
Limited Phase II Environmental Site Assessment

350 Mariano Bishop Boulevard
Fall River, Massachusetts

Prepared for **Town Fair Tire Centers, Inc.**
460 Coe Avenue
East Haven, CT 06512

Prepared by **VHB/Vanasse Hangen Brustlin, Inc.**
Transportation, Land Development, Environmental Services
54 Tuttle Place
Middletown, Connecticut 06457

June 2002

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Investigator



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1

Introduction

At the request of Town Fair Tire Centers, Inc. ("Town Fair Tire"), Vanasse Hangen Brustlin, Inc. (VHB) has completed a limited Phase II Environmental Site Assessment (ESA) of the vacant, unpaved portion of property located at 350 Mariano Bishop Boulevard in Fall River, Massachusetts (referred to herein as the "Site"). Figure 1 depicts the Site location. This report was prepared for Town Fair Tire, and is subject to the terms and conditions of the Agreement between Town Fair Tire and VHB and the Limitations provided in Appendix A.

VHB understands that Town Fair Tire plans on leasing the Site and developing a retail facility. The purpose of the investigation was to assess potential oil or hazardous materials (OHM) contamination identified during the April 2002 ASTM Phase I Environmental Site Assessment (PESA) prepared by VHB. The objectives for evaluating Site conditions were to identify on-site/off-site sources of contamination and document existing groundwater conditions. This investigation was conducted for environmental due-diligence purposes and is not intended to comply with the Phase II requirements of the Massachusetts Contingency Plan (MCP).

Background and Previous Assessment Results

The proposed Site area is part of a larger parcel of land (referred to herein as the host parcel) and currently consists of vacant, undeveloped land. The remainder of the host parcel is developed with a commercial/retail building (housing the Tri-Med Medical Walk-In Clinic, Fall River Vision, Cote Insurance, Burns Power Tools, and Subway) and a paved parking area. The Site lies immediately to the east of the building and parking lot. The immediate Site vicinity is developed with commercial and retail stores.

The existing single-story commercial building has occupied the host parcel since approximately 1980. No structures currently exist on the Site and no records were found to suggest that the Site had been developed in the past. Personnel at City Hall stated that the property was "formerly a swamp that was used for dumping materials." The materials dumped reportedly included construction and demolition waste, according to information obtained at the Massachusetts Department of Environmental Protection (MADEP). Regulatory information indicated that several properties in the area (including the host parcel and Site) were used as a landfill

between 1900 and the late 1960s. Reportedly, the landfill was closed in 1968, and is neither lined nor capped. Based on the results of the PESA, VHB identified concern with respect to potential impacts associated with historic landfilling practice in the Site vicinity. VHB also identified concern with respect to documented and suspected petroleum releases on neighboring topographically upgradient properties.

On March 30, 2002, R.J. Cohen Engineering Associates excavated three test pits (TP-1 through TP-3) on Site, to depths of 9 feet, 11 feet, and 10 feet below ground surface (bgs), respectively. The test pit locations are depicted on Figure 2. Visual observations revealed that these areas consist entirely of mixed fill, including: black silty sand, rubber, trash, metal, auto parts, asphalt, wood, coal, ash, tires, metal piping, railroad ties, insulation and concrete. Groundwater was encountered at depths ranging from 7 to 10 feet bgs. A composite soil sample was collected from each test pit and field-screened for volatile organic compounds (VOCs) using a photo-ionization detector (PID). Samples were field screened using a standard methodology for the jar headspace analytical screening procedure, which measures total volatile organic compounds (TVOCs). Field screening results revealed that these soil samples exhibited PID readings of 3 parts per million or less. Strong petroleum odors were detected at approximately 7 feet bgs in TP-3 (just above the water table), located in the northeast portion of the Site. No olfactory evidence of petroleum contamination was noted in test pits TP-1 or TP-2. Excavation refusal (apparent bedrock) was encountered at approximately 11 feet bgs in Test Pit TP-2.

Massachusetts Contingency Plan

In order to compare quantitative analytical data collected during the subsurface investigation to applicable standards, soil and groundwater categories appropriate for current Site conditions were identified. These categories are defined in the MCP and are based on the location and uses of the Site and underlying groundwater (310 CMR 40.0932 and 40.0933). Analytical data obtained were compared to the Reportable Concentrations (RCs) for soil and groundwater categories applicable to the Site.

According to the Massachusetts Geographic Information System (Mass GIS) Natural Resource Mapping (Figure 2), the Site is not located within a Zone II Wellhead Protection Area or an Interim Wellhead Protection Area, nor is it located above a medium- or high-yield potentially productive aquifer. A high-yield, non-potential drinking water source aquifer is located beneath the Site.

Soil and groundwater concentrations are compared to the applicable RCs, defined by the MCP (310 CMR 40.1600). Groundwater at the Site is classified as RCGW-2 because it is not located within a current or potential drinking water supply source area. Soils at the Site are classified as RCS-1 because of the proximity to the Site (within 500 feet) of a residential dwelling.

2

Data Collection and Analysis

In order to further evaluate potential impacts associated with the environmental concerns outlined in Section 1, VHB advanced ten soil test borings on Site. Groundwater monitoring wells were installed in three of the borings. Soil boring advancement and groundwater monitoring well installation activities were conducted using a hollow-stem auger drill rig on May 16, 2002 by Soil Exploration Corporation of Leominster, Massachusetts. All drilling activities were conducted under the supervision of a VHB representative. Soil and groundwater samples were collected for analysis to assess the environmental quality of the Site.

Soil Boring Advancement and Sample Collection

Ten soil borings (B-1 through B-10) were advanced at selected locations on Site. Specific emphasis was made on the location of the proposed Town Fair Tire construction activities. Three of the borings were completed as monitoring wells (MW-1 through MW-3). The monitoring wells were configured in such a fashion so as to evaluate: (1) overall Site groundwater quality; (2) potential impacts associated with off-Site sources; and (3) impacts associated with the previously identified on-Site petroleum (in TP-3). Figure 2 depicts the boring and monitoring well locations.

Soil samples were collected utilizing a split-spoon sampler to depths ranging from ground surface to 8 feet bgs. These samples were examined for visual/olfactory evidence of OHM contamination and field screened for the presence of TVOCs using a PID and the aforementioned methodology (described in Section 1). PID readings are recorded on the Soil Boring logs provided in Appendix B.

Groundwater was encountered across the Site at depths ranging from approximately 6 to 7.5 feet bgs. In general, Site soils from ground surface to the approximate groundwater table interface are primarily black/dark-gray silty sands with some rubber pieces, and trace gravel. VHB also observed the following materials in select soil borings: wood, metal pieces, glass, brick fragments, and rubbish. A slight petroleum odor was detected in boring B-1 at approximately 4 feet bgs. No olfactory evidence of OHM was detected in the remaining soil borings. Trace coal was detected

in boring B-5 at 2 to 4 feet bgs. Auger refusal was encountered at varying depths across the Site ranging from approximately 4 to 11 feet bgs.

During soil boring activities, a local merchant approached VHB and offered historical information regarding the Site. He confirmed that the Site/Site vicinity was formerly a swamp and then was later used as a landfill. He indicated that "Firestone" historically disposed rubber scraps on Site from its nearby facility. In addition to making tires, Firestone allegedly manufactured a variety of other rubber products, including gas masks (during World War II).

Soil samples B-1/2-4', B-3/2-8', and B-5/0-4' were preserved on ice and delivered to New England Testing Laboratory of North Providence, Rhode Island (NET Lab) for laboratory analysis. These samples were analyzed for the presence of total petroleum hydrocarbons (TPH/diesel range organics [DRO]) by Environmental Protection Agency (EPA) method 8100. Soil sample B-3/2-8' was also analyzed for Priority Pollutant (PP) 13 metals by EPA methods 6010, 7471 and 7841; and for polychlorinated biphenyls (PCBs) by EPA method 8082.

Groundwater Monitoring Well Installation and Groundwater Sample Collection

Each groundwater monitoring well was constructed of 2-inch inside diameter (I.D.) flush-threaded Schedule 40 polyvinyl chloride (PVC) well materials, including an 8 to 10-foot length of 0.010-inch slotted PVC well screen. Wells were set at depths that intersected the groundwater table and extended at least three feet above the water table to allow for any fluctuation in groundwater elevation. A filter pack of sand was placed in the annular space surrounding the well screen, to approximately one-foot above the screen/riser union, which was followed by a bentonite seal. Each well was finished with a locking cap and a flush-mounted road box.

On May 23, 2002, VHB personnel collected groundwater samples from the newly installed monitoring wells (MW-1 through MW-3). Prior to collecting samples from the monitoring wells, the depths to groundwater and to the bottom of the wells were measured. The standing volume of water in each well was then calculated and a measured volume of water equivalent to three to five times the standing water volume was purged from each well prior to sampling. After well stabilization, groundwater samples were collected using dedicated disposable bailers. VHB noted that groundwater sampled from the Site wells was especially turbid. All groundwater samples were preserved on ice and delivered to NET Lab for laboratory analysis for the presence of VOCs by EPA method 8260 and for TPH (DRO) by EPA method 8100.

Based on the results of the above-mentioned sampling event, VHB re-sampled monitoring well MW-2 on June 12, 2002. VHB extracted this sample in such a manner so as to minimize the amount of suspended sediment. The sample was submitted to

NET Lab for laboratory analysis for volatile petroleum hydrocarbons (VPH) and extractable petroleum hydrocarbons (EPH) according to MADEP protocols.

Analytical Results

Soil Analytical Results

Analytical results revealed that TPH (DRO) was detected in soil across the Site at concentrations below the RCS-1. Select metals (including arsenic, cadmium, chromium, copper, lead, mercury, nickel, and zinc) were detected in soil sample B-3/2-8' at concentrations well below the respective RCS-1 standards. No PCBs were detected in Site soils.

Soil analytical results are summarized in Table 1 and laboratory analytical reports are provided in Appendix C.

Groundwater Analytical Results

Analytical results revealed that TPH was detected in monitoring well MW-2 at a concentration of 1,290 µg/L slightly exceeding the RCGW-2 of 1,000 µg/L. TPH was also detected in monitoring wells MW-1 and MW-3 at concentrations below the RCGW-2. No EPH or VPH compounds were detected in monitoring well MW-2 from the June 12, 2002 sampling event. Select VOCs including carbon disulfide and 2-butanone were detected in monitoring well MW-1 at concentrations well below the RCGW-2 standards. No VOCs were detected in monitoring wells MW-2 or MW-3.

Groundwater results are summarized in Table 2 and analytical reports are provided in Appendix C.

3

Regulatory Compliance Issues

This section outlines the environmental compliance issues associated with the identified contaminant release areas at the Site.

Laboratory results for soil and groundwater samples collected during Phase II investigative activities were compared to applicable MCP Standards to assess whether residual contaminant concentrations potentially constitute a reportable release or pose an unacceptable risk to human health and the environment. Although VHB understands that the property will continue to be utilized for commercial use, any assessment of long-term risk potentially associated with the Site must take into account non-commercial exposure scenarios.

Site Soil Compliance Issues

Petroleum hydrocarbons were detected in soil across the Site at concentrations below the RCS-1. As such, these detections do not constitute a reporting requirement with MADEP. However, the presence of petroleum hydrocarbons in Site soils could present a material handling/disposal issue during facility construction.

The detected metals concentrations in Site soils do not appear to represent a compliance issue.

Site Groundwater Compliance Issues

TPH was detected in monitoring well MW-2 at a concentration of 1,290 µg/L slightly exceeding the RCGW-2 of 1,000 µg/L. TPH was also detected in monitoring wells MW-1 and MW-3 at concentrations below the RCGW-2. According to MADEP, a proposal has been drafted to raise this standard from 1,000 µg/L to 5,000 µg/L.

The elevated TPH concentration detected in MW-2 could constitute a 120-day reporting requirement to MADEP under the MCP. However, the MCP allows alternative sampling methods and analyses to verify initial TPH findings. To further assess the potential petroleum impacts to groundwater, VHB re-sampled monitoring well MW-2 and analyzed this sample for EPH and VPH. Analytical results revealed that no EPH or

VPH compounds were detected. Based on the favorable results of the alternative analyses, there is no reporting requirement.

Two VOCs (carbon disulfide and 2-butanone) were detected in monitoring wells MW-1 and MW-3, respectively, at concentrations below regulatory criteria. As such these detections do not represent a regulatory compliance issue and are not considered environmentally significant.

4

Conclusions and Recommendations

Based on the results of the PESA, VHB identified concern with respect to potential impacts associated with historic landfilling activities in the Site vicinity. VHB also identified concern with respect to documented and suspected petroleum releases on neighboring topographically upgradient properties. During previous subsurface exploration (involving test pit excavations), olfactory evidence of petroleum impacts was detected in test pit TP-3. Visual observations revealed that subsurface conditions at the test pit areas consisted entirely of mixed fill, including: black silty sand, rubber, trash, metal, auto parts, asphalt, wood, coal, ash, tires, metal piping, railroad ties, insulation and concrete.

In order to further evaluate environmental conditions at the Site, VHB performed a subsurface investigation. As part of this investigation, ten soil borings (B-1 through B-10) were advanced on Site. Groundwater monitoring wells were installed in three of the borings (MW-1 through MW-3).

Analytical Results and Regulatory Compliance

Analytical results revealed that TPH (DRO) was detected in soils across the Site at concentrations ranging from approximately 95 mg/kg to 187 mg/kg. As such these impacts do not appear to represent a regulatory compliance issue. However, these detections will likely represent historic petroleum impacts and therefore this material will likely require special handling/disposal during construction.

Analytical results revealed that TPH (DRO) was detected in Site groundwater (in MW-2) at a concentration slightly exceeding the RCGW-2 of 1,000 µg/L. TPH was detected in the other two monitoring wells at concentrations below the RCGW-2. In order to further assess petroleum impacts in Site groundwater, VHB re-sampled monitoring well MW-2 and analyzed for EPH and VPH. No EPH or VPH compounds were detected.

The TPH initial detection in MW-2 apparently constitutes a 120-day reporting requirement with MADEP. The reporting period begins at the time the responsible

party receives notice of the condition. As previously discussed according to MADEP, a proposal has been drafted to raise this standard from 1,000 µg/L to 5,000 µg/L.

During the initial round of groundwater sampling on May 23, 2002, VHB noted that the samples were especially turbid. VHB believes that suspended sediment (petroleum impacted) in the samples may have been digested during sample preparation and thereby causing artificially high TPH concentrations. Therefore, during the second round of sampling, VHB extracted the sample from the well in such a manner so as to minimize the amount of suspended sediment in the sample. No petroleum hydrocarbons were detected in this sample via the MADEP EPH/VPH analyses.

Based on the results of the groundwater analysis, VHB believes that the difference in petroleum impacts detected in MW-2 between the first and second round of analysis can likely be attributed to a combination of the following factors: (1) different analytical procedures; and (2) the influence of the digested sediment. Currently, this is generally accepted as the most prudent method of analyzing for petroleum hydrocarbons in Massachusetts.

Conclusion

Based on available information, it appears as though historic petroleum impacts are present in Site soil and groundwater. No significant on-Site source(s) of contamination were identified (beyond the historic landfill activities); however, it is possible that additional, as-yet-unidentified buried material could be present that contains petroleum or other wastes. Although the detected concentrations of petroleum in soil were low, and below regulatory reporting criteria, a comprehensive investigation of the Site was not performed. Therefore, excavation of on-Site soils could present a material handling/disposal issue during facility construction. In addition, the impacts detected in Site groundwater could also potentially represent a handling/disposal issue if de-watering becomes necessary during construction.

Recommendations

Because of the unknowns associated with historic landfill operations, and the limited data regarding the Site, VHB recommends that, at a minimum, environmental monitoring be conducted during construction activities to identify potentially contaminated media. The contaminated soil identified at the Site was noticeably impacted (through visual and olfactory observations). Relying on these findings, we anticipate that field screening of excavated soils will be sufficient to identify potentially contaminated media. Suspect soil would be temporarily stock-piled on-Site for waste disposal characteristics sampling and analysis to determine its suitability for re-use. This precaution will promote adequate worker health and safety and proper handling/disposal of contamination, if found.

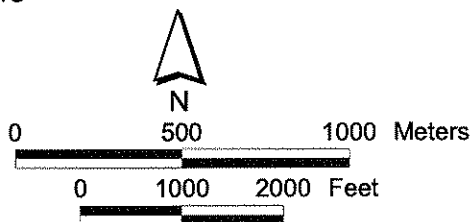
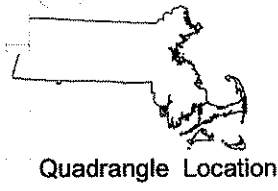
Figures

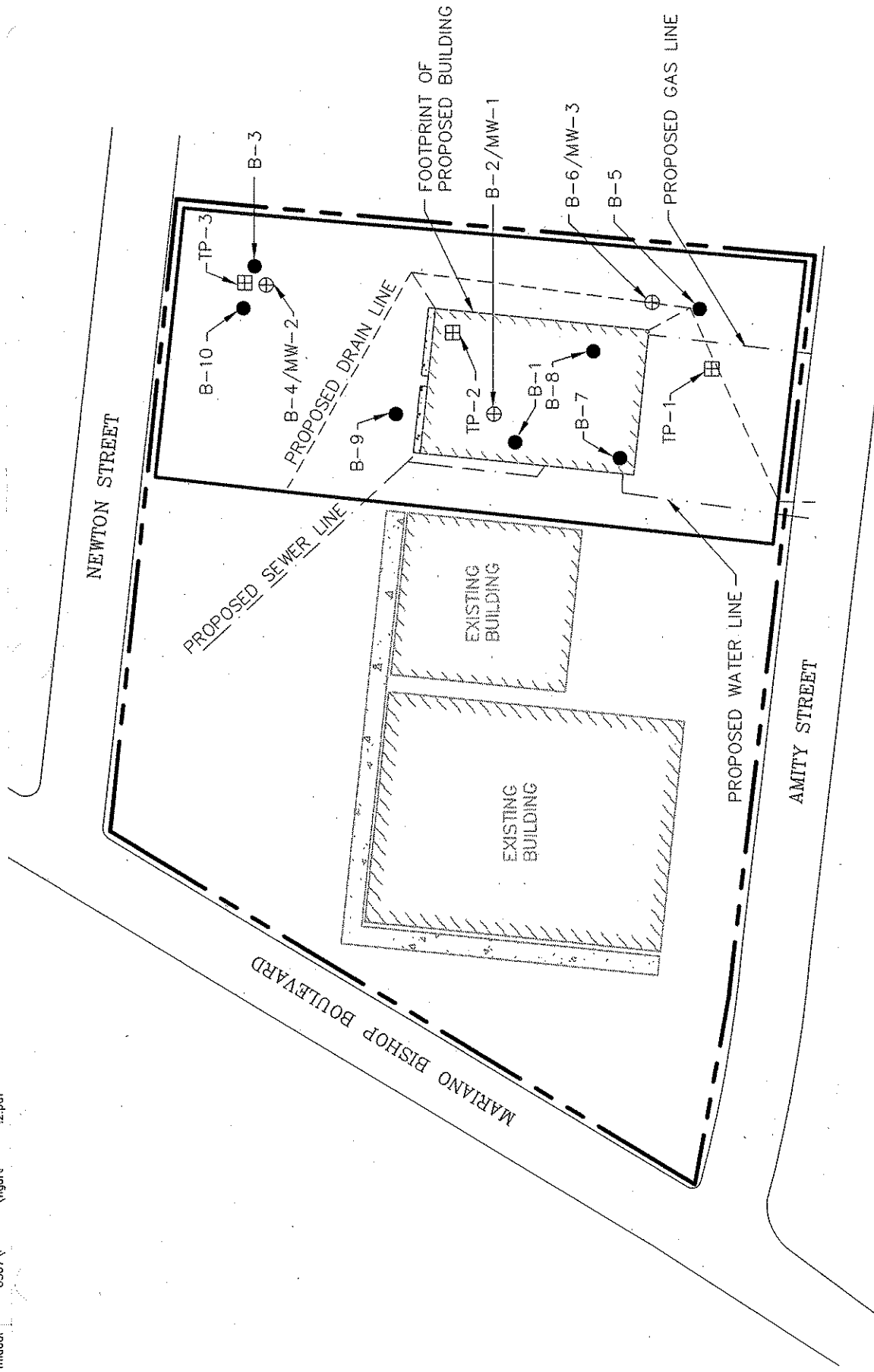
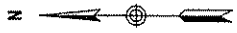


Source: U.S.G.S Quadrangle Fall River, Mass.
 NOTE: Contour interval = 3 meters

Vanasse Hangen Brustlin, Inc.

Figure 1
Site Location Map
Town Fair Tire Centers, Inc.
Proposed Commercial Development
Fall River, Massachusetts





NOT TO SCALE

SOURCE MAP:
SITE PLAN PROVIDED BY
TOWN FAIR TIRE

- LEGEND**
- APPROXIMATE PROPERTY LINE
 - SOIL BORING
 - ⊕ SOIL BORING/MONITORING WELL
 - ⊞ TEST PITS

Vanasse Hangen Brustlin, Inc.

Site Plan
350 Mariano Bishop Boulevard
Fall River, Massachusetts

Figure 2
June 4, 2002

Tables

Table 1- Soil Analytical Results (Sampled May 16, 2002)

Parameter	Sample Identification			MADEP Standard RCS-1
	B-1 (2-4')	B-3 (2-8')	B-5 (0-4')	
Total Petroleum Hydrocarbons (mg/kg)				
TPH	95	147	187	200
Total Metals (mg/kg)				
Arsenic	NA	3.16	NA	30
Cadmium	NA	0.90	NA	30
Chromium	NA	14	NA	1,000
Copper	NA	81	NA	NS
Lead	NA	70	NA	300
Mercury	NA	0.10	NA	20
Nickel	NA	9.47	NA	300
Zinc	NA	256	NA	2,500
Polychlorinated Biphenyls (mg/kg)				
PCBs	NA	ND	NA	2

Notes:

MADEP – Massachusetts Department of Environmental Protection

mg/kg – milligrams per kilogram

RCS-1 – Reportable Concentrations for S-1 Soils

NA – Not Analyzed

ND – Not Detected

Table 2- Groundwater Analytical Results (Sampled May 23, 2002 and June 12, 2002)

Parameter	Sample Identification			MADEP Standard
	MW-1	MW-2	MW-3	
Total Petroleum Hydrocarbons (TPH)				
DRO	714	1290	792	1,000
Volatile Organic Compounds (VOCs)				
Carbon Disulfide	2.6	ND	ND	10,000
2-Butanone	ND	ND	10	50,000
*Volatile Petroleum Hydrocarbons				
VPH	NA	ND	NA	Compound Specific
*Extractable Petroleum Hydrocarbons				
EPH	NA	ND	NA	Compound Specific

Notes:

- All results presented in micrograms per liter (ug/L); roughly equivalent to parts per billion (ppb)
- *- Denotes that sample was collected on June 12, 2002; remaining samples were collected on May 23, 2002
- DRO**- Diesel Range Organics
- ND**- Not detected
- NA**- Not analyzed
- MADEP**- Massachusetts Department of Environmental Protection

Appendix A Limitations

350 Mariano Bishop Boulevard**Fall River, Massachusetts**

- This report has been prepared for the sole and exclusive use of Town Fair Tire Centers, Inc. (Client) and is subject to and issued in connection with the Agreement and the provisions thereof. Any use or reliance upon information provided in this report, without the specific written authorization of Client and VHB, shall be at User's sole risk.
- In conducting this assessment, VHB has obtained and relied upon information from multiple sources to form certain conclusions regarding potential environmental issues at and in the vicinity of the subject property. Except as otherwise noted, no attempt has been made to verify the accuracy or completeness of such information.
- The objectives of the assessment described in this report were to assess the physical characteristics of the subject property with respect to overt evidence of past or present use, storage, and/or disposal of oil or hazardous materials, as defined in applicable state and federal environmental laws and regulations, and to gather information regarding current and past operations and environmental conditions at and in the vicinity of the subject property.
- The assessment presented in this report is based solely upon information gathered to date. Should further environmental or other relevant information be developed at a later date, Client should bring the information to the attention of VHB as soon as possible. Based upon an evaluation, VHB may modify the report and its conclusions.
- In conducting this assessment, VHB has obtained and relied upon information from multiple sources to form certain conclusions regarding potential environmental issues at and in the vicinity of the subject parcel(s). Except as otherwise noted, VHB has not verified the accuracy or completeness of such information.
- The objectives of the assessment described in this report were to investigate soil and groundwater quality with respect to evidence of past or present use, storage and/or disposal of oil or hazardous materials, as defined in applicable state and federal environmental law and regulations.
- The findings, observations and conclusions presented in this report, including the extent of subsurface explorations and other tests, are limited by the scope of services

outlined in our Agreement. Furthermore, the assessment has been performed in accordance with generally accepted engineering practices. No other warranty, expressed or implied, is made.

The assessment presented in this report is based solely upon information gathered to date, including a limited number of subsurface explorations made on the dates indicated. Should further environmental or other relevant information be developed at a later date, Client should bring the information to the attention of VHB as soon as possible. Based upon an evaluation, VHB may modify the report and its conclusions.

Appendix B Soil Boring Logs

Appendix C

Laboratory Analytical Reports

REPORT OF ANALYTICAL RESULTS

NETLAB Case Number M0517-14

Prepared for:

Attn: Deborah Wojcicki
Vanasse Hangen Brustlin, Inc.
54 Tuttle Place
Middletown, CT 06457

Report Date: May 24, 2002

Reviewed by:

Mark H. Bishop

Mark H. Bishop
Laboratory Director

Lab # RI010

NEW ENGLAND TESTING LABORATORY, INC.

1254 Douglas Avenue, North Providence, Rhode Island 02904-5392
PROVIDENCE (401) 353-3420 TOLL FREE: 1-888-863-8522

STATEMENTS/CERTIFICATIONS REQUIRED BY THE NATIONAL ENVIRONMENTAL LABORATORY APPROVAL CONFERENCE (NELAC)

New England Testing Laboratory is certified under the National Environmental Laboratory Approval Program (NELAP). This certification requires the following statements and certifications be included in our report.

This report shall not be reproduced, except in full, without written approval of the laboratory.

New England Testing certifies that the test results contained within this report meet all NELAC requirements except as detailed in the Case Narrative section of this report.

SAMPLES SUBMITTED and REQUEST FOR ANALYSIS:

The samples listed in Table I were submitted to New England Testing Laboratory on May 17, 2002. The group of samples appearing in this report was assigned an internal identification number (case number) for laboratory information management purposes. The client's designations for the individual samples, along with our case numbers, are used to identify the samples in this report. The case number for this sample submission is M0517-14.

Site: Fall River

TABLE I, Samples Submitted

Sample ID	Date Sampled	Matrix	Analysis Requested
B-1	5/16/02	Soil	Table II
B-3	5/16/02	Soil	Table II, III
B-5	5/16/02	Soil	Table II

TABLE II, Analysis and Methods

ANALYSIS	PREPARATION METHOD	DETERMINATIVE METHOD
Total Petroleum Hydrocarbons	3541	8100 mod.

TABLE III, Analysis and Methods

ANALYSIS	PREPARATION METHOD	DETERMINATIVE METHOD
PCBs	3541	8082
Total Metals		
Antimony	3050B	6010B
Arsenic	3050B	6010B
Beryllium	3050B	6010B
Cadmium	3050B	6010B
Chromium	3050B	6010B
Copper	3050B	6010B
Lead	3050B	6010B
Mercury	NA	7471A
Nickel	3050B	6010B
Selenium	3050B	6010B
Silver	3050B	6010B
Thallium	3050B	7841
Zinc	3050B	6010B

These methods are documented in:

Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, SW-846, USEPA/OSW.

CASE NARRATIVE

All samples were found to be properly preserved/cooled upon receipt. All analyses were performed within EPA designated holding-times. Procedure/calibration checks required by the designated protocols were within control limits.

Sample Results

Total Petroleum Hydrocarbons "DRO"

Sample	Result, mg/kg*	Reporting Limit*	Date Analyzed
B-1	95	2.8	5/23/02
B-3	147	2.8	5/23/02
B-5	187	2.8	5/23/02

B-3

Parameter	Result, mg/kg*	Reporting Limit	Date Analyzed
Total Metals			
Antimony	N.D.	0.75	5/23/02
Arsenic	3.16	0.38	5/23/02
Beryllium	N.D.	0.38	5/23/02
Cadmium	0.90	0.38	5/23/02
Chromium	14	0.38	5/23/02
Copper	81	1.51	5/23/02
Lead	70	0.38	5/23/02
Mercury	0.10	0.08	5/24/02
Nickel	9.47	0.38	5/23/02
Selenium	N.D.	0.75	5/23/02
Silver	N.D.	0.38	5/23/02
Thallium	N.D.	0.15	5/24/02
Zinc	256	1.51	5/23/02

N.D. = Not Detected

*Dry Weight Basis

Sample: B-3		
Case No. M0517-14	Date Extracted:	Date Analyzed:
Subject: PCB's	5/21/02	5/23/02
Method: EPA 8082		
Compound	Concentration	Reporting Limit
	ug/Kg (ppb)	
PCB-1016	N.D.	100
PCB-1221	N.D.	200
PCB-1232	N.D.	100
PCB-1242	N.D.	100
PCB-1248	N.D.	100
PCB-1254	N.D.	100
PCB-1260	N.D.	100
Surrogates:		
Compound	% Recovery	Limits
TCMX	75	40-150
DCBP	80	40-150

Custody Records



A FAX FROM

NEW ENGLAND TESTING LABORATORY

Date: 5-31

To: Deb Wojcicki

FAX No.: 860-632-7879

Pages following cover sheet: 20

Contact Mark Bishop or Lynn Smith at (401) 353-3420 if you have any questions.
NETLAB FAX NUMBER: (401) 354-8951

MESSAGE:

Thank You

New England Testing Laboratory, Inc.
1254 Douglas Ave.
N. Providence, RI 02904
Providence: 401-353-3420
Toll Free: 1-888-8NETLAB or 1-888-863-8522

REPORT OF ANALYTICAL RESULTS

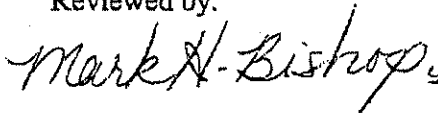
NETLAB Case Number M0523-11

Prepared for:

Attn: Deborah Wojcicki
Vanasse, Hangen & Brustlin
54 Tuttle Place
Middletown, CT 06457

Report Date: May 31, 2002

Reviewed by:



Mark H. Bishop
Laboratory Director

Lab # RI010

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**STATEMENTS/CERTIFICATIONS REQUIRED BY THE NATIONAL
ENVIRONMENTAL LABORATORY APPROVAL CONFERENCE (NELAC)**

New England Testing Laboratory is certified under the National Environmental Laboratory Approval Program (NELAP). This certification requires the following statements and certifications be included in our report.

This report shall not be reproduced, except in full, without written approval of the laboratory.

New England Testing certifies that the test results contained within this report meet all NELAC requirements except as detailed in the Case Narrative section of this report.



New England Testing Laboratory, Inc.

SAMPLES SUBMITTED and REQUEST FOR ANALYSIS:

The samples listed in Table I were submitted to New England Testing Laboratory on May 23, 2002. The group of samples appearing in this report was assigned an internal identification number (case number) for laboratory information management purposes. The client's designations for the individual samples, along with our case numbers, are used to identify the samples in this report. The case number for this sample submission is M0523-11.

Custody records are included in this report.

Site: Fall River

TABLE I, Samples Submitted

Sample ID	Date Sampled	Matrix	Analysis Requested
MW-1	5/23/02	Water	Table II
MW-2	5/23/02	Water	Table II
MW-3	5/23/02	Water	Table II

TABLE II, Analysis and Methods

ANALYSIS	PREPARATION METHOD	DETERMINATIVE METHOD
VOCs	5030B	8260B
Total Petroleum Hydrocarbons	3510C	8100 mod.

These methods are documented in:

Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, SW-846, 3rd ed., USEPA.

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CASE NARRATIVE

All samples were found to be properly preserved/cooled upon receipt. All analyses were performed within EPA designated holding-times. Procedure/calibration checks required by the designated protocols were within control limits.



New England Testing Laboratory, Inc.

Sample Results



New England Testing Laboratory, Inc.

Case No. M0523-11

Total Petroleum Hydrocarbons "DRO"

Sample	Result, ug/L	Reporting Limit	Date Analyzed
MW-1	714	50	5/28/02
MW-2	1290	50	5/28/02
MW-3	792	78	5/28/02

NA = Not Applicable

N.D. = Not Detected



New England Testing Laboratory, Inc.



RESULTS: VOLATILE ORGANIC COMPOUNDS

The presence of the NETLAB LOGO in the top left corner of each page in this section indicates:

The Technical Manager of the Organics Analysis Department certifies that the samples included in this section have been prepared and analyzed using the procedures cited and that the results have been reviewed and approved. Any exceptions or qualifications of substance have been reported in the case narrative.



1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

Lab Code: RI010 Case No.: M0523-11 Client Name: Vanasse, Hangen & Brus
 Matrix: (soil/water) WATER Lab Sample ID: MW-1
 Sample wt/vol: 5.0 (g/ml) ML Lab File ID: AG2837.D
 Level: (low/med) LOW Date Sampled: 5/23/2002
 % Moisture: not dec. _____ Date Analyzed: 5/29/2002
 GC Column: Rtx-VMS ID: 0.18 (mm) Dilution Factor: 1.0
 Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

CONCENTRATION UNITS:

CAS NO. COMPOUND (ug/L or ug/Kg) UG/L Q

CAS NO.	COMPOUND	(ug/L or ug/Kg)	UG/L	Q
75-87-3	Chloromethane	1.0		U
75-01-4	Vinyl Chloride	1.0		U
74-83-9	Bromomethane	1.0		U
75-00-3	Chloroethane	1.0		U
67-64-1	Acetone	5.0		U
75-35-4	1,1-Dichloroethene	1.0		U
75-15-0	Carbon Disulfide	2.6		
75-09-2	Methylene Chloride	3.0		U
1634-04-4	tert-butyl Methyl Ether	5.0		U
540-59-0	trans-1,2-Dichloroethene	1.0		U
75-34-3	1,1-Dichloroethane	1.0		U
78-93-3	2-Butanone	5.0		U
594-20-7	2,2-Dichloropropane	1.0		U
540-59-0	cis-1,2-Dichloroethene	1.0		U
67-66-3	Chloroform	1.0		U
74-97-5	Bromochloromethane	1.0		U
71-55-6	1,1,1-Trichloroethane	1.0		U
563-58-6	1,1-Dichloropropene	1.0		U
56-23-5	Carbon Tetrachloride	1.0		U
71-43-2	Benzene	1.0		U
107-06-2	1,2-Dichloroethane	0.3		U
79-01-6	Trichloroethene	1.0		U
78-87-5	1,2-Dichloropropane	1.0		U
75-27-4	Bromodichloromethane	1.0		U
74-95-3	Dibromomethane	1.0		U
108-10-1	4-Methyl-2-pentanone	5.0		U
106-93-4	Ethylene Dibromide	1.0		U
10061-01-5	cis-1,3-Dichloropropene	1.0		U
108-88-3	Toluene	1.0		U
10061-02-6	Trans-1,3-Dichloropropene	1.0		U
79-00-5	1,1,2-Trichloroethane	1.0		U
591-78-6	2-Hexanone	5.0		U
127-18-4	Tetrachloroethene	1.0		U
124-48-1	Chlorodibromomethane	1.0		U

U=not detected, D=diluted, E=over range (another data sheet is included), J=below limit

New England Testing Laboratory, Inc.

FORM I VOA



1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

Lab Code: RI010 Case No.: M0523-11 Client Name: Vanasse, Hangen & Brus
 Matrix: (soil/water) WATER Lab Sample ID: MW-1
 Sample wt/vol: 5.0 (g/ml) ML Lab File ID: AG2837.D
 Level: (low/med) LOW Date Sampled: 5/23/2002
 % Moisture: not dec. _____ Date Analyzed: 5/29/2002
 GC Column: Rtx-VMS ID: 0.18 (mm) Dilution Factor: 1.0
 Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg)	UG/L	Q
108-90-7	Chlorobenzene		1.0	U
79-34-5	1,1,1,2-Tetrachloroethane		1.0	U
100-41-4	Ethylbenzene		1.0	U
1330-20-7	m & p-Xylene		2.0	U
1330-20-7	o-Xylene		1.0	U
100-42-5	Styrene		1.0	U
75-25-2	Bromoform		1.0	U
98-82-8	Isopropylbenzene		1.0	U
79-34-5	1,1,2,2-Tetrachloroethane		1.0	U
98-06-6	Bromobenzene		1.0	U
96-18-4	1,2,3-Trichloropropane		1.0	U
00103-65-1	n-Propylbenzene		1.0	U
95-49-8	2-Chlorotoluene		1.0	U
108-67-8	1,3,5-Trimethylbenzene		1.0	U
106-43-4	4-Chlorotoluene		1.0	U
98-06-6	tert-Butylbenzene		1.0	U
95-63-6	1,2,4-Trimethylbenzene		1.0	U
135-98-8	sec-Butylbenzene		1.0	U
00099-87-6	p-Isopropyltoluene		1.0	U
541-73-1	1,3-Dichlorobenzene		1.0	U
106-46-7	1,4-Dichlorobenzene		1.0	U
00104-51-8	n-Butylbenzene		1.0	U
95-50-1	1,2-Dichlorobenzene		1.0	U
00096-12-8	1,2-Dibromo-3-chloropropane		2.0	U
120-82-1	1,2,4-Trichlorobenzene		1.0	U
00087-68-3	Hexachlorobutadiene		1.0	U
91-20-3	Naphthalene		2.0	U
87-61-6	1,2,3-Trichlorobenzene		1.0	U

U=not detected, D=diluted, E=over range (another data sheet is included), J=below limit

New England Testing Laboratory, Inc.

FORM I VOA



1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

Lab Code: RI010 Case No.: M0523-11 Client Name: Vanasse, Hangen & BrusMatrix: (soil/water) WATER Lab Sample ID: MW-2Sample wt/vol: 5.0 (g/ml) ML Lab File ID: AG2838.DLevel: (low/med) LOW Date Sampled: 5/23/2002% Moisture: not dec. _____ Date Analyzed: 5/29/2002GC Column: Rtx-VMS ID: 0.18 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

CONCENTRATION UNITS:

CAS NO. COMPOUND (ug/L or ug/Kg) UG/L Q

CAS NO.	COMPOUND	(ug/L or ug/Kg)	UG/L	Q
75-87-3	Chloromethane		1.0	U
75-01-4	Vinyl Chloride		1.0	U
74-83-9	Bromomethane		1.0	U
75-00-3	Chloroethane		1.0	U
67-64-1	Acetone		5.0	U
75-35-4	1,1-Dichloroethene		1.0	U
75-15-0	Carbon Disulfide		1.0	U
75-09-2	Methylene Chloride		3.0	U
1634-04-4	tert-butyl Methyl Ether		5.0	U
540-59-0	trans-1,2 Dichloroethene		1.0	U
75-34-3	1,1-Dichloroethane		1.0	U
78-93-3	2-Butanone		5.0	U
594-20-7	2,2-Dichloropropane		1.0	U
540-59-0	cis-1,2-Dichloroethene		1.0	U
67-66-3	Chloroform		1.0	U
74-97-5	Bromochloromethane		1.0	U
71-55-6	1,1,1-Trichloroethane		1.0	U
563-58-6	1,1-Dichloropropene		1.0	U
56-23-5	Carbon Tetrachloride		1.0	U
71-43-2	Benzene		1.0	U
107-06-2	1,2-Dichloroethane		0.3	U
79-01-6	Trichloroethene		1.0	U
78-87-5	1,2-Dichloropropane		1.0	U
75-27-4	Bromodichloromethane		1.0	U
74-95-3	Dibromomethane		1.0	U
108-10-1	4-Methyl-2-pentanone		5.0	U
106-93-4	Ethylene Dibromide		1.0	U
10061-01-5	cis-1,3-Dichloropropene		1.0	U
108-88-3	Toluene		1.0	U
10061-02-6	Trans-1,3-Dichloropropene		1.0	U
79-00-5	1,1,2-Trichloroethane		1.0	U
591-78-6	2-Hexanone		5.0	U
127-18-4	Tetrachloroethene		1.0	U
124-48-1	Chlorodibromomethane		1.0	U

U=not detected, D=diluted, E=over range (another data sheet is included), J=below limit

New England Testing Laboratory, Inc.

FORM I VOA



1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

Lab Code: RI010 Case No.: M0523-11 Client Name: Vanasse, Hangen & BrusMatrix: (soil/water) WATER Lab Sample ID: MW-2Sample wt/vol: 5.0 (g/ml) ML Lab File ID: AG2838.DLevel: (low/med) LOW Date Sampled: 5/23/2002% Moisture: not dec. _____ Date Analyzed: 5/29/2002GC Column: Rtx-VMS ID: 0.18 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

CONCENTRATION UNITS:

CAS NO. COMPOUND (ug/L or ug/Kg) UG/L Q

CAS NO.	COMPOUND	(ug/L or ug/Kg)	UG/L	Q
108-90-7	Chlorobenzene	1.0	U	
79-34-5	1,1,1,2-Tetrachloroethane	1.0	U	
100-41-4	Ethylbenzene	1.0	U	
1330-20-7	m & p-Xylene	2.0	U	
1330-20-7	o-Xylene	1.0	U	
100-42-5	Styrene	1.0	U	
75-25-2	Bromoform	1.0	U	
98-82-8	Isopropylbenzene	1.0	U	
79-34-5	1,1,2,2-Tetrachloroethane	1.0	U	
98-06-6	Bromobenzene	1.0	U	
96-18-4	1,2,3-Trichloropropane	1.0	U	
00103-65-1	n-Propylbenzene	1.0	U	
95-49-8	2-Chlorotoluene	1.0	U	
108-67-8	1,3,5-Trimethylbenzene	1.0	U	
106-43-4	4-Chlorotoluene	1.0	U	
98-06-6	tert-Butylbenzene	1.0	U	
95-63-6	1,2,4-Trimethylbenzene	1.0	U	
135-98-8	sec-Butylbenzene	1.0	U	
00099-87-6	p-Isopropyltoluene	1.0	U	
541-73-1	1,3-Dichlorobenzene	1.0	U	
106-46-7	1,4-Dichlorobenzene	1.0	U	
00104-51-8	n-Butylbenzene	1.0	U	
95-50-1	1,2-Dichlorobenzene	1.0	U	
00096-12-8	1,2-Dibromo-3-chloropropane	2.0	U	
120-82-1	1,2,4-Trichlorobenzene	1.0	U	
00087-68-3	Hexachlorobutadiene	1.0	U	
91-20-3	Naphthalene	2.0	U	
87-61-6	1,2,3-Trichlorobenzene	1.0	U	

U=not detected, D=diluted, E=over range (another data sheet is included), J=below limit

New England Testing Laboratory, Inc.

FORM I VOA



1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

Lab Code: RI010 Case No.: M0523-11 Client Name: Vanasse, Hangen & Brus
 Matrix: (soil/water) WATER Lab Sample ID: MW-3
 Sample wt/vol: 5.0 (g/ml) ML Lab File ID: AG2839.D
 Level: (low/med) LOW Date Sampled: 5/23/2002
 % Moisture: not dec. _____ Date Analyzed: 5/29/2002
 GC Column: Rtx-VMS ID: 0.18 (mm) Dilution Factor: 1.0
 Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg)	UG/L	Q
75-87-3	Chloromethane	1.0		U
75-01-4	Vinyl Chloride	1.0		U
74-83-9	Bromomethane	1.0		U
75-00-3	Chloroethane	1.0		U
67-64-1	Acetone	5.0		U
75-35-4	1,1-Dichloroethene	1.0		U
75-15-0	Carbon Disulfide	1.0		U
75-09-2	Methylene Chloride	3.0		U
1634-04-4	tert-butyl Methyl Ether	5.0		U
540-59-0	trans-1,2 Dichloroethene	1.0		U
75-34-3	1,1-Dichloroethane	1.0		U
78-93-3	2-Butanone	10		
594-20-7	2,2-Dichloropropane	1.0		U
540-59-0	cis-1,2-Dichloroethene	1.0		U
67-66-3	Chloroform	1.0		U
74-97-5	Bromochloromethane	1.0		U
71-55-6	1,1,1-Trichloroethane	1.0		U
563-58-6	1,1-Dichloropropene	1.0		U
56-23-5	Carbon Tetrachloride	1.0		U
71-43-2	Benzene	1.0		U
107-06-2	1,2-Dichloroethane	0.3		U
79-01-6	Trichloroethene	1.0		U
78-87-5	1,2-Dichloropropane	1.0		U
75-27-4	Bromodichloromethane	1.0		U
74-95-3	Dibromomethane	1.0		U
108-10-1	4-Methyl-2-pentanone	5.0		U
106-93-4	Ethylene Dibromide	1.0		U
10061-01-5	cis-1,3-Dichloropropene	1.0		U
108-88-3	Toluene	1.0		U
10061-02-6	Trans-1,3-Dichloropropene	1.0		U
79-00-5	1,1,2-Trichloroethane	1.0		U
591-78-6	2-Hexanone	5.0		U
127-18-4	Tetrachloroethene	1.0		U
124-48-1	Chlorodibromomethane	1.0		U

U=not detected, D=diluted, E=over range (another data sheet is included), J=below limit

New England Testing Laboratory, Inc.

FORM I VOA



1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

Lab Code: RI010 Case No.: M0523-11 Client Name: Vanasse, Hangen & Brus
 Matrix: (soil/water) WATER Lab Sample ID: MW-3
 Sample wt/vol: 5.0 (g/ml) ML Lab File ID: AG2839.D
 Level: (low/med) LOW Date Sampled: 5/23/2002
 % Moisture: not dec. _____ Date Analyzed: 5/29/2002
 GC Column: Rtx-VMS ID: 0.18 (mm) Dilution Factor: 1.0
 Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg)	UG/L	Q
108-90-7	Chlorobenzene		1.0	U
79-34-5	1,1,1,2-Tetrachloroethane		1.0	U
100-41-4	Ethylbenzene		1.0	U
1330-20-7	m & p-Xylene		2.0	U
1330-20-7	o-Xylene		1.0	U
100-42-5	Styrene		1.0	U
75-25-2	Bromoform		1.0	U
98-82-8	Isopropylbenzene		1.0	U
79-34-5	1,1,2,2-Tetrachloroethane		1.0	U
98-06-6	Bromobenzene		1.0	U
96-18-4	1,2,3-Trichloropropane		1.0	U
00103-65-1	n-Propylbenzene		1.0	U
95-49-8	2-Chlorotoluene		1.0	U
108-67-8	1,3,5-Trimethylbenzene		1.0	U
106-43-4	4-Chlorotoluene		1.0	U
98-06-6	tert-Butylbenzene		1.0	U
95-63-6	1,2,4-Trimethylbenzene		1.0	U
135-98-8	sec-Butylbenzene		1.0	U
00099-87-6	p-Isopropyltoluene		1.0	U
541-73-1	1,3-Dichlorobenzene		1.0	U
106-46-7	1,4-Dichlorobenzene		1.0	U
00104-51-8	n-Butylbenzene		1.0	U
95-50-1	1,2-Dichlorobenzene		1.0	U
00096-12-8	1,2-Dibromo-3-chloropropane		2.0	U
120-82-1	1,2,4-Trichlorobenzene		1.0	U
00087-68-3	Hexachlorobutadiene		1.0	U
91-20-3	Naphthalene		2.0	U
87-61-6	1,2,3-Trichlorobenzene		1.0	U

U=not detected, D=diluted, E=over range (another data sheet is included), J=below limit

New England Testing Laboratory, Inc.

FORM I VOA



1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

Lab Code: RI010 Case No.: M0523-11 Client Name: Vanasse, Hangen & Brus
 Matrix: (soil/water) WATER Lab Sample ID: VBLK01
 Sample wt/vol: 5.0 (g/ml) ML Lab File ID: AG2831.D
 Level: (low/med) LOW Date Sampled: 5/23/2002
 % Moisture: not dec. _____ Date Analyzed: 5/29/2002
 GC Column: Rtx-VMS ID: 0.18 (mm) Dilution Factor: 1.0
 Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg)	<u>UG/L</u>	Q
75-87-3	Chloromethane		1.0	U
75-01-4	Vinyl Chloride		1.0	U
74-83-9	Bromomethane		1.0	U
75-00-3	Chloroethane		1.0	U
67-64-1	Acetone		5.0	U
75-35-4	1,1-Dichloroethene		1.0	U
75-15-0	Carbon Disulfide		1.0	U
75-09-2	Methylene Chloride		3.0	U
1634-04-4	tert-butyl Methyl Ether		5.0	U
540-59-0	trans-1,2 Dichloroethene		1.0	U
75-34-3	1,1-Dichloroethane		1.0	U
78-93-3	2-Butanone		5.0	U
594-20-7	2,2-Dichloropropane		1.0	U
540-59-0	cis-1,2-Dichloroethene		1.0	U
67-66-3	Chloroform		1.0	U
74-97-5	Bromochloromethane		1.0	U
71-55-6	1,1,1-Trichloroethane		1.0	U
563-58-6	1,1-Dichloropropene		1.0	U
56-23-5	Carbon Tetrachloride		1.0	U
71-43-2	Benzene		1.0	U
107-06-2	1,2-Dichloroethane		0.3	U
79-01-6	Trichloroethene		1.0	U
78-87-5	1,2-Dichloropropane		1.0	U
75-27-4	Bromodichloromethane		1.0	U
74-95-3	Dibromomethane		1.0	U
108-10-1	4-Methyl-2-pentanone		5.0	U
106-93-4	Ethylene Dibromide		1.0	U
10061-01-5	cis-1,3-Dichloropropene		1.0	U
108-88-3	Toluene		1.0	U
10061-02-6	Trans-1,3-Dichloropropene		1.0	U
79-00-5	1,1,2-Trichloroethane		1.0	U
591-78-6	2-Hexanone		5.0	U
127-18-4	Tetrachloroethene		1.0	U
124-48-1	Chlorodibromomethane		1.0	U

U=not detected, D=diluted, E=over range (another data sheet is included), J=below limit

New England Testing Laboratory, Inc.

FORM I VOA



1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

Lab Code: RI010 Case No.: M0523-11 Client Name: Vanasse, Hangen & BrusMatrix: (soil/water) WATER Lab Sample ID: VBLK01Sample wt/vol: 5.0 (g/ml) ML Lab File ID: AG2831.DLevel: (low/med) LOW Date Sampled: 5/23/2002% Moisture: not dec. _____ Date Analyzed: 5/29/2002GC Column: Rtx-VMS ID: 0.18 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

CONCENTRATION UNITS:

CAS NO. COMPOUND (ug/L or ug/Kg) UG/L Q

CAS NO.	COMPOUND	(ug/L or ug/Kg)	UG/L	Q
108-90-7	Chlorobenzene	1.0		U
79-34-5	1,1,1,2-Tetrachloroethane	1.0		U
100-41-4	Ethylbenzene	1.0		U
1330-20-7	m & p-Xylene	2.0		U
1330-20-7	o-Xylene	1.0		U
100-42-5	Styrene	1.0		U
75-25-2	Bromoform	1.0		U
98-82-8	Isopropylbenzene	1.0		U
79-34-5	1,1,2,2-Tetrachloroethane	1.0		U
98-06-6	Bromobenzene	1.0		U
96-18-4	1,2,3-Trichloropropane	1.0		U
00103-65-1	n-Propylbenzene	1.0		U
95-49-8	2-Chlorotoluene	1.0		U
108-67-8	1,3,5-Trimethylbenzene	1.0		U
106-43-4	4-Chlorotoluene	1.0		U
98-06-6	tert-Butylbenzene	1.0		U
95-63-6	1,2,4-Trimethylbenzene	1.0		U
135-98-8	sec-Butylbenzene	1.0		U
00099-87-6	p-Isopropyltoluene	1.0		U
541-73-1	1,3-Dichlorobenzene	1.0		U
106-46-7	1,4-Dichlorobenzene	1.0		U
00104-51-8	n-Butylbenzene	1.0		U
95-50-1	1,2-Dichlorobenzene	1.0		U
00096-12-8	1,2-Dibromo-3-chloropropane	2.0		U
120-82-1	1,2,4-Trichlorobenzene	1.0		U
00087-68-3	Hexachlorobutadiene	1.0		U
91-20-3	Naphthalene	2.0		U
87-61-6	1,2,3-Trichlorobenzene	1.0		U

U=not detected, D=diluted, E=over range (another data sheet is included), J=below limit

New England Testing Laboratory, Inc.

FORM I VOA



Volatile Organics Laboratory Control Spike

Case No.: M0523-11

Sample ID: VLCS01

Client: Vanasse, Hangen & Brustlin

Date Analyzed: 5/28/2002

Compound	Spike Added (ug/L)	Spike Result (ug/L)	Recovery, %	Lower Control Limit, %	Upper Control Limit, %
Chloromethane	50	39	78	63	157
Vinyl Chloride	50	40	80	80	137
Bromomethane	50	45	90	84	167
Trichlorofluoromethane	50	48	96	86	140
Chloroethane	50	46	92	83	130
Acetone	50	54	108	81	159
1,1-Dichloroethene	50	48	96	92	133
Methylene Chloride	50	48	96	84	128
trans-1,2 Dichloroethene	50	47	94	63	132
1,1-Dichloroethane	50	46	92	76	125
2-Butanone	50	55	110	48	175
cis-1,2-Dichloroethene	50	49	98	81	128
Chloroform	50	50	100	88	126
Bromochloromethane	50	50	100	62	140
1,1,1-Trichloroethane	50	49	98	88	126
1,1-Dichloropropene	50	50	100	78	115
Carbon Tetrachloride	50	49	98	56	176
Benzene	50	49	98	79	127
1,2-Dichloroethane	50	52	104	83	134
Trichloroethene	50	51	102	67	154
1,2-Dichloropropane	50	50	100	71	126
Bromodichloromethane	50	50	100	80	128
Dibromomethane	50	51	102	89	125
MIBK	50	56	112	63	163
Toluene	50	51	102	82	124
1,1,2-Trichloroethane	50	52	104	77	130
Ethylene Dibromide	50	51	102	89	124
2-Hexanone	50	56	112	43	181
Tetrachloroethene	50	52	104	87	130
1,3-Dichloropropane	50	52	104	77	133
Chlorodibromomethane	50	51	102	71	139
Chlorobenzene	50	52	104	82	127
1,1,1,2-Tetrachloroethane	50	52	104	74	130
Ethylbenzene	50	50	100	85	121
m & p-Xylene	100	101	101	81	125
o-Xylene	50	51	102	82	125
Styrene	50	51	102	83	116
Isopropylbenzene	50	53	106	78	134
1,1,2,2-Tetrachloroethane	50	51	102	20	174
Bromobenzene	50	51	102	77	126
1,2,3-Trichloropropane	50	53	106	75	136

**Volatile Organics Laboratory Control Spike**

Case No.: M0523-11

Sample ID: VLCS01

Client: Vanasse, Hangen & Brustlin

Date Analyzed: 5/28/2002

Compound	Spike Added (ug/L)	Spike Result (ug/L)	Recovery, %	Lower Control Limit, %	Upper Control Limit, %
n-Propylbenzene	50	52	104	77	128
2-Chlorotoluene	50	53	106	77	126
1,3,5-Trimethylbenzene	50	51	102	58	149
4-Chlorotoluene	50	51	102	80	123
tert-Butylbenzene	50	51	102	66	157
1,2,4-Trimethylbenzene	50	50	100	71	128
sec-Butylbenzene	50	51	102	74	126
p-Isopropyltoluene	50	51	102	71	150
1,3-Dichlorobenzene	50	49	98	80	117
1,4-Dichlorobenzene	50	51	102	76	129
n-Butylbenzene	50	47	94	69	128
1,2-Dichlorobenzene	50	53	106	80	122
1,2-Dibromo-3-chloropropa	50	55	110	72	151
1,2,4-Trichlorobenzene	50	47	94	86	130
Hexachlorobutadiene	50	49	98	60	154
Naphthalene	50	45	90	80	144
1,2,3-Trichlorobenzene	50	47	94	86	130



2A

WATER VOLATILE SYSTEM MONITORING COMPOUND RECOVERY

Lab Name: New England Testing Laboratory Contract: Vanasse, Hangen
 Lab Code: RI010 Case No.: M0523-11 SAS No.: _____ SDG No.: Vanasse,

	EPA SAMPLE NO.	SMC1 #	SMC2 #	SMC3 #	TOT OUT
01	VBLK01	101	98	92	0
02	MW-1	110	106	96	0
03	MW-2	104	101	95	0
04	MW-3	107	102	93	0
05	VLCS01	100	99	104	0

QC LIMITS

SMC1 = 1,2-Dichloroethane-D4 (83-122)
 SMC2 = Toluene-D8 (89-115)
 SMC3 = Bromofluorobenzene (63-112)

Column to be used to flag recovery values
 * Values outside of contract required QC limits
 D System Monitoring Compound diluted out

New England Testing Laboratory, Inc.

Custody Records



New England Testing Laboratory, Inc.



A FAX FROM

NEW ENGLAND TESTING LABORATORY

Date: 6-19

To: Deb Wojcicki

FAX No.: 860-632-7879

Pages following cover sheet: 13

Contact Mark Bishop or Lynn Smith at (401) 353-3420 if you have any questions.
NETLAB FAX NUMBER: (401) 354-8951

MESSAGE:

Thank You

New England Testing Laboratory, Inc.
1254 Douglas Ave.
N. Providence, RI 02904
Providence: 401-353-3420
Toll Free: 1-888-8NETLAB or 1-888-863-8522

REPORT OF ANALYTICAL RESULTS

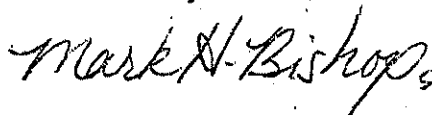
NETLAB Case Number M0612-11

Prepared for:

Attn: Deborah Wojcicki
Vanasse Hangen Brustlin, Inc.
54 Tuttle Place
Middletown, CT 06457

Report Date: June 19, 2002

Reviewed by:



Mark H. Bishop
Laboratory Director

Lab # RI010

NEW ENGLAND TESTING LABORATORY, INC.
1254 Douglas Avenue, North Providence, Rhode Island 02904-5392
PROVIDENCE (401) 353-3420 TOLL FREE: 1-888-863-8522

STATEMENTS/CERTIFICATIONS REQUIRED BY THE NATIONAL ENVIRONMENTAL LABORATORY APPROVAL CONFERENCE (NELAC)

New England Testing Laboratory is certified under the National Environmental Laboratory Approval Program (NELAP). This certification requires the following statements and certifications be included in our report.

This report shall not be reproduced, except in full, without written approval of the laboratory.

New England Testing certifies that the test results contained within this report meet all NELAC requirements except as detailed in the Case Narrative section of this report.

SAMPLES SUBMITTED and REQUEST FOR ANALYSIS:

The samples listed in Table I were submitted to New England Testing Laboratory on June 12, 2002. The group of samples appearing in this report was assigned an internal identification number (case number) for laboratory information management purposes. The client's designations for the individual samples, along with our case numbers, are used to identify the samples in this report. The case number for this sample submission is M0612-11.

Site: Fall River

TABLE I, Samples Submitted

Sample ID	Date Sampled	Matrix	Analysis Requested
MW2	6/12/02	Water	Table II

TABLE II, Analysis and Methods

ANALYSIS	PREPARATION METHOD	DETERMINATIVE METHOD
VPH	NA	*
EPH	NA	**

These methods are documented in:

*Method for the Determination of Volatile Petroleum Hydrocarbons (VPH), MADEP.

**Method for the Determination of Extractable Petroleum Hydrocarbons (EPH), MADEP.

CASE NARRATIVE

All samples were found to be properly preserved/cooled upon receipt. All analyses were performed within EPA designated holding-times. Procedure/calibration checks required by the designated protocols were within control limits.



New England Testing Laboratory, Inc.

Sample Results



New England Testing Laboratory, Inc.

RESULTS: VOLATILE PETROLEUM HYDROCARBONS

Results for VPH analysis are presented in the following section. Each page is electronically signed. In the hardcopy report, two signatures appear on the approval line – the electronic signature and the handwritten signature.

SAMPLE INFORMATION

Matrix	<input checked="" type="checkbox"/> Aqueous <input type="checkbox"/> Soil <input type="checkbox"/> Sediment <input type="checkbox"/> Other:		
Containers	<input checked="" type="checkbox"/> Satisfactory <input type="checkbox"/> Broken <input type="checkbox"/> Leaking:		
Sample Preservatives	Aqueous	N/A <input checked="" type="checkbox"/> pH<2 <input type="checkbox"/> pH>2 Comment:	
	Soil or Sediment	N/A <input type="checkbox"/> Samples NOT preserved Methanol or air-tight container	
		Samples rec'd in Methanol: <input type="checkbox"/> covering soil <input type="checkbox"/> not covering soil	
			mL Methanol/g soil - 1:1 +/- 25% - Other:
Temperature	<input checked="" type="checkbox"/> Received on Ice <input type="checkbox"/> Received at 4° C <input type="checkbox"/> Other:		

VPH ANALYTICAL RESULTS

Method for Ranges: MADEP VPH 97-12		Client ID	MW2
Method for Target Analytes:		Lab ID	M0612-11
VPH Surrogate Standards		Date Collected	6/12/02
PID: Fluorobenzene		Date Received	6/12/02
FID: Fluorobenzene		Date Analyzed	6/18/02
		Dilution Factor	1
		% Moisture (soil)	NA
Range/Target Analyte	Elution Range	RL	Units
Unadjusted C5-C8 Aliphatics ¹	N/A	50	ug/L
Unadjusted C9-C12 Aliphatics ¹	N/A	50	ug/L
Benzene	C5-C8	5	ug/L
Ethylbenzene	C9-C12	5	ug/L
Methyl-tert-butylether	C5-C8	10	ug/L
Naphthalene	C9-C12+	10	ug/L
Toluene	C5-C8	5	ug/L
m- & p- Xylenes	C9-C12	10	ug/L
o-Xylene	C9-C12	10	ug/L
C5-C8 Aliphatic Hydrocarbons ^{1,2}	N/A	50	ug/L
C9-C12 Aliphatic Hydrocarbons ^{1,3}	N/A	50	ug/L
C9-C10 Aromatic Hydrocarbons ¹	N/A	50	ug/L
PID Surrogate % Recovery			102
FID Surrogate % Recovery			87
Surrogate Acceptance Range			70-130%

¹Hydrocarbon Range data exclude concentrations of any surrogate(s) and/or internal standards eluting in that range
²C₅-C₈ Aliphatic Hydrocarbons exclude the concentration of Target Analytes eluting in that range
³C₉-C₁₂ Aliphatic Hydrocarbons exclude conc of Target Analytes eluting in that range AND concentration of C₉-C₁₀ Aromatic Hydrocarbons

CERTIFICATION

Were all QA/QC procedures REQUIRED by the VPH Method followed? Yes No-Details Attached
 Were all performance/acceptance standards for the required QA/QC procedures achieved? Yes No-Details Attached
 Were any significant modifications made to the VPH method, as specified in Section 11.3? No Yes-Details Attached

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

SIGNATURE: John Boudreau John Boudreau POSITION: Organics Department Manager

PRINTED NAME: John Boudreau DATE: 6/19/2002

SAMPLE INFORMATION

Matrix	<input checked="" type="checkbox"/> Aqueous <input type="checkbox"/> Soil <input type="checkbox"/> Sediment <input type="checkbox"/> Other:		
Containers	<input type="checkbox"/> Satisfactory <input type="checkbox"/> Broken <input type="checkbox"/> Leaking:		
Sample Preservatives	Aqueous	<input type="checkbox"/> N/A <input type="checkbox"/> pH<2 <input type="checkbox"/> pH>2 Comment:	
	Soil or Sediment	<input type="checkbox"/> N/A <input type="checkbox"/> Samples NOT preserved Methanol or air-tight container	
		<input type="checkbox"/> Samples rec'd in Methanol: <input type="checkbox"/> covering soil <input type="checkbox"/> not covering soil	
		<input type="checkbox"/> Samples received in air-tight container:	
Temperature	<input type="checkbox"/> Received on Ice <input type="checkbox"/> Received at 4° C <input type="checkbox"/> Other:		

VPH ANALYTICAL RESULTS

Method for Ranges: MADEP VPH 97-12		Client ID		Method Blank
Method for Target Analytes:		Lab ID		M0612-11
VPH Surrogate Standards		Date Collected		N/A
PID: Fluorobenzene		Date Received		N/A
FID: Fluorobenzene		Date Analyzed		6/17/02
		Dilution Factor		1
		% Moisture (soil)		NA
Range/Target Analyte	Elution Range	RL	Units	
Unadjusted C5-C8 Aliphatics ¹	N/A	50	ug/L	<50
Unadjusted C9-C12 Aliphatics ¹	N/A	50	ug/L	<50
Benzene	C5-C8	5	ug/L	<5
Ethylbenzene	C9-C12	5	ug/L	<5
Methyl-tert-butylether	C5-C8	10	ug/L	<10
Naphthalene	C9-C12+	10	ug/L	<10
Toluene	C5-C8	5	ug/L	<5
m- & p- Xylenes	C9-C12	10	ug/L	<10
o-Xylene	C9-C12	10	ug/L	<10
C5-C8 Aliphatic Hydrocarbons ^{1,2}	N/A	50	ug/L	<50
C9-C12 Aliphatic Hydrocarbons ^{1,3}	N/A	50	ug/L	<50
C9-C10 Aromatic Hydrocarbons ¹	N/A	50	ug/L	<50
PID Surrogate % Recovery				104
FID Surrogate % Recovery				91
Surrogate Acceptance Range				70-130%

¹Hydrocarbon Range data exclude concentrations of any surrogate(s) and/or internal standards eluting in that range
²C₅-C₉ Aliphatic Hydrocarbons exclude the concentration of Target Analytes eluting in that range
³C₉-C₁₇ Aliphatic Hydrocarbons exclude conc of Target Analytes eluting in that range AND concentration of C₉-C₁₀ Aromatic Hydrocarbons

CERTIFICATION

Were all QA/QC procedures REQUIRED by the VPH Method followed? Yes No-Details Attached
 Were all performance/acceptance standards for the required QA/QC procedures achieved? Yes No-Details Attached
 Were any significant modifications made to the VPH method, as specified in Section 11.3? No Yes-Details Attached

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

SIGNATURE: John Boudreau John Boudreau POSITION: Organics Department Manager

PRINTED NAME: John Boudreau DATE: 6/19/2002

RESULTS: EXTRACTABLE PETROLEUM HYDROCARBONS

Results for EPH analysis are presented in the following section. Each page is electronically signed. In the hardcopy report, two signatures appear on the approval line – the electronic signature and the handwritten signature.

APPENDIX 3: REQUIRED EPH DATA REPORTING FORMAT/INFORMATION

SAMPLE INFORMATION

Matrix	X Aqueous	Soil	Sediment	Other:
Containers	X Satisfactory	Broken	Leaking:	
Aqueous Preservatives	N/A	X pH<2	pH>2	Comment:
Temperature	X Received on Ice	Received at 4 °C	Other:	
Extraction Method	Water: Separatory Funnel		Soil: N/A	

EPH ANALYTICAL RESULTS

Method for Ranges: MADEP EPH 98-1		Client ID	MW2
Method for Target Analytes:		Lab ID	M0612-11
EPH Surrogate Standards		Date Collected	6/12/02
Aliphatic: Chlorooctadecane		Date Received	6/12/02
Aromatic: o-Terphenyl		Date Extracted	6/14/02
EPH Fractionation Surrogates		Date Analyzed	6/17/02
2-Fluorobiphenyl		Dilution Factor	1
2-Bromonaphthalene		% Moisture (soil)	N/A
RANGE/TARGET ANALYTE		RL	Units
Unadjusted C11-C22 Aromatics ¹		50	ug/L
Diesel PAH Analytes	Naphthalene	1	ug/L
	2-Methylnaphthalene	1	ug/L
	Phenanthrene	1	ug/L
	Acenaphthylene	1	ug/L
Other Target PAH Analytes	Accnaphthene	5	ug/L
	Fluorene	5	ug/L
	Anthracene	5	ug/L
	Fluoranthene	5	ug/L
	Pyrene	5	ug/L
	Benzo(a)anthracene	1	ug/L
	Chrysene	2	ug/L
	Benzo(b)fluoranthene	1	ug/L
	Benzo(k)fluoranthene	1	ug/L
	Benzo(a)pyrene	0.2	ug/L
	Indeno(1,2,3-cd)pyrene	0.5	ug/L
Dibenzo(a,h)anthracene	0.5	ug/L	
Benzo(g,h,i)perylene	5	ug/L	
C9-C18 Aliphatic Hydrocarbons ¹		50	ug/L
C19-C36 Aliphatic Hydrocarbons ¹		50	ug/L
C11-C22 Aromatic Hydrocarbons ^{1,2}		50	ug/L
Aliphatic Surrogate % Recovery			76
Aromatic Surrogate % Recovery			73
Sample Surrogate Acceptance Range			40-140%
Fractionation Surrogate % Recovery			99
Fractionation Surrogate % Recovery			98
Fractionation Surrogate Acceptance Range			40-140%

¹Hydrocarbon Range data exclude concentrations of any surrogate(s) and/or internal standards eluting in that range

²C11-C22 Aromatic Hydrocarbons exclude the concentration of Target PAH Analytes

CERTIFICATION

Were all QA/QC procedures REQUIRED by the EPH Method followed? Yes No-Details Attached

Were all performance/acceptance standards for the required QA/QC procedures achieved? Yes No-Details Attached

Were any significant modifications made to the EPH method, as specified in Section 11.3? No Yes-Details Attached

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

SIGNATURE: John Boudreau John Boudreau POSITION: Organics Department Manager

PRINTED NAME: John Boudreau DATE: 6/18/02

APPENDIX 3: REQUIRED EPH DATA REPORTING FORMAT/INFORMATION

SAMPLE INFORMATION

Matrix	X Aqueous	Soil	Sediment	Other:
Containers	Satisfactory	Broken	Leaking:	
Aqueous Prescrvatives	N/A	pH<2	pH>2	Comment:
Temperature	Received on Ice	Received at 4 °C	Other:	
Extraction Method	Water: Separatory Funnel		Soil: N/A	

EPH ANALYTICAL RESULTS

Method for Ranges: MADEP EPH 98-1	Client ID	Method Blank	
Method for Target Analytes:	Lab ID	M0612-11	
EPH Surrogate Standards	Date Collected	N/A	
Aliphatic: Chlorooctadecane	Date Received	N/A	
Aromatic: o-Terphenyl	Date Extracted	6/14/02	
EPH Fractionation Surrogates	Date Analyzed	6/17/02	
2-Fluorobiphenyl	Dilution Factor	1	
2-Bromonaphthalene	% Moisture (soil)	N/A	
RANGE/TARGET ANALYTE	RL	Units	
Unadjusted C11-C22 Aromatics ¹	50	ug/L	
Diesel PAH Analytes	Naphthalene	1	ug/L
	2-Methylnaphthalene	1	ug/L
	Phenanthrene	1	ug/L
	Acenaphthylene	1	ug/L
Other Target PAH Analytes	Acenaphthene	5	ug/L
	Fluorene	5	ug/L
	Anthracene	5	ug/L
	Fluoranthene	5	ug/L
	Pyrene	5	ug/L
	Benzo(a)anthracene	1	ug/L
	Chrysene	2	ug/L
	Benzo(b)fluoranthene	1	ug/L
	Benzo(k)fluoranthene	1	ug/L
	Benzo(a)pyrene	0.2	ug/L
Indeno(1,2,3-cd)pyrene	0.5	ug/L	
Dibenzo(a,h)anthracene	0.5	ug/L	
Benzo(g,h,i)perylene	5	ug/L	
C9-C18 Aliphatic Hydrocarbons ¹	50	ug/L	
C19-C36 Aliphatic Hydrocarbons ¹	50	ug/L	
C11-C22 Aromatic Hydrocarbons ^{1,2}	50	ug/L	
Aliphatic Surrogate % Recovery		68	
Aromatic Surrogate % Recovery		90	
Sample Surrogate Acceptance Range		40-140%	
Fractionation Surrogate % Recovery		104	
Fractionation Surrogate % Recovery		107	
Fractionation Surrogate Acceptance Range		40-140%	

¹Hydrocarbon Range data exclude concentrations of any surrogate(s) and/or internal standards cluting in that range

²C11-C22 Aromatic Hydrocarbons exclude the concentration of Target PAH Analytes

CERTIFICATION

Were all QA/QC procedures REQUIRED by the EPH Method followed? Yes No-Details Attached
 Were all performance/acceptance standards for the required QA/QC procedures achieved? Yes No-Details Attached
 Were any significant modifications made to the EPH method, as specified in Section 11.3? No Yes-Details Attached

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

SIGNATURE: John Boudreau POSITION: Organics Department Manager

PRINTED NAME: John Boudreau DATE: 6/18/02

Custody Records

