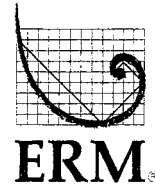


23 October 2003  
Reference: 10686

Mr. John Hackler  
Emergency Response Section  
United States Environmental Protection Agency  
One Congress Street, Suite 1100 (HBR)  
Boston, MA 02114-2023



RE: Request for NPDES Permit Exclusion  
Former Raytheon Facility  
430 Boston Post Road  
Wayland, Massachusetts

Dear Mr. Hackler:

On behalf of Raytheon Company (Raytheon), Environmental Resources Management (ERM) is submitting this application for a National Pollution Discharge Elimination System (NPDES) Permit Exclusion for the discharge of water generated during remediation activities associated with the restoration of an adjacent wetland (See Figure 1). We would like to start discharging on Tuesday, 28 October 2003.

The former Raytheon facility is classified as a Tier IB disposal site (Permit No. 13939) in accordance with the Massachusetts Contingency Plan (MCP) and has been assigned Release Tracking Number 3-13302. The primary contaminants in the wetland at this site are polychlorinated biphenyls (PCBs), polyaromatic hydrocarbons (PAHs), copper, chromium, lead and silver. The site is located adjacent to the Sudbury River. A summary of water data collected during dewatering of the excavation areas and decontamination activities is provided in the attached table.

In accordance with the MCP, remedial activities are being conducted as part of Comprehensive Response Actions under the supervision of a Licensed Site Professional (LSP). A Phase IV Remedy Implementation Plan has been submitted to the DEP to document site conditions, remedial objectives and clean up goals for the wetland remedy.

The following procedures will be employed for managing collected water:

- The water will be pumped into, and temporarily stored, in a fractionation tank (frac-tank) to allow for settling of solids.
- Water stored in the frac-tank will be pumped through a treatment system consisting of a primary mechanical pre-filter (bag filter), dual high pressure carbon contactors, a post-filter and all ancillary equipment/materials including hoses, filter bags and a 3" gasoline powered transfer pump. Each contactor will contain 2,000 pounds of virgin grade granular activated carbon.
- An energy dissipation unit (sediment bag) will be installed to the end of the discharge hose to minimize erosion at the water discharge location (Figure 1).
- Treated water will then be discharged directly into the Sudbury River (Figure 1).
- Influent and effluent samples will be collected the first, third and fifth day in the first week of operation and weekly thereafter.

The responsible party contact for this project is:

Edwin P. Madera  
Raytheon Company  
MS-1880  
528 Boston Post Road  
Sudbury, MA 01776  
(978) 440-1813

The LSP for the site is John C. Drobinski, P.G, LSP; LSP No. 2196.

If you have any questions or comments regarding this submittal, please contact me at (617) 267-8377.

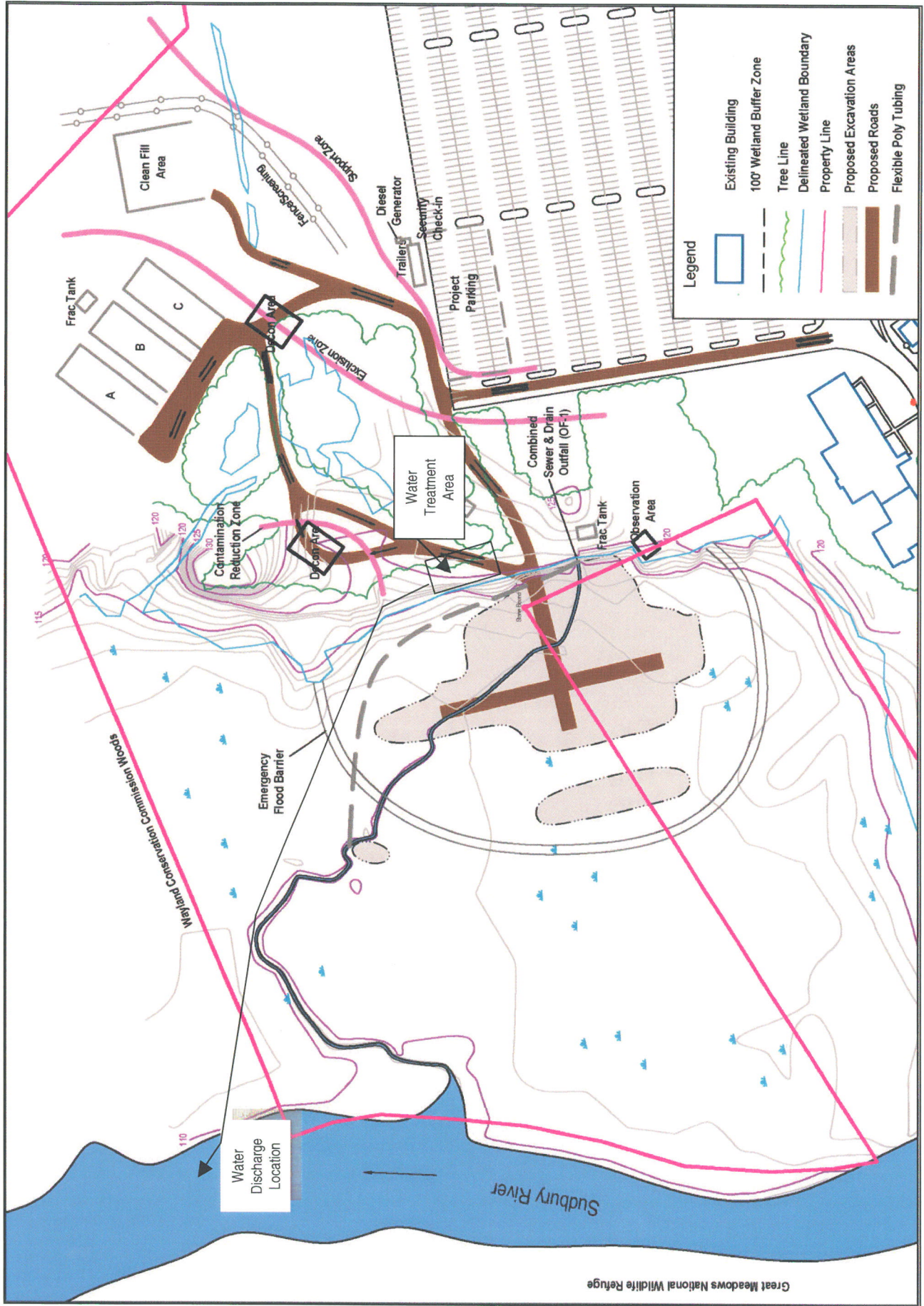
Sincerely,



Rachel B. Leary  
*Project Manager*

Enclosure: Figure 1  
Summary of Analytical Data

Cc: Edwin Madera, Raytheon Company  
Public Repositories  
Ben Gould  
John Irwin, Clean Harbors



ALPHA ANALYTICAL LABORATORIES

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

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

CERTIFICATE OF ANALYSIS

Client: ERM-New England Laboratory Job Number: L0310601  
Address: 399 Boylston Street  
6th Floor  
Boston, MA 02116 Date Received: 20-OCT-2003  
Attn: Ms. Rachel Leary Date Reported: 22-OCT-2003  
Project Number: 10686.8 Delivery Method: Alpha  
Site: VERIFICATION SAMPLING

The following questions pertain only to MCP Analytical Methods

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

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

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

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

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

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

Authorized by: Scott McLean  
This document electronically signed

ALPHA ANALYTICAL LABORATORIES

Laboratory Job Number: L0310601

Date Reported: 22-OCT-2003

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ALPHA SAMPLE NUMBER	CLIENT IDENTIFICATION	SAMPLE LOCATION
L0310601-01	DW-1020-1	RAYTHEON WAYLAND
L0310601-02	OUTFALL PIPE	RAYTHEON WAYLAND

ALPHA ANALYTICAL LABORATORIES  
NARRATIVE REPORT

Laboratory Job Number: L0310601

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MCP Related Narratives

Extraction methods

Extraction method 3510C was used as the extraction method for the analysis of PAH by method 8270C and for the analysis of PCB by method 8082.

Metals

In reference to question F, at the client's request, the samples were analyzed only for the compounds specified on the chain of custody.

Due to the elevated concentration of Copper, L0310601-02 required a 10x dilution prior to analysis.

PAH

In reference to question F, at the client's request, only the compounds specified on the chain of custody are reported.





ALPHA ANALYTICAL LABORATORIES  
CERTIFICATE OF ANALYSIS

Laboratory Sample Number: L0310601-01  
DW-1020-1

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Polynuclear Aromatic Hydrocarbons by MCP 8270C continued							
2-Methylnaphthalene	ND	ug/l	4.9	54 8270C	1021 09:30	1021 20:24	HL
Surrogate(s)	Recovery						QC Criteria
Nitrobenzene-d5	55.0	%					30-130
2-Fluorobiphenyl	60.0	%					30-130
4-Terphenyl-d14	88.0	%					30-130
Polychlorinated Biphenyls by MCP 8082							
Surrogate(s)	Recovery			54 8082	1021 09:30	1022 09:57	AK
2,4,5,6-Tetrachloro-m-xylene	53.0	%					QC Criteria
Decachlorobiphenyl	71.0	%					30-150
Polychlorinated Biphenyls by MCP 8082							
Aroclor 1221	ND	ug/l	0.258	54 8082	1021 09:30	1022 09:57	AK
Aroclor 1232	ND	ug/l	0.258				
Aroclor 1242/1016	ND	ug/l	0.258				
Aroclor 1248	ND	ug/l	0.258				
Aroclor 1254	ND	ug/l	0.258				
Aroclor 1260	ND	ug/l	0.258				
Aroclor 1262	ND	ug/l	0.258				
Aroclor 1268	ND	ug/l	0.258				
Surrogate(s)	Recovery						QC Criteria
2,4,5,6-Tetrachloro-m-xylene	55.0	%					30-150
Decachlorobiphenyl	72.0	%					30-150

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



ALPHA ANALYTICAL LABORATORIES  
 QUALITY ASSURANCE BATCH DUPLICATE ANALYSIS

Laboratory Job Number: L0310601

Parameter	Value 1	Value 2	Units	RPD	RPD Limits
pH for sample(s) 01 (L0310601-01, WG153959)					
pH	6.1	6.1	SU	0	
TCLP Metals for sample(s) 01 (L0310601-01, WG154152)					
Arsenic, TCLP	ND	ND	mg/l	NC	20
Barium, TCLP	ND	ND	mg/l	NC	20
Cadmium, TCLP	ND	ND	mg/l	NC	20
Chromium, TCLP	ND	ND	mg/l	NC	20
Lead, TCLP	ND	ND	mg/l	NC	20
Selenium, TCLP	ND	ND	mg/l	NC	20
Silver, TCLP	ND	ND	mg/l	NC	20
TCLP Metals for sample(s) 01 (L0310601-01, WG154048)					
Mercury, TCLP	ND	ND	mg/l	NC	20

ALPHA ANALYTICAL LABORATORIES  
QUALITY ASSURANCE BATCH SPIKE ANALYSES

Laboratory Job Number: L0310601

Parameter	% Recovery	QC Criteria
pH LCS for sample(s) 01 (WG153959)		
pH	100	
Total Metals LCS for sample(s) 01 (WG154102)		
Chromium, Total	105	80-120
Copper, Total	104	80-120
Lead, Total	110	80-120
Silver, Total	109	80-120
Total Metals LCS for sample(s) 02 (WG154105)		
Copper, Total	98	75-125
TCLP Metals LCS for sample(s) 01 (WG154152)		
Arsenic, TCLP	100	80-120
Barium, TCLP	97	80-120
Cadmium, TCLP	98	80-120
Chromium, TCLP	99	80-120
Lead, TCLP	100	80-120
Selenium, TCLP	100	80-120
Silver, TCLP	110	80-120
TCLP Metals LCS for sample(s) 01 (WG154048)		
Mercury, TCLP	101	80-120
Polynuclear Aromatic Hydrocarbons by MCP 8270C LCS for sample(s) 01 (WG154012)		
Acenaphthene	53	40-140
2-Chloronaphthalene	54	40-140
Fluoranthene	84	40-140
Naphthalene	45	40-140
Benzo(a)anthracene	86	40-140
Benzo(a)pyrene	71	40-140
Benzo(b)fluoranthene	79	40-140
Benzo(k)fluoranthene	69	40-140
Chrysene	83	40-140
Acenaphthylene	59	40-140
Anthracene	74	40-140
Benzo(ghi)perylene	79	40-140
Fluorene	61	40-140
Phenanthrene	71	40-140
Dibenzo(a,h)anthracene	86	40-140
Indeno(1,2,3-cd)Pyrene	79	40-140
Pyrene	83	40-140
2-Methylnaphthalene	66	40-140
Surrogate(s)		
Nitrobenzene-d5	48	30-130
2-Fluorobiphenyl	55	30-130
4-Terphenyl-d14	80	30-130

ALPHA ANALYTICAL LABORATORIES  
QUALITY ASSURANCE BATCH SPIKE ANALYSES

Laboratory Job Number: L0310601

Continued

Parameter	% Recovery	QC Criteria
Polynuclear Aromatic Hydrocarbons by MCP 8270C LCS for sample(s) 01 (WG154012)		
Acenaphthene	72	40-140
2-Chloronaphthalene	76	40-140
Fluoranthene	97	40-140
Naphthalene	61	40-140
Benzo(a)anthracene	100	40-140
Benzo(a)pyrene	84	40-140
Benzo(b)fluoranthene	89	40-140
Benzo(k)fluoranthene	84	40-140
Chrysene	97	40-140
Acenaphthylene	80	40-140
Anthracene	90	40-140
Benzo(ghi)perylene	90	40-140
Fluorene	79	40-140
Phenanthrene	86	40-140
Dibenzo(a,h)anthracene	99	40-140
Indeno(1,2,3-cd)Pyrene	90	40-140
Pyrene	96	40-140
2-Methylnaphthalene	91	40-140
Surrogate(s)		
Nitrobenzene-d5	63	30-130
2-Fluorobiphenyl	74	30-130
4-Terphenyl-d14	90	30-130
Polychlorinated Biphenyls by MCP 8082 LCS for sample(s) 01 (WG154010)		
Aroclor 1242/1016	78	40-140
Aroclor 1260	100	40-140
Surrogate(s)		
2,4,5,6-Tetrachloro-m-xylene	65	30-150
2,4,5,6-Tetrachloro-m-xylene	66	30-150
Decachlorobiphenyl	83	30-150
Decachlorobiphenyl	86	30-150
Polychlorinated Biphenyls by MCP 8082 LCS for sample(s) 01 (WG154010)		
Aroclor 1242/1016	66	40-140
Aroclor 1260	90	40-140
Surrogate(s)		
2,4,5,6-Tetrachloro-m-xylene	54	30-150
2,4,5,6-Tetrachloro-m-xylene	56	30-150
Decachlorobiphenyl	77	30-150
Decachlorobiphenyl	79	30-150
TCLP Metals SPIKE for sample(s) 01 (L0310601-01, WG154152)		
Arsenic, TCLP	100	75-125
Barium, TCLP	96	75-125
Cadmium, TCLP	98	75-125

ALPHA ANALYTICAL LABORATORIES  
QUALITY ASSURANCE BATCH SPIKE ANALYSES

Laboratory Job Number: L0310601

Continued

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Parameter	% Recovery	QC Criteria
TCLP Metals SPIKE for sample(s) 01 (L0310601-01, WG154152)		
Chromium, TCLP	99	75-125
Lead, TCLP	100	75-125
Selenium, TCLP	100	75-125
Silver, TCLP	110	75-125
TCLP Metals SPIKE for sample(s) 01 (L0310601-01, WG154048)		
Mercury, TCLP	119	75-125

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ALPHA ANALYTICAL LABORATORIES  
QUALITY ASSURANCE BATCH BLANK ANALYSIS

Laboratory Job Number: L0310601

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Blank Analysis for sample(s) 01 (WG154102-1)							
Total Metals				1	3015		
Chromium, Total	ND	mg/l	0.01	54	6010B	1021 09:50	1022 07:53 RW
Copper, Total	ND	mg/l	0.01	54	6010B	1021 09:50	1022 07:53 RW
Lead, Total	ND	mg/l	0.010	54	6010B	1021 09:50	1022 07:53 RW
Silver, Total	ND	mg/l	0.007	54	6010B	1021 09:50	1022 07:53 RW
Blank Analysis for sample(s) 02 (WG154105-1)							
Total Metals				1	3051		
Copper, Total	ND	mg/kg	1.0	54	6010B	1021 11:00	1022 08:57 RW
Blank Analysis for sample(s) 01 (WG154152-3)							
TCLP Metals							
TCLP Extraction				1	1311	1021 15:55	
Arsenic, TCLP	ND	mg/l	1.0	54	6010B	1022 09:45	1022 11:30 RW
Barium, TCLP	ND	mg/l	0.50	54	6010B	1022 09:45	1022 11:30 RW
Cadmium, TCLP	ND	mg/l	0.10	54	6010B	1022 09:45	1022 11:30 RW
Chromium, TCLP	ND	mg/l	0.20	54	6010B	1022 09:45	1022 11:30 RW
Lead, TCLP	ND	mg/l	0.50	54	6010B	1022 09:45	1022 11:30 RW
Selenium, TCLP	ND	mg/l	0.50	54	6010B	1022 09:45	1022 11:30 RW
Silver, TCLP	ND	mg/l	0.10	54	6010B	1022 09:45	1022 11:30 RW
Blank Analysis for sample(s) 01 (WG154048-4)							
TCLP Metals							
TCLP Extraction				1	1311	1021 15:55	
Mercury, TCLP	ND	mg/l	0.005	54	7470A	1021 16:40	1022 09:04 DM
Blank Analysis for sample(s) 01 (WG154012-1)							
Polynuclear Aromatic Hydrocarbons by MCP 8270C				54	8270C	1021 09:30	1021 19:37 HL
Acenaphthene	ND	ug/l	5.0				
2-Chloronaphthalene	ND	ug/l	5.0				
Fluoranthene	ND	ug/l	5.0				
Naphthalene	ND	ug/l	5.0				
Benzo(a)anthracene	ND	ug/l	5.0				
Benzo(a)pyrene	ND	ug/l	5.0				
Benzo(b)fluoranthene	ND	ug/l	5.0				
Benzo(k)fluoranthene	ND	ug/l	5.0				
Chrysene	ND	ug/l	5.0				
Acenaphthylene	ND	ug/l	5.0				
Anthracene	ND	ug/l	5.0				
Benzo(ghi)perylene	ND	ug/l	5.0				
Fluorene	ND	ug/l	5.0				
Phenanthrene	ND	ug/l	5.0				
Dibenzo(a,h)anthracene	ND	ug/l	5.0				
Indeno(1,2,3-cd)Pyrene	ND	ug/l	5.0				

ALPHA ANALYTICAL LABORATORIES  
 QUALITY ASSURANCE BATCH BLANK ANALYSIS

Laboratory Job Number: L0310601

Continued

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Blank Analysis for sample(s) 01 (WG154012-1)							
Polynuclear Aromatic Hydrocarbons by MCP 8270C	continued			54 8270C	1021 09:30	1021 19:37	HL
Pyrene	ND	ug/l	5.0				
2-Methylnaphthalene	ND	ug/l	5.0				
Surrogate(s)	Recovery			QC Criteria			
Nitrobenzene-d5	44.0	%		30-130			
2-Fluorobiphenyl	47.0	%		30-130			
4-Terphenyl-d14	78.0	%		30-130			
Blank Analysis for sample(s) 01 (WG154010-1)							
Polychlorinated Biphenyls by MCP 8082				54 8082	1021 09:30	1022 08:17	AK
Surrogate(s)	Recovery			QC Criteria			
2,4,5,6-Tetrachloro-m-xylene	57.0	%		30-150			
Decachlorobiphenyl	75.0	%		30-150			
Blank Analysis for sample(s) 01 (WG154010-1)							
Polychlorinated Biphenyls by MCP 8082				54 8082	1021 09:30	1022 08:17	AK
Aroclor 1221	ND	ug/l	0.250				
Aroclor 1232	ND	ug/l	0.250				
Aroclor 1242/1016	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				
Aroclor 1262	ND	ug/l	0.250				
Aroclor 1268	ND	ug/l	0.250				
Surrogate(s)	Recovery			QC Criteria			
2,4,5,6-Tetrachloro-m-xylene	61.0	%		30-150			
Decachlorobiphenyl	78.0	%		30-150			



**ALPHA ANALYTICAL LABORATORIES**  
**ADDENDUM I**

---

**REFERENCES**

1. Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - IIIA, 1997.
54. Compendium of Quality Assurance and Quality Control Requirements and Performance Standards for Selected Analytical Methods. MADEP BWSC. Final Methods. May 2003.

**GLOSSARY OF TERMS AND SYMBOLS**

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

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

**LIMITATION OF LIABILITIES**

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

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

ALPHA ANALYTICAL LABORATORIES  
LOGIN SPECIFIC INFORMATION

Laboratory Job Number: L0310601

---

Were project specific reporting limits specified? YES

Cooler Information

Cooler Custody Seal

---

A Absent

Container Information

Container ID	Container Type	Cooler	pH	Temp	Pres	Seal	Analysis
L0310601-01A	Amber 1000ml unpreserved	A	7	1.3 C	Y	Absent	MCP-PAH
L0310601-01B	Amber 1000ml unpreserved	A	7	1.3 C	Y	Absent	MCP-8082
L0310601-01C	Amber 1000ml unpreserved	A	7	1.3 C	Y	Absent	PH-9040
L0310601-01D	Plastic 1000ml unpreserved	A	7	1.3 C	Y	Absent	AG-CI, AS-CI, BA-CI, CD-CI, CR-CI, HG-C, PB-CI, PREPC, SE-CI
L0310601-01E	Plastic 250ml HNO3 preserved	A	<2	1.3 C	Y	Absent	AG-TI, CR-TI, CU-TI, PB-TI, PREPT
L0310601-02A	Glass 100ml unpreserved	A	NA	1.3 C	Y	Absent	CU-TI, PREPT

Container Comments

Container ID Comments

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