IMMEDIATE RESPONSE ACTION (IRA) COMPLETION REPORT AMERICAN RECYCLING OF MASS., INC. 207 MARSTON STREET LAWRENCE, MASSACHUSETTS RELEASE TRACKING NUMBER: 3-18126

by

Haley & Aldrich, Inc.
Boston, Massachusetts

for

Massachusetts Department of Environmental Protection
Wilmington, Massachusetts

File No. 12671-110
15 May 2001

HALEY & ALDRICH

UNDERGROUND
ENGINEERING &
ENVIRONMENTAL
SOLUTIONS

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

HALEY & ALDRICH

15 May 2001
File No. 12671-110

Massachusetts Department of Environmental Protection
205A Lowell Street
Wilmington, Massachusetts 01887

Attention: Site Management Branch

Subject: Immediate Response Action (IRA) Completion Report
American Recycling of Mass., Inc. d/b/a John C. Tombarello & Sons
207 Marston Street
Lawrence, Massachusetts
RTN 3-18126

Ladies and Gentlemen:

On behalf of our client, American Recycling of Mass., Inc. d/b/a John C. Tombarello & Sons (American), Haley & Aldrich, Inc. (Haley & Aldrich) is submitting this Immediate Response Action (IRA) Completion Report and IRA Transmittal Form (BWSC-105) in accordance with Administrative Consent Order and Notice of Noncompliance ACOP-NE-00-9013-123 (ACOP) issued by Department of Environmental Protection (DEP) dated 14 February 2001.

This IRA Completion Report provides information related to response actions which were conducted by Higgins Environmental Associates, Inc. to address conditions judged by DEP to constitute a potential Imminent Hazard relative to 310 CMR 40.0321(2)(b). An original IRA Transmittal Form (BWSC-105) is enclosed and a copy of BWSC-105 is included in Appendix A.

SITE CONDITIONS AND SURROUNDING RECEPTORS

The American property, located at 207 Marston Street in Lawrence, Massachusetts (Figure 1), is approximately 11.1 acres in area. The site is bounded to the west by Marston Street and to the north by residential homes along Hoffman Avenue. Residential homes are also located across both Marston Street and Hoffman Avenue. The site is bounded to the east by Route 495 and the Merrimack River is located approximately 400 feet east of the property boundary, across the Route 495 alignment. The site is bounded to the south by a Sons of Italy Lodge and soccer field. Large soil berms are located along the eastern and southern boundaries.

The site currently operates as a metal recycling facility and scrap metal handling yard. The property is occupied by several buildings, including a 3,000 sq. ft. office/scalehouse, a 3,000 sq. ft. single family dwelling, a 24,000 sq. ft. metal shop/garage, and 11,000 sq. ft. furnace building, a 750 sq. ft. press/baler building, a 2,500 sq. ft. small shear building and a 6,500 sq. ft. large shear building. Numerous smaller sheds and outbuildings related to scrap metal handling operations are also present on the property. Operations performed on the site include sorting, cutting, shearing, segregation, stockpiling, baling, management and sales of scrap metal materials. Overhead and subsurface utilities are present at the Site, including telephone and electric service, storm drains, gas, and water lines.

Potential human receptors on the Site are currently limited to adult employees, and possibly infrequent visits by children to the house and main office building, on the northern portion of the Site. No children currently reside on the Site. Access to the Site is restricted by fencing.

DESCRIPTION OF RELEASE AND REASON IRA WAS REQUIRED

On 20 July 1998, a Response Action Outcome (RAO) report for RTN 3-16817 was filed with the DEP by Sprague Energy following the excavation of contaminated soil from a release of heat transfer oil on 19 May 1998. The results of confirmatory soil sampling following remedial removal actions indicated the presence of residual contamination in soils on the 207 Marston Street property. In a letter and Request for Information (RFI), dated 2 December 1998, DEP indicated that the residual contamination may have been attributable to other historic releases of oil and hazardous materials, and not exclusively to the release of heat transfer oil.

An Environmental Site Assessment report was prepared by Baumgartner in August 1998 in conjunction with the purchase of the property by American. The information contained in the RAO and August 1998 environmental assessment report indicated that concentrations of oil and hazardous materials (OHMs) exceeding MCP Reportable Conditions were present on the property.

The DEP issued a Notice of Responsibility (NOR) & Interim Deadline letter to the former operator and current site owner of the property on 31 March 1999, and assigned RTN 3-18126. The NOR requested that the former operator (Tombarello Recycling, Inc.) and then-current site owner (American Recycling, Inc.) prepare an Immediate Response Action (IRA) Plan to further assess environmental conditions documented in two earlier site assessment reports prepared for the property.

The Baumgartner Environmental Site Assessment identified PCBs levels of 10.6 mg/kg (combined concentration of Aroclor 1248 and 1260) and 59 mg/kg (Aroclor 1260) in two near-surface soil samples located in the vicinity of the large shear (SS-8) and the small shear (SB-3), respectively. These conditions were interpreted by DEP to constitute a potential Imminent Hazard Condition as referenced in the NOR. The NOR required that the IRA Plan

include an Imminent Hazard (IH) Evaluation to assess the presence of detected PCBs at concentrations greater than 10 parts-per -million (ppm) in potentially accessible soils located with 500 ft. of residential properties. Elevated levels of petroleum hydrocarbons, polynuclear aromatic hydrocarbons (PAHs) and lead were also detected at Baumgartner soil sampling locations.

Higgins Environmental Associates, Inc. (HEA), filed a Release Notification Form (RNF) for RTN 3-18126, and an IRA Plan on behalf of the potentially responsible parties on 21 April 1999. The IRA Plan included the removal of an additional soil stockpile associated with the heat transfer oil release 3-16817, the collection and analysis of surficial soil samples, and the resampling and analysis of groundwater from existing monitoring wells for use in conducting an Imminent Hazard Evaluation. Subsequent Immediate Response Action (IRA) assessment activities by HEA detected petroleum hydrocarbons, PCBs, PAHs and metals in soils at concentrations which exceeded applicable MCP RCS-1 Reportable Concentrations (RCs). In particular, HEA detected 57 mg/kg and 92 mg/kg PCBs (Aroclor 1260) in two samples at the northeast site corner (SB6-SS1 and SB6-N1, respectively). The 28 July 1999 HEA IRA Status Report summarized these results. Identified Imminent Hazard Conditions were addressed by HEA through erection of a barbed-wire perimeter fence to limit site access by children.

DESCRIPTION OF IRA ACTIVITIES

Removal of Stockpiled Soil

As described in the previous IRA Status Report dated 28 July 1999 prepared by Higgins Environmental Associates, Inc. (HEA), approximately 100 cubic yards of stockpiled soil was removed from the site. The soil had been generated during soil removal activities in October 1998 in the area of the former release of heat transfer oil (RTN 3-16817). The soil was transported from the Site to the Barre Landfill, Barre, Massachusetts following MCP Bill of Lading Procedures. HEA conducted laboratory analysis of the stockpiled soil prior to off Site disposal for PCBs by U.S. EPA Method 8082 and for VOCs by U.S. EPA Method 8260 and 5035. The Bill of Lading documentation for these soils were provided to DEP on 12 July 1999.

Collection and Laboratory Analysis of Surficial Soil

HEA collected discrete surficial soil samples on a grid pattern on 26 April 1999. Focused collection of surficial soil samples was conducted at previous soil sampling locations and at ten foot distances to the north, south, east and west of previous sampling locations (Figure 2). A total of forty five discrete grid samples of soil were collected from depths zero to six inches

as outlined in the Modified IRA Plan dated 1 June 1999 prepared by HEA. A grid diagram and field notes are provided in Appendix B. PID headspace screening for VOCs was conducted on all samples and results were all less than 0.5 parts per million.

HEA collected an additional nineteen discrete soil samples for laboratory analysis on 28 April 1999. The sampling locations were determined based on visual classification of soil and previous sampling locations where potential Imminent Hazard conditions might be present. Laboratory analysis included the following:

- Polychlorinated biphenyls (PCBs) by U.S. EPA Method 8082;
- EPHs by MA DEP-specified methods;
- Lead and cadmium by U.S. EPA Method 6010;
- Volatile organic compounds by U.S. EPA Method 8021B (Halogenated) and U.S. EPA Method 5035; and
- Volatile petroleum hydrocarbons by MA DEP-specified methods.

All soil samples were analyzed for PCBs, lead and cadmium. The remaining parameters were analyzed for select samples chosen by HEA based on previous laboratory results from the Site. Laboratory data for soil samples are provided in Appendix B. A potential Imminent Hazard condition was reported for one soil sample (SB6-SS1) due to the detection of 57 mg/kg PCBs (Aroclor 1260).

An additional five surficial soil samples were collected by HEA on 2 June 1999 as planned in the Modified IRA Plan dated 1 June 1999 prepared by HEA and outlined in the IRA Status Report dated 28 July 1999 prepared by HEA. The samples were collected in the proximate location of the previous sample location SB6-SS1. One sample (SB6-SS2) was collected at the same location as SB6-SS1 and four additional samples were collected at a distance of ten feet to the north, south, east, and west of SB6-SS1. Results for SB6-N1 indicated 92 mg/kg PCBs (Aroclor 1260).

Installation of New Monitoring Wells and Groundwater Sampling

Four groundwater monitoring wells (MW-1, MW-2, MW-3, and MW-4) were to be re-sampled based on laboratory results of groundwater sampling documented in the Environmental Site Assessment Report dated August 1998 prepared by Baumgartner & Associates, Inc. During a site inspection conducted on 23 May 1999, only one well (MW-1) was located and developed. Three additional monitoring wells (MW-5, MW-6, and MW-7) were installed 2 June 1999 in approximate locations of the previously existing wells (Figure 2). Monitoring well installation logs are provided in Appendix C. The three new wells were developed 3 June 1999.

Groundwater sampling was conducted 10 June 1999 by HEA using low flow sampling techniques. Samples from each well were analyzed for VOCs by U.S. EPA Method 8260B

and metals: arsenic, chromium (total), and lead by U.S. EPA Method 6010A. One sample from MW-1 and MW-4 were analyzed for VPHs and EPHs by MA DEP-specified methods. Laboratory data are provided in Appendix C. Groundwater samples did not exceed RCGW-2 standard concentrations.

Construction of Barbed-Wire Fence

Planned construction of a five-line barbed wire fence around an unfenced portion of the Site was included in the Modified IRA Plan dated 1 June 1999 prepared by HEA to abate a potential Imminent Hazard condition. The fence was installed 2 June 1999 and a following DEP inspection on 21 June 1999 indicated the fence was not properly installed. The fencing was retrofitted and the IRA Status Report dated 28 July 1999 prepared by HEA documented that the DEP indicated the modifications were adequate.

IRA INVESTIGATORY AND MONITORING DATA

As discussed above, monitoring data for IRA activities consists of groundwater samples collected from four monitoring wells and surficial soil samples collected at depths zero to six inches. The sampling locations are shown on Figure 2. The laboratory data is provided in Appendices B and C.

REMEDIATION WASTE MANAGEMENT

As discussed above, approximately 100 cubic yards of stockpiled soil was transported from the Site to the Barre Landfill, Barre, Massachusetts following MCP Bill of Lading Procedures. Copies of the Bills of Lading were previously provided to DEP.

IRA FINDINGS AND CONCLUSIONS

As presented in the original IRA Plan dated 21 April 1999, and the Modified IRA Plan dated 1 June 1999, the objective of the IRA was to evaluate the potential existence of an Imminent Hazard condition as defined in the MCP relative to PCB concentrations in surficial soils and to abate the potential Imminent Hazard if necessary. Based on available information as described herein, it is the opinion of Haley & Aldrich that the condition which triggered the potential Imminent Hazard Condition has been abated and therefore the IRA may be concluded. The reasoning for our conclusions is outlined below:

- Additional surficial soil sampling confirmed the presence of PCBs at greater than 10 mg/kg in some near surface soil samples at the site.
- Construction of a barbed-wire fence along the top of the previously unfenced portion of the earthen berm was completed and approved by DEP. The construction of this fencing and connection of this fence to existing perimeter fencing has effectively

controlled access to the site by children thereby eliminating a potential Imminent Hazard condition in accordance with 310 CMR 40.0321(2)(b).

- ☐ Installation of new monitoring wells and groundwater sampling indicated contaminants did not exceed RCGW-2 standards.

LSP OPINION

The required LSP Opinion, seal and signature are provided in Block H of the IRA Transmittal Form BWSC-105, which is attached to this IRA Completion Report in Appendix A.

If there are any questions, or if you require additional information, please do not hesitate to contact us.

Sincerely yours,
HALEY & ALDRICH, INC.

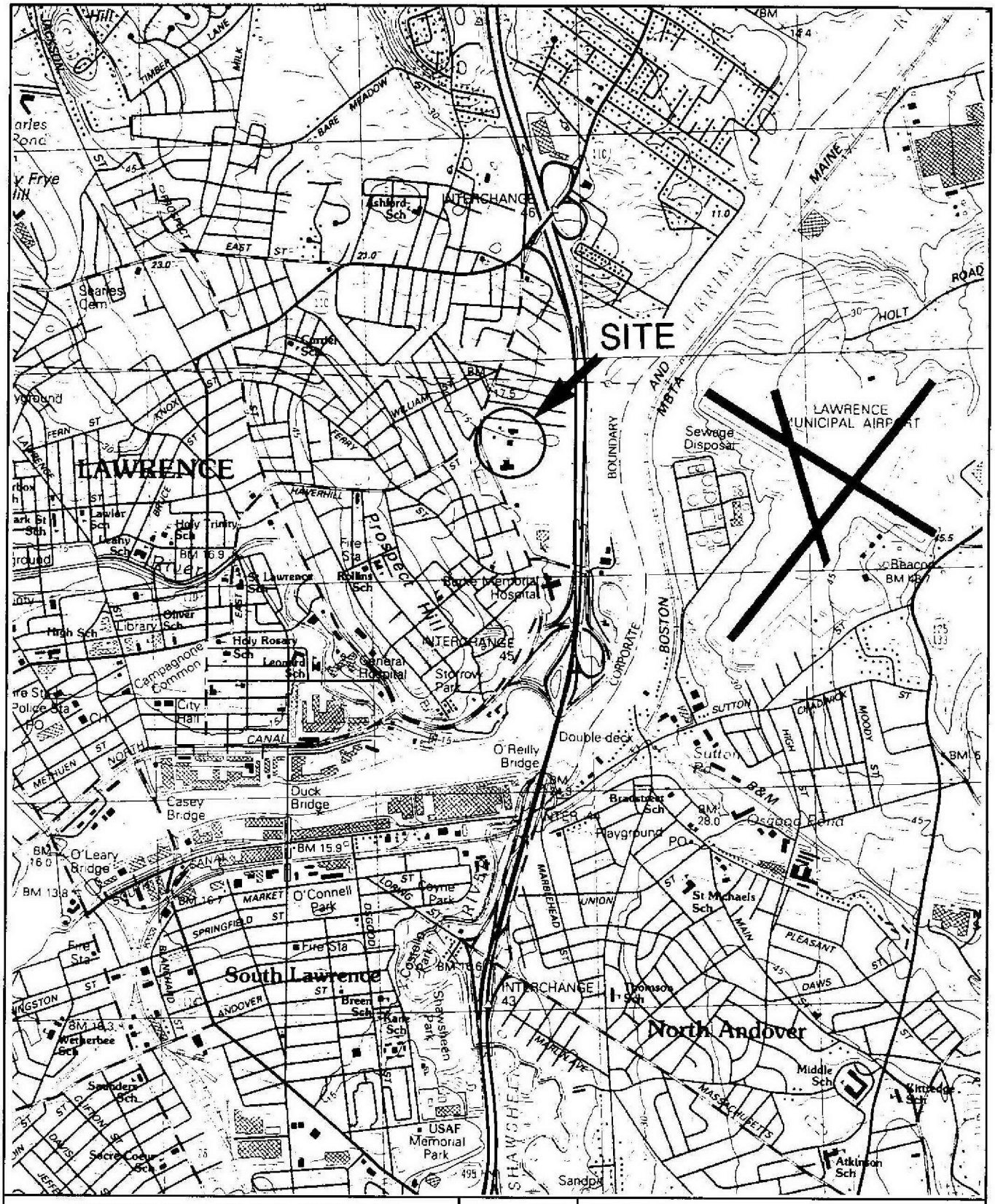
Jennifer L. Gilbert
Environmental Engineer

Elliot I. Steinberg
Vice President

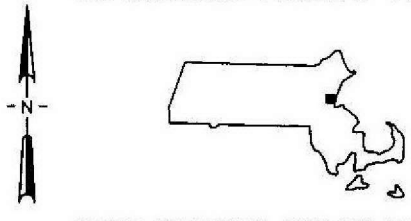
Enclosures:

Figure 1 - Project Locus
Figure 2 – Site Plan
Appendix A - Copy of BWSC-105
Appendix B – Soil Sampling Grid & Field Notes
Soil Sample Laboratory Data
Appendix C – Monitoring Well Drilling Logs
Groundwater Sample Laboratory Data

G:\12671\110\IRACOMP.doc



SITE COORDINATES: 42°43'9.71"N 71°08'30.58"W



U.S.G.S. QUADRANGLE: LAWRENCE, MA

HALEY & ALDRICH

UNDERGROUND ENGINEERING & ENVIRONMENTAL SOLUTIONS

IRA COMPLETION
207 MARSTON ST.
LAWRENCE, MASSACHUSETTS

PROJECT LOCUS

APPROXIMATE SCALE: 1:25,000

MAY 2001

12671-110 A01

FIGURE 1

NO.	REVISIONS	DATE	ENGR
1	ADDED NEW MONITORING WELLS 5, 6, & 7	7/30/19	JCT

BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

W.Z. BAUMGARTNER & ASSOCIATES, INC.
ENVIRONMENTAL ENGINEERS & CONSULTANTS
310 WILLIAMSON SQUARE
P.O. BOX 680369 (37068-0369)
FRANKLIN, TENNESSEE 37064
615-595-0025

SEAL:

DRAWN BY: RLW/CLG
CHECKED BY: JC
ENGINEER: WZB
DATE: 8/10/98

JOHN C. TOMBARELLO PROPERTY
FACILITY MAP WITH SAMPLING POINTS

AMERICAN RECYCLING
LAWRENCE, MASSACHUSETTS

SCALE: 1"=50'
PROJECT NO.: 98091
SHEET NO.: 2

APPENDIX A

Copy of BWSC-105

Massachusetts Department of Environmental Protection **BWSC-105**
Bureau of Waste Site Cleanup

IMMEDIATE RESPONSE ACTION (IRA) TRANSMITTAL FORM

Pursuant to 310 CMR 40.0424 - 40.0427 (Subpart B)

Release Tracking Number: 3 - 18126

A. RELEASE OR THREAT OF RELEASE LOCATION:

Release Name: (optional) American Recycling of Mass., Inc. d/b/a John C. Tombarello & Sons

Street: 207 Marston Street Location Aid: Hoffman Avenue

City/Town: Lawrence ZIP Code: 01843-0000

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

☐ Check here if this location is Adequately Regulated, pursuant to 310 CMR 40.0110-0114.

Specify Program: ☐ CERCLA ☐ HSWA Corrective Action ☐ Solid Waste Management ☐ RCRA State Program (21C Facilities)

Related Release Tracking Numbers That This IRA Addresses:

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

☐ Submit an **IRA Plan** (complete Sections A, B, C, D, E, H, I, J and K).

☐ Check here if this IRA Plan is an update or modification of a previously approved written IRA Plan. Date Submitted:

☐ Submit an **Imminent Hazard Evaluation** (complete Sections A, B, C, F, H, I, J and K).

☐ Submit an **IRA Status Report** (complete Sections A, B, C, E, H, I, J and K).

☐ Submit a **Request to Terminate an Active Remedial System and/or Terminate a Continuing Response Action(s) Taken to Address an Imminent Hazard** (complete Sections A, B, C, D, E, H, I, J and K).

☑ Submit an **IRA Completion Statement** (complete Sections A, B, C, D, E, G, H, I, J and K).

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

C. RELEASE OR THREAT OF RELEASE CONDITIONS THAT WARRANT IRA:

Identify Media and Receptors Affected: (check all that apply) ☐ Air ☐ Groundwater ☐ Surface Water ☐ Sediments ☑ Soil

☐ Wetland ☐ Storm Drain ☐ Paved Surface ☐ Private Well ☐ Public Water Supply ☐ Zone 2 ☐ Residence

☐ School ☐ Unknown ☐ Other Specify:

Identify Conditions That Require IRA, Pursuant to 310 CMR 40.0412: (check all that apply) ☑ 2 Hour Reporting Condition(s)

☐ 72 Hour Reporting Condition(s) ☐ Substantial Release Migration ☐ Other Condition(s)

Describe: Required by NOR dated 31 March 1999; soil impacts could pose an imminent hazard

Identify Oils and Hazardous Materials Released: (check all that apply) ☑ Oils ☑ Chlorinated Solvents ☑ Heavy Metals

☑ Others Specify: PCBs in soil only

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

☑ Assessment and/or Monitoring Only

☑ ~~Excavation~~ transport of Contaminated Soils Stockpile E&S

☐ Re-use, Recycling or Treatment

○ On Site ○ Off Site Est. Vol.: _____ cubic yards

Describe:

☐ Store ○ On Site ○ Off Site Est. Vol.: _____ cubic yards

☑ Landfill ◉ Cover ○ Disposal Est. Vol.: 100 cubic yards

☐ Removal of Drums, Tanks or Containers

Describe:

☐ Deployment of Absorbent or Containment Materials

☐ Temporary Covers or Caps

☐ Bioremediation

☐ Soil Vapor Extraction

☐ Structure Venting System

☐ Product or NAPL Recovery

☐ Groundwater Treatment Systems

☐ Air Sparging

☐ Temporary Water Supplies

SECTION D IS CONTINUED ON THE NEXT PAGE.

IMMEDIATE RESPONSE ACTION (IRA) TRANSMITTAL FORM

Pursuant to 310 CMR 40.0424 - 40.0427 (Subpart D)

Release Tracking Number: 3 - 18126

D. DESCRIPTION OF RESPONSE ACTIONS (continued):

☐ Removal of Other Contaminated Media

☐ Temporary Evacuation or Relocation of Residents

Specify Type and Volume: _____

☑ Fencing and Sign Posting

☐ Other Response Actions Describe: _____

☐ Check here if this IRA involves the use of Innovative Technologies (DEP is interested in using this information to aid in creating an Innovative Technologies Clearinghouse).

Describe Technologies: _____

E. TRANSPORT OF REMEDIATION WASTE: (if Remediation Waste has been sent to an off-site facility, answer the following questions)

Name of Facility: Barre Landfill

Town and State: Barre, Massachusetts

Quantity of Remediation Waste Transported to Date: 100 cy

F. IMMINENT HAZARD EVALUATION SUMMARY: (check one of the following)

☐ Based upon an evaluation, an Imminent Hazard exists in connection with this Release or Threat of Release.

☐ Based upon an evaluation, an Imminent Hazard does not exist in connection with this Release or Threat of Release.

☐ Based upon an evaluation, it is unknown whether an Imminent Hazard exists in connection with this Release or Threat of Release, and further assessment activities will be undertaken.

☐ Based upon an evaluation, it is unknown whether an Imminent Hazard exists in connection with this Release or Threat of Release. However, response actions will address those conditions that could pose an Imminent Hazard.

G. IRA COMPLETION STATEMENT:

☐ Check here if future response actions addressing this Release or Threat of Release will be conducted as part of the Response Actions planned for a Site that has already been Tier Classified under a different Release Tracking Number, or a Site that is identified on the Transition List as described in 310 CMR 40.0600 (i. e., a Transition Site, which includes Sites with approved Waivers). These additional response actions must occur according to the deadlines applicable to the earlier Release Tracking Number (i. e., Site ID Number).

State Release Tracking Number (i. e., Site ID Number) of Tier Classified Site or Transition Site: _____

If any Remediation Waste will be stored, treated, managed, recycled or reused at the site following submission of the IRA Completion Statement, you must submit either a Release Abatement Measure (RAM) Plan or a Phase IV Remedy Implementation Plan, along with the appropriate transmittal form, as an attachment to the IRA Completion Statement.

H. LSP OPINION:

I attest under the pains and penalties of perjury that I have personally examined and am familiar with this transmittal form, including any and all documents accompanying this submittal. In my professional opinion and judgment based upon application of (i) the standard of care in 309 CMR 4.02(1), (ii) the applicable provisions of 309 CMR 4.02(2) and (3), and (iii) the provisions of 309 CMR 4.03(5), to the best of my knowledge, information and belief,

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

> *if Section B of this form indicates that an **Imminent Hazard Evaluation** is being submitted*, this Imminent Hazard Evaluation was developed in accordance with the applicable provisions of M.G.L. c. 21E and 310 CMR 40.0000, and the assessment activity(ies) undertaken to support this Imminent Hazard Evaluation complies(y) with the applicable provisions of M.G.L. c. 21E and 310 CMR 40.0000;

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

> *if Section B of this form indicates that an **Immediate Response Action Completion Statement** or a **Request to Terminate an Active Remedial System and/or Terminate a Continuing Response Action(s) Taken to Address an Imminent Hazard** is being submitted*, the response action(s) that is (are) the subject of this submittal (i) has (have) been developed and implemented in accordance with the applicable provisions of M.G.L. c. 21E and 310 CMR 40.0000, (ii) is (are) appropriate and reasonable to accomplish the purposes of such response action(s) as set forth in the applicable provisions of M.G.L. c. 21E and 310 CMR 40.0000 and (iii) complies(y) with the identified provisions of all orders, permits, and approvals identified in this submittal.

SECTION H IS CONTINUED ON THE NEXT PAGE.

Massachusetts Department of Environmental Protection **BWSC-105**
Bureau of Waste Site Cleanup

IMMEDIATE RESPONSE ACTION (IRA) TRANSMITTAL FORM

Pursuant to 310 CMR 40.0424 - 40.0427 (Subpart D)

Release Tracking Number: 3 - 18126

H. LSP Opinion (continued):

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

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

LSP Name: Elliot I. Steinberg LSP #: 9663 Stamp:

COMMONWEALTH OF MASSACHUSETTS
ELLIOT I. STEINBERG No. 9663
REGISTERED LICENSED SITE PROFESSIONAL

Telephone: 617-886-7454 Ext.:

FAX: (optional) 617-886-7754

Signature: Elliot I Steinberg

Date: 15 May 2001

I. PERSON UNDERTAKING IRA:

Name of Organization: American Recycling of Mass., Inc. d/b/a John C. Tombarello & Sons

Name of Contact: Peter Prinz Title: President

Street: 207 Marston Street

City/Town: Lawrence State: MA ZIP Code: 01841-0000

Telephone: 978-682-5226 Ext.: FAX: (optional) 978-686-6484

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

J. RELATIONSHIP TO RELEASE OR THREAT OF RELEASE OF PERSON UNDERTAKING IRA: (check one)

☑ RP or PRP Specify: ◉ Owner ○ Operator ○ Generator ○ Transporter Other RP or PRP:

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

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

☐ Any Other Person Undertaking IRA Specify Relationship:

K. CERTIFICATION OF PERSON UNDERTAKING IRA:

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

By: Peter J Prinz (signature) Title: President

For American Recycling, Inc. d/b/a John C. Tombarello & Sons (print name of person or entity recorded in Section I) Date:

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

Street:

City/Town: State: ZIP Code:

Telephone: Ext.: FAX: (optional)

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

ATTACHMENT H

BWSC-105
LSP OPINION

Response actions subject to any order(s), permit(s) and/or approval(s) issued by DEP or EPA:

- ☐ Request for Information (RFI) (RTN 3-16817), dated 2 December 1998. The RFI established an Interim Deadline of 22 January 1999 for providing information relative to environmental conditions on the property.

- ☐ Notice of Responsibility (NOR) & Interim Deadline (RTN 3-18126) dated 31 March 1999. The NOR established an Interim Deadline of 21 April 1999 for preparation of an IRA Plan to mitigate a potential Imminent Hazard.

- ☐ Notice of "Interim Deadline" RTN 3-18126, dated 12 July 1999. Issued by DEP to American Recycling of Mass., Inc., indicating the need to increase the height and clearly delineate the barbed wire fence.

- ☐ "Field NOR" RTN 3-18431, dated 21 June 1999. Issued by DEP to American Recycling of Mass., Inc. to remove drums of oil and sludge from baler/press area and assess potential releases.

- ☐ "Administrative Consent Order and Notice of Noncompliance ACOP-NE-009013-123 (ACOP)" executed between American Recycling of Mass., Inc. d/b/a John C. Tombarello & Sons and the DEP, dated 14 February 2001.

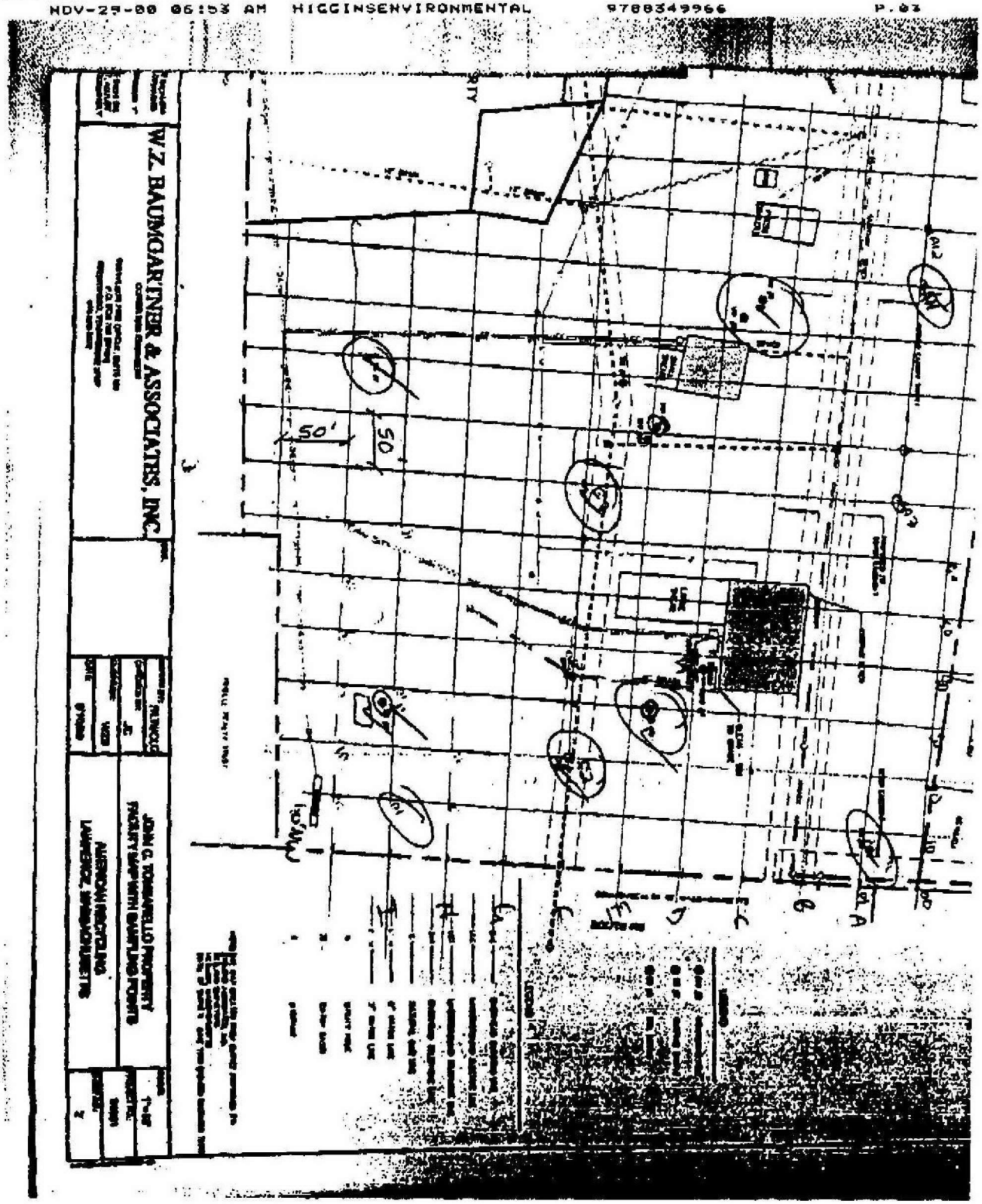
APPENDIX B

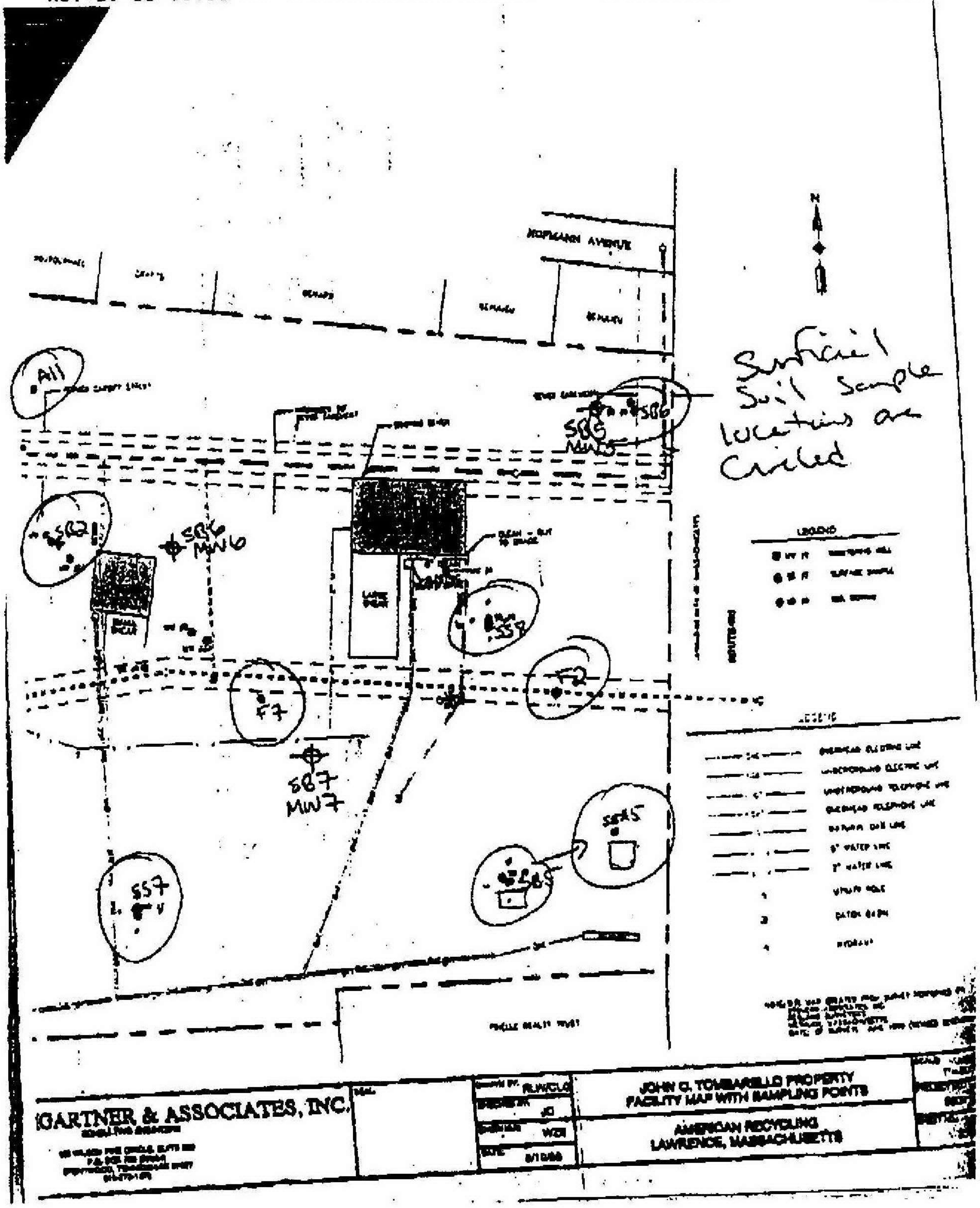
Soil Sampling Grid & Field Notes
Soil Sample Laboratory Data

The Following
Document Contains

Some Poor Quality

Originals


W.Z. BAUMGARTNER & ASSOCIATES, INC.
50'
50'


HOFMANN AVENUE
N
Surficial Soil Sample locations are circled
A11
SB6 MW5
F7
F2
SB7 MW7
SS7
LEGEND
GARTNER & ASSOCIATES, INC.
JOHN C. TOMBARELLO PROPERTY
FACILITY MAP WITH SAMPLING POINTS
AMERICAN RECYCLING
LAWRENCE, MASSACHUSETTS

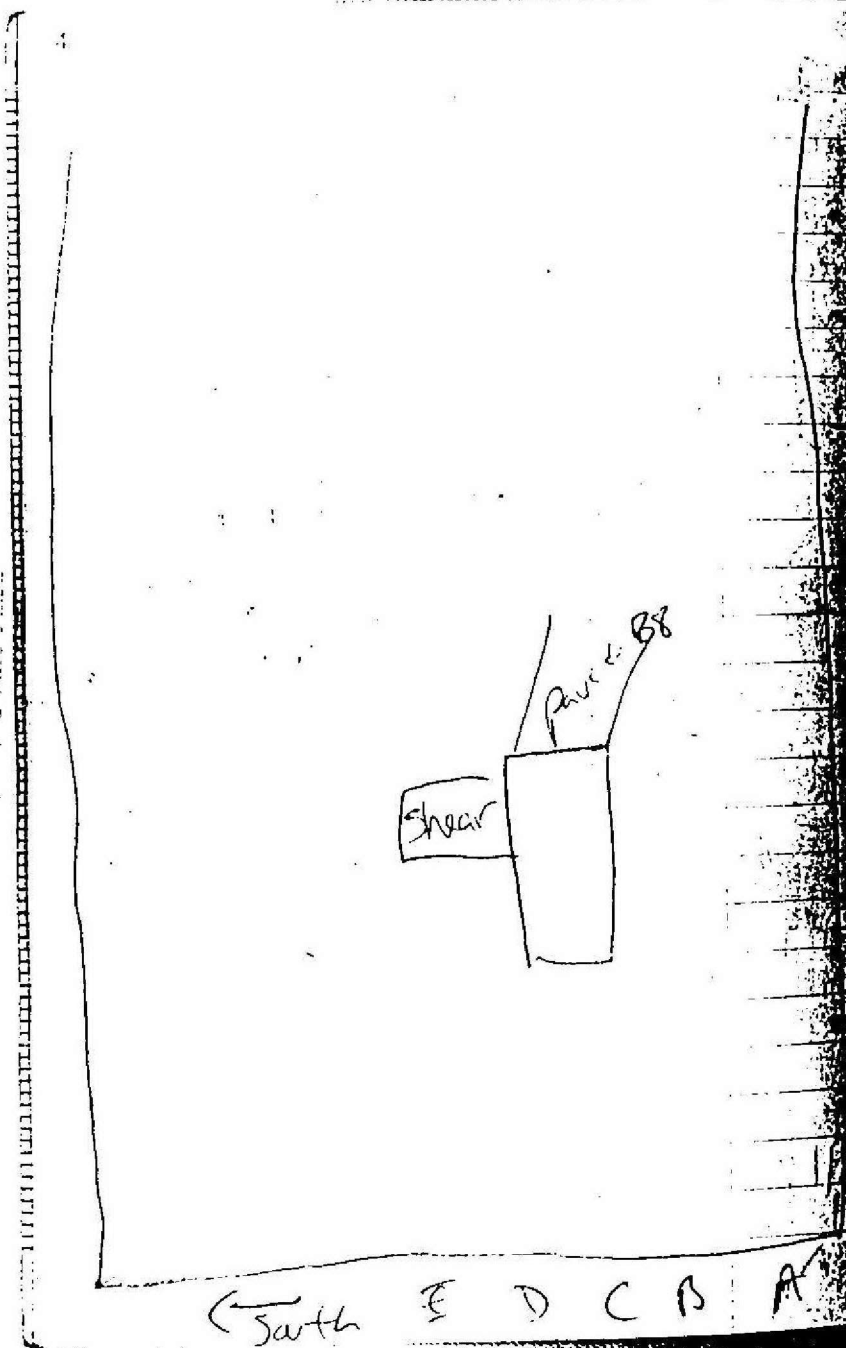
4/1/99

JBH Site visit mt
w/ John Farmer Baumgartner
Peter Prinz Amer.
George Tombarello

4/26/99

1100 on site JBH

A1 Brwn M-F SAND & SILT
Dry little Ang Gravel
A2 Similar to A1
A3 Similar to A1
A4 Similar to A1 Some 7" dep
Carse Ang Gravel
A5 light Brwn V.F SAND 6" dep
and Silt Dry Gravel
backfill (Crushed R)
A6 Similar to A5
A7 Similar to A5
little drk Staining
A8 Similar to A7 (with
Staining)
A9 Brwn M-F SAND and Silt
Some fine ang. Gravel
Coal frags & plastic
A10 lght brwn C-F SAND little
silt little Ang
A11 Drk brwn C-F SAND
Some silt little fine Ang Grvl
PHC-like Staining



4/26/99

A12 Similar to A11

B1 Brwn fine SAND & SILT
little Ang. fine Gravel

B2 Drk Brwn m-f SAND
Some Silt little fine Ang.
Gravel

B3 lght Brwn m-f SAND
little Silt little fine
Ang. Gravel

B4 lght Brwn to tan f-v.f SAND
little Silt little fine Ang. Gravel

B5 Drk Brwn fine SAND & Silt
Some m-f Ang. Gravel

B6 lght Brwn m-f SAND, Some
silt, little fine Ang. Gravel

B7 Similar to B6

B8 pavement

B9 Brwn f SAND & Silt Some
fine Ang Gravel V. Dense

C1 Brwn Fine SAND Some Silt
little fine Ang-Gravel

C2 dark Brwn V.f SAND & Silt
Some Organics (roots (wood)) little/
trace fine Ang. Gravel

C3 Similar to C1
Sheer Bldg at ^ C3 & C4

D1 light Brwn f SAND Some
Silt little M-f Ang Gravel
Dry

D2 Similar to D1 except
dark brwn

D3 Similar to D2

D4 Brown f SAND & Silt
Loose, little/trace fine Ang
Gravel

E1 Scrap metal pile

E2 Brwn Vf SAND and fine 3
Ang Gravel Some silt

E3 Similar to E2

F1 Concrete Pad

F2 dark Brwn f-V.f SAND
Some Silt little fine Ang Grav
PHC-like Staining

F3 Similar to F2 except
no Staining

F4 Brwn M-f SAND little
Silt little f Ang. Gravel
off edge of Sheer Pad (SE
Brick fragment 4' dep corner)

F5 Dark Brwn fine SAND & Silt
Some Weathered Rucment
fragments

F6 Dark Brwn Similar to
F5 No Brick PHC-like
Staining: SW Corner of slab
by Sheer

F7 Similar to F6

G3 Brn F SAND & fine Ang Gravel Little Silt
G4 Grey-brown Fine SAND Some Silt Some fine Ang Gravel
G5 Dk Brown V.f SAND and Silt little fine Ang Gravel Glass fragments w/in 1 ft of Fire Hydrant Surface
G6 Similar to G5
G7 Similar to G5
G8 pavement (cold).

H1 Dark Brn fine SAND Some Silt, Little/Some fine ang gravel
H2 Similar to H1 except Brown
I3 Similar to H2 Strip Steel to H7

I7 light Brn f SAND Some Silt Little Ang fine gravel
I6 Similar to I7
I5 " " I7

~~I5~~ 1720 JB1t Leave site

1920hrs Calib ~~H7~~ 10.6eV PID Toluene Iso Ref. to Benzene Prep for headspace

A1	0.0	B1	0.0	C1	0.0
A2	0.0	B2	0.0	C2	0.0
A3	0.0	B3	0.0	C3	0.0
A4	0.0	B4	0.0		
A5	0.0	B5	0.0		
A6	0.0	B6	0.0		
A7	0.0	B7	0.0		
A8	0.0	~~B8~~			
A9	0.0	B9	0.0		
A10	0.0				
A11	0.0				
A12	0.0				

~~25~~ 23

PID Headspace 4/26/99

D1 0.0	~~E1~~	~~F1~~
D2 0.0	E2 0.0	F2 0.2
D3 0.0	E3 0.0	F3 0.0
D4 ~~0.~~ 20.3		F4 0.0
		F5 0.0
		F6 0.0
		F7 0.6
G3 0.0	H1 0.0	I5 0.0
G4 0.0	H2 0.0	I6 ~~6.9~~0
G5 0.0	H3 0.0	I7 0.0
G6 0.0		
G7 0.0		
~~G8~~		

45 location

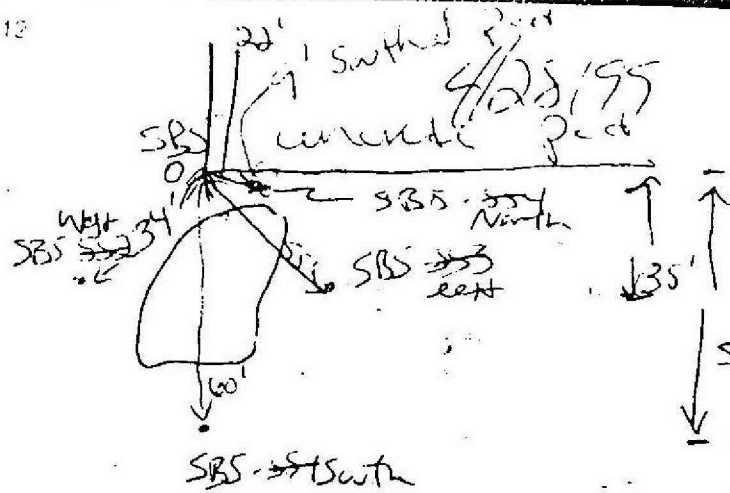
4/28/99

1150 on site
meet w/ Peter Franz
confirm use of Chandere
for lab analysis

1300 locating Heat transfer
oil exc. area & SBS
Prep to sample
4 (soil) PCB PB&Cd
EPH/VPH
VOC 8021B

1330 Collected 03014-SBS-~~SST~~ South
0-6" of Southern wall
~ 10' of excavation
area
Note employees of owner
wanted area of excavation
for use (independently
of each other in the
same proximate location
Soil Brown - dark brown
Staining coal clinkers
& possibly asphalt

12



1340 Collected 03014-SBS-West
~10' due west of excavation
0-6" Soil Dry Brown
M-f SAND some Silt
Little Course Ang Gravel
no staining bits
of broken glass in Soil
(green & clear glass)

1400 Collected 03014-SBS-East
~10' due east of excavation
0-6" loose Brown M-f Soil & Silt
debris metal/wire
Acetylene torch metal
residue

13

1415 Collected 03014-SBS-North
0-6" Soil: Dry V.f SAND
and Silt Little Course
Ang Gravel no staining

1440 Collected 03014-T2
0-6" Dark brown
Stained Soil M-V.f SAND
and Silt some/little
fine Ang. Gravel mtl
plastic fragment

1520 Collected 03014-SS8
0-3" dry brown Soil
- M-f SAND Some Silt
Little/Some fine to
Course Ang Gravel

1515 Collected 03014-SS8-North
0-6"

1525 Collected 03014-SS8-West
~10' West of SS8 Similar Soil

1530 Collected 03014-SS8-East
~10' East of SS8 Some Soil

1535 Collected 03014-SS8-South
~10' South of SS8 at E3 Soil Some

1600 Collected 03014-SS7
0-3" Dry Brn V. Fine Sand and Silt Some C-F Ang Gravel
1605 03014-SS7-East Similar texture
1610 03014-SS7-North
1615 03014-SS7-West
1620 03014-SS7-South
note all SS7 samples had similar soil types
All Soil Samples SS7 ~0-3"

1630 Collected 03014-F7
0-4" Brn M-F SAND & Silt ~5' OFF SW corner of Slab

1645 Collected 03014-SB2-SS1
at location of MW2
Soil appeared primarily to be disturbed F SAND & Silt with debris, metal & plastics
0-4"

1650 Collected 03014-SB6-SS1
0-6" Soil dk brown fine SAND & Silt Some organics (roots, mud) appeared almost to be topsoil Little Fine Ang Gravel

1720 Collected 03014-A11
0-4" Soil dk brown PtC-like staining - M-F SAND Little/Some Silt Little C-F Ang. Gravel

		8021(L)	40mL VOA
SB5-~~SS1~~ South	1330	✓	✓
SB5-~~SS2~~ West	1340	✓	✓
SB5-~~SS3~~ East	1400	✓	✓
SB5-SS4 North	1415	✓	✓
F2	1440	✓	✓
SS8	1500	✓	
SS8-North	1515	✓	
SS8-West	1525	✓	
SS8-East	1530	✓	
SS8-South	1535	✓	
SS7	1600	✓	
SS7-East	1605	✓	
SS7-North	1610	✓	
SS7-West	1615	✓	
SS7-South	1620	✓	
F7	1630	✓	✓
SB2-SS1	1645	✓	
SB6-SS1	1650	✓	✓
All	1700	✓	✓

5/12/99 03014

1000hrs JDH arrives to collect stockpile soil sample PCB 8082 VOC 8260 5035

Stockpile soil in 12 cut in half ~6,000 gall USTs with steel plates on top. Access holes are present in the side of each vessel

1610 JDH collecting grab samples from each container (2' into soil with shovel.) Soil from each container into Ziplock bag

1620 Ziplock bag headspace all 0.0 ppm. Collect VOC 8260 by 5035 from NE-ty most container

5/24/99

1200 hrs JBH onsite
met w/ Peter Prinz
processed BOL documentation
informed him of IH condition
with the sample at SB6
by Baumgartner @ 57ppm PCB
Indicated sample was from soil
close in appearance to topsoil:
by back of property near
sewer manway (sample
location flagged)

6/2/99 03014-99
JBH onsite 0700
NH Boring onsite Craig Leavitt
Driller

0740 mob to 1st location
proximate to SB6
Area around SB6 & whole
back portion of property had
changed since 5/24/99
Some earthmoving (grading)
was apparent & area appeared
prepped for metal storage
& segregation

walked well locations
w/ Peter Prinz & Dave (yard Mgr)

I indicated to Peter that
1st SB location is proximate
to Baumgartner's SB6 & previous
elevated PCB SS location. Peter
indicated that he was aware
of this area being that with
elevated PCBs

6/10/99 03014-95

JBH onsite 0900 (w)
meet w/ Pete Prinz
0915 Prep to sample MW1
∇ 6.59
TD = 12.25
midpt 9.32' of screen
diameter

MW5

1120 prep to sample ∇ 11.49 TD 14.55 TPVC 13.02' mdpt

~~Time~~

1140 Started pumping

~~1142~~	TMP	CND	DO	ORP	SPC	Sal	pH	∇	NTUs	
1142	13.97	357	7.15	126.8	454	0.22	6.58	11.78	9.6	flow 270 mL/min
3	13.21	349	6.70	138.1	451	0.22	6.21	11.87	9.2	
5	13.31	351	6.57	143.1	452.0	0.22	6.13	11.94	7.8	Reduce flow 240 mL
10	12.97	350	6.51	144.0	454.0	0.22	6.12	12.07	~~10.0~~ 8.8	Cleaned vial
15	13.26	353	6.30	142.5	456.0	0.22	6.17	12.15	12.0	flow 210 mL/min
20	13.33	353	6.11	134.9	454	0.22	6.22	12.21	8.7	
25	13.24	350	5.98	134.4	451	0.22	6.22	12.25	7.7	
30	13.25	348	5.81	139.1	449	0.22	6.22	12.29	5.8	
35	13.15	348	5.72	142.9	450	0.22	6.22	12.32	4.6	
40	13.03	346	5.64	142.4	448	0.22	6.22	12.35	4.0	
45	13.01	345	5.59	142.4	447	0.22	6.22	12.37	2.5	
50	13.04	344	5.55	141.5	446	0.22	6.22	12.40	2.1	
55	13.11	343	5.50	141.5	443	0.22	6.22	12.41	2.3	
60	13.06	342	5.49	140.9	443	0.21	6.22	12.41	1.7	
65	13.03	340	5.36	141.5	440	0.21	6.22	12.42	1.1	
70	13.02	339	5.28	141.8	439	0.21	6.22	12.43	1.1	
75	13.02	338	5.26	142.0	439	0.21	6.22	12.43	1.1	

1300 Sampled 03014-MW5GW1 VPH CF / EPH / VOC 8260
Total As Cr Pb 6010 – metals pH <2 w/ HNO_3
no filtering

MW6

1345 V 8.85 TD 14.2 TD/C mid
~~1410~~ Start pumping flow ~ 230 ml/min 1350 hrs 2 min for 450 ml

TIME	TMP	CND	DO	ORP	SPC	Sal	PH	V	NTUS
1	14.18	820	1.99	73	1055	0.52	5.82	9.02	40
5	13.66	820	1.96	61.2	1046	0.52	5.77	9.06	28
10	13.62	825	1.71	53.1	1054	0.53	5.76	9.07	21
15	13.53	818	1.39	46.4	1048	0.52	5.77	9.08	13
20	13.66	815	1.22	41.7	1040	0.52	5.77	9.10	7.7
25	13.64	812	1.12	35.4	1037	0.52	5.77	9.11	5.6
30	13.59	809	1.06	31.1	1035	0.52	5.77	9.11	3.2
35	13.62	807	1.00	29.8	1032	0.51	5.77	9.11	2.7
40	13.52	805	0.98	25.4	1033	0.52	5.77	9.11	2.5
45	13.43	802	0.95	25.5	1030	0.51	5.77	9.11	2.5
50	13.40	803	0.93	22.9	1031	0.51	5.77	9.11	2.8
55	13.40	807	0.91	19.9	1033	0.51	5.77	9.11	2.5

1450 Sampled 03014-MW6-GW, VOC 8260 Total As Cr Pb
1 extra 1/2 L AG unpreserved
metals preserved in field pH<2
HNO3

MW7

1524hr ▽ 11.31 TD 14.4 mid 12.85

1545 start pump

1550 Reset new tubing start pumping 1.5 l/min for 45 min

Time	Temp	Cond	DO	ORP	Spc	Sal	pH	▽	NTU
2	14.17	1066	0.49	-82.1	1343	0.68	6.74	11.33	110
5	13.69	1028	0.29	-117.8	1330	0.67	6.75	11.33	60
10	13.02	1027	0.22	-117.1	1332	0.67	6.77	11.33	36
15	12.87	1022	0.19	-118.1	1330	0.67	6.79	11.33	19
20	12.78	1017	0.17	-118.4	1326	0.67	6.80	11.33	12
25	12.82	1020	0.15	-118.9	1330	0.67	6.82	11.33	7.2
30	12.78	1019	0.14	-118.5	1329	0.67	6.82	11.33	4.3
35	12.78	1018	0.14	-118.7	1329	0.67	6.82	11.33	3.4
40	12.83	1020	0.14	-118.5	1329	0.67	6.83	11.33	2.7
45	12.75	1015	0.14	-118.3	1325	0.67	6.83	11.33	2.3
50	12.77	1016	0.14	-118.3	1326	0.67	6.83	11.33	2.0
55	12.76	1017	0.14	-118.2	1327	0.67	6.84	11.33	1.6
60	12.73	1014	0.13	-118.2	1324	0.67	6.84	11.33	1.7
65	12.73	1014	0.13	-118.0	1324	0.67	6.84	11.33	1.2

17:10hr Sampled 03014-MW7-GW VOC 8260 Total As, Cr, Pb + extra samples preserved upon collection no filtering

ChemServe
ENVIRONMENTAL ANALYSTS

317 Elm Street
Milford NH 03055
Tel (603) 673-5440
Fax (603) 673-0366

June 18, 1999

Mr. Jonathan Higgins
Higgins Environmental Assoc.
19 Elizabeth St.
Amesbury, MA 01913

Job Name	**:**	**Lawrence-03014**	**Laboratory #**	**:**	**99060071**
Job #	**:**	**03014-99**	**Purchase Order #**	**:**	**03014-99**
Location	**:**	**Lawrence MA**	**Control #**	**:**	**28824**

Dear Mr. Higgins,

Enclosed please find the laboratory results for the above referenced samples which were received by the Chemserve sample custodian, under chain of custody control number 28824 on June 8, 1999. Samples were collected by Jonathan Higgins on June 4, 1999. Any abnormalities to the samples on receipt would be noted on the enclosed chain of custody document. This report is not valid without a completed Chemserve chain of custody with the corresponding control number, attached.

All samples analyzed by Chemserve are subjected to quality standards. These standards are either as stringent or more stringent than those established under 40 CFR Part 136, state certification programs, and corresponding methodologies. Chemserve has a written QA/QC Procedures Manual which outlines these standards, and is available, upon request, for your reference. Unless otherwise stated on the Chain of Custody or within the report, all holding times, preservation techniques, container types, and analytical methods are analogous with those outlined by the U.S. EPA.

I certify that I have reviewed the above referenced analytical data and state forms, and I have found this report within compliance with the procedures outlined in the Chemserve QA/QC Procedures Manual.

Ellen Abrams - QA/QC Administrator

Jay W. Chrystal - President/Laboratory Director

CHEMSERVE QUALITY ASSURANCE SEAL ENVIRONMENTAL ANALYSTS

This report contains 7 pages.

ChemServe

PCB
EPA METHOD 8082

CUSTOMER: HIGGINS ENVIRONMENTAL ASSOCIATES

LAB#: 99060071-05

SAMPLE LOCATION: LAWRENCE, MA

JOB#: 03014-99

SAMPLE IDENTITY: 03014-SB6-W1

CONTROL#: 28824

DATE SAMPLED: 06/4/99

DATE REC'D: 06/8/99

DATE ANALYZED: 06/15/99

DATE EXTRACTED: 06/10/99

MATRIX: SOLID

% TOTAL SOLIDS: 96.6

COMPOUND	CONCENTRATION BASED ON DRY WEIGHT (UG/KG)	DETECTION LIMIT MULTIPLIER: PQL BASED ON DRY WEIGHT (UG/KG) X 345
AROCLOR 1016/1242	BDL	0.1
AROCLOR 1221	BDL	0.2
AROCLOR 1232	BDL	0.1
AROCLOR 1248	BDL	0.1
AROCLOR 1254	BDL	0.1
AROCLOR 1260	BDL	0.1

NOTE: NON-TARGET COMPOUNDS PRESENT

BDL = BELOW DETECTION LIMIT

ANALYZED BY: WN

ChemServe

PCB
EPA METHOD 8082

CUSTOMER: HIGGINS ENVIRONMENTAL ASSOCIATES

LAB#: 99060071-02

SAMPLE LOCATION: LAWRENCE, MA

JOB#: 03014-99

SAMPLE IDENTITY: 03014-SB6-N1

CONTROL#: 28824

DATE SAMPLED: 06/4/99

DATE REC'D: 06/8/99

DATE ANALYZED: 06/16/99

DATE EXTRACTED: 06/10/99

MATRIX: SOLID

% TOTAL SOLIDS: 90.7

COMPOUND	CONCENTRATION BASED ON DRY WEIGHT (UG/KG)	DETECTION LIMIT MULTIPLIER: PQL BASED ON DRY WEIGHT (UG/KG) X 36,700
AROCLOR 1016/1242	BDL	0.1
AROCLOR 1221	BDL	0.2
AROCLOR 1232	BDL	0.1
AROCLOR 1248	BDL	0.1
AROCLOR 1254	BDL	0.1
AROCLOR 1260	92,000	0.1

BDL = BELOW DETECTION LIMIT

ANALYZED BY: WN

ChemServe

PCB
EPA METHOD 8082

CUSTOMER: HIGGINS ENVIRONMENTAL ASSOCIATES

LAB#: 99060071-03

SAMPLE LOCATION: LAWRENCE, MA

JOB#: 03014-99

SAMPLE IDENTITY: 03014-SB6-E1

CONTROL#: 28824

DATE SAMPLED: 06/4/99

DATE REC'D: 06/8/99

DATE ANALYZED: 06/16/99

DATE EXTRACTED: 06/10/99

MATRIX: SOLID

% TOTAL SOLIDS: 94.0

COMPOUND	CONCENTRATION BASED ON DRY WEIGHT (UG/KG)	DETECTION LIMIT MULTIPLIER: PQL BASED ON DRY WEIGHT (UG/KG) X 7,080
AROCLOR 1016/1242	BDL	0.1
AROCLOR 1221	BDL	0.2
AROCLOR 1232	BDL	0.1
AROCLOR 1248	BDL	0.1
AROCLOR 1254	BDL	0.1
AROCLOR 1260	3,800	0.1

NOTE: NON-TARGET COMPOUNDS PRESENT

BDL = BELOW DETECTION LIMIT

ANALYZED BY: WN

Chain of Custody No. 20829

Multiple COC's Yes No

ChemServe Environmental Analysts

317 Elm Street Milford, NH 03055
(603) 673-5440/ Fax (603) 673-0366

CHAIN OF CUSTODY

A CUSTOMER INFORMATION

CUSTOMER: [illegible]
ADDRESS: [illegible]
CITY/STATE/ZIP: [illegible]
TELEPHONE: [illegible] 634-[illegible]
REPORT TO: [illegible]
P O NUMBER: 03014-19

B PROJECT INFORMATION

JOB NAME: [illegible] - 03014
JOB NUMBER: 03014-19
LOCATION: [illegible]
TELEPHONE: [illegible] 634-[illegible]
CONTACT: [illegible]
QUOTE NUMBER: 03014-19

C SAMPLE INFORMATION

TURNAROUND TIME: (CIRCLE ONE:) STANDARD (circled) RUSH
RUSH T.A.T. ______ (CHECK w/LAB)
AMBER GLASS (AG) / GLASS (G) / PLASTIC (P)

STATION # (D)	SAMPLE IDENTIFICATION & LOCATION (E)	COLLECTED DATE (F)	COLLECTED TIME (G)	SAMPLE TYPE GRAB (H)	SAMPLE TYPE COMP	(I) MATRIX SOLID (S) LIQUID (L) COMBINED (C) HAZARD (H)	(J) # OF CONTAINERS	(K) CONTAINER AND PRESERVATIVE	(L) ANALYSIS
1	03014-SB6-SS2	6/4/99	1140	X		S	1		PCB 8082
2	03014-SB6-NI	|	1145	X		S	1		PCB 8082
3	03014-SB6-EI	|	1150	X		S	1		PCB 8082
4	03014-SB6-SI	|	1155	X		S	1		PCB 8082
5	03014-SB6-WI	6/4/99	1200	X		S	1		PCB 8082
		DATE	TIME						
		DATE	TIME						
		DATE	TIME						

M CUSTODY

SAMPLER: (print name) [illegible]
SIGNATURE: [illegible]

		DATE	MILITARY TIME
SAMPLER	[illegible]	6/4/99	1610
RELINQUISHED:	[illegible]	6/7/99	1554
RECEIVED:	[illegible]	6-8-99	1[illegible]
RELINQUISHED:	[illegible]	6-8-99	[illegible]
RECEIVED FOR LAB:	[illegible]	6/8/99	[illegible]

SAMPLE CHECK LIST:
RECEIVED WITHIN HOLD TIME YES OR NO
RECEIVED IN GOOD CONDITION YES (circled) OR NO
TEMP BLANK ______ °C
SHIPPED OR HAND DELIVERED
SAMPLES WERE PROPERLY PRESERVED YES NO N/A (circled)
SAMPLES WERE FILTERED IN FIELD LAB N/A (circled)
IF NO EXPLAIN

GROUP # [illegible] 6/21

FIELD READING(S):

The Following
Document Contains

Some Poor Quality

Originals

The Commonwealth of Massachusetts

Department of Environmental Protection

Division of Environmental Analysis
Senator William X. Wall Experiment Station

certifies

M-NH023 Chemserve
317 Elm Street
Milford, NH 03055

Laboratory Director: Jay W. Crystal

for the Chemical Analysis of Potable and Non-Potable Water

pursuant to 310 CMR 42.00

This certificate supersedes all previous Massachusetts certificates issued to this laboratory. The laboratory is regulated by and shall be responsible for being in compliance with Massachusetts regulations at 310 CMR 42.00.

This certificate is valid only when accompanied by the latest dated Certified Parameter List as issued by the Massachusetts D.E.P.

Certification is no guarantee of the validity of the data. This certification is subject to unannounced laboratory inspections.

Director, Division of Environmental Analysis

Issued: 07/01/98

Expires: 06/30/99

The Commonwealth of Massachusetts

Department of Environmental Protection

Division of Environmental Analysis
Senator William X. Wall Experiment Station

certifies

M-NH023 Chemserve
317 Elm Street
Milford, NH 03055

Laboratory Director: Jay W. Crystal

for the Microbiological Analysis of Water

pursuant to 310 CMR 42.00

This certificate supersedes all previous Massachusetts certificates issued to this laboratory. The laboratory is regulated by and shall be responsible for being in compliance with Massachusetts regulations at 310 CMR 42.00.

This certificate is valid only when accompanied by the latest dated Certified Parameter List as issued by the Massachusetts D.E.P.

Certification is no guarantee of the validity of the data. This certification is subject to unannounced laboratory inspections.

Director, Division of Environmental Analysis

Issued: 07/01/98

Expires: 06/30/99

COMMONWEALTH OF MASSACHUSETTS
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Certified Parameter List

EFFECTIVE DATE: 07/01/98

EXPIRATION DATE: 06/30/99

M-NH023 Chemserve
Milford, NH

NON-POTABLE WATER

201 Aluminum
202 Antimony
203 Arsenic
204 Beryllium
205 Cadmium
206 Chromium
207 Cobalt
208 Copper
209 Iron
210 Lead
211 Manganese
* 212 Mercury
213 Molybdenum
214 Nickel
215 Selenium
216 Silver
218 Thallium
* 220 Vanadium
221 Zinc
222 pH
224 Total Dissolved Solids
225 Total Hardness (CaCO3)
226 Calcium
227 Magnesium
228 Sodium
229 Potassium
230 Total Alkalinity
231 Chloride
232 Fluoride
* 233 Sulfate
* 234 Ammonia-N
235 Nitrate-N
236 Kjeldahl-N
237 Orthophosphate
239 Chemical Oxygen Demand
240 Biochemical Oxygen Demand
242 Total Cyanide
243 Non-Filterable Residue
244 Total Residual Chlorine
245 Oil and Grease
246 Total Phenolics

* **Provisional Certification**

COMMONWEALTH OF MASSACHUSETTS
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Certified Parameter List

EFFECTIVE DATE: 07/01/98

EXPIRATION DATE: 06/30/99

M-NH023 Chemserve
Milford, NH

NON-POTABLE WATER

247 Volatile Halocarbons
248 Volatile Aromatics
249 Chlordane
250 Aldrin
251 Dieldrin
252 DDD
253 DDE
254 DDT
255 Heptachlor
256 Heptachlor Epoxide
257 Polychlorinated Biphenyls (water)
258 Polychlorinated Biphenyls (oil)

COMMONWEALTH OF MASSACHUSETTS
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Certified Parameter List

EFFECTIVE DATE: 04/21/99

EXPIRATION DATE: 06/30/99

M-NH023 Chemserve
Milford, NH

POTABLE WATER

102 Arsenic
103 Barium
104 Beryllium
105 Cadmium
106 Chromium
107 Copper
108 Lead
* 109 Mercury
110 Nickel
111 Selenium
113 Thallium
114 Nitrate-N
115 Nitrite-N
116 Fluoride
117 Sodium
119 Cyanide
120 Turbidity
* 121 Residual Free Chlorine
122 Calcium
123 Total Alkalinity
124 Total Dissolved Solids
128 2,4-D
130 Dalapon
132 Pentachlorophenol
133 Picloram
134 Alachlor
135 Atrazine
136 Chlordane
137 Endrin
138 Heptachlor
139 Heptachlor Epoxide
140 Hexachlorobenzene
141 Hexachlorocyclopentadiene
142 Lindane
143 Methoxychlor
144 Simazine
145 Toxaphene
153 Trihalomethanes
154 Volatile Organic Compounds
155 1,2-Dibromoethane
156 1,2-Dibromo-3-chloropropane

* **Provisional Certification**

COMMONWEALTH OF MASSACHUSETTS
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Certified Parameter List

EFFECTIVE DATE: 11/18/98

EXPIRATION DATE: 06/30/99

M-NH023 Chemserve
Milford, NH

MICROBIOLOGY

301 Total Coliform
302 Fecal Coliform
303 Heterotrophic Plate Count
304 E-Coli

ChemServe ENVIRONMENTAL ANALYSTS

317 Elm Street
Milford NH 03055
Tel (603) 673-5440
Fax (603) 673-0366

May 21, 1999

Mr. Jonathan Higgins
Higgins Environmental Assoc.
19 Elizabeth St.
Amesbury, MA 01913

Job Name	**: 03014-Lawrence**	**Laboratory #**	**: 99040303**
Job #	**: 03014-99**	**Purchase Order #**	**: 03014-99**
Location	**: Massachusetts**	**Control #**	**: 20122,20123,20124**

Dear Mr. Higgins,

Enclosed please find the laboratory results for the above referenced samples which were received by the Chemserve sample custodian, under chain of custody control number 20122, 20123 & 20124 on April 29, 1999. Samples were collected by Jonathan Higgins on April 28, 1999. Any abnormalities to the samples on receipt would be noted on the enclosed chain of custody document. This report is not valid without a completed Chemserve chain of custody with the corresponding control number, attached.

All samples analyzed by Chemserve are subjected to quality standards. These standards are either as stringent or more stringent than those established under 40 CFR Part 136, state certification programs, and corresponding methodologies. Chemserve has a written QA/QC Procedures Manual which outlines these standards, and is available, upon request, for your reference. Unless otherwise stated on the Chain of Custody or within the report, all holding times, preservation techniques, container types, and analytical methods are analogous with those outlined by the U.S. EPA.

I certify that I have reviewed the above referenced analytical data and state forms, and I have found this report within compliance with the procedures outlined in the Chemserve QA/QC Procedures Manual.

Ellen Abrams - QA/QC Administrator

Jay W. Chrystal - President/Laboratory Director

This report contains 58 pages.

MADEP VPH DATA

SAMPLE INFORMATION

Matrix	___Aq. _x_Soil __Sediment __Other	
Containers	_x_Satisfactory __ Broken __Leaking	
Preservation	_x_N/A __ pH<2 __pH>2 Comment:	
	_x_N/A __ Samples NOT preserved in Methanol or air-tight container	
	_x_Samples rec'd in Methanol _x_ covering soil __ not covering soil	
	_x_Samples rec'd in air-tight container	
Temperature	__On Ice _x_At 4C ___Other	mL Methanol / g soil 10mL / 21.0g

VPH ANALYTICAL RESULTS

	Lab ID:		99040303-01
	Client ID:		03014-SB5-SOUTH
	Date Collected:		04/28/99
	Date Received:		04/29/99
	Date Analyzed:		05/11/99
	Dilution Factor:		25.0
	%Solid		95.1
Range /Target Analyte	**RL**	**Units**	
Unadjusted C5-C8 Aliphatics[1]	1	UG/KG	710
Unadjusted C9-C12 Aliphatics[1]	1	UG/KG	<RL
Methyl-tert-butylether	1	UG/KG	480
Benzene	1	UG/KG	130
Toluene	1	UG/KG	40
m- & p- Xylenes	1	UG/KG	<RL
o-Xylene	1	UG/KG	<RL
Ethylbenzene	1	UG/KG	<RL
Naphthalene	1	UG/KG	1,900
C5-C8 Aliphatic Hydrocarbons[1,2]	1	UG/KG	62
C9-C12 Aliphatic Hydrocarbons[1,3]	1	UG/KG	<RL
C9-C10 Aromatic Hydrocarbons[1]	1	UG/KG	<RL
Dibromofluoromethane % Recovery			84%
Toluene-d8 % Recovery			84%
4-Bromofluorobenzene % Recovery			81%
Surrogate Acceptance Range			70-130%

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

[2]C5-C8 Aliphatic Hydrocarbons exclude the concentration of Target Analytes in that range

[3]C9-C12 Aliphatic Hydrocarbons exclude conc of Target Analytes eluting in that range and conc of C9-C10 Aromatics

Certification

Were all QA/QC procedures required by the VPH method followed? _x_Yes ___No- Details attached

Were all performance/acceptance standards for the required QA/QC procedures Achieved? __Yes _x_No- Details attached

Sample diluted due to matrix.

Were any significant modifications made to the VPH method, as specified in section 11.3? __ No _x_ Yes-Details attached

sample analyzed via GC/MS

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

Jay W. Chrystal Laboratory Director

5/21/99
Date

MADEP VPH DATA

SAMPLE INFORMATION

Matrix	___Aq. _x_Soil __Sediment __Other	
Containers	_x_Satisfactory __ Broken __Leaking	
Preservation	_x_N/A __ pH<2 __pH>2 Comment:	
	_x_N/A __ Samples NOT preserved in Methanol or air-tight container	
	_x_Samples rec'd in Methanol _x_ covering soil __ not covering soil	
	_x_Samples rec'd in air-tight container	
Temperature	__On Ice _x_At 4C ___Other	mL Methanol / g soil 10mL / 25.9g

VPH ANALYTICAL RESULTS

	Lab ID:		99040303-02
	Client ID:		03014-SB5-WEST
	Date Collected:		04/28/99
	Date Received:		04/29/99
	Date Analyzed:		05/11/99
	Dilution Factor:		19.9
	%Solid		97.1
Range /Target Analyte	**RL**	**Units**	
Unadjusted C5-C8 Aliphatics[1]	1	UG/KG	87
Unadjusted C9-C12 Aliphatics[1]	1	UG/KG	320
Methyl-tert-butylether	1	UG/KG	<RL
Benzene	1	UG/KG	<RL
Toluene	1	UG/KG	87
m- & p- Xylenes	1	UG/KG	190
o-Xylene	1	UG/KG	110
Ethylbenzene	1	UG/KG	50
Naphthalene	1	UG/KG	<RL
C5-C8 Aliphatic Hydrocarbons[1,2]	1	UG/KG	<RL
C9-C12 Aliphatic Hydrocarbons[1,3]	1	UG/KG	<RL
C9-C10 Aromatic Hydrocarbons[1]	1	UG/KG	<RL
Dibromofluoromethane % Recovery			91%
Toluene-d8 % Recovery			96%
4-Bromofluorobenzene % Recovery			88%
Surrogate Acceptance Range			70-130%

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

[2]C5-C8 Aliphatic Hydrocarbons exclude the concentration of Target Analytes in that range

[3]C9-C12 Aliphatic Hydrocarbons exclude conc of Target Analytes eluting in that range and conc of C9-C10 Aromatics

Certification

Were all QA/QC procedures required by the VPH method followed? _x_Yes ___No- Details attached

Were all performance/acceptance standards for the required QA/QC procedures Achieved? __Yes _x_No- Details attached

Sample diluted due to matrix.

Were any significant modifications made to the VPH method, as specified in section 11.3? __ No _x_ Yes-Details attached

sample analyzed via GC/MS

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

Jay W. Chrystal Laboratory Director

5/21/99

Date

MADEP VPH DATA

SAMPLE INFORMATION

Matrix	___Aq. _x_Soil __Sediment __Other	
Containers	_x_Satisfactory __ Broken __Leaking	
Preservation	_x_N/A __ pH<2 __pH>2 Comment:	
	_x_N/A __ Samples NOT preserved in Methanol or air-tight container	
	_x_Samples rec'd in Methanol _x_ covering soil __ not covering soil	
	_x_Samples rec'd in air-tight container	
Temperature	__On Ice _x_At 4C ___Other	mL Methanol / g soil 10mL / 25.7g

VPH ANALYTICAL RESULTS

	Lab ID:		99040303-03
	Client ID:		03014-SB5-EAST
	Date Collected:		04/28/99
	Date Received:		04/29/99
	Date Analyzed:		05/12/99
	Dilution Factor:		20.7
	%Solid		94.2
Range /Target Analyte	**RL**	**Units**	
Unadjusted C5-C8 Aliphatics[1]	1	UG/KG	58
Unadjusted C9-C12 Aliphatics[1]	1	UG/KG	390
Methyl-tert-butylether	1	UG/KG	<RL
Benzene	1	UG/KG	<RL
Toluene	1	UG/KG	58
m- & p- Xylenes	1	UG/KG	210
o-Xylene	1	UG/KG	140
Ethylbenzene	1	UG/KG	44
Naphthalene	1	UG/KG	<RL
C5-C8 Aliphatic Hydrocarbons[1,2]	1	UG/KG	<RL
C9-C12 Aliphatic Hydrocarbons[1,3]	1	UG/KG	<RL
C9-C10 Aromatic Hydrocarbons[1]	1	UG/KG	<RL
Dibromofluoromethane % Recovery			84%
Toluene-d8 % Recovery			92%
4-Bromofluorobenzene % Recovery			77%
Surrogate Acceptance Range			70-130%

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

[2]C5-C8 Aliphatic Hydrocarbons exclude the concentration of Target Analytes in that range

[3]C9-C12 Aliphatic Hydrocarbons exclude conc of Target Analytes eluting in that range and conc of C9-C10 Aromatics

Certification

Were all QA/QC procedures required by the VPH method followed? _x_Yes ___No- Details attached

Were all performance/acceptance standards for the required QA/QC procedures Achieved? __Yes _x_No- Details attached

Sample diluted due to matrix.

Were any significant modifications made to the VPH method, as specified in section 11.3? __ No _x_ Yes-Details attached

sample analyzed via GC/MS

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

Jay W. Chrystal Laboratory Director

5/21/99

Date

MADEP VPH DATA

SAMPLE INFORMATION

Matrix	___Aq. _x_Soil __Sediment __Other	
Containers	_x_Satisfactory __ Broken __Leaking	
Preservation	_x_N/A __ pH<2 __pH>2 Comment:	
	_x_N/A __ Samples NOT preserved in Methanol or air-tight container	
	_x_Samples rec'd in Methanol _x_ covering soil __ not covering soil	
	_x_Samples rec'd in air-tight container	
Temperature	__On Ice _x_At 4C ___Other	mL Methanol / g soil 10mL / 24.1g

VPH ANALYTICAL RESULTS

	Lab ID:		99040303-04
	Client ID:		03014-SB5-NORTH
	Date Collected:		04/28/99
	Date Received:		04/29/99
	Date Analyzed:		05/12/99
	Dilution Factor:		21.4
	%Solid		96.8
Range /Target Analyte	**RL**	**Units**	
Unadjusted C5-C8 Aliphatics[1]	1	UG/KG	47
Unadjusted C9-C12 Aliphatics[1]	1	UG/KG	1,800
Methyl-tert-butylether	1	UG/KG	<RL
Benzene	1	UG/KG	<RL
Toluene	1	UG/KG	47
m- & p- Xylenes	1	UG/KG	65
o-Xylene	1	UG/KG	49
Ethylbenzene	1	UG/KG	<RL
Naphthalene	1	UG/KG	<RL
C5-C8 Aliphatic Hydrocarbons[1,2]	1	UG/KG	<RL
C9-C12 Aliphatic Hydrocarbons[1,3]	1	UG/KG	1,700
C9-C10 Aromatic Hydrocarbons[1]	1	UG/KG	580
Dibromofluoromethane % Recovery			79%
Toluene-d8 % Recovery			78%
4-Bromofluorobenzene % Recovery			81%
Surrogate Acceptance Range			70-130%

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

[2]C5-C8 Aliphatic Hydrocarbons exclude the concentration of Target Analytes in that range

[3]C9-C12 Aliphatic Hydrocarbons exclude conc of Target Analytes eluting in that range and conc of C9-C10 Aromatics

Certification

Were all QA/QC procedures required by the VPH method followed? _x_Yes ___No- Details attached

Were all performance/acceptance standards for the required QA/QC procedures Achieved? __Yes _x_No- Details attached

Sample diluted due to matrix.

Were any significant modifications made to the VPH method, as specified in section 11.3? __ No _x_ Yes-Details attached

sample analyzed via GC/MS

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

Jay W. Chrystal Laboratory Director

5/11/99
Date

MADEP VPH DATA

SAMPLE INFORMATION

Matrix	___Aq. _x_Soil __Sediment __Other	
Containers	_x_Satisfactory __ Broken __Leaking	
Preservation	_x_N/A __ pH<2 __pH>2 Comment:	
	_x_N/A __ Samples NOT preserved in Methanol or air-tight container	
	_x_Samples rec'd in Methanol _x_ covering soil __ not covering soil	
	_x_Samples rec'd in air-tight container	
Temperature	__On Ice _x_At 4C ___Other	mL Methanol / g soil 10mL / 20.1g

VPH ANALYTICAL RESULTS

	Lab ID:		99040303-05
	Client ID:		03014-F2
	Date Collected:		04/28/99
	Date Received:		04/29/99
	Date Analyzed:		05/12/99
	Dilution Factor:		28.4
	%Solid		87.7
Range /Target Analyte	**RL**	**Units**	
Unadjusted C5-C8 Aliphatics[1]	1	UG/KG	1,800
Unadjusted C9-C12 Aliphatics[1]	1	UG/KG	4,600
Methyl-tert-butylether	1	UG/KG	340
Benzene	1	UG/KG	81
Toluene	1	UG/KG	850
m- & p- Xylenes	1	UG/KG	1,100
o-Xylene	1	UG/KG	610
Ethylbenzene	1	UG/KG	190
Naphthalene	1	UG/KG	1,900
C5-C8 Aliphatic Hydrocarbons[1,2]	1	UG/KG	510
C9-C12 Aliphatic Hydrocarbons[1,3]	1	UG/KG	2,700
C9-C10 Aromatic Hydrocarbons[1]	1	UG/KG	8,100
Dibromofluoromethane % Recovery			91%
Toluene-d8 % Recovery			101%
4-Bromofluorobenzene % Recovery			80%
Surrogate Acceptance Range			70-130%

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

[2]C5-C8 Aliphatic Hydrocarbons exclude the concentration of Target Analytes in that range

[3]C9-C12 Aliphatic Hydrocarbons exclude conc of Target Analytes eluting in that range and conc of C9-C10 Aromatics

Certification

Were all QA/QC procedures required by the VPH method followed? _x_Yes ___No- Details attached

Were all performance/acceptance standards for the required QA/QC procedures Achieved? __Yes _x_No- Details attached

Sample diluted due to matrix.

Were any significant modifications made to the VPH method, as specified in section 11.3? __ No _x_ Yes-Details attached

sample analyzed via GC/MS

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

Jay W. Chrystal Laboratory Director

5/21/99
Date

MADEP VPH DATA

SAMPLE INFORMATION

Matrix	___Aq. _x_Soil __Sediment __Other	
Containers	_x_Satisfactory __ Broken __Leaking	
Preservation	_x_N/A __ pH<2 __pH>2 Comment:	
	_x_N/A __ Samples NOT preserved in Methanol or air-tight container	
	_x_Samples rec'd in Methanol _x_ covering soil __ not covering soil	
	_x_Samples rec'd in air-tight container	
Temperature	__On Ice _x_At 4C ___Other	mL Methanol / g soil 10mL / 22.5g

VPH ANALYTICAL RESULTS

	Lab ID:		99040303-16
	Client ID:		03014-F7
	Date Collected:		04/28/99
	Date Received:		04/29/99
	Date Analyzed:		05/12/99
	Dilution Factor:		22.7
	%Solid		97.7
Range /Target Analyte	**RL**	**Units**	
Unadjusted C5-C8 Aliphatics[1]	1	UG/KG	65
Unadjusted C9-C12 Aliphatics[1]	1	UG/KG	2,500
Methyl-tert-butylether	1	UG/KG	<RL
Benzene	1	UG/KG	<RL
Toluene	1	UG/KG	65
m- & p- Xylenes	1	UG/KG	1,400
o-Xylene	1	UG/KG	770
Ethylbenzene	1	UG/KG	280
Naphthalene	1	UG/KG	3,400
C5-C8 Aliphatic Hydrocarbons[1,2]	1	UG/KG	<RL
C9-C12 Aliphatic Hydrocarbons[1,3]	1	UG/KG	<RL
C9-C10 Aromatic Hydrocarbons[1]	1	UG/KG	290
Dibromofluoromethane % Recovery			79%
Toluene-d8 % Recovery			89%
4-Bromofluorobenzene % Recovery			80%
Surrogate Acceptance Range			70-130%

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

[2]C5-C8 Aliphatic Hydrocarbons exclude the concentration of Target Analytes in that range

[3]C9-C12 Aliphatic Hydrocarbons exclude conc of Target Analytes eluting in that range and conc of C9-C10 Aromatics

Certification

Were all QA/QC procedures required by the VPH method followed? _x_Yes ___No- Details attached

Were all performance/acceptance standards for the required QA/QC procedures Achieved? __Yes _x_No- Details attached

Sample diluted due to matrix.

Were any significant modifications made to the VPH method, as specified in section 11.3? __ No _x_ Yes-Details attached

sample analyzed via GC/MS

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

Jay W. Chrystal Laboratory Director

5/21/99
Date

MADEP VPH DATA

SAMPLE INFORMATION

Matrix	___Aq. _x_Soil __Sediment __Other	
Containers	_x_Satisfactory __ Broken __Leaking	
Preservation	_x_N/A __ pH<2 __pH>2 Comment:	
	_x_N/A __ Samples NOT preserved in Methanol or air-tight container	
	_x_Samples rec'd in Methanol _x_ covering soil __ not covering soil	
	_x_Samples rec'd in air-tight container	
Temperature	__On Ice _x_At 4C ___Other	mL Methanol / g soil 10mL / 19.7g

VPH ANALYTICAL RESULTS

	Lab ID:		99040303-18
	Client ID:		03014-SB6-SS1
	Date Collected:		04/28/99
	Date Received:		04/29/99
	Date Analyzed:		05/12/99
	Dilution Factor:		27.6
	%Solid		91.9
Range /Target Analyte	**RL**	**Units**	
Unadjusted C5-C8 Aliphatics[1]	1	UG/KG	<RL
Unadjusted C9-C12 Aliphatics[1]	1	UG/KG	<RL
Methyl-tert-butylether	1	UG/KG	<RL
Benzene	1	UG/KG	<RL
Toluene	1	UG/KG	<RL
m- & p- Xylenes	1	UG/KG	<RL
o-Xylene	1	UG/KG	<RL
Ethylbenzene	1	UG/KG	<RL
Naphthalene	1	UG/KG	<RL
C5-C8 Aliphatic Hydrocarbons[1,2]	1	UG/KG	<RL
C9-C12 Aliphatic Hydrocarbons[1,3]	1	UG/KG	<RL
C9-C10 Aromatic Hydrocarbons[1]	1	UG/KG	<RL
Dibromofluoromethane % Recovery			82%
Toluene-d8 % Recovery			82%
4-Bromofluorobenzene % Recovery			83%
Surrogate Acceptance Range			70-130%

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

[2]C5-C8 Aliphatic Hydrocarbons exclude the concentration of Target Analytes in that range

[3]C9-C12 Aliphatic Hydrocarbons exclude conc of Target Analytes eluting in that range and conc of C9-C10 Aromatics

Certification

Were all QA/QC procedures required by the VPH method followed? _x_Yes ___No- Details attached

Were all performance/acceptance standards for the required QA/QC procedures Achieved? __Yes _x_No- Details attached

Sample diluted due to matrix.

Were any significant modifications made to the VPH method, as specified in section 11.3? __ No _x_ Yes-Details attached

sample analyzed via GC/MS

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

Jay W. Chrystal Laboratory Director

5/21/99
Date

MADEP VPH DATA

SAMPLE INFORMATION

Matrix	___Aq. _x_Soil __Sediment __Other	
Containers	_x_Satisfactory __ Broken __Leaking	
Preservation	_x_N/A __ pH<2 __pH>2 Comment:	
	_x_N/A __ Samples NOT preserved in Methanol or air-tight container	
	_x_Samples rec'd in Methanol _x_ covering soil __ not covering soil	
	_x_Samples rec'd in air-tight container	
Temperature	__On Ice _x_At 4C ___Other	mL Methanol / g soil 10mL / 19.6g

VPH ANALYTICAL RESULTS

	Lab ID:		99040303-19
	Client ID:		03014-ALL
	Date Collected:		04/28/99
	Date Received:		04/29/99
	Date Analyzed:		05/12/99
	Dilution Factor:		26.4
	%Solid		96.8
Range /Target Analyte	**RL**	**Units**	
Unadjusted C5-C8 Aliphatics[1]	1	UG/KG	<RL
Unadjusted C9-C12 Aliphatics[1]	1	UG/KG	<RL
Methyl-tert-butylether	1	UG/KG	<RL
Benzene	1	UG/KG	<RL
Toluene	1	UG/KG	<RL
m- & p- Xylenes	1	UG/KG	<RL
o-Xylene	1	UG/KG	<RL
Ethylbenzene	1	UG/KG	<RL
Naphthalene	1	UG/KG	<RL
C5-C8 Aliphatic Hydrocarbons[1,2]	1	UG/KG	2,900
C9-C12 Aliphatic Hydrocarbons[1,3]	1	UG/KG	<RL
C9-C10 Aromatic Hydrocarbons[1]	1	UG/KG	<RL
Dibromofluoromethane % Recovery			87%
Toluene-d8 % Recovery			87%
4-Bromofluorobenzene % Recovery			81%
Surrogate Acceptance Range			70-130%

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

[2]C5-C8 Aliphatic Hydrocarbons exclude the concentration of Target Analytes in that range

[3]C9-C12 Aliphatic Hydrocarbons exclude conc of Target Analytes eluting in that range and conc of C9-C10 Aromatics

Certification

Were all QA/QC procedures required by the VPH method followed? _x_Yes ___No- Details attached

Were all performance/acceptance standards for the required QA/QC procedures Achieved? __Yes _x_No- Details attached

Sample diluted due to matrix.

Were any significant modifications made to the VPH method, as specified in section 11.3? __ No _x_ Yes-Details attached

sample analyzed via GC/MS

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

Jay W. Chrystal Laboratory Director

5/24/99
Date

MADEP EPH DATA

SAMPLE INFORMATION

Matrix	___Aq. _x_Soil __Sediment ___Other
Containers	_x_Satisfactory __ Broken __Leaking
Preservation	_x_N/A __ pH<2 __pH>2 Comment:
Temperature	__On Ice _x_At 4C ___Other
Extraction Method	Water: Soil: Sonication

EPH ANALYTICAL RESULTS

		Lab ID:		99040303-01
		Client ID:		03014-SB5-SOUTH
		Date Collected:		04/28/99
		Date Received:		04/29/99
		Date Extracted:		05/05/99
		Date Analyzed:		05/10/99
		Dilution Factor:		140
		%Solid		95.1
Range /Target Analyte		**RL**	**Units**	
Unadjusted C11-C22 Aromatics[1]		10	UG/KG	120,000
Diesel PAH Analytes	Naphthalene	10	UG/KG	<RL
	2-Methylnaphthalene	10	UG/KG	<RL
	Phenanthrene	10	UG/KG	15,000
	Acenaphthene	10	UG/KG	2,800
Other Target Analytes	Acenaphthalene	10	UG/KG	<RL
	Anthracene	10	UG/KG	6,200
	Benzo(a)Anthracene	10	UG/KG	7,600
	Benzo(a)Pyrene	10	UG/KG	8,900
	Benzo(b)Fluoranthene	10	UG/KG	12,000
	Benzo(g,h,i)Perylene	10	UG/KG	7,600
	Benzo(k)Fluoranthene	10	UG/KG	8,000
	Chrysene	10	UG/KG	11,000
	Dibenzo(a,h)Anthracene	10	UG/KG	<RL
	Fluoranthene	10	UG/KG	18,000
	Fluorene	10	UG/KG	3,700
	Ideno(1,2,3-cd)Pyrene	10	UG/KG	5,900
	Pyrene	10	UG/KG	16,000
C9-C18 Aliphatic Hydrocarbons[1]		10	UG/KG	<RL
C19-C36 Aliphatic Hydrocarbons[1]		10	UG/KG	770,000
C11-C22 Aromatic Hydrocarbons[1,2]		10	UG/KG	<RL
Chloro-octadecane % Recovery				54%
o-Terphenyl % Recovery				30%*
Surrogate Acceptance Range				40-140%
2-Fluorobiphenyl % Recovery				38%*
2-Bromonaphthalene % Recovery				46%
Surrogate Acceptance Range				40-140%

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

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

Certification

Were all QA/QC procedures required by the EPH method followed? _x_Yes ___No- Details attached

Were all performance/acceptance standards for the required QA/QC procedures Achieved? __Yes _x_No- Details attached

sample refractionated probable matrix interference,surrogates outside acceptance limits

Were any significant modifications made to the EPH method, as specified in section 11.3? __ No _x_ Yes-Details attached

sample analyzed via GC/MS

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

Jay W. Chrystal Laboratory Director

5/21/99
Date

MADEP EPH DATA

SAMPLE INFORMATION

Matrix	___Aq. _x_Soil __Sediment ___Other
Containers	_x_Satisfactory __ Broken __Leaking
Preservation	_x_N/A __ pH<2 __pH>2 Comment:
Temperature	__On Ice _x_At 4C ___Other
Extraction Method	Water: Soil: Sonication

EPH ANALYTICAL RESULTS

		Lab ID:		99040303-02
		Client ID:		03014-SB5-WEST
		Date Collected:		04/28/99
		Date Received:		04/29/99
		Date Extracted:		05/05/99
		Date Analyzed:		05/14/99
		Dilution Factor:		1370
		%Solid		97.1
Range /Target Analyte		**RL**	**Units**	
Unadjusted C11-C22 Aromatics[1]		10	UG/KG	72,000
Diesel PAH Analytes	Naphthalene	10	UG/KG	<RL
	2-Methylnaphthalene	10	UG/KG	<RL
	Phenanthrene	10	UG/KG	<RL
	Acenaphthene	10	UG/KG	<RL
Other Target Analytes	Acenaphthalene	10	UG/KG	<RL
	Anthracene	10	UG/KG	<RL
	Benzo(a)Anthracene	10	UG/KG	<RL
	Benzo(a)Pyrene	10	UG/KG	<RL
	Benzo(b)Fluoranthene	10	UG/KG	<RL
	Benzo(g,h,i)Perylene	10	UG/KG	<RL
	Benzo(k)Fluoranthene	10	UG/KG	<RL
	Chrysene	10	UG/KG	21,000
	Dibenzo(a,h)Anthracene	10	UG/KG	<RL
	Fluoranthene	10	UG/KG	26,000
	Fluorene	10	UG/KG	<RL
	Ideno(1,2,3-cd)Pyrene	10	UG/KG	<RL
	Pyrene	10	UG/KG	25,000
C9-C18 Aliphatic Hydrocarbons[1]		10	UG/KG	<RL
C19-C36 Aliphatic Hydrocarbons[1]		10	UG/KG	5,000,000
C11-C22 Aromatic Hydrocarbons[1,2]		10	UG/KG	<RL
Chloro-octadecane % Recovery				
o-Terphenyl % Recovery				
Surrogate Acceptance Range				40-140%
2-Fluorobiphenyl % Recovery				
2-Bromonaphthalene % Recovery				
Surrogate Acceptance Range				40-140%

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

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

Certification

Were all QA/QC procedures required by the EPH method followed? _x_Yes ___No- Details attached

Were all performance/acceptance standards for the required QA/QC procedures Achieved? __Yes _x_No- Details attached

surrogates diluted below detection

Were any significant modifications made to the EPH method, as specified in section 11.3? __ No _x_ Yes-Details attached

sample analyzed via GC/MS

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

Jay W. Chrystal/Laboratory Director

5/24/99
Date

MADEP EPH DATA

SAMPLE INFORMATION

Matrix	___Aq. _x_Soil __Sediment ___Other
Containers	_x_Satisfactory __ Broken __Leaking
Preservation	_x_N/A __ pH<2 __pH>2 Comment:
Temperature	__On Ice _x_At 4C ___Other
Extraction Method	Water: Soil: Sonication

EPH ANALYTICAL RESULTS

		Lab ID:		99040303-03
		Client ID:		03014-SB5-EAST
		Date Collected:		04/28/99
		Date Received:		04/29/99
		Date Extracted:		05/05/99
		Date Analyzed:		05/11/99
		Dilution Factor:		141
		%Solid		94.2
Range /Target Analyte		**RL**	**Units**	
Unadjusted C11-C22 Aromatics[1]		10	UG/KG	710,000
Diesel PAH Analytes	**Naphthalene**	10	UG/KG	<RL
	2-Methylnaphthalene	10	UG/KG	<RL
	Phenanthrene	10	UG/KG	5,200
	Acenaphthene	10	UG/KG	<RL
Other Target Analytes	**Acenaphthalene**	10	UG/KG	<RL
	Anthracene	10	UG/KG	1,700
	Benzo(a)Anthracene	10	UG/KG	5,900
	Benzo(a)Pyrene	10	UG/KG	7,000
	Benzo(b)Fluoranthene	10	UG/KG	13,000
	Benzo(g,h,i)Perylene	10	UG/KG	9,500
	Benzo(k)Fluoranthene	10	UG/KG	9,900
	Chrysene	10	UG/KG	9,600
	Dibenzo(a,h)Anthracene	10	UG/KG	<RL
	Fluoranthene	10	UG/KG	12,000
	Fluorene	10	UG/KG	<RL
	Ideno(1,2,3-cd)Pyrene	10	UG/KG	7,100
	Pyrene	10	UG/KG	12,000
C9-C18 Aliphatic Hydrocarbons[1]		10	UG/KG	<RL
C19-C36 Aliphatic Hydrocarbons[1]		10	UG/KG	2,700,000
C11-C22 Aromatic Hydrocarbons[1,2]		10	UG/KG	620,000
Chloro-octadecane % Recovery				77%
o-Terphenyl % Recovery				238%*
Surrogate Acceptance Range				40-140%
2-Fluorobiphenyl % Recovery				142%*
2-Bromonaphthalene % Recovery				74%
Surrogate Acceptance Range				40-140%

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

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

Certification

Were all QA/QC procedures required by the EPH method followed? _x_Yes ___No- Details attached

Were all performance/acceptance standards for the required QA/QC procedures Achieved? __Yes _x_No- Details attached

sample refractionated probable matrix interference,surrogates outside acceptance limits

Were any significant modifications made to the EPH method, as specified in section 11.3? __ No _x_ Yes-Details attached

sample analyzed via GC/MS

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

Jay W. Chrystal Laboratory Director

5/21/99

Date

MADEP EPH DATA

SAMPLE INFORMATION

Matrix	___Aq. _x_Soil __Sediment ___Other
Containers	_x_Satisfactory __ Broken __Leaking
Preservation	_x_N/A __ pH<2 __pH>2 Comment:
Temperature	__On Ice _x_At 4C ___Other
Extraction Method	Water: Soil: Sonication

EPH ANALYTICAL RESULTS

		Lab ID:		99040303-04
		Client ID:		03014-SB5-NORTH
		Date Collected:		04/28/99
		Date Received:		04/29/99
		Date Extracted:		05/05/99
		Date Analyzed:		05/10/99
		Dilution Factor:		344
		%Solid		96.8
Range /Target Analyte		**RL**	**Units**	
Unadjusted C11-C22 Aromatics[1]		10	UG/KG	150,000
Diesel PAH Analytes	Naphthalene	10	UG/KG	<RL
	2-Methylnaphthalene	10	UG/KG	<RL
	Phenanthrene	10	UG/KG	13,000
	Acenaphthene	10	UG/KG	<RL
Other Target Analytes	Acenaphthalene	10	UG/KG	<RL
	Anthracene	10	UG/KG	<RL
	Benzo(a)Anthracene	10	UG/KG	10,000
	Benzo(a)Pyrene	10	UG/KG	11,000
	Benzo(b)Fluoranthene	10	UG/KG	15,000
	Benzo(g,h,i)Perylene	10	UG/KG	12,000
	Benzo(k)Fluoranthene	10	UG/KG	11,000
	Chrysene	10	UG/KG	18,000
	Dibenzo(a,h)Anthracene	10	UG/KG	<RL
	Fluoranthene	10	UG/KG	24,000
	Fluorene	10	UG/KG	<RL
	Ideno(1,2,3-cd)Pyrene	10	UG/KG	9,100
	Pyrene	10	UG/KG	23,000
C9-C18 Aliphatic Hydrocarbons[1]		10	UG/KG	2,000,000
C19-C36 Aliphatic Hydrocarbons[1]		10	UG/KG	6,600,000
C11-C22 Aromatic Hydrocarbons[1,2]		10	UG/KG	<RL
Chloro-octadecane % Recovery				
o-Terphenyl % Recovery				
Surrogate Acceptance Range				40-140%
2-Fluorobiphenyl % Recovery				
2-Bromonaphthalene % Recovery				
Surrogate Acceptance Range				40-140%

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

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

Certification

Were all QA/QC procedures required by the EPH method followed? _x_Yes ___No- Details attached

Were all performance/acceptance standards for the required QA/QC procedures Achieved? __Yes _x_No- Details attached

surrogates diluted below detection

Were any significant modifications made to the EPH method, as specified in section 11.3? __ No _x_ Yes-Details attached

sample analyzed via GC/MS

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

Jay W. Chrystal Laboratory Director

Date 5/16/99

MADEP EPH DATA

SAMPLE INFORMATION

Matrix	___Aq. _x_Soil __Sediment ___Other
Containers	_x_Satisfactory __ Broken __Leaking
Preservation	_x_N/A __ pH<2 __pH>2 Comment:
Temperature	__On Ice _x_At 4C ___Other
Extraction Method	Water: Soil: Sonication

EPH ANALYTICAL RESULTS

		Lab ID:		99040303-05
		Client ID:		03014-F2
		Date Collected:		04/28/99
		Date Received:		04/29/99
		Date Extracted:		05/05/99
		Date Analyzed:		05/14/99
		Dilution Factor:		3800
		%Solid		87.7
Range /Target Analyte		**RL**	**Units**	
Unadjusted C11-C22 Aromatics[1]		10	UG/KG	<RL
Diesel PAH Analytes	**Naphthalene**	10	UG/KG	<RL
	2-Methylnaphthalene	10	UG/KG	<RL
	Phenanthrene	10	UG/KG	<RL
	Acenaphthene	10	UG/KG	<RL
Other Target Analytes	**Acenaphthalene**	10	UG/KG	<RL
	Anthracene	10	UG/KG	<RL
	Benzo(a)Anthracene	10	UG/KG	<RL
	Benzo(a)Pyrene	10	UG/KG	<RL
	Benzo(b)Fluoranthene	10	UG/KG	<RL
	Benzo(g,h,i)Perylene	10	UG/KG	<RL
	Benzo(k)Fluoranthene	10	UG/KG	<RL
	Chrysene	10	UG/KG	<RL
	Dibenzo(a,h)Anthracene	10	UG/KG	<RL
	Fluoranthene	10	UG/KG	<RL
	Fluorene	10	UG/KG	<RL
	Ideno(1,2,3-cd)Pyrene	10	UG/KG	<RL
	Pyrene	10	UG/KG	<RL
C9-C18 Aliphatic Hydrocarbons[1]		10	UG/KG	2,400,000
C19-C36 Aliphatic Hydrocarbons[1]		10	UG/KG	23,800,000
C11-C22 Aromatic Hydrocarbons[1,2]		10	UG/KG	<RL
Chloro-octadecane % Recovery				
o-Terphenyl % Recovery				
Surrogate Acceptance Range				40-140%
2-Fluorobiphenyl % Recovery				
2-Bromonaphthalene % Recovery				
Surrogate Acceptance Range				40-140%

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

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

Certification

Were all QA/QC procedures required by the EPH method followed? _x_Yes ___No- Details attached

Were all performance/acceptance standards for the required QA/QC procedures Achieved? __Yes _x_No- Details attached

surrogates diluted below detection

Were any significant modifications made to the EPH method, as specified in section 11.3? __ No _x_ Yes-Details attached

sample analyzed via GC/MS

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

Jay W. Chrystal Laboratory Director

5/21/99
Date

MADEP EPH DATA

SAMPLE INFORMATION

Matrix	___Aq. _x_Soil __Sediment ___Other
Containers	_x_Satisfactory __ Broken __Leaking
Preservation	_x_N/A __ pH<2 __pH>2 Comment:
Temperature	__On Ice _x_At 4C ___Other
Extraction Method	Water: Soil: Sonication

EPH ANALYTICAL RESULTS

		Lab ID:		99040303-06
		Client ID:		03014-SS8
		Date Collected:		04/28/99
		Date Received:		04/29/99
		Date Extracted:		05/05/99
		Date Analyzed:		05/11/99
		Dilution Factor:		139
		%Solid		96.0
Range /Target Analyte		**RL**	**Units**	
Unadjusted C11-C22 Aromatics[1]		10	UG/KG	99,000
Diesel PAH Analytes	Naphthalene	10	UG/KG	<RL
	2-Methylnaphthalene	10	UG/KG	<RL
	Phenanthrene	10	UG/KG	8,500
	Acenaphthene	10	UG/KG	<RL
Other Target Analytes	Acenaphthalene	10	UG/KG	<RL
	Anthracene	10	UG/KG	3,500
	Benzo(a)Anthracene	10	UG/KG	5,000
	Benzo(a)Pyrene	10	UG/KG	9,100
	Benzo(b)Fluoranthene	10	UG/KG	9,300
	Benzo(g,h,i)Perylene	10	UG/KG	13,000
	Benzo(k)Fluoranthene	10	UG/KG	8,100
	Chrysene	10	UG/KG	12,000
	Dibenzo(a,h)Anthracene	10	UG/KG	<RL
	Fluoranthene	10	UG/KG	15,000
	Fluorene	10	UG/KG	1,800
	Ideno(1,2,3-cd)Pyrene	10	UG/KG	<RL
	Pyrene	10	UG/KG	14,000
C9-C18 Aliphatic Hydrocarbons[1]		10	UG/KG	<RL
C19-C36 Aliphatic Hydrocarbons[1]		10	UG/KG	1,350,000
C11-C22 Aromatic Hydrocarbons[1,2]		10	UG/KG	<RL
Chloro-octadecane % Recovery				42%
o-Terphenyl % Recovery				130%
Surrogate Acceptance Range				40-140%
2-Fluorobiphenyl % Recovery				86%
2-Bromonaphthalene % Recovery				62%
Surrogate Acceptance Range				40-140%

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

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

Certification

Were all QA/QC procedures required by the EPH method followed? _x_Yes ___No- Details attached

Were all performance/acceptance standards for the required QA/QC procedures Achieved? _x_Yes __No- Details attached

Were any significant modifications made to the EPH method, as specified in section 11.3? __ No _x_ Yes-Details attached

sample analyzed via GC/MS

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

Jay W. Chrystal Laboratory Director

5/26/99
Date

MADEP EPH DATA

SAMPLE INFORMATION

Matrix	___Aq. _x_Soil __Sediment ___Other
Containers	_x_Satisfactory __ Broken __Leaking
Preservation	_x_N/A __ pH<2 __pH>2 Comment:
Temperature	__On Ice _x_At 4C ___Other
Extraction Method	Water: Soil: Sonication

EPH ANALYTICAL RESULTS

		Lab ID:		99040303-08
		Client ID:		03014-SS8-WEST
		Date Collected:		04/28/99
		Date Received:		04/29/99
		Date Extracted:		05/05/99
		Date Analyzed:		05/11/99
		Dilution Factor:		349
		%Solid		95.4
Range /Target Analyte		**RL**	**Units**	
Unadjusted C11-C22 Aromatics[1]		10	UG/KG	470,000
Diesel PAH Analytes	**Naphthalene**	10	UG/KG	<RL
	2-Methylnaphthalene	10	UG/KG	<RL
	Phenanthrene	10	UG/KG	32,000
	Acenaphthene	10	UG/KG	<RL
Other Target Analytes	**Acenaphthalene**	10	UG/KG	<RL
	Anthracene	10	UG/KG	14,000
	Benzo(a)Anthracene	10	UG/KG	24,000
	Benzo(a)Pyrene	10	UG/KG	44,000
	Benzo(b)Fluoranthene	10	UG/KG	40,000
	Benzo(g,h,i)Perylene	10	UG/KG	51,000
	Benzo(k)Fluoranthene	10	UG/KG	34,000
	Chrysene	10	UG/KG	51,000
	Dibenzo(a,h)Anthracene	10	UG/KG	<RL
	Fluoranthene	10	UG/KG	68,000
	Fluorene	10	UG/KG	<RL
	Ideno(1,2,3-cd)Pyrene	10	UG/KG	42,000
	Pyrene	10	UG/KG	69,000
C9-C18 Aliphatic Hydrocarbons[1]		10	UG/KG	1,200,000
C19-C36 Aliphatic Hydrocarbons[1]		10	UG/KG	8,900,000
C11-C22 Aromatic Hydrocarbons[1,2]		10	UG/KG	<RL
Chloro-octadecane % Recovery				
o-Terphenyl % Recovery				
Surrogate Acceptance Range				40-140%
2-Fluorobiphenyl % Recovery				
2-Bromonaphthalene % Recovery				
Surrogate Acceptance Range				40-140%

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

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

Certification

Were all QA/QC procedures required by the EPH method followed? _x_Yes ___No- Details attached

Were all performance/acceptance standards for the required QA/QC procedures Achieved? __Yes _x_No- Details attached

surrogates diluted below detection

Were any significant modifications made to the EPH method, as specified in section 11.3? __ No _x_ Yes-Details attached

sample analyzed via GC/MS

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

Jay W. Chrystal Laboratory Director

5/21/99
Date

MADEP EPH DATA

SAMPLE INFORMATION

Matrix	___Aq. _x_Soil __Sediment ___Other
Containers	_x_Satisfactory __ Broken __Leaking
Preservation	_x_N/A __ pH<2 __pH>2 Comment:
Temperature	__On Ice _x_At 4C ___Other
Extraction Method	Water: Soil: Sonication

EPH ANALYTICAL RESULTS

		Lab ID:		99040303-15
		Client ID:		03014-SS7-SOUTH
		Date Collected:		04/28/99
		Date Received:		04/29/99
		Date Extracted:		05/05/99
		Date Analyzed:		05/11/99
		Dilution Factor:		705.0
		%Solid		94.5
Range /Target Analyte		**RL**	**Units**	
Unadjusted C11-C22 Aromatics[1]		10	UG/KG	780,000
Diesel PAH Analytes	Naphthalene	10	UG/KG	<RL
	2-Methylnaphthalene	10	UG/KG	<RL
	Phenanthrene	10	UG/KG	72,000
	Acenaphthene	10	UG/KG	<RL
Other Target Analytes	Acenaphthalene	10	UG/KG	<RL
	Anthracene	10	UG/KG	35,000
	Benzo(a)Anthracene	10	UG/KG	72,000
	Benzo(a)Pyrene	10	UG/KG	38,000
	Benzo(b)Fluoranthene	10	UG/KG	61,000
	Benzo(g,h,i)Perylene	10	UG/KG	69,000
	Benzo(k)Fluoranthene	10	UG/KG	53,000
	Chrysene	10	UG/KG	84,000
	Dibenzo(a,h)Anthracene	10	UG/KG	<RL
	Fluoranthene	10	UG/KG	120,000
	Fluorene	10	UG/KG	<RL
	Ideno(1,2,3-cd)Pyrene	10	UG/KG	52,000
	Pyrene	10	UG/KG	120,000
C9-C18 Aliphatic Hydrocarbons[1]		10	UG/KG	1,100,000
C19-C36 Aliphatic Hydrocarbons[1]		10	UG/KG	8,800,000
C11-C22 Aromatic Hydrocarbons[1,2]		10	UG/KG	<RL
Chloro-octadecane % Recovery				
o-Terphenyl % Recovery				
Surrogate Acceptance Range				40-140%
2-Fluorobiphenyl % Recovery				
2-Bromonaphthalene % Recovery				
Surrogate Acceptance Range				40-140%

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

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

Certification

Were all QA/QC procedures required by the EPH method followed? _x_Yes ___No- Details attached

Were all performance/acceptance standards for the required QA/QC procedures Achieved? __Yes _x_No- Details attached

surrogates diluted below detection

Were any significant modifications made to the EPH method, as specified in section 11.3? __ No _x_ Yes-Details attached

sample analyzed via GC/MS

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

Jay W. Chrystal Laboratory Director

5/21/99

Date

MADEP EPH DATA

SAMPLE INFORMATION

Matrix	___Aq. _x_Soil __Sediment ___Other
Containers	_x_Satisfactory __ Broken __Leaking
Preservation	_x_N/A __ pH<2 __pH>2 Comment:
Temperature	__On Ice _x_At 4C ___Other
Extraction Method	Water: Soil: Sonication

EPH ANALYTICAL RESULTS

		Lab ID:		99040303-16
		Client ID:		03014-F7
		Date Collected:		04/28/99
		Date Received:		04/29/99
		Date Extracted:		05/05/99
		Date Analyzed:		05/11/99
		Dilution Factor:		341
		%Solid		97.7
Range /Target Analyte		RL	Units	
Unadjusted C11-C22 Aromatics[1]		10	UG/KG	500,000
Diesel PAH Analytes	Naphthalene	10	UG/KG	<RL
	2-Methylnaphthalene	10	UG/KG	<RL
	Phenanthrene	10	UG/KG	67,000
	Acenaphthene	10	UG/KG	6,200
Other Target Analytes	Acenaphthalene	10	UG/KG	<RL
	Anthracene	10	UG/KG	19,000
	Benzo(a)Anthracene	10	UG/KG	25,000
	Benzo(a)Pyrene	10	UG/KG	26,000
	Benzo(b)Fluoranthene	10	UG/KG	32,000
	Benzo(g,h,i)Perylene	10	UG/KG	46,000
	Benzo(k)Fluoranthene	10	UG/KG	22,000
	Chrysene	10	UG/KG	51,000
	Dibenzo(a,h)Anthracene	10	UG/KG	<RL
	Fluoranthene	10	UG/KG	87,000
	Fluorene	10	UG/KG	9,800
	Ideno(1,2,3-cd)Pyrene	10	UG/KG	39,000
	Pyrene	10	UG/KG	71,000
C9-C18 Aliphatic Hydrocarbons[1]		10	UG/KG	550,000
C19-C36 Aliphatic Hydrocarbons[1]		10	UG/KG	5,500,000
C11-C22 Aromatic Hydrocarbons[1,2]		10	UG/KG	<RL
Chloro-octadecane % Recovery				
o-Terphenyl % Recovery				
Surrogate Acceptance Range				40-140%
2-Fluorobiphenyl % Recovery				
2-Bromonaphthalene % Recovery				
Surrogate Acceptance Range				40-140%

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

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

Certification

Were all QA/QC procedures required by the EPH method followed? _x_Yes ___No- Details attached

Were all performance/acceptance standards for the required QA/QC procedures Achieved? __Yes _x_No- Details attached

surrogates diluted below detection

Were any significant modifications made to the EPH method, as specified in section 11.3? __ No _x_ Yes-Details attached

sample analyzed via GC/MS

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

Jay W. Chrystal Laboratory Director

5/21/99
Date

MADEP EPH DATA

SAMPLE INFORMATION

Matrix	___Aq. _x_Soil __Sediment ___Other
Containers	_x_Satisfactory __ Broken __Leaking
Preservation	_x_N/A __ pH<2 __pH>2 Comment:
Temperature	__On Ice _x_At 4C ___Other
Extraction Method	Water: Soil: Sonication

EPH ANALYTICAL RESULTS

		Lab ID:		99040303-17
		Client ID:		03014-SB2-SS1
		Date Collected:		04/28/99
		Date Received:		04/29/99
		Date Extracted:		05/05/99
		Date Analyzed:		05/11/99
		Dilution Factor:		345
		%Solid		96.5
Range /Target Analyte		**RL**	**Units**	
Unadjusted C11-C22 Aromatics[1]		10	UG/KG	39,000
Diesel PAH Analytes	Naphthalene	10	UG/KG	<RL
	2-Methylnaphthalene	10	UG/KG	<RL
	Phenanthrene	10	UG/KG	6,000
	Acenaphthene	10	UG/KG	<RL
Other Target Analytes	Acenaphthalene	10	UG/KG	<RL
	Anthracene	10	UG/KG	<RL
	Benzo(a)Anthracene	10	UG/KG	<RL
	Benzo(a)Pyrene	10	UG/KG	<RL
	Benzo(b)Fluoranthene	10	UG/KG	4,700
	Benzo(g,h,i)Perylene	10	UG/KG	<RL
	Benzo(k)Fluoranthene	10	UG/KG	5,100
	Chrysene	10	UG/KG	7,300
	Dibenzo(a,h)Anthracene	10	UG/KG	<RL
	Fluoranthene	10	UG/KG	8,200
	Fluorene	10	UG/KG	<RL
	Ideno(1,2,3-cd)Pyrene	10	UG/KG	<RL
	Pyrene	10	UG/KG	7,400
C9-C18 Aliphatic Hydrocarbons[1]		10	UG/KG	<RL
C19-C36 Aliphatic Hydrocarbons[1]		10	UG/KG	1,900,000
C11-C22 Aromatic Hydrocarbons[1,2]		10	UG/KG	<RL
Chloro-octadecane % Recovery				
o-Terphenyl % Recovery				
Surrogate Acceptance Range				40-140%
2-Fluorobiphenyl % Recovery				
2-Bromonaphthalene % Recovery				
Surrogate Acceptance Range				40-140%

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

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

Certification

Were all QA/QC procedures required by the EPH method followed? _x_Yes ___No- Details attached

Were all performance/acceptance standards for the required QA/QC procedures Achieved? __Yes _x_No- Details attached

surrogates diluted below detection

Were any significant modifications made to the EPH method, as specified in section 11.3? __ No _x_ Yes-Details attached

sample analyzed via GC/MS

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

Jay W. Chrystal Laboratory Director

5/24/99

Date

MADEP EPH DATA

SAMPLE INFORMATION

Matrix	__Aq. _x_Soil __Sediment ___Other
Containers	_x_Satisfactory __ Broken __Leaking
Preservation	_x_N/A __ pH<2 __pH>2 Comment:
Temperature	__On Ice _x_At 4C ___Other
Extraction Method	Water: Soil: Sonication

EPH ANALYTICAL RESULTS

		Lab ID:		99040303-18
		Client ID:		03014-SB6-SS1
		Date Collected:		04/28/99
		Date Received:		04/29/99
		Date Extracted:		05/05/99
		Date Analyzed:		05/11/99
		Dilution Factor:		362
		%Solid		91.9
Range /Target Analyte		**RL**	**Units**	
Unadjusted C11-C22 Aromatics[1]		10	UG/KG	450,000
Diesel PAH Analytes	Naphthalene	10	UG/KG	4,600
	2-Methylnaphthalene	10	UG/KG	<RL
	Phenanthrene	10	UG/KG	62,000
	Acenaphthene	10	UG/KG	7,800
Other Target Analytes	Acenaphthalene	10	UG/KG	<RL
	Anthracene	10	UG/KG	15,000
	Benzo(a)Anthracene	10	UG/KG	24,000
	Benzo(a)Pyrene	10	UG/KG	26,000
	Benzo(b)Fluoranthene	10	UG/KG	32,000
	Benzo(g,h,i)Perylene	10	UG/KG	51,000
	Benzo(k)Fluoranthene	10	UG/KG	24,000
	Chrysene	10	UG/KG	45,000
	Dibenzo(a,h)Anthracene	10	UG/KG	<RL
	Fluoranthene	10	UG/KG	61,000
	Fluorene	10	UG/KG	11,000
	Ideno(1,2,3-cd)Pyrene	10	UG/KG	37,000
	Pyrene	10	UG/KG	50,000
C9-C18 Aliphatic Hydrocarbons[1]		10	UG/KG	<RL
C19-C36 Aliphatic Hydrocarbons[1]		10	UG/KG	1,300,000
C11-C22 Aromatic Hydrocarbons[1,2]		10	UG/KG	<RL
Chloro-octadecane % Recovery				
o-Terphenyl % Recovery				
Surrogate Acceptance Range				40-140%
2-Fluorobiphenyl % Recovery				
2-Bromonaphthalene % Recovery				
Surrogate Acceptance Range				40-140%

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

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

Certification

Were all QA/QC procedures required by the EPH method followed? _x_Yes ___No- Details attached

Were all performance/acceptance standards for the required QA/QC procedures Achieved? __Yes _x_No- Details attached

surrogates diluted below detection

Were any significant modifications made to the EPH method, as specified in section 11.3? __ No _x_ Yes-Details attached

sample analyzed via GC/MS

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

Jay W. Chrystal Laboratory Director

5/24/99
Date

MADEP EPH DATA

SAMPLE INFORMATION

Matrix	___Aq. _x_Soil __Sediment ___Other
Containers	_x_Satisfactory __ Broken __Leaking
Preservation	_x_N/A __ pH<2 __pH>2 Comment:
Temperature	__On Ice _x_At 4C ___Other
Extraction Method	Water: Soil: Sonication

EPH ANALYTICAL RESULTS

		Lab ID:		99040303-19
		Client ID:		03014-ALL
		Date Collected:		04/28/99
		Date Received:		04/29/99
		Date Extracted:		05/05/99
		Date Analyzed:		05/12/99
		Dilution Factor:		344
		%Solid		96.8
Range /Target Analyte		**RL**	**Units**	
Unadjusted C11-C22 Aromatics[1]		10	UG/KG	100,000
Diesel PAH Analytes	Naphthalene	10	UG/KG	<RL
	2-Methylnaphthalene	10	UG/KG	<RL
	Phenanthrene	10	UG/KG	13,000
	Acenaphthene	10	UG/KG	<RL
Other Target Analytes	Acenaphthalene	10	UG/KG	<RL
	Anthracene	10	UG/KG	3,700
	Benzo(a)Anthracene	10	UG/KG	7,700
	Benzo(a)Pyrene	10	UG/KG	10,000
	Benzo(b)Fluoranthene	10	UG/KG	9,600
	Benzo(g,h,i)Perylene	10	UG/KG	<RL
	Benzo(k)Fluoranthene	10	UG/KG	9,300
	Chrysene	10	UG/KG	15,000
	Dibenzo(a,h)Anthracene	10	UG/KG	<RL
	Fluoranthene	10	UG/KG	18,000
	Fluorene	10	UG/KG	<RL
	Ideno(1,2,3-cd)Pyrene	10	UG/KG	<RL
	Pyrene	10	UG/KG	16,000
C9-C18 Aliphatic Hydrocarbons[1]		10	UG/KG	<RL
C19-C36 Aliphatic Hydrocarbons[1]		10	UG/KG	700,000
C11-C22 Aromatic Hydrocarbons[1,2]		10	UG/KG	<RL
Chloro-octadecane % Recovery				
o-Terphenyl % Recovery				
Surrogate Acceptance Range				40-140%
2-Fluorobiphenyl % Recovery				
2-Bromonaphthalene % Recovery				
Surrogate Acceptance Range				40-140%

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

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

Certification

Were all QA/QC procedures required by the EPH method followed? _x_Yes ___No- Details attached

Were all performance/acceptance standards for the required QA/QC procedures Achieved? __Yes _x_No- Details attached

surrogates diluted below detection

Were any significant modifications made to the EPH method, as specified in section 11.3? __ No _x_ Yes-Details attached

sample analyzed via GC/MS

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

Jay W. Chrystal Laboratory Director

5/24/99
Date

ChemServe

Higgins Environmental Associates

Project Name: 03014-Lawrence
Project #: 03014-99
Collection Site: Massachusetts

Group#: 99040303
Chain of Custody ID: 20123,20122,20124
DATE SAMPLED: 4/28/1999

METHOD #	ANALYTE	RESULTS	UNIT OF MEASURE	DATE COMPLETED	DETECTION LIMIT (PQL)	ANALYST
SAMPLE#: 99040303-01						
Higgins Environmental Associates ID: 03014-SB5-South						
6010A	Cadmium	0.59	mg/Kg	5/ 3/1999	0.50 mg/Kg	PF
6010A	Lead	100.	mg/Kg	5/ 3/1999	2.5 mg/Kg	PF
SW 3051	Digestion	N/A		4/30/1999	N/A	DR
SAMPLE#: 99040303-02						
Higgins Environmental Associates ID: 03014-SB5-West						
6010A	Cadmium	5.4	mg/Kg	5/ 3/1999	0.50 mg/Kg	PF
6010A	Lead	670.	mg/Kg	5/ 3/1999	25. mg/Kg	PF
SW 3051	Digestion	N/A		4/30/1999	N/A	DR
SAMPLE#: 99040303-03						
Higgins Environmental Associates ID: 03014-SB5-East						
6010A	Cadmium	5.45	mg/Kg	5/ 3/1999	0.50 mg/Kg	PF
6010A	Lead	980.	mg/Kg	5/ 3/1999	25. mg/Kg	PF
SW 3051	Digestion	N/A		4/30/1999	N/A	DR
SAMPLE#: 99040303-04						
Higgins Environmental Associates ID: 03014-SB5-North						
6010A	Cadmium	6.6	mg/Kg	5/10/1999	0.50 mg/Kg	PF
6010A	Lead	550.	mg/Kg	5/10/1999	2.5 mg/Kg	PF
SW 3051	Digestion	N/A		4/30/1999	N/A	DR
SAMPLE#: 99040303-05						
Higgins Environmental Associates ID: 03014-F2						
6010A	Cadmium	6.4	mg/Kg	5/10/1999	0.50 mg/Kg	PF
6010A	Lead	610.	mg/Kg	5/10/1999	2.5 mg/Kg	PF
SW 3051	Digestion	N/A		4/30/1999	N/A	DR

ChemServe ENVIRONMENTAL ANALYSTS

Higgins Environmental Associates

Project Name: 03014-Lawrence
Project #: 03014-99
Collection Site: Massachusetts

Group#: 99040303
Chain of Custody ID: 20123,20122,20124
DATE SAMPLED: 4/28/1999

METHOD #	ANALYTE	RESULTS	UNIT OF MEASURE	DATE COMPLETED	DETECTION LIMIT (PQL)	ANALYST
SAMPLE#: 99040303-06						
Higgins Environmental Associates ID: 03014-SS8						
6010A	Cadmium	2.72	mg/Kg	5/10/1999	0.50 mg/Kg	PF
6010A	Lead	270.	mg/Kg	5/10/1999	2.5 mg/Kg	PF
SW 3051	Digestion	N/A		4/30/1999	N/A	DR
SAMPLE#: 99040303-07						
Higgins Environmental Associates ID: 03014-SS8-North						
6010A	Cadmium	4.58	mg/Kg	5/10/1999	0.50 mg/Kg	PF
6010A	Lead	500.	mg/Kg	5/10/1999	2.5 mg/Kg	PF
SW 3051	Digestion	N/A		4/30/1999	N/A	DR
SAMPLE#: 99040303-08						
Higgins Environmental Associates ID: 03014-SS8-West						
6010A	Cadmium	2.98	mg/Kg	5/10/1999	0.50 mg/Kg	PF
6010A	Lead	330.	mg/Kg	5/10/1999	2.5 mg/Kg	PF
SW 3051	Digestion	N/A		4/30/1999	N/A	DR
SAMPLE#: 99040303-09						
Higgins Environmental Associates ID: 03014-SS8-East						
6010A	Cadmium	3.36	mg/Kg	5/10/1999	0.50 mg/Kg	PF
6010A	Lead	490.	mg/Kg	5/10/1999	2.5 mg/Kg	PF
SW 3051	Digestion	N/A		4/30/1999	N/A	DR
SAMPLE#: 99040303-10						
Higgins Environmental Associates ID: 03014-SS8-South						
6010A	Cadmium	3.42	mg/Kg	5/10/1999	0.50 mg/Kg	PF
6010A	Lead	310.	mg/Kg	5/10/1999	2.5 mg/Kg	PF
SW 3051	Digestion	N/A		4/30/1999	N/A	DR

ChemServe

Higgins Environmental Associates

Project Name: 03014-Lawrence
Project #: 03014-99
Collection Site: Massachusetts

Group#: 99040303
Chain of Custody ID: 20123,20122,20124
DATE SAMPLED: 4/28/1999

METHOD #	ANALYTE	RESULTS	UNIT OF MEASURE	DATE COMPLETED	DETECTION LIMIT (PQL)	ANALYST
SAMPLE#: 99040303-16						
Higgins Environmental Associates ID: 03014-F7						
6010A	Cadmium	4.58	mg/Kg	5/10/1999	0.50 mg/Kg	PF
6010A	Lead	770.	mg/Kg	5/10/1999	25. mg/Kg	PF
SW 3051	Digestion	N/A		4/30/1999	N/A	DR
SAMPLE#: 99040303-17						
Higgins Environmental Associates ID: 03014-SB2-SS1						
6010A	Cadmium	3.24	mg/Kg	5/10/1999	0.50 mg/Kg	PF
6010A	Lead	210.	mg/Kg	5/10/1999	2.5 mg/Kg	PF
SW 3051	Digestion	N/A		4/30/1999	N/A	DR
SAMPLE#: 99040303-18						
Higgins Environmental Associates ID: 03014-SB6-SS1						
6010A	Cadmium	8.21	mg/Kg	5/10/1999	0.50 mg/Kg	PF
6010A	Lead	790.	mg/Kg	5/10/1999	25. mg/Kg	PF
SW 3051	Digestion	N/A		4/30/1999	N/A	DR
SAMPLE#: 99040303-19						
Higgins Environmental Associates ID: 03014-All						
6010A	Cadmium	4.57	mg/Kg	5/10/1999	0.50 mg/Kg	PF
6010A	Lead	160.	mg/Kg	5/10/1999	2.5 mg/Kg	PF
SW 3051	Digestion	N/A		4/30/1999	N/A	DR