA ANALYTICAL LABORATORIES  
LOGIN SPECIFIC INFORMATION

Laboratory Job Number: L0402380

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Were project specific reporting limits specified? YES

Cooler Information

Cooler	Custody Seal
A	Absent

Container Information

Container ID	Container Type	Cooler	pH	Temp	Pres	Seal	Analysis
L0402380-01A	Vial MeOH preserved	A	N/A	1.9 C	Y	Absent	VPH-DELUX
L0402380-01B	Amber 250ml unpreserved	A	N/A	1.9 C	Y	Absent	EPH-DELUX, TS
L0402380-02A	Vial MeOH preserved	A	N/A	1.9 C	Y	Absent	VPH-DELUX
L0402380-02B	Amber 250ml unpreserved	A	N/A	1.9 C	Y	Absent	EPH-DELUX, TS
L0402380-03A	Vial MeOH preserved	A	N/A	1.9 C	Y	Absent	VPH-DELUX
L0402380-03B	Amber 250ml unpreserved	A	N/A	1.9 C	Y	Absent	EPH-DELUX, TS
L0402380-04A	Vial MeOH preserved	A	N/A	1.9 C	Y	Absent	VPH-DELUX
L0402380-04B	Amber 250ml unpreserved	A	N/A	1.9 C	Y	Absent	EPH-DELUX, TS
L0402380-05A	Vial MeOH preserved	A	N/A	1.9 C	Y	Absent	VPH-DELUX
L0402380-05B	Amber 250ml unpreserved	A	N/A	1.9 C	Y	Absent	EPH-DELUX, TS
L0402380-06A	Vial MeOH preserved	A	N/A	1.9 C	Y	Absent	VPH-DELUX
L0402380-06B	Amber 250ml unpreserved	A	N/A	1.9 C	Y	Absent	EPH-DELUX, TS
L0402380-07A	Vial MeOH preserved	A	N/A	1.9 C	Y	Absent	VPH-DELUX
L0402380-07B	Amber 250ml unpreserved	A	N/A	1.9 C	Y	Absent	EPH-DELUX, TS

Container Comments

Container ID	Comments
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ALPHA ANALYTICAL LABORATORIES

Eight Walkup Drive  
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(508) 898-9220 www.alphalab.com

MA:M-MA086 NH:200301-A CT:PH-0574 ME:MA086 RI:65 NY:11148 NJ:MA935 Army:USACE

CERTIFICATE OF ANALYSIS

Client: Haley & Aldrich, Inc. Laboratory Job Number: L0402771  
Address: 465 Medford Street, Suite 2200  
Boston, MA 02129-1400 Date Received: 24-MAR-2004  
Attn: Mr. Steve Provencal Date Reported: 29-MAR-2004  
Project Number: 30660-000 Delivery Method: Alpha  
Site: BURBANK SCHOOL

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The following questions pertain only to MCP Analytical Methods

An affirmative response to questions A,B,C & D is required for "Presumptive Certainty" status

- A. Were all samples received by the laboratory in a condition consistent with those described on their Chain-of-Custody documentation for the data set? YES
- B. Were all QA/QC procedures required for the specified analytical method(s) included in this report followed, including the requirement to note and discuss in a narrative QC data that did not meet appropriate performance standards or guidelines? YES
- C. Does the analytical data included in this report meet all the requirements for "Presumptive Certainty", as described in section 2.0 of the MADEP document CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data"? YES
- D. VPH and EPH methods only: Was the VPH or EPH method run without significant modifications, as specified in Section 11.3? YES

A response to questions E and F is required for "Presumptive Certainty" status

- E. Were all QC performance standards and recommendations for the specified method(s) achieved? NO
- F. Were results for all analyte-list compounds/elements for the specified method(s) reported? YES

Any answers of NO to the above questions are addressed in the case narrative.

---

I, the undersigned, attest under the pains and penalties of perjury that, based upon my personal inquiry of those responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

---

Authorized by: Scott McLean  
This document electronically signed

ALPHA ANALYTICAL LABORATORIES

Laboratory Job Number: L0402771  
Date Reported: 29-MAR-2004

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ALPHA SAMPLE NUMBER	CLIENT IDENTIFICATION	SAMPLE LOCATION
L0402771-01	ESW1-S4	BELMONT, MA
L0402771-02	SSW3-S1	BELMONT, MA

ALPHA ANALYTICAL LABORATORIES  
NARRATIVE REPORT

Laboratory Job Number: L0402771

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Extraction methods

Extraction method 3545 was used as the extraction method for the analysis of EPH by Method 98-1.

EPH

In reference to question E, the Surrogate % Recovery for Chloro-octadecane on the associated duplicate is below acceptable limits.

ALPHA ANALYTICAL LABORATORIES  
CERTIFICATE OF ANALYSIS

MA:M-MA086 NH:200301-A CT:PH-0574 ME:MA086 RI:65 NY:11148 NJ:MA935 Army:USACE

Laboratory Sample Number: L0402771-01

Date Collected: 23-MAR-2004 09:25

ESW1-S4

Date Received : 24-MAR-2004

Sample Matrix:

SOIL

Date Reported : 29-MAR-2004

Condition of Sample: Satisfactory

Field Prep: None

Number & Type of Containers: 1-Amber,1-Vial

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Solids, Total	78.	%	0.10	30 2540G		0324 22:00	LK

Comments: Complete list of References and Glossary of Terms found in Addendum I



ALPHA ANALYTICAL LABORATORIES  
CERTIFICATE OF ANALYSIS

Laboratory Sample Number: L0402771-01  
ESW1-S4

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE PREP      ANAL	ID
-----------	--------	-------	-----	------------	------------------------	----

Volatile Petroleum Hydrocarbons	47 98-1	0325 10:46 PS
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Quality Control Information

Condition of sample received:	Satisfactory	
Sample temperature upon receipt:	Received on Ice	
Were samples received in methanol?	Covering the Soil	
Methanol ratio:	1:1 +/- 25%	
Were all QA/QC procedures REQUIRED by the method followed?		YES
Were all performance/acceptance standards for the required procedures achieved?		YES
Were significant modifications made to the method as specified in Sect 11.3?		NO
The normal acceptance range for the surrogate, 2,5-Dibromotoluene, is 70-130%.		

C5-C8 Aliphatics, Unadjusted	ND	mg/kg	3.08
C9-C12 Aliphatics, Unadjusted	ND	mg/kg	3.08
C9-C10 Aromatics	ND	mg/kg	3.08
C5-C8 Aliphatics, Adjusted	ND	mg/kg	3.08
C9-C12 Aliphatics, Adjusted	ND	mg/kg	3.08
Benzene	ND	mg/kg	0.154
Toluene	ND	mg/kg	0.154
Ethylbenzene	ND	mg/kg	0.154
p/m-Xylene	ND	mg/kg	0.154
o-Xylene	ND	mg/kg	0.154
Methyl tert butyl ether	ND	mg/kg	0.308
Naphthalene	ND	mg/kg	1.54

Surrogate(s)	Recovery		QC Criteria
2,5-Dibromotoluene-PID	98.0	%	70-130
2,5-Dibromotoluene-FID	94.0	%	70-130

Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES  
CERTIFICATE OF ANALYSIS

Laboratory Sample Number: L0402771-01  
ESW1-S4

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	

Extractable Petroleum Hydrocarbons				46 98-1		0325 10:30 0327 22:47 LL	
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Quality Control Information

Condition of sample received:	Satisfactory	
Sample temperature upon receipt:	Received on Ice	
Sample extraction method:	Extracted Per the Method	
Were all QA/QC procedures REQUIRED by the method followed?		YES
Were all performance/acceptance standards for the required procedures achieved?		YES
Were significant modifications made to the method as specified in Sect 11.3?		NO
The normal acceptance range for the extraction surrogates, Chloro-octadecane and o-Terphenyl, is 40-140%.		
The normal acceptance range for the fractionation surrogates, 2-Fluorobiphenyl and 2-Bromonaphthalene, is 40-140%.		

C9-C18 Aliphatics	ND	mg/kg	12.8
C19-C36 Aliphatics	ND	mg/kg	12.8
C11-C22 Aromatics, Unadjusted	ND	mg/kg	12.8
C11-C22 Aromatics, Adjusted	ND	mg/kg	12.8
Naphthalene	ND	mg/kg	0.641
2-Methylnaphthalene	ND	mg/kg	0.641
Acenaphthylene	ND	mg/kg	0.641
Acenaphthene	ND	mg/kg	0.641
Fluorene	ND	mg/kg	0.641
Phenanthrene	ND	mg/kg	0.641
Anthracene	ND	mg/kg	0.641
Fluoranthene	ND	mg/kg	0.641
Pyrene	ND	mg/kg	0.641
Benzo (a) anthracene	ND	mg/kg	0.641
Chrysene	ND	mg/kg	0.641
Benzo (b) fluoranthene	ND	mg/kg	0.641
Benzo (k) fluoranthene	ND	mg/kg	0.641
Benzo (a) pyrene	ND	mg/kg	0.641
Indeno (1,2,3-cd) Pyrene	ND	mg/kg	0.641
Dibenzo (a,h) anthracene	ND	mg/kg	0.641
Benzo (g,h,i) perylene	ND	mg/kg	0.641

Surrogate (s)	Recovery		QC Criteria
Chloro-Octadecane	55.0	%	40-140
o-Terphenyl	61.0	%	40-140
2-Fluorobiphenyl	74.0	%	40-140
2-Bromonaphthalene	76.0	%	40-140

Comments: Complete list of References and Glossary of Terms found in Addendum I



ALPHA ANALYTICAL LABORATORIES  
CERTIFICATE OF ANALYSIS

Laboratory Sample Number: L0402771-02  
SSW3-S1

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE PREP      ANAL	ID
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Volatile Petroleum Hydrocarbons				47 98-1		0325 11:37 PS
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Quality Control Information

Condition of sample received:	Satisfactory	
Sample temperature upon receipt:	Received on Ice	
Were samples received in methanol?	Covering the Soil	
Methanol ratio:	1:1 +/- 25%	
Were all QA/QC procedures REQUIRED by the method followed?		YES
Were all performance/acceptance standards for the required procedures achieved?		YES
Were significant modifications made to the method as specified in Sect 11.3?		NO
The normal acceptance range for the surrogate, 2,5-Dibromotoluene, is 70-130%.		

C5-C8 Aliphatics, Unadjusted	ND	mg/kg	1.99		
C9-C12 Aliphatics, Unadjusted	ND	mg/kg	1.99		
C9-C10 Aromatics	ND	mg/kg	1.99		
C5-C8 Aliphatics, Adjusted	ND	mg/kg	1.99		
C9-C12 Aliphatics, Adjusted	ND	mg/kg	1.99		
Benzene	ND	mg/kg	0.100		
Toluene	ND	mg/kg	0.100		
Ethylbenzene	ND	mg/kg	0.100		
p/m-Xylene	ND	mg/kg	0.100		
o-Xylene	ND	mg/kg	0.100		
Methyl tert butyl ether	ND	mg/kg	0.199		
Naphthalene	ND	mg/kg	0.997		

Surrogate(s)	Recovery		QC Criteria		
2,5-Dibromotoluene-PID	97.0	%	70-130		
2,5-Dibromotoluene-FID	98.0	%	70-130		

Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES  
CERTIFICATE OF ANALYSIS

Laboratory Sample Number: L0402771-02  
SSW3-S1

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE PREP      ANAL	ID
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Extractable Petroleum Hydrocarbons				46 98-1	0325 10:30 0327 23:32	LL
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Quality Control Information

Condition of sample received:	Satisfactory	
Sample temperature upon receipt:	Received on Ice	
Sample extraction method:	Extracted Per the Method	
Were all QA/QC procedures REQUIRED by the method followed?		YES
Were all performance/acceptance standards for the required procedures achieved?		YES
Were significant modifications made to the method as specified in Sect 11.3?		NO
The normal acceptance range for the extraction surrogates, Chloro-octadecane and o-Terphenyl, is 40-140%.		
The normal acceptance range for the fractionation surrogates, 2-Fluorobiphenyl and 2-Bromonaphthalene, is 40-140%.		

C9-C18 Aliphatics	ND	mg/kg	10.6
C19-C36 Aliphatics	ND	mg/kg	10.6
C11-C22 Aromatics, Unadjusted	ND	mg/kg	10.6
C11-C22 Aromatics, Adjusted	ND	mg/kg	10.6
Naphthalene	ND	mg/kg	0.532
2-Methylnaphthalene	ND	mg/kg	0.532
Acenaphthylene	ND	mg/kg	0.532
Acenaphthene	ND	mg/kg	0.532
Fluorene	ND	mg/kg	0.532
Phenanthrene	ND	mg/kg	0.532
Anthracene	ND	mg/kg	0.532
Fluoranthene	ND	mg/kg	0.532
Pyrene	ND	mg/kg	0.532
Benzo(a)anthracene	ND	mg/kg	0.532
Chrysene	ND	mg/kg	0.532
Benzo(b)fluoranthene	ND	mg/kg	0.532
Benzo(k)fluoranthene	ND	mg/kg	0.532
Benzo(a)pyrene	ND	mg/kg	0.532
Indeno(1,2,3-cd)Pyrene	ND	mg/kg	0.532
Dibenzo(a,h)anthracene	ND	mg/kg	0.532
Benzo(g,h,i)perylene	ND	mg/kg	0.532

Surrogate(s)	Recovery	%	QC Criteria
Chloro-Octadecane	61.0	%	40-140
o-Terphenyl	81.0	%	40-140
2-Fluorobiphenyl	81.0	%	40-140
2-Bromonaphthalene	83.0	%	40-140

Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES  
QUALITY ASSURANCE BATCH DUPLICATE ANALYSIS

Laboratory Job Number: L0402771

Parameter	Value 1	Value 2	Units	RPD	RPD Limits
Solids, Total for sample(s) 01-02 (L0402750-01, WG166101)					
Solids, Total	89.	89.	%	0	
Volatile Petroleum Hydrocarbons for sample(s) 01-02 (L0402771-01, WG166253)					
C5-C8 Aliphatics	ND	ND	mg/kg	NC	50
C9-C12 Aliphatics	ND	ND	mg/kg	NC	50
C9-C10 Aromatics	ND	ND	mg/kg	NC	50
C5-C8 Aliphatics, Adjusted	ND	ND	mg/kg	NC	50
C9-C12 Aliphatics, Adjusted	ND	ND	mg/kg	NC	50
Benzene	ND	ND	mg/kg	NC	50
Toluene	ND	ND	mg/kg	NC	50
Ethylbenzene	ND	ND	mg/kg	NC	50
p/m-Xylene	ND	ND	mg/kg	NC	50
o-Xylene	ND	ND	mg/kg	NC	50
Methyl tert butyl ether	ND	ND	mg/kg	NC	50
Naphthalene	ND	ND	mg/kg	NC	50
Surrogate (s) Recovery QC Criteria					
2,5-Dibromotoluene-PID	98.0	106.	%	8	70-130
2,5-Dibromotoluene-FID	94.0	111.	%	17	70-130
Extractable Petroleum Hydrocarbons for sample(s) 01-02 (L0402771-02, WG166158)					
C9-C18 Aliphatics	ND	ND	mg/kg	NC	50
C19-C36 Aliphatics	ND	ND	mg/kg	NC	50
C11-C22 Aromatics	ND	ND	mg/kg	NC	50
C11-C22 Aromatics, Adjusted	ND	ND	mg/kg	NC	50
Naphthalene	ND	ND	mg/kg	NC	50
2-Methylnaphthalene	ND	ND	mg/kg	NC	50
Acenaphthylene	ND	ND	mg/kg	NC	50
Acenaphthene	ND	ND	mg/kg	NC	50
Fluorene	ND	ND	mg/kg	NC	50
Phenanthrene	ND	ND	mg/kg	NC	50
Anthracene	ND	ND	mg/kg	NC	50
Fluoranthene	ND	ND	mg/kg	NC	50
Pyrene	ND	ND	mg/kg	NC	50
Benzo (a) anthracene	ND	ND	mg/kg	NC	50
Chrysene	ND	ND	mg/kg	NC	50
Benzo (b) fluoranthene	ND	ND	mg/kg	NC	50
Benzo (k) fluoranthene	ND	ND	mg/kg	NC	50
Benzo (a) pyrene	ND	ND	mg/kg	NC	50
Indeno (1,2,3-cd) Pyrene	ND	ND	mg/kg	NC	50
Dibenzo (a,h) anthracene	ND	ND	mg/kg	NC	50
Benzo (ghi) perylene	ND	ND	mg/kg	NC	50
Surrogate (s) Recovery QC Criteria					
Chloro-Octadecane	61.0	32.0	%	62	40-140
o-Terphenyl	81.0	41.0	%	66	40-140
2-Fluorobiphenyl	81.0	71.0	%	13	40-140
2-Bromonaphthalene	83.0	74.0	%	11	40-140

ALPHA ANALYTICAL LABORATORIES  
QUALITY ASSURANCE BATCH SPIKE ANALYSES

Laboratory Job Number: L0402771

Parameter	% Recovery	QC Criteria
Volatile Petroleum Hydrocarbons LCS for sample(s) 01-02 (WG166253)		
Benzene	100	70-130
Toluene	91	70-130
Ethylbenzene	106	70-130
p/m-Xylene	94	70-130
o-Xylene	94	70-130
Methyl tert butyl ether	86	70-130
Naphthalene	97	70-130
Surrogate (s)		
2,5-Dibromotoluene-PID	89	70-130
2,5-Dibromotoluene-FID	89	70-130
Extractable Petroleum Hydrocarbons LCS for sample(s) 01-02 (WG166158)		
Naphthalene	40	40-140
Acenaphthene	43	40-140
Anthracene	55	40-140
Pyrene	60	40-140
Chrysene	64	40-140
Nonane (C9)	41	40-140
Tetradecane (C14)	46	40-140
Nonadecane (C19)	58	40-140
Eicosane (C20)	59	40-140
Octacosane (C28)	59	40-140
Surrogate (s)		
Chloro-Octadecane	47	40-140
o-Terphenyl	58	40-140
2-Fluorobiphenyl	72	40-140
2-Bromonaphthalene	76	40-140

ALPHA ANALYTICAL LABORATORIES  
QUALITY ASSURANCE BATCH BLANK ANALYSIS

Laboratory Job Number: L0402771

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Blank Analysis for sample(s) 01-02 (WG166253-3)							
Volatile Petroleum Hydrocarbons				47 98-1		0325 08:12 PS	
C5-C8 Aliphatics, Unadjusted	ND	mg/kg	2.00				
C9-C12 Aliphatics, Unadjusted	ND	mg/kg	2.00				
C9-C10 Aromatics	ND	mg/kg	2.00				
C5-C8 Aliphatics, Adjusted	ND	mg/kg	2.00				
C9-C12 Aliphatics, Adjusted	ND	mg/kg	2.00				
Benzene	ND	mg/kg	0.100				
Toluene	ND	mg/kg	0.100				
Ethylbenzene	ND	mg/kg	0.100				
p/m-Xylene	ND	mg/kg	0.100				
o-Xylene	ND	mg/kg	0.100				
Methyl tert butyl ether	ND	mg/kg	0.200				
Naphthalene	ND	mg/kg	1.00				
Surrogate(s)	Recovery		QC Criteria				
2,5-Dibromotoluene-PID	99.0	%	70-130				
2,5-Dibromotoluene-FID	101.	%	70-130				
Blank Analysis for sample(s) 01-02 (WG166158-1)							
Extractable Petroleum Hydrocarbons				46 98-1		0325 10:30 0327 20:30 LL	
C9-C18 Aliphatics	ND	mg/kg	10.0				
C19-C36 Aliphatics	ND	mg/kg	10.0				
C11-C22 Aromatics, Unadjusted	ND	mg/kg	10.0				
C11-C22 Aromatics, Adjusted	ND	mg/kg	10.0				
Naphthalene	ND	mg/kg	0.500				
2-Methylnaphthalene	ND	mg/kg	0.500				
Acenaphthylene	ND	mg/kg	0.500				
Acenaphthene	ND	mg/kg	0.500				
Fluorene	ND	mg/kg	0.500				
Phenanthrene	ND	mg/kg	0.500				
Anthracene	ND	mg/kg	0.500				
Fluoranthene	ND	mg/kg	0.500				
Pyrene	ND	mg/kg	0.500				
Benzo(a)anthracene	ND	mg/kg	0.500				
Chrysene	ND	mg/kg	0.500				
Benzo(b)fluoranthene	ND	mg/kg	0.500				
Benzo(k)fluoranthene	ND	mg/kg	0.500				
Benzo(a)pyrene	ND	mg/kg	0.500				
Indeno(1,2,3-cd)Pyrene	ND	mg/kg	0.500				
Dibenzo(a,h)anthracene	ND	mg/kg	0.500				
Benzo(g,h,i)perylene	ND	mg/kg	0.500				
Surrogate(s)	Recovery		QC Criteria				
Chloro-Octadecane	50.0	%	40-140				
o-Terphenyl	73.0	%	40-140				
2-Fluorobiphenyl	75.0	%	40-140				
2-Bromonaphthalene	78.0	%	40-140				



ALPHA ANALYTICAL LABORATORIES  
ADDENDUM I

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REFERENCES

30. Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WPCF. 18th Edition. 1992.
46. Method for the Determination of Extractable Petroleum Hydrocarbons (EPH), Massachusetts Department of Environmental Protection, (MADEP-EPH-98-1), January 1998.
47. Method for the Determination of Volatile Petroleum Hydrocarbons (VPH), Massachusetts Department of Environmental Protection, (MADEP-VPH-98-1), January 1998.

GLOSSARY OF TERMS AND SYMBOLS

REF Reference number in which test method may be found.  
METHOD Method number by which analysis was performed.  
ID Initials of the analyst.  
ND Not detected in comparison to the reported detection limit.

Please note that all solid samples are reported on dry weight basis unless noted otherwise.

LIMITATION OF LIABILITIES

Alpha Analytical, Inc. performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical, Inc., shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical, Inc. be held liable for any incidental consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical, Inc.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding times and splitting of samples in the field.

ALPHA ANALYTICAL LABORATORIES  
LOGIN SPECIFIC INFORMATION

Laboratory Job Number: L0402771

---

Were project specific reporting limits specified? YES

Cooler Information

Cooler	Custody Seal
A	Absent

Container Information

Container ID	Container Type	Cooler	pH	Temp	Pres	Seal	Analysis
L0402771-01A	Vial MeOH preserved	A	NA	3.2 C	Y	Absent	VPH-DELUX
L0402771-01B	Amber 250ml unpreserved	A	NA	3.2 C	Y	Absent	EPH-DELUX, TS
L0402771-02A	Vial MeOH preserved	A	NA	3.2 C	Y	Absent	VPH-DELUX
L0402771-02B	Amber 250ml unpreserved	A	NA	3.2 C	Y	Absent	EPH-DELUX, TS

Container Comments

Container ID    Comments

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# CHAIN OF CUSTODY RECORD

Phone (617) 886-7406  
 Fax (617) 886-7600

Page 1 of 1  
 DELIVERY DATE 03/24/04  
 TURNAROUND TIME 3 DAYS  
 PROJECT MANAGER JOEL PROBERT

LABORATORY APHA  
 ADDRESS  
 CONTACT

H&A FILE NO. 30660-000  
 PROJECT NAME BULLBANK SUTTORC  
 H&A CONTACT SIRUI PROBERT

Sample No.	Date	Time	Depth (ft)	Type	Analysis Requested										Number of Containers	Comments (special instructions, precautions, additional method numbers, etc.)		
					VOA	PAH only	MCP Metals	Pesticides	PCBs	VOA Changes only	PH Changes only	Full Suite	TPH (specify)	TCLP (specify)			Reactivity	Ignitability
ESW1-54	3/23/04	925	7	SOL													2	Laboratory to use applicable DEP CAM methods, unless otherwise directed. <u>DD EPA/UPH &amp; TAPACET ANALITES</u>
		1120	7	"													2	
LIQUID																		
Received by Sign <u>Desmond Crawford</u> Print <u>DRMOND CRAWFORD</u> Firm <u>H&amp;A</u> Date <u>03/23/04</u> Time <u>16:35</u>																		
Relinquished by Sign <u>Desmond Crawford</u> Print <u>DRMOND CRAWFORD</u> Firm <u>H&amp;A</u> Date <u>03/24/04</u> Time <u>16:15</u>																		
SOLID																		
Received by Sign <u>Adrian</u> Print <u>Adrian P. S. S.</u> Firm <u>APR</u> Date <u>3/24/04</u> Time <u>18:25</u>																		
Relinquished by Sign <u>Adrian</u> Print <u>Adrian P. S. S.</u> Firm <u>APR</u> Date <u>3/24/04</u> Time <u>18:25</u>																		
PRESERVATION KEY																		
A Sample chilled C NaOH E H <sub>2</sub> SO <sub>4</sub> G Methanol B Sample filtered D HNO <sub>3</sub> F HCL H Water/NaHSO <sub>4</sub> (circle)																		

**If Presumptive Certainty Data Package is needed, initial all sections:**  
 The required minimum field QC samples, as designated in BWSC CAM-VII have been or will be collected, as appropriate, to meet the requirements of Presumptive Certainty.  
NA Matrix Spike (MS) samples for MCP Metals and/or Cyanide are included and identified herein.  
 This Chain of Custody Record (specify) NA does not include samples defined as Drinking Water Samples.  
 If this Chain of Custody Record identifies samples defined as Drinking Water Samples, Trip Blanks and Field Duplicates are included and analysis of TICs are required, as appropriate. Laboratory should (specify if applicable) NA hold for contingency testing the Drinking Water Field Duplicate and Drinking Water Trip Blank samples.

Required Reporting Limits and Data Quality Objectives:  
 RC-S1  S1  GW1  
 RC-S2  S2  GW2  
 RC-GW1  S3  GW3  
 RC-GW2

ALPHA ANALYTICAL LABORATORIES

Eight Walkup Drive  
Westborough, Massachusetts 01581-1019  
(508) 898-9220 www.alphalab.com

MA:M-MA086 NH:200301-A CT:PH-0574 ME:MA086 RI:65 NY:11148 NJ:MA935 Army:USACE

CERTIFICATE OF ANALYSIS

Client: Haley & Aldrich, Inc. Laboratory Job Number: L0402773  
Address: 465 Medford Street, Suite 2200  
Boston, MA 02129-1400 Date Received: 24-MAR-2004  
Attn: Mr. Steve Provencal Date Reported: 29-MAR-2004  
Project Number: 30660-102 Delivery Method: Alpha  
Site: BURBANK SCHOOL

The following questions pertain only to MCP Analytical Methods

An affirmative response to questions A,B,C & D is required for "Presumptive Certainty" status

- A. Were all samples received by the laboratory in a condition consistent with those described on their Chain-of-Custody documentation for the data set? YES
- B. Were all QA/QC procedures required for the specified analytical method(s) included in this report followed, including the requirement to note and discuss in a narrative QC data that did not meet appropriate performance standards or guidelines? YES
- C. Does the analytical data included in this report meet all the requirements for "Presumptive Certainty", as described in section 2.0 of the MADEP document CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data"? YES
- D. VPH and EPH methods only: Was the VPH or EPH method run without significant modifications, as specified in Section 11.3? YES

A response to questions E and F is required for "Presumptive Certainty" status

- E. Were all QC performance standards and recommendations for the specified method(s) achieved? YES
- F. Were results for all analyte-list compounds/elements for the specified method(s) reported? YES

Any answers of NO to the above questions are addressed in the case narrative.

I, the undersigned, attest under the pains and penalties of perjury that, based upon my personal inquiry of those responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized by: Scott McLean  
This document electronically signed

ALPHA ANALYTICAL LABORATORIES

Laboratory Job Number: L0402773  
Date Reported: 29-MAR-2004

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ALPHA SAMPLE NUMBER	CLIENT IDENTIFICATION	SAMPLE LOCATION
L0402773-01	WSW1-S2	

ALPHA ANALYTICAL LABORATORIES  
NARRATIVE REPORT

Laboratory Job Number: L0402773

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Report Submission

All MCP required questions were answered with affirmative responses, therefore, there are no relevant data issues to discuss.

Extraction methods

Extraction method 3545 was used as the extraction method for the analysis of EPH by Method 98-1.





ALPHA ANALYTICAL LABORATORIES  
CERTIFICATE OF ANALYSIS

Laboratory Sample Number: L0402773-01  
WSW1-S2

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Volatile Petroleum Hydrocarbons			47 98-1			0325 12:27 PS	
Quality Control Information							
Condition of sample received:				Satisfactory			
Sample temperature upon receipt:				Received on Ice			
Were samples received in methanol?				Covering the Soil			
Methanol ratio:				Below 1:1 +/- 25%			
Were all QA/QC procedures REQUIRED by the method followed?							YES
Were all performance/acceptance standards for the required procedures achieved?							YES
Were significant modifications made to the method as specified in Sect 11.3?							NO
The normal acceptance range for the surrogate, 2,5-Dibromotoluene, is 70-130%.							
C5-C8 Aliphatics, Unadjusted	ND	mg/kg	4.02				
C9-C12 Aliphatics, Unadjusted	ND	mg/kg	4.02				
C9-C10 Aromatics	ND	mg/kg	4.02				
C5-C8 Aliphatics, Adjusted	ND	mg/kg	4.02				
C9-C12 Aliphatics, Adjusted	ND	mg/kg	4.02				
Benzene	ND	mg/kg	0.201				
Toluene	ND	mg/kg	0.201				
Ethylbenzene	ND	mg/kg	0.201				
p/m-Xylene	ND	mg/kg	0.201				
o-Xylene	ND	mg/kg	0.201				
Methyl tert butyl ether	ND	mg/kg	0.402				
Naphthalene	ND	mg/kg	2.01				
Surrogate (s)	Recovery			QC Criteria			
2,5-Dibromotoluene-PID	100.	%		70-130			
2,5-Dibromotoluene-FID	99.0	%		70-130			

Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES  
CERTIFICATE OF ANALYSIS

Laboratory Sample Number: L0402773-01  
WSW1-S2

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Extractable Petroleum Hydrocarbons				46 98-1	0325 10:30	0328 00:18	LL

Quality Control Information

Condition of sample received:	Satisfactory	
Sample temperature upon receipt:	Received on Ice	
Sample extraction method:	Extracted Per the Method	
Were all QA/QC procedures REQUIRED by the method followed?		YES
Were all performance/acceptance standards for the required procedures achieved?		YES
Were significant modifications made to the method as specified in Sect 11.3?		NO
The normal acceptance range for the extraction surrogates, Chloro-octadecane and o-Terphenyl, is 40-140%.		
The normal acceptance range for the fractionation surrogates, 2-Fluorobiphenyl and 2-Bromonaphthalene, is 40-140%.		

C9-C18 Aliphatics	ND	mg/kg	12.3
C19-C36 Aliphatics	ND	mg/kg	12.3
C11-C22 Aromatics, Unadjusted	ND	mg/kg	12.3
C11-C22 Aromatics, Adjusted	ND	mg/kg	12.3
Naphthalene	ND	mg/kg	0.617
2-Methylnaphthalene	ND	mg/kg	0.617
Acenaphthylene	ND	mg/kg	0.617
Acenaphthene	ND	mg/kg	0.617
Fluorene	ND	mg/kg	0.617
Phenanthrene	ND	mg/kg	0.617
Anthracene	ND	mg/kg	0.617
Fluoranthene	ND	mg/kg	0.617
Pyrene	ND	mg/kg	0.617
Benzo (a) anthracene	ND	mg/kg	0.617
Chrysene	ND	mg/kg	0.617
Benzo (b) fluoranthene	ND	mg/kg	0.617
Benzo (k) fluoranthene	ND	mg/kg	0.617
Benzo (a) pyrene	ND	mg/kg	0.617
Indeno (1,2,3-cd) Pyrene	ND	mg/kg	0.617
Dibenzo (a, h) anthracene	ND	mg/kg	0.617
Benzo (g, h, i) perylene	ND	mg/kg	0.617
Surrogate (s)	Recovery		QC Criteria
Chloro-Octadecane	52.0	%	40-140
o-Terphenyl	71.0	%	40-140
2-Fluorobiphenyl	83.0	%	40-140
2-Bromonaphthalene	86.0	%	40-140

Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES  
 QUALITY ASSURANCE BATCH DUPLICATE ANALYSIS

Laboratory Job Number: L0402773

Parameter	Value 1	Value 2	Units	RPD	RPD Limits
Solids, Total for sample(s) 01 (L0402750-01, WG166101)					
Solids, Total	89.	89.	%	0	
Volatile Petroleum Hydrocarbons for sample(s) 01 (L0402771-01, WG166253)					
C5-C8 Aliphatics	ND	ND	mg/kg	NC	50
C9-C12 Aliphatics	ND	ND	mg/kg	NC	50
C9-C10 Aromatics	ND	ND	mg/kg	NC	50
C5-C8 Aliphatics, Adjusted	ND	ND	mg/kg	NC	50
C9-C12 Aliphatics, Adjusted	ND	ND	mg/kg	NC	50
Benzene	ND	ND	mg/kg	NC	50
Toluene	ND	ND	mg/kg	NC	50
Ethylbenzene	ND	ND	mg/kg	NC	50
p/m-Xylene	ND	ND	mg/kg	NC	50
o-Xylene	ND	ND	mg/kg	NC	50
Methyl tert butyl ether	ND	ND	mg/kg	NC	50
Naphthalene	ND	ND	mg/kg	NC	50
Surrogate(s)	Recovery				QC Criteria
2,5-Dibromotoluene-PID	98.0	106.	%	8	70-130
2,5-Dibromotoluene-FID	94.0	111.	%	17	70-130
Extractable Petroleum Hydrocarbons for sample(s) 01 (L0402771-02, WG166158)					
C9-C18 Aliphatics	ND	ND	mg/kg	NC	50
C19-C36 Aliphatics	ND	ND	mg/kg	NC	50
C11-C22 Aromatics	ND	ND	mg/kg	NC	50
C11-C22 Aromatics, Adjusted	ND	ND	mg/kg	NC	50
Naphthalene	ND	ND	mg/kg	NC	50
2-Methylnaphthalene	ND	ND	mg/kg	NC	50
Acenaphthylene	ND	ND	mg/kg	NC	50
Acenaphthene	ND	ND	mg/kg	NC	50
Fluorene	ND	ND	mg/kg	NC	50
Phenanthrene	ND	ND	mg/kg	NC	50
Anthracene	ND	ND	mg/kg	NC	50
Fluoranthene	ND	ND	mg/kg	NC	50
Pyrene	ND	ND	mg/kg	NC	50
Benzo(a)anthracene	ND	ND	mg/kg	NC	50
Chrysene	ND	ND	mg/kg	NC	50
Benzo(b)fluoranthene	ND	ND	mg/kg	NC	50
Benzo(k)fluoranthene	ND	ND	mg/kg	NC	50
Benzo(a)pyrene	ND	ND	mg/kg	NC	50
Indeno(1,2,3-cd)Pyrene	ND	ND	mg/kg	NC	50
Dibenzo(a,h)anthracene	ND	ND	mg/kg	NC	50
Benzo(ghi)perylene	ND	ND	mg/kg	NC	50
Surrogate(s)	Recovery				QC Criteria
Chloro-Octadecane	61.0	32.0	%	62	40-140
o-Terphenyl	81.0	41.0	%	66	40-140
2-Fluorobiphenyl	81.0	71.0	%	13	40-140
2-Bromonaphthalene	83.0	74.0	%	11	40-140

ALPHA ANALYTICAL LABORATORIES  
QUALITY ASSURANCE BATCH SPIKE ANALYSES

Laboratory Job Number: L0402773

Parameter	% Recovery	QC Criteria
Volatile Petroleum Hydrocarbons LCS for sample(s) 01 (WG166253)		
Benzene	100	70-130
Toluene	91	70-130
Ethylbenzene	106	70-130
p/m-Xylene	94	70-130
o-Xylene	94	70-130
Methyl tert butyl ether	86	70-130
Naphthalene	97	70-130
Surrogate(s)		
2,5-Dibromotoluene-PID	89	70-130
2,5-Dibromotoluene-FID	89	70-130
Extractable Petroleum Hydrocarbons LCS for sample(s) 01 (WG166158)		
Naphthalene	40	40-140
Acenaphthene	43	40-140
Anthracene	55	40-140
Pyrene	60	40-140
Chrysene	64	40-140
Nonane (C9)	41	40-140
Tetradecane (C14)	46	40-140
Nonadecane (C19)	58	40-140
Eicosane (C20)	59	40-140
Octacosane (C28)	59	40-140
Surrogate(s)		
Chloro-Octadecane	47	40-140
o-Terphenyl	58	40-140
2-Fluorobiphenyl	72	40-140
2-Bromonaphthalene	76	40-140

ALPHA ANALYTICAL LABORATORIES  
 QUALITY ASSURANCE BATCH BLANK ANALYSIS

Laboratory Job Number: L0402773

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	

Blank Analysis for sample(s) 01 (WG166253-3)

Volatile Petroleum Hydrocarbons				47 98-1	0325 08:12 PS
C5-C8 Aliphatics, Unadjusted	ND	mg/kg	2.00		
C9-C12 Aliphatics, Unadjusted	ND	mg/kg	2.00		
C9-C10 Aromatics	ND	mg/kg	2.00		
C5-C8 Aliphatics, Adjusted	ND	mg/kg	2.00		
C9-C12 Aliphatics, Adjusted	ND	mg/kg	2.00		
Benzene	ND	mg/kg	0.100		
Toluene	ND	mg/kg	0.100		
Ethylbenzene	ND	mg/kg	0.100		
p/m-Xylene	ND	mg/kg	0.100		
o-Xylene	ND	mg/kg	0.100		
Methyl tert butyl ether	ND	mg/kg	0.200		
Naphthalene	ND	mg/kg	1.00		

Surrogate(s)	Recovery		QC Criteria
2,5-Dibromotoluene-PID	99.0	%	70-130
2,5-Dibromotoluene-FID	101.	%	70-130

Blank Analysis for sample(s) 01 (WG166158-1)

Extractable Petroleum Hydrocarbons				46 98-1	0325 10:30 0327 20:30 LL
C9-C18 Aliphatics	ND	mg/kg	10.0		
C19-C36 Aliphatics	ND	mg/kg	10.0		
C11-C22 Aromatics, Unadjusted	ND	mg/kg	10.0		
C11-C22 Aromatics, Adjusted	ND	mg/kg	10.0		
Naphthalene	ND	mg/kg	0.500		
2-Methylnaphthalene	ND	mg/kg	0.500		
Acenaphthylene	ND	mg/kg	0.500		
Acenaphthene	ND	mg/kg	0.500		
Fluorene	ND	mg/kg	0.500		
Phenanthrene	ND	mg/kg	0.500		
Anthracene	ND	mg/kg	0.500		
Fluoranthene	ND	mg/kg	0.500		
Pyrene	ND	mg/kg	0.500		
Benzo(a) anthracene	ND	mg/kg	0.500		
Chrysene	ND	mg/kg	0.500		
Benzo(b) fluoranthene	ND	mg/kg	0.500		
Benzo(k) fluoranthene	ND	mg/kg	0.500		
Benzo(a) pyrene	ND	mg/kg	0.500		
Indeno(1,2,3-cd) Pyrene	ND	mg/kg	0.500		
Dibenzo(a,h) anthracene	ND	mg/kg	0.500		
Benzo(g,h,i) perylene	ND	mg/kg	0.500		

Surrogate(s)	Recovery		QC Criteria
Chloro-Octadecane	50.0	%	40-140
o-Terphenyl	73.0	%	40-140
2-Fluorobiphenyl	75.0	%	40-140
2-Bromonaphthalene	78.0	%	40-140

ALPHA ANALYTICAL LABORATORIES  
ADDENDUM I

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REFERENCES

30. Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WPCF. 18th Edition. 1992.
46. Method for the Determination of Extractable Petroleum Hydrocarbons (EPH), Massachusetts Department of Environmental Protection, (MADEP-EPH-98-1), January 1998.
47. Method for the Determination of Volatile Petroleum Hydrocarbons (VPH), Massachusetts Department of Environmental Protection, (MADEP-VPH-98-1), January 1998.

GLOSSARY OF TERMS AND SYMBOLS

REF Reference number in which test method may be found.  
METHOD Method number by which analysis was performed.  
ID Initials of the analyst.  
ND Not detected in comparison to the reported detection limit.

Please note that all solid samples are reported on dry weight basis unless noted otherwise.

LIMITATION OF LIABILITIES

Alpha Analytical, Inc. performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical, Inc., shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical, Inc. be held liable for any incidental consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical, Inc.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding times and splitting of samples in the field.

ALPHA ANALYTICAL LABORATORIES  
LOGIN SPECIFIC INFORMATION

Laboratory Job Number: L0402773

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Were project specific reporting limits specified? YES

Cooler Information

Cooler            Custody Seal

---

A                    Absent

Container Information

Container ID	Container Type	Cooler	pH	Temp	Pres	Seal	Analysis
L0402773-01A	Vial MeOH preserved	A	NA	3.2 C	Y	Absent	VPH-DELUX
L0402773-01B	Amber 250ml unpreserved	A	NA	3.2 C	Y	Absent	EPH-DELUX, TS

Container Comments

Container ID    Comments

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# CHAIN OF CUSTODY RECORD

H&A FILE NO. 30660-102 LABORATORY ADDRESS CONTACT  
30660-102 ALPHA  
 PROJECT NAME BIOWALK SAMPLE DELIVERY DATE 03/24/04  
STEEL PROVENANCE TURNAROUND TIME 3 DAYS  
 PROJECT MANAGER John Morley

Sample No.	Date	Time	Depth (FT)	Type	Analysis Requested										Number of Containers	Comments (special instructions, precautions, additional method numbers, etc.)		
					VOA	ABNs PAH only	MCP Metals	Pesticides	PCBs	Full Suite C-ranges only	EPH Full Suite C-ranges only	TPH (specy)	TCLP (specy)	Reactivity			Ignitability	Comstivity
WSW1-S2	3/24/04	1000	6-12	SOIL													2	Laboratory to use applicable DEP CAM methods, unless otherwise directed.  (130) EDU/UPM L TARGET ANALYTES

Sampled and Relinquished by		Received by		LIQUID				SOLID					
Sign	Print	Sign	Print	VOA Vial	Amber Glass	Plastic Bottle	Preservative	Volume	VOA Vial	Amber Glass	Clear Glass	Preservative	Volume
Sign <u>[Signature]</u>	Print <u>Todd Buren</u>	Sign <u>[Signature]</u>	Print <u>[Signature]</u>										
Print <u>Todd Buren</u>	Time <u>1520</u>	Print <u>[Signature]</u>	Time <u>1805</u>										
Sign <u>[Signature]</u>	Print <u>[Signature]</u>	Sign <u>[Signature]</u>	Print <u>[Signature]</u>										
Print <u>[Signature]</u>	Time <u>1805</u>	Print <u>[Signature]</u>	Time <u>1805</u>										

Evidence samples were tampered with? YES NO  
 If YES, please explain in section below.

PRESERVATION KEY

A Sample chilled C NaOH E H<sub>2</sub>SO<sub>4</sub> G Methanol  
 B Sample filtered D HNO<sub>3</sub> F HCL H Water/NaHSO<sub>4</sub> (circle)

**If Presumptive Certainty Data Package is needed, initial all sections:**  
 The required minimum field QC samples, as designated in BWSC CAM-VII have been or will be collected, as appropriate, to meet the requirements of Presumptive Certainty.  
 Matrix Spike (MS) samples for MCP Metals and/or Cyanide are included and identified herein.  
 This Chain of Custody Record (specify) \_\_\_\_\_ includes \_\_\_\_\_ does not include samples defined as Drinking Water Samples.  
 If this Chain of Custody Record identifies samples defined as Drinking Water Samples, Trip Blanks and Field Duplicates are included and identified and analysis of TICs are required, as appropriate. Laboratory should (specify if applicable) \_\_\_\_\_ analyze \_\_\_\_\_ hold for contingency testing the Drinking Water Field Duplicate and Drinking Water Trip Blank samples.

Required Reporting Limits and Data Quality  
 Objectives  
 RC-S1  S1  GW1  
 RC-S2  S2  GW2  
 RC-GW1  S3  GW3  
 RC-GW2



ALPHA ANALYTICAL LABORATORIES

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Westborough, Massachusetts 01581-1019  
(508) 898-9220 www.alphalab.com

MA:M-MA086 NH:200301-A CT:PH-0574 ME:MA086 RI:65 NY:11148 NJ:MA935 Army:USACE

CERTIFICATE OF ANALYSIS

Client: Haley & Aldrich, Inc. Laboratory Job Number: L0402832  
Address: 465 Medford Street, Suite 2200  
Boston, MA 02129-1400 Date Received: 25-MAR-2004  
Attn: Mr. Steve Provencal Date Reported: 31-MAR-2004  
Project Number: 30660-000 Delivery Method: Alpha  
Site: BURBANK SCHOOL

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The following questions pertain only to MCP Analytical Methods

An affirmative response to questions A,B,C & D is required for "Presumptive Certainty" status

- A. Were all samples received by the laboratory in a condition consistent with those described on their Chain-of-Custody documentation for the data set? YES
- B. Were all QA/QC procedures required for the specified analytical method(s) included in this report followed, including the requirement to note and discuss in a narrative QC data that did not meet appropriate performance standards or guidelines? YES
- C. Does the analytical data included in this report meet all the requirements for "Presumptive Certainty", as described in section 2.0 of the MADEP document CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data"? YES
- D. VPH and EPH methods only: Was the VPH or EPH method run without significant modifications, as specified in Section 11.3? YES

A response to questions E and F is required for "Presumptive Certainty" status

- E. Were all QC performance standards and recommendations for the specified method(s) achieved? YES
- F. Were results for all analyte-list compounds/elements for the specified method(s) reported? YES

Any answers of NO to the above questions are addressed in the case narrative.

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I, the undersigned, attest under the pains and penalties of perjury that, based upon my personal inquiry of those responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

---

Authorized by: James Todaro  
This document electronically signed

ALPHA ANALYTICAL LABORATORIES

Laboratory Job Number: L0402832  
Date Reported: 31-MAR-2004

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ALPHA SAMPLE NUMBER	CLIENT IDENTIFICATION	SAMPLE LOCATION
L0402832-01	SW-CORNER-S2	BELMONT, MA
L0402832-02	CB-ESW-S2	BELMONT, MA
L0402832-03	CB-BOT-S2	BELMONT, MA
L0402832-04	TRIP BLANK-VPH	BELMONT, MA

ALPHA ANALYTICAL LABORATORIES  
NARRATIVE REPORT

Laboratory Job Number: L0402832

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MCP Related Narratives

Extraction methods

Extraction method 3545 was used as the extraction method for the analysis of EPH by method 98-1.

Report Submission

All MCP required questions were answered with affirmative responses, therefore, there are no relevant data issues to discuss.



ALPHA ANALYTICAL LABORATORIES  
CERTIFICATE OF ANALYSIS

Laboratory Sample Number: L0402832-01  
SW-CORNER-S2

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE PREP      ANAL	ID
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Volatile Petroleum Hydrocarbons			47 98-1		0326 15:05 PS	
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Quality Control Information

Condition of sample received:	Satisfactory
Sample temperature upon receipt:	Received on Ice
Were samples received in methanol?	Covering the Soil
Methanol ratio:	1:1 +/- 25%
Were all QA/QC procedures REQUIRED by the method followed?	YES
Were all performance/acceptance standards for the required procedures achieved?	YES
Were significant modifications made to the method as specified in Sect 11.3?	NO
The normal acceptance range for the surrogate, 2,5-Dibromotoluene, is 70-130%.	

C5-C8 Aliphatics, Unadjusted	ND	mg/kg	2.40	
C9-C12 Aliphatics, Unadjusted	ND	mg/kg	2.40	
C9-C10 Aromatics	ND	mg/kg	2.40	
C5-C8 Aliphatics, Adjusted	ND	mg/kg	2.40	
C9-C12 Aliphatics, Adjusted	ND	mg/kg	2.40	
Benzene	ND	mg/kg	0.120	
Toluene	ND	mg/kg	0.120	
Ethylbenzene	ND	mg/kg	0.120	
p/m-Xylene	ND	mg/kg	0.120	
o-Xylene	ND	mg/kg	0.120	
Methyl tert butyl ether	ND	mg/kg	0.240	
Naphthalene	ND	mg/kg	1.20	

Surrogate (s)	Recovery			QC Criteria
2,5-Dibromotoluene-PID	92.0	%		70-130
2,5-Dibromotoluene-FID	104.	%		70-130

Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES  
CERTIFICATE OF ANALYSIS

Laboratory Sample Number: L0402832-01  
SW-CORNER-S2

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	

Extractable Petroleum Hydrocarbons			46 98-1		0330 08:45	0330 17:14	LL
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Quality Control Information

Condition of sample received:	Satisfactory	
Sample temperature upon receipt:	Received on Ice	
Sample extraction method:	Extracted Per the Method	
Were all QA/QC procedures REQUIRED by the method followed?		YES
Were all performance/acceptance standards for the required procedures achieved?		YES
Were significant modifications made to the method as specified in Sect 11.3?		NO
The normal acceptance range for the extraction surrogates, Chloro-octadecane and o-Terphenyl, is 40-140%.		
The normal acceptance range for the fractionation surrogates, 2-Fluorobiphenyl and 2-Bromonaphthalene, is 40-140%.		

C9-C18 Aliphatics	ND	mg/kg	10.4
C19-C36 Aliphatics	ND	mg/kg	10.4
C11-C22 Aromatics, Unadjusted	ND	mg/kg	10.4
C11-C22 Aromatics, Adjusted	ND	mg/kg	10.4
Naphthalene	ND	mg/kg	0.521
2-Methylnaphthalene	ND	mg/kg	0.521
Acenaphthylene	ND	mg/kg	0.521
Acenaphthene	ND	mg/kg	0.521
Fluorene	ND	mg/kg	0.521
Phenanthrene	ND	mg/kg	0.521
Anthracene	ND	mg/kg	0.521
Fluoranthene	ND	mg/kg	0.521
Pyrene	ND	mg/kg	0.521
Benzo (a) anthracene	ND	mg/kg	0.521
Chrysene	ND	mg/kg	0.521
Benzo (b) fluoranthene	ND	mg/kg	0.521
Benzo (k) fluoranthene	ND	mg/kg	0.521
Benzo (a) pyrene	ND	mg/kg	0.521
Indeno (1, 2, 3-cd) Pyrene	ND	mg/kg	0.521
Dibenzo (a, h) anthracene	ND	mg/kg	0.521
Benzo (g, h, i) perylene	ND	mg/kg	0.521

Surrogate (s)	Recovery		QC Criteria
Chloro-Octadecane	51.0	%	40-140
o-Terphenyl	68.0	%	40-140
2-Fluorobiphenyl	66.0	%	40-140
2-Bromonaphthalene	68.0	%	40-140

Comments: Complete list of References and Glossary of Terms found in Addendum I



ALPHA ANALYTICAL LABORATORIES  
CERTIFICATE OF ANALYSIS

Laboratory Sample Number: L0402832-02  
CB-ESW-S2

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE PREP    ANAL	ID
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Volatile Petroleum Hydrocarbons			47	98-1	0326 16:47	PS
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Quality Control Information

Condition of sample received:	Satisfactory	
Sample temperature upon receipt:	Received on Ice	
Were samples received in methanol?	Covering the Soil	
Methanol ratio:	1:1 +/- 25%	
Were all QA/QC procedures REQUIRED by the method followed?		YES
Were all performance/acceptance standards for the required procedures achieved?		YES
Were significant modifications made to the method as specified in Sect 11.3?		NO
The normal acceptance range for the surrogate, 2,5-Dibromotoluene, is 70-130%.		

C5-C8 Aliphatics, Unadjusted	ND	mg/kg	2.18	
C9-C12 Aliphatics, Unadjusted	3.26	mg/kg	2.18	
C9-C10 Aromatics	ND	mg/kg	2.18	
C5-C8 Aliphatics, Adjusted	ND	mg/kg	2.18	
C9-C12 Aliphatics, Adjusted	3.26	mg/kg	2.18	
Benzene	ND	mg/kg	0.109	
Toluene	ND	mg/kg	0.109	
Ethylbenzene	ND	mg/kg	0.109	
p/m-Xylene	ND	mg/kg	0.109	
o-Xylene	ND	mg/kg	0.109	
Methyl tert butyl ether	ND	mg/kg	0.218	
Naphthalene	ND	mg/kg	1.09	
Surrogate(s)	Recovery		QC Criteria	
2,5-Dibromotoluene-PID	87.0	%	70-130	
2,5-Dibromotoluene-FID	97.0	%	70-130	

Comments: Complete list of References and Glossary of Terms found in Addendum I



ALPHA ANALYTICAL LABORATORIES  
CERTIFICATE OF ANALYSIS

Laboratory Sample Number: L0402832-02  
CB-ESW-S2

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	

Extractable Petroleum Hydrocarbons				46 98-1		0330 08:45 0330 16:25 LL	
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Quality Control Information

Condition of sample received:	Satisfactory	
Sample temperature upon receipt:	Received on Ice	
Sample extraction method:	Extracted Per the Method	
Were all QA/QC procedures REQUIRED by the method followed?		YES
Were all performance/acceptance standards for the required procedures achieved?		YES
Were significant modifications made to the method as specified in Sect 11.3?		NO
The normal acceptance range for the extraction surrogates, Chloro-octadecane and o-Terphenyl, is 40-140%.		
The normal acceptance range for the fractionation surrogates, 2-Fluorobiphenyl and 2-Bromonaphthalene, is 40-140%.		

C9-C18 Aliphatics	ND	mg/kg	10.4
C19-C36 Aliphatics	ND	mg/kg	10.4
C11-C22 Aromatics, Unadjusted	ND	mg/kg	10.4
C11-C22 Aromatics, Adjusted	ND	mg/kg	10.4
Naphthalene	ND	mg/kg	0.521
2-Methylnaphthalene	ND	mg/kg	0.521
Acenaphthylene	ND	mg/kg	0.521
Acenaphthene	ND	mg/kg	0.521
Fluorene	ND	mg/kg	0.521
Phenanthrene	ND	mg/kg	0.521
Anthracene	ND	mg/kg	0.521
Fluoranthene	ND	mg/kg	0.521
Pyrene	ND	mg/kg	0.521
Benzo (a) anthracene	ND	mg/kg	0.521
Chrysene	ND	mg/kg	0.521
Benzo (b) fluoranthene	ND	mg/kg	0.521
Benzo (k) fluoranthene	ND	mg/kg	0.521
Benzo (a) pyrene	ND	mg/kg	0.521
Indeno (1, 2, 3-cd) Pyrene	ND	mg/kg	0.521
Dibenzo (a, h) anthracene	ND	mg/kg	0.521
Benzo (g, h, i) perylene	ND	mg/kg	0.521

Surrogate (s)	Recovery		QC Criteria
Chloro-Octadecane	51.0	%	40-140
o-Terphenyl	75.0	%	40-140
2-Fluorobiphenyl	75.0	%	40-140
2-Bromonaphthalene	77.0	%	40-140

Comments: Complete list of References and Glossary of Terms found in Addendum I



ALPHA ANALYTICAL LABORATORIES  
CERTIFICATE OF ANALYSIS

Laboratory Sample Number: L0402832-03  
CB-BOT-S2

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	

Volatile Petroleum Hydrocarbons	47 98-1	0326 17:37 PS
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Quality Control Information

Condition of sample received:	Satisfactory	
Sample temperature upon receipt:	Received on Ice	
Were samples received in methanol?	Covering the Soil	
Methanol ratio:	1:1 +/- 25%	
Were all QA/QC procedures REQUIRED by the method followed?		YES
Were all performance/acceptance standards for the required procedures achieved?		YES
Were significant modifications made to the method as specified in Sect 11.3?		NO
The normal acceptance range for the surrogate, 2,5-Dibromotoluene, is 70-130%.		

C5-C8 Aliphatics, Unadjusted	ND	mg/kg	1.81
C9-C12 Aliphatics, Unadjusted	2.70	mg/kg	1.81
C9-C10 Aromatics	ND	mg/kg	1.81
C5-C8 Aliphatics, Adjusted	ND	mg/kg	1.81
C9-C12 Aliphatics, Adjusted	2.70	mg/kg	1.81
Benzene	ND	mg/kg	0.100
Toluene	ND	mg/kg	0.100
Ethylbenzene	ND	mg/kg	0.100
p/m-Xylene	ND	mg/kg	0.100
o-Xylene	ND	mg/kg	0.100
Methyl tert butyl ether	ND	mg/kg	0.181
Naphthalene	ND	mg/kg	0.903

Surrogate (s)	Recovery		QC Criteria
2,5-Dibromotoluene-PID	84.0	%	70-130
2,5-Dibromotoluene-FID	92.0	%	70-130

Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES  
CERTIFICATE OF ANALYSIS

Laboratory Sample Number: L0402832-03  
CB-BOT-S2

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	

Extractable Petroleum Hydrocarbons				46 98-1	0330 08:45	0330 17:08	LL
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Quality Control Information

Condition of sample received:	Satisfactory	
Sample temperature upon receipt:	Received on Ice	
Sample extraction method:	Extracted Per the Method	
Were all QA/QC procedures REQUIRED by the method followed?		YES
Were all performance/acceptance standards for the required procedures achieved?		YES
Were significant modifications made to the method as specified in Sect 11.3?		NO
The normal acceptance range for the extraction surrogates, Chloro-octadecane and o-Terphenyl, is 40-140%.		
The normal acceptance range for the fractionation surrogates, 2-Fluorobiphenyl and 2-Bromonaphthalene, is 40-140%.		

C9-C18 Aliphatics	ND	mg/kg	10.4
C19-C36 Aliphatics	ND	mg/kg	10.4
C11-C22 Aromatics, Unadjusted	ND	mg/kg	10.4
C11-C22 Aromatics, Adjusted	ND	mg/kg	10.4
Naphthalene	ND	mg/kg	0.521
2-Methylnaphthalene	ND	mg/kg	0.521
Acenaphthylene	ND	mg/kg	0.521
Acenaphthene	ND	mg/kg	0.521
Fluorene	ND	mg/kg	0.521
Phenanthrene	ND	mg/kg	0.521
Anthracene	ND	mg/kg	0.521
Fluoranthene	ND	mg/kg	0.521
Pyrene	ND	mg/kg	0.521
Benzo (a) anthracene	ND	mg/kg	0.521
Chrysene	ND	mg/kg	0.521
Benzo (b) fluoranthene	ND	mg/kg	0.521
Benzo (k) fluoranthene	ND	mg/kg	0.521
Benzo (a) pyrene	ND	mg/kg	0.521
Indeno (1, 2, 3-cd) Pyrene	ND	mg/kg	0.521
Dibenzo (a, h) anthracene	ND	mg/kg	0.521
Benzo (g, h, i) perylene	ND	mg/kg	0.521

Surrogate (s)	Recovery		QC Criteria
Chloro-Octadecane	54.0	%	40-140
o-Terphenyl	68.0	%	40-140
2-Fluorobiphenyl	72.0	%	40-140
2-Bromonaphthalene	72.0	%	40-140

Comments: Complete list of References and Glossary of Terms found in Addendum I



ALPHA ANALYTICAL LABORATORIES  
 QUALITY ASSURANCE BATCH DUPLICATE ANALYSIS

Laboratory Job Number: L0402832

Parameter	Value 1	Value 2	Units	RPD	RPD Limits
Solids, Total for sample(s) 01-03 (L0402832-01, WG166213)					
Solids, Total	96.	96.	%	0	
Volatile Petroleum Hydrocarbons for sample(s) 02-04 (L0402771-01, WG166253)					
C5-C8 Aliphatics	ND	ND	mg/kg	NC	50
C9-C12 Aliphatics	ND	ND	mg/kg	NC	50
C9-C10 Aromatics	ND	ND	mg/kg	NC	50
C5-C8 Aliphatics, Adjusted	ND	ND	mg/kg	NC	50
C9-C12 Aliphatics, Adjusted	ND	ND	mg/kg	NC	50
Benzene	ND	ND	mg/kg	NC	50
Toluene	ND	ND	mg/kg	NC	50
Ethylbenzene	ND	ND	mg/kg	NC	50
p/m-Xylene	ND	ND	mg/kg	NC	50
o-Xylene	ND	ND	mg/kg	NC	50
Methyl tert butyl ether	ND	ND	mg/kg	NC	50
Naphthalene	ND	ND	mg/kg	NC	50
Surrogate(s)	Recovery				QC Criteria
2,5-Dibromotoluene-PID	98.0	106.	%	8	70-130
2,5-Dibromotoluene-FID	94.0	111.	%	17	70-130
Volatile Petroleum Hydrocarbons for sample(s) 01 (L0402832-01, WG166384)					
C5-C8 Aliphatics	ND	ND	mg/kg	NC	50
C9-C12 Aliphatics	ND	ND	mg/kg	NC	50
C9-C10 Aromatics	ND	ND	mg/kg	NC	50
C5-C8 Aliphatics, Adjusted	ND	ND	mg/kg	NC	50
C9-C12 Aliphatics, Adjusted	ND	ND	mg/kg	NC	50
Benzene	ND	ND	mg/kg	NC	50
Toluene	ND	ND	mg/kg	NC	50
Ethylbenzene	ND	ND	mg/kg	NC	50
p/m-Xylene	ND	ND	mg/kg	NC	50
o-Xylene	ND	ND	mg/kg	NC	50
Methyl tert butyl ether	ND	ND	mg/kg	NC	50
Naphthalene	ND	ND	mg/kg	NC	50
Surrogate(s)	Recovery				QC Criteria
2,5-Dibromotoluene-PID	92.0	90.0	%	2	70-130
2,5-Dibromotoluene-FID	104.	99.0	%	5	70-130
Extractable Petroleum Hydrocarbons for sample(s) 01-03 (L0402832-01, WG166496)					
C9-C18 Aliphatics	ND	ND	mg/kg	NC	50
C19-C36 Aliphatics	ND	ND	mg/kg	NC	50
C11-C22 Aromatics	ND	ND	mg/kg	NC	50
C11-C22 Aromatics, Adjusted	ND	ND	mg/kg	NC	50
Naphthalene	ND	ND	mg/kg	NC	50
2-Methylnaphthalene	ND	ND	mg/kg	NC	50
Acenaphthylene	ND	ND	mg/kg	NC	50
Acenaphthene	ND	ND	mg/kg	NC	50
Fluorene	ND	ND	mg/kg	NC	50

ALPHA ANALYTICAL LABORATORIES  
 QUALITY ASSURANCE BATCH DUPLICATE ANALYSIS

Laboratory Job Number: L0402832

Continued

Parameter	Value 1	Value 2	Units	RPD	RPD Limits
Extractable Petroleum Hydrocarbons for sample(s) 01-03 (L0402832-01, WG166496)					
Phenanthrene	ND	ND	mg/kg	NC	50
Anthracene	ND	ND	mg/kg	NC	50
Fluoranthene	ND	ND	mg/kg	NC	50
Pyrene	ND	ND	mg/kg	NC	50
Benzo (a) anthracene	ND	ND	mg/kg	NC	50
Chrysene	ND	ND	mg/kg	NC	50
Benzo (b) fluoranthene	ND	ND	mg/kg	NC	50
Benzo (k) fluoranthene	ND	ND	mg/kg	NC	50
Benzo (a) pyrene	ND	ND	mg/kg	NC	50
Indeno (1, 2, 3-cd) Pyrene	ND	ND	mg/kg	NC	50
Dibenzo (a, h) anthracene	ND	ND	mg/kg	NC	50
Benzo (ghi) perylene	ND	ND	mg/kg	NC	50
Surrogate (s)	Recovery				QC Criteria
Chloro-Octadecane	51.0	60.0	%	16	40-140
o-Terphenyl	68.0	71.0	%	4	40-140
2-Fluorobiphenyl	66.0	70.0	%	6	40-140
2-Bromonaphthalene	68.0	71.0	%	4	40-140

ALPHA ANALYTICAL LABORATORIES  
 QUALITY ASSURANCE BATCH SPIKE ANALYSES

Laboratory Job Number: L0402832

Parameter	% Recovery	QC Criteria
Volatile Petroleum Hydrocarbons LCS for sample(s) 02-04 (WG166253)		
Benzene	100	70-130
Toluene	91	70-130
Ethylbenzene	106	70-130
p/m-Xylene	94	70-130
o-Xylene	94	70-130
Methyl tert butyl ether	86	70-130
Naphthalene	97	70-130
Surrogate(s)		
2,5-Dibromotoluene-PID	89	70-130
2,5-Dibromotoluene-FID	89	70-130
Volatile Petroleum Hydrocarbons LCS for sample(s) 01 (WG166384)		
Benzene	96	70-130
Toluene	90	70-130
Ethylbenzene	106	70-130
p/m-Xylene	95	70-130
o-Xylene	94	70-130
Methyl tert butyl ether	82	70-130
Naphthalene	87	70-130
Surrogate(s)		
2,5-Dibromotoluene-PID	96	70-130
2,5-Dibromotoluene-FID	98	70-130
Extractable Petroleum Hydrocarbons LCS for sample(s) 01-03 (WG166496)		
Naphthalene	50	40-140
Acenaphthene	59	40-140
Anthracene	72	40-140
Pyrene	78	40-140
Chrysene	79	40-140
Nonane (C9)	50	40-140
Tetradecane (C14)	61	40-140
Nonadecane (C19)	76	40-140
Eicosane (C20)	77	40-140
Octacosane (C28)	73	40-140
Surrogate(s)		
Chloro-Octadecane	58	40-140
o-Terphenyl	78	40-140
2-Fluorobiphenyl	65	40-140
2-Bromonaphthalene	59	40-140



ALPHA ANALYTICAL LABORATORIES  
 QUALITY ASSURANCE BATCH BLANK ANALYSIS

Laboratory Job Number: L0402832

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Blank Analysis for sample(s) 02-04 (WG166253-4)							
Volatile Petroleum Hydrocarbons				47 98-1		0326 09:02	PS
C5-C8 Aliphatics, Unadjusted	ND	mg/kg	2.00				
C9-C12 Aliphatics, Unadjusted	ND	mg/kg	2.00				
C9-C10 Aromatics	ND	mg/kg	2.00				
C5-C8 Aliphatics, Adjusted	ND	mg/kg	2.00				
C9-C12 Aliphatics, Adjusted	ND	mg/kg	2.00				
Benzene	ND	mg/kg	0.100				
Toluene	ND	mg/kg	0.100				
Ethylbenzene	ND	mg/kg	0.100				
p/m-Xylene	ND	mg/kg	0.100				
o-Xylene	ND	mg/kg	0.100				
Methyl tert butyl ether	ND	mg/kg	0.200				
Naphthalene	ND	mg/kg	1.00				
Surrogate(s)	Recovery			QC Criteria			
2,5-Dibromotoluene-PID	99.0	%		70-130			
2,5-Dibromotoluene-FID	101.	%		70-130			
Blank Analysis for sample(s) 01 (WG166384-3)							
Volatile Petroleum Hydrocarbons				47 98-1		0326 09:02	PS
C5-C8 Aliphatics, Unadjusted	ND	mg/kg	2.00				
C9-C12 Aliphatics, Unadjusted	ND	mg/kg	2.00				
C9-C10 Aromatics	ND	mg/kg	2.00				
C5-C8 Aliphatics, Adjusted	ND	mg/kg	2.00				
C9-C12 Aliphatics, Adjusted	ND	mg/kg	2.00				
Benzene	ND	mg/kg	0.100				
Toluene	ND	mg/kg	0.100				
Ethylbenzene	ND	mg/kg	0.100				
p/m-Xylene	ND	mg/kg	0.100				
o-Xylene	ND	mg/kg	0.100				
Methyl tert butyl ether	ND	mg/kg	0.200				
Naphthalene	ND	mg/kg	1.00				
Surrogate(s)	Recovery			QC Criteria			
2,5-Dibromotoluene-PID	99.0	%		70-130			
2,5-Dibromotoluene-FID	101.	%		70-130			
Blank Analysis for sample(s) 01-03 (WG166496-1)							
Extractable Petroleum Hydrocarbons				46 98-1		0330 08:45	0330 16:25 LL
C9-C18 Aliphatics	ND	mg/kg	10.0				
C19-C36 Aliphatics	ND	mg/kg	10.0				
C11-C22 Aromatics, Unadjusted	ND	mg/kg	10.0				
C11-C22 Aromatics, Adjusted	ND	mg/kg	10.0				
Naphthalene	ND	mg/kg	0.500				
2-Methylnaphthalene	ND	mg/kg	0.500				
Acenaphthylene	ND	mg/kg	0.500				
Acenaphthene	ND	mg/kg	0.500				
Fluorene	ND	mg/kg	0.500				

ALPHA ANALYTICAL LABORATORIES  
 QUALITY ASSURANCE BATCH BLANK ANALYSIS

Laboratory Job Number: L0402832

Continued

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Blank Analysis for sample(s) 01-03 (WG166496-1)							
Extractable Petroleum Hydrocarbons continued				46 98-1	0330 08:45	0330 16:25	LL
Phenanthrene	ND	mg/kg	0.500				
Anthracene	ND	mg/kg	0.500				
Fluoranthene	ND	mg/kg	0.500				
Pyrene	ND	mg/kg	0.500				
Benzo (a) anthracene	ND	mg/kg	0.500				
Chrysene	ND	mg/kg	0.500				
Benzo (b) fluoranthene	ND	mg/kg	0.500				
Benzo (k) fluoranthene	ND	mg/kg	0.500				
Benzo (a) pyrene	ND	mg/kg	0.500				
Indeno (1, 2, 3-cd) Pyrene	ND	mg/kg	0.500				
Dibenzo (a, h) anthracene	ND	mg/kg	0.500				
Benzo (g, h, i) perylene	ND	mg/kg	0.500				
Surrogate (s)	Recovery		QC Criteria				
Chloro-Octadecane	55.0	%	40-140				
o-Terphenyl	75.0	%	40-140				
2-Fluorobiphenyl	72.0	%	40-140				
2-Bromonaphthalene	66.0	%	40-140				

ALPHA ANALYTICAL LABORATORIES  
ADDENDUM I

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REFERENCES

30. Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WPCF. 18th Edition. 1992.
46. Method for the Determination of Extractable Petroleum Hydrocarbons (EPH), Massachusetts Department of Environmental Protection, (MADEP-EPH-98-1), January 1998.
47. Method for the Determination of Volatile Petroleum Hydrocarbons (VPH), Massachusetts Department of Environmental Protection, (MADEP-VPH-98-1), January 1998.

GLOSSARY OF TERMS AND SYMBOLS

REF Reference number in which test method may be found.  
METHOD Method number by which analysis was performed.  
ID Initials of the analyst.  
ND Not detected in comparison to the reported detection limit.

Please note that all solid samples are reported on dry weight basis unless noted otherwise.

LIMITATION OF LIABILITIES

Alpha Analytical, Inc. performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical, Inc., shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical, Inc. be held liable for any incidental consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical, Inc.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding times and splitting of samples in the field.

ALPHA ANALYTICAL LABORATORIES  
LOGIN SPECIFIC INFORMATION

Laboratory Job Number: L0402832

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Were project specific reporting limits specified? YES

Cooler Information

Cooler Custody Seal

---

A Absent

Container Information

Container ID	Container Type	Cooler	pH	Temp	Pres	Seal	Analysis
L0402832-01A	Vial MeOH preserved	A	N/A	1.9 C	Y	Absent	VPH-DELUX
L0402832-01B	Amber 250ml unpreserved	A	N/A	1.9 C	Y	Absent	EPH-DELUX, TS
L0402832-02A	Vial MeOH preserved	A	N/A	1.9 C	Y	Absent	VPH-DELUX
L0402832-02B	Amber 250ml unpreserved	A	N/A	1.9 C	Y	Absent	EPH-DELUX, TS
L0402832-03A	Vial MeOH preserved	A	N/A	1.9 C	Y	Absent	VPH-DELUX
L0402832-03B	Amber 250ml unpreserved	A	N/A	1.9 C	Y	Absent	EPH-DELUX, TS
L0402832-04A	Vial MeOH preserved	A	N/A	1.9 C	Y	Absent	VPH-DELUX

Container Comments

Container ID Comments

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# CHAIN OF CUSTODY RECORD

H&A FILE NO. 2000-000 LABORATORY ALPHA DELIVERY DATE \_\_\_\_\_  
 PROJECT NAME Berkshire School ADDRESS \_\_\_\_\_ TURNAROUND TIME 3 Days  
 H&A CONTACT Steve Pennington CONTACT \_\_\_\_\_ PROJECT MANAGER Joel Meroney

Sample No.	Date	Time	Depth	Type	Analysis Requested								Number of Containers	Comments (special instructions, precautions, additional method numbers, etc.)			
					VOA	ABNs	MCP Metals	Pesticides	PCBs	PAH only	VOA Full Site	TPH (specify)			TCLP (specify)	Reactivity	Corrosivity
<u>SW-COINTEL-SZ</u>	<u>3/25/04</u>	<u>0830</u>	<u>-</u>	<u>SOIL</u>													
<u>OB-ESW-SZ</u>	<u>"</u>	<u>1410</u>	<u>-</u>	<u>"</u>													
<u>OB-BOT-SZ</u>	<u>"</u>	<u>1405</u>	<u>-</u>	<u>"</u>													
<u>IC-pbmet-VPH</u>																	

Sampled and Relinquished by	Received by	Relinquished by	Received by	LIQUID						SOLID							
				VOA Vial	Amber Glass	Plastic Bottle	Preservative	Volume	VOA Vial	Amber Glass	Clear Glass	Preservative	Volume				
Sign <u>Todd Burien</u> Print <u>Todd Burien</u> Firm <u>H&amp;A</u> Date <u>3/25/04</u> Time <u>1535</u>	Sign <u>Mark DeBary</u> Print <u>Mark DeBary</u> Firm <u>H&amp;A</u> Date <u>3/25/04</u> Time <u>1535</u>	Sign <u>Mark DeBary</u> Print <u>Mark DeBary</u> Firm <u>H&amp;A</u> Date <u>3/25/04</u> Time <u>1610</u>	Sign <u>Mark DeBary</u> Print <u>Mark DeBary</u> Firm <u>H&amp;A</u> Date <u>3/25/04</u> Time <u>1610</u>														

**Presumptive Certainty Data Package (Laboratory to use applicable DEP CAM methods)**

**Preservation Key:**  
 A Sample chilled    C NaOH    E H<sub>2</sub>SO<sub>4</sub>    G Methanol  
 B Sample filtered    D HNO<sub>3</sub>    F HCL    H Water/NatHISO4 (circle)

**Required Reporting Limits and Data Quality Objectives:**  
 RC-S1     S1     GW1  
 RC-S2     S2     GW2  
 RC-GW1     S3     GW3  
 RC-GW2

**If Presumptive Certainty Data Package is needed, initial all sections:**  
 The required minimum field QC samples, as designated in BWSC CAM-VII have been or will be collected, as appropriate, to meet the requirements of Presumptive Certainty.  
 Matrix Spike (MS) samples for MCP Metals and/or Cyanide are included and identified herein.  
 This Chain of Custody Record (specify) HA does not include samples defined as Drinking Water Samples.  
 If this Chain of Custody Record identifies samples defined as Drinking Water Samples, Trip Blanks and Field Duplicates are included and analysis of TICs are required, as appropriate. Laboratory should (specify if applicable) analyze hold for contingency testing the Drinking Water Field Duplicate and Drinking Water Trip Blank samples.

ALPHA ANALYTICAL LABORATORIES

Eight Walkup Drive  
Westborough, Massachusetts 01581-1019  
(508) 898-9220 www.alphalab.com

MA:M-MA086 NH:200301-A CT:PH-0574 ME:MA086 RI:65 NY:11148 NJ:MA935 Army:USACE

CERTIFICATE OF ANALYSIS

Client: Haley & Aldrich, Inc. Laboratory Job Number: L0402870  
Address: 465 Medford Street, Suite 2200  
Boston, MA 02129-1400 Date Received: 26-MAR-2004  
Attn: Mr. Steve Provencal Date Reported: 05-APR-2004  
Project Number: 30660-000 Delivery Method: Alpha  
Site: BURBANK SCHOOL

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The following questions pertain only to MCP Analytical Methods

An affirmative response to questions A,B,C & D is required for "Presumptive Certainty" status

- A. Were all samples received by the laboratory in a condition consistent with those described on their Chain-of-Custody documentation for the data set? YES
- B. Were all QA/QC procedures required for the specified analytical method(s) included in this report followed, including the requirement to note and discuss in a narrative QC data that did not meet appropriate performance standards or guidelines? YES
- C. Does the analytical data included in this report meet all the requirements for "Presumptive Certainty", as described in section 2.0 of the MADEP document CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data"? YES
- D. VPH and EPH methods only: Was the VPH or EPH method run without significant modifications, as specified in Section 11.3? NA

A response to questions E and F is required for "Presumptive Certainty" status

- E. Were all QC performance standards and recommendations for the specified method(s) achieved? YES
- F. Were results for all analyte-list compounds/elements for the specified method(s) reported? NO

Any answers of NO to the above questions are addressed in the case narrative.

---

I, the undersigned, attest under the pains and penalties of perjury that, based upon my personal inquiry of those responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

---

Authorized by: James Todaro

This document electronically signed

ALPHA ANALYTICAL LABORATORIES

Laboratory Job Number: L0402870  
Date Reported: 05-APR-2004

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ALPHA SAMPLE NUMBER	CLIENT IDENTIFICATION	SAMPLE LOCATION
L0402870-01	UST-STKPL6-S1	BELMONT, MA

ALPHA ANALYTICAL LABORATORIES  
NARRATIVE REPORT

Laboratory Job Number: L0402870

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MCP Related Narratives

Extraction methods

Extraction method 3545 was used as the extraction method for the analysis of PCB by method 8082 and for the analysis of SemiVolatile Organics by method 8270C.

Report Submission

In reference to question F, at the client's request, the samples were analyzed only for the compounds specified on the chain of custody.

Volatile Organics

L0402870-01 has elevated limits of detection due to the 2x dilution required by the elevated concentrations of target compounds in the sample.

SemiVolatile Organics

The RCS-1 limit was not achieved for 3,3'-Dichlorobenzidine.

Non-MCP Related Narratives

TPH-8100

L0402870-01 has elevated limits of detection due to the 5x dilution required by the elevated concentrations of target compounds in the sample.





ALPHA ANALYTICAL LABORATORIES  
CERTIFICATE OF ANALYSIS

Laboratory Sample Number: L0402870-01  
UST-STKPL6-S1

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Volatile Organics by MCP 8260B/5035-High continued				54 8260B	0331 19:33 RY		
1,1,2,2-Tetrachloroethane	ND	ug/kg	200				
Benzene	ND	ug/kg	200				
Toluene	ND	ug/kg	300				
Ethylbenzene	ND	ug/kg	200				
Chloromethane	ND	ug/kg	1000				
Bromomethane	ND	ug/kg	400				
Vinyl chloride	ND	ug/kg	400				
Chloroethane	ND	ug/kg	400				
1,1-Dichloroethene	ND	ug/kg	200				
trans-1,2-Dichloroethene	ND	ug/kg	300				
Trichloroethene	ND	ug/kg	200				
1,2-Dichlorobenzene	ND	ug/kg	1000				
1,3-Dichlorobenzene	ND	ug/kg	1000				
1,4-Dichlorobenzene	ND	ug/kg	1000				
Methyl tert butyl ether	ND	ug/kg	400				
p/m-Xylene	580	ug/kg	200				
o-Xylene	ND	ug/kg	200				
cis-1,2-Dichloroethene	ND	ug/kg	200				
Dibromomethane	ND	ug/kg	2000				
1,2,3-Trichloropropane	ND	ug/kg	2000				
Styrene	ND	ug/kg	200				
Dichlorodifluoromethane	ND	ug/kg	2000				
Acetone	ND	ug/kg	2000				
Carbon disulfide	ND	ug/kg	2000				
2-Butanone	ND	ug/kg	2000				
4-Methyl-2-pentanone	ND	ug/kg	2000				
2-Hexanone	ND	ug/kg	2000				
Bromochloromethane	ND	ug/kg	1000				
Tetrahydrofuran	ND	ug/kg	4000				
2,2-Dichloropropane	ND	ug/kg	1000				
1,2-Dibromoethane	ND	ug/kg	1000				
1,3-Dichloropropane	ND	ug/kg	1000				
1,1,1,2-Tetrachloroethane	ND	ug/kg	200				
Bromobenzene	ND	ug/kg	1000				
n-Butylbenzene	1800	ug/kg	200				
sec-Butylbenzene	660	ug/kg	200				
tert-Butylbenzene	ND	ug/kg	1000				
o-Chlorotoluene	ND	ug/kg	1000				
p-Chlorotoluene	ND	ug/kg	1000				
1,2-Dibromo-3-chloropropane	ND	ug/kg	1000				
Hexachlorobutadiene	ND	ug/kg	1000				
Isopropylbenzene	ND	ug/kg	200				
p-Isopropyltoluene	360	ug/kg	200				
Naphthalene	5400	ug/kg	1000				
n-Propylbenzene	450	ug/kg	200				
1,2,3-Trichlorobenzene	ND	ug/kg	1000				
1,2,4-Trichlorobenzene	ND	ug/kg	1000				
1,3,5-Trimethylbenzene	1600	ug/kg	1000				
1,2,4-Trimethylbenzene	4200	ug/kg	1000				

Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES  
CERTIFICATE OF ANALYSIS

Laboratory Sample Number: L0402870-01  
UST-STKPL6-S1

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Volatile Organics by MCP 8260B/5035-High continued				54 8260B	0331 19:33		RY
Ethyl ether	ND	ug/kg	1000				
Isopropyl Ether	ND	ug/kg	800				
Ethyl-Tert-Butyl-Ether	ND	ug/kg	800				
Tertiary-Amyl Methyl Ether	ND	ug/kg	800				
1,4-Dioxane	ND	ug/kg	100000				
Surrogate(s)	Recovery			QC Criteria			
1,2-Dichloroethane-d4	92.0	%		70-130			
Toluene-d8	95.0	%		70-130			
4-Bromofluorobenzene	101.	%		70-130			
Dibromofluoromethane	91.0	%		70-130			
Semivolatile Organics by MCP 8270C				54 8270C	0330 17:00		0401 02:22 HL
Acenaphthene	ND	ug/kg	570				
1,2,4-Trichlorobenzene	ND	ug/kg	570				
Hexachlorobenzene	ND	ug/kg	570				
Bis(2-chloroethyl) ether	ND	ug/kg	570				
2-Chloronaphthalene	ND	ug/kg	570				
1,2-Dichlorobenzene	ND	ug/kg	570				
1,3-Dichlorobenzene	ND	ug/kg	570				
1,4-Dichlorobenzene	ND	ug/kg	570				
3,3'-Dichlorobenzidine	ND	ug/kg	1100				
2,4-Dinitrotoluene	ND	ug/kg	570				
2,6-Dinitrotoluene	ND	ug/kg	570				
Azobenzene	ND	ug/kg	570				
Fluoranthene	580	ug/kg	570				
4-Bromophenyl phenyl ether	ND	ug/kg	570				
Bis(2-chloroisopropyl) ether	ND	ug/kg	570				
Bis(2-chloroethoxy) methane	ND	ug/kg	570				
Hexachlorobutadiene	ND	ug/kg	1100				
Hexachloroethane	ND	ug/kg	570				
Isophorone	ND	ug/kg	570				
Naphthalene	620	ug/kg	570				
Nitrobenzene	ND	ug/kg	570				
Bis(2-Ethylhexyl) phthalate	ND	ug/kg	1100				
Butyl benzyl phthalate	ND	ug/kg	570				
Di-n-butylphthalate	ND	ug/kg	570				
Di-n-octylphthalate	ND	ug/kg	570				
Diethyl phthalate	ND	ug/kg	570				
Dimethyl phthalate	ND	ug/kg	570				
Benzo(a)anthracene	1000	ug/kg	570				
Benzo(a)pyrene	650	ug/kg	570				
Benzo(b)fluoranthene	ND	ug/kg	570				
Benzo(k)fluoranthene	ND	ug/kg	570				
Chrysene	1600	ug/kg	570				
Acenaphthylene	ND	ug/kg	570				
Anthracene	ND	ug/kg	570				
Benzo(ghi)perylene	ND	ug/kg	570				
Fluorene	1200	ug/kg	570				

Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES  
CERTIFICATE OF ANALYSIS

Laboratory Sample Number: L0402870-01  
UST-STKPL6-S1

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Semivolatile Organics by MCP 8270C continued				54 8270C	0330 17:00	0401 02:22	HL
Phenanthrene	3500	ug/kg	570				
Dibenzo (a, h) anthracene	ND	ug/kg	570				
Indeno (1, 2, 3-cd) Pyrene	ND	ug/kg	570				
Pyrene	2200	ug/kg	570				
Aniline	ND	ug/kg	1100				
4-Chloroaniline	ND	ug/kg	570				
Dibenzofuran	ND	ug/kg	570				
2-Methylnaphthalene	5900	ug/kg	570				
Acetophenone	ND	ug/kg	2300				
2, 4, 6-Trichlorophenol	ND	ug/kg	570				
2-Chlorophenol	ND	ug/kg	570				
2, 4-Dichlorophenol	ND	ug/kg	1100				
2, 4-Dimethylphenol	ND	ug/kg	570				
2-Nitrophenol	ND	ug/kg	2300				
4-Nitrophenol	ND	ug/kg	1100				
2, 4-Dinitrophenol	ND	ug/kg	2300				
Pentachlorophenol	ND	ug/kg	2300				
Phenol	ND	ug/kg	800				
2-Methylphenol	ND	ug/kg	690				
3-Methylphenol/4-Methylphenol	ND	ug/kg	690				
2, 4, 5-Trichlorophenol	ND	ug/kg	570				
Surrogate (s)	Recovery		QC Criteria				
2-Fluorophenol	67.0	%	30-130				
Phenol-d6	70.0	%	30-130				
Nitrobenzene-d5	70.0	%	30-130				
2-Fluorobiphenyl	79.0	%	30-130				
2, 4, 6-Tribromophenol	69.0	%	30-130				
4-Terphenyl-d14	84.0	%	30-130				
Polychlorinated Biphenyls by MCP 8082				54 8082	0329 15:00	0330 19:24	AK
Aroclor 1221	ND	ug/kg	57.5				
Aroclor 1232	ND	ug/kg	57.5				
Aroclor 1242/1016	ND	ug/kg	57.5				
Aroclor 1248	ND	ug/kg	57.5				
Aroclor 1254	ND	ug/kg	57.5				
Aroclor 1260	ND	ug/kg	57.5				
Aroclor 1262	ND	ug/kg	57.5				
Aroclor 1268	ND	ug/kg	57.5				
Surrogate (s)	Recovery		QC Criteria				
2, 4, 5, 6-Tetrachloro-m-xylene	70.0	%	30-150				
Decachlorobiphenyl	71.0	%	30-150				
Polychlorinated Biphenyls by MCP 8082				54 8082	0329 15:00	0330 19:24	AK
Surrogate (s)	Recovery		QC Criteria				
2, 4, 5, 6-Tetrachloro-m-xylene	67.0	%	30-150				
Decachlorobiphenyl	61.0	%	30-150				

Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES  
CERTIFICATE OF ANALYSIS

Laboratory Sample Number: L0402870-01  
UST-STKPL6-S1

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Hydrocarbon Scan by GC 8100M				1 8100M	0330 16:20	0404 19:23	JB
Mineral Spirits	ND	mg/kg	570				
Gasoline	ND	mg/kg	570				
Fuel Oil #2/Diesel	ND	mg/kg	570				
Fuel Oil #4	ND	mg/kg	570				
Fuel Oil #6	ND	mg/kg	570				
Motor Oil	ND	mg/kg	570				
Kerosene	ND	mg/kg	570				
Transformer Oil	ND	mg/kg	570				
Unknown Hydrocarbon	1600	mg/kg	570				
Surrogate(s)	Recovery		QC Criteria				
o-Terphenyl	84.0	%	40-140				

Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES  
 QUALITY ASSURANCE BATCH DUPLICATE ANALYSIS

Laboratory Job Number: L0402870

Parameter	Value 1	Value 2	Units	RPD	RPD Limits
Solids, Total for sample(s) 01 (L0402850-01, WG166518)					
Solids, Total	90.	90.	%	0	
pH for sample(s) 01 (L0402870-01, WG166317)					
pH	7.5	7.6	SU	1	
Cyanide, Reactive for sample(s) 01 (L0402916-12, WG166739)					
Cyanide, Reactive	ND	ND	mg/kg	NC	
Sulfide, Reactive for sample(s) 01 (L0402916-12, WG166738)					
Sulfide, Reactive	ND	ND	mg/kg	NC	
Hydrocarbon Scan by GC 8100M for sample(s) 01 (L0402813-01, WG166531)					
Mineral Spirits	ND	ND	mg/kg	NC	40
Gasoline	ND	ND	mg/kg	NC	40
Fuel Oil #2/Diesel	ND	ND	mg/kg	NC	40
Fuel Oil #4	ND	ND	mg/kg	NC	40
Fuel Oil #6	ND	ND	mg/kg	NC	40
Motor Oil	ND	ND	mg/kg	NC	40
Kerosene	ND	ND	mg/kg	NC	40
Transformer Oil	ND	ND	mg/kg	NC	40
Unknown Hydrocarbon	ND	ND	mg/kg	NC	40
Surrogate(s)	Recovery				QC Criteria
o-Terphenyl	75.0	71.0	%	5	40-140

ALPHA ANALYTICAL LABORATORIES,  
QUALITY ASSURANCE BATCH SPIKE ANALYSES

Laboratory Job Number: L0402870

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Parameter	% Recovery	QC Criteria
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pH LCS for sample(s) 01 (WG166317)

pH	101	
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Sulfide, Reactive LCS for sample(s) 01 (WG166738)

Sulfide, Reactive	90	
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Total Metals LCS for sample(s) 01 (WG166463)

Arsenic, Total	101	75-125
Barium, Total	89	75-125
Cadmium, Total	89	75-125
Chromium, Total	89	75-125
Lead, Total	94	75-125
Selenium, Total	101	75-125
Silver, Total	81	75-125

Total Metals LCS for sample(s) 01 (WG166417)

Mercury, Total	104	75-125
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Volatile Organics by MCP 8260B/5035-High LCS for sample(s) 01 (WG166700)

Methylene chloride	100	70-130
1,1-Dichloroethane	104	70-130
Chloroform	96	70-130
Carbon tetrachloride	102	70-130
1,2-Dichloropropane	103	70-130
Dibromochloromethane	98	70-130
1,1,2-Trichloroethane	97	70-130
Tetrachloroethene	100	70-130
Chlorobenzene	102	70-130
Trichlorofluoromethane	95	70-130
1,2-Dichloroethane	99	70-130
1,1,1-Trichloroethane	102	70-130
Bromodichloromethane	101	70-130
trans-1,3-Dichloropropene	96	70-130
cis-1,3-Dichloropropene	97	70-130
1,1-Dichloropropene	100	70-130
Bromoform	106	70-130
1,1,2,2-Tetrachloroethane	99	70-130
Benzene	101	70-130
Toluene	100	70-130
Ethylbenzene	104	70-130
Chloromethane	110	70-130
Bromomethane	106	70-130
Vinyl chloride	98	70-130
Chloroethane	93	70-130
1,1-Dichloroethene	96	70-130
trans-1,2-Dichloroethene	96	70-130
Trichloroethene	100	70-130
1,2-Dichlorobenzene	104	70-130
1,3-Dichlorobenzene	106	70-130

ALPHA ANALYTICAL LABORATORIES  
 QUALITY ASSURANCE BATCH SPIKE ANALYSES

Laboratory Job Number: L0402870

Continued

Parameter	% Recovery	QC Criteria
Volatile Organics by MCP 8260B/5035-High LCS for sample(s) 01 (WG166700)		
1,4-Dichlorobenzene	104	70-130
Methyl tert butyl ether	115	70-130
p/m-Xylene	107	70-130
o-Xylene	95	70-130
cis-1,2-Dichloroethene	103	70-130
Dibromomethane	101	70-130
1,2,3-Trichloropropane	99	70-130
Styrene	106	70-130
Dichlorodifluoromethane	121	70-130
Acetone	89	70-130
Carbon disulfide	97	70-130
2-Butanone	97	70-130
4-Methyl-2-pentanone	95	70-130
2-Hexanone	98	70-130
Bromochloromethane	102	70-130
Tetrahydrofuran	104	70-130
2,2-Dichloropropane	104	70-130
1,2-Dibromoethane	100	70-130
1,3-Dichloropropane	100	70-130
1,1,1,2-Tetrachloroethane	101	70-130
Bromobenzene	101	70-130
n-Butylbenzene	104	70-130
sec-Butylbenzene	112	70-130
tert-Butylbenzene	107	70-130
o-Chlorotoluene	108	70-130
p-Chlorotoluene	107	70-130
1,2-Dibromo-3-chloropropane	101	70-130
Hexachlorobutadiene	104	70-130
Isopropylbenzene	105	70-130
p-Isopropyltoluene	97	70-130
Naphthalene	96	70-130
n-Propylbenzene	109	70-130
1,2,3-Trichlorobenzene	98	70-130
1,2,4-Trichlorobenzene	94	70-130
1,3,5-Trimethylbenzene	104	70-130
1,2,4-Trimethylbenzene	111	70-130
Ethyl ether	113	70-130
Isopropyl Ether	97	70-130
Ethyl-Tert-Butyl-Ether	92	70-130
Tertiary-Amyl Methyl Ether	94	70-130
1,4-Dioxane	100	70-130
Surrogate (s)		
1,2-Dichloroethane-d4	98	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	102	70-130
Dibromofluoromethane	99	70-130



ALPHA ANALYTICAL LABORATORIES  
 QUALITY ASSURANCE BATCH SPIKE ANALYSES

Laboratory Job Number: L0402870

Continued

Parameter	% Recovery	QC Criteria
Semivolatile Organics by MCP 8270C LCS for sample(s) 01 (WG166530)		
Acenaphthene	82	40-140
1,2,4-Trichlorobenzene	70	40-140
Hexachlorobenzene	100	40-140
Bis(2-chloroethyl) ether	68	40-140
2-Chloronaphthalene	75	40-140
1,2-Dichlorobenzene	66	40-140
1,3-Dichlorobenzene	65	40-140
1,4-Dichlorobenzene	67	40-140
3,3'-Dichlorobenzidine	43	40-140
2,4-Dinitrotoluene	110	40-140
2,6-Dinitrotoluene	100	40-140
Azobenzene	88	40-140
Fluoranthene	98	40-140
4-Bromophenyl phenyl ether	98	40-140
Bis(2-chloroisopropyl) ether	61	40-140
Bis(2-chloroethoxy) methane	70	40-140
Hexachlorobutadiene	71	40-140
Hexachloroethane	68	40-140
Isophorone	71	40-140
Naphthalene	70	40-140
Nitrobenzene	67	40-140
Bis(2-Ethylhexyl) phthalate	99	40-140
Butyl benzyl phthalate	99	40-140
Di-n-butylphthalate	100	40-140
Di-n-octylphthalate	110	40-140
Diethyl phthalate	98	40-140
Dimethyl phthalate	95	40-140
Benzo(a) anthracene	100	40-140
Benzo(a) pyrene	96	40-140
Benzo(b) fluoranthene	110	40-140
Benzo(k) fluoranthene	92	40-140
Chrysene	98	40-140
Acenaphthylene	81	40-140
Anthracene	96	40-140
Benzo(ghi) perylene	90	40-140
Fluorene	89	40-140
Phenanthrene	96	40-140
Dibenzo(a,h) anthracene	100	40-140
Indeno(1,2,3-cd) Pyrene	97	40-140
Pyrene	100	40-140
Aniline	71	40-140
4-Chloroaniline	45	40-140
Dibenzofuran	87	40-140
2-Methylnaphthalene	71	40-140
Acetophenone	73	40-140
2,4,6-Trichlorophenol	86	30-130
2-Chlorophenol	68	30-130
2,4-Dichlorophenol	75	30-130

ALPHA ANALYTICAL LABORATORIES  
 QUALITY ASSURANCE BATCH SPIKE ANALYSES

Laboratory Job Number: L0402870

Continued

Parameter	% Recovery	QC Criteria
Semivolatile Organics by MCP 8270C LCS for sample(s) 01 (WG166530)		
2,4-Dimethylphenol	65	30-130
2-Nitrophenol	76	30-130
4-Nitrophenol	71	30-130
2,4-Dinitrophenol	110	30-130
Pentachlorophenol	100	30-130
Phenol	69	30-130
2-Methylphenol	68	30-130
3-Methylphenol/4-Methylphenol	66	30-130
2,4,5-Trichlorophenol	89	30-130
Surrogate (s)		
2-Fluorophenol	62	30-130
Phenol-d6	65	30-130
Nitrobenzene-d5	64	30-130
2-Fluorobiphenyl	71	30-130
2,4,6-Tribromophenol	81	30-130
4-Terphenyl-d14	94	30-130
Polychlorinated Biphenyls by MCP 8082 LCS for sample(s) 01 (WG166454)		
Aroclor 1242/1016	81	40-140
Aroclor 1260	81	40-140
Surrogate (s)		
2,4,5,6-Tetrachloro-m-xylene	65	30-150
2,4,5,6-Tetrachloro-m-xylene	64	30-150
Decachlorobiphenyl	62	30-150
Decachlorobiphenyl	64	30-150
Hydrocarbon Scan by GC 8100M LCS for sample(s) 01 (WG166531)		
Petroleum Spike	74	40-140
Surrogate (s)		
o-Terphenyl	115	40-140

ALPHA ANALYTICAL LABORATORIES  
 QUALITY ASSURANCE BATCH BLANK ANALYSIS

Laboratory Job Number: L0402870

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Blank Analysis for sample(s) 01 (WG166739-1)							
Cyanide, Reactive	ND	mg/kg	0.25	1 7.3			0401 12:15 JT
Blank Analysis for sample(s) 01 (WG166738-1)							
Sulfide, Reactive	ND	mg/kg	0.50	1 7.3			0401 12:15 JT
Blank Analysis for sample(s) 01 (WG166463-1)							
Total Metals				1 3051			
Arsenic, Total	ND	mg/kg	0.40	54 6010B	0329 16:00	0331 14:05	RW
Barium, Total	ND	mg/kg	0.40	54 6010B	0329 16:00	0331 14:05	RW
Cadmium, Total	ND	mg/kg	0.40	54 6010B	0329 16:00	0331 14:05	RW
Chromium, Total	ND	mg/kg	0.40	54 6010B	0329 16:00	0331 14:05	RW
Lead, Total	ND	mg/kg	2.0	54 6010B	0329 16:00	0331 14:05	RW
Selenium, Total	ND	mg/kg	0.80	54 6010B	0329 16:00	0331 14:05	RW
Silver, Total	ND	mg/kg	0.40	54 6010B	0329 16:00	0331 14:05	RW
Blank Analysis for sample(s) 01 (WG166417-2)							
Total Metals							
Mercury, Total	ND	mg/kg	0.08	54 7471A	0329 16:30	0330 15:33	DM
Blank Analysis for sample(s) 01 (WG166700-2)							
Volatile Organics by MCP 8260B/5035-High				54 8260B			0331 18:22 RY
Methylene chloride	ND	ug/kg	500				
1,1-Dichloroethane	ND	ug/kg	75.				
Chloroform	ND	ug/kg	75.				
Carbon tetrachloride	ND	ug/kg	50.				
1,2-Dichloropropane	ND	ug/kg	180				
Dibromochloromethane	ND	ug/kg	50.				
1,1,2-Trichloroethane	ND	ug/kg	75.				
Tetrachloroethene	ND	ug/kg	50.				
Chlorobenzene	ND	ug/kg	50.				
Trichlorofluoromethane	ND	ug/kg	250				
1,2-Dichloroethane	ND	ug/kg	50.				
1,1,1-Trichloroethane	ND	ug/kg	50.				
Bromodichloromethane	ND	ug/kg	50.				
trans-1,3-Dichloropropene	ND	ug/kg	50.				
cis-1,3-Dichloropropene	ND	ug/kg	50.				
1,1-Dichloropropene	ND	ug/kg	250				
Bromoform	ND	ug/kg	200				
1,1,2,2-Tetrachloroethane	ND	ug/kg	50.				
Benzene	ND	ug/kg	50.				
Toluene	ND	ug/kg	75.				
Ethylbenzene	ND	ug/kg	50.				
Chloromethane	ND	ug/kg	250				
Bromomethane	ND	ug/kg	100				

ALPHA ANALYTICAL LABORATORIES  
 QUALITY ASSURANCE BATCH BLANK ANALYSIS

Laboratory Job Number: L0402870

Continued

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Blank Analysis for sample(s) 01 (WG166700-2)							
Volatile Organics by MCP 8260B/5035-High continued				54	8260B	0331 18:22 RY	
Vinyl chloride	ND	ug/kg	100				
Chloroethane	ND	ug/kg	100				
1,1-Dichloroethene	ND	ug/kg	50.				
trans-1,2-Dichloroethene	ND	ug/kg	75.				
Trichloroethene	ND	ug/kg	50.				
1,2-Dichlorobenzene	ND	ug/kg	250				
1,3-Dichlorobenzene	ND	ug/kg	250				
1,4-Dichlorobenzene	ND	ug/kg	250				
Methyl tert butyl ether	ND	ug/kg	100				
p/m-Xylene	ND	ug/kg	50.				
o-Xylene	ND	ug/kg	50.				
cis-1,2-Dichloroethene	ND	ug/kg	50.				
Dibromomethane	ND	ug/kg	500				
1,2,3-Trichloropropane	ND	ug/kg	500				
Styrene	ND	ug/kg	50.				
Dichlorodifluoromethane	ND	ug/kg	500				
Acetone	ND	ug/kg	500				
Carbon disulfide	ND	ug/kg	500				
2-Butanone	ND	ug/kg	500				
4-Methyl-2-pentanone	ND	ug/kg	500				
2-Hexanone	ND	ug/kg	500				
Bromochloromethane	ND	ug/kg	250				
Tetrahydrofuran	ND	ug/kg	1000				
2,2-Dichloropropane	ND	ug/kg	250				
1,2-Dibromoethane	ND	ug/kg	250				
1,3-Dichloropropane	ND	ug/kg	250				
1,1,1,2-Tetrachloroethane	ND	ug/kg	50.				
Bromobenzene	ND	ug/kg	250				
n-Butylbenzene	ND	ug/kg	50.				
sec-Butylbenzene	ND	ug/kg	50.				
tert-Butylbenzene	ND	ug/kg	250				
o-Chlorotoluene	ND	ug/kg	250				
p-Chlorotoluene	ND	ug/kg	250				
1,2-Dibromo-3-chloropropane	ND	ug/kg	250				
Hexachlorobutadiene	ND	ug/kg	250				
Isopropylbenzene	ND	ug/kg	50.				
p-Isopropyltoluene	ND	ug/kg	50.				
Naphthalene	ND	ug/kg	250				
n-Propylbenzene	ND	ug/kg	50.				
1,2,3-Trichlorobenzene	ND	ug/kg	250				
1,2,4-Trichlorobenzene	ND	ug/kg	250				
1,3,5-Trimethylbenzene	ND	ug/kg	250				
1,2,4-Trimethylbenzene	ND	ug/kg	250				
Ethyl ether	ND	ug/kg	250				
Isopropyl Ether	ND	ug/kg	200				
Ethyl-Tert-Butyl-Ether	ND	ug/kg	200				
Tertiary-Amyl Methyl Ether	ND	ug/kg	200				

ALPHA ANALYTICAL LABORATORIES  
 QUALITY ASSURANCE BATCH BLANK ANALYSIS

Laboratory Job Number: L0402870

Continued

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	

Blank Analysis for sample(s) 01 (WG166700-2)

Volatile Organics by MCP 8260B/5035-High continued 54 8260B  
0331 18:22 RY  
 1,4-Dioxane ND ug/kg 25000

Surrogate (s)	Recovery		QC Criteria
1,2-Dichloroethane-d4	98.0	%	70-130
Toluene-d8	97.0	%	70-130
4-Bromofluorobenzene	110.	%	70-130
Dibromofluoromethane	89.0	%	70-130

Blank Analysis for sample(s) 01 (WG166530-1)

Semivolatile Organics by MCP 8270C 54 8270C  
0330 17:00 0401 01:36 HL

Acenaphthene	ND	ug/kg	500
1,2,4-Trichlorobenzene	ND	ug/kg	500
Hexachlorobenzene	ND	ug/kg	500
Bis(2-chloroethyl) ether	ND	ug/kg	500
2-Chloronaphthalene	ND	ug/kg	500
1,2-Dichlorobenzene	ND	ug/kg	500
1,3-Dichlorobenzene	ND	ug/kg	500
1,4-Dichlorobenzene	ND	ug/kg	500
3,3'-Dichlorobenzidine	ND	ug/kg	1000
2,4-Dinitrotoluene	ND	ug/kg	500
2,6-Dinitrotoluene	ND	ug/kg	500
Azobenzene	ND	ug/kg	500
Fluoranthene	ND	ug/kg	500
4-Bromophenyl phenyl ether	ND	ug/kg	500
Bis(2-chloroisopropyl) ether	ND	ug/kg	500
Bis(2-chloroethoxy) methane	ND	ug/kg	500
Hexachlorobutadiene	ND	ug/kg	1000
Hexachloroethane	ND	ug/kg	500
Isophorone	ND	ug/kg	500
Naphthalene	ND	ug/kg	500
Nitrobenzene	ND	ug/kg	500
Bis(2-Ethylhexyl) phthalate	ND	ug/kg	1000
Butyl benzyl phthalate	ND	ug/kg	500
Di-n-butylphthalate	ND	ug/kg	500
Di-n-octylphthalate	ND	ug/kg	500
Diethyl phthalate	ND	ug/kg	500
Dimethyl phthalate	ND	ug/kg	500
Benzo(a) anthracene	ND	ug/kg	500
Benzo(a) pyrene	ND	ug/kg	500
Benzo(b) fluoranthene	ND	ug/kg	500
Benzo(k) fluoranthene	ND	ug/kg	500
Chrysene	ND	ug/kg	500
Acenaphthylene	ND	ug/kg	500
Anthracene	ND	ug/kg	500
Benzo(ghi) perylene	ND	ug/kg	500
Fluorene	ND	ug/kg	500
Phenanthrene	ND	ug/kg	500

ALPHA ANALYTICAL LABORATORIES  
 QUALITY ASSURANCE BATCH BLANK ANALYSIS

Laboratory Job Number: L0402870

Continued

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE PREP ANAL	ID
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Blank Analysis for sample(s) 01 (WG166530-1)

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE PREP ANAL	ID
Semivolatile Organics by MCP 8270C continued						
				54 8270C	0330 17:00 0401 01:36	HL
Dibenzo (a, h) anthracene	ND	ug/kg	500			
Indeno (1, 2, 3-cd) Pyrene	ND	ug/kg	500			
Pyrene	ND	ug/kg	500			
Aniline	ND	ug/kg	1000			
4-Chloroaniline	ND	ug/kg	500			
Dibenzofuran	ND	ug/kg	500			
2-Methylnaphthalene	ND	ug/kg	500			
Acetophenone	ND	ug/kg	2000			
2, 4, 6-Trichlorophenol	ND	ug/kg	500			
2-Chlorophenol	ND	ug/kg	500			
2, 4-Dichlorophenol	ND	ug/kg	1000			
2, 4-Dimethylphenol	ND	ug/kg	500			
2-Nitrophenol	ND	ug/kg	2000			
4-Nitrophenol	ND	ug/kg	1000			
2, 4-Dinitrophenol	ND	ug/kg	2000			
Pentachlorophenol	ND	ug/kg	2000			
Phenol	ND	ug/kg	700			
2-Methylphenol	ND	ug/kg	600			
3-Methylphenol/4-Methylphenol	ND	ug/kg	600			
2, 4, 5-Trichlorophenol	ND	ug/kg	500			

Surrogate (s)	Recovery	QC Criteria
2-Fluorophenol	49.0 %	30-130
Phenol-d6	49.0 %	30-130
Nitrobenzene-d5	50.0 %	30-130
2-Fluorobiphenyl	49.0 %	30-130
2, 4, 6-Tribromophenol	66.0 %	30-130
4-Terphenyl-d14	85.0 %	30-130

Blank Analysis for sample(s) 01 (WG166454-1)

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE PREP ANAL	ID
Polychlorinated Biphenyls by MCP 8082						
				54 8082	0329 15:00 0330 09:22	AK
Aroclor 1221	ND	ug/kg	50.0			
Aroclor 1232	ND	ug/kg	50.0			
Aroclor 1242/1016	ND	ug/kg	50.0			
Aroclor 1248	ND	ug/kg	50.0			
Aroclor 1254	ND	ug/kg	50.0			
Aroclor 1260	ND	ug/kg	50.0			
Aroclor 1262	ND	ug/kg	50.0			
Aroclor 1268	ND	ug/kg	50.0			

Surrogate (s)	Recovery	QC Criteria
2, 4, 5, 6-Tetrachloro-m-xylene	64.0 %	30-150
Decachlorobiphenyl	62.0 %	30-150

Blank Analysis for sample(s) 01 (WG166454-1)

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE PREP ANAL	ID
Polychlorinated Biphenyls by MCP 8082						
				54 8082	0329 15:00 0330 09:22	AK

ALPHA ANALYTICAL LABORATORIES  
 QUALITY ASSURANCE BATCH BLANK ANALYSIS

Laboratory Job Number: L0402870

Continued

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Blank Analysis for sample(s) 01 (WG166454-1)							
Polychlorinated Biphenyls by MCP 8082 continued				54 8082	0329 15:00	0330 09:22	AK
Surrogate(s)	Recovery			QC Criteria			
2,4,5,6-Tetrachloro-m-xylene	60.0	%		30-150			
Decachlorobiphenyl	61.0	%		30-150			
Blank Analysis for sample(s) 01 (WG166531-1)							
Hydrocarbon Scan by GC 8100M				1 8100M	0330 16:20	0403 06:53	JB
Mineral Spirits	ND	mg/kg	100				
Gasoline	ND	mg/kg	100				
Fuel Oil #2/Diesel	ND	mg/kg	100				
Fuel Oil #4	ND	mg/kg	100				
Fuel Oil #6	ND	mg/kg	100				
Motor Oil	ND	mg/kg	100				
Kerosene	ND	mg/kg	100				
Transformer Oil	ND	mg/kg	100				
Unknown Hydrocarbon	ND	mg/kg	100				
Surrogate(s)	Recovery			QC Criteria			
o-Terphenyl	79.0	%		40-140			

ALPHA ANALYTICAL LABORATORIES  
ADDENDUM I

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REFERENCES

1. Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - IIIA, 1997.
30. Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WPCF. 18th Edition. 1992.
54. Compendium of Quality Assurance and Quality Control Requirements and Performance Standards for Selected Analytical Methods. MADEP BWSC. Final Methods. May 2003.

GLOSSARY OF TERMS AND SYMBOLS

REF Reference number in which test method may be found.  
METHOD Method number by which analysis was performed.  
ID Initials of the analyst.  
ND Not detected in comparison to the reported detection limit.

Please note that all solid samples are reported on dry weight basis unless noted otherwise.

LIMITATION OF LIABILITIES

Alpha Analytical, Inc. performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical, Inc., shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical, Inc. be held liable for any incidental consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical, Inc.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding times and splitting of samples in the field.



**ALPHA ANALYTICAL LABORATORIES  
LOGIN SPECIFIC INFORMATION**

Laboratory Job Number: L0402870

Were project specific reporting limits specified? YES

**Cooler Information**

Cooler	Custody Seal
A	Absent

**Container Information**

Container ID	Container Type	Cooler	pH	Temp	Pres	Seal	Analysis
L0402870-01A	Vial MeOH preserved	A	N/A	2.2	C	Y	Absent MCP-8260H
L0402870-01B	Vial NaHSO4 preserved	A	N/A	2.2	C	Y	Absent MCP-8260H
L0402870-01C	Vial NaHSO4 preserved	A	N/A	2.2	C	Y	Absent MCP-8260H
L0402870-01D	Vial NaHSO4 preserved	A	N/A	2.2	C	Y	Absent MCP-8260H
L0402870-01E	Amber 250ml unpreserved	A	N/A	2.2	C	Y	Absent FLASH, MCP-8082, MCP-8270, PH-9045, REACTCN, REACTS, TPH-8100, TS
L0402870-01F	Amber 250ml unpreserved	A	N/A	2.2	C	Y	Absent AG-TI, AS-TI, BA-TI, CD-TI, CR-TI, HG-T, PB-TI, PREPT, SE-TI

**Container Comments**

Container ID    Comments

# CHAIN OF CUSTODY RECORD

H&A FILE NO. 30660-000 LABORATORY 12114 DELIVERY DATE 3/26/04  
 PROJECT NAME DRINKING WATER ADDRESS \_\_\_\_\_ TURNAROUND TIME 5-10  
 H&A CONTACT STEVE PROVINCIALE CONTACT \_\_\_\_\_ PROJECT MANAGER JOE MERRIFIELD

Sample No.	Date	Time	Depth	Type	Analysis Requested										Number of Containers	Comments (special instructions, precautions, additional method numbers, etc.)	
					VOA	ABNs PAH only	MCP Metals	Pesticides	VPH Full Suite	EPH Full Suite	C-Changes only Full Suite	TFH (specify)	TCLP (specify)	Reactivity			Ignitability
VST-SMP16-S1	3/26/04	1030	-	SDIC	X								X	X	X	6	Laboratory to use applicable DEP CAM methods, unless otherwise directed. ① SNOG ② RCRA 8 METALS

Sampled and Relinquished by	Received by	LIQUID				SOLID				Evidence samples were tampered with? YES NO	If YES, please explain in section below.	
		Sign	Print	Firm	Date	Sign	Print	Firm	Date			
Sign <u>Todd Butler</u> Print <u>Todd Butler</u> Firm <u>H&amp;A</u> Date <u>3/26/04</u> Time <u>1538</u>	Sign <u>Joe Merrifield</u> Print <u>Joe Merrifield</u> Firm <u>H&amp;A</u> Date <u>3/26/04</u> Time <u>1600</u>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Please Fax Data to Alice Charron @ 617.886.7777

**Presumptive Certainty Data Package (Laboratory to use applicable DEP CAM methods)**

**IF Presumptive Certainty Data Package is needed, initial all sections:**

The required minimum field QC samples, as designated in BWSC CAM-VII have been or will be collected, as appropriate, to meet the requirements of Presumptive Certainty.

Matrix Spike (MS) samples for MCP Metals and/or Cyanide are included and identified herein.

This Chain of Custody Record (specify) MA does not include samples defined as Drinking Water Samples.

If this Chain of Custody Record identifies samples defined as Drinking Water Samples, Trip Blanks and Field Duplicates are included and identified and analysis of TICs are required, as appropriate. Laboratory should (specify if applicable) analyze hold for contingency testing the Drinking Water Field Duplicate and Drinking Water Trip Blank samples.

**Required Reporting Limits and Data Quality Objectives**

RC-S1  S1  GW1  
 RC-S2  S2  GW2  
 RC-GW1  S3  GW3  
 RC-GW2  GW2

ALPHA ANALYTICAL LABORATORIES

Eight Walkup Drive  
Westborough, Massachusetts 01581-1019  
(508) 898-9220 www.alphalab.com

MA:M-MA086 NH:200301-A CT:PH-0574 ME:MA086 RI:65 NY:11148 NJ:MA935 Army:USACE

CERTIFICATE OF ANALYSIS

Client: Haley & Aldrich, Inc. Laboratory Job Number: L0402952  
Address: 465 Medford Street, Suite 2200  
Boston, MA 02129-1400 Date Received: 29-MAR-2004  
Attn: Mr. Steve Provencal Date Reported: 06-APR-2004  
Project Number: 30660-000 Delivery Method: Alpha  
Site: BURBANK SCHOOL

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The following questions pertain only to MCP Analytical Methods

An affirmative response to questions A,B,C & D is required for "Presumptive Certainty" status

- A. Were all samples received by the laboratory in a condition consistent with those described on their Chain-of-Custody documentation for the data set? YES
- B. Were all QA/QC procedures required for the specified analytical method(s) included in this report followed, including the requirement to note and discuss in a narrative QC data that did not meet appropriate performance standards or guidelines? YES
- C. Does the analytical data included in this report meet all the requirements for "Presumptive Certainty", as described in section 2.0 of the MADEP document CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data"? YES
- D. VPH and EPH methods only: Was the VPH or EPH method run without significant modifications, as specified in Section 11.3? YES

A response to questions E and F is required for "Presumptive Certainty" status

- E. Were all QC performance standards and recommendations for the specified method(s) achieved? NO
- F. Were results for all analyte-list compounds/elements for the specified method(s) reported? YES

Any answers of NO to the above questions are addressed in the case narrative.

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I, the undersigned, attest under the pains and penalties of perjury that, based upon my personal inquiry of those responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

---

Authorized by: Scott McLean  
This document electronically signed

ALPHA ANALYTICAL LABORATORIES

Laboratory Job Number: L0402952  
Date Reported: 06-APR-2004

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ALPHA SAMPLE NUMBER	CLIENT IDENTIFICATION	SAMPLE LOCATION
L0402952-01	12IN-CLAY-BOT-S1	BELMONT, MA
L0402952-02	12IN-CLAY-ESW-S1	BELMONT, MA
L0402952-03	ESW2-S4	BELMONT, MA

ALPHA ANALYTICAL LABORATORIES  
NARRATIVE REPORT

Laboratory Job Number: L0402952

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Extraction Methods

Extraction method 3545 was used as the extraction method for the analysis of EPH by method 98-1.

In reference to question E, the Surrogate % Recovery for 1-chloro-octadecane on -01 (23%) is below acceptable limits. The re-extract was performed within hold time and confirmed the original results with 1-chloro-octadecane (25%) below acceptable limits. Both sets of data have been reported.

ALPHA ANALYTICAL LABORATORIES  
 CERTIFICATE OF ANALYSIS

MA:M-MA086 NH:200301-A CT:PH-0574 ME:MA086 RI:65 NY:11148 NJ:MA935 Army:USACE

Laboratory Sample Number: L0402952-01  
 Date Collected: 29-MAR-2004 07:45  
 12IN-CLAY-BOT-S1  
 Date Received : 29-MAR-2004  
 Sample Matrix: SOIL  
 Date Reported : 06-APR-2004  
 Condition of Sample: Satisfactory  
 Field Prep: None  
 Number & Type of Containers: 1-Amber,1-Vial

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Solids, Total	81.	%	0.10	30 2540G		0329 22:15	LK

Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES  
CERTIFICATE OF ANALYSIS

Laboratory Sample Number: L0402952-01  
12IN-CLAY-BOT-S1

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE PREP      ANAL	ID
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Volatile Petroleum Hydrocarbons			47 98-1		0330 23:04 PS	
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Quality Control Information

Condition of sample received:	Satisfactory
Sample temperature upon receipt:	Received on Ice
Were samples received in methanol?	Covering the Soil
Methanol ratio:	1:1 +/- 25%
Were all QA/QC procedures REQUIRED by the method followed?	YES
Were all performance/acceptance standards for the required procedures achieved?	YES
Were significant modifications made to the method as specified in Sect 11.3?	NO
The normal acceptance range for the surrogate, 2,5-Dibromotoluene, is 70-130%.	

C5-C8 Aliphatics, Unadjusted	ND	mg/kg	3.14	
C9-C12 Aliphatics, Unadjusted	ND	mg/kg	3.14	
C9-C10 Aromatics	ND	mg/kg	3.14	
C5-C8 Aliphatics, Adjusted	ND	mg/kg	3.14	
C9-C12 Aliphatics, Adjusted	ND	mg/kg	3.14	
Benzene	ND	mg/kg	0.157	
Toluene	ND	mg/kg	0.157	
Ethylbenzene	ND	mg/kg	0.157	
p/m-Xylene	ND	mg/kg	0.157	
o-Xylene	ND	mg/kg	0.157	
Methyl tert butyl ether	ND	mg/kg	0.314	
Naphthalene	ND	mg/kg	1.57	
Surrogate(s)	Recovery		QC Criteria	
2,5-Dibromotoluene-PID	81.0	%	70-130	
2,5-Dibromotoluene-FID	99.0	%	70-130	

Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES  
CERTIFICATE OF ANALYSIS

Laboratory Sample Number: L0402952-01  
12IN-CLAY-BOT-S1

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE PREP      ANAL	ID
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Extractable Petroleum Hydrocarbons				46 98-1	0402 15:45 0403 19:49 LL	
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Quality Control Information

Condition of sample received:	Satisfactory	
Sample temperature upon receipt:	Received on Ice	
Sample extraction method:	Extracted Per the Method	
Were all QA/QC procedures REQUIRED by the method followed?		YES
Were all performance/acceptance standards for the required procedures achieved?		NO
1. One or more of the extraction surrogate recoveries were less than 40%.		
Were significant modifications made to the method as specified in Sect 11.3?		NO
The normal acceptance range for the extraction surrogates, Chloro-octadecane and o-Terphenyl, is 40-140%.		
The normal acceptance range for the fractionation surrogates, 2-Fluorobiphenyl and 2-Bromonaphthalene, is 40-140%.		

C9-C18 Aliphatics	ND	mg/kg	12.3
C19-C36 Aliphatics	ND	mg/kg	12.3
C11-C22 Aromatics, Unadjusted	ND	mg/kg	12.3
C11-C22 Aromatics, Adjusted	ND	mg/kg	12.3
Naphthalene	ND	mg/kg	0.617
2-Methylnaphthalene	ND	mg/kg	0.617
Acenaphthylene	ND	mg/kg	0.617
Acenaphthene	ND	mg/kg	0.617
Fluorene	ND	mg/kg	0.617
Phenanthrene	ND	mg/kg	0.617
Anthracene	ND	mg/kg	0.617
Fluoranthene	ND	mg/kg	0.617
Pyrene	ND	mg/kg	0.617
Benzo (a) anthracene	ND	mg/kg	0.617
Chrysene	ND	mg/kg	0.617
Benzo (b) fluoranthene	ND	mg/kg	0.617
Benzo (k) fluoranthene	ND	mg/kg	0.617
Benzo (a) pyrene	ND	mg/kg	0.617
Indeno (1, 2, 3-cd) Pyrene	ND	mg/kg	0.617
Dibenzo (a, h) anthracene	ND	mg/kg	0.617
Benzo (g, h, i) perylene	ND	mg/kg	0.617

Surrogate (s)	Recovery	%	QC Criteria
Chloro-Octadecane	23.0	%	40-140
o-Terphenyl	40.0	%	40-140
2-Fluorobiphenyl	78.0	%	40-140
2-Bromonaphthalene	70.0	%	40-140

Comments: Complete list of References and Glossary of Terms found in Addendum I



ALPHA ANALYTICAL LABORATORIES  
CERTIFICATE OF ANALYSIS

Laboratory Sample Number: L0402952-01  
12IN-CLAY-BOT-S1

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE PREP      ANAL	ID
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Extractable Petroleum Hydrocarbons				46 98-1	0405 10:00 0406 11:00	LL
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Quality Control Information

Condition of sample received:	Satisfactory	
Sample temperature upon receipt:	Received on Ice	
Sample extraction method:	Extracted Per the Method	
Were all QA/QC procedures REQUIRED by the method followed?		YES
Were all performance/acceptance standards for the required procedures achieved?		NO
1. One or more of the extraction surrogate recoveries were less than 40%.		
Were significant modifications made to the method as specified in Sect 11.3?		NO
The normal acceptance range for the extraction surrogates, Chloro-octadecane and o-Terphenyl, is 40-140%.		
The normal acceptance range for the fractionation surrogates, 2-Fluorobiphenyl and 2-Bromonaphthalene, is 40-140%.		

C9-C18 Aliphatics	ND	mg/kg	12.3
C19-C36 Aliphatics	ND	mg/kg	12.3
C11-C22 Aromatics, Unadjusted	ND	mg/kg	12.3
C11-C22 Aromatics, Adjusted	ND	mg/kg	12.3
Naphthalene	ND	mg/kg	0.617
2-Methylnaphthalene	ND	mg/kg	0.617
Acenaphthylene	ND	mg/kg	0.617
Acenaphthene	ND	mg/kg	0.617
Fluorene	ND	mg/kg	0.617
Phenanthrene	ND	mg/kg	0.617
Anthracene	ND	mg/kg	0.617
Fluoranthene	ND	mg/kg	0.617
Pyrene	ND	mg/kg	0.617
Benzo (a) anthracene	ND	mg/kg	0.617
Chrysene	ND	mg/kg	0.617
Benzo (b) fluoranthene	ND	mg/kg	0.617
Benzo (k) fluoranthene	ND	mg/kg	0.617
Benzo (a) pyrene	ND	mg/kg	0.617
Indeno (1, 2, 3-cd) Pyrene	ND	mg/kg	0.617
Dibenzo (a, h) anthracene	ND	mg/kg	0.617
Benzo (g, h, i) perylene	ND	mg/kg	0.617

Surrogate (s)	Recovery	QC Criteria
Chloro-Octadecane	25.0 %	40-140
o-Terphenyl	47.0 %	40-140
2-Fluorobiphenyl	73.0 %	40-140
2-Bromonaphthalene	70.0 %	40-140

Comments: Complete list of References and Glossary of Terms found in Addendum I



ALPHA ANALYTICAL LABORATORIES  
CERTIFICATE OF ANALYSIS

Laboratory Sample Number: L0402952-02  
12IN-CLAY-ESW-S1

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	

Volatile Petroleum Hydrocarbons				47 98-1			0330 23:54 PS
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Quality Control Information

Condition of sample received:	Satisfactory
Sample temperature upon receipt:	Received on Ice
Were samples received in methanol?	Covering the Soil
Methanol ratio:	1:1 +/- 25%
Were all QA/QC procedures REQUIRED by the method followed?	YES
Were all performance/acceptance standards for the required procedures achieved?	YES
Were significant modifications made to the method as specified in Sect 11.3?	NO
The normal acceptance range for the surrogate, 2,5-Dibromotoluene, is 70-130%.	

C5-C8 Aliphatics, Unadjusted	ND	mg/kg	2.52
C9-C12 Aliphatics, Unadjusted	ND	mg/kg	2.52
C9-C10 Aromatics	ND	mg/kg	2.52
C5-C8 Aliphatics, Adjusted	ND	mg/kg	2.52
C9-C12 Aliphatics, Adjusted	ND	mg/kg	2.52
Benzene	ND	mg/kg	0.126
Toluene	ND	mg/kg	0.126
Ethylbenzene	ND	mg/kg	0.126
p/m-Xylene	ND	mg/kg	0.126
o-Xylene	ND	mg/kg	0.126
Methyl tert butyl ether	ND	mg/kg	0.252
Naphthalene	ND	mg/kg	1.26
Surrogate(s)	Recovery		QC Criteria
2,5-Dibromotoluene-PID	78.0	%	70-130
2,5-Dibromotoluene-FID	96.0	%	70-130

Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES  
CERTIFICATE OF ANALYSIS

Laboratory Sample Number: L0402952-02  
12IN-CLAY-ESW-S1

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	

Extractable Petroleum Hydrocarbons				46 98-1	0402 15:45	0403 20:38	LL
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Quality Control Information

Condition of sample received:	Satisfactory	
Sample temperature upon receipt:	Received on Ice	
Sample extraction method:	Extracted Per the Method	
Were all QA/QC procedures REQUIRED by the method followed?		YES
Were all performance/acceptance standards for the required procedures achieved?		YES
Were significant modifications made to the method as specified in Sect 11.3?		NO
The normal acceptance range for the extraction surrogates, Chloro-octadecane and o-Terphenyl, is 40-140%.		
The normal acceptance range for the fractionation surrogates, 2-Fluorobiphenyl and 2-Bromonaphthalene, is 40-140%.		

C9-C18 Aliphatics	ND	mg/kg	12.5
C19-C36 Aliphatics	ND	mg/kg	12.5
C11-C22 Aromatics, Unadjusted	ND	mg/kg	12.5
C11-C22 Aromatics, Adjusted	ND	mg/kg	12.5
Naphthalene	ND	mg/kg	0.625
2-Methylnaphthalene	ND	mg/kg	0.625
Acenaphthylene	ND	mg/kg	0.625
Acenaphthene	ND	mg/kg	0.625
Fluorene	ND	mg/kg	0.625
Phenanthrene	ND	mg/kg	0.625
Anthracene	ND	mg/kg	0.625
Fluoranthene	ND	mg/kg	0.625
Pyrene	ND	mg/kg	0.625
Benzo (a) anthracene	ND	mg/kg	0.625
Chrysene	ND	mg/kg	0.625
Benzo (b) fluoranthene	ND	mg/kg	0.625
Benzo (k) fluoranthene	ND	mg/kg	0.625
Benzo (a) pyrene	ND	mg/kg	0.625
Indeno (1, 2, 3-cd) Pyrene	ND	mg/kg	0.625
Dibenzo (a, h) anthracene	ND	mg/kg	0.625
Benzo (g, h, i) perylene	ND	mg/kg	0.625

Surrogate (s)	Recovery		QC Criteria
Chloro-Octadecane	49.0	%	40-140
o-Terphenyl	82.0	%	40-140
2-Fluorobiphenyl	80.0	%	40-140
2-Bromonaphthalene	71.0	%	40-140

Comments: Complete list of References and Glossary of Terms found in Addendum I



ALPHA ANALYTICAL LABORATORIES  
CERTIFICATE OF ANALYSIS

Laboratory Sample Number: L0402952-03  
ESW2-S4

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE PREP      ANAL	ID
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Volatile Petroleum Hydrocarbons				47 98-1		0331 00:45 PS
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Quality Control Information

Condition of sample received:	Satisfactory	
Sample temperature upon receipt:	Received on Ice	
Were samples received in methanol?	Covering the Soil	
Methanol ratio:	1:1 +/- 25%	
Were all QA/QC procedures REQUIRED by the method followed?		YES
Were all performance/acceptance standards for the required procedures achieved?		YES
Were significant modifications made to the method as specified in Sect 11.3?		NO
The normal acceptance range for the surrogate, 2,5-Dibromotoluene, is 70-130%.		

C5-C8 Aliphatics, Unadjusted	ND	mg/kg	1.97
C9-C12 Aliphatics, Unadjusted	ND	mg/kg	1.97
C9-C10 Aromatics	ND	mg/kg	1.97
C5-C8 Aliphatics, Adjusted	ND	mg/kg	1.97
C9-C12 Aliphatics, Adjusted	ND	mg/kg	1.97
Benzene	ND	mg/kg	0.100
Toluene	ND	mg/kg	0.100
Ethylbenzene	ND	mg/kg	0.100
p/m-Xylene	ND	mg/kg	0.100
o-Xylene	ND	mg/kg	0.100
Methyl tert butyl ether	ND	mg/kg	0.197
Naphthalene	ND	mg/kg	0.985

Surrogate(s)	Recovery	%	QC Criteria
2,5-Dibromotoluene-PID	73.0	%	70-130
2,5-Dibromotoluene-FID	96.0	%	70-130

Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES  
CERTIFICATE OF ANALYSIS

Laboratory Sample Number: L0402952-03  
ESW2-S4

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE PREP      ANAL	ID
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Extractable Petroleum Hydrocarbons				46 98-1	0402 15:45 0403 21:27 LL	
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Quality Control Information

Condition of sample received:	Satisfactory	
Sample temperature upon receipt:	Received on Ice	
Sample extraction method:	Extracted Per the Method	
Were all QA/QC procedures REQUIRED by the method followed?		YES
Were all performance/acceptance standards for the required procedures achieved?		YES
Were significant modifications made to the method as specified in Sect 11.3?		NO
The normal acceptance range for the extraction surrogates, Chloro-octadecane and o-Terphenyl, is 40-140%.		
The normal acceptance range for the fractionation surrogates, 2-Fluorobiphenyl and 2-Bromonaphthalene, is 40-140%.		

C9-C18 Aliphatics	ND	mg/kg	10.6
C19-C36 Aliphatics	ND	mg/kg	10.6
C11-C22 Aromatics, Unadjusted	ND	mg/kg	10.6
C11-C22 Aromatics, Adjusted	ND	mg/kg	10.6
Naphthalene	ND	mg/kg	0.532
2-Methylnaphthalene	ND	mg/kg	0.532
Acenaphthylene	ND	mg/kg	0.532
Acenaphthene	ND	mg/kg	0.532
Fluorene	ND	mg/kg	0.532
Phenanthrene	ND	mg/kg	0.532
Anthracene	ND	mg/kg	0.532
Fluoranthene	ND	mg/kg	0.532
Pyrene	ND	mg/kg	0.532
Benzo (a) anthracene	ND	mg/kg	0.532
Chrysene	ND	mg/kg	0.532
Benzo (b) fluoranthene	ND	mg/kg	0.532
Benzo (k) fluoranthene	ND	mg/kg	0.532
Benzo (a) pyrene	ND	mg/kg	0.532
Indeno (1, 2, 3-cd) Pyrene	ND	mg/kg	0.532
Dibenzo (a, h) anthracene	ND	mg/kg	0.532
Benzo (g, h, i) perylene	ND	mg/kg	0.532

Surrogate (s)	Recovery	QC Criteria
Chloro-Octadecane	45.0 %	40-140
o-Terphenyl	78.0 %	40-140
2-Fluorobiphenyl	81.0 %	40-140
2-Bromonaphthalene	74.0 %	40-140

Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES  
QUALITY ASSURANCE BATCH DUPLICATE ANALYSIS

Laboratory Job Number: L0402952

Parameter	Value 1	Value 2	Units	RPD	RPD Limits
Solids, Total for sample(s) 01-03 (L0402970-01, WG166445)					
Solids, Total	88.	89.	%	1	
Volatile Petroleum Hydrocarbons for sample(s) 01-03 (L0402832-01, WG166384)					
C5-C8 Aliphatics	ND	ND	mg/kg	NC	50
C9-C12 Aliphatics	ND	ND	mg/kg	NC	50
C9-C10 Aromatics	ND	ND	mg/kg	NC	50
C5-C8 Aliphatics, Adjusted	ND	ND	mg/kg	NC	50
C9-C12 Aliphatics, Adjusted	ND	ND	mg/kg	NC	50
Benzene	ND	ND	mg/kg	NC	50
Toluene	ND	ND	mg/kg	NC	50
Ethylbenzene	ND	ND	mg/kg	NC	50
p/m-Xylene	ND	ND	mg/kg	NC	50
o-Xylene	ND	ND	mg/kg	NC	50
Methyl tert butyl ether	ND	ND	mg/kg	NC	50
Naphthalene	ND	ND	mg/kg	NC	50
Surrogate (s)	Recovery				QC Criteria
2,5-Dibromotoluene-PID	92.0	90.0	%	2	70-130
2,5-Dibromotoluene-FID	104.	99.0	%	5	70-130
Extractable Petroleum Hydrocarbons for sample(s) 01-03 (L0403139-01, WG166831)					
C9-C18 Aliphatics	ND	ND	mg/kg	NC	50
C19-C36 Aliphatics	16.7	12.8	mg/kg	26	50
C11-C22 Aromatics	17.9	15.9	mg/kg	12	50
C11-C22 Aromatics, Adjusted	17.9	15.9	mg/kg	12	50
Naphthalene	ND	ND	mg/kg	NC	50
2-Methylnaphthalene	ND	ND	mg/kg	NC	50
Acenaphthylene	ND	ND	mg/kg	NC	50
Acenaphthene	ND	ND	mg/kg	NC	50
Fluorene	ND	ND	mg/kg	NC	50
Phenanthrene	ND	ND	mg/kg	NC	50
Anthracene	ND	ND	mg/kg	NC	50
Fluoranthene	ND	ND	mg/kg	NC	50
Pyrene	ND	ND	mg/kg	NC	50
Benzo(a)anthracene	ND	ND	mg/kg	NC	50
Chrysene	ND	ND	mg/kg	NC	50
Benzo(b)fluoranthene	ND	ND	mg/kg	NC	50
Benzo(k)fluoranthene	ND	ND	mg/kg	NC	50
Benzo(a)pyrene	ND	ND	mg/kg	NC	50
Indeno(1,2,3-cd)Pyrene	ND	ND	mg/kg	NC	50
Dibenzo(a,h)anthracene	ND	ND	mg/kg	NC	50
Benzo(ghi)perylene	ND	ND	mg/kg	NC	50
Surrogate (s)	Recovery				QC Criteria
Chloro-Octadecane	52.0	42.0	%	21	40-140
o-Terphenyl	77.0	72.0	%	7	40-140
2-Fluorobiphenyl	79.0	74.0	%	7	40-140
2-Bromonaphthalene	74.0	69.0	%	7	40-140



ALPHA ANALYTICAL LABORATORIES  
QUALITY ASSURANCE BATCH SPIKE ANALYSES

Laboratory Job Number: L0402952

Parameter	% Recovery	QC Criteria
Volatile Petroleum Hydrocarbons LCS for sample(s) 01-03 (WG166384)		
Benzene	96	70-130
Toluene	90	70-130
Ethylbenzene	106	70-130
p/m-Xylene	95	70-130
o-Xylene	94	70-130
Methyl tert butyl ether	82	70-130
Naphthalene	87	70-130
Surrogate (s)		
2,5-Dibromotoluene-PID	96	70-130
2,5-Dibromotoluene-FID	98	70-130
Extractable Petroleum Hydrocarbons LCS for sample(s) 01-03 (WG166831)		
Naphthalene	56	40-140
Acenaphthene	72	40-140
Anthracene	81	40-140
Pyrene	87	40-140
Chrysene	87	40-140
Nonane (C9)	61	40-140
Tetradecane (C14)	80	40-140
Nonadecane (C19)	88	40-140
Eicosane (C20)	89	40-140
Octacosane (C28)	88	40-140
Surrogate (s)		
Chloro-Octadecane	51	40-140
o-Terphenyl	86	40-140
2-Fluorobiphenyl	75	40-140
2-Bromonaphthalene	58	40-140

ALPHA ANALYTICAL LABORATORIES  
QUALITY ASSURANCE BATCH BLANK ANALYSIS

Laboratory Job Number: L0402952

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Blank Analysis for sample(s) 01-03 (WG166384-5)							
Volatile Petroleum Hydrocarbons				47 98-1		0330 08:16	PS
C5-C8 Aliphatics, Unadjusted	ND	mg/kg	2.00				
C9-C12 Aliphatics, Unadjusted	ND	mg/kg	2.00				
C9-C10 Aromatics	ND	mg/kg	2.00				
C5-C8 Aliphatics, Adjusted	ND	mg/kg	2.00				
C9-C12 Aliphatics, Adjusted	ND	mg/kg	2.00				
Benzene	ND	mg/kg	0.100				
Toluene	ND	mg/kg	0.100				
Ethylbenzene	ND	mg/kg	0.100				
p/m-Xylene	ND	mg/kg	0.100				
o-Xylene	ND	mg/kg	0.100				
Methyl tert butyl ether	ND	mg/kg	0.200				
Naphthalene	ND	mg/kg	1.00				
Surrogate (s)	Recovery			QC Criteria			
2,5-Dibromotoluene-PID	86.0	%		70-130			
2,5-Dibromotoluene-FID	101.	%		70-130			
Blank Analysis for sample(s) 01-03 (WG166831-1)							
Extractable Petroleum Hydrocarbons				46 98-1		0402 10:05	0404 12:20 LL
C9-C18 Aliphatics	ND	mg/kg	10.0				
C19-C36 Aliphatics	ND	mg/kg	10.0				
C11-C22 Aromatics, Unadjusted	ND	mg/kg	10.0				
C11-C22 Aromatics, Adjusted	ND	mg/kg	10.0				
Naphthalene	ND	mg/kg	0.500				
2-Methylnaphthalene	ND	mg/kg	0.500				
Acenaphthylene	ND	mg/kg	0.500				
Acenaphthene	ND	mg/kg	0.500				
Fluorene	ND	mg/kg	0.500				
Phenanthrene	ND	mg/kg	0.500				
Anthracene	ND	mg/kg	0.500				
Fluoranthene	ND	mg/kg	0.500				
Pyrene	ND	mg/kg	0.500				
Benzo (a) anthracene	ND	mg/kg	0.500				
Chrysene	ND	mg/kg	0.500				
Benzo (b) fluoranthene	ND	mg/kg	0.500				
Benzo (k) fluoranthene	ND	mg/kg	0.500				
Benzo (a) pyrene	ND	mg/kg	0.500				
Indeno (1,2,3-cd) Pyrene	ND	mg/kg	0.500				
Dibenzo (a,h) anthracene	ND	mg/kg	0.500				
Benzo (g,h,i) perylene	ND	mg/kg	0.500				
Surrogate (s)	Recovery			QC Criteria			
Chloro-Octadecane	46.0	%		40-140			
o-Terphenyl	85.0	%		40-140			
2-Fluorobiphenyl	74.0	%		40-140			
2-Bromonaphthalene	59.0	%		40-140			

ALPHA ANALYTICAL LABORATORIES  
ADDENDUM I

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REFERENCES

30. Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WPCF. 18th Edition. 1992.
46. Method for the Determination of Extractable Petroleum Hydrocarbons (EPH), Massachusetts Department of Environmental Protection, (MADEP-EPH-98-1), January 1998.
47. Method for the Determination of Volatile Petroleum Hydrocarbons (VPH), Massachusetts Department of Environmental Protection, (MADEP-VPH-98-1), January 1998.

GLOSSARY OF TERMS AND SYMBOLS

REF Reference number in which test method may be found.  
METHOD Method number by which analysis was performed.  
ID Initials of the analyst.  
ND Not detected in comparison to the reported detection limit.

Please note that all solid samples are reported on dry weight basis unless noted otherwise.

LIMITATION OF LIABILITIES

Alpha Analytical, Inc. performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical, Inc., shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical, Inc. be held liable for any incidental consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical, Inc.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding times and splitting of samples in the field.

**ALPHA ANALYTICAL LABORATORIES  
LOGIN SPECIFIC INFORMATION**

Laboratory Job Number: L0402952

Were project specific reporting limits specified? YES

**Cooler Information**

Cooler	Custody Seal
A	Absent

**Container Information**

Container ID	Container Type	Cooler	pH	Temp	Pres	Seal	Analysis
L0402952-01A	Vial MeOH preserved	A	N/A	2.2 C	Y	Absent	VPH-DELUX
L0402952-01B	Amber 250ml unpreserved	A	N/A	2.2 C	Y	Absent	EPH-DELUX, TS
L0402952-02A	Vial MeOH preserved	A	N/A	2.2 C	Y	Absent	VPH-DELUX
L0402952-02B	Amber 250ml unpreserved	A	N/A	2.2 C	Y	Absent	EPH-DELUX, TS
L0402952-03A	Vial MeOH preserved	A	N/A	2.2 C	Y	Absent	VPH-DELUX
L0402952-03B	Amber 100ml unpreserved	A	N/A	2.2 C	Y	Absent	EPH-DELUX, TS

**Container Comments**

Container ID	Comments
L0402952-01B	This container has not been properly returned to CUSTODY! It was last assigned to LKUBIT for department WET CHEMISTRY on 03/29/04 20:51 .
L0402952-02B	This container has not been properly returned to CUSTODY! It was last assigned to LKUBIT for department WET CHEMISTRY on 03/29/04 20:51 .
L0402952-03B	This container has not been properly returned to CUSTODY! It was last assigned to LKUBIT for department WET CHEMISTRY on 03/29/04 20:51 .

# CHAIN OF CUSTODY RECORD

H&A FILE NO. 3060-000 LABORATORY ANA DELIVERY DATE 3/29/04  
 PROJECT NAME DORRIS SCHOOL ADDRESS \_\_\_\_\_ TURNAROUND TIME SUBSTANTIAL  
 H&A CONTACT STUE PINSKY CONTACT \_\_\_\_\_ PROJECT MANAGER JULIE MEENEY

Sample No.	Date	Time	Depth	Type	Analysis Requested										Number of Containers	Comments (special instructions, precautions, additional method numbers, etc.)			
					VOA	PAH only	MCP Metals	Pesticides	VPH Full Suite	EPH Full Suite	Changes only	TPH (specify)	TCLP (specify)	Reactivity			Ignitability	Corrosivity	
12IN-CLAY-BOT-S1	3/24/04	0745	7	SOIL														2	Laboratory to use applicable DEP CAM methods, unless otherwise directed. <u>DOE EDU/UPH AND</u> <u>TAD-EE ANALYTES</u>
12IN-CLAY-ESU-S1	"	0750	4-6	"														2	
ESU2-S4	"	1240	6-12	"														2	

Sampled and Relinquished by		Received by	
Sign	Date	Sign	Date
Tommy R. Butler	3/24/04	Desmond Crawford	3/24/04
Tommy Butler	"	Desmond Crawford	"
H&A	"	H&A	"
3/24/04	Time 17:05	3/24/04	Time 14:46
Relinquished by		Received by	
Sign	Date	Sign	Date
Desmond Crawford	3/29/04	Desmond Crawford	3/29/04
Desmond Crawford	"	Desmond Crawford	"
H&A	"	H&A	"
3/29/04	Time 17:05	3/29/04	Time 19:10
Relinquished by		Received by	
Sign	Date	Sign	Date
Desmond Crawford	3/29/04	Desmond Crawford	3/29/04
Desmond Crawford	"	Desmond Crawford	"
H&A	"	H&A	"
3/29/04	Time 17:05	3/29/04	Time 19:10

PRESERVATION KEY									
A	B	C	D	E	F	G	H	I	J
Sample chilled	Sample filtered	NaOH	HNO <sub>3</sub>	H <sub>2</sub> SO <sub>4</sub>	HCL	Methanol	Water/NaHSO <sub>4</sub> (circle)		

**If Presumptive Certainty Data Package is needed, initial all sections:**  
 The required minimum field QC samples, as designated in BWSC CAM-VII have been or will be collected, as appropriate, to meet the requirements of Presumptive Certainty.  
 Matrix Spike (MS) samples for MCP Metals and/or Cyanide are included and identified herein.  
 This Chain of Custody Record (specify) MA includes  does not include samples defined as Drinking Water Samples.  
 If this Chain of Custody Record identifies samples defined as Drinking Water Samples, Trip Blanks and Field Duplicates are included and identified and analysis of TICs are required, as appropriate. Laboratory should (specify if applicable) MA analyze MA hold for contingency testing the Drinking Water Field Duplicate and Drinking Water Trip Blank samples.

Required Reporting Limits and Data Quality Objectives:  
 RC-S1  S1  GW1  
 RC-S2  S2  GW2  
 RC-GW1  S3  GW3  
 RC-GW2

Sampling Comments  
PLEASE FAX RESULTS TO MIKE BRENNAN 617.886.7777



ALPHA ANALYTICAL LABORATORIES

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Westborough, Massachusetts 01581-1019  
(508) 898-9220 www.alphalab.com

MA:M-MA086 NH:200301-A CT:PH-0574 ME:MA086 RI:65 NY:11148 NJ:MA935 Army:USACE

CERTIFICATE OF ANALYSIS

Client: Haley & Aldrich, Inc. Laboratory Job Number: L0403037  
Address: 465 Medford Street, Suite 2200  
Boston, MA 02129-1400 Date Received: 30-MAR-2004  
Attn: Mr. Steve Provencal Date Reported: 07-APR-2004  
Project Number: 30660-000 Delivery Method: Alpha  
Site: BURBANK SCHOOL

The following questions pertain only to MCP Analytical Methods

An affirmative response to questions A,B,C & D is required for "Presumptive Certainty" status

- A. Were all samples received by the laboratory in a condition consistent with those described on their Chain-of-Custody documentation for the data set? YES
- B. Were all QA/QC procedures required for the specified analytical method(s) included in this report followed, including the requirement to note and discuss in a narrative QC data that did not meet appropriate performance standards or guidelines? YES
- C. Does the analytical data included in this report meet all the requirements for "Presumptive Certainty", as described in section 2.0 of the MADEP document CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data"? YES
- D. VPH and EPH methods only: Was the VPH or EPH method run without significant modifications, as specified in Section 11.3? YES

A response to questions E and F is required for "Presumptive Certainty" status

- E. Were all QC performance standards and recommendations for the specified method(s) achieved? NO
- F. Were results for all analyte-list compounds/elements for the specified method(s) reported? YES

Any answers of NO to the above questions are addressed in the case narrative.

I, the undersigned, attest under the pains and penalties of perjury that, based upon my personal inquiry of those responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized by: James Todaro  
This document electronically signed

ALPHA ANALYTICAL LABORATORIES

Laboratory Job Number: L0403037  
Date Reported: 07-APR-2004

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ALPHA SAMPLE NUMBER	CLIENT IDENTIFICATION	SAMPLE LOCATION
L0403037-01	8 IN-CLAY-NSW-S1	BELMONT, MA
L0403037-02	6 IN-PVC-NSW-S1	BELMONT, MA
L0403037-03	8 IN-CLAY-BOT-S1	BELMONT, MA
L0403037-04	6 IN-PVC-SSW-S1	BELMONT, MA
L0403037-05	WSW2-S3	BELMONT, MA
L0403037-06	8 IN-CLAY-SSW-S2	BELMONT, MA
L0403037-07	6 IN-PVC-BOT-S1	BELMONT, MA



ALPHA ANALYTICAL LABORATORIES  
NARRATIVE REPORT

Laboratory Job Number: L0403037

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Extraction methods

Extraction method 3545 was used as the extraction method for the analysis of EPH by Method 98-1.

EPH

One or more surrogate percent recoveries for -03 are below the acceptance criteria for the method apparently due to sample matrix (1-chloro-octadecane=29%). Re-extraction was performed within hold time and confirmed the original results with one or more surrogate percent recoveries below the acceptance criteria for the method (1-chloro-octadecane=38%). Both sets of data have been reported.

ALPHA ANALYTICAL LABORATORIES  
CERTIFICATE OF ANALYSIS

MA:M-MA086 NH:200301-A CT:PH-0574 ME:MA086 RI:65 NY:11148 NJ:MA935 Army:USACE

Laboratory Sample Number: L0403037-01  
8 IN-CLAY-NSW-S1  
Sample Matrix: SOIL

Date Collected: 30-MAR-2004 13:52  
Date Received : 30-MAR-2004  
Date Reported : 07-APR-2004

Condition of Sample: Satisfactory

Field Prep: None

Number & Type of Containers: 1-Amber,1-Vial

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Solids, Total	83.	%	0.10	30 2540G	0331	17:40	LK

Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES  
CERTIFICATE OF ANALYSIS

Laboratory Sample Number: L0403037-01  
8 IN-CLAY-NSW-S1

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	

Volatile Petroleum Hydrocarbons	47 98-1						0401 21:54 MM
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Quality Control Information

Condition of sample received:	Satisfactory	
Sample temperature upon receipt:	Received on Ice	
Were samples received in methanol?	Covering the Soil	
Methanol ratio:	1:1 +/- 25%	
Were all QA/QC procedures REQUIRED by the method followed?		YES
Were all performance/acceptance standards for the required procedures achieved?		YES
Were significant modifications made to the method as specified in Sect 11.3?		NO
The normal acceptance range for the surrogate, 2,5-Dibromotoluene, is 70-130%.		

C5-C8 Aliphatics, Unadjusted	ND	mg/kg	2.19	
C9-C12 Aliphatics, Unadjusted	ND	mg/kg	2.19	
C9-C10 Aromatics	ND	mg/kg	2.19	
C5-C8 Aliphatics, Adjusted	ND	mg/kg	2.19	
C9-C12 Aliphatics, Adjusted	ND	mg/kg	2.19	
Benzene	ND	mg/kg	0.110	
Toluene	ND	mg/kg	0.110	
Ethylbenzene	ND	mg/kg	0.110	
p/m-Xylene	ND	mg/kg	0.110	
o-Xylene	ND	mg/kg	0.110	
Methyl tert butyl ether	ND	mg/kg	0.219	
Naphthalene	ND	mg/kg	1.10	

Surrogate(s)	Recovery		QC Criteria	
2,5-Dibromotoluene-PID	91.0	%	70-130	
2,5-Dibromotoluene-FID	95.0	%	70-130	

Comments: Complete list of References and Glossary of Terms found in Addendum I

**ALPHA ANALYTICAL LABORATORIES  
CERTIFICATE OF ANALYSIS**

Laboratory Sample Number: L0403037-01  
8 IN-CLAY-NSW-S1

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	

Extractable Petroleum Hydrocarbons	46 98-1	0331 18:00 0405 18:41 LL
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Quality Control Information

Condition of sample received:	Satisfactory	
Sample temperature upon receipt:	Received on Ice	
Sample extraction method:	Extracted Per the Method	
Were all QA/QC procedures REQUIRED by the method followed?		YES
Were all performance/acceptance standards for the required procedures achieved?		YES
Were significant modifications made to the method as specified in Sect 11.3?		NO
The normal acceptance range for the extraction surrogates, Chloro-octadecane and o-Terphenyl, is 40-140%.		
The normal acceptance range for the fractionation surrogates, 2-Fluorobiphenyl and 2-Bromonaphthalene, is 40-140%.		

C9-C18 Aliphatics	ND	mg/kg	12.0
C19-C36 Aliphatics	ND	mg/kg	12.0
C11-C22 Aromatics, Unadjusted	ND	mg/kg	12.0
C11-C22 Aromatics, Adjusted	ND	mg/kg	12.0
Naphthalene	ND	mg/kg	0.602
2-Methylnaphthalene	ND	mg/kg	0.602
Acenaphthylene	ND	mg/kg	0.602
Acenaphthene	ND	mg/kg	0.602
Fluorene	ND	mg/kg	0.602
Phenanthrene	ND	mg/kg	0.602
Anthracene	ND	mg/kg	0.602
Fluoranthene	ND	mg/kg	0.602
Pyrene	ND	mg/kg	0.602
Benzo (a) anthracene	ND	mg/kg	0.602
Chrysene	ND	mg/kg	0.602
Benzo (b) fluoranthene	ND	mg/kg	0.602
Benzo (k) fluoranthene	ND	mg/kg	0.602
Benzo (a) pyrene	ND	mg/kg	0.602
Indeno (1, 2, 3-cd) Pyrene	ND	mg/kg	0.602
Dibenzo (a, h) anthracene	ND	mg/kg	0.602
Benzo (g, h, i) perylene	ND	mg/kg	0.602

Surrogate (s)	Recovery	QC Criteria
Chloro-Octadecane	45.0 %	40-140
o-Terphenyl	61.0 %	40-140
2-Fluorobiphenyl	76.0 %	40-140
2-Bromonaphthalene	67.0 %	40-140

Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES  
CERTIFICATE OF ANALYSIS

MA:M-MA086 NH:200301-A CT:PH-0574 ME:MA086 RI:65 NY:11148 NJ:MA935 Army:USACE

Laboratory Sample Number: L0403037-02  
6 IN-PVC-NSW-S1  
Sample Matrix: SOIL  
Condition of Sample: Satisfactory  
Number & Type of Containers: 1-Amber,1-Vial  
Date Collected: 30-MAR-2004 10:55  
Date Received : 30-MAR-2004  
Date Reported : 07-APR-2004  
Field Prep: None

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Solids, Total	81.	%	0.10	30 2540G		0331 17:40	LK

Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES  
CERTIFICATE OF ANALYSIS

Laboratory Sample Number: L0403037-02  
6 IN-PVC-NSW-S1

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE PREP      ANAL	ID
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Volatile Petroleum Hydrocarbons	47 98-1	0401 22:45 MM
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Quality Control Information

Condition of sample received:	Satisfactory	
Sample temperature upon receipt:	Received on Ice	
Were samples received in methanol?	Covering the Soil	
Methanol ratio:	1:1 +/- 25%	
Were all QA/QC procedures REQUIRED by the method followed?		YES
Were all performance/acceptance standards for the required procedures achieved?		YES
Were significant modifications made to the method as specified in Sect 11.3?		NO
The normal acceptance range for the surrogate, 2,5-Dibromotoluene, is 70-130%.		

C5-C8 Aliphatics, Unadjusted	ND	mg/kg	2.52
C9-C12 Aliphatics, Unadjusted	ND	mg/kg	2.52
C9-C10 Aromatics	ND	mg/kg	2.52
C5-C8 Aliphatics, Adjusted	ND	mg/kg	2.52
C9-C12 Aliphatics, Adjusted	ND	mg/kg	2.52
Benzene	ND	mg/kg	0.126
Toluene	ND	mg/kg	0.126
Ethylbenzene	ND	mg/kg	0.126
p/m-Xylene	ND	mg/kg	0.126
o-Xylene	ND	mg/kg	0.126
Methyl tert butyl ether	ND	mg/kg	0.252
Naphthalene	ND	mg/kg	1.26
Surrogate(s)	Recovery		QC Criteria
2,5-Dibromotoluene-PID	84.0	%	70-130
2,5-Dibromotoluene-FID	85.0	%	70-130

Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES  
CERTIFICATE OF ANALYSIS

Laboratory Sample Number: L0403037-02  
6 IN-PVC-NSW-S1

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	

Extractable Petroleum Hydrocarbons				46 98-1	0331 18:00	0405 19:24	LL
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Quality Control Information

Condition of sample received:	Satisfactory	
Sample temperature upon receipt:	Received on Ice	
Sample extraction method:	Extracted Per the Method	
Were all QA/QC procedures REQUIRED by the method followed?		YES
Were all performance/acceptance standards for the required procedures achieved?		YES
Were significant modifications made to the method as specified in Sect 11.3?		NO
The normal acceptance range for the extraction surrogates, Chloro-octadecane and o-Terphenyl, is 40-140%.		
The normal acceptance range for the fractionation surrogates, 2-Fluorobiphenyl and 2-Bromonaphthalene, is 40-140%.		

C9-C18 Aliphatics	ND	mg/kg	12.3
C19-C36 Aliphatics	ND	mg/kg	12.3
C11-C22 Aromatics, Unadjusted	ND	mg/kg	12.3
C11-C22 Aromatics, Adjusted	ND	mg/kg	12.3
Naphthalene	ND	mg/kg	0.617
2-Methylnaphthalene	ND	mg/kg	0.617
Acenaphthylene	ND	mg/kg	0.617
Acenaphthene	ND	mg/kg	0.617
Fluorene	ND	mg/kg	0.617
Phenanthrene	ND	mg/kg	0.617
Anthracene	ND	mg/kg	0.617
Fluoranthene	ND	mg/kg	0.617
Pyrene	ND	mg/kg	0.617
Benzo(a)anthracene	ND	mg/kg	0.617
Chrysene	ND	mg/kg	0.617
Benzo(b)fluoranthene	ND	mg/kg	0.617
Benzo(k)fluoranthene	ND	mg/kg	0.617
Benzo(a)pyrene	ND	mg/kg	0.617
Indeno(1,2,3-cd)Pyrene	ND	mg/kg	0.617
Dibenzo(a,h)anthracene	ND	mg/kg	0.617
Benzo(g,h,i)perylene	ND	mg/kg	0.617

Surrogate(s)	Recovery		QC Criteria
Chloro-Octadecane	42.0	%	40-140
o-Terphenyl	59.0	%	40-140
2-Fluorobiphenyl	82.0	%	40-140
2-Bromonaphthalene	75.0	%	40-140

Comments: Complete list of References and Glossary of Terms found in Addendum I





ALPHA ANALYTICAL LABORATORIES  
CERTIFICATE OF ANALYSIS

Laboratory Sample Number: L0403037-03  
8 IN-CLAY-BOT-S1

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	

Volatile Petroleum Hydrocarbons		47 98-1				0401 23:37 MM.	
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Quality Control Information

Condition of sample received:	Satisfactory	
Sample temperature upon receipt:	Received on Ice	
Were samples received in methanol?	Covering the Soil	
Methanol ratio:	1:1 +/- 25%	
Were all QA/QC procedures REQUIRED by the method followed?		YES
Were all performance/acceptance standards for the required procedures achieved?		YES
Were significant modifications made to the method as specified in Sect 11.3?		NO
The normal acceptance range for the surrogate, 2,5-Dibromotoluene, is 70-130%.		

C5-C8 Aliphatics, Unadjusted	ND	mg/kg	2.86	
C9-C12 Aliphatics, Unadjusted	ND	mg/kg	2.86	
C9-C10 Aromatics	ND	mg/kg	2.86	
C5-C8 Aliphatics, Adjusted	ND	mg/kg	2.86	
C9-C12 Aliphatics, Adjusted	ND	mg/kg	2.86	
Benzene	ND	mg/kg	0.143	
Toluene	ND	mg/kg	0.143	
Ethylbenzene	ND	mg/kg	0.143	
p/m-Xylene	ND	mg/kg	0.143	
o-Xylene	ND	mg/kg	0.143	
Methyl tert butyl ether	ND	mg/kg	0.286	
Naphthalene	ND	mg/kg	1.43	

Surrogate(s)	Recovery		QC Criteria	
2,5-Dibromotoluene-PID	96.0	%	70-130	
2,5-Dibromotoluene-FID	98.0	%	70-130	

Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES  
CERTIFICATE OF ANALYSIS

Laboratory Sample Number: L0403037-03  
8 IN-CLAY-BOT-S1

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	

Extractable Petroleum Hydrocarbons	46 98-1	0331 18:00 0402 23:28 LL
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Quality Control Information

Condition of sample received:	Satisfactory	
Sample temperature upon receipt:	Received on Ice	
Sample extraction method:	Extracted Per the Method	
Were all QA/QC procedures REQUIRED by the method followed?		YES
Were all performance/acceptance standards for the required procedures achieved?		NO
1. One or more of the extraction surrogate recoveries were less than 40%.		
Were significant modifications made to the method as specified in Sect 11.3?		NO
The normal acceptance range for the extraction surrogates, Chloro-octadecane and o-Terphenyl, is 40-140%.		
The normal acceptance range for the fractionation surrogates, 2-Fluorobiphenyl and 2-Bromonaphthalene, is 40-140%.		

Parameter	Result	Units	RDL
C9-C18 Aliphatics	ND	mg/kg	12.6
C19-C36 Aliphatics	ND	mg/kg	12.6
C11-C22 Aromatics, Unadjusted	ND	mg/kg	12.6
C11-C22 Aromatics, Adjusted	ND	mg/kg	12.6
Naphthalene	ND	mg/kg	0.633
2-Methylnaphthalene	ND	mg/kg	0.633
Acenaphthylene	ND	mg/kg	0.633
Acenaphthene	ND	mg/kg	0.633
Fluorene	ND	mg/kg	0.633
Phenanthrene	ND	mg/kg	0.633
Anthracene	ND	mg/kg	0.633
Fluoranthene	ND	mg/kg	0.633
Pyrene	ND	mg/kg	0.633
Benzo(a)anthracene	ND	mg/kg	0.633
Chrysene	ND	mg/kg	0.633
Benzo(b)fluoranthene	ND	mg/kg	0.633
Benzo(k)fluoranthene	ND	mg/kg	0.633
Benzo(a)pyrene	ND	mg/kg	0.633
Indeno(1,2,3-cd)Pyrene	ND	mg/kg	0.633
Dibenzo(a,h)anthracene	ND	mg/kg	0.633
Benzo(g,h,i)perylene	ND	mg/kg	0.633

Surrogate (s)	Recovery		QC Criteria
Chloro-Octadecane	29.0	%	40-140
o-Terphenyl	62.0	%	40-140
2-Fluorobiphenyl	76.0	%	40-140
2-Bromonaphthalene	74.0	%	40-140

Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES  
CERTIFICATE OF ANALYSIS

Laboratory Sample Number: L0403037-03  
8 IN-CLAY-BOT-S1

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	

Extractable Petroleum Hydrocarbons	46 98-1	0405 15:00 0406 14:18 LL
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Quality Control Information

Condition of sample received:	Satisfactory
Sample temperature upon receipt:	Received on Ice
Sample extraction method:	Extracted Per the Method
Were all QA/QC procedures REQUIRED by the method followed?	YES
Were all performance/acceptance standards for the required procedures achieved?	NO
1. One or more of the extraction surrogate recoveries were less than 40%.	
Were significant modifications made to the method as specified in Sect 11.3?	NO
The normal acceptance range for the extraction surrogates, Chloro-octadecane and o-Terphenyl, is 40-140%.	
The normal acceptance range for the fractionation surrogates, 2-Fluorobiphenyl and 2-Bromonaphthalene, is 40-140%.	

Parameter	Result	Units	RDL
C9-C18 Aliphatics	ND	mg/kg	12.6
C19-C36 Aliphatics	ND	mg/kg	12.6
C11-C22 Aromatics, Unadjusted	ND	mg/kg	12.6
C11-C22 Aromatics, Adjusted	ND	mg/kg	12.6
Naphthalene	ND	mg/kg	0.633
2-Methylnaphthalene	ND	mg/kg	0.633
Acenaphthylene	ND	mg/kg	0.633
Acenaphthene	ND	mg/kg	0.633
Fluorene	ND	mg/kg	0.633
Phenanthrene	ND	mg/kg	0.633
Anthracene	ND	mg/kg	0.633
Fluoranthene	ND	mg/kg	0.633
Pyrene	ND	mg/kg	0.633
Benzo (a) anthracene	ND	mg/kg	0.633
Chrysene	ND	mg/kg	0.633
Benzo (b) fluoranthene	ND	mg/kg	0.633
Benzo (k) fluoranthene	ND	mg/kg	0.633
Benzo (a) pyrene	ND	mg/kg	0.633
Indeno (1, 2, 3-cd) Pyrene	ND	mg/kg	0.633
Dibenzo (a, h) anthracene	ND	mg/kg	0.633
Benzo (g, h, i) perylene	ND	mg/kg	0.633

Surrogate (s)	Recovery		QC Criteria
Chloro-Octadecane	38.0	%	40-140
o-Terphenyl	64.0	%	40-140
2-Fluorobiphenyl	74.0	%	40-140
2-Bromonaphthalene	74.0	%	40-140

Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES  
 CERTIFICATE OF ANALYSIS

MA:M-MA086 NH:200301-A CT:PH-0574 ME:MA086 RI:65 NY:11148 NJ:MA935 Army:USACE

Laboratory Sample Number: L0403037-04 Date Collected: 30-MAR-2004 10:58  
 6 IN-PVC-SSW-S1 Date Received : 30-MAR-2004  
 Sample Matrix: SOIL Date Reported : 07-APR-2004  
 Condition of Sample: Satisfactory Field Prep: None  
 Number & Type of Containers: 1-Amber,1-Vial

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Solids, Total	81.	%	0.10	30 2540G		0331 17:40	LK

Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES  
CERTIFICATE OF ANALYSIS

Laboratory Sample Number: L0403037-04  
6 IN-PVC-SSW-S1

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	

Volatile Petroleum Hydrocarbons				47 98-1			0402 00:28 MM
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Quality Control Information

Condition of sample received:	Satisfactory	
Sample temperature upon receipt:	Received on Ice	
Were samples received in methanol?	Covering the Soil	
Methanol ratio:	1:1 +/- 25%	
Were all QA/QC procedures REQUIRED by the method followed?		YES
Were all performance/acceptance standards for the required procedures achieved?		YES
Were significant modifications made to the method as specified in Sect 11.3?		NO
The normal acceptance range for the surrogate, 2,5-Dibromotoluene, is 70-130%.		

C5-C8 Aliphatics, Unadjusted	ND	mg/kg	2.29		
C9-C12 Aliphatics, Unadjusted	ND	mg/kg	2.29		
C9-C10 Aromatics	ND	mg/kg	2.29		
C5-C8 Aliphatics, Adjusted	ND	mg/kg	2.29		
C9-C12 Aliphatics, Adjusted	ND	mg/kg	2.29		
Benzene	ND	mg/kg	0.114		
Toluene	ND	mg/kg	0.114		
Ethylbenzene	ND	mg/kg	0.114		
p/m-Xylene	ND	mg/kg	0.114		
o-Xylene	ND	mg/kg	0.114		
Methyl tert butyl ether	ND	mg/kg	0.229		
Naphthalene	ND	mg/kg	1.14		

Surrogate(s)	Recovery		QC Criteria		
2,5-Dibromotoluene-PID	70.0	%	70-130		
2,5-Dibromotoluene-FID	73.0	%	70-130		

Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES  
CERTIFICATE OF ANALYSIS

Laboratory Sample Number: L0403037-04  
6 IN-PVC-SSW-S1

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	

Extractable Petroleum Hydrocarbons			46 98-1		0405 15:00	0406 15:07	LL
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Quality Control Information

Condition of sample received:	Satisfactory	
Sample temperature upon receipt:	Received on Ice	
Sample extraction method:	Extracted Per the Method	
Were all QA/QC procedures REQUIRED by the method followed?		YES
Were all performance/acceptance standards for the required procedures achieved?		YES
Were significant modifications made to the method as specified in Sect 11.3?		NO
The normal acceptance range for the extraction surrogates, Chloro-octadecane and o-Terphenyl, is 40-140%.		
The normal acceptance range for the fractionation surrogates, 2-Fluorobiphenyl and 2-Bromonaphthalene, is 40-140%.		

C9-C18 Aliphatics	ND	mg/kg	12.3
C19-C36 Aliphatics	ND	mg/kg	12.3
C11-C22 Aromatics, Unadjusted	ND	mg/kg	12.3
C11-C22 Aromatics, Adjusted	ND	mg/kg	12.3
Naphthalene	ND	mg/kg	0.617
2-Methylnaphthalene	ND	mg/kg	0.617
Acenaphthylene	ND	mg/kg	0.617
Acenaphthene	ND	mg/kg	0.617
Fluorene	ND	mg/kg	0.617
Phenanthrene	ND	mg/kg	0.617
Anthracene	ND	mg/kg	0.617
Fluoranthene	ND	mg/kg	0.617
Pyrene	ND	mg/kg	0.617
Benzo (a) anthracene	ND	mg/kg	0.617
Chrysene	ND	mg/kg	0.617
Benzo (b) fluoranthene	ND	mg/kg	0.617
Benzo (k) fluoranthene	ND	mg/kg	0.617
Benzo (a) pyrene	ND	mg/kg	0.617
Indeno (1,2,3-cd) Pyrene	ND	mg/kg	0.617
Dibenzo (a,h) anthracene	ND	mg/kg	0.617
Benzo (g,h,i) perylene	ND	mg/kg	0.617

Surrogate (s)	Recovery		QC Criteria
Chloro-Octadecane	44.0	%	40-140
o-Terphenyl	67.0	%	40-140
2-Fluorobiphenyl	74.0	%	40-140
2-Bromonaphthalene	74.0	%	40-140

Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES  
CERTIFICATE OF ANALYSIS

MA:M-MA086 NH:200301-A CT:PH-0574 ME:MA086 RI:65 NY:11148 NJ:MA935 Army:USACE

Laboratory Sample Number: L0403037-05  
WSW2-S3  
Sample Matrix: SOIL

Date Collected: 30-MAR-2004 10:45  
Date Received : 30-MAR-2004  
Date Reported : 07-APR-2004

Condition of Sample: Satisfactory

Field Prep: None

Number & Type of Containers: 1-Amber,1-Vial

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Solids, Total	83.	%	0.10	30 2540G		0331 17:40	LK

Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES  
CERTIFICATE OF ANALYSIS

Laboratory Sample Number: L0403037-05  
WSW2-S3

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE PREP      ANAL	ID
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Volatile Petroleum Hydrocarbons	47 98-1	0402 01:20 MM
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Quality Control Information

Condition of sample received:	Satisfactory	
Sample temperature upon receipt:	Received on Ice	
Were samples received in methanol?	Covering the Soil	
Methanol ratio:	1:1 +/- 25%	
Were all QA/QC procedures REQUIRED by the method followed?		YES
Were all performance/acceptance standards for the required procedures achieved?		YES
Were significant modifications made to the method as specified in Sect 11.3?		NO
The normal acceptance range for the surrogate, 2,5-Dibromotoluene, is 70-130%.		

C5-C8 Aliphatics, Unadjusted	ND	mg/kg	2.46	
C9-C12 Aliphatics, Unadjusted	ND	mg/kg	2.46	
C9-C10 Aromatics	ND	mg/kg	2.46	
C5-C8 Aliphatics, Adjusted	ND	mg/kg	2.46	
C9-C12 Aliphatics, Adjusted	ND	mg/kg	2.46	
Benzene	ND	mg/kg	0.123	
Toluene	ND	mg/kg	0.123	
Ethylbenzene	ND	mg/kg	0.123	
p/m-Xylene	ND	mg/kg	0.123	
o-Xylene	ND	mg/kg	0.123	
Methyl tert butyl ether	ND	mg/kg	0.246	
Naphthalene	ND	mg/kg	1.23	
Surrogate(s)	Recovery		QC Criteria	
2,5-Dibromotoluene-PID	85.0	%	70-130	
2,5-Dibromotoluene-FID	88.0	%	70-130	

Comments: Complete list of References and Glossary of Terms found in Addendum I



ALPHA ANALYTICAL LABORATORIES  
CERTIFICATE OF ANALYSIS

Laboratory Sample Number: L0403037-05  
WSW2-S3

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	

Extractable Petroleum Hydrocarbons				46 98-1	0405 15:00	0406 15:56	LL
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Quality Control Information

Condition of sample received:	Satisfactory	
Sample temperature upon receipt:	Received on Ice	
Sample extraction method:	Extracted Per the Method	
Were all QA/QC procedures REQUIRED by the method followed?		YES
Were all performance/acceptance standards for the required procedures achieved?		YES
Were significant modifications made to the method as specified in Sect 11.3?		NO
The normal acceptance range for the extraction surrogates, Chloro-octadecane and o-Terphenyl, is 40-140%.		
The normal acceptance range for the fractionation surrogates, 2-Fluorobiphenyl and 2-Bromonaphthalene, is 40-140%.		

C9-C18 Aliphatics	ND	mg/kg	12.0
C19-C36 Aliphatics	ND	mg/kg	12.0
C11-C22 Aromatics, Unadjusted	ND	mg/kg	12.0
C11-C22 Aromatics, Adjusted	ND	mg/kg	12.0
Naphthalene	ND	mg/kg	0.602
2-Methylnaphthalene	ND	mg/kg	0.602
Acenaphthylene	ND	mg/kg	0.602
Acenaphthene	ND	mg/kg	0.602
Fluorene	ND	mg/kg	0.602
Phenanthrene	ND	mg/kg	0.602
Anthracene	ND	mg/kg	0.602
Fluoranthene	ND	mg/kg	0.602
Pyrene	ND	mg/kg	0.602
Benzo(a)anthracene	ND	mg/kg	0.602
Chrysene	ND	mg/kg	0.602
Benzo(b)fluoranthene	ND	mg/kg	0.602
Benzo(k)fluoranthene	ND	mg/kg	0.602
Benzo(a)pyrene	ND	mg/kg	0.602
Indeno(1,2,3-cd)Pyrene	ND	mg/kg	0.602
Dibenzo(a,h)anthracene	ND	mg/kg	0.602
Benzo(g,h,i)perylene	ND	mg/kg	0.602

Surrogate(s)	Recovery		QC Criteria
Chloro-Octadecane	40.0	%	40-140
o-Terphenyl	67.0	%	40-140
2-Fluorobiphenyl	74.0	%	40-140
2-Bromonaphthalene	72.0	%	40-140

Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES  
CERTIFICATE OF ANALYSIS

MA:M-MA086 NH:200301-A CT:PH-0574 ME:MA086 RI:65 NY:11148 NJ:MA935 Army:USACE

Laboratory Sample Number: L0403037-06  
8 IN-CLAY-SSW-S2  
Sample Matrix: SOIL

Date Collected: 30-MAR-2004 14:28  
Date Received : 30-MAR-2004  
Date Reported : 07-APR-2004

Condition of Sample: Satisfactory

Field Prep: None

Number & Type of Containers: 1-Amber,1-Vial

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Solids, Total	94.	%	0.10	30 2540G		0331 17:40	LK

Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES  
CERTIFICATE OF ANALYSIS

Laboratory Sample Number: L0403037-06  
8 IN-CLAY-SSW-S2

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	

Volatile Petroleum Hydrocarbons 47 98-1 0402 02:11 MM

Quality Control Information

Condition of sample received:	Satisfactory	
Sample temperature upon receipt:	Received on Ice	
Were samples received in methanol?	Covering the Soil	
Methanol ratio:	1:1 +/- 25%	
Were all QA/QC procedures REQUIRED by the method followed?		YES
Were all performance/acceptance standards for the required procedures achieved?		YES
Were significant modifications made to the method as specified in Sect 11.3?		NO
The normal acceptance range for the surrogate, 2,5-Dibromotoluene, is 70-130%.		

C5-C8 Aliphatics, Unadjusted	ND	mg/kg	1.79
C9-C12 Aliphatics, Unadjusted	ND	mg/kg	1.79
C9-C10 Aromatics	ND	mg/kg	1.79
C5-C8 Aliphatics, Adjusted	ND	mg/kg	1.79
C9-C12 Aliphatics, Adjusted	ND	mg/kg	1.79
Benzene	ND	mg/kg	0.100
Toluene	ND	mg/kg	0.100
Ethylbenzene	ND	mg/kg	0.100
p/m-Xylene	ND	mg/kg	0.100
o-Xylene	ND	mg/kg	0.100
Methyl tert butyl ether	ND	mg/kg	0.179
Naphthalene	ND	mg/kg	0.896

Surrogate(s)	Recovery		QC Criteria
2,5-Dibromotoluene-PID	83.0	%	70-130
2,5-Dibromotoluene-FID	85.0	%	70-130

Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES  
CERTIFICATE OF ANALYSIS

Laboratory Sample Number: L0403037-06  
8 IN-CLAY-SSW-S2

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE PREP      ANAL	ID
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Extractable Petroleum Hydrocarbons	46 98-1	0331 18:00 0403 01:55 LL
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Quality Control Information

Condition of sample received:	Satisfactory	
Sample temperature upon receipt:	Received on Ice	
Sample extraction method:	Extracted Per the Method	
Were all QA/QC procedures REQUIRED by the method followed?		YES
Were all performance/acceptance standards for the required procedures achieved?		YES
Were significant modifications made to the method as specified in Sect 11.3?		NO
The normal acceptance range for the extraction surrogates, Chloro-octadecane and o-Terphenyl, is 40-140%.		
The normal acceptance range for the fractionation surrogates, 2-Fluorobiphenyl and 2-Bromonaphthalene, is 40-140%.		

C9-C18 Aliphatics	ND	mg/kg	10.6
C19-C36 Aliphatics	ND	mg/kg	10.6
C11-C22 Aromatics, Unadjusted	ND	mg/kg	10.6
C11-C22 Aromatics, Adjusted	ND	mg/kg	10.6
Naphthalene	ND	mg/kg	0.532
2-Methylnaphthalene	ND	mg/kg	0.532
Acenaphthylene	ND	mg/kg	0.532
Acenaphthene	ND	mg/kg	0.532
Fluorene	ND	mg/kg	0.532
Phenanthrene	ND	mg/kg	0.532
Anthracene	ND	mg/kg	0.532
Fluoranthene	ND	mg/kg	0.532
Pyrene	ND	mg/kg	0.532
Benzo (a) anthracene	ND	mg/kg	0.532
Chrysene	ND	mg/kg	0.532
Benzo (b) fluoranthene	ND	mg/kg	0.532
Benzo (k) fluoranthene	ND	mg/kg	0.532
Benzo (a) pyrene	ND	mg/kg	0.532
Indeno (1,2,3-cd) Pyrene	ND	mg/kg	0.532
Dibenzo (a,h) anthracene	ND	mg/kg	0.532
Benzo (g,h,i) perylene	ND	mg/kg	0.532

Surrogate(s)	Recovery	%	QC Criteria
Chloro-Octadecane	40.0	%	40-140
o-Terphenyl	79.0	%	40-140
2-Fluorobiphenyl	76.0	%	40-140
2-Bromonaphthalene	72.0	%	40-140

Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES  
CERTIFICATE OF ANALYSIS

MA:M-MA086 NH:200301-A CT:PH-0574 ME:MA086 RI:65 NY:11148 NJ:MA935 Army:USACE

Laboratory Sample Number: L0403037-07  
6 IN-PVC-BOT-S1  
Sample Matrix: SOIL

Date Collected: 30-MAR-2004 10:52  
Date Received : 30-MAR-2004  
Date Reported : 07-APR-2004

Condition of Sample: Satisfactory

Field Prep: None

Number & Type of Containers: 1-Amber,1-Vial

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Solids, Total	81.	%	0.10	30 2540G		0331 17:40	LK

Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES  
CERTIFICATE OF ANALYSIS

Laboratory Sample Number: L0403037-07  
6 IN-PVC-BOT-S1

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE PREP      ANAL	ID
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Volatile Petroleum Hydrocarbons				47 98-1	0401 12:25 MM	
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Quality Control Information

Condition of sample received:	Satisfactory
Sample temperature upon receipt:	Received on Ice
Were samples received in methanol?	Covering the Soil
Methanol ratio:	1:1 +/- 25%
Were all QA/QC procedures REQUIRED by the method followed?	YES
Were all performance/acceptance standards for the required procedures achieved?	YES
Were significant modifications made to the method as specified in Sect 11.3?	NO
The normal acceptance range for the surrogate, 2,5-Dibromotoluene, is 70-130%.	

C5-C8 Aliphatics, Unadjusted	ND	mg/kg	2.48
C9-C12 Aliphatics, Unadjusted	ND	mg/kg	2.48
C9-C10 Aromatics	ND	mg/kg	2.48
C5-C8 Aliphatics, Adjusted	ND	mg/kg	2.48
C9-C12 Aliphatics, Adjusted	ND	mg/kg	2.48
Benzene	ND	mg/kg	0.124
Toluene	ND	mg/kg	0.124
Ethylbenzene	ND	mg/kg	0.124
p/m-Xylene	ND	mg/kg	0.124
o-Xylene	ND	mg/kg	0.124
Methyl tert butyl ether	ND	mg/kg	0.248
Naphthalene	ND	mg/kg	1.24

Surrogate (s)	Recovery	%	QC Criteria
2,5-Dibromotoluene-PID	94.0	%	70-130
2,5-Dibromotoluene-FID	96.0	%	70-130

Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES  
CERTIFICATE OF ANALYSIS

Laboratory Sample Number: L0403037-07  
6 IN-PVC-BOT-S1

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE PREP      ANAL	ID
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Extractable Petroleum Hydrocarbons				46 98-1	0331 18:00 0403 02:44	LL
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Quality Control Information

Condition of sample received:	Satisfactory	
Sample temperature upon receipt:	Received on Ice	
Sample extraction method:	Extracted Per the Method	
Were all QA/QC procedures REQUIRED by the method followed?		YES
Were all performance/acceptance standards for the required procedures achieved?		YES
Were significant modifications made to the method as specified in Sect 11.3?		NO
The normal acceptance range for the extraction surrogates, Chloro-octadecane and o-Terphenyl, is 40-140%.		
The normal acceptance range for the fractionation surrogates, 2-Fluorobiphenyl and 2-Bromonaphthalene, is 40-140%.		

C9-C18 Aliphatics	ND	mg/kg	12.3
C19-C36 Aliphatics	ND	mg/kg	12.3
C11-C22 Aromatics, Unadjusted	ND	mg/kg	12.3
C11-C22 Aromatics, Adjusted	ND	mg/kg	12.3
Naphthalene	ND	mg/kg	0.617
2-Methylnaphthalene	ND	mg/kg	0.617
Acenaphthylene	ND	mg/kg	0.617
Acenaphthene	ND	mg/kg	0.617
Fluorene	ND	mg/kg	0.617
Phenanthrene	ND	mg/kg	0.617
Anthracene	ND	mg/kg	0.617
Fluoranthene	ND	mg/kg	0.617
Pyrene	ND	mg/kg	0.617
Benzo (a) anthracene	ND	mg/kg	0.617
Chrysene	ND	mg/kg	0.617
Benzo (b) fluoranthene	ND	mg/kg	0.617
Benzo (k) fluoranthene	ND	mg/kg	0.617
Benzo (a) pyrene	ND	mg/kg	0.617
Indeno (1, 2, 3-cd) Pyrene	ND	mg/kg	0.617
Dibenzo (a, h) anthracene	ND	mg/kg	0.617
Benzo (g, h, i) perylene	ND	mg/kg	0.617

Surrogate (s)	Recovery	QC Criteria
Chloro-Octadecane	43.0 %	40-140
o-Terphenyl	70.0 %	40-140
2-Fluorobiphenyl	78.0 %	40-140
2-Bromonaphthalene	80.0 %	40-140

Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES  
QUALITY ASSURANCE BATCH DUPLICATE ANALYSIS

Laboratory Job Number: L0403037

Parameter	Value 1	Value 2	Units	RPD	RPD Limits
Solids, Total for sample(s) 01-07 (L0403005-01, WG166653)					
Solids, Total	84.	83.	%	1	
Volatile Petroleum Hydrocarbons for sample(s) 01-07 (L0403037-01, WG166807)					
C5-C8 Aliphatics	ND	ND	mg/kg	NC	50
C9-C12 Aliphatics	ND	ND	mg/kg	NC	50
C9-C10 Aromatics	ND	ND	mg/kg	NC	50
C5-C8 Aliphatics, Adjusted	ND	ND	mg/kg	NC	50
C9-C12 Aliphatics, Adjusted	ND	ND	mg/kg	NC	50
Benzene	ND	ND	mg/kg	NC	50
Toluene	ND	ND	mg/kg	NC	50
Ethylbenzene	ND	ND	mg/kg	NC	50
p/m-Xylene	ND	ND	mg/kg	NC	50
o-Xylene	ND	ND	mg/kg	NC	50
Methyl tert butyl ether	ND	ND	mg/kg	NC	50
Naphthalene	ND	ND	mg/kg	NC	50
Surrogate(s)	Recovery				QC Criteria
2,5-Dibromotoluene-PID	91.0	97.0	%	6	70-130
2,5-Dibromotoluene-FID	95.0	98.0	%	3	70-130
Extractable Petroleum Hydrocarbons for sample(s) 01-03,06-07 (L0403009-02, WG166672)					
C9-C18 Aliphatics	ND	ND	mg/kg	NC	50
C19-C36 Aliphatics	ND	ND	mg/kg	NC	50
C11-C22 Aromatics	ND	ND	mg/kg	NC	50
C11-C22 Aromatics, Adjusted	ND	ND	mg/kg	NC	50
Surrogate(s)	Recovery				QC Criteria
Chloro-Octadecane	47.0	36.0	%	27	40-140
o-Terphenyl	65.0	62.0	%	5	40-140
2-Fluorobiphenyl	78.0	80.0	%	3	40-140
2-Bromonaphthalene	72.0	78.0	%	8	40-140
Extractable Petroleum Hydrocarbons for sample(s) 04-05 (L0403161-01, WG166912)					
C9-C18 Aliphatics	ND	ND	mg/kg	NC	50
C19-C36 Aliphatics	ND	ND	mg/kg	NC	50
C11-C22 Aromatics	ND	ND	mg/kg	NC	50
C11-C22 Aromatics, Adjusted	ND	ND	mg/kg	NC	50
Surrogate(s)	Recovery				QC Criteria
Chloro-Octadecane	42.0	24.0	%	55	40-140
o-Terphenyl	62.0	38.0	%	48	40-140
2-Fluorobiphenyl	72.0	67.0	%	7	40-140
2-Bromonaphthalene	74.0	64.0	%	14	40-140



ALPHA ANALYTICAL LABORATORIES  
 QUALITY ASSURANCE BATCH SPIKE ANALYSES

Laboratory Job Number: L0403037

Parameter	% Recovery	QC Criteria
Volatile Petroleum Hydrocarbons LCS for sample(s) 01-07 (WG166807)		
Benzene	98	70-130
Toluene	92	70-130
Ethylbenzene	91	70-130
p/m-Xylene	88	70-130
o-Xylene	93	70-130
Methyl tert butyl ether	96	70-130
Naphthalene	99	70-130
Surrogate(s)		
2,5-Dibromotoluene-PID	95	70-130
2,5-Dibromotoluene-FID	97	70-130
Extractable Petroleum Hydrocarbons LCS for sample(s) 01-03,06-07 (WG166672)		
Naphthalene	55	40-140
Acenaphthene	60	40-140
Anthracene	76	40-140
Pyrene	82	40-140
Chrysene	86	40-140
Nonane (C9)	58	40-140
Tetradecane (C14)	67	40-140
Nonadecane (C19)	86	40-140
Eicosane (C20)	85	40-140
Octacosane (C28)	83	40-140
Surrogate(s)		
Chloro-Octadecane	55	40-140
o-Terphenyl	83	40-140
2-Fluorobiphenyl	78	40-140
2-Bromonaphthalene	76	40-140
Extractable Petroleum Hydrocarbons LCS for sample(s) 04-05 (WG166912)		
Naphthalene	49	40-140
Acenaphthene	53	40-140
Anthracene	67	40-140
Pyrene	73	40-140
Chrysene	77	40-140
Nonane (C9)	48	40-140
Tetradecane (C14)	55	40-140
Nonadecane (C19)	71	40-140
Eicosane (C20)	71	40-140
Octacosane (C28)	70	40-140
Surrogate(s)		
Chloro-Octadecane	40	40-140
o-Terphenyl	73	40-140
2-Fluorobiphenyl	73	40-140
2-Bromonaphthalene	75	40-140

ALPHA ANALYTICAL LABORATORIES  
 QUALITY ASSURANCE BATCH BLANK ANALYSIS

Laboratory Job Number: L0403037

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Blank Analysis for sample(s) 01-07 (WG166807-3)							
Volatile Petroleum Hydrocarbons					47 98-1		0401 08:59 MM
C5-C8 Aliphatics, Unadjusted	ND	mg/kg	2.00				
C9-C12 Aliphatics, Unadjusted	ND	mg/kg	2.00				
C9-C10 Aromatics	ND	mg/kg	2.00				
C5-C8 Aliphatics, Adjusted	ND	mg/kg	2.00				
C9-C12 Aliphatics, Adjusted	ND	mg/kg	2.00				
Benzene	ND	mg/kg	0.100				
Toluene	ND	mg/kg	0.100				
Ethylbenzene	ND	mg/kg	0.100				
p/m-Xylene	ND	mg/kg	0.100				
o-Xylene	ND	mg/kg	0.100				
Methyl tert butyl ether	ND	mg/kg	0.200				
Naphthalene	ND	mg/kg	1.00				
Surrogate(s)		Recovery		QC Criteria			
2,5-Dibromotoluene-PID	96.0	%		70-130			
2,5-Dibromotoluene-FID	101.	%		70-130			
Blank Analysis for sample(s) 01-03,06-07 (WG166672-1)							
Extractable Petroleum Hydrocarbons					46 98-1		0331 18:00 0402 23:58 LL
C9-C18 Aliphatics	ND	mg/kg	10.0				
C19-C36 Aliphatics	ND	mg/kg	10.0				
C11-C22 Aromatics, Unadjusted	ND	mg/kg	10.0				
C11-C22 Aromatics, Adjusted	ND	mg/kg	10.0				
Naphthalene	ND	mg/kg	0.500				
2-Methylnaphthalene	ND	mg/kg	0.500				
Acenaphthylene	ND	mg/kg	0.500				
Acenaphthene	ND	mg/kg	0.500				
Fluorene	ND	mg/kg	0.500				
Phenanthrene	ND	mg/kg	0.500				
Anthracene	ND	mg/kg	0.500				
Fluoranthene	ND	mg/kg	0.500				
Pyrene	ND	mg/kg	0.500				
Benzo(a)anthracene	ND	mg/kg	0.500				
Chrysene	ND	mg/kg	0.500				
Benzo(b)fluoranthene	ND	mg/kg	0.500				
Benzo(k)fluoranthene	ND	mg/kg	0.500				
Benzo(a)pyrene	ND	mg/kg	0.500				
Indeno(1,2,3-cd)Pyrene	ND	mg/kg	0.500				
Dibenzo(a,h)anthracene	ND	mg/kg	0.500				
Benzo(g,h,i)perylene	ND	mg/kg	0.500				
Surrogate(s)		Recovery		QC Criteria			
Chloro-Octadecane	48.0	%		40-140			
o-Terphenyl	71.0	%		40-140			
2-Fluorobiphenyl	75.0	%		40-140			
2-Bromonaphthalene	75.0	%		40-140			

ALPHA ANALYTICAL LABORATORIES  
 QUALITY ASSURANCE BATCH BLANK ANALYSIS

Laboratory Job Number: L0403037

Continued

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Blank Analysis for sample(s) 04-05 (WG166912-1)							
Extractable Petroleum Hydrocarbons				46 98-1	0405 10:00	0406 15:34	LL
C9-C18 Aliphatics	ND	mg/kg	10.0				
C19-C36 Aliphatics	ND	mg/kg	10.0				
C11-C22 Aromatics, Unadjusted	ND	mg/kg	10.0				
C11-C22 Aromatics, Adjusted	ND	mg/kg	10.0				
Naphthalene	ND	mg/kg	0.500				
2-Methylnaphthalene	ND	mg/kg	0.500				
Acenaphthylene	ND	mg/kg	0.500				
Acenaphthene	ND	mg/kg	0.500				
Fluorene	ND	mg/kg	0.500				
Phenanthrene	ND	mg/kg	0.500				
Anthracene	ND	mg/kg	0.500				
Fluoranthene	ND	mg/kg	0.500				
Pyrene	ND	mg/kg	0.500				
Benzo(a)anthracene	ND	mg/kg	0.500				
Chrysene	ND	mg/kg	0.500				
Benzo(b)fluoranthene	ND	mg/kg	0.500				
Benzo(k)fluoranthene	ND	mg/kg	0.500				
Benzo(a)pyrene	ND	mg/kg	0.500				
Indeno(1,2,3-cd)Pyrene	ND	mg/kg	0.500				
Dibenzo(a,h)anthracene	ND	mg/kg	0.500				
Benzo(g,h,i)perylene	ND	mg/kg	0.500				
Surrogate(s)	Recovery		QC Criteria				
Chloro-Octadecane	64.0	%	40-140				
o-Terphenyl	69.0	%	40-140				
2-Fluorobiphenyl	71.0	%	40-140				
2-Bromonaphthalene	69.0	%	40-140				

ALPHA ANALYTICAL LABORATORIES  
ADDENDUM I

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REFERENCES

30. Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WPCF. 18th Edition. 1992.
46. Method for the Determination of Extractable Petroleum Hydrocarbons (EPH), Massachusetts Department of Environmental Protection, (MADEP-EPH-98-1), January 1998.
47. Method for the Determination of Volatile Petroleum Hydrocarbons (VPH), Massachusetts Department of Environmental Protection, (MADEP-VPH-98-1), January 1998.

GLOSSARY OF TERMS AND SYMBOLS

REF Reference number in which test method may be found.  
METHOD Method number by which analysis was performed.  
ID Initials of the analyst.  
ND Not detected in comparison to the reported detection limit.

Please note that all solid samples are reported on dry weight basis unless noted otherwise.

LIMITATION OF LIABILITIES

Alpha Analytical, Inc. performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical, Inc., shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical, Inc. be held liable for any incidental consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical, Inc.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding times and splitting of samples in the field.

ALPHA ANALYTICAL LABORATORIES  
LOGIN SPECIFIC INFORMATION

Laboratory Job Number: L0403037

Were project specific reporting limits specified? NO

Cooler Information

Cooler	Custody Seal
A	Absent

Container Information

Container ID	Container Type	Cooler	pH	Temp	Pres Seal	Analysis
L0403037-01A	Vial MeOH preserved	A	N/A	0.8C	Y Absent	VPH-DELUX
L0403037-01B	Amber 250ml unpreserved	A	N/A	0.8C	Y Absent	EPH-DELUX, TS
L0403037-02A	Vial MeOH preserved	A	N/A	0.8C	Y Absent	VPH-DELUX
L0403037-02B	Amber 250ml unpreserved	A	N/A	0.8C	Y Absent	EPH-DELUX, TS
L0403037-03A	Vial MeOH preserved	A	N/A	0.8C	Y Absent	VPH-DELUX
L0403037-03B	Amber 250ml unpreserved	A	N/A	0.8C	Y Absent	EPH-DELUX, TS
L0403037-04A	Vial MeOH preserved	A	N/A	0.8C	Y Absent	VPH-DELUX
L0403037-04B	Amber 250ml unpreserved	A	N/A	0.8C	Y Absent	EPH-DELUX, TS
L0403037-05A	Vial MeOH preserved	A	N/A	0.8C	Y Absent	VPH-DELUX
L0403037-05B	Amber 250ml unpreserved	A	N/A	0.8C	Y Absent	EPH-DELUX, TS
L0403037-06A	Vial MeOH preserved	A	N/A	0.8C	Y Absent	VPH-DELUX
L0403037-06B	Amber 100ml unpreserved	A	N/A	0.8C	Y Absent	EPH-DELUX, TS
L0403037-07A	Vial MeOH preserved	A	N/A	0.8C	Y Absent	VPH-DELUX
L0403037-07B	Amber 250ml unpreserved	A	N/A	0.8C	Y Absent	EPH-DELUX, TS

Container Comments

Container ID Comments

# CHAIN OF CUSTODY RECORD

Haley & Aldrich, Inc.  
465 Medford St.,  
Suite 2200,  
Boston, MA 02129-1400

Phone (617) 886-7400  
Fax (617) 886-7600

Page 1 of 1

LABORATORY: ALDRI  
DELIVERY DATE: 3/30/04  
PROJECT NAME: BURRICK SPILL  
TURNAROUND TIME: 24 HOURS  
PROJECT MANAGER: STEVE ROYCE  
H&A CONTACT: STEVE ROYCE  
ADDRESS: BOSTON, MA 02129-1400  
CONTACT:

Sample No.	Date	Time	Depth (ft)	Type	Analysis Requested											Number of Containers	Comments (special instructions, precautions, additional method numbers, etc.)
					VOA	A/Bs only	MCP Metals	Pesticides	PCBs	Full Suite	Changes only	TPH (specify)	TCLP (specify)	Reactivity	Ignitability		
GIN-CLAY-NSW-S1	3/23/04	1352	6-8	Soil	X	X	X	X	X	X	X	X	X	X	X	2	Laboratory to use applicable DEP CAM methods, unless otherwise directed.
GIN-PVC-NSW-S1	"	1055	6-8	"	X	X	X	X	X	X	X	X	X	X	X	2	112 EPA/MPH MOD
GIN-CLAY-BOT-S1	"	1348	8	"	X	X	X	X	X	X	X	X	X	X	X	2	TARGET ANALYTES
GIN-PVC-SSW-S1	"	1058	6-8	"	X	X	X	X	X	X	X	X	X	X	X	2	
WSSW-2-S3	"	1045	6-12	"	X	X	X	X	X	X	X	X	X	X	X	2	
GIN-CLAY-SSW-S2	"	1428	6-8	"	X	X	X	X	X	X	X	X	X	X	X	2	
GIN-PVC-BOT-S1	"	1052	8	"	X	X	X	X	X	X	X	X	X	X	X	2	

Sampled and Relinquished by	Received by	LIQUID			SOLID		
		VOA Vial	Amber Glass	Plastic Bottle	VOA Vial	Amber Glass	Clear Glass
Sign: Todd Buran Print: Todd Buran Firm: HGA Date: 3/30/04 Time: 15:34	Sign: [Signature] Print: [Signature] Firm: [Signature] Date: 3/30/04 Time: 19:15						
Relinquished by: [Signature]	Received by: [Signature]						

Relinquished by	Received by	PRESERVATION KEY							
		A	B	C	D	E	F	G	H
Sign: [Signature] Print: [Signature] Firm: [Signature] Date: 3-30-04 Time: 1915	Sign: [Signature] Print: [Signature] Firm: [Signature] Date: 3-30-04 Time: 1915	Sample chilled	Sample filtered	NaOH	HNO3	H2SO4	HCL	Methanol	Water (NaHSO4 circle)

**If Presumptive Certainty Data Package is needed, initial all sections:**  
 The required minimum field QC samples, as designated in BWS CAM-VII have been or will be collected, as appropriate, to meet the requirements of Presumptive Certainty.  
 Matrix Spike (MS) samples for MCP Metals and/or Cyanide are included and identified herein.  
 This Chain of Custody Record (specify) \_\_\_\_\_ includes \_\_\_\_\_ does not include samples defined as Drinking Water Samples.  
 If this Chain of Custody Record identifies samples defined as Drinking Water Samples, Trip Blanks and Field Duplicates are included and analysis of TICs are required, as appropriate. Laboratory should (specify if applicable) \_\_\_\_\_ analyze \_\_\_\_\_ hold for contingency testing the Drinking Water Field Duplicate and Drinking Water Trip Blank samples.

Required Reporting Limits and Data Quality Objectives  
 RC-S1  S1  GW1  
 RC-S2  S2  GW2  
 RC-GW1  S3  GW3  
 RC-GW2

ALPHA ANALYTICAL LABORATORIES

Eight Walkup Drive  
Westborough, Massachusetts 01581-1019  
(508) 898-9220 www.alphalab.com

MA:M-MA086 NH:200301-A CT:PH-0574 ME:MA086 RI:65 NY:11148 NJ:MA935 Army:USACE

CERTIFICATE OF ANALYSIS

Client: Haley & Aldrich, Inc. Laboratory Job Number: L0403080  
Address: 465 Medford Street, Suite 2200  
Boston, MA 02129-1400 Date Received: 31-MAR-2004  
Attn: Mr. Steve Provencal Date Reported: 07-APR-2004  
Project Number: 30660-000 Delivery Method: Alpha  
Site: BURBANK SCHOOL

The following questions pertain only to MCP Analytical Methods

An affirmative response to questions A,B,C & D is required for "Presumptive Certainty" status

- A. Were all samples received by the laboratory in a condition consistent with those described on their Chain-of-Custody documentation for the data set? YES
- B. Were all QA/QC procedures required for the specified analytical method(s) included in this report followed, including the requirement to note and discuss in a narrative QC data that did not meet appropriate performance standards or guidelines? YES
- C. Does the analytical data included in this report meet all the requirements for "Presumptive Certainty", as described in section 2.0 of the MADEP document CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data"? YES
- D. VPH and EPH methods only: Was the VPH or EPH method run without significant modifications, as specified in Section 11.3? YES

A response to questions E and F is required for "Presumptive Certainty" status

- E. Were all QC performance standards and recommendations for the specified method(s) achieved? NO
- F. Were results for all analyte-list compounds/elements for the specified method(s) reported? YES

Any answers of NO to the above questions are addressed in the case narrative.

I, the undersigned, attest under the pains and penalties of perjury that, based upon my personal inquiry of those responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized by: James Todaro  
This document electronically signed

ALPHA ANALYTICAL LABORATORIES

Laboratory Job Number: L0403080  
Date Reported: 07-APR-2004

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ALPHA SAMPLE NUMBER	CLIENT IDENTIFICATION	SAMPLE LOCATION
L0403080-01	8IN-CLAY-BOTTOM	BELMONT, MA
L0403080-02	8IN-CLAY-SOUTH	BELMONT, MA
L0403080-03	AB-CB-NSW-S1	BELMONT, MA
L0403080-04	AB-CB-SSW-S1	BELMONT, MA
L0403080-05	AB-CB-BOT-S1	BELMONT, MA
L0403080-06	TRIP BLANK	BELMONT, MA



ALPHA ANALYTICAL LABORATORIES  
NARRATIVE REPORT

Laboratory Job Number: L0403080

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MCP Related Narratives

Extraction methods

Extraction method 3545 was used as the extraction method for the analysis of EPH by method 98-1.

EPH

In reference to question E, the surrogate % recovery for Chloro-Octadecane (32%) on L0403080-03 is below the acceptance criteria for the method, apparently due to sample matrix. Re-analysis confirmed the original results with the surrogate % recovery for Chloro-Octadecane at 39%, which is still below criteria. Both sets of results are reported.

ALPHA ANALYTICAL LABORATORIES  
 CERTIFICATE OF ANALYSIS

MA:M-MA086 NH:200301-A CT:PH-0574 ME:MA086 RI:65 NY:11148 NJ:MA935 Army:USACE

Laboratory Sample Number: L0403080-01  
 8IN-CLAY-BOTTOM  
 Sample Matrix: SOIL  
 Condition of Sample: Satisfactory  
 Number & Type of Containers: 1-Amber,1-Vial  
 Date Collected: 31-MAR-2004 08:45  
 Date Received : 31-MAR-2004  
 Date Reported : 07-APR-2004  
 Field Prep: None

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Solids, Total	80.	%	0.10	30 2540G			0331 20:30 LK

Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES  
CERTIFICATE OF ANALYSIS

Laboratory Sample Number: L0403080-01  
8IN-CLAY-BOTTOM

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE PREP      ANAL	ID
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Volatile Petroleum Hydrocarbons			47 98-1		0402 02:14 PS	
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Quality Control Information

Condition of sample received:	Satisfactory	
Sample temperature upon receipt:	Received on Ice	
Were samples received in methanol?	Covering the Soil	
Methanol ratio:	1:1 +/- 25%	
Were all QA/QC procedures REQUIRED by the method followed?		YES
Were all performance/acceptance standards for the required procedures achieved?		YES
Were significant modifications made to the method as specified in Sect 11.3?		NO
The normal acceptance range for the surrogate, 2,5-Dibromotoluene, is 70-130%.		

C5-C8 Aliphatics, Unadjusted	ND	mg/kg	2.78		
C9-C12 Aliphatics, Unadjusted	ND	mg/kg	2.78		
C9-C10 Aromatics	ND	mg/kg	2.78		
C5-C8 Aliphatics, Adjusted	ND	mg/kg	2.78		
C9-C12 Aliphatics, Adjusted	ND	mg/kg	2.78		
Benzene	ND	mg/kg	0.139		
Toluene	ND	mg/kg	0.139		
Ethylbenzene	ND	mg/kg	0.139		
p/m-Xylene	ND	mg/kg	0.139		
o-Xylene	ND	mg/kg	0.139		
Methyl tert butyl ether	ND	mg/kg	0.278		
Naphthalene	ND	mg/kg	1.39		
Surrogate(s)	Recovery		QC Criteria		
2,5-Dibromotoluene-PID	112.	%	70-130		
2,5-Dibromotoluene-FID	107.	%	70-130		

Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES  
CERTIFICATE OF ANALYSIS

Laboratory Sample Number: L0403080-01  
8IN-CLAY-BOTTOM

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE PREP    ANAL	ID
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Extractable Petroleum Hydrocarbons	46 98-1	0401 10:15 0402 13:41 LL
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Quality Control Information

Condition of sample received:	Satisfactory	
Sample temperature upon receipt:	Received on Ice	
Sample extraction method:	Extracted Per the Method	
Were all QA/QC procedures REQUIRED by the method followed?		YES
Were all performance/acceptance standards for the required procedures achieved?		YES
Were significant modifications made to the method as specified in Sect 11.3?		NO
The normal acceptance range for the extraction surrogates, Chloro-octadecane and o-Terphenyl, is 40-140%.		
The normal acceptance range for the fractionation surrogates, 2-Fluorobiphenyl and 2-Bromonaphthalene, is 40-140%.		

C9-C18 Aliphatics	ND	mg/kg	12.5
C19-C36 Aliphatics	ND	mg/kg	12.5
C11-C22 Aromatics, Unadjusted	ND	mg/kg	12.5
C11-C22 Aromatics, Adjusted	ND	mg/kg	12.5
Naphthalene	ND	mg/kg	0.625
2-Methylnaphthalene	ND	mg/kg	0.625
Acenaphthylene	ND	mg/kg	0.625
Acenaphthene	ND	mg/kg	0.625
Fluorene	ND	mg/kg	0.625
Phenanthrene	ND	mg/kg	0.625
Anthracene	ND	mg/kg	0.625
Fluoranthene	ND	mg/kg	0.625
Pyrene	ND	mg/kg	0.625
Benzo (a) anthracene	ND	mg/kg	0.625
Chrysene	ND	mg/kg	0.625
Benzo (b) fluoranthene	ND	mg/kg	0.625
Benzo (k) fluoranthene	ND	mg/kg	0.625
Benzo (a) pyrene	ND	mg/kg	0.625
Indeno (1,2,3-cd) Pyrene	ND	mg/kg	0.625
Dibenzo (a,h) anthracene	ND	mg/kg	0.625
Benzo (g,h,i) perylene	ND	mg/kg	0.625

Surrogate (s)	Recovery	%	QC Criteria
Chloro-Octadecane	53.0	%	40-140
o-Terphenyl	61.0	%	40-140
2-Fluorobiphenyl	78.0	%	40-140
2-Bromonaphthalene	79.0	%	40-140

Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES  
CERTIFICATE OF ANALYSIS

MA:M-MA086 NH:200301-A CT:PH-0574 ME:MA086 RI:65 NY:11148 NJ:MA935 Army:USACE

Laboratory Sample Number: L0403080-02  
8IN-CLAY-SOUTH  
Sample Matrix: SOIL  
Condition of Sample: Satisfactory  
Number & Type of Containers: 1-Amber,1-Vial  
Date Collected: 31-MAR-2004 08:45  
Date Received : 31-MAR-2004  
Date Reported : 07-APR-2004  
Field Prep: None

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Solids, Total	82.	%	0.10	30 2540G		0331 20:30	LK

Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES  
CERTIFICATE OF ANALYSIS

Laboratory Sample Number: L0403080-02  
8IN-CLAY-SOUTH

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	

Volatile Petroleum Hydrocarbons	47 98-1	0402 15:25 PS
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Quality Control Information

Condition of sample received:	Satisfactory	
Sample temperature upon receipt:	Received on Ice	
Were samples received in methanol?	Covering the Soil	
Methanol ratio:	1:1 +/- 25%	
Were all QA/QC procedures REQUIRED by the method followed?		YES
Were all performance/acceptance standards for the required procedures achieved?		YES
Were significant modifications made to the method as specified in Sect 11.3?		NO
The normal acceptance range for the surrogate, 2,5-Dibromotoluene, is 70-130%.		

C5-C8 Aliphatics, Unadjusted	ND	mg/kg	2.69	
C9-C12 Aliphatics, Unadjusted	ND	mg/kg	2.69	
C9-C10 Aromatics	ND	mg/kg	2.69	
C5-C8 Aliphatics, Adjusted	ND	mg/kg	2.69	
C9-C12 Aliphatics, Adjusted	ND	mg/kg	2.69	
Benzene	ND	mg/kg	0.134	
Toluene	ND	mg/kg	0.134	
Ethylbenzene	ND	mg/kg	0.134	
p/m-Xylene	ND	mg/kg	0.134	
o-Xylene	ND	mg/kg	0.134	
Methyl tert butyl ether	ND	mg/kg	0.269	
Naphthalene	ND	mg/kg	1.34	
Surrogate(s)	Recovery		QC Criteria	
2,5-Dibromotoluene-PID	115.	%	70-130	
2,5-Dibromotoluene-FID	111.	%	70-130	

Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES  
CERTIFICATE OF ANALYSIS

Laboratory Sample Number: L0403080-02  
8IN-CLAY-SOUTH

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	

Extractable Petroleum Hydrocarbons	46 98-1	0401 10:15 0406 20:02 LL
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Quality Control Information

Condition of sample received:	Satisfactory
Sample temperature upon receipt:	Received on Ice
Sample extraction method:	Extracted Per the Method
Were all QA/QC procedures REQUIRED by the method followed?	YES
Were all performance/acceptance standards for the required procedures achieved?	YES
Were significant modifications made to the method as specified in Sect 11.3?	NO
The normal acceptance range for the extraction surrogates, Chloro-octadecane and o-Terphenyl, is 40-140%.	
The normal acceptance range for the fractionation surrogates, 2-Fluorobiphenyl and 2-Bromonaphthalene, is 40-140%.	

Compound	Result	Units	RDL
C9-C18 Aliphatics	35.6	mg/kg	12.2
C19-C36 Aliphatics	25.8	mg/kg	12.2
C11-C22 Aromatics, Unadjusted	34.2	mg/kg	12.2
C11-C22 Aromatics, Adjusted	34.2	mg/kg	12.2
Naphthalene	ND	mg/kg	0.610
2-Methylnaphthalene	ND	mg/kg	0.610
Acenaphthylene	ND	mg/kg	0.610
Acenaphthene	ND	mg/kg	0.610
Fluorene	ND	mg/kg	0.610
Phenanthrene	ND	mg/kg	0.610
Anthracene	ND	mg/kg	0.610
Fluoranthene	ND	mg/kg	0.610
Pyrene	ND	mg/kg	0.610
Benzo(a)anthracene	ND	mg/kg	0.610
Chrysene	ND	mg/kg	0.610
Benzo(b)fluoranthene	ND	mg/kg	0.610
Benzo(k)fluoranthene	ND	mg/kg	0.610
Benzo(a)pyrene	ND	mg/kg	0.610
Indeno(1,2,3-cd)Pyrene	ND	mg/kg	0.610
Dibenzo(a,h)anthracene	ND	mg/kg	0.610
Benzo(g,h,i)perylene	ND	mg/kg	0.610

Surrogate(s)	Recovery		QC Criteria
Chloro-Octadecane	61.0	%	40-140
o-Terphenyl	66.0	%	40-140
2-Fluorobiphenyl	78.0	%	40-140
2-Bromonaphthalene	81.0	%	40-140

Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES  
 CERTIFICATE OF ANALYSIS

MA:M-MA086 NH:200301-A CT:PH-0574 ME:MA086 RI:65 NY:11148 NJ:MA935 Army:USACE

Laboratory Sample Number: L0403080-03  
 AB-CB-NSW-S1  
 Sample Matrix: SOIL

Date Collected: 31-MAR-2004 11:05  
 Date Received : 31-MAR-2004  
 Date Reported : 07-APR-2004

Condition of Sample: Satisfactory

Field Prep: None

Number & Type of Containers: 1-Amber,1-Vial

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Solids, Total	85.	%	0.10	30 2540G			0331 20:30 LK

Comments: Complete list of References and Glossary of Terms found in Addendum I



ALPHA ANALYTICAL LABORATORIES  
CERTIFICATE OF ANALYSIS

Laboratory Sample Number: L0403080-03  
AB-CB-NSW-S1

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	

Volatile Petroleum Hydrocarbons		47 98-1				0402 16:16 PS	
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Quality Control Information

Condition of sample received:	Satisfactory	
Sample temperature upon receipt:	Received on Ice	
Were samples received in methanol?	Covering the Soil	
Methanol ratio:	1:1 +/- 25%	
Were all QA/QC procedures REQUIRED by the method followed?		YES
Were all performance/acceptance standards for the required procedures achieved?		YES
Were significant modifications made to the method as specified in Sect 11.3?		NO
The normal acceptance range for the surrogate, 2,5-Dibromotoluene, is 70-130%.		

C5-C8 Aliphatics, Unadjusted	ND	mg/kg	1.91	
C9-C12 Aliphatics, Unadjusted	ND	mg/kg	1.91	
C9-C10 Aromatics	ND	mg/kg	1.91	
C5-C8 Aliphatics, Adjusted	ND	mg/kg	1.91	
C9-C12 Aliphatics, Adjusted	ND	mg/kg	1.91	
Benzene	ND	mg/kg	0.100	
Toluene	ND	mg/kg	0.100	
Ethylbenzene	ND	mg/kg	0.100	
p/m-Xylene	ND	mg/kg	0.100	
o-Xylene	ND	mg/kg	0.100	
Methyl tert butyl ether	ND	mg/kg	0.191	
Naphthalene	ND	mg/kg	0.954	

Surrogate (s)	Recovery		QC Criteria	
2,5-Dibromotoluene-PID	115.	%	70-130	
2,5-Dibromotoluene-FID	104.	%	70-130	

Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES  
CERTIFICATE OF ANALYSIS

Laboratory Sample Number: L0403080-03  
AB-CB-NSW-S1

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	

Extractable Petroleum Hydrocarbons				46 98-1		0401 10:15	0406 20:48	LL
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Quality Control Information

Condition of sample received:	Satisfactory	
Sample temperature upon receipt:	Received on Ice	
Sample extraction method:	Extracted Per the Method	
Were all QA/QC procedures REQUIRED by the method followed?		YES
Were all performance/acceptance standards for the required procedures achieved?		NO
1. One or more of the extraction surrogate recoveries were less than 40%.		
Were significant modifications made to the method as specified in Sect 11.3?		NO
The normal acceptance range for the extraction surrogates, Chloro-octadecane and o-Terphenyl, is 40-140%.		
The normal acceptance range for the fractionation surrogates, 2-Fluorobiphenyl and 2-Bromonaphthalene, is 40-140%.		

C9-C18 Aliphatics	ND	mg/kg	11.8
C19-C36 Aliphatics	ND	mg/kg	11.8
C11-C22 Aromatics, Unadjusted	ND	mg/kg	11.8
C11-C22 Aromatics, Adjusted	ND	mg/kg	11.8
Naphthalene	ND	mg/kg	0.588
2-Methylnaphthalene	ND	mg/kg	0.588
Acenaphthylene	ND	mg/kg	0.588
Acenaphthene	ND	mg/kg	0.588
Fluorene	ND	mg/kg	0.588
Phenanthrene	ND	mg/kg	0.588
Anthracene	ND	mg/kg	0.588
Fluoranthene	ND	mg/kg	0.588
Pyrene	ND	mg/kg	0.588
Benzo (a) anthracene	ND	mg/kg	0.588
Chrysene	ND	mg/kg	0.588
Benzo (b) fluoranthene	ND	mg/kg	0.588
Benzo (k) fluoranthene	ND	mg/kg	0.588
Benzo (a) pyrene	ND	mg/kg	0.588
Indeno (1,2,3-cd) Pyrene	ND	mg/kg	0.588
Dibenzo (a,h) anthracene	ND	mg/kg	0.588
Benzo (g,h,i) perylene	ND	mg/kg	0.588

Surrogate (s)	Recovery		QC Criteria
Chloro-Octadecane	32.0	%	40-140
o-Terphenyl	57.0	%	40-140
2-Fluorobiphenyl	73.0	%	40-140
2-Bromonaphthalene	72.0	%	40-140

Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES  
CERTIFICATE OF ANALYSIS

Laboratory Sample Number: L0403080-03  
AB-CB-NSW-S1

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	

Extractable Petroleum Hydrocarbons				46 98-1	0407 11:30	0407 15:29	LL
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Quality Control Information

Condition of sample received:	Satisfactory	
Sample temperature upon receipt:	Received on Ice	
Sample extraction method:	Extracted Per the Method	
Were all QA/QC procedures REQUIRED by the method followed?		YES
Were all performance/acceptance standards for the required procedures achieved?		NO
1. One or more of the extraction surrogate recoveries were less than 40%.		
Were significant modifications made to the method as specified in Sect 11.3?		NO
The normal acceptance range for the extraction surrogates, Chloro-octadecane and o-Terphenyl, is 40-140%.		
The normal acceptance range for the fractionation surrogates, 2-Fluorobiphenyl and 2-Bromonaphthalene, is 40-140%.		

C9-C18 Aliphatics	ND	mg/kg	11.8
C19-C36 Aliphatics	ND	mg/kg	11.8
C11-C22 Aromatics, Unadjusted	ND	mg/kg	11.8
C11-C22 Aromatics, Adjusted	ND	mg/kg	11.8
Naphthalene	ND	mg/kg	0.588
2-Methylnaphthalene	ND	mg/kg	0.588
Acenaphthylene	ND	mg/kg	0.588
Acenaphthene	ND	mg/kg	0.588
Fluorene	ND	mg/kg	0.588
Phenanthrene	ND	mg/kg	0.588
Anthracene	ND	mg/kg	0.588
Fluoranthene	ND	mg/kg	0.588
Pyrene	ND	mg/kg	0.588
Benzo(a)anthracene	ND	mg/kg	0.588
Chrysene	ND	mg/kg	0.588
Benzo(b)fluoranthene	ND	mg/kg	0.588
Benzo(k)fluoranthene	ND	mg/kg	0.588
Benzo(a)pyrene	ND	mg/kg	0.588
Indeno(1,2,3-cd)Pyrene	ND	mg/kg	0.588
Dibenzo(a,h)anthracene	ND	mg/kg	0.588
Benzo(g,h,i)perylene	ND	mg/kg	0.588

Surrogate(s)	Recovery		QC Criteria
Chloro-Octadecane	39.0	%	40-140
o-Terphenyl	63.0	%	40-140
2-Fluorobiphenyl	85.0	%	40-140
2-Bromonaphthalene	81.0	%	40-140

Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES  
CERTIFICATE OF ANALYSIS

MA:M-MA086 NH:200301-A CT:PH-0574 ME:MA086 RI:65 NY:11148 NJ:MA935 Army:USACE

Laboratory Sample Number: L0403080-04  
AB-CB-SSW-S1  
Sample Matrix: SOIL

Date Collected: 31-MAR-2004 11:10  
Date Received : 31-MAR-2004  
Date Reported : 07-APR-2004

Condition of Sample: Satisfactory

Field Prep: None

Number & Type of Containers: 1-Amber,1-Vial

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Solids, Total	83.	%	0.10	30 2540G		0331 20:30	LK

Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES  
CERTIFICATE OF ANALYSIS

Laboratory Sample Number: L0403080-04  
AB-CB-SSW-S1

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE PREP      ANAL	ID
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Volatile Petroleum Hydrocarbons	47 98-1	0402 17:06 PS
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Quality Control Information

Condition of sample received:	Satisfactory	
Sample temperature upon receipt:	Received on Ice	
Were samples received in methanol?	Covering the Soil	
Methanol ratio:	1:1 +/- 25%	
Were all QA/QC procedures REQUIRED by the method followed?		YES
Were all performance/acceptance standards for the required procedures achieved?		YES
Were significant modifications made to the method as specified in Sect 11.3?		NO
The normal acceptance range for the surrogate, 2,5-Dibromotoluene, is 70-130%.		

C5-C8 Aliphatics, Unadjusted	ND	mg/kg	2.26
C9-C12 Aliphatics, Unadjusted	ND	mg/kg	2.26
C9-C10 Aromatics	ND	mg/kg	2.26
C5-C8 Aliphatics, Adjusted	ND	mg/kg	2.26
C9-C12 Aliphatics, Adjusted	ND	mg/kg	2.26
Benzene	ND	mg/kg	0.113
Toluene	ND	mg/kg	0.113
Ethylbenzene	ND	mg/kg	0.113
p/m-Xylene	ND	mg/kg	0.113
o-Xylene	ND	mg/kg	0.113
Methyl tert butyl ether	ND	mg/kg	0.226
Naphthalene	ND	mg/kg	1.13

Surrogate(s)	Recovery		QC Criteria
2,5-Dibromotoluene-PID	115.	%	70-130
2,5-Dibromotoluene-FID	111.	%	70-130

Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES  
CERTIFICATE OF ANALYSIS

Laboratory Sample Number: L0403080-04  
AB-CB-SSW-S1

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	

Extractable Petroleum Hydrocarbons			46 98-1		0401 10:15 0406 21:34 LL	
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Quality Control Information

Condition of sample received:	Satisfactory	
Sample temperature upon receipt:	Received on Ice	
Sample extraction method:	Extracted Per the Method	
Were all QA/QC procedures REQUIRED by the method followed?		YES
Were all performance/acceptance standards for the required procedures achieved?		YES
Were significant modifications made to the method as specified in Sect 11.3?		NO
The normal acceptance range for the extraction surrogates, Chloro-octadecane and o-Terphenyl, is 40-140%.		
The normal acceptance range for the fractionation surrogates, 2-Fluorobiphenyl and 2-Bromonaphthalene, is 40-140%.		

C9-C18 Aliphatics	ND	mg/kg	12.0
C19-C36 Aliphatics	ND	mg/kg	12.0
C11-C22 Aromatics, Unadjusted	ND	mg/kg	12.0
C11-C22 Aromatics, Adjusted	ND	mg/kg	12.0
Naphthalene	ND	mg/kg	0.602
2-Methylnaphthalene	ND	mg/kg	0.602
Acenaphthylene	ND	mg/kg	0.602
Acenaphthene	ND	mg/kg	0.602
Fluorene	ND	mg/kg	0.602
Phenanthrene	ND	mg/kg	0.602
Anthracene	ND	mg/kg	0.602
Fluoranthene	ND	mg/kg	0.602
Pyrene	ND	mg/kg	0.602
Benzo(a)anthracene	ND	mg/kg	0.602
Chrysene	ND	mg/kg	0.602
Benzo(b)fluoranthene	ND	mg/kg	0.602
Benzo(k)fluoranthene	ND	mg/kg	0.602
Benzo(a)pyrene	ND	mg/kg	0.602
Indeno(1,2,3-cd)Pyrene	ND	mg/kg	0.602
Dibenzo(a,h)anthracene	ND	mg/kg	0.602
Benzo(g,h,i)perylene	ND	mg/kg	0.602

Surrogate(s)	Recovery		QC Criteria
Chloro-Octadecane	51.0	%	40-140
o-Terphenyl	66.0	%	40-140
2-Fluorobiphenyl	79.0	%	40-140
2-Bromonaphthalene	79.0	%	40-140

Comments: Complete list of References and Glossary of Terms found in Addendum I



ALPHA ANALYTICAL LABORATORIES  
CERTIFICATE OF ANALYSIS

Laboratory Sample Number: L0403080-05  
AB-CB-BOT-S1

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE PREP	ID ANAL
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Volatile Petroleum Hydrocarbons				47 98-1	0402 17:57	PS
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Quality Control Information

Condition of sample received:	Satisfactory	
Sample temperature upon receipt:	Received on Ice	
Were samples received in methanol?	Covering the Soil	
Methanol ratio:	1:1 +/- 25%	
Were all QA/QC procedures REQUIRED by the method followed?		YES
Were all performance/acceptance standards for the required procedures achieved?		YES
Were significant modifications made to the method as specified in Sect 11.3?		NO
The normal acceptance range for the surrogate, 2,5-Dibromotoluene, is 70-130%.		

C5-C8 Aliphatics, Unadjusted	ND	mg/kg	2.08
C9-C12 Aliphatics, Unadjusted	ND	mg/kg	2.08
C9-C10 Aromatics	ND	mg/kg	2.08
C5-C8 Aliphatics, Adjusted	ND	mg/kg	2.08
C9-C12 Aliphatics, Adjusted	ND	mg/kg	2.08
Benzene	ND	mg/kg	0.104
Toluene	ND	mg/kg	0.104
Ethylbenzene	ND	mg/kg	0.104
p/m-Xylene	ND	mg/kg	0.104
o-Xylene	ND	mg/kg	0.104
Methyl tert butyl ether	ND	mg/kg	0.208
Naphthalene	ND	mg/kg	1.04

Surrogate(s)	Recovery		QC Criteria
2,5-Dibromotoluene-PID	108.	%	70-130
2,5-Dibromotoluene-FID	101.	%	70-130

Comments: Complete list of References and Glossary of Terms found in Addendum I



ALPHA ANALYTICAL LABORATORIES  
CERTIFICATE OF ANALYSIS

Laboratory Sample Number: L0403080-05  
AB-CB-BOT-S1

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Extractable Petroleum Hydrocarbons				46 98-1		0401 10:15	0406 22:20 LL

Quality Control Information

Condition of sample received:	Satisfactory	
Sample temperature upon receipt:	Received on Ice	
Sample extraction method:	Extracted Per the Method	
Were all QA/QC procedures REQUIRED by the method followed?		YES
Were all performance/acceptance standards for the required procedures achieved?		YES
Were significant modifications made to the method as specified in Sect 11.3?		NO
The normal acceptance range for the extraction surrogates, Chloro-octadecane and o-Terphenyl, is 40-140%.		
The normal acceptance range for the fractionation surrogates, 2-Fluorobiphenyl and 2-Bromonaphthalene, is 40-140%.		

C9-C18 Aliphatics	ND	mg/kg	11.9
C19-C36 Aliphatics	ND	mg/kg	11.9
C11-C22 Aromatics, Unadjusted	ND	mg/kg	11.9
C11-C22 Aromatics, Adjusted	ND	mg/kg	11.9
Naphthalene	ND	mg/kg	0.595
2-Methylnaphthalene	ND	mg/kg	0.595
Acenaphthylene	ND	mg/kg	0.595
Acenaphthene	ND	mg/kg	0.595
Fluorene	ND	mg/kg	0.595
Phenanthrene	ND	mg/kg	0.595
Anthracene	ND	mg/kg	0.595
Fluoranthene	ND	mg/kg	0.595
Pyrene	ND	mg/kg	0.595
Benzo(a)anthracene	ND	mg/kg	0.595
Chrysene	ND	mg/kg	0.595
Benzo(b)fluoranthene	ND	mg/kg	0.595
Benzo(k)fluoranthene	ND	mg/kg	0.595
Benzo(a)pyrene	ND	mg/kg	0.595
Indeno(1,2,3-cd)Pyrene	ND	mg/kg	0.595
Dibenzo(a,h)anthracene	ND	mg/kg	0.595
Benzo(g,h,i)perylene	ND	mg/kg	0.595

Surrogate(s)	Recovery		QC Criteria
Chloro-Octadecane	41.0	%	40-140
o-Terphenyl	58.0	%	40-140
2-Fluorobiphenyl	74.0	%	40-140
2-Bromonaphthalene	76.0	%	40-140

Comments: Complete list of References and Glossary of Terms found in Addendum I



ALPHA ANALYTICAL LABORATORIES  
QUALITY ASSURANCE BATCH DUPLICATE ANALYSIS

Laboratory Job Number: L0403080

Parameter	Value 1	Value 2	Units	RPD	RPD Limits
Solids, Total for sample(s) 01-05 (L0403059-01, WG166664)					
Solids, Total	81.	83.	%	2	
Volatile Petroleum Hydrocarbons for sample(s) 01-06 (L0402934-07, WG166604)					
C5-C8 Aliphatics	ND	ND	mg/kg	NC	50
C9-C12 Aliphatics	ND	ND	mg/kg	NC	50
C9-C10 Aromatics	ND	ND	mg/kg	NC	50
C5-C8 Aliphatics, Adjusted	ND	ND	mg/kg	NC	50
C9-C12 Aliphatics, Adjusted	ND	ND	mg/kg	NC	50
Benzene	ND	ND	mg/kg	NC	50
Toluene	ND	ND	mg/kg	NC	50
Ethylbenzene	ND	ND	mg/kg	NC	50
p/m-Xylene	ND	ND	mg/kg	NC	50
o-Xylene	ND	ND	mg/kg	NC	50
Methyl tert butyl ether	ND	ND	mg/kg	NC	50
Naphthalene	ND	ND	mg/kg	NC	50
Surrogate(s) Recovery QC Criteria					
2,5-Dibromotoluene-PID	91.0	82.0	%	10	70-130
2,5-Dibromotoluene-FID	112.	105.	%	6	70-130
Extractable Petroleum Hydrocarbons for sample(s) 01-05 (L0403080-01, WG166755)					
C9-C18 Aliphatics	ND	ND	mg/kg	NC	50
C19-C36 Aliphatics	ND	ND	mg/kg	NC	50
C11-C22 Aromatics	ND	ND	mg/kg	NC	50
C11-C22 Aromatics, Adjusted	ND	ND	mg/kg	NC	50
Naphthalene	ND	ND	mg/kg	NC	50
2-Methylnaphthalene	ND	ND	mg/kg	NC	50
Acenaphthylene	ND	ND	mg/kg	NC	50
Acenaphthene	ND	ND	mg/kg	NC	50
Fluorene	ND	ND	mg/kg	NC	50
Phenanthrene	ND	ND	mg/kg	NC	50
Anthracene	ND	ND	mg/kg	NC	50
Fluoranthene	ND	ND	mg/kg	NC	50
Pyrene	ND	ND	mg/kg	NC	50
Benzo(a)anthracene	ND	ND	mg/kg	NC	50
Chrysene	ND	ND	mg/kg	NC	50
Benzo(b)fluoranthene	ND	ND	mg/kg	NC	50
Benzo(k)fluoranthene	ND	ND	mg/kg	NC	50
Benzo(a)pyrene	ND	ND	mg/kg	NC	50
Indeno(1,2,3-cd)Pyrene	ND	ND	mg/kg	NC	50
Dibenzo(a,h)anthracene	ND	ND	mg/kg	NC	50
Benzo(ghi)perylene	ND	ND	mg/kg	NC	50
Surrogate(s) Recovery QC Criteria					
Chloro-Octadecane	53.0	60.0	%	12	40-140
o-Terphenyl	61.0	69.0	%	12	40-140
2-Fluorobiphenyl	78.0	81.0	%	4	40-140
2-Bromonaphthalene	79.0	81.0	%	3	40-140

ALPHA ANALYTICAL LABORATORIES  
QUALITY ASSURANCE BATCH SPIKE ANALYSES

Laboratory Job Number: L0403080

Parameter	% Recovery	QC Criteria
Volatile Petroleum Hydrocarbons LCS for sample(s) 01-06 (WG166604)		
Benzene	86	70-130
Toluene	78	70-130
Ethylbenzene	94	70-130
p/m-Xylene	85	70-130
o-Xylene	83	70-130
Methyl tert butyl ether	71	70-130
Naphthalene	79	70-130
Surrogate(s)		
2,5-Dibromotoluene-PID	83	70-130
2,5-Dibromotoluene-FID	102	70-130
Extractable Petroleum Hydrocarbons LCS for sample(s) 01-05 (WG166755)		
Naphthalene	50	40-140
Acenaphthene	62	40-140
Anthracene	73	40-140
Pyrene	79	40-140
Chrysene	78	40-140
Nonane (C9)	53	40-140
Tetradecane (C14)	64	40-140
Nonadecane (C19)	81	40-140
Eicosane (C20)	81	40-140
Octacosane (C28)	77	40-140
Surrogate(s)		
Chloro-Octadecane	66	40-140
o-Terphenyl	78	40-140
2-Fluorobiphenyl	78	40-140
2-Bromonaphthalene	65	40-140

ALPHA ANALYTICAL LABORATORIES  
QUALITY ASSURANCE BATCH BLANK ANALYSIS

Laboratory Job Number: L0403080

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Blank Analysis for sample(s) 01 (WG166604-4)							
Volatile Petroleum Hydrocarbons				47 98-1		0401 13:12 PS	
C5-C8 Aliphatics, Unadjusted	ND	mg/kg	2.00				
C9-C12 Aliphatics, Unadjusted	ND	mg/kg	2.00				
C9-C10 Aromatics	ND	mg/kg	2.00				
C5-C8 Aliphatics, Adjusted	ND	mg/kg	2.00				
C9-C12 Aliphatics, Adjusted	ND	mg/kg	2.00				
Benzene	ND	mg/kg	0.100				
Toluene	ND	mg/kg	0.100				
Ethylbenzene	ND	mg/kg	0.100				
p/m-Xylene	ND	mg/kg	0.100				
o-Xylene	ND	mg/kg	0.100				
Methyl tert butyl ether	ND	mg/kg	0.200				
Naphthalene	ND	mg/kg	1.00				
Surrogate(s)	Recovery		QC Criteria				
2,5-Dibromotoluene-PID	107.	%	70-130				
2,5-Dibromotoluene-FID	113.	%	70-130				
Blank Analysis for sample(s) 02-06 (WG166604-5)							
Volatile Petroleum Hydrocarbons				47 98-1		0402 10:07 PS	
C5-C8 Aliphatics, Unadjusted	ND	mg/kg	2.00				
C9-C12 Aliphatics, Unadjusted	ND	mg/kg	2.00				
C9-C10 Aromatics	ND	mg/kg	2.00				
C5-C8 Aliphatics, Adjusted	ND	mg/kg	2.00				
C9-C12 Aliphatics, Adjusted	ND	mg/kg	2.00				
Benzene	ND	mg/kg	0.100				
Toluene	ND	mg/kg	0.100				
Ethylbenzene	ND	mg/kg	0.100				
p/m-Xylene	ND	mg/kg	0.100				
o-Xylene	ND	mg/kg	0.100				
Methyl tert butyl ether	ND	mg/kg	0.200				
Naphthalene	ND	mg/kg	1.00				
Surrogate(s)	Recovery		QC Criteria				
2,5-Dibromotoluene-PID	114.	%	70-130				
2,5-Dibromotoluene-FID	112.	%	70-130				
Blank Analysis for sample(s) 01-05 (WG166755-1)							
Extractable Petroleum Hydrocarbons				46 98-1		0401 10:15 0402 13:42 LL	
C9-C18 Aliphatics	ND	mg/kg	10.0				
C19-C36 Aliphatics	ND	mg/kg	10.0				
C11-C22 Aromatics, Unadjusted	ND	mg/kg	10.0				
C11-C22 Aromatics, Adjusted	ND	mg/kg	10.0				
Naphthalene	ND	mg/kg	0.500				
2-Methylnaphthalene	ND	mg/kg	0.500				
Acenaphthylene	ND	mg/kg	0.500				
Acenaphthene	ND	mg/kg	0.500				
Fluorene	ND	mg/kg	0.500				

ALPHA ANALYTICAL LABORATORIES  
 QUALITY ASSURANCE BATCH BLANK ANALYSIS

Laboratory Job Number: L0403080

Continued

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Blank Analysis for sample(s) 01-05 (WG166755-1)							
Extractable Petroleum Hydrocarbons continued				46 98-1		0401 10:15	0402 13:42 LL
Phenanthrene	ND	mg/kg	0.500				
Anthracene	ND	mg/kg	0.500				
Fluoranthene	ND	mg/kg	0.500				
Pyrene	ND	mg/kg	0.500				
Benzo (a) anthracene	ND	mg/kg	0.500				
Chrysene	ND	mg/kg	0.500				
Benzo (b) fluoranthene	ND	mg/kg	0.500				
Benzo (k) fluoranthene	ND	mg/kg	0.500				
Benzo (a) pyrene	ND	mg/kg	0.500				
Indeno (1, 2, 3-cd) Pyrene	ND	mg/kg	0.500				
Dibenzo (a, h) anthracene	ND	mg/kg	0.500				
Benzo (g, h, i) perylene	ND	mg/kg	0.500				
Surrogate (s)	Recovery			QC Criteria			
Chloro-Octadecane	62.0	%		40-140			
o-Terphenyl	84.0	%		40-140			
2-Fluorobiphenyl	87.0	%		40-140			
2-Bromonaphthalene	70.0	%		40-140			

ALPHA ANALYTICAL LABORATORIES  
ADDENDUM I

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REFERENCES

30. Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WPCF. 18th Edition. 1992.
46. Method for the Determination of Extractable Petroleum Hydrocarbons (EPH), Massachusetts Department of Environmental Protection, (MADEP-EPH-98-1), January 1998.
47. Method for the Determination of Volatile Petroleum Hydrocarbons (VPH), Massachusetts Department of Environmental Protection, (MADEP-VPH-98-1), January 1998.

GLOSSARY OF TERMS AND SYMBOLS

- REF Reference number in which test method may be found.  
METHOD Method number by which analysis was performed.  
ID Initials of the analyst.  
ND Not detected in comparison to the reported detection limit.

Please note that all solid samples are reported on dry weight basis unless noted otherwise.

LIMITATION OF LIABILITIES

Alpha Analytical, Inc. performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical, Inc., shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical, Inc. be held liable for any incidental consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical, Inc.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding times and splitting of samples in the field.

ALPHA ANALYTICAL LABORATORIES  
LOGIN SPECIFIC INFORMATION

Laboratory Job Number: L0403080

Were project specific reporting limits specified? YES

Cooler Information

Cooler	Custody Seal
A	Absent

Container Information

Container ID	Container Type	Cooler	pH	Temp	Pres	Seal	Analysis
L0403080-01A	Vial MeOH preserved	A	N/A	1.1 C	Y	Absent	VPH-DELUX
L0403080-01B	Amber 250ml unpreserved	A	N/A	1.1 C	Y	Absent	EPH-DELUX, TS
L0403080-02A	Vial MeOH preserved	A	N/A	1.1 C	Y	Absent	VPH-DELUX
L0403080-02B	Amber 250ml unpreserved	A	N/A	1.1 C	Y	Absent	EPH-DELUX, TS
L0403080-03A	Vial MeOH preserved	A	N/A	1.1 C	Y	Absent	VPH-DELUX
L0403080-03B	Amber 250ml unpreserved	A	N/A	1.1 C	Y	Absent	EPH-DELUX, TS
L0403080-04A	Vial MeOH preserved	A	N/A	1.1 C	Y	Absent	VPH-DELUX
L0403080-04B	Amber 250ml unpreserved	A	N/A	1.1 C	Y	Absent	EPH-DELUX, TS
L0403080-05A	Vial MeOH preserved	A	N/A	1.1 C	Y	Absent	VPH-DELUX
L0403080-05B	Amber 250ml unpreserved	A	N/A	1.1 C	Y	Absent	EPH-DELUX, TS
L0403080-06A	Vial MeOH preserved	A	N/A	1.1 C	Y	Absent	VPH-DELUX

Container Comments

Container ID    Comments



# CHAIN OF CUSTODY RECORD

Phone (617) 886-7400  
 Fax (617) 886-7600  
 Page 1 of 1

H&A FILE NO. 3060-000 LABORATORY ALPHA DELIVERY DATE 3/31/04  
 PROJECT NAME DRINKING WATER ADDRESS STANDARD TURNAROUND TIME  
 H&A CONTACT STEVE ROYCE CONTACT JOE MURPHY PROJECT MANAGER

Sample No.	Date	Time	Depth	Type	Analysis Requested										Number of Containers	Comments (special instructions, precautions, additional method numbers, etc.)		
					VOA	ABNs PAH only	MCP Metals	Pesticides PCBs	Full Site Changes only	Full Site Changes only	TFH (specify)	TCLP (specify)	Reactivity	Ignitability			Corrosivity	
81N-CLAY-BOTTOM	3/31/04	845	8	SOIL													2	Laboratory to use applicable DEP CAM methods, unless otherwise directed.  OXO EPA/VAH AND TARGET ANALYTES.
81R-CLAY-SOUTH	"	845		SOIL													2	
AB-CB-HSW-S1	"	1105	6-10	SOIL													2	
AB-CB-SSW-S1	"	1110	6-10	SOIL													2	
AB-CB-BOT-S1	"	1100	10	SOIL													1	
Trip Blank																		

Sampled and Relinquished by				Received by			
Sign	Print	Date	Time	Sign	Print	Date	Time
<i>[Signature]</i>	Tom R. Burt	3/31/04	1510	<i>[Signature]</i>	Mark Dobby	3/31/04	1510
<i>[Signature]</i>	Tom D. Burt	3/31/04	1630	<i>[Signature]</i>	Mark Dobby	3/31/04	1510
<i>[Signature]</i>	H & A	3/31/04	1630	<i>[Signature]</i>	H & A	3/31/04	1510
<i>[Signature]</i>	Steve Royce	3/31/04	1630	<i>[Signature]</i>	Steve Royce	3/31/04	1510

LIQUID				SOLID					
VOA Vial	Amber Glass	Plastic Bottle	Preservative	Volume	VOA Vial	Amber Glass	Clear Glass	Preservative	Volume

Evidence samples were tampered with? YES NO  
 If YES, please explain in section below.

Required Reporting Limits and Data Quality Objectives:  
 RC-S1  S1  GW1  
 RC-S2  S2  GW2  
 RC-GW1  S3  GW3  
 RC-GW2

Presumptive Certainty Data Package (Laboratory to use applicable DEP CAM methods)

A. Sample chilled C. NaOH E. H<sub>2</sub>SO<sub>4</sub> G. Methanol  
 B. Sample filtered D. HNO<sub>3</sub> F. HCL H. Water/NaHSO<sub>4</sub> (circle)

If Presumptive Certainty Data Package is needed, initial all sections:  
 The required minimum field QC samples, as designated in BWSC CAM-VII have been or will be collected, as appropriate, to meet the requirements of Presumptive Certainty.  
 Matrix Spike (MS) samples for MCP Metals and/or Cyanide are included and identified herein.  
 This Chain of Custody Record (specify) AA does not include samples defined as Drinking Water Samples.  
 If this Chain of Custody Record identifies samples defined as Drinking Water Samples, Trip Blanks and Field Duplicates are included and identified and analysis of TICs are required, as appropriate. Laboratory should (specify if applicable) AA hold for contingency testing the Drinking Water Field Duplicate and Drinking Water Trip Blank samples.



ALPHA ANALYTICAL LABORATORIES

Eight Walkup Drive  
Westborough, Massachusetts 01581-1019  
(508) 898-9220 www.alphalab.com

MA:M-MA086 NH:200301-A CT:PH-0574 ME:MA086 RI:65 NY:11148 NJ:MA935 Army:USACE

CERTIFICATE OF ANALYSIS

Client: Haley & Aldrich, Inc. Laboratory Job Number: L0403265  
Address: 465 Medford Street, Suite 2200  
Boston, MA 02129-1400 Date Received: 05-APR-2004  
Attn: Mr. Steve Provencal Date Reported: 08-APR-2004  
Project Number: 30660-000 Delivery Method: Alpha  
Site: BURBANK SCHOOL

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ALPHA SAMPLE NUMBER	CLIENT IDENTIFICATION	SAMPLE LOCATION
L0403265-01	UST-STKPL6-S2	BELMONT, MA
L0403265-02	UST-STKPL6-S3	BELMONT, MA

I, the undersigned, attest under the pains and penalties of perjury that, based upon my personal inquiry of those responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

---

Authorized by: Scott McLean  
This document electronically signed

ALPHA ANALYTICAL LABORATORIES  
NARRATIVE REPORT

Laboratory Job Number: L0403265

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TPH-8100

L0403265-02 has elevated limits of detection due to the 5x dilutions required by the elevated concentrations of target compounds in the samples.





ALPHA ANALYTICAL LABORATORIES  
 QUALITY ASSURANCE BATCH DUPLICATE ANALYSIS

Laboratory Job Number: L0403265

Parameter	Value 1	Value 2	Units	RPD	RPD Limits
Solids, Total for sample(s) 01 (L0403252-08, WG166976)					
Solids, Total	82.	81.	%	1	
Solids, Total for sample(s) 02 (L0403333-01, WG167216)					
Solids, Total	86.	86.	%	0	
Hydrocarbon Scan by GC 8100M for sample(s) 01-02 (L0403265-01, WG167024)					
Mineral Spirits	ND	ND	mg/kg	NC	40
Gasoline	ND	ND	mg/kg	NC	40
Fuel Oil #2/Diesel	ND	ND	mg/kg	NC	40
Fuel Oil #4	ND	ND	mg/kg	NC	40
Fuel Oil #6	ND	ND	mg/kg	NC	40
Motor Oil	ND	ND	mg/kg	NC	40
Kerosene	ND	ND	mg/kg	NC	40
Transformer Oil	ND	ND	mg/kg	NC	40
Unknown Hydrocarbon	890	740	mg/kg	18	40
Surrogate(s)	Recovery				QC Criteria
o-Teirphenyl	117.	104.	%	12	40-140

ALPHA ANALYTICAL LABORATORIES  
QUALITY ASSURANCE BATCH SPIKE ANALYSES

Laboratory Job Number: L0403265

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Parameter	% Recovery	QC Criteria
Hydrocarbon Scan by GC 8100M LCS for sample(s) 01-02 (WG167024)		
Petroleum Spike	74	40-140
Surrogate(s)		
o-Terphenyl	113	40-140

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ALPHA ANALYTICAL LABORATORIES  
 QUALITY ASSURANCE BATCH BLANK ANALYSIS

Laboratory Job Number: L0403265

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Blank Analysis for sample(s) 01-02 (WG167024-1)							
Hydrocarbon Scan by GC 8100M				1 8100M		0406 10:00	0407 03:41 JB
Mineral Spirits	ND	mg/kg	100				
Gasoline	ND	mg/kg	100				
Fuel Oil #2/Diesel	ND	mg/kg	100				
Fuel Oil #4	ND	mg/kg	100				
Fuel Oil #6	ND	mg/kg	100				
Motor Oil	ND	mg/kg	100				
Kerosene	ND	mg/kg	100				
Transformer Oil	ND	mg/kg	100				
Unknown Hydrocarbon	ND	mg/kg	100				
Surrogate(s)	Recovery			QC Criteria			
o-Terphenyl	84.0	%		40-140			

ALPHA ANALYTICAL LABORATORIES  
ADDENDUM I

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REFERENCES

1. Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - IIIA, 1997.
30. Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WPCF. 18th Edition. 1992.

GLOSSARY OF TERMS AND SYMBOLS

REF Reference number in which test method may be found.  
METHOD Method number by which analysis was performed.  
ID Initials of the analyst.  
ND Not detected in comparison to the reported detection limit.

Please note that all solid samples are reported on dry weight basis unless noted otherwise.

LIMITATION OF LIABILITIES

Alpha Analytical, Inc. performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical, Inc., shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical, Inc. be held liable for any incidental consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical, Inc.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding times and splitting of samples in the field.

**CHAIN OF CUSTODY RECORD**

HALEY FILE NO. 30610-002 LABORATORY ADNA DELIVERY DATE 4/5/04  
 PROJECT NAME DUBBAK SITE ADDRESS TURNAROUND TIME 3 DAYS  
 HALEY CONTACT SMY RESEARCH CONTACT JEFF MANEY PROJECT MANAGER

Sample No.	Date	Time	Depth	Type	Analysis Requested								Number of Containers	Comments (special instructions, precautions, additional method numbers, etc.)	
					VOA	ABNs PAH only	MCP Metals	Pesticides PCBs	VPH Full Suite C-ranges only	EPH Full Suite C-ranges only	TPH (specify)	TCLP (specify)			Reactivity Ignitability Corrosivity
LF-SRUC-52	4/5/04	1420	—	SOIL											Laboratory to use applicable DEP CAM methods, unless otherwise directed.
LF-SRUC-53	"	1415	—	FF						X					TPH by EL-TID MGM 810D

Sampled and Reinquished by		Received by		LIQUID		SOLID		VOA Vial	Amber Glass	Plastic Bottle Preservative	Volume	Sampling Comments
Sign	Print	Sign	Print	Sign	Print	Sign	Print					
	Todd Daulton Todd B. Rowe RFA											1 PERS & FRA DRO NO MIL & CARRIAGE 617.886.7117
Date	4/5/04 Time 1545	Date	4/5/04 Time 1845									
Reinquished by		Received by										
Sign		Sign										
Print		Print										
Firm		Firm										
Date	4/5/04 Time 1845	Date	4/5/04 Time 1845									
Reinquished by		Received by										
Sign		Sign										
Print		Print										
Firm		Firm										
Date		Date										

IF Presumptive Certainty Data Package is needed, initial all sections: Presumptive Certainty Data Package (Laboratory to use applicable DEP CAM methods)

The required minimum field QC samples, as designated in BW/SC CAM-VII have been or will be collected, as appropriate, to meet the requirements of Presumptive Certainty. Matrix Spike (MS) samples for MCP Metals and/or Cyanide are included and identified herein.

This Chain of Custody Record (specify) NA includes NA does not include samples defined as Drinking Water Samples. Trip Blanks and Field Duplicates are included and identified and analysis of TICS are required, as appropriate. Laboratory should (specify if applicable) analyze hold for contingency testing the Drinking Water Field Duplicate and Drinking Water Trip Blank samples.

Required Reporting Limits and Data Quality Objectives

<input checked="" type="checkbox"/> RC-S1	<input type="checkbox"/> S1	<input type="checkbox"/> GW1
<input type="checkbox"/> RC-S2	<input type="checkbox"/> S2	<input type="checkbox"/> GW2
<input type="checkbox"/> RC-GW1	<input type="checkbox"/> S3	<input type="checkbox"/> GW3
<input type="checkbox"/> RC-GW2		

ALPHA ANALYTICAL LABORATORIES

Eight Walkup Drive  
Westborough, Massachusetts 01581-1019  
(508) 898-9220 www.alphalab.com

MA:M-MA086 NH:200301-A CT:PH-0574 ME:MA086 RI:65 NY:11148 NJ:MA935 Army:USACE

CERTIFICATE OF ANALYSIS

Client: Haley & Aldrich, Inc. Laboratory Job Number: L0403320  
Address: 465 Medford Street, Suite 2200  
Boston, MA 02129-1400 Date Received: 06-APR-2004  
Attn: Mr. Steve Provencal Date Reported: 09-APR-2004  
Project Number: 30660-000 Delivery Method: Alpha  
Site: BURBANK SCHOOL

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The following questions pertain only to MCP Analytical Methods

An affirmative response to questions A,B,C & D is required for "Presumptive Certainty" status

- A. Were all samples received by the laboratory in a condition consistent with those described on their Chain-of-Custody documentation for the data set? YES
- B. Were all QA/QC procedures required for the specified analytical method(s) included in this report followed, including the requirement to note and discuss in a narrative QC data that did not meet appropriate performance standards or guidelines? YES
- C. Does the analytical data included in this report meet all the requirements for "Presumptive Certainty", as described in section 2.0 of the MADEP document CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data"? YES
- D. VPH and EPH methods only: Was the VPH or EPH method run without significant modifications, as specified in Section 11.3? YES

A response to questions E and F is required for "Presumptive Certainty" status

- E. Were all QC performance standards and recommendations for the specified method(s) achieved? YES
- F. Were results for all analyte-list compounds/elements for the specified method(s) reported? YES

Any answers of NO to the above questions are addressed in the case narrative.

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I, the undersigned, attest under the pains and penalties of perjury that, based upon my personal inquiry of those responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

---

Authorized by: Scott McLean  
This document electronically signed

ALPHA ANALYTICAL LABORATORIES

Laboratory Job Number: L0403320

Date Reported: 09-APR-2004

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ALPHA SAMPLE NUMBER	CLIENT IDENTIFICATION	SAMPLE LOCATION
L0403320-01	121N-CONC-NSW1-S4	BELMONT, MA
L0403320-02	121N-CONC-BOT1-S3	BELMONT, MA
L0403320-03	121N-CON-SSW1-S4	BELMONT, MA
L0403320-04	DMH-NSW-S3	BELMONT, MA
L0403320-05	DMH-BOT-S3	BELMONT, MA

ALPHA ANALYTICAL LABORATORIES  
NARRATIVE REPORT

Laboratory Job Number: L0403320

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MCP Related Narratives

Extraction methods

Extraction method 3545 was used as the extraction method for the analysis of EPH by method 98-1.

Report Submission

All MCP required questions were answered with affirmative responses, therefore, there are no relevant data issues to discuss.

ALPHA ANALYTICAL LABORATORIES  
CERTIFICATE OF ANALYSIS

MA:M-MA086 NH:200301-A CT:PH-0574 ME:MA086 RI:65 NY:11148 NJ:MA935 Army:USACE

Laboratory Sample Number: L0403320-01	Date Collected: 06-APR-2004 13:08
121N-CONC-NSW1-S4	Date Received : 06-APR-2004
Sample Matrix: SOIL	Date Reported : 09-APR-2004
Condition of Sample: Satisfactory	Field Prep: None
Number & Type of Containers: 1-Amber, 1-Vial	

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Solids, Total	84.	%	0.10	30 2540G	0406	21:30	LK

Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES  
CERTIFICATE OF ANALYSIS

Laboratory Sample Number: L0403320-01  
121N-CONC-NSW1-S4

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE	ID
					PREP	ANAL

Volatile Petroleum Hydrocarbons	47 98-1	0407 15:36 PS
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Quality Control Information

Condition of sample received:	Satisfactory	
Sample temperature upon receipt:	Received on Ice	
Were samples received in methanol?	Covering the Soil	
Methanol ratio:	1:1 +/- 25%	
Were all QA/QC procedures REQUIRED by the method followed?		YES
Were all performance/acceptance standards for the required procedures achieved?		YES
Were significant modifications made to the method as specified in Sect 11.3?		NO
The normal acceptance range for the surrogate, 2,5-Dibromotoluene, is 70-130%.		

C5-C8 Aliphatics, Unadjusted	ND	mg/kg	2.16
C9-C12 Aliphatics, Unadjusted	ND	mg/kg	2.16
C9-C10 Aromatics	ND	mg/kg	2.16
C5-C8 Aliphatics, Adjusted	ND	mg/kg	2.16
C9-C12 Aliphatics, Adjusted	ND	mg/kg	2.16
Benzene	ND	mg/kg	0.108
Toluene	ND	mg/kg	0.108
Ethylbenzene	ND	mg/kg	0.108
p/m-Xylene	ND	mg/kg	0.108
o-Xylene	ND	mg/kg	0.108
Methyl tert butyl ether	ND	mg/kg	0.216
Naphthalene	ND	mg/kg	1.08

Surrogate(s)	Recovery		QC Criteria
2,5-Dibromotoluene-PID	118.	%	70-130
2,5-Dibromotoluene-FID	113.	%	70-130

Comments: Complete list of References and Glossary of Terms found in Addendum I



ALPHA ANALYTICAL LABORATORIES  
CERTIFICATE OF ANALYSIS

Laboratory Sample Number: L0403320-01  
121N-CONC-NSW1-S4

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE PREP      ANAL	ID
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Extractable Petroleum Hydrocarbons				46 98-1	0406 21:00 0407 14:49	LL
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Quality Control Information

Condition of sample received:	Satisfactory	
Sample temperature upon receipt:	Received on Ice	
Sample extraction method:	Extracted Per the Method	
Were all QA/QC procedures REQUIRED by the method followed?		YES
Were all performance/acceptance standards for the required procedures achieved?		YES
Were significant modifications made to the method as specified in Sect 11.3?		NO
The normal acceptance range for the extraction surrogates, Chloro-octadecane and o-Terphenyl, is 40-140%.		
The normal acceptance range for the fractionation surrogates, 2-Fluorobiphenyl and 2-Bromonaphthalene, is 40-140%.		

C9-C18 Aliphatics	ND	mg/kg	11.9
C19-C36 Aliphatics	ND	mg/kg	11.9
C11-C22 Aromatics, Unadjusted	ND	mg/kg	11.9
C11-C22 Aromatics, Adjusted	ND	mg/kg	11.9
Naphthalene	ND	mg/kg	0.595
2-Methylnaphthalene	ND	mg/kg	0.595
Acenaphthylene	ND	mg/kg	0.595
Acenaphthene	ND	mg/kg	0.595
Fluorene	ND	mg/kg	0.595
Phenanthrene	ND	mg/kg	0.595
Anthracene	ND	mg/kg	0.595
Fluoranthene	ND	mg/kg	0.595
Pyrene	ND	mg/kg	0.595
Benzo(a)anthracene	ND	mg/kg	0.595
Chrysene	ND	mg/kg	0.595
Benzo(b)fluoranthene	ND	mg/kg	0.595
Benzo(k)fluoranthene	ND	mg/kg	0.595
Benzo(a)pyrene	ND	mg/kg	0.595
Indeno(1,2,3-cd)Pyrene	ND	mg/kg	0.595
Dibenzo(a,h)anthracene	ND	mg/kg	0.595
Benzo(g,h,i)perylene	ND	mg/kg	0.595

Surrogate(s)	Recovery	%	QC Criteria
Chloro-Octadecane	56.0	%	40-140
o-Terphenyl	63.0	%	40-140
2-Fluorobiphenyl	74.0	%	40-140
2-Bromonaphthalene	79.0	%	40-140

Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES  
CERTIFICATE OF ANALYSIS

MA:M-MA086 NH:200301-A CT:PH-0574 ME:MA086 RI:65 NY:11148 NJ:MA935 Army:USACE

Laboratory Sample Number: L0403320-02	Date Collected: 06-APR-2004 13:10
121N-CONC-BOT1-S3	Date Received : 06-APR-2004
Sample Matrix: SOIL	Date Reported : 09-APR-2004
Condition of Sample: Satisfactory	Field Prep: None
Number & Type of Containers: 1-Amber,1-Vial	

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Solids, Total	88.	%	0.10	30 2540G			0406 21:30 LK

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Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES  
CERTIFICATE OF ANALYSIS

Laboratory Sample Number: L0403320-02  
121N-CONC-BOT1-S3

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE PREP      ANAL	ID
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Volatile Petroleum Hydrocarbons	47 98-1				0407 16:27 PS	
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Quality Control Information

Condition of sample received:	Satisfactory	
Sample temperature upon receipt:	Received on Ice	
Were samples received in methanol?	Covering the Soil	
Methanol ratio:	1:1 +/- 25%	
Were all QA/QC procedures REQUIRED by the method followed?		YES
Were all performance/acceptance standards for the required procedures achieved?		YES
Were significant modifications made to the method as specified in Sect 11.3?		NO
The normal acceptance range for the surrogate, 2,5-Dibromotoluene, is 70-130%.		

C5-C8 Aliphatics, Unadjusted	ND	mg/kg	2.29		
C9-C12 Aliphatics, Unadjusted	ND	mg/kg	2.29		
C9-C10 Aromatics	ND	mg/kg	2.29		
C5-C8 Aliphatics, Adjusted	ND	mg/kg	2.29		
C9-C12 Aliphatics, Adjusted	ND	mg/kg	2.29		
Benzene	ND	mg/kg	0.114		
Toluene	ND	mg/kg	0.114		
Ethylbenzene	ND	mg/kg	0.114		
p/m-Xylene	ND	mg/kg	0.114		
o-Xylene	ND	mg/kg	0.114		
Methyl tert butyl ether	ND	mg/kg	0.229		
Naphthalene	ND	mg/kg	1.14		

Surrogate(s)	Recovery			QC Criteria	
2,5-Dibromotoluene-PID	98.0	%		70-130	
2,5-Dibromotoluene-FID	101.	%		70-130	

Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES  
CERTIFICATE OF ANALYSIS

Laboratory Sample Number: L0403320-02  
121N-CONC-BOT1-S3

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	

Extractable Petroleum Hydrocarbons			46 98-1		0406 21:00	0407 16:14	LL
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Quality Control Information

Condition of sample received:	Satisfactory	
Sample temperature upon receipt:	Received on Ice	
Sample extraction method:	Extracted Per the Method	
Were all QA/QC procedures REQUIRED by the method followed?		YES
Were all performance/acceptance standards for the required procedures achieved?		YES
Were significant modifications made to the method as specified in Sect 11.3?		NO
The normal acceptance range for the extraction surrogates, Chloro-octadecane and o-Terphenyl, is 40-140%.		
The normal acceptance range for the fractionation surrogates, 2-Fluorobiphenyl and 2-Bromonaphthalene, is 40-140%.		

C9-C18 Aliphatics	ND	mg/kg	11.4
C19-C36 Aliphatics	ND	mg/kg	11.4
C11-C22 Aromatics, Unadjusted	ND	mg/kg	11.4
C11-C22 Aromatics, Adjusted	ND	mg/kg	11.4
Naphthalene	ND	mg/kg	0.568
2-Methylnaphthalene	ND	mg/kg	0.568
Acenaphthylene	ND	mg/kg	0.568
Acenaphthene	ND	mg/kg	0.568
Fluorene	ND	mg/kg	0.568
Phenanthrene	ND	mg/kg	0.568
Anthracene	ND	mg/kg	0.568
Fluoranthene	ND	mg/kg	0.568
Pyrene	ND	mg/kg	0.568
Benzo (a) anthracene	ND	mg/kg	0.568
Chrysene	ND	mg/kg	0.568
Benzo (b) fluoranthene	ND	mg/kg	0.568
Benzo (k) fluoranthene	ND	mg/kg	0.568
Benzo (a) pyrene	ND	mg/kg	0.568
Indeno (1,2,3-cd) Pyrene	ND	mg/kg	0.568
Dibenzo (a,h) anthracene	ND	mg/kg	0.568
Benzo (g,h,i) perylene	ND	mg/kg	0.568

Surrogate (s)	Recovery		QC Criteria
Chloro-Octadecane	46.0	%	40-140
o-Terphenyl	76.0	%	40-140
2-Fluorobiphenyl	73.0	%	40-140
2-Bromonaphthalene	62.0	%	40-140

Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES  
CERTIFICATE OF ANALYSIS

MA:M-MA086 NH:200301-A CT:PH-0574 ME:MA086 RI:65 NY:11148 NJ:MA935 Army:USACE

Laboratory Sample Number: L0403320-03  
121N-CON-SSW1-S4  
Date Collected: 06-APR-2004 13:12  
Date Received : 06-APR-2004  
Sample Matrix: SOIL  
Date Reported : 09-APR-2004  
Condition of Sample: Satisfactory  
Field Prep: None  
Number & Type of Containers: 1-Amber,1-Vial

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Solids, Total	81.	%	0.10	30 2540G	0406	21:30	LK

Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES  
CERTIFICATE OF ANALYSIS

Laboratory Sample Number: L0403320-03  
121N-CON-SSW1-S4

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE PREP      ANAL	ID
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Volatile Petroleum Hydrocarbons			47	98-1		0408 21:40 PS
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Quality Control Information

Condition of sample received:	Satisfactory
Sample temperature upon receipt:	Received on Ice
Were samples received in methanol?	Covering the Soil
Methanol ratio:	1:1 +/- 25%
Were all QA/QC procedures REQUIRED by the method followed?	YES
Were all performance/acceptance standards for the required procedures achieved?	YES
Were significant modifications made to the method as specified in Sect 11.3?	NO
The normal acceptance range for the surrogate, 2,5-Dibromotoluene, is 70-130%.	

C5-C8 Aliphatics, Unadjusted	ND	mg/kg	3.37
C9-C12 Aliphatics, Unadjusted	ND	mg/kg	3.37
C9-C10 Aromatics	ND	mg/kg	3.37
C5-C8 Aliphatics, Adjusted	ND	mg/kg	3.37
C9-C12 Aliphatics, Adjusted	ND	mg/kg	3.37
Benzene	ND	mg/kg	0.168
Toluene	ND	mg/kg	0.168
Ethylbenzene	ND	mg/kg	0.168
p/m-Xylene	ND	mg/kg	0.168
o-Xylene	ND	mg/kg	0.168
Methyl tert butyl ether	ND	mg/kg	0.337
Naphthalene	ND	mg/kg	1.68

Surrogate(s)	Recovery		QC Criteria
2,5-Dibromotoluene-PID	110.	%	70-130
2,5-Dibromotoluene-FID	106.	%	70-130

Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES  
CERTIFICATE OF ANALYSIS

Laboratory Sample Number: L0403320-03  
121N-CON-SSW1-S4

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	

Extractable Petroleum Hydrocarbons				46 98-1	0406 21:00	0407 17:02	LL
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Quality Control Information

Condition of sample received:	Satisfactory	
Sample temperature upon receipt:	Received on Ice	
Sample extraction method:	Extracted Per the Method	
Were all QA/QC procedures REQUIRED by the method followed?		YES
Were all performance/acceptance standards for the required procedures achieved?		YES
Were significant modifications made to the method as specified in Sect 11.3?		NO
The normal acceptance range for the extraction surrogates, Chloro-octadecane and o-Terphenyl, is 40-140%.		
The normal acceptance range for the fractionation surrogates, 2-Fluorobiphenyl and 2-Bromonaphthalene, is 40-140%.		

C9-C18 Aliphatics	ND	mg/kg	12.3
C19-C36 Aliphatics	ND	mg/kg	12.3
C11-C22 Aromatics, Unadjusted	ND	mg/kg	12.3
C11-C22 Aromatics, Adjusted	ND	mg/kg	12.3
Naphthalene	ND	mg/kg	0.617
2-Methylnaphthalene	ND	mg/kg	0.617
Acenaphthylene	ND	mg/kg	0.617
Acenaphthene	ND	mg/kg	0.617
Fluorene	ND	mg/kg	0.617
Phenanthrene	ND	mg/kg	0.617
Anthracene	ND	mg/kg	0.617
Fluoranthene	ND	mg/kg	0.617
Pyrene	ND	mg/kg	0.617
Benzo(a)anthracene	ND	mg/kg	0.617
Chrysene	ND	mg/kg	0.617
Benzo(b)fluoranthene	ND	mg/kg	0.617
Benzo(k)fluoranthene	ND	mg/kg	0.617
Benzo(a)pyrene	ND	mg/kg	0.617
Indeno(1,2,3-cd)Pyrene	ND	mg/kg	0.617
Dibenzo(a,h)anthracene	ND	mg/kg	0.617
Benzo(g,h,i)perylene	ND	mg/kg	0.617

Surrogate(s)	Recovery		QC Criteria
Chloro-Octadecane	52.0	%	40-140
o-Terphenyl	60.0	%	40-140
2-Fluorobiphenyl	69.0	%	40-140
2-Bromonaphthalene	70.0	%	40-140

Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES  
CERTIFICATE OF ANALYSIS

MA:M-MA086 NH:200301-A CT:PH-0574 ME:MA086 RI:65 NY:11148 NJ:MA935 Army:USACE

Laboratory Sample Number: L0403320-04  
DMH-NSW-S3  
Sample Matrix: SOIL

Date Collected: 06-APR-2004 13:15  
Date Received : 06-APR-2004  
Date Reported : 09-APR-2004

Condition of Sample: Satisfactory

Field Prep: None

Number & Type of Containers: 1-Amber,1-Vial

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Solids, Total	78.	%	0.10	30 2540G		0406 21:30	LK

Comments: Complete list of References and Glossary of Terms found in Addendum I



ALPHA ANALYTICAL LABORATORIES  
CERTIFICATE OF ANALYSIS

Laboratory Sample Number: L0403320-04  
DMH-NSW-S3

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	

Volatile Petroleum Hydrocarbons			47 98-1			0407 18:09 PS	
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Quality Control Information

Condition of sample received:	Satisfactory
Sample temperature upon receipt:	Received on Ice
Were samples received in methanol?	Covering the Soil
Methanol ratio:	1:1 +/- 25%
Were all QA/QC procedures REQUIRED by the method followed?	YES
Were all performance/acceptance standards for the required procedures achieved?	YES
Were significant modifications made to the method as specified in Sect 11.3?	NO
The normal acceptance range for the surrogate, 2,5-Dibromotoluene, is 70-130%.	

C5-C8 Aliphatics, Unadjusted	ND	mg/kg	2.48
C9-C12 Aliphatics, Unadjusted	ND	mg/kg	2.48
C9-C10 Aromatics	ND	mg/kg	2.48
C5-C8 Aliphatics, Adjusted	ND	mg/kg	2.48
C9-C12 Aliphatics, Adjusted	ND	mg/kg	2.48
Benzene	ND	mg/kg	0.124
Toluene	ND	mg/kg	0.124
Ethylbenzene	ND	mg/kg	0.124
p/m-Xylene	ND	mg/kg	0.124
o-Xylene	ND	mg/kg	0.124
Methyl tert butyl ether	ND	mg/kg	0.248
Naphthalene	ND	mg/kg	1.24

Surrogate (s)	Recovery		QC Criteria
2,5-Dibromotoluene-PID	107.	%	70-130
2,5-Dibromotoluene-FID	104.	%	70-130

Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES  
CERTIFICATE OF ANALYSIS

Laboratory Sample Number: L0403320-04  
DMH-NSW-S3

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Extractable Petroleum Hydrocarbons				46 98-1	0406 21:00	0407 17:51	LL

Quality Control Information

Condition of sample received:	Satisfactory	
Sample temperature upon receipt:	Received on Ice	
Sample extraction method:	Extracted Per the Method	
Were all QA/QC procedures REQUIRED by the method followed?		YES
Were all performance/acceptance standards for the required procedures achieved?		YES
Were significant modifications made to the method as specified in Sect 11.3?		NO
The normal acceptance range for the extraction surrogates, Chloro-octadecane and o-Terphenyl, is 40-140%.		
The normal acceptance range for the fractionation surrogates, 2-Fluorobiphenyl and 2-Bromonaphthalene, is 40-140%.		

C9-C18 Aliphatics	ND	mg/kg	12.8
C19-C36 Aliphatics	ND	mg/kg	12.8
C11-C22 Aromatics, Unadjusted	ND	mg/kg	12.8
C11-C22 Aromatics, Adjusted	ND	mg/kg	12.8
Naphthalene	ND	mg/kg	0.641
2-Methylnaphthalene	ND	mg/kg	0.641
Acenaphthylene	ND	mg/kg	0.641
Acenaphthene	ND	mg/kg	0.641
Fluorene	ND	mg/kg	0.641
Phenanthrene	ND	mg/kg	0.641
Anthracene	ND	mg/kg	0.641
Fluoranthene	ND	mg/kg	0.641
Pyrene	ND	mg/kg	0.641
Benzo (a) anthracene	ND	mg/kg	0.641
Chrysene	ND	mg/kg	0.641
Benzo (b) fluoranthene	ND	mg/kg	0.641
Benzo (k) fluoranthene	ND	mg/kg	0.641
Benzo (a) pyrene	ND	mg/kg	0.641
Indeno (1, 2, 3-cd) Pyrene	ND	mg/kg	0.641
Dibenzo (a, h) anthracene	ND	mg/kg	0.641
Benzo (g, h, i) perylene	ND	mg/kg	0.641

Surrogate(s)	Recovery		QC Criteria
Chloro-Octadecane	54.0	%	40-140
o-Terphenyl	59.0	%	40-140
2-Fluorobiphenyl	71.0	%	40-140
2-Bromonaphthalene	75.0	%	40-140

Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES  
CERTIFICATE OF ANALYSIS

MA:M-MA086 NH:200301-A CT:PH-0574 ME:MA086 RI:65 NY:11148 NJ:MA935 Army:USACE

Laboratory Sample Number: L0403320-05  
DMH-BOT-S3  
Sample Matrix: SOIL

Date Collected: 06-APR-2004 13:17  
Date Received : 06-APR-2004  
Date Reported : 09-APR-2004

Condition of Sample: Satisfactory

Field Prep: None

Number & Type of Containers: 1-Amber,1-Vial

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Solids, Total	76.	%	0.10	30 2540G		0406 21:30	LK

Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES  
CERTIFICATE OF ANALYSIS

Laboratory Sample Number: L0403320-05  
DMH-BOT-S3

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	

Volatile Petroleum Hydrocarbons			47 98-1			0407 19:00 PS	
---------------------------------	--	--	---------	--	--	---------------	--

Quality Control Information

Condition of sample received:	Satisfactory	
Sample temperature upon receipt:	Received on Ice	
Were samples received in methanol?	Covering the Soil	
Methanol ratio:	1:1 +/- 25%	
Were all QA/QC procedures REQUIRED by the method followed?		YES
Were all performance/acceptance standards for the required procedures achieved?		YES
Were significant modifications made to the method as specified in Sect 11.3?		NO
The normal acceptance range for the surrogate, 2,5-Dibromotoluene, is 70-130%.		

C5-C8 Aliphatics, Unadjusted	ND	mg/kg	2.42		
C9-C12 Aliphatics, Unadjusted	ND	mg/kg	2.42		
C9-C10 Aromatics	ND	mg/kg	2.42		
C5-C8 Aliphatics, Adjusted	ND	mg/kg	2.42		
C9-C12 Aliphatics, Adjusted	ND	mg/kg	2.42		
Benzene	ND	mg/kg	0.121		
Toluene	ND	mg/kg	0.121		
Ethylbenzene	ND	mg/kg	0.121		
p/m-Xylene	ND	mg/kg	0.121		
o-Xylene	ND	mg/kg	0.121		
Methyl tert butyl ether	ND	mg/kg	0.242		
Naphthalene	ND	mg/kg	1.21		

Surrogate (s)	Recovery		QC Criteria		
2,5-Dibromotoluene-PID	105.	%	70-130		
2,5-Dibromotoluene-FID	103.	%	70-130		

Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES  
CERTIFICATE OF ANALYSIS

Laboratory Sample Number: L0403320-05  
DMH-BOT-S3

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Extractable Petroleum Hydrocarbons				46 98-1		0406 21:00	0407 18:40 LL

Quality Control Information

Condition of sample received:	Satisfactory	
Sample temperature upon receipt:	Received on Ice	
Sample extraction method:	Extracted Per the Method	
Were all QA/QC procedures REQUIRED by the method followed?		YES
Were all performance/acceptance standards for the required procedures achieved?		YES
Were significant modifications made to the method as specified in Sect 11.3?		NO
The normal acceptance range for the extraction surrogates, Chloro-octadecane and o-Terphenyl, is 40-140%.		
The normal acceptance range for the fractionation surrogates, 2-Fluorobiphenyl and 2-Bromonaphthalene, is 40-140%.		

C9-C18 Aliphatics	ND	mg/kg	13.2
C19-C36 Aliphatics	ND	mg/kg	13.2
C11-C22 Aromatics, Unadjusted	ND	mg/kg	13.2
C11-C22 Aromatics, Adjusted	ND	mg/kg	13.2
Naphthalene	ND	mg/kg	0.658
2-Methylnaphthalene	ND	mg/kg	0.658
Acenaphthylene	ND	mg/kg	0.658
Acenaphthene	ND	mg/kg	0.658
Fluorene	ND	mg/kg	0.658
Phenanthrene	ND	mg/kg	0.658
Anthracene	ND	mg/kg	0.658
Fluoranthene	ND	mg/kg	0.658
Pyrene	ND	mg/kg	0.658
Benzo(a)anthracene	ND	mg/kg	0.658
Chrysene	ND	mg/kg	0.658
Benzo(b)fluoranthene	ND	mg/kg	0.658
Benzo(k)fluoranthene	ND	mg/kg	0.658
Benzo(a)pyrene	ND	mg/kg	0.658
Indeno(1,2,3-cd)Pyrene	ND	mg/kg	0.658
Dibenzo(a,h)anthracene	ND	mg/kg	0.658
Benzo(g,h,i)perylene	ND	mg/kg	0.658

Surrogate(s)	Recovery		QC Criteria
Chloro-Octadecane	43.0	%	40-140
o-Terphenyl	63.0	%	40-140
2-Fluorobiphenyl	74.0	%	40-140
2-Bromonaphthalene	70.0	%	40-140

Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES  
QUALITY ASSURANCE BATCH DUPLICATE ANALYSIS

Laboratory Job Number: L0403320

Parameter	Value 1	Value 2	Units	RPD	RPD Limits
Solids, Total for sample(s) 01-05 (L0403282-01, WG167103)					
Solids, Total	82.	84.	%	2	
Volatile Petroleum Hydrocarbons for sample(s) 01-02,04-05 (L0403212-01, WG167146)					
C5-C8 Aliphatics	ND	ND	mg/kg	NC	50
C9-C12 Aliphatics	ND	ND	mg/kg	NC	50
C9-C10 Aromatics	ND	ND	mg/kg	NC	50
C5-C8 Aliphatics, Adjusted	ND	ND	mg/kg	NC	50
C9-C12 Aliphatics, Adjusted	ND	ND	mg/kg	NC	50
Benzene	ND	ND	mg/kg	NC	50
Toluene	ND	ND	mg/kg	NC	50
Ethylbenzene	ND	ND	mg/kg	NC	50
p/m-Xylene	ND	ND	mg/kg	NC	50
o-Xylene	ND	ND	mg/kg	NC	50
Methyl tert butyl ether	ND	ND	mg/kg	NC	50
Naphthalene	ND	ND	mg/kg	NC	50
Surrogate(s)	Recovery				QC Criteria
2,5-Dibromotoluene-PID	109.	116.	%	6	70-130
2,5-Dibromotoluene-FID	106.	115.	%	8	70-130
Extractable Petroleum Hydrocarbons for sample(s) 01-05 (L0403212-03, WG167026)					
C9-C18 Aliphatics	ND	ND	mg/kg	NC	50
C19-C36 Aliphatics	ND	ND	mg/kg	NC	50
C11-C22 Aromatics	ND	ND	mg/kg	NC	50
C11-C22 Aromatics, Adjusted	ND	ND	mg/kg	NC	50
Naphthalene	ND	ND	mg/kg	NC	50
2-Methylnaphthalene	ND	ND	mg/kg	NC	50
Acenaphthylene	ND	ND	mg/kg	NC	50
Acenaphthene	ND	ND	mg/kg	NC	50
Fluorene	ND	ND	mg/kg	NC	50
Phenanthrene	ND	ND	mg/kg	NC	50
Anthracene	ND	ND	mg/kg	NC	50
Fluoranthene	ND	ND	mg/kg	NC	50
Pyrene	ND	ND	mg/kg	NC	50
Benzo (a) anthracene	ND	ND	mg/kg	NC	50
Chrysene	ND	ND	mg/kg	NC	50
Benzo (b) fluoranthene	ND	ND	mg/kg	NC	50
Benzo (k) fluoranthene	ND	ND	mg/kg	NC	50
Benzo (a) pyrene	ND	ND	mg/kg	NC	50
Indeno (1, 2, 3-cd) Pyrene	ND	ND	mg/kg	NC	50
Dibenzo (a, h) anthracene	ND	ND	mg/kg	NC	50
Benzo (ghi) perylene	ND	ND	mg/kg	NC	50
Surrogate(s)	Recovery				QC Criteria
Chloro-Octadecane	43.0	46.0	%	7	40-140
o-Terphenyl	67.0	64.0	%	5	40-140
2-Fluorobiphenyl	67.0	67.0	%	0	40-140
2-Bromonaphthalene	67.0	65.0	%	3	40-140

ALPHA ANALYTICAL LABORATORIES  
QUALITY ASSURANCE BATCH SPIKE ANALYSES

Laboratory Job Number: L0403320

Parameter	% Recovery	QC Criteria
Volatile Petroleum Hydrocarbons LCS for sample(s) 01-02,04-05 (WG167146)		
Benzene	119	70-130
Toluene	106	70-130
Ethylbenzene	119	70-130
p/m-Xylene	109	70-130
o-Xylene	107	70-130
Methyl tert butyl ether	108	70-130
Naphthalene	123	70-130
Surrogate(s)		
2,5-Dibromotoluene-PID	108	70-130
2,5-Dibromotoluene-FID	105	70-130
Volatile Petroleum Hydrocarbons LCS for sample(s) 03 (WG167382)		
Benzene	117	70-130
Toluene	106	70-130
Ethylbenzene	120	70-130
p/m-Xylene	111	70-130
o-Xylene	107	70-130
Methyl tert butyl ether	105	70-130
Naphthalene	120	70-130
Surrogate(s)		
2,5-Dibromotoluene-PID	118	70-130
2,5-Dibromotoluene-FID	116	70-130
Extractable Petroleum Hydrocarbons LCS for sample(s) 01-05 (WG167026)		
Naphthalene	50	40-140
Acenaphthene	59	40-140
Anthracene	70	40-140
Pyrene	80	40-140
Chrysene	84	40-140
Nonane (C9)	54	40-140
Tetradecane (C14)	64	40-140
Nonadecane (C19)	81	40-140
Eicosane (C20)	80	40-140
Octacosane (C28)	79	40-140
Surrogate(s)		
Chloro-Octadecane	45	40-140
o-Terphenyl	73	40-140
2-Fluorobiphenyl	77	40-140
2-Bromonaphthalene	65	40-140

ALPHA ANALYTICAL LABORATORIES  
QUALITY ASSURANCE BATCH BLANK ANALYSIS

Laboratory Job Number: L0403320

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Blank Analysis for sample(s) 01-02,04-05 (WG167146-3)							
Volatile Petroleum Hydrocarbons				47 98-1		0406 08:07	PS
C5-C8 Aliphatics, Unadjusted	ND	mg/kg	2.00				
C9-C12 Aliphatics, Unadjusted	ND	mg/kg	2.00				
C9-C10 Aromatics	ND	mg/kg	2.00				
C5-C8 Aliphatics, Adjusted	ND	mg/kg	2.00				
C9-C12 Aliphatics, Adjusted	ND	mg/kg	2.00				
Benzene	ND	mg/kg	0.100				
Toluene	ND	mg/kg	0.100				
Ethylbenzene	ND	mg/kg	0.100				
p/m-Xylene	ND	mg/kg	0.100				
o-Xylene	ND	mg/kg	0.100				
Methyl tert butyl ether	ND	mg/kg	0.200				
Naphthalene	ND	mg/kg	1.00				
Surrogate(s)	Recovery			QC Criteria			
2,5-Dibromotoluene-PID	111.	%		70-130			
2,5-Dibromotoluene-FID	114.	%		70-130			
Blank Analysis for sample(s) 03 (WG167382-3)							
Volatile Petroleum Hydrocarbons				47 98-1		0408 07:26	PS
C5-C8 Aliphatics, Unadjusted	ND	mg/kg	2.00				
C9-C12 Aliphatics, Unadjusted	ND	mg/kg	2.00				
C9-C10 Aromatics	ND	mg/kg	2.00				
C5-C8 Aliphatics, Adjusted	ND	mg/kg	2.00				
C9-C12 Aliphatics, Adjusted	ND	mg/kg	2.00				
Benzene	ND	mg/kg	0.100				
Toluene	ND	mg/kg	0.100				
Ethylbenzene	ND	mg/kg	0.100				
p/m-Xylene	ND	mg/kg	0.100				
o-Xylene	ND	mg/kg	0.100				
Methyl tert butyl ether	ND	mg/kg	0.200				
Naphthalene	ND	mg/kg	1.00				
Surrogate(s)	Recovery			QC Criteria			
2,5-Dibromotoluene-PID	94.0	%		70-130			
2,5-Dibromotoluene-FID	103.	%		70-130			
Blank Analysis for sample(s) 01-05 (WG167026-1)							
Extractable Petroleum Hydrocarbons				46 98-1		0406 11:50	0407 11:19 LL
C9-C18 Aliphatics	ND	mg/kg	10.0				
C19-C36 Aliphatics	ND	mg/kg	10.0				
C11-C22 Aromatics, Unadjusted	ND	mg/kg	10.0				
C11-C22 Aromatics, Adjusted	ND	mg/kg	10.0				
Naphthalene	ND	mg/kg	0.500				
2-Methylnaphthalene	ND	mg/kg	0.500				
Acenaphthylene	ND	mg/kg	0.500				
Acenaphthene	ND	mg/kg	0.500				
Fluorene	ND	mg/kg	0.500				



ALPHA ANALYTICAL LABORATORIES  
 QUALITY ASSURANCE BATCH BLANK ANALYSIS

Laboratory Job Number: L0403320

Continued

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Blank Analysis for sample(s) 01-05 (WG167026-1)							
Extractable Petroleum Hydrocarbons continued				46 98-1		0406 11:50	0407 11:19 LL
Phenanthrene	ND	mg/kg	0.500				
Anthracene	ND	mg/kg	0.500				
Fluoranthene	ND	mg/kg	0.500				
Pyrene	ND	mg/kg	0.500				
Benzo (a) anthracene	ND	mg/kg	0.500				
Chrysene	ND	mg/kg	0.500				
Benzo (b) fluoranthene	ND	mg/kg	0.500				
Benzo (k) fluoranthene	ND	mg/kg	0.500				
Benzo (a) pyrene	ND	mg/kg	0.500				
Indeno (1, 2, 3-cd) Pyrene	ND	mg/kg	0.500				
Dibenzo (a, h) anthracene	ND	mg/kg	0.500				
Benzo (g, h, i) perylene	ND	mg/kg	0.500				
Surrogate (s)	Recovery		QC Criteria				
Chloro-Octadecane	56.0	%	40-140				
o-Terphenyl	82.0	%	40-140				
2-Fluorobiphenyl	75.0	%	40-140				
2-Bromonaphthalene	73.0	%	40-140				

ALPHA ANALYTICAL LABORATORIES  
ADDENDUM I

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REFERENCES

30. Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WPCF. 18th Edition. 1992.
46. Method for the Determination of Extractable Petroleum Hydrocarbons (EPH), Massachusetts Department of Environmental Protection, (MADEP-EPH-98-1), January 1998.
47. Method for the Determination of Volatile Petroleum Hydrocarbons (VPH), Massachusetts Department of Environmental Protection, (MADEP-VPH-98-1), January 1998.

GLOSSARY OF TERMS AND SYMBOLS

REF Reference number in which test method may be found.  
METHOD Method number by which analysis was performed.  
ID Initials of the analyst.  
ND Not detected in comparison to the reported detection limit.

Please note that all solid samples are reported on dry weight basis unless noted otherwise.

LIMITATION OF LIABILITIES

Alpha Analytical, Inc. performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical, Inc., shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical, Inc. be held liable for any incidental consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical, Inc.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding times and splitting of samples in the field.

ALPHA ANALYTICAL LABORATORIES  
LOGIN SPECIFIC INFORMATION

Laboratory Job Number: L0403320

Were project specific reporting limits specified? YES

Cooler Information

Cooler	Custody Seal
A	Absent

Container Information

Container ID	Container Type	Cooler	pH	Temp	Pres	Seal	Analysis
L0403320-01A	Vial MeOH preserved	A	N/A	4.2 C	Y	Absent	VPH-DELUX
L0403320-01B	Amber 250ml unpreserved	A	N/A	4.2 C	Y	Absent	EPH-DELUX, TS
L0403320-02A	Vial MeOH preserved	A	N/A	4.2 C	Y	Absent	VPH-DELUX
L0403320-02B	Amber 250ml unpreserved	A	N/A	4.2 C	Y	Absent	EPH-DELUX, TS
L0403320-03A	Vial MeOH preserved	A	N/A	4.2 C	Y	Absent	VPH-DELUX
L0403320-03B	Amber 250ml unpreserved	A	N/A	4.2 C	Y	Absent	EPH-DELUX, TS
L0403320-04A	Vial MeOH preserved	A	N/A	4.2 C	Y	Absent	VPH-DELUX
L0403320-04B	Amber 250ml unpreserved	A	N/A	4.2 C	Y	Absent	EPH-DELUX, TS
L0403320-05A	Vial MeOH preserved	A	N/A	4.2 C	Y	Absent	VPH-DELUX
L0403320-05B	Amber 250ml unpreserved	A	N/A	4.2 C	Y	Absent	EPH-DELUX, TS

Container Comments

Container ID	Comments
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ALPHA ANALYTICAL LABORATORIES

Eight Walkup Drive  
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(508) 898-9220 www.alphalab.com

MA:M-MA086 NH:200301-A CT:PH-0574 ME:MA086 RI:65 NY:11148 NJ:MA935 Army:USACE

CERTIFICATE OF ANALYSIS

Client: Haley & Aldrich, Inc. Laboratory Job Number: L0403393  
Address: 465 Medford Street, Suite 2200  
Boston, MA 02129-1400 Date Received: 07-APR-2004  
Attn: Mr. Steve Provencal Date Reported: 12-APR-2004  
Project Number: 30660-000 Delivery Method: Alpha  
Site: BURBANK SCHOOL

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The following questions pertain only to MCP Analytical Methods

An affirmative response to questions A,B,C & D is required for "Presumptive Certainty" status

- A. Were all samples received by the laboratory in a condition consistent with those described on their Chain-of-Custody documentation for the data set? YES
- B. Were all QA/QC procedures required for the specified analytical method(s) included in this report followed, including the requirement to note and discuss in a narrative QC data that did not meet appropriate performance standards or guidelines? YES
- C. Does the analytical data included in this report meet all the requirements for "Presumptive Certainty", as described in section 2.0 of the MADEP document CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data"? YES
- D. VPH and EPH methods only: Was the VPH or EPH method run without significant modifications, as specified in Section 11.3? YES

A response to questions E and F is required for "Presumptive Certainty" status

- E. Were all QC performance standards and recommendations for the specified method(s) achieved? YES
- F. Were results for all analyte-list compounds/elements for the specified method(s) reported? YES

Any answers of NO to the above questions are addressed in the case narrative.

---

I, the undersigned, attest under the pains and penalties of perjury that, based upon my personal inquiry of those responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

---

Authorized by: Scott McLean  
This document electronically signed

ALPHA ANALYTICAL LABORATORIES

Laboratory Job Number: L0403393  
Date Reported: 12-APR-2004

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ALPHA SAMPLE NUMBER	CLIENT IDENTIFICATION	SAMPLE LOCATION
L0403393-01	CB-BOT-S3	BELMONT, MA
L0403393-02	CB-ESW-S3	BELMONT, MA
L0403393-03	12IN-CONC-BOT2-S2	BELMONT, MA
L0403393-04	12IN-CONC-SSW2-S2	BELMONT, MA
L0403393-05	12IN-CONC-NSW2-S2	BELMONT, MA

ALPHA ANALYTICAL LABORATORIES  
NARRATIVE REPORT

Laboratory Job Number: L0403393

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Extraction Methods

Extraction method 3545 was used as the extraction method for the analysis of EPH by method 98-1.

Report Submission

All MCP required questions were answered with affirmative responses, therefore, there are no relevant data issues to discuss.

ALPHA ANALYTICAL LABORATORIES  
CERTIFICATE OF ANALYSIS

MA:M-MA086 NH:200301-A CT:PH-0574 ME:MA086 RI:65 NY:11148 NJ:MA935 Army:USACE

Laboratory Sample Number: L0403393-01  
CB-BOT-S3  
Sample Matrix: SOIL

Date Collected: 07-APR-2004 08:40  
Date Received : 07-APR-2004  
Date Reported : 12-APR-2004

Condition of Sample: Satisfactory

Field Prep: None

Number & Type of Containers: 1-Amber,1-Vial

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Solids, Total	96.	%	0.10	30 2540G		0409 11:30	ED

Comments: Complete list of References and Glossary of Terms found in Addendum I



ALPHA ANALYTICAL LABORATORIES  
CERTIFICATE OF ANALYSIS

Laboratory Sample Number: L0403393-01  
CB-BOT-S3

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Volatile Petroleum Hydrocarbons				47 98-1		0408 09:48	PS

Quality Control Information

Condition of sample received:	Satisfactory	
Sample temperature upon receipt:	Received on Ice	
Were samples received in methanol?	Covering the Soil	
Methanol ratio:	1:1 +/- 25%	
Were all QA/QC procedures REQUIRED by the method followed?		YES
Were all performance/acceptance standards for the required procedures achieved?		YES
Were significant modifications made to the method as specified in Sect 11.3?		NO
The normal acceptance range for the surrogate, 2,5-Dibromotoluene, is 70-130%.		

C5-C8 Aliphatics, Unadjusted	ND	mg/kg	1.94
C9-C12 Aliphatics, Unadjusted	ND	mg/kg	1.94
C9-C10 Aromatics	ND	mg/kg	1.94
C5-C8 Aliphatics, Adjusted	ND	mg/kg	1.94
C9-C12 Aliphatics, Adjusted	ND	mg/kg	1.94
Benzene	ND	mg/kg	0.100
Toluene	ND	mg/kg	0.100
Ethylbenzene	ND	mg/kg	0.100
p/m-Xylene	ND	mg/kg	0.100
o-Xylene	ND	mg/kg	0.100
Methyl tert butyl ether	ND	mg/kg	0.194
Naphthalene	ND	mg/kg	0.970

Surrogate (s)	Recovery		QC Criteria
2,5-Dibromotoluene-PID	109.	%	70-130
2,5-Dibromotoluene-FID	111.	%	70-130

Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES  
CERTIFICATE OF ANALYSIS

Laboratory Sample Number: L0403393-01  
CB-BOT-S3

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	

Extractable Petroleum Hydrocarbons			46 98-1		0408 11:00	0411 16:48	LL
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Quality Control Information

Condition of sample received:	Satisfactory	
Sample temperature upon receipt:	Received on Ice	
Sample extraction method:	Extracted Per the Method	
Were all QA/QC procedures REQUIRED by the method followed?		YES
Were all performance/acceptance standards for the required procedures achieved?		YES
Were significant modifications made to the method as specified in Sect 11.3?		NO
The normal acceptance range for the extraction surrogates, Chloro-octadecane and o-Terphenyl, is 40-140%.		
The normal acceptance range for the fractionation surrogates, 2-Fluorobiphenyl and 2-Bromonaphthalene, is 40-140%.		

C9-C18 Aliphatics	ND	mg/kg	10.4
C19-C36 Aliphatics	ND	mg/kg	10.4
C11-C22 Aromatics, Unadjusted	ND	mg/kg	10.4
C11-C22 Aromatics, Adjusted	ND	mg/kg	10.4
Naphthalene	ND	mg/kg	0.521
2-Methylnaphthalene	ND	mg/kg	0.521
Acenaphthylene	ND	mg/kg	0.521
Acenaphthene	ND	mg/kg	0.521
Fluorene	ND	mg/kg	0.521
Phenanthrene	ND	mg/kg	0.521
Anthracene	ND	mg/kg	0.521
Fluoranthene	ND	mg/kg	0.521
Pyrene	ND	mg/kg	0.521
Benzo(a)anthracene	ND	mg/kg	0.521
Chrysene	ND	mg/kg	0.521
Benzo(b)fluoranthene	ND	mg/kg	0.521
Benzo(k)fluoranthene	ND	mg/kg	0.521
Benzo(a)pyrene	ND	mg/kg	0.521
Indeno(1,2,3-cd)Pyrene	ND	mg/kg	0.521
Dibenzo(a,h)anthracene	ND	mg/kg	0.521
Benzo(g,h,i)perylene	ND	mg/kg	0.521

Surrogate(s)	Recovery		QC Criteria
Chloro-Octadecane	42.0	%	40-140
o-Terphenyl	77.0	%	40-140
2-Fluorobiphenyl	72.0	%	40-140
2-Bromonaphthalene	72.0	%	40-140

Comments: Complete list of References and Glossary of Terms found in Addendum I



ALPHA ANALYTICAL LABORATORIES  
CERTIFICATE OF ANALYSIS

Laboratory Sample Number: L0403393-02  
CB-ESW-S3

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Volatile Petroleum Hydrocarbons				47 98-1		0408 12:21	PS

Quality Control Information

Condition of sample received:	Satisfactory	
Sample temperature upon receipt:	Received on Ice	
Were samples received in methanol?	Covering the Soil	
Methanol ratio:	1:1 +/- 25%	
Were all QA/QC procedures REQUIRED by the method followed?		YES
Were all performance/acceptance standards for the required procedures achieved?		YES
Were significant modifications made to the method as specified in Sect 11.3?		NO
The normal acceptance range for the surrogate, 2,5-Dibromotoluene, is 70-130%.		

C5-C8 Aliphatics, Unadjusted	ND	mg/kg	2.04
C9-C12 Aliphatics, Unadjusted	ND	mg/kg	2.04
C9-C10 Aromatics	ND	mg/kg	2.04
C5-C8 Aliphatics, Adjusted	ND	mg/kg	2.04
C9-C12 Aliphatics, Adjusted	ND	mg/kg	2.04
Benzene	ND	mg/kg	0.102
Toluene	ND	mg/kg	0.102
Ethylbenzene	ND	mg/kg	0.102
p/m-Xylene	ND	mg/kg	0.102
o-Xylene	ND	mg/kg	0.102
Methyl tert butyl ether	ND	mg/kg	0.204
Naphthalene	ND	mg/kg	1.02
Surrogate(s)	Recovery		QC Criteria
2,5-Dibromotoluene-PID	110.	%	70-130
2,5-Dibromotoluene-FID	111.	%	70-130

Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES  
CERTIFICATE OF ANALYSIS

Laboratory Sample Number: L0403393-02  
CB-ESW-S3

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Extractable Petroleum Hydrocarbons				46 98-1	0408 11:00	0411 17:37	LL

Quality Control Information

Condition of sample received:	Satisfactory	
Sample temperature upon receipt:	Received on Ice	
Sample extraction method:	Extracted Per the Method	
Were all QA/QC procedures REQUIRED by the method followed?		YES
Were all performance/acceptance standards for the required procedures achieved?		YES
Were significant modifications made to the method as specified in Sect 11.3?		NO
The normal acceptance range for the extraction surrogates, Chloro-octadecane and o-Terphenyl, is 40-140%.		
The normal acceptance range for the fractionation surrogates, 2-Fluorobiphenyl and 2-Bromonaphthalene, is 40-140%.		

C9-C18 Aliphatics	ND	mg/kg	10.4
C19-C36 Aliphatics	ND	mg/kg	10.4
C11-C22 Aromatics, Unadjusted	ND	mg/kg	10.4
C11-C22 Aromatics, Adjusted	ND	mg/kg	10.4
Naphthalene	ND	mg/kg	0.521
2-Methylnaphthalene	ND	mg/kg	0.521
Acenaphthylene	ND	mg/kg	0.521
Acenaphthene	ND	mg/kg	0.521
Fluorene	ND	mg/kg	0.521
Phenanthrene	ND	mg/kg	0.521
Anthracene	ND	mg/kg	0.521
Fluoranthene	ND	mg/kg	0.521
Pyrene	ND	mg/kg	0.521
Benzo (a) anthracene	ND	mg/kg	0.521
Chrysene	ND	mg/kg	0.521
Benzo (b) fluoranthene	ND	mg/kg	0.521
Benzo (k) fluoranthene	ND	mg/kg	0.521
Benzo (a) pyrene	ND	mg/kg	0.521
Indeno (1, 2, 3 -cd) Pyrene	ND	mg/kg	0.521
Dibenzo (a, h) anthracene	ND	mg/kg	0.521
Benzo (g, h, i) perylene	ND	mg/kg	0.521
Surrogate (s)	Recovery		QC Criteria
Chloro-Octadecane	43.0	%	40-140
o-Terphenyl	68.0	%	40-140
2-Fluorobiphenyl	72.0	%	40-140
2-Bromonaphthalene	68.0	%	40-140

Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES  
CERTIFICATE OF ANALYSIS

MA:M-MA086 NH:200301-A CT:PH-0574 ME:MA086 RI:65 NY:11148 NJ:MA935 Army:USACE

Laboratory Sample Number: L0403393-03  
12IN-CONC-BOT2-S2  
Sample Matrix: SOIL

Date Collected: 07-APR-2004 13:43  
Date Received : 07-APR-2004  
Date Reported : 12-APR-2004

Condition of Sample: Satisfactory

Field Prep: None

Number & Type of Containers: 1-Amber,1-Vial

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Solids, Total	95.	%	0.10	30 2540G	0409	11:30	ED

Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES  
CERTIFICATE OF ANALYSIS

Laboratory Sample Number: L0403393-03  
12IN-CONC-BOT2-S2

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE PREP      ANAL	ID
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Volatile Petroleum Hydrocarbons				47 98-1		0408 13:12 PS
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Quality Control Information

Condition of sample received:	Satisfactory	
Sample temperature upon receipt:	Received on Ice	
Were samples received in methanol?	Covering the Soil	
Methanol ratio:	1:1 +/- 25%	
Were all QA/QC procedures REQUIRED by the method followed?		YES
Were all performance/acceptance standards for the required procedures achieved?		YES
Were significant modifications made to the method as specified in Sect 11.3?		NO
The normal acceptance range for the surrogate, 2,5-Dibromotoluene, is 70-130%.		

C5-C8 Aliphatics, Unadjusted	ND	mg/kg	2.37		
C9-C12 Aliphatics, Unadjusted	ND	mg/kg	2.37		
C9-C10 Aromatics	ND	mg/kg	2.37		
C5-C8 Aliphatics, Adjusted	ND	mg/kg	2.37		
C9-C12 Aliphatics, Adjusted	ND	mg/kg	2.37		
Benzene	ND	mg/kg	0.119		
Toluene	ND	mg/kg	0.119		
Ethylbenzene	ND	mg/kg	0.119		
p/m-Xylene	ND	mg/kg	0.119		
o-Xylene	ND	mg/kg	0.119		
Methyl tert butyl ether	ND	mg/kg	0.237		
Naphthalene	ND	mg/kg	1.19		
Surrogate(s)	Recovery			QC Criteria	
2,5-Dibromotoluene-PID	102.	%		70-130	
2,5-Dibromotoluene-FID	103.	%		70-130	

Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES  
CERTIFICATE OF ANALYSIS

Laboratory Sample Number: L0403393-03  
12IN-CONC-BOT2-S2

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE PREP      ANAL	ID
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Extractable Petroleum Hydrocarbons			46	98-1	0408 11:00	0411 18:26 LL
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Quality Control Information

Condition of sample received:	Satisfactory	
Sample temperature upon receipt:	Received on Ice	
Sample extraction method:	Extracted Per the Method	
Were all QA/QC procedures REQUIRED by the method followed?		YES
Were all performance/acceptance standards for the required procedures achieved?		YES
Were significant modifications made to the method as specified in Sect 11.3?		NO
The normal acceptance range for the extraction surrogates, Chloro-octadecane and o-Terphenyl, is 40-140%.		
The normal acceptance range for the fractionation surrogates, 2-Fluorobiphenyl and 2-Bromonaphthalene, is 40-140%.		

C9-C18 Aliphatics	ND	mg/kg	10.5
C19-C36 Aliphatics	ND	mg/kg	10.5
C11-C22 Aromatics, Unadjusted	ND	mg/kg	10.5
C11-C22 Aromatics, Adjusted	ND	mg/kg	10.5
Naphthalene	ND	mg/kg	0.526
2-Methylnaphthalene	ND	mg/kg	0.526
Acenaphthylene	ND	mg/kg	0.526
Acenaphthene	ND	mg/kg	0.526
Fluorene	ND	mg/kg	0.526
Phenanthrene	ND	mg/kg	0.526
Anthracene	ND	mg/kg	0.526
Fluoranthene	ND	mg/kg	0.526
Pyrene	ND	mg/kg	0.526
Benzo(a)anthracene	ND	mg/kg	0.526
Chrysene	ND	mg/kg	0.526
Benzo(b)fluoranthene	ND	mg/kg	0.526
Benzo(k)fluoranthene	ND	mg/kg	0.526
Benzo(a)pyrene	ND	mg/kg	0.526
Indeno(1,2,3-cd)Pyrene	ND	mg/kg	0.526
Dibenzo(a,h)anthracene	ND	mg/kg	0.526
Benzo(g,h,i)perylene	ND	mg/kg	0.526

Surrogate(s)	Recovery	%	QC Criteria
Chloro-Octadecane	43.0	%	40-140
o-Terphenyl	69.0	%	40-140
2-Fluorobiphenyl	71.0	%	40-140
2-Bromonaphthalene	70.0	%	40-140

Comments: Complete list of References and Glossary of Terms found in Addendum I



ALPHA ANALYTICAL LABORATORIES  
 CERTIFICATE OF ANALYSIS

MA:M-MA086 NH:200301-A CT:PH-0574 ME:MA086 RI:65 NY:11148 NJ:MA935 Army:USACE

Laboratory Sample Number: L0403393-04  
 12IN-CONC-SSW2-S2  
 Sample Matrix: SOIL  
 Condition of Sample: Satisfactory  
 Number & Type of Containers: 1-Amber,1-Vial  
 Date Collected: 07-APR-2004 13:40  
 Date Received : 07-APR-2004  
 Date Reported : 12-APR-2004  
 Field Prep: None

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Solids, Total	96.	%	0.10	30 2540G	0409	11:30	ED

Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES  
CERTIFICATE OF ANALYSIS

Laboratory Sample Number: L0403393-04  
12IN-CONC-SSW2-S2

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	

Volatile Petroleum Hydrocarbons				47 98-1			0408 14:02 PS
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Quality Control Information

Condition of sample received:	Satisfactory	
Sample temperature upon receipt:	Received on Ice	
Were samples received in methanol?	Covering the Soil	
Methanol ratio:	Below 1:1 +/- 25%	
Were all QA/QC procedures REQUIRED by the method followed?		YES
Were all performance/acceptance standards for the required procedures achieved?		YES
Were significant modifications made to the method as specified in Sect 11.3?		NO
The normal acceptance range for the surrogate, 2,5-Dibromotoluene, is 70-130%.		

C5-C8 Aliphatics, Unadjusted	ND	mg/kg	5.48
C9-C12 Aliphatics, Unadjusted	ND	mg/kg	5.48
C9-C10 Aromatics	ND	mg/kg	5.48
C5-C8 Aliphatics, Adjusted	ND	mg/kg	5.48
C9-C12 Aliphatics, Adjusted	ND	mg/kg	5.48
Benzene	ND	mg/kg	0.274
Toluene	ND	mg/kg	0.274
Ethylbenzene	ND	mg/kg	0.274
p/m-Xylene	ND	mg/kg	0.274
o-Xylene	ND	mg/kg	0.274
Methyl tert butyl ether	ND	mg/kg	0.548
Naphthalene	ND	mg/kg	2.74

Surrogate(s)	Recovery		QC Criteria
2,5-Dibromotoluene-PID	110.	%	70-130
2,5-Dibromotoluene-FID	112.	%	70-130

Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES  
CERTIFICATE OF ANALYSIS

Laboratory Sample Number: L0403393-04  
12IN-CONC-SSW2-S2

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Extractable Petroleum Hydrocarbons				46 98-1		0408 11:00	0411 19:15 LL

Quality Control Information

Condition of sample received:	Satisfactory	
Sample temperature upon receipt:	Received on Ice	
Sample extraction method:	Extracted Per the Method	
Were all QA/QC procedures REQUIRED by the method followed?		YES
Were all performance/acceptance standards for the required procedures achieved?		YES
Were significant modifications made to the method as specified in Sect 11.3?		NO
The normal acceptance range for the extraction surrogates, Chloro-octadecane and o-Terphenyl, is 40-140%.		
The normal acceptance range for the fractionation surrogates, 2-Fluorobiphenyl and 2-Bromonaphthalene, is 40-140%.		

C9-C18 Aliphatics	ND	mg/kg	10.4
C19-C36 Aliphatics	ND	mg/kg	10.4
C11-C22 Aromatics, Unadjusted	ND	mg/kg	10.4
C11-C22 Aromatics, Adjusted	ND	mg/kg	10.4
Naphthalene	ND	mg/kg	0.521
2-Methylnaphthalene	ND	mg/kg	0.521
Acenaphthylene	ND	mg/kg	0.521
Acenaphthene	ND	mg/kg	0.521
Fluorene	ND	mg/kg	0.521
Phenanthrene	ND	mg/kg	0.521
Anthracene	ND	mg/kg	0.521
Fluoranthene	ND	mg/kg	0.521
Pyrene	ND	mg/kg	0.521
Benzo (a) anthracene	ND	mg/kg	0.521
Chrysene	ND	mg/kg	0.521
Benzo (b) fluoranthene	ND	mg/kg	0.521
Benzo (k) fluoranthene	ND	mg/kg	0.521
Benzo (a) pyrene	ND	mg/kg	0.521
Indeno (1, 2, 3 - cd) Pyrene	ND	mg/kg	0.521
Dibenzo (a, h) anthracene	ND	mg/kg	0.521
Benzo (g, h, i) perylene	ND	mg/kg	0.521

Surrogate (s)	Recovery		QC Criteria
Chloro-Octadecane	47.0	%	40-140
o-Terphenyl	77.0	%	40-140
2-Fluorobiphenyl	79.0	%	40-140
2-Bromonaphthalene	78.0	%	40-140

Comments: Complete list of References and Glossary of Terms found in Addendum I



ALPHA ANALYTICAL LABORATORIES  
CERTIFICATE OF ANALYSIS

Laboratory Sample Number: L0403393-05  
12IN-CONC-NSW2-S2

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	

Volatile Petroleum Hydrocarbons	47 98-1	0408 14:53 PS
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Quality Control Information

Condition of sample received:	Satisfactory
Sample temperature upon receipt:	Received on Ice
Were samples received in methanol?	Covering the Soil
Methanol ratio:	1:1 +/- 25%
Were all QA/QC procedures REQUIRED by the method followed?	YES
Were all performance/acceptance standards for the required procedures achieved?	YES
Were significant modifications made to the method as specified in Sect 11.3?	NO
The normal acceptance range for the surrogate, 2,5-Dibromotoluene, is 70-130%.	

C5-C8 Aliphatics, Unadjusted	ND	mg/kg	2.51	
C9-C12 Aliphatics, Unadjusted	ND	mg/kg	2.51	
C9-C10 Aromatics	ND	mg/kg	2.51	
C5-C8 Aliphatics, Adjusted	ND	mg/kg	2.51	
C9-C12 Aliphatics, Adjusted	ND	mg/kg	2.51	
Benzene	ND	mg/kg	0.125	
Toluene	ND	mg/kg	0.125	
Ethylbenzene	ND	mg/kg	0.125	
p/m-Xylene	ND	mg/kg	0.125	
o-Xylene	ND	mg/kg	0.125	
Methyl tert butyl ether	ND	mg/kg	0.251	
Naphthalene	ND	mg/kg	1.25	
Surrogate (s)	Recovery		QC Criteria	
2,5-Dibromotoluene-PID	117.	%	70-130	
2,5-Dibromotoluene-FID	116.	%	70-130	

Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES  
CERTIFICATE OF ANALYSIS

Laboratory Sample Number: L0403393-05  
12IN-CONC-NSW2-S2

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	

Extractable Petroleum Hydrocarbons				46 98-1	0408 11:00	0411 20:04	LL
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Quality Control Information

Condition of sample received:	Satisfactory	
Sample temperature upon receipt:	Received on Ice	
Sample extraction method:	Extracted Per the Method	
Were all QA/QC procedures REQUIRED by the method followed?		YES
Were all performance/acceptance standards for the required procedures achieved?		YES
Were significant modifications made to the method as specified in Sect 11.3?		NO
The normal acceptance range for the extraction surrogates, Chloro-octadecane and o-Terphenyl, is 40-140%.		
The normal acceptance range for the fractionation surrogates, 2-Fluorobiphenyl and 2-Bromonaphthalene, is 40-140%.		

C9-C18 Aliphatics	ND	mg/kg	10.5
C19-C36 Aliphatics	ND	mg/kg	10.5
C11-C22 Aromatics, Unadjusted	ND	mg/kg	10.5
C11-C22 Aromatics, Adjusted	ND	mg/kg	10.5
Naphthalene	ND	mg/kg	0.526
2-Methylnaphthalene	ND	mg/kg	0.526
Acenaphthylene	ND	mg/kg	0.526
Acenaphthene	ND	mg/kg	0.526
Fluorene	ND	mg/kg	0.526
Phenanthrene	ND	mg/kg	0.526
Anthracene	ND	mg/kg	0.526
Fluoranthene	ND	mg/kg	0.526
Pyrene	ND	mg/kg	0.526
Benzo (a) anthracene	ND	mg/kg	0.526
Chrysene	ND	mg/kg	0.526
Benzo (b) fluoranthene	ND	mg/kg	0.526
Benzo (k) fluoranthene	ND	mg/kg	0.526
Benzo (a) pyrene	ND	mg/kg	0.526
Indeno (1, 2, 3-cd) Pyrene	ND	mg/kg	0.526
Dibenzo (a, h) anthracene	ND	mg/kg	0.526
Benzo (g, h, i) perylene	ND	mg/kg	0.526

Surrogate (s)	Recovery		QC Criteria
Chloro-Octadecane	46.0	%	40-140
o-Terphenyl	74.0	%	40-140
2-Fluorobiphenyl	76.0	%	40-140
2-Bromonaphthalene	70.0	%	40-140

Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES  
QUALITY ASSURANCE BATCH DUPLICATE ANALYSIS

Laboratory Job Number: L0403393

Parameter	Value 1	Value 2	Units	RPD	RPD Limits
Solids, Total for sample(s) 01-05 (L0403393-02, WG167388)					
Solids, Total	96.	95.	%	1	
Volatile Petroleum Hydrocarbons for sample(s) 01-05 (L0403393-01, WG167382)					
C5-C8 Aliphatics	ND	ND	mg/kg	NC	50
C9-C12 Aliphatics	ND	ND	mg/kg	NC	50
C9-C10 Aromatics	ND	ND	mg/kg	NC	50
C5-C8 Aliphatics, Adjusted	ND	ND	mg/kg	NC	50
C9-C12 Aliphatics, Adjusted	ND	ND	mg/kg	NC	50
Benzene	ND	ND	mg/kg	NC	50
Toluene	ND	ND	mg/kg	NC	50
Ethylbenzene	ND	ND	mg/kg	NC	50
p/m-Xylene	ND	ND	mg/kg	NC	50
o-Xylene	ND	ND	mg/kg	NC	50
Methyl tert butyl ether	ND	ND	mg/kg	NC	50
Naphthalene	ND	ND	mg/kg	NC	50
Surrogate (s)	Recovery				QC Criteria
2,5-Dibromotoluene-PID	109.	103.	%	6	70-130
2,5-Dibromotoluene-FID	111.	105.	%	6	70-130
Extractable Petroleum Hydrocarbons for sample(s) 01-05 (L0403393-01, WG167292)					
C9-C18 Aliphatics	ND	ND	mg/kg	NC	50
C19-C36 Aliphatics	ND	ND	mg/kg	NC	50
C11-C22 Aromatics	ND	ND	mg/kg	NC	50
C11-C22 Aromatics, Adjusted	ND	ND	mg/kg	NC	50
Naphthalene	ND	ND	mg/kg	NC	50
2-Methylnaphthalene	ND	ND	mg/kg	NC	50
Acenaphthylene	ND	ND	mg/kg	NC	50
Acenaphthene	ND	ND	mg/kg	NC	50
Fluorene	ND	ND	mg/kg	NC	50
Phenanthrene	ND	ND	mg/kg	NC	50
Anthracene	ND	ND	mg/kg	NC	50
Fluoranthene	ND	ND	mg/kg	NC	50
Pyrene	ND	ND	mg/kg	NC	50
Benzo (a) anthracene	ND	ND	mg/kg	NC	50
Chrysene	ND	ND	mg/kg	NC	50
Benzo (b) fluoranthene	ND	ND	mg/kg	NC	50
Benzo (k) fluoranthene	ND	ND	mg/kg	NC	50
Benzo (a) pyrene	ND	ND	mg/kg	NC	50
Indeno (1, 2, 3-cd) Pyrene	ND	ND	mg/kg	NC	50
Dibenzo (a, h) anthracene	ND	ND	mg/kg	NC	50
Benzo (ghi) perylene	ND	ND	mg/kg	NC	50
Surrogate (s)	Recovery				QC Criteria
Chloro-Octadecane	42.0	42.0	%	0	40-140
o-Terphenyl	77.0	68.0	%	12	40-140
2-Fluorobiphenyl	72.0	68.0	%	6	40-140
2-Bromonaphthalene	72.0	63.0	%	13	40-140

ALPHA ANALYTICAL LABORATORIES  
QUALITY ASSURANCE BATCH SPIKE ANALYSES

Laboratory Job Number: L0403393

Parameter	% Recovery	QC Criteria
Volatile Petroleum Hydrocarbons LCS for sample(s) 01-05 (WG167382)		
Benzene	117	70-130
Toluene	106	70-130
Ethylbenzene	120	70-130
p/m-Xylene	111	70-130
o-Xylene	107	70-130
Methyl tert butyl ether	105	70-130
Naphthalene	120	70-130
Surrogate(s)		
2,5-Dibromotoluene-PID	118	70-130
2,5-Dibromotoluene-FID	116	70-130
Extractable Petroleum Hydrocarbons LCS for sample(s) 01-05 (WG167292)		
Naphthalene	40	40-140
Acenaphthene	52	40-140
Anthracene	69	40-140
Pyrene	77	40-140
Chrysene	80	40-140
Nonane (C9)	52	40-140
Tetradecane (C14)	65	40-140
Nonadecane (C19)	81	40-140
Eicosane (C20)	85	40-140
Octacosane (C28)	86	40-140
Surrogate(s)		
Chloro-Octadecane	47	40-140
o-Terphenyl	69	40-140
2-Fluorobiphenyl	64	40-140
2-Bromonaphthalene	52	40-140



ALPHA ANALYTICAL LABORATORIES  
QUALITY ASSURANCE BATCH BLANK ANALYSIS

Laboratory Job Number: L0403393

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	

Blank Analysis for sample(s) 01-05 (WG167382-3)

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE	ID
Volatile Petroleum Hydrocarbons						
C5-C8 Aliphatics, Unadjusted	ND	mg/kg	2.00	47 98-1	0408 07:26	PS
C9-C12 Aliphatics, Unadjusted	ND	mg/kg	2.00			
C9-C10 Aromatics	ND	mg/kg	2.00			
C5-C8 Aliphatics, Adjusted	ND	mg/kg	2.00			
C9-C12 Aliphatics, Adjusted	ND	mg/kg	2.00			
Benzene	ND	mg/kg	0.100			
Toluene	ND	mg/kg	0.100			
Ethylbenzene	ND	mg/kg	0.100			
p/m-Xylene	ND	mg/kg	0.100			
o-Xylene	ND	mg/kg	0.100			
Methyl tert butyl ether	ND	mg/kg	0.200			
Naphthalene	ND	mg/kg	1.00			

Surrogate(s)	Recovery		QC Criteria
2,5-Dibromotoluene-PID	94.0	%	70-130
2,5-Dibromotoluene-FID	103.	%	70-130

Blank Analysis for sample(s) 01-05 (WG167292-1)

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE	ID
Extractable Petroleum Hydrocarbons						
C9-C18 Aliphatics	ND	mg/kg	10.0	46 98-1	0408 11:00	0411 14:21 LL
C19-C36 Aliphatics	ND	mg/kg	10.0			
C11-C22 Aromatics, Unadjusted	ND	mg/kg	10.0			
C11-C22 Aromatics, Adjusted	ND	mg/kg	10.0			
Naphthalene	ND	mg/kg	0.500			
2-Methylnaphthalene	ND	mg/kg	0.500			
Acenaphthylene	ND	mg/kg	0.500			
Acenaphthene	ND	mg/kg	0.500			
Fluorene	ND	mg/kg	0.500			
Phenanthrene	ND	mg/kg	0.500			
Anthracene	ND	mg/kg	0.500			
Fluoranthene	ND	mg/kg	0.500			
Pyrene	ND	mg/kg	0.500			
Benzo (a) anthracene	ND	mg/kg	0.500			
Chrysene	ND	mg/kg	0.500			
Benzo (b) fluoranthene	ND	mg/kg	0.500			
Benzo (k) fluoranthene	ND	mg/kg	0.500			
Benzo (a) pyrene	ND	mg/kg	0.500			
Indeno (1,2,3-cd) Pyrene	ND	mg/kg	0.500			
Dibenzo (a,h) anthracene	ND	mg/kg	0.500			
Benzo (g,h,i) perylene	ND	mg/kg	0.500			

Surrogate(s)	Recovery		QC Criteria
Chloro-Octadecane	56.0	%	40-140
o-Terphenyl	77.0	%	40-140
2-Fluorobiphenyl	67.0	%	40-140
2-Bromonaphthalene	67.0	%	40-140

ALPHA ANALYTICAL LABORATORIES  
ADDENDUM I

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REFERENCES

30. Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WPCF. 18th Edition. 1992.
46. Method for the Determination of Extractable Petroleum Hydrocarbons (EPH), Massachusetts Department of Environmental Protection, (MADEP-EPH-98-1), January 1998.
47. Method for the Determination of Volatile Petroleum Hydrocarbons (VPH), Massachusetts Department of Environmental Protection, (MADEP-VPH-98-1), January 1998.

GLOSSARY OF TERMS AND SYMBOLS

REF Reference number in which test method may be found.  
METHOD Method number by which analysis was performed.  
ID Initials of the analyst.  
ND Not detected in comparison to the reported detection limit.

Please note that all solid samples are reported on dry weight basis unless noted otherwise.

LIMITATION OF LIABILITIES

Alpha Analytical, Inc. performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical, Inc., shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical, Inc. be held liable for any incidental consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical, Inc.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding times and splitting of samples in the field.

ALPHA ANALYTICAL LABORATORIES  
LOGIN SPECIFIC INFORMATION

Laboratory Job Number: L0403393

Were project specific reporting limits specified? YES

Cooler Information

Cooler	Custody Seal
A	Absent

Container Information

Container ID	Container Type	Cooler	pH	Temp	Pres	Seal	Analysis
L0403393-01A	Vial MeOH preserved	A	N/A	2.8 C	Y	Absent	VPH-DELUX
L0403393-01B	Amber 250ml unpreserved	A	N/A	2.8 C	Y	Absent	EPH-DELUX, TS
L0403393-02A	Vial MeOH preserved	A	N/A	2.8 C	Y	Absent	VPH-DELUX
L0403393-02B	Amber 250ml unpreserved	A	N/A	2.8 C	Y	Absent	EPH-DELUX, TS
L0403393-03A	Vial MeOH preserved	A	N/A	2.8 C	Y	Absent	VPH-DELUX
L0403393-03B	Amber 250ml unpreserved	A	N/A	2.8 C	Y	Absent	EPH-DELUX, TS
L0403393-04A	Vial MeOH preserved	A	N/A	2.8 C	Y	Absent	VPH-DELUX
L0403393-04B	Amber 250ml unpreserved	A	N/A	2.8 C	Y	Absent	EPH-DELUX, TS
L0403393-05A	Vial MeOH preserved	A	N/A	2.8 C	Y	Absent	VPH-DELUX
L0403393-05B	Amber 250ml unpreserved	A	N/A	2.8 C	Y	Absent	EPH-DELUX, TS

Container Comments

Container ID	Comments
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ALPHA ANALYTICAL LABORATORIES

Eight Walkup Drive  
Westborough, Massachusetts 01581-1019  
(508) 898-9220 www.alphalab.com

MA:M-MA086 NH:200301-A CT:PH-0574 ME:MA086 RI:65 NY:11148 NJ:MA935 Army:USACE

CERTIFICATE OF ANALYSIS

Client: Haley & Aldrich, Inc. Laboratory Job Number: L0403469  
Address: 465 Medford Street, Suite 2200  
Boston, MA 02129-1400 Date Received: 08-APR-2004  
Attn: Mr. Steve Provencal Date Reported: 13-APR-2004  
Project Number: 30660-000 Delivery Method: Alpha  
Site: BURBANK SCHOOL

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The following questions pertain only to MCP Analytical Methods

An affirmative response to questions A,B,C & D is required for "Presumptive Certainty" status

- A. Were all samples received by the laboratory in a condition consistent with those described on their Chain-of-Custody documentation for the data set? YES
- B. Were all QA/QC procedures required for the specified analytical method(s) included in this report followed, including the requirement to note and discuss in a narrative QC data that did not meet appropriate performance standards or guidelines? YES
- C. Does the analytical data included in this report meet all the requirements for "Presumptive Certainty", as described in section 2.0 of the MADEP document CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data"? YES
- D. VPH and EPH methods only: Was the VPH or EPH method run without significant modifications, as specified in Section 11.3? YES

A response to questions E and F is required for "Presumptive Certainty" status

- E. Were all QC performance standards and recommendations for the specified method(s) achieved? YES
- F. Were results for all analyte-list compounds/elements for the specified method(s) reported? YES

Any answers of NO to the above questions are addressed in the case narrative.

---

I, the undersigned, attest under the pains and penalties of perjury that, based upon my personal inquiry of those responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

---

Authorized by: Scott McLean  
This document electronically signed

ALPHA ANALYTICAL LABORATORIES

Laboratory Job Number: L0403469

Date Reported: 13-APR-2004

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ALPHA SAMPLE NUMBER	CLIENT IDENTIFICATION	SAMPLE LOCATION
L0403469-01	12IN-CONC-NSW3-S2	BELMONT, MA
L0403469-02	12IN-CONC-BOT3-S2	BELMONT, MA
L0403469-03	12IN-CONC-SSW3-S2	BELMONT, MA
L0403469-04	8IN-CLAY-SOUTH-S2	BELMONT, MA

ALPHA ANALYTICAL LABORATORIES  
NARRATIVE REPORT

Laboratory Job Number: L0403469

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Report Submission

All MCP required questions were answered with affirmative responses, therefore, there are no relevant data issues to discuss.

Extraction Methods

Extraction method 3545 was used as the extraction method for the analysis of EPH by method 98-1.





ALPHA ANALYTICAL LABORATORIES  
CERTIFICATE OF ANALYSIS

Laboratory Sample Number: L0403469-01  
12IN-CONC-NSW3-S2

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE PREP      ANAL	ID
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Volatile Petroleum Hydrocarbons				47 98-1		0409 12:00 PS
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Quality Control Information

Condition of sample received:	Satisfactory
Sample temperature upon receipt:	Received on Ice
Were samples received in methanol?	Covering the Soil
Methanol ratio:	1:1 +/- 25%
Were all QA/QC procedures REQUIRED by the method followed?	YES
Were all performance/acceptance standards for the required procedures achieved?	YES
Were significant modifications made to the method as specified in Sect 11.3?	NO
The normal acceptance range for the surrogate, 2,5-Dibromotoluene, is 70-130%.	

C5-C8 Aliphatics, Unadjusted	ND	mg/kg	2.29	
C9-C12 Aliphatics, Unadjusted	ND	mg/kg	2.29	
C9-C10 Aromatics	ND	mg/kg	2.29	
C5-C8 Aliphatics, Adjusted	ND	mg/kg	2.29	
C9-C12 Aliphatics, Adjusted	ND	mg/kg	2.29	
Benzene	ND	mg/kg	0.114	
Toluene	ND	mg/kg	0.114	
Ethylbenzene	ND	mg/kg	0.114	
p/m-Xylene	ND	mg/kg	0.114	
o-Xylene	ND	mg/kg	0.114	
Methyl tert butyl ether	ND	mg/kg	0.229	
Naphthalene	ND	mg/kg	1.14	
Surrogate(s)	Recovery		QC Criteria	
2,5-Dibromotoluene-PID	108.	%	70-130	
2,5-Dibromotoluene-FID	104.	%	70-130	

Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES  
CERTIFICATE OF ANALYSIS

Laboratory Sample Number: L0403469-01  
12IN-CONC-NSW3-S2

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	

Extractable Petroleum Hydrocarbons				46 98-1	0412 12:00	0413 13:03	LL
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Quality Control Information

Condition of sample received:	Satisfactory	
Sample temperature upon receipt:	Received on Ice	
Sample extraction method:	Extracted Per the Method	
Were all QA/QC procedures REQUIRED by the method followed?		YES
Were all performance/acceptance standards for the required procedures achieved?		YES
Were significant modifications made to the method as specified in Sect 11.3?		NO
The normal acceptance range for the extraction surrogates, Chloro-octadecane and o-Terphenyl, is 40-140%.		
The normal acceptance range for the fractionation surrogates, 2-Fluorobiphenyl and 2-Bromonaphthalene, is 40-140%.		

C9-C18 Aliphatics	ND	mg/kg	12.5
C19-C36 Aliphatics	ND	mg/kg	12.5
C11-C22 Aromatics, Unadjusted	ND	mg/kg	12.5
C11-C22 Aromatics, Adjusted	ND	mg/kg	12.5
Naphthalene	ND	mg/kg	0.625
2-Methylnaphthalene	ND	mg/kg	0.625
Acenaphthylene	ND	mg/kg	0.625
Acenaphthene	ND	mg/kg	0.625
Fluorene	ND	mg/kg	0.625
Phenanthrene	ND	mg/kg	0.625
Anthracene	ND	mg/kg	0.625
Fluoranthene	ND	mg/kg	0.625
Pyrene	ND	mg/kg	0.625
Benzo(a)anthracene	ND	mg/kg	0.625
Chrysene	ND	mg/kg	0.625
Benzo(b)fluoranthene	ND	mg/kg	0.625
Benzo(k)fluoranthene	ND	mg/kg	0.625
Benzo(a)pyrene	ND	mg/kg	0.625
Indeno(1,2,3-cd)Pyrene	ND	mg/kg	0.625
Dibenzo(a,h)anthracene	ND	mg/kg	0.625
Benzo(g,h,i)perylene	ND	mg/kg	0.625

Surrogate(s)	Recovery		QC Criteria
Chloro-Octadecane	61.0	%	40-140
o-Terphenyl	77.0	%	40-140
2-Fluorobiphenyl	83.0	%	40-140
2-Bromonaphthalene	78.0	%	40-140

Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES  
 CERTIFICATE OF ANALYSIS

MA:M-MA086 NH:200301-A CT:PH-0574 ME:MA086 RI:65 NY:11148 NJ:MA935 Army:USACE

Laboratory Sample Number: L0403469-02  
 Date Collected: 08-APR-2004 12:07  
 12IN-CONC-BOT3-S2  
 Date Received : 08-APR-2004  
 Sample Matrix: SOIL  
 Date Reported : 13-APR-2004  
 Condition of Sample: Satisfactory  
 Field Prep: None  
 Number & Type of Containers: 1-Amber,1-Vial

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Solids, Total	79.	%	0.10	30 2540G		0409 20:00	JT

Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES  
CERTIFICATE OF ANALYSIS

Laboratory Sample Number: L0403469-02  
12IN-CONC-BOT3-S2

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Volatile Petroleum Hydrocarbons				47 98-1	0409 13:48 PS		
Quality Control Information							
Condition of sample received:				Satisfactory			
Sample temperature upon receipt:				Received on Ice			
Were samples received in methanol?				Covering the Soil			
Methanol ratio:				1:1 +/- 25%			
Were all QA/QC procedures REQUIRED by the method followed?							YES
Were all performance/acceptance standards for the required procedures achieved?							YES
Were significant modifications made to the method as specified in Sect 11.3?							NO
The normal acceptance range for the surrogate, 2,5-Dibromotoluene, is 70-130%.							
C5-C8 Aliphatics, Unadjusted	ND	mg/kg	2.32				
C9-C12 Aliphatics, Unadjusted	ND	mg/kg	2.32				
C9-C10 Aromatics	ND	mg/kg	2.32				
C5-C8 Aliphatics, Adjusted	ND	mg/kg	2.32				
C9-C12 Aliphatics, Adjusted	ND	mg/kg	2.32				
Benzene	ND	mg/kg	0.116				
Toluene	ND	mg/kg	0.116				
Ethylbenzene	ND	mg/kg	0.116				
p/m-Xylene	ND	mg/kg	0.116				
o-Xylene	ND	mg/kg	0.116				
Methyl tert butyl ether	ND	mg/kg	0.232				
Naphthalene	ND	mg/kg	1.16				
Surrogate(s)	Recovery			QC Criteria			
2,5-Dibromotoluene-PID	109.	%		70-130			
2,5-Dibromotoluene-FID	118.	%		70-130			

Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES  
CERTIFICATE OF ANALYSIS

Laboratory Sample Number: L0403469-02  
12IN-CONC-BOT3-S2

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE	ID
					PREP	ANAL

Extractable Petroleum Hydrocarbons				46 98-1		0408 11:00 0412 13:31 LL
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Quality Control Information

Condition of sample received:	Satisfactory	
Sample temperature upon receipt:	Received on Ice	
Sample extraction method:	Extracted Per the Method	
Were all QA/QC procedures REQUIRED by the method followed?		YES
Were all performance/acceptance standards for the required procedures achieved?		YES
Were significant modifications made to the method as specified in Sect 11.3?		NO
The normal acceptance range for the extraction surrogates, Chloro-octadecane and o-Terphenyl, is 40-140%.		
The normal acceptance range for the fractionation surrogates, 2-Fluorobiphenyl and 2-Bromonaphthalene, is 40-140%.		

C9-C18 Aliphatics	ND	mg/kg	12.6
C19-C36 Aliphatics	ND	mg/kg	12.6
C11-C22 Aromatics, Unadjusted	ND	mg/kg	12.6
C11-C22 Aromatics, Adjusted	ND	mg/kg	12.6
Naphthalene	ND	mg/kg	0.633
2-Methylnaphthalene	ND	mg/kg	0.633
Acenaphthylene	ND	mg/kg	0.633
Acenaphthene	ND	mg/kg	0.633
Fluorene	ND	mg/kg	0.633
Phenanthrene	ND	mg/kg	0.633
Anthracene	ND	mg/kg	0.633
Fluoranthene	ND	mg/kg	0.633
Pyrene	ND	mg/kg	0.633
Benzo (a) anthracene	ND	mg/kg	0.633
Chrysene	ND	mg/kg	0.633
Benzo (b) fluoranthene	ND	mg/kg	0.633
Benzo (k) fluoranthene	ND	mg/kg	0.633
Benzo (a) pyrene	ND	mg/kg	0.633
Indeno (1, 2, 3-cd) Pyrene	ND	mg/kg	0.633
Dibenzo (a, h) anthracene	ND	mg/kg	0.633
Benzo (g, h, i) perylene	ND	mg/kg	0.633
Surrogate (s)	Recovery		QC Criteria
Chloro-Octadecane	51.0	%	40-140
o-Terphenyl	54.0	%	40-140
2-Fluorobiphenyl	68.0	%	40-140
2-Bromonaphthalene	62.0	%	40-140

Comments: Complete list of References and Glossary of Terms found in Addendum I



ALPHA ANALYTICAL LABORATORIES  
CERTIFICATE OF ANALYSIS

Laboratory Sample Number: L0403469-03  
12IN-CONC-SSW3-S2

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	

Volatile Petroleum Hydrocarbons	47 98-1	0409 14:39 PS
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Quality Control Information

Condition of sample received:	Satisfactory	
Sample temperature upon receipt:	Received on Ice	
Were samples received in methanol?	Covering the Soil	
Methanol ratio:	1:1 +/- 25%	
Were all QA/QC procedures REQUIRED by the method followed?		YES
Were all performance/acceptance standards for the required procedures achieved?		YES
Were significant modifications made to the method as specified in Sect 11.3?		NO
The normal acceptance range for the surrogate, 2,5-Dibromotoluene, is 70-130%.		

C5-C8 Aliphatics, Unadjusted	ND	mg/kg	2.46
C9-C12 Aliphatics, Unadjusted	ND	mg/kg	2.46
C9-C10 Aromatics	ND	mg/kg	2.46
C5-C8 Aliphatics, Adjusted	ND	mg/kg	2.46
C9-C12 Aliphatics, Adjusted	ND	mg/kg	2.46
Benzene	ND	mg/kg	0.123
Toluene	ND	mg/kg	0.123
Ethylbenzene	ND	mg/kg	0.123
p/m-Xylene	ND	mg/kg	0.123
o-Xylene	ND	mg/kg	0.123
Methyl tert butyl ether	ND	mg/kg	0.246
Naphthalene	ND	mg/kg	1.23
Surrogate(s)	Recovery		QC Criteria
2,5-Dibromotoluene-PID	109.	%	70-130
2,5-Dibromotoluene-FID	113.	%	70-130

Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES  
CERTIFICATE OF ANALYSIS

Laboratory Sample Number: L0403469-03  
12IN-CONC-SSW3-S2

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	

Extractable Petroleum Hydrocarbons	46 98-1	0408 11:00 0412 14:20 LL
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Quality Control Information

Condition of sample received:	Satisfactory	
Sample temperature upon receipt:	Received on Ice	
Sample extraction method:	Extracted Per the Method	
Were all QA/QC procedures REQUIRED by the method followed?		YES
Were all performance/acceptance standards for the required procedures achieved?		YES
Were significant modifications made to the method as specified in Sect 11.3?		NO
The normal acceptance range for the extraction surrogates, Chloro-octadecane and o-Terphenyl, is 40-140%.		
The normal acceptance range for the fractionation surrogates, 2-Fluorobiphenyl and 2-Bromonaphthalene, is 40-140%.		

C9-C18 Aliphatics	ND	mg/kg	12.6
C19-C36 Aliphatics	ND	mg/kg	12.6
C11-C22 Aromatics, Unadjusted	ND	mg/kg	12.6
C11-C22 Aromatics, Adjusted	ND	mg/kg	12.6
Naphthalene	ND	mg/kg	0.633
2-Methylnaphthalene	ND	mg/kg	0.633
Acenaphthylene	ND	mg/kg	0.633
Acenaphthene	ND	mg/kg	0.633
Fluorene	ND	mg/kg	0.633
Phenanthrene	ND	mg/kg	0.633
Anthracene	ND	mg/kg	0.633
Fluoranthene	ND	mg/kg	0.633
Pyrene	ND	mg/kg	0.633
Benzo(a)anthracene	ND	mg/kg	0.633
Chrysene	ND	mg/kg	0.633
Benzo(b)fluoranthene	ND	mg/kg	0.633
Benzo(k)fluoranthene	ND	mg/kg	0.633
Benzo(a)pyrene	ND	mg/kg	0.633
Indeno(1,2,3-cd)Pyrene	ND	mg/kg	0.633
Dibenzo(a,h)anthracene	ND	mg/kg	0.633
Benzo(g,h,i)perylene	ND	mg/kg	0.633
Surrogate(s)	Recovery		QC Criteria
Chloro-Octadecane	60.0	%	40-140
o-Terphenyl	50.0	%	40-140
2-Fluorobiphenyl	66.0	%	40-140
2-Bromonaphthalene	69.0	%	40-140

Comments: Complete list of References and Glossary of Terms found in Addendum I





ALPHA ANALYTICAL LABORATORIES  
CERTIFICATE OF ANALYSIS

Laboratory Sample Number: L0403469-04  
8IN-CLAY-SOUTH-S2

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Volatile Petroleum Hydrocarbons				47 98-1		0409 15:30	PS

Quality Control Information

Condition of sample received:	Satisfactory	
Sample temperature upon receipt:	Received on Ice	
Were samples received in methanol?	Covering the Soil	
Methanol ratio:	1:1 +/- 25%	
Were all QA/QC procedures REQUIRED by the method followed?		YES
Were all performance/acceptance standards for the required procedures achieved?		YES
Were significant modifications made to the method as specified in Sect 11.3?		NO
The normal acceptance range for the surrogate, 2,5-Dibromotoluene, is 70-130%.		

C5-C8 Aliphatics, Unadjusted	ND	mg/kg	2.22
C9-C12 Aliphatics, Unadjusted	ND	mg/kg	2.22
C9-C10 Aromatics	ND	mg/kg	2.22
C5-C8 Aliphatics, Adjusted	ND	mg/kg	2.22
C9-C12 Aliphatics, Adjusted	ND	mg/kg	2.22
Benzene	ND	mg/kg	0.111
Toluene	ND	mg/kg	0.111
Ethylbenzene	ND	mg/kg	0.111
p/m-Xylene	ND	mg/kg	0.111
o-Xylene	ND	mg/kg	0.111
Methyl tert butyl ether	ND	mg/kg	0.222
Naphthalene	ND	mg/kg	1.11
Surrogate(s)	Recovery		QC Criteria
2,5-Dibromotoluene-PID	110.	%	70-130
2,5-Dibromotoluene-FID	110.	%	70-130

Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES  
CERTIFICATE OF ANALYSIS

Laboratory Sample Number: L0403469-04  
8IN-CLAY-SOUTH-S2

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	

Extractable Petroleum Hydrocarbons				46 98-1	0408 11:00	0411 00:27	LL
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Quality Control Information

Condition of sample received:	Satisfactory	
Sample temperature upon receipt:	Received on Ice	
Sample extraction method:	Extracted Per the Method	
Were all QA/QC procedures REQUIRED by the method followed?		YES
Were all performance/acceptance standards for the required procedures achieved?		YES
Were significant modifications made to the method as specified in Sect 11.3?		NO
The normal acceptance range for the extraction surrogates, Chloro-octadecane and o-Terphenyl, is 40-140%.		
The normal acceptance range for the fractionation surrogates, 2-Fluorobiphenyl and 2-Bromonaphthalene, is 40-140%.		

C9-C18 Aliphatics	ND	mg/kg	12.5
C19-C36 Aliphatics	ND	mg/kg	12.5
C11-C22 Aromatics, Unadjusted	ND	mg/kg	12.5
C11-C22 Aromatics, Adjusted	ND	mg/kg	12.5
Naphthalene	ND	mg/kg	0.625
2-Methylnaphthalene	ND	mg/kg	0.625
Acenaphthylene	ND	mg/kg	0.625
Acenaphthene	ND	mg/kg	0.625
Fluorene	ND	mg/kg	0.625
Phenanthrene	ND	mg/kg	0.625
Anthracene	ND	mg/kg	0.625
Fluoranthene	ND	mg/kg	0.625
Pyrene	ND	mg/kg	0.625
Benzo (a) anthracene	ND	mg/kg	0.625
Chrysene	ND	mg/kg	0.625
Benzo (b) fluoranthene	ND	mg/kg	0.625
Benzo (k) fluoranthene	ND	mg/kg	0.625
Benzo (a) pyrene	ND	mg/kg	0.625
Indeno (1,2,3-cd) Pyrene	ND	mg/kg	0.625
Dibenzo (a,h) anthracene	ND	mg/kg	0.625
Benzo (g,h,i) perylene	ND	mg/kg	0.625

Surrogate (s)	Recovery		QC Criteria
Chloro-Octadecane	46.0	%	40-140
o-Terphenyl	64.0	%	40-140
2-Fluorobiphenyl	72.0	%	40-140
2-Bromonaphthalene	65.0	%	40-140

Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES  
QUALITY ASSURANCE BATCH DUPLICATE ANALYSIS

Laboratory Job Number: L0403469

Parameter	Value 1	Value 2	Units	RPD	RPD Limits
Solids, Total for sample(s) 01-04 (L0403442-01, WG167442)					
Solids, Total	70.	71.	%	1	
Volatile Petroleum Hydrocarbons for sample(s) 02-04 (L0403393-01, WG167382)					
C5-C8 Aliphatics	ND	ND	mg/kg	NC	50
C9-C12 Aliphatics	ND	ND	mg/kg	NC	50
C9-C10 Aromatics	ND	ND	mg/kg	NC	50
C5-C8 Aliphatics, Adjusted	ND	ND	mg/kg	NC	50
C9-C12 Aliphatics, Adjusted	ND	ND	mg/kg	NC	50
Benzene	ND	ND	mg/kg	NC	50
Toluene	ND	ND	mg/kg	NC	50
Ethylbenzene	ND	ND	mg/kg	NC	50
p/m-Xylene	ND	ND	mg/kg	NC	50
o-Xylene	ND	ND	mg/kg	NC	50
Methyl tert butyl ether	ND	ND	mg/kg	NC	50
Naphthalene	ND	ND	mg/kg	NC	50
Surrogate(s) Recovery QC Criteria					
2,5-Dibromotoluene-PID	109.	103.	%	6	70-130
2,5-Dibromotoluene-FID	111.	105.	%	6	70-130
Volatile Petroleum Hydrocarbons for sample(s) 01 (L0403469-01, WG167508)					
C5-C8 Aliphatics	ND	ND	mg/kg	NC	50
C9-C12 Aliphatics	ND	ND	mg/kg	NC	50
C9-C10 Aromatics	ND	ND	mg/kg	NC	50
C5-C8 Aliphatics, Adjusted	ND	ND	mg/kg	NC	50
C9-C12 Aliphatics, Adjusted	ND	ND	mg/kg	NC	50
Benzene	ND	ND	mg/kg	NC	50
Toluene	ND	ND	mg/kg	NC	50
Ethylbenzene	ND	ND	mg/kg	NC	50
p/m-Xylene	ND	ND	mg/kg	NC	50
o-Xylene	ND	ND	mg/kg	NC	50
Methyl tert butyl ether	ND	ND	mg/kg	NC	50
Naphthalene	ND	ND	mg/kg	NC	50
Surrogate(s) Recovery QC Criteria					
2,5-Dibromotoluene-PID	108.	113.	%	5	70-130
2,5-Dibromotoluene-FID	104.	111.	%	7	70-130
Extractable Petroleum Hydrocarbons for sample(s) 01 (L0403149-14, WG167639)					
C9-C18 Aliphatics	ND	ND	mg/kg	NC	50
C19-C36 Aliphatics	393.	371.	mg/kg	6	50
C11-C22 Aromatics	299.	357.	mg/kg	18	50
C11-C22 Aromatics, Adjusted	233.	265.	mg/kg	13	50
Naphthalene	ND	ND	mg/kg	NC	50
2-Methylnaphthalene	ND	ND	mg/kg	NC	50
Acenaphthylene	ND	ND	mg/kg	NC	50
Acenaphthene	0.875	1.43	mg/kg	48	50
Fluorene	0.637	1.09	mg/kg	52	50

ALPHA ANALYTICAL LABORATORIES  
 QUALITY ASSURANCE BATCH DUPLICATE ANALYSIS

Laboratory Job Number: L0403469

Continued

Parameter	Value 1	Value 2	Units	RPD	RPD Limits
Extractable Petroleum Hydrocarbons for sample(s) 01 (L0403149-14, WG167639)					
Phenanthrene	11.1	17.2	mg/kg	43	50
Anthracene	2.15	3.60	mg/kg	50	50
Fluoranthene	11.0	16.6	mg/kg	41	50
Pyrene	10.9	15.0	mg/kg	32	50
Benzo(a)anthracene	4.69	6.32	mg/kg	30	50
Chrysene	4.72	6.01	mg/kg	24	50
Benzo(b)fluoranthene	4.55	5.70	mg/kg	22	50
Benzo(k)fluoranthene	4.01	5.39	mg/kg	29	50
Benzo(a)pyrene	4.38	5.99	mg/kg	31	50
Indeno(1,2,3-cd)Pyrene	2.58	3.42	mg/kg	28	50
Dibenzo(a,h)anthracene	ND	ND	mg/kg	NC	50
Benzo(ghi)perylene	3.96	4.49	mg/kg	13	50
Surrogate(s)	Recovery				QC Criteria
Chloro-Octadecane	59.0	68.0	%	14	40-140
o-Terphenyl	175.	187.	%	7	40-140
2-Fluorobiphenyl	73.0	76.0	%	4	40-140
2-Bromonaphthalene	65.0	71.0	%	9	40-140
Extractable Petroleum Hydrocarbons for sample(s) 02-04 (L0403393-01, WG167292)					
C9-C18 Aliphatics	ND	ND	mg/kg	NC	50
C19-C36 Aliphatics	ND	ND	mg/kg	NC	50
C11-C22 Aromatics	ND	ND	mg/kg	NC	50
C11-C22 Aromatics, Adjusted	ND	ND	mg/kg	NC	50
Naphthalene	ND	ND	mg/kg	NC	50
2-Methylnaphthalene	ND	ND	mg/kg	NC	50
Acenaphthylene	ND	ND	mg/kg	NC	50
Acenaphthene	ND	ND	mg/kg	NC	50
Fluorene	ND	ND	mg/kg	NC	50
Phenanthrene	ND	ND	mg/kg	NC	50
Anthracene	ND	ND	mg/kg	NC	50
Fluoranthene	ND	ND	mg/kg	NC	50
Pyrene	ND	ND	mg/kg	NC	50
Benzo(a)anthracene	ND	ND	mg/kg	NC	50
Chrysene	ND	ND	mg/kg	NC	50
Benzo(b)fluoranthene	ND	ND	mg/kg	NC	50
Benzo(k)fluoranthene	ND	ND	mg/kg	NC	50
Benzo(a)pyrene	ND	ND	mg/kg	NC	50
Indeno(1,2,3-cd)Pyrene	ND	ND	mg/kg	NC	50
Dibenzo(a,h)anthracene	ND	ND	mg/kg	NC	50
Benzo(ghi)perylene	ND	ND	mg/kg	NC	50
Surrogate(s)	Recovery				QC Criteria
Chloro-Octadecane	42.0	42.0	%	0	40-140
o-Terphenyl	77.0	68.0	%	12	40-140
2-Fluorobiphenyl	72.0	68.0	%	6	40-140
2-Bromonaphthalene	72.0	63.0	%	13	40-140

ALPHA ANALYTICAL LABORATORIES  
 QUALITY ASSURANCE BATCH SPIKE ANALYSES

Laboratory Job Number: L0403469

Parameter	% Recovery	QC Criteria
Volatile Petroleum Hydrocarbons LCS for sample(s) 02-04 (WG167382)		
Benzene	117	70-130
Toluene	106	70-130
Ethylbenzene	120	70-130
p/m-Xylene	111	70-130
o-Xylene	107	70-130
Methyl tert butyl ether	105	70-130
Naphthalene	120	70-130
Surrogate(s)		
2,5-Dibromotoluene-PID	118	70-130
2,5-Dibromotoluene-FID	116	70-130
Volatile Petroleum Hydrocarbons LCS for sample(s) 01 (WG167508)		
Benzene	116	70-130
Toluene	104	70-130
Ethylbenzene	118	70-130
p/m-Xylene	109	70-130
o-Xylene	107	70-130
Methyl tert butyl ether	102	70-130
Naphthalene	113	70-130
Surrogate(s)		
2,5-Dibromotoluene-PID	111	70-130
2,5-Dibromotoluene-FID	111	70-130
Extractable Petroleum Hydrocarbons LCS for sample(s) 01 (WG167639)		
Naphthalene	47	40-140
Acenaphthene	61	40-140
Anthracene	85	40-140
Pyrene	94	40-140
Chrysene	96	40-140
Nonane (C9)	54	40-140
Tetradecane (C14)	68	40-140
Nonadecane (C19)	102	40-140
Eicosane (C20)	103	40-140
Octacosane (C28)	103	40-140
Surrogate(s)		
Chloro-Octadecane	73	40-140
o-Terphenyl	86	40-140
2-Fluorobiphenyl	79	40-140
2-Bromonaphthalene	57	40-140
Extractable Petroleum Hydrocarbons LCS for sample(s) 02-04 (WG167292)		
Naphthalene	40	40-140
Acenaphthene	52	40-140
Anthracene	69	40-140
Pyrene	77	40-140

ALPHA ANALYTICAL LABORATORIES  
QUALITY ASSURANCE BATCH SPIKE ANALYSES

Laboratory Job Number: L0403469

Continued

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Parameter	% Recovery	QC Criteria
Extractable Petroleum Hydrocarbons LCS for sample(s) 02-04 (WG167292)		
Chrysene	80	40-140
Nonane (C9)	52	40-140
Tetradecane (C14)	65	40-140
Nonadecane (C19)	81	40-140
Eicosane (C20)	85	40-140
Octacosane (C28)	86	40-140
Surrogate(s)		
Chloro-Octadecane	47	40-140
o-Terphenyl	69	40-140
2-Fluorobiphenyl	64	40-140
2-Bromonaphthalene	52	40-140

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ALPHA ANALYTICAL LABORATORIES  
QUALITY ASSURANCE BATCH BLANK ANALYSIS

Laboratory Job Number: L0403469

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Blank Analysis for sample(s) 02-04 (WG167382-4)							
Volatile Petroleum Hydrocarbons				47 98-1		0409 08:08	PS
C5-C8 Aliphatics, Unadjusted	ND	mg/kg	2.00				
C9-C12 Aliphatics, Unadjusted	ND	mg/kg	2.00				
C9-C10 Aromatics	ND	mg/kg	2.00				
C5-C8 Aliphatics, Adjusted	ND	mg/kg	2.00				
C9-C12 Aliphatics, Adjusted	ND	mg/kg	2.00				
Benzene	ND	mg/kg	0.100				
Toluene	ND	mg/kg	0.100				
Ethylbenzene	ND	mg/kg	0.100				
p/m-Xylene	ND	mg/kg	0.100				
o-Xylene	ND	mg/kg	0.100				
Methyl tert butyl ether	ND	mg/kg	0.200				
Naphthalene	ND	mg/kg	1.00				
Surrogate(s)	Recovery		QC Criteria				
2,5-Dibromotoluene-PID	103.	%	70-130				
2,5-Dibromotoluene-FID	103.	%	70-130				
Blank Analysis for sample(s) 01 (WG167508-3)							
Volatile Petroleum Hydrocarbons				47 98-1		0409 08:08	PS
C5-C8 Aliphatics, Unadjusted	ND	mg/kg	2.00				
C9-C12 Aliphatics, Unadjusted	ND	mg/kg	2.00				
C9-C10 Aromatics	ND	mg/kg	2.00				
C5-C8 Aliphatics, Adjusted	ND	mg/kg	2.00				
C9-C12 Aliphatics, Adjusted	ND	mg/kg	2.00				
Benzene	ND	mg/kg	0.100				
Toluene	ND	mg/kg	0.100				
Ethylbenzene	ND	mg/kg	0.100				
p/m-Xylene	ND	mg/kg	0.100				
o-Xylene	ND	mg/kg	0.100				
Methyl tert butyl ether	ND	mg/kg	0.200				
Naphthalene	ND	mg/kg	1.00				
Surrogate(s)	Recovery		QC Criteria				
2,5-Dibromotoluene-PID	103.	%	70-130				
2,5-Dibromotoluene-FID	103.	%	70-130				
Blank Analysis for sample(s) 01 (WG167639-1)							
Extractable Petroleum Hydrocarbons				46 98-1		0412 12:00 0413 13:52	LL
C9-C18 Aliphatics	ND	mg/kg	10.0				
C19-C36 Aliphatics	ND	mg/kg	10.0				
C11-C22 Aromatics, Unadjusted	ND	mg/kg	10.0				
C11-C22 Aromatics, Adjusted	ND	mg/kg	10.0				
Naphthalene	ND	mg/kg	0.500				
2-Methylnaphthalene	ND	mg/kg	0.500				
Acenaphthylene	ND	mg/kg	0.500				
Acenaphthene	ND	mg/kg	0.500				
Fluorene	ND	mg/kg	0.500				



ALPHA ANALYTICAL LABORATORIES  
QUALITY ASSURANCE BATCH BLANK ANALYSIS

Laboratory Job Number: L0403469

Continued

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Blank Analysis for sample(s) 01 (WG167639-1)							
Extractable Petroleum Hydrocarbons continued							
				46 98-1		0412 12:00	0413 13:52 LL
Phenanthrene	ND	mg/kg	0.500				
Anthracene	ND	mg/kg	0.500				
Fluoranthene	ND	mg/kg	0.500				
Pyrene	ND	mg/kg	0.500				
Benzo (a) anthracene	ND	mg/kg	0.500				
Chrysene	ND	mg/kg	0.500				
Benzo (b) fluoranthene	ND	mg/kg	0.500				
Benzo (k) fluoranthene	ND	mg/kg	0.500				
Benzo (a) pyrene	ND	mg/kg	0.500				
Indeno (1, 2, 3-cd) Pyrene	ND	mg/kg	0.500				
Dibenzo (a, h) anthracene	ND	mg/kg	0.500				
Benzo (g, h, i) perylene	ND	mg/kg	0.500				
Surrogate (s) Recovery QC Criteria							
Chloro-Octadecane	66.0	%	40-140				
o-Terphenyl	78.0	%	40-140				
2-Fluorobiphenyl	79.0	%	40-140				
2-Bromonaphthalene	73.0	%	40-140				
Blank Analysis for sample(s) 02-04 (WG167292-1)							
Extractable Petroleum Hydrocarbons							
				46 98-1		0408 11:00	0411 14:21 LL
C9-C18 Aliphatics	ND	mg/kg	10.0				
C19-C36 Aliphatics	ND	mg/kg	10.0				
C11-C22 Aromatics, Unadjusted	ND	mg/kg	10.0				
C11-C22 Aromatics, Adjusted	ND	mg/kg	10.0				
Naphthalene	ND	mg/kg	0.500				
2-Methylnaphthalene	ND	mg/kg	0.500				
Acenaphthylene	ND	mg/kg	0.500				
Acenaphthene	ND	mg/kg	0.500				
Fluorene	ND	mg/kg	0.500				
Phenanthrene	ND	mg/kg	0.500				
Anthracene	ND	mg/kg	0.500				
Fluoranthene	ND	mg/kg	0.500				
Pyrene	ND	mg/kg	0.500				
Benzo (a) anthracene	ND	mg/kg	0.500				
Chrysene	ND	mg/kg	0.500				
Benzo (b) fluoranthene	ND	mg/kg	0.500				
Benzo (k) fluoranthene	ND	mg/kg	0.500				
Benzo (a) pyrene	ND	mg/kg	0.500				
Indeno (1, 2, 3-cd) Pyrene	ND	mg/kg	0.500				
Dibenzo (a, h) anthracene	ND	mg/kg	0.500				
Benzo (g, h, i) perylene	ND	mg/kg	0.500				
Surrogate (s) Recovery QC Criteria							
Chloro-Octadecane	56.0	%	40-140				
o-Terphenyl	77.0	%	40-140				
2-Fluorobiphenyl	67.0	%	40-140				

ALPHA ANALYTICAL LABORATORIES  
QUALITY ASSURANCE BATCH BLANK ANALYSIS

Laboratory Job Number: L0403469

Continued

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Blank Analysis for sample(s) 02-04 (WG167292-1)							
Extractable Petroleum Hydrocarbons continued				46 98-1	0408 11:00	0411 14:21	LL
2-Bromonaphthalene	67.0	%	40-140				

ALPHA ANALYTICAL LABORATORIES  
ADDENDUM I

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REFERENCES

30. Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WPCF. 18th Edition. 1992.
46. Method for the Determination of Extractable Petroleum Hydrocarbons (EPH), Massachusetts Department of Environmental Protection, (MADEP-EPH-98-1), January 1998.
47. Method for the Determination of Volatile Petroleum Hydrocarbons (VPH), Massachusetts Department of Environmental Protection, (MADEP-VPH-98-1), January 1998.

GLOSSARY OF TERMS AND SYMBOLS

REF Reference number in which test method may be found.  
METHOD Method number by which analysis was performed.  
ID Initials of the analyst.  
ND Not detected in comparison to the reported detection limit.

Please note that all solid samples are reported on dry weight basis unless noted otherwise.

LIMITATION OF LIABILITIES

Alpha Analytical, Inc. performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical, Inc., shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical, Inc. be held liable for any incidental consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical, Inc.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding times and splitting of samples in the field.

ALPHA ANALYTICAL LABORATORIES  
LOGIN SPECIFIC INFORMATION

Laboratory Job Number: L0403469

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Were project specific reporting limits specified? YES

Cooler Information

Cooler	Custody Seal
A	Absent

Container Information

Container ID	Container Type	Cooler	pH	Temp	Pres	Seal	Analysis	
L0403469-01A	Vial MeOH preserved	A	N/A	0.4	C	Y	Absent	VPH-DELUX
L0403469-01B	Amber 250ml unpreserved	A	N/A	0.4	C	Y	Absent	EPH-DELUX, TS
L0403469-02A	Vial MeOH preserved	A	N/A	0.4	C	Y	Absent	VPH-DELUX
L0403469-02B	Amber 250ml unpreserved	A	N/A	0.4	C	Y	Absent	EPH-DELUX, TS
L0403469-03A	Vial MeOH preserved	A	N/A	0.4	C	Y	Absent	VPH-DELUX
L0403469-03B	Amber 250ml unpreserved	A	N/A	0.4	C	Y	Absent	EPH-DELUX, TS
L0403469-04A	Vial MeOH preserved	A	N/A	0.4	C	Y	Absent	VPH-DELUX
L0403469-04B	Amber 250ml unpreserved	A	N/A	0.4	C	Y	Absent	EPH-DELUX, TS

Container Comments

Container ID    Comments

---

**GOALS SETTING**

DATE: 4-14-03

EMPLOYEE: Todd Butler

STAFF MANAGER: Greg Martin

**Goal**

Improve skills with the use of Microsoft Access, Excel, and CAD

**How to Achieve Your Goal:**

Actively use New Horizons online courses

**Training and Resources Needed:**

(Billable/Non-Billable)

Staff's own time

**Timeline to Achieve Goal:**

Before the end of the fiscal year.

---

**1<sup>ST</sup> CHECK-IN SESSION**

Comments:

\_\_\_\_\_

Date

\_\_\_\_\_

Employee's Initials

\_\_\_\_\_

Staff Manager's Initials

**2<sup>nd</sup> CHECK-IN SESSION**

Comments:

\_\_\_\_\_

Date

\_\_\_\_\_

Employee's Initials

\_\_\_\_\_

Staff Manager's Initials



Haley & Aldrich, Inc.  
465 Medford St,  
Suite 2200,  
Boston, MA 02129-1400

# CHAIN OF CUSTODY RECORD

Phone (617) 886-7400  
Fax (617) 886-7600  
Page 1 of 1

LABORATORY: Scott  
DELIVERY DATE: 4/16/04  
H&A FILE NO.: 30260-000  
TURNAROUND TIME: 3 Days  
PROJECT NAME: BUBBANK SITES  
PROJECT MANAGER: Jodi Maroney  
H&A CONTACT: Steve Pizzarello  
ADDRESS CONTACT:

Sample No.	Date	Time	Depth (ft)	Type	Analysis Requested										Number of Containers	Comments (Special instructions, precautions, additional method numbers, etc.)			
					VOA	A/B	MCP Metals	Pesticides	PCBs	PAH only	PAH Suite EPA 8160-G	PAH Suite EPA 8160-F	Chlorides only	TPH (specify)			TCLP (specify)	Reactivity	Reliability
124H-CORC-ABWJ-52	4/16/04	1205	7-10	SOIL									X					2	Laboratory to use applicable DEP CAM methods, unless otherwise directed.  C142) EPA UPH & TMOGC ANALYTES
124H-CORC-BE73-56		1207	10										X					2	
124H-CORC-SS05-52		1208	7-10										X					2	
81H-CLAY-SW27H-52		930	6-8										X					2	
Sampled and Relinquished by Sign: <u>Todd Burger</u> Print: <u>Todd Burger</u> Firm: <u>HALEY &amp; ALDRICH</u> Date: <u>4/16/04</u> Time: <u>1446</u>					LIQUID														
Relinquished by Sign: <u>Mark Dubois</u> Print: <u>Mark Dubois</u> Firm: <u>HALEY &amp; ALDRICH</u> Date: <u>4/17/04</u> Time: <u>1446</u>					VOA Vial Amber Glass Plastic Bottle Preservative Volume														
Received by Sign: <u>Mark Dubois</u> Print: <u>Mark Dubois</u> Firm: <u>HALEY &amp; ALDRICH</u> Date: <u>4/17/04</u> Time: <u>1446</u>					* PLEASE FAX RESULTS TO MIKE CRONA @ 617-886-7777														
Sampled and Relinquished by Sign: <u>Mark Dubois</u> Print: <u>Mark Dubois</u> Firm: <u>HALEY &amp; ALDRICH</u> Date: <u>4/16/04</u> Time: <u>1541</u>					SOLID														
Relinquished by Sign: <u>Mark Dubois</u> Print: <u>Mark Dubois</u> Firm: <u>HALEY &amp; ALDRICH</u> Date: <u>4/16/04</u> Time: <u>1541</u>					VOA Vial Amber Glass Clear Glass Preservative Volume														
Received by Sign: <u>Mark Dubois</u> Print: <u>Mark Dubois</u> Firm: <u>HALEY &amp; ALDRICH</u> Date: <u>4/16/04</u> Time: <u>1643</u>					EVIDENCE SAMPLES WERE TAMPERED WITH? YES NO IF YES, PLEASE EXPLAIN IN SECTION BELOW.														
Sampled and Relinquished by Sign: <u>Mark Dubois</u> Print: <u>Mark Dubois</u> Firm: <u>HALEY &amp; ALDRICH</u> Date: <u>4/16/04</u> Time: <u>1643</u>					PRESERVATION KEY A Sample chilled    C NaOH    E H <sub>2</sub> SO <sub>4</sub> G Methanol B Sample filtered    D HNO <sub>3</sub> F HCL    H Water/Nat ISOX (circle)														
Received by Sign: <u>Mark Dubois</u> Print: <u>Mark Dubois</u> Firm: <u>HALEY &amp; ALDRICH</u> Date: <u>4/16/04</u> Time: <u>1643</u>					Required Reporting Limits and Data Quality Objectives: <input checked="" type="checkbox"/> RC-S1 <input type="checkbox"/> S1 <input type="checkbox"/> GW1 <input type="checkbox"/> RC-S2 <input type="checkbox"/> S2 <input type="checkbox"/> GW2 <input type="checkbox"/> RC-GW1 <input type="checkbox"/> S3 <input type="checkbox"/> GW3 <input type="checkbox"/> RC-GW2														

**Presumptive Certainty Data Package (Laboratory to use applicable DEP CAM methods)**

If Presumptive Certainty Data Package is needed, initial all sections:  
 The required minimum field QC samples, as designated in BWSC CAM-VII have been or will be collected, as appropriate, to meet the requirements of Presumptive Certainty.  
 Matrix Spike (MS) samples for MCP Metals and/or Cyanide are included and identified herein.  
 This Chain of Custody Record (specify) includes does not include samples defined as Drinking Water Samples  
 If this Chain of Custody Record identifies samples defined as Drinking Water Samples, Trip Blanks and Field Duplicates are included and identified and analysis of TICs are required, as appropriate. Laboratory should (specify if applicable) analyze hold for contingency testing the Drinking Water Field Duplicate and Drinking Water Trip Blank samples.

ALPHA ANALYTICAL LABORATORIES

Eight Walkup Drive  
Westborough, Massachusetts 01581-1019  
(508) 898-9220 www.alphalab.com

MA:M-MA086 NH:200301-A CT:PH-0574 ME:MA086 RI:65 NY:11148 NJ:MA935 Army:USACE

CERTIFICATE OF ANALYSIS

Client: Haley & Aldrich, Inc. Laboratory Job Number: L0403612  
Address: 465 Medford Street, Suite 2200  
Boston, MA 02129-1400 Date Received: 12-APR-2004  
Attn: Mr. Steve Provencal Date Reported: 14-APR-2004  
Project Number: 30660-000 Delivery Method: Alpha  
Site: BURBANK SCHOOL

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The following questions pertain only to MCP Analytical Methods

An affirmative response to questions A,B,C & D is required for "Presumptive Certainty" status

- A. Were all samples received by the laboratory in a condition consistent with those described on their Chain-of-Custody documentation for the data set? YES
- B. Were all QA/QC procedures required for the specified analytical method(s) included in this report followed, including the requirement to note and discuss in a narrative QC data that did not meet appropriate performance standards or guidelines? YES
- C. Does the analytical data included in this report meet all the requirements for "Presumptive Certainty", as described in section 2.0 of the MADEP document CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data"? YES
- D. VPH and EPH methods only: Was the VPH or EPH method run without significant modifications, as specified in Section 11.3? YES

A response to questions E and F is required for "Presumptive Certainty" status

- E. Were all QC performance standards and recommendations for the specified method(s) achieved? YES
- F. Were results for all analyte-list compounds/elements for the specified method(s) reported? YES

Any answers of NO to the above questions are addressed in the case narrative.

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I, the undersigned, attest under the pains and penalties of perjury that, based upon my personal inquiry of those responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

---

Authorized by: Scott McLean  
This document electronically signed

ALPHA ANALYTICAL LABORATORIES

Laboratory Job Number: L0403612  
Date Reported: 14-APR-2004

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ALPHA SAMPLE NUMBER	CLIENT IDENTIFICATION	SAMPLE LOCATION
L0403612-01	12IN-CONC-BOT5-S1	BELMONT, MA
L0403612-02	12IN-CONC-NSW5-S1	BELMONT, MA
L0403612-03	12IN-CONC-SSW5-S1	BELMONT, MA
L0403612-04	12IN-CONC-BOT4-S1	BELMONT, MA
L0403612-05	12IN-CONC-NSW4-S1	BELMONT, MA
L0403612-06	BG4-S1	BELMONT, MA
L0403612-07	BG6-S1	BELMONT, MA



ALPHA ANALYTICAL LABORATORIES  
NARRATIVE REPORT

Laboratory Job Number: L0403612

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MCP Related Narratives

Extraction methods

Extraction method 3545 was used as the extraction method for the analysis of EPH by method 98-1.

Report Submission

All MCP required questions were answered with affirmative responses, therefore, there are no relevant data issues to discuss.

ALPHA ANALYTICAL LABORATORIES  
CERTIFICATE OF ANALYSIS

MA:M-MA086 NH:200301-A CT:PH-0574 ME:MA086 RI:65 NY:11148 NJ:MA935 Army:USACE

Laboratory Sample Number: L0403612-01  
12IN-CONC-BOT5-S1  
Sample Matrix: SOIL  
Condition of Sample: Satisfactory  
Number & Type of Containers: 1-Amber,1-Vial  
Date Collected: 12-APR-2004 09:45  
Date Received : 12-APR-2004  
Date Reported : 14-APR-2004  
Field Prep: None

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Solids, Total	86.	%	0.10	30 2540G		0413 10:08 JC	

Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES  
CERTIFICATE OF ANALYSIS

Laboratory Sample Number: L0403612-01  
12IN-CONC-BOT5-S1

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE PREP      ANAL	ID
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Volatile Petroleum Hydrocarbons				47 98-1		0413 14:04 PS
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Quality Control Information

Condition of sample received:	Satisfactory
Sample temperature upon receipt:	Received on Ice
Were samples received in methanol?	Covering the Soil
Methanol ratio:	1:1 +/- 25%
Were all QA/QC procedures REQUIRED by the method followed?	YES
Were all performance/acceptance standards for the required procedures achieved?	YES
Were significant modifications made to the method as specified in Sect 11.3?	NO
The normal acceptance range for the surrogate, 2,5-Dibromotoluene, is 70-130%.	

C5-C8 Aliphatics, Unadjusted	ND	mg/kg	2.25		
C9-C12 Aliphatics, Unadjusted	ND	mg/kg	2.25		
C9-C10 Aromatics	ND	mg/kg	2.25		
C5-C8 Aliphatics, Adjusted	ND	mg/kg	2.25		
C9-C12 Aliphatics, Adjusted	ND	mg/kg	2.25		
Benzene	ND	mg/kg	0.112		
Toluene	ND	mg/kg	0.112		
Ethylbenzene	ND	mg/kg	0.112		
p/m-Xylene	ND	mg/kg	0.112		
o-Xylene	ND	mg/kg	0.112		
Methyl tert butyl ether	ND	mg/kg	0.225		
Naphthalene	ND	mg/kg	1.12		
Surrogate(s)	Recovery		QC Criteria		
2,5-Dibromotoluene-PID	115.	%	70-130		
2,5-Dibromotoluene-FID	110.	%	70-130		

Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES  
CERTIFICATE OF ANALYSIS

Laboratory Sample Number: L0403612-01  
12IN-CONC-BOT5-S1

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Extractable Petroleum Hydrocarbons				46 98-1	0412 21:15	0413 19:30	LL

Quality Control Information

Condition of sample received: Satisfactory  
Sample temperature upon receipt: Received on Ice  
Sample extraction method: Extracted Per the Method  
Were all QA/QC procedures REQUIRED by the method followed? YES  
Were all performance/acceptance standards for the required procedures achieved? YES  
Were significant modifications made to the method as specified in Sect 11.3? NO  
The normal acceptance range for the extraction surrogates, Chloro-octadecane and o-Terphenyl, is 40-140%.  
The normal acceptance range for the fractionation surrogates, 2-Fluorobiphenyl and 2-Bromonaphthalene, is 40-140%.

C9-C18 Aliphatics	ND	mg/kg	11.6
C19-C36 Aliphatics	ND	mg/kg	11.6
C11-C22 Aromatics, Unadjusted	ND	mg/kg	11.6
C11-C22 Aromatics, Adjusted	ND	mg/kg	11.6
Naphthalene	ND	mg/kg	0.581
2-Methylnaphthalene	ND	mg/kg	0.581
Acenaphthylene	ND	mg/kg	0.581
Acenaphthene	ND	mg/kg	0.581
Fluorene	ND	mg/kg	0.581
Phenanthrene	ND	mg/kg	0.581
Anthracene	ND	mg/kg	0.581
Fluoranthene	ND	mg/kg	0.581
Pyrene	ND	mg/kg	0.581
Benzo(a)anthracene	ND	mg/kg	0.581
Chrysene	ND	mg/kg	0.581
Benzo(b)fluoranthene	ND	mg/kg	0.581
Benzo(k)fluoranthene	ND	mg/kg	0.581
Benzo(a)pyrene	ND	mg/kg	0.581
Indeno(1,2,3-cd)Pyrene	ND	mg/kg	0.581
Dibenzo(a,h)anthracene	ND	mg/kg	0.581
Benzo(g,h,i)perylene	ND	mg/kg	0.581

Surrogate(s)	Recovery		QC Criteria
Chloro-Octadecane	48.0	%	40-140
o-Terphenyl	70.0	%	40-140
2-Fluorobiphenyl	73.0	%	40-140
2-Bromonaphthalene	61.0	%	40-140

Comments: Complete list of References and Glossary of Terms found in Addendum I



ALPHA ANALYTICAL LABORATORIES  
CERTIFICATE OF ANALYSIS

Laboratory Sample Number: L0403612-02  
12IN-CONC-NSW5-S1

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Volatile Petroleum Hydrocarbons				47 98-1		0413 14:55	PS

Quality Control Information

Condition of sample received:	Satisfactory	
Sample temperature upon receipt:	Received on Ice	
Were samples received in methanol?	Covering the Soil	
Methanol ratio:	1:1 +/- 25%	
Were all QA/QC procedures REQUIRED by the method followed?		YES
Were all performance/acceptance standards for the required procedures achieved?		YES
Were significant modifications made to the method as specified in Sect 11.3?		NO
The normal acceptance range for the surrogate, 2,5-Dibromotoluene, is 70-130%.		

C5-C8 Aliphatics, Unadjusted	ND	mg/kg	2.24
C9-C12 Aliphatics, Unadjusted	ND	mg/kg	2.24
C9-C10 Aromatics	ND	mg/kg	2.24
C5-C8 Aliphatics, Adjusted	ND	mg/kg	2.24
C9-C12 Aliphatics, Adjusted	ND	mg/kg	2.24
Benzene	ND	mg/kg	0.112
Toluene	ND	mg/kg	0.112
Ethylbenzene	ND	mg/kg	0.112
p/m-Xylene	ND	mg/kg	0.112
o-Xylene	ND	mg/kg	0.112
Methyl tert butyl ether	ND	mg/kg	0.224
Naphthalene	ND	mg/kg	1.12

Surrogate(s)	Recovery		QC Criteria
2,5-Dibromotoluene-PID	110.	%	70-130
2,5-Dibromotoluene-FID	109.	%	70-130

Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES  
CERTIFICATE OF ANALYSIS

Laboratory Sample Number: L0403612-02  
12IN-CONC-NSW5-S1

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	

Extractable Petroleum Hydrocarbons				46 98-1	0412 21:15	0413 20:19	LL
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Quality Control Information

Condition of sample received:	Satisfactory	
Sample temperature upon receipt:	Received on Ice	
Sample extraction method:	Extracted Per the Method	
Were all QA/QC procedures REQUIRED by the method followed?		YES
Were all performance/acceptance standards for the required procedures achieved?		YES
Were significant modifications made to the method as specified in Sect 11.3?		NO
The normal acceptance range for the extraction surrogates, Chloro-octadecane and o-Terphenyl, is 40-140%.		
The normal acceptance range for the fractionation surrogates, 2-Fluorobiphenyl and 2-Bromonaphthalene, is 40-140%.		

C9-C18 Aliphatics	ND	mg/kg	12.0
C19-C36 Aliphatics	ND	mg/kg	12.0
C11-C22 Aromatics, Unadjusted	ND	mg/kg	12.0
C11-C22 Aromatics, Adjusted	ND	mg/kg	12.0
Naphthalene	ND	mg/kg	0.602
2-Methylnaphthalene	ND	mg/kg	0.602
Acenaphthylene	ND	mg/kg	0.602
Acenaphthene	ND	mg/kg	0.602
Fluorene	ND	mg/kg	0.602
Phenanthrene	ND	mg/kg	0.602
Anthracene	ND	mg/kg	0.602
Fluoranthene	ND	mg/kg	0.602
Pyrene	ND	mg/kg	0.602
Benzo (a) anthracene	ND	mg/kg	0.602
Chrysene	ND	mg/kg	0.602
Benzo (b) fluoranthene	ND	mg/kg	0.602
Benzo (k) fluoranthene	ND	mg/kg	0.602
Benzo (a) pyrene	ND	mg/kg	0.602
Indeno (1,2,3-cd) Pyrene	ND	mg/kg	0.602
Dibenzo (a,h) anthracene	ND	mg/kg	0.602
Benzo (g,h,i) perylene	ND	mg/kg	0.602

Surrogate (s)	Recovery		QC Criteria
Chloro-Octadecane	53.0	%	40-140
o-Terphenyl	71.0	%	40-140
2-Fluorobiphenyl	73.0	%	40-140
2-Bromonaphthalene	67.0	%	40-140

Comments: Complete list of References and Glossary of Terms found in Addendum I





ALPHA ANALYTICAL LABORATORIES  
CERTIFICATE OF ANALYSIS

Laboratory Sample Number: L0403612-03  
12IN-CONC-SSW5-S1

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE PREP      ANAL	ID
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Volatile Petroleum Hydrocarbons			47 98-1		0413 15:46 PS	
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Quality Control Information

Condition of sample received:	Satisfactory	
Sample temperature upon receipt:	Received on Ice	
Were samples received in methanol?	Covering the Soil	
Methanol ratio:	1:1 +/- 25%	
Were all QA/QC procedures REQUIRED by the method followed?		YES
Were all performance/acceptance standards for the required procedures achieved?		YES
Were significant modifications made to the method as specified in Sect 11.3?		NO
The normal acceptance range for the surrogate, 2,5-Dibromotoluene, is 70-130%.		

C5-C8 Aliphatics, Unadjusted	ND	mg/kg	2.20		
C9-C12 Aliphatics, Unadjusted	ND	mg/kg	2.20		
C9-C10 Aromatics	ND	mg/kg	2.20		
C5-C8 Aliphatics, Adjusted	ND	mg/kg	2.20		
C9-C12 Aliphatics, Adjusted	ND	mg/kg	2.20		
Benzene	ND	mg/kg	0.110		
Toluene	ND	mg/kg	0.110		
Ethylbenzene	ND	mg/kg	0.110		
p/m-Xylene	ND	mg/kg	0.110		
o-Xylene	ND	mg/kg	0.110		
Methyl tert butyl ether	ND	mg/kg	0.220		
Naphthalene	ND	mg/kg	1.10		
Surrogate(s)	Recovery		QC Criteria		
2,5-Dibromotoluene-PID	116.	%	70-130		
2,5-Dibromotoluene-FID	109.	%	70-130		

Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES  
CERTIFICATE OF ANALYSIS

Laboratory Sample Number: L0403612-03  
12IN-CONC-SSW5-S1

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	

Extractable Petroleum Hydrocarbons				46 98-1	0412 21:15	0413 21:08	LL
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Quality Control Information

Condition of sample received:	Satisfactory	
Sample temperature upon receipt:	Received on Ice	
Sample extraction method:	Extracted Per the Method	
Were all QA/QC procedures REQUIRED by the method followed?		YES
Were all performance/acceptance standards for the required procedures achieved?		YES
Were significant modifications made to the method as specified in Sect 11.3?		NO
The normal acceptance range for the extraction surrogates, Chloro-octadecane and o-Terphenyl, is 40-140%.		
The normal acceptance range for the fractionation surrogates, 2-Fluorobiphenyl and 2-Bromonaphthalene, is 40-140%.		

C9-C18 Aliphatics	ND	mg/kg	11.9
C19-C36 Aliphatics	ND	mg/kg	11.9
C11-C22 Aromatics, Unadjusted	ND	mg/kg	11.9
C11-C22 Aromatics, Adjusted	ND	mg/kg	11.9
Naphthalene	ND	mg/kg	0.595
2-Methylnaphthalene	ND	mg/kg	0.595
Acenaphthylene	ND	mg/kg	0.595
Acenaphthene	ND	mg/kg	0.595
Fluorene	ND	mg/kg	0.595
Phenanthrene	ND	mg/kg	0.595
Anthracene	ND	mg/kg	0.595
Fluoranthene	ND	mg/kg	0.595
Pyrene	ND	mg/kg	0.595
Benzo(a)anthracene	ND	mg/kg	0.595
Chrysene	ND	mg/kg	0.595
Benzo(b)fluoranthene	ND	mg/kg	0.595
Benzo(k)fluoranthene	ND	mg/kg	0.595
Benzo(a)pyrene	ND	mg/kg	0.595
Indeno(1,2,3-cd)Pyrene	ND	mg/kg	0.595
Dibenzo(a,h)anthracene	ND	mg/kg	0.595
Benzo(g,h,i)perylene	ND	mg/kg	0.595

Surrogate(s)	Recovery		QC Criteria
Chloro-Octadecane	51.0	%	40-140
o-Terphenyl	71.0	%	40-140
2-Fluorobiphenyl	69.0	%	40-140
2-Bromonaphthalene	67.0	%	40-140

Comments: Complete list of References and Glossary of Terms found in Addendum I



ALPHA ANALYTICAL LABORATORIES  
CERTIFICATE OF ANALYSIS

Laboratory Sample Number: L0403612-04  
12IN-CONC-BOT4-S1

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Volatile Petroleum Hydrocarbons				47 98-1			0413 16:36 PS

Quality Control Information

Condition of sample received:	Satisfactory	
Sample temperature upon receipt:	Received on Ice	
Were samples received in methanol?	Covering the Soil	
Methanol ratio:	1:1 +/- 25%	
Were all QA/QC procedures REQUIRED by the method followed?		YES
Were all performance/acceptance standards for the required procedures achieved?		YES
Were significant modifications made to the method as specified in Sect 11.3?		NO
The normal acceptance range for the surrogate, 2,5-Dibromotoluene, is 70-130%.		

C5-C8 Aliphatics, Unadjusted	ND	mg/kg	3.19
C9-C12 Aliphatics, Unadjusted	ND	mg/kg	3.19
C9-C10 Aromatics	ND	mg/kg	3.19
C5-C8 Aliphatics, Adjusted	ND	mg/kg	3.19
C9-C12 Aliphatics, Adjusted	ND	mg/kg	3.19
Benzene	ND	mg/kg	0.160
Toluene	ND	mg/kg	0.160
Ethylbenzene	ND	mg/kg	0.160
p/m-Xylene	ND	mg/kg	0.160
o-Xylene	ND	mg/kg	0.160
Methyl tert butyl ether	ND	mg/kg	0.319
Naphthalene	ND	mg/kg	1.60

Surrogate(s)	Recovery		QC Criteria
2,5-Dibromotoluene-PID	117.	%	70-130
2,5-Dibromotoluene-FID	117.	%	70-130

Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES  
CERTIFICATE OF ANALYSIS

Laboratory Sample Number: L0403612-04  
12IN-CONC-BOT4-S1

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE PREP    ANAL	ID
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Extractable Petroleum Hydrocarbons				46 98-1	0412 21:15 0413 21:57 LL	
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Quality Control Information

Condition of sample received:	Satisfactory	
Sample temperature upon receipt:	Received on Ice	
Sample extraction method:	Extracted Per the Method	
Were all QA/QC procedures REQUIRED by the method followed?		YES
Were all performance/acceptance standards for the required procedures achieved?		YES
Were significant modifications made to the method as specified in Sect 11.3?		NO
The normal acceptance range for the extraction surrogates, Chloro-octadecane and o-Terphenyl, is 40-140%.		
The normal acceptance range for the fractionation surrogates, 2-Fluorobiphenyl and 2-Bromonaphthalene, is 40-140%.		

C9-C18 Aliphatics	ND	mg/kg	12.3
C19-C36 Aliphatics	ND	mg/kg	12.3
C11-C22 Aromatics, Unadjusted	ND	mg/kg	12.3
C11-C22 Aromatics, Adjusted	ND	mg/kg	12.3
Naphthalene	ND	mg/kg	0.617
2-Methylnaphthalene	ND	mg/kg	0.617
Acenaphthylene	ND	mg/kg	0.617
Acenaphthene	ND	mg/kg	0.617
Fluorene	ND	mg/kg	0.617
Phenanthrene	ND	mg/kg	0.617
Anthracene	ND	mg/kg	0.617
Fluoranthene	ND	mg/kg	0.617
Pyrene	ND	mg/kg	0.617
Benzo (a) anthracene	ND	mg/kg	0.617
Chrysene	ND	mg/kg	0.617
Benzo (b) fluoranthene	ND	mg/kg	0.617
Benzo (k) fluoranthene	ND	mg/kg	0.617
Benzo (a) pyrene	ND	mg/kg	0.617
Indeno (1,2,3-cd) Pyrene	ND	mg/kg	0.617
Dibenzo (a,h) anthracene	ND	mg/kg	0.617
Benzo (g,h,i) perylene	ND	mg/kg	0.617

Surrogate (s)	Recovery	%	QC Criteria
Chloro-Octadecane	47.0	%	40-140
o-Terphenyl	64.0	%	40-140
2-Fluorobiphenyl	70.0	%	40-140
2-Bromonaphthalene	62.0	%	40-140

Comments: Complete list of References and Glossary of Terms found in Addendum I



ALPHA ANALYTICAL LABORATORIES  
CERTIFICATE OF ANALYSIS

Laboratory Sample Number: L0403612-05  
12IN-CONC-NSW4-S1

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE PREP      ANAL	ID
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Volatile Petroleum Hydrocarbons				47 98-1		0413 17:27 PS
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Quality Control Information

Condition of sample received:	Satisfactory
Sample temperature upon receipt:	Received on Ice
Were samples received in methanol?	Covering the Soil
Methanol ratio:	1:1 +/- 25%
Were all QA/QC procedures REQUIRED by the method followed?	YES
Were all performance/acceptance standards for the required procedures achieved?	YES
Were significant modifications made to the method as specified in Sect 11.3?	NO
The normal acceptance range for the surrogate, 2,5-Dibromotoluene, is 70-130%.	

C5-C8 Aliphatics, Unadjusted	ND	mg/kg	2.93
C9-C12 Aliphatics, Unadjusted	ND	mg/kg	2.93
C9-C10 Aromatics	ND	mg/kg	2.93
C5-C8 Aliphatics, Adjusted	ND	mg/kg	2.93
C9-C12 Aliphatics, Adjusted	ND	mg/kg	2.93
Benzene	ND	mg/kg	0.146
Toluene	ND	mg/kg	0.146
Ethylbenzene	ND	mg/kg	0.146
p/m-Xylene	ND	mg/kg	0.146
o-Xylene	ND	mg/kg	0.146
Methyl tert butyl ether	ND	mg/kg	0.293
Naphthalene	ND	mg/kg	1.46

Surrogate(s)	Recovery	QC Criteria
2,5-Dibromotoluene-PID	102. %	70-130
2,5-Dibromotoluene-FID	99.0 %	70-130

Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES  
CERTIFICATE OF ANALYSIS

Laboratory Sample Number: L0403612-05  
12IN-CONC-NSW4-S1

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Extractable Petroleum Hydrocarbons				46 98-1	0412 21:15	0413 22:46	LL

Quality Control Information

Condition of sample received: Satisfactory  
 Sample temperature upon receipt: Received on Ice  
 Sample extraction method: Extracted Per the Method  
 Were all QA/QC procedures REQUIRED by the method followed? YES  
 Were all performance/acceptance standards for the required procedures achieved? YES  
 Were significant modifications made to the method as specified in Sect 11.3? NO  
 The normal acceptance range for the extraction surrogates, Chloro-octadecane and o-Terphenyl, is 40-140%.  
 The normal acceptance range for the fractionation surrogates, 2-Fluorobiphenyl and 2-Bromonaphthalene, is 40-140%.

C9-C18 Aliphatics	ND	mg/kg	12.5
C19-C36 Aliphatics	ND	mg/kg	12.5
C11-C22 Aromatics, Unadjusted	ND	mg/kg	12.5
C11-C22 Aromatics, Adjusted	ND	mg/kg	12.5
Naphthalene	ND	mg/kg	0.625
2-Methylnaphthalene	ND	mg/kg	0.625
Acenaphthylene	ND	mg/kg	0.625
Acenaphthene	ND	mg/kg	0.625
Fluorene	ND	mg/kg	0.625
Phenanthrene	ND	mg/kg	0.625
Anthracene	ND	mg/kg	0.625
Fluoranthene	ND	mg/kg	0.625
Pyrene	ND	mg/kg	0.625
Benzo (a) anthracene	ND	mg/kg	0.625
Chrysene	ND	mg/kg	0.625
Benzo (b) fluoranthene	ND	mg/kg	0.625
Benzo (k) fluoranthene	ND	mg/kg	0.625
Benzo (a) pyrene	ND	mg/kg	0.625
Indeno (1,2,3-cd) Pyrene	ND	mg/kg	0.625
Dibenzo (a,h) anthracene	ND	mg/kg	0.625
Benzo (g,h,i) perylene	ND	mg/kg	0.625

Surrogate (s)	Recovery		QC Criteria
Chloro-Octadecane	53.0	%	40-140
o-Terphenyl	62.0	%	40-140
2-Fluorobiphenyl	68.0	%	40-140
2-Bromonaphthalene	67.0	%	40-140

Comments: Complete list of References and Glossary of Terms found in Addendum I



ALPHA ANALYTICAL LABORATORIES  
 CERTIFICATE OF ANALYSIS

MA:M-MA086 NH:200301-A CT:PH-0574 ME:MA086 RI:65 NY:11148 NJ:MA935 Army:USACE

Laboratory Sample Number: L0403612-06 Date Collected: 09-APR-2004 14:15  
 BG4-S1 Date Received : 12-APR-2004  
 Sample Matrix: SOIL Date Reported : 14-APR-2004  
 Condition of Sample: Satisfactory Field Prep: None  
 Number & Type of Containers: 1-Amber,1-Vial

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Solids, Total	70.	%	0.10	30 2540G		0413 10:08	JC
Hydrocarbon Scan by GC 8100M				1 8100M		0413 11:00	0414 02:17 MM
Mineral Spirits	ND	mg/kg	140				
Gasoline	ND	mg/kg	140				
Fuel Oil #2/Diesel	ND	mg/kg	140				
Fuel Oil #4	ND	mg/kg	140				
Fuel Oil #6	ND	mg/kg	140				
Motor Oil	ND	mg/kg	140				
Kerosene	ND	mg/kg	140				
Transformer Oil	ND	mg/kg	140				
Unknown Hydrocarbon	ND	mg/kg	140				
Surrogate(s)	Recovery		QC Criteria				
o-Terphenyl	56.0	%	40-140				

Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES  
CERTIFICATE OF ANALYSIS

Laboratory Sample Number: L0403612-06  
BG4-S1

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Volatile Petroleum Hydrocarbons				47 98-1			0414 11:08 PS

Quality Control Information

Condition of sample received:	Satisfactory	
Sample temperature upon receipt:	Received on Ice	
Were samples received in methanol?	Covering the Soil	
Methanol ratio:	1:1 +/- 25%	
Were all QA/QC procedures REQUIRED by the method followed?		YES
Were all performance/acceptance standards for the required procedures achieved?		YES
Were significant modifications made to the method as specified in Sect 11.3?		NO
The normal acceptance range for the surrogate, 2,5-Dibromotoluene, is 70-130%.		

C5-C8 Aliphatics, Unadjusted	ND	mg/kg	3.79
C9-C12 Aliphatics, Unadjusted	ND	mg/kg	3.79
C9-C10 Aromatics	ND	mg/kg	3.79
C5-C8 Aliphatics, Adjusted	ND	mg/kg	3.79
C9-C12 Aliphatics, Adjusted	ND	mg/kg	3.79
Benzene	ND	mg/kg	0.190
Toluene	ND	mg/kg	0.190
Ethylbenzene	ND	mg/kg	0.190
p/m-Xylene	ND	mg/kg	0.190
o-Xylene	ND	mg/kg	0.190
Methyl tert butyl ether	ND	mg/kg	0.379
Naphthalene	ND	mg/kg	1.90

Surrogate(s)	Recovery		QC Criteria
2,5-Dibromotoluene-PID	112.	%	70-130
2,5-Dibromotoluene-FID	119.	%	70-130

Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES  
 QUALITY ASSURANCE BATCH SPIKE ANALYSES

Laboratory Job Number: L0403612

Parameter	% Recovery	QC Criteria
Hydrocarbon Scan by GC 8100M LCS for sample(s) 06-07 (WG167611)		
Petroleum Spike	69	40-140
Surrogate(s)		
o-Terphenyl	106	40-140
Volatile Petroleum Hydrocarbons LCS for sample(s) 01-07 (WG167508)		
Benzene	116	70-130
Toluene	104	70-130
Ethylbenzene	118	70-130
p/m-Xylene	109	70-130
o-Xylene	107	70-130
Methyl tert butyl ether	102	70-130
Naphthalene	113	70-130
Surrogate(s)		
2,5-Dibromotoluene-PID	111	70-130
2,5-Dibromotoluene-FID	111	70-130
Extractable Petroleum Hydrocarbons LCS for sample(s) 01-07 (WG167587)		
Naphthalene	45	40-140
Acenaphthene	51	40-140
Anthracene	70	40-140
Pyrene	79	40-140
Chrysene	80	40-140
Nonane (C9)	51	40-140
Tetradecane (C14)	59	40-140
Nonadecane (C19)	81	40-140
Eicosane (C20)	80	40-140
Octacosane (C28)	79	40-140
Surrogate(s)		
Chloro-Octadecane	55	40-140
o-Terphenyl	81	40-140
2-Fluorobiphenyl	67	40-140
2-Bromonaphthalene	50	40-140

ALPHA ANALYTICAL LABORATORIES  
 QUALITY ASSURANCE BATCH BLANK ANALYSIS

Laboratory Job Number: L0403612

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Blank Analysis for sample(s) 06-07 (WG167611-1)							
Hydrocarbon Scan by GC 8100M				1 8100M	0413 11:00	0413 17:51	MM
Mineral Spirits	ND	mg/kg	100				
Gasoline	ND	mg/kg	100				
Fuel Oil #2/Diesel	ND	mg/kg	100				
Fuel Oil #4	ND	mg/kg	100				
Fuel Oil #6	ND	mg/kg	100				
Motor Oil	ND	mg/kg	100				
Kerosene	ND	mg/kg	100				
Transformer Oil	ND	mg/kg	100				
Unknown Hydrocarbon	ND	mg/kg	100				
Surrogate(s)	Recovery			QC Criteria			
o-Terphenyl	83.0	%		40-140			
Blank Analysis for sample(s) 01-05 (WG167508-5)							
Volatile Petroleum Hydrocarbons				47 98-1	0413 08:29		PS
C5-C8 Aliphatics, Unadjusted	ND	mg/kg	2.00				
C9-C12 Aliphatics, Unadjusted	ND	mg/kg	2.00				
C9-C10 Aromatics	ND	mg/kg	2.00				
C5-C8 Aliphatics, Adjusted	ND	mg/kg	2.00				
C9-C12 Aliphatics, Adjusted	ND	mg/kg	2.00				
Benzene	ND	mg/kg	0.100				
Toluene	ND	mg/kg	0.100				
Ethylbenzene	ND	mg/kg	0.100				
p/m-Xylene	ND	mg/kg	0.100				
o-Xylene	ND	mg/kg	0.100				
Methyl tert butyl ether	ND	mg/kg	0.200				
Naphthalene	ND	mg/kg	1.00				
Surrogate(s)	Recovery			QC Criteria			
2,5-Dibromotoluene-PID	116.	%		70-130			
2,5-Dibromotoluene-FID	110.	%		70-130			
Blank Analysis for sample(s) 06-07 (WG167508-6)							
Volatile Petroleum Hydrocarbons				47 98-1	0414 08:47		PS
C5-C8 Aliphatics, Unadjusted	ND	mg/kg	2.00				
C9-C12 Aliphatics, Unadjusted	ND	mg/kg	2.00				
C9-C10 Aromatics	ND	mg/kg	2.00				
C5-C8 Aliphatics, Adjusted	ND	mg/kg	2.00				
C9-C12 Aliphatics, Adjusted	ND	mg/kg	2.00				
Benzene	ND	mg/kg	0.100				
Toluene	ND	mg/kg	0.100				
Ethylbenzene	ND	mg/kg	0.100				
p/m-Xylene	ND	mg/kg	0.100				
o-Xylene	ND	mg/kg	0.100				
Methyl tert butyl ether	ND	mg/kg	0.200				
Naphthalene	ND	mg/kg	1.00				

ALPHA ANALYTICAL LABORATORIES  
 QUALITY ASSURANCE BATCH BLANK ANALYSIS

Laboratory Job Number: L0403612

Continued

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Blank Analysis for sample(s) 06-07 (WG167508-6)							
Volatile Petroleum Hydrocarbons continued <span style="float: right;">47 98-1</span>							
Surrogate(s)	Recovery		QC Criteria		0414 08:47 PS		
2,5-Dibromotoluene-PID	108.	%	70-130				
2,5-Dibromotoluene-FID	119.	%	70-130				
Blank Analysis for sample(s) 01-07 (WG167587-1)							
Extractable Petroleum Hydrocarbons <span style="float: right;">46 98-1</span>							
C9-C18 Aliphatics	ND	mg/kg	10.0		0412 21:15 0413 17:03 LL		
C19-C36 Aliphatics	ND	mg/kg	10.0				
C11-C22 Aromatics, Unadjusted	ND	mg/kg	10.0				
C11-C22 Aromatics, Adjusted	ND	mg/kg	10.0				
Naphthalene	ND	mg/kg	0.500				
2-Methylnaphthalene	ND	mg/kg	0.500				
Acenaphthylene	ND	mg/kg	0.500				
Acenaphthene	ND	mg/kg	0.500				
Fluorene	ND	mg/kg	0.500				
Phenanthrene	ND	mg/kg	0.500				
Anthracene	ND	mg/kg	0.500				
Fluoranthene	ND	mg/kg	0.500				
Pyrene	ND	mg/kg	0.500				
Benzo(a)anthracene	ND	mg/kg	0.500				
Chrysene	ND	mg/kg	0.500				
Benzo(b)fluoranthene	ND	mg/kg	0.500				
Benzo(k)fluoranthene	ND	mg/kg	0.500				
Benzo(a)pyrene	ND	mg/kg	0.500				
Indeno(1,2,3-cd)Pyrene	ND	mg/kg	0.500				
Dibenzo(a,h)anthracene	ND	mg/kg	0.500				
Benzo(g,h,i)perylene	ND	mg/kg	0.500				
Surrogate(s)	Recovery		QC Criteria				
Chloro-Octadecane	61.0	%	40-140				
o-Terphenyl	78.0	%	40-140				
2-Fluorobiphenyl	73.0	%	40-140				
2-Bromonaphthalene	65.0	%	40-140				

ALPHA ANALYTICAL LABORATORIES  
ADDENDUM I

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REFERENCES

1. Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - IIIA, 1997.
30. Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WPCF. 18th Edition. 1992.
46. Method for the Determination of Extractable Petroleum Hydrocarbons (EPH), Massachusetts Department of Environmental Protection, (MADEP-EPH-98-1), January 1998.
47. Method for the Determination of Volatile Petroleum Hydrocarbons (VPH), Massachusetts Department of Environmental Protection, (MADEP-VPH-98-1), January 1998.

GLOSSARY OF TERMS AND SYMBOLS

REF Reference number in which test method may be found.  
METHOD Method number by which analysis was performed.  
ID Initials of the analyst.  
ND Not detected in comparison to the reported detection limit.

Please note that all solid samples are reported on dry weight basis unless noted otherwise.

LIMITATION OF LIABILITIES

Alpha Analytical, Inc. performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical, Inc., shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical, Inc. be held liable for any incidental consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical, Inc.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding times and splitting of samples in the field.

ALPHA ANALYTICAL LABORATORIES  
 LOGIN SPECIFIC INFORMATION

Laboratory Job Number: L0403612

Were project specific reporting limits specified? YES

Cooler Information

Cooler	Custody Seal
A	Absent

Container Information

Container ID	Container Type	Cooler	pH	Temp	Pres	Seal	Analysis
L0403612-01A	Vial MeOH preserved	A	N/A	2.2 C	Y	Absent	VPH-DELUX
L0403612-01B	Amber 250ml unpreserved	A	N/A	2.2 C	Y	Absent	EPH-DELUX, TS
L0403612-02A	Vial MeOH preserved	A	N/A	2.2 C	Y	Absent	VPH-DELUX
L0403612-02B	Amber 250ml unpreserved	A	N/A	2.2 C	Y	Absent	EPH-DELUX, TS
L0403612-03A	Vial MeOH preserved	A	N/A	2.2 C	Y	Absent	VPH-DELUX
L0403612-03B	Amber 250ml unpreserved	A	N/A	2.2 C	Y	Absent	EPH-DELUX, TS
L0403612-04A	Vial MeOH preserved	A	N/A	2.2 C	Y	Absent	VPH-DELUX
L0403612-04B	Amber 250ml unpreserved	A	N/A	2.2 C	Y	Absent	EPH-DELUX, TS
L0403612-05A	Vial MeOH preserved	A	N/A	2.2 C	Y	Absent	VPH-DELUX
L0403612-05B	Amber 250ml unpreserved	A	N/A	2.2 C	Y	Absent	EPH-DELUX, TS
L0403612-06A	Vial MeOH preserved	A	N/A	2.2 C	Y	Absent	VPH-DELUX
L0403612-06B	Amber 250ml unpreserved	A	N/A	2.2 C	Y	Absent	EPH-DELUX, TPH-8100, TS
L0403612-07A	Vial MeOH preserved	A	N/A	2.2 C	Y	Absent	VPH-DELUX
L0403612-07B	Amber 250ml unpreserved	A	N/A	2.2 C	Y	Absent	EPH-DELUX, TPH-8100, TS

Container Comments

Container ID	Comments
--------------	----------

# CHAIN OF CUSTODY RECORD

**HALEY & ALDRICH**  
Haley & Aldrich, Inc.  
465 Medford St.,  
Suite 2200,  
Boston, MA 02129-1400

H&A FILE NO. 2066706N  
PROJECT NAME Raymond School  
H&A CONTACT Steve Perrella  
LABORATORY ADDRESS Alpharetta, GA  
CONTACT Corey O'Brien  
DELIVERY DATE 4/12/04  
TURNAROUND TIME 2 days  
PROJECT MANAGER J. Murphy

Sample No.	Date	Time	Depth	Type	VOA	ARBS	MCP Metals	Pesticides	VPA	PH	TPH	TCF (specif.)	Reactivity	Ignitability	Composit	Number of Containers	Comments
10m conc - BATS-51	4/12/04	0945	6'	Soil												2	Laboratory to use applicable DEP CAM methods, unless otherwise directed.
12m conc - NIMS-51	4/12/04	0945	6-8'													2	EDH/TPH Carbon ranges and targets
12m conc - SWS-51	4/12/04	0945	6-8'													2	TPH by GC/MS
12m conc - BOTA-51	4/12/04	1315	6'													2	
12m conc - NIMS-51	4/12/04	1315	6-8'													2	
BGA-51	4/12/04	1415	0.5-1'													2	
BGB-51	4/12/04	1445	0.5-1'													2	

Sampled and Relinquished by	Received by	Analysis Requested	LIQUID	SOLID	SAFETY	Other	Evidence samples were tampered with?
Sign: <u>[Signature]</u> Print: <u>M. Cronan</u> Firm: <u>H&amp;A</u> Date: <u>4/12/04</u> Time: <u>1530</u>	Sign: <u>[Signature]</u> Print: <u>M. Cronan</u> Firm: <u>H&amp;A</u> Date: <u>4/12/04</u> Time: <u>1530</u>	VOA Vial Amber Glass Plastic Bottle Preservative Volume					YES NO
Sign: <u>[Signature]</u> Print: <u>M. Cronan</u> Firm: <u>H&amp;A</u> Date: <u>4/12/04</u> Time: <u>1600</u>	Sign: <u>[Signature]</u> Print: <u>M. Cronan</u> Firm: <u>H&amp;A</u> Date: <u>4/12/04</u> Time: <u>1600</u>	VOA Vial Amber Glass Clear Glass Preservative Volume					YES NO

Presumptive Certainty Data Package (Laboratory to use applicable DEP CAM methods)

**Required Reporting Limits and Data Quality Objectives**

RC-S1  S1  GW1  
 RC-S2  S2  GW2  
 RC-GW1  S3  GW3  
 RC-GW2



ALPHA ANALYTICAL LABORATORIES

Eight Walkup Drive  
Westborough, Massachusetts 01581-1019  
(508) 898-9220 www.alphalab.com

MA:M-MA086 NH:200301-A CT:PH-0574 ME:MA086 RI:65 NY:11148 NJ:MA935 Army:USACE

CERTIFICATE OF ANALYSIS

Client: Haley & Aldrich, Inc. Laboratory Job Number: L0403391  
Address: 465 Medford Street, Suite 2200  
Boston, MA 02129-1400 Date Received: 07-APR-2004  
Attn: Mr. Steve Provencal Date Reported: 14-APR-2004  
Project Number: 30660-000 Delivery Method: Alpha  
Site: BURBANK SCHOOL

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The following questions pertain only to MCP Analytical Methods

An affirmative response to questions A,B,C & D is required for "Presumptive Certainty" status

- A. Were all samples received by the laboratory in a condition consistent with those described on their Chain-of-Custody documentation for the data set? YES
- B. Were all QA/QC procedures required for the specified analytical method(s) included in this report followed, including the requirement to note and discuss in a narrative QC data that did not meet appropriate performance standards or guidelines? YES
- C. Does the analytical data included in this report meet all the requirements for "Presumptive Certainty", as described in section 2.0 of the MADEP document CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data"? YES
- D. VPH and EPH methods only: Was the VPH or EPH method run without significant modifications, as specified in Section 11.3? NA

A response to questions E and F is required for "Presumptive Certainty" status

- E. Were all QC performance standards and recommendations for the specified method(s) achieved? NO
- F. Were results for all analyte-list compounds/elements for the specified method(s) reported? NO

Any answers of NO to the above questions are addressed in the case narrative.

---

I, the undersigned, attest under the pains and penalties of perjury that, based upon my personal inquiry of those responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

---

Authorized by: Scott McLean  
This document electronically signed

ALPHA ANALYTICAL LABORATORIES

Laboratory Job Number: L0403391  
Date Reported: 14-APR-2004

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ALPHA SAMPLE NUMBER	CLIENT IDENTIFICATION	SAMPLE LOCATION
L0403391-01	UST-STKPL6-S4	BELMONT, MA
L0403391-02	UST-STKPL6-S5	BELMONT, MA
L0403391-03	UST-STKPL6-S6	BELMONT, MA

ALPHA ANALYTICAL LABORATORIES  
NARRATIVE REPORT

Laboratory Job Number: L0403391

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MCP Related Narratives

Extraction methods

Extraction method 3545 was used as the extraction method for the analysis of SemiVolatile Organics by method 8270C and for the analysis of PCB by method 8082.

Report Submission

In reference to question F, at the client's request, the samples were analyzed only for the compounds specified on the chain of custody.

SemiVolatile Organics

The RCS-1 limit was not achieved for 3,3'-Dichlorobenzidine.

Volatile Organics

In reference to question E, the LCS % recovery for Dichlorodifluoromethane (146%), a difficult analyte, is above the acceptance criteria for the method.

ALPHA ANALYTICAL LABORATORIES  
CERTIFICATE OF ANALYSIS

MA:M-MA086 NH:200301-A CT:PH-0574 ME:MA086 RI:65 NY:11148 NJ:MA935 Army:USACE

Laboratory Sample Number: L0403391-01  
 UST-STKPL6-S4  
 Sample Matrix: SOIL  
 Date Collected: 07-APR-2004 14:50  
 Date Received : 07-APR-2004  
 Date Reported : 14-APR-2004  
 Condition of Sample: Satisfactory  
 Field Prep: None  
 Number & Type of Containers: 1-Amber

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Solids, Total	88.	%	0.10	30 2540G		0409 12:45	JC
Hydrocarbon Scan by GC 8100M				1 8100M	0412 13:30	0413 12:51	JB
Mineral Spirits	ND	mg/kg	110				
Gasoline	ND	mg/kg	110				
Fuel Oil #2/Diesel	ND	mg/kg	110				
Fuel Oil #4	ND	mg/kg	110				
Fuel Oil #6	ND	mg/kg	110				
Motor Oil	ND	mg/kg	110				
Kerosene	ND	mg/kg	110				
Transformer Oil	ND	mg/kg	110				
Unknown Hydrocarbon	ND	mg/kg	110				
Surrogate(s)	Recovery			QC Criteria			
o-Terphenyl	48.0	%		40-140			

Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES  
CERTIFICATE OF ANALYSIS

MA:M-MA086 NH:200301-A CT:PH-0574 ME:MA086 RI:65 NY:11148 NJ:MA935 Army:USACE

Laboratory Sample Number: L0403391-02 Date Collected: 07-APR-2004 14:55  
 UST-STKPL6-S5 Date Received : 07-APR-2004  
 Sample Matrix: SOIL Date Reported : 14-APR-2004  
 Condition of Sample: Satisfactory Field Prep: None  
 Number & Type of Containers: 1-Amber

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Solids, Total	86.4	%	0.10	30 2540G		0409 12:45	JC
Hydrocarbon Scan by GC 8100M				1 8100M		0413 11:00	0414 10:48 MM
Mineral Spirits	ND	mg/kg	120				
Gasoline	ND	mg/kg	120				
Fuel Oil #2/Diesel	ND	mg/kg	120				
Fuel Oil #4	ND	mg/kg	120				
Fuel Oil #6	ND	mg/kg	120				
Motor Oil	ND	mg/kg	120				
Kerosene	ND	mg/kg	120				
Transformer Oil	ND	mg/kg	120				
Unknown Hydrocarbon	ND	mg/kg	120				
Surrogate(s)	Recovery		QC Criteria				
o-Terphenyl	72.0	%	40-140				

Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES  
CERTIFICATE OF ANALYSIS

MA:M-MA086 NH:200301-A CT:PH-0574 ME:MA086 RI:65 NY:11148 NJ:MA935 Army:USACE

Laboratory Sample Number: L0403391-03 Date Collected: 07-APR-2004 14:30  
UST-STKPL6-S6 Date Received : 07-APR-2004  
Sample Matrix: SOIL Date Reported : 14-APR-2004  
Condition of Sample: Satisfactory Field Prep: None

Number & Type of Containers: 2-Amber,4-Vial

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Solids, Total	84.	%	0.10	30 2540G		0409 12:45	JC
pH	8.3	SU	-	1 9045C		0407 23:10	HG
Flash Point	>150	deg F	70	1 1010		0409 10:40	ST
Cyanide, Reactive	ND	mg/kg	1.0	1 7.3		0408 11:00	JT
Sulfide, Reactive	ND	mg/kg	0.50	1 7.3		0408 11:00	JT
Total Metals				1 3051			
Arsenic, Total	4.6	mg/kg	0.47	54 6010B	0408 16:00	0409 13:14	RW
Barium, Total	44.	mg/kg	0.47	54 6010B	0408 16:00	0409 13:14	RW
Cadmium, Total	ND	mg/kg	0.47	54 6010B	0408 16:00	0409 13:14	RW
Chromium, Total	23.	mg/kg	0.47	54 6010B	0408 16:00	0409 13:14	RW
Lead, Total	11.	mg/kg	2.4	54 6010B	0408 16:00	0409 13:14	RW
Mercury, Total	ND	mg/kg	0.08	54 7471A	0408 17:45	0409 13:28	DM
Selenium, Total	ND	mg/kg	0.95	54 6010B	0408 16:00	0409 13:14	RW
Silver, Total	ND	mg/kg	0.47	54 6010B	0408 16:00	0409 13:14	RW
Volatile Organics by MCP 8260B/5035-High				54 8260B		0409 18:11	BT
Methylene chloride	ND	ug/kg	680				
1,1-Dichloroethane	ND	ug/kg	100				
Chloroform	ND	ug/kg	100				
Carbon tetrachloride	ND	ug/kg	68.				
1,2-Dichloropropane	ND	ug/kg	240				
Dibromochloromethane	ND	ug/kg	68.				
1,1,2-Trichloroethane	ND	ug/kg	100				
Tetrachloroethene	ND	ug/kg	68.				
Chlorobenzene	ND	ug/kg	68.				
Trichlorofluoromethane	ND	ug/kg	340				
1,2-Dichloroethane	ND	ug/kg	68.				
1,1,1-Trichloroethane	ND	ug/kg	68.				
Bromodichloromethane	ND	ug/kg	68.				
trans-1,3-Dichloropropene	ND	ug/kg	68.				
cis-1,3-Dichloropropene	ND	ug/kg	68.				
1,1-Dichloropropene	ND	ug/kg	340				
Bromoform	ND	ug/kg	270				

Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES  
CERTIFICATE OF ANALYSIS

Laboratory Sample Number: L0403391-03  
UST-STKPL6-S6

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Volatile Organics by MCP 8260B/5035-High continued				54 8260B	0409 18:11 BT		
1,1,2,2-Tetrachloroethane	ND	ug/kg	68.				
Benzene	ND	ug/kg	68.				
Toluene	ND	ug/kg	100				
Ethylbenzene	ND	ug/kg	68.				
Chloromethane	ND	ug/kg	340				
Bromomethane	ND	ug/kg	140				
Vinyl chloride	ND	ug/kg	140				
Chloroethane	ND	ug/kg	140				
1,1-Dichloroethene	ND	ug/kg	68.				
trans-1,2-Dichloroethene	ND	ug/kg	100				
Trichloroethene	ND	ug/kg	68.				
1,2-Dichlorobenzene	ND	ug/kg	340				
1,3-Dichlorobenzene	ND	ug/kg	340				
1,4-Dichlorobenzene	ND	ug/kg	340				
Methyl tert butyl ether	ND	ug/kg	140				
p/m-Xylene	ND	ug/kg	68.				
o-Xylene	ND	ug/kg	68.				
cis-1,2-Dichloroethene	ND	ug/kg	68.				
Dibromomethane	ND	ug/kg	680				
1,2,3-Trichloropropane	ND	ug/kg	680				
Styrene	ND	ug/kg	68.				
Dichlorodifluoromethane	ND	ug/kg	680				
Acetone	ND	ug/kg	680				
Carbon disulfide	ND	ug/kg	680				
2-Butanone	ND	ug/kg	680				
4-Methyl-2-pentanone	ND	ug/kg	680				
2-Hexanone	ND	ug/kg	680				
Bromochloromethane	ND	ug/kg	340				
Tetrahydrofuran	ND	ug/kg	1400				
2,2-Dichloropropane	ND	ug/kg	340				
1,2-Dibromoethane	ND	ug/kg	270				
1,3-Dichloropropane	ND	ug/kg	340				
1,1,1,2-Tetrachloroethane	ND	ug/kg	68.				
Bromobenzene	ND	ug/kg	340				
n-Butylbenzene	ND	ug/kg	68.				
sec-Butylbenzene	ND	ug/kg	68.				
tert-Butylbenzene	ND	ug/kg	340				
o-Chlorotoluene	ND	ug/kg	340				
p-Chlorotoluene	ND	ug/kg	340				
1,2-Dibromo-3-chloropropane	ND	ug/kg	340				
Hexachlorobutadiene	ND	ug/kg	340				
Isopropylbenzene	ND	ug/kg	68.				
p-Isopropyltoluene	ND	ug/kg	68.				
Naphthalene	ND	ug/kg	340				
n-Propylbenzene	ND	ug/kg	68.				
1,2,3-Trichlorobenzene	ND	ug/kg	340				
1,2,4-Trichlorobenzene	ND	ug/kg	340				
1,3,5-Trimethylbenzene	ND	ug/kg	340				
1,2,4-Trimethylbenzene	ND	ug/kg	340				

Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES  
CERTIFICATE OF ANALYSIS

Laboratory Sample Number: L0403391-03  
UST-STKPL6-S6

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Volatile Organics by MCP 8260B/5035-High continued				54 8260B	0409 18:11		BT
Ethyl ether	ND	ug/kg	340				
Isopropyl Ether	ND	ug/kg	270				
Ethyl-Tert-Butyl-Ether	ND	ug/kg	270				
Tertiary-Amyl Methyl Ether	ND	ug/kg	270				
1,4-Dioxane	ND	ug/kg	34000				
Surrogate(s)	Recovery		QC Criteria				
1,2-Dichloroethane-d4	80.0	%	70-130				
Toluene-d8	76.0	%	70-130				
4-Bromofluorobenzene	78.0	%	70-130				
Dibromofluoromethane	77.0	%	70-130				
Semivolatile Organics by MCP 8270C				54 8270C	0408 10:15 0409 19:15		HL
Acenaphthene	ND	ug/kg	600				
1,2,4-Trichlorobenzene	ND	ug/kg	600				
Hexachlorobenzene	ND	ug/kg	600				
Bis(2-chloroethyl) ether	ND	ug/kg	600				
2-Chloronaphthalene	ND	ug/kg	600				
1,2-Dichlorobenzene	ND	ug/kg	600				
1,3-Dichlorobenzene	ND	ug/kg	600				
1,4-Dichlorobenzene	ND	ug/kg	600				
3,3'-Dichlorobenzidine	ND	ug/kg	1200				
2,4-Dinitrotoluene	ND	ug/kg	600				
2,6-Dinitrotoluene	ND	ug/kg	600				
Azobenzene	ND	ug/kg	600				
Fluoranthene	ND	ug/kg	600				
4-Bromophenyl phenyl ether	ND	ug/kg	600				
Bis(2-chloroisopropyl) ether	ND	ug/kg	600				
Bis(2-chloroethoxy) methane	ND	ug/kg	600				
Hexachlorobutadiene	ND	ug/kg	1200				
Hexachloroethane	ND	ug/kg	600				
Isophorone	ND	ug/kg	600				
Naphthalene	ND	ug/kg	600				
Nitrobenzene	ND	ug/kg	600				
Bis(2-Ethylhexyl) phthalate	ND	ug/kg	1200				
Butyl benzyl phthalate	ND	ug/kg	600				
Di-n-butylphthalate	ND	ug/kg	600				
Di-n-octylphthalate	ND	ug/kg	600				
Diethyl phthalate	ND	ug/kg	600				
Dimethyl phthalate	ND	ug/kg	600				
Benzo(a) anthracene	ND	ug/kg	600				
Benzo(a) pyrene	ND	ug/kg	600				
Benzo(b) fluoranthene	ND	ug/kg	600				
Benzo(k) fluoranthene	ND	ug/kg	600				
Chrysene	ND	ug/kg	600				
Acenaphthylene	ND	ug/kg	600				
Anthracene	ND	ug/kg	600				
Benzo(ghi)perylene	ND	ug/kg	600				
Fluorene	ND	ug/kg	600				

Comments: Complete list of References and Glossary of Terms found in Addendum I



ALPHA ANALYTICAL LABORATORIES  
CERTIFICATE OF ANALYSIS

Laboratory Sample Number: L0403391-03  
UST-STKPL6-S6

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Semivolatile Organics by MCP 8270C continued				54 8270C	0408 10:15	0409 19:15	HL
Phenanthrene	ND	ug/kg	600				
Dibenzo(a,h)anthracene	ND	ug/kg	600				
Indeno(1,2,3-cd)Pyrene	ND	ug/kg	600				
Pyrene	ND	ug/kg	600				
Aniline	ND	ug/kg	1200				
4-Chloroaniline	ND	ug/kg	600				
Dibenzofuran	ND	ug/kg	600				
2-Methylnaphthalene	ND	ug/kg	600				
Acetophenone	ND	ug/kg	2400				
2,4,6-Trichlorophenol	ND	ug/kg	600				
2-Chlorophenol	ND	ug/kg	600				
2,4-Dichlorophenol	ND	ug/kg	1200				
2,4-Dimethylphenol	ND	ug/kg	600				
2-Nitrophenol	ND	ug/kg	2400				
4-Nitrophenol	ND	ug/kg	1200				
2,4-Dinitrophenol	ND	ug/kg	2400				
Pentachlorophenol	ND	ug/kg	2400				
Phenol	ND	ug/kg	830				
2-Methylphenol	ND	ug/kg	710				
3-Methylphenol/4-Methylphenol	ND	ug/kg	710				
2,4,5-Trichlorophenol	ND	ug/kg	600				
Surrogate(s)	Recovery						QC Criteria
2-Fluorophenol	49.0	%					30-130
Phenol-d6	51.0	%					30-130
Nitrobenzene-d5	54.0	%					30-130
2-Fluorobiphenyl	55.0	%					30-130
2,4,6-Tribromophenol	68.0	%					30-130
4-Terphenyl-d14	80.0	%					30-130
Polychlorinated Biphenyls by MCP 8082				54 8082	0408 11:45	0409 12:21	AK
Surrogate(s)	Recovery						QC Criteria
2,4,5,6-Tetrachloro-m-xylene	60.0	%					30-150
Decachlorobiphenyl	65.0	%					30-150
Polychlorinated Biphenyls by MCP 8082				54 8082	0408 11:45	0409 12:21	AK
Aroclor 1221	ND	ug/kg	59.5				
Aroclor 1232	ND	ug/kg	59.5				
Aroclor 1242/1016	ND	ug/kg	59.5				
Aroclor 1248	ND	ug/kg	59.5				
Aroclor 1254	ND	ug/kg	59.5				
Aroclor 1260	ND	ug/kg	59.5				
Aroclor 1262	ND	ug/kg	59.5				
Aroclor 1268	ND	ug/kg	59.5				
Surrogate(s)	Recovery						QC Criteria
2,4,5,6-Tetrachloro-m-xylene	63.0	%					30-150
Decachlorobiphenyl	69.0	%					30-150

Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES  
 CERTIFICATE OF ANALYSIS

Laboratory Sample Number: L0403391-03  
 UST-STKPL6-S6

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Hydrocarbon Scan by GC 8100M				1	8100M	0412 13:30	0413 16:26 JB
Mineral Spirits	ND	mg/kg	120				
Gasoline	ND	mg/kg	120				
Fuel Oil #2/Diesel	ND	mg/kg	120				
Fuel Oil #4	ND	mg/kg	120				
Fuel Oil #6	ND	mg/kg	120				
Motor Oil	ND	mg/kg	120				
Kerosene	ND	mg/kg	120				
Transformer Oil	ND	mg/kg	120				
Unknown Hydrocarbon	ND	mg/kg	120				
Surrogate(s)	Recovery		QC Criteria				
o-Terphenyl	77.0	%	40-140				

Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES  
 QUALITY ASSURANCE BATCH DUPLICATE ANALYSIS

Laboratory Job Number: L0403391

Parameter	Value 1	Value 2	Units	RPD	RPD Limits
Solids, Total for sample(s) 01-03 (L0403415-01, WG167399)					
Solids, Total	85.	84.	%	1	
pH for sample(s) 03 (L0403296-01, WG167195)					
pH	8.1	8.1	SU	0	
Cyanide, Reactive for sample(s) 03 (L0403391-03, WG167329)					
Cyanide, Reactive	ND	ND	mg/kg	NC	
Sulfide, Reactive for sample(s) 03 (L0403391-03, WG167328)					
Sulfide, Reactive	ND	ND	mg/kg	NC	
Hydrocarbon Scan by GC 8100M for sample(s) 01,03 (L0403395-03, WG167294)					
Mineral Spirits	ND	ND	mg/kg	NC	40
Gasoline	ND	ND	mg/kg	NC	40
Fuel Oil #2/Diesel	ND	ND	mg/kg	NC	40
Fuel Oil #4	ND	ND	mg/kg	NC	40
Fuel Oil #6	ND	ND	mg/kg	NC	40
Motor Oil	ND	ND	mg/kg	NC	40
Kerosene	ND	ND	mg/kg	NC	40
Transformer Oil	ND	ND	mg/kg	NC	40
Unknown Hydrocarbon	ND	ND	mg/kg	NC	40
Surrogate(s)	Recovery				QC Criteria
o-Terphenyl	79.0	89.0	%	12	40-140
Hydrocarbon Scan by GC 8100M for sample(s) 02 (L0403579-01, WG167611)					
Mineral Spirits	ND	ND	mg/kg	NC	40
Gasoline	ND	ND	mg/kg	NC	40
Fuel Oil #2/Diesel	ND	ND	mg/kg	NC	40
Fuel Oil #4	ND	ND	mg/kg	NC	40
Fuel Oil #6	ND	ND	mg/kg	NC	40
Motor Oil	ND	ND	mg/kg	NC	40
Kerosene	ND	ND	mg/kg	NC	40
Transformer Oil	ND	ND	mg/kg	NC	40
Unknown Hydrocarbon	140	150	mg/kg	7	40
Surrogate(s)	Recovery				QC Criteria
o-Terphenyl	75.0	74.0	%	1	40-140

ALPHA ANALYTICAL LABORATORIES  
QUALITY ASSURANCE BATCH SPIKE ANALYSES

Laboratory Job Number: L0403391

Parameter	% Recovery	QC Criteria
pH LCS for sample(s) 03 (WG167195)		
pH	100	
Sulfide, Reactive LCS for sample(s) 03 (WG167328)		
Sulfide, Reactive	82	
Total Metals LCS for sample(s) 03 (WG167361)		
Arsenic, Total	95	75-125
Barium, Total	84	75-125
Cadmium, Total	90	75-125
Chromium, Total	88	75-125
Lead, Total	95	75-125
Selenium, Total	95	75-125
Silver, Total	93	75-125
Total Metals LCS for sample(s) 03 (WG167306)		
Mercury, Total	98	75-125
Volatile Organics by MCP 8260B/5035-High LCS for sample(s) 03 (WG167272)		
Methylene chloride	96	70-130
1,1-Dichloroethane	100	70-130
Chloroform	94	70-130
Carbon tetrachloride	101	70-130
1,2-Dichloropropane	97	70-130
Dibromochloromethane	98	70-130
1,1,2-Trichloroethane	101	70-130
Tetrachloroethene	102	70-130
Chlorobenzene	100	70-130
Trichlorofluoromethane	104	70-130
1,2-Dichloroethane	99	70-130
1,1,1-Trichloroethane	104	70-130
Bromodichloromethane	96	70-130
trans-1,3-Dichloropropene	95	70-130
cis-1,3-Dichloropropene	100	70-130
1,1-Dichloropropene	97	70-130
Bromoform	103	70-130
1,1,2,2-Tetrachloroethane	105	70-130
Benzene	100	70-130
Toluene	100	70-130
Ethylbenzene	99	70-130
Chloromethane	116	70-130
Bromomethane	73	70-130
Vinyl chloride	108	70-130
Chloroethane	114	70-130
1,1-Dichloroethene	95	70-130
trans-1,2-Dichloroethene	96	70-130
Trichloroethene	97	70-130
1,2-Dichlorobenzene	100	70-130
1,3-Dichlorobenzene	100	70-130

ALPHA ANALYTICAL LABORATORIES  
 QUALITY ASSURANCE BATCH SPIKE ANALYSES

Laboratory Job Number: L0403391

Continued

Parameter	% Recovery	QC Criteria
Volatile Organics by MCP 8260B/5035-High LCS for sample(s) 03 (WG167272)		
1,4-Dichlorobenzene	100	70-130
Methyl tert butyl ether	106	70-130
p/m-Xylene	101	70-130
o-Xylene	99	70-130
cis-1,2-Dichloroethene	99	70-130
Dibromomethane	98	70-130
1,2,3-Trichloropropane	102	70-130
Styrene	97	70-130
Dichlorodifluoromethane	146	70-130
Acetone	110	70-130
Carbon disulfide	98	70-130
2-Butanone	110	70-130
4-Methyl-2-pentanone	107	70-130
2-Hexanone	111	70-130
Bromochloromethane	108	70-130
Tetrahydrofuran	104	70-130
2,2-Dichloropropane	103	70-130
1,2-Dibromoethane	101	70-130
1,3-Dichloropropane	101	70-130
1,1,1,2-Tetrachloroethane	101	70-130
Bromobenzene	99	70-130
n-Butylbenzene	96	70-130
sec-Butylbenzene	103	70-130
tert-Butylbenzene	102	70-130
o-Chlorotoluene	103	70-130
p-Chlorotoluene	102	70-130
1,2-Dibromo-3-chloropropane	103	70-130
Hexachlorobutadiene	101	70-130
Isopropylbenzene	99	70-130
p-Isopropyltoluene	99	70-130
Naphthalene	97	70-130
n-Propylbenzene	103	70-130
1,2,3-Trichlorobenzene	95	70-130
1,2,4-Trichlorobenzene	94	70-130
1,3,5-Trimethylbenzene	97	70-130
1,2,4-Trimethylbenzene	100	70-130
Ethyl ether	105	70-130
Isopropyl Ether	97	70-130
Ethyl-Tert-Butyl-Ether	98	70-130
Tertiary-Amyl Methyl Ether	102	70-130
1,4-Dioxane	102	70-130
Surrogate(s)		
1,2-Dichloroethane-d4	79	70-130
Toluene-d8	80	70-130
4-Bromofluorobenzene	81	70-130
Dibromofluoromethane	79	70-130

ALPHA ANALYTICAL LABORATORIES  
QUALITY ASSURANCE BATCH SPIKE ANALYSES

Laboratory Job Number: L0403391

Continued

Parameter	% Recovery	QC Criteria
Semivolatile Organics by MCP 8270C LCS for sample(s) 03 (WG167290)		
Acenaphthene	81	40-140
1,2,4-Trichlorobenzene	51	40-140
Hexachlorobenzene	89	40-140
Bis(2-chloroethyl) ether	50	40-140
2-Chloronaphthalene	69	40-140
1,2-Dichlorobenzene	48	40-140
1,3-Dichlorobenzene	47	40-140
1,4-Dichlorobenzene	49	40-140
3,3'-Dichlorobenzidine	75	40-140
2,4-Dinitrotoluene	100	40-140
2,6-Dinitrotoluene	100	40-140
Azobenzene	91	40-140
Fluoranthene	99	40-140
4-Bromophenyl phenyl ether	91	40-140
Bis(2-chloroisopropyl) ether	46	40-140
Bis(2-chloroethoxy) methane	55	40-140
Hexachlorobutadiene	48	40-140
Hexachloroethane	46	40-140
Isophorone	66	40-140
Naphthalene	52	40-140
Nitrobenzene	52	40-140
Bis(2-Ethylhexyl) phthalate	120	40-140
Butyl benzyl phthalate	110	40-140
Di-n-butylphthalate	110	40-140
Di-n-octylphthalate	110	40-140
Diethyl phthalate	100	40-140
Dimethyl phthalate	97	40-140
Benzo(a)anthracene	100	40-140
Benzo(a)pyrene	96	40-140
Benzo(b)fluoranthene	100	40-140
Benzo(k)fluoranthene	100	40-140
Chrysene	100	40-140
Acenaphthylene	82	40-140
Anthracene	95	40-140
Benzo(ghi)perylene	95	40-140
Fluorene	94	40-140
Phenanthrene	93	40-140
Dibenzo(a,h)anthracene	100	40-140
Indeno(1,2,3-cd)Pyrene	98	40-140
Pyrene	100	40-140
Aniline	56	40-140
4-Chloroaniline	43	40-140
Dibenzofuran	78	40-140
2-Methylnaphthalene	59	40-140
Acetophenone	54	40-140
2,4,6-Trichlorophenol	85	30-130
2-Chlorophenol	48	30-130
2,4-Dichlorophenol	63	30-130

ALPHA ANALYTICAL LABORATORIES  
 QUALITY ASSURANCE BATCH SPIKE ANALYSES

Laboratory Job Number: L0403391

Continued

Parameter	% Recovery	QC Criteria
Semivolatile Organics by MCP 8270C LCS for sample(s) 03 (WG167290)		
2,4-Dimethylphenol	59	30-130
2-Nitrophenol	53	30-130
4-Nitrophenol	89	30-130
2,4-Dinitrophenol	99	30-130
Pentachlorophenol	91	30-130
Phenol	50	30-130
2-Methylphenol	50	30-130
3-Methylphenol/4-Methylphenol	54	30-130
2,4,5-Trichlorophenol	89	30-130
Surrogate(s)		
2-Fluorophenol	44	30-130
Phenol-d6	47	30-130
Nitrobenzene-d5	51	30-130
2-Fluorobiphenyl	66	30-130
2,4,6-Tribromophenol	84	30-130
4-Terphenyl-d14	90	30-130
Polychlorinated Biphenyls by MCP 8082 LCS for sample(s) 03 (WG167298)		
Aroclor 1242/1016	60	40-140
Aroclor 1260	63	40-140
Surrogate(s)		
2,4,5,6-Tetrachloro-m-xylene	53	30-150
2,4,5,6-Tetrachloro-m-xylene	53	30-150
Decachlorobiphenyl	59	30-150
Decachlorobiphenyl	56	30-150
Hydrocarbon Scan by GC 8100M LCS for sample(s) 01,03 (WG167294)		
Petroleum Spike	77	40-140
Surrogate(s)		
o-Terphenyl	96	40-140
Hydrocarbon Scan by GC 8100M LCS for sample(s) 02 (WG167611)		
Petroleum Spike	69	40-140
Surrogate(s)		
o-Terphenyl	106	40-140

ALPHA ANALYTICAL LABORATORIES  
QUALITY ASSURANCE BATCH BLANK ANALYSIS

Laboratory Job Number: L0403391

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Blank Analysis for sample(s) 03 (WG167329-1)							
Cyanide, Reactive	ND	mg/kg	1.0	1 7.3		0408 11:00	JT
Blank Analysis for sample(s) 03 (WG167328-1)							
Sulfide, Reactive	ND	mg/kg	0.50	1 7.3		0408 11:00	JT
Blank Analysis for sample(s) 03 (WG167361-1)							
Total Metals				1 3051			
Arsenic, Total	ND	mg/kg	0.40	54 6010B	0408 16:00	0409 11:37	RW
Barium, Total	ND	mg/kg	0.40	54 6010B	0408 16:00	0409 11:37	RW
Cadmium, Total	ND	mg/kg	0.40	54 6010B	0408 16:00	0409 11:37	RW
Chromium, Total	ND	mg/kg	0.40	54 6010B	0408 16:00	0409 11:37	RW
Lead, Total	ND	mg/kg	2.0	54 6010B	0408 16:00	0409 11:37	RW
Selenium, Total	ND	mg/kg	0.80	54 6010B	0408 16:00	0409 11:37	RW
Silver, Total	ND	mg/kg	0.40	54 6010B	0408 16:00	0409 11:37	RW
Blank Analysis for sample(s) 03 (WG167306-2)							
Total Metals							
Mercury, Total	ND	mg/kg	0.08	54 7471A	0408 17:45	0409 13:20	DM
Blank Analysis for sample(s) 03 (WG167272-6)							
Volatile Organics by MCP 8260B/5035-High				54 8260B		0409 15:13	BT
Methylene chloride	ND	ug/kg	500				
1,1-Dichloroethane	ND	ug/kg	75.				
Chloroform	ND	ug/kg	75.				
Carbon tetrachloride	ND	ug/kg	50.				
1,2-Dichloropropane	ND	ug/kg	180				
Dibromochloromethane	ND	ug/kg	50.				
1,1,2-Trichloroethane	ND	ug/kg	75.				
Tetrachloroethene	ND	ug/kg	50.				
Chlorobenzene	ND	ug/kg	50.				
Trichlorofluoromethane	ND	ug/kg	250				
1,2-Dichloroethane	ND	ug/kg	50.				
1,1,1-Trichloroethane	ND	ug/kg	50.				
Bromodichloromethane	ND	ug/kg	50.				
trans-1,3-Dichloropropene	ND	ug/kg	50.				
cis-1,3-Dichloropropene	ND	ug/kg	50.				
1,1-Dichloropropene	ND	ug/kg	250				
Bromoform	ND	ug/kg	200				
1,1,2,2-Tetrachloroethane	ND	ug/kg	50.				
Benzene	ND	ug/kg	50.				
Toluene	ND	ug/kg	75.				
Ethylbenzene	ND	ug/kg	50.				
Chloromethane	ND	ug/kg	250				
Bromomethane	ND	ug/kg	100				



ALPHA ANALYTICAL LABORATORIES  
 QUALITY ASSURANCE BATCH BLANK ANALYSIS

Laboratory Job Number: L0403391

Continued

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Blank Analysis for sample(s) 03 (WG167272-6)							
Volatile Organics by MCP 8260B/5035-High continued				54 8260B	0409 15:13 BT		
Vinyl chloride	ND	ug/kg	100				
Chloroethane	ND	ug/kg	100				
1,1-Dichloroethene	ND	ug/kg	50.				
trans-1,2-Dichloroethene	ND	ug/kg	75.				
Trichloroethene	ND	ug/kg	50.				
1,2-Dichlorobenzene	ND	ug/kg	250				
1,3-Dichlorobenzene	ND	ug/kg	250				
1,4-Dichlorobenzene	ND	ug/kg	250				
Methyl tert butyl ether	ND	ug/kg	100				
p/m-Xylene	ND	ug/kg	50.				
o-Xylene	ND	ug/kg	50.				
cis-1,2-Dichloroethene	ND	ug/kg	50.				
Dibromomethane	ND	ug/kg	500				
1,2,3-Trichloropropane	ND	ug/kg	500				
Styrene	ND	ug/kg	50.				
Dichlorodifluoromethane	ND	ug/kg	500				
Acetone	ND	ug/kg	500				
Carbon disulfide	ND	ug/kg	500				
2-Butanone	ND	ug/kg	500				
4-Methyl-2-pentanone	ND	ug/kg	500				
2-Hexanone	ND	ug/kg	500				
Bromochloromethane	ND	ug/kg	250				
Tetrahydrofuran	ND	ug/kg	1000				
2,2-Dichloropropane	ND	ug/kg	250				
1,2-Dibromoethane	ND	ug/kg	200				
1,3-Dichloropropane	ND	ug/kg	250				
1,1,1,2-Tetrachloroethane	ND	ug/kg	50.				
Bromobenzene	ND	ug/kg	250				
n-Butylbenzene	ND	ug/kg	50.				
sec-Butylbenzene	ND	ug/kg	50.				
tert-Butylbenzene	ND	ug/kg	250				
o-Chlorotoluene	ND	ug/kg	250				
p-Chlorotoluene	ND	ug/kg	250				
1,2-Dibromo-3-chloropropane	ND	ug/kg	250				
Hexachlorobutadiene	ND	ug/kg	250				
Isopropylbenzene	ND	ug/kg	50.				
p-Isopropyltoluene	ND	ug/kg	50.				
Naphthalene	ND	ug/kg	250				
n-Propylbenzene	ND	ug/kg	50.				
1,2,3-Trichlorobenzene	ND	ug/kg	250				
1,2,4-Trichlorobenzene	ND	ug/kg	250				
1,3,5-Trimethylbenzene	ND	ug/kg	250				
1,2,4-Trimethylbenzene	ND	ug/kg	250				
Ethyl ether	ND	ug/kg	250				
Isopropyl Ether	ND	ug/kg	200				
Ethyl-Tert-Butyl-Ether	ND	ug/kg	200				
Tertiary-Amyl Methyl Ether	ND	ug/kg	200				

ALPHA ANALYTICAL LABORATORIES  
QUALITY ASSURANCE BATCH BLANK ANALYSIS

Laboratory Job Number: L0403391

Continued

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Blank Analysis for sample(s) 03 (WG167272-6)							
Volatile Organics by MCP 8260B/5035-High continued				54 8260B		0409 15:13 BT	
1,4-Dioxane	ND	ug/kg	25000				
Surrogate(s) Recovery QC Criteria							
1,2-Dichloroethane-d4	82.0	%	70-130				
Toluene-d8	78.0	%	70-130				
4-Bromofluorobenzene	80.0	%	70-130				
Dibromofluoromethane	77.0	%	70-130				
Blank Analysis for sample(s) 03 (WG167290-1)							
Semivolatile Organics by MCP 8270C				54 8270C		0408 10:15 0409 17:41 HL	
Acenaphthene	ND	ug/kg	500				
1,2,4-Trichlorobenzene	ND	ug/kg	500				
Hexachlorobenzene	ND	ug/kg	500				
Bis(2-chloroethyl) ether	ND	ug/kg	500				
2-Chloronaphthalene	ND	ug/kg	500				
1,2-Dichlorobenzene	ND	ug/kg	500				
1,3-Dichlorobenzene	ND	ug/kg	500				
1,4-Dichlorobenzene	ND	ug/kg	500				
3,3'-Dichlorobenzidine	ND	ug/kg	1000				
2,4-Dinitrotoluene	ND	ug/kg	500				
2,6-Dinitrotoluene	ND	ug/kg	500				
Azobenzene	ND	ug/kg	500				
Fluoranthene	ND	ug/kg	500				
4-Bromophenyl phenyl ether	ND	ug/kg	500				
Bis(2-chloroisopropyl) ether	ND	ug/kg	500				
Bis(2-chloroethoxy) methane	ND	ug/kg	500				
Hexachlorobutadiene	ND	ug/kg	1000				
Hexachloroethane	ND	ug/kg	500				
Isophorone	ND	ug/kg	500				
Naphthalene	ND	ug/kg	500				
Nitrobenzene	ND	ug/kg	500				
Bis(2-Ethylhexyl) phthalate	ND	ug/kg	1000				
Butyl benzyl phthalate	ND	ug/kg	500				
Di-n-butylphthalate	ND	ug/kg	500				
Di-n-octylphthalate	ND	ug/kg	500				
Diethyl phthalate	ND	ug/kg	500				
Dimethyl phthalate	ND	ug/kg	500				
Benzo(a) anthracene	ND	ug/kg	500				
Benzo(a) pyrene	ND	ug/kg	500				
Benzo(b) fluoranthene	ND	ug/kg	500				
Benzo(k) fluoranthene	ND	ug/kg	500				
Chrysene	ND	ug/kg	500				
Acenaphthylene	ND	ug/kg	500				
Anthracene	ND	ug/kg	500				
Benzo(ghi) perylene	ND	ug/kg	500				
Fluorene	ND	ug/kg	500				
Phenanthrene	ND	ug/kg	500				

ALPHA ANALYTICAL LABORATORIES  
QUALITY ASSURANCE BATCH BLANK ANALYSIS

Laboratory Job Number: L0403391

Continued

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE PREP ANAL	ID
Blank Analysis for sample(s) 03 (WG167290-1)						
Semivolatile Organics by MCP 8270C continued				54 8270C	0408 10:15 0409 17:41	HL
Dibenzo(a,h)anthracene	ND	ug/kg	500			
Indeno(1,2,3-cd)Pyrene	ND	ug/kg	500			
Pyrene	ND	ug/kg	500			
Aniline	ND	ug/kg	1000			
4-Chloroaniline	ND	ug/kg	500			
Dibenzofuran	ND	ug/kg	500			
2-Methylnaphthalene	ND	ug/kg	500			
Acetophenone	ND	ug/kg	2000			
2,4,6-Trichlorophenol	ND	ug/kg	500			
2-Chlorophenol	ND	ug/kg	500			
2,4-Dichlorophenol	ND	ug/kg	1000			
2,4-Dimethylphenol	ND	ug/kg	500			
2-Nitrophenol	ND	ug/kg	2000			
4-Nitrophenol	ND	ug/kg	1000			
2,4-Dinitrophenol	ND	ug/kg	2000			
Pentachlorophenol	ND	ug/kg	2000			
Phenol	ND	ug/kg	700			
2-Methylphenol	ND	ug/kg	600			
3-Methylphenol/4-Methylphenol	ND	ug/kg	600			
2,4,5-Trichlorophenol	ND	ug/kg	500			
Surrogate(s)	Recovery			QC Criteria		
2-Fluorophenol	42.0	%		30-130		
Phenol-d6	44.0	%		30-130		
Nitrobenzene-d5	45.0	%		30-130		
2-Fluorobiphenyl	46.0	%		30-130		
2,4,6-Tribromophenol	63.0	%		30-130		
4-Terphenyl-d14	87.0	%		30-130		
Blank Analysis for sample(s) 03 (WG167298-1)						
Polychlorinated Biphenyls by MCP 8082				54 8082	0408 11:45 0409 11:25	AK
Aroclor 1221	ND	ug/kg	50.0			
Aroclor 1232	ND	ug/kg	50.0			
Aroclor 1242/1016	ND	ug/kg	50.0			
Aroclor 1248	ND	ug/kg	50.0			
Aroclor 1254	ND	ug/kg	50.0			
Aroclor 1260	ND	ug/kg	50.0			
Aroclor 1262	ND	ug/kg	50.0			
Aroclor 1268	ND	ug/kg	50.0			
Surrogate(s)	Recovery			QC Criteria		
2,4,5,6-Tetrachloro-m-xylene	52.0	%		30-150		
Decachlorobiphenyl	75.0	%		30-150		
Blank Analysis for sample(s) 03 (WG167298-1)						
Polychlorinated Biphenyls by MCP 8082				54 8082	0408 11:45 0409 11:25	AK

ALPHA ANALYTICAL LABORATORIES  
 QUALITY ASSURANCE BATCH BLANK ANALYSIS

Laboratory Job Number: L0403391

Continued

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Blank Analysis for sample(s) 03 (WG167298-1)							
Polychlorinated Biphenyls by MCP 8082 continued				54 8082	0408 11:45	0409 11:25	AK
Surrogate(s)	Recovery			QC Criteria			
2,4,5,6-Tetrachloro-m-xylene	51.0	%		30-150			
Decachlorobiphenyl	68.0	%		30-150			
Blank Analysis for sample(s) 01,03 (WG167294-1)							
Hydrocarbon Scan by GC 8100M				1 8100M	0412 13:30	0413 10:47	JB
Mineral Spirits	ND	mg/kg	100				
Gasoline	ND	mg/kg	100				
Fuel Oil #2/Diesel	ND	mg/kg	100				
Fuel Oil #4	ND	mg/kg	100				
Fuel Oil #6	ND	mg/kg	100				
Motor Oil	ND	mg/kg	100				
Kerosene	ND	mg/kg	100				
Transformer Oil	ND	mg/kg	100				
Unknown Hydrocarbon	ND	mg/kg	100				
Surrogate(s)	Recovery			QC Criteria			
o-Terphenyl	.75.0	%		40-140			
Blank Analysis for sample(s) 02 (WG167611-1)							
Hydrocarbon Scan by GC 8100M				1 8100M	0413 11:00	0413 17:51	MM
Mineral Spirits	ND	mg/kg	100				
Gasoline	ND	mg/kg	100				
Fuel Oil #2/Diesel	ND	mg/kg	100				
Fuel Oil #4	ND	mg/kg	100				
Fuel Oil #6	ND	mg/kg	100				
Motor Oil	ND	mg/kg	100				
Kerosene	ND	mg/kg	100				
Transformer Oil	ND	mg/kg	100				
Unknown Hydrocarbon	ND	mg/kg	100				
Surrogate(s)	Recovery			QC Criteria			
o-Terphenyl	83.0	%		40-140			

ALPHA ANALYTICAL LABORATORIES  
ADDENDUM I

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REFERENCES

1. Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - IIIA, 1997.
30. Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WPCF. 18th Edition. 1992.
54. Compendium of Quality Assurance and Quality Control Requirements and Performance Standards for Selected Analytical Methods. MADEP BWSC. Final Methods. May 2003.

GLOSSARY OF TERMS AND SYMBOLS

REF Reference number in which test method may be found.  
METHOD Method number by which analysis was performed.  
ID Initials of the analyst.  
ND Not detected in comparison to the reported detection limit.

Please note that all solid samples are reported on dry weight basis unless noted otherwise.

LIMITATION OF LIABILITIES

Alpha Analytical, Inc. performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical, Inc., shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical, Inc. be held liable for any incidental consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical, Inc.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding times and splitting of samples in the field.

ALPHA ANALYTICAL LABORATORIES  
LOGIN SPECIFIC INFORMATION

Laboratory Job Number: L0403391

Were project specific reporting limits specified? YES

**Cooler Information**

Cooler	Custody Seal
A	Absent

**Container Information**

Container ID	Container Type	Cooler	pH	Temp	Pres	Seal	Analysis
L0403391-01A	Amber 250ml unpreserved	A	N/A	2.8	C	Y Absent	TPH-8100, TS
L0403391-02A	Amber 250ml unpreserved	A	N/A	2.8	C	Y Absent	TPH-8100, TS
L0403391-03A	Vial MeOH preserved	A	N/A	2.8	C	Y Absent	MCP-8260H
L0403391-03B	Vial NaHSO4 preserved	A	N/A	2.8	C	Y Absent	MCP-8260H
L0403391-03C	Vial NaHSO4 preserved	A	N/A	2.8	C	Y Absent	MCP-8260H
L0403391-03D	Vial NaHSO4 preserved	A	N/A	2.8	C	Y Absent	MCP-8260H
L0403391-03E	Amber 250ml unpreserved	A	N/A	2.8	C	Y Absent	FLASH, MCP-8082, MCP-8270, PH-9045, REACTCN, REACTS, TPH-8100, TS
L0403391-03F	Amber 250ml unpreserved	A	N/A	2.8	C	Y Absent	AG-TI, AS-TI, BA-TI, CD-TI, CR-TI, HG-T, PB-TI, PREPT, SE-TI

**Container Comments**

Container ID    Comments

L0403391-03F    This container has not been properly returned to CUSTODY! It was last assigned to JTRAN for department  
WET CHEMISTRY on 04/08/04 10:08 .

**HALEY & ALDRICH**  
465 Medford St.,  
Suite 2200,  
Boston, MA 02129-1400

# CHAIN OF CUSTODY RECORD

Phone (617) 886-7400  
Fax (617) 886-7600  
Page 1 of 1

HALEY FILE NO. 30610-000  
PROJECT NAME PERMITS & SPEC  
HALEY CONTACT STEVE REVERDEZ  
LABORATORY ADDRESS HALEY  
CONTACT CONTACT  
DELIVERY DATE 04/07/04  
TURNAROUND TIME 5 DAYS  
PROJECT MANAGER JULIE MURPHY

Sample No.	Date	Time	Depth	Type	Analysis Requested										Number of Containers	Comments (Special instructions, precautions, additional method numbers, etc.)	
					VOA	ABNs PAH only	MCP Metals	Residues (PCR)	VPH Full Suite C-ranges only	BPH Full Suite C-ranges only	TPH (specify)	TCLP (specify)	Reactivity Ignitability Corrosivity	(A)			(B)
USI-STRIPLE 24	4/1/04	1450	-	SOIL					X	X	X					1	Laboratory to use applicable DEP CAM methods, unless otherwise directed.
USI-STRIPLE 25		1455	-	SOIL					X	X	X					1	TPH by certified MRM 2008
USI-STRIPLE 26		1450	-	SOIL					X	X	X					6	SUECS REDAIR METALS

Sampled and Relinquished by		Received by		Type	Preservation Key	Volume	VOA Vial	Amber Glass	Plastic Bottle	Preservative	SAMPLING COMMENTS
Sign	Print	Sign	Print								
<i>Todd R. Burt</i>	Todd R. Burt	<i>Desmond Crawford</i>	Desmond Crawford	LIQUID							Please for Results to Mike Lavery @ 617.886.7777
<i>Steve</i>	Steve	<i>Desmond Crawford</i>	Desmond Crawford	LIQUID							

**IF Presumptive Certainty Data Package is needed, initial all sections:**  
The required minimum field QC samples as designated in BWSC CAM-VII have been or will be collected, as appropriate, to meet the requirements of Presumptive Certainty.

**Matrix Spike (MS) samples for MCP Metals and/or Cyanide are included and identified herein.**  
This Chain of Custody Record (specify) includes  does not include samples defined as Drinking Water Samples.

**MA** If this Chain of Custody Record identifies samples defined as Drinking Water Samples, Trip Blanks and Field Duplicates are included and analysis of TICs are required, as appropriate. Laboratory should (specify if applicable) analyze hold for contingency testing the Drinking Water Field Duplicate and Drinking Water Trip Blank samples.

**Required Reporting Limits and Data Quality Objectives:**  
 RC-S1  S1  GW1  
 RC-S2  S2  GW2  
 RC-GW1  S3  GW3  
 RC-GW2

ALPHA ANALYTICAL LABORATORIES

Eight Walkup Drive  
Westborough, Massachusetts 01581-1019  
(508) 898-9220 www.alphalab.com

MA:M-MA086 NH:200301-A CT:PH-0574 ME:MA086 RI:65 NY:11148 NJ:MA935 Army:USACE

CERTIFICATE OF ANALYSIS

Client: Haley & Aldrich, Inc. Laboratory Job Number: L0403638  
Address: 465 Medford Street, Suite 2200  
Boston, MA 02129-1400 Date Received: 13-APR-2004  
Attn: Mr. Steve Provencal Date Reported: 15-APR-2004  
Project Number: 30660-000 Delivery Method: Alpha  
Site: BURBANK SCHOOL

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The following questions pertain only to MCP Analytical Methods

An affirmative response to questions A,B,C & D is required for "Presumptive Certainty" status

- A. Were all samples received by the laboratory in a condition consistent with those described on their Chain-of-Custody documentation for the data set? YES
- B. Were all QA/QC procedures required for the specified analytical method(s) included in this report followed, including the requirement to note and discuss in a narrative QC data that did not meet appropriate performance standards or guidelines? YES
- C. Does the analytical data included in this report meet all the requirements for "Presumptive Certainty", as described in section 2.0 of the MADEP document CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data"? YES
- D. VPH and EPH methods only: Was the VPH or EPH method run without significant modifications, as specified in Section 11.3? YES

A response to questions E and F is required for "Presumptive Certainty" status

- E. Were all QC performance standards and recommendations for the specified method(s) achieved? YES
- F. Were results for all analyte-list compounds/elements for the specified method(s) reported? YES

Any answers of NO to the above questions are addressed in the case narrative.

---

I, the undersigned, attest under the pains and penalties of perjury that, based upon my personal inquiry of those responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

---

Authorized by: Scott McLean  
This document electronically signed



ALPHA ANALYTICAL LABORATORIES

Laboratory Job Number: L0403638  
Date Reported: 15-APR-2004

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ALPHA SAMPLE NUMBER	CLIENT IDENTIFICATION	SAMPLE LOCATION
L0403638-01	12IN-CONC-BOT6-S1	BELMONT, MA
L0403638-02	12IN-CONC-NSW6-S2	BELMONT, MA
L0403638-03	12IN-CONC-SSW6-S2	BELMONT, MA
L0403638-04	12IN-CONC-WSW6-S2	BELMONT, MA

ALPHA ANALYTICAL LABORATORIES  
NARRATIVE REPORT

Laboratory Job Number: L0403638

---

MCP Related Narratives

Extraction methods

Extraction method 3545 was used as the extraction method for the analysis of EPH by method 98-1.

Report Submission

All MCP required questions were answered with affirmative responses, therefore, there are no relevant data issues to discuss.



ALPHA ANALYTICAL LABORATORIES  
CERTIFICATE OF ANALYSIS

Laboratory Sample Number: L0403638-01  
12IN-CONC-BOT6-S1

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	

Volatile Petroleum Hydrocarbons	47 98-1	0414 14:00 MM
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Quality Control Information

Condition of sample received:	Satisfactory	
Sample temperature upon receipt:	Received on Ice	
Were samples received in methanol?	Covering the Soil	
Methanol ratio:	1:1 +/- 25%	
Were all QA/QC procedures REQUIRED by the method followed?		YES
Were all performance/acceptance standards for the required procedures achieved?		YES
Were significant modifications made to the method as specified in Sect 11.3?		NO
The normal acceptance range for the surrogate, 2,5-Dibromotoluene, is 70-130%.		

C5-C8 Aliphatics, Unadjusted	ND	mg/kg	2.65
C9-C12 Aliphatics, Unadjusted	ND	mg/kg	2.65
C9-C10 Aromatics	ND	mg/kg	2.65
C5-C8 Aliphatics, Adjusted	ND	mg/kg	2.65
C9-C12 Aliphatics, Adjusted	ND	mg/kg	2.65
Benzene	ND	mg/kg	0.132
Toluene	ND	mg/kg	0.132
Ethylbenzene	ND	mg/kg	0.132
p/m-Xylene	ND	mg/kg	0.132
o-Xylene	ND	mg/kg	0.132
Methyl tert butyl ether	ND	mg/kg	0.265
Naphthalene	ND	mg/kg	1.32
Surrogate(s)	Recovery		QC Criteria
2,5-Dibromotoluene-PID	106.	%	70-130
2,5-Dibromotoluene-FID	116.	%	70-130

Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES  
CERTIFICATE OF ANALYSIS

Laboratory Sample Number: L0403638-01  
12IN-CONC-BOT6-S1

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE PREP      ANAL	ID
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Extractable Petroleum Hydrocarbons				46 98-1	0413 19:45 0414 19:04 LL	
------------------------------------	--	--	--	---------	--------------------------	--

Quality Control Information

Condition of sample received:	Satisfactory
Sample temperature upon receipt:	Received on Ice
Sample extraction method:	Extracted Per the Method
Were all QA/QC procedures REQUIRED by the method followed?	YES
Were all performance/acceptance standards for the required procedures achieved?	YES
Were significant modifications made to the method as specified in Sect 11.3?	NO
The normal acceptance range for the extraction surrogates, Chloro-octadecane and o-Terphenyl, is 40-140%.	
The normal acceptance range for the fractionation surrogates, 2-Fluorobiphenyl and 2-Bromonaphthalene, is 40-140%.	

C9-C18 Aliphatics	ND	mg/kg	12.2
C19-C36 Aliphatics	ND	mg/kg	12.2
C11-C22 Aromatics, Unadjusted	ND	mg/kg	12.2
C11-C22 Aromatics, Adjusted	ND	mg/kg	12.2
Naphthalene	ND	mg/kg	0.610
2-Methylnaphthalene	ND	mg/kg	0.610
Acenaphthylene	ND	mg/kg	0.610
Acenaphthene	ND	mg/kg	0.610
Fluorene	ND	mg/kg	0.610
Phenanthrene	ND	mg/kg	0.610
Anthracene	ND	mg/kg	0.610
Fluoranthene	ND	mg/kg	0.610
Pyrene	ND	mg/kg	0.610
Benzo(a)anthracene	ND	mg/kg	0.610
Chrysene	ND	mg/kg	0.610
Benzo(b)fluoranthene	ND	mg/kg	0.610
Benzo(k)fluoranthene	ND	mg/kg	0.610
Benzo(a)pyrene	ND	mg/kg	0.610
Indeno(1,2,3-cd)Pyrene	ND	mg/kg	0.610
Dibenzo(a,h)anthracene	ND	mg/kg	0.610
Benzo(g,h,i)perylene	ND	mg/kg	0.610

Surrogate (s)	Recovery		QC Criteria
Chloro-Octadecane	49.0	%	40-140
o-Terphenyl	67.0	%	40-140
2-Fluorobiphenyl	79.0	%	40-140
2-Bromonaphthalene	78.0	%	40-140

Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES  
 CERTIFICATE OF ANALYSIS

MA:M-MA086 NH:200301-A CT:PH-0574 ME:MA086 RI:65 NY:11148 NJ:MA935 Army:USACE

Laboratory Sample Number: L0403638-02  
 12IN-CONC-NSW6-S2  
 Sample Matrix: SOIL  
 Condition of Sample: Satisfactory  
 Number & Type of Containers: 1-Amber,1-Vial

Date Collected: 13-APR-2004 11:50  
 Date Received : 13-APR-2004  
 Date Reported : 15-APR-2004  
 Field Prep: None

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Solids, Total	95.	%	0.10	30 2540G			0414 10:08 JC

Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES  
CERTIFICATE OF ANALYSIS

Laboratory Sample Number: L0403638-02  
12IN-CONC-NSW6-S2

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Volatile Petroleum Hydrocarbons				47 98-1		0414 15:44 MM	
Quality Control Information							
Condition of sample received:			Satisfactory				
Sample temperature upon receipt:			Received on Ice				
Were samples received in methanol?			Covering the Soil				
Methanol ratio:			1:1 +/- 25%				
Were all QA/QC procedures REQUIRED by the method followed?			YES				
Were all performance/acceptance standards for the required procedures achieved?			YES				
Were significant modifications made to the method as specified in Sect 11.3?			NO				
The normal acceptance range for the surrogate, 2,5-Dibromotoluene, is 70-130%.							
C5-C8 Aliphatics, Unadjusted	ND	mg/kg	2.18				
C9-C12 Aliphatics, Unadjusted	ND	mg/kg	2.18				
C9-C10 Aromatics	ND	mg/kg	2.18				
C5-C8 Aliphatics, Adjusted	ND	mg/kg	2.18				
C9-C12 Aliphatics, Adjusted	ND	mg/kg	2.18				
Benzene	ND	mg/kg	0.109				
Toluene	ND	mg/kg	0.109				
Ethylbenzene	ND	mg/kg	0.109				
p/m-Xylene	ND	mg/kg	0.109				
o-Xylene	ND	mg/kg	0.109				
Methyl tert butyl ether	ND	mg/kg	0.218				
Naphthalene	ND	mg/kg	1.09				
Surrogate (s)	Recovery		QC Criteria				
2,5-Dibromotoluene-PID	97.0	%	70-130				
2,5-Dibromotoluene-FID	104.	%	70-130				

Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES  
CERTIFICATE OF ANALYSIS

Laboratory Sample Number: L0403638-02  
12IN-CONC-NSW6-S2

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Extractable Petroleum Hydrocarbons				46 98-1	0413 19:45	0414 18:17	LL

Quality Control Information

Condition of sample received: Satisfactory  
 Sample temperature upon receipt: Received on Ice  
 Sample extraction method: Extracted Per the Method  
 Were all QA/QC procedures REQUIRED by the method followed? YES  
 Were all performance/acceptance standards for the required procedures achieved? YES  
 Were significant modifications made to the method as specified in Sect 11.3? NO  
 The normal acceptance range for the extraction surrogates, Chloro-octadecane and o-Terphenyl, is 40-140%.  
 The normal acceptance range for the fractionation surrogates, 2-Fluorobiphenyl and 2-Bromonaphthalene, is 40-140%.

C9-C18 Aliphatics	ND	mg/kg	10.5
C19-C36 Aliphatics	ND	mg/kg	10.5
C11-C22 Aromatics, Unadjusted	ND	mg/kg	10.5
C11-C22 Aromatics, Adjusted	ND	mg/kg	10.5
Naphthalene	ND	mg/kg	0.526
2-Methylnaphthalene	ND	mg/kg	0.526
Acenaphthylene	ND	mg/kg	0.526
Acenaphthene	ND	mg/kg	0.526
Fluorene	ND	mg/kg	0.526
Phenanthrene	ND	mg/kg	0.526
Anthracene	ND	mg/kg	0.526
Fluoranthene	ND	mg/kg	0.526
Pyrene	ND	mg/kg	0.526
Benzo(a)anthracene	ND	mg/kg	0.526
Chrysene	ND	mg/kg	0.526
Benzo(b)fluoranthene	ND	mg/kg	0.526
Benzo(k)fluoranthene	ND	mg/kg	0.526
Benzo(a)pyrene	ND	mg/kg	0.526
Indeno(1,2,3-cd)Pyrene	ND	mg/kg	0.526
Dibenzo(a,h)anthracene	ND	mg/kg	0.526
Benzo(g,h,i)perylene	ND	mg/kg	0.526

Surrogate(s)	Recovery		QC Criteria
Chloro-Octadecane	53.0	%	40-140
o-Terphenyl	70.0	%	40-140
2-Fluorobiphenyl	80.0	%	40-140
2-Bromonaphthalene	77.0	%	40-140

Comments: Complete list of References and Glossary of Terms found in Addendum I



ALPHA ANALYTICAL LABORATORIES  
CERTIFICATE OF ANALYSIS

MA:M-MA086 NH:200301-A CT:PH-0574 ME:MA086 RI:65 NY:11148 NJ:MA935 Army:USACE

Laboratory Sample Number: L0403638-03 Date Collected: 13-APR-2004 11:54  
12IN-CONC-SSW6-S2 Date Received : 13-APR-2004  
Sample Matrix: SOIL Date Reported : 15-APR-2004  
Condition of Sample: Satisfactory Field Prep: None  
Number & Type of Containers: 1-Amber,1-Vial

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Solids, Total	95.	%	0.10	30 2540G		0414 10:08	JC

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Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES  
CERTIFICATE OF ANALYSIS

Laboratory Sample Number: L0403638-03  
12IN-CONC-SSW6-S2

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	

Volatile Petroleum Hydrocarbons				47 98-1		0414 16:35 MM	
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Quality Control Information

Condition of sample received:	Satisfactory	
Sample temperature upon receipt:	Received on Ice	
Were samples received in methanol?	Covering the Soil	
Methanol ratio:	1:1 +/- 25%	
Were all QA/QC procedures REQUIRED by the method followed?		YES
Were all performance/acceptance standards for the required procedures achieved?		YES
Were significant modifications made to the method as specified in Sect 11.3?		NO
The normal acceptance range for the surrogate, 2,5-Dibromotoluene, is 70-130%.		

C5-C8 Aliphatics, Unadjusted	ND	mg/kg	2.30
C9-C12 Aliphatics, Unadjusted	ND	mg/kg	2.30
C9-C10 Aromatics	ND	mg/kg	2.30
C5-C8 Aliphatics, Adjusted	ND	mg/kg	2.30
C9-C12 Aliphatics, Adjusted	ND	mg/kg	2.30
Benzene	ND	mg/kg	0.115
Toluene	ND	mg/kg	0.115
Ethylbenzene	ND	mg/kg	0.115
p/m-Xylene	ND	mg/kg	0.115
o-Xylene	ND	mg/kg	0.115
Methyl tert butyl ether	ND	mg/kg	0.230
Naphthalene	ND	mg/kg	1.15
Surrogate(s)	Recovery		QC Criteria
2,5-Dibromotoluene-PID	85.0	%	70-130
2,5-Dibromotoluene-FID	90.0	%	70-130

Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES  
CERTIFICATE OF ANALYSIS

Laboratory Sample Number: L0403638-03  
12IN-CONC-SSW6-S2

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	

Extractable Petroleum Hydrocarbons	46 98-1	0413 19:45 0414 19:52 LL
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Quality Control Information

Condition of sample received:	Satisfactory
Sample temperature upon receipt:	Received on Ice
Sample extraction method:	Extracted Per the Method
Were all QA/QC procedures REQUIRED by the method followed?	YES
Were all performance/acceptance standards for the required procedures achieved?	YES
Were significant modifications made to the method as specified in Sect 11.3?	NO
The normal acceptance range for the extraction surrogates, Chloro-octadecane and o-Terphenyl, is 40-140%.	
The normal acceptance range for the fractionation surrogates, 2-Fluorobiphenyl and 2-Bromonaphthalene, is 40-140%.	

C9-C18 Aliphatics	ND	mg/kg	10.5
C19-C36 Aliphatics	ND	mg/kg	10.5
C11-C22 Aromatics, Unadjusted	ND	mg/kg	10.5
C11-C22 Aromatics, Adjusted	ND	mg/kg	10.5
Naphthalene	ND	mg/kg	0.526
2-Methylnaphthalene	ND	mg/kg	0.526
Acenaphthylene	ND	mg/kg	0.526
Acenaphthene	ND	mg/kg	0.526
Fluorene	ND	mg/kg	0.526
Phenanthrene	ND	mg/kg	0.526
Anthracene	ND	mg/kg	0.526
Fluoranthene	ND	mg/kg	0.526
Pyrene	ND	mg/kg	0.526
Benzo(a)anthracene	ND	mg/kg	0.526
Chrysene	ND	mg/kg	0.526
Benzo(b)fluoranthene	ND	mg/kg	0.526
Benzo(k)fluoranthene	ND	mg/kg	0.526
Benzo(a)pyrene	ND	mg/kg	0.526
Indeno(1,2,3-cd)Pyrene	ND	mg/kg	0.526
Dibenzo(a,h)anthracene	ND	mg/kg	0.526
Benzo(g,h,i)perylene	ND	mg/kg	0.526
Surrogate(s)	Recovery		QC Criteria
Chloro-Octadecane	59.0	%	40-140
o-Terphenyl	78.0	%	40-140
2-Fluorobiphenyl	83.0	%	40-140
2-Bromonaphthalene	82.0	%	40-140

Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES  
CERTIFICATE OF ANALYSIS

MA:M-MA086 NH:200301-A CT:PH-0574 ME:MA086 RI:65 NY:11148 NJ:MA935 Army:USACE

Laboratory Sample Number: L0403638-04  
Date Collected: 13-APR-2004 11:52  
12IN-CONC-WSW6-S2  
Date Received : 13-APR-2004  
Sample Matrix: SOIL  
Date Reported : 15-APR-2004  
Condition of Sample: Satisfactory  
Field Prep: None  
Number & Type of Containers: 1-Amber,1-Vial

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Solids, Total	95.	%	0.10	30 2540G		0414 10:08	JC

Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES  
CERTIFICATE OF ANALYSIS

Laboratory Sample Number: L0403638-04  
12IN-CONC-WSW6-S2

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE PREP      ANAL	ID
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Volatile Petroleum Hydrocarbons				47 98-1		0414 17:26 MM
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Quality Control Information

Condition of sample received:	Satisfactory
Sample temperature upon receipt:	Received on Ice
Were samples received in methanol?	Covering the Soil
Methanol ratio:	1:1 +/- 25%
Were all QA/QC procedures REQUIRED by the method followed?	YES
Were all performance/acceptance standards for the required procedures achieved?	YES
Were significant modifications made to the method as specified in Sect 11.3?	NO
The normal acceptance range for the surrogate, 2,5-Dibromotoluene, is 70-130%.	

C5-C8 Aliphatics, Unadjusted	ND	mg/kg	2.04
C9-C12 Aliphatics, Unadjusted	ND	mg/kg	2.04
C9-C10 Aromatics	ND	mg/kg	2.04
C5-C8 Aliphatics, Adjusted	ND	mg/kg	2.04
C9-C12 Aliphatics, Adjusted	ND	mg/kg	2.04
Benzene	ND	mg/kg	0.102
Toluene	ND	mg/kg	0.102
Ethylbenzene	ND	mg/kg	0.102
p/m-Xylene	ND	mg/kg	0.102
o-Xylene	ND	mg/kg	0.102
Methyl tert butyl ether	ND	mg/kg	0.204
Naphthalene	ND	mg/kg	1.02

Surrogate(s)	Recovery	QC Criteria
2,5-Dibromotoluene-PID	94.0 %	70-130
2,5-Dibromotoluene-FID	100. %	70-130

Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES  
CERTIFICATE OF ANALYSIS

Laboratory Sample Number: L0403638-04  
12IN-CONC-WSW6-S2

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	

Extractable Petroleum Hydrocarbons				46 98-1	0413 19:45	0414 20:40	LL
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Quality Control Information

Condition of sample received: Satisfactory  
 Sample temperature upon receipt: Received on Ice  
 Sample extraction method: Extracted Per the Method  
 Were all QA/QC procedures REQUIRED by the method followed? YES  
 Were all performance/acceptance standards for the required procedures achieved? YES  
 Were significant modifications made to the method as specified in Sect 11.3? NO  
 The normal acceptance range for the extraction surrogates, Chloro-octadecane and o-Terphenyl, is 40-140%.  
 The normal acceptance range for the fractionation surrogates, 2-Fluorobiphenyl and 2-Bromonaphthalene, is 40-140%.

C9-C18 Aliphatics	ND	mg/kg	10.5
C19-C36 Aliphatics	ND	mg/kg	10.5
C11-C22 Aromatics, Unadjusted	ND	mg/kg	10.5
C11-C22 Aromatics, Adjusted	ND	mg/kg	10.5
Naphthalene	ND	mg/kg	0.526
2-Methylnaphthalene	ND	mg/kg	0.526
Acenaphthylene	ND	mg/kg	0.526
Acenaphthene	ND	mg/kg	0.526
Fluorene	ND	mg/kg	0.526
Phenanthrene	ND	mg/kg	0.526
Anthracene	ND	mg/kg	0.526
Fluoranthene	ND	mg/kg	0.526
Pyrene	ND	mg/kg	0.526
Benzo(a)anthracene	ND	mg/kg	0.526
Chrysene	ND	mg/kg	0.526
Benzo(b)fluoranthene	ND	mg/kg	0.526
Benzo(k)fluoranthene	ND	mg/kg	0.526
Benzo(a)pyrene	ND	mg/kg	0.526
Indeno(1,2,3-cd)Pyrene	ND	mg/kg	0.526
Dibenzo(a,h)anthracene	ND	mg/kg	0.526
Benzo(g,h,i)perylene	ND	mg/kg	0.526

Surrogate(s)	Recovery		QC Criteria
Chloro-Octadecane	63.0	%	40-140
o-Terphenyl	81.0	%	40-140
2-Fluorobiphenyl	88.0	%	40-140
2-Bromonaphthalene	87.0	%	40-140

Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES  
 QUALITY ASSURANCE BATCH DUPLICATE ANALYSIS

Laboratory Job Number: L0403638

Parameter	Value 1	Value 2	Units	RPD	RPD Limits
Solids, Total for sample(s) 01-04 (L0403638-01, WG167716)					
Solids, Total	82.	81.	%	1	
Volatile Petroleum Hydrocarbons for sample(s) 01-04 (L0403638-01, WG167861)					
C5-C8 Aliphatics	ND	ND	mg/kg	NC	50
C9-C12 Aliphatics	ND	ND	mg/kg	NC	50
C9-C10 Aromatics	ND	ND	mg/kg	NC	50
C5-C8 Aliphatics, Adjusted	ND	ND	mg/kg	NC	50
C9-C12 Aliphatics, Adjusted	ND	ND	mg/kg	NC	50
Benzene	ND	ND	mg/kg	NC	50
Toluene	ND	ND	mg/kg	NC	50
Ethylbenzene	ND	ND	mg/kg	NC	50
p/m-Xylene	ND	ND	mg/kg	NC	50
o-Xylene	ND	ND	mg/kg	NC	50
Methyl tert butyl ether	ND	ND	mg/kg	NC	50
Naphthalene	ND	ND	mg/kg	NC	50
Surrogate(s)	Recovery				QC Criteria
2,5-Dibromotoluene-PID	106.	94.0	%	12	70-130
2,5-Dibromotoluene-FID	116.	100.	%	15	70-130
Extractable Petroleum Hydrocarbons for sample(s) 01-04 (L0403638-02, WG167684)					
C9-C18 Aliphatics	ND	ND	mg/kg	NC	50
C19-C36 Aliphatics	ND	ND	mg/kg	NC	50
C11-C22 Aromatics	ND	ND	mg/kg	NC	50
C11-C22 Aromatics, Adjusted	ND	ND	mg/kg	NC	50
Naphthalene	ND	ND	mg/kg	NC	50
2-Methylnaphthalene	ND	ND	mg/kg	NC	50
Acenaphthylene	ND	ND	mg/kg	NC	50
Acenaphthene	ND	ND	mg/kg	NC	50
Fluorene	ND	ND	mg/kg	NC	50
Phenanthrene	ND	ND	mg/kg	NC	50
Anthracene	ND	ND	mg/kg	NC	50
Fluoranthene	ND	ND	mg/kg	NC	50
Pyrene	ND	ND	mg/kg	NC	50
Benzo(a)anthracene	ND	ND	mg/kg	NC	50
Chrysene	ND	ND	mg/kg	NC	50
Benzo(b)fluoranthene	ND	ND	mg/kg	NC	50
Benzo(k)fluoranthene	ND	ND	mg/kg	NC	50
Benzo(a)pyrene	ND	ND	mg/kg	NC	50
Indeno(1,2,3-cd)Pyrene	ND	ND	mg/kg	NC	50
Dibenzo(a,h)anthracene	ND	ND	mg/kg	NC	50
Benzo(ghi)perylene	ND	ND	mg/kg	NC	50
Surrogate(s)	Recovery				QC Criteria
Chloro-Octadecane	53.0	52.0	%	2	40-140
o-Terphenyl	70.0	71.0	%	1	40-140
2-Fluorobiphenyl	80.0	77.0	%	4	40-140
2-Bromonaphthalene	77.0	75.0	%	3	40-140

ALPHA ANALYTICAL LABORATORIES  
QUALITY ASSURANCE BATCH SPIKE ANALYSES

Laboratory Job Number: L0403638

Parameter	% Recovery	QC Criteria
Volatile Petroleum Hydrocarbons LCS for sample(s) 01-04 (WG167861)		
Benzene	90	70-130
Toluene	84	70-130
Ethylbenzene	86	70-130
p/m-Xylene	83	70-130
o-Xylene	81	70-130
Methyl tert butyl ether	87	70-130
Naphthalene	86	70-130
Surrogate(s)		
2,5-Dibromotoluene-PID	100	70-130
2,5-Dibromotoluene-FID	108	70-130
Extractable Petroleum Hydrocarbons LCS for sample(s) 01-04 (WG167684)		
Naphthalene	59	40-140
Acenaphthene	63	40-140
Anthracene	80	40-140
Pyrene	83	40-140
Chrysene	87	40-140
Nonane (C9)	56	40-140
Tetradecane (C14)	63	40-140
Nonadecane (C19)	84	40-140
Eicosane (C20)	82	40-140
Octacosane (C28)	80	40-140
Surrogate(s)		
Chloro-Octadecane	60	40-140
o-Terphenyl	83	40-140
2-Fluorobiphenyl	83	40-140
2-Bromonaphthalene	79	40-140



ALPHA ANALYTICAL LABORATORIES  
 QUALITY ASSURANCE BATCH BLANK ANALYSIS

Laboratory Job Number: L0403638

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Blank Analysis for sample(s) 01-04 (WG167861-3)							
Volatile Petroleum Hydrocarbons				47 98-1	0414 09:38 MM		
C5-C8 Aliphatics, Unadjusted	ND	mg/kg	2.00				
C9-C12 Aliphatics, Unadjusted	ND	mg/kg	2.00				
C9-C10 Aromatics	ND	mg/kg	2.00				
C5-C8 Aliphatics, Adjusted	ND	mg/kg	2.00				
C9-C12 Aliphatics, Adjusted	ND	mg/kg	2.00				
Benzene	ND	mg/kg	0.100				
Toluene	ND	mg/kg	0.100				
Ethylbenzene	ND	mg/kg	0.100				
p/m-Xylene	ND	mg/kg	0.100				
o-Xylene	ND	mg/kg	0.100				
Methyl tert butyl ether	ND	mg/kg	0.200				
Naphthalene	ND	mg/kg	1.00				
Surrogate(s)		Recovery		QC Criteria			
2,5-Dibromotoluene-PID	115.	%	70-130				
2,5-Dibromotoluene-FID	123.	%	70-130				
Blank Analysis for sample(s) 01-04 (WG167684-1)							
Extractable Petroleum Hydrocarbons				46 98-1	0413 19:45 0414 15:56 LL		
C9-C18 Aliphatics	ND	mg/kg	10.0				
C19-C36 Aliphatics	ND	mg/kg	10.0				
C11-C22 Aromatics, Unadjusted	ND	mg/kg	10.0				
C11-C22 Aromatics, Adjusted	ND	mg/kg	10.0				
Naphthalene	ND	mg/kg	0.500				
2-Methylnaphthalene	ND	mg/kg	0.500				
Acenaphthylene	ND	mg/kg	0.500				
Acenaphthene	ND	mg/kg	0.500				
Fluorene	ND	mg/kg	0.500				
Phenanthrene	ND	mg/kg	0.500				
Anthracene	ND	mg/kg	0.500				
Fluoranthene	ND	mg/kg	0.500				
Pyrene	ND	mg/kg	0.500				
Benzo(a)anthracene	ND	mg/kg	0.500				
Chrysene	ND	mg/kg	0.500				
Benzo(b)fluoranthene	ND	mg/kg	0.500				
Benzo(k)fluoranthene	ND	mg/kg	0.500				
Benzo(a)pyrene	ND	mg/kg	0.500				
Indeno(1,2,3-cd)Pyrene	ND	mg/kg	0.500				
Dibenzo(a,h)anthracene	ND	mg/kg	0.500				
Benzo(g,h,i)perylene	ND	mg/kg	0.500				
Surrogate(s)		Recovery		QC Criteria			
Chloro-Octadecane	61.0	%	40-140				
o-Terphenyl	77.0	%	40-140				
2-Fluorobiphenyl	78.0	%	40-140				
2-Bromonaphthalene	75.0	%	40-140				

ALPHA ANALYTICAL LABORATORIES  
ADDENDUM I

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REFERENCES

30. Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WPCF. 18th Edition. 1992.
46. Method for the Determination of Extractable Petroleum Hydrocarbons (EPH), Massachusetts Department of Environmental Protection, (MADEP-EPH-98-1), January 1998.
47. Method for the Determination of Volatile Petroleum Hydrocarbons (VPH), Massachusetts Department of Environmental Protection, (MADEP-VPH-98-1), January 1998.

GLOSSARY OF TERMS AND SYMBOLS

REF Reference number in which test method may be found.  
METHOD Method number by which analysis was performed.  
ID Initials of the analyst.  
ND Not detected in comparison to the reported detection limit.

Please note that all solid samples are reported on dry weight basis unless noted otherwise.

LIMITATION OF LIABILITIES

Alpha Analytical, Inc. performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical, Inc., shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical, Inc. be held liable for any incidental consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical, Inc.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding times and splitting of samples in the field.

ALPHA ANALYTICAL LABORATORIES  
LOGIN SPECIFIC INFORMATION

Laboratory Job Number: L0403638

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Were project specific reporting limits specified? YES

Cooler Information

Cooler	Custody Seal
A	Absent

Container Information

Container ID	Container Type	Cooler	pH	Temp	Pres	Seal	Analysis
L0403638-01A	Vial MeOH preserved	A	N/A	2.9 C	Y	Absent	VPH-DELUX
L0403638-01B	Amber 250ml unpreserved	A	N/A	2.9 C	Y	Absent	EPH-DELUX, TS
L0403638-02A	Vial MeOH preserved	A	N/A	2.9 C	Y	Absent	VPH-DELUX
L0403638-02B	Amber 250ml unpreserved	A	N/A	2.9 C	Y	Absent	EPH-DELUX, TS
L0403638-03A	Vial MeOH preserved	A	N/A	2.9 C	Y	Absent	VPH-DELUX
L0403638-03B	Amber 250ml unpreserved	A	N/A	2.9 C	Y	Absent	EPH-DELUX, TS
L0403638-04A	Vial MeOH preserved	A	N/A	2.9 C	Y	Absent	VPH-DELUX
L0403638-04B	Amber 250ml unpreserved	A	N/A	2.9 C	Y	Absent	EPH-DELUX, TS

Container Comments

Container ID	Comments
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Haley & Aldrich, Inc.  
465 Medford St,  
Suite 2200,  
Boston, MA 02129-1400

# CHAIN OF CUSTODY RECORD

Phone (617) 886-7400  
Fax (617) 886-7600

Page 1 of 1

H&A FILE NO. 30600-000  
PROJECT NAME Severn River  
H&A CONTACT Steve Poverock  
LABORATORY ADDRESS HALE  
CONTACT

DELIVERY DATE 4/13/04  
TURNAROUND TIME 2 Days  
PROJECT MANAGER John Murray

Sample No.	Date	Time	Depth	Type	Analysis Requested										Number of Containers	Comments (Special instructions, precautions, additional method numbers, etc.)		
					VOA	ABNs PAH only	MCP Metals	Pesticides PCBs	VPs Full Suite C-ranges only	GH Full Suite C-ranges only	LPH (specify)	TCLP (specify)	Reactivity/Ignitability	Corrosivity				
1204-COXC-BOT6-S1	4/13/04	10:07	4	50pc													2	Laboratory to use applicable DEP CAM methods, unless otherwise directed.
1204-COXC-NK04-S2		11:50	4-6														2	DEP EDH/UPH & TALKER ANALYSES.
1204-COXC-SS04-S2		11:51															2	
1204-COXC-WS04-S2		11:52															2	

Sampled and Relinquished by		Received by		Relinquished by		Received by		Relinquished by		Received by	
Sign	Print	Sign	Print	Sign	Print	Sign	Print	Sign	Print	Sign	Print
<i>[Signature]</i>	Tom Berman	<i>[Signature]</i>	Christina Russo	<i>[Signature]</i>	Christina Russo	<i>[Signature]</i>	Christina Russo	<i>[Signature]</i>	Christina Russo	<i>[Signature]</i>	Christina Russo
Date	4/13/04 Time 14:30	Date	4/13/04 Time 14:30	Date	4/13/04 Time 14:30	Date	4/13/04 Time 14:30	Date	4/13/04 Time 14:30	Date	4/13/04 Time 14:30

**LIQUID**

VOA Vial Amber Glass  
Amber Glass  
Plastic Bottle  
Preservative  
Volume

**SOLID**

VOA Vial Amber Glass  
Amber Glass  
Clear Glass  
Preservative  
Volume

**PRESERVATION KEY**

A Sample chilled  
B Sample filtered  
C NaOH  
D HNO<sub>3</sub>  
E H<sub>2</sub>SO<sub>4</sub>  
F HCL  
G Methanol  
H Water/NaHSO<sub>4</sub> (acetic)

**IF Presumptive Certainty Data Package is needed, initial all sections:**

The required minimum field QC samples, as designated in BWSC CAM-VII have been or will be collected, as appropriate, to meet the requirements of Presumptive Certainty.

Matrix Spike (MS) samples for MCP Metals and/or Cyanide are included and identified herein.

This Chain of Custody Record (specify) HA the units HA does not include samples defined as Drinking Water Samples.

If this Chain of Custody Record identifies samples defined as Drinking Water Samples, Trip Blanks and Field Duplicates are included and identified and analysis of TICs are required, as appropriate. Laboratory should (specify if applicable) analyze hold for contingency testing the Drinking Water Field Duplicate and Drinking Water Trip Blank samples.

Required Reporting Limits and Data Quality

Objective  RC-SI  RC-S2  RC-GW1  RC-GW2  S1  S2  S3  GW1  GW2  GW3

**APPENDIX E**

**Copies of Laboratory Data Sheets – Groundwater Samples**

ALPHA ANALYTICAL LABORATORIES

Eight Walkup Drive  
Westborough, Massachusetts 01581-1019  
(508) 898-9220 www.alphalab.com

MA:M-MA086 NH:200301-A CT:PH-0574 ME:MA086 RI:65 NY:11148 NJ:MA935 Army:USACE

CERTIFICATE OF ANALYSIS

Client: Haley & Aldrich, Inc. Laboratory Job Number: L0400549  
Address: 465 Medford Street, Suite 2200  
Boston, MA 02129-1400 Date Received: 22-JAN-2004  
Attn: Mr. Steve Provencal Date Reported: 05-FEB-2004  
Project Number: 30660-000 Delivery Method: Alpha  
Site: BURBANK SCHOOL

The following questions pertain only to MCP Analytical Methods

An affirmative response to questions A,B,C & D is required for "Presumptive Certainty" status

- A. Were all samples received by the laboratory in a condition consistent with those described on their Chain-of-Custody documentation for the data set? YES
- B. Were all QA/QC procedures required for the specified analytical method(s) included in this report followed, including the requirement to note and discuss in a narrative QC data that did not meet appropriate performance standards or guidelines? YES
- C. Does the analytical data included in this report meet all the requirements for "Presumptive Certainty", as described in section 2.0 of the MADEP document CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data"? YES
- D. VPH and EPH methods only: Was the VPH or EPH method run without significant modifications, as specified in Section 11.3? YES

A response to questions E and F is required for "Presumptive Certainty" status

- E. Were all QC performance standards and recommendations for the specified method(s) achieved? NO
- F. Were results for all analyte-list compounds/elements for the specified method(s) reported? YES

Any answers of NO to the above questions are addressed in the case narrative.

I, the undersigned, attest under the pains and penalties of perjury that, based upon my personal inquiry of those responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized by: Scott McLean  
This document electronically signed

ALPHA ANALYTICAL LABORATORIES

Laboratory Job Number: L0400549  
Date Reported: 05-FEB-2004

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ALPHA SAMPLE NUMBER	CLIENT IDENTIFICATION	SAMPLE LOCATION
L0400549-01	HA-3 (OW)	BELMONT, MA
L0400549-02	HA-2 (OW)	BELMONT, MA

ALPHA ANALYTICAL LABORATORIES  
NARRATIVE REPORT

Laboratory Job Number: L0400549

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MCP Related Narratives

Extraction methods

Extraction method 3510C was used as the extraction method for the analysis of EPH by method 98-1.

EPH

In reference to question E, the surrogate % recovery for Chloro-Octadecane (20%) on L0400549-01 is below the acceptance criteria for the method due to sample matrix. The sample was re-extracted and re-analyzed for confirmation. The re-analysis confirmed the original results, and both sets of results are reported.



**ALPHA ANALYTICAL LABORATORIES  
CERTIFICATE OF ANALYSIS**

MA:M-MA086 NH:200301-A CT:PH-0574 ME:MA086 RI:65 NY:11148 NJ:MA935 Army:USACE

Laboratory Sample Number: L0400549-01

Date Collected: 22-JAN-2004 10:30

HA-3 (OW)

Date Received : 22-JAN-2004

Sample Matrix: WATER

Date Reported : 05-FEB-2004

Condition of Sample: Satisfactory

Field Prep: None

Number & Type of Containers: 2-Amber,3-Vial

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE PREP ANAL	ID
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Volatile Petroleum Hydrocarbons				47 98-1		0123 17:38 MM
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Quality Control Information

Condition of sample received:	Satisfactory	
Aqueous preservative:	Laboratory Provided Preserved Container	
Sample temperature upon receipt:	Received on Ice	
Were all QA/QC procedures REQUIRED by the method followed?		YES
Were all performance/acceptance standards for the required procedures achieved?		YES
Were significant modifications made to the method as specified in Sect 11.3?		NO
Please note to subtract the method blank from the stated result.		
The normal acceptance range for the surrogate, 2,5-Dibromotoluene, is 70-130%.		

C5-C8 Aliphatics, Unadjusted	ND	ug/l	40.0
C9-C12 Aliphatics, Unadjusted	ND	ug/l	40.0
C9-C10 Aromatics	ND	ug/l	40.0
C5-C8 Aliphatics, Adjusted	ND	ug/l	40.0
C9-C12 Aliphatics, Adjusted	ND	ug/l	40.0
Benzene	ND	ug/l	2.00
Toluene	ND	ug/l	2.00
Ethylbenzene	ND	ug/l	2.00
p/m-Xylene	ND	ug/l	2.00
o-Xylene	ND	ug/l	2.00
Methyl tert butyl ether	ND	ug/l	4.00
Naphthalene	ND	ug/l	20.0

Surrogate (s)	Recovery		QC Criteria
2,5-Dibromotoluene-PID	77.0	%	70-130
2,5-Dibromotoluene-FID	80.0	%	70-130

Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES  
CERTIFICATE OF ANALYSIS

Laboratory Sample Number: L0400549-01  
HA-3 (OW)

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE PREP    ANAL	ID
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Extractable Petroleum Hydrocarbons	46 98-1				0126 14:50 0128 21:49	BW
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Quality Control Information

Condition of sample received:	Satisfactory
Aqueous preservative:	Laboratory Provided Preserved Container
Sample temperature upon receipt:	Received on Ice
Sample extraction method:	Extracted Per the Method
Were all QA/QC procedures REQUIRED by the method followed?	YES
Were all performance/acceptance standards for the required procedures achieved?	NO
1. One or more of the extraction surrogate recoveries were less than 40%.	
Were significant modifications made to the method as specified in Sect 11.3?	NO
Please note to subtract the method blank from the stated result.	
The normal acceptance range for the extraction surrogates, Chloro-octadecane and o-Terphenyl, is 40-140%.	
The normal acceptance range for the fractionation surrogates, 2-Fluorobiphenyl and 2-Bromonaphthalene, is 40-140%.	

C9-C18 Aliphatics	ND	ug/l	100.
C19-C36 Aliphatics	116.	ug/l	100.
C11-C22 Aromatics, Unadjusted	198.	ug/l	100.
C11-C22 Aromatics, Adjusted	198.	ug/l	100.
Naphthalene	ND	ug/l	20.0
2-Methylnaphthalene	ND	ug/l	20.0
Acenaphthylene	ND	ug/l	20.0
Acenaphthene	ND	ug/l	20.0
Fluorene	ND	ug/l	20.0
Phenanthrene	ND	ug/l	20.0
Anthracene	ND	ug/l	20.0
Fluoranthene	ND	ug/l	20.0
Pyrene	ND	ug/l	20.0
Benzo (a) anthracene	ND	ug/l	20.0
Chrysene	ND	ug/l	20.0
Benzo (b) fluoranthene	ND	ug/l	20.0
Benzo (k) fluoranthene	ND	ug/l	20.0
Benzo (a) pyrene	ND	ug/l	20.0
Indeno (1,2,3-cd) Pyrene	ND	ug/l	20.0
Dibenzo (a,h) anthracene	ND	ug/l	20.0
Benzo (g,h,i) perylene	ND	ug/l	20.0

Surrogate(s)	Recovery	%	QC Criteria
Chloro-Octadecane	20.0	%	40-140
o-Terphenyl	77.0	%	40-140
2-Fluorobiphenyl	67.0	%	40-140
2-Bromonaphthalene	71.0	%	40-140

Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES  
CERTIFICATE OF ANALYSIS

Laboratory Sample Number: L0400549-01  
HA-3 (OW)

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE PREP      ANAL	ID
Extractable Petroleum Hydrocarbons				46 98-1	0202 10:00 0203 20:43	BW

Quality Control Information

Condition of sample received:	Satisfactory	
Aqueous preservative:	Laboratory Provided Preserved Container	
Sample temperature upon receipt:	Received on Ice	
Sample extraction method:	Extracted Per the Method	
Were all QA/QC procedures REQUIRED by the method followed?		YES
Were all performance/acceptance standards for the required procedures achieved?		NO
1. One or more of the extraction surrogate recoveries were less than 40%.		
Were significant modifications made to the method as specified in Sect 11.3?		NO
Please note to subtract the method blank from the stated result.		
The normal acceptance range for the extraction surrogates, Chloro-octadecane and o-Terphenyl, is 40-140%.		
The normal acceptance range for the fractionation surrogates, 2-Fluorobiphenyl and 2-Bromonaphthalene, is 40-140%.		

C9-C18 Aliphatics	351.	ug/l	118.
C19-C36 Aliphatics	393.	ug/l	118.
C11-C22 Aromatics, Unadjusted	ND	ug/l	118.
C11-C22 Aromatics, Adjusted	ND	ug/l	118.
Naphthalene	ND	ug/l	23.5
2-Methylnaphthalene	ND	ug/l	23.5
Acenaphthylene	ND	ug/l	23.5
Acenaphthene	ND	ug/l	23.5
Fluorene	ND	ug/l	23.5
Phenanthrene	ND	ug/l	23.5
Anthracene	ND	ug/l	23.5
Fluoranthene	ND	ug/l	23.5
Pyrene	ND	ug/l	23.5
Benzo (a) anthracene	ND	ug/l	23.5
Chrysene	ND	ug/l	23.5
Benzo (b) fluoranthene	ND	ug/l	23.5
Benzo (k) fluoranthene	ND	ug/l	23.5
Benzo (a) pyrene	ND	ug/l	23.5
Indeno (1,2,3-cd) Pyrene	ND	ug/l	23.5
Dibenzo (a,h) anthracene	ND	ug/l	23.5
Benzo (g,h,i) perylene	ND	ug/l	23.5

Surrogate (s)	Recovery		QC Criteria
Chloro-Octadecane	26.0	%	40-140
o-Terphenyl	73.0	%	40-140
2-Fluorobiphenyl	70.0	%	40-140
2-Bromonaphthalene	66.0	%	40-140

Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES  
 CERTIFICATE OF ANALYSIS

MA:M-MA086 NH:200301-A CT:PH-0574 ME:MA086 RI:65 NY:11148 NJ:MA935 Army:USACE

Laboratory Sample Number: L0400549-02 Date Collected: 22-JAN-2004 14:40  
 HA-2 (OW) Date Received : 22-JAN-2004  
 Sample Matrix: WATER Date Reported : 05-FEB-2004  
 Condition of Sample: Satisfactory Field Prep: None  
 Number & Type of Containers: 2-Amber, 3-Vial

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Volatile Petroleum Hydrocarbons				47 98-1			0123 18:28 MM

Quality Control Information

Condition of sample received: Satisfactory  
 Aqueous preservative: Laboratory Provided Preserved Container  
 Sample temperature upon receipt: Received on Ice  
 Were all QA/QC procedures REQUIRED by the method followed? YES  
 Were all performance/acceptance standards for the required procedures achieved? YES  
 Were significant modifications made to the method as specified in Sect 11.3? NO  
 Please note to subtract the method blank from the stated result.  
 The normal acceptance range for the surrogate, 2,5-Dibromotoluene, is 70-130%.

C5-C8 Aliphatics, Unadjusted	ND	ug/l	40.0	
C9-C12 Aliphatics, Unadjusted	ND	ug/l	40.0	
C9-C10 Aromatics	ND	ug/l	40.0	
C5-C8 Aliphatics, Adjusted	ND	ug/l	40.0	
C9-C12 Aliphatics, Adjusted	ND	ug/l	40.0	
Benzene	ND	ug/l	2.00	
Toluene	ND	ug/l	2.00	
Ethylbenzene	ND	ug/l	2.00	
p/m-Xylene	ND	ug/l	2.00	
o-Xylene	ND	ug/l	2.00	
Methyl tert butyl ether	ND	ug/l	4.00	
Naphthalene	ND	ug/l	20.0	
Surrogate(s)	Recovery		QC Criteria	
2,5-Dibromotoluene-PID	89.0	%	70-130	
2,5-Dibromotoluene-FID	97.0	%	70-130	

Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES  
CERTIFICATE OF ANALYSIS

Laboratory Sample Number: L0400549-02  
HA-2 (OW)

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	

Extractable Petroleum Hydrocarbons	46 98-1	0126 14:50 0203 16:39	BJ
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Quality Control Information

Condition of sample received:	Satisfactory
Aqueous preservative:	Laboratory Provided Preserved Container
Sample temperature upon receipt:	Received on Ice
Sample extraction method:	Extracted Per the Method
Were all QA/QC procedures REQUIRED by the method followed?	YES
Were all performance/acceptance standards for the required procedures achieved?	YES
Were significant modifications made to the method as specified in Sect 11.3?	NO

Please note to subtract the method blank from the stated result.  
The normal acceptance range for the extraction surrogates, Chloro-octadecane and o-Terphenyl, is 40-140%.  
The normal acceptance range for the fractionation surrogates, 2-Fluorobiphenyl and 2-Bromonaphthalene, is 40-140%.

C9-C18 Aliphatics	ND	ug/l	100.
C19-C36 Aliphatics	ND	ug/l	100.
C11-C22 Aromatics, Unadjusted	ND	ug/l	100.
C11-C22 Aromatics, Adjusted	ND	ug/l	100.
Naphthalene	ND	ug/l	20.0
2-Methylnaphthalene	ND	ug/l	20.0
Acenaphthylene	ND	ug/l	20.0
Acenaphthene	ND	ug/l	20.0
Fluorene	ND	ug/l	20.0
Phenanthrene	ND	ug/l	20.0
Anthracene	ND	ug/l	20.0
Fluoranthene	ND	ug/l	20.0
Pyrene	ND	ug/l	20.0
Benzo(a)anthracene	ND	ug/l	20.0
Chrysene	ND	ug/l	20.0
Benzo(b)fluoranthene	ND	ug/l	20.0
Benzo(k)fluoranthene	ND	ug/l	20.0
Benzo(a)pyrene	ND	ug/l	20.0
Indeno(1,2,3-cd)Pyrene	ND	ug/l	20.0
Dibenzo(a,h)anthracene	ND	ug/l	20.0
Benzo(g,h,i)perylene	ND	ug/l	20.0

Surrogate(s)	Recovery		QC Criteria
Chloro-Octadecane	65.0	%	40-140
o-Terphenyl	76.0	%	40-140
2-Fluorobiphenyl	72.0	%	40-140
2-Bromonaphthalene	73.0	%	40-140

Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES  
QUALITY ASSURANCE BATCH DUPLICATE ANALYSIS

Laboratory Job Number: L0400549

Parameter	Value 1	Value 2	Units	RPD	RPD Limits
Volatile Petroleum Hydrocarbons for sample(s) 01-02 (L0400510-01, WG161630)					
C5-C8 Aliphatics	ND	ND	ug/l	NC	50
C9-C12 Aliphatics	54.9	61.0	ug/l	11	50
C9-C10 Aromatics	41.8	48.7	ug/l	15	50
C5-C8 Aliphatics, Adjusted	ND	ND	ug/l	NC	50
C9-C12 Aliphatics, Adjusted	ND	ND	ug/l	NC	50
Benzene	3.73	3.58	ug/l	4	50
Toluene	ND	ND	ug/l	NC	50
Ethylbenzene	ND	ND	ug/l	NC	50
p/m-Xylene	ND	ND	ug/l	NC	50
o-Xylene	ND	ND	ug/l	NC	50
Methyl tert butyl ether	ND	ND	ug/l	NC	50
Naphthalene	ND	ND	ug/l	NC	50
Surrogate(s)	Recovery				QC Criteria
2,5-Dibromotoluene-PID	96.0	94.0	%	2	70-130
2,5-Dibromotoluene-FID	109.	98.0	%	11	70-130
Extractable Petroleum Hydrocarbons for sample(s) 02 (L0400599-03, WG161692)					
C9-C18 Aliphatics	ND	ND	ug/l	NC	50
C19-C36 Aliphatics	ND	ND	ug/l	NC	50
C11-C22 Aromatics	ND	ND	ug/l	NC	50
C11-C22 Aromatics, Adjusted	ND	ND	ug/l	NC	50
Naphthalene	ND	ND	ug/l	NC	50
2-Methylnaphthalene	ND	ND	ug/l	NC	50
Acenaphthylene	ND	ND	ug/l	NC	50
Acenaphthene	ND	ND	ug/l	NC	50
Fluorene	ND	ND	ug/l	NC	50
Phenanthrene	ND	ND	ug/l	NC	50
Anthracene	ND	ND	ug/l	NC	50
Fluoranthene	ND	ND	ug/l	NC	50
Pyrene	ND	ND	ug/l	NC	50
Benzo(a)anthracene	ND	ND	ug/l	NC	50
Chrysene	ND	ND	ug/l	NC	50
Benzo(b)fluoranthene	ND	ND	ug/l	NC	50
Benzo(k)fluoranthene	ND	ND	ug/l	NC	50
Benzo(a)pyrene	ND	ND	ug/l	NC	50
Indeno(1,2,3-cd)Pyrene	ND	ND	ug/l	NC	50
Dibenzo(a,h)anthracene	ND	ND	ug/l	NC	50
Benzo(ghi)perylene	ND	ND	ug/l	NC	50
Surrogate(s)	Recovery				QC Criteria
Chloro-Octadecane	51.0	60.0	%	16	40-140
o-Terphenyl	76.0	71.0	%	7	40-140
2-Fluorobiphenyl	73.0	68.0	%	7	40-140
2-Bromonaphthalene	73.0	67.0	%	9	40-140

ALPHA ANALYTICAL LABORATORIES  
 QUALITY ASSURANCE BATCH DUPLICATE ANALYSIS

Laboratory Job Number: L0400549

Continued

Parameter	Value 1	Value 2	Units	RPD	RPD Limits
Extractable Petroleum Hydrocarbons for sample(s) 01 (L0400776-01, WG162069)					
C9-C18 Aliphatics	143.	172.	ug/l	18	50
C19-C36 Aliphatics	ND	ND	ug/l	NC	50
C11-C22 Aromatics	261.	307.	ug/l	16	50
C11-C22 Aromatics, Adjusted	261.	307.	ug/l	16	50
Naphthalene	ND	ND	ug/l	NC	50
2-Methylnaphthalene	ND	ND	ug/l	NC	50
Acenaphthylene	ND	ND	ug/l	NC	50
Acenaphthene	ND	ND	ug/l	NC	50
Fluorene	ND	ND	ug/l	NC	50
Phenanthrene	ND	ND	ug/l	NC	50
Anthracene	ND	ND	ug/l	NC	50
Fluoranthene	ND	ND	ug/l	NC	50
Pyrene	ND	ND	ug/l	NC	50
Benzo(a)anthracene	ND	ND	ug/l	NC	50
Chrysene	ND	ND	ug/l	NC	50
Benzo(b)fluoranthene	ND	ND	ug/l	NC	50
Benzo(k)fluoranthene	ND	ND	ug/l	NC	50
Benzo(a)pyrene	ND	ND	ug/l	NC	50
Indeno(1,2,3-cd)Pyrene	ND	ND	ug/l	NC	50
Dibenzo(a,h)anthracene	ND	ND	ug/l	NC	50
Benzo(ghi)perylene	ND	ND	ug/l	NC	50
Surrogate(s)	Recovery				QC Criteria
Chloro-Octadecane	58.0	58.0	%	0	40-140
o-Terphenyl	79.0	78.0	%	1	40-140
2-Fluorobiphenyl	71.0	72.0	%	1	40-140
2-Bromonaphthalene	73.0	75.0	%	3	40-140

ALPHA ANALYTICAL LABORATORIES  
QUALITY ASSURANCE BATCH SPIKE ANALYSES

Laboratory Job Number: L0400549

Parameter	% Recovery	QC Criteria
Volatile Petroleum Hydrocarbons LCS for sample(s) 01-02 (WG161630)		
Benzene	90	70-130
Toluene	95	70-130
Ethylbenzene	97	70-130
p/m-Xylene	96	70-130
o-Xylene	94	70-130
Methyl tert butyl ether	100	70-130
Naphthalene	96	70-130
Surrogate(s)		
2,5-Dibromotoluene-PID	99	70-130
2,5-Dibromotoluene-FID	107	70-130
Extractable Petroleum Hydrocarbons LCS for sample(s) 02 (WG161692)		
Naphthalene	48	40-140
Acenaphthene	57	40-140
Anthracene	73	40-140
Pyrene	80	40-140
Chrysene	84	40-140
Nonane (C9)	51	40-140
Tetradecane (C14)	64	40-140
Nonadecane (C19)	76	40-140
Eicosane (C20)	77	40-140
Octacosane (C28)	75	40-140
Surrogate(s)		
Chloro-Octadecane	70	40-140
o-Terphenyl	79	40-140
2-Fluorobiphenyl	68	40-140
2-Bromonaphthalene	61	40-140
Extractable Petroleum Hydrocarbons LCS for sample(s) 01 (WG162069)		
Naphthalene	59	40-140
Acenaphthene	67	40-140
Anthracene	74	40-140
Pyrene	81	40-140
Chrysene	84	40-140
Nonane (C9)	45	40-140
Tetradecane (C14)	62	40-140
Nonadecane (C19)	72	40-140
Eicosane (C20)	73	40-140
Octacosane (C28)	72	40-140
Surrogate(s)		
Chloro-Octadecane	60	40-140
o-Terphenyl	81	40-140
2-Fluorobiphenyl	70	40-140
2-Bromonaphthalene	70	40-140



ALPHA ANALYTICAL LABORATORIES  
QUALITY ASSURANCE BATCH BLANK ANALYSIS

Laboratory Job Number: L0400549

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Blank Analysis for sample(s) 01-02 (WG161630-3)							
Volatile Petroleum Hydrocarbons				47 98-1		0123 09:16	MM
C5-C8 Aliphatics, Unadjusted	ND	ug/l	40.0				
C9-C12 Aliphatics, Unadjusted	ND	ug/l	40.0				
C9-C10 Aromatics	ND	ug/l	40.0				
C5-C8 Aliphatics, Adjusted	ND	ug/l	40.0				
C9-C12 Aliphatics, Adjusted	ND	ug/l	40.0				
Benzene	ND	ug/l	2.00				
Toluene	ND	ug/l	2.00				
Ethylbenzene	ND	ug/l	2.00				
p/m-Xylene	ND	ug/l	2.00				
o-Xylene	ND	ug/l	2.00				
Methyl tert butyl ether	ND	ug/l	4.00				
Naphthalene	ND	ug/l	20.0				
Surrogate (s)	Recovery			QC Criteria			
2,5-Dibromotoluene-PID	100.	%		70-130			
2,5-Dibromotoluene-FID	107.	%		70-130			
Blank Analysis for sample(s) 02 (WG161692-1)							
Extractable Petroleum Hydrocarbons				46 98-1		0126 14:50	0127 10:46 BJ
C9-C18 Aliphatics	ND	ug/l	100.				
C19-C36 Aliphatics	ND	ug/l	100.				
C11-C22 Aromatics, Unadjusted	ND	ug/l	100.				
C11-C22 Aromatics, Adjusted	ND	ug/l	100.				
Naphthalene	ND	ug/l	20.0				
2-Methylnaphthalene	ND	ug/l	20.0				
Acenaphthylene	ND	ug/l	20.0				
Acenaphthene	ND	ug/l	20.0				
Fluorene	ND	ug/l	20.0				
Phenanthrene	ND	ug/l	20.0				
Anthracene	ND	ug/l	20.0				
Fluoranthene	ND	ug/l	20.0				
Pyrene	ND	ug/l	20.0				
Benzo(a)anthracene	ND	ug/l	20.0				
Chrysene	ND	ug/l	20.0				
Benzo(b)fluoranthene	ND	ug/l	20.0				
Benzo(k)fluoranthene	ND	ug/l	20.0				
Benzo(a)pyrene	ND	ug/l	20.0				
Indeno(1,2,3-cd)Pyrene	ND	ug/l	20.0				
Dibenzo(a,h)anthracene	ND	ug/l	20.0				
Benzo(g,h,i)perylene	ND	ug/l	20.0				
Surrogate (s)	Recovery			QC Criteria			
Chloro-Octadecane	61.0	%		40-140			
o-Terphenyl	66.0	%		40-140			
2-Fluorobiphenyl	64.0	%		40-140			
2-Bromonaphthalene	65.0	%		40-140			

ALPHA ANALYTICAL LABORATORIES  
QUALITY ASSURANCE BATCH BLANK ANALYSIS

Laboratory Job Number: L0400549

Continued

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Blank Analysis for sample(s) 01 (WG162069-1)							
Extractable Petroleum Hydrocarbons				46 98-1		0202 10:00	0203 17:28 BW
C9-C18 Aliphatics	ND	ug/l	100.				
C19-C36 Aliphatics	ND	ug/l	100.				
C11-C22 Aromatics, Unadjusted	ND	ug/l	100.				
C11-C22 Aromatics, Adjusted	ND	ug/l	100.				
Naphthalene	ND	ug/l	20.0				
2-Methylnaphthalene	ND	ug/l	20.0				
Acenaphthylene	ND	ug/l	20.0				
Acenaphthene	ND	ug/l	20.0				
Fluorene	ND	ug/l	20.0				
Phenanthrene	ND	ug/l	20.0				
Anthracene	ND	ug/l	20.0				
Fluoranthene	ND	ug/l	20.0				
Pyrene	ND	ug/l	20.0				
Benzo (a) anthracene	ND	ug/l	20.0				
Chrysene	ND	ug/l	20.0				
Benzo (b) fluoranthene	ND	ug/l	20.0				
Benzo (k) fluoranthene	ND	ug/l	20.0				
Benzo (a) pyrene	ND	ug/l	20.0				
Indeno (1, 2, 3-cd) Pyrene	ND	ug/l	20.0				
Dibenzo (a, h) anthracene	ND	ug/l	20.0				
Benzo (g, h, i) perylene	ND	ug/l	20.0				
Surrogate (s)	Recovery			QC Criteria			
Chloro-Octadecane	70.0	%		40-140			
o-Terphenyl	73.0	%		40-140			
2-Fluorobiphenyl	70.0	%		40-140			
2-Bromonaphthalene	64.0	%		40-140			

**ALPHA ANALYTICAL LABORATORIES**  
**ADDENDUM I**

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**REFERENCES**

46. Method for the Determination of Extractable Petroleum Hydrocarbons (EPH), Massachusetts Department of Environmental Protection, (MADEP-EPH-98-1), January 1998.
47. Method for the Determination of Volatile Petroleum Hydrocarbons (VPH), Massachusetts Department of Environmental Protection, (MADEP-VPH-98-1), January 1998.

**GLOSSARY OF TERMS AND SYMBOLS**

REF Reference number in which test method may be found.  
METHOD Method number by which analysis was performed.  
ID Initials of the analyst.  
ND Not detected in comparison to the reported detection limit.

Please note that all solid samples are reported on dry weight basis unless noted otherwise.

**LIMITATION OF LIABILITIES**

Alpha Analytical, Inc. performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical, Inc., shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical, Inc. be held liable for any incidental consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical, Inc.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding times and splitting of samples in the field.

ALPHA ANALYTICAL LABORATORIES  
LOGIN SPECIFIC INFORMATION

Laboratory Job Number: L0400549

Were project specific reporting limits specified? YES

Cooler Information

Cooler	Custody Seal
A	Absent

Container Information

Container ID	Container Type	Cooler	pH	Temp	Pres	Seal	Analysis
L0400549-01A	Vial HCl preserved	A	NA	2.4 C	Y	Absent	VPH-DELUX
L0400549-01B	Vial HCl preserved	A	NA	2.4 C	Y	Absent	VPH-DELUX
L0400549-01C	Vial HCl preserved	A	NA	2.4 C	Y	Absent	VPH-DELUX
L0400549-01D	Amber 1000ml HCl preserved	A	<2	2.4 C	Y	Absent	EPH-DELUX
L0400549-01E	Amber 1000ml HCl preserved	A	<2	2.4 C	Y	Absent	EPH-DELUX
L0400549-02A	Vial HCl preserved	A	NA	2.4 C	Y	Absent	VPH-DELUX
L0400549-02B	Vial HCl preserved	A	NA	2.4 C	Y	Absent	VPH-DELUX
L0400549-02C	Vial HCl preserved	A	NA	2.4 C	Y	Absent	VPH-DELUX
L0400549-02D	Amber 1000ml HCl preserved	A	<2	2.4 C	Y	Absent	EPH-DELUX
L0400549-02E	Amber 1000ml HCl preserved	A	<2	2.4 C	Y	Absent	EPH-DELUX

Container Comments

Container ID	Comments
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# CHAIN OF CUSTODY RECORD

H&A FILE NO. 30660-000 LABORATORY Alpink DELIVERY DATE \_\_\_\_\_  
 PROJECT NAME Buttrick School ADDRESS Westerboro TURNAROUND TIME 10 DAY  
 H&A CONTACT Steve Tremont CONTACT \_\_\_\_\_ PROJECT MANAGER J. Mooney

Sample No.	Date	Time	Depth	Type	Analysis Requested										Number of Containers	Comments (special instructions, precautions, additional method numbers, etc.)		
					VOA	ABNs PAH only	MCP Metals	Pesticides PCBs	VPH > Pmt-Bottle C-ranges only	EPH > Pmt-Suite C-ranges only	TPH (specify)	TCLP (specify)	Reactivity	Ignitability			Corrosivity	
HA-3(6w)	1/22/04	10:30	-	Air													5	Laboratory to use applicable DEP CAM methods, unless otherwise directed.
HA-2(6w)	↓	1440	-	Air													5	EPH + Target Analytes VPH + Target Analytes
<b>TEN TOTAL</b>																		

Sampled and Relinquished by	Received by	LIQUID						SOLID						
		Sign	Print	Firm	Date	Time	Volume	Sign	Print	Firm	Date	Time	Volume	
Matthew Rodson 1/22/04 13:25	Steve Tremont 1/22/04 10:30	X	X	X	X	X	X	X	X	X	X	X	X	X
Matthew Rodson 1/22/04 13:25	Steve Tremont 1/22/04 10:30	FA	FA	FA	FA	FA	FA	FA	FA	FA	FA	FA	FA	

**PRESCRIPTION KEY**  
 A Sample chilled C NaOH E H<sub>2</sub>SO<sub>4</sub> G Methanol  
 B Sample filtered D HNO<sub>3</sub> F HCL H Water/NaHSO<sub>4</sub> (circle)

**Required Reporting Limits and Data Quality Objectives**  
 RC-S1  S1  GW1  
 RC-S2  S2  GW2  
 RC-GW1  S3  GW3  
 RC-GW2

**Presumptive Certainty Data Package (Laboratory to use applicable DEP CAM methods)**  
 If Presumptive Certainty Data Package is needed, initial all sections: MJD  
 The required minimum field QC samples, as designated in BWSC CAM-VII have been or will be collected, as appropriate, to meet the requirements of Presumptive Certainty.  
 Matrix Spike (MS) samples for MCP Metals and/or Cyanide are included and identified herein: \_\_\_\_\_  
 This Chain of Custody Record (specify) \_\_\_\_\_ includes \_\_\_\_\_ X does not include samples defined as Drinking Water Samples.  
 If this Chain of Custody Record identifies samples defined as Drinking Water Samples, Trip Blanks and Field Duplicates are included and identified and analysis of TICs are required, as appropriate. Laboratory should (specify if applicable) \_\_\_\_\_ analyze \_\_\_\_\_ hold for contingency testing the Drinking Water Field Duplicate and Drinking Water Trip Blank samples.

ALPHA ANALYTICAL LABORATORIES

Eight Walkup Drive  
Westborough, Massachusetts 01581-1019  
(508) 898-9220 www.alphalab.com

MA:M-MA086 NH:200301-A CT:PH-0574 ME:MA086 RI:65 NY:11148 NJ:MA935 Army:USACE

CERTIFICATE OF ANALYSIS

Client: Haley & Aldrich, Inc. Laboratory Job Number: L0400785  
Address: 465 Medford Street, Suite 2200  
Boston, MA 02129-1400 Date Received: 30-JAN-2004  
Attn: Mr. Steve Provencal Date Reported: 12-FEB-2004  
Project Number: 30660-000 Delivery Method: Alpha  
Site: BURBANK SCHOOL

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The following questions pertain only to MCP Analytical Methods

An affirmative response to questions A,B,C & D is required for "Presumptive Certainty" status

- A. Were all samples received by the laboratory in a condition consistent with those described on their Chain-of-Custody documentation for the data set? YES
- B. Were all QA/QC procedures required for the specified analytical method(s) included in this report followed, including the requirement to note and discuss in a narrative QC data that did not meet appropriate performance standards or guidelines? YES
- C. Does the analytical data included in this report meet all the requirements for "Presumptive Certainty", as described in section 2.0 of the MADEP document CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data"? YES
- D. VPH and EPH methods only: Was the VPH or EPH method run without significant modifications, as specified in Section 11.3? YES

A response to questions E and F is required for "Presumptive Certainty" status

- E. Were all QC performance standards and recommendations for the specified method(s) achieved? NO
- F. Were results for all analyte-list compounds/elements for the specified method(s) reported? YES

Any answers of NO to the above questions are addressed in the case narrative.

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I, the undersigned, attest under the pains and penalties of perjury that, based upon my personal inquiry of those responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

---

Authorized by: Scott McLean  
This document electronically signed

ALPHA ANALYTICAL LABORATORIES

Laboratory Job Number: L0400785  
Date Reported: 12-FEB-2004

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ALPHA SAMPLE NUMBER	CLIENT IDENTIFICATION	SAMPLE LOCATION
L0400785-01	HA-1 (OW)	BELMONT, MA

ALPHA ANALYTICAL LABORATORIES  
NARRATIVE REPORT

Laboratory Job Number: L0400785

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MCP Related Narratives

Extraction methods

Extraction method 3510C was used as the extraction method for the analysis of EPH.

EPH

In reference to question E, the surrogate percent recovery for chloro-octadecane is below the acceptance criteria for the method, apparently due to sample matrix. Re-extract confirmed and re-analysis confirmed the original results. The results of the original analysis are reported.



ALPHA ANALYTICAL LABORATORIES  
CERTIFICATE OF ANALYSIS

MA:M-MA086 NH:200301-A CT:PH-0574 ME:MA086 RI:65 NY:11148 NJ:MA935 Army:USACE

Laboratory Sample Number: L0400785-01  
HA-1 (OW)  
Sample Matrix: WATER

Date Collected: 30-JAN-2004 13:45  
Date Received : 30-JAN-2004  
Date Reported : 12-FEB-2004

Condition of Sample: Satisfactory

Field Prep: None

Number & Type of Containers: 2-Amber, 3-Vial

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE PREP	ID ANAL
Volatile Petroleum Hydrocarbons			47	98-1		0203 19:16 MM

Quality Control Information

Condition of sample received: Satisfactory  
Aqueous preservative: Laboratory Provided Preserved Container  
Sample temperature upon receipt: Received on Ice  
Were all QA/QC procedures REQUIRED by the method followed? YES  
Were all performance/acceptance standards for the required procedures achieved? YES  
Were significant modifications made to the method as specified in Sect 11.3? NO  
Please note to subtract the method blank from the stated result.  
The normal acceptance range for the surrogate, 2,5-Dibromotoluene, is 70-130%.

C5-C8 Aliphatics, Unadjusted	ND	ug/l	40.0
C9-C12 Aliphatics, Unadjusted	ND	ug/l	40.0
C9-C10 Aromatics	ND	ug/l	40.0
C5-C8 Aliphatics, Adjusted	ND	ug/l	40.0
C9-C12 Aliphatics, Adjusted	ND	ug/l	40.0
Benzene	ND	ug/l	2.00
Toluene	ND	ug/l	2.00
Ethylbenzene	ND	ug/l	2.00
p/m-Xylene	ND	ug/l	2.00
o-Xylene	ND	ug/l	2.00
Methyl tert butyl ether	ND	ug/l	4.00
Naphthalene	ND	ug/l	20.0
Surrogate(s)	Recovery		QC Criteria
2,5-Dibromotoluene-PID	91.0	%	70-130
2,5-Dibromotoluene-FID	91.0	%	70-130

Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES  
CERTIFICATE OF ANALYSIS

Laboratory Sample Number: L0400785-01  
HA-1 (OW)

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	

Extractable Petroleum Hydrocarbons				46 98-1	0202 10:00	0212 08:21	BW
------------------------------------	--	--	--	---------	------------	------------	----

Quality Control Information

Condition of sample received:	Satisfactory	
Aqueous preservative:	Laboratory Provided Preserved Container	
Sample temperature upon receipt:	Received on Ice	
Sample extraction method:	Extracted Per the Method	
Were all QA/QC procedures REQUIRED by the method followed?		YES
Were all performance/acceptance standards for the required procedures achieved?		NO
1. One or more of the extraction surrogate recoveries were less than 40%.		
Were significant modifications made to the method as specified in Sect 11.3?		NO
Please note to subtract the method blank from the stated result.		
The normal acceptance range for the extraction surrogates, Chloro-octadecane and o-Terphenyl, is 40-140%.		
The normal acceptance range for the fractionation surrogates, 2-Fluorobiphenyl and 2-Bromonaphthalene, is 40-140%.		

C9-C18 Aliphatics	ND	ug/l	100.
C19-C36 Aliphatics	ND	ug/l	100.
C11-C22 Aromatics, Unadjusted	ND	ug/l	100.
C11-C22 Aromatics, Adjusted	ND	ug/l	100.
Naphthalene	ND	ug/l	20.0
2-Methylnaphthalene	ND	ug/l	20.0
Acenaphthylene	ND	ug/l	20.0
Acenaphthene	ND	ug/l	20.0
Fluorene	ND	ug/l	20.0
Phenanthrene	ND	ug/l	20.0
Anthracene	ND	ug/l	20.0
Fluoranthene	ND	ug/l	20.0
Pyrene	ND	ug/l	20.0
Benzo (a) anthracene	ND	ug/l	20.0
Chrysene	ND	ug/l	20.0
Benzo (b) fluoranthene	ND	ug/l	20.0
Benzo (k) fluoranthene	ND	ug/l	20.0
Benzo (a) pyrene	ND	ug/l	20.0
Indeno (1, 2, 3-cd) Pyrene	ND	ug/l	20.0
Dibenzo (a, h) anthracene	ND	ug/l	20.0
Benzo (g, h, i) perylene	ND	ug/l	20.0

Surrogate (s)	Recovery		QC Criteria
Chloro-Octadecane	5.00	%	40-140
o-Terphenyl	49.0	%	40-140
2-Fluorobiphenyl	69.0	%	40-140
2-Bromonaphthalene	65.0	%	40-140

Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES  
QUALITY ASSURANCE BATCH DUPLICATE ANALYSIS

Laboratory Job Number: L0400785

Parameter	Value 1	Value 2	Units	RPD	RPD Limits
Volatile Petroleum Hydrocarbons for sample(s) 01 (L0400785-01, WG162225)					
C5-C8 Aliphatics	ND	ND	ug/l	NC	50
C9-C12 Aliphatics	ND	ND	ug/l	NC	50
C9-C10 Aromatics	ND	ND	ug/l	NC	50
C5-C8 Aliphatics, Adjusted	ND	ND	ug/l	NC	50
C9-C12 Aliphatics, Adjusted	ND	ND	ug/l	NC	50
Benzene	ND	ND	ug/l	NC	50
Toluene	ND	ND	ug/l	NC	50
Ethylbenzene	ND	ND	ug/l	NC	50
p/m-Xylene	ND	ND	ug/l	NC	50
o-Xylene	ND	ND	ug/l	NC	50
Methyl tert butyl ether	ND	ND	ug/l	NC	50
Naphthalene	ND	ND	ug/l	NC	50
Surrogate(s)	Recovery				QC Criteria
2,5-Dibromotoluene-PID	91.0	100.	%	9	70-130
2,5-Dibromotoluene-FID	91.0	98.0	%	7	70-130
Extractable Petroleum Hydrocarbons for sample(s) 01 (L0400776-01, WG162069)					
C9-C18 Aliphatics	143.	172.	ug/l	18	50
C19-C36 Aliphatics	ND	ND	ug/l	NC	50
C11-C22 Aromatics	261.	307.	ug/l	16	50
C11-C22 Aromatics, Adjusted	261.	307.	ug/l	16	50
Naphthalene	ND	ND	ug/l	NC	50
2-Methylnaphthalene	ND	ND	ug/l	NC	50
Acenaphthylene	ND	ND	ug/l	NC	50
Acenaphthene	ND	ND	ug/l	NC	50
Fluorene	ND	ND	ug/l	NC	50
Phenanthrene	ND	ND	ug/l	NC	50
Anthracene	ND	ND	ug/l	NC	50
Fluoranthene	ND	ND	ug/l	NC	50
Pyrene	ND	ND	ug/l	NC	50
Benzo(a)anthracene	ND	ND	ug/l	NC	50
Chrysene	ND	ND	ug/l	NC	50
Benzo(b)fluoranthene	ND	ND	ug/l	NC	50
Benzo(k)fluoranthene	ND	ND	ug/l	NC	50
Benzo(a)pyrene	ND	ND	ug/l	NC	50
Indeno(1,2,3-cd)Pyrene	ND	ND	ug/l	NC	50
Dibenzo(a,h)anthracene	ND	ND	ug/l	NC	50
Benzo(ghi)perylene	ND	ND	ug/l	NC	50
Surrogate(s)	Recovery				QC Criteria
Chloro-Octadecane	58.0	58.0	%	0	40-140
o-Terphenyl	79.0	78.0	%	1	40-140
2-Fluorobiphenyl	71.0	72.0	%	1	40-140
2-Bromonaphthalene	73.0	75.0	%	3	40-140

ALPHA ANALYTICAL LABORATORIES  
QUALITY ASSURANCE BATCH SPIKE ANALYSES

Laboratory Job Number: L0400785

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Parameter	% Recovery	QC Criteria
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Volatile Petroleum Hydrocarbons LCS for sample(s) 01 (WG162225)

Benzene	101	70-130
Toluene	100	70-130
Ethylbenzene	104	70-130
p/m-Xylene	101	70-130
o-Xylene	100	70-130
Methyl tert butyl ether	103	70-130
Naphthalene	100	70-130

Surrogate(s)

2,5-Dibromotoluene-PID	94	70-130
2,5-Dibromotoluene-FID	94	70-130

Extractable Petroleum Hydrocarbons LCS for sample(s) 01 (WG162069)

Naphthalene	59	40-140
Acenaphthene	67	40-140
Anthracene	74	40-140
Pyrene	81	40-140
Chrysene	84	40-140
Nonane (C9)	45	40-140
Tetradecane (C14)	62	40-140
Nonadecane (C19)	72	40-140
Eicosane (C20)	73	40-140
Octacosane (C28)	72	40-140

Surrogate(s)

Chloro-Octadecane	60	40-140
o-Terphenyl	81	40-140
2-Fluorobiphenyl	70	40-140
2-Bromonaphthalene	70	40-140

ALPHA ANALYTICAL LABORATORIES  
QUALITY ASSURANCE BATCH BLANK ANALYSIS

Laboratory Job Number: L0400785

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Blank Analysis for sample(s) 01 (WG162225-3)							
Volatile Petroleum Hydrocarbons				47 98-1		0203 09:35 MM	
C5-C8 Aliphatics, Unadjusted	ND	ug/l	40.0				
C9-C12 Aliphatics, Unadjusted	ND	ug/l	40.0				
C9-C10 Aromatics	ND	ug/l	40.0				
C5-C8 Aliphatics, Adjusted	ND	ug/l	40.0				
C9-C12 Aliphatics, Adjusted	ND	ug/l	40.0				
Benzene	ND	ug/l	2.00				
Toluene	ND	ug/l	2.00				
Ethylbenzene	ND	ug/l	2.00				
p/m-Xylene	ND	ug/l	2.00				
o-Xylene	ND	ug/l	2.00				
Methyl tert butyl ether	ND	ug/l	4.00				
Naphthalene	ND	ug/l	20.0				
Surrogate (s)		Recovery		QC Criteria			
2,5-Dibromotoluene-PID	108.	%	70-130				
2,5-Dibromotoluene-FID	104.	%	70-130				
Blank Analysis for sample(s) 01 (WG162069-1)							
Extractable Petroleum Hydrocarbons				46 98-1		0202 10:00 0203 17:28 BW	
C9-C18 Aliphatics	ND	ug/l	100.				
C19-C36 Aliphatics	ND	ug/l	100.				
C11-C22 Aromatics, Unadjusted	ND	ug/l	100.				
C11-C22 Aromatics, Adjusted	ND	ug/l	100.				
Naphthalene	ND	ug/l	20.0				
2-Methylnaphthalene	ND	ug/l	20.0				
Acenaphthylene	ND	ug/l	20.0				
Acenaphthene	ND	ug/l	20.0				
Fluorene	ND	ug/l	20.0				
Phenanthrene	ND	ug/l	20.0				
Anthracene	ND	ug/l	20.0				
Fluoranthene	ND	ug/l	20.0				
Pyrene	ND	ug/l	20.0				
Benzo (a) anthracene	ND	ug/l	20.0				
Chrysene	ND	ug/l	20.0				
Benzo (b) fluoranthene	ND	ug/l	20.0				
Benzo (k) fluoranthene	ND	ug/l	20.0				
Benzo (a) pyrene	ND	ug/l	20.0				
Indeno (1,2,3-cd) Pyrene	ND	ug/l	20.0				
Dibenzo (a,h) anthracene	ND	ug/l	20.0				
Benzo (g,h,i) perylene	ND	ug/l	20.0				
Surrogate (s)		Recovery		QC Criteria			
Chloro-Octadecane	70.0	%	40-140				
o-Terphenyl	73.0	%	40-140				
2-Fluorobiphenyl	70.0	%	40-140				
2-Bromonaphthalene	64.0	%	40-140				

ALPHA ANALYTICAL LABORATORIES  
ADDENDUM I

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REFERENCES

46. Method for the Determination of Extractable Petroleum Hydrocarbons (EPH), Massachusetts Department of Environmental Protection, (MADEP-EPH-98-1), January 1998.
47. Method for the Determination of Volatile Petroleum Hydrocarbons (VPH), Massachusetts Department of Environmental Protection, (MADEP-VPH-98-1), January 1998.

GLOSSARY OF TERMS AND SYMBOLS

- REF Reference number in which test method may be found.  
METHOD Method number by which analysis was performed.  
ID Initials of the analyst.  
ND Not detected in comparison to the reported detection limit.

Please note that all solid samples are reported on dry weight basis unless noted otherwise.

LIMITATION OF LIABILITIES

Alpha Analytical, Inc. performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical, Inc., shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical, Inc. be held liable for any incidental consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical, Inc.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding times and splitting of samples in the field.

ALPHA ANALYTICAL LABORATORIES  
LOGIN SPECIFIC INFORMATION

Laboratory Job Number: L0400785

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Were project specific reporting limits specified? YES

Cooler Information

Cooler	Custody Seal
A	Absent

Container Information

Container ID	Container Type	Cooler	pH	Temp	Pres	Seal	Analysis
L0400785-01A	Vial HCl preserved	A	N/A	0.8 C	Y	Absent	VPH-DELUX
L0400785-01B	Vial HCl preserved	A	N/A	0.8 C	Y	Absent	VPH-DELUX
L0400785-01C	Amber 1000ml HCl preserved	A	<2	0.8 C	Y	Absent	EPH-DELUX
L0400785-01D	Amber 1000ml HCl preserved	A	<2	0.8 C	Y	Absent	EPH-DELUX
L0400785-01E	Vial HCl preserved	A	N/A	0.8 C	Y	Absent	VPH-DELUX

Container Comments

Container ID	Comments
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# CHAIN OF CUSTODY RECORD

Phone (617) 886-7400  
 Fax (617) 886-7600  
 Page 1 of 1

H&A FILE NO. 30660-080  
 PROJECT NAME Baybank School  
 H&A CONTACT Steve Pruvincal  
 LABORATORY ADDRESS CONTACT  
Alpha Westford, MA  
 DELIVERY DATE  
 TURNAROUND TIME 10 DAY  
 PROJECT MANAGER J. Mooney

Sample No.	Date	Time	Depth	Type	Analysis Requested										Number of Containers	Comments (special instructions, precautions, additional method numbers, etc.)			
					VOA	ABNs	PAH only	MCP Metals	Pesticides	VPH	Full Suite	Changes only	EPH	Full Suite			Changes only	TPH (specify)	TCLP (specify)
HA-7(2)	1/30/04	13:45	-	Aq														5	Laboratory to use applicable DEP CAM methods, unless otherwise directed. EPH Target Analytes VPH and Target analytes. (5 TOTAL)
					LIQUID														
Received by					Sign											VOA Vial			
Print					Print											Amber Glass			
Firm					Firm											Plastic Bottle			
Date					Date											Preservative			
Relinquished by					Sign											Volume			
Print					Print														
Firm					Firm														
Date					Date														
Relinquished by					Sign														
Print					Print														
Firm					Firm														
Date					Date														
Relinquished by					Sign														
Print					Print														
Firm					Firm														
Date					Date														
Relinquished by					Sign														
Print					Print														
Firm					Firm														
Date					Date														
Relinquished by					Sign														
Print					Print														
Firm					Firm														
Date					Date														
Relinquished by					Sign														
Print					Print														
Firm					Firm														
Date					Date														

**Presumptive Certainty Data Package (Laboratory to use applicable DEP CAM methods)**

**Preservation Key:**  
 A - Sample filtered    C - NaOH    E - H<sub>2</sub>SO<sub>4</sub>    G - Methanol  
 R - Sample filtered    D - HNO<sub>3</sub>    F - HCL    H - Water/NaHSO<sub>4</sub> (circle)

**Required Reporting Limits and Data Quality Objectives**

RC-S1     RC-S2     RC-GW1     RC-GW2     RC-GW3

SI     S2     S3

GW1     GW2     GW3

**If Presumptive Certainty Data Package is needed, initial all sections:**  
 The required minimum field QC samples, as designated in BWSC CAM-VII have been or will be collected, as appropriate, to meet the requirements of Presumptive Certainty.  
 Matrix Spike (MS) samples for MCP Metals and/or Cyanide are included and identified herein.  
 This Chain of Custody Record (specify) includes  does not include samples defined as Drinking Water Samples.  
 If this Chain of Custody Record identifies samples defined as Drinking Water Samples, Trip Blanks and Field Duplicates are included and identified and analysis of TICs are required, as appropriate. Laboratory should (specify if applicable) analyze hold for contingency testing the Drinking Water Duplicate and Drinking Water Trip Blank samples.



**APPENDIX F**

**Copies of Laboratory Data Sheets – Indoor Air**

ALPHA ANALYTICAL LABORATORIES

Eight Walkup Drive  
Westborough, Massachusetts 01581-1019  
(508) 898-9220      www.alphalab.com

MA:M-MA086 NH:200301-A CT:PH-0574 ME:MA086 RI:65 NY:11148 NJ:MA935 Army:USACE

CERTIFICATE OF ANALYSIS

Client: Haley & Aldrich, Inc.      Laboratory Job Number: L0312701  
Address: 465 Medford Street, Suite 2200  
          Boston, MA 02129-1400      Date Received: 17-DEC-2003  
Attn: Mr. Steve Provencal      Date Reported: 19-DEC-2003  
Project Number: 30660-000      Delivery Method: Alpha  
Site: BURBANK SCHOOL TANK RELEASE

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ALPHA SAMPLE NUMBER	CLIENT IDENTIFICATION	SAMPLE LOCATION
L0312701-01	BSTR-GYM	BELMONT, MA
L0312701-02	BSTR-RM203	BELMONT, MA
L0312701-03	BSTR-RM303	BELMONT, MA
L0312701-04	UNUSED CANISTER	BELMONT, MA

I, the undersigned, attest under the pains and penalties of perjury that, based upon my personal inquiry of those responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

---

Authorized by: Ellen M. Collins

This document electronically signed

ALPHA ANALYTICAL LABORATORIES  
NARRATIVE REPORT

Laboratory Job Number: L0312701

---

APH

L0312701-01 through -03 had Limonene present. This compound elutes in the C9-C12 aliphatic hydrocarbon range. The response for this analyte was not included in the calculation of the C9-C12 aliphatic hydrocarbon range result since it is a not petroleum hydrocarbon.

L0312701-01 had Trichlorofluoromethane present. This compound elutes in the C5-C8 aliphatic hydrocarbon range. The response for this analyte was not included in the calculation of the C5-C8 aliphatic hydrocarbon range result since it is a not petroleum hydrocarbon.

L0312701-02 had Isopropyl alcohol and Trichlorofluoromethane present. These compounds elute in the C5-C8 aliphatic hydrocarbon range. The response for these analytes were not included in the calculation of the C5-C8 aliphatic hydrocarbon range result since they are not petroleum hydrocarbons.

L0312701-03 had Isopropyl alcohol present. This compound elutes in the C5-C8 aliphatic hydrocarbon range. The response for this analyte was not included in the calculation of the C5-C8 aliphatic hydrocarbon range result since it is a not petroleum hydrocarbon.

ALPHA ANALYTICAL LABORATORIES  
CERTIFICATE OF ANALYSIS

MA:M-MA086 NH:200301-A CT:PH-0574 ME:MA086 RI:65 NY:11148 NJ:MA935 Army:USACE

Laboratory Sample Number: L0312701-01 Date Collected: 16-DEC-2003 16:37  
BSTR-GYM Date Received : 17-DEC-2003  
Sample Matrix: AIR Date Reported : 19-DEC-2003  
Condition of Sample: Satisfactory Field Prep: None  
Number & Type of Containers: 1-Can

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	

Petroleum Hydrocarbons in Air				43 DRAFT 1		1218 13:06	AR
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Quality Control Information

Sample Type: 24 hour Time-integrated  
Sample Container Type: Canister  
Sampling Flow Controller: Mechanical  
Sampling Zone: Unknown  
Sampling Flow Meter RPD of pre & post-sampling calibration check: <=10%  
Were all QA/QC procedures REQUIRED by the method followed? YES  
Were all performance/acceptance standards for the required procedures achieved? YES  
Were significant modifications made to the method as specified in Sect 11.3? NO  
Please note to subtract the method blank from the stated result.

C5-C8 Aliphatics	112.	ug/m3	24.0
C9-C12 Aliphatics	103.	ug/m3	28.0
1,3-Butadiene	ND	ug/m3	2.00
Methyl tert butyl ether	ND	ug/m3	2.00
Benzene	ND	ug/m3	2.00
Toluene	2.50	ug/m3	2.00
Ethylbenzene	ND	ug/m3	2.00
p/m-Xylene	ND	ug/m3	4.00
o-Xylene	ND	ug/m3	2.00
Naphthalene	ND	ug/m3	2.00
2-Methylnaphthalene	ND	ug/m3	8.00
C5-C8 Aliphatics, Adjusted	101.	ug/m3	24.0
C9-C12 Aliphatics, Adjusted	93.4	ug/m3	28.0
C9-C10 Aromatics	ND	ug/m3	24.0

Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES  
CERTIFICATE OF ANALYSIS

MA:M-MA086 NH:200301-A CT:PH-0574 ME:MA086 RI:65 NY:11148 NJ:MA935 Army:USACE

Laboratory Sample Number: L0312701-02 Date Collected: 16-DEC-2003 16:45  
 BSTR-RM203 Date Received : 17-DEC-2003  
 Sample Matrix: AIR Date Reported : 19-DEC-2003  
 Condition of Sample: Satisfactory Field Prep: None  
 Number & Type of Containers: 1-Can

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Petroleum Hydrocarbons in Air				43 DRAFT 1		1218 13:48	AR

Quality Control Information

Sample Type: 24 hour Time-integrated  
 Sample Container Type: Canister  
 Sampling Flow Controller: Mechanical  
 Sampling Zone: Unknown  
 Sampling Flow Meter RPD of pre & post-sampling calibration check: <=10%  
 Were all QA/QC procedures REQUIRED by the method followed? YES  
 Were all performance/acceptance standards for the required procedures achieved? YES  
 Were significant modifications made to the method as specified in Sect 11.3? NO  
 Please note to subtract the method blank from the stated result.

C5-C8 Aliphatics	61.0	ug/m3	24.0	
C9-C12 Aliphatics	ND	ug/m3	28.0	
1,3-Butadiene	ND	ug/m3	2.00	
Methyl tert butyl ether	ND	ug/m3	2.00	
Benzene	ND	ug/m3	2.00	
Toluene	2.00	ug/m3	2.00	
Ethylbenzene	ND	ug/m3	2.00	
p/m-Xylene	ND	ug/m3	4.00	
o-Xylene	ND	ug/m3	2.00	
Naphthalene	ND	ug/m3	2.00	
2-Methylnaphthalene	ND	ug/m3	8.00	
C5-C8 Aliphatics, Adjusted	53.5	ug/m3	24.0	
C9-C12 Aliphatics, Adjusted	ND	ug/m3	28.0	
C9-C10 Aromatics	ND	ug/m3	24.0	

Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES  
CERTIFICATE OF ANALYSIS

MA:M-MA086 NH:200301-A CT:PH-0574 ME:MA086 RI:65 NY:11148 NJ:MA935 Army:USACE

Laboratory Sample Number: L0312701-03                               Date Collected: 16-DEC-2003 16:42  
                                  BSTR-RM303                               Date Received : 17-DEC-2003  
Sample Matrix:                         AIR                               Date Reported : 19-DEC-2003  
Condition of Sample:         Satisfactory                             Field Prep:       None  
Number & Type of Containers: 1-Can

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Petroleum Hydrocarbons in Air				43 DRAFT 1		1218 16:16 AR	

Quality Control Information

Sample Type:                             24 hour Time-integrated  
Sample Container Type:                 Canister  
Sampling Flow Controller:               Mechanical  
Sampling Zone:                          Unknown  
Sampling Flow Meter RPD of pre & post-sampling calibration check: <=10%  
Were all QA/QC procedures REQUIRED by the method followed?                                YES  
Were all performance/acceptance standards for the required procedures achieved?        YES  
Were significant modifications made to the method as specified in Sect 11.3?            NO  
Please note to subtract the method blank from the stated result.

C5-C8 Aliphatics	72.0	ug/m3	24.0
C9-C12 Aliphatics	ND	ug/m3	28.0
1,3-Butadiene	ND	ug/m3	2.00
Methyl tert butyl ether	ND	ug/m3	2.00
Benzene	ND	ug/m3	2.00
Toluene	ND	ug/m3	2.00
Ethylbenzene	ND	ug/m3	2.00
p/m-Xylene	ND	ug/m3	4.00
o-Xylene	ND	ug/m3	2.00
Naphthalene	ND	ug/m3	2.00
2-Methylnaphthalene	ND	ug/m3	8.00
C5-C8 Aliphatics, Adjusted	65.9	ug/m3	24.0
C9-C12 Aliphatics, Adjusted	ND	ug/m3	28.0
C9-C10 Aromatics	ND	ug/m3	24.0

Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES  
CERTIFICATE OF ANALYSIS

MA:M-MA086 NH:200301-A CT:PH-0574 ME:MA086 RI:65 NY:11148 NJ:MA935 Army:USACE

Laboratory Sample Number: L0312701-04  
Date Collected:  
Sample Matrix: UNUSED CANISTER  
Date Received : 17-DEC-2003  
AIR  
Date Reported : 19-DEC-2003  
Condition of Sample: Satisfactory  
Field Prep: None

Number & Type of Containers:

Comments:  
No analysis performed.

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PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE	ID
					PREP	ANAL

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Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES  
QUALITY ASSURANCE BATCH SPIKE ANALYSES

Laboratory Job Number: L0312701

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Parameter	% Recovery	QC Criteria
Petroleum Hydrocarbons in Air LCS for sample(s) 01-03 (WG159201)		
1,3-Butadiene	114	
Methyl tert butyl ether	86	
Benzene	79	
Toluene	81	
Ethylbenzene	81	
p/m-Xylene	83	
o-Xylene	81	
Naphthalene	108	
2-Methylnaphthalene	118	

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ALPHA ANALYTICAL LABORATORIES  
 QUALITY ASSURANCE BATCH BLANK ANALYSIS

Laboratory Job Number: L0312701

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Blank Analysis for sample(s) 01-03 (WG159201-3)							
Petroleum Hydrocarbons in Air				43 DRAFT 1		1218 10:35 AR	
C5-C8 Aliphatics	ND	ug/m3	24.0				
C9-C12 Aliphatics	ND	ug/m3	28.0				
1,3-Butadiene	ND	ug/m3	2.00				
Methyl tert butyl ether	ND	ug/m3	2.00				
Benzene	ND	ug/m3	2.00				
Toluene	ND	ug/m3	2.00				
Ethylbenzene	ND	ug/m3	2.00				
p/m-Xylene	ND	ug/m3	4.00				
o-Xylene	ND	ug/m3	2.00				
Naphthalene	ND	ug/m3	2.00				
2-Methylnaphthalene	ND	ug/m3	8.00				
C5-C8 Aliphatics, Adjusted	ND	ug/m3	24.0				
C9-C12 Aliphatics, Adjusted	ND	ug/m3	28.0				
C9-C10 Aromatics	ND	ug/m3	24.0				

ALPHA ANALYTICAL LABORATORIES  
ADDENDUM I

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REFERENCES

43. Method for the Determination of Air-Phase Petroleum Hydrocarbons (APH), Draft 1.0, Massachusetts Department of Environmental Protection, February 2000.

GLOSSARY OF TERMS AND SYMBOLS

REF Reference number in which test method may be found.  
METHOD Method number by which analysis was performed.  
ID Initials of the analyst.  
ND Not detected in comparison to the reported detection limit.

Please note that all solid samples are reported on dry weight basis unless noted otherwise.

LIMITATION OF LIABILITIES

Alpha Analytical, Inc. performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical, Inc., shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical, Inc. be held liable for any incidental consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical, Inc.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding times and splitting of samples in the field.



**AIR ANALYSIS**  
**CHAIN OF CUSTODY**

Eight Walkup Drive Westborough, MA 01581  
TEL: 508-898-9220 FAX: 508-898-9193

**Client Information**

Client: **H&A**

Address: **465 MEDFORD ST.**

**Suite 200 Westborough, MA**

Phone: **617-902-2753 (DOD BUREAU)**

Fax: **617-902-7435 (JOEL MANNING)**

Email: **PRIMACY CONTACT**

These samples have been previously analyzed by Alpha

**Other Project Specific Requirements/Comments:**

*CAM MET, O210 AND IRII COMPARE NO. 00306 MET USED AS D.D MET AND PRESSURE. LEAK IN SYSTEM. RETURNED O-ANALYSE & 51766 DID NOT NEED PRESSURE.*

**Project Information**

Project Name: **BRUSH SUPER TANK PROJECT**

Project Location: **BRUSH, MA**

Project #: **30666-000**

Project Manager: **JOEL MANNING**

ALPHA Quote #:

**Turn-Around Time**

Standard AR - 10 DAYS  
DISSOLVED GASES - 5 DAYS

RUSH (only confirmed if pre-approved)  
**24 HRS. TURN AROUND TIME**

Date Due: **12/12/03** Time:

**Report Information - Data Deliverables**

FAX  ADEX

Criteria Checker:

(Default based on Regulatory Criteria Indicated)

Other Formats:

EMAIL (standard pdf report)

Additional Deliverables:

Report to: (if different than Project Manager)  
**JOEL MANNING**

**JOEL MANNING**

**ANALYSIS**

**FIXED GASES**

**DISSOLVED GASES**

**APH**

**TO-15**

**TO-14A**

**ID - Flow Controller**

**Sample Matrix**

**Sampler's Initials**

**ID Can**

**Sample Comments**

**12/15/03 16:59 1634 AIR RB 0236 60305**

**12/15/03 17:01 1645 AIR RB 0106 00277**

**12/15/03 17:06 1646 AIR RB 0176 00304**

**12/17/03 29 EXP. 1**

**12/17/03 25 EXP. 1**

**12/17/03 30 EXP. 1**

**Shaded Gray Areas For Lab Use Only**

**Relinquished By:**

*JOEL MANNING*

*12/17/03*

**Container Type**

*Can*

**Received By:**

*JOEL MANNING*

*12/17/03*

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Payment Terms. See reverse side.

ALPHA ANALYTICAL LABORATORIES

Eight Walkup Drive  
Westborough, Massachusetts 01581-1019  
(508) 898-9220 www.alphalab.com

MA:M-MA086 NH:200301-A CT:PH-0574 ME:MA086 RI:65 NY:11148 NJ:MA935 Army:USACE

CERTIFICATE OF ANALYSIS

Client: Haley & Aldrich, Inc. Laboratory Job Number: L0313012  
Address: 465 Medford Street, Suite 2200  
Boston, MA 02129-1400 Date Received: 05-JAN-2004  
Attn: Mr. Steve Provencal Date Reported: 06-JAN-2004  
Project Number: 30660-000 Delivery Method: Alpha  
Site: BURBANK SCHOOL

---

ALPHA SAMPLE NUMBER	CLIENT IDENTIFICATION	SAMPLE LOCATION
L0313012-01	BSTR-GYM-S2	BELMONT, MA
L0313012-02	BSTR-RM203-S2	BELMONT, MA
L0313012-03	BSTR-RM303-S2	BELMONT, MA

I, the undersigned, attest under the pains and penalties of perjury that, based upon my personal inquiry of those responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

---

Authorized by: Scott McLean  
This document electronically signed

ALPHA ANALYTICAL LABORATORIES  
NARRATIVE REPORT

Laboratory Job Number: L0313012

---

APH

The LCS % recovery for 1,3-Butadiene (168%) is above the acceptance criteria for the method. All associated samples are non-detect for this compound.

L0313012-01 through -03 had Trichlorofluoromethane present. This compound elutes in the C5-C8 aliphatic hydrocarbon range. The response for this analyte was not included in the calculation of the C5-C8 aliphatic hydrocarbon range result since it is not a petroleum hydrocarbon.

L0313012-01 through -03 had 1,4-Dichlorobenzene and Limonene present. These compounds elute in the C9-C12 aliphatic hydrocarbon range. The response for these analytes were not included in the calculation of the C9-C12 aliphatic hydrocarbon range result since they are not petroleum hydrocarbons.

ALPHA ANALYTICAL LABORATORIES  
 CERTIFICATE OF ANALYSIS

MA:M-MA086 NH:200301-A CT:PH-0574 ME:MA086 RI:65 NY:11148 NJ:MA935 Army:USACE

Laboratory Sample Number: L0313012-01 Date Collected: 03-JAN-2004 07:55  
 BSTR-GYM-S2 Date Received : 05-JAN-2004  
 Sample Matrix: AIR Date Reported : 06-JAN-2004  
 Condition of Sample: Satisfactory Field Prep: None  
 Number & Type of Containers: 1-Can

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Petroleum Hydrocarbons in Air				43 DRAFT 1			0106 14:52 AR

Quality Control Information

Sample Type: 24hr comp  
 Sample Container Type: Canister  
 Sampling Flow Controller: Mechanical  
 Sampling Zone: Unknown  
 Sampling Flow Meter RPD of pre & post-sampling calibration check: <=10%  
 Were all QA/QC procedures REQUIRED by the method followed? YES  
 Were all performance/acceptance standards for the required procedures achieved? NO  
 1. One or more of the APH LCS recoveries were greater than 130%.  
 Were significant modifications made to the method as specified in Sect 11.3? NO  
 Please note to subtract the method blank from the stated result.

C5-C8 Aliphatics	52.5	ug/m3	24.0
C9-C12 Aliphatics	38.8	ug/m3	28.0
1,3-Butadiene	ND	ug/m3	2.00
Methyl tert butyl ether	2.02	ug/m3	2.00
Benzene	ND	ug/m3	2.00
Toluene	2.54	ug/m3	2.00
Ethylbenzene	ND	ug/m3	2.00
p/m-Xylene	ND	ug/m3	4.00
o-Xylene	ND	ug/m3	2.00
Naphthalene	ND	ug/m3	2.00
2-Methylnaphthalene	ND	ug/m3	8.00
C5-C8 Aliphatics, Adjusted	41.4	ug/m3	24.0
C9-C12 Aliphatics, Adjusted	32.8	ug/m3	28.0
C9-C10 Aromatics	ND	ug/m3	24.0

Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES  
 CERTIFICATE OF ANALYSIS

MA:M-MA086 NH:200301-A CT:PH-0574 ME:MA086 RI:65 NY:11148 NJ:MA935 Army:USACE

Laboratory Sample Number: L0313012-02 Date Collected: 03-JAN-2004 07:56  
 Sample Matrix: AIR Date Received : 05-JAN-2004  
 Condition of Sample: Satisfactory Date Reported : 06-JAN-2004  
 Field Prep: None  
 Number & Type of Containers: 1-Can

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Petroleum Hydrocarbons in Air				43 DRAFT 1		0106 15:31	AR

Quality Control Information

Sample Type: 24hr Comp  
 Sample Container Type: Canister  
 Sampling Flow Controller: Mechanical  
 Sampling Zone: Unknown  
 Sampling Flow Meter RPD of pre & post-sampling calibration check: <=10%  
 Were all QA/QC procedures REQUIRED by the method followed? YES  
 Were all performance/acceptance standards for the required procedures achieved? NO  
 1. One or more of the APH LCS recoveries were greater than 130%.  
 Were significant modifications made to the method as specified in Sect 11.3? NO  
 Please note to subtract the method blank from the stated result.

C5-C8 Aliphatics	128.	ug/m3	24.0
C9-C12 Aliphatics	59.1	ug/m3	28.0
1,3-Butadiene	ND	ug/m3	2.00
Methyl tert butyl ether	3.87	ug/m3	2.00
Benzene	2.18	ug/m3	2.00
Toluene	4.78	ug/m3	2.00
Ethylbenzene	ND	ug/m3	2.00
p/m-Xylene	4.59	ug/m3	4.00
o-Xylene	ND	ug/m3	2.00
Naphthalene	ND	ug/m3	2.00
2-Methylnaphthalene	ND	ug/m3	8.00
C5-C8 Aliphatics, Adjusted	109.	ug/m3	24.0
C9-C12 Aliphatics, Adjusted	50.0	ug/m3	28.0
C9-C10 Aromatics	ND	ug/m3	24.0

Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES  
 CERTIFICATE OF ANALYSIS

MA:M-MA086 NH:200301-A CT:PH-0574 ME:MA086 RI:65 NY:11148 NJ:MA935 Army:USACE

Laboratory Sample Number: L0313012-03 Date Collected: 03-JAN-2004 07:58  
 BSTR-RM303-S2 Date Received : 05-JAN-2004  
 Sample Matrix: AIR Date Reported : 06-JAN-2004  
 Condition of Sample: Satisfactory Field Prep: None  
 Number & Type of Containers: 1-Can

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Petroleum Hydrocarbons in Air				43 DRAFT 1			0106 16:10 AR

Quality Control Information

Sample Type: 24hr Comp  
 Sample Container Type: Canister  
 Sampling Flow Controller: Mechanical  
 Sampling Zone: Unknown  
 Sampling Flow Meter RPD of pre & post-sampling calibration check: <=10%  
 Were all QA/QC procedures REQUIRED by the method followed? YES  
 Were all performance/acceptance standards for the required procedures achieved? NO  
 1. One or more of the APH LCS recoveries were greater than 130%.  
 Were significant modifications made to the method as specified in Sect 11.3? NO  
 Please note to subtract the method blank from the stated result.

C5-C8 Aliphatics	104.	ug/m3	24.0
C9-C12 Aliphatics	58.1	ug/m3	28.0
1,3-Butadiene	ND	ug/m3	2.00
Methyl tert butyl ether	3.37	ug/m3	2.00
Benzene	ND	ug/m3	2.00
Toluene	5.20	ug/m3	2.00
Ethylbenzene	ND	ug/m3	2.00
p/m-Xylene	ND	ug/m3	4.00
o-Xylene	ND	ug/m3	2.00
Naphthalene	ND	ug/m3	2.00
2-Methylnaphthalene	ND	ug/m3	8.00
C5-C8 Aliphatics, Adjusted	87.1	ug/m3	24.0
C9-C12 Aliphatics, Adjusted	50.7	ug/m3	28.0
C9-C10 Aromatics	ND	ug/m3	24.0

Comments: Complete list of References and Glossary of Terms found in Addendum I



ALPHA ANALYTICAL LABORATORIES  
 QUALITY ASSURANCE BATCH DUPLICATE ANALYSIS

Laboratory Job Number: L0313012

Parameter	Value 1	Value 2	Units	RPD	RPD Limits
Petroleum Hydrocarbons in Air for sample(s) 01-03 (L0313012-03, WG160364)					
C5-C8 Aliphatics	104.	111.	ug/m3	7	30
C9-C12 Aliphatics	58.1	66.6	ug/m3	14	30
1,3-Butadiene	ND	ND	ug/m3	NC	30
Methyl tert butyl ether	3.37	3.74	ug/m3	10	30
Benzene	ND	2.06	ug/m3	NC	30
Toluene	5.20	5.30	ug/m3	2	30
Ethylbenzene	ND	ND	ug/m3	NC	30
p/m-Xylene	ND	4.12	ug/m3	NC	30
o-Xylene	ND	ND	ug/m3	NC	30
Naphthalene	ND	ND	ug/m3	NC	30
2-Methylnaphthalene	ND	ND	ug/m3	NC	30
C5-C8 Aliphatics, Adjusted	87.1	93.3	ug/m3	7	30
C9-C12 Aliphatics, Adjusted	50.7	58.6	ug/m3	14	30
C9-C10 Aromatics	ND	ND	ug/m3	NC	30

ALPHA ANALYTICAL LABORATORIES  
QUALITY ASSURANCE BATCH SPIKE ANALYSES

Laboratory Job Number: L0313012

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Parameter	% Recovery	QC Criteria
Petroleum Hydrocarbons in Air LCS for sample(s) 01-03 (WG160364)		
1,3-Butadiene	168	
Methyl tert butyl ether	121	
Benzene	105	
Toluene	110	
Ethylbenzene	126	
p/m-Xylene	128	
o-Xylene	120	
Naphthalene	72	
2-Methylnaphthalene	80	

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ALPHA ANALYTICAL LABORATORIES  
 QUALITY ASSURANCE BATCH BLANK ANALYSIS

Laboratory Job Number: L0313012

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Blank Analysis for sample(s) 01-03 (WG160364-3)							
Petroleum Hydrocarbons in Air				43 DRAFT 1		0106 12:38	AR
C5-C8 Aliphatics	ND	ug/m3	24.0				
C9-C12 Aliphatics	ND	ug/m3	28.0				
1,3-Butadiene	ND	ug/m3	2.00				
Methyl tert butyl ether	ND	ug/m3	2.00				
Benzene	ND	ug/m3	2.00				
Toluene	ND	ug/m3	2.00				
Ethylbenzene	ND	ug/m3	2.00				
p/m-Xylene	ND	ug/m3	4.00				
o-Xylene	ND	ug/m3	2.00				
Naphthalene	ND	ug/m3	2.00				
2-Methylnaphthalene	ND	ug/m3	8.00				
C5-C8 Aliphatics, Adjusted	ND	ug/m3	24.0				
C9-C12 Aliphatics, Adjusted	ND	ug/m3	28.0				
C9-C10 Aromatics	ND	ug/m3	24.0				

ALPHA ANALYTICAL LABORATORIES  
ADDENDUM I

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REFERENCES

43. Method for the Determination of Air-Phase Petroleum Hydrocarbons (APH), Draft 1.0, Massachusetts Department of Environmental Protection, February 2000.

GLOSSARY OF TERMS AND SYMBOLS

REF Reference number in which test method may be found.  
METHOD Method number by which analysis was performed.  
ID Initials of the analyst.  
ND Not detected in comparison to the reported detection limit.

Please note that all solid samples are reported on dry weight basis unless noted otherwise.

LIMITATION OF LIABILITIES

Alpha Analytical, Inc. performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical, Inc., shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical, Inc. be held liable for any incidental consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical, Inc.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding times and splitting of samples in the field.

# AIR ANALYSIS

PAGE \_\_\_\_\_ OF \_\_\_\_\_

ALPHA Job #: **6031302**

**ALPHA CHAIN OF CUSTODY**  
 Eight Walkup Drive Westborough, MA 01581  
 TEL: 508-898-9220 FAX: 508-898-9193

**Project Information**  
 Project Name: **BUDTIME SCORE**  
 Project Location: **BALMONT, MA**  
 Project #: **30860-000**  
 Project Manager: **Mr. Mooney**  
 ALPHA Quote #: \_\_\_\_\_  
 Turn-Around Time \_\_\_\_\_

**Billing Information**  
 Same as Client info PO #: \_\_\_\_\_  
 ADEX  
 Criteria Checker: \_\_\_\_\_  
 (Default based on Regulatory Criteria, Indicial In.)  
 Other Formats: \_\_\_\_\_  
 EMAIL (standard pdf report)  
 Additional Deliverables:  
 Report to: If different than Project Manager: \_\_\_\_\_

**Regulatory Requirements/Report Limits**  
 State / Fed \_\_\_\_\_  
 Program \_\_\_\_\_  
 Criteria \_\_\_\_\_

**Report Information - Data Deliverables**  
 FAX  
 ADEX  
 Criteria Checker: \_\_\_\_\_  
 (Default based on Regulatory Criteria, Indicial In.)  
 Other Formats: \_\_\_\_\_  
 EMAIL (standard pdf report)  
 Additional Deliverables:  
 Report to: If different than Project Manager: \_\_\_\_\_

Standard  
 per 10 days  
 dissolved gases 5 days  
 Date Due: **July 6 Jan 2009** Time: **15:15**

**ANALYSIS**

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection		Sample Matrix	Sampler's Initials	ID Can	10-Flow Controller	TO-14A	TO-15	APH	DISSOLVED GASES	FIXED GASES	TOTAL CONTAINERS
		Date	Start Time										
3082-1	B5TR-6TM-52	1/3/09	0808	0755	MRD	C451	00207						1
3082-2	B5TR-EM205-52	1/3/09	0809	0756	MRD	0232	00279						1
3082-3	B5TR-EM305-52	1/3/09	0811	0758	MRD	0230	00280						1

Other Project Specific Requirements/Comments:  
 Sample Comments: **HR. PETS (N.H.)**

Shaded Gray Areas For Lab Use Only

Container Type	Date/Time	Received By
	1/3 13:15	[Signature]
	1/3 13:15	[Signature]
	1/3 13:15	[Signature]

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Payment Terms. See reverse side.

ALPHA ANALYTICAL LABORATORIES

Eight Walkup Drive  
Westborough, Massachusetts 01581-1019  
(508) 898-9220 www.alphalab.com

MA:M-MA086 NH:200301-A CT:PH-0574 ME:MA086 RI:65 NY:11148 NJ:MA935 Army:USACE

CERTIFICATE OF ANALYSIS

Client: Haley & Aldrich, Inc. Laboratory Job Number: L0401408  
Address: 465 Medford Street, Suite 2200  
Boston, MA 02129-1400 Date Received: 23-FEB-2004  
Attn: Mr. Steve Provencal Date Reported: 01-MAR-2004  
Project Number: 30660-000 Delivery Method: Alpha  
Site: BURBANK SCHOOL

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ALPHA SAMPLE NUMBER	CLIENT IDENTIFICATION	SAMPLE LOCATION
L0401408-01	BSTR-GYM-021904	BELMONT, MA
L0401408-02	BSTR-RM202-021904	BELMONT, MA
L0401408-03	BSTR-RM303-021904	BELMONT, MA
L0401408-04	BSTR-RM106-021904	BELMONT, MA
L0401408-05	BSTR-RM109-021904	BELMONT, MA
L0401408-06	BSTR-RM212-021904	BELMONT, MA

I, the undersigned, attest under the pains and penalties of perjury that, based upon my personal inquiry of those responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

---

Authorized by: Scott McLean  
This document electronically signed

ALPHA ANALYTICAL LABORATORIES  
NARRATIVE REPORT

Laboratory Job Number: L0401408

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Petroleum Hydrocarbons in Air

Acetone and Trichlorofluoromethane are present in L0401408-01 through -06. Methyl Isobutyl Ketone is present in L0401408-01 and -02. Isopropyl Alcohol is present in L0401408-03 and -04. These compounds elute in the C5-C8 Aliphatic Hydrocarbon range. The response for these analytes was not included in the calculation of the C5-C8 range result since they are not petroleum hydrocarbons.

The LCS % recovery for 1,3-Butadiene (180%) is above the acceptance criteria for the method.

The LCS % recovery for 2-Methylnaphthalene (52.3%) is below the individual acceptance criteria for the compound, but within the overall method allowances.

ALPHA ANALYTICAL LABORATORIES  
CERTIFICATE OF ANALYSIS

MA:M-MA086 NH:200301-A CT:PH-0574 ME:MA086 RI:65 NY:11148 NJ:MA935 Army:USACE

Laboratory Sample Number: L0401408-01 Date Collected: 20-FEB-2004 10:49  
BSTR-GYM-021904 Date Received : 23-FEB-2004  
Sample Matrix: AIR Date Reported : 01-MAR-2004  
Condition of Sample: Satisfactory Field Prep: None  
Number & Type of Containers: 1-Can

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	

Petroleum Hydrocarbons in Air				43 DRAFT 1		0228 16:48	AR
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Quality Control Information

Sample Type: 24 hour Time-integrated  
Sample Container Type: Canister  
Sampling Flow Controller: Mechanical  
Sampling Zone: Unknown

Sampling Flow Meter RPD of pre & post-sampling calibration check: <=10%

Were all QA/QC procedures REQUIRED by the method followed? YES

Were all performance/acceptance standards for the required procedures achieved? NO

1. One or more of the APH LCS recoveries were less than 70%.

2. One or more of the APH LCS recoveries were greater than 130%.

Were significant modifications made to the method as specified in Sect 11.3? NO

C5-C8 Aliphatics	40.2	ug/m3	24.0
C9-C12 Aliphatics	ND	ug/m3	28.0
1,3-Butadiene	ND	ug/m3	2.00
Methyl tert butyl ether	ND	ug/m3	2.00
Benzene	ND	ug/m3	2.00
Toluene	5.36	ug/m3	2.00
Ethylbenzene	ND	ug/m3	2.00
p/m-Xylene	ND	ug/m3	4.00
o-Xylene	ND	ug/m3	2.00
Naphthalene	ND	ug/m3	2.00
2-Methylnaphthalene	ND	ug/m3	8.00
C5-C8 Aliphatics, Adjusted	31.9	ug/m3	24.0
C9-C12 Aliphatics, Adjusted	ND	ug/m3	28.0
C9-C10 Aromatics	ND	ug/m3	24.0

Comments: Complete list of References and Glossary of Terms found in Addendum I



ALPHA ANALYTICAL LABORATORIES  
CERTIFICATE OF ANALYSIS

MA:M-MA086 NH:200301-A CT:PH-0574 ME:MA086 RI:65 NY:11148 NJ:MA935 Army:USACE

Laboratory Sample Number: L0401408-02 Date Collected: 20-FEB-2004 10:58  
BSTR-RM202-021904 Date Received : 23-FEB-2004  
Sample Matrix: AIR Date Reported : 01-MAR-2004  
Condition of Sample: Satisfactory Field Prep: None  
Number & Type of Containers: 1-Can

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE PREP	ID ANAL
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Petroleum Hydrocarbons in Air				43 DRAFT 1		0228 17:29 AR
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Quality Control Information

Sample Type: 24 hour Time-integrated  
Sample Container Type: Canister  
Sampling Flow Controller: Mechanical  
Sampling Zone: Unknown  
Sampling Flow Meter RPD of pre & post-sampling calibration check: <=10%  
Were all QA/QC procedures REQUIRED by the method followed? YES  
Were all performance/acceptance standards for the required procedures achieved? NO  
1. One or more of the APH LCS recoveries were less than 70%.  
2. One or more of the APH LCS recoveries were greater than 130%.  
Were significant modifications made to the method as specified in Sect 11.3? NO

C5-C8 Aliphatics	78.0	ug/m3	24.0
C9-C12 Aliphatics	ND	ug/m3	28.0
1,3-Butadiene	ND	ug/m3	2.00
Methyl tert butyl ether	ND	ug/m3	2.00
Benzene	ND	ug/m3	2.00
Toluene	39.2	ug/m3	2.00
Ethylbenzene	ND	ug/m3	2.00
p/m-Xylene	ND	ug/m3	4.00
o-Xylene	ND	ug/m3	2.00
Naphthalene	ND	ug/m3	2.00
2-Methylnaphthalene	ND	ug/m3	8.00
C5-C8 Aliphatics, Adjusted	32.2	ug/m3	24.0
C9-C12 Aliphatics, Adjusted	ND	ug/m3	28.0
C9-C10 Aromatics	ND	ug/m3	24.0

Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES  
 CERTIFICATE OF ANALYSIS

MA:M-MA086 NH:200301-A CT:PH-0574 ME:MA086 RI:65 NY:11148 NJ:MA935 Army:USACE

Laboratory Sample Number: L0401408-03 Date Collected: 20-FEB-2004 10:56  
 BSTR-RM303-021904 Date Received : 23-FEB-2004  
 Sample Matrix: AIR Date Reported : 01-MAR-2004

Condition of Sample: Satisfactory Field Prep: None

Number & Type of Containers: 1-Can

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	

Petroleum Hydrocarbons in Air				43 DRAFT 1			0228 18:10 AR
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Quality Control Information

Sample Type: 24 hour Time-integrated  
 Sample Container Type: Canister  
 Sampling Flow Controller: Mechanical  
 Sampling Zone: Unknown

Sampling Flow Meter RPD of pre & post-sampling calibration check: <=10%

Were all QA/QC procedures REQUIRED by the method followed? YES

Were all performance/acceptance standards for the required procedures achieved? NO

1. One or more of the APH LCS recoveries were less than 70%.

2. One or more of the APH LCS recoveries were greater than 130%.

Were significant modifications made to the method as specified in Sect 11.3? NO

C5-C8 Aliphatics	26.0	ug/m3	24.0
C9-C12 Aliphatics	110.	ug/m3	28.0
1,3-Butadiene	ND	ug/m3	2.00
Methyl tert butyl ether	ND	ug/m3	2.00
Benzene	ND	ug/m3	2.00
Toluene	ND	ug/m3	2.00
Ethylbenzene	ND	ug/m3	2.00
p/m-Xylene	ND	ug/m3	4.00
o-Xylene	ND	ug/m3	2.00
Naphthalene	ND	ug/m3	2.00
2-Methylnaphthalene	ND	ug/m3	8.00
C5-C8 Aliphatics, Adjusted	ND	ug/m3	24.0
C9-C12 Aliphatics, Adjusted	110.	ug/m3	28.0
C9-C10 Aromatics	ND	ug/m3	24.0

Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES  
CERTIFICATE OF ANALYSIS

MA:M-MA086 NH:200301-A CT:PH-0574 ME:MA086 RI:65 NY:11148 NJ:MA935 Army:USACE

Laboratory Sample Number: L0401408-04	Date Collected: 20-FEB-2004 10:51
BSTR-RM106-021904	Date Received : 23-FEB-2004
Sample Matrix: AIR	Date Reported : 01-MAR-2004
Condition of Sample: Satisfactory	Field Prep: None
Number & Type of Containers: 1-Can	

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Petroleum Hydrocarbons in Air				43 DRAFT 1		0228 18:50	AR

Quality Control Information

Sample Type:	24 hour Time-integrated	
Sample Container Type:	Canister	
Sampling Flow Controller:	Mechanical	
Sampling Zone:	Unknown	
Sampling Flow Meter RPD of pre & post-sampling calibration check:	<=10%	
Were all QA/QC procedures REQUIRED by the method followed?		YES
Were all performance/acceptance standards for the required procedures achieved?		NO
1. One or more of the APH LCS recoveries were less than 70%.		
2. One or more of the APH LCS recoveries were greater than 130%.		
Were significant modifications made to the method as specified in Sect 11.3?		NO

C5-C8 Aliphatics	ND	ug/m3	24.0
C9-C12 Aliphatics	ND	ug/m3	28.0
1,3-Butadiene	ND	ug/m3	2.00
Methyl tert butyl ether	ND	ug/m3	2.00
Benzene	ND	ug/m3	2.00
Toluene	ND	ug/m3	2.00
Ethylbenzene	ND	ug/m3	2.00
p/m-Xylene	ND	ug/m3	4.00
o-Xylene	ND	ug/m3	2.00
Naphthalene	ND	ug/m3	2.00
2-Methylnaphthalene	ND	ug/m3	8.00
C5-C8 Aliphatics, Adjusted	ND	ug/m3	24.0
C9-C12 Aliphatics, Adjusted	ND	ug/m3	28.0
C9-C10 Aromatics	ND	ug/m3	24.0

Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES  
CERTIFICATE OF ANALYSIS

MA:M-MA086 NH:200301-A CT:PH-0574 ME:MA086 RI:65 NY:11148 NJ:MA935 Army:USACE

Laboratory Sample Number: L0401408-05  
 Date Collected: 20-FEB-2004 10:53  
 BSTR-RM109-021904  
 Date Received: 23-FEB-2004  
 Sample Matrix: AIR  
 Date Reported: 01-MAR-2004  
 Condition of Sample: Satisfactory  
 Field Prep: None  
 Number & Type of Containers: 1-Can

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	

Petroleum Hydrocarbons in Air				43 DRAFT 1		0228 19:31	AR
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Quality Control Information

Sample Type: 24 hour Time-integrated  
 Sample Container Type: Canister  
 Sampling Flow Controller: Mechanical  
 Sampling Zone: Unknown  
 Sampling Flow Meter RPD of pre & post-sampling calibration check: <=10%  
 Were all QA/QC procedures REQUIRED by the method followed? YES  
 Were all performance/acceptance standards for the required procedures achieved? NO  
 1. One or more of the APH LCS recoveries were less than 70%.  
 2. One or more of the APH LCS recoveries were greater than 130%.  
 Were significant modifications made to the method as specified in Sect 11.3? NO

C5-C8 Aliphatics	ND	ug/m3	24.0
C9-C12 Aliphatics	ND	ug/m3	28.0
1,3-Butadiene	ND	ug/m3	2.00
Methyl tert butyl ether	ND	ug/m3	2.00
Benzene	ND	ug/m3	2.00
Toluene	ND	ug/m3	2.00
Ethylbenzene	ND	ug/m3	2.00
p/m-Xylene	ND	ug/m3	4.00
o-Xylene	ND	ug/m3	2.00
Naphthalene	ND	ug/m3	2.00
2-Methylnaphthalene	ND	ug/m3	8.00
C5-C8 Aliphatics, Adjusted	ND	ug/m3	24.0
C9-C12 Aliphatics, Adjusted	ND	ug/m3	28.0
C9-C10 Aromatics	ND	ug/m3	24.0

Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES  
 CERTIFICATE OF ANALYSIS

MA:M-MA086 NH:200301-A CT:PH-0574 ME:MA086 RI:65 NY:11148 NJ:MA935 Army:USACE

Laboratory Sample Number: L0401408-06 Date Collected: 20-FEB-2004 10:54  
 BSTR-RM212-021904 Date Received : 23-FEB-2004  
 Sample Matrix: AIR Date Reported : 01-MAR-2004  
 Condition of Sample: Satisfactory Field Prep: None  
 Number & Type of Containers: 1-Can

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	

Petroleum Hydrocarbons in Air				43 DRAFT 1			0228 20:12 AR
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Quality Control Information

Sample Type: 24 hour Time-integrated  
 Sample Container Type: Canister  
 Sampling Flow Controller: Mechanical  
 Sampling Zone: Unknown  
 Sampling Flow Meter RPD of pre & post-sampling calibration check: <=10%  
 Were all QA/QC procedures REQUIRED by the method followed? YES  
 Were all performance/acceptance standards for the required procedures achieved? NO  
 1. One or more of the APH LCS recoveries were less than 70%.  
 2. One or more of the APH LCS recoveries were greater than 130%.  
 Were significant modifications made to the method as specified in Sect 11.3? NO

C5-C8 Aliphatics	ND	ug/m3	24.0
C9-C12 Aliphatics	ND	ug/m3	28.0
1,3-Butadiene	ND	ug/m3	2.00
Methyl tert butyl ether	ND	ug/m3	2.00
Benzene	ND	ug/m3	2.00
Toluene	ND	ug/m3	2.00
Ethylbenzene	ND	ug/m3	2.00
p/m-Xylene	ND	ug/m3	4.00
o-Xylene	ND	ug/m3	2.00
Naphthalene	ND	ug/m3	2.00
2-Methylnaphthalene	ND	ug/m3	8.00
C5-C8 Aliphatics, Adjusted	ND	ug/m3	24.0
C9-C12 Aliphatics, Adjusted	ND	ug/m3	28.0
C9-C10 Aromatics	ND	ug/m3	24.0

Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES  
 QUALITY ASSURANCE BATCH DUPLICATE ANALYSIS

Laboratory Job Number: L0401408

Parameter	Value 1	Value 2	Units	RPD	RPD Limits
Petroleum Hydrocarbons in Air for sample(s) 01-06 (L0401293-10, WG164004)					
C5-C8 Aliphatics	457.	348.	ug/m3	27	30
C9-C12 Aliphatics	280.	253.	ug/m3	10	30
1,3-Butadiene	ND	ND	ug/m3	NC	30
Methyl tert butyl ether	2.60	2.02	ug/m3	25	30
Benzene	ND	ND	ug/m3	NC	30
Toluene	42.3	32.2	ug/m3	27	30
Ethylbenzene	2.70	2.28	ug/m3	17	30
p/m-Xylene	13.2	10.8	ug/m3	20	30
o-Xylene	3.17	2.52	ug/m3	23	30
Naphthalene	ND	ND	ug/m3	NC	30
2-Methylnaphthalene	ND	ND	ug/m3	NC	30
C5-C8 Aliphatics, Adjusted	392.	297.	ug/m3	28	30
C9-C12 Aliphatics, Adjusted	272.	244.	ug/m3	11	30
C9-C10 Aromatics	ND	ND	ug/m3	NC	30

ALPHA ANALYTICAL LABORATORIES  
QUALITY ASSURANCE BATCH SPIKE ANALYSES

Laboratory Job Number: L0401408

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Parameter	% Recovery	QC Criteria
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Petroleum Hydrocarbons in Air LCS for sample(s) 01-06 (WG164004)

1,3-Butadiene	180	
Methyl tert butyl ether	90	
Benzene	80	
Toluene	80	
Ethylbenzene	87	
p/m-Xylene	117	
o-Xylene	89	
Naphthalene	82	
2-Methylnaphthalene	52	

ALPHA ANALYTICAL LABORATORIES  
 QUALITY ASSURANCE BATCH BLANK ANALYSIS

Laboratory Job Number: L0401408

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Blank Analysis for sample(s) 01-06 (WG164004-5)							
Petroleum Hydrocarbons in Air				43 DRAFT 1		0228 11:22	AR
C5-C8 Aliphatics	ND	ug/m3	24.0				
C9-C12 Aliphatics	ND	ug/m3	28.0				
1,3-Butadiene	ND	ug/m3	2.00				
Methyl tert butyl ether	ND	ug/m3	2.00				
Benzene	ND	ug/m3	2.00				
Toluene	ND	ug/m3	2.00				
Ethylbenzene	ND	ug/m3	2.00				
p/m-Xylene	ND	ug/m3	4.00				
o-Xylene	ND	ug/m3	2.00				
Naphthalene	ND	ug/m3	2.00				
2-Methylnaphthalene	ND	ug/m3	8.00				
C5-C8 Aliphatics, Adjusted	ND	ug/m3	24.0				
C9-C12 Aliphatics, Adjusted	ND	ug/m3	28.0				
C9-C10 Aromatics	ND	ug/m3	24.0				



ALPHA ANALYTICAL LABORATORIES  
ADDENDUM I

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REFERENCES

43. Method for the Determination of Air-Phase Petroleum Hydrocarbons (APH), Draft 1.0, Massachusetts Department of Environmental Protection, February 2000.

GLOSSARY OF TERMS AND SYMBOLS

REF Reference number in which test method may be found.  
METHOD Method number by which analysis was performed.  
ID Initials of the analyst.  
ND Not detected in comparison to the reported detection limit.

Please note that all solid samples are reported on dry weight basis unless noted otherwise.

LIMITATION OF LIABILITIES

Alpha Analytical, Inc. performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical, Inc., shall be to re-perform the work at its own expense. In no event shall Alpha Analytical, Inc. be held liable for any incidental consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical, Inc.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding times and splitting of samples in the field.



# AIR ANALYSIS

CHAIN OF CUSTODY  
Eight Walkup Drive Westborough, MA 01581  
TEL: 508-898-9220 FAX: 508-898-9193

## Client Information

Client: HARRY E ANDREICH, INC.

Address: 465 Anderson St.

Boston, MA

Phone: 617.926.7434

Fax: 617.926.1242

Email: andreich@harryandreich.com

These samples have been previously analyzed by Alpha

Other Project Specific Requirements/Comments:

PAGE 1 OF 1

## Project Information

Project Name: Boelex School

Project Location: Barnstable, MA

Project #: 30660-000

Project Manager: Jane Moran

ALPHA Quote #:

## Turn-Around Time

Standard  
AIR - 10 DAYS  
DISSOLVED GASES - 5 DAYS

RUSH (only confirmed if pre-approved)

Date Due: 3/1/04 Time:

## Date Rec'd in Lab: 2/23/04

## Report Information - Data Deliverables

FAX

ADEX

Criteria Checker:

(Default based on Regulatory Criteria Indicated)

Other Formats:

EMAIL (standard pdf report)

Additional Deliverables:

Report to: (if different than Project Manager)

NANCY BRADLEY

DIRECTOR@HARRYANDREICH.COM

ALPHA Job #: LO401408

## Billing Information

Same as Client info

PO #:

## Regulatory Requirements/Report Limits

State / Fed

Program

Criteria

## ANALYSIS

FIXED GASES  
DISSOLVED GASES  
APH  
TO-15  
TO-14A

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Start Time	End Time	Sample Matrix	Sampler's Initials	ID Can	ID-Flow Controller	TO-14A	TO-15	APH	DISSOLVED GASES	FIXED GASES	Sample Comments
01408-1	B51R-EM106-021904	2/20/04	1058	1049	A1C	MLB	0154	00379		X				INT. PRESS: 29 (in/14)
2	B51R-EM106-021904	2/20/04	1105	1058	"	MLB	0103	00490		X				INT. PRESS: 30
3	B51R-EM303-021904	2/20/04	1104	1056	"	MLB	0223	00311		X				INT. PRESS: 30
4	B51R-EM106-021904		1100	1051	"	MLB	0107	00494		X				INT. PRESS: 27.5
5	B51R-EM109-021904		1101	1053	"	MLB	0121	00282		X				INT. PRESS: 30+
6	B51R-EM212-021904		1102	1054	"	MLB	0232	00305		X				INT. PRESS: 30

10/18  
END PIA

0  
1  
0  
0  
0  
0

## Shaded Gray Areas For Lab Use Only

Relinquished By: Jackall B...  
Desmond Crawford CHFA

Date/Time: 2/24/04 13:55  
02/23/04 15:46  
02/23/04 16:40

Received By: Desmond Crawford  
Carla Hill  
Desmond Crawford

Date/Time: 2/23/04 15:35  
2/23/04 15:46  
02/24/04 16:40

Container Type: MAN

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Payment Terms. See reverse side.

ALPHA ANALYTICAL LABORATORIES

Eight Walkup Drive  
Westborough, Massachusetts 01581-1019  
(508) 898-9220 www.alphalab.com

MA:M-MA086 NH:200301-A CT:PH-0574 ME:MA086 RI:65 NY:11148 NJ:MA935 Army:USACE

CERTIFICATE OF ANALYSIS

Client: Haley & Aldrich, Inc. Laboratory Job Number: L0401942  
Address: 465 Medford Street, Suite 2200  
Boston, MA 02129-1400 Date Received: 08-MAR-2004  
Attn: Mr. Steve Provencal Date Reported: 16-MAR-2004  
Project Number: 30660-000 Delivery Method: Alpha  
Site: BURBANK SCHOOL TANK RELEASE

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ALPHA SAMPLE NUMBER	CLIENT IDENTIFICATION	SAMPLE LOCATION
L0401942-01	BSTR-GYM-030504	BELMONT, MA
L0401942-02	BSTR-RM106-030504	BELMONT, MA
L0401942-03	BSTR-RM109-030504	BELMONT, MA
L0401942-04	BSTR-RM303-030504	BELMONT, MA
L0401942-05	BSTR-RM203-030504	BELMONT, MA
L0401942-06	BSTR-RM212-030504	BELMONT, MA

I, the undersigned, attest under the pains and penalties of perjury that, based upon my personal inquiry of those responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

---

Authorized by: Scott McLean  
This document electronically signed

ALPHA ANALYTICAL LABORATORIES  
NARRATIVE REPORT

Laboratory Job Number: L0401942

---

APH

Acetone, Trichlorofluoromethane, and isopropyl alcohol are present in L0401942-02, -03, -05, and -06. These compounds elute in the C5-C8 Aliphatic Hydrocarbon range. The response for these analytes was not included in the calculation of the C5-C8 range result since they are not petroleum hydrocarbons.

Acetone, Trichlorofluoromethane, 2-Butanone, methyl isobutyl Ketone (MIBK) and isopropyl alcohol are present in L0401942-01 and -04. These compounds elute in the C5-C8 Aliphatic Hydrocarbon range. The response for these analytes was not included in the calculation of the C5-C8 range result since they are not petroleum hydrocarbons.

The LCS % recovery associated with -03 through -06 for 1,3-butadiene is above the acceptance criteria for the method. All associated samples are non-detect for this compound.

The LCS % recovery associated with -03 through -06 for naphthalene and 2-methylnphtalene is below the individual acceptance criteria for the compound, but within the overall method allowances.

The LCS % recovery associated with -01 and -02 for 1,3-butadiene and m/p-xylene is above the acceptance criteria for the method. All associated samples are non-detect for this compound.

The LCS % recovery associated with -01 and -02 for naphthalene is below the individual acceptance criteria for the compound, but within the overall method allowances.

ALPHA ANALYTICAL LABORATORIES  
 CERTIFICATE OF ANALYSIS

MA:M-MA086 NH:200301-A CT:PH-0574 ME:MA086 RI:65 NY:11148 NJ:MA935 Army:USACE

Laboratory Sample Number: L0401942-01 Date Collected: 06-MAR-2004 16:00  
 BSTR-GYM-030504 Date Received : 08-MAR-2004  
 Sample Matrix: AIR Date Reported : 16-MAR-2004  
 Condition of Sample: Satisfactory Field Prep: None  
 Number & Type of Containers: 1-Can

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	

Petroleum Hydrocarbons in Air				43 DRAFT 1			0315 15:18 AR
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Quality Control Information

Sample Type: 24 hrs flow  
 Sample Container Type: Canister  
 Sampling Flow Controller: Mechanical  
 Sampling Zone: Unknown  
 Sampling Flow Meter RPD of pre & post-sampling calibration check: <=10%

Were all QA/QC procedures REQUIRED by the method followed? YES  
 Were all performance/acceptance standards for the required procedures achieved? NO  
 1. One or more of the APH LCS recoveries were less than 70%.  
 2. One or more of the APH LCS recoveries were greater than 130%.  
 Were significant modifications made to the method as specified in Sect 11.3? NO

C5-C8 Aliphatics	52.3	ug/m3	24.0
C9-C12 Aliphatics	ND	ug/m3	28.0
1,3-Butadiene	ND	ug/m3	2.00
Methyl tert butyl ether	ND	ug/m3	2.00
Benzene	ND	ug/m3	2.00
Toluene	2.77	ug/m3	2.00
Ethylbenzene	ND	ug/m3	2.00
p/m-Xylene	ND	ug/m3	4.00
o-Xylene	ND	ug/m3	2.00
Naphthalene	ND	ug/m3	2.00
2-Methylnaphthalene	ND	ug/m3	8.00
C5-C8 Aliphatics, Adjusted	44.8	ug/m3	24.0
C9-C12 Aliphatics, Adjusted	ND	ug/m3	28.0
C9-C10 Aromatics	ND	ug/m3	24.0

Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES  
CERTIFICATE OF ANALYSIS

MA:M-MA086 NH:200301-A CT:PH-0574 ME:MA086 RI:65 NY:11148 NJ:MA935 Army:USACE

Laboratory Sample Number: L0401942-02 Date Collected: 06-MAR-2004 16:15  
BSTR-RM106-030504 Date Received : 08-MAR-2004  
Sample Matrix: AIR Date Reported : 16-MAR-2004  
Condition of Sample: Satisfactory Field Prep: None  
Number & Type of Containers: 1-Can

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	

Petroleum Hydrocarbons in Air				43 DRAFT 1		0315 16:00 AR	
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Quality Control Information

Sample Type: 24 hrs flow  
Sample Container Type: Canister  
Sampling Flow Controller: Mechanical  
Sampling Zone: Unknown  
Sampling Flow Meter RPD of pre & post-sampling calibration check: <=10%  
Were all QA/QC procedures REQUIRED by the method followed? YES  
Were all performance/acceptance standards for the required procedures achieved? NO  
1. One or more of the APH LCS recoveries were less than 70%.  
2. One or more of the APH LCS recoveries were greater than 130%.  
Were significant modifications made to the method as specified in Sect 11.3? NO

C5-C8 Aliphatics	48.2	ug/m3	24.0
C9-C12 Aliphatics	ND	ug/m3	28.0
1,3-Butadiene	ND	ug/m3	2.00
Methyl tert butyl ether	2.62	ug/m3	2.00
Benzene	ND	ug/m3	2.00
Toluene	5.49	ug/m3	2.00
Ethylbenzene	ND	ug/m3	2.00
p/m-Xylene	ND	ug/m3	4.00
o-Xylene	ND	ug/m3	2.00
Naphthalene	ND	ug/m3	2.00
2-Methylnaphthalene	ND	ug/m3	8.00
C5-C8 Aliphatics, Adjusted	34.5	ug/m3	24.0
C9-C12 Aliphatics, Adjusted	ND	ug/m3	28.0
C9-C10 Aromatics	ND	ug/m3	24.0

Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES  
 CERTIFICATE OF ANALYSIS

MA:M-MA086 NH:200301-A CT:PH-0574 ME:MA086 RI:65 NY:11148 NJ:MA935 Army:USACE

Laboratory Sample Number: L0401942-03 Date Collected: 06-MAR-2004 16:10  
 BSTR-RM109-030504 Date Received : 08-MAR-2004  
 Sample Matrix: AIR Date Reported : 16-MAR-2004  
 Condition of Sample: Satisfactory Field Prep: None  
 Number & Type of Containers: 1-Can

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Petroleum Hydrocarbons in Air				43 DRAFT 1			0312 17:55 AR

Quality Control Information

Sample Type: 24 hrs flow  
 Sample Container Type: Canister  
 Sampling Flow Controller: Mechanical  
 Sampling Zone: Unknown  
 Sampling Flow Meter RPD of pre & post-sampling calibration check: <=10%  
 Were all QA/QC procedures REQUIRED by the method followed? YES  
 Were all performance/acceptance standards for the required procedures achieved? NO  
 1. One or more of the APH LCS recoveries were less than 70%.  
 2. One or more of the APH LCS recoveries were greater than 130%.  
 Were significant modifications made to the method as specified in Sect 11.3? NO

C5-C8 Aliphatics	26.9	ug/m3	24.0
C9-C12 Aliphatics	ND	ug/m3	28.0
1,3-Butadiene	ND	ug/m3	2.00
Methyl tert butyl ether	2.37	ug/m3	2.00
Benzene	ND	ug/m3	2.00
Toluene	3.03	ug/m3	2.00
Ethylbenzene	ND	ug/m3	2.00
p/m-Xylene	ND	ug/m3	4.00
o-Xylene	ND	ug/m3	2.00
Naphthalene	ND	ug/m3	2.00
2-Methylnaphthalene	ND	ug/m3	8.00
C5-C8 Aliphatics, Adjusted	ND	ug/m3	24.0
C9-C12 Aliphatics, Adjusted	ND	ug/m3	28.0
C9-C10 Aromatics	ND	ug/m3	24.0

Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES  
CERTIFICATE OF ANALYSIS

MA:M-MA086 NH:200301-A CT:PH-0574 ME:MA086 RI:65 NY:11148 NJ:MA935 Army:USACE

Laboratory Sample Number: L0401942-04	Date Collected: 06-MAR-2004 16:05
BSTR-RM303-030504	Date Received : 08-MAR-2004
Sample Matrix: AIR	Date Reported : 16-MAR-2004
Condition of Sample: Satisfactory	Field Prep: None
Number & Type of Containers: 1-Can	

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Petroleum Hydrocarbons in Air				43 DRAFT 1			0312 18:38 AR

Quality Control Information

Sample Type:	24 hrs flow		
Sample Container Type:	Canister		
Sampling Flow Controller:	Mechanical		
Sampling Zone:	Unknown		
Sampling Flow Meter RPD of pre & post-sampling calibration check: <=10%			
Were all QA/QC procedures REQUIRED by the method followed?			YES
Were all performance/acceptance standards for the required procedures achieved?			NO
1. One or more of the APH LCS recoveries were less than 70%.			
2. One or more of the APH LCS recoveries were greater than 130%.			
Were significant modifications made to the method as specified in Sect 11.3?			NO

C5-C8 Aliphatics	53.5	ug/m3	24.0	
C9-C12 Aliphatics	ND	ug/m3	28.0	
1,3-Butadiene	ND	ug/m3	2.00	
Methyl tert butyl ether	2.58	ug/m3	2.00	
Benzene	ND	ug/m3	2.00	
Toluene	13.2	ug/m3	2.00	
Ethylbenzene	ND	ug/m3	2.00	
p/m-Xylene	ND	ug/m3	4.00	
o-Xylene	ND	ug/m3	2.00	
Naphthalene	ND	ug/m3	2.00	
2-Methylnaphthalene	ND	ug/m3	8.00	
C5-C8 Aliphatics, Adjusted	32.0	ug/m3	24.0	
C9-C12 Aliphatics, Adjusted	ND	ug/m3	28.0	
C9-C10 Aromatics	ND	ug/m3	24.0	

Comments: Complete list of References and Glossary of Terms found in Addendum I



ALPHA ANALYTICAL LABORATORIES  
CERTIFICATE OF ANALYSIS

MA:M-MA086 NH:200301-A CT:PH-0574 ME:MA086 RI:65 NY:11148 NJ:MA935 Army:USACE

Laboratory Sample Number: L0401942-05  
BSTR-RM203-030504  
Date Collected: 06-MAR-2004 16:03  
Date Received : 08-MAR-2004  
Date Reported : 16-MAR-2004

Sample Matrix: AIR  
Condition of Sample: Satisfactory  
Field Prep: None

Number & Type of Containers: 1-Can

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	

Petroleum Hydrocarbons in Air				43 DRAFT 1			0312 19:20 AR
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Quality Control Information

Sample Type: 24 hrs flow  
Sample Container Type: Canister  
Sampling Flow Controller: Mechanical  
Sampling Zone: Unknown  
Sampling Flow Meter RPD of pre & post-sampling calibration check: <=10%

Were all QA/QC procedures REQUIRED by the method followed? YES  
Were all performance/acceptance standards for the required procedures achieved? NO

1. One or more of the APH LCS recoveries were less than 70%.  
2. One or more of the APH LCS recoveries were greater than 130%.

Were significant modifications made to the method as specified in Sect 11.3? NO

C5-C8 Aliphatics	121.	ug/m3	24.0
C9-C12 Aliphatics	ND	ug/m3	28.0
1,3-Butadiene	ND	ug/m3	2.00
Methyl tert butyl ether	3.48	ug/m3	2.00
Benzene	ND	ug/m3	2.00
Toluene	4.28	ug/m3	2.00
Ethylbenzene	ND	ug/m3	2.00
p/m-Xylene	ND	ug/m3	4.00
o-Xylene	ND	ug/m3	2.00
Naphthalene	ND	ug/m3	2.00
2-Methylnaphthalene	ND	ug/m3	8.00
C5-C8 Aliphatics, Adjusted	109.	ug/m3	24.0
C9-C12 Aliphatics, Adjusted	ND	ug/m3	28.0
C9-C10 Aromatics	ND	ug/m3	24.0

Comments: Complete list of References and Glossary of Terms found in Addendum I



ALPHA ANALYTICAL LABORATORIES  
QUALITY ASSURANCE BATCH SPIKE ANALYSES

Laboratory Job Number: L0401942

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Parameter	% Recovery	QC Criteria
Petroleum Hydrocarbons in Air LCS for sample(s) 03-06 (WG165292)		
1,3-Butadiene	165	
Methyl tert butyl ether	99	
Benzene	89	
Toluene	88	
Ethylbenzene	82	
p/m-Xylene	114	
o-Xylene	88	
Naphthalene	57	
2-Methylnaphthalene	16	
Petroleum Hydrocarbons in Air LCS for sample(s) 01-02 (WG165292)		
1,3-Butadiene	174	
Methyl tert butyl ether	118	
Benzene	109	
Toluene	108	
Ethylbenzene	108	
p/m-Xylene	146	
o-Xylene	111	
Naphthalene	66	
2-Methylnaphthalene	71	

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ALPHA ANALYTICAL LABORATORIES  
 QUALITY ASSURANCE BATCH BLANK ANALYSIS

Laboratory Job Number: L0401942

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Blank Analysis for sample(s) 03-06 (WG165292-3)							
Petroleum Hydrocarbons in Air				43 DRAFT 1			0312 14:19 AR
C5-C8 Aliphatics	ND	ug/m3	24.0				
C9-C12 Aliphatics	ND	ug/m3	28.0				
1,3-Butadiene	ND	ug/m3	2.00				
Methyl tert butyl ether	ND	ug/m3	2.00				
Benzene	ND	ug/m3	2.00				
Toluene	ND	ug/m3	2.00				
Ethylbenzene	ND	ug/m3	2.00				
p/m-Xylene	ND	ug/m3	4.00				
o-Xylene	ND	ug/m3	2.00				
Naphthalene	ND	ug/m3	2.00				
2-Methylnaphthalene	ND	ug/m3	8.00				
C5-C8 Aliphatics, Adjusted	ND	ug/m3	24.0				
C9-C12 Aliphatics, Adjusted	ND	ug/m3	28.0				
C9-C10 Aromatics	ND	ug/m3	24.0				
Blank Analysis for sample(s) 01-02 (WG165292-5)							
Petroleum Hydrocarbons in Air				43 DRAFT 1			0315 14:10 AR
C5-C8 Aliphatics	ND	ug/m3	24.0				
C9-C12 Aliphatics	ND	ug/m3	28.0				
1,3-Butadiene	ND	ug/m3	2.00				
Methyl tert butyl ether	ND	ug/m3	2.00				
Benzene	ND	ug/m3	2.00				
Toluene	ND	ug/m3	2.00				
Ethylbenzene	ND	ug/m3	2.00				
p/m-Xylene	ND	ug/m3	4.00				
o-Xylene	ND	ug/m3	2.00				
Naphthalene	ND	ug/m3	2.00				
2-Methylnaphthalene	ND	ug/m3	8.00				
C5-C8 Aliphatics, Adjusted	ND	ug/m3	24.0				
C9-C12 Aliphatics, Adjusted	ND	ug/m3	28.0				
C9-C10 Aromatics	ND	ug/m3	24.0				

ALPHA ANALYTICAL LABORATORIES  
ADDENDUM I

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REFERENCES

43. Method for the Determination of Air-Phase Petroleum Hydrocarbons (APH), Draft 1.0, Massachusetts Department of Environmental Protection, February 2000.

GLOSSARY OF TERMS AND SYMBOLS

REF Reference number in which test method may be found.  
METHOD Method number by which analysis was performed.  
ID Initials of the analyst.  
ND Not detected in comparison to the reported detection limit.

Please note that all solid samples are reported on dry weight basis unless noted otherwise.

LIMITATION OF LIABILITIES

Alpha Analytical, Inc. performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical, Inc., shall be to re-perform the work at its own expense. In no event shall Alpha Analytical, Inc. be held liable for any incidental consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical, Inc.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding times and splitting of samples in the field.



# AIR ANALYSIS

## CHAIN OF CUSTODY

Eight Walkup Drive Westborough, MA 01581  
TEL: 508-898-9220 FAX: 508-898-9193

### Client Information

Client: HALEY T ALDRICH

Address: 465 MEDFORD ST

BOSTON MA 02129

Phone: 617 886 7465

Fax: 617 886 7765

Email: nreardon@haleyaldrich.com

These samples have been previously analyzed by Alpha

Other Project Specific Requirements/Comments:

PAGE 1 OF 1

### Project Information

Project Name: BURBANK SCHOOL

Project Location: BELMONT, MA

Project #: 30660-000

Project Manager: JDEL MOONEY

ALPHA Quote #:

### Turn-Around Time

Standard 7/15  RUSH (only confirmed if pre-approved)  
10 DAYS  
DISSOLVED GASES - 5 DAYS

Time:

Date Due:

Date Rec'd in Lab: 7/8

### Report Information - Data Deliverables

FAX  
 ADEX

Criteria Checker:

(Default based on Regulatory Criteria Indicated)

Other Formats:

EMAIL (standard pdf report)

Additional Deliverables:

Report to: (if different than Project Manager)  
NANCY REARDON  
(nreardon@haleyaldrich.com)

ALPHA Job #: 60401942

### Billing Information

Same as Client info

PO #:

### Regulatory Requirements/Report Limits

State / Fed

Program

Criteria

### ANALYSIS

TOTAL # CONTAINERS

Sample Comments	TO-14A	TO-15	APH	DISSOLVED GASES	FIXED GASES
1st START by STOP					
				30"	0"
				30"	10"
				30"	0"
				29"	1"
				30"	0"
				30"	0.5"

Sample ID	Sample Matrix	Collection Date	Start Time	End Time	Samplers Initials	ID Can	ID-Flow Controller
1942-1	AIR	3/5/04 to 3/6/04	16:25	16:00	NER	0222	00316
2	AIR	3/5/04 to 3/6/04	16:32	16:15	NER	0143	00500
3	AIR	3/5/04 to 3/6/04	16:35	16:10	NER	0127	00497
4	AIR	3/5/04 to 3/6/04	16:39	16:25	NER	0158	00319
5	AIR	3/5/04 to 3/6/04	16:45	16:25	NER	0183	00494
6	AIR	3/5/04 to 3/6/04	16:50	16:11	NER	0112	00305

### Shaded Gray Areas For Lab Use Only

Container Type

Received By:

Date/Time

11:13 07/08/04

7/8 16:46

7/8 17:50

7/8 16:46

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Payment Terms. See reverse side.

ALPHA ANALYTICAL LABORATORIES

Eight Walkup Drive  
Westborough, Massachusetts 01581-1019  
(508) 898-9220 www.alphalab.com

MA:M-MA086 NH:200301-A CT:PH-0574 ME:MA086 RI:65 NY:11148 NJ:MA935 Army:USACE

CERTIFICATE OF ANALYSIS

Client: Haley & Aldrich, Inc. Laboratory Job Number: L0403043  
Address: 465 Medford Street, Suite 2200  
Boston, MA 02129-1400 Date Received: 06-APR-2004  
Attn: Mr. Steve Provencal Date Reported: 13-APR-2004  
Project Number: 30660-000 Delivery Method: Alpha  
Site: BURBANK SCHOOL

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ALPHA SAMPLE NUMBER	CLIENT IDENTIFICATION	SAMPLE LOCATION
L0403043-01	IAQ-STORAGE-05APR04	BELMONT, MA
L0403043-02	IAQ-BOILER-05APR04	BELMONT, MA

I, the undersigned, attest under the pains and penalties of perjury that, based upon my personal inquiry of those responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

---

Authorized by: Scott McLean  
This document electronically signed

ALPHA ANALYTICAL LABORATORIES  
NARRATIVE REPORT

Laboratory Job Number: L0403043

---

APH

The LCS % recovery for naphthalene is above the acceptance criteria for the method. All associated samples are non-detect for this compound or were re-analyzed.



ALPHA ANALYTICAL LABORATORIES  
 CERTIFICATE OF ANALYSIS

MA:M-MA086 NH:200301-A CT:PH-0574 ME:MA086 RI:65 NY:11148 NJ:MA935 Army:USACE

Laboratory Sample Number: L0403043-01 Date Collected: 05-APR-2004 12:53  
 IAQ-STORAGE-05APR04 Date Received : 06-APR-2004  
 Sample Matrix: AIR Date Reported : 13-APR-2004  
 Condition of Sample: Satisfactory Field Prep: None  
 Number & Type of Containers: 1-Can

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	

Petroleum Hydrocarbons in Air				43 DRAFT 1			0408 08:37 AR
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Quality Control Information

Sample Type: 24 hour Time-integrated  
 Sample Container Type: Canister  
 Sampling Flow Controller: Mechanical  
 Sampling Zone: Unknown

Sampling Flow Meter RPD of pre & post-sampling calibration check: <=10%

Were all QA/QC procedures REQUIRED by the method followed?	YES
Were all performance/acceptance standards for the required procedures achieved?	NO
1. One or more of the APH LCS recoveries were greater than 130%.	
Were significant modifications made to the method as specified in Sect 11.3?	NO

C5-C8 Aliphatics	99.8	ug/m3	24.0
C9-C12 Aliphatics	116.	ug/m3	28.0
1,3-Butadiene	ND	ug/m3	2.00
Methyl tert butyl ether	8.83	ug/m3	2.00
Benzene	ND	ug/m3	2.00
Toluene	7.64	ug/m3	2.00
Ethylbenzene	3.54	ug/m3	2.00
p/m-Xylene	11.1	ug/m3	4.00
o-Xylene	3.24	ug/m3	2.00
Naphthalene	ND	ug/m3	2.00
2-Methylnaphthalene	ND	ug/m3	8.00
C5-C8 Aliphatics, Adjusted	63.9	ug/m3	24.0
C9-C12 Aliphatics, Adjusted	57.6	ug/m3	28.0
C9-C10 Aromatics	57.7	ug/m3	24.0

Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES  
 CERTIFICATE OF ANALYSIS

MA:M-MA086 NH:200301-A CT:PH-0574 ME:MA086 RI:65 NY:11148 NJ:MA935 Army:USACE

Laboratory Sample Number: L0403043-02	Date Collected: 05-APR-2004 12:55
IAQ-BOILER-05APR04	Date Received: 06-APR-2004
Sample Matrix: AIR	Date Reported: 13-APR-2004
Condition of Sample: Satisfactory	Field Prep: None
Number & Type of Containers: 1-Can	

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE PREP    ANAL	ID
-----------	--------	-------	-----	------------	----------------------	----

Petroleum Hydrocarbons in Air				43 DRAFT 1		0408 09:15 AR
-------------------------------	--	--	--	------------	--	---------------

Quality Control Information

Sample Type:	24 hour Time-integrated
Sample Container Type:	Canister
Sampling Flow Controller:	Mechanical
Sampling Zone:	Unknown
Sampling Flow Meter RPD of pre & post-sampling calibration check: <=10%	
Were all QA/QC procedures REQUIRED by the method followed?	YES
Were all performance/acceptance standards for the required procedures achieved?	NO
1. One or more of the APH LCS recoveries were greater than 130%.	
Were significant modifications made to the method as specified in Sect 11.3?	NO

C5-C8 Aliphatics	84.7	ug/m3	24.0
C9-C12 Aliphatics	285.	ug/m3	28.0
1,3-Butadiene	ND	ug/m3	2.00
Methyl tert butyl ether	13.8	ug/m3	2.00
Benzene	ND	ug/m3	2.00
Toluene	5.56	ug/m3	2.00
Ethylbenzene	ND	ug/m3	2.00
p/m-Xylene	6.03	ug/m3	4.00
o-Xylene	2.44	ug/m3	2.00
2-Methylnaphthalene	ND	ug/m3	8.00
C5-C8 Aliphatics, Adjusted	53.7	ug/m3	24.0
C9-C12 Aliphatics, Adjusted	210.	ug/m3	28.0
C9-C10 Aromatics	72.1	ug/m3	24.0

Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES  
CERTIFICATE OF ANALYSIS

Laboratory Sample Number: L0403043-02  
IAQ-BOILER-05APR04

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Petroleum Hydrocarbons in Air				43 DRAFT 1		0412 13:42 AR	

Quality Control Information

Sample Type: 24 hour Time-integrated  
 Sample Container Type: Canister  
 Sampling Flow Controller: Mechanical  
 Sampling Zone: Unknown  
 Sampling Flow Meter RPD of pre & post-sampling calibration check: <=10%  
 Were all QA/QC procedures REQUIRED by the method followed? YES  
 Were all performance/acceptance standards for the required procedures achieved? NO  
 1. One or more of the APH LCS recoveries were greater than 130%.  
 Were significant modifications made to the method as specified in Sect 11.3? NO

Naphthalene 3.64 ug/m3 2.00

Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES  
 QUALITY ASSURANCE BATCH DUPLICATE ANALYSIS

Laboratory Job Number: L0403043

Parameter	Value 1	Value 2	Units	RPD	RPD Limits
Petroleum Hydrocarbons in Air for sample(s) 01-02 (L0402801-04, WG167279)					
C5-C8 Aliphatics	128.	129.	ug/m3	1	30
C9-C12 Aliphatics	88.6	87.9	ug/m3	1	30
1,3-Butadiene	ND	ND	ug/m3	NC	30
Methyl tert butyl ether	6.10	6.16	ug/m3	1	30
Benzene	ND	ND	ug/m3	NC	30
Toluene	15.9	16.4	ug/m3	3	30
Ethylbenzene	2.02	2.04	ug/m3	1	30
p/m-Xylene	6.69	6.92	ug/m3	3	30
o-Xylene	2.48	2.45	ug/m3	1	30
Naphthalene	ND	ND	ug/m3	NC	30
2-Methylnaphthalene	ND	ND	ug/m3	NC	30
C5-C8 Aliphatics, Adjusted	92.7	93.7	ug/m3	1	30
C9-C12 Aliphatics, Adjusted	75.7	74.8	ug/m3	1	30
C9-C10 Aromatics	ND	ND	ug/m3	NC	30

ALPHA ANALYTICAL LABORATORIES  
QUALITY ASSURANCE BATCH SPIKE ANALYSES

Laboratory Job Number: L0403043

Parameter	% Recovery	QC Criteria
Petroleum Hydrocarbons in Air LCS for sample(s) 01-02 (WG167279)		
1,3-Butadiene	105	
Methyl tert butyl ether	102	
Benzene	109	
Toluene	115	
Ethylbenzene	121	
p/m-Xylene	118	
o-Xylene	119	
Naphthalene	135	
2-Methylnaphthalene	88	
C5-C8 Aliphatics, Adjusted	96	
C9-C12 Aliphatics, Adjusted	92	
C9-C10 Aromatics	120	
Petroleum Hydrocarbons in Air LCS for sample(s) 02 (WG167279)		
Naphthalene	76	

ALPHA ANALYTICAL LABORATORIES  
 QUALITY ASSURANCE BATCH BLANK ANALYSIS

Laboratory Job Number: L0403043

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Blank Analysis for sample(s) 01-02 (WG167279-3)							
Petroleum Hydrocarbons in Air				43 DRAFT 1		0407 13:20	AR
C5-C8 Aliphatics	ND	ug/m3	24.0				
C9-C12 Aliphatics	ND	ug/m3	28.0				
1,3-Butadiene	ND	ug/m3	2.00				
Methyl tert butyl ether	ND	ug/m3	2.00				
Benzene	ND	ug/m3	2.00				
Toluene	ND	ug/m3	2.00				
Ethylbenzene	ND	ug/m3	2.00				
p/m-Xylene	ND	ug/m3	4.00				
o-Xylene	ND	ug/m3	2.00				
Naphthalene	ND	ug/m3	2.00				
2-Methylnaphthalene	ND	ug/m3	8.00				
C5-C8 Aliphatics, Adjusted	ND	ug/m3	24.0				
C9-C12 Aliphatics, Adjusted	ND	ug/m3	28.0				
C9-C10 Aromatics	ND	ug/m3	24.0				
Blank Analysis for sample(s) 02 (WG167279-5)							
Petroleum Hydrocarbons in Air				43 DRAFT 1		0412 12:52	AR
Naphthalene	ND	ug/m3	2.00				

ALPHA ANALYTICAL LABORATORIES  
ADDENDUM I

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REFERENCES

43. Method for the Determination of Air-Phase Petroleum Hydrocarbons (APH), Draft 1.0, Massachusetts Department of Environmental Protection, February 2000.

GLOSSARY OF TERMS AND SYMBOLS

REF Reference number in which test method may be found.  
METHOD Method number by which analysis was performed.  
ID Initials of the analyst.  
ND Not detected in comparison to the reported detection limit.

Please note that all solid samples are reported on dry weight basis unless noted otherwise.

LIMITATION OF LIABILITIES

Alpha Analytical, Inc. performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical, Inc., shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical, Inc. be held liable for any incidental consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical, Inc.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding times and splitting of samples in the field.



# AIR ANALYSIS

**CHAIN OF CUSTODY**  
 Eight Walkup Drive Westborough, MA 01581  
 TEL: 508-898-9220 FAX: 508-998-9193

### Client Information

**Client:** HANEY + ALDRICH  
**Address:** 465 MEDFORD ST  
 BOSTON MA 02129  
**Phone:** 617 886 7465  
**Fax:** 617 886 7765  
**Email:** ner@haleghaldrich.com

These samples have been previously analyzed by Alpha  
 Other Project Specific Requirements/Comments:

### Project Information

**Project Name:** SUBBANK SCHOOL  
**Project Location:** SEUMONT, MA  
**Project #:** 30660-000  
**Project Manager:** J. MOONEY  
**ALPHA Quote #:**  
**Turn-Around Time**

Standard  
 AR - 10 DAYS  
 DISSOLVED GASES - 5 DAYS  
**Date Due:** 4/13/04 **Time:**  
 RUSH (only confirmed if pre-approved)

PAGE 1 OF 1

### Report Information - Data Deliverables

FAX  
 MDEX  
**Criteria Checker:**  
 (Default based on Regulatory Criteria indicated)  
**Other Formats:**  
 EMAIL (standard pdf report)  
 Additional Deliverables:  
**Report to:** (if different than Project Manager)

### Billing Information

Same as Client Info  
**PO #:**

### Regulatory Requirements/Report Limits

**State / Fed** **Program** **Criteria**

### ANALYSIS

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection		Sample Matrix	Sampler's Initials	ID Can	ID - Flow Controller	TO-15	TO-14A	APH	FIXED GASES		DISSOLVED GASES		TOTAL POINTS - MEETS
		Date	Start Time								End Time	START	END	START	
030413.1	1AQ-STORAGE-05APR04	4/5/04	13:45	12:53	AIR	MB	00290	X				30"	1"		
2	1AQ-BLOWER-05APR04	4/5/04	13:50	12:55	AIR	MB	00316	X				29"	14"		

"Hg

Shaded Gray Areas For Lab Use Only

Relinquished By	Date/Time	Received By	Date/Time
Todd B...	4/6/04 11:00	[Signature]	4/6/04 16:02
[Signature]	4/6/04 16:00	[Signature]	4/6/04 16:13
[Signature]	4/6/04 16:00	[Signature]	4/6/04 16:04

Please print clearly, legibly and completely. Samples can not be logged in and turn around time clock will not start until they are completely received. All samples submitted are subject to Alpha's Payment Terms. See reverse side.



**APPENDIX G**

**Toxicity Profiles**

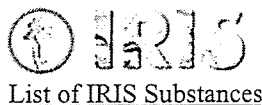


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Full IRIS Summary  QuickView

# Acenaphthylene (CASRN 208-96-8)

[view QuickView](#)

## MAIN CONTENTS

Reference Dose for Chronic Oral Exposure (RfD)

**GO**

0443

### Acenaphthylene; CASRN 208-96-8

Health assessment information on a chemical substance is included in IRIS only after a comprehensive review of chronic toxicity data by U.S. EPA health scientists from several Program Offices and the Office of Research and Development. The summaries presented in Sections I and II represent a consensus reached in the review process. Background information and explanations of the methods used to derive the values given in IRIS are provided in the Background Documents.

#### STATUS OF DATA FOR Acenaphthylene

File First On-Line 01/01/1991

Category (section)	Status	Last Revised
Oral RfD Assessment (I.A.)	no data	
Inhalation RfC Assessment (I.B.)	no data	
Carcinogenicity Assessment (II.)	on-line	01/01/1991

### I. Chronic Health Hazard Assessments for Noncarcinogenic Effects

#### I.A. Reference Dose for Chronic Oral Exposure (RfD)

Substance Name -- Acenaphthylene  
CASRN -- 208-96-8

Not available at this time.



[Chronic Health Hazards for Non-Carcinogenic Effects](#)

[Reference Dose for Chronic Oral Exposure \(RfD\)](#)

- [Oral RfD Summary](#)
- [Principal and Supporting Studies](#)
- [Uncertainty and Modifying Factors](#)
- [Additional Studies/Comments](#)
- [Confidence in the Oral RfD](#)
- [EPA Documentation and Review](#)

[Reference Concentration for Chronic Inhalation Exposure \(RfC\)](#)

- [Inhalation RfC Summary](#)
- [Principal and Supporting Studies](#)
- [Uncertainty and Modifying Factors](#)
- [Additional Studies/Comments](#)
- [Confidence in the Inhalation RfC](#)
- [EPA Documentation and Review](#)

[Carcinogenicity Assessment for Lifetime Exposure](#)

[Evidence for Human Carcinogenicity](#)

- [Weight-of-Evidence Characterization](#)
- [Human Carcinogenicity Data](#)
- [Animal Carcinogenicity Data](#)
- [Supporting Data for](#)

[Back to top](#)[Supporting Data for  
Carcinogenicity](#)[Quantitative Estimate  
of Carcinogenic Risk  
from Oral Exposure](#)

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### **\_I.B. Reference Concentration for Chronic Inhalation Exposure (RfC)**

Substance Name -- Acenaphthylene

CASRN -- 208-96-8

Not available at this time.

[Back to top](#)[- Summary of Risk  
Estimates](#)  
[- Dose-Response Data](#)  
[- Additional Comments](#)  
[- Discussion of  
Confidence](#)[Quantitative Estimate  
of Carcinogenic Risk  
from Inhalation  
Exposure](#)

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## **\_II. Carcinogenicity Assessment for Lifetime Exposure**

Substance Name -- Acenaphthylene

CASRN -- 208-96-8

Last Revised -- 01/01/1991

Section II provides information on three aspects of the carcinogenic assessment for the substance in question; the weight-of-evidence judgment of the likelihood that the substance is a human carcinogen, and quantitative estimates of risk from oral exposure and from inhalation exposure. The quantitative risk estimates are presented in three ways. The slope factor is the result of application of a low-dose extrapolation procedure and is presented as the risk per (mg/kg)/day. The unit risk is the quantitative estimate in terms of either risk per ug/L drinking water or risk per ug/cu.m air breathed. The third form in which risk is presented is a drinking water or air concentration providing cancer risks of 1 in 10,000, 1 in 100,000 or 1 in 1,000,000. The rationale and methods used to develop the carcinogenicity information in IRIS are described in The Risk Assessment Guidelines of 1986 (EPA/600/8-87/045) and in the IRIS Background Document. IRIS summaries developed since the publication of EPA's more recent Proposed Guidelines for Carcinogen Risk Assessment also utilize those Guidelines where indicated (Federal Register 61 (79):17960-18011, April 23, 1996). Users are referred to Section I of this IRIS file for information on long-term toxic effects other than carcinogenicity.

[- Summary of Risk  
Estimates](#)  
[- Dose-Response Data](#)  
[- Additional Comments](#)  
[- Discussion of  
Confidence](#)[EPA Documentation,  
Review and Contacts](#)

- [Bibliography](#)
- [Revision History](#)
- [Synonyms](#)

### **\_II.A. Evidence for Human Carcinogenicity**

#### **\_\_II.A.1. Weight-of-Evidence Characterization**

Classification -- D; not classifiable as to human carcinogenicity

Basis -- Based on no human data and inadequate data from animal bioassays.

#### **\_\_II.A.2. Human Carcinogenicity Data**

None.

#### **\_\_II.A.3. Animal Carcinogenicity Data**

Inadequate. No tumors were observed in a lifetime study, when 0.25% acenaphthylene (purity not specified) was applied to the skin (dose, frequency and duration not stated) of mice (sex and strain not specified) (Cook, 1932). Survival was 65% at 6 months, and 35% at 1 year. It is not stated whether a control group was used. In the series of experiments, however, the dermal application of other polycyclic aromatic hydrocarbons did result in

the formation of mouse skin tumors.

#### **\_\_II.A.4. Supporting Data for Carcinogenicity**

Acenaphthylene (1 mM) yielded positive results in a Salmonella typhimurium forward mutation assay (Kaden et al., 1979) and was not positive in a Salmonella typhimurium TA98 and TA100 in the presence of hepatic homogenates (Bos et al., 1988).

[Back to top](#)

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#### **\_\_II.B. Quantitative Estimate of Carcinogenic Risk from Oral Exposure**

None.

[Back to top](#)

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#### **\_\_II.C. Quantitative Estimate of Carcinogenic Risk from Inhalation Exposure**

None.

[Back to top](#)

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#### **\_\_II.D. EPA Documentation, Review, and Contacts (Carcinogenicity Assessment)**

##### **\_\_II.D.1. EPA Documentation**

Source Document -- U.S. EPA, 1990

The 1990 Drinking Water Criteria Document for Polycyclic Aromatic Hydrocarbons has received Agency and external review.

##### **\_\_II.D.2. EPA Review (Carcinogenicity Assessment)**

Agency Work Group Review -- 02/07/1990

Verification Date -- 02/07/1990

##### **\_\_II.D.3. EPA Contacts (Carcinogenicity Assessment)**

Please contact the IRIS Hotline for all questions concerning this assessment or IRIS, in general, at (202)566-1676 (phone), (202)566-1749 (FAX) or [hotline.iris@epa.gov](mailto:hotline.iris@epa.gov) (internet address).

[Back to top](#)

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**\_\_III. [reserved]**

\_IV. [reserved]

\_V. [reserved]

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## \_VI. Bibliography

Substance Name -- Acenaphthylene

CASRN -- 208-96-8

Last Revised -- 01/01/1991

### \_VI.A. Oral RfD References

None

[Back to top](#)

---

### \_VI.B. Inhalation RfC References

None

[Back to top](#)

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### \_VI.C. Carcinogenicity Assessment References

Bos, R.P., J.L.G. Theuws, F.J. Jongeneelen and P.Th. Henderson. 1988. Mutagenicity of bi-, tri-, and tetra-cyclic aromatic hydrocarbons in the "taped-plate assay" and in the conventional Salmonella mutagenicity assay. *Mutat. Res.* 204: 203-206.

Cook, J.W. 1932. The production of cancer by pure hydrocarbons -- Part II. *Proc. Royal Soc. London S.B.* 11: 485-496.

Kaden, D.A., R.A. Hites and W.G. Thilly. 1979. Mutagenicity of soot and associated polycyclic aromatic hydrocarbons to *Salmonella typhimurium*. *Cancer Res.* 39: 4152-4159.

U.S. EPA. 1990. Drinking Water Criteria Document for Polycyclic Aromatic Hydrocarbons (PAHs). Prepared by the Office of Health and Environmental Assessment, Environmental Criteria and Assessment Office, Cincinnati, OH for the Office of Drinking Water, Washington, DC. (Final Draft)

[Back to top](#)

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## \_VII. Revision History

Substance Name -- Acenaphthylene

CASRN -- 208-96-8

Date	Section	Description
01/01/1991	II.	Carcinogen assessment on-line
01/01/1991	VI.	Bibliography on-line
01/01/1992	IV.	Regulatory Action section on-line
04/01/1997	III., IV., V.	Drinking Water Health Advisories, EPA Regulatory Actions, and Supplementary Data were removed from IRIS on or before April 1997. IRIS users were directed to the appropriate EPA Program Offices for this information.

[Back to top](#)

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## VIII. Synonyms

Substance Name -- Acenaphthylene  
CASRN -- 208-96-8  
Last Revised -- 01/01/1991

208-96-8  
Acenaphthylene  
Cyclopenta(de)naphthalene  
HSDB 2661  
NSC 59821

[Back to top](#)

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Last updated on Wednesday, October 15th, 2003  
URL: <http://www.epa.gov/IRIS/subst/0443.htm>