



Northrop Grumman Corporation
1840 Century Park East
Los Angeles, California 90067-2199

Joseph P. Kwan
310-556-4514
Joe.Kwan@ngc.com

21 August 2009

Mr. Victor Alvarez
U.S. Environmental Protection Agency, Region 1
Municipal NPDES Branch (CMP)
1 Congress Street, Suite 1100
Boston, MA 02114-8127

Re: Former Swarf Disposal Area
11-17 Meridian Street
Greenfield, Massachusetts
Remediation General Permit Notice of Intent

Dear Mr. Alvarez:

Northrop Grumman Space & Mission Systems Corp. is submitting this Notice of Intent for the Remediation General Permit for the Former Swarf Disposal Area located at 11-17 Meridian Street in Greenfield, Massachusetts. Remediation General Permit authorization is sought for discharge related to the operation of a temporary groundwater treatment system. This system treats water associated with excavation dewatering for the remedial excavation proceeding under the Massachusetts Contingency Plan.

If you have any questions, please feel free to contact Dana Himmel of Camp Dresser & McKee Inc. at (617) 452-6380.

Sincerely,

A handwritten signature in blue ink, appearing to read 'J. Kwan', with a long horizontal stroke extending to the right.

Joseph P. Kwan
Corporate Director, Environmental Remediation
on behalf of Northrop Grumman Space & Mission Systems Corp.

Enclosure

cc: Ben Fish, MassDEP
Division of Watershed Management, MassDEP
Christine Forgey, Mayor of Town of Greenfield
Steve Mulligan, ID Environmental Associates
Ernest Ashley, Camp Dresser & McKee

**Remediation General Permit
Notice of Intent**

B. Suggested Form for Notice of Intent (NOI) for the Remediation General Permit

1. General site information. Please provide the following information about the site:

a) Name of facility/site :		Facility/site address:	
Location of facility/site : longitude:_____ latitude:_____	Facility SIC code(s):	Street:	
b) Name of facility/site owner :		Town:	
Email address of owner:	State:	Zip:	County:
Telephone no.of facility/site owner :			
Fax no. of facility/site owner :	Owner is (check one): 1. Federal____ 2. State/Tribal____ 3. Private____ 4. other, if so, describe:		
Address of owner (if different from site):			
Street:			
Town:	State:	Zip:	County:
c) Legal name of operator :	Operator telephone no:		
	Operator fax no.:		Operator email:
Operator contact name and title:			
Address of operator (if different from owner):	Street:		
Town:	State:	Zip:	County:
d) Check “yes” or “no” for the following: 1. Has a prior NPDES permit exclusion been granted for the discharge? Yes___ No___, if “yes,” number: 2. Has a prior NPDES application (Form 1 & 2C) ever been filed for the discharge? Yes___ No___, if “yes,” date and tracking #: 3. Is the discharge a “new discharge” as defined by 40 CFR 122.2? Yes___ No___ 4. For sites in Massachusetts, is the discharge covered under the MA Contingency Plan (MCP) and exempt from state permitting? Yes__ No__			

e) Is site/facility subject to any State permitting or other action which is causing the generation of discharge? Yes___ No___ If “yes,” please list: 1. site identification # assigned by the state of NH or MA: 2. permit or license # assigned: 3. state agency contact information: name, location, and telephone number:	f) Is the site/facility covered by any other EPA permit, including: 1. multi-sector storm water general permit? Y___ N___, if Y, number: 2. phase I or II construction storm water general permit? Y___ N___, if Y, number: 3. individual NPDES permit? Y___ N___, if Y, number: 4. any other water quality related permit? Y___ N___, if Y, number:
---	--

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

a) Describe the discharge activities for which the owner/applicant is seeking coverage:			
b) Provide the following information about each discharge:	<table border="1"> <tr> <td style="vertical-align: top;">1) Number of discharge points:</td> <td> 2) What is the maximum and average flow rate of discharge (in cubic feet per second, ft³/s)? Max. flow_____ Average flow_____ Is maximum flow a design value? Y___ N___ For average flow, include the units and appropriate notation if this value is a design value or estimate if not available. </td> </tr> </table>	1) Number of discharge points:	2) What is the maximum and average flow rate of discharge (in cubic feet per second, ft ³ /s)? Max. flow_____ Average flow_____ Is maximum flow a design value ? Y___ N___ For average flow, include the units and appropriate notation if this value is a design value or estimate if not available.
1) Number of discharge points:	2) What is the maximum and average flow rate of discharge (in cubic feet per second, ft ³ /s)? Max. flow_____ Average flow_____ Is maximum flow a design value ? Y___ N___ For average flow, include the units and appropriate notation if this value is a design value or estimate if not available.		
3) Latitude and longitude of each discharge within 100 feet: pt.1:long._____ lat._____; pt.2: long._____ lat._____; pt.3: long._____ lat._____; pt.4:long._____ lat._____; pt.5: long._____ lat._____; pt.6:long._____ lat._____; pt.7: long._____ lat._____; pt.8:long._____ lat._____; etc.			
4) If hydrostatic testing, total volume of the discharge (gals):	5) Is the discharge intermittent_____or seasonal_____? Is discharge ongoing Yes _____ No _____?		
c) Expected dates of discharge (mm/dd/yy): start_____ end_____			
d) Please attach a line drawing or flow schematic showing water flow through the facility including: 1. sources of intake water, 2. contributing flow from the operation, 3. treatment units, and 4. discharge points and receiving waters(s).			

3. Contaminant information. In order to complete this section, the applicant will need to take a minimum of one sample of the untreated water and have it analyzed for **all** of the parameters listed in Appendix III. Historical data, (i.e., data taken no more than 2 years prior to the effective date of the permit) may be used if obtained pursuant to: i. Massachusetts' regulations 310 CMR 40.0000, the Massachusetts Contingency Plan ("Chapter 21E"); ii. New Hampshire's Title 50 RSA 485-A: Water Pollution and Waste Disposal or Title 50 RSA 485-C: Groundwater Protection Act; or iii. an EPA permit exclusion letter issued pursuant to 40 CFR 122.3, provided the data was analyzed with test methods that meet the requirements of this permit. Otherwise, a new sample shall be taken and analyzed.

a) Based on the analysis of the sample(s) of the untreated influent, the applicant must check the box of the sub-categories that the potential discharge falls within.

Gasoline Only	VOC Only	Primarily Metals	Urban Fill Sites	Contaminated Sumps	Mixed Contaminants	Aquifer Testing
Fuel Oils (and Other Oils) only	VOC with Other Contaminants	Petroleum with Other Contaminants	Listed Contaminated Sites	Contaminated Dredge Condensates	Hydrostatic Testing of Pipelines/Tanks	Well Development or Rehabilitation

b) Based on the analysis of the untreated influent, the applicant must indicate whether each listed chemical is **believed present** or **believed absent** in the potential discharge. Attach additional sheets as needed.

PARAMETER	Believe Absent	Believe Present	# of Samples (1 minimum)	Type of Sample (e.g., grab)	Analytical Method Used (method #)	Minimum Level (ML) of Test Method	Maximum daily value		Avg. daily value	
							concentration (ug/l)	mass (kg)	concentration (ug/l)	mass (kg)
1. Total Suspended Solids										
2. Total Residual Chlorine										
3. Total Petroleum Hydrocarbons										
4. Cyanide										
5. Benzene										
6. Toluene										
7. Ethylbenzene										
8. (m,p,o) Xylenes										
9. Total BTEX ⁴										

⁴BTEX = Sum of Benzene, Toluene, Ethylbenzene, total Xylenes.

PARAMETER	Believe Absent	Believe Present	# of Samples (1 minimum)	Type of Sample (e.g., grab)	Analytical Method Used (method #)	Minimum Level (ML) of Test Method	Maximum daily value		Avg. daily value	
							concentration (ug/l)	mass (kg)	concentration (ug/l)	mass (kg)
10. Ethylene Dibromide ⁵ (1,2- Dibromo-methane)										
11. Methyl-tert-Butyl Ether (MtBE)										
12. tert-Butyl Alcohol (TBA)										
13. tert-Amyl Methyl Ether (TAME)										
14. Naphthalene										
15. Carbon Tetra-chloride										
16. 1,4 Dichlorobenzene										
17. 1,2 Dichlorobenzene										
18. 1,3 Dichlorobenzene										
19. 1,1 Dichloroethane										
20. 1,2 Dichloroethane										
21. 1,1 Dichloroethylene										
22. cis-1,2 Dichloro-ethylene										
23. Dichloromethane (Methylene Chloride)										
24. Tetrachloroethylene										

⁵EDB is a groundwater contaminant at fuel spill and pesticide application sites in New England.

PARAMETER	Believe Absent	Believe Present	# of Samples (1 minimum)	Type of Sample (e.g., grab)	Analytical Method Used (method #)	Minimum Level (ML) of Test Method	Maximum daily value		Avg. daily Value	
							concentration (ug/l)	mass (kg)	concentration (ug/l)	mass (kg)
25. 1,1,1 Trichloroethane										
26. 1,1,2 Trichloroethane										
27. Trichloroethylene										
28. Vinyl Chloride										
29. Acetone										
30. 1,4 Dioxane										
31. Total Phenols										
32. Pentachlorophenol										
33. Total Phthalates ⁶ (Phthalate esthers)										
34. Bis (2-Ethylhexyl) Phthalate [Di-(ethylhexyl) Phthalate]										
35. Total Group I Polycyclic Aromatic Hydrocarbons (PAH)										
a. Benzo(a) Anthracene										
b. Benzo(a) Pyrene										
c. Benzo(b)Fluoranthene										
d. Benzo(k) Fluoranthene										
e. Chrysene										

⁶The sum of individual phthalate compounds.

PARAMETER	Believe Absent	Believe Present	# of Samples (1 min- imum)	Type of Sample (e.g., grab)	Analytical Method Used (method #)	Minimum Level (ML) of Test Method	Maximum daily value		Average daily value	
							concentration (ug/l)	mass (kg)	concentration (ug/l)	mass (kg)
f. Dibenzo(a,h) anthracene										
g. Indeno(1,2,3-cd) Pyrene										
36. Total Group II Polycyclic Aromatic Hydrocarbons (PAH)										
h. Acenaphthene										
i. Acenaphthylene										
j. Anthracene										
k. Benzo(ghi) Perylene										
l. Fluoranthene										
m. Fluorene										
n. Naphthalene-										
o. Phenanthrene										
p. Pyrene										
37. Total Polychlorinated Biphenyls (PCBs)										
38. Antimony										
39. Arsenic										
40. Cadmium										
41. Chromium III										
42. Chromium VI										

PARAMETER	Believe Absent	Believe Present	# of Samples (1 minimum)	Type of Sample (e.g., grab)	Analytical Method Used (method #)	Minimum Level (ML) of Test Method	Maximum daily value		Avg. daily value	
							concentration (ug/l)	mass (kg)	concentration (ug/l)	mass (kg)
43. Copper										
44. Lead										
45. Mercury										
46. Nickel										
47. Selenium										
48. Silver										
49. Zinc										
50. Iron										
Other (describe):										

c) For discharges where **metals** are believed present, please fill out the following:

<i>Step 1:</i> Do any of the metals in the influent have a reasonable potential to exceed the effluent limits in Appendix III (i.e., the limits set at zero to five dilutions)? Y____ N____	If yes, which metals?
<i>Step 2:</i> For any metals which have reasonable potential to exceed the Appendix III limits, calculate the dilution factor (DF) using the formula in Part I.A.3.c) (step 2) of the NOI instructions or as determined by the State prior to the submission of this NOI. What is the dilution factor for applicable metals? Metals: _____ DF: _____	Look up the limit calculated at the corresponding dilution factor in Appendix IV. Do any of the metals in the influent have the potential to exceed the corresponding effluent limits in Appendix IV (i.e., is the influent concentration above the limit set at the calculated dilution factor)? Y____ N____ If "Yes," list which metals:

4. Treatment system information. Please describe the treatment system using separate sheets as necessary, including:

a) A description of the treatment system, including a schematic of the proposed or existing treatment system:						
b) Identify each applicable treatment unit (check all that apply):	Frac. tank	Air stripper	Oil/water separator	Equalization tanks	Bag filter	GAC filter
	Chlorination	Dechlorination	Other (please describe):			
c) Proposed average and maximum flow rates (gallons per minute) for the discharge and the design flow rate(s) (gallons per minute) of the treatment system: Average flow rate of discharge _____ Maximum flow rate of treatment system _____ Design flow rate of treatment system _____						
d) A description of chemical additives being used or planned to be used (attach MSDS sheets):						

5. Receiving surface water(s). Please provide information about the receiving water(s), using separate sheets as necessary:

a) Identify the discharge pathway:	Direct _____	Within facility__	Storm drain_____	River/brook_____	Wetlands _____	Other (describe):
b) Provide a narrative description of the discharge pathway, including the name(s) of the receiving waters:						
c) Attach a detailed map(s) indicating the site location and location of the outfall to the receiving water: 1. For multiple discharges, number the discharges sequentially. 2. For indirect dischargers, indicate the location of the discharge to the indirect conveyance and the discharge to surface water The map should also include the location and distance to the nearest sanitary sewer as well as the locus of nearby sensitive receptors (based on USGS topographical mapping), such as surface waters, drinking water supplies, and wetland areas.						
d) Provide the state water quality classification of the receiving water _____,						
e) Provide the reported or calculated seven day-ten year low flow (7Q10) of the receiving water _____ cfs Please attach any calculation sheets used to support stream flow and dilution calculations.						
f) Is the receiving water a listed 303(d) water quality impaired or limited water? Yes _____ No _____ If yes, for which pollutant(s)? Is there a TMDL? Yes _____ No _____ If yes, for which pollutant(s)?						

6. Results of Consultation with Federal Services: Please provide the following information according to requirements of Part I.B.4 and Appendices II and VII.

a) Are any listed threatened or endangered species, or designated critical habitat, in proximity to the discharge? Yes ☒ No ☐ Has any consultation with the federal services been completed? Yes ☒ No ☐ or is consultation underway? Yes ☐ No ☒ What were the results of the consultation with the U.S. Fish and Wildlife Service and/or National Marine 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?
b) Are any historic properties listed or eligible for listing on the National Register of Historic Places located on the facility or site or in proximity to the discharge? Yes ☐ No ☒ Have any state or tribal historic preservation officer been consulted in this determination (Massachusetts only)? Yes ☒ No ☐

7. Supplemental information. :

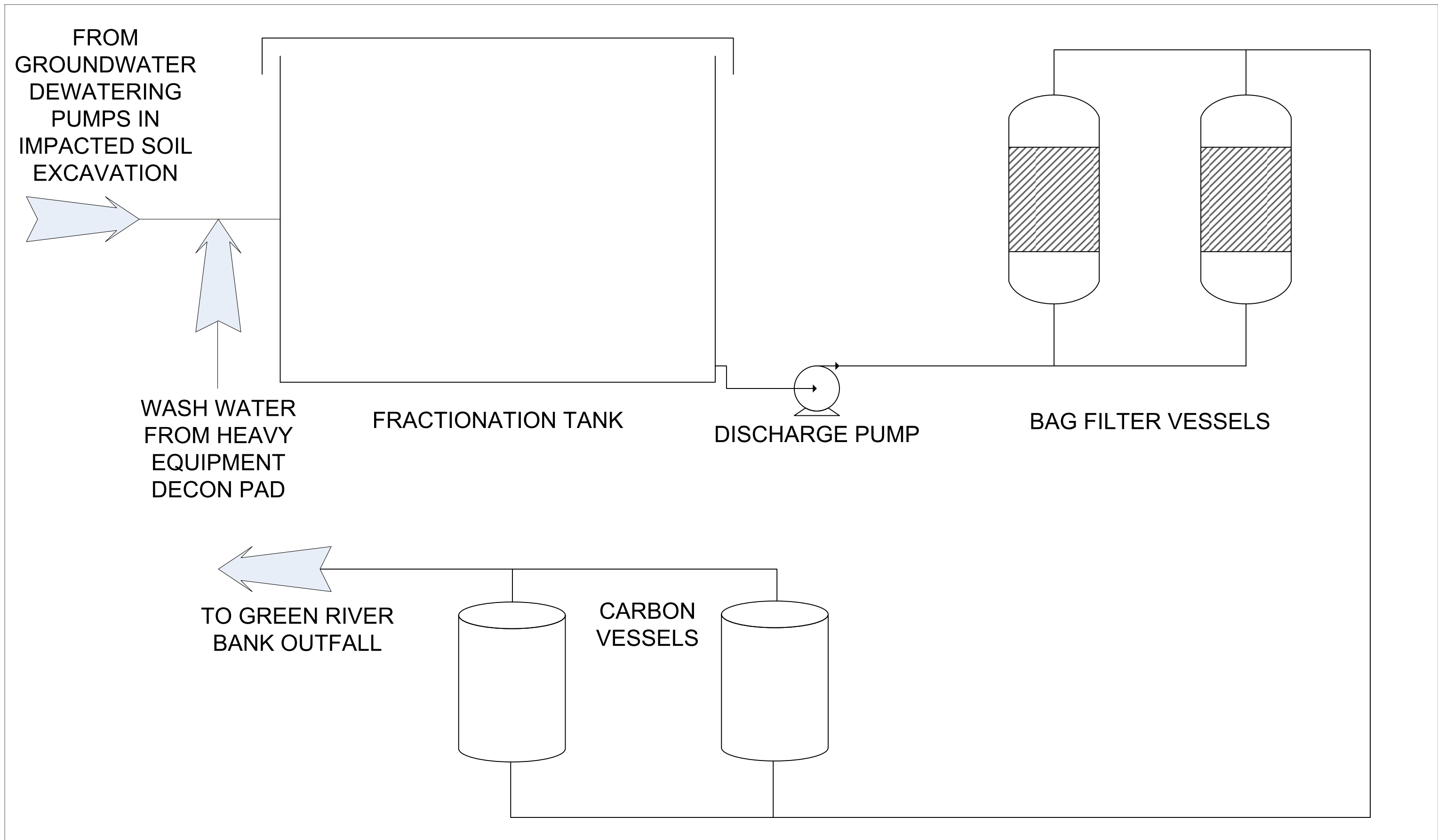
Please provide any supplemental information. Attach any analytical data used to support the application. Attach any certification(s) required by the general permit.
--

8. Signature Requirements: The Notice of Intent must be signed by the operator in accordance with the signatory requirements of 40 CFR Section 122.22, including the following certification:

I certify under penalty of law that 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/Site Name:	Former Swarf Disposal Area
Operator signature:	
Title:	Corporate Director, Environmental Remediation
Date:	8/21/2009

Flow Schematic



Dilution Factor Calculation

$$DF = (Q_d + Q_s)/Q_d$$

Where: **DF = Dilution Factor**
 Q_d = Maximum flow rate of the discharge in cubic feet per second (cfs)
 (1.0 gpm = .00223 cfs)
 Q_s = Receiving water 7Q₁₀ flow (cfs) where,
 7Q₁₀ = The minimum flow (cfs) for 7 consecutive days with a recurrence
 interval of 10 years

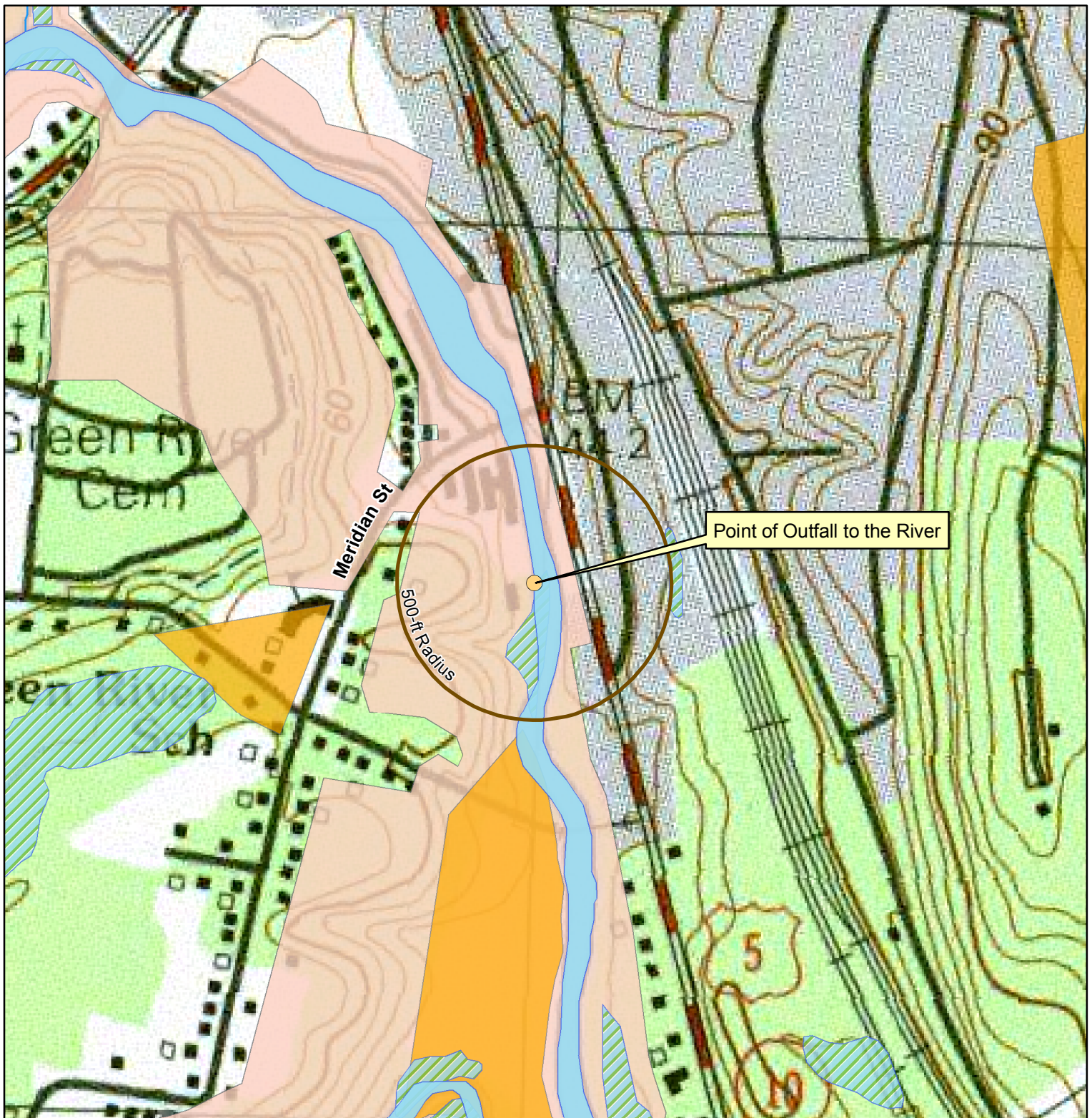
$$Q_d = 0.6244 \text{ cfs}$$

$$Q_s = 10.7 \text{ cfs}$$

$$DF = (0.6244 + 10.7)/0.6244$$

$$DF = 18.14$$

Site Location Map



Legend

- | | |
|--|------------------------------|
| Protected Open Space | Public Water Supply (Wells) |
| High Yield Aquifer | NHESP Certified Vernal Pools |
| Medium Yield Aquifer | |
| Sole Source Aquifer | |
| Zone A | |
| Zone II | |
| Non-potential Drinking Water Supply Area | |
| Interim Wellhead Protection Area (IWPA) | |
| DEP Wetlands | |
| Areas of Critical Environmental Concern | |
| NHESP Priority Habitats of Rare Species | |

Note: Distance from Outfall to nearest sewer located on Meridian Street is approximately 580 ft.



0 250 500
Feet

Discharge Location and Environmental Receptors Map Former Swarf Disposal Area Greenfield, Massachusetts

Basemap: USGS 7.5-minute Topographic Quad.
Source: MassGIS
Datum: NAD 83
Coor. Sys.: Mass. State Plane Mainland (feet)

CDM

Laboratory Analytical Reports

ANALYTICAL REPORT

Job Number: 360-17253-1

Job Description: Northrop Grumman Greenfield

For:

Camp Dresser & McKee Inc
1 Cambridge Place
50 Hampshire Place
Cambridge, MA 02139
Attention: Mr. Ernest Ashley



Designee for
Beata A Fleury
Project Manager II
beata.fleury@testamericainc.com
07/03/2008

The test results in this report meet all NELAC requirements for accredited parameters. Any exceptions to NELAC requirements are noted in this report. Pursuant to NELAC, this report may not be reproduced except in full, and with written approval from the laboratory. TestAmerica Westfield Certifications and Approvals: MADEP MA014, RIDOH57, CTDPH 0494, VT DECWSD, NH DES 253903-A, NELAP FL E87912 TOX, NELAP NJ MA008 TOX, NELAP NY 10843, NY DOH 10843.

Table of Contents

Cover Title Page	1
Report Narrative	3
Method Summary	5
Method / Analyst Summary	6
Sample Summary	7
Sample Results	8
Sample Datasheets	9
Data Qualifiers	14
QC Results	15
Qc Association Summary	16
Qc Reports	19
Sample Receipt Checklist	27
Client Chain of Custody	29

CASE NARRATIVE

Client: Camp Dresser & McKee Inc

Project: Northrop Grumman Greenfield

Report Number: 360-17253-1

The samples were received on 06/19/2008; the samples arrived in good condition, properly preserved and on ice. The temperature of the coolers at receipt was x.x°C.

SEMIVOLATILE ORGANICS

Samples 360-17253-1 and 360-17253-2 were analyzed for semivolatile organics in accordance with EPA SW846 Method 8270C. The samples were prepared on 06/24/2008 and analyzed on 06/30/2008.

All QC performance standards and recommendations for this specific method were achieved with the exception of:

2,4,6-Tribromophenol failed the surrogate recovery criteria high for 360-17253-1 (130%). Per method SOP, re-extraction is only required if two or more surrogates from any one fraction fail or any single surrogate falls below 10%.

1,2-DIBROMOETHANE AND 1,2-DIBROMO-3-CHLOROPROPANE BY MICROEXTRACTION AND GAS CHROMATOGRAPHY

Samples 360-17253-1 and 360-17253-2 were analyzed for 1,2-dibromoethane and 1,2-dibromo-3-chloropropane by microextraction and gas chromatography in accordance with EPA SW846 Method 8011. The samples were prepared and analyzed on 07/01/2008.

All QC performance standards and recommendations for this specific method were achieved.

CYANIDE

Samples 360-17253-1 and 360-17253-2 were analyzed for Cyanide in accordance with 10-204-00-1-A. The samples were prepared on 06/26/2008 and analyzed on 06/27/2008.

All QC performance standards and recommendations for this specific method were achieved.

TOTAL PHENOL

Samples 360-17253-1 and 360-17253-2 were analyzed for total phenol in accordance with LACHAT 10-210-00-1. The samples were prepared and analyzed on 06/25/2008.

All QC performance standards and recommendations for this specific method were achieved.

1664A

Samples 360-17253-1 and 360-17253-2 were analyzed for 1664A in accordance with EPA Method 1664A. The samples were prepared on 06/30/2008 and analyzed on 06/30/2008 and 07/02/2008.

This method was performed at TestAmerica Chicago, 2417 Bond Street, University Park, IL 60466.

All QC performance standards and recommendations for this specific method were achieved.

TOTAL SUSPENDED SOLIDS

Samples 360-17253-1 and 360-17253-2 were analyzed for Total Suspended Solids in accordance with SM 2540D. The samples were analyzed on 06/24/2008.

All QC performance standards and recommendations for this specific method were achieved.

PH

Sample 360-17253-1 was analyzed for pH in accordance with SM 4500 H+ B. The samples were analyzed on 06/20/2008.

All QC performance standards and recommendations for this specific method were achieved.

This case narrative is available in Word format upon request.

METHOD SUMMARY

Client: Camp Dresser & McKee Inc

Job Number: 360-17253-1

Description	Lab Location	Method	Preparation Method
Matrix: Water			
Semivolatile Organic Compounds by GCMS - Low Levels	TAL WFD	SW846 8270C	
Separatory Funnel Liquid-Liquid Extraction	TAL WFD		SW846 3510C
EDB, DBCP, and 123TCP by Microextraction and Gas Chromatography	TAL WFD	SW846 8011	
EDB, DBCP, and 123TCP in Water by Microextraction	TAL WFD		SW846 8011
Lachat - Total Cyanide	TAL WFD	QuickChem 10-204-00-1-A	
Distillation/Cyanide	TAL WFD		Distill/CN
Lachat Total Phenolics	TAL WFD	QuickChem 10-210-00-1	
Distillation/Phenolics	TAL WFD		Distill/Phenol
HEM and SGT-HEM by Extraction and Gravimetry	TAL CHI	1664A 1664A	
HEM and SGT-HEM by Extraction and Gravimetry/Solid	TAL CHI		1664A 1664A
Total Suspended Solids Dried at 103-105°C	TAL WFD	SM SM 2540D	
pH	TAL WFD	SM SM 4500 H+ B	

Lab References:

TAL CHI = TestAmerica Chicago

TAL WFD = TestAmerica Westfield

Method References:

1664A = EPA-821-98-002

QuickChem = Lachat Instruments

SM = "Standard Methods For The Examination Of Water And Wastewater",

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

METHOD / ANALYST SUMMARY

Client: Camp Dresser & McKee Inc

Job Number: 360-17253-1

Method	Analyst	Analyst ID
SW846 8270C	Sullivan, Pat J	PJS
SW846 8011	Sullivan, Pat J	PJS
QuickChem 10-204-00-1-A	Lalashius, Andrew L	ALL
QuickChem 10-210-00-1	Lalashius, Andrew L	ALL
1664A 1664A	Dreger, Daniel R	DRD
SM SM 2540D	Sadowski, Scott	SS
SM SM 4500 H+ B	Emerich, Rich W	RWE

SAMPLE SUMMARY

Client: Camp Dresser & McKee Inc

Job Number: 360-17253-1

Lab Sample ID	Client Sample ID	Client Matrix	Date/Time Sampled	Date/Time Received
360-17253-1	MW-7	Ground Water	06/19/2008 1120	06/19/2008 1800
360-17253-2	MW-20	Ground Water	06/19/2008 1210	06/19/2008 1800

SAMPLE RESULTS

Analytical Data

Client: Camp Dresser & McKee Inc

Job Number: 360-17253-1

Client Sample ID: MW-7

Lab Sample ID: 360-17253-1
Client Matrix: Ground Water

Date Sampled: 06/19/2008 1120
Date Received: 06/19/2008 1800

8270C Semivolatile Organic Compounds by GCMS - Low Levels

Method:	8270C	Analysis Batch:	360-33697	Instrument ID:	Agilent 6890/5973 GC/MS
Preparation:	3510C	Prep Batch:	360-33425	Lab File ID:	B8459.D
Dilution:	1.0			Initial Weight/Volume:	990 mL
Date Analyzed:	06/30/2008 1934			Final Weight/Volume:	1.0 mL
Date Prepared:	06/24/2008 1250			Injection Volume:	1.0 uL

Analyte	Result (ug/L)	Qualifier	MDL	RL
Acenaphthene	0.62	J	0.34	1.0
Acenaphthylene	ND		0.29	0.30
Anthracene	ND		0.36	1.0
Benzo[a]anthracene	ND		0.30	0.30
Benzo[a]pyrene	ND		0.20	0.20
Benzo[b]fluoranthene	ND		0.26	0.30
Benzo[g,h,i]perylene	ND		0.22	0.51
Benzo[k]fluoranthene	ND		0.13	0.30
Chrysene	ND		0.35	1.0
Dibenz(a,h)anthracene	ND		0.17	0.51
Fluoranthene	ND		0.42	1.0
Fluorene	ND		0.35	1.0
Indeno[1,2,3-cd]pyrene	ND		0.21	0.51
Naphthalene	ND		0.34	1.0
Pentachlorophenol	ND		0.17	1.0
Phenanthrene	ND		0.20	0.20
Pyrene	ND		0.59	5.1

Surrogate	%Rec		Acceptance Limits
2,4,6-Tribromophenol	130	X	15 - 110
2-Fluorobiphenyl	76		30 - 130
2-Fluorophenol	29		15 - 110
Nitrobenzene-d5	99		30 - 130
Phenol-d5	16		15 - 110
Terphenyl-d14	63		30 - 130

Analytical Data

Client: Camp Dresser & McKee Inc

Job Number: 360-17253-1

Client Sample ID: MW-20

Lab Sample ID: 360-17253-2
Client Matrix: Ground Water

Date Sampled: 06/19/2008 1210
Date Received: 06/19/2008 1800

8270C Semivolatile Organic Compounds by GCMS - Low Levels

Method: 8270C	Analysis Batch: 360-33697	Instrument ID: Agilent 6890/5973 GC/MS
Preparation: 3510C	Prep Batch: 360-33425	Lab File ID: B8458.D
Dilution: 1.0		Initial Weight/Volume: 990 mL
Date Analyzed: 06/30/2008 1903		Final Weight/Volume: 1.0 mL
Date Prepared: 06/24/2008 1250		Injection Volume: 1.0 uL

Analyte	Result (ug/L)	Qualifier	MDL	RL
Acenaphthene	6.9		0.34	1.0
Acenaphthylene	ND		0.29	0.30
Anthracene	ND		0.36	1.0
Benzo[a]anthracene	ND		0.30	0.30
Benzo[a]pyrene	ND		0.20	0.20
Benzo[b]fluoranthene	ND		0.26	0.30
Benzo[g,h,i]perylene	ND		0.22	0.51
Benzo[k]fluoranthene	ND		0.13	0.30
Chrysene	ND		0.35	1.0
Dibenz(a,h)anthracene	ND		0.17	0.51
Fluoranthene	1.4		0.42	1.0
Fluorene	4.4		0.35	1.0
Indeno[1,2,3-cd]pyrene	ND		0.21	0.51
Naphthalene	ND		0.34	1.0
Pentachlorophenol	ND		0.17	1.0
Phenanthrene	ND		0.20	0.20
Pyrene	1.8	J	0.59	5.1

Surrogate	%Rec	Acceptance Limits
2,4,6-Tribromophenol	70	15 - 110
2-Fluorobiphenyl	59	30 - 130
2-Fluorophenol	28	15 - 110
Nitrobenzene-d5	83	30 - 130
Phenol-d5	15	15 - 110
Terphenyl-d14	59	30 - 130

Analytical Data

Client: Camp Dresser & McKee Inc

Job Number: 360-17253-1

Client Sample ID: MW-7

Lab Sample ID: 360-17253-1

Date Sampled: 06/19/2008 1120

Client Matrix: Ground Water

Date Received: 06/19/2008 1800

8011 EDB, DBCP, and 123TCP by Microextraction and Gas Chromatography

Method: 8011

Analysis Batch: 360-33746

Instrument ID: 6890 GC w/ dual

Preparation: 8011

Prep Batch: 360-33745

Lab File ID: M0984.D

Dilution: 1.0

Initial Weight/Volume: 35 mL

Date Analyzed: 07/01/2008 2013

Final Weight/Volume: 35.52 mL

Date Prepared: 07/01/2008 1100

Injection Volume:

Column ID: PRIMARY

Analyte	Result (ug/L)	Qualifier	MDL	RL
Ethylene Dibromide	ND		0.0071	0.020

Analytical Data

Client: Camp Dresser & McKee Inc

Job Number: 360-17253-1

Client Sample ID: MW-20

Lab Sample ID: 360-17253-2

Date Sampled: 06/19/2008 1210

Client Matrix: Ground Water

Date Received: 06/19/2008 1800

8011 EDB, DBCP, and 123TCP by Microextraction and Gas Chromatography

Method: 8011

Analysis Batch: 360-33746

Instrument ID: 6890 GC w/ dual

Preparation: 8011

Prep Batch: 360-33745

Lab File ID: M0986.D

Dilution: 1.0

Initial Weight/Volume: 35 mL

Date Analyzed: 07/01/2008 2044

Final Weight/Volume: 34.91 mL

Date Prepared: 07/01/2008 1100

Injection Volume:

Column ID: PRIMARY

Analyte	Result (ug/L)	Qualifier	MDL	RL
Ethylene Dibromide	ND		0.0070	0.020

Analytical Data

Client: Camp Dresser & McKee Inc

Job Number: 360-17253-1

General Chemistry**Client Sample ID: MW-7**Lab Sample ID: 360-17253-1
Client Matrix: Ground WaterDate Sampled: 06/19/2008 1120
Date Received: 06/19/2008 1800

Analyte	Result	Qual	Units	MDL	RL	Dil	Method
SGT-HEM	200		mg/L	1.8	5.0	1.0	1664A
	Anly Batch: 500-41446	Date Analyzed		07/02/2008 0952			
	Prep Batch: 500-41348	Date Prepared:		06/30/2008 1333			
Analyte	Result	Qual	Units	RL	RL	Dil	Method
Total Suspended Solids	4600		mg/L	50	50	1.0	SM 2540D
	Anly Batch: 360-33420	Date Analyzed		06/24/2008 1131			
Cyanide, Total	ND		mg/L	0.0060	0.0060	1.0	10-204-00-1-A
	Anly Batch: 360-33602	Date Analyzed		06/27/2008 1221			
	Prep Batch: 360-33550	Date Prepared:		06/26/2008 1420			
Phenols, Total	0.015		mg/L	0.0084	0.0084	1.0	10-210-00-1
	Anly Batch: 360-33472	Date Analyzed		06/25/2008 1034			
	Prep Batch: 360-33459	Date Prepared:		06/25/2008 0813			
pH	6.83		HF SU	0.100	0.100	1.0	SM 4500 H+ B
	Anly Batch: 360-33293	Date Analyzed		06/20/2008 0823			

Client Sample ID: MW-20Lab Sample ID: 360-17253-2
Client Matrix: Ground WaterDate Sampled: 06/19/2008 1210
Date Received: 06/19/2008 1800

Analyte	Result	Qual	Units	MDL	RL	Dil	Method
SGT-HEM	ND		mg/L	1.8	5.1	1.0	1664A
	Anly Batch: 500-41354	Date Analyzed		06/30/2008 1530			
	Prep Batch: 500-41348	Date Prepared:		06/30/2008 1346			
Analyte	Result	Qual	Units	RL	RL	Dil	Method
Total Suspended Solids	ND		mg/L	2.5	2.5	1.0	SM 2540D
	Anly Batch: 360-33420	Date Analyzed		06/24/2008 1131			
Cyanide, Total	ND		mg/L	0.0060	0.0060	1.0	10-204-00-1-A
	Anly Batch: 360-33602	Date Analyzed		06/27/2008 1222			
	Prep Batch: 360-33550	Date Prepared:		06/26/2008 1420			
Phenols, Total	ND		mg/L	0.0073	0.0073	1.0	10-210-00-1
	Anly Batch: 360-33472	Date Analyzed		06/25/2008 1035			
	Prep Batch: 360-33459	Date Prepared:		06/25/2008 0813			

DATA REPORTING QUALIFIERS

Client: Camp Dresser & McKee Inc

Job Number: 360-17253-1

Lab Section	Qualifier	Description
GC/MS Semi VOA	J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
	X	Surrogate exceeds the control limits
General Chemistry	HF	Field parameter with a holding time of 15 minutes

QUALITY CONTROL RESULTS

Quality Control Results

Client: Camp Dresser & McKee Inc

Job Number: 360-17253-1

QC Association Summary

Lab Sample ID	Client Sample ID	Report Basis	Client Matrix	Method	Prep Batch
GC/MS Semi VOA					
Prep Batch: 360-33425					
LCS 360-33425/2-A	Lab Control Spike	T	Water	3510C	
LCSD 360-33425/3-A	Lab Control Spike Duplicate	T	Water	3510C	
MB 360-33425/1-A	Method Blank	T	Water	3510C	
360-17253-1	MW-7	T	Water	3510C	
360-17253-2	MW-20	T	Water	3510C	
Analysis Batch:360-33697					
LCS 360-33425/2-A	Lab Control Spike	T	Water	8270C	360-33425
LCSD 360-33425/3-A	Lab Control Spike Duplicate	T	Water	8270C	360-33425
MB 360-33425/1-A	Method Blank	T	Water	8270C	360-33425
360-17253-1	MW-7	T	Water	8270C	360-33425
360-17253-2	MW-20	T	Water	8270C	360-33425
GC Semi VOA					
Prep Batch: 360-33745					
LCS 360-33745/2-A	Lab Control Spike	T	Water	8011	
LCSD 360-33745/3-A	Lab Control Spike Duplicate	T	Water	8011	
MB 360-33745/1-A	Method Blank	T	Water	8011	
360-17253-1	MW-7	T	Water	8011	
360-17253-2	MW-20	T	Water	8011	
Analysis Batch:360-33746					
LCS 360-33745/2-A	Lab Control Spike	T	Water	8011	360-33745
LCSD 360-33745/3-A	Lab Control Spike Duplicate	T	Water	8011	360-33745
MB 360-33745/1-A	Method Blank	T	Water	8011	360-33745
360-17253-1	MW-7	T	Water	8011	360-33745
360-17253-2	MW-20	T	Water	8011	360-33745

Report Basis

T = Total

Report Basis

T = Total

Quality Control Results

Client: Camp Dresser & McKee Inc

Job Number: 360-17253-1

QC Association Summary

Lab Sample ID	Client Sample ID	Report Basis	Client Matrix	Method	Prep Batch
General Chemistry					
Analysis Batch:360-33293					
LCS 360-33293/1	Lab Control Spike	T	Water	SM 4500 H+ B	
360-17253-1	MW-7	T	Water	SM 4500 H+ B	
360-17253-1DU	Duplicate	T	Water	SM 4500 H+ B	
Analysis Batch:360-33420					
LCS 360-33420/2	Lab Control Spike	T	Water	SM 2540D	
MB 360-33420/1	Method Blank	T	Water	SM 2540D	
360-17253-1	MW-7	T	Water	SM 2540D	
360-17253-2	MW-20	T	Water	SM 2540D	
Prep Batch: 360-33459					
LCS 360-33459/2-A	Lab Control Spike	T	Water	Distill/Phenol	
MB 360-33459/1-A	Method Blank	T	Water	Distill/Phenol	
360-17253-1	MW-7	T	Water	Distill/Phenol	
360-17253-2	MW-20	T	Water	Distill/Phenol	
Analysis Batch:360-33472					
LCS 360-33459/2-A	Lab Control Spike	T	Water	10-210-00-1	360-33459
MB 360-33459/1-A	Method Blank	T	Water	10-210-00-1	360-33459
360-17253-1	MW-7	T	Water	10-210-00-1	360-33459
360-17253-2	MW-20	T	Water	10-210-00-1	360-33459
Prep Batch: 360-33550					
LCS 360-33550/2-A	Lab Control Spike	T	Water	Distill/CN	
MB 360-33550/1-A	Method Blank	T	Water	Distill/CN	
360-17253-1	MW-7	T	Water	Distill/CN	
360-17253-2	MW-20	T	Water	Distill/CN	
Analysis Batch:360-33602					
LCS 360-33550/2-A	Lab Control Spike	T	Water	10-204-00-1-A	360-33550
MB 360-33550/1-A	Method Blank	T	Water	10-204-00-1-A	360-33550
360-17253-1	MW-7	T	Water	10-204-00-1-A	360-33550
360-17253-2	MW-20	T	Water	10-204-00-1-A	360-33550
Prep Batch: 500-41348					
LCS 500-41348/2-A	Lab Control Spike	T	Water	1664A	
LCSD 500-41348/3-A	Lab Control Spike Duplicate	T	Water	1664A	
MB 500-41348/1-A	Method Blank	T	Water	1664A	
360-17253-1	MW-7	T	Water	1664A	
360-17253-2	MW-20	T	Water	1664A	
Analysis Batch:500-41354					
360-17253-2	MW-20	T	Water	1664A	500-41348

TestAmerica Westfield

Quality Control Results

Client: Camp Dresser & McKee Inc

Job Number: 360-17253-1

QC Association Summary

Lab Sample ID	Client Sample ID	Report Basis	Client Matrix	Method	Prep Batch
General Chemistry					
Analysis Batch:500-41446					
LCS 500-41348/2-A	Lab Control Spike	T	Water	1664A	500-41348
LCSD 500-41348/3-A	Lab Control Spike Duplicate	T	Water	1664A	500-41348
MB 500-41348/1-A	Method Blank	T	Water	1664A	500-41348
360-17253-1	MW-7	T	Water	1664A	500-41348

Report Basis

T = Total

Quality Control Results

Client: Camp Dresser & McKee Inc

Job Number: 360-17253-1

Method Blank - Batch: 360-33425

Lab Sample ID: MB 360-33425/1-A
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 06/30/2008 1553
Date Prepared: 06/24/2008 1250

Analysis Batch: 360-33697
Prep Batch: 360-33425
Units: ug/L

Method: 8270C Preparation: 3510C

Instrument ID: Agilent 6890/5973 GC/MS
Lab File ID: B8452.D
Initial Weight/Volume: 1000 mL
Final Weight/Volume: 1.0 mL
Injection Volume: 1.0 uL

Analyte	Result	Qual	MDL	RL
Acenaphthene	ND		0.33	1.0
Acenaphthylene	ND		0.28	0.30
Anthracene	ND		0.36	1.0
Benzo[a]anthracene	ND		0.30	0.30
Benzo[a]pyrene	ND		0.20	0.20
Benzo[b]fluoranthene	ND		0.25	0.30
Benzo[g,h,i]perylene	ND		0.22	0.50
Benzo[k]fluoranthene	ND		0.13	0.30
Chrysene	ND		0.35	1.0
Dibenz(a,h)anthracene	ND		0.17	0.50
Fluoranthene	ND		0.42	1.0
Fluorene	ND		0.35	1.0
Indeno[1,2,3-cd]pyrene	ND		0.21	0.50
Naphthalene	ND		0.34	1.0
Pentachlorophenol	ND		0.17	1.0
Phenanthrene	ND		0.20	0.20
Pyrene	ND		0.58	5.0
Surrogate	% Rec	Acceptance Limits		
2,4,6-Tribromophenol	47	15 - 110		
2-Fluorobiphenyl	58	30 - 130		
2-Fluorophenol	29	15 - 110		
Nitrobenzene-d5	79	30 - 130		
Phenol-d5	15	15 - 110		
Terphenyl-d14	75	30 - 130		

Calculations are performed before rounding to avoid round-off errors in calculated results.

Quality Control Results

Client: Camp Dresser & McKee Inc

Job Number: 360-17253-1

**Lab Control Spike/
Lab Control Spike Duplicate Recovery Report - Batch: 360-33425**

**Method: 8270C
Preparation: 3510C**

LCS Lab Sample ID: LCS 360-33425/2-A
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 06/30/2008 1625
Date Prepared: 06/24/2008 1250

Analysis Batch: 360-33697
Prep Batch: 360-33425
Units: ug/L

Instrument ID: Agilent 6890/5973 GC/MS
Lab File ID: B8453.D
Initial Weight/Volume: 1000 mL
Final Weight/Volume: 1.0 mL
Injection Volume: 1.0 uL

LCSD Lab Sample ID: LCSD 360-33425/3-A
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 06/30/2008 1656
Date Prepared: 06/24/2008 1250

Analysis Batch: 360-33697
Prep Batch: 360-33425
Units: ug/L

Instrument ID: Agilent 6890/5973 GC/MS
Lab File ID: B8454.D
Initial Weight/Volume: 1000 mL
Final Weight/Volume: 1.0 mL
Injection Volume: 1.0 uL

Analyte	% Rec.		Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
	LCS	LCSD					
Acenaphthene	59	63	40 - 140	6	20		
Acenaphthylene	74	77	40 - 140	4	20		
Anthracene	69	73	40 - 140	5	20		
Benzo[a]anthracene	69	76	40 - 140	10	20		
Benzo[a]pyrene	71	76	40 - 140	7	20		
Benzo[b]fluoranthene	61	71	40 - 140	14	20		
Benzo[g,h,i]perylene	66	73	40 - 140	9	20		
Benzo[k]fluoranthene	75	80	40 - 140	6	20		
Chrysene	66	73	40 - 140	9	20		
Dibenz(a,h)anthracene	57	64	40 - 140	12	20		
Fluoranthene	69	72	40 - 140	4	20		
Fluorene	63	67	40 - 140	6	20		
Indeno[1,2,3-cd]pyrene	59	67	40 - 140	12	20		
Naphthalene	83	84	40 - 140	2	20		
Pentachlorophenol	61	69	30 - 130	13	20		
Phenanthrene	58	59	40 - 140	3	20		
Pyrene	71	71	40 - 140	0	20		
Surrogate	LCS % Rec		LCSD % Rec		Acceptance Limits		
2,4,6-Tribromophenol	64		69		15 - 110		
2-Fluorobiphenyl	59		63		30 - 130		
2-Fluorophenol	28		31		15 - 110		
Nitrobenzene-d5	83		89		30 - 130		
Phenol-d5	15		18		15 - 110		
Terphenyl-d14	65		71		30 - 130		

Calculations are performed before rounding to avoid round-off errors in calculated results.

Quality Control Results

Client: Camp Dresser & McKee Inc

Job Number: 360-17253-1

Method Blank - Batch: 360-33745

Lab Sample ID: MB 360-33745/1-A
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 07/01/2008 1927
Date Prepared: 07/01/2008 1100

Analysis Batch: 360-33746
Prep Batch: 360-33745
Units: ug/L

Method: 8011 Preparation: 8011

Instrument ID: 6890 GC w/ dual micro-ECI
Lab File ID: M0981.D
Initial Weight/Volume: 35 mL
Final Weight/Volume: 35 mL
Injection Volume:
Column ID: PRIMARY

Analyte	Result	Qual	MDL	RL
Ethylene Dibromide	ND		0.0070	0.020

Lab Control Spike/ Lab Control Spike Duplicate Recovery Report - Batch: 360-33745

Method: 8011 Preparation: 8011

LCS Lab Sample ID: LCS 360-33745/2-A
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 07/01/2008 1942
Date Prepared: 07/01/2008 1100

Analysis Batch: 360-33746
Prep Batch: 360-33745
Units: ug/L

Instrument ID: 6890 GC w/ dual micro-EC
Lab File ID: M0982.D
Initial Weight/Volume: 35 mL
Final Weight/Volume: 35 mL
Injection Volume:
Column ID: PRIMARY

LCSD Lab Sample ID: LCSD 360-33745/3-A
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 07/01/2008 1958
Date Prepared: 07/01/2008 1100

Analysis Batch: 360-33746
Prep Batch: 360-33745
Units: ug/L

Instrument ID: 6890 GC w/ dual micro-E
Lab File ID: M0983.D
Initial Weight/Volume: 35 mL
Final Weight/Volume: 35 mL
Injection Volume:
Column ID: PRIMARY

Analyte	% Rec.		Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
	LCS	LCSD					
Ethylene Dibromide	127	112	70 - 130	12	20		

Calculations are performed before rounding to avoid round-off errors in calculated results.

Quality Control Results

Client: Camp Dresser & McKee Inc

Job Number: 360-17253-1

Method Blank - Batch: 360-33550

Lab Sample ID: MB 360-33550/1-A
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 06/27/2008 1216
Date Prepared: 06/26/2008 1420

Analysis Batch: 360-33602
Prep Batch: 360-33550
Units: mg/L

Method: 10-204-00-1-A Preparation: Distill/CN

Instrument ID: No Equipment Assigned
Lab File ID: N/A
Initial Weight/Volume: 50 mL
Final Weight/Volume: 30 mL

Analyte	Result	Qual	RL	RL
Cyanide, Total	ND		0.0060	0.0060

Lab Control Spike - Batch: 360-33550

Lab Sample ID: LCS 360-33550/2-A
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 06/27/2008 1217
Date Prepared: 06/26/2008 1420

Analysis Batch: 360-33602
Prep Batch: 360-33550
Units: mg/L

Method: 10-204-00-1-A Preparation: Distill/CN

Instrument ID: No Equipment Assigned
Lab File ID: N/A
Initial Weight/Volume: 50 mL
Final Weight/Volume: 30 mL

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Cyanide, Total	0.100	0.0987	99	85 - 115	

Calculations are performed before rounding to avoid round-off errors in calculated results.

Quality Control Results

Client: Camp Dresser & McKee Inc

Job Number: 360-17253-1

Method Blank - Batch: 360-33459

Lab Sample ID: MB 360-33459/1-A
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 06/25/2008 1030
Date Prepared: 06/25/2008 0813

Analysis Batch: 360-33472
Prep Batch: 360-33459
Units: mg/L

Method: 10-210-00-1 Preparation: Distill/Phenol

Instrument ID: No Equipment Assigned
Lab File ID: N/A
Initial Weight/Volume: 50 mL
Final Weight/Volume: 36 mL

Analyte	Result	Qual	RL	RL
Phenols, Total	ND		0.0072	0.0072

Lab Control Spike - Batch: 360-33459

Lab Sample ID: LCS 360-33459/2-A
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 06/25/2008 1031
Date Prepared: 06/25/2008 0813

Analysis Batch: 360-33472
Prep Batch: 360-33459
Units: mg/L

Method: 10-210-00-1 Preparation: Distill/Phenol

Instrument ID: No Equipment Assigned
Lab File ID: N/A
Initial Weight/Volume: 50 mL
Final Weight/Volume: 37 mL

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Phenols, Total	0.100	0.112	112	85 - 115	

Calculations are performed before rounding to avoid round-off errors in calculated results.

Quality Control Results

Client: Camp Dresser & McKee Inc

Job Number: 360-17253-1

Method Blank - Batch: 500-41348

Lab Sample ID: MB 500-41348/1-A
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 07/02/2008 0930
Date Prepared: 06/30/2008 1015

Analysis Batch: 500-41446
Prep Batch: 500-41348
Units: mg/L

Method: 1664A Preparation: 1664A

Instrument ID: No Equipment Assigned
Lab File ID: N/A
Initial Weight/Volume: 1000 mL
Final Weight/Volume: 1000 mL

Analyte	Result	Qual	MDL	RL
SGT-HEM	ND		1.8	5.0

Lab Control Spike/ Lab Control Spike Duplicate Recovery Report - Batch: 500-41348

Method: 1664A Preparation: 1664A

LCS Lab Sample ID: LCS 500-41348/2-A
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 07/02/2008 0937
Date Prepared: 06/30/2008 1028

Analysis Batch: 500-41446
Prep Batch: 500-41348
Units: mg/L

Instrument ID: No Equipment Assigned
Lab File ID: N/A
Initial Weight/Volume: 1000 mL
Final Weight/Volume: 1000 mL

LCSD Lab Sample ID: LCSD 500-41348/3-A
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 07/02/2008 0945
Date Prepared: 06/30/2008 1041

Analysis Batch: 500-41446
Prep Batch: 500-41348
Units: mg/L

Instrument ID: No Equipment Assigned
Lab File ID: N/A
Initial Weight/Volume: 1000 mL
Final Weight/Volume: 1000 mL

Analyte	% Rec.		Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
	LCS	LCSD					
SGT-HEM	68	73	64 - 132	6	34		

Calculations are performed before rounding to avoid round-off errors in calculated results.

Quality Control Results

Client: Camp Dresser & McKee Inc

Job Number: 360-17253-1

Method Blank - Batch: 360-33420

Lab Sample ID: MB 360-33420/1
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 06/24/2008 1131
Date Prepared: N/A

Analysis Batch: 360-33420
Prep Batch: N/A
Units: mg/L

Method: SM 2540D Preparation: N/A

Instrument ID: No Equipment Assigned
Lab File ID: N/A
Initial Weight/Volume: 250 mL
Final Weight/Volume: 100 mL

Analyte	Result	Qual	RL	RL
Total Suspended Solids	ND		2.0	2.0

Lab Control Spike - Batch: 360-33420

Lab Sample ID: LCS 360-33420/2
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 06/24/2008 1131
Date Prepared: N/A

Analysis Batch: 360-33420
Prep Batch: N/A
Units: mg/L

Method: SM 2540D Preparation: N/A

Instrument ID: No Equipment Assigned
Lab File ID: N/A
Initial Weight/Volume: 100 mL
Final Weight/Volume: 100 mL

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Total Suspended Solids	500	471	94	85 - 115	

Calculations are performed before rounding to avoid round-off errors in calculated results.

Quality Control Results

Client: Camp Dresser & McKee Inc

Job Number: 360-17253-1

Lab Control Spike - Batch: 360-33293

Method: SM 4500 H+ B
Preparation: N/A

Lab Sample ID: LCS 360-33293/1
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 06/20/2008 0819
Date Prepared: N/A

Analysis Batch: 360-33293
Prep Batch: N/A
Units: SU

Instrument ID: MAN-TECH Ion Plus
Lab File ID: N/A
Initial Weight/Volume:
Final Weight/Volume: 1.0 mL

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
pH	6.00	5.940	99	90 - 110	

Duplicate - Batch: 360-33293

Method: SM 4500 H+ B
Preparation: N/A

Lab Sample ID: 360-17253-1
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 06/20/2008 0827
Date Prepared: N/A

Analysis Batch: 360-33293
Prep Batch: N/A
Units: SU

Instrument ID: MAN-TECH Ion Plus Autoti
Lab File ID: N/A
Initial Weight/Volume:
Final Weight/Volume: 1.0 mL

Analyte	Sample Result/Qual	Result	RPD	Limit	Qual
pH	6.83	6.860	0	20	

Calculations are performed before rounding to avoid round-off errors in calculated results.

Login Sample Receipt Check List

Client: Camp Dresser & McKee Inc

Job Number: 360-17253-1

Login Number: 17253

List Source: TestAmerica Westfield

Creator: Rinard, Kimberley A

List Number: 1

Question	T / F / NA	Comment
Radioactivity either was not measured or, if measured, is at or below background	N/A	
The cooler's custody seal, if present, is intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	False	6.5 C / 8.5 C / 3.9 C
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
There are no discrepancies between the sample IDs on the containers and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	True	
If necessary, staff have been informed of any short hold time or quick TAT needs	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	

Login Sample Receipt Check List

Client: Camp Dresser & McKee Inc

Job Number: 360-17253-1

Login Number: 17253

Creator: James, Jeff A

List Number: 1

List Source: TestAmerica Chicago

List Creation: 06/21/08 09:46 AM

Question	T / F / NA	Comment
Radioactivity either was not measured or, if measured, is at or below background	True	
The cooler's custody seal, if present, is intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	2.0
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
There are no discrepancies between the sample IDs on the containers and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	N/A	
If necessary, staff have been informed of any short hold time or quick TAT needs	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	

Chain of Custody Form

● 53 Southampton Road
 Westfield, MA 01085
 (P) 413-572-4000
 (F) 413-572-3707

● 148 Rangeway Road
 N. Billerica, MA 01862
 (P) 978-687-1400
 (F) 978-667-7871

Boston - Service Center
Westfield

Client: CDM	Client Project #: _____	Job# 360-1253	Quote# _____	PO# _____	Comments (Special Instructions)
Address: 50 Hampshire Street Cambridge, MA 02139		Site ID & State: Former Swarf Disposal Area - MA		Invoice same as Report to? ☐	
Phone: (617) 452-6000 Fax: _____		Reports Sent To: Ernest Ashley		Please print legibly. If the analytical requests are not clearly defined on the chain-of-custody, the turnaround time will begin after all questions have been satisfactorily answered.	
Email: ashleye@cdm.com		Email Rpt: ☒		Comments:	
Requested Turnaround Time (PLEASE SPECIFY)		Regulatory Programs/Presumptive Certainty/QC Forms		500-series for drinking water 600-series for waste water, NPDES 8000-series for groundwater, soil, waste Use comments section for further define.	
STANDARD ☒ RUSH ☐		MADEP MCP ☐ GW1/S1 ☐ PWS DEP Forms ☐			
		CTDEP RCP ☐ CT RSR ☐ EDD Required ☐			
		QA Rpt: No QC ☐ Std QC Rpt ☐ CLP QC Rpt ☐			
Sample Type Codes: WW-Wastewater, DW-Drinking Water, SW-Surface Water, GW-Groundwater, LW Lab Water, A-Air, "Z"-Other (please specify)		Preservative		500-series for drinking water 600-series for waste water, NPDES 8000-series for groundwater, soil, waste Use comments section for further define.	
Sample I.D.		Date			
Sample Type		Time Collected			
Sample's Initials					
MW-7		6/19/08 11:20		PCBs Test / Herbicide 525 / 625 / 82/00 524 / 624 / 82600 None / 4° C Na2S2O3 NaOH to pH >12 HCl to pH <2 H2SO4 to pH <2 HNO3 to pH <2 NaHSO4/MeOH Plastic(P) or Glass(G) # Containers Comp. Grab	
MW-20		6/19/08 12:10		EPA / VPH / TSS BRO / GRO / TPH Metals (Please Specify) Mercury / Cyanide General Chemistry (PH) Bacteriological / ISOCL-1 Toxicity - EDB For Phenols Pentachlorophenol Bact. STM	
Page 29 of 29					

Sampled by (print): Susan Gyszkiewicz		Signature: _____	
Relinquished by: Susan Gyszkiewicz		Received by: WHL	
Date: 6/19/08		Date: 6/19/08	
Time: 18:00		Time: 1300	
Relinquished by: _____		Received by: _____	
Date: _____		Date: _____	
Time: _____		Time: _____	
Relinquished by: _____		Received by: _____	
Date: _____		Date: _____	
Time: _____		Time: _____	

WESTFIELD

Page 1 of 1

White = Lab file Yellow = Report copy Pink = Customer copy

ALPHA ANALYTICAL

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

MA:M-MA086 NH:2003 CT:PH-0574 ME:MA0086 RI:LA000065 NY:11148 NJ:MA935 Army:USACE

CERTIFICATE OF ANALYSIS

Client: Camp Dresser & McKee, Inc.

Laboratory Job Number: L0809107

Address: 1 Cambridge Place
50 Hampshire Street
Cambridge, MA 02139

Date Received: 19-JUN-2008

Date Reported: 25-JUN-2008

Attn: Mr. Ernest Ashley

Delivery Method: Alpha

Project Number:

Site: FORMER SWARF DISPOSAL AREA

ALPHA SAMPLE NUMBER	CLIENT IDENTIFICATION	SAMPLE LOCATION
L0809107-01	MW-7	GREENFIELD, MA
L0809107-02	MW-20	GREENFIELD, MA

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

Authorized by: _____

Technical Representative

**ALPHA ANALYTICAL
NARRATIVE REPORT**

Laboratory Job Number: L0809107

The samples were received in accordance with the chain of custody and no significant deviations were encountered during preparation or analysis unless otherwise noted below.

Report Submission

The analysis of Phthalates (8270) was performed at our Mansfield facility. A copy of the laboratory report will be issued under separate cover.

**ALPHA ANALYTICAL
CERTIFICATE OF ANALYSIS**

MA:M-MA086 NH:2003 CT:PH-0574 ME:MA0086 RI:LA000065 NY:11148 NJ:MA935 Army:USACE

Laboratory Sample Number: L0809107-01

MW-7

Sample Matrix: WATER

Date Collected: 19-JUN-2008 11:20

Date Received : 19-JUN-2008

Date Reported : 25-JUN-2008

Condition of Sample: Satisfactory

Field Prep: None

Number & Type of Containers: 2-Amber,3-Plastic,2-Vial

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Chlorine, Total Residual	ND	mg/l	0.02	30 4500CL-D		0619 21:15	JO
Chromium, Hexavalent	ND	mg/l	0.010	30 3500CR-D	0619 22:05	0619 22:05	LR
Trivalent Chromium				30 3500-Cr		0625 10:00	ED
Trivalent Chromium	0.076	mg/l	0.010	30 3500-Cr			ED
Total Metals							
Antimony, Total	0.0015	mg/l	0.0005	1 6020	0620 12:00	0624 05:58	BM
Arsenic, Total	0.0145	mg/l	0.0005	1 6020	0620 12:00	0624 05:58	BM
Cadmium, Total	0.0015	mg/l	0.0002	1 6020	0620 12:00	0624 05:58	BM
Chromium, Total	0.0758	mg/l	0.0005	1 6020	0620 12:00	0624 05:58	BM
Copper, Total	0.1011	mg/l	0.0005	1 6020	0620 12:00	0624 05:58	BM
Iron, Total	84	mg/l	0.05	19 200.7	0620 12:00	0623 11:37	MG
Lead, Total	0.1178	mg/l	0.0005	1 6020	0620 12:00	0624 05:58	BM
Mercury, Total	0.0007	mg/l	0.0002	3 245.1	0620 16:00	0623 13:43	RC
Nickel, Total	0.0619	mg/l	0.0005	1 6020	0620 12:00	0624 05:58	BM
Selenium, Total	0.004	mg/l	0.001	1 6020	0620 12:00	0624 05:58	BM
Silver, Total	0.0013	mg/l	0.0004	1 6020	0620 12:00	0624 05:58	BM
Zinc, Total	0.4219	mg/l	0.0050	1 6020	0620 12:00	0624 05:58	BM
Volatile Organics by GC/MS 8260				1 8260B		0623 18:34	GK
Methylene chloride	ND	ug/l	5.0				
1,1-Dichloroethane	ND	ug/l	0.75				
Carbon tetrachloride	ND	ug/l	0.50				
1,1,2-Trichloroethane	ND	ug/l	0.75				
Tetrachloroethene	ND	ug/l	0.50				
1,2-Dichloroethane	ND	ug/l	0.50				
1,1,1-Trichloroethane	ND	ug/l	0.50				
Benzene	ND	ug/l	0.50				
Toluene	ND	ug/l	0.75				
Ethylbenzene	ND	ug/l	0.50				
Vinyl chloride	ND	ug/l	1.0				
1,1-Dichloroethene	ND	ug/l	0.50				
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				

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

**ALPHA ANALYTICAL
CERTIFICATE OF ANALYSIS**

Laboratory Sample Number: L0809107-01
MW-7

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE PREP ANAL	ID
Volatile Organics by GC/MS 8260 cont'd				1 8260B	0623 18:34	GK
Methyl tert butyl ether	ND	ug/l	1.0			
p/m-Xylene	ND	ug/l	1.0			
o-Xylene	ND	ug/l	1.0			
cis-1,2-Dichloroethene	ND	ug/l	0.50			
Styrene	ND	ug/l	1.0			
Acetone	ND	ug/l	5.0			
Naphthalene	ND	ug/l	2.5			
Tert-Butyl Alcohol	ND	ug/l	30.			
Tertiary-Amyl Methyl Ether	ND	ug/l	2.0			
1,4-Dioxane	ND	ug/l	250			
Surrogate(s)	Recovery		QC Criteria			
1,2-Dichloroethane-d4	95.0	%	70-130			
Toluene-d8	97.0	%	70-130			
4-Bromofluorobenzene	88.0	%	70-130			
Dibromofluoromethane	98.0	%	70-130			
Polychlorinated Biphenyls				5 608	0620 11:10 0623 18:48	JB
Aroclor 1016	ND	ug/l	0.260			
Aroclor 1221	ND	ug/l	0.260			
Aroclor 1232	ND	ug/l	0.260			
Aroclor 1242	ND	ug/l	0.260			
Aroclor 1248	ND	ug/l	0.260			
Aroclor 1254	ND	ug/l	0.260			
Aroclor 1260	ND	ug/l	0.260			
Surrogate(s)	Recovery		QC Criteria			
2,4,5,6-Tetrachloro-m-xylene	64.0	%	30-150			
Decachlorobiphenyl	59.0	%	30-150			

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

**ALPHA ANALYTICAL
CERTIFICATE OF ANALYSIS**

MA:M-MA086 NH:2003 CT:PH-0574 ME:MA0086 RI:LA000065 NY:11148 NJ:MA935 Army:USACE

Laboratory Sample Number: L0809107-02	Date Collected: 19-JUN-2008 12:10
	Date Received : 19-JUN-2008
Sample Matrix: MW-20 WATER	Date Reported : 25-JUN-2008
Condition of Sample: Satisfactory	Field Prep: None
Number & Type of Containers: 2-Amber,3-Plastic,2-Vial	

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE PREP	ANAL	ID
Chlorine, Total Residual	ND	mg/l	0.02	30 4500CL-D		0619 21:15	JO
Chromium, Hexavalent	ND	mg/l	0.010	30 3500CR-D	0619 22:05	0619 22:05	LR
Trivalent Chromium				30 3500-Cr		0625 10:00	ED
Trivalent Chromium	ND	mg/l	0.010	30 3500-Cr			ED
Total Metals							
Antimony, Total	ND	mg/l	0.0005	1 6020	0620 12:00	0624 06:04	BM
Arsenic, Total	0.0014	mg/l	0.0005	1 6020	0620 12:00	0624 06:04	BM
Cadmium, Total	ND	mg/l	0.0002	1 6020	0620 12:00	0624 06:04	BM
Chromium, Total	ND	mg/l	0.0005	1 6020	0620 12:00	0624 06:04	BM
Copper, Total	0.0012	mg/l	0.0005	1 6020	0620 12:00	0624 06:04	BM
Iron, Total	0.64	mg/l	0.05	19 200.7	0620 12:00	0623 11:40	MG
Lead, Total	0.0068	mg/l	0.0005	1 6020	0620 12:00	0624 06:04	BM
Mercury, Total	ND	mg/l	0.0002	3 245.1	0620 16:00	0623 13:45	RC
Nickel, Total	0.0023	mg/l	0.0005	1 6020	0620 12:00	0624 06:04	BM
Selenium, Total	ND	mg/l	0.001	1 6020	0620 12:00	0624 06:04	BM
Silver, Total	ND	mg/l	0.0004	1 6020	0620 12:00	0624 06:04	BM
Zinc, Total	0.0251	mg/l	0.0050	1 6020	0620 12:00	0624 06:04	BM
Volatile Organics by GC/MS 8260				1 8260B		0623 19:08	GK
Methylene chloride	ND	ug/l	5.0				
1,1-Dichloroethane	ND	ug/l	0.75				
Carbon tetrachloride	ND	ug/l	0.50				
1,1,2-Trichloroethane	ND	ug/l	0.75				
Tetrachloroethene	ND	ug/l	0.50				
1,2-Dichloroethane	ND	ug/l	0.50				
1,1,1-Trichloroethane	ND	ug/l	0.50				
Benzene	ND	ug/l	0.50				
Toluene	ND	ug/l	0.75				
Ethylbenzene	ND	ug/l	0.50				
Vinyl chloride	ND	ug/l	1.0				
1,1-Dichloroethene	ND	ug/l	0.50				
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				

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

**ALPHA ANALYTICAL
CERTIFICATE OF ANALYSIS**

Laboratory Sample Number: L0809107-02
MW-20

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE PREP ANAL	ID
Volatile Organics by GC/MS 8260 cont'd				1 8260B	0623 19:08	GK
Methyl tert butyl ether	ND	ug/l	1.0			
p/m-Xylene	ND	ug/l	1.0			
o-Xylene	ND	ug/l	1.0			
cis-1,2-Dichloroethene	1.3	ug/l	0.50			
Styrene	ND	ug/l	1.0			
Acetone	ND	ug/l	5.0			
Naphthalene	ND	ug/l	2.5			
Tert-Butyl Alcohol	ND	ug/l	30.			
Tertiary-Amyl Methyl Ether	ND	ug/l	2.0			
1,4-Dioxane	ND	ug/l	250			
Surrogate(s)	Recovery		QC Criteria			
1,2-Dichloroethane-d4	95.0	%	70-130			
Toluene-d8	96.0	%	70-130			
4-Bromofluorobenzene	89.0	%	70-130			
Dibromofluoromethane	103	%	70-130			
Polychlorinated Biphenyls				5 608	0620 11:10 0623 19:00	JB
Aroclor 1016	ND	ug/l	0.260			
Aroclor 1221	ND	ug/l	0.260			
Aroclor 1232	ND	ug/l	0.260			
Aroclor 1242	ND	ug/l	0.260			
Aroclor 1248	ND	ug/l	0.260			
Aroclor 1254	ND	ug/l	0.260			
Aroclor 1260	ND	ug/l	0.260			
Surrogate(s)	Recovery		QC Criteria			
2,4,5,6-Tetrachloro-m-xylene	58.0	%	30-150			
Decachlorobiphenyl	107	%	30-150			

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

**ALPHA ANALYTICAL
QUALITY ASSURANCE BATCH DUPLICATE ANALYSIS**

Laboratory Job Number: L0809107

Parameter	Value 1	Value 2	Units	RPD	RPD Limits
Chlorine, Total Residual for sample(s) 01-02 (L0809121-01, WG326294-1)					
Chlorine, Total Residual	ND	ND	mg/l	NC	
Chromium, Hexavalent for sample(s) 01-02 (L0809107-02, WG326304-3)					
Chromium, Hexavalent	ND	ND	mg/l	NC	20
Total Metals for sample(s) 01-02 (L0809105-02, WG326394-1)					
Iron, Total	0.68	0.61	mg/l	11	
Total Metals for sample(s) 01-02 (L0809105-02, WG326400-1)					
Arsenic, Total	0.0032	0.0031	mg/l	3	20
Copper, Total	0.0080	0.0074	mg/l	8	20
Lead, Total	0.0043	0.0043	mg/l	2	20
Nickel, Total	0.0036	0.0038	mg/l	5	20
Selenium, Total	0.005	0.005	mg/l	0	20
Zinc, Total	0.0179	0.0207	mg/l	14	20
Total Metals for sample(s) 01-02 (L0809107-02, WG326427-3)					
Mercury, Total	ND	ND	mg/l	NC	
Polychlorinated Biphenyls for sample(s) 01-02 (L0809070-02, WG326333-4)					
Aroclor 1016	ND	ND	ug/l	NC	30
Aroclor 1221	ND	ND	ug/l	NC	30
Aroclor 1232	ND	ND	ug/l	NC	30
Aroclor 1242	ND	ND	ug/l	NC	30
Aroclor 1248	ND	ND	ug/l	NC	30
Aroclor 1254	ND	ND	ug/l	NC	30
Aroclor 1260	ND	ND	ug/l	NC	30
Surrogate(s)	Recovery				QC Criteria
2,4,5,6-Tetrachloro-m-xylene	61.0	71.0	%		30-150
Decachlorobiphenyl	68.0	77.0	%		30-150

**ALPHA ANALYTICAL
QUALITY ASSURANCE BATCH SPIKE ANALYSES**

Laboratory Job Number: L0809107

Parameter	% Recovery	QC Criteria
Chlorine, Total Residual LCS for sample(s) 01-02 (WG326294-2)		
Chlorine, Total Residual	97	
Chromium, Hexavalent LCS for sample(s) 01-02 (WG326304-2)		
Chromium, Hexavalent	98	85-115
Total Metals LCS for sample(s) 01-02 (WG326394-4)		
Iron, Total	96	
Total Metals LCS for sample(s) 01-02 (WG326400-4)		
Antimony, Total	99	80-120
Arsenic, Total	97	80-120
Cadmium, Total	108	80-120
Chromium, Total	101	80-120
Copper, Total	98	80-120
Lead, Total	103	80-120
Nickel, Total	103	80-120
Selenium, Total	103	80-120
Silver, Total	103	80-120
Zinc, Total	105	80-120
Total Metals LCS for sample(s) 01-02 (WG326427-1)		
Mercury, Total	105	
Polychlorinated Biphenyls LCS for sample(s) 01-02 (WG326333-2)		
Aroclor 1016	73	40-126
Aroclor 1260	72	40-127
Surrogate(s)		
2,4,5,6-Tetrachloro-m-xylene	66	30-150
Decachlorobiphenyl	77	30-150
Chromium, Hexavalent SPIKE for sample(s) 01-02 (L0809105-01, WG326304-4)		
Chromium, Hexavalent	102	85-115
Total Metals SPIKE for sample(s) 01-02 (L0809105-02, WG326394-2)		
Iron, Total	82	
Total Metals SPIKE for sample(s) 01-02 (L0809105-02, WG326400-2)		
Antimony, Total	100	80-120
Arsenic, Total	100	80-120
Cadmium, Total	103	80-120
Chromium, Total	98	80-120
Copper, Total	95	80-120
Lead, Total	101	80-120
Nickel, Total	95	80-120
Selenium, Total	100	80-120
Silver, Total	96	80-120
Zinc, Total	98	80-120

**ALPHA ANALYTICAL
QUALITY ASSURANCE BATCH SPIKE ANALYSES**

Laboratory Job Number: L0809107

Continued

Parameter	% Recovery	QC Criteria
Total Metals SPIKE for sample(s) 01-02 (L0809107-02, WG326427-2)		
Mercury, Total	117	
Polychlorinated Biphenyls SPIKE for sample(s) 01-02 (L0809070-02, WG326333-3)		
Aroclor 1016	119	40-126
Aroclor 1260	76	40-127
Surrogate(s)		
2,4,5,6-Tetrachloro-m-xylene	69	30-150
Decachlorobiphenyl	74	30-150

ALPHA ANALYTICAL
QUALITY ASSURANCE BATCH LCS/LCSD ANALYSIS

Laboratory Job Number: L0809107

Parameter	LCS %	LCSD %	RPD	RPD Limit	QC Limits
Volatile Organics by GC/MS 8260 for sample(s) 01-02 (WG326710-1, WG326710-2)					
Chlorobenzene	91	95	4	20	75-130
Benzene	88	93	6	20	76-127
Toluene	90	93	3	20	76-125
1,1-Dichloroethene	96	103	7	20	61-145
Trichloroethene	86	90	5	20	71-120
Surrogate(s)					
1,2-Dichloroethane-d4	95	99	4		70-130
Toluene-d8	98	100	2		70-130
4-Bromofluorobenzene	89	90	1		70-130
Dibromofluoromethane	100	103	3		70-130

ALPHA ANALYTICAL
QUALITY ASSURANCE BATCH BLANK ANALYSIS

Laboratory Job Number: L0809107

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE PREP ANAL	ID
Blank Analysis for sample(s) 01-02 (WG326294-3)						
Chlorine, Total Residual	ND	mg/l	0.02	30 4500CL-D	0619 21:15	JO
Blank Analysis for sample(s) 01-02 (WG326304-1)						
Chromium, Hexavalent	ND	mg/l	0.010	30 3500CR-D	0619 22:05	0619 22:05 LR
Blank Analysis for sample(s) 01-02 (WG326394-3)						
Total Metals				19 200.7		
Iron, Total	ND	mg/l	0.05	19 200.7	0620 12:00	0623 11:15 MG
Blank Analysis for sample(s) 01-02 (WG326400-3)						
Total Metals						
Antimony, Total	ND	mg/l	0.0005	1 6020	0620 12:00	0623 23:38 BM
Arsenic, Total	ND	mg/l	0.0005	1 6020	0620 12:00	0623 23:38 BM
Cadmium, Total	ND	mg/l	0.0002	1 6020	0620 12:00	0623 23:38 BM
Chromium, Total	ND	mg/l	0.0005	1 6020	0620 12:00	0623 23:38 BM
Copper, Total	ND	mg/l	0.0005	1 6020	0620 12:00	0623 23:38 BM
Lead, Total	ND	mg/l	0.0005	1 6020	0620 12:00	0623 23:38 BM
Nickel, Total	ND	mg/l	0.0005	1 6020	0620 12:00	0623 23:38 BM
Selenium, Total	ND	mg/l	0.001	1 6020	0620 12:00	0623 23:38 BM
Silver, Total	ND	mg/l	0.0004	1 6020	0620 12:00	0623 23:38 BM
Zinc, Total	ND	mg/l	0.0050	1 6020	0620 12:00	0623 23:38 BM
Blank Analysis for sample(s) 01-02 (WG326427-4)						
Total Metals						
Mercury, Total	ND	mg/l	0.0002	3 245.1	0620 16:00	0623 13:22 RC
Blank Analysis for sample(s) 01-02 (WG326710-3)						
Volatile Organics by GC/MS 8260				1 8260B		0623 11:05 GK
Methylene chloride	ND	ug/l	5.0			
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			

**ALPHA ANALYTICAL
QUALITY ASSURANCE BATCH BLANK ANALYSIS**

Laboratory Job Number: L0809107

Continued

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Blank Analysis for sample(s) 01-02 (WG326710-3)							
Volatile Organics by GC/MS 8260 cont'd			1	8260B	0623 11:05 GK		
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				
Methyl tert butyl ether	ND	ug/l	1.0				
p/m-Xylene	ND	ug/l	1.0				
o-Xylene	ND	ug/l	1.0				
cis-1,2-Dichloroethene	ND	ug/l	0.50				
Dibromomethane	ND	ug/l	5.0				
1,4-Dichlorobutane	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	10.				
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				

ALPHA ANALYTICAL
QUALITY ASSURANCE BATCH BLANK ANALYSIS

Laboratory Job Number: L0809107

Continued

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE PREP ANAL	ID
Blank Analysis for sample(s) 01-02 (WG326710-3)						
Volatile Organics by GC/MS 8260 cont'd				1 8260B	0623 11:05 GK	
1,2-Dibromo-3-chloropropane	ND	ug/l	2.5			
Hexachlorobutadiene	ND	ug/l	0.50			
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	30.			
Ethyl-Tert-Butyl-Ether	ND	ug/l	2.0			
Tertiary-Amyl Methyl Ether	ND	ug/l	2.0			
1,4-Dioxane	ND	ug/l	250			
Surrogate(s)	Recovery		QC Criteria			
1,2-Dichloroethane-d4	95.0	%	70-130			
Toluene-d8	98.0	%	70-130			
4-Bromofluorobenzene	92.0	%	70-130			
Dibromofluoromethane	99.0	%	70-130			
Blank Analysis for sample(s) 01-02 (WG326333-1)						
Polychlorinated Biphenyls				5 608	0620 11:10 0623 17:34 JB	
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(s)	Recovery		QC Criteria			
2,4,5,6-Tetrachloro-m-xylene	61.0	%	30-150			
Decachlorobiphenyl	70.0	%	30-150			

**ALPHA ANALYTICAL
ADDENDUM I**

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

GLOSSARY OF TERMS AND SYMBOLS

REF	Reference number in which test method may be found.
METHOD	Method number by which analysis was performed.
ID	Initials of the analyst.
ND	Not detected in comparison to the reported detection limit.
NI	Not Ignitable.
ug/cart	Micrograms per Cartridge.
H	The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.

LIMITATION OF LIABILITIES

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

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



ALPHA Job #: 2

☐ Same as Client info PO #:

Criteria

MAMCP PRESUMPTIVE CERTAINTY --- CT REASONABLE CONFIDENCE PROTOCOLS

☐ Yes ☒ No Are MCP Analytical Methods Required?

☐ RUSH (only confirmed if pre-approved!)

Time:

ANALYSIS

☐ Yes
☐ No

☐ Yes
☒ No

Are MCP Analytical Methods Required?

Are CT RCP (Reasonable Confidence Protocol) Required?

(4500CL-D)
(8260B)
halates (8270C)
(6058)
(200.7)
(245.2)
Metals (6020)
II, Cr VI (SM 3500)

SAMPLE

Filtration
☐ Done
☒ Not ne
☐ Lab to
☐ Lab to
☐ Lab to
☐ Lab to

Please specify

SAMPLE HANDLING

Filtration

☐ Done

☒ Not needed

☐ Lab to do

Preservation

☐ Lab to do

(Please specify below)

Sample	Initials
Matrix	

Gu MBISG

ANALYSIS	
X	TRC (4500CL-D)
X	VOC (8260B)
X	Phthalates (8270C)
X	PCB (608)
X	Iron (200.7)
X	Mercury (245.2)
X	Tot. Metals (6020)
X	Cr III, Cr VI (SM 3500)

[illegible]

P	V	A	A	P	P	P	P
140	1	1	1	1	1	1	1

Date/Time

Received By

Date/Time

MA MCP or CT RCP?

compendium 2

14.5

Massachusetts

6/19/08 ihs

FORM NO: 01-01 (rev. 30-JUL-07)

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Payment Terms. See reverse side.

**Former Swarf Disposal Area
Alpha - June 2008 NOI**

Method	Parameter - 2 sets	Detection Level Need (ug/L)
4500CL-D	Total Residual Chlorine	11
8260B	Benzene	5
	Toluene	limited as ug/L total BTEX
	Ethylbenzene	limited as ug/L total BTEX
	(m,p,o) Xylenes	limited as ug/L total BTEX
	Total BTEX	100
	MTBE	70
	tert-Butyl Alcohol	none
	tert-Amyl methyl ether	none
	Naphthalene (VOC)	20
	Carbon Tetrachloride	4.4
	1,4 Dichlorobenzene	5
	1,2 Dichlorobenzene	600
	1,3 Dichlorobenzene	320
	1,1 Dichloroethane	70
	1,2 Dichloroethane	5
	1,1 Dichloroethylene	3.2
	cis-1,2 Dichloroethylene	70
	Dichloromethane (Methylene Chloride)	4.6
	Tetrachloroethylene	5
	1,1,1 Trichloroethane	200
	1,1,2 Trichloroethane	5
	Trichloroethylene	5
	Vinyl Chloride	2
	Acetone	none
	1,4 Dioxane	none
8270C	Total phthalates	3
	Bis(2-ethylhexyl)phthalate	6
EPA 608	Total Polychlorinated Biphenyls (PCBs)	0.5
6020	Antimony	5.6
	Arsenic	10
	Cadmium	0.2
	Copper	5.2
	Lead	1.3
	Nickel	29
	Selenium	5
	Silver	1.2
	Zinc	66.6
245.2	Mercury	0.9
200.7	Iron	1000
SM3500	Chromium III	48.8
	Chromium VI	11.4

Former Swarf Disposal Area Alpha - June 2008 NOI		
Method	Parameter - 2 sets	Detection Level Need (ug/L)
4500CL-D	Total Residual Chlorine	11
8260B	Benzene	5
	Toluene	limited as ug/L total BTEX
	Ethylbenzene	limited as ug/L total BTEX
	(m,p,o) Xylenes	limited as ug/L total BTEX
	Total BTEX	100
	MTBE	70
	tert-Butyl Alcohol	none
	tert-Amyl methyl ether	none
	Naphthalene (VOC)	20
	Carbon Tetrachloride	4.4
	1,4 Dichlorobenzene	5
	1,2 Dichlorobenzene	600
	1,3 Dichlorobenzene	320
	1,1 Dichloroethane	70
	1,2 Dichloroethane	5
	1,1 Dichloroethylene	3.2
	cis-1,2 Dichloroethylene	70
	Dichloromethane (Methylene Chloride)	4.6
	Tetrachloroethylene	5
	1,1,1 Trichloroethane	200
	1,1,2 Trichloroethane	5
	Trichloroethylene	5
	Vinyl Chloride	2
	Acetone	none
	1,4 Dioxane	none
8270C	Total phthalates	3
	Bis(2-ethylhexyl)phthalate	6
EPA 608	Total Polychlorinated Biphenyls (PCBs)	0.5
6020	Antimony	5.6
	Arsenic	10
	Cadmium	0.2
	Copper	5.2
	Lead	1.3
	Nickel	29
	Selenium	5
	Silver	1.2
	Zinc	66.6
245.2	Mercury	0.9
200.7	Iron	1000
SM3500	Chromium III	48.8
	Chromium VI	11.4



ANALYTICAL REPORT

Prepared for:

**Alpha Analytical - Westborough
8 Walkup Drive
Westborough, MA 01581**

Project: L0809104 - CDM
ETR: 0806136
Report Date: July 08, 2008

Certifications and Accreditations

**Massachusetts M-MA030
Connecticut PH-0141
New Hampshire 2206
Rhode Island LAO00289
New Jersey MA015
Maine MA0030
New York 11627
Louisiana 03090
Florida E87814
Pennsylvania 68-02089
Army Corps of Engineers
Department of the Navy**

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



Sample ID Cross Reference



Client: **Alpha Analytical - Westborough**
Project: **L0809104 - CDM**

Lab Code: **MA00030**
ETR: **0806136**

Lab Sample ID	Client Sample ID
0806136-01	MW-7
0806136-02	MW-20

CASE NARRATIVE

Alpha Analytical

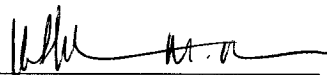
ETR: 0806136
Project: L0809104-CDM

All analyses were performed according to Alpha Analytical quality assurance program and documented Standard Operating Procedures (SOPs). The analytical results contained in this report were performed within holding time, and with appropriate quality control measures, except where noted. All soil/sediment results are reported on a dry weight basis unless otherwise noted. A summary of all state and federal accreditations is provided within this report. Blank correction of results is not performed in the laboratory for any parameter. Alpha Analytical certifies that the test results within meet all of the requirements of NELAC, for all NELAC accredited parameters.

Semi-Volatile Organics by 8270

1. Due to the viscous nature of sample MW-7 (0806136-01) utilized a final volume of 10mL instead of the normal 1mL final volume.
2. Sample MW-7 (0806136-01) had the surrogates 2,4,6-Tribromophenol and Terphenyl-d14 recovered below the 30% QC limit at 3% and 14% respectively. These recoveries were due to obvious matrix interference; therefore no corrective action was taken. In addition, the internal standard Chrysene-d12 was recovered below the 50% QC limit due to this obvious matrix effect.
3. Sample MW-20 (0806136-02) had the surrogate Phenol-d5 recovered below the 30%QC limit at 28%. The remaining surrogates were recovered within the QC limits.
4. The method blank, SW062608B03 had a concentration of Butylbenzylphthalate detected below the reporting limit as denoted with a "J" qualifier. Any associated concentration would be noted with a "B" qualifier.

The enclosed results of analyses are representative of the samples as received by the laboratory. Alpha Analytical makes no representations or certifications as to the method of sample collection, sample identification, or transporting/handling procedures used prior to the receipt of samples by Alpha Analytical. To the best of my knowledge, the information contained in this report is accurate and complete. For any questions regarding this report, please contact the signatory below at 508-822-9300.

Approved by:  Title: Technical Representative Date: 7/8/08
Kathleen O'Brien

Semi-Volatile
By
8270

Semi-Volatile Organics by 8270



Client: **Alpha Analytical - Westborough**
 Project: **L0809104 - CDM**
 Client ID: **MW-7**
 Case: **N/A** SDG: **N/A**
 Matrix: **Water**

Lab Code: **MA00030**
 ETR: **0806136**
 Lab ID: **0806136-01**
 Associated Blank: **SW062608B03**
 Concentration Units: **µg/L**

Date Collected	Date Received	Date Extracted	Date Analyzed	Sample Amount (ml)	Final Volume (ml)	Dilution Factor	Analyst
06/19/08	06/20/08	06/26/08	06/30/08	1000	10	1	ALM

Parameter	Result
Dimethylphthalate	5.00 U
Diethylphthalate	5.00 U
Di-n-butylphthalate	5.00 U
Butylbenzylphthalate	5.00 U
bis(2-Ethylhexyl)phthalate	17.4
Di-n-octylphthalate	5.00 U

Surrogate	% Recovery	Acceptance Range (%)
2-Fluorobiphenyl	66	30-130
Phenol-d5	38	30-130
Nitrobenzene-d5	85	30-130
2-Fluorophenol	54	30-130
2,4,6-Tribromophenol	3 §	30-130
Terphenyl-d14	14 §	30-130

N/A - Not Applicable

§ - Surrogate value outside of acceptable range.

U - The analyte was analyzed for but not detected at the sample specific level reported.

07/02/08 14:31

Semi-Volatile Organics by 8270



Client: **Alpha Analytical - Westborough**
 Project: **L0809104 - CDM**
 Client ID: **MW-20**
 Case: **N/A** SDG: **N/A**
 Matrix: **Water**

Lab Code: **MA00030**
 ETR: **0806136**
 Lab ID: **0806136-02**
 Associated Blank: **SW062608B03**
 Concentration Units: **µg/L**

Date Collected	Date Received	Date Extracted	Date Analyzed	Sample Amount (ml)	Final Volume (ml)	Dilution Factor	Analyst
06/19/08	06/20/08	06/26/08	07/01/08	1000	1	1	ALM

Parameter	Result
Dimethylphthalate	0.50 U
Diethylphthalate	0.50 U
Di-n-butylphthalate	0.50 U
Butylbenzylphthalate	0.46 JB
bis(2-Ethylhexyl)phthalate	0.50 U
Di-n-octylphthalate	0.50 U

Surrogate	% Recovery	Acceptance Range (%)
2-Fluorobiphenyl	74	30-130
Phenol-d5	28	§ 30-130
Nitrobenzene-d5	82	30-130
2-Fluorophenol	46	30-130
2,4,6-Tribromophenol	84	30-130
Terphenyl-d14	90	30-130

N/A - Not Applicable

§ - Surrogate value outside of acceptable range.

B - Found in associated blank as well as sample.

J - Estimated value, below quantitation limit.

U - The analyte was analyzed for but not detected at the sample specific level reported.

07/03/08 07:54

Blank Semi-Volatile Organics by 8270



Client: **Alpha Analytical - Westborough**
 Project: **L0809104 - CDM**
 Client ID: **Blank**
 Case: **N/A** SDG: **N/A**
 Matrix: **Water**

Lab Code: **MA00030**
 ETR: **0806136**
 Lab ID: **SW062608B03**
 Associated Blank: **N/A**
 Concentration Units: **µg/L**

Date Collected	Date Received	Date Extracted	Date Analyzed	Sample Amount (ml)	Final Volume (ml)	Dilution Factor	Analyst
N/A	N/A	06/26/08	06/30/08	1000	1	1	ALM

Parameter	Result
Dimethylphthalate	0.50 U
Diethylphthalate	0.50 U
Di-n-butylphthalate	0.50 U
Butylbenzylphthalate	0.47 J
bis(2-Ethylhexyl)phthalate	0.50 U
Di-n-octylphthalate	0.50 U

Surrogate	% Recovery	Acceptance Range (%)
2-Fluorobiphenyl	75	30-130
Phenol-d5	40	30-130
Nitrobenzene-d5	70	30-130
2-Fluorophenol	58	30-130
2,4,6-Tribromophenol	70	30-130
Terphenyl-d14	79	30-130

N/A - Not Applicable

J - Estimated value, below quantitation limit.

U - The analyte was analyzed for but not detected at the sample specific level reported.

07/02/08 14:31

Laboratory Control Summary Semi-Volatile Organics by 8270



Client: **Alpha Analytical - Westborough**
 Project: **L0809104 - CDM**
 Client ID: **Laboratory Control Sample**
 Case: **N/A** SDG: **N/A**
 Matrix: **Water**

Lab Code: **MA00030**
 ETR: **0806136**
 Lab ID: **See Below**
 Associated Blank: **SW062608B03**
 Concentration Units: **µg/L**

Date Collected	Date Received	Date Extracted	Analyst
N/A	N/A	06/26/08	ALM

Lab ID: SW062608B03 SW062608LCS03 SW062608LCSD03

Parameter	Blank		LCS		LCSD		% RPD	RPD % Recovery	
	Conc.		Conc.	% Recovery	Conc.	% Recovery		Limit	Limits
Dimethylphthalate	0.50	U	11.8	78	12.2	81	4	20	40-140
Diethylphthalate	0.50	U	12.4	82	13.0	87	5	20	40-140
Di-n-butylphthalate	0.50	U	12.8	86	13.3	88	3	20	40-140
Butylbenzylphthalate	0.47		13.3	89	14.5	97	8	20	40-140
bis(2-Ethylhexyl)phthalate	0.50	U	13.1	87	14.2	95	8	20	40-140
Di-n-octylphthalate	0.50	U	12.5	83	13.4	89	7	20	40-140

Surrogate	% Recovery		Acceptance Range (%)
2-Fluorobiphenyl	71	72	30-130
Phenol-d5	44	41	30-130
Nitrobenzene-d5	74	76	30-130
2-Fluorophenol	60	59	30-130
2,4,6-Tribromophenol	87	92	30-130
Terphenyl-d14	83	88	30-130

N/A - Not Applicable

U - The analyte was analyzed for but not detected at the sample specific level reported.

Concentrations reported as calculated values, which includes rounding for significant figures. Percent recoveries and RPD values are calculated from the unrounded result.

07/02/08 14:53

320 Forbes Blvd, Mansfield, MA 02048, (508) 822-9300, Fax (508) 822-3288

Chain of Custody Records



CHAIN OF CUSTODY

PAGE ____ OF ____

WESTBORO, MA
TEL: 508-898-9220
FAX: 508-898-9193

MANSFIELD, MA
TEL: 508-822-9300
FAX: 508-822-3288

Client Information

Client: *Alpha Analytical*

Address:

Phone:

Fax:

Email:

☐ These samples have been previously analyzed by Alpha

Other Project Specific Requirements/Comments/Detection Limits:

Project Information

Project Name:

Project Location:

Project #:

Project Manager:

ALPHA Quote #:

Turn-Around Time

☐ Standard

Date Due:

☐ RUSH (only confirmed if pre-approved!)
Time:

Date Rec'd in Lab:

6/19

ALPHA Job #: *0806134*

Report Information - Data Deliverables

☐ FAX ☐ EMAIL

☐ ADEX ☐ Add'l Deliverables

Billing Information

☐ Same as Client info

P.O. #:

Regulatory Requirements/Report Limits

State / Fed Program

Criteria

MA MCP PRESUMPTIVE CERTAINTY --- CT REASONABLE CONFIDENCE PROTOCOLS

☐ Yes ☐ No Are MCP Analytical Methods Required?

☐ Yes ☐ No Are CT RCP (Reasonable Confidence Protocols) Required?

ANALYSIS
Phthalates (8270)

SAMPLE HANDLING

☐ Filtration
☐ Done
☐ Not needed
☐ Lab to do
☐ Preservation
☐ Lab to do
(Please specify below)

Sample Specific Comments

TOTAL # OF SAMPLES

Collection Date Time

Sample Matrix Sample's Initials

ALPHA Lab ID (Lab Use Only)

Sample ID

-1 *Lo 809104-1* *6/19* *1120* *6W*

-2 *L* *2* *1210* *1*

X

2

PLEASE ANSWER QUESTIONS ABOVE!

IS YOUR PROJECT
MA MCP or CT RCP?

Relinquished By:

Date/Time

Received By:

Date/Time

Container Type

Preservative

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Payment Terms. See reverse side.



CHAIN OF CUSTODY

PAGE 1 OF 1

WESTBORO, MA
TEL: 508-898-9220
FAX: 508-898-9193

MANSFIELD, MA
TEL: 508-822-9300
FAX: 508-822-3288

Client Information

Client: CDM

Address: 50 Hampshire St

Cambridge, MA 02139

Phone: 617-452-6380

Fax: 617-452-6380

Email: himmeldb@cdm.com

☐ These samples have been previously analyzed by Alpha

Other Project Specific Requirements/Comments/Detection Limits:

RGP Protocol Required
refer to attached spreadsheet for specific analyses
and detection limits required

Project Information

Project Name: Former Sward Disposal Area

Project Location: Greenfield, MA

Project #:

Project Manager: Ernest Ashley

ALPHA Quote #:

Turn-Around Time

☒ Standard

☐ RUSH (only confirmed if pre-approved)

Date Due: 6/26

Time:

Date Rec'd in Lab: 6/19

Report Information - Data Deliverables

☐ FAX ☐ EMAIL

☒ ADEX ☐ Add'l Deliverables

Billing Information

☐ Same as Client Info

PO #:

Regulatory Requirements/Report Limits

State/Fed Program

Criteria

MAMCOP PRESUMPTIVE CERTAINTY - CT REASONABLE CONFIDENCE PROTOCOLS

☐ Yes ☒ No Are MCP Analytical Methods Required?

☐ Yes ☒ No Are CT RCP (Reasonable Confidence Protocols) Required?

ANALYSIS

TRC (4500CL-D)
VOC (8260B)
Phthalates (8270C)
PCB (608)
Iron (200.7)
Mercury (245.2)
Tot. Metals (6020)
Cr III, Cr VI (SM 3500)

SAMPLE HANDLING

Filtration
☐ Done
☒ Not needed
☐ Lab to do
☐ Preservation
☐ Lab to do
(Please specify below)

Sample Specific Comments

TOTAL # BOTTLES

ALPHA Lab ID
(Lab Use Only)

Sample ID

Collection
Date Time

Sample
Matrix

Samplers
Initials

9104-1 MW-7

6/19/08 11:20

GW

WBSG

2 MW-20

6/19/08 12:10

GW

WBSG

PLEASE ANSWER QUESTIONS ABOVE!

IS YOUR PROJECT
MA MCP or CT RCP?

Relinquished By:

Susan Singson

Date/Time

6/19/08 14:00

Received By:

Ernest Ashley

Date/Time

6/19/08 15:00

Container Type
Preservative

P V A A P P P P
H2O - / HNA HNA HNA /

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Payment Terms. See reverse side.

**Former Swarf Disposal Area
Alpha - June 2008 NOI**

Method	Parameter - 2 sets	Detection Level Need (ug/L)
4500CL-D	Total Residual Chlorine	11
8260B	Benzene	5
	Toluene	limited as ug/L total BTEX
	Ethylbenzene	limited as ug/L total BTEX
	(m,p,o) Xylenes	limited as ug/L total BTEX
	Total BTEX	100
	MTBE	70
	tert-Butyl Alcohol	none
	tert-Amyl methyl ether	none
	Naphthalene (VOC)	20
	Carbon Tetrachloride	4.4
	1,4 Dichlorobenzene	5
	1,2 Dichlorobenzene	600
	1,3 Dichlorobenzene	320
	1,1 Dichloroethane	70
	1,2 Dichloroethane	5
	1,1 Dichloroethylene	3.2
	cis-1,2 Dichloroethylene	70
	Dichloromethane (Methylene Chloride)	4.6
	Tetrachloroethylene	5
	1,1,1 Trichloroethane	200
	1,1,2 Trichloroethane	5
	Trichloroethylene	5
	Vinyl Chloride	2
	Acetone	none
	1,4 Dioxane	none
8270C	Total phthalates	3
	Bis(2-ethylhexyl)phthalate	6
EPA 608	Total Polychlorinated Biphenyls (PCBs)	0.5
6020	Antimony	5.6
	Arsenic	10
	Cadmium	0.2
	Copper	5.2
	Lead	1.3
	Nickel	29
	Selenium	5
	Silver	1.2
	Zinc	66.6
245.2	Mercury	0.9
200.7	Iron	1000
SM3500	Chromium III	48.8
	Chromium VI	11.4



Sample Delivery Group Form

Laboratory Job number: L0809104

Client Account: Camp Dresser & McKee, Inc.

Received: 06/19/2008 17:00

Samples Delivered by: COURIER

Bill Of Laden N/A

Trackingnum

Coc Present Present

Container Status Intact

Sample IDs

All Containers Accounted For? Yes

Were Extra Samples Received? No

Do Sample Labels and COC agree? Yes

Are Samples In Appropriate Containers? Yes

Are Samples Received within Holding time? Yes

pH of Samples upon Receipt 7

Are samples Properly Preserved? Yes

Initial pH preserved in house with

Final pH

Other Issues

Chlorine Check N/A

Are VOA/VPD Vials Present? No

Aqueous: Do Vials Contain Head Space? N/A

Soils: Is MeOH Covering the Soil? N/A

Reagent H2O Preserved vials Frozen on N/A

Frozen by Client N/A

Cooler	Seal	Ice Present	Blue Ice Present	Temperature	Frozen upon Receipt	Delivered Direct from Site
A	Absent	Yes	No	2.7 c - Temp. Blank	No	No

Sample Receipt Checklist

Page 1 of 1

Client: <u>alpha</u>	Receipt Date: <u>6/28/08</u>
Project: <u>L0809104-COM</u>	Log-in Date: <u>6/25/08</u>
ETR #: <u>0806136</u>	Inspection by: <u>NAL</u> Login by: <u>ur</u>

ALL SECTIONS BELOW MUST BE COMPLETED

Comments / Notes

Were samples shipped? Yes, FedEx / UPS / Other: _____ No, Alpha Analytical Courier pick-up / Hand delivered	Sample storage refrigerator #: <u>D2</u>
Is bill of lading retained? Yes, Tracking #: _____ No, Unavailable / NA	Sample storage freezer #: _____
Number of coolers received for this project delivery: _____	
Indicate cooler temperature upon opening (if multiple coolers, record <u>all</u> temps): Note: If <u>all</u> coolers are 2-6°C, use one checklist, if NOT, use separate checklists and note <u>all</u> samples received <u>above</u> 6°C.	Cooler 2: _____ Cooler 3: _____
Cooler 1: Temperature(s) taken from: <u>2</u> IR Gun, (Circle one) SN 460647143 or 94031 <u>3</u> Temp. Blank, / NA	Cooler 4: _____ Cooler 5: _____
Were samples received on ice? <u>Yes</u> / No	Cooler 6: _____ Cooler 7: _____
Chain-of-Custody present? <u>Yes</u> / No Complete? <u>Yes</u> / No	More: _____
Custody seals present on Cooler? Yes / <u>No</u> on Bottles? Yes / <u>No</u> Intact? Yes / No / <u>NA</u>	
Note: Affix custody seals to back of this page.	
Were sample containers intact? <u>Yes</u> / No If No, list samples: →	
Did VOA/VPH waters contain headspace (>5mm)? Yes / No / <u>NA</u> If Yes, list samples: →	
Were 5035 VOA soils, or VPH soils, covered with MeOH? Yes / No / <u>NA</u> If No, list samples: →	
Was a sufficient amount of sample received for each test indicated on the COC? <u>Yes</u> / No If No, list samples: →	
If chemical preservation is appropriate - Were samples field preserved? Yes / No / <u>NA</u> ☐ C=HCl ☐ M=MeOH ☐ S=H ₂ SO ₄ ☐ H=NaOH ☐ N=HNO ₃ ☐ Other: _____ ☐ U= Unknown	Chemical preservation OK for ALL samples? Yes / No / <u>NA</u>
Preservation (pH) verified at lab for EVERY bottle? (Not: VOA / VPH / Sulfide) YES: <2 or >12 (CN) or NO NA If No, why?:	If No, list samples below:
Were samples received within hold time? <u>Yes</u> / No If No, list samples: →	
Discrepancy between samples rec'd & COC? Yes / <u>No</u> If Yes, list samples: →	
Was the Project Manager notified of any other problems? Yes / No / NA	
Project Manager Acknowledgement: _____ Date: _____	Please use back for any additional notes!

Certificate/Approval Program Summary



Method numbers assume the most recent EPA revisions. For a complete listing of analytes for the referenced methods please contact your Alpha Woods Hole Lab Project Manager or the Quality Assurance Manager.

Connecticut Department of Public Health Certificate/Lab ID: PH-0141 - *Wastewater* (General Chemistry: EPA 120.1, 150.1, 160.1, 160.2, 180.1, 300.0, 310.1, 335.2; Metals: 200.8, 245.1; Organics: 608-PCB, ETPH) *Solid Waste/Soil* (General Chemistry: 1010, 9010/9014, 9045, 9060; Metals: 6020, 7470, 7471; Organics: 8081, 8082, 8260, 8270, ETPH).

Florida Department of Health Certificate/Lab ID: E87814 - Primary NELAP Accreditation Authority for Air & Emissions. Secondary NELAP Accreditation for Wastewater and Solid & Hazardous Waste. *Wastewater* (General Chemistry: EPA 120.1/SM2510B, 150.1, 160.1/SM2540C, 160.2/SM2540D, 180.1, 300.0, 335.2, SM2320B, SM2340B, SM2540G, SM4500NH₃; Metals: 245.1; Organics: 608-PCB). *Solid and Hazardous Waste* (General Chemistry: 9010/9014, 9045, 9050, 9056, 9065, Reactivity 7.3; Metals: 6020, 7470, 7471; Organics: 8081, 8082, 8260, 8270). *Air & Emissions* (Organics: EPA TO-15).

Louisiana Department of Environmental Quality Certificate/Lab ID: 03090 - Primary NELAP Accrediting Authority for Wastewater, Solid & Hazardous Waste. *Wastewater* (General Chemistry: EPA 120.1/SM2510B, 150.1, 160.1/SM2540C, 160.2/SM2540D, 180.1, 300.0, 310.1/SM2320B, 335.2, 376.2, 9010/9014, 9056, SM2540G; Metals: 200.8, 245.1, 6020; Organics: 608-PCB, 8015-DRO, 8081, 8082, 8260, 8270). *Solid and Hazardous Waste* (General Chemistry: 1010, 1311, 9010/9014, 9040, 9045, 9056, 9060, Reactivity 7.3; Metals: 6020, 7196, 7470, 7471; Organics: 8015-DRO, 8081, 8082, 8260, 8270).

Maine Department of Human Services Certificate/Lab ID: MA0030 - *Wastewater* (General Chemistry: EPA 120.1/SM2510B, 160.1/SM2540C, 160.2/SM2540D, 300.0, 310.1/SM2320B, 335.2; Metals: EPA 245.1; Organics: 608-PCB).

Massachusetts Department of Environmental Protection Certificate/Lab ID: M-MA030 - *Wastewater* (General Chemistry: EPA 120.1/SM2510B, 150.1, 160.1/SM2540C, 160.2/SM2540D, 300.0, 310.1/SM2320B, 335.2; Metals: EPA 245.1; Organics: EPA 608-PCB).

New Hampshire Department of Environmental Services Certificate/Lab ID: 2206 - Secondary NELAP Accreditation. *Wastewater* (General Chemistry: EPA 120.1/SM2510B, 150.1, 160.1/SM2540C, 160.2/SM2540D, 180.1, 300.0, 310.1/SM2320B, 335.2, 376.2, SM2540G; Metals: 200.8, 245.4; Organics: 608-PCB).

New Jersey Department of Environmental Protection Certificate/Lab ID: MA015 - Secondary NELAP Accreditation. *Wastewater* (General Chemistry: EPA 120.1/SM2510B, 150.1, 160.1/SM2540C, 160.2/SM2540D, 180.1, 300.0, 310.1/SM2320B, 335.2, 376.2, 9010/9014, 9056, SM2540G; Metals: 200.8, 245.1 6020; Organics: 608-PCB, 8081, 8082, 8260, 8270). *Solid & Hazardous Waste* (General Chemistry: EPA 1010, 1311, 9010/9014, 9040, 9045, 9056, 9060; Metals: 6020, 7196, 7470, 7471; Organics: 8015-DRO, 8081, 8082, 8260, 8270). *Air & Emissions* (Organics: EPA TO-15).

New York Department of Health Certificate/Lab ID: 11627 - Secondary NELAP Accreditation. *Wastewater* (General Chemistry: EPA 120.1/SM2510B, 150.1, 160.1/SM2540C, 160.2/SM2540D, 300.0, 310.1/SM2320B, 376.2; Metals: 200.8, 245.1; Organics: 608-PCB). *Solid and Hazardous Waste* (General Chemistry: EPA 1010, 1311; Metals: 200.8, 6020, 7041; Organics: 8081, 8082, 8260, 8270). *Air & Emissions* (Organics: EPA TO-15).

Rhode Island Department of Health Certificate/Lab ID: LAO00289 - Chemistry: *Organic and Inorganic in Non-Poratable Water, Wastewater/Sewage and Soil* (Refer to LADEQ and MADEP certificates for method numbers.)

Pennsylvania Department of Environmental Protection Certificate/Lab ID: 68-02089 - Registered laboratory

U.S. Army Corps of Engineers

Department of the Navy