Haley & Aldrich, Inc.
465 Medford St.
Suite 2200
Boston, MA 02129-1400

Tel: 617.886.7400
Fax: 617.886.7600
HaleyAldrich.com

12 February 2013
File No. 39006-000

US Environmental Protection Agency
Dewatering GP Processing
Municipal Assistance Unit (CMU)
1 Congress Street, Suite 1100
Boston, Massachusetts 02114-2023

Attention: Mr. Victor Alvarez

Subject: Notice of Intent (NOI) for NPDES Dewatering General Permit
Temporary Construction Dewatering
McKinlock Hall Renovation
Cambridge, Massachusetts 02138

Ladies and Gentlemen:

On behalf of our client, President and Fellows of Harvard College, and in accordance with the National Pollutant Discharge Elimination System (NPDES) General Permit for Dewatering Activities – Massachusetts General Permit, MAG070000, included herewith are the Notice of Intent (NOI) and applicable documentation as required by the US Environmental Protection Agency (USEPA) and Massachusetts Department of Environmental protection (MassDEP) for construction site dewatering under the General Permit.

Background Information

The site is located in the area bounded by Mill Street to the north, De Wolfe Street to the east, Memorial Drive to the south and Plympton Street to the west. Existing site grades are relatively flat, ranging between approximately El. 20 and El. 22 Cambridge City Base (CCB). The site is occupied by the McKinlock Hall Building and the adjacent Master's Dining Annex.

Proposed Construction and Management of Dewatering Effluent

The project involves renovation of the McKinlock Hall Building and the adjacent Master's Dining Annex. Where possible, the project will utilize on-site recharge of the dewatering effluent. However, where on-site recharge is not feasible, the project plans to direct the dewatering effluent to the existing storm drain system which drains to the Charles River (Figure 2). Site work and associated construction dewatering are currently anticipated to begin in summer 2013 and are estimated to continue intermittently for up to two years.

The Contractor will design, operate, and maintain dewatering and sedimentation control systems for off-site discharge. The systems will be designed to meet the permit requirements for suspended solids, pH, and other constituents in the effluent stream prior to discharge into the nearby storm drain. Per discussions in January 2013 with Bob Kubit of MassDEP and Victor Alvarez of EPA, a dewatering general permit is considered the appropriate permit because cyanide was detected at trace levels and there are no other chemical concentrations of concern.

Haley & Aldrich will perform the required sampling and testing of the dewatering effluent and will report the results as required by the permit. The Contractor's sedimentation system and/or dewatering procedures will be designed as necessary to comply with the Permit Discharge Criteria.

Contact Information

Applicant:
President and Fellows of Harvard College
c/o Harvard Planning and Project Management
1350 Massachusetts Avenue, 901
Cambridge, MA 02138
Attention: Mr. Michael Leyne
Tel: 617.384.5750

Representative preparing this application:
Haley & Aldrich, Inc.
465 Medford Street, Suite 2200
Boston, Massachusetts 02129-1400
Attention: Bryan Sweeney, P.E., Sr Vice President
Tel: 617.886.7364

Analytical Testing

On 31 December 2012, Haley & Aldrich collected one groundwater sample from a groundwater observation well HA12-05 (OW) located as shown on Figure 2. The sample was submitted to Alpha Analytical Laboratory of Westborough, Massachusetts, a MassDEP certified laboratory. Groundwater quality data are summarized on Table I.

Closing

Thank you very much for your consideration of this NOI. Please feel free to contact us should you wish to discuss the information contained herein or if you need additional information.

Sincerely yours,
HALEY & ALDRICH, INC.

Leah Samanta
Project Manager

Bryan Sweeney, P.E.
Senior Vice President

Attachments:
Appendix A - "Suggested Notice of Intent" (NOI) form as provided in Appendix V of the NPDES Dewatering General Permit
Appendix B - MassDEP Transmittal Form for Permit Application BRP WM10
Appendix C - City of Cambridge Permit to Dewater
Appendix D - Areas of Critical Environmental Concern
Appendix E - National Register of Historic Places and Massachusetts Historical Commission Documentation
Appendix F - Endangered Species Act Documentation
Appendix G - Laboratory Data Reports

c: MassDEP; Attn: Robert Kubit
City of Cambridge
HPPM; Attn: Michael Leyne

G:\39006 Harvard River Houses\000 McKinlock\NPDES\Notice_of_Intent\2013-0212-HAI-McKinlock_NPDES-DGP_Letter_F.docx

Table I
Groundwater Quality Data
McKinlock House - Harvard University
Cambridge, Massachusetts

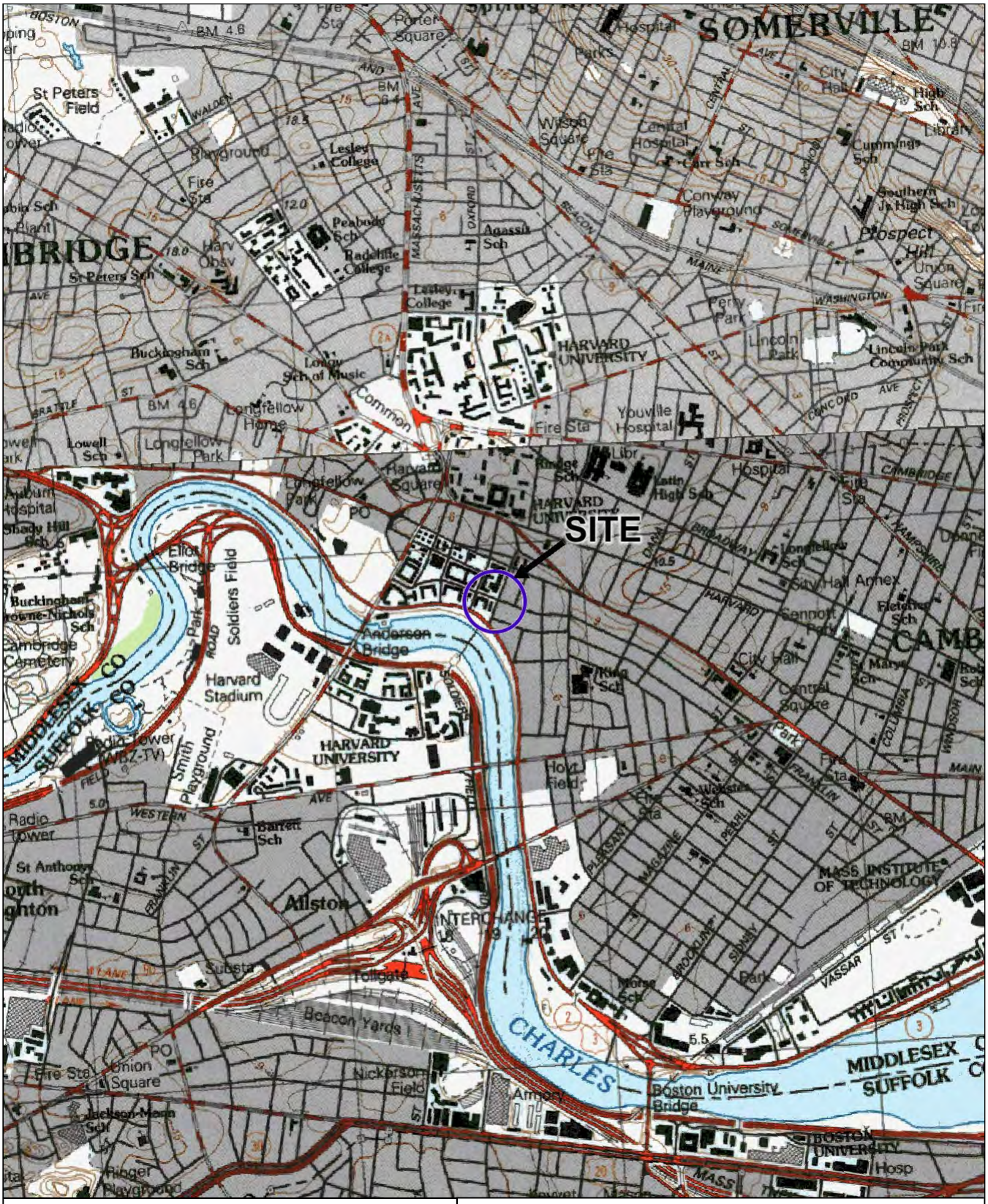
SAMPLE NAME	NPDES Dewatering General Permit (DGP) Discharge Limits	HA12-5	HA12-5
SAMPLING DATE		12/31/2012	12/31/2012
LAB SAMPLE ID		L1223540-01 L1223540-01 R1	L1223540-03 L1223540-03 R1
SAMPLE TYPE		GW Sample	GW Sample (Field Filtered) (note 4)
VOCs by GC/MS (mg/L)			
Total VOCs	NA	ND	-
VOCs by GC/MS-SIM (mg/L)			
Total VOCs	NA	ND	-
SVOCs by GC/MS (mg/L)			
Total SVOCs	NA	ND	-
SVOCs by GC/MS-SIM (mg/L)			
Total SVOCs	NA	ND	-
Pesticides by GC (mg/L)			
1,2-Dibromoethane	NA	ND(0.000005)	-
Total Metals (mg/L)			
Antimony, Total	NA	0.001	-
Arsenic, Total	NA	0.0007	-
Cadmium, Total	NA	ND(0.0001)	-
Chromium, Total	NA	ND(0.0005)	-
Chromium, Hexavalent	NA	ND(0.005)	-
Copper, Total	NA	0.0016	-
Iron, Total	NA	0.39	-
Lead, Total	NA	ND(0.00025)	-
Mercury, Total	NA	ND(0.0001)	-
Nickel, Total	NA	0.0009	-
Selenium, Total	NA	ND(0.0025)	-
Silver, Total	NA	ND(0.0002)	-
Zinc, Total	NA	0.0111	-
Dissolved Metals (mg/L)			
Antimony, Dissolved	NA	0.0008	-
Arsenic, Dissolved	NA	ND(0.00025)	-
Cadmium, Dissolved	NA	ND(0.0001)	-
Chromium, Dissolved	NA	ND(0.0005)	-
Copper, Dissolved	NA	0.001	-
Iron, Dissolved	NA	0.4	-
Lead, Dissolved	NA	ND(0.00025)	-
Mercury, Dissolved	NA	ND(0.0001)	-
Nickel, Dissolved	NA	0.0011	-
Selenium, Dissolved	NA	ND(0.0025)	-
Silver, Dissolved	NA	ND(0.0002)	-
Zinc, Dissolved	NA	ND(0.005)	-

Table I
Groundwater Quality Data
McKinlock House - Harvard University
Cambridge, Massachusetts

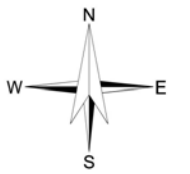
SAMPLE NAME	NPDES Dewatering General Permit (DGP) Discharge Limits	HA12-5	HA12-5
SAMPLING DATE		12/31/2012	12/31/2012
LAB SAMPLE ID		L1223540-01 L1223540-01 R1	L1223540-03 L1223540-03 R1
SAMPLE TYPE		GW Sample	GW Sample (Field Filtered) (note 4)
PCBs by GC (mg/L)			
Aroclor 1016	NA	ND(0.000128)	-
Aroclor 1221	NA	ND(0.000128)	-
Aroclor 1232	NA	ND(0.000128)	-
Aroclor 1242	NA	ND(0.000128)	-
Aroclor 1248	NA	ND(0.000128)	-
Aroclor 1254	NA	ND(0.000128)	-
Aroclor 1260	NA	ND(0.000128)	-
General Chemistry (mg/L)			
Chloride	NA	761	-
Total Petroleum Hydrocarbons	NA	ND(2)	-
Phenolics, Total	NA	ND(0.015)	-
Dewatering General Permit - Monitoring Parameters			
Total Suspended Solids (mg/L) **(Note 1)**	50 / 100	ND(2.5)	-
Total Residual Chlorine (mg/L) **(Note 1)**	0.011 / 0.019	ND(0.01)	-
Oil and Grease (mg/L) **(Note 2)**	15	-	-
pH (standard units)	6.5 to 8.3	-	-
Cyanide, Total (mg/L) **(Note 3)**	0.0052	0.035	ND(0.0025)

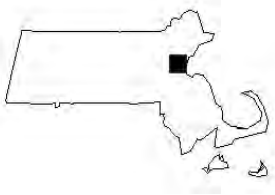
ABBREVIATIONS
ND(2.5): Not detected. Number in parentheses is one-half the laboratory detection limit.
NA: Not applicable
- : Parameter not analyzed

NOTES
1: Limits shown for Total Suspended Solids and Total Residual Chlorine are **average monthly / maximum daily** limits from the National Pollutant Discharge Elimination System (NPDES) General Permit for Dewatering Activity Discharges.
2: Sampling for oil and grease is required only if a periodic inspection of the discharge indicates the presence of a visible sheen. Limit shown is maximum daily limit.
3: Total cyanide discharge limit based on Appendix III of the Remediation General Permit.
4. Field filtered sample collected with 0.45 micron filter.
5: This table includes only those compounds detected on the dates indicated.



SITE COORDINATES:42°22'12"N 71°7'1"W





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

HALEY & ALDRICH

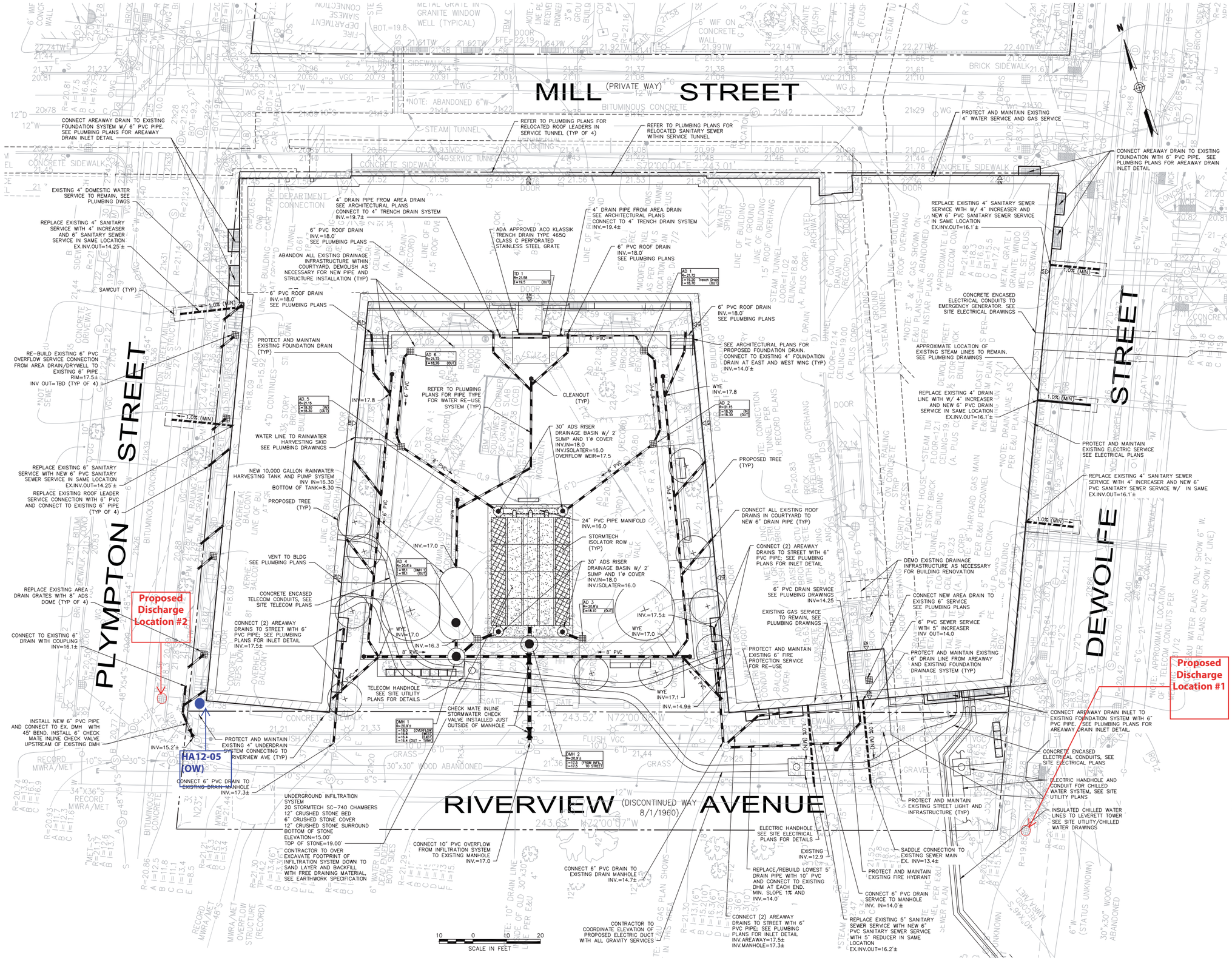
MCKINLOCK HOUSE
HARVARD UNIVERSITY
CAMBRIDGE, MASSACHUSETTS

PROJECT LOCUS

SCALE: 1:24,000
JANUARY 2013

FIGURE 1

39006-000 1.PDF



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STRUCTURAL ENGINEER AND ENVELOPE CONSULTANT
CVM
400 CRESSON BOULEVARD, SUITE 300, PO BOX 398
OAKS, PA 19456
V 610-989-3800
F 610-989-3677

MJE/P/FP ENGINEER
BVH INTEGRATED SERVICES
50 GRIFFIN ROAD SOUTH
BLOOMFIELD, CT 06002
V 860-286-9171
F 860-242-0236

LANDSCAPE ARCHITECT
STEPHEN STIMSON ASSOCIATES
288 NORFOLK STREET
CAMBRIDGE, MA 02139
V 617-876-8960
F 617-876-8906

CIVIL ENGINEER
VANASSE HANGEN BRUSTLIN, INC
99 HIGH STREET, 10TH FLOOR
BOSTON, MA 02110-2354
V 617-728-7777
F 617-728-7782

ENVIRONMENTAL DESIGN AND LIGHTING CONSULTANT
ATELIER TEN
195 CHURCH STREET, SUITE 10C
NEW HAVEN, CT 06510
V 203-777-1400
F 203-777-1902

HOUSE RENEWAL MCKINLOCK HALL

HARVARD UNIVERSITY

8 MILL STREET
CAMBRIDGE, MA 02136

KT PROJECT NO. 826

REVISIONS

NO.	DATE	DESCRIPTION

Draft - For discussion only. Haley & Aldrich, Inc. 02/12/2013

UTILITY PLAN

SCALE: 1"=10'
DRAWN BY: MCJ
CHECKED BY: JWP
CAD FILE:
DATE: 31 OCTOBER 2012

C1.01

CONSTRUCTION DOCUMENTS

Appendix A
"Suggested Notice of Intent" (NOI) form as provided in Appendix V of NPDES Dewatering General Permit

II. Suggested Notice of Intent (NOI) Form

1. General facility information. Please provide the following information about the facility.

a) Name of facility: McKinlock Hall Renovation	**Mailing Address for the Facility:** 8 Mill Street Cambridge, Massachusetts 02138	
b) Location Address of the Facility (if different from mailing address):	**Facility Location** **longitude:** -71.11718 **latitude:** 42.36924	**Type of Business:** University **Facility SIC codes:** NA

c) Name of facility owner: President and Fellows of Harvard College **Owner's email:** michael_leyne@harvard.edu

Owner's Tel #: 617-384-5750 **Owner's Fax #:** 617-384-5269

Address of owner (if different from facility address)

Owner is (check one): 1. Federal____ 2. State _____ 3.Tribal_____ 4. Private_✔___ 4. Other _____(Describe)

Legal name of Operator, if not owner: Dimeo Construction Company

Operator Contact Name: Blair Oliver

Operator Tel Number: (401) 413-0509 **Fax Number:** _____

Operator's email: boliver@dimeo.com

Operator Address (if different from owner)

75 Chapman Street Providence, RI 02905

d) Attach a topographic map indicating the location of the facility and the outfall(s) to the receiving water. Map attached? _✔_

e) Check Yes or No for the following:

1. **Has a prior NPDES permit been granted for the discharge? Yes ____ No_✔_ If Yes, Permit Number: _____**
2. **Is the discharge a "new discharge" as defined by 40 CFR Section 122.22? Yes_✔_ No_____**
3. **Is the facility covered by an individual NPDES permit? Yes_____ No_✔_ If Yes, Permit Number ____**
4. **Is there a pending application on file with EPA for this discharge? Yes_____ No _✔_ If Yes, date of submittal:**

2. Discharge information. Please provide information about the discharge, (attaching additional sheets as needed)

a) Name of receiving water into which discharge will occur: Charles River

State Water Quality Classification: Class B **Freshwater:** X **Marine Water:** _____

b) Describe the discharge activities for which the owner/applicant is seeking coverage:

(1.) **Construction dewatering of groundwater intrusion and/or storm water accumulation.**

2. **Short-term or long-term dewatering of foundation sumps.**

3. **Other.**

c) Number of outfalls 2

For each outfall:

d) Estimate the maximum daily and average monthly flow of the discharge (in gallons per day – GPD). Max Daily Flow 300 **GPD**
Average Monthly Flow 100-150 **GPD**

e) What is the maximum and minimum monthly pH of the discharge (in s.u.)? Max pH 8.3 **Min pH** 6.5

f) Identify the source of the discharge (i.e. potable water, surface water, or groundwater). If groundwater, the facility shall submit effluent test results, as required in Section 4.4.5 of the General Permit. Groundwater

g) What treatment does the wastewater receive prior to discharge? Sedimentation, filtration, and other treatment

h) Is the discharge continuous? Yes ✔ **No** _____ **If no, is the discharge periodic (P) (occurs regularly, i.e., monthly or seasonally, but is not continuous all year) or intermittent (I) (occurs sometimes but not regularly) or both (B)** _____
If (P), number of days or months per year of the discharge _____ **and the specific months of discharge** _____;
If (I), number of days/year there is a discharge _____
Is the discharge temporary? Yes ✔ **No** _____
If yes, approximate start date of dewatering May 2013 **approximate end date of dewatering** May 2015

i) Latitude and longitude of each discharge within 100 feet (See http://www.epa.gov/tri/report/siting_tool): Outfall 1: long. -71.11718 **lat.** 42.36924**;**
Outfall 2: long. -71.11793 **lat.** 42.36978**; Outfall 3: long.**_____ **lat.**_____.

j) If the source of the discharge is potable water, please provide the reported or calculated seven day-ten year low flow (7Q10) of the receiving water and attach any calculation sheets used to support stream flow and dilution calculations NA **cfs**
(See Appendix VII for equations and additional information)

MASSACHUSETTS FACILITIES: See Section 3.4 and Appendix 1 of the General Permit for more information on Areas of Critical Environmental Concern (ACEC):

k) Does the discharge occur in an ACEC? Yes _____ No __✔__
If yes, provide the name of the ACEC: _____

3. Contaminant Information

a) Are any pH neutralization and/or dechlorination chemicals used in the discharge? If so, include the chemical name and manufacturer; maximum and average daily quantity used as well as the maximum and average daily expected concentrations (mg/l) in the discharge, and the vendor's reported aquatic toxicity (NOAEL and/or LC_{50} in percent for aquatic organism(s)). pH treatment, if necessary, to be determined.

b) Please report any known remediation activities or water-quality issues in the vicinity of the discharge. No known remediation activities in vicinity of discharge.

4. Determination of Endangered Species Act Eligibility: Provide documentation of ESA eligibility as required at Part 3.4 and Appendices III and IV. In addition, respond to the following questions.

a) Are any listed threatened or endangered species, or designated critical habitat, in proximity to the discharge? Yes____No_✔__
b) Has any consultation with the federal services been completed ? Yes_✔_ No__
c) Is consultation underway? Yes ____ No_✔__
d) What were the results of the consultation with the U.S. Fish and Wildlife Service and/or NOAA Fisheries Service (check one): a "no jeopardy" opinion _____or written concurrence____ on a finding that the discharges are not likely to adversely affect any endangered species or critical habitat.
e) Which of the five eligibility criteria listed in Appendix 2, Section B (A,B,C,D,or E) have you met? A
f) Please attach a copy of the most current federal listing of endangered and threatened species, found at USF&W website.

5. Documentation of National Historic Preservation Act requirements: Please respond to the following questions:

a) Are any historic properties listed or eligible for listing on the National Register of Historic Places located on the facility site or in proximity to the discharge? Yes __✔__ No ____
b) Have any State or Tribal historic preservation officers been consulted in this determination? Yes _____ or No __✔__ If yes, attach the results of the consultation(s).
c) Which of the three National Historic Preservation Act requirements listed in Appendix 3, Section C (1,2 o3) have you met? 2

6. Supplemental Information: Please provide any supplemental information. Attach any analytical data used to support the application. Attach any certification(s) required by the general permit

7. Signature Requirements: The Notice of Intent must be signed by the operator in accordance with the signatory requirements of 40 CFR Section 122.22 (see below) including the following certification:

I certify under penalty of law that (1) no biocides or other chemical additives except for those used for pH adjustment and/or dechlorination are used in the dewatering system; (2) the discharge consists solely of dewatering and authorized pH adjustment and/or

dechlorination chemicals; (3) the discharge does not come in contact with any raw materials, intermediate product, water product or finished product; (4) if the discharge of dewatering subsequently mixes with other permitted wastewater (i.e.stormwater) prior to discharging to the receiving water, any monitoring provided under this permit will be only for dewatering discharge; (5) where applicable, the facility has complied with the requirements of this permit specific to the Endangered Species Act and National Historic Preservation Act; and (6) this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted.

Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, I certify that the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I certify that I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Facility Name: Dineo Construction Co

Operator signature: Blair Oliver

Title: Construction Manager

Date: 2-12-13

Federal regulations require this application to be signed as follows:

1. For a corporation, by a principal executive officer of at least the level of vice president;
2. For partnership or sole proprietorship, by a general partner or the proprietor, respectively, or,
3. For a municipality, State, Federal or other public facility, by either a principal executive officer or ranking elected official.

Appendix B
MassDEP Transmittal Form for Permit Application BRP WM10

Enter your transmittal number → X254505 (Transmittal Number)

Your unique Transmittal Number can be accessed online: http://mass.gov/dep/service/online/trasmfrm.shtml

Massachusetts Department of Environmental Protection

Transmittal Form for Permit Application and Payment

1. Please type or print. A separate Transmittal Form must be completed for each permit application.

2. Make your check payable to the Commonwealth of Massachusetts and mail it with a copy of this form to: DEP, P.O. Box 4062, Boston, MA 02211.

3. Three copies of this form will be needed.

Copy 1 - the original must accompany your permit application. **Copy 2** must accompany your fee payment. **Copy 3** should be retained for your records

4. Both fee-paying and exempt applicants must mail a copy of this transmittal form to:

MassDEP
P.O. Box 4062
Boston, MA
02211

*** Note:**
For BWSC Permits, enter the LSP.

A. Permit Information

1. Permit Code: 7 or 8 character code from permit instructions	2. Name of Permit Category
BRP WM10	NPDES DGP

3. Type of Project or Activity: Construction Dewatering

B. Applicant Information – Firm or Individual

1. Name of Firm - Or, if party needing this approval is an individual enter name below: President and Fellows of Harvard College

2. **Last Name** of Individual	3. **First Name** of Individual	4. MI

5. Street Address: 1350 Massachusetts Avenue, 901

6. City/Town	7. State	8. Zip Code	9. Telephone #	10. Ext. #
Cambridge	MA	02138	617-384-5750	

11. Contact Person	12. e-mail address (optional)
Michael J. Leyne	michael_leyne@harvard.edu

C. Facility, Site or Individual Requiring Approval

1. Name of Facility, Site Or Individual: McKinlock Hall Renovation

2. Street Address: 8 Mill Street

3. City/Town	4. State	5. Zip Code	6. Telephone #	7. Ext. #
Cambridge	MA	02138		

8. DEP Facility Number (if Known)	9. Federal I.D. Number (if Known)	10. BWSC Tracking # (if Known)

D. Application Prepared by (if different from Section B)*

1. Name of Firm Or Individual: Haley & Aldrich, Inc.

2. Address: 465 Medford Street, Suite 2200

3. City/Town	4. State	5. Zip Code	6. Telephone #	7. Ext. #
Boston	MA	02129	617-886-7400	

8. Contact Person	9. LSP Number (BWSC Permits only)

E. Permit - Project Coordination

1. Is this project subject to MEPA review? ☐ yes ☒ no
   If yes, enter the project's EOEA file number - assigned when an Environmental Notification Form is submitted to the MEPA unit:

EOEA File Number

F. Amount Due

DEP Use Only

Permit No:

Rec'd Date:

Reviewer:

Special Provisions:

1. ☐ **Fee** Exempt (city, town or municipal housing authority)(state agency if fee is $100 or less).
   There are no fee exemptions for BWSC permits, regardless of applicant status.
2. ☐ Hardship Request - payment extensions according to 310 CMR 4.04(3)(c).
3. ☐ Alternative Schedule Project (according to 310 CMR 4.05 and 4.10).
4. ☐ Homeowner (according to 310 CMR 4.02).

Check Number	Dollar Amount	Date
	$385	2/13/2013

Appendix C
City of Cambridge Permit to Dewater

PERMIT TO DEWATER

Location: 8 Mill Street Street, Cambridge, MA 02138

Owner: President and Fellows of Harvard College

Contractor: Dimeo Construction

Temporary ☑

Permanent ☐

The property owner, Michael Leyne, on behalf of President and Fellows of agrees to hold harmless and indemnify the City of Cambridge for any liability on the part of the City directly or indirectly arising out of the dewatering operation.

The issuance of this permit is based in part in the submission packet of the applicant with documentation as follows:

In addition, the application has been reviewed by the City under third party agreement as documented in the following reports:

All activities conducted in conjunction with the issuance of this permit must be in accordance with the provisions of the aforementioned reports. Any deviations in conditions must be reported to and approved by the Commissioner of Public Works.

This permit is in addition to any other street permit issued by the Department in connection with any street excavation or obstruction; and all conditions as specified in the Discharge Permit for Dewatering.

For the entire period of time the groundwater is being discharged to a storm drain, the property owner shall provide copies of each Discharge Monitoring Report Form submitted to the EPA, pursuant to the owner's discharge permit.

If in the future the EPA requires the City of Cambridge to bring existing stormwater drainage into compliance with EPA quality standards, as a condition to the continuation of discharge of that stormwater (also including groundwater) into an EPA regulated system into which the Michael Leyne, on behalf of Presid (property owner) drains, the owner will agree to maintain its water discharge with such EPA water quality standards.

The property owner and contractor shall at all times meet the conditions specified in the requisite legal agreement/affidavits.

All groundwater pumped from the work shall be disposed of without damage to pavements, other surfaces or property.

Where material or debris has washed or flowed into or has been placed in existing gutters, drains, pipes or structures, such material or debris shall be entirely removed and satisfactorily disposed of by the

Contractor during the progress of work as directed by the Public Works Department.

Any flooding or damage of property and possessions caused by siltation of existing gutters, pipes or structures shall be the responsibility of the Contractor.

Provisions shall be made to insure that no material, water or solid, will freeze on any pavement or in any location which will cause inconvenience or hazard to the general public.

Upon completion of the work, existing gutters, drains, pipes and structures shall be (bucket) cleaned and material disposed of satisfactorily prior to release by the Public Works Department.

Any permit issued by the City of Cambridge shall be revoked upon transfer of any ownership interest unless and until subsequent owner(s) or parties of interest agree to the foregoing terms.

This permit shall remain in effect for one year and shall be renewable thereafter at the agreement of the parties.

The following special conditions as set forth below are part of the permit.

City Manager	Property Manager: Corporate Entity President, General Partner or Trustee Trustee with Instrument of Authority
Date	Date
City Solicitor	Contractor
Date	Date
Commissioner of Public	Contractor
Date	Date

CC: Engineering
Supervisor of Sewer Maintenance and Engineering
Superintendent of Streets
Commissioner of Inspectional Services

Print Form

Appendix D
Massachusetts Areas of Critical Environmental Concern

MASSACHUSETTS AREAS OF CRITICAL ENVIRONMENTAL CONCERN
November 2010

Total Approximate Acreage: 268,000 acres
Approximate acreage and designation date follow ACEC names below.

Bourne Back River
(1,850 acres, 1989) Bourne

Canoe River Aquifer and Associated Areas (17,200 acres, 1991) Easton, Foxborough, Mansfield, Norton, Sharon, and Taunton

Cedar Swamp
(1,650 acres, 1975) Hopkinton and Westborough

Central Nashua River Valley
(12,900 acres, 1996) Bolton, Harvard, Lancaster, and Leominster

Cranberry Brook Watershed
(1,050 acres, 1983) Braintree and Holbrook

Ellisville Harbor
(600 acres, 1980) Plymouth

Fowl Meadow and Ponkapoag Bog
(8,350 acres, 1992) Boston, Canton, Dedham, Milton, Norwood, Randolph, Sharon, and Westwood

Golden Hills
(500 acres, 1987) Melrose, Saugus, and Wakefield

Great Marsh (originally designated as Parker River/Essex Bay)
(25,500 acres, 1979) Essex, Gloucester, Ipswich, Newbury, and Rowley

Herring River Watershed
(4,450 acres, 1991) Bourne and Plymouth

Hinsdale Flats Watershed
(14,500 acres, 1992) Dalton, Hinsdale, Peru, and Washington

Hockomock Swamp
(16,950 acres, 1990) Bridgewater, Easton, Norton, Raynham, Taunton, and West Bridgewater

Inner Cape Cod Bay
(2,600 acres, 1985) Brewster, Eastham, and Orleans

Kampoosa Bog Drainage Basin
(1,350 acres, 1995) Lee and Stockbridge

Karner Brook Watershed
(7,000 acres, 1992) Egremont and Mount Washington

Miscoe, Warren, and Whitehall Watersheds
(8,700 acres, 2000) Grafton, Hopkinton, and Upton

Neponset River Estuary
(1,300 acres, 1995) Boston, Milton, and Quincy

Petapawag
(25,680 acres, 2002) Ayer, Dunstable, Groton, Pepperell, and Tyngsborough

Pleasant Bay
(9,240 acres, 1987) Brewster, Chatham, Harwich, and Orleans

Pocasset River
(160 acres, 1980) Bourne

Rumney Marshes
(2,800 acres, 1988) Boston, Lynn, Revere, Saugus, and Winthrop

Sandy Neck Barrier Beach System
(9,130 acres, 1978) Barnstable and Sandwich

Schenob Brook Drainage Basin
(13,750 acres, 1990) Mount Washington and Sheffield

Squannassit
(37,420 acres, 2002) Ashby, Ayer, Groton, Harvard, Lancaster, Lunenburg, Pepperell, Shirley, and Townsend

Three Mile River Watershed
(14,280 acres, 2008) Dighton, Norton, Taunton

Upper Housatonic River
(12,280 acres, 2009) Lee, Lenox, Pittsfield, Washington

Waquoit Bay
(2,580 acres, 1979) Falmouth and Mashpee

Weir River
(950 acres, 1986) Cohasset, Hingham, and Hull

Wellfleet Harbor
(12,480 acres, 1989) Eastham, Truro, and Wellfleet

Weymouth Back River
(800 acres, 1982) Hingham and Weymouth

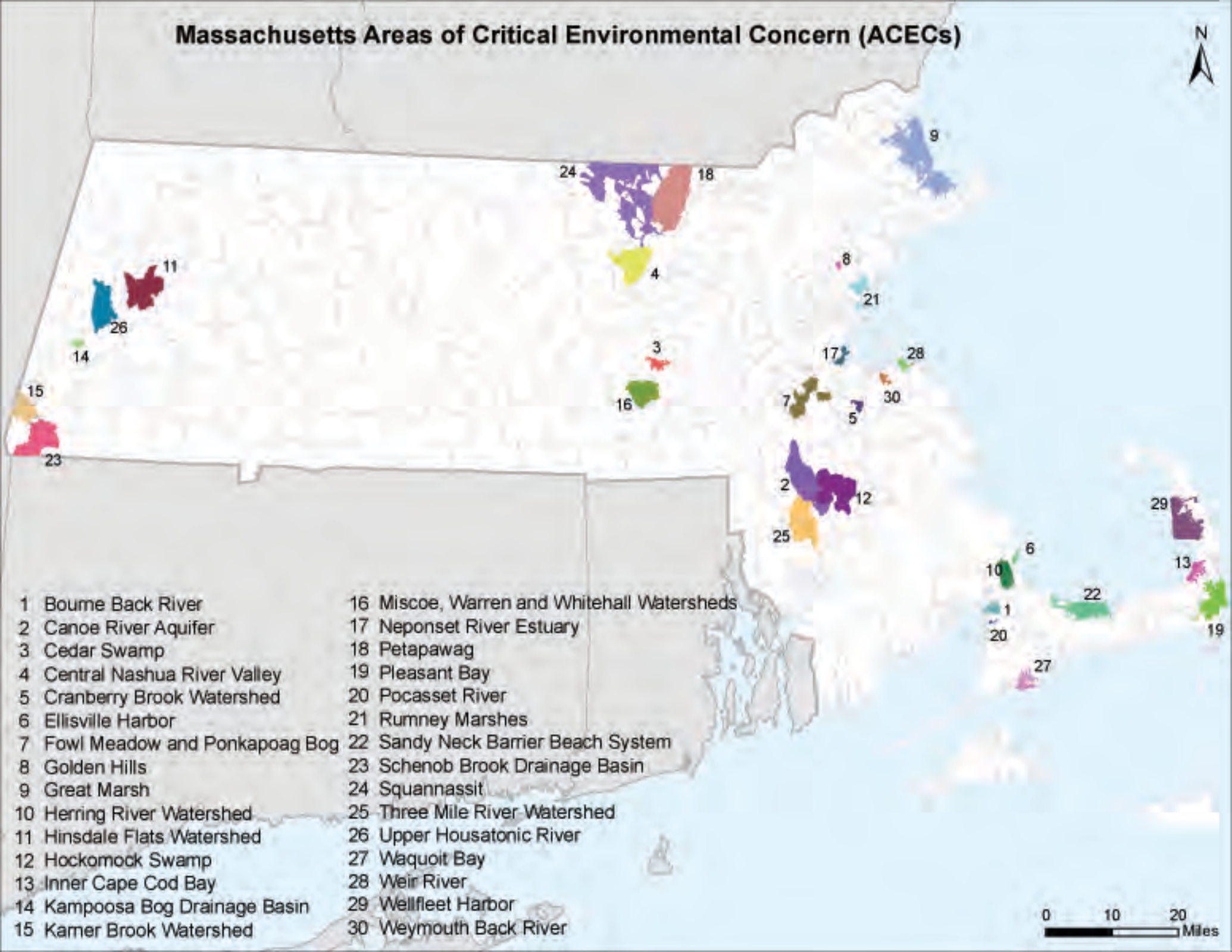
ACEC acreages above are based on MassGIS calculations and may differ from numbers originally presented in designation documents and other ACEC publications due to improvements in accuracy of GIS data and boundary clarifications. Listed acreages have been rounded to the nearest 50 or 10 depending on whether boundary clarification has occurred. For more information please see, http://www.mass.gov/dcr/stewardship/acec/aboutMaps.htm.

Towns with ACECs within their Boundaries — November 2010

TOWN	ACEC
Ashby	Squannassit
Ayer	Petapawag
	Squannassit
Barnstable	Sandy Neck Barrier Beach System
Bolton	Central Nashua River Valley
Boston	Rumney Marshes
	Fowl Meadow and Ponkapoag Bog
	Neponset River Estuary
Bourne	Pocasset River
	Bourne Back River
	Herring River Watershed
Braintree	Cranberry Brook Watershed
Brewster	Pleasant Bay
	Inner Cape Cod Bay
Bridgewater	Hockomock Swamp
Canton	Fowl Meadow and Ponkapoag Bog
Chatham	Pleasant Bay
Cohasset	Weir River
Dalton	Hinsdale Flats Watershed
Dedham	Fowl Meadow and Ponkapoag Bog
Dighton	Three Mile River Watershed
Dunstable	Petapawag
Eastham	Inner Cape Cod Bay
	Wellfleet Harbor
Easton	Canoe River Aquifer
	Hockomock Swamp
Egremont	Karner Brook Watershed
Essex	Great Marsh
Falmouth	Waquoit Bay
Foxborough	Canoe River Aquifer
Gloucester	Great Marsh
Grafton	Miscoe-Warren-Whitehall Watersheds
Groton	Petapawag
	Squannassit
Harvard	Central Nashua River Valley
	Squannassit
Harwich	Pleasant Bay
Hingham	Weir River
	Weymouth Back River
Hinsdale	Hinsdale Flats Watershed
Holbrook	Cranberry Brook Watershed
Hopkinton	Miscoe-Warren-Whitehall Watersheds
	Cedar Swamp
Hull	Weir River
Ipswich	Great Marsh
Lancaster	Central Nashua River Valley
	Squannassit
Lee	Kampoosa Bog Drainage Basin
	Upper Housatonic River
Lenox	Upper Housatonic River
Leominster	Central Nashua River Valley
Lunenburg	Squannassit
Lynn	Rumney Marshes
Mansfield	Canoe River Aquifer
Mashpee	Waquoit Bay
Melrose	Golden Hills
Milton	Fowl Meadow and Ponkapoag Bog
	Neponset River Estuary
Mt. Washington	Karner Brook Watershed
	Schenob Brook
Newbury	Great Marsh
Norton	Hockomock Swamp
	Canoe River Aquifer
	Three Mile River Watershed
Norwood	Fowl Meadow and Ponkapoag Bog
Orleans	Inner Cape Cod Bay
	Pleasant Bay
Pepperell	Petapawag
	Squannassit
Peru	Hinsdale Flats Watershed
Pittsfield	Upper Housatonic River
Plymouth	Herring River Watershed
	Ellisville Harbor
Quincy	Neponset River Estuary
Randolph	Fowl Meadow and Ponkapoag Bog
Raynham	Hockomock Swamp
Revere	Rumney Marshes
Rowley	Great Marsh
Sandwich	Sandy Neck Barrier Beach System
Saugus	Rumney Marshes
	Golden Hills
Sharon	Canoe River Aquifer
	Fowl Meadow and Ponkapoag Bog
Sheffield	Schenob Brook
Shirley	Squannassit
Stockbridge	Kampoosa Bog Drainage Basin
Taunton	Hockomock Swamp
	Canoe River Aquifer
	Three Mile River Watershed
Truro	Wellfleet Harbor
Townsend	Squannassit
Tyngsborough	Petapawag
Upton	Miscoe-Warren-Whitehall Watersheds
Wakefield	Golden Hills
Washington	Hinsdale Flats Watershed
	Upper Housatonic River
Wellfleet	Wellfleet Harbor
W Bridgewater	Hockomock Swamp
Westborough	Cedar Swamp
Westwood	Fowl Meadow and Ponkapoag Bog
Weymouth	Weymouth Back River
Winthrop	Rumney Marshes

.

Massachusetts Areas of Critical Environmental Concern (ACECs)



1 Bourne Back River
2 Canoe River Aquifer
3 Cedar Swamp
4 Central Nashua River Valley
5 Cranberry Brook Watershed
6 Ellisville Harbor
7 Fowl Meadow and Ponkapoag Bog
8 Golden Hills
9 Great Marsh
10 Herring River Watershed
11 Hinsdale Flats Watershed
12 Hockomock Swamp
13 Inner Cape Cod Bay
14 Kampoosa Bog Drainage Basin
15 Karner Brook Watershed
16 Miscoe, Warren and Whitehall Watersheds
17 Neponset River Estuary
18 Petapawag
19 Pleasant Bay
20 Pocasset River
21 Rumney Marshes
22 Sandy Neck Barrier Beach System
23 Schenob Brook Drainage Basin
24 Squannassit
25 Three Mile River Watershed
26 Upper Housatonic River
27 Waquoit Bay
28 Weir River
29 Wellfleet Harbor
30 Weymouth Back River

MassDEP - Bureau of Waste Site Cleanup

Site Information: MCP Numerical Ranking System Map: 500 feet & 0.5 Mile Radii

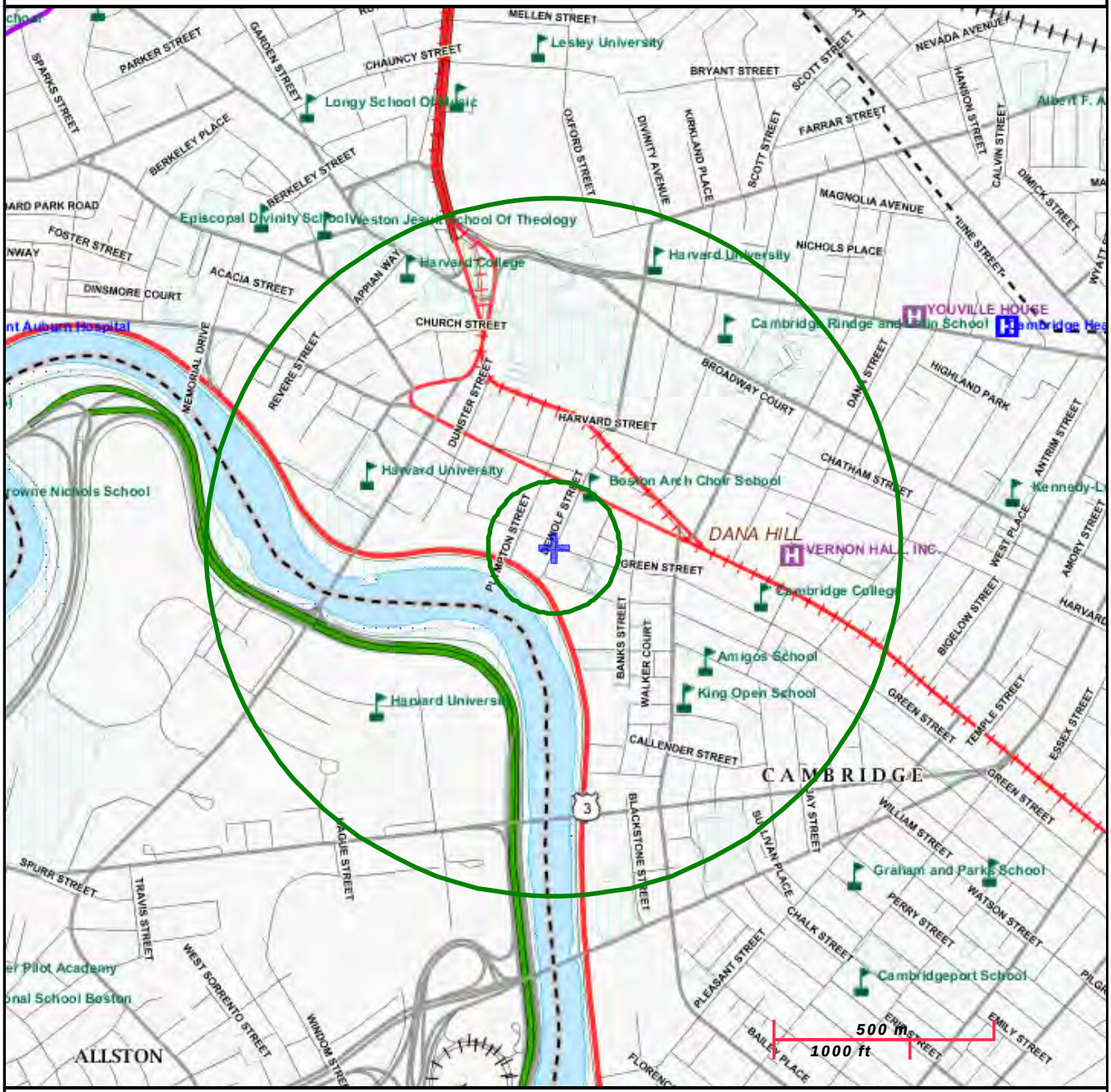
MCKINLOCK HALL PROJECT
8 MILL ST. CAMBRIDGE, MA

NAD83 UTM Meters:
5216549mN , -7916686mE (Zone: 18)

January 28, 2013

The information shown is the best available at the date of printing. However, it may be incomplete. The responsible party and LSP are ultimately repsponsible for ascertaining the true conditions surrounding the site. Metadata for data layers shown on this map can be found at: http://www.mass.gov/mgis/.

MassDEP
Commonwealth of Massachusetts
Department of Environmental Protection



Roads: Limited Access, Divided, Other Hwy, Major Road, Minor Road, Track, Trail

Boundaries: Town, County, DEP Region; Train; Powerline; Pipeline; Aqueduct

Basins: Major, PWS; Streams: Perennial, Intermittent, Man Made Shore, Dam

Aquifers: Medium Yield, High Yield, EPA Sole Source

Non Potential Drinking Water Source Area: Medium, High (Yield)

PWS Protection Areas: Zone II, IWPA, Zone A

Hydrography: Open Water, PWS Reservoir, Tidal Flat

Wetlands: Freshwater, Saltwater, Cranberry Bog

FEMA 100yr Floodplain; Protected Open Space; ACEC

Est. Rare Wetland Wildlife Hab; Vernal Pool: Cert., Potential

Solid Waste Landfill; PWS: Com.GW,SW, Emerg.,Non-Com.

Appendix E
Endangered Species Act Documentation

United States Department of the Interior

FISH AND WILDLIFE SERVICE

New England Field Office
70 Commercial Street, Suite 300
Concord, NH 03301-5087
http://www.fws.gov/newengland

January 7, 2013

To Whom It May Concern:

This project was reviewed for the presence of federally listed or proposed, threatened or endangered species or critical habitat per instructions provided on the U.S. Fish and Wildlife Service's New England Field Office website:

(http://www.fws.gov/newengland/EndangeredSpec-Consultation.htm)

Based on information currently available to us, no federally listed or proposed, threatened or endangered species or critical habitat under the jurisdiction of the U.S. Fish and Wildlife Service are known to occur in the project area(s). Preparation of a Biological Assessment or further consultation with us under section 7 of the Endangered Species Act is not required. No further Endangered Species Act coordination is necessary for a period of one year from the date of this letter, unless additional information on listed or proposed species becomes available.

Thank you for your cooperation. Please contact Mr. Brett Hillman of this office at 603-223-2541 if we can be of further assistance.

Sincerely yours,

Thomas R. Chapman
Supervisor
New England Field Office

FEDERALLY LISTED ENDANGERED AND THREATENED SPECIES IN MASSACHUSETTS

COUNTY	SPECIES	FEDERAL STATUS	GENERAL LOCATION/HABITAT	TOWNS
Barnstable	Piping Plover	Threatened	Coastal Beaches	All Towns
	Roseate Tern	Endangered	Coastal beaches and the Atlantic Ocean	All Towns
	Northeastern beach tiger beetle	Threatened	Coastal Beaches	Chatham
	Sandplain gerardia	Endangered	Open areas with sandy soils.	Sandwich and Falmouth.
	Northern Red-bellied Cooter	Endangered	Inland Ponds and Rivers	Bourne (north of the Cape Cod Canal)
Berkshire	Bog Turtle	Threatened	Wetlands	Egremont and Sheffield
Bristol	Piping Plover	Threatened	Coastal Beaches	Fairhaven, Dartmouth, Westport
	Roseate Tern	Endangered	Coastal beaches and the Atlantic Ocean	Fairhaven, New Bedford, Dartmouth, Westport
	Northern Red-bellied Cooter	Endangered	Inland Ponds and Rivers	Taunton
Dukes	Roseate Tern	Endangered	Coastal beaches and the Atlantic Ocean	All Towns
	Piping Plover	Threatened	Coastal Beaches	All Towns
	Northeastern beach tiger beetle	Threatened	Coastal Beaches	Aquinnah and Chilmark
	Sandplain gerardia	Endangered	Open areas with sandy soils.	West Tisbury
Essex	Small whorled Pogonia	Threatened	Forests with somewhat poorly drained soils and/or a seasonally high water table	Gloucester, Essex and Manchester
	Piping Plover	Threatened	Coastal Beaches	Gloucester, Essex, Ipswich, Rowley, Revere, Newbury, Newburyport and Salisbury
Franklin	Northeastern bulrush	Endangered	Wetlands	Montague, Warwick
	Dwarf wedgemussel	Endangered	Mill River	Whately
Hampshire	Small whorled Pogonia	Threatened	Forests with somewhat poorly drained soils and/or a seasonally high water table	Hadley
	Puritan tiger beetle	Threatened	Sandy beaches along the Connecticut River	Northampton and Hadley
	Dwarf wedgemussel	Endangered	Rivers and Streams.	Hatfield, Amherst and Northampton
Hampden	Small whorled Pogonia	Threatened	Forests with somewhat poorly drained soils and/or a seasonally high water table	Southwick
Middlesex	Small whorled Pogonia	Threatened	Forests with somewhat poorly drained soils and/or a seasonally high water table	Groton
Nantucket	Piping Plover	Threatened	Coastal Beaches	Nantucket
	Roseate Tern	Endangered	Coastal beaches and the Atlantic Ocean	Nantucket
	American burying beetle	Endangered	Upland grassy meadows	Nantucket
Plymouth	Piping Plover	Threatened	Coastal Beaches	Scituate, Marshfield, Duxbury, Plymouth, Wareham and Mattapoisett
	Northern Red-bellied Cooter	Endangered	Inland Ponds and Rivers	Kingston, Middleborough, Carver, Plymouth, Bourne, Wareham, Halifax, and Pembroke
	Roseate Tern	Endangered	Coastal beaches and the Atlantic Ocean	Plymouth, Marion, Wareham, and Mattapoisett.
Suffolk	Piping Plover	Threatened	Coastal Beaches	Winthrop
Worcester	Small whorled Pogonia	Threatened	Forests with somewhat poorly drained soils and/or a seasonally high water table	Leominster

-Eastern cougar and gray wolf are considered extirpated in Massachusetts.
-Endangered gray wolves are not known to be present in Massachusetts, but dispersing individuals from source populations in Canada may occur statewide.
-Critical habitat for the Northern Red-bellied Cooter is present in Plymouth County.

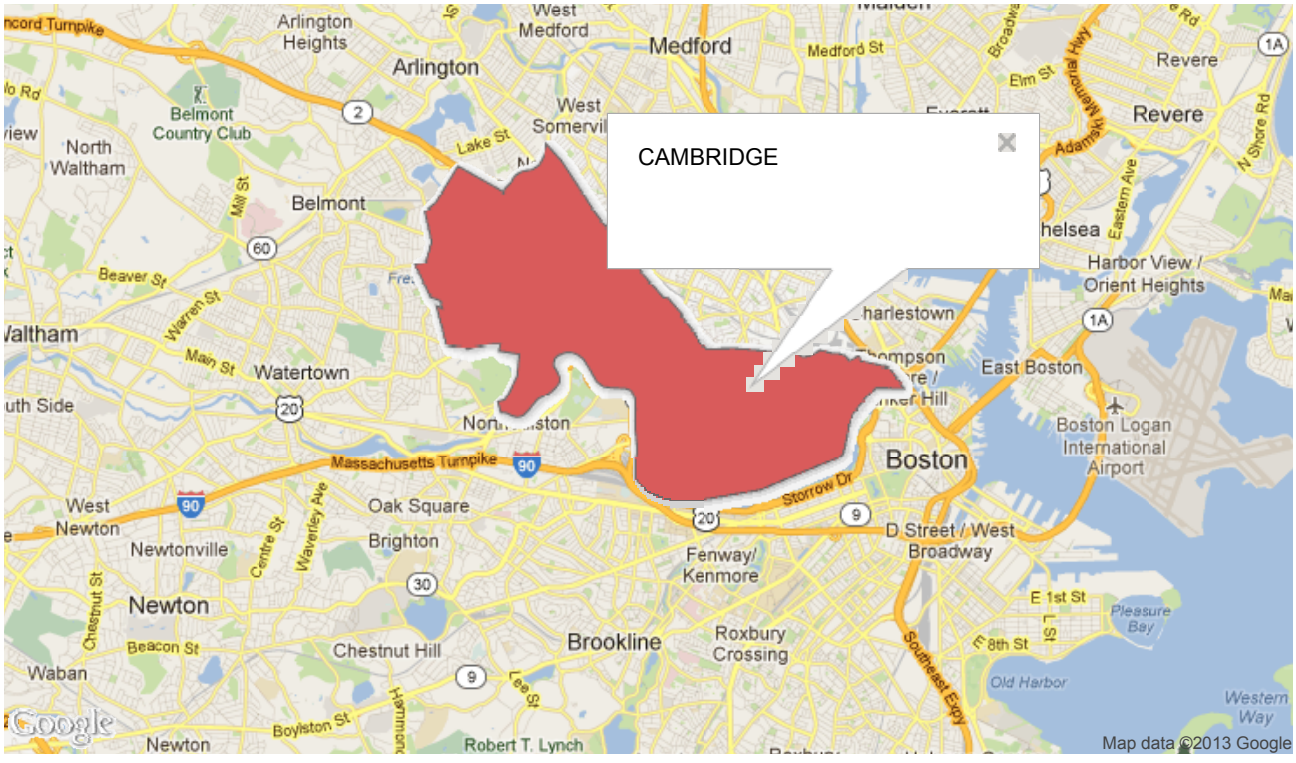
Revised 10/7/2011

Rare Species by Town

The Natural Heritage & Endangered Species Program maintains a list of all documented MESA-listed species observations in the Commonwealth. Please select a town if you would like to see a table showing which listed species have been observed in that town. The selected town will also be highlighted on the map. Alternatively you can specify either the Common Name or Scientific Name of a species to see it's distribution on the map and table showing the towns it has been observed in. Clicking on a column header in the table will sort the column. Clicking again on the same column heading will reverse the sort order.

The Town List and Species Viewer will be updated at regular intervals as new data is accepted and entered into the NHESP database.

Town: CAMBRIDGE or Species (Common Name): or Species (Scientific Name):



Download data as xls or csv file.

Showing 1 to 25 of 25 entries Search: First Previous 1 Next Last

Town	Scientific Name	Common Name	MESA Status	Most Recent Obs
CAMBRIDGE	Ambystoma laterale	Blue-spotted Salamander	SC	1917
CAMBRIDGE	Scaphiopus holbrookii	Eastern Spadefoot	T	1892
CAMBRIDGE	Cicindela duodecimguttata	Twelve-spotted Tiger Beetle	SC	1932
CAMBRIDGE	Ammodramus henslowii	Henslow's Sparrow	E	1871
CAMBRIDGE	Botaurus lentiginosus	American Bittern	E	1906
CAMBRIDGE	Cistothorus platensis	Sedge Wren	E	1840
CAMBRIDGE	Falco peregrinus	Peregrine Falcon	E	2010
CAMBRIDGE	Gallinula chloropus	Common Moorhen	SC	1890
CAMBRIDGE	Ixobrychus exilis	Least Bittern	E	1890
CAMBRIDGE	Tyto alba	Barn Owl	SC	Historic
CAMBRIDGE	Eacles imperialis	Imperial Moth	T	Historic
CAMBRIDGE	Notropis bifrenatus	Bridle Shiner	SC	1928
CAMBRIDGE	Ligumia nasuta	Eastern Pondmussel	SC	1940
CAMBRIDGE	Glyptemys insculpta	Wood Turtle	SC	Historic
CAMBRIDGE	Terrapene carolina	Eastern Box Turtle	SC	1892
CAMBRIDGE	Macrobdella sestertia	New England Medicinal Leech	SC	1800s
CAMBRIDGE	Carex gracilescens	Slender Woodland Sedge	E	1891
CAMBRIDGE	Cyperus engelmannii	Engelmann's Umbrella-sedge	T	2008
CAMBRIDGE	Gentiana andrewsii	Andrews' Bottle Gentian	E	2010
CAMBRIDGE	Isoetes lacustris	Lake Quillwort	E	Historic
CAMBRIDGE	Platanthera flava var. herbiola	Pale Green Orchis	T	Historic
CAMBRIDGE	Potamogeton friesii	Fries' Pondweed	E	1880
CAMBRIDGE	Scirpus longii	Long's Bulrush	T	1913
CAMBRIDGE	Suaeda calceoliformis	American Sea-blite	SC	1912
CAMBRIDGE	Viola brittoniana	Britton's Violet	T	1843

Show 100 entries

Hide Additional Info

Status

- E = Endangered • T = Threatened • SC = Special Concern

Most Recent Observation

This field represents the most recent observation of that species in a town. However, because they are rare, many MESA-listed species are difficult to detect even when they are present. Natural Heritage does not have the resources to be able to conduct methodical species surveys in each town on a regular basis. Therefore, the fact that the 'Most Recent Observation' recorded for a species may be several years old should not be interpreted as meaning that the species no longer occurs in a town. However, Natural Heritage regards records older than twenty-five years historic.

For more information about a particular species, view the list of Natural Heritage Fact Sheets.

Massachusetts Division of Fisheries and Wildlife, 1 Rabbit Hill Rd, Westborough, MA 01581
Tel: (508) 389-6300; Fax: (508) 389-7890
Natural Heritage & Endangered Species Program Tel: (508) 389-6360; Fax: (508) 389-7891

Appendix F
National Register of Historic Places and
Massachusetts Historical Commission Documentation

Massachusetts Historical Commission

William Francis Galvin, Secretary of the Commonwealth

Massachusetts Cultural Resource Information System

MACRIS

Scanned forms and photos now available for selected towns!

The Massachusetts Cultural Resource Information System (MACRIS) allows you to search the Massachusetts Historical Commission database for information on historic properties and areas in the Commonwealth.

Users of the database should keep in mind that it does not include information on all historic properties and areas in Massachusetts, nor does it reflect all the information on file on historic properties and areas at the Massachusetts Historical Commission.

Click here to begin your search of the MACRIS database.

Massachusetts Cultural Resource Information System

MACRIS

MACRIS Search Results

Search Criteria: Town(s): Cambridge; Street No: 8; Street Name: Mill St; Resource Type(s): Area, Building, Burial Ground, Object, Structure;

Inv. No.	Property Name	Street	Town	Year

Massachusetts Cultural Resource Information System

MACRIS

MACRIS Search Results

Search Criteria: Town(s): Cambridge; Place: Harvard Square; Resource Type(s): Area, Building, Burial Ground, Object, Structure;

Inv. No.	Property Name	Street	Town	Year
CAM.AB	Harvard Square Historic District		Cambridge	
CAM.AD	Harvard Yard Historic District		Cambridge	
CAM.1061	Harvard Catholic Student Center	20 Arrow St	Cambridge	1890
CAM.1062	Saint Paul's Church	24 Arrow St	Cambridge	1920
CAM.1063	Bicycle Exchange Building	3-7 Bow St	Cambridge	1901
CAM.1064		9 Bow St	Cambridge	1884
CAM.1066	Westmorly Court - Harvard University	15-29 Bow St	Cambridge	1898
CAM.12	Harvard Lampoon Building	44 Bow St	Cambridge	1909
CAM.1067	Randolph Hall - Harvard University	47-57 Bow St	Cambridge	1897
CAM.1068	Brattle Building	4 Brattle St	Cambridge	1913
CAM.1069	Atrium Building	9-11 Brattle St	Cambridge	1979
CAM.1071		12-16 Brattle St	Cambridge	1887
CAM.1070	Estes Block	13-15 Brattle St	Cambridge	1875
CAM.1072	Dow Block	17-35 Brattle St	Cambridge	1936
CAM.1073		18 Brattle St	Cambridge	1922
CAM.1074		26 Brattle St	Cambridge	1909
CAM.1075	Hadley Building	28-36 Brattle St	Cambridge	1974
CAM.1076	Cambridge Federal Savings Bank	38A Brattle St	Cambridge	1937
CAM.1077		39-41 Brattle St	Cambridge	1925
CAM.15	Brattle Hall	40 Brattle St	Cambridge	1889
CAM.1078		40A Brattle St	Cambridge	1925
CAM.16	Brattle, William House	42 Brattle St	Cambridge	1727
CAM.1079	Sage Building	43-45 Brattle St	Cambridge	1926
CAM.1080		44 Brattle St	Cambridge	1970
CAM.1081		46R Brattle St	Cambridge	1966
CAM.1082		47-49 Brattle St	Cambridge	1926
CAM.1083	Design Research Building	48 Brattle St	Cambridge	1969

Inv. No.	Property Name	Street	Town	Year
CAM.1084	Washington Court	51 Brattle St	Cambridge	1905
CAM.97	Memorial Hall	Cambridge St	Cambridge	1875
CAM.102	First Parish Church, Unitarian	1-3 Church St	Cambridge	1833
CAM.103		23-25 Church St	Cambridge	1936
CAM.1085		26-28 Church St	Cambridge	1857
CAM.104		27-29 Church St	Cambridge	1922
CAM.105	Cambridge Police Station	31-33 Church St	Cambridge	1864
CAM.1086	Oxford Grill	32-42 Church St	Cambridge	1931
CAM.1087	Hancock - Torrey House	53 Church St	Cambridge	1827
CAM.1088		54-56 Church St	Cambridge	1925
CAM.1089		59-63 Church St	Cambridge	1949
CAM.121	Second Cambridge Savings Bank Building	11-21 Dunster St	Cambridge	1897
CAM.1090	Union Railway Carbarn	25-33 Dunster St	Cambridge	1860
CAM.1091	Second D. U. Club	45 Dunster St	Cambridge	1930
CAM.1092	Metcalf, Eliab Wight House	46 Dunster St	Cambridge	1820
CAM.1093	Edwards, Abraham - Moore, Mary House	53 Dunster St	Cambridge	1841
CAM.1094	Alpha Sigma Phi Club	54 Dunster St	Cambridge	1900
CAM.122	Wyeth, Augustus House	69 Dunster St	Cambridge	1829
CAM.1095		71-77 Dunster St	Cambridge	1894
CAM.1096	Hotel Packard	10-14 Eliot St	Cambridge	1869
CAM.1097		14A Eliot St	Cambridge	1900
CAM.1098		16-18 Eliot St	Cambridge	1898
CAM.800	Old Burying Ground	Garden St	Cambridge	1750
CAM.193	Austin Hall	Harvard University	Cambridge	1881
CAM.178	Holden Chapel - Harvard University	Harvard Yard	Cambridge	1764
CAM.179	Sever Hall	Harvard Yard	Cambridge	1880
CAM.180	University Hall	Harvard Yard	Cambridge	1812
CAM.181	Harvard Hall - Harvard University	Harvard Yard	Cambridge	1764
CAM.182	Hollis Hall - Harvard University	Harvard Yard	Cambridge	1762
CAM.183	Massachusetts Hall	Harvard Yard	Cambridge	1718
CAM.184	Weld Hall - Harvard University	Harvard Yard	Cambridge	1870
CAM.185	Boylston Hall - Harvard University	Harvard Yard	Cambridge	1857
CAM.186	Holworthy Hall - Harvard University	Harvard Yard	Cambridge	1811
CAM.187	Grays Hall - Harvard University	Harvard Yard	Cambridge	1862
CAM.188	Lehman Hall - Harvard University	Harvard Yard	Cambridge	1924
CAM.189	Matthews House - Harvard University	Harvard Yard	Cambridge	1871
CAM.190	Straus Hall - Harvard University	Harvard Yard	Cambridge	1926
CAM.191	Thayer Hall - Harvard University	Harvard Yard	Cambridge	1869

Inv. No.	Property Name	Street	Town	Year
CAM.192	Wigglesworth Hall - Harvard University	Harvard Yard	Cambridge	1930
CAM.953	Harvard University - 1857 Gate	Harvard Yard	Cambridge	1901
CAM.954	Harvard University - 1870 Gate	Harvard Yard	Cambridge	1901
CAM.955	Harvard University - 1873 Tablet	Harvard Yard	Cambridge	1901
CAM.956	Harvard University - 1874 Gate	Harvard Yard	Cambridge	1901
CAM.957	Harvard University - 1875 Gate	Harvard Yard	Cambridge	1901
CAM.958	Harvard University - 1881 Gate	Harvard Yard	Cambridge	1906
CAM.959	Harvard University - 1885 Gate	Harvard Yard	Cambridge	1904
CAM.960	Harvard University - 1886 Gate	Harvard Yard	Cambridge	1901
CAM.961	Harvard University - 1887 Gate	Harvard Yard	Cambridge	1906
CAM.962	Harvard University - 1888 Gate	Harvard Yard	Cambridge	1906
CAM.963	Harvard University - 1889 Gate	Harvard Yard	Cambridge	1901
CAM.964	Harvard University - 1890 Gate	Harvard Yard	Cambridge	1901
CAM.965	Harvard University - 1880 Gate	Harvard Yard	Cambridge	1902
CAM.966	Harvard University - Bradley Fountain	Harvard Yard	Cambridge	1910
CAM.967	Harvard University - Chinese Steel	Harvard Yard	Cambridge	1810
CAM.968	Harvard University - Delivery Gate	Harvard Yard	Cambridge	1948
CAM.969	Harvard University - Driveway Gate	Harvard Yard	Cambridge	1948
CAM.970	Harvard University - 1908 Gate	Harvard Yard	Cambridge	1936
CAM.971	Harvard University - Emerson Gate	Harvard Yard	Cambridge	1936
CAM.972	Harvard University - Fire Station Gate	Harvard Yard	Cambridge	1970
CAM.973	Harvard University - Hollis Pump	Harvard Yard	Cambridge	1936
CAM.974	Harvard University - 1876 Gate	Harvard Yard	Cambridge	1901
CAM.975	Harvard University - Harvard, John Statue	Harvard Yard	Cambridge	1884
CAM.976	Harvard University - Johnston Gate	Harvard Yard	Cambridge	1889
CAM.977	Harvard University - Lamont Gate	Harvard Yard	Cambridge	1948
CAM.978	Harvard University - Gatehouse	Harvard Yard	Cambridge	1983
CAM.979	Harvard University - 1879 Gate	Harvard Yard	Cambridge	1891
CAM.980	Harvard University - Onion	Harvard Yard	Cambridge	1965
CAM.981	Harvard University - Porcellian Gate	Harvard Yard	Cambridge	1901
CAM.982	Harvard University - Reclining Figure	Harvard Yard	Cambridge	1972
CAM.983	Harvard University - Robinson Gate	Harvard Yard	Cambridge	1936
CAM.984	Harvard University - 1870 Sundial	Harvard Yard	Cambridge	1901
CAM.985	Harvard University - 1877 Gate	Harvard Yard	Cambridge	1901
CAM.1214	Harvard University - Canaday Hall	Harvard Yard	Cambridge	1973
CAM.1215	Harvard University - Emerson Hall	Harvard Yard	Cambridge	1904
CAM.1216	Harvard University - Houghton Library	Harvard Yard	Cambridge	1941
CAM.1217	Harvard University - Lamont Library	Harvard Yard	Cambridge	1947

Inv. No.	Property Name	Street	Town	Year
CAM.1218	Harvard University - Lionel Hall	Harvard Yard	Cambridge	1924
CAM.1219	Harvard University - Memorial Church	Harvard Yard	Cambridge	1931
CAM.1220	Harvard University - Mower Hall	Harvard Yard	Cambridge	1924
CAM.1221	Brooks, Phillips House - Harvard Univsersity	Harvard Yard	Cambridge	1898
CAM.1222	Harvard University - Pusey Library	Harvard Yard	Cambridge	1973
CAM.1223	Harvard University - Robinson Hall	Harvard Yard	Cambridge	1900
CAM.1224	Harvard University - Stoughton Hall	Harvard Yard	Cambridge	1804
CAM.1227	Harvard University - Widener Library	Harvard Yard	Cambridge	1913
CAM.1100	Fly Club	2 Holyoke Pl	Cambridge	1899
CAM.1101		9 Holyoke Pl	Cambridge	1930
CAM.1102		8-10 Holyoke St	Cambridge	1927
CAM.201	Hasty Pudding Club	12 Holyoke St	Cambridge	1887
CAM.1103	Apley Court	16 Holyoke St	Cambridge	1897
CAM.1104	Sawyer, Samuel F. House	20 Holyoke St	Cambridge	1818
CAM.1105		22 Holyoke St	Cambridge	1956
CAM.1106		24 Holyoke St	Cambridge	1963
CAM.1107	Owl Club	30 Holyoke St	Cambridge	1905
CAM.950	Winthrop Square Park	Kennedy St	Cambridge	1631
CAM.1108	Abbott Building	5 Kennedy St	Cambridge	1908
CAM.1109		9-25 Kennedy St	Cambridge	1887
CAM.1110	Farwell, Levi Tenant House	10-14 Kennedy St	Cambridge	1820
CAM.1111	Read Block	18-28 Kennedy St	Cambridge	1885
CAM.1112		29-41 Kennedy St	Cambridge	1971
CAM.1113		30 Kennedy St	Cambridge	1936
CAM.1114	Garage, The	34-42 Kennedy St	Cambridge	1924
CAM.1115	Fox Club	44 Kennedy St	Cambridge	1906
CAM.1116	Drayton Hall	48 Kennedy St	Cambridge	1901
CAM.1117		50 Kennedy St	Cambridge	1892
CAM.1118		52-54 Kennedy St	Cambridge	1884
CAM.1119	Galeria	55-57 Kennedy St	Cambridge	1974
CAM.1120		56 Kennedy St	Cambridge	1903
CAM.1121	S. A. E. Club	60 Kennedy St	Cambridge	1929
CAM.1122		63-65 Kennedy St	Cambridge	1984
CAM.1123		5-7 Linden St	Cambridge	1867
CAM.1124	Harvard Square Squash Court	8-10 Linden St	Cambridge	1908
CAM.1125	Delphic Club	9 Linden St	Cambridge	1902
CAM.219	Apthorp, Rev. East House	10 Linden St	Cambridge	1760
CAM.901	Harvard Square Subway Kiosk	Massachusetts Ave	Cambridge	1928

Inv. No.	Property Name	Street	Town	Year
CAM.1136		1230 Massachusetts Ave	Cambridge	1907
CAM.1137		1234-1238 Massachusetts Ave	Cambridge	1894
CAM.1138	Hamden Hall	1246-1260 Massachusetts Ave	Cambridge	1902
CAM.1139	A. D. Club	1268-1270 Massachusetts Ave	Cambridge	1899
CAM.1140	Niles Building	1280 Massachusetts Ave	Cambridge	1984
CAM.234	Fairfax, The	1300-1306 Massachusetts Ave	Cambridge	1869
CAM.1141	Fairfax - Hilton Block	1310-1312 Massachusetts Ave	Cambridge	1883
CAM.1142	Fairfax - Hilton Block	1316 Massachusetts Ave	Cambridge	1885
CAM.235	Porcellian Club	1320-1324 Massachusetts Ave	Cambridge	1890
CAM.1143	Manter Hall	1325 Massachusetts Ave	Cambridge	1885
CAM.236	Wadsworth House	1341 Massachusetts Ave	Cambridge	1726
CAM.237	Holyoke Center	1350 Massachusetts Ave	Cambridge	1961
CAM.1144	Cambridge Savings Bank	1372-1376 Massachusetts Ave	Cambridge	1923
CAM.1145	Read, Joseph Stacey House	1380-1382 Massachusetts Ave	Cambridge	1783
CAM.1146	Bartlett, Joseph House	1384-1392 Massachusetts Ave	Cambridge	1800
CAM.1147	Harvard Coop Society	1400 Massachusetts Ave	Cambridge	1924
CAM.1148	Harvard Coop Society	1408-1410 Massachusetts Ave	Cambridge	1956
CAM.1149	Harvard Trust Company	1414 Massachusetts Ave	Cambridge	1923
CAM.1150	College House	1420-1442 Massachusetts Ave	Cambridge	1832
CAM.1151		11-15 Mifflin Pl	Cambridge	1901
CAM.1152		12-14 Mifflin Pl	Cambridge	1913
CAM.1153		17-19 Mifflin Pl	Cambridge	1972
CAM.1155	Speakers Club	43-45 Mount Auburn St	Cambridge	1845
CAM.1156		45 1/2 Mount Auburn St	Cambridge	1971
CAM.1157		47-49 Mount Auburn St	Cambridge	1926
CAM.1158	Claverly Hall	63 Mount Auburn St	Cambridge	1892
CAM.1159		65R Mount Auburn St	Cambridge	1957
CAM.1160	Ridgely Hall	65 Mount Auburn St	Cambridge	1904
CAM.1161	Manter Hall School	71-77 Mount Auburn St	Cambridge	1927
CAM.1162	Phoenix - S. K. Club	72 Mount Auburn St	Cambridge	1915
CAM.1163	Iroquois Club	74 Mount Auburn St	Cambridge	1916
CAM.1164	Spee Club	76 Mount Auburn St	Cambridge	1931
CAM.1165	Willard, Lucy House	78 Mount Auburn St	Cambridge	1839
CAM.1166		90 Mount Auburn St	Cambridge	1971
CAM.1167		92-96 Mount Auburn St	Cambridge	1895
CAM.1168		95-97 Mount Auburn St	Cambridge	1920
CAM.1169		99 Mount Auburn St	Cambridge	1919
CAM.1170	Cantabrigia Club	100 Mount Auburn St	Cambridge	1919

Inv. No.	Property Name	Street	Town	Year
CAM.1171		102 Mount Auburn St	Cambridge	1869
CAM.1172		104 Mount Auburn St	Cambridge	1983
CAM.1173		110 Mount Auburn St	Cambridge	1959
CAM.9	Boston Elevated Railway Division 7 Headquarters	112 Mount Auburn St	Cambridge	1911
CAM.1175	Trinity Hall	114-120 Mount Auburn St	Cambridge	1892
CAM.1177	Waverly Hall	115 Mount Auburn St	Cambridge	1902
CAM.1178		119-123 Mount Auburn St	Cambridge	1988
CAM.1176		120R Mount Auburn St	Cambridge	1982
CAM.1126	U. S. Post Office - Cambridge Branch	125 Mount Auburn St	Cambridge	1953
CAM.1179	Coop Annex	18 Palmer St	Cambridge	1964
CAM.1180	Harvard Crimson Newspaper Office	14-18 Plympton St	Cambridge	1915
CAM.1181	Crimson Building Annex	22 Plympton St	Cambridge	1961
CAM.1182	Adams House Dining Hall	28 Plympton St	Cambridge	1930
CAM.1183	Russell Hall	28 Plympton St	Cambridge	1931
CAM.1184	Russell Hall	30-30A Plympton St	Cambridge	1887
CAM.986	Harvard University - Hallowell Gate	10 Quincy St	Cambridge	1928
CAM.952	Harvard University - Quincy Street Gate	17 Quincy St	Cambridge	1936
CAM.1213	Harvard University - President's House	17 Quincy St	Cambridge	1911
CAM.312	Stedman, Samuel House	17 South St	Cambridge	1826
CAM.1185	Harvard Advocate Building	21 South St	Cambridge	1956
CAM.1186		4-6 Story St	Cambridge	1966
CAM.1187		8-12 Story St	Cambridge	1969
CAM.1188		14-16 Story St	Cambridge	1970
CAM.316	Craigie Arms	2-6 University Rd	Cambridge	1897
CAM.1189	Metcalf, Lydia House	41 Winthrop St	Cambridge	1845
CAM.1190		65-67 Winthrop St	Cambridge	1887
CAM.1191	University Lutheran Church	66 Winthrop St	Cambridge	1950
CAM.1192		69 Winthrop St	Cambridge	1835
CAM.1193	Pi Eta Club	89 Winthrop St	Cambridge	1908
CAM.1194	Pi Eta Hall	95 Winthrop St	Cambridge	1896
CAM.1195	Hyde, Isaac - Taylor House	96 Winthrop St	Cambridge	1845
CAM.951	Winthrop Street Retaining Wall	98 Winthrop St	Cambridge	1725
CAM.1196	Dame School	106 Winthrop St	Cambridge	1800

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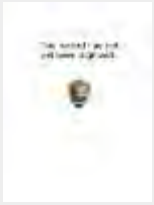

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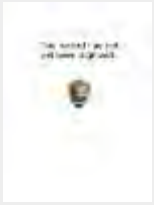

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Harvard Houses Historic District [Image]

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Publisher: National Park Service

Published: 09/12/1986

Access: Public access

Restrictions: All Rights Reserved

Is Part Of: Cambridge MRA

Format/Size: Physical document with text, photos and map

Language: eng: English

Note: Roughly bounded by Mt. Auburn & Grant & Cowperwaite Sts., Banks St. & Putman Ave., the Memorial River, & Boyleston St.

Item No.: 86002073 *NRIS (National Register Information System)*

Subject: EVENT

Subject: ARCHITECTURE/ENGINEERING

Subject: ARCHITECTURE

Subject: EDUCATION

Subject: GEORGIAN
Subject: DISTRICT
Subject: 1925-1949
Subject: 1900-1924
Subject: 1875-1899
Subject: 1850-1874
Subject: 1750-1799
Keywords: Shepley,Rutan & Coolidge;Et al.
Place: MASSACHUSETTS -- Middlesex County -- Cambridge

Record Number: 404009
Record Owner: National Register of Historic Places

Appendix G
Laboratory Data Reports

ANALYTICAL REPORT

Lab Number:	L1223540
Client:	Haley & Aldrich, Inc. 465 Medford Street, Suite 2200 Charlestown, MA 02129
ATTN:	Leah Samanta
Phone:	(617) 886-7400
Project Name:	MCKINLOCK
Project Number:	39006-000
Report Date:	01/08/13

Certifications & Approvals: MA (M-MA086), NY (11148), CT (PH-0574), NH (2003), NJ NELAP (MA935), RI (LAO00065), ME (MA00086), PA (68-03671), USDA (Permit #P-330-11-00240), NC (666), TX (T104704476), DOD (L2217), US Army Corps of Engineers.

Eight Walkup Drive, Westborough, MA 01581-1019
508-898-9220 (Fax) 508-898-9193 800-624-9220 - www.alphalab.com

Project Name: MCKINLOCK
Project Number: 39006-000

Lab Number: L1223540
Report Date: 01/08/13

Alpha Sample ID	Client ID	Sample Location	Collection Date/Time
L1223540-01	HA12-5	Not Specified	12/31/12 08:50
L1223540-02	TRIP BLANK	Not Specified	12/31/12 00:00
L1223540-03	HA12-5 (FIELD FILTERED)	Not Specified	12/31/12 08:50

Project Name: MCKINLOCK
Project Number: 39006-000

Lab Number: L1223540
Report Date: 01/08/13

Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet all of the requirements of NELAC, for all NELAC accredited parameters. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively. When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. Performance criteria for CAM and RCP methods allow for some LCS compound failures to occur and still be within method compliance. In these instances, the specific failures are not narrated but are noted in the associated QC table. This information is also incorporated in the Data Usability format for our Data Merger tool where it can be reviewed along with any associated usability implications. Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances the specific failure is not narrated but noted in the associated QC table. The information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications.

Please see the associated ADEx data file for a comparison of laboratory reporting limits that were achieved with the regulatory Numerical Standards requested on the Chain of Custody.

HOLD POLICY
For samples submitted on hold, Alpha's policy is to hold samples free of charge for 30 days from the date the project is completed. After 30 days, we will dispose of all samples submitted including those put on hold unless you have contacted your Client Service Representative and made arrangements for Alpha to continue to hold the samples.

Please contact Client Services at 800-624-9220 with any questions.

Project Name: MCKINLOCK **Lab Number:** L1223540
Project Number: 39006-000 **Report Date:** 01/08/13

Case Narrative (continued)

Sample Receipt

The sample L1223540-01 was field filtered for Dissolved Metals and L1223540-03 was field filtered for Total, Amenable and Physiologically Available Cyanide.
The metals reporting lists were provided by the client.

Semivolatile Organics

The WG582440-3 LCSD recovery, associated with L1223540-01, is below the acceptance criteria for Benzidine (7%) however, it has been identified as a "difficult" analyte.

PCBs

L1223540-01 has elevated detection limits due to limited sample volume available for analysis.

Total Metals

The WG582464-4 MS recovery, performed on L1223540-01, is above the acceptance criteria for Cadmium (121%). A post digestion spike was performed with an acceptable recovery of 90%.

Dissolved Metals

The WG582486-4 MS recovery, performed on L1223540-01, is below the acceptance criteria for Antimony (79%). A post digestion spike was performed with an acceptable recovery of 101%.
The WG582486-3 Laboratory Duplicate RPD, performed on L1223540-01, is above the acceptance criteria for Copper (55%); however, the sample and duplicate results are less than five times the reporting limit. Therefore, the RPD is valid.

Cyanide, Physiologically Available

L1223540-03: The PACN result is slightly higher than the TCN result. The difference is within % RPD limits; therefore, no further action was taken.

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

Authorized Signature: Elizabeth Simmons

Title: Technical Director/Representative Date: 01/08/13

ORGANICS

VOLATILES

Project Name: MCKINLOCK **Lab Number:** L1223540

Project Number: 39006-000 **Report Date:** 01/08/13

SAMPLE RESULTS

Lab ID: L1223540-01
Client ID: HA12-5
Sample Location: Not Specified
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 01/03/13 11:41
Analyst: MM

Date Collected: 12/31/12 08:50
Date Received: 12/31/12
Field Prep: See Narrative

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methylene chloride	ND		ug/l	3.0	--	1
1,1-Dichloroethane	ND		ug/l	0.75	--	1
Chloroform	ND		ug/l	0.75	--	1
Carbon tetrachloride	ND		ug/l	0.50	--	1
1,2-Dichloropropane	ND		ug/l	1.8	--	1
Dibromochloromethane	ND		ug/l	0.50	--	1
1,1,2-Trichloroethane	ND		ug/l	0.75	--	1
Tetrachloroethene	ND		ug/l	0.50	--	1
Chlorobenzene	ND		ug/l	0.50	--	1
Trichlorofluoromethane	ND		ug/l	2.5	--	1
1,2-Dichloroethane	ND		ug/l	0.50	--	1
1,1,1-Trichloroethane	ND		ug/l	0.50	--	1
Bromodichloromethane	ND		ug/l	0.50	--	1
trans-1,3-Dichloropropene	ND		ug/l	0.50	--	1
cis-1,3-Dichloropropene	ND		ug/l	0.50	--	1
1,1-Dichloropropene	ND		ug/l	2.5	--	1
Bromoform	ND		ug/l	2.0	--	1
1,1,2,2-Tetrachloroethane	ND		ug/l	0.50	--	1
Benzene	ND		ug/l	0.50	--	1
Toluene	ND		ug/l	0.75	--	1
Ethylbenzene	ND		ug/l	0.50	--	1
Chloromethane	ND		ug/l	2.5	--	1
Bromomethane	ND		ug/l	1.0	--	1
Vinyl chloride	ND		ug/l	1.0	--	1
Chloroethane	ND		ug/l	1.0	--	1
1,1-Dichloroethene	ND		ug/l	0.50	--	1
trans-1,2-Dichloroethene	ND		ug/l	0.75	--	1
Trichloroethene	ND		ug/l	0.50	--	1
1,2-Dichlorobenzene	ND		ug/l	2.5	--	1
1,3-Dichlorobenzene	ND		ug/l	2.5	--	1
1,4-Dichlorobenzene	ND		ug/l	2.5	--	1

Project Name: MCKINLOCK **Lab Number:** L1223540

Project Number: 39006-000 **Report Date:** 01/08/13

SAMPLE RESULTS

Lab ID: L1223540-01 Date Collected: 12/31/12 08:50

Client ID: HA12-5 Date Received: 12/31/12

Sample Location: Not Specified Field Prep: See Narrative

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methyl tert butyl ether	ND		ug/l	1.0	--	1
p/m-Xylene	ND		ug/l	1.0	--	1
o-Xylene	ND		ug/l	1.0	--	1
Xylenes, Total	ND		ug/l	1.0	--	1
cis-1,2-Dichloroethene	ND		ug/l	0.50	--	1
Dibromomethane	ND		ug/l	5.0	--	1
1,2,3-Trichloropropane	ND		ug/l	5.0	--	1
Styrene	ND		ug/l	1.0	--	1
Dichlorodifluoromethane	ND		ug/l	5.0	--	1
Acetone	ND		ug/l	5.0	--	1
Carbon disulfide	ND		ug/l	5.0	--	1
2-Butanone	ND		ug/l	5.0	--	1
Vinyl acetate	ND		ug/l	5.0	--	1
4-Methyl-2-pentanone	ND		ug/l	5.0	--	1
2-Hexanone	ND		ug/l	5.0	--	1
Ethyl methacrylate	ND		ug/l	5.0	--	1
Acrylonitrile	ND		ug/l	5.0	--	1
Bromochloromethane	ND		ug/l	2.5	--	1
Tetrahydrofuran	ND		ug/l	5.0	--	1
2,2-Dichloropropane	ND		ug/l	2.5	--	1
1,2-Dibromoethane	ND		ug/l	2.0	--	1
1,3-Dichloropropane	ND		ug/l	2.5	--	1
1,1,1,2-Tetrachloroethane	ND		ug/l	0.50	--	1
Bromobenzene	ND		ug/l	2.5	--	1
n-Butylbenzene	ND		ug/l	0.50	--	1
sec-Butylbenzene	ND		ug/l	0.50	--	1
tert-Butylbenzene	ND		ug/l	2.5	--	1
o-Chlorotoluene	ND		ug/l	2.5	--	1
p-Chlorotoluene	ND		ug/l	2.5	--	1
1,2-Dibromo-3-chloropropane	ND		ug/l	2.5	--	1
Hexachlorobutadiene	ND		ug/l	0.50	--	1
Isopropylbenzene	ND		ug/l	0.50	--	1
p-Isopropyltoluene	ND		ug/l	0.50	--	1
Naphthalene	ND		ug/l	2.5	--	1
n-Propylbenzene	ND		ug/l	0.50	--	1
1,2,3-Trichlorobenzene	ND		ug/l	2.5	--	1
1,2,4-Trichlorobenzene	ND		ug/l	2.5	--	1
1,3,5-Trimethylbenzene	ND		ug/l	2.5	--	1
1,2,4-Trimethylbenzene	ND		ug/l	2.5	--	1

Project Name: MCKINLOCK **Lab Number:** L1223540

Project Number: 39006-000 **Report Date:** 01/08/13

SAMPLE RESULTS

Lab ID: L1223540-01 Date Collected: 12/31/12 08:50

Client ID: HA12-5 Date Received: 12/31/12

Sample Location: Not Specified Field Prep: See Narrative

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
trans-1,4-Dichloro-2-butene	ND		ug/l	2.5	--	1
Ethyl ether	ND		ug/l	2.5	--	1
Tert-Butyl Alcohol	ND		ug/l	10	--	1
Tertiary-Amyl Methyl Ether	ND		ug/l	2.0	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	115		70-130
Toluene-d8	110		70-130
4-Bromofluorobenzene	109		70-130
Dibromofluoromethane	105		70-130

Project Name: MCKINLOCK
Lab Number: L1223540
Project Number: 39006-000
Report Date: 01/08/13

SAMPLE RESULTS

Lab ID:	L1223540-01	Date Collected:	12/31/12 08:50
Client ID:	HA12-5	Date Received:	12/31/12
Sample Location:	Not Specified	Field Prep:	See Narrative
Matrix:	Water		
Analytical Method:	1,8260C-SIM(M)		
Analytical Date:	01/03/13 11:41		
Analyst:	MM		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS-SIM - Westborough Lab						
1,4-Dioxane	ND		ug/l	3.0	--	1

Project Name: MCKINLOCK
Lab Number: L1223540
Project Number: 39006-000
Report Date: 01/08/13

SAMPLE RESULTS

Lab ID:	L1223540-01	Date Collected:	12/31/12 08:50
Client ID:	HA12-5	Date Received:	12/31/12
Sample Location:	Not Specified	Field Prep:	See Narrative
Matrix:	Water		
Analytical Method:	14,504.1	Extraction Date:	01/07/13 13:00
Analytical Date:	01/07/13 16:43		
Analyst:	SH		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Microextractables by GC - Westborough Lab						
1,2-Dibromoethane	ND		ug/l	0.010	--	1

Project Name: MCKINLOCK **Lab Number:** L1223540

Project Number: 39006-000 **Report Date:** 01/08/13

SAMPLE RESULTS

Lab ID: L1223540-02
Client ID: TRIP BLANK
Sample Location: Not Specified
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 01/03/13 10:32
Analyst: MM

Date Collected: 12/31/12 00:00
Date Received: 12/31/12
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methylene chloride	ND		ug/l	3.0	--	1
1,1-Dichloroethane	ND		ug/l	0.75	--	1
Chloroform	ND		ug/l	0.75	--	1
Carbon tetrachloride	ND		ug/l	0.50	--	1
1,2-Dichloropropane	ND		ug/l	1.8	--	1
Dibromochloromethane	ND		ug/l	0.50	--	1
1,1,2-Trichloroethane	ND		ug/l	0.75	--	1
Tetrachloroethene	ND		ug/l	0.50	--	1
Chlorobenzene	ND		ug/l	0.50	--	1
Trichlorofluoromethane	ND		ug/l	2.5	--	1
1,2-Dichloroethane	ND		ug/l	0.50	--	1
1,1,1-Trichloroethane	ND		ug/l	0.50	--	1
Bromodichloromethane	ND		ug/l	0.50	--	1
trans-1,3-Dichloropropene	ND		ug/l	0.50	--	1
cis-1,3-Dichloropropene	ND		ug/l	0.50	--	1
1,1-Dichloropropene	ND		ug/l	2.5	--	1
Bromoform	ND		ug/l	2.0	--	1
1,1,2,2-Tetrachloroethane	ND		ug/l	0.50	--	1
Benzene	ND		ug/l	0.50	--	1
Toluene	ND		ug/l	0.75	--	1
Ethylbenzene	ND		ug/l	0.50	--	1
Chloromethane	ND		ug/l	2.5	--	1
Bromomethane	ND		ug/l	1.0	--	1
Vinyl chloride	ND		ug/l	1.0	--	1
Chloroethane	ND		ug/l	1.0	--	1
1,1-Dichloroethene	ND		ug/l	0.50	--	1
trans-1,2-Dichloroethene	ND		ug/l	0.75	--	1
Trichloroethene	ND		ug/l	0.50	--	1
1,2-Dichlorobenzene	ND		ug/l	2.5	--	1
1,3-Dichlorobenzene	ND		ug/l	2.5	--	1
1,4-Dichlorobenzene	ND		ug/l	2.5	--	1

Project Name: MCKINLOCK **Lab Number:** L1223540

Project Number: 39006-000 **Report Date:** 01/08/13

SAMPLE RESULTS

Lab ID: L1223540-02 Date Collected: 12/31/12 00:00

Client ID: TRIP BLANK Date Received: 12/31/12

Sample Location: Not Specified Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methyl tert butyl ether	ND		ug/l	1.0	--	1
p/m-Xylene	ND		ug/l	1.0	--	1
o-Xylene	ND		ug/l	1.0	--	1
Xylenes, Total	ND		ug/l	1.0	--	1
cis-1,2-Dichloroethene	ND		ug/l	0.50	--	1
Dibromomethane	ND		ug/l	5.0	--	1
1,2,3-Trichloropropane	ND		ug/l	5.0	--	1
Styrene	ND		ug/l	1.0	--	1
Dichlorodifluoromethane	ND		ug/l	5.0	--	1
Acetone	ND		ug/l	5.0	--	1
Carbon disulfide	ND		ug/l	5.0	--	1
2-Butanone	ND		ug/l	5.0	--	1
Vinyl acetate	ND		ug/l	5.0	--	1
4-Methyl-2-pentanone	ND		ug/l	5.0	--	1
2-Hexanone	ND		ug/l	5.0	--	1
Ethyl methacrylate	ND		ug/l	5.0	--	1
Acrylonitrile	ND		ug/l	5.0	--	1
Bromochloromethane	ND		ug/l	2.5	--	1
Tetrahydrofuran	ND		ug/l	5.0	--	1
2,2-Dichloropropane	ND		ug/l	2.5	--	1
1,2-Dibromoethane	ND		ug/l	2.0	--	1
1,3-Dichloropropane	ND		ug/l	2.5	--	1
1,1,1,2-Tetrachloroethane	ND		ug/l	0.50	--	1
Bromobenzene	ND		ug/l	2.5	--	1
n-Butylbenzene	ND		ug/l	0.50	--	1
sec-Butylbenzene	ND		ug/l	0.50	--	1
tert-Butylbenzene	ND		ug/l	2.5	--	1
o-Chlorotoluene	ND		ug/l	2.5	--	1
p-Chlorotoluene	ND		ug/l	2.5	--	1
1,2-Dibromo-3-chloropropane	ND		ug/l	2.5	--	1
Hexachlorobutadiene	ND		ug/l	0.50	--	1
Isopropylbenzene	ND		ug/l	0.50	--	1
p-Isopropyltoluene	ND		ug/l	0.50	--	1
Naphthalene	ND		ug/l	2.5	--	1
n-Propylbenzene	ND		ug/l	0.50	--	1
1,2,3-Trichlorobenzene	ND		ug/l	2.5	--	1
1,2,4-Trichlorobenzene	ND		ug/l	2.5	--	1
1,3,5-Trimethylbenzene	ND		ug/l	2.5	--	1
1,2,4-Trimethylbenzene	ND		ug/l	2.5	--	1

Project Name: MCKINLOCK **Lab Number:** L1223540

Project Number: 39006-000 **Report Date:** 01/08/13

SAMPLE RESULTS

Lab ID: L1223540-02 Date Collected: 12/31/12 00:00

Client ID: TRIP BLANK Date Received: 12/31/12

Sample Location: Not Specified Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
trans-1,4-Dichloro-2-butene	ND		ug/l	2.5	--	1
Ethyl ether	ND		ug/l	2.5	--	1
Tert-Butyl Alcohol	ND		ug/l	10	--	1
Tertiary-Amyl Methyl Ether	ND		ug/l	2.0	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	111		70-130
Toluene-d8	108		70-130
4-Bromofluorobenzene	105		70-130
Dibromofluoromethane	99		70-130

Project Name: MCKINLOCK
Lab Number: L1223540
Project Number: 39006-000
Report Date: 01/08/13

SAMPLE RESULTS

Lab ID:	L1223540-02	Date Collected:	12/31/12 00:00
Client ID:	TRIP BLANK	Date Received:	12/31/12
Sample Location:	Not Specified	Field Prep:	Not Specified
Matrix:	Water		
Analytical Method:	1,8260C-SIM(M)		
Analytical Date:	01/03/13 10:32		
Analyst:	MM		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS-SIM - Westborough Lab						
1,4-Dioxane	ND		ug/l	3.0	--	1

Project Name: MCKINLOCK
Lab Number: L1223540
Project Number: 39006-000
Report Date: 01/08/13

SAMPLE RESULTS

Lab ID:	L1223540-02	Date Collected:	12/31/12 00:00
Client ID:	TRIP BLANK	Date Received:	12/31/12
Sample Location:	Not Specified	Field Prep:	Not Specified
Matrix:	Water		
Analytical Method:	14,504.1	Extraction Date:	01/07/13 13:00
Analytical Date:	01/07/13 16:58		
Analyst:	SH		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Microextractables by GC - Westborough Lab						
1,2-Dibromoethane	ND		ug/l	0.010	--	1

Project Name: MCKINLOCK
Project Number: 39006-000

Lab Number: L1223540
Report Date: 01/08/13

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C-SIM(M)
Analytical Date: 01/03/13 08:22
Analyst: MM

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS-SIM - Westborough Lab for sample(s): 01-02 Batch: WG582537-3					
1,4-Dioxane	ND		ug/l	3.0	--

Project Name: MCKINLOCK
Project Number: 39006-000

Lab Number: L1223540
Report Date: 01/08/13

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 01/03/13 08:22
Analyst: MM

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 01-02 Batch: WG582538-3					
Methylene chloride	ND		ug/l	3.0	--
1,1-Dichloroethane	ND		ug/l	0.75	--
Chloroform	ND		ug/l	0.75	--
Carbon tetrachloride	ND		ug/l	0.50	--
1,2-Dichloropropane	ND		ug/l	1.8	--
Dibromochloromethane	ND		ug/l	0.50	--
1,1,2-Trichloroethane	ND		ug/l	0.75	--
Tetrachloroethene	ND		ug/l	0.50	--
Chlorobenzene	ND		ug/l	0.50	--
Trichlorofluoromethane	ND		ug/l	2.5	--
1,2-Dichloroethane	ND		ug/l	0.50	--
1,1,1-Trichloroethane	ND		ug/l	0.50	--
Bromodichloromethane	ND		ug/l	0.50	--
trans-1,3-Dichloropropene	ND		ug/l	0.50	--
cis-1,3-Dichloropropene	ND		ug/l	0.50	--
1,1-Dichloropropene	ND		ug/l	2.5	--
Bromoform	ND		ug/l	2.0	--
1,1,2,2-Tetrachloroethane	ND		ug/l	0.50	--
Benzene	ND		ug/l	0.50	--
Toluene	ND		ug/l	0.75	--
Ethylbenzene	ND		ug/l	0.50	--
Chloromethane	ND		ug/l	2.5	--
Bromomethane	ND		ug/l	1.0	--
Vinyl chloride	ND		ug/l	1.0	--
Chloroethane	ND		ug/l	1.0	--
1,1-Dichloroethene	ND		ug/l	0.50	--
trans-1,2-Dichloroethene	ND		ug/l	0.75	--
Trichloroethene	ND		ug/l	0.50	--
1,2-Dichlorobenzene	ND		ug/l	2.5	--
1,3-Dichlorobenzene	ND		ug/l	2.5	--
1,4-Dichlorobenzene	ND		ug/l	2.5	--

Project Name: MCKINLOCK
Project Number: 39006-000

Lab Number: L1223540
Report Date: 01/08/13

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 01/03/13 08:22
Analyst: MM

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 01-02 Batch: WG582538-3					
Methyl tert butyl ether	ND		ug/l	1.0	--
p/m-Xylene	ND		ug/l	1.0	--
o-Xylene	ND		ug/l	1.0	--
Xylenes, Total	ND		ug/l	1.0	--
cis-1,2-Dichloroethene	ND		ug/l	0.50	--
Dibromomethane	ND		ug/l	5.0	--
1,2,3-Trichloropropane	ND		ug/l	5.0	--
Styrene	ND		ug/l	1.0	--
Dichlorodifluoromethane	ND		ug/l	5.0	--
Acetone	ND		ug/l	5.0	--
Carbon disulfide	ND		ug/l	5.0	--
2-Butanone	ND		ug/l	5.0	--
Vinyl acetate	ND		ug/l	5.0	--
4-Methyl-2-pentanone	ND		ug/l	5.0	--
2-Hexanone	ND		ug/l	5.0	--
Ethyl methacrylate	ND		ug/l	5.0	--
Acrylonitrile	ND		ug/l	5.0	--
Bromochloromethane	ND		ug/l	2.5	--
Tetrahydrofuran	ND		ug/l	5.0	--
2,2-Dichloropropane	ND		ug/l	2.5	--
1,2-Dibromoethane	ND		ug/l	2.0	--
1,3-Dichloropropane	ND		ug/l	2.5	--
1,1,1,2-Tetrachloroethane	ND		ug/l	0.50	--
Bromobenzene	ND		ug/l	2.5	--
n-Butylbenzene	ND		ug/l	0.50	--
sec-Butylbenzene	ND		ug/l	0.50	--
tert-Butylbenzene	ND		ug/l	2.5	--
o-Chlorotoluene	ND		ug/l	2.5	--
p-Chlorotoluene	ND		ug/l	2.5	--
1,2-Dibromo-3-chloropropane	ND		ug/l	2.5	--
Hexachlorobutadiene	ND		ug/l	0.50	--

Project Name: MCKINLOCK
Project Number: 39006-000

Lab Number: L1223540
Report Date: 01/08/13

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 01/03/13 08:22
Analyst: MM

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 01-02 Batch: WG582538-3					
Isopropylbenzene	ND		ug/l	0.50	--
p-Isopropyltoluene	ND		ug/l	0.50	--
Naphthalene	ND		ug/l	2.5	--
n-Propylbenzene	ND		ug/l	0.50	--
1,2,3-Trichlorobenzene	ND		ug/l	2.5	--
1,2,4-Trichlorobenzene	ND		ug/l	2.5	--
1,3,5-Trimethylbenzene	ND		ug/l	2.5	--
1,2,4-Trimethylbenzene	ND		ug/l	2.5	--
trans-1,4-Dichloro-2-butene	ND		ug/l	2.5	--
Ethyl ether	ND		ug/l	2.5	--
Isopropyl Ether	ND		ug/l	2.0	--
Tert-Butyl Alcohol	ND		ug/l	10	--
Ethyl-Tert-Butyl-Ether	ND		ug/l	2.0	--
Tertiary-Amyl Methyl Ether	ND		ug/l	2.0	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	110		70-130
Toluene-d8	108		70-130
4-Bromofluorobenzene	108		70-130
Dibromofluoromethane	100		70-130

Project Name: MCKINLOCK
Project Number: 39006-000

Lab Number: L1223540
Report Date: 01/08/13

Method Blank Analysis
Batch Quality Control

Analytical Method: 14,504.1
Analytical Date: 01/07/13 15:41
Analyst: SH

Extraction Date: 01/07/13 13:00

Parameter	Result	Qualifier	Units	RL	MDL
Microextractables by GC - Westborough Lab for sample(s): 01-02 Batch: WG583045-1					
1,2-Dibromoethane	ND		ug/l	0.010	--
1,2-Dibromo-3-chloropropane	ND		ug/l	0.010	--

Lab Control Sample Analysis

Batch Quality Control

Project Name: MCKINLOCK

Project Number: 39006-000

Lab Number: L1223540

Report Date: 01/08/13

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS-SIM - Westborough Lab Associated sample(s): 01-02 Batch: WG582537-1 WG582537-2								
1,4-Dioxane	103		102		70-130	1		25
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-02 Batch: WG582538-1 WG582538-2								
Methylene chloride	80		85		70-130	6		20
1,1-Dichloroethane	82		86		70-130	5		20
Chloroform	82		85		70-130	4		20
Carbon tetrachloride	85		85		63-132	0		20
1,2-Dichloropropane	80		81		70-130	1		20
Dibromochloromethane	89		84		63-130	6		20
1,1,2-Trichloroethane	92		87		70-130	6		20
Tetrachloroethene	85		91		70-130	7		20
Chlorobenzene	89		94		75-130	5		25

Lab Control Sample Analysis

Batch Quality Control

Project Name: MCKINLOCK

Project Number: 39006-000

Lab Number: L1223540

Report Date: 01/08/13

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-02 Batch: WG582538-1 WG582538-2								
Trichlorofluoromethane	92		96		62-150	4		20
1,2-Dichloroethane	87		86		70-130	1		20
1,1,1-Trichloroethane	85		86		67-130	1		20
Bromodichloromethane	80		80		67-130	0		20
trans-1,3-Dichloropropene	95		92		70-130	3		20
cis-1,3-Dichloropropene	81		79		70-130	3		20
1,1-Dichloropropene	83		86		70-130	4		20
Bromoform	95		88		54-136	8		20
1,1,2,2-Tetrachloroethane	102		95		67-130	7		20
Benzene	79		83		70-130	5		25
Toluene	88		94		70-130	7		25
Ethylbenzene	92		98		70-130	6		20
Chloromethane	85		90		64-130	6		20
Bromomethane	125		127		39-139	2		20
Vinyl chloride	84		91		55-140	8		20
Chloroethane	98		104		55-138	6		20
1,1-Dichloroethene	81		85		61-145	5		25
trans-1,2-Dichloroethene	79		84		70-130	6		20
Trichloroethene	82		88		70-130	7		25
1,2-Dichlorobenzene	99		102		70-130	3		20
1,3-Dichlorobenzene	99		106		70-130	7		20

Lab Control Sample Analysis

Batch Quality Control

Project Name: MCKINLOCK

Project Number: 39006-000

Lab Number: L1223540

Report Date: 01/08/13

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-02 Batch: WG582538-1 WG582538-2								
1,4-Dichlorobenzene	100		102		70-130	2		20
Methyl tert butyl ether	83		78		63-130	6		20
p/m-Xylene	92		98		70-130	6		20
o-Xylene	92		98		70-130	6		20
cis-1,2-Dichloroethene	80		82		70-130	2		20
Dibromomethane	80		78		70-130	3		20
1,2,3-Trichloropropane	107		99		64-130	8		20
Styrene	93		97		70-130	4		20
Dichlorodifluoromethane	78		83		36-147	6		20
Acetone	86		63		58-148	**31**	Q	20
Carbon disulfide	80		83		51-130	4		20
2-Butanone	92		70		63-138	**27**	Q	20
Vinyl acetate	90		85		70-130	6		20
4-Methyl-2-pentanone	82		68		59-130	19		20
2-Hexanone	97		76		57-130	**24**	Q	20
Ethyl methacrylate	93		86		70-130	8		20
Acrylonitrile	88		78		70-130	12		20
Bromochloromethane	82		82		70-130	0		20
Tetrahydrofuran	88		74		58-130	17		20
2,2-Dichloropropane	90		94		63-133	4		20
1,2-Dibromoethane	90		87		70-130	3		20

Lab Control Sample Analysis
Batch Quality Control

Project Name: MCKINLOCK
Project Number: 39006-000

Lab Number: L1223540
Report Date: 01/08/13

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-02 Batch: WG582538-1 WG582538-2								
1,3-Dichloropropane	92		90		70-130	2		20
1,1,1,2-Tetrachloroethane	89		95		64-130	7		20
Bromobenzene	95		99		70-130	4		20
n-Butylbenzene	102		114		53-136	11		20
sec-Butylbenzene	100		110		70-130	10		20
tert-Butylbenzene	96		107		70-130	11		20
o-Chlorotoluene	104		110		70-130	6		20
p-Chlorotoluene	104		111		70-130	7		20
1,2-Dibromo-3-chloropropane	101		95		41-144	6		20
Hexachlorobutadiene	92		110		63-130	18		20
Isopropylbenzene	99		107		70-130	8		20
p-Isopropyltoluene	99		109		70-130	10		20
Naphthalene	98		83		70-130	17		20
n-Propylbenzene	101		109		69-130	8		20
1,2,3-Trichlorobenzene	97		90		70-130	7		20
1,2,4-Trichlorobenzene	96		96		70-130	0		20
1,3,5-Trimethylbenzene	102		108		64-130	6		20
1,2,4-Trimethylbenzene	103		110		70-130	7		20
trans-1,4-Dichloro-2-butene	116		102		70-130	13		20
Ethyl ether	82		77		59-134	6		20
Isopropyl Ether	85		85		70-130	0		20

Lab Control Sample Analysis

Batch Quality Control

Project Name: MCKINLOCK
Project Number: 39006-000

Lab Number: L1223540
Report Date: 01/08/13

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-02 Batch: WG582538-1 WG582538-2								
tert-Butyl Alcohol	97		72		70-130	**30**	Q	20
Ethyl-Tert-Butyl-Ether	83		81		70-130	2		20
Tertiary-Amyl Methyl Ether	80		76		66-130	5		20

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	112		110		70-130
Toluene-d8	106		111		70-130
4-Bromofluorobenzene	106		109		70-130
Dibromofluoromethane	101		97		70-130

Lab Control Sample Analysis

Batch Quality Control

Project Name: MCKINLOCK

Project Number: 39006-000

Lab Number: L1223540

Report Date: 01/08/13

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Microextractables by GC - Westborough Lab Associated sample(s): 01-02 Batch: WG583045-2								
1,2-Dibromoethane	82		-		70-130	-		20
1,2-Dibromo-3-chloropropane	73		-		70-130	-		20

Matrix Spike Analysis
Batch Quality Control

Project Name: MCKINLOCK
Project Number: 39006-000

Lab Number: L1223540
Report Date: 01/08/13

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Microextractables by GC - Westborough Lab Associated sample(s): 01-02 QC Batch ID: WG583045-3 QC Sample: L1223409-02 Client ID: MS Sample												
1,2-Dibromoethane	ND	0.255	0.190	74		-	-		70-130	-		20
1,2-Dibromo-3-chloropropane	ND	0.255	0.189	74		-	-		70-130	-		20

SEMIVOLATILES

Project Name: MCKINLOCK **Lab Number:** L1223540

Project Number: 39006-000 **Report Date:** 01/08/13

SAMPLE RESULTS

Lab ID:	L1223540-01	Date Collected:	12/31/12 08:50
Client ID:	HA12-5	Date Received:	12/31/12
Sample Location:	Not Specified	Field Prep:	See Narrative
Matrix:	Water	Extraction Method:	EPA 3510C
Analytical Method:	1,8270D	Extraction Date:	01/03/13 01:25
Analytical Date:	01/03/13 17:08		
Analyst:	JB		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Benzidine	ND		ug/l	20	--	1
1,2,4-Trichlorobenzene	ND		ug/l	5.0	--	1
Bis(2-chloroethyl)ether	ND		ug/l	2.0	--	1
1,2-Dichlorobenzene	ND		ug/l	2.0	--	1
1,3-Dichlorobenzene	ND		ug/l	2.0	--	1
1,4-Dichlorobenzene	ND		ug/l	2.0	--	1
3,3'-Dichlorobenzidine	ND		ug/l	5.0	--	1
2,4-Dinitrotoluene	ND		ug/l	5.0	--	1
2,6-Dinitrotoluene	ND		ug/l	5.0	--	1
Azobenzene	ND		ug/l	2.0	--	1
4-Chlorophenyl phenyl ether	ND		ug/l	2.0	--	1
4-Bromophenyl phenyl ether	ND		ug/l	2.0	--	1
Bis(2-chloroisopropyl)ether	ND		ug/l	2.0	--	1
Bis(2-chloroethoxy)methane	ND		ug/l	5.0	--	1
Hexachlorocyclopentadiene	ND		ug/l	20	--	1
Isophorone	ND		ug/l	5.0	--	1
Nitrobenzene	ND		ug/l	2.0	--	1
NDPA/DPA	ND		ug/l	2.0	--	1
Bis(2-ethylhexyl)phthalate	ND		ug/l	3.0	--	1
Butyl benzyl phthalate	ND		ug/l	5.0	--	1
Di-n-butylphthalate	ND		ug/l	5.0	--	1
Di-n-octylphthalate	ND		ug/l	5.0	--	1
Diethyl phthalate	ND		ug/l	5.0	--	1
Dimethyl phthalate	ND		ug/l	5.0	--	1
Aniline	ND		ug/l	2.0	--	1
4-Chloroaniline	ND		ug/l	5.0	--	1
2-Nitroaniline	ND		ug/l	5.0	--	1
3-Nitroaniline	ND		ug/l	5.0	--	1
4-Nitroaniline	ND		ug/l	5.0	--	1
Dibenzofuran	ND		ug/l	2.0	--	1
n-Nitrosodimethylamine	ND		ug/l	2.0	--	1

Project Name: MCKINLOCK **Lab Number:** L1223540

Project Number: 39006-000 **Report Date:** 01/08/13

SAMPLE RESULTS

Lab ID: L1223540-01 Date Collected: 12/31/12 08:50

Client ID: HA12-5 Date Received: 12/31/12

Sample Location: Not Specified Field Prep: See Narrative

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
2,4,6-Trichlorophenol	ND		ug/l	5.0	--	1
p-Chloro-m-cresol	ND		ug/l	2.0	--	1
2-Chlorophenol	ND		ug/l	2.0	--	1
2,4-Dichlorophenol	ND		ug/l	5.0	--	1
2,4-Dimethylphenol	ND		ug/l	5.0	--	1
2-Nitrophenol	ND		ug/l	10	--	1
4-Nitrophenol	ND		ug/l	10	--	1
2,4-Dinitrophenol	ND		ug/l	20	--	1
4,6-Dinitro-o-cresol	ND		ug/l	10	--	1
Phenol	ND		ug/l	5.0	--	1
2-Methylphenol	ND		ug/l	5.0	--	1
3-Methylphenol/4-Methylphenol	ND		ug/l	5.0	--	1
2,4,5-Trichlorophenol	ND		ug/l	5.0	--	1
Benzoic Acid	ND		ug/l	50	--	1
Benzyl Alcohol	ND		ug/l	2.0	--	1
Carbazole	ND		ug/l	2.0	--	1
Pyridine	ND		ug/l	5.0	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	43		21-120
Phenol-d6	27		10-120
Nitrobenzene-d5	65		23-120
2-Fluorobiphenyl	74		15-120
2,4,6-Tribromophenol	80		10-120
4-Terphenyl-d14	77		41-149

Project Name: MCKINLOCK **Lab Number:** L1223540

Project Number: 39006-000 **Report Date:** 01/08/13

SAMPLE RESULTS

Lab ID:	L1223540-01	Date Collected:	12/31/12 08:50
Client ID:	HA12-5	Date Received:	12/31/12
Sample Location:	Not Specified	Field Prep:	See Narrative
Matrix:	Water	Extraction Method:	EPA 3510C
Analytical Method:	1,8270D-SIM	Extraction Date:	01/03/13 01:29
Analytical Date:	01/04/13 12:11		
Analyst:	AS		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS-SIM - Westborough Lab						
Acenaphthene	ND		ug/l	0.20	--	1
2-Chloronaphthalene	ND		ug/l	0.20	--	1
Fluoranthene	ND		ug/l	0.20	--	1
Hexachlorobutadiene	ND		ug/l	0.50	--	1
Naphthalene	ND		ug/l	0.20	--	1
Benzo(a)anthracene	ND		ug/l	0.20	--	1
Benzo(a)pyrene	ND		ug/l	0.20	--	1
Benzo(b)fluoranthene	ND		ug/l	0.20	--	1
Benzo(k)fluoranthene	ND		ug/l	0.20	--	1
Chrysene	ND		ug/l	0.20	--	1
Acenaphthylene	ND		ug/l	0.20	--	1
Anthracene	ND		ug/l	0.20	--	1
Benzo(ghi)perylene	ND		ug/l	0.20	--	1
Fluorene	ND		ug/l	0.20	--	1
Phenanthrene	ND		ug/l	0.20	--	1
Dibenzo(a,h)anthracene	ND		ug/l	0.20	--	1
Indeno(1,2,3-cd)Pyrene	ND		ug/l	0.20	--	1
Pyrene	ND		ug/l	0.20	--	1
1-Methylnaphthalene	ND		ug/l	0.20	--	1
2-Methylnaphthalene	ND		ug/l	0.20	--	1
Pentachlorophenol	ND		ug/l	0.80	--	1
Hexachlorobenzene	ND		ug/l	0.80	--	1
Hexachloroethane	ND		ug/l	0.80	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	45		21-120
Phenol-d6	30		10-120
Nitrobenzene-d5	77		23-120
2-Fluorobiphenyl	73		15-120
2,4,6-Tribromophenol	93		10-120
4-Terphenyl-d14	84		41-149

Project Name: MCKINLOCK
Project Number: 39006-000

Lab Number: L1223540
Report Date: 01/08/13

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8270D
Analytical Date: 01/03/13 14:49
Analyst: JB

Extraction Method: EPA 3510C
Extraction Date: 01/03/13 01:25

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS - Westborough Lab for sample(s): 01 Batch: WG582440-1					
Benzidine	ND		ug/l	20	--
1,2,4-Trichlorobenzene	ND		ug/l	5.0	--
Bis(2-chloroethyl)ether	ND		ug/l	2.0	--
1,2-Dichlorobenzene	ND		ug/l	2.0	--
1,3-Dichlorobenzene	ND		ug/l	2.0	--
1,4-Dichlorobenzene	ND		ug/l	2.0	--
3,3'-Dichlorobenzidine	ND		ug/l	5.0	--
2,4-Dinitrotoluene	ND		ug/l	5.0	--
2,6-Dinitrotoluene	ND		ug/l	5.0	--
Azobenzene	ND		ug/l	2.0	--
4-Chlorophenyl phenyl ether	ND		ug/l	2.0	--
4-Bromophenyl phenyl ether	ND		ug/l	2.0	--
Bis(2-chloroisopropyl)ether	ND		ug/l	2.0	--
Bis(2-chloroethoxy)methane	ND		ug/l	5.0	--
Hexachlorocyclopentadiene	ND		ug/l	20	--
Isophorone	ND		ug/l	5.0	--
Nitrobenzene	ND		ug/l	2.0	--
NDPA/DPA	ND		ug/l	2.0	--
Bis(2-ethylhexyl)phthalate	ND		ug/l	3.0	--
Butyl benzyl phthalate	ND		ug/l	5.0	--
Di-n-butylphthalate	ND		ug/l	5.0	--
Di-n-octylphthalate	ND		ug/l	5.0	--
Diethyl phthalate	ND		ug/l	5.0	--
Dimethyl phthalate	ND		ug/l	5.0	--
Aniline	ND		ug/l	2.0	--
4-Chloroaniline	ND		ug/l	5.0	--
2-Nitroaniline	ND		ug/l	5.0	--
3-Nitroaniline	ND		ug/l	5.0	--
4-Nitroaniline	ND		ug/l	5.0	--
Dibenzofuran	ND		ug/l	2.0	--
n-Nitrosodimethylamine	ND		ug/l	2.0	--

Project Name: MCKINLOCK
Project Number: 39006-000

Lab Number: L1223540
Report Date: 01/08/13

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8270D
Analytical Date: 01/03/13 14:49
Analyst: JB

Extraction Method: EPA 3510C
Extraction Date: 01/03/13 01:25

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS - Westborough Lab for sample(s): 01 Batch: WG582440-1					
2,4,6-Trichlorophenol	ND		ug/l	5.0	--
p-Chloro-m-cresol	ND		ug/l	2.0	--
2-Chlorophenol	ND		ug/l	2.0	--
2,4-Dichlorophenol	ND		ug/l	5.0	--
2,4-Dimethylphenol	ND		ug/l	5.0	--
2-Nitrophenol	ND		ug/l	10	--
4-Nitrophenol	ND		ug/l	10	--
2,4-Dinitrophenol	ND		ug/l	20	--
4,6-Dinitro-o-cresol	ND		ug/l	10	--
Phenol	ND		ug/l	5.0	--
2-Methylphenol	ND		ug/l	5.0	--
3-Methylphenol/4-Methylphenol	ND		ug/l	5.0	--
2,4,5-Trichlorophenol	ND		ug/l	5.0	--
Benzoic Acid	ND		ug/l	50	--
Benzyl Alcohol	ND		ug/l	2.0	--
Carbazole	ND		ug/l	2.0	--
Pyridine	ND		ug/l	5.0	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	45		21-120
Phenol-d6	28		10-120
Nitrobenzene-d5	62		23-120
2-Fluorobiphenyl	69		15-120
2,4,6-Tribromophenol	74		10-120
4-Terphenyl-d14	76		41-149

Project Name: MCKINLOCK
Project Number: 39006-000

Lab Number: L1223540
Report Date: 01/08/13

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8270D-SIM
Analytical Date: 01/04/13 11:00
Analyst: AS

Extraction Method: EPA 3510C
Extraction Date: 01/03/13 01:29

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS-SIM - Westborough Lab for sample(s): 01 Batch: WG582441-1					
Acenaphthene	ND		ug/l	0.20	--
2-Chloronaphthalene	ND		ug/l	0.20	--
Fluoranthene	ND		ug/l	0.20	--
Hexachlorobutadiene	ND		ug/l	0.50	--
Naphthalene	ND		ug/l	0.20	--
Benzo(a)anthracene	ND		ug/l	0.20	--
Benzo(a)pyrene	ND		ug/l	0.20	--
Benzo(b)fluoranthene	ND		ug/l	0.20	--
Benzo(k)fluoranthene	ND		ug/l	0.20	--
Chrysene	ND		ug/l	0.20	--
Acenaphthylene	ND		ug/l	0.20	--
Anthracene	ND		ug/l	0.20	--
Benzo(ghi)perylene	ND		ug/l	0.20	--
Fluorene	ND		ug/l	0.20	--
Phenanthrene	ND		ug/l	0.20	--
Dibenzo(a,h)anthracene	ND		ug/l	0.20	--
Indeno(1,2,3-cd)Pyrene	ND		ug/l	0.20	--
Pyrene	ND		ug/l	0.20	--
1-Methylnaphthalene	ND		ug/l	0.20	--
2-Methylnaphthalene	ND		ug/l	0.20	--
Pentachlorophenol	ND		ug/l	0.80	--
Hexachlorobenzene	ND		ug/l	0.80	--
Hexachloroethane	ND		ug/l	0.80	--

Project Name: MCKINLOCK
Project Number: 39006-000

Lab Number: L1223540
Report Date: 01/08/13

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8270D-SIM
Analytical Date: 01/04/13 11:00
Analyst: AS

Extraction Method: EPA 3510C
Extraction Date: 01/03/13 01:29

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS-SIM - Westborough Lab for sample(s): 01 Batch: WG582441-1					

Surrogate	%Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	48		21-120
Phenol-d6	32		10-120
Nitrobenzene-d5	78		23-120
2-Fluorobiphenyl	78		15-120
2,4,6-Tribromophenol	93		10-120
4-Terphenyl-d14	88		41-149

Lab Control Sample Analysis

Batch Quality Control

Project Name: MCKINLOCK

Project Number: 39006-000

Lab Number: L1223540

Report Date: 01/08/13

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 01 Batch: WG582440-2 WG582440-3								
Benzidine	18		**7**	Q	10-75	**86**	Q	30
1,2,4-Trichlorobenzene	63		79		39-98	23		30
Bis(2-chloroethyl)ether	57		73		40-140	25		30
1,2-Dichlorobenzene	61		77		40-140	23		30
1,3-Dichlorobenzene	60		75		40-140	22		30
1,4-Dichlorobenzene	62		79		36-97	24		30
3,3'-Dichlorobenzidine	62		**36**	Q	40-140	**53**	Q	30
2,4-Dinitrotoluene	86		96		24-96	11		30
2,6-Dinitrotoluene	85		95		40-140	11		30
Azobenzene	71		82		40-140	14		30
4-Chlorophenyl phenyl ether	74		86		40-140	15		30
4-Bromophenyl phenyl ether	78		88		40-140	12		30
Bis(2-chloroisopropyl)ether	51		65		40-140	24		30
Bis(2-chloroethoxy)methane	60		76		40-140	24		30
Hexachlorocyclopentadiene	50		58		40-140	15		30
Isophorone	61		74		40-140	19		30
Nitrobenzene	64		81		40-140	23		30
NitrosoDiPhenylAmine(NDPA)/DPA	78		86		40-140	10		30
Bis(2-Ethylhexyl)phthalate	86		92		40-140	7		30
Butyl benzyl phthalate	83		86		40-140	4		30
Di-n-butylphthalate	86		91		40-140	6		30

Lab Control Sample Analysis

Batch Quality Control

Project Name: MCKINLOCK
Project Number: 39006-000

Lab Number: L1223540
Report Date: 01/08/13

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 01 Batch: WG582440-2 WG582440-3								
Di-n-octylphthalate	86		92		40-140	7		30
Diethyl phthalate	80		87		40-140	8		30
Dimethyl phthalate	77		87		40-140	12		30
Aniline	**26**	Q	**16**	Q	40-140	**48**	Q	30
4-Chloroaniline	**39**	Q	**20**	Q	40-140	**64**	Q	30
2-Nitroaniline	88		100		52-143	13		30
3-Nitroaniline	54		27		25-145	**67**	Q	30
4-Nitroaniline	77		85		51-143	10		30
Dibenzofuran	72		86		40-140	18		30
n-Nitrosodimethylamine	35		45		22-74	25		30
2,4,6-Trichlorophenol	73		89		30-130	20		30
P-Chloro-M-Cresol	82		94		23-97	14		30
2-Chlorophenol	65		82		27-123	23		30
2,4-Dichlorophenol	75		92		30-130	20		30
2,4-Dimethylphenol	69		87		30-130	23		30
2-Nitrophenol	70		88		30-130	23		30
4-Nitrophenol	79		**94**	Q	10-80	17		30
2,4-Dinitrophenol	78		83		20-130	6		30
4,6-Dinitro-o-cresol	86		93		20-164	8		30
Phenol	34		46		12-110	30		30
2-Methylphenol	62		80		30-130	25		30

Lab Control Sample Analysis

Batch Quality Control

Project Name: MCKINLOCK

Project Number: 39006-000

Lab Number: L1223540

Report Date: 01/08/13

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 01 Batch: WG582440-2 WG582440-3								
3-Methylphenol/4-Methylphenol	61		76		30-130	22		30
2,4,5-Trichlorophenol	82		94		30-130	14		30
Benzoic Acid	35		38		10-164	8		30
Benzyl Alcohol	54		69		26-116	24		30
Carbazole	88		93		55-144	6		30
Pyridine	17		25		10-66	**38**	Q	30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
2-Fluorophenol	51		62		21-120
Phenol-d6	38		45		10-120
Nitrobenzene-d5	69		80		23-120
2-Fluorobiphenyl	75		89		15-120
2,4,6-Tribromophenol	93		101		10-120
4-Terphenyl-d14	94		95		41-149

Lab Control Sample Analysis
Batch Quality Control

Project Name: MCKINLOCK
Project Number: 39006-000

Lab Number: L1223540
Report Date: 01/08/13

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS-SIM - Westborough Lab Associated sample(s): 01 Batch: WG582441-2 WG582441-3								
Acenaphthene	105		99		37-111	6		40
2-Chloronaphthalene	99		95		40-140	4		40
Fluoranthene	108		109		40-140	1		40
Hexachlorobutadiene	94		92		40-140	2		40
Naphthalene	95		93		40-140	2		40
Benzo(a)anthracene	114		107		40-140	6		40
Benzo(a)pyrene	105		104		40-140	1		40
Benzo(b)fluoranthene	102		108		40-140	6		40
Benzo(k)fluoranthene	128		107		40-140	18		40
Chrysene	103		97		40-140	6		40
Acenaphthylene	106		104		40-140	2		40
Anthracene	96		96		40-140	0		40
Benzo(ghi)perylene	111		109		40-140	2		40
Fluorene	103		99		40-140	4		40
Phenanthrene	105		105		40-140	0		40
Dibenzo(a,h)anthracene	111		109		40-140	2		40
Indeno(1,2,3-cd)Pyrene	112		110		40-140	2		40
Pyrene	104		103		26-127	1		40
1-Methylnaphthalene	103		100		40-140	3		40
2-Methylnaphthalene	96		95		40-140	1		40
Pentachlorophenol	**110**	Q	**114**	Q	9-103	4		40

Lab Control Sample Analysis

Batch Quality Control

Project Name: MCKINLOCK
Project Number: 39006-000

Lab Number: L1223540
Report Date: 01/08/13

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS-SIM - Westborough Lab Associated sample(s): 01 Batch: WG582441-2 WG582441-3								
Hexachlorobenzene	98		99		40-140	1		40
Hexachloroethane	93		88		40-140	6		40

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
2-Fluorophenol	67		64		21-120
Phenol-d6	46		45		10-120
Nitrobenzene-d5	98		94		23-120
2-Fluorobiphenyl	94		92		15-120
2,4,6-Tribromophenol	107		104		10-120
4-Terphenyl-d14	105		106		41-149

PCBS

Project Name: MCKINLOCK **Lab Number:** L1223540

Project Number: 39006-000 **Report Date:** 01/08/13

SAMPLE RESULTS

Lab ID:	L1223540-01	Date Collected:	12/31/12 08:50
Client ID:	HA12-5	Date Received:	12/31/12
Sample Location:	Not Specified	Field Prep:	See Narrative
Matrix:	Water	Extraction Method:	EPA 608
Analytical Method:	5,608	Extraction Date:	01/03/13 01:33
Analytical Date:	01/03/13 23:03	Cleanup Method1:	EPA 3665A
Analyst:	SS	Cleanup Date1:	01/03/13
		Cleanup Method2:	EPA 3660B
		Cleanup Date2:	01/03/13

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Polychlorinated Biphenyls by GC - Westborough Lab						
Aroclor 1016	ND		ug/l	0.256	--	1
Aroclor 1221	ND		ug/l	0.256	--	1
Aroclor 1232	ND		ug/l	0.256	--	1
Aroclor 1242	ND		ug/l	0.256	--	1
Aroclor 1248	ND		ug/l	0.256	--	1
Aroclor 1254	ND		ug/l	0.256	--	1
Aroclor 1260	ND		ug/l	0.256	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2,4,5,6-Tetrachloro-m-xylene	73		30-150
Decachlorobiphenyl	98		30-150

Project Name: MCKINLOCK
Project Number: 39006-000

Lab Number: L1223540
Report Date: 01/08/13

Method Blank Analysis
Batch Quality Control

Analytical Method: 5,608
Analytical Date: 01/03/13 22:08
Analyst: SS

Extraction Method: EPA 608
Extraction Date: 01/03/13 01:33
Cleanup Method1: EPA 3665A
Cleanup Date1: 01/03/13
Cleanup Method2: EPA 3660B
Cleanup Date2: 01/03/13

Parameter	Result	Qualifier	Units	RL	MDL
Polychlorinated Biphenyls by GC - Westborough Lab for sample(s): 01 Batch: WG582442-1					
Aroclor 1016	ND		ug/l	0.250	--
Aroclor 1221	ND		ug/l	0.250	--
Aroclor 1232	ND		ug/l	0.250	--
Aroclor 1242	ND		ug/l	0.250	--
Aroclor 1248	ND		ug/l	0.250	--
Aroclor 1254	ND		ug/l	0.250	--
Aroclor 1260	ND		ug/l	0.250	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
2,4,5,6-Tetrachloro-m-xylene	62		30-150
Decachlorobiphenyl	103		30-150

Matrix Spike Analysis
Batch Quality Control

Project Name: MCKINLOCK
Project Number: 39006-000

Lab Number: L1223540
Report Date: 01/08/13

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Polychlorinated Biphenyls by GC - Westborough Lab Associated sample(s): 01 QC Batch ID: WG582442-3 QC Sample: L1223540-01 Client ID: HA12-5												
Aroclor 1016	ND	2	1.40	70		-	-		40-140	-		50
Aroclor 1260	ND	2	1.52	76		-	-		40-140	-		50

Surrogate	MS % Recovery	MS Qualifier	MSD % Recovery	MSD Qualifier	Acceptance Criteria
2,4,5,6-Tetrachloro-m-xylene	71				30-150
Decachlorobiphenyl	100				30-150

Lab Control Sample Analysis

Batch Quality Control

Project Name: MCKINLOCK

Project Number: 39006-000

Lab Number: L1223540

Report Date: 01/08/13

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Polychlorinated Biphenyls by GC - Westborough Lab Associated sample(s): 01 Batch: WG582442-2								
Aroclor 1016	63		-		40-140	-		50
Aroclor 1260	72		-		40-140	-		50

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
2,4,5,6-Tetrachloro-m-xylene	59				30-150
Decachlorobiphenyl	99				30-150

Lab Duplicate Analysis
Batch Quality Control

Project Name: MCKINLOCK
Project Number: 39006-000

Lab Number: L1223540
Report Date: 01/08/13

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Polychlorinated Biphenyls by GC - Westborough Lab Associated sample(s): 01 QC Batch ID: WG582442-4 QC Sample: L1223540-01 Client ID: HA12-5						
Aroclor 1016	ND	ND	ug/l	NC		50
Aroclor 1221	ND	ND	ug/l	NC		50
Aroclor 1232	ND	ND	ug/l	NC		50
Aroclor 1242	ND	ND	ug/l	NC		50
Aroclor 1248	ND	ND	ug/l	NC		50
Aroclor 1254	ND	ND	ug/l	NC		50
Aroclor 1260	ND	ND	ug/l	NC		50

Surrogate	%Recovery	Qualifier	%Recovery	Qualifier	Acceptance Criteria
2,4,5,6-Tetrachloro-m-xylene	73		67		30-150
Decachlorobiphenyl	98		95		30-150

METALS

Project Name: MCKINLOCK
Project Number: 39006-000
Lab Number: L1223540
Report Date: 01/08/13

SAMPLE RESULTS

Lab ID: L1223540-01
Client ID: HA12-5
Sample Location: Not Specified
Matrix: Water
Date Collected: 12/31/12 08:50
Date Received: 12/31/12
Field Prep: See Narrative

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Westborough Lab											
Antimony, Total	0.0010		mg/l	0.0010	--	1	01/03/13 07:28	01/03/13 11:36	EPA 3005A	1,6020A	AK
Arsenic, Total	0.0007		mg/l	0.0005	--	1	01/03/13 07:28	01/03/13 11:36	EPA 3005A	1,6020A	AK
Cadmium, Total	ND		mg/l	0.0002	--	1	01/03/13 07:28	01/03/13 11:36	EPA 3005A	1,6020A	AK
Chromium, Total	ND		mg/l	0.0010	--	1	01/03/13 07:28	01/03/13 11:36	EPA 3005A	1,6020A	AK
Copper, Total	0.0016		mg/l	0.0010	--	1	01/03/13 07:28	01/03/13 11:36	EPA 3005A	1,6020A	AK
Iron, Total	0.39		mg/l	0.05	--	1	01/03/13 07:28	01/03/13 12:58	EPA 3005A	19,200.7	MS
Lead, Total	ND		mg/l	0.0005	--	1	01/03/13 07:28	01/03/13 11:36	EPA 3005A	1,6020A	AK
Mercury, Total	ND		mg/l	0.0002	--	1	01/03/13 19:10	01/04/13 11:04	EPA 245.1	3,245.1	JH
Nickel, Total	0.0009		mg/l	0.0005	--	1	01/03/13 07:28	01/03/13 11:55	EPA 3005A	1,6020A	AK
Selenium, Total	ND		mg/l	0.005	--	1	01/03/13 07:28	01/03/13 11:36	EPA 3005A	1,6020A	AK
Silver, Total	ND		mg/l	0.0004	--	1	01/03/13 07:28	01/03/13 11:36	EPA 3005A	1,6020A	AK
Zinc, Total	0.0111		mg/l	0.0100	--	1	01/03/13 07:28	01/03/13 11:36	EPA 3005A	1,6020A	AK
Dissolved Metals - Westborough Lab											
Antimony, Dissolved	0.0008		mg/l	0.0005	--	1	01/03/12 09:16	01/03/13 10:47	NA	1,6020A	AK
Arsenic, Dissolved	ND		mg/l	0.0005	--	1	01/03/12 09:16	01/03/13 10:47	NA	1,6020A	AK
Cadmium, Dissolved	ND		mg/l	0.0002	--	1	01/03/12 09:16	01/03/13 10:47	NA	1,6020A	AK
Chromium, Dissolved	ND		mg/l	0.0010	--	1	01/03/12 09:16	01/03/13 10:47	NA	1,6020A	AK
Copper, Dissolved	0.0010		mg/l	0.0010	--	1	01/03/12 09:16	01/03/13 10:47	NA	1,6020A	AK
Iron, Dissolved	0.40		mg/l	0.05	--	1	01/03/13 09:16	01/03/13 11:55	NA	19,200.7	MS
Lead, Dissolved	ND		mg/l	0.0005	--	1	01/03/12 09:16	01/03/13 10:47	NA	1,6020A	AK
Mercury, Dissolved	ND		mg/l	0.0002	--	1	01/03/13 19:10	01/04/13 11:24	EPA 245.1	3,245.1	JH
Nickel, Dissolved	0.0011		mg/l	0.0005	--	1	01/03/12 09:16	01/03/13 11:52	NA	1,6020A	AK
Selenium, Dissolved	ND		mg/l	0.0050	--	1	01/03/12 09:16	01/03/13 10:47	NA	1,6020A	AK
Silver, Dissolved	ND		mg/l	0.0004	--	1	01/03/12 09:16	01/03/13 10:47	NA	1,6020A	AK
Zinc, Dissolved	ND		mg/l	0.0100	--	1	01/03/12 09:16	01/03/13 10:47	NA	1,6020A	AK

Project Name: MCKINLOCK **Lab Number:** L1223540

Project Number: 39006-000 **Report Date:** 01/08/13

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Metals - Westborough Lab for sample(s): 01 Batch: WG582464-1										
Antimony, Total	ND		mg/l	0.0010	--	1	01/03/13 07:28	01/03/13 11:06	1,6020A	AK
Arsenic, Total	ND		mg/l	0.0005	--	1	01/03/13 07:28	01/03/13 11:06	1,6020A	AK
Cadmium, Total	ND		mg/l	0.0002	--	1	01/03/13 07:28	01/03/13 11:06	1,6020A	AK
Chromium, Total	ND		mg/l	0.0010	--	1	01/03/13 07:28	01/03/13 11:06	1,6020A	AK
Copper, Total	ND		mg/l	0.0010	--	1	01/03/13 07:28	01/03/13 11:06	1,6020A	AK
Lead, Total	ND		mg/l	0.0005	--	1	01/03/13 07:28	01/03/13 11:06	1,6020A	AK
Nickel, Total	ND		mg/l	0.0005	--	1	01/03/13 07:28	01/03/13 11:06	1,6020A	AK
Selenium, Total	ND		mg/l	0.0050	--	1	01/03/13 07:28	01/03/13 11:06	1,6020A	AK
Silver, Total	ND		mg/l	0.0004	--	1	01/03/13 07:28	01/03/13 11:06	1,6020A	AK
Zinc, Total	ND		mg/l	0.0100	--	1	01/03/13 07:28	01/03/13 11:06	1,6020A	AK

Prep Information

Digestion Method: EPA 3005A

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Metals - Westborough Lab for sample(s): 01 Batch: WG582466-1										
Iron, Total	ND		mg/l	0.05	--	1	01/03/13 07:28	01/03/13 12:52	19,200.7	MS

Prep Information

Digestion Method: EPA 3005A

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Dissolved Metals - Westborough Lab for sample(s): 01 Batch: WG582486-1										
Antimony, Dissolved	ND		mg/l	0.0005	--	1	01/03/12 09:16	01/03/13 10:39	1,6020A	AK
Arsenic, Dissolved	ND		mg/l	0.0005	--	1	01/03/12 09:16	01/03/13 10:39	1,6020A	AK
Cadmium, Dissolved	ND		mg/l	0.0002	--	1	01/03/12 09:16	01/03/13 10:39	1,6020A	AK
Chromium, Dissolved	ND		mg/l	0.0010	--	1	01/03/12 09:16	01/03/13 10:39	1,6020A	AK
Copper, Dissolved	ND		mg/l	0.0010	--	1	01/03/12 09:16	01/03/13 10:39	1,6020A	AK
Lead, Dissolved	ND		mg/l	0.0005	--	1	01/03/12 09:16	01/03/13 10:39	1,6020A	AK
Nickel, Dissolved	ND		mg/l	0.0005	--	1	01/03/12 09:16	01/03/13 10:39	1,6020A	AK

Project Name: MCKINLOCK **Lab Number:** L1223540

Project Number: 39006-000 **Report Date:** 01/08/13

Method Blank Analysis
Batch Quality Control

Selenium, Dissolved	ND	mg/l	0.005	--	1	01/03/12 09:16	01/03/13 10:39	1,6020A	AK
Silver, Dissolved	ND	mg/l	0.0004	--	1	01/03/12 09:16	01/03/13 10:39	1,6020A	AK
Zinc, Dissolved	ND	mg/l	0.0100	--	1	01/03/12 09:16	01/03/13 10:39	1,6020A	AK

Prep Information

Digestion Method: NA

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Dissolved Metals - Westborough Lab for sample(s): 01 Batch: WG582488-1										
Iron, Dissolved	ND		mg/l	0.05	--	1	01/03/13 09:16	01/03/13 11:49	19,200.7	MS

Prep Information

Digestion Method: NA

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Metals - Westborough Lab for sample(s): 01 Batch: WG582605-1										
Mercury, Total	ND		mg/l	0.0002	--	1	01/03/13 19:10	01/04/13 11:00	3,245.1	JH

Prep Information

Digestion Method: EPA 245.1

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Dissolved Metals - Westborough Lab for sample(s): 01 Batch: WG582607-1										
Mercury, Dissolved	ND		mg/l	0.0002	--	1	01/03/13 19:10	01/04/13 11:15	3,245.1	JH

Prep Information

Digestion Method: EPA 245.1

Lab Control Sample Analysis

Batch Quality Control

Project Name: MCKINLOCK
Project Number: 39006-000

Lab Number: L1223540
Report Date: 01/08/13

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Total Metals - Westborough Lab Associated sample(s): 01 Batch: WG582464-2								
Antimony, Total	93		-		80-120	-		
Arsenic, Total	102		-		80-120	-		
Cadmium, Total	103		-		80-120	-		
Chromium, Total	94		-		80-120	-		
Copper, Total	96		-		80-120	-		
Lead, Total	98		-		80-120	-		
Nickel, Total	102		-		80-120	-		
Selenium, Total	109		-		80-120	-		
Silver, Total	98		-		80-120	-		
Zinc, Total	108		-		80-120	-		
Total Metals - Westborough Lab Associated sample(s): 01 Batch: WG582466-2								
Iron, Total	110		-		85-115	-		

Lab Control Sample Analysis

Batch Quality Control

Project Name: MCKINLOCK
Project Number: 39006-000

Lab Number: L1223540
Report Date: 01/08/13

Parameter	LCS %Recovery	LCSD %Recovery	%Recovery Limits	RPD	RPD Limits
Dissolved Metals - Westborough Lab Associated sample(s): 01 Batch: WG582486-2					
Antimony, Dissolved	90	-	80-120	-	
Arsenic, Dissolved	107	-	80-120	-	
Cadmium, Dissolved	104	-	80-120	-	
Chromium, Dissolved	90	-	80-120	-	
Copper, Dissolved	92	-	80-120	-	
Lead, Dissolved	96	-	80-120	-	
Nickel, Dissolved	86	-	80-120	-	
Selenium, Dissolved	108	-	80-120	-	
Silver, Dissolved	93	-	80-120	-	
Zinc, Dissolved	105	-	80-120	-	
Dissolved Metals - Westborough Lab Associated sample(s): 01 Batch: WG582488-2					
Iron, Dissolved	100	-	85-115	-	
Total Metals - Westborough Lab Associated sample(s): 01 Batch: WG582605-2					
Mercury, Total	92	-	85-115	-	
Dissolved Metals - Westborough Lab Associated sample(s): 01 Batch: WG582607-2					
Mercury, Dissolved	90	-	85-115	-	

Matrix Spike Analysis
Batch Quality Control

Project Name: MCKINLOCK
Project Number: 39006-000

Lab Number: L1223540
Report Date: 01/08/13

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Total Metals - Westborough Lab Associated sample(s): 01 QC Batch ID: WG582464-4 QC Sample: L1223540-01 Client ID: HA12-5												
Antimony, Total	0.0010	0.5	0.4298	86		-	-		80-120	-		20
Arsenic, Total	0.0007	0.12	0.1285	106		-	-		80-120	-		20
Cadmium, Total	ND	0.051	0.0616	**121**	Q	-	-		80-120	-		20
Chromium, Total	ND	0.2	0.1896	95		-	-		80-120	-		20
Copper, Total	0.0016	0.25	0.2496	99		-	-		80-120	-		20
Lead, Total	ND	0.51	0.5059	99		-	-		80-120	-		20
Nickel, Total	0.0009	0.5	0.4656	93		-	-		80-120	-		20
Selenium, Total	ND	0.12	0.137	114		-	-		80-120	-		20
Silver, Total	ND	0.05	0.0467	93		-	-		80-120	-		20
Zinc, Total	0.0111	0.5	0.5224	102		-	-		80-120	-		20
Total Metals - Westborough Lab Associated sample(s): 01 QC Batch ID: WG582466-4 QC Sample: L1223540-01 Client ID: HA12-5												
Iron, Total	0.39	1	1.4	101		-	-		75-125	-		20

Matrix Spike Analysis
Batch Quality Control

Project Name: MCKINLOCK
Project Number: 39006-000

Lab Number: L1223540
Report Date: 01/08/13

Parameter	Native Sample	MS Added	MS Found	MS %Recovery		MSD Found	MSD %Recovery	Recovery Limits	RPD	RPD Limits
Dissolved Metals - Westborough Lab Associated sample(s): 01 QC Batch ID: WG582486-4 QC Sample: L1223540-01 Client ID: HA12-5										
Antimony, Dissolved	0.0008	0.5	0.3955	**79**	Q	-	-	80-120	-	20
Arsenic, Dissolved	ND	0.12	0.1328	111		-	-	80-120	-	20
Cadmium, Dissolved	ND	0.051	0.0530	104		-	-	80-120	-	20
Chromium, Dissolved	ND	0.2	0.1937	97		-	-	80-120	-	20
Copper, Dissolved	0.0010	0.25	0.2770	110		-	-	80-120	-	20
Lead, Dissolved	ND	0.51	0.4970	97		-	-	80-120	-	20
Nickel, Dissolved	0.0011	0.5	0.4706	94		-	-	80-120	-	20
Selenium, Dissolved	ND	0.12	0.142	118		-	-	80-120	-	20
Silver, Dissolved	ND	0.05	0.0491	98		-	-	80-120	-	20
Zinc, Dissolved	ND	0.5	0.5369	107		-	-	80-120	-	20
Dissolved Metals - Westborough Lab Associated sample(s): 01 QC Batch ID: WG582488-4 QC Sample: L1223540-01 Client ID: HA12-5										
Iron, Dissolved	0.40	1	1.4	100		-	-	75-125	-	20
Total Metals - Westborough Lab Associated sample(s): 01 QC Batch ID: WG582605-4 QC Sample: L1223540-01 Client ID: HA12-5										
Mercury, Total	ND	0.001	0.0010	104		-	-	70-130	-	20
Dissolved Metals - Westborough Lab Associated sample(s): 01 QC Batch ID: WG582607-4 QC Sample: L1223540-01 Client ID: HA12-5										
Mercury, Dissolved	ND	0.001	0.0011	113		-	-	70-130	-	20

Lab Duplicate Analysis
Batch Quality Control

Project Name: MCKINLOCK
Project Number: 39006-000

Lab Number: L1223540
Report Date: 01/08/13

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Total Metals - Westborough Lab Associated sample(s): 01 QC Batch ID: WG582464-3 QC Sample: L1223540-01 Client ID: HA12-5						
Antimony, Total	0.0010	0.0010	mg/l	1		20
Arsenic, Total	0.0007	ND	mg/l	NC		20
Cadmium, Total	ND	ND	mg/l	NC		20
Chromium, Total	ND	ND	mg/l	NC		20
Copper, Total	0.0016	0.0015	mg/l	6		20
Lead, Total	ND	ND	mg/l	NC		20
Nickel, Total	0.0009	0.0008	mg/l	8		20
Selenium, Total	ND	ND	mg/l	NC		20
Silver, Total	ND	ND	mg/l	NC		20
Zinc, Total	0.0111	ND	mg/l	NC		20
Total Metals - Westborough Lab Associated sample(s): 01 QC Batch ID: WG582466-3 QC Sample: L1223540-01 Client ID: HA12-5						
Iron, Total	0.39	0.38	mg/l	3		20

Lab Duplicate Analysis
Batch Quality Control

Project Name: MCKINLOCK
Project Number: 39006-000

Lab Number: L1223540
Report Date: 01/08/13

Parameter	Native Sample	Duplicate Sample	Units	RPD		RPD Limits
Dissolved Metals - Westborough Lab Associated sample(s): 01 QC Batch ID: WG582486-3 QC Sample: L1223540-01 Client ID: HA12-5						
Antimony, Dissolved	0.0008	0.0009	mg/l	11		20
Arsenic, Dissolved	ND	ND	mg/l	NC		20
Cadmium, Dissolved	ND	ND	mg/l	NC		20
Chromium, Dissolved	ND	ND	mg/l	NC		20
Copper, Dissolved	0.0010	0.0018	mg/l	**55**	Q	20
Lead, Dissolved	ND	ND	mg/l	NC		20
Nickel, Dissolved	0.0011	0.0013	mg/l	13		20
Selenium, Dissolved	ND	ND	mg/l	NC		20
Silver, Dissolved	ND	ND	mg/l	NC		20
Zinc, Dissolved	ND	ND	mg/l	NC		20
Dissolved Metals - Westborough Lab Associated sample(s): 01 QC Batch ID: WG582488-3 QC Sample: L1223540-01 Client ID: HA12-5						
Iron, Dissolved	0.40	0.41	mg/l	2		20
Total Metals - Westborough Lab Associated sample(s): 01 QC Batch ID: WG582605-3 QC Sample: L1223540-01 Client ID: HA12-5						
Mercury, Total	ND	ND	mg/l	NC		20
Dissolved Metals - Westborough Lab Associated sample(s): 01 QC Batch ID: WG582607-3 QC Sample: L1223540-01 Client ID: HA12-5						
Mercury, Dissolved	ND	ND	mg/l	NC		20

INORGANICS
&
MISCELLANEOUS

Project Name: MCKINLOCK
Project Number: 39006-000

Lab Number: L1223540
Report Date: 01/08/13

SAMPLE RESULTS

Lab ID: L1223540-01
Client ID: HA12-5
Sample Location: Not Specified
Matrix: Water

Date Collected: 12/31/12 08:50
Date Received: 12/31/12
Field Prep: See Narrative

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total Suspended	ND		mg/l	5.0	NA	1	-	01/03/13 09:00	30,2540D	DW
Cyanide, Total	0.035		mg/l	0.005	--	1	01/08/13 11:30	01/08/13 13:51	30,4500CN-CE	JO
Cyanide, Amenable	0.036		mg/l	0.010	--	2	01/03/13 13:16	01/07/13 14:22	30,4500CN-G	JO
Cyanide, Physiologically Available	0.009		mg/l	0.005	--	1	01/04/13 15:10	01/04/13 16:35	64,9014(M)	JO
Chlorine, Total Residual	ND		mg/l	0.02	--	1	-	12/31/12 18:30	30,4500CL-D	DE
TPH	ND		mg/l	4.00	--	1	01/03/13 07:30	01/04/13 11:45	74,1664A	JO
Phenolics, Total	ND		mg/l	0.03	--	1	01/03/13 10:00	01/03/13 12:08	4,420.1	MP
Chromium, Hexavalent	ND		mg/l	0.010	--	1	12/31/12 18:30	12/31/12 19:10	30,3500CR-D	DE
Anions by Ion Chromatography - Westborough Lab										
Chloride	761.		mg/l	25.0	--	50	-	01/02/13 20:13	44,300.0	AU

Project Name: MCKINLOCK
Project Number: 39006-000

Lab Number: L1223540
Report Date: 01/08/13

SAMPLE RESULTS

Lab ID: L1223540-03
Client ID: HA12-5 (FIELD FILTERED)
Sample Location: Not Specified
Matrix: Water

Date Collected: 12/31/12 08:50
Date Received: 12/31/12
Field Prep: See Narrative

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Cyanide, Total	ND		mg/l	0.005	--	1	01/08/13 11:30	01/08/13 13:51	30,4500CN-CE	JO
Cyanide, Amenable	ND		mg/l	0.010	--	2	01/03/13 13:16	01/07/13 14:22	30,4500CN-G	JO
Cyanide, Physiologically Available	0.011		mg/l	0.005	--	1	01/04/13 15:10	01/04/13 16:36	64,9014(M)	JO

Project Name: MCKINLOCK
Project Number: 39006-000
Lab Number: L1223540
Report Date: 01/08/13

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab for sample(s): 01 Batch: WG582190-1										
Chlorine, Total Residual	ND		mg/l	0.02	--	1	-	12/31/12 18:30	30,4500CL-D	DE
General Chemistry - Westborough Lab for sample(s): 01 Batch: WG582380-1										
Chromium, Hexavalent	ND		mg/l	0.010	--	1	12/31/12 18:30	12/31/12 19:07	30,3500CR-D	DE
Anions by Ion Chromatography - Westborough Lab for sample(s): 01 Batch: WG582428-1										
Chloride	ND		mg/l	0.500	--	1	-	01/02/13 17:25	44,300.0	AU
General Chemistry - Westborough Lab for sample(s): 01 Batch: WG582469-1										
Solids, Total Suspended	ND		mg/l	5.0	NA	1	-	01/03/13 09:00	30,2540D	DW
General Chemistry - Westborough Lab for sample(s): 01 Batch: WG582482-1										
Phenolics, Total	ND		mg/l	0.03	--	1	01/03/13 10:00	01/03/13 12:06	4,420.1	MP
General Chemistry - Westborough Lab for sample(s): 01 Batch: WG582499-1										
TPH	ND		mg/l	4.00	--	1	01/03/13 07:30	01/04/13 11:45	74,1664A	JO
General Chemistry - Westborough Lab for sample(s): 01,03 Batch: WG582546-1										
Cyanide, Amenable	ND		mg/l	0.010	--	2	01/03/13 13:16	01/07/13 14:22	30,4500CN-G	JO
General Chemistry - Westborough Lab for sample(s): 01,03 Batch: WG582717-1										
Cyanide, Physiologically Available	ND		mg/l	0.005	--	1	01/04/13 15:10	01/04/13 16:32	64,9014(M)	JO
General Chemistry - Westborough Lab for sample(s): 01,03 Batch: WG583304-1										
Cyanide, Total	ND		mg/l	0.005	--	1	01/08/13 11:30	01/08/13 13:42	30,4500CN-CE	JO

Lab Control Sample Analysis

Batch Quality Control

Project Name: MCKINLOCK
Project Number: 39006-000

Lab Number: L1223540
Report Date: 01/08/13

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG582190-2								
Chlorine, Total Residual	91		-		90-110	-		
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG582380-2								
Chromium, Hexavalent	106		-		85-115	-		20
Anions by Ion Chromatography - Westborough Lab Associated sample(s): 01 Batch: WG582428-2								
Chloride	99		-		90-110	-		
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG582482-2								
Phenolics, Total	101		-		82-111	-		12
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG582499-2								
TPH	85		-		64-132	-		34
General Chemistry - Westborough Lab Associated sample(s): 01,03 Batch: WG582546-2								
Cyanide, Amenable	100		-			-		
General Chemistry - Westborough Lab Associated sample(s): 01,03 Batch: WG582717-2								
Cyanide, Physiologically Available	105		-		80-120	-		

Lab Control Sample Analysis

Batch Quality Control

Project Name: MCKINLOCK
Project Number: 39006-000

Lab Number: L1223540
Report Date: 01/08/13

Parameter	LCS %Recovery	LCSD %Recovery	%Recovery Limits	RPD	RPD Limits
General Chemistry - Westborough Lab NEGATIVE LCS Associated sample(s): 01,03 Batch: WG582717-3					
Cyanide, Physiologically Available	**1**	-	0-10	-	
General Chemistry - Westborough Lab Associated sample(s): 01,03 Batch: WG583304-2					
Cyanide, Total	107	-	90-110	-	

Matrix Spike Analysis
Batch Quality Control

Project Name: MCKINLOCK
Project Number: 39006-000

Lab Number: L1223540
Report Date: 01/08/13

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG582380-3 QC Sample: L1223540-01 Client ID: HA12-5												
Chromium, Hexavalent	ND	0.1	0.100	100		-	-		85-115	-		20
Anions by Ion Chromatography - Westborough Lab Associated sample(s): 01 QC Batch ID: WG582428-3 QC Sample: L1223513-02 Client ID: MS Sample												
Chloride	73.2	100	176	103		-	-		40-151	-		18
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG582482-4 QC Sample: L1300030-02 Client ID: MS Sample												
Phenolics, Total	ND	0.8	0.83	104		-	-		77-124	-		12
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG582499-4 QC Sample: L1300038-02 Client ID: MS Sample												
TPH	ND	21.3	16.3	76		-	-		64-132	-		34
General Chemistry - Westborough Lab Associated sample(s): 01,03 QC Batch ID: WG582717-5 QC Sample: L1223540-03 Client ID: HA12-5 (FIELD FILTERED)												
Cyanide, Physiologically Available	0.011	0.2	0.210	100		-	-		75-125	-		20
General Chemistry - Westborough Lab Associated sample(s): 01,03 QC Batch ID: WG583304-4 QC Sample: L1300253-01 Client ID: MS Sample												
Cyanide, Total	ND	0.2	0.207	104		-	-		90-110	-		30

Lab Duplicate Analysis
Batch Quality Control

Project Name: MCKINLOCK
Project Number: 39006-000

Lab Number: L1223540
Report Date: 01/08/13

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG582190-3 QC Sample: L1223540-01 Client ID: HA12-5						
Chlorine, Total Residual	ND	ND	mg/l	NC		20
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG582380-4 QC Sample: L1223540-01 Client ID: HA12-5						
Chromium, Hexavalent	ND	ND	mg/l	NC		20
Anions by Ion Chromatography - Westborough Lab Associated sample(s): 01 QC Batch ID: WG582428-4 QC Sample: L1223513-02 Client ID: DUP Sample						
Chloride	73.2	73.5	mg/l	0		18
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG582469-2 QC Sample: L1300004-01 Client ID: DUP Sample						
Solids, Total Suspended	130	120	mg/l	8		20
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG582482-3 QC Sample: L1300030-01 Client ID: DUP Sample						
Phenolics, Total	0.03	ND	mg/l	NC		12
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG582499-3 QC Sample: L1300038-01 Client ID: DUP Sample						
TPH	ND	ND	mg/l	NC		34
General Chemistry - Westborough Lab Associated sample(s): 01,03 QC Batch ID: WG582546-3 QC Sample: L1223540-03 Client ID: HA12-5 (FIELD FILTERED)						
Cyanide, Amenable	ND	ND	mg/l	NC		
General Chemistry - Westborough Lab Associated sample(s): 01,03 QC Batch ID: WG582717-4 QC Sample: L1223540-03 Client ID: HA12-5 (FIELD FILTERED)						
Cyanide, Physiologically Available	0.011	0.012	mg/l	15		20

Lab Duplicate Analysis
Batch Quality Control

Project Name: MCKINLOCK
Project Number: 39006-000

Lab Number: L1223540
Report Date: 01/08/13

Parameter	Native Sample	Duplicate Sample	Units	RPD	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01,03 QC Batch ID: WG583304-3 QC Sample: L1300253-01 Client ID: DUP Sample					
Cyanide, Total	ND	ND	mg/l	NC	30

Project Name: MCKINLOCK
Project Number: 39006-000

Lab Number: L1223540
Report Date: 01/08/13

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Reagent H2O Preserved Vials Frozen on: NA

Cooler Information **Custody Seal**

Cooler	
A	Absent

Container Information

Container ID	Container Type	Cooler	pH	Temp deg C	Pres	Seal	Analysis(*)
L1223540-01A	Vial HCl preserved	A	N/A	4.0	Y	Absent	8260(14)
L1223540-01B	Vial HCl preserved	A	N/A	4.0	Y	Absent	8260(14)
L1223540-01C	Vial HCl preserved	A	N/A	4.0	Y	Absent	8260(14)
L1223540-01D	Vial HCl preserved	A	N/A	4.0	Y	Absent	8260-SIM(14)
L1223540-01E	Vial HCl preserved	A	N/A	4.0	Y	Absent	8260-SIM(14)
L1223540-01F	Vial HCl preserved	A	N/A	4.0	Y	Absent	8260-SIM(14)
L1223540-01G	Vial Na2S2O3 preserved	A	N/A	4.0	Y	Absent	504(14)
L1223540-01H	Vial Na2S2O3 preserved	A	N/A	4.0	Y	Absent	504(14)
L1223540-01I	Amber 1000ml unpreserved	A	7	4.0	Y	Absent	8270TCL(7)
L1223540-01J	Amber 1000ml unpreserved	A	7	4.0	Y	Absent	8270TCL(7)
L1223540-01K	Amber 1000ml unpreserved	A	7	4.0	Y	Absent	8270TCL-SIM(7)
L1223540-01L	Amber 1000ml unpreserved	A	7	4.0	Y	Absent	8270TCL-SIM(7)
L1223540-01M	Amber 1000ml Na2S2O3	A	7	4.0	Y	Absent	PCB-608(7)
L1223540-01N	Amber 1000ml Na2S2O3	A	7	4.0	Y	Absent	PCB-608(7)
L1223540-01O	Amber 1000ml HCl preserved	A	N/A	4.0	Y	Absent	TPH-1664(28)
L1223540-01P	Amber 1000ml HCl preserved	A	N/A	4.0	Y	Absent	TPH-1664(28)
L1223540-01Q	Plastic 1000ml unpreserved	A	7	4.0	Y	Absent	TSS-2540(7)
L1223540-01R	Plastic 250ml NaOH preserved	A	>12	4.0	Y	Absent	TCN-4500(14)
L1223540-01S	Plastic 500ml unpreserved	A	7	4.0	Y	Absent	HEXCR-3500(1)
L1223540-01T	Plastic 500ml NaOH preserved	A	>12	4.0	Y	Absent	ACN-4500(14)
L1223540-01U	Plastic 500ml NaOH preserved	A	>12	4.0	Y	Absent	PACN(14)
L1223540-01V	Plastic 500ml NaOH preserved	A	>12	4.0	Y	Absent	TCN-4500(14)
L1223540-01W	Plastic 500ml NaOH preserved	A	>12	4.0	Y	Absent	TCN-4500(14)
L1223540-01X	Plastic 500ml unpreserved	A	7	4.0	Y	Absent	CL-300(28),TRC-4500(1)
L1223540-01Y	Plastic 250ml NaOH preserved	A	>12	4.0	Y	Absent	TCN-4500(14)

*Values in parentheses indicate holding time in days

Project Name: MCKINLOCK
Project Number: 39006-000

Lab Number: L1223540
Report Date: 01/08/13

Container Information

Container ID	Container Type	Cooler	pH	Temp deg C	Pres	Seal	Analysis(*)
L1223540-01Z	Plastic 250ml HNO3 preserved	A	<2	4.0	Y	Absent	SE-6020T(180),CR-6020T(180),NI-6020T(180),CU-6020T(180),ZN-6020T(180),FE-UI(180),PB-6020T(180),HG-U(28),AS-6020T(180),SB-6020T(180),AG-6020T(180),CD-6020T(180)
L1223540-01Z1	Plastic 250ml HNO3 preserved	A	<2	4.0	Y	Absent	CU-6020S(180),FE-RI(180),SE-6020S(180),ZN-6020S(180),CR-6020S(180),NI-6020S(180),PB-6020S(180),AG-6020S(180),AS-6020S(180),HG-R(28),SB-6020S(180),CD-6020S(180)
L1223540-01Z2	Amber 1000ml H2SO4 preserved	A	<2	4.0	Y	Absent	TPHENOL-420(28)
L1223540-02A	Vial HCl preserved	A	N/A	4.0	Y	Absent	8260-SIM(14),8260(14)
L1223540-02B	Vial HCl preserved	A	N/A	4.0	Y	Absent	8260-SIM(14),8260(14)
L1223540-02C	Vial Na2S2O3 preserved	A	N/A	4.0	Y	Absent	504(14)
L1223540-02D	Vial Na2S2O3 preserved	A	N/A	4.0	Y	Absent	504(14)
L1223540-03A	Plastic 500ml NaOH preserved	A	>12	4.0	Y	Absent	PACN(14)
L1223540-03B	Plastic 500ml NaOH preserved	A	>12	4.0	Y	Absent	TCN-4500(14),ACN-4500(14)

*Values in parentheses indicate holding time in days

Project Name:	MCKINLOCK	**Lab Number:**	L1223540
Project Number:	39006-000	**Report Date:**	01/08/13

GLOSSARY

Acronyms

EDL - Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).

EPA - Environmental Protection Agency.

LCS - Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

LCSD - Laboratory Control Sample Duplicate: Refer to LCS.

LFB - Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

MDL - Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

MS - Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available.

MSD - Matrix Spike Sample Duplicate: Refer to MS.

NA - Not Applicable.

NC - Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.

NI - Not Ignitable.

RL - Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

RPD - Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.

SRM - Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.

Footnotes

1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

Terms

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Data Qualifiers

A - Spectra identified as "Aldol Condensation Product".

B - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than five times (5x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit.

C - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.

D - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.

E - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.

G - The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.

H - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.

I - The RPD between the results for the two columns exceeds the method-specified criteria; however, the lower value has been reported

Report Format: Data Usability Report

Project Name:	MCKINLOCK	**Lab Number:**	L1223540
Project Number:	39006-000	**Report Date:**	01/08/13

Data Qualifiers

due to obvious interference.

M - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.

NJ - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.

P - The RPD between the results for the two columns exceeds the method-specified criteria.

Q - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)

R - Analytical results are from sample re-analysis.

RE - Analytical results are from sample re-extraction.

J - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

ND - Not detected at the reporting limit (RL) for the sample.

Report Format: Data Usability Report

Project Name:	MCKINLOCK	**Lab Number:**	L1223540
Project Number:	39006-000	**Report Date:**	01/08/13

REFERENCES

1 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - IIIA, 1997.

3 Methods for the Determination of Metals in Environmental Samples, Supplement I. EPA/600/R-94/111. May 1994.

4 Methods for Chemical Analysis of Water and Wastes. EPA 600/4-79-020. Revised March 1983.

5 Methods for the Organic Chemical Analysis of Municipal and Industrial Wastewater. Appendix A, Part 136, 40 CFR (Code of Federal Regulations).

14 Methods for the Determination of Organic Compounds in Finished Drinking Water and Raw Source Water. EPA/600/4-88/039, Revised July 1991.

19 Inductively Coupled Plasma Atomic Emission Spectrometric Method for Trace Element Analysis of Water and Wastes. Appendix C, Part 136, 40 CFR (Code of Federal Regulations). July 1, 1999 edition.

30 Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WPCF. 18th Edition. 1992.

44 Methods for the Determination of Inorganic Substances in Environmental Samples, EPA/600/R-93/100, August 1993.

64 Quality Assurance and Quality Control Requirements and Performance Standards for SW-846 Methods. MADEP BWSC. WSC-CAM-IIA (Revision 4), WSC-CAM-V C (Revision 2), WSC-CAM-IIIA (Revision 5). August 2004.

74 Method 1664,Revision A: N-Hexane Extractable Material (HEM; Oil & Grease) and Silica Gel Treated N-Hexane Extractable Material (SGT-HEM; Non-polar Material) by Extraction and Gravimetry, EPA-821-R-98-002, February 1999.

LIMITATION OF LIABILITIES

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

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

Certificate/Approval Program Summary

Last revised December 19, 2012 - Westboro Facility

The following list includes only those analytes/methods for which certification/approval is currently held.
For a complete listing of analytes for the referenced methods, please contact your Alpha Customer Service Representative.

Connecticut Department of Public Health Certificate/Lab ID: PH-0574. ***NELAP Accredited Solid Waste/Soil.***

Drinking Water (Inorganic Parameters: Color, pH, Turbidity, Conductivity, Alkalinity, Chloride, Free Residual Chlorine, Fluoride, Calcium Hardness, Sulfate, Nitrate, Nitrite, Aluminum, Antimony, Arsenic, Barium, Beryllium, Cadmium, Calcium, Chromium, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Nickel, Selenium, Silver, Sodium, Thallium, Zinc, Total Dissolved Solids, Total Organic Carbon, Total Cyanide, Perchlorate. Organic Parameters: Volatile Organics 524.2, Total Trihalomethanes 524.2, 1,2-Dibromo-3-chloropropane (DBCP) 504.1, Ethylene Dibromide (EDB) 504.1, 1,4-Dioxane (Mod 8270). Microbiology Parameters: Total Coliform -MF mEndo (SM9222B), Total Coliform – Colilert (SM9223, Enumeration and P/A), E. Coli. – Colilert (SM9223, Enumeration and P/A), HPC – Pour Plate (SM9215B), Fecal Coliform – MF m-FC (SM9222D), Fecal Coliform-EC Medium (SM 9221E).

Wastewater/Non-Potable Water (Inorganic Parameters: Color, pH, Conductivity, Acidity, Alkalinity, Chloride, Total Residual Chlorine, Fluoride, Total Hardness, Silica, Sulfate, Sulfide, Ammonia, Kjeldahl Nitrogen, Nitrate, Nitrite, O-Phosphate, Total Phosphorus, Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Hexavalent Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Strontium, Thallium, Tin, Titanium, Vanadium, Zinc, Total Residue (Solids), Total Dissolved Solids, Total Suspended Solids (non-filterable), BOD, CBOD, COD, TOC, Total Cyanide, Phenolics, Foaming Agents (MBAS), Bromide, Oil and Grease. Organic Parameters: PCBs, Organochlorine Pesticides, Technical Chlordane, Toxaphene, Acid Extractables (Phenols), Benzidines, Phthalate Esters, Nitrosamines, Nitroaromatics & Isophorone, Polynuclear Aromatic Hydrocarbons, Haloethers, Chlorinated Hydrocarbons, Volatile Organics, TPH (HEM/SGT), CT-Extractable Petroleum Hydrocarbons (ETPH), MA-EPH, MA-VPH. Microbiology Parameters: Total Coliform – MF mEndo (SM9222B), Total Coliform – MTF (SM9221B), E. Coli – Colilert (SM9223 Enumeration), HPC – Pour Plate (SM9215B), Fecal Coliform – MF m-FC (SM9222D), Fecal Coliform – A-1 Broth (SM9221E), Enterococcus - Enterolert.

Solid Waste/Soil (Inorganic Parameters: pH, Sulfide, Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Hexavalent Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Thallium, Tin, Vanadium, Zinc, Total Cyanide, Ignitability, Phenolics, Corrosivity, TCLP Leach (1311), SPLP Leach (1312 metals only), Reactivity. Organic Parameters: PCBs, PCBs in Oil, Organochlorine Pesticides, Technical Chlordane, Toxaphene, CT-Extractable Petroleum Hydrocarbons (ETPH), MA-EPH, MA-VPH, Dicamba, 2,4-D, 2,4,5-T, 2,4,5-TP(Silvex), Dalapon, Volatile Organics (SW 8260), Acid Extractables (Phenols) (SW 8270), Benzidines (SW 8270), Phthalates (SW 8270), Nitrosamines (SW 8270), Nitroaromatics & Cyclic Ketones (SW 8270), PAHs (SW 8270), Haloethers (SW 8270), Chlorinated Hydrocarbons (SW 8270).)

Maine Department of Human Services Certificate/Lab ID: 2009024.
Drinking Water (Inorganic Parameters: SM9215B, 9222D, 9223B, EPA 180.1, 353.2, SM2130B, 2320B, 2540C, 4500Cl-D, 4500CN-C, 4500CN-E, 4500F-C, 4500H +B, 4500NO3-F, EPA 200.7, EPA 200.8, 245.1, EPA 300.0. Organic Parameters: 504.1, 524.2.)

Wastewater/Non-Potable Water (Inorganic Parameters: EPA 120.1, 1664A, 350.1, 351. 1, 353.2, 410.4, 420.1, SM2320B, 2510B, 2540C, 2540D, 426C, 4500Cl-D, 4500Cl-E, 4500CN-C, 4500CN-E, 4500F-B, 4500F-C, 4500H+B, 4500Norg-B, 4500Norg-C, 4500NH3-B, 4500NH3-G, 4500NO3-F, 4500P-B, 4500P-E, 5210B, 5220D, 5310C, 9010B, 9040B, 9030B, 7470A, 7196A, 2340B, EPA 200.7, 6010B, 6010C, 200. 8, 6020, 245.1, 1311, 1312, 3005A, Enterolert, 9223B, 9222D. Organic Parameters: 608, 624, 625, 8081A, 8081B, 8082, 8082A, 8330, 8151A, 8260B, 8260C, 8270C, 8270D, 3510C, 3630C, 5030B, ME-DRO, ME-GRO, MA-EPH, MA-VPH.)

Solid Waste/Soil (Inorganic Parameters: 9010B, 9012A, 9014, 9030B, 9040B, 9045C, 6010B, 6010C, 6020, 6020A, 7471A, 7471B, 7196A, 9050A, 1010, 1030, 9065, 1311, 1312, 3005A, 3050B. Organic Parameters: ME-DRO, ME-GRO, MA-EPH, MA-VPH, 8260B, 8270C, 8270D, 8330, 8151A, 8081A, 8081B, 8082, 8082A, 3540C, 3546, 3580A, 3630C, 5030B, 5035.)

Massachusetts Department of Environmental Protection Certificate/Lab ID: M-MA086.
Drinking Water (Inorganic Parameters: (EPA 200.8 for: Sb,As,Ba,Be,Cd, Cr,Cu,Pb,Ni,Se,Tl) (EPA 200.7 for: Ba,Be,Ca,Cd,Cr,Cu,Na,Ni) 245.1, (300.0 for: Nitrate-N, Fluoride, Sulfate); (EPA 353.2 for: Nitrate-N, Nitrite-N); (SM4500NO3-F for: Nitrate-N and Nitrite-N); 4500F-C, 4500CN-CE, EPA 180.1, SM2130B, SM 4500Cl-D, 2320B, SM2540C, SM4500H-B. Organic Parameters: (EPA 524.2 for: Trihalomethanes, Volatile Organics); (504.1 for: 1,2-Dibromoethane, 1,2-Dibromo-3-Chloropropane), EPA 332. Micro biology Parameters: SM9215B; ENZ. SUB. SM9223; ColilertQT SM9223B; MF-SM9222D.)

*Non-Potable Water (*Inorganic Parameters:, (EPA 200.8 for: Al,Sb,As,Be,Cd,C r,Cu,Pb,Mn,Ni,Se,Ag,Tl,Zn); (EPA 200.7 for: Al,Sb,As,Be,Cd,Ca,Cr,Co,Cu,F e,Pb,Mg,Mn,Mo,Ni,K,Se,Ag,Na,Sr,Ti,Tl,V,Zn); 245.1, SM4500H,B, EPA 120.1, SM2510B, 2540C, 2340B, 2320B, 4 500CL-E, 4500F-BC, 426C, SM4500NH3-BH, (EPA 350.1 for: Ammonia -N), LACHAT 10-107-06-1-B for Ammonia-N, SM4500NO3-F, 353.2 for Ni trate-N, SM4500NH3-BC-NES, EPA 351.1, SM4500P-E, 4500P-B,E, 5220D, EPA 410.4, SM 5210B, 53 10C, 4500CL-D, EPA 1664, SM14 510AC, EPA 420.1, SM4500-CN-CE, SM2540D.
Organic Parameters: (EPA 624 for Volatile Halocarbons, Volatile Aromatics),(608 for: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT,Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs-Water), (EPA 625 for SVOC Acid Extractables and SVOC Base/Neutral Extractables), 600/4-81-045-PCB-Oil. Microbiology Parameters: (ColilertQT SM9223B; Enterolert-QT: SM9222D-MF.)

New Hampshire Department of Environmental Services Certificate/Lab ID: 200307. ***NELAP Accredited.***
Drinking Water (Inorganic Parameters: SM 9222B, 9223B, 9215B , EPA 200.7, 200. 8, 300.0, SM4500CN-E, 4500H+B, 4500NO3-F, 2320B, 2510B, 2540C, 4500F-C, 5310C, 2120B, EPA 332.0. Organic Parameters: 504.1, 524.2.)

Non-Potable Water (Inorganic Parameters: SM9222D, 9221B, 9222B, 9221E-EC, EPA 3005A, 200.7, 200.8, 245.1, SW-846 6010C, 6020A, 7196A, 7470A, SM3500-CR-D, EPA 120.1, 300.0, 350.1, 350.2, 351.1, 353. 2, 410.4, 420.1, 426C, 1664A, SW-846 9010B, 9010C, 9030, 9040B, 9040C, SM2120B, 2310B, 2320B, 2340B, 2540B, 2540D, 4500H+B, 4500CL-E, 4500CN-E, 4500NH3-H, 4500NO3-F, 4500NO2-B, 4500P-E, 4500-S2-D, 4500SO3-B, 5210B, 5220D, 2510B, 2540C, 4500F-C, 5310C, 5540C, LACHAT 10-204-00-1-A, LACHAT 10-107-06-2-D, 3060A. Organic Parameters: SW-846 3510C, 3630C, 5030B, 8260C, 8270D, 8330, EPA 624, 625, 608, SW-846 8082A, 8081B, 8015C, 8151A, 8330, 8270D-SIM.)

Solid & Chemical Materials (Inorganic Parameters: SW-846 6010C, 6020A, 7196A, 7471B, 1010, 1010A, 1030, 9010C, 9012B, 9014, 9030B, 9040C, 904 5C, 9045D, 90 50, 9065, 9251, 1311, 1312, 3005A, 3050B, 3060A. Orga nic Parameters: SW-846 3540C, 3546, 3050B, 3580A, 3620D, 3630C, 5030B, 5035, 8260C, 8270D, 8270D-SIM, 8330, 8151A, 8015B, 8015C, 8082A, 8081B.)

New Jersey Department of Environmental Protection Certificate/Lab ID: MA935. ***NELAP Accredited.***
Drinking Water (Inorganic Parameters: SM9222B, 9221E, 9 223B, 9215B, 4 500CN-CE, 4500NO3-F, 4500F-C, EPA 300.0, 200.7, 200.8, 245.1, 2540C, SM2120B, 2320B, 2510B, 5310C, SM4500H-B. Organic Parameters: EPA 332, 504.1, 524.2.)

Non-Potable Water (Inorganic Parameters: SM5210B, EPA 410.4, SM5220D, 4500 Cl-E, EPA 300.0, SM2120B, 2340B, SM4500F-BC, EPA 200.7, 200.8, 351.1, LACHAT 10-107-06-2-D, EPA 353.2, SM4500NO3-F, 4500NO2-B, EPA 1664A, SM5310B, C or D, 4500-PE, EPA 420.1, SM510AB C, SM4500P-B5+E, 2540B, 2540C, 2540D, EPA 120.1, SM2510B , SM2520B, SM15 426C, 9222D, 9221B, 9221C, 9221E, 9222B, 9215B, 2310B, 2320B, 45 00NH3-H, 4500-S D, EPA 350.1, 350.2, SW-846 1312, 7470A, 5540C, SM4500H-B, 4500SO3-B, SM3500Cr-D, 4500CN-CE, EPA 245.1, SW-846 9040B, 9040C, 3005A, 3015, EPA 6010B, 6010C, 6020, 602 0A, 7196A, 3060A, SW-846 901 0C, 9030B. Organic Parameters: SW-846 8260B, 8260C, 8270C, 8270D, 8270C-SIM, 8270D-SIM, 3510C, EPA 608, 62 4, 625, SW-8 46 3630C, 5030B, 8011, 8015C, 8081A, 8081B, 8082, 8082A, 8151A, 8330, 1,4-Dioxane by NJ Modified 8270, 8015B, NJ EPH.)

Solid & Chemical Materials (Inorganic Parameters: SW-846, 6010B, 6010C, 6020, 6020A, 7196A, 3060A, 9030B, 1010, 1010A, 1030, 1311, 1312, 3005A, 305 0B, 7471A, 7471B, 9010 C, 9012B, 9014, 9038, 904 0B, 9040C, 9 045C, 9045D, 9050A, 9065, 9251. Organic Parameters: SW-846 8015B, 8015C, 8081A, 8081B, 8082, 8082A, 8151A, 8330, 8260B, 8260C, 8270C, 8270D, 8270C-SIM, 8270D-SIM, 3540C, 3546, 3580A, 3620C, 3630C, 5030B, 5035L, 5035H, NJ EPH.)

New York Department of Health Certificate/Lab ID: 11148. ***NELAP Accredited.***
Drinking Water (Inorganic Parameters: SM9223B, 9222B, 9215B, EPA 200.8, 200. 7, 245.2, SM5310C, EPA 332. 0, SM2320B, EPA 300.0, S M2120B, 4500CN-E, 4500F-C, 4500NO3-F, 2540C, SM 2510B. Organic Parameters: EPA 524.2, 504.1.)

Non-Potable Water (Inorganic Parameters: SM9221E, 9222D, 9221B, 9222 B, 9215B, 5210B, 5310C, EPA 410.4, SM5220D, 2310B-4a, 2320B, EPA 200.7, 300.0, S M4500CL-E, 4500F-C, SM15 426C, EPA 350.1, SM 4500NH3-BH, EPA 351.1, LACHAT 10-107-06-2, EP A 353.2, SM4500-NO3-F, 4500-NO2-B, 4500P-E, 2540C, 2540B, 2540D, EP A 200.8, EPA 6010B, 6010C, 6020, 6020A, EPA 7196A, SM3500Cr-D, EPA 245. 1, 7470A, SM2120B, LACHAT 10-204-00-1-A, 4500CN-CE, EPA 1664A, EPA 420.1, SM14 510C, EPA 120.1, SM2510B, SM4500S-D, SM5540C, EPA 3005A, 3015, 9010C, 9030B. Organic Parameters: EPA 624, 8260B, 8260C, 8270C, 8270D, 8270C-SIM, 8270D-SIM, 625, 608, 8081A, 8081B, 8151A, 8330, 8082, 8082A, EPA 3510C, 5030B.)

Solid & Hazardous Waste (Inorganic Parameters: EPA 1010A, 1030, EPA 6010B, 6010C, 7196A, 7471A, 7471B, 9012B, 9014, 9065, 9050A, EPA 1311, 1312, 3005A, 3050B, 9010C, 90 30B, 9040C, 9045D. Organic Parameters: EPA 8260B, 8260C, 8270C, 8270D, 8270C-SIM, 8270D-SIM, 8015B, 8015C, 8081A, 808 1B, 8151A, 8330, 80 82 8082A, 3540C,

3546, 3580A, 5030B, 5035A-H, 5035A-L.)

North Carolina Department of the Environment and Natural Resources Certificate/Lab ID : 666. (Inorganic Parameters: SM2310B, 2320B, 4500Cl-E, 4500Cn-E, 9014, Lachat 10-204-00-1-X, 1010A, 1030, 4500NO3-F, 353.2, 4500P-E, 4500SO4-E, 300.0, 4500S-D, 5310B, 5310C, 6010C, 6020A, 200.7, 200.8, 3500Cr-B, 7196A, 245.1, 7470A, 7471B, 1311,1312. Organic Parameters: 608, 8081B, 8082A, 624, 8260B, 625, 8270D, 8151A, 8015C, 504.1, MA-EPH, MA-VPH.)

Drinking Water Program Certificate/Lab ID: 25700. (Inorganic Parameters: Chloride EPA 300.0. Organic Parameters: 524.2)

Pennsylvania Department of Environmental Protection Certificate/Lab ID : 68-03671. ***NELAP Accredited.***
Drinking Water (Inorganic Parameters: 200.7, 200.8, 300.0, 332.0, 2120B, 2320B, 2510B, 2540C, 4500-CN-CE, 4500F-C, 4500H+-B, 4500NO3-F, 5310C. Organic Parameters: EPA 524.2, 504.1)

Non-Potable Water (Inorganic Parameters: EPA 120.1, 1312, 3005A,3015, 3060A, 200.7, 200.8, 410.4, 1664A, SM2540D, 5210B, 5220D, 4500-P,BE, 245.1, 300.0, 350.1, 350.2, 351.1, 353.2, 420.1, 6010C, 6020A, 7196A, 7470A, 9030B, 2120B, 2310B, 2320B, 2510B, 2540B, 2540C, 3500Cr-D, 426C, 4500CN-CE, 4500Cl-E, 4500F-B, 4500F-C, 4500H+-B, 4500NH3-H, 4500NO2-B, 4500NO3-F, 4500S-D, 4500SO3-B, 5310BCD, 5540C, 9010C, 9040C. Organic Parameters: EPA 3510C, 3630C, 5030B, 625, 624, 608, 8081B, 8082A, 8151A, 8260C, 8270D, 8270D-SIM, 8330, 8015C, NJ-EPH.)

Solid & Hazardous Waste (Inorganic Parameters: EPA 350.1, 1010, 1030, 1311, 1312, 3005A, 3050B, 3060A, 6010C, 6020A, 7196A, 7471B, 9010C, 9012B, 9014, 9040B, 9045D, 9050A, 9065, SM 4500NH3-BH, 9030B, 9038, 9251. Organic Parameters: 3540C, 3546, 3580A, 3620C, 3630C, 5035, 8015C, 8081B, 8082A, 8151A, 8260C, 8270D, 8270D-SIM, 8330, NJ-EPH.)

Rhode Island Department of Health Certificate/Lab ID: LAO00065. ***NELAP Accredited via NJ-DEP.***
Refer to MA-DEP Certificate for Potable and Non-Potable Water.
Refer to NJ-DEP Certificate for Potable and Non-Potable Water.

Texas Commisson on Environmental Quality Certificate/Lab ID: T104704476. ***NELAP Accredited.***
Non-Potable Water (Inorganic Parameters: EPA 120.1, 1664, 200.7, 200.8, 245.1, 245.2, 300.0, 350.1, 351.1, 353.2, 410.4, 420.1, 6010, 6020, 7196, 7470, 9040, SM 2120B, 2310B, 2320B, 2510B, 2540B, 2540C, 2540D, 426C, 4500CL-E, 4500CN-E, 4500F-C, 4500H+B, 4500NH3-H, 4500NO2B, 4500P-E, 4500 $S2^{-}$D, 510C, 5210B, 5220D, 5310C, 5540C. Organic Parameters: EPA 608, 624, 625, 8081, 8082, 8151, 8260, 8270, 8330.)

Solid & Hazardous Waste (Inorganic Parameters: EPA 1311, 1312, 9012, 9014, 9040, 9045, 9050, 9065.)

Virginia Division of Consolidated Laboratory Services Certificate/Lab ID: 460195. ***NELAP Accredited.***
Drinking Water (Inorganic Parameters: EPA 200.7, 200.8, 300.0, 2510B, 2120B, 2540C, 4500CN-CE, 245.2, 2320B, 4500F-C, 4500NO3-F, 5310C. Organic Parameters: EPA 504.1, 524.2.)

Non-Potable Water (Inorganic Parameters: EPA 120.1, 1664A, 200.7, 200.8, 245.1, 300.0, 3005A, 3015, 1312, 6010B, 6010C, 3060A, 353.2, 420.1, 6020, 6020A, SM4500S-D, SM4500-CN-CE, Lachat 10-204-00-1-X, 7196A, 7470A, 9010B, 9040B, 2310B, 2320B, 2510B, 2540B, 2540C, 3500Cr-D, 426C, 4500Cl-E, 4500F-B, 4500F-C, 4500PE, 510AC, 5210B, 5310B 5310C, 5540C. Organic Parameters: EPA 3510C, 3630C, 5030B, 8260B, 608, 624, 625, 8081A, 8081B, 8082, 8082A, 8151A, 8270C, 8270D, 8270C-SIM, 8270D-SIM, 8330,)

Solid & Hazardous Waste (Inorganic Parameters: EPA 1010A, 1030, 3060A, 3050B, 1311, 1312, 6010B, 6010C, 6020, , 7196A, 7471A, 7471B, 6020A, 9030B, 9010B, 9012A, 9014 9040B, 9045C, 9050A, 9065. Organic Parameters: EPA 5030B, 5035, 3540C, 3546, 355B0, 3580A, 3630C, 6020A, 8260B, 8015B, 8015C, 8081A, 8081B, 8082, 8082A, 8151A, 8270C, 8270D, 8270C-SIM, 8270D-SIM, 8330.)

Department of Defense, L-A-B Certificate/Lab ID: L2217.
Drinking Water (Inorganic Parameters: SM 4500H-B. Organic Parameters: EPA 524.2, 504.1.)

Non-Potable Water (Inorganic Parameters: EPA 200.7, 200.8, 6010B, 6010C, 6020, 6020A, 245.1, 245.2, 7470A, 9040B, 9010B, 180.1. 300.0, 332.0, 6860, 353.2, 410.4, 9060, 1664A, SM 4500CN-E, 4500H-B, 4500NO3-F, 4500CL-D, 5220D, 5310C, 2130B, 2320B, 2540 C, 3005A, 3015, 9010B , 9056, 7196A, 3500-Cr-D. Organic Parameters: EPA 8260B, 8260C, 8270C, 8270D, 8270C-SIM, 8270D-SIM, 8330A, 8082, 8082A, 8081A, 8081B, 3510C, 5030B, MassDEP EPH, MassDEP VPH.)

Solid & Hazardous Waste (Inorganic Parameters: EPA 200.7, 6010B, 6010C, 7471A, 6860, 1311, 1312, 3050B, 7196A, 9010B, 9012A, 9040B, 9045C, 3500-CR-D, 4500CN-CE, 2540G, Organic Parameters: EPA 8260B, 8260C, 8270C,

8270D, 8270C-SIM, 8270D-SIM, 8330A/B-prep, 8082, 8082A, 8081A, 8081B, 3540C, 3546, 3580A, 5035A, MassDEP EPH, MassDEP VPH.)

The following analytes are not included in our current NELAP/TNI Scope of Accreditation:
EPA 8260B: Freon-113, 1,2,4,5-Tetramethylbenzene, 4-Ethyltoluene. **EPA 8330A:** PETN, Picric Acid, Nitroglycerine, 2,6-DANT, 2,4-DANT. **EPA 8270C:** Methyl naphthalene, Dimethyl naphthalene, Total Methylnapthalenes, Total Dimethylnaphthalenes, 1,4-Diphenylhydrazine (Azobenzene). **EPA 625:** 4-Chloroaniline, 4-Methylphenol. Total Phosphorus in a soil matrix, Chloride in a soil matrix, TKN in a soil matrix, NO2 in a soil matrix, NO3 in a soil matrix. **EPA 9071:** Total Petroleum Hydrocarbons, Oil & Grease.

L1223540

CHAIN OF CUSTODY RECORD

2014

HALEY & ALDRICH

Haley & Aldrich, Inc.
465 Medford St.,
Suite 2200,
Boston, MA 02129-1402

Phone (617) 886-7400
Fax (617) 886-7600

Serial_No:01081315:51

H&A FILE NO.	39006-000	LABORATORY	ALPHA ANALYTICAL	DELIVERY DATE	12/31/2012
PROJECT NAME	McKinlock	ADDRESS	WESTBOROUGH, MA	TURNAROUND TIME	5 DAY
H&A CONTACT	Leah Samanta: 617-886-7395	CONTACT	Gina Hall	PROJECT MANAGER	Leah Samanta

Sample No.	Date	Time	Depth	Type	VOC interval	VOCs (8260)	8260 SIM (1,4Dioxane)	8270	8270 SIM	608	504	Total Cyanide	Hex Cr	TPH	Total Phenol	Total resid. Chlor (TRC)	Chloride	Number of Containers	Comments (special instructions, precautions, additional method numbers, etc.)
HA12-5	12/31/2012	8:50	NA	GW	NA	x	x	x	x	x	x	x	x	x	x	x	x	28	HOLD all analyses EXCEPT Hex Chromium and Total Residual Chlor (TRC)
TRIP BLANK			NA	GW	NA	x	x				x							4	

Analysis Requested

Sampled and Relinquished by	Received by
Sign Chris Sullivan	Sign M Nejish
Print Chris Sullivan	Print M. Nejish
Firm Haley & Aldrich	Firm H&A
Date 12/31/2012 Time 15:10	Date 12/31/12 Time 16:15
Relinquished by	**Received by**
Sign M Nejish	Sign T. Hurdle
Print M Nejish	Print T. Hurdleson
Firm H&A	Firm Alph
Date 12/31/12 Time 16:15	Date 12/31/12 Time 1620
Relinquished by	**Received by**
Sign T. Hurdle	Sign C
Print T. Hurdleson	Print William McClenton
Firm Alph	Firm APC
Date 12/31/12 Time 1720	Date 12/31/12 Time 1720

LIQUID	VOCs (8260)	8260 SIM (1,4Dioxane)	8270	8270 SIM	608	504	Total Cyanide	Hex Cr	TPH	Total Phenol	Total resid. Chlor (TRC)	Chloride
VOA Vial												
Amber Glass												
Plastic Bottle												
Preservative												
Volume												
LIQUID												
VOA Vial	✓	✓				✓						
Amber Glass			✓	✓	✓			✓	✓	✓		
Plastic Bottle							✓	✓			✓	✓
Preservative	AF	AF	H	A	AI	AF	AC	A	AF	AE	A	A
Volume	40ml	40ml	1L	1L	1L	40ml	500	500	500	100	500	500

PRESERVATION KEY

A Sample chilled C NaOH E H_2SO_4 G Methanol I NAZSO3
B Sample filtered D HNO_3 F HCL H Water/NaHSO4 (circle)

NOTES TO ALPHA:

Laboratory to use applicable DEP CAM methods, unless directed.

Evidence samples were tampered with? YES NO

If YES, please explain in section below.

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

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

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

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

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

_____ If this Chain of Custody Record identifies samples defined as Drinking Water Samples, Trip Blanks and Field Duplicates are included and identified and analysis of TICs are required, as appropriate. Laboratory should (specify if applicable) _____ analyze

Required Reporting Limits and Data Quality Objectives

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

WHITE - Laboratory CANARY - Project Manager PINK - Haley & Aldrich Laboratory GOLDENROD - Haley & Aldrich Contact

APRIL 2011

Form 3003

L1223540

Serial_No:01081315:51

HALEY & ALDRICH

Haley & Aldrich, Inc.
465 Medford St.,
Suite 2200,
Boston, MA 02129-1402

CHAIN OF CUSTODY RECORD

314

Phone (617) 886-7400
Fax (617) 886-7600

H&A FILE NO.	39006-000	LABORATOI	ALPHA ANALYTICAL
PROJECT NAME	McKinlock	ADDRESS	WESTBOROUGH, MA
H&A CONTACT	Leah Samanta: 617-886-7395	CONTACT	Gina Hall

DELIVERY DATE 12/31/2012
TURNAROUND TIME 5 DAY
PROJECT MANAGER Leah Samanta

Sample No.	Date	Time	Depth	Type	VOC interval	TSS - Total Susp. Solids	Total Metals	Dissolved Metals (field filtered)	Amenable Cyanide (unfiltered)	Amen. Cyanide (field filtered)	PAC (unfiltered)	PAC (field filtered)	Number of Containers	Comments (special instructions, precautions, additional method numbers, etc.)
HA12-S	12/31/2012	850	NA	GW	NA	x	x	x	x	x	x	x	28	HOLD all analyses EXCEPT Hex Chromium and Total Residual Chlor (TRC)

Analysis Requested

Sampled and Relinquished by

Sign
Print Chris Sullivan
Firm Haley & Aldrich
Date 12/31/2012 Time

Received by

Sign M. Mullins
Print M. Mullins
Firm H&A
Date 12/31/12 Time 16:15

Relinquished by

Sign M. Mullins
Print M. Mullins
Firm H&A
Date 12/31/12 Time 16:15

Received by

Sign T. Thodieson
Print T. Thodieson
Firm Alpha
Date 12/31/12 Time 1620

Relinquished by

Sign T. Thodieson
Print T. Thodieson
Firm Alpha
Date 12/31/12 Time 1720

Received by

Sign
Print William McClenahan
Firm Haley
Date 12/31/12 Time 1726

	LIQUID							SOLID				
VOA Vial												
Amber Glass												
Plastic Bottle	✓	✓	✓	✓	✓	✓	✓					
Preservative	A	AD	AD	AD	AC	AC	AC					
Volume	1000	250ml	250ml		500ml	500ml	500ml					
Clear Glass												
Preservative												
Volume												

PRESERVATION KEY

A Sample chilled C NaOH E H_2SO_4 G Methanol
B Sample filtered D HNO_3 F HCL H Water/NaHSO4 (circl

NOTES TO ALPHA:

Laboratory to use applicable DEP CAM methods, unless otherwise directed.

Evidence samples were tampered with? YES NO

If YES, please explain in section below.

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

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

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

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

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

_____ If this Chain of Custody Record identifies samples defined as Drinking Water Samples, Trip Blanks and Field Duplicates are included and identified and analysis of TICs are required, as appropriate. Laboratory should (specify if applicable) _____ analyze

Required Reporting Limits and Data Quality Objectives

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

WHITE - Laboratory CANARY - Project Manager PINK - Haley & Aldrich Laboratory GOLDENROD - Haley & Aldrich Contact

APRIL 2011

Form 3003

L1223540

Serial_No:01081315:51

CHAIN OF CUSTODY RECORD

2014

HALEY & ALDRICH

Haley & Aldrich, Inc.
465 Medford St.,
Suite 2200,
Boston, MA 02129-1402

Phone (617) 886-7400
Fax (617) 886-7600

H&A FILE NO.	39006-000	LABORATOI	ALPHA ANALYTICAL	DELIVERY DATE	12/31/2012
PROJECT NAME	McKinlock	ADDRESS	WESTBOROUGH, MA	TURNAROUND TIME	5 DAY
H&A CONTACT	Leah Samanta: 617-886-7395	CONTACT	Gina Hall	PROJECT MANAGER	Leah Samanta

Sample No.	Date	Time	Depth	Type	VOC interval	VOCs (8260)	8260 SIM (1,4Dioxane)	8270	8270 SIM	608	504	Total Cyanide	Hex Cr	TPH	Total Phenol	Total resid. Chlor (TRC)	Chloride	Number of Containers	Comments (special instructions, precautions, additional method numbers, etc.)
HA12-5	12/31/2012	8:50	NA	GW	NA	x	x	x	x	x	x	x	x	x	x	x	x	28	HOLD all analyses EXCEPT Hex Chromium and Total Residual Chlor (TRC)
TRIP BLANK			NA	GW	NA	x	x				x							4	

Analysis Requested

Sampled and Relinquished by	Received by
Sign Chris Sullivan	Sign M Ayish
Print Chris Sullivan	Print M. Ayish
Firm Haley & Aldrich	Firm H&A
Date 12/31/2012 Time 15:10	Date 12/31/12 Time 16:15
Relinquished by	**Received by**
Sign M Ayish	Sign T. Hudiel
Print M Ayish	Print T. Hudiesor
Firm H&A	Firm Alph
Date 12/31/12 Time 16:15	Date 12/31/12 Time 1620
Relinquished by	**Received by**
Sign T. Hudiel	Sign C
Print T. Hudiesor	Print William McClenta
Firm Alph	Firm ALPH
Date 12/31/12 Time 1720	Date 12/31/12 Time 1720

LIQUID	VOC	8260 SIM	8270	8270 SIM	608	504	Total Cyanide	Hex Cr	TPH	Total Phenol	Total resid. Chlor (TRC)	Chloride
VOA Vial												
Amber Glass												
Plastic Bottle												
Preservative												
Volume												
LIQUID												
VOA Vial	✓	✓				✓						
Amber Glass			✓	✓	✓			✓	✓	✓		
Plastic Bottle							✓	✓			✓	✓
Preservative	AF	AF	H	A	AI	AF	AC	A	AF	AE	A	A
Volume	40ml	40ml	1L	1L	1L	40ml	500	500	500	100	500	500

PLASTIC

PRESERVATION KEY

A Sample chilled	C NaOH	E H_2SO_4	G Methanol	I NA2S2O3
B Sample filtered	D HNO_3	F HCL	H Water/NaHSO4 (circle)	

NOTES TO ALPHA:

~~Laboratory to use applicable DEP CAM methods, unless otherwise directed.~~

Laboratory to use NPDES methods.
LMS 1/2/2013

Evidence samples were tampered with? YES NO

If YES, please explain in section below.

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

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

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

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

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

_____ If this Chain of Custody Record identifies samples defined as Drinking Water Samples, Trip Blanks and Field Duplicates are included and identified and analysis of TICs are required, as appropriate. Laboratory should (specify if applicable) _____ analyze

Required Reporting Limits and Data Quality Objectives

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

WHITE - Laboratory CANARY - Project Manager PINK - Haley & Aldrich Laboratory GOLDENROD - Haley & Aldrich Contact

APRIL 2011

Form 3003

L1223540

Serial_No:01081315:51

CHAIN OF CUSTODY RECORD

3 of 4

HALEY & ALDRICH

Haley & Aldrich, Inc.
465 Medford St.,
Suite 2200,
Boston, MA 02129-1402

Phone (617) 886-7400
Fax (617) 886-7600

H&A FILE NO.	39006-000	LABORATOI	ALPHA ANALYTICAL
PROJECT NAME	McKinlock	ADDRESS	WESTBOROUGH, MA
H&A CONTACT	Leah Samanta: 617-886-7395	CONTACT	Gina Hall

DELIVERY DATE 12/31/2012
TURNAROUND TIME 5 DAY
PROJECT MANAGER Leah Samanta

Sample No.	Date	Time	Depth	Type	VOC interval	TSS - Total Susp. Solids	Total Metals	Dissolved Metals (field filtered)	Amenable Cyanide (unfiltered)	Amen. Cyanide (field filtered)	PAC (unfiltered)	PAC (field filtered)	Number of Containers	Comments (special instructions, precautions, additional method numbers, etc.)
HA12-5	12/31/2012	850	NA	GW	NA	x	x	x	x	x	x	x	28	HOLD all analyses EXCEPT Hex Chromium and Total Residual Chlor (TRC)

Analysis Requested

Sampled and Relinquished by
Sign
Print Chris Sullivan
Firm Haley & Aldrich
Date 12/31/2012 Time

Received by
Sign
Print
Firm H&A
Date 12/31/12 Time 16:15

Relinquished by
Sign
Print
Firm H&A
Date 12/31/12 Time 16:15

Received by
Sign
Print J. Thoodleson
Firm Alpha
Date 12/31/12 Time 1620

Relinquished by
Sign
Print T. Thoodleson
Firm Alpha
Date 12/31/12 Time 1720

Received by
Sign
Print William McClenahan
Firm Hyo
Date 12/31/12 Time 1726

	TSS - Total Susp. Solids	Total Metals	Dissolved Metals (field filtered)	Amenable Cyanide (unfiltered)	Amen. Cyanide (field filtered)	PAC (unfiltered)	PAC (field filtered)	
LIQUID								
VOA Vial								
Amber Glass								
Plastic Bottle	✓	✓	✓	✓	✓	✓	✓	
Preservative	A	AD	AD	AD	AC	AC	AC	
Volume	1000	250ml	250ml		500ml	500ml	500ml	
SOLID								
VOA Vial								
Amber Glass								
Clear Glass								
Preservative								
Volume								

PRESERVATION KEY

A Sample chilled	C NaOH	E H_2SO_4	G Methanol
B Sample filtered	D HNO_3	F HCL	H Water/NaHSO4 (circ)

NOTES TO ALPHA:

~~Laboratory to use applicable DEP CAM methods, unless otherwise directed.~~

Laboratory to use NPDES methods.
LMS 1/2/2013

Evidence samples were tampered with? YES NO

If YES, please explain in section below.

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

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

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

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

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

_____ If this Chain of Custody Record identifies samples defined as Drinking Water Samples, Trip Blanks and Field Duplicates are included and identified and analysis of TICs are required, as appropriate. Laboratory should (specify if applicable) _____ analyze

Required Reporting Limits and Data Quality Objectives

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

WHITE - Laboratory CANARY - Project Manager PINK - Haley & Aldrich Laboratory GOLDENROD - Haley & Aldrich Contact

APRIL 2011

Form 3003