

Appendix I
Laboratory Analytical Reports –
Surface Water

ALPHA ANALYTICAL LABORATORIES

Eight Walkup Drive
Westborough, Massachusetts 01581-1019
(508) 898-9220

MA 086 NH 198958-A CT FH-0574

CERTIFICATE OF ANALYSIS

Client: ERM Laboratory Job Number: 901125
Address: 205 Portland Street Invoice Number: 12324
Boston, MA 02114 Date Received: 03/08/90
Attn: Ben Frothingham Date Reported: 03/22/90
Client Designation: ERM Proj# 14313 Delivery Method: Client Delivered

ALPHA SAMPLE NUMBER	CLIENT IDENTIFICATION	SAMPLE LOCATION
901225.1	SW-1	N/A
901225.2	SW-2	N/A
901225.2D	SW-2 (Duplicate)	N/A
901225.3	SW-3	N/A
901225.3S	SW-3 (Spike Recovery)	N/A
901225.4	SW-4	N/A
901225.5	SS-1	N/A
901225.6	SS-2	N/A
901225.6D	SS-2 (Duplicate)	N/A
901225.7	SS-3	N/A
901225.7S	SS-3 (Spike Recovery)	N/A
901225.8	SS-4	N/A
901225.9	T. Blank	N/A

Authorized by: _____
Scott McLean - Laboratory Director

mar

ALPHA ANALYTICAL LABORATORIES
CERTIFICATE OF ANALYSIS

MA 086 NH 198958-A CT HI-0574

SW-1

Laboratory Sample Number: 901125.1 Date Received: 03/08/90

Sample Matrix: Water Date Reported: 03/22/90

Condition of Samples: Satisfactory Field Prep: None

Number & Type of Containers: One Glass & One Plastic Bottle & Two VOA Vials

Analysis Requested: Analysis as listed below

PARAMETER	RESULT	UNITS	MDL	REP*	METHOD	DATES	
						EXT/PREP	ANALYSIS
HSL Acid/Base/Neutral Extractables **							
Bis (2-ethylhexyl) phthalate	129	ug/L	**	1	8270	03/15/90	03/19/90
Bis (2-ethylhexyl) adipate	16	ug/L	**	1	8270	03/15/90	03/19/90
PCB's	ND	ug/L	2.5	1	8080	03/15/90	03/21/90
Pesticides	ND	ug/L	0.25	1	8080	03/15/90	03/21/90
Volatile Organics**	ND	ug/L	**	1	8240	—	03/18/90

HSL Acid/Base/Neutral Extractables	% Surrogate Recovery
2-Fluorophenol	25%
Phenol-d5	18%
Nitrobenzene-d5	72%
2-Fluorobiphenyl	88%
2,4,6-Tribromophenol	80%
4-Terphenyl-d14	81%

Volatile Organics	% Surrogate Recovery
1,2-Dichloroethane-d4	99%
Toluene-d8	100%
4-Bromofluorobenzene	109%

COMMENTS: *Complete list of References found in Addendum I

**A list of HSL acid/base/neutral extractables, PCB's, pesticides, and volatile organics analyzed for and their detection limits accompany this report.

HSL Acid/Base/Neutral Extractables and Volatile Organics** All compounds were below the detection limits except those listed above.

ALPHA ANALYTICAL LABORATORIES
CERTIFICATE OF ANALYSIS

MA 086 NH 198958-A CT FH-0574

SW-1

Laboratory Sample Number: 901125.1 Date Received: 03/08/90

Sample Matrix: Water Date Reported: 03/22/90

Condition of Samples: Satisfactory Field Prep: None

Number & Type of Containers: One Glass & One Plastic Bottle & Two VOA Vials

Analysis Requested: Analysis as listed below

CONTINUED

PARAMETER	RESULT	UNITS	MDL	REF*	METHOD	DATES	
						EXT/PREP	ANALYSIS
Total Priority Pollutant 13 Metals							
Antimony	ND	mg/L	0.50	1	6010	03/10/90	03/14/90
Arsenic	ND	mg/L	0.005	1	7060	03/10/90	03/14/90
Beryllium	ND	mg/L	0.02	1	6010	03/10/90	03/14/90
Cadmium	ND	mg/L	0.01	1	6010	03/10/90	03/14/90
Chromium	ND	mg/L	0.02	1	6010	03/10/90	03/14/90
Copper	ND	mg/L	0.02	1	6010	03/10/90	03/14/90
Lead	ND	mg/L	0.05	1	6010	03/10/90	03/14/90
Mercury	ND	mg/L	0.0005	1	7470	03/10/90	03/14/90
Nickel	ND	mg/L	0.05	1	6010	03/10/90	03/14/90
Selenium	ND	mg/L	0.005	1	7740	03/10/90	03/14/90
Silver	ND	mg/L	0.003	1	7761	03/10/90	03/14/90
Thallium	ND	mg/L	0.50	1	6010	03/10/90	03/14/90
Zinc	ND	mg/L	0.01	1	6010	03/10/90	03/14/90

COMMENTS: *Complete list of References found in Addendum I

ALPHA ANALYTICAL LABORATORIES
CERTIFICATE OF ANALYSIS

MA 086 NH 198958-A CT PH-0574

SW-2

Laboratory Sample Number: 901125.2 Date Received: 03/08/90
 Sample Matrix: Water Date Reported: 03/22/90
 Condition of Samples: Satisfactory Field Prep: None
 Number & Type of Containers: One Glass & One Plastic Bottle & Two VOA Vials
 Analysis Requested: Analysis as listed below

PARAMETER	RESULT	UNITS	MDL	REF*	METHOD	DATES	
						EXT/PREP	ANALYSIS
HSL Acid/Base/Neutral Extractables **							
Bis (2-ethylhexyl) phthalate	107	ug/L	**	1	8270	03/15/90	03/19/90
PCB's	ND	ug/L	2.5	1	8080	03/15/90	03/21/90
Pesticides	ND	ug/L	0.25	1	8080	03/15/90	03/21/90
Volatile Organics**	ND	ug/L	**	1	8240	---	03/18/90

HSL Acid/Base/Neutral Extractables	% Surrogate Recovery
2-Fluorophenol	24%
Phenol-d5	30%
Nitrobenzene-d5	55%
2-Fluorobiphenyl	75%
2,4,6-Tribromophenol	64%
4-Terphenyl-d14	85%

Volatile Organics	% Surrogate Recovery
1,2-Dichloroethane-d4	100%
Toluene-d8	98%
4-Bromofluorobenzene	97%

COMMENTS: *Complete list of References found in Addendum I
 **A list of HSL acid/base/neutral extractables, PCB's, pesticides,
 and volatile organics analyzed for and their detection limits
 accompany this report.
 HSL Acid/Base/Neutral Extractables and Volatile Organics** All
 compounds were below the detection limits except those listed above.

ALPHA ANALYTICAL LABORATORIES
CERTIFICATE OF ANALYSIS

MA 086 NH 198958-A CT HI-0574

SW-2

Laboratory Sample Number: 901125.2 Date Received: 03/08/90

Sample Matrix: Water Date Reported: 03/22/90

Condition of Samples: Satisfactory Field Prep: None

Number & Type of Containers: One Glass & One Plastic Bottle & Two VOA Vials

Analysis Requested: Analysis as listed below

CONTINUED

PARAMETER	RESULT	UNITS	MDL	REF#	METHOD	DATES	
						EXT/PREP	ANALYSIS
Total Priority Pollutant 13 Metals							
Antimony	ND	mg/L	0.50	1	6010	03/10/90	03/14/90
Arsenic	ND	mg/L	0.005	1	7060	03/10/90	03/14/90
Beryllium	ND	mg/L	0.02	1	6010	03/10/90	03/14/90
Cadmium	ND	mg/L	0.01	1	6010	03/10/90	03/14/90
Chromium	ND	mg/L	0.02	1	6010	03/10/90	03/14/90
Copper	ND	mg/L	0.02	1	6010	03/10/90	03/14/90
Lead	ND	mg/L	0.05	1	6010	03/10/90	03/14/90
Mercury	ND	mg/L	0.0005	1	7470	03/10/90	03/14/90
Nickel	ND	mg/L	0.05	1	6010	03/10/90	03/14/90
Selenium	ND	mg/L	0.005	1	7740	03/10/90	03/14/90
Silver	ND	mg/L	0.003	1	7761	03/10/90	03/14/90
Thallium	ND	mg/L	0.50	1	6010	03/10/90	03/14/90
Zinc	ND	mg/L	0.01	1	6010	03/10/90	03/14/90

COMMENTS: *Complete list of References found in Addendum I

ALPHA ANALYTICAL LABORATORIES
CERTIFICATE OF ANALYSIS

MA 086 NH 198958-A CT PE-0574

SW-2 (Duplicate)

Laboratory Sample Number: 901125.2D Date Received: 03/08/90

Sample Matrix: Water Date Reported: 03/22/90

Condition of Samples: Satisfactory Field Prep: None

Number & Type of Containers: One Glass & One Plastic Bottle

Analysis Requested: Analysis as listed below

PARAMETER	RESULT	UNITS	MDL	REF*	METHOD	DATES	
						EXT/REP	ANALYSIS
HSL Acid/Base/Neutral Extractables **							
Bis (2-ethylhexyl) phthalate	126	ug/L	**	1	8270	03/15/90	03/19/90
PCB's	ND	ug/L	2.5	1	8080	03/15/90	03/21/90
Pesticides	ND	ug/L	0.25	1	8080	03/15/90	03/21/90

HSL Acid/Base/Neutral Extractables	% Surrogate Recovery
2-Fluorophenol	35%
Phenol-d5	40%
Nitrobenzene-d5	69%
2-Fluorobiphenyl	80%
2,4,6-Tribromophenol	85%
4-Tenphenyl-d14	72%

COMMENTS: *Complete list of References found in Addendum I

**A list of HSL acid/base/neutral extractables, PCB's and pesticides analyzed for and their detection limits accompany this report.

HSL Acid/Base/Neutral Extractables** All compounds were below the detection limits except those listed above.

ALPHA ANALYTICAL LABORATORIES
CERTIFICATE OF ANALYSIS

MA 086 NH 198958-A CT PH-0574

SW-2 (Duplicate)

Laboratory Sample Number: 901125.2D Date Received: 03/08/90

Sample Matrix: Water Date Reported: 03/22/90

Condition of Samples: Satisfactory Field Prep: None

Number & Type of Containers: One Glass & One Plastic Bottle

Analysis Requested: Analysis as listed below

CONTINUED

PARAMETER	RESULT	UNITS	MDL	REF*	METHOD	DATES	
						EXT/PREP	ANALYSIS
Total Priority Pollutant 13 Metals							
Antimony	ND	mg/L	0.50	1	6010	03/10/90	03/14/90
Arsenic	ND	mg/L	0.005	1	7060	03/10/90	03/14/90
Beryllium	ND	mg/L	0.02	1	6010	03/10/90	03/14/90
Cadmium	ND	mg/L	0.01	1	6010	03/10/90	03/14/90
Chromium	ND	mg/L	0.02	1	6010	03/10/90	03/14/90
Copper	ND	mg/L	0.02	1	6010	03/10/90	03/14/90
Lead	ND	mg/L	0.05	1	6010	03/10/90	03/14/90
Mercury	ND	mg/L	0.0005	1	7470	03/10/90	03/14/90
Nickel	ND	mg/L	0.05	1	6010	03/10/90	03/14/90
Selenium	ND	mg/L	0.005	1	7740	03/10/90	03/14/90
Silver	ND	mg/L	0.003	1	7761	03/10/90	03/14/90
Thallium	ND	mg/L	0.50	1	6010	03/10/90	03/14/90
Zinc	ND	mg/L	0.01	1	6010	03/10/90	03/14/90

COMMENTS: *Complete list of References found in Addendum I

ALPHA ANALYTICAL LABORATORIES
CERTIFICATE OF ANALYSIS

MA 086 NH 198958-A CT HI-0574

SW-3

Laboratory Sample Number: 901125.3 Date Received: 03/08/90

Sample Matrix: Water Date Reported: 03/22/90

Condition of Samples: Satisfactory Field Prep: None

Number & Type of Containers: One Glass & One Plastic Bottle & Two VOA Vials

Analysis Requested: Analysis as listed below

CONTINUED

PARAMETER	RESULT	UNITS	MDL	REF*	METHOD	DATES	
						EXT/PREP	ANALYSIS
Total Priority Pollutant 13 Metals							
Antimony	ND	mg/L	0.50	1	6010	03/10/90	03/14/90
Arsenic	ND	mg/L	0.005	1	7060	03/10/90	03/14/90
Beryllium	ND	mg/L	0.02	1	6010	03/10/90	03/14/90
Cadmium	ND	mg/L	0.01	1	6010	03/10/90	03/14/90
Chromium	ND	mg/L	0.02	1	6010	03/10/90	03/14/90
Copper	0.13	mg/L	0.02	1	6010	03/10/90	03/14/90
Lead	ND	mg/L	0.05	1	6010	03/10/90	03/14/90
Mercury	ND	mg/L	0.0005	1	7470	03/10/90	03/14/90
Nickel	ND	mg/L	0.05	1	6010	03/10/90	03/14/90
Selenium	ND	mg/L	0.005	1	7740	03/10/90	03/14/90
Silver	ND	mg/L	0.003	1	7761	03/10/90	03/14/90
Thallium	ND	mg/L	0.50	1	6010	03/10/90	03/14/90
Zinc	0.06	mg/L	0.01	1	6010	03/10/90	03/14/90

COMMENTS: *Complete list of References found in Addendum I

ALPHA ANALYTICAL LABORATORIES
CERTIFICATE OF ANALYSIS

MA 086 NH 198958-A CT PH-0574

SW-3 (Spike Recovery)

Laboratory Sample Number: 901125.3S Date Received: 03/08/90

Sample Matrix: Water Date Reported: 03/22/90

Condition of Samples: Satisfactory Field Prep: None

Number & Type of Containers: One Glass & One Plastic Bottle

Analysis Requested: Analysis as listed below (Spike Recovery)

<u>PARAMETER</u>	<u>RECOVERY</u>
Pesticides	
Lindane	112%
Heptachlor	122%
Aldrin	66%
Dieldrin	47%
Endrin	73%
p,p-DDT	84%
Total Priority Pollutant Metals	
Antimony	118%
Arsenic	105%
Beryllium	90%
Cadmium	91%
Chromium	100%
Copper	100%
Lead	96%
Mercury	60%
Nickel	94%
Selenium	117%
Silver	108%
Thallium	71%
Zinc	98%

COMMENTS: *Complete list of References found in Addendum I

ALPHA ANALYTICAL LABORATORIES
CERTIFICATE OF ANALYSIS

MA 086 NH 198958-A CT HI-0574

TRIP BLANK

Laboratory Sample Number: 901125.9 Date Received: 03/08/90

Sample Matrix: Water Date Reported: 03/22/90

Condition of Samples: Satisfactory Field Prep: None

Number & Type of Containers: One VOA Vial

Analysis Requested: Volatile Organics

PARAMETER	RESULT	UNITS	MDL	REF*	METHOD	DATES	
						EST/PREP	ANALYSIS
Volatile Organics**	ND	ug/L	**	1	8240	—	03/17/90

Volatile Organics	% Surrogate Recovery
1,2-Dichloroethane-d4	88%
Toluene-d8	105%
4-Bromofluorobenzene	97%

COMMENTS: *Complete list of References found in Addendum I
 **A list of volatile organics analyzed for and their detection limits accompany this report.
 Volatile Organics** All compounds were below detection limits except those listed above.



Case Narrative

ETR: 43183

Client: ERM New England, Inc.

Project: Raytheon - Wayland

Date Received: 11/01/99

All analyses were performed within holding time and with appropriate quality control measures except where noted. Blank correction of results is not performed in the laboratory for any parameter. Soil/sediment samples are reported on a dry weight basis unless otherwise noted.

Metals

Samples associated with this data package were analyzed for dissolved metals following membrane filtration. No digestion was performed prior to analysis with the exception of mercury. Samples were analyzed by ICP MS (Method 6020), GFAA (Method 282.2) for tin, and CVAA (Method 7470) for mercury. Sample concentrations are reported to the instrument detection limit (IDL). A filtration blank (preparation blank), LCS, sample duplicate and matrix spike were analyzed for quality control purposes.

All instrument and batch quality control measures were within method acceptance criteria except the following:

1. Calibration Verification Standards: The acceptance range of 90% - 110% for the initial calibration verification (ICV) standard and continuing calibration verification (CCV) standards was exceeded for barium, potassium and thallium for some standards as indicated on form 2A.
2. Blanks: In some cases, analyte concentrations in the initial calibration blank, continuing calibration blanks and the preparation blank are above the IDL as indicated on form 3.
3. Duplicates: The RPD between duplicates was greater than the method acceptance criteria of 20% for antimony and silver. All results for these analytes are flagged (*).

The enclosed results of analyses are representative of the samples as received by the laboratory. Woods Hole Group 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 Woods Hole Group. To the best of my knowledge, the information contained in this report is accurate and complete.

Approved by: *M. J. P. [Signature]*
Woods Hole Group Environmental Laboratories

Date: 12/19/99



Woods Hole Group

Environmental Laboratories

375 Paramount Drive • Suite B
Raynham, MA 02767-5154 • USA
Phone: 508-822-9300
Fax: 508-822-3288

ERM, New England, Inc.
399 Boylston Street
6th Floor
Boston, MA 02116

Attention : Rachel Chenail

Date : 12/09/99
ETR Number : 43183
Project No. : A99800
No. Samples: 3
Arrived : 11/01/99
P.O. Number: 143.48

Page 1

Project: Raytheon-Wayland

Standard analyses were performed in accordance with Methods for Analysis of Water and Wastes, EPA-600/4/79-020, Test Methods for Evaluating Solid Waste, SW-846, or Standard Methods for the Examination of Water and Wastewater. All results are in mg/l unless otherwise noted.

Lab No./ Method No.	Sample Description/ Parameter	Result	Prep Date	Analysis Date	Analyst
43183-1 307B	T-2-6: [G]11/01/99 @0845 (Water) Hexavalent Chromium	<0.005		11/01/99	MLS
43183-2 307B	T-3-7: [G]11/01/99 @0900 (Water) Hexavalent Chromium	<0.005		11/01/99	MLS
43183-3 307B	T-5-6: [G]11/01/99 @0915 (Water) Hexavalent Chromium	<0.005		11/01/99	MLS

< Last Page >

Submitted By :

Inorganic Quality Control Summary

Client: ERM, New England, Inc.
 Project: Raytheon-Wayland
 ETR #: 43183

Parameter	sample ID	analysis date	blank	sample result	RPD of duplicates	MS conc added	%recovery matrix spike	LCS conc added	% recovery LCS	qualifier
Hexavalent Chromiu	43183-1	11/1/99	<0.005	<0.005	0	0.416	84	0.15	99	

Qualifiers & Notes:
 LCS = Laboratory control standard
 RPD = Relative percent difference
 B = Reported QC is for associated batch
 N = See narrative
 A = Recovery is for method standard in place of matrix spike.

Hexavalent Chromium Analysis-Method 307B

Stock Soln: 021299B
 Curve Soln: 040699A
 Spike Soln: 040699B
 LCS: 011299B

50 ppm
 10 ppm
 10 ppm
 0.15 ppm

Sr Analyst 2° Review: MA

Analyst: MEB

Analysis Date: 11/1/99

ug/L = Result from curve X (FV A/aliquot A) X (FV B/aliquot B) X Dilution Factor
 mg/Kg = Result from curve X (FV A/dry weight) X (FV B/aliquot B) X Dilution Factor
 Spike Conc = (Spike Amount X Spike Conc/aliquot (either mL or dry weight))

Correlation: 0.9999
 Slope: 0.6444
 Y-Intercept: -0.0005

Wavelength: 540 nm
 Instrument: Spec 401

QC

CLIENT	ETR#	Sample #	DMA/RSD MB/CCV/CCV LCS/LCS	MATRIX WS	Aliquot A g/mL	Spike Vol (mL)	Dilut. Factor	% Solids	Dry Wt	Aliquot B mL	Bkgd	Abs.	TRUE Abs.	Result mg/L	Result mg/Kg	FINAL RESULT	QUAL	Water QC (Rec./RPD)	Spil QC (Rec./RPD)
0.000	ppm			W	48					51		0.000	0.000						
0.005	ppm			W	48					51		0.003	0.003						
0.010	ppm			W	48					51		0.005	0.005						
0.100	ppm			W	48					51		0.062	0.062						
0.200	ppm			W	48					51		0.131	0.131						
0.500	ppm			W	48					51		0.321	0.321						
Method Blk			MB	W	48 mL		1	N/A		51			0.000	< 0.0050		< 0.0050			
		LFB	LFB	W	48 mL	2	1	N/A		51			0.000	< 0.0050		< 0.0050		1%	
		LCS	LCS	W	48 mL		1	N/A		51		0.095	0.095	0.1482		0.1482		99%	
43183	-1			W	48 mL		1	N/A		51	0.001	0.001	0.000	< 0.0050		< 0.0050			
43183	-1	D		W	48 mL		1	N/A		51	0.001	0.001	0.000	< 0.0050		< 0.0050		0%	
43183	-1	MS		W	48 mL	2	1	N/A		51	0.001	0.229	0.228	0.3346		0.3346		84%	
43183	-2			W	48 mL		1	N/A		51	0.001	0.001	0.000	< 0.0050		< 0.0050			
43183	-3			W	48 mL		1	N/A		51	0.001	0.002	0.001	< 0.0050		< 0.0050			
		CCV	CCV	W	48 mL		1	N/A		51		0.064	0.064	0.1001		0.1001		100%	
		CCB	CCB	W	48 mL		1	N/A		51		0.000	0.000	< 0.0050		< 0.0050			
				W	48 mL		1	N/A		51			0.000	< 0.0050		< 0.0050			
				W	48 mL		1	N/A		51			0.000	< 0.0050		< 0.0050			
				W	48 mL		1	N/A		51			0.000	< 0.0050		< 0.0050			
				W	48 mL		1	N/A		51			0.000	< 0.0050		< 0.0050			
				W	48 mL		1	N/A		51			0.000	< 0.0050		< 0.0050			
				W	48 mL		1	N/A		51			0.000	< 0.0050		< 0.0050			
				W	48 mL		1	N/A		51			0.000	< 0.0050		< 0.0050			
				W	48 mL		1	N/A		51			0.000	< 0.0050		< 0.0050			
				W	48 mL		1	N/A		51			0.000	< 0.0050		< 0.0050			
				W	48 mL		1	N/A		51			0.000	< 0.0050		< 0.0050			
				W	48 mL		1	N/A		51			0.000	< 0.0050		< 0.0050			

COVER PAGE - INORGANIC ANALYSES DATA PACKAGE

Lab Name: WHG _____

Client: _____

Lab Code: WHG _____ Case No.: _____

SAS No.: _____

SDG No.: 43183_

SOW No.: ~~ILM04.0~~

Sample No.

Lab Sample ID

T-2-6

43183-1

T-2-6D

43183-1D

T-2-6DS

43183-1DS

T-2-6S

43183-1S

T-3-7

43183-2

T-5-6

43183-3

*Duplicate
Matrix spike duplicate
Matrix spike*

Were ICP interelement corrections applied ?

Yes/No YES

Were ICP background corrections applied ?

Yes/No YES

If yes - were raw data generated before application of background corrections ?

Yes/No NO

Comments:

See narrative

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package and in the computer-readable data submitted on floppy diskette has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature.

Signature: *Dr. Leonard C. Pitts*

Name: Dr. Leonard C. Pitts

Date: 11/30/99

Title: Dir. Inorg. Chem.

1
INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.

T-2-6

Lab Name: WHG _____

Client: _____

Lab Code: WHG _____

Case No.: _____

SAS No.: _____

SDG No.: 43183_

Matrix (soil/water): WATER _____

Lab Sample ID: 43183-1 _____

Level (low/med): LOW _____

Date Received: 11/01/99

% Solids: _____

Concentration Units (ug/L or mg/kg dry weight): UG/L_

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	11.7			M
7440-36-0	Antimony	0.62		*	M
7440-38-2	Arsenic	3.2			M
7440-39-3	Barium	21.9			M
7440-41-7	Beryllium	0.028	U		M
7440-43-9	Cadmium	0.56			M
7440-70-2	Calcium	28300			M
7440-47-3	Chromium	2.9			M
7440-48-4	Cobalt	1.7			M
7440-50-8	Copper	61.2			M
7439-89-6	Iron	196			M
7439-92-1	Lead	1.4			M
7439-95-4	Magnesium	5900			M
7439-96-5	Manganese	298			M
7439-97-6	Mercury	0.023	U		AV
7440-02-0	Nickel	11.7			M
7440-09-7	Potassium	29900			M
7782-49-2	Selenium	0.24			M
7440-22-4	Silver	0.077		*	M
7440-28-0	Thallium	0.066	U		M
7440-31-5	Tin	2.5	U		F
7440-62-2	Vanadium	1.3			M
7440-66-6	Zinc	264			M
	Hardness	95058			

Color Before: _____

Clarity Before: _____

Texture: _____

Color After: _____

Clarity After: _____

Artifacts: _____

Comments:

WUP 11/10/99

1
INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.

T-3-7

Lab Name: WHG _____

Client: _____

Lab Code: WHG _____

Case No.: _____

SAS No.: _____

SDG No.: 43183_

Matrix (soil/water): WATER_

Lab Sample ID: 43183-2_

Level (low/med): LOW_

Date Received: 11/01/99

Solids: _____

Concentration Units (ug/L or mg/kg dry weight): UG/L_

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	10.0			M
7440-36-0	Antimony	1.7		*	M
7440-38-2	Arsenic	2.0			M
7440-39-3	Barium	28.7			M
7440-41-7	Beryllium	0.060			M
7440-43-9	Cadmium	0.85			M
7440-70-2	Calcium	27300			M
7440-47-3	Chromium	1.6			M
7440-48-4	Cobalt	2.3			M
7440-50-8	Copper	47.5			M
7439-89-6	Iron	90.1			M
7439-92-1	Lead	3.1			M
7439-95-4	Magnesium	5520			M
7439-96-5	Manganese	206			M
7439-97-6	Mercury	0.023	U		AV
7440-02-0	Nickel	11.2			M
7440-09-7	Potassium	36000			M
7782-49-2	Selenium	0.56			M
7440-22-4	Silver	0.30		*	M
7440-28-0	Thallium	0.070			M
7440-31-5	Tin	6.5			F
7440-62-2	Vanadium	2.1			M
7440-66-6	Zinc	384			M
	Headless	90992			

Color Before: _____

Clarity Before: _____

Texture: _____

Color After: _____

Clarity After: _____

Artifacts: _____

Comments:

VCD 11/30/99

1
INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.

T-5-6

Lab Name: WHG _____

Client: _____

Lab Code: WHG _____

Case No.: _____

SAS No.: _____

SDG No.: 43183_

Matrix (soil/water): WATER_

Lab Sample ID: 43183-3_

Level (low/med): LOW_

Date Received: 11/01/99

% Solids: _____

Concentration Units (ug/L or mg/kg dry weight): UG/L_

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	43.2			M
7440-36-0	Antimony	0.55		*	M
7440-38-2	Arsenic	20.5			M
7440-39-3	Barium	24.9			M
7440-41-7	Beryllium	0.029			M
7440-43-9	Cadmium	4.0			M
7440-70-2	Calcium	28600			M
7440-47-3	Chromium	5.4			M
7440-48-4	Cobalt	5.9			M
7440-50-8	Copper	112			M
7439-89-6	Iron	1410			M
7439-92-1	Lead	2.6			M
7439-95-4	Magnesium	5070			M
7439-96-5	Manganese	1100			M
7439-97-6	Mercury	0.023	U		AV
7440-02-0	Nickel	19.6			M
7440-09-7	Potassium	10600			M
7782-49-2	Selenium	0.22			M
7440-22-4	Silver	0.52		*	M
7440-28-0	Thallium	0.066	U		M
7440-31-5	Tin	5.6			F
7440-62-2	Vanadium	1.3			M
7440-66-6	Zinc	447			M
	Hardness	93288			

Color Before: _____

Clarity Before: _____

Texture: _____

Color After: _____

Clarity After: _____

Artifacts: _____

Comments:

JCP 4/30/99

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

T-2-6

Lab Name: Woods Hole Group Environmental Client: ERM

Lab Code: _____ ETR No.: 43183 Project: Raythe SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: 43183-1

Sample wt/vol: 1000 (g/ml) ML Lab File ID: 43183-1.D

Level: (low/med) LOW Date Received: 11/1/99

% Moisture: _____ decanted:(Y/N) N Date Extracted: 11/2/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 11/4/99

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: _____

CONCENTRATION UNITS:

(ug/L or ug/Kg) ug/L*curr 11/19/99*
Q

CAS NO. COMPOUND

CAS NO.	COMPOUND	CONCENTRATION UNITS	
91-20-3	Naphthalene	19	
91-57-6	2-Methylnaphthalene	9	J
208-96-8	Acenaphthylene	24	
83-32-9	Acenaphthene	87	
86-73-7	Fluorene	50	
85-01-8	Phenanthrene	290	
120-12-7	Anthracene	52	
206-44-0	Fluoranthene	510	
129-00-0	Pyrene	320	
56-55-3	Benzo(a)anthracene	150	
218-01-9	Chrysene	230	
205-99-2	Benzo(b)fluoranthene	290	
207-08-9	Benzo(k)fluoranthene	110	
50-32-8	Benzo(a)pyrene	170	
193-39-5	Indeno[1,2,3-cd]pyrene	190	
53-70-3	Dibenz[a,h]anthracene	46	
191-24-2	Benzo[g,h,i]perylene	170	

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

T-3-7

Lab Name: Woods Hole Group Environmental Client: ERM

Lab Code: _____ ETR No.: 43183 Project: Raythe SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: 43183-2

Sample wt/vol: 980 (g/ml) ML Lab File ID: 43183-2.D

Level: (low/med) LOW Date Received: 11/1/99

% Moisture: _____ decanted:(Y/N) N Date Extracted: 11/2/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 11/5/99

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: _____

CONCENTRATION UNITS:

(ug/L or ug/Kg) ug/L *clmt/99* *Q*

CAS NO. COMPOUND

CAS NO.	COMPOUND	CONCENTRATION UNITS	
91-20-3	Naphthalene	8	J
91-57-6	2-Methylnaphthalene	5	J
208-96-8	Acenaphthylene	15	
83-32-9	Acenaphthene	100	
86-73-7	Fluorene	30	
85-01-8	Phenanthrene	320	
120-12-7	Anthracene	64	
206-44-0	Fluoranthene	740	
129-00-0	Pyrene	480	
56-55-3	Benzo(a)anthracene	220	
218-01-9	Chrysene	350	
205-99-2	Benzo(b)fluoranthene	460	
207-08-9	Benzo(k)fluoranthene	170	
50-32-8	Benzo(a)pyrene	290	
193-39-5	Indeno[1,2,3-cd]pyrene	300	
53-70-3	Dibenz[a,h]anthracene	43	
191-24-2	Benzo[g,h,i]perylene	270	

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

T-5-6

Lab Name: Woods Hole Group Environmental Client: ERM

Lab Code: _____ ETR No.: 43183 Project: Raythe SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: 43183-3

Sample wt/vol: 920 (g/ml) ML Lab File ID: 43183-3.D

Level: (low/med) LOW Date Received: 11/1/99

% Moisture: _____ decanted:(Y/N) N Date Extracted: 11/2/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 11/5/99

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: _____

CONCENTRATION UNITS:

(ug/L or ug/Kg) ug/L*cur 11/9/99*
Q

CAS NO.	COMPOUND	(ug/L or ug/Kg) <u>ug/L</u>	
91-20-3	Naphthalene	6	J
91-57-6	2-Methylnaphthalene	3	J
208-96-8	Acenaphthylene	6	J
83-32-9	Acenaphthene	13	
86-73-7	Fluorene	10	J
85-01-8	Phenanthrene	77	
120-12-7	Anthracene	23	
206-44-0	Fluoranthene	180	
129-00-0	Pyrene	110	
56-55-3	Benzo(a)anthracene	65	
218-01-9	Chrysene	71	
205-99-2	Benzo(b)fluoranthene	97	
207-08-9	Benzo(k)fluoranthene	36	
50-32-8	Benzo(a)pyrene	57	
193-39-5	Indeno[1,2,3-cd]pyrene	61	
53-70-3	Dibenz[a,h]anthracene	9	J
191-24-2	Benzo[g,h,i]perylene	54	



Woods Hole Group
Environmental Laboratories

Chain-of-Custody Record

375 Paramount Drive
Raynham, MA 02767

TEL: (508) 822-9300
FAX: (508) 822-3288

43183

PAGE 1 OF 1

COMPANY INFORMATION		COMPANY'S PROJECT INFORMATION		SHIPPING INFORMATION		VOLUME/CONTAINER TYPE/PRESERVATIVE (NOTE 4)								
Name: <u>Rachel Chenail/ERM</u>		Regulatory Protocol: _____		Carrier: _____		1L	1L	1L	---	---	---	---	---	---
Address: <u>399 Baylston St.</u> <u>6th Floor</u> <u>Boston, MA 02116</u>		For the State of: _____		Airbill Number: _____		---	---	---	---	---	---	---	---	---
Telephone: <u>(617) 267-8377</u>		Project Name: <u>Raytheon Wapland</u>		Date Shipped: _____		A	P	P	---	---	---	---	---	---
Facsimile: <u>(617) 267-6447</u>		Project Number: <u>14348</u>		Quote #: _____		---	---	---	---	---	---	---	---	---
Contact Name: <u>John McTigue</u>		P.O. # <u>14348</u>				N	N	N	---	---	---	---	---	---
		Sampler Name(s): <u>Rachel Chenail</u>												
		TAT <u>15</u> 10 Day <input checked="" type="checkbox"/> 5 Day _____ 3 Day _____ 48 Hr _____ 24 Hr _____ Other _____												

WHG LAB #	SAMPLE ID (NOTE 1)	COLLECTION		COMPOSITE GRAB	MATRIX	ANALYSIS/REMARKS (NOTE 2, 3)	NUMBER OF CONTAINERS							
		DATE	TIME											
43183 -1	T-2-6	11/1/99	0:45	GRAB	Water	PAHs, ^{dissolved} Total Metals, Cr ¹⁶ Hardness	2	1	1					
-2	T-3-7	11/1/99	9:00	↓	↓	↓	2	1	1					
-3	T-5-6	11/1/99	1:15	↓	↓	↓	2	1	1					

Relinquished by: (signature) <u>Rachel Chenail</u>	DATE 11/1/99	TIME 10:00	Received by: (signature) <u>[Signature]</u>
Relinquished by: (signature) <u>[Signature]</u>	DATE 11/1/99	TIME 12:45	Received by: (signature) <u>[Signature]</u>
Relinquished by: (signature) <u>[Signature]</u>	DATE	TIME	Received for Laboratory by: (signature)

NOTES TO SAMPLER (S): (1) Limit Sample Identification to 6 characters, if possible; (2) Indicate designated Lab Q.C. sample and type (e.g.; MS/MSD/REP) and provide sufficient sample; (3) Field duplicates are separate sample; (4) e.g.; 40ml/glass/H₂SO₄

Notes to Lab:
Dissolved metals, 15 Business Day TAT, Level IV package. confirmed with Rachel Chenail



ANALYTICAL REPORT

Prepared for:

**ERM, New England, Inc.
399 Boylston Street
Boston, MA 02116**

Project: Raytheon-Wayland

ETR: 00044186

Report Date: 05/23/2000

Certificates

**Massachusetts MA030
Connecticut PH-0141
New Hampshire 220697
Rhode Island 64
New Jersey 59015
Maine MA030**

CASE NARRATIVE

Woods Hole Group Environmental Laboratories

ETR: 44186
Project: Raytheon - Wayland

All analyses were performed within holding time and with appropriate quality control measures except where noted. Blank correction of results is not performed in the laboratory for any parameter. Soil/sediment samples are reported on a dry weight basis unless otherwise noted.

Metals

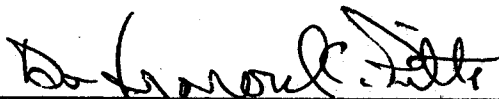
Samples associated with this data package were membrane filtered through 0.45µm pore size filters upon receipt at the laboratory. Samples were analyzed for dissolved Al, Be, Ca, Fe, Mg, Mn and K by ICP AES (Method 6010B) and for dissolved Sb, As, Ba, Cd, Cr, Co, Cu, Pb, Ni, Se, Ag, Tl, V, and Zn by ICP MS (Method 6020). Tin was determined by GFAA (Method 282.2) and Hg by CVAA (Method 7470).

Sample T-14-6 (44186-01) was analyzed in duplicate with a matrix spike, preparation blank and LCS for quality control purposes. All instrument and batch quality control measures were within method acceptance criteria except the following:

Barium: Recovery of barium from the second CCV analyzed by Method 6020 on 05/16/00 was 114% and outside of the 90% - 110% acceptance criteria. Recovery of barium from all other CCV's was within method acceptance limits.

The enclosed results of analyses are representative of the samples as received by the laboratory. Woods Hole Group 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 Woods Hole Group. To the best of my knowledge, the information contained in this report is accurate and complete.

Approved by: _____



Woods Hole Group Environmental Laboratories

Date: _____

5/23/00

\\WGH\LAB\SYSTEMS\SHARED\NARRTEMP\44186.dot

ANALYTICAL REPORT

Woods Hole Group Environmental Laboratories

ERM, New England, Inc.
399 Boylston Street
Boston, MA 02116

ETR: 00044186
Project: Raytheon-Wayland

Sample ID: T-14-6 Matrix: WATER Date Collected: 05/09/2000
Lab ID: 0044186-01 Date Received: 05/09/2000

<u>Parameter</u>	<u>Result</u>	<u>Qualifier</u>	<u>Units</u>	<u>Dilution Factor</u>	<u>RL</u>	<u>Method</u>	<u>Date Analyzed</u>	<u>Analyst</u>
Hexavalent Chromium	0.0050	U	mg/L	1	0.005	3500-CR D	05/09/2000	MLS

Sample ID: T-12-4 Matrix: WATER Date Collected: 05/09/2000
Lab ID: 0044186-02 Date Received: 05/09/2000

<u>Parameter</u>	<u>Result</u>	<u>Qualifier</u>	<u>Units</u>	<u>Dilution Factor</u>	<u>RL</u>	<u>Method</u>	<u>Date Analyzed</u>	<u>Analyst</u>
Hexavalent Chromium	0.0050	U	mg/L	1	0.005	3500-CR D	05/09/2000	MLS

Sample ID: T-5-7 Matrix: WATER Date Collected: 05/09/2000
Lab ID: 0044186-03 Date Received: 05/09/2000

<u>Parameter</u>	<u>Result</u>	<u>Qualifier</u>	<u>Units</u>	<u>Dilution Factor</u>	<u>RL</u>	<u>Method</u>	<u>Date Analyzed</u>	<u>Analyst</u>
Hexavalent Chromium	0.0050	U	mg/L	1	0.005	3500-CR D	05/09/2000	MLS

Sample ID: T-3-7 Matrix: WATER Date Collected: 05/09/2000
Lab ID: 0044186-04 Date Received: 05/09/2000

<u>Parameter</u>	<u>Result</u>	<u>Qualifier</u>	<u>Units</u>	<u>Dilution Factor</u>	<u>RL</u>	<u>Method</u>	<u>Date Analyzed</u>	<u>Analyst</u>
Hexavalent Chromium	0.0050	U	mg/L	1	0.005	3500-CR D	05/09/2000	MLS

Sample ID: T-2-8 Matrix: WATER Date Collected: 05/09/2000
Lab ID: 0044186-05 Date Received: 05/09/2000

<u>Parameter</u>	<u>Result</u>	<u>Qualifier</u>	<u>Units</u>	<u>Dilution Factor</u>	<u>RL</u>	<u>Method</u>	<u>Date Analyzed</u>	<u>Analyst</u>
Hexavalent Chromium	0.0050	U	mg/L	1	0.005	3500-CR D	05/09/2000	MLS

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

N/A = Not Applicable
RL = Reporting Limit

ANALYTICAL REPORT

Woods Hole Group Environmental Laboratories

ERM, New England, Inc.
399 Boylston Street
Boston, MA 02116

ETR: 00044186
Project: Raytheon-Wayland

Sample ID: Batched QC - Method Blank Matrix: WATER Date Collected: N/A
Lab ID: 0001977-01 Date Received: N/A

<u>Parameter</u>	<u>Result</u>	<u>Qualifier</u>	<u>Units</u>	<u>Dilution</u> <u>Factor</u>	<u>RL</u>	<u>Method</u>	<u>Date</u> <u>Analyzed</u>	<u>Analyst</u>
Hexavalent Chromium	0.005	U	mg/L	1	0.005	3500-CRD	05/09/2000	MLS

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

N/A - Not Applicable
RL - Reporting Limit

Inorganic Quality Control Summary

Client: ERM New England Inc.
 Project: Raytheon - Wayland
 ETR #: 44186

Parameter	sample ID	analysis date	blank (mg/L)	sample result (mg/L)	RPD of duplicates	MS conc added (mg/L)	%recovery matrix spike	LCS conc added (mg/L)	% recovery LCS	qualifier
Hexavalent Chrome	44186-1	05/09/2000	<0.005	<0.005	0	0.417	83	0.097	92	

Qualifiers & Notes:
 LCS = Laboratory control standard
 RPD = Relative percent difference
 B = Reported QC is for associated batch
 N = See narrative
 A = Recovery is for method standard in place of matrix spike.

COVER PAGE - INORGANIC ANALYSES DATA PACKAGE

Lab Name: WHG _____ Client: _____
 Lab Code: WHG _____ Case No.: _____ SAS No.: _____ SDG No.: 44186_
 SOW No.: ILM04.0

Sample No.	Lab Sample ID	
<u>T-12-4</u>	<u>44186-02</u>	
<u>T-14-6</u>	<u>44186-01</u>	
<u>T-14-6D</u>	<u>44186-01D</u>	Duplicate
<u>T-14-6S</u>	<u>44186-01S</u>	Matrix Spike high
<u>T-14-6SL</u>	<u>44186-01SL</u>	Matrix Spike low
<u>T-2-8</u>	<u>44186-05</u>	
<u>T-3-7</u>	<u>44186-04</u>	
<u>T-5-7</u>	<u>44186-03</u>	
_____	_____	
_____	_____	
_____	_____	
_____	_____	
_____	_____	
_____	_____	
_____	_____	
_____	_____	
_____	_____	
_____	_____	
_____	_____	
_____	_____	
_____	_____	
_____	_____	

Were ICP interelement corrections applied ? Yes/No YES
 Were ICP background corrections applied ? Yes/No YES
 If yes - were raw data generated before application of background corrections ? Yes/No NO

Comments: See Narrative

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package and in the computer-readable data submitted on floppy diskette has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature.

Signature: Dr Leonard C. Pitts Name: Dr Leonard C. Pitts
 Date: 5/23/00 Title: D. C. Irving, Chem.

1
INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.

T-12-4

Lab Name: WHG _____

Client: _____

Lab Code: WHG _____

Case No.: _____

SAS No.: _____

SDG No.: 44186_

Matrix (soil/water): WATER_

Lab Sample ID: 44186-02_

Level (low/med): LOW_

Date Received: 05/09/00

% Solids: _____

Concentration Units (ug/L or mg/kg dry weight): UG/L_

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	22.5	U		P
7440-36-0	Antimony	0.31	B		M
7440-38-2	Arsenic	0.75	B		M
7440-39-3	Barium	22.6			M
7440-41-7	Beryllium	0.50	B		P
7440-43-9	Cadmium	0.093	B		M
7440-70-2	Calcium	14200			P
7440-47-3	Chromium	0.86	B		M
7440-48-4	Cobalt	0.12	B		M
7440-50-8	Copper	4.5		E	M
7439-89-6	Iron	166			P
7439-92-1	Lead	0.72	B		M
7439-95-4	Magnesium	3160			P
7439-96-5	Manganese	73.5			P
7439-97-6	Mercury	0.020	U		AV
7440-02-0	Nickel	2.1		E	M
7440-09-7	Potassium	2180			P
7782-49-2	Selenium	1.4	U		M
7440-22-4	Silver	0.28	B		M
7440-28-0	Thallium	0.30	U		M
7440-31-5	Tin	17.8	U		F
7440-62-2	Vanadium	0.72	B		M
7440-66-6	Zinc	23.4	B		M
	Hardness	48500			NR

5/19/00

Color Before: _____

Clarity Before: _____

Texture: _____

Color After: _____

Clarity After: _____

Artifacts: _____

Comments:

1
INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.

T-14-6

Lab Name: WHG _____

Client: _____

Lab Code: WHG _____

Case No.: _____

SAS No.: _____

SDG No.: 44186_

Matrix (soil/water): WATER_

Lab Sample ID: 44186-01_

Level (low/med): LOW_

Date Received: 05/09/00

% Solids: _____

Concentration Units (ug/L or mg/kg dry weight): UG/L_

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	22.9	B		P
7440-36-0	Antimony	0.38	B		M
7440-38-2	Arsenic	0.72	B		M
7440-39-3	Barium	22.0			M
7440-41-7	Beryllium	0.50	B		P
7440-43-9	Cadmium	0.064	B		M
7440-70-2	Calcium	14100			P
7440-47-3	Chromium	0.84	B		M
7440-48-4	Cobalt	0.16	B		M
7440-50-8	Copper	3.2		E	M
7439-89-6	Iron	170			P
7439-92-1	Lead	0.43	B		M
7439-95-4	Magnesium	3190			P
7439-96-5	Manganese	83.8			P
7439-97-6	Mercury	0.020	U		AV
7440-02-0	Nickel	1.6		E	M
7440-09-7	Potassium	2300			P
7782-49-2	Selenium	1.4	U		M
7440-22-4	Silver	0.074	B		M
7440-28-0	Thallium	0.30	U		M
7440-31-5	Tin	17.8	U		F
7440-62-2	Vanadium	0.83	B		M
7440-66-6	Zinc	12.6	B		M
	Hardness	48400			NR

AS 19/00

Color Before: _____

Clarity Before: _____

Texture: _____

Color After: _____

Clarity After: _____

Artifacts: _____

Comments:

1
INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.

T-2-8

Lab Name: WHG _____

Client: _____

Lab Code: WHG _____

Case No.: _____

SAS No.: _____

SDG No.: 44186_

Matrix (soil/water): WATER_

Lab Sample ID: 44186-05_

Level (low/med): LOW_

Date Received: 05/09/00

% Solids: _____

Concentration Units (ug/L or mg/kg dry weight): UG/L_

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	22.5	U		P
7440-36-0	Antimony	0.39	B		M
7440-38-2	Arsenic	1.7	B		M
7440-39-3	Barium	30.0			M
7440-41-7	Beryllium	0.22	B		P
7440-43-9	Cadmium	0.19	B		M
7440-70-2	Calcium	16800			P
7440-47-3	Chromium	4.8			M
7440-48-4	Cobalt	0.52	B		M
7440-50-8	Copper	68.2		E	M
7439-89-6	Iron	385			P
7439-92-1	Lead	0.68	B		M
7439-95-4	Magnesium	3090			P
7439-96-5	Manganese	207			P
7439-97-6	Mercury	0.020	U		AV
7440-02-0	Nickel	2.8		E	M
7440-09-7	Potassium	2440			P
7782-49-2	Selenium	1.4	U		M
7440-22-4	Silver	0.17	B		M
7440-28-0	Thallium	0.30	U		M
7440-31-5	Tin	17.8	U		F
7440-62-2	Vanadium	0.99	B		M
7440-66-6	Zinc	20.0	B		M
	Hardness	54700			NR

ASTA/00

Color Before: _____

Clarity Before: _____

Texture: _____

Color After: _____

Clarity After: _____

Artifacts: _____

Comments:

1
INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.

T-3-7

Lab Name: WHG _____

Client: _____

Lab Code: WHG _____

Case No.: _____

SAS No.: _____

SDG No.: 44186_

Matrix (soil/water): WATER_

Lab Sample ID: 44186-04_

Level (low/med): LOW_

Date Received: 05/09/00

% Solids: _____

Concentration Units (ug/L or mg/kg dry weight): UG/L_

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	22.5	U		P
7440-36-0	Antimony	0.64	B		M
7440-38-2	Arsenic	1.0	B		M
7440-39-3	Barium	24.4			M
7440-41-7	Beryllium	0.25	B		P
7440-43-9	Cadmium	0.16	B		M
7440-70-2	Calcium	14600			P
7440-47-3	Chromium	2.5			M
7440-48-4	Cobalt	0.28	B		M
7440-50-8	Copper	50.0		E	M
7439-89-6	Iron	226			P
7439-92-1	Lead	1.0			M
7439-95-4	Magnesium	3080			P
7439-96-5	Manganese	114			P
7439-97-6	Mercury	0.020	U		AV
7440-02-0	Nickel	2.1		E	M
7440-09-7	Potassium	2340			P
7782-49-2	Selenium	1.4	U		M
7440-22-4	Silver	0.13	B		M
7440-28-0	Thallium	0.30	U		M
7440-31-5	Tin	17.8	U		F
7440-62-2	Vanadium	1.0	B		M
7440-66-6	Zinc	19.3	B		M
	Hardness	49200			NR

Color Before: _____

Clarity Before: _____

Texture: _____

Color After: _____

Clarity After: _____

Artifacts: _____

Comments:

1
INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.

T-5-7

Lab Name: WHG _____

Client: _____

Lab Code: WHG _____

Case No.: _____

SAS No.: _____

SDG No.: 44186_

Matrix (soil/water): WATER_

Lab Sample ID: 44186-03_

Level (low/med): LOW_

Date Received: 05/09/00.

% Solids: _____

Concentration Units (ug/L or mg/kg dry weight): UG/L_

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	22.5	U		P
7440-36-0	Antimony	0.25	U		M
7440-38-2	Arsenic	0.99	B		M
7440-39-3	Barium	23.6			M
7440-41-7	Beryllium	0.25	B		P
7440-43-9	Cadmium	0.089	B		M
7440-70-2	Calcium	14500			P
7440-47-3	Chromium	2.5			M
7440-48-4	Cobalt	0.18	B		M
7440-50-8	Copper	26.3		E	M
7439-89-6	Iron	281			P
7439-92-1	Lead	0.89	B		M
7439-95-4	Magnesium	3100			P
7439-96-5	Manganese	93.1			P
7439-97-6	Mercury	0.020	U		AV
7440-02-0	Nickel	1.8		E	M
7440-09-7	Potassium	2240			P
7782-49-2	Selenium	1.4	U		M
7440-22-4	Silver	0.17	B		M
7440-28-0	Thallium	0.30	U		M
7440-31-5	Tin	17.8	U		F
7440-62-2	Vanadium	0.89	B		M
7440-66-6	Zinc	12.8	B		M
	Hardness	49000			NR

5/9/00

Color Before: _____

Clarity Before: _____

Texture: _____

Color After: _____

Clarity After: _____

Artifacts: _____

Comments:

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: WHG _____

Client: _____

Lab Code: WHG Case No.: _____

SAS No.: _____

SDG No.: 44186

Initial Calibration Source: INORGANIC_VENTURES

Continuing Calibration Source: INORGANIC_VENTURES

Concentration Units: ug/L

Analyte	Initial Calibration			Continuing Calibration					M
	True	Found	%R(1)	True	Found	%R(1)	Found	%R(1)	
Aluminum	11000.0	11021.77	100.2	11000.0	10959.23	99.6	11153.25	101.4	P
Antimony	50.0	48.76	97.5	50.0	48.47	96.9	52.08	104.2	M
Arsenic	50.0	50.24	100.5	50.0	49.28	98.6	52.67	105.3	M
Barium	50.0	53.86	107.7	50.0	53.86	107.7	56.81	113.6	M
Beryllium	500.0	494.56	98.9	500.0	494.69	98.9	496.31	99.3	P
Cadmium	50.0	49.90	99.8	50.0	49.09	98.2	52.94	105.9	M
Calcium	10000.0	9889.53	98.9	10000.0	9852.84	98.5	10092.85	100.9	P
Chromium	50.0	52.81	105.6	50.0	49.45	98.9	53.70	107.4	M
Cobalt	50.0	52.37	104.7	50.0	49.53	99.1	54.19	108.4	M
Copper	50.0	51.57	103.1	50.0	49.12	98.2	52.99	106.0	M
Iron	10500.0	10214.95	97.3	10500.0	10134.96	96.5	10141.66	96.6	P
Lead	50.0	51.08	102.2	50.0	49.31	98.6	52.49	105.0	M
Magnesium	10000.0	9813.96	98.1	10000.0	9660.42	96.6	9763.16	97.6	P
Manganese	500.0	481.80	96.4	500.0	478.39	95.7	479.25	95.8	P
Mercury	5.0	5.43	108.6	5.0	5.35	107.0	5.30	106.0	AV
Nickel	50.0	51.46	102.9	50.0	48.70	97.4	52.63	105.3	M
Potassium	10000.0	9883.68	98.8	10000.0	9753.81	97.5	9871.69	98.7	P
Selenium	50.0	50.28	100.6	50.0	48.21	96.4	52.05	104.1	M
Silver	50.0	49.35	98.7	50.0	49.28	98.6	53.40	106.8	M
Thallium	50.0	53.86	107.7	50.0	50.95	101.9	53.35	106.7	M
Tin	200.0	181.97	91.0	200.0	214.65	107.3	209.86	104.9	F
Vanadium	50.0	53.09	106.2	50.0	50.39	100.8	54.62	109.2	M
Zinc	50.0	51.91	103.8	50.0	49.16	98.3	53.18	106.4	M
Hardness									

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: WHG _____ Client: _____
 Lab Code: WHG _____ Case No.: _____ SAS No.: _____ SDG No.: 44186
 Initial Calibration Source: _____
 Continuing Calibration Source: INORGANIC_VENTURES_AND_SPEX

Concentration Units: ug/L

Analyte	Initial Calibration			Continuing Calibration					M
	True	Found	%R(1)	True	Found	%R(1)	Found	%R(1)	
Aluminum									
Antimony				50.0	50.74	101.5	49.05	98.1	M
Arsenic				50.0	50.48	101.0	49.27	98.5	M
Barium				50.0	53.96	107.9	52.53	105.1	M
Beryllium									
Cadmium				50.0	51.30	102.6	50.35	100.7	M
Calcium									
Chromium				50.0	51.13	102.3	49.63	99.3	M
Cobalt				50.0	51.60	103.2	50.57	101.1	M
Copper				50.0	50.46	100.9	49.34	98.7	M
Iron									
Lead				50.0	50.45	100.9	48.74	97.5	M
Magnesium									
Manganese									
Mercury									
Nickel				50.0	50.02	100.0	48.76	97.5	M
Potassium									
Selenium				50.0	50.46	100.9	49.49	99.0	M
Silver				50.0	49.00	98.0	48.02	96.0	M
Thallium				50.0	52.13	104.3	50.67	101.3	M
Tin									
Vanadium				50.0	52.63	105.3	50.47	100.9	M
Zinc				50.0	50.73	101.5	49.91	99.8	M
Hardness									

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

2B
CRDL STANDARD FOR AA AND ICP

Lab Name: WHG _____

Client: _____

Lab Code: WHG _____

Case No.: _____

SAS No.: _____

SDG No.: 44186

AA CRDL Standard Source: CPI,EM_SCIENCE

ICP CRDL Standard Source: INORGANIC_VENTURES

Concentration Units: ug/L

Analyte	CRDL Standard for AA			CRDL Standard for ICP				
	True	Found	%R	Initial True	Initial Found	Initial %R	Final Found	Final %R
Aluminum				200.0	201.53	100.8	193.67	96.8
Antimony				0.2	0.28	140.0		
Arsenic				0.2	0.20	100.0		
Barium				0.2	0.27	135.0		
Beryllium				8.0	8.17	102.1	8.22	102.8
Cadmium				0.2	0.21	105.0		
Calcium				1000.0	1058.61	105.9	1059.07	105.9
Chromium				0.2	0.21	105.0		
Cobalt				0.2	0.21	105.0		
Copper				0.2	0.21	105.0		
Iron				100.0	101.42	101.4	101.32	101.3
Lead				0.2	0.21	105.0		
Magnesium				1000.0	996.39	99.6	972.84	97.3
Manganese				30.0	28.43	94.8	28.33	94.4
Mercury	0.1	0.07	70.0					
Nickel				0.2	0.18	90.0		
Potassium				1000.0	1036.55	103.7	979.61	98.0
Selenium				0.2	0.17	85.0		
Silver				0.2	0.23	115.0		
Thallium				0.2	0.24	120.0		
Tin	20.0	12.43	62.2					
Vanadium				0.2	0.24	120.0		
Zinc				0.2	0.11	55.0		
Hardness								

Control Limits: no limits have been established by EPA at this time

3
BLANKS

Lab Name: WHG _____

Client: _____

Lab Code: WHG _____

Case No.: _____

SAS No.: _____

SDG No.: 44186

Preparation Blank Matrix (soil/water): WATER

Preparation Blank Concentration Units (ug/L or mg/kg): UG/L

Analyte	Initial Calib. Blank (ug/L)		Continuing Calibration Blank (ug/L)						Preparation Blank		C	M
	(ug/L)	C	1	C	2	C	3	C	Blank	C		
Aluminum	22.500	U	22.500	U	22.500	U			22.500	U	P	
Antimony	0.338	B	0.494	B	0.376	B	0.540	B	5.732	B	M	
Arsenic	0.050	U	0.050	B	0.050	U	0.050	U	0.448	B	M	
Barium	0.010	U	0.010	U	0.010	U	0.010	U	0.217	B	M	
Beryllium	0.348	B	0.498	B	0.498	B			0.398	B	P	
Cadmium	0.015	B	0.010	U	0.010	U	0.014	B	0.115	B	M	
Calcium	6.053	B	10.171	B	38.171	B			40.824	B	P	
Chromium	0.100	U	0.100	U	0.100	U	0.100	U	0.500	U	M	
Cobalt	0.010	U	0.010	U	0.010	U	0.010	U	0.130	B	M	
Copper	0.020	U	0.020	U	0.020	U	0.020	U	0.734	B	M	
Iron	6.000	U	6.000	U	12.943	B			9.312	B	P	
Lead	0.011	B	0.011	B	0.010	U	0.010	U	0.215	B	M	
Magnesium	22.600	U	22.600	U	22.600	U			35.710	B	P	
Manganese	-0.957	B	-0.744	B	0.500	U			-0.531	B	P	
Mercury	0.010	U	0.010	U	0.010	U			-0.056	B	AV	
Nickel	0.020	U	0.020	U	0.020	U	0.020	U	0.421	B	M	
Potassium	133.000	U	133.000	U	133.000	U			133.000	U	P	
Selenium	0.270	U	0.270	U	0.270	U	0.270	U	1.350	U	M	
Silver	0.049	B	0.048	B	0.054	B	0.049	B	0.244	B	M	
Thallium	0.060	U	0.069	B	0.060	U	0.060	U	0.300	U	M	
Tin	17.800	U	17.800	U	17.800	U			17.800	U	F	
Vanadium	0.120	U	0.174	B	0.122	B	0.132	B	0.726	B	M	
Zinc	0.340	U	0.340	U	0.340	U	0.340	U	14.598	B	M	
Hardness												

3
BLANKS

Lab Name: WHG _____

Client: _____

Lab Code: WHG _____

Case No.: _____

SAS No.: _____

SDG No.: 44186

Preparation Blank Matrix (soil/water): WATER

Preparation Blank Concentration Units (ug/L or mg/kg): UG/L

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L)						Filter Blank		
			1	C	2	C	3	C	Preparation Blank	C	M
Aluminum									22.500	U	P
Antimony			0.433	B					0.389	B	M
Arsenic			0.050	U					0.250	U	M
Barium			0.010	U					0.136	B	M
Beryllium									0.498	B	P
Cadmium			0.010	U					0.081	B	M
Calcium									49.975	B	P
Chromium			0.100	U					0.500	U	M
Cobalt			0.010	U					0.050	U	M
Copper			0.020	U					1.375	B	M
Iron									20.602	B	P
Lead			0.010	U					0.162	B	M
Magnesium									56.428	B	P
Manganese									0.500	U	P
Mercury									-0.057	B	AV
Nickel			0.020	U					0.674	B	M
Potassium									133.000	U	P
Selenium			0.270	U					1.350	U	M
Silver			0.048	B					0.130	B	M
Thallium			0.060	U					0.300	U	M
Tin									17.800	U	F
Vanadium			0.138	B					0.600	U	M
Zinc			0.340	U					11.783	B	M
Hardness											

ICP INTERFERENCE CHECK SAMPLE

Lab Name: WHG _____ Client: _____
 Lab Code: WHG _____ Case No.: _____ SAS No.: _____ SDG No.: 44186
 ICP ID Number: ICP_1_(IDL) ICS Source: INORGANIC_VENTURES

Concentration Units: ug/L

Analyte	True		Initial Found			Final Found		
	Sol. A	Sol. AB	Sol. A	Sol. AB	%R	Sol. A	Sol. AB	%R
Aluminum	500000	500000	504769	504210.5	100.8	500969	498752.1	99.8
Antimony								
Arsenic								
Barium								
Beryllium		500	0	468.7	93.7	0	464.6	92.9
Cadmium								
Calcium	500000	500000	469356	468592.6	93.7	464584	462573.0	92.5
Chromium								
Cobalt								
Copper								
Iron	200000	200000	177927	177542.1	88.8	175895	175165.4	87.6
Lead								
Magnesium	500000	500000	494014	490495.2	98.1	486833	483255.3	96.7
Manganese		500	8	455.6	91.1	8	450.5	90.1
Mercury								
Nickel								
Potassium			-22	-100.3		-88	-54.4	
Selenium								
Silver								
Thallium								
Tin								
Vanadium								
Zinc								

ICP INTERFERENCE CHECK SAMPLE

Lab Name: WHG _____

Client: _____

Lab Code: WHG _____ Case No.: _____

SAS No.: _____

SDG No.: 44186

ICP ID Number: ICP_MS_(IDL)

ICS Source: INORGANIC_VENTURES

Concentration Units: ug/L

Analyte	True		Initial Found			Final Found		
	Sol. A	Sol. AB	Sol. A	Sol. AB	%R	Sol. A	Sol. AB	%R
Aluminum								
Antimony		20	0	20.7	103.5			
Arsenic		20	6	26.1	130.5			
Barium		20	1	22.9	114.5			
Beryllium								
Cadmium		20	1	21.1	105.5			
Calcium								
Chromium		20	1	21.3	106.5			
Cobalt		20	0	21.5	107.5			
Copper		20	2	21.5	107.5			
Iron								
Lead		20	1	20.7	103.5			
Magnesium								
Manganese								
Mercury								
Nickel		20	2	21.5	107.5			
Potassium								
Selenium		20	-0	19.2	96.0			
Silver		20	0	20.5	102.5			
Thallium		20	0	21.7	108.5			
Tin								
Vanadium		20	7	28.9	144.5			
Zinc		20	2	21.9	109.5			

5A
SPIKE SAMPLE RECOVERY

SAMPLE NO.

T-14-6S

Lab Name: WHG _____

Client: _____

Lab Code: WHG _____

Case No.: _____

SAS No.: _____

SDG No.: 44186

Matrix (soil/water): WATER

Level (low/med): LOW

% Solids for Sample: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

Analyte	Control Limit %R	Spiked Sample Result (SSR)	C	Sample Result (SR)	C	Spike Added (SA)	%R	Q	M
Aluminum	75-125	5212.8465		22.9234	B	5000.00	103.8		P
Antimony									NR
Arsenic									NR
Barium	75-125	487.4065		22.0295		500.00	93.1		M
Beryllium	75-125	494.8606		0.4983	B	500.00	98.9		P
Cadmium									NR
Calcium	75-125	19073.8405		14142.5778		5000.00	98.6		P
Chromium									NR
Cobalt									NR
Copper									NR
Iron	75-125	5111.3877		169.5923		5000.00	98.8		P
Lead									NR
Magnesium	75-125	8275.4473		3189.3613		5000.00	101.7		P
Manganese	75-125	1045.2286		83.8073		1000.00	96.1		P
Mercury	75-125	7.5934		0.0200	U	8.00	94.9		AV
Nickel									NR
Potassium	75-125	7422.1462		2303.2799		5000.00	102.4		P
Selenium									NR
Silver									NR
Thallium									NR
Tin	75-125	487.0656		17.8000	U	416.00	117.1		F
Vanadium									NR
Zinc	75-125	490.3150		12.5705	B	500.00	95.5		M
Hardness									NR

Comments:

5A
SPIKE SAMPLE RECOVERY

SAMPLE NO.

T-14-6SL

Lab Name: WHG _____

Client: _____

Lab Code: WHG _____

Case No.: _____

SAS No.: _____

SDG No.: 44186

Matrix (soil/water): WATER

Level (low/med): LOW

% Solids for Sample: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

Analyte	Control Limit %R	Spiked Sample Result (SSR) C	Sample Result (SR) C	Spike Added (SA)	%R	Q	M
Aluminum							NR
Antimony	75-125	50.4450	0.3765 B	50.00	100.1		M
Arsenic	75-125	50.1820	0.7240 B	50.00	98.9		M
Barium							NR
Beryllium							NR
Cadmium	75-125	50.0650	0.0645 B	50.00	100.0		M
Calcium							NR
Chromium	75-125	50.7410	0.8430 B	50.00	99.8		M
Cobalt	75-125	50.0440	0.1555 B	50.00	99.8		M
Copper	75-125	53.6160	3.1520	50.00	100.9		M
Iron							NR
Lead	75-125	49.6255	0.4305 B	50.00	98.4		M
Magnesium							NR
Manganese							NR
Mercury							NR
Nickel	75-125	48.3055	1.5545	50.00	93.5		M
Potassium							NR
Selenium	75-125	49.3840	1.3500 U	50.00	98.8		M
Silver	75-125	51.8230	0.0735 B	50.00	103.5		M
Thallium	75-125	52.3840	0.3000 U	50.00	104.8		M
Tin							NR
Vanadium	75-125	50.2305	0.8340 B	50.00	98.8		M
Zinc							NR
Hardness							NR

Comments:

6
DUPLICATES

SAMPLE NO.

T-14-6D

Lab Name: WHG_____

Client: _____

Lab Code: WHG_____

Case No.: _____

SAS No.: _____

SDG No.: 44186

Matrix (soil/water): WATER_____

Level (low/med): LOW_____

% Solids for Sample: 0.0_____

% Solids for Duplicate: 0.0_____

Concentration Units (ug/L or mg/kg dry weight): UG/L_

Analyte	Control Limit	Sample (S)	C	Duplicate (D)	C	RPD	Q	M
Aluminum		22.9234	B	22.5000	U	200.0		P
Antimony		0.3765	B	0.2650	B	34.8		M
Arsenic		0.7240	B	0.7385	B	2.0		M
Barium		22.0295		21.7015		1.5		M
Beryllium		0.4983	B	0.2000	U	200.0		P
Cadmium		0.0645	B	0.0500	U	200.0		M
Calcium		14142.5778		14128.5778		0.1		P
Chromium		0.8430	B	0.8010	B	5.1		M
Cobalt		0.1555	B	0.1450	B	7.0		M
Copper	2.5	3.1520		3.6770		15.4		M
Iron	50.0	169.5923		199.6016		16.3		P
Lead		0.4305	B	0.6165	B	35.5		M
Magnesium		3189.3613		3179.7119		0.3		P
Manganese		83.8073		83.5949		0.3		P
Mercury		0.0200	U	0.0200	U			AV
Nickel	1.0	1.5545		1.8620		18.0		M
Potassium	500.0	2303.2799		2300.2827		0.1		P
Selenium		1.3500	U	1.3500	U			M
Silver		0.0735	B	0.0500	U	200.0		M
Thallium		0.3000	U	0.3000	U			M
Tin		17.8000	U	17.8000	U			F
Vanadium		0.8340	B	0.7640	B	8.8		M
Zinc		12.5705	B	16.5895	B	27.6		M
Hardness								NR

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

T-14-6

Lab Name: Woods Hole Group Environmental Client: ERM

Lab Code: _____ ETR No.: 44186 Project: Raythe SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: 44186-01

Sample wt/vol: 960 (g/ml) ML Lab File ID: 4418601X.D

Level: (low/med) LOW Date Received: 5/9/00

% Moisture: _____ decanted: (Y/N) N Date Extracted: 5/16/00

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 5/17/00

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: _____

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/L *curr 1/19/00*

CAS NO. COMPOUND

CAS NO.	COMPOUND	CONCENTRATION	UNIT
91-20-3	Naphthalene	44	
91-57-6	2-Methylnaphthalene	10	U
208-96-8	Acenaphthylene	10	U
83-32-9	Acenaphthene	10	U
86-73-7	Fluorene	10	U
85-01-8	Phenanthrene	8	J
120-12-7	Anthracene	10	U
206-44-0	Fluoranthene	9	J
129-00-0	Pyrene	6	J
56-55-3	Benzo(a)anthracene	10	U
218-01-9	Chrysene	10	U
205-99-2	Benzo(b)fluoranthene	10	U
207-08-9	Benzo(k)fluoranthene	10	U
50-32-8	Benzo(a)pyrene	10	U
193-39-5	Indeno[1,2,3-cd]pyrene	10	U
53-70-3	Dibenz[a,h]anthracene	10	U
191-24-2	Benzo[g,h,i]perylene	10	U

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

T-12-4

Lab Name: Woods Hole Group Environmental Client: ERM

Lab Code: _____ ETR No.: 44186 Project: Raythe SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: 44186-02

Sample wt/vol: 940 (g/ml) ML Lab File ID: 4418602X.D

Level: (low/med) LOW Date Received: 5/9/00

% Moisture: _____ decanted: (Y/N) N Date Extracted: 5/16/00

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 5/17/00

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: _____

CONCENTRATION UNITS:
(ug/L or ug/Kg) ^N ug/L ^{UNT} 5/17/00 Q

CAS NO.	COMPOUND	CONCENTRATION UNITS	
91-20-3	Naphthalene	71	
91-57-6	2-Methylnaphthalene	6	J
208-96-8	Acenaphthylene	11	U
83-32-9	Acenaphthene	11	U
86-73-7	Fluorene	11	U
85-01-8	Phenanthrene	8	J
120-12-7	Anthracene	11	U
206-44-0	Fluoranthene	10	J
129-00-0	Pyrene	6	J
56-55-3	Benzo(a)anthracene	11	U
218-01-9	Chrysene	11	U
205-99-2	Benzo(b)fluoranthene	11	U
207-08-9	Benzo(k)fluoranthene	11	U
50-32-8	Benzo(a)pyrene	11	U
193-39-5	Indeno[1,2,3-cd]pyrene	11	U
53-70-3	Dibenz[a,h]anthracene	11	U
191-24-2	Benzo[g,h,i]perylene	11	U

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

T-5-7

Lab Name: Woods Hole Group Environmental Client: ERM

Lab Code: _____ ETR No.: 44186 Project: Raythe SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: 44186-03

Sample wt/vol: 920 (g/ml) ML Lab File ID: 4418603X.D

Level: (low/med) LOW Date Received: 5/9/00

% Moisture: _____ decanted:(Y/N) N Date Extracted: 5/16/00

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 5/17/00

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: _____

CONCENTRATION UNITS:
(ug/L or ug/Kg) N ug/L *cur 5/19/00* Q

CAS NO.	COMPOUND	CONCENTRATION	UNIT
91-20-3	Naphthalene	51	
91-57-6	2-Methylnaphthalene	6	J
208-96-8	Acenaphthylene	11	U
83-32-9	Acenaphthene	11	U
86-73-7	Fluorene	11	U
85-01-8	Phenanthrene	39	
120-12-7	Anthracene	11	U
206-44-0	Fluoranthene	70	
129-00-0	Pyrene	49	
56-55-3	Benzo(a)anthracene	14	
218-01-9	Chrysene	28	
205-99-2	Benzo(b)fluoranthene	31	
207-08-9	Benzo(k)fluoranthene	25	
50-32-8	Benzo(a)pyrene	20	
193-39-5	Indeno[1,2,3-cd]pyrene	20	
53-70-3	Dibenz[a,h]anthracene	11	U
191-24-2	Benzo[g,h,i]perylene	21	

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

T-3-7

Lab Name: Woods Hole Group Environmental Client: ERM

Lab Code: _____ ETR No.: 44186 Project: Raythe SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: 44186-04

Sample wt/vol: 1000 (g/ml) ML Lab File ID: 4418604X.D

Level: (low/med) LOW Date Received: 5/9/00

% Moisture: _____ decanted:(Y/N) N Date Extracted: 5/16/00

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 5/17/00

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: _____

CONCENTRATION UNITS:

(ug/L or ug/Kg) ug/L*ug/L*
Q

CAS NO. COMPOUND

CAS NO.	COMPOUND	CONCENTRATION	UNIT
91-20-3	Naphthalene	22	
91-57-6	2-Methylnaphthalene	7	J
208-96-8	Acenaphthylene	10	J
83-32-9	Acenaphthene	27	
86-73-7	Fluorene	29	
85-01-8	Phenanthrene	660	
120-12-7	Anthracene	34	
206-44-0	Fluoranthene	1200	
129-00-0	Pyrene	840	
56-55-3	Benzo(a)anthracene	230	
218-01-9	Chrysene	490	
205-99-2	Benzo(b)fluoranthene	560	
207-08-9	Benzo(k)fluoranthene	390	
50-32-8	Benzo(a)pyrene	370	
193-39-5	Indeno[1,2,3-cd]pyrene	370	
53-70-3	Dibenz[a,h]anthracene	42	
191-24-2	Benzo[g,h,i]perylene	360	

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

T-2-8

Lab Name: Woods Hole Group Environmental Client: ERM

Lab Code: _____ ETR No.: 44186 Project: Raythe SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: 44186-05

Sample wt/vol: 970 (g/ml) ML Lab File ID: 4418605X.D

Level: (low/med) LOW Date Received: 5/9/00

% Moisture: _____ decanted:(Y/N) N Date Extracted: 5/16/00

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 5/17/00

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: _____

CONCENTRATION UNITS:
 (ug/L or ug/Kg) N ug/L 5/19/00 Q

CAS NO. COMPOUND

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>N</u> <u>ug/L</u> <u>5/19/00</u> <u>Q</u>	
91-20-3	Naphthalene	35	
91-57-6	2-Methylnaphthalene	10	U
208-96-8	Acenaphthylene	10	U
83-32-9	Acenaphthene	10	U
86-73-7	Fluorene	10	U
85-01-8	Phenanthrene	21	
120-12-7	Anthracene	10	U
206-44-0	Fluoranthene	40	
129-00-0	Pyrene	29	
56-55-3	Benzo(a)anthracene	9	J
218-01-9	Chrysene	19	
205-99-2	Benzo(b)fluoranthene	21	
207-08-9	Benzo(k)fluoranthene	15	
50-32-8	Benzo(a)pyrene	13	
193-39-5	Indeno[1,2,3-cd]pyrene	13	
53-70-3	Dibenz[a,h]anthracene	10	U
191-24-2	Benzo[g,h,i]perylene	15	

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

SBLK01

Lab Name: Woods Hole Group Environmental Client: ERM

Lab Code: _____ ETR No.: 44186 Project: Raythe SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: 2000-01

Sample wt/vol: 1000 (g/ml) ML Lab File ID: 2000-01X.D

Level: (low/med) LOW Date Received: 5/9/00

% Moisture: _____ decanted: (Y/N) N Date Extracted: 5/16/00

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 5/17/00

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: _____

CONCENTRATION UNITS:
(ug/L or ug/Kg) ^N ug/L *cur 5/19/00 Q*

CAS NO. COMPOUND

CAS NO.	COMPOUND	(ug/L or ug/Kg)	U
91-20-3	Naphthalene	10	U
91-57-6	2-Methylnaphthalene	10	U
208-96-8	Acenaphthylene	10	U
83-32-9	Acenaphthene	10	U
86-73-7	Fluorene	10	U
85-01-8	Phenanthrene	10	U
120-12-7	Anthracene	10	U
206-44-0	Fluoranthene	10	U
129-00-0	Pyrene	10	U
56-55-3	Benzo(a)anthracene	10	U
218-01-9	Chrysene	10	U
205-99-2	Benzo(b)fluoranthene	10	U
207-08-9	Benzo(k)fluoranthene	10	U
50-32-8	Benzo(a)pyrene	10	U
193-39-5	Indeno[1,2,3-cd]pyrene	10	U
53-70-3	Dibenz[a,h]anthracene	10	U
191-24-2	Benzo[g,h,i]perylene	10	U



COMPANY INFORMATION		COMPANY'S PROJECT INFORMATION		SHIPPING INFORMATION		VOLUME/CONTAINER TYPE/ PRESERVATIVE (NOTE 4)			
Name: <u>Rachel Chenais /ERM</u>		Regulatory Protocol: _____		Carrier: _____					
Address: <u>399 Baylston St.</u>		For the State of: <u>MA</u>		Airbill Number: _____					
<u>6th Floor</u>		Project Name: <u>Raynech-Wyland</u>		Date Shipped: _____					
<u>Boston, MA 02116</u>		Project Number: <u>143.51</u>		Quote #: _____					
Telephone: <u>(617) 267-8377</u>		P.O. #: <u>143.51</u>							
Facsimile: <u>(617) 267-6447</u>		Sampler Name(s): <u>Rachel Chenais</u> <u>Lindsay Anderson</u>							
Contact Name: <u>Rachel Chenais</u>		TAT <input checked="" type="checkbox"/> 10 Day <input type="checkbox"/> 5 Day <input type="checkbox"/> 3 Day <input type="checkbox"/> 48 Hr <input type="checkbox"/> 24 Hr <input type="checkbox"/> Other							

WHG LAB #	SAMPLE ID (NOTE 1)	COLLECTION		COMPOSITE GRAB	MATRIX	ANALYSIS/REMARKS (NOTE 2, 3)	NUMBER OF CONTAINERS			
		DATE	TIME							
-1	T-14-6	5/9/00	14:10	GRAB	Surf & water	PAM, Metals, Cr ⁶⁺ , hardness				
-2	T-12-41		13:58							
-3	T-5-7		13:21							
-4	T-3-2		13:50							
-5	T-2-8		13:48							

Relinquished by: (signature) <u>Rachel Chenais</u>	DATE <u>5/9/00</u>	TIME <u>1424</u>	Received by: (signature) <u>Ed Butler</u>
Relinquished by: (signature) <u>Ed Butler</u>	DATE <u>5/9/00</u>	TIME <u>3:20</u>	Received by: (signature) <u>[Signature]</u>
Relinquished by: (signature) <u>27</u>	DATE	TIME	Received for Laboratory by: (signature)

NOTES TO SAMPLER (S): (1) Limit Sample Identification to 6 characters, if possible; (2) Indicate designated Lab Q.C. sample and type (e.g.; MS/MSD/REP) and provide sufficient sample; (3) Field duplicates are separate sample; (4) e.g.: 40ml/glass/H₂SO₄

Notes to Lab: _____
