

xtra

# REMEDIAL INVESTIGATION AT THE TIDEWATER SITE PAWTUCKET, RHODE ISLAND

VOLUME 2  
APPENDIX E

*Prepared For:*

**BLACKSTONE VALLEY ELECTRIC**  
c/o EUA Service Corporation  
P.O. Box 543 • 750 West Center Street  
West Bridgewater, Massachusetts 02379  
and  
**VALLEY GAS COMPANY**  
P.O. Box 7900 • 1595 Mendon Road  
Cumberland, Rhode Island 02864

*Prepared By:*

**ATLANTIC ENVIRONMENTAL SERVICES, INC.**  
P.O. Box 297 • 188 Norwich Avenue  
Colchester, Connecticut 06415

Atlantic Project No. 2061-03-05

**ATLANTIC**

December 30, 1996

RECEIVED  
1-3-97  
By





# **APPENDIX E**

## ***SOIL, GROUNDWATER, AND SEDIMENT RAW ANALYTICAL DATA***



29 July 1996

Mr. Peter Georgetti  
Atlantic Environmental Services, Inc.  
188 Norwich Ave  
PO Box 297  
Colchester, CT 06415

26

**RE: ANALYTICAL RESULTS  
TIDEWATER MGP INVESTIGATION**

Atlantic PO No.: S086  
Atlantic Project No.: 2061-03-02  
META No.: A01031

Dear Mr. Georgetti:

This package contains the analytical results from solid and aqueous samples received by META Environmental, Inc. from the Atlantic Environmental Services Tidewater MGP Investigation on 5 July 1996.

**Methods**

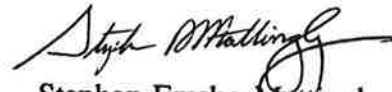
Two grams of solid or 35 mL of aqueous sample were prepared by Micro-Solvent Extraction (MSE) using methylene chloride. The extracts were dried with sodium sulfate and concentrated by Kuderna-Danish concentrators to 1 mL. The final extracts were analyzed for monocyclic aromatic hydrocarbons (MAHs) and polycyclic aromatic hydrocarbons (PAHs) using GC/FID.

**Results**

The analytical results follow this cover letter. At your request, the result pages reflect the method detection limit as "Detection Limit". Target analytes flagged with a "J" were estimated because the concentration falls below the lowest calibration standard. Target analytes flagged with a "B" were detected in the blank. Professional judgement must be used to evaluate the validity of these hits. In general, a "B"-flagged analyte is considered valid if its concentration exceeds five times the concentration of the blank.

Please contact me if you have any questions.

Sincerely,

A handwritten signature in black ink, appearing to read "Stephen Emsbo-Mattingly". The signature is fluid and cursive, with a long horizontal stroke extending to the right.

Stephen Emsbo-Mattingly  
Laboratory Director

**Monocyclic Aromatic Hydrocarbon (MAH) and  
Polycyclic Aromatic Hydrocarbon (PAH) Results  
for Atlantic Tidewater Site Samples,  
in ppm (mg/kg, dry weight)**

Lab ID Field ID:	AT960705-01 SS-10	AT960705-02 SS-9	AT960705-03 SS-14
<b>MAHs:</b>			
Benzene	0.17 U <del>0.09 BJ</del>	0.20 U 0.20 BJ	0.15 U
Toluene	0.17 U	0.17 U 0.17 BJ	0.15 U
Ethylbenzene	0.17 U	0.17 U	0.15 U
m/p-Xylene	0.17 U	0.17 U	0.15 U
Styrene	0.27	0.19	0.15 U
o-Xylene	0.17 U	0.17 U	0.15 U
1,2,4-Trimethylbenzene	0.17 U	0.17 U	0.15 U
<b>Total MAHs:</b>	<b>0.37</b>	<b>0.47</b>	<b>ND</b>
<b>PAHs:</b>			
Naphthalene	0.17 U	0.08 J	0.15 U
2-Methylnaphthalene	0.09 J	0.12 J	0.15 U
1-Methylnaphthalene	0.17 U	0.17 U	0.15 U
Acenaphthylene	0.11 J	0.14 J	0.15 U
Acenaphthene	0.17 U	0.07 J	0.15 U
Dibenzofuran	0.17 U	0.17 U	0.15 U
Fluorene	0.17 U	0.06 J	0.15 U
Phenanthrene	0.56	0.40	0.16
Anthracene	0.15 J	0.11 J	0.15 U
Fluoranthene	1.10	0.98	0.45
Pyrene	1.02	1.09	0.51
Benzo(a)anthracene	0.61	0.60	0.22
Chrysene	1.16	1.33	0.42
Benzo(b)fluoranthene	0.66	0.66	0.27
Benzo(k)fluoranthene	0.61	0.61	0.29
Benzo(a)pyrene	1.15	1.09	0.40
Indeno(1,2,3-cd)pyrene	0.49	0.55	0.21
Dibenz(a,h)anthracene	0.69	0.78	0.09 J
Benzo(g,h,i)perylene	1.41	1.45	0.36
<b>Total PAHs:</b>	<b>9.82</b>	<b>10.1</b>	<b>3.38</b>
Surrogate #1 %Recovery	85	93	98
Surrogate #2 %Recovery	76	84	106
Detection Limit	0.07	0.07	0.06
Percent Solids	92.1%	92.5%	96.7%

U = Not detected at quantitation limit shown

I = Interference

ND = Not detected

E = Estimated value, above calibration range

L = Coeluted with compound listed above

J = Estimated value

Total MAHs does not include 1,2,4-Trimethylbenzene.

Total PAHs does not include Dibenzofuran.

**Monocyclic Aromatic Hydrocarbon (MAH) and  
Polycyclic Aromatic Hydrocarbon (PAH) Results  
for Atlantic Tidewater Site Samples,  
in ppm (mg/kg, dry weight)**

Lab ID Field ID:	AT960705-04 SS-13	AT960705-05 SS-12	AT960705-06 SS-11
<b>MAHs:</b>			
Benzene	0.13 JB	0.09 JB	0.08 JB
Toluene	0.05 JB	0.07 JB	0.15 U
Ethylbenzene	0.08 J	0.16 U	0.15 U
m/p-Xylene	0.13 U	0.16 U	0.15 U
Styrene	0.13 U	0.08 JB	0.15 U
o-Xylene	0.13 U	0.16 U	0.15 U
1,2,4-Trimethylbenzene	0.13 U	0.16 U	0.15 U
<b>Total MAHs:</b>	<b>0.27</b>	<b>0.25</b>	<b>0.08</b>
<b>PAHs:</b>			
Naphthalene	0.07 J	0.16 U	0.15 U
2-Methylnaphthalene	0.06 J	0.06 J	0.15 U
1-Methylnaphthalene	0.13 U	0.16 U	0.15 U
Acenaphthylene	0.10 J	0.08 J	0.15 U
Acenaphthene	0.09 J	0.07 J	0.15 U
Dibenzofuran	0.06 J	0.16 U	0.15 U
Fluorene	0.08 J	0.16 U	0.15 U
Phenanthrene	0.83	0.55	0.17
Anthracene	0.16	0.11 J	0.15 U
Fluoranthene	2.88	1.51	0.42
Pyrene	2.63	1.57	0.44
Benz(a)anthracene	1.33	0.69	0.19
Chrysene	2.38	1.22	0.79
Benzo(b)fluoranthene	2.01	0.90	0.26
Benzo(k)fluoranthene	1.77	0.88	0.24
Benzo(a)pyrene	2.61	1.34	0.46
Indeno(1,2,3-cd)pyrene	1.56	0.78	0.17
Dibenz(a,h)anthracene	1.12	0.57	0.21
Benzo(g,h,i)perylene	2.55	1.04	0.48
<b>Total PAHs:</b>	<b>22.2</b>	<b>11.4</b>	<b>3.80</b>
Surrogate #1 %Recovery	115	106	90
Surrogate #2 %Recovery	87	79	84
Detection Limit	0.05	0.07	0.06
Percent Solids	90.8%	96.5%	93.6%

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J = Estimated value

Total MAHs does not include 1,2,4-Trimethylbenzene.

Total PAHs does not include Dibenzofuran.

**Monocyclic Aromatic Hydrocarbon (MAH) and  
Polycyclic Aromatic Hydrocarbon (PAH) Results  
for Atlantic Tidewater Site Samples,  
in ppm (mg/kg, dry weight)**

Lab ID Field ID:	AT960705-07 SS-1	AT960705-08 SS-2	AT960705-09 SS-3
<b>MAHs:</b>			
Benzene	0.15 U	0.16 U	0.17 U
Toluene	0.15 U	0.16 U	0.07 JB
Ethylbenzene	0.15 U	0.16 U	0.17 U
m/p-Xylene	0.15 U	0.16 U	0.17 U
Styrene	0.15 U	0.16 U	0.30
o-Xylene	0.15 U	0.16 U	0.17 U
1,2,4-Trimethylbenzene	0.15 U	0.16 U	0.17 U
<b>Total MAHs:</b>	<b>ND</b>	<b>ND</b>	<b>0.37</b>
<b>PAHs:</b>			
Naphthalene	0.15 U	0.16 U	0.19
2-Methylnaphthalene	0.15 U	0.16 U	0.14 J
1-Methylnaphthalene	0.15 U	0.16 U	0.17 U
Acenaphthylene	0.15 U	0.16 U	0.09 J
Acenaphthene	0.15 U	0.16 U	0.17 U
Dibenzofuran	0.15 U	0.16 U	0.17 U
Fluorene	0.15 U	0.16 U	0.17 U
Phenanthrene	0.08 J	0.09 J	0.13 J
Anthracene	0.15 U	0.16 U	0.17 U
Fluoranthene	0.25	0.19	0.23
Pyrene	0.41	0.32	0.29
Benz(a)anthracene	0.15 J	0.09 J	0.16 J
Chrysene	0.36	0.28	0.38
Benzo(b)fluoranthene	0.14 J	0.08 J	0.18
Benzo(k)fluoranthene	0.16	0.10 J	0.17
Benzo(a)pyrene	0.59	0.39	0.40
Indeno(1,2,3-cd)pyrene	0.17	0.08 J	0.24
Dibenz(a,h)anthracene	0.60	0.41	0.25
Benzo(g,h,i)perylene	0.77	0.62	0.52
<b>Total PAHs:</b>	<b>3.68</b>	<b>2.64</b>	<b>3.37</b>
Surrogate #1 %Recovery	92	98	95
Surrogate #2 %Recovery	83	86	81
Detection Limit	0.06	0.06	0.07
Percent Solids	90.2%	91.2%	97.7%

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Total MAHs does not include 1,2,4-Trimethylbenzene.

Total PAHs does not include Dibenzofuran.

**Monocyclic Aromatic Hydrocarbon (MAH) and  
Polycyclic Aromatic Hydrocarbon (PAH) Results  
for Atlantic Tidewater Site Samples,  
in ppm (mg/kg, dry weight)**

Lab ID Field ID:	AT960705-10 SS-4	AT960705-11 SS-50	AT960705-12 SS-41
<b>MAHs:</b>			
Benzene	<del>0.10</del> JB	<del>0.12</del> JB	<del>0.25</del> U
Toluene	<del>0.09</del> JB	<del>0.12</del> JB	<del>0.06</del> JB
Ethylbenzene	0.06 J	0.16 U	0.13 U
m/p-Xylene	0.05 J	0.16 U	0.13 U
Styrene	1.24	1.56	0.13 U
o-Xylene	0.16 U	0.16 U	0.13 U
1,2,4-Trimethylbenzene	0.16 U	0.16 U	0.13 U
<b>Total MAHs:</b>	<b>1.54</b>	<b>1.80</b>	<b>0.31</b>
<b>PAHs:</b>			
Naphthalene	0.71	0.41	0.13 U
2-Methylnaphthalene	0.64	0.46	0.13 U
1-Methylnaphthalene	0.29	0.22	0.13 U
Acenaphthylene	0.61	0.70	0.13 U
Acenaphthene	0.06 J	0.10 J	0.09 J
Dibenzofuran	0.16 U	0.16 U	0.13 U
Fluorene	0.25	0.20	0.05 J
Phenanthrene	1.59	1.75	0.43
Anthracene	0.45	0.45	0.08 J
Fluoranthene	1.89	2.17	0.90
Pyrene	2.85	3.12	0.87
Benz(a)anthracene	1.80	2.00	0.38
Chrysene	2.14	2.13	0.49
Benzo(b)fluoranthene	1.48	1.50	0.29
Benzo(k)fluoranthene	1.60	1.74	0.35
Benzo(a)pyrene	2.46	2.09	0.41
Indeno(1,2,3-cd)pyrene	1.32	1.48	0.31
Dibenz(a,h)anthracene	0.52	0.42	0.12 J
Benzo(g,h,i)perylene	1.79	2.03	0.28
<b>Total PAHs:</b>	<b>22.4</b>	<b>23.0</b>	<b>5.05</b>
Surrogate #1 %Recovery	90	91	105
Surrogate #2 %Recovery	77	85	83
Detection Limit	0.07	0.06	0.05
Percent Solids	82.5%	95.1%	88.5%

0.25 B  
PER  
SM

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I = Interference

ND = Not detected

E = Estimated value, above calibration range

L = Coeluted with compound listed above

J = Estimated value

Total MAHs does not include 1,2,4-Trimethylbenzene.

Total PAHs does not include Dibenzofuran.



**Monocyclic Aromatic Hydrocarbon (MAH) and  
Polycyclic Aromatic Hydrocarbon (PAH) Results  
for Atlantic Tidewater Site Samples,  
in ppm (mg/kg, dry weight)**

Lab ID Field ID:	AT960705-13 SS-5	AT960705-14 SS-6	AT960705-SB BLANK
<b>MAHs:</b>			
Benzene	0.07 U	1.39 U	0.08 J
Toluene	0.17 U	1.98 U	0.06 J
Ethylbenzene	0.17 U	1.06	0.19 U
m/p-Xylene	0.17 U	1.79	0.19 U
Styrene	0.10 J	19.8	0.19 U
o-Xylene	0.17 U	0.13 U	0.19 U
1,2,4-Trimethylbenzene	0.17 U	10.4	0.19 U
<b>Total MAHs:</b>	<b>0.16</b>	<b>26.0</b>	<b>0.14</b>
<b>PAHs:</b>			
Naphthalene	0.17 U	31.5	0.19 U
2-Methylnaphthalene	0.17 U	26.5	0.19 U
1-Methylnaphthalene	0.17 U	19.2	0.19 U
Acenaphthylene	0.17 U	88.2	0.19 U
Acenaphthene	0.17 U	15.6	0.19 U
Dibenzofuran	0.17 U	28.6	0.19 U
Fluorene	0.17 U	45.4	0.19 U
Phenanthrene	0.17 U	330	0.19 U
Anthracene	0.17 U	99.1	0.19 U
Fluoranthene	0.09 J	301	0.19 U
Pyrene	0.15 J	272	0.19 U
Benz(a)anthracene	0.17 U	159	0.19 U
Chrysene	0.17 U	160	0.19 U
Benzo(b)fluoranthene	0.10 J	96.7	0.19 U
Benzo(k)fluoranthene	0.17 U	105	0.19 U
Benzo(a)pyrene	0.09 J	130	0.19 U
Indeno(1,2,3-cd)pyrene	0.21	68.0	0.19 U
Dibenz(a,h)anthracene	0.06 J	6.87	0.19 U
Benzo(g,h,i)perylene	0.16 J	42.8	0.19 U
<b>Total PAHs:</b>	<b>0.86</b>	<b>2,000</b>	<b>ND</b>
Surrogate #1 %Recovery	93	76	78
Surrogate #2 %Recovery	81	102	91
Detection Limit	0.07	0.05	0.08
Percent Solids	96.1%	92.2%	Not Applicable

Action  
Level  
0.40  
0.30

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L = Coeluted with compound listed above

Total MAHs does not include 1,2,4-Trimethylbenzene.

Total PAHs does not include Dibenzofuran.

I = Interference

E = Estimated value, above calibration range

J = Estimated value



**Laboratory Resources Inc.**  
CHAIN OF CUSTODY

**CUSTOMER INFORMATION**

CUSTOMER: ATLANTIC ENVIRONMENTAL SERVICES  
 ADDRESS: \_\_\_\_\_  
 TELEPHONE: 860 537-0751  
 FAX: \_\_\_\_\_

**PROJECT INFORMATION**

PROJECT: IREWATER FORMER MGP  
 PROJECT LOCATION: PAWTUCKET STATE: RI  
 PROJECT MANAGER: RICK STANISH  
 IN CASE WE HAVE ANY QUESTIONS WHEN SAMPLES ARRIVE WE SHOULD CALL:  
 NAME: PETER GEORGETTA  
 TELEPHONE: \_\_\_\_\_  
 FAX: \_\_\_\_\_

**BILLING INFORMATION**

BILL TO: TESS WIRHUN  
 ADDRESS: ATLANTIC ENV. SVCS.  
188 ABRWICH AVE  
 ATTENTION: COLCHESTER CT  
 TELEPHONE: 06415  
 PO #: \_\_\_\_\_

LAB ID CODE	SAMPLE IDENTIFICATION	DATE COLLECTED	TIME COLLECTED	SAMPLE TYPE		SAMPLE MATRIX	# OF BOTTLES	ANALYSIS	PRESERVATIVES				
				COMPOSITE	95				H2SO4	HCL	HNO3	NAOH	NON-PRES
	SS-10	7/2/96	0915		X	SOIL	1	AT960705-01					
	SS-9	7/2/96	0942		X	SOIL	1	-02					
	SS-14	7/2/96	1020		X	SOIL	1	-03					
	SS-13	7/2/96	1045		X	SOIL	1	-04					
	SS-12	7/2/96	1110		X	SOIL	1	-05					
	SS-11	7/2/96	1200		X	SOIL	1	-06					
	SS-1	7/2/96	1800		X	SOIL	1	-07					
	SS-2	7/2/96	1848		X	SOIL	1	-08					
	SS-3	7/2/96	2005		X	SOIL	1	-09					

NOTE: PAH DETECTION LIMITS MUST BE 0.1 PPM OR BETTER

TURNAROUND (INDICATE IN CALENDAR DAYS): \_\_\_\_\_ FAX \_\_\_\_\_ HARD COPY \_\_\_\_\_ DELIV. PKG. \_\_\_\_\_

NAME OF LAB PERSONNEL CONFIRMING: \_\_\_\_\_

DELIVERABLES / (CIRCLE ONE): DATA DATA/OC RED/DELIV NJ/CLP 1 NJ/CLP II  
 NJ/REGI NY/ASP CLP OTHER \_\_\_\_\_

SAMPLER / AFFILIATION: ERIK J. NERS / ATLANTIC

RECEIVED / AFFILIATION: RED

RELINQUISHED / AFFILIATION: \_\_\_\_\_

RETURN TO CLIENT FOR DISPOSAL  LAB DISPOSAL  
 KNOWN HAZARD (FLAMMABLE, EXPLOSIVE, TOXIC)  
 YES  NO (IF YES EXPLAIN UNDER COMMENTS)

**LAB USE** CONDITIONS OF BOTTLES AND COOLER AT RECEIPT:  
 COMPLIANT  NOT COMPLIANT (IF NOT EXPLAIN UNDER COMMENTS)

COMMENTS: no ice left but fairly cold samples



**Laboratory Resources<sup>INC</sup>**  
CHAIN OF CUSTODY

RI QUOTE # \_\_\_\_\_

**CUSTOMER INFORMATION**

CUSTOMER: ATLANTIC ENV. SVCS.  
ADDRESS: \_\_\_\_\_  
TELEPHONE: \_\_\_\_\_  
FAX: \_\_\_\_\_

**PROJECT INFORMATION**

PROJECT: TIDEWATER MGT  
PROJECT LOCATION: PAWTRUCKET STATE: RI  
PROJECT MANAGER: \_\_\_\_\_  
IN CASE WE HAVE ANY QUESTIONS WHEN SAMPLES ARRIVE WE SHOULD CALL: \_\_\_\_\_  
NAME: \_\_\_\_\_  
TELEPHONE: \_\_\_\_\_  
FAX: \_\_\_\_\_

**BILLING INFORMATION**

BILL TO: \_\_\_\_\_  
ADDRESS: \_\_\_\_\_  
ATTENTION: \_\_\_\_\_  
TELEPHONE: \_\_\_\_\_  
PO #: \_\_\_\_\_

LAB ID CODE	SAMPLE IDENTIFICATION	DATE COLLECTED	TIME COLLECTED	SAMPLE TYPE		SAMPLE MATRIX	# OF BOTTLES	ANALYSIS	PRESERVATIVES						
				COMPOSITE	GR				H2SO4	HCL	HNO3	NAOH	NON-PRES		
	SS-4	7/2/96	1925	X	X	SOIL	1	AT960705-10							
	SS-50	7/2/96	2100	X	X	SOIL	1	-11							
	SS-41	7/3/96	0850	X	X	SOIL	1	-12							
	SS-5	7/3/96	1030	X	X	SOIL	1	-13							
	SS-6	7/3/96	1125	X	X	SOIL	1	-14							
	ER-1	7/3/96	1530	X	X	H2O	1	-15							

NOTE: PAH DETECTION LIMITS MUST BE 0.1 PPM

URNAROUND (INDICATE IN CALENDAR DAYS): \_\_\_\_\_ FAX \_\_\_\_\_ HARD COPY \_\_\_\_\_ DELIV. PKG. \_\_\_\_\_

NAME OF LAB PERSONNEL CONFIRMING: \_\_\_\_\_

DELIVERABLES / (CIRCLE ONE): DATA DATA/QC RED/DELIV NJ/CLP1 NJ/CLP2 NJ/CLP3 NJ/CLP4 NJ/CLP5 NJ/CLP6 NJ/CLP7 NJ/CLP8 NJ/CLP9 NJ/CLP10 NJ/CLP11 NJ/CLP12 NJ/CLP13 NJ/CLP14 NJ/CLP15 NJ/CLP16 NJ/CLP17 NJ/CLP18 NJ/CLP19 NJ/CLP20 NJ/CLP21 NJ/CLP22 NJ/CLP23 NJ/CLP24 NJ/CLP25 NJ/CLP26 NJ/CLP27 NJ/CLP28 NJ/CLP29 NJ/CLP30 NJ/CLP31 NJ/CLP32 NJ/CLP33 NJ/CLP34 NJ/CLP35 NJ/CLP36 NJ/CLP37 NJ/CLP38 NJ/CLP39 NJ/CLP40 NJ/CLP41 NJ/CLP42 NJ/CLP43 NJ/CLP44 NJ/CLP45 NJ/CLP46 NJ/CLP47 NJ/CLP48 NJ/CLP49 NJ/CLP50 NJ/CLP51 NJ/CLP52 NJ/CLP53 NJ/CLP54 NJ/CLP55 NJ/CLP56 NJ/CLP57 NJ/CLP58 NJ/CLP59 NJ/CLP60 NJ/CLP61 NJ/CLP62 NJ/CLP63 NJ/CLP64 NJ/CLP65 NJ/CLP66 NJ/CLP67 NJ/CLP68 NJ/CLP69 NJ/CLP70 NJ/CLP71 NJ/CLP72 NJ/CLP73 NJ/CLP74 NJ/CLP75 NJ/CLP76 NJ/CLP77 NJ/CLP78 NJ/CLP79 NJ/CLP80 NJ/CLP81 NJ/CLP82 NJ/CLP83 NJ/CLP84 NJ/CLP85 NJ/CLP86 NJ/CLP87 NJ/CLP88 NJ/CLP89 NJ/CLP90 NJ/CLP91 NJ/CLP92 NJ/CLP93 NJ/CLP94 NJ/CLP95 NJ/CLP96 NJ/CLP97 NJ/CLP98 NJ/CLP99 NJ/CLP100

SAMPLER / AFFILIATION: FRANK J. NESS / ATLANTIC

RECEIVED / AFFILIATION: REP BY

RELINQUISHED / AFFILIATION: \_\_\_\_\_

DATE: 7-3-96

TIME: 1600

DATE: \_\_\_\_\_

OR BETTER

RETURN TO CLIENT FOR DISPOSAL  LAB DISPOSAL  
 KNOWN HAZARD (FLAMMABLE, EXPLOSIVE, TOXIC)

YES  NO (IF YES EXPLAIN UNDER COMMENTS)

**LAB USE** CONDITIONS OF BOTTLES AND COOLER AT RECEIPT:

COMPLIANT  NOT COMPLIANT (IF NOT EXPLAIN UNDER COMMENTS)

COMMENTS no ise left but fairly cold sampled

13 August 1996

Mr. Peter Georgetti  
Atlantic Environmental Services, Inc.  
188 Norwich Ave  
PO Box 297  
Colchester, CT 06415

RECEIVED  
AUG 26 1996

**RE: ANALYTICAL RESULTS  
TIDEWATER MGP INVESTIGATION**

Atlantic PO No.: S086  
Atlantic Project No.: 2061-03-02  
META No.: A01031

Dear Mr. Georgetti:

This package contains the analytical results from solid and aqueous samples received by META Environmental, Inc. from the Atlantic Environmental Services Carlisle Site on 11 July 1996.

### Methods

Two grams of solid or 35 mL of aqueous sample were prepared by Micro-Solvent Extraction (MSE) using methylene chloride. The extracts were dried with sodium sulfate and concentrated by Kuderna-Danish concentrators to 1 mL. The final extracts were analyzed for monocyclic aromatic hydrocarbons (MAHs) and polycyclic aromatic hydrocarbons (PAHs) using GC/FID.

### Results

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Please contact me if you have any questions.

Sincerely,



Stephen Emsbo-Mattingly  
Laboratory Director

**Monocyclic Aromatic Hydrocarbon (MAH) and  
Polycyclic Aromatic Hydrocarbon (PAH) Results  
for Atlantic Tidewater Site Samples,  
in ppm (mg/kg, dry weight)**

Lab ID Field ID:	AT960711-01 TB11 (0-2)	AT960711-02 TSS30	AT960711-03 TTP 8B (8-9)
<b>MAHs:</b>			
Benzene	N	N	19.5 <del>B</del> <sup>U</sup>
Toluene	N	N	26.2 <del>B</del> <sup>U</sup>
Ethylbenzene	N	N	165
m/p-Xylene	N	N	121
Styrene	N	N	14.2 U
o-Xylene	N	N	54.8
1,2,4-Trimethylbenzene	N	N	94.0
<b>Total MAHs:</b>	<b>ND</b>	<b>ND</b>	<b>386</b>
<b>PAHs:</b>			
Naphthalene	2.71	1.59	1,930
2-Methylnaphthalene	2.47	1.04	796
1-Methylnaphthalene	1.23	0.52	630
Acenaphthylene	12.7	6.24	77.6
Acenaphthene	1.52	2.24	117
Dibenzofuran	1.41	1.05	20.7
Fluorene	1.75	2.20	215
Phenanthrene	21.1	19.7	416
Anthracene	8.21	7.48	81.8
Fluoranthene	48.4	41.3	124
Pyrene	85.8	51.7	205
Benz(a)anthracene	48.4	31.6	97.0
Chrysene	45.2	28.5	87.3
Benzo(b)fluoranthene	40.9	22.7	25.7
Benzo(k)fluoranthene	40.3	20.4	46.3
Benzo(a)pyrene	62.9	33.1	70.0
Indeno(1,2,3-cd)pyrene	38.8	11.4	19.2
Dibenz(a,h)anthracene	6.99	2.79	5.83 J
Benzo(g,h,i)perylene	39.8	9.75	25.0
<b>Total PAHs:</b>	<b>509</b>	<b>294</b>	<b>4,970</b>
Surrogate #1 %Recovery	N	N	D
Surrogate #2 %Recovery	97	96	D
Detection Limit	0.07	0.04	5.69
Percent Solids	92.4%	93.5%	80.1%

U = Not detected at quantitation limit shown

ND = Not detected

L = Coeluted with compound listed above

Total MAHs does not include 1,2,4-Trimethylbenzene.

Total PAHs does not include Dibenzofuran.

I = Interference

E = Estimated value, above calibration range

J = Estimated value

**Monocyclic Aromatic Hydrocarbon (MAH) and  
Polycyclic Aromatic Hydrocarbon (PAH) Results  
for Atlantic Tidewater Site Samples,  
in ppm (mg/kg, dry weight)**

Lab ID Field ID:	AT960711-04 TB 11 (10-12)	AT960711-05 TB 16 (10-12)	AT960711-06 TB 16 (0-2)
<b>MAHs:</b>			
Benzene	0.12 <del>0.05</del> JB	0.05 <del>0.15</del> JB	0.06 JB
Toluene	0.16 <del>0.16</del> B	0.05 <del>0.15</del> JB	0.13 JB
Ethylbenzene	2.27	0.15	U
m/p-Xylene	3.23	0.15	U
Styrene	2.11	0.15	U
o-Xylene	2.93	0.15	U
1,2,4-Trimethylbenzene	11.6	0.15	U
<b>Total MAHs:</b>	<b>10.7</b>	<b>0.19</b>	<b>ND</b>
<b>PAHs:</b>			
Naphthalene	43.4	0.36	2.33
2-Methylnaphthalene	20.8	0.37	2.24
1-Methylnaphthalene	30.0	0.08	J
Acenaphthylene	9.81	0.15	J
Acenaphthene	1.82	0.12	J
Dibenzofuran	3.28	0.11	J
Fluorene	6.08	0.22	1.51
Phenanthrene	21.8	1.00	2.90
Anthracene	5.94	0.52	0.56
Fluoranthene	8.41	1.35	1.22
Pyrene	13.1	0.99	1.36
Benz(a)anthracene	6.38	0.28	0.54
Chrysene	5.65	0.61	1.81
Benzo(b)fluoranthene	2.20	0.31	1.25
Benzo(k)fluoranthene	2.97	0.47	0.76
Benzo(a)pyrene	4.59	0.72	1.45
Indeno(1,2,3-cd)pyrene	1.82	0.19	1.41
Dibenz(a,h)anthracene	0.54	0.07	J
Benzo(g,h,i)perylene	1.84	0.70	2.92
<b>Total PAHs:</b>	<b>187</b>	<b>8.51</b>	<b>26.4</b>
Surrogate #1 %Recovery	81	74	N
Surrogate #2 %Recovery	98	88	96
Detection Limit	0.05	0.06	0.05
Percent Solids	81.7%	80.8%	88.7%

U = Not detected at quantitation limit shown

I = Interference

ND = Not detected

E = Estimated value, above calibration range

L = Coeluted with compound listed above

J = Estimated value

Total MAHs does not include 1,2,4-Trimethylbenzene.

Total PAHs does not include Dibenzofuran.

**Monocyclic Aromatic Hydrocarbon (MAH) and  
Polycyclic Aromatic Hydrocarbon (PAH) Results  
for Atlantic Tidewater Site Samples,  
in ppm (mg/kg, dry weight)**

Lab ID Field ID:	AT960711-07 TTP 11 (6-7)	AT960711-08 TB 17 (0-2)	AT960711-09 TB 17 (18-20)
<b>MAHs:</b>			
Benzene	1.86 E U,J	N	0.48 E U,J
Toluene	1.68 E U,J	N	0.29 E U,J
Ethylbenzene	122	N	0.12
m/p-Xylene	46.3	N	0.19
Styrene	0.96	N	0.08 J
o-Xylene	23.8	N	0.08 J
1,2,4-Trimethylbenzene	28.8	N	0.11 U
<b>Total MAHs:</b>	<b>197</b>	<b>ND</b>	<b>1.26</b>
<b>PAHs:</b>			
Naphthalene	200	2.67	0.77
2-Methylnaphthalene	56.5	2.42	0.25
1-Methylnaphthalene	33.3	1.47	0.28
Acenaphthylene	4.49	4.37	0.08 J
Acenaphthene	20.5	0.81	0.05 J
Dibenzofuran	1.97	0.49	0.11 U
Fluorene	10.5	2.22	0.07 J
Phenanthrene	23.7	12.3	0.56
Anthracene	7.05	2.94	0.23
Fluoranthene	11.9	12.6	0.88
Pyrene	15.5	15.4	0.80
Benzo(a)anthracene	8.01	9.06	0.50
Chrysene	7.09	9.83	0.52
Benzo(b)fluoranthene	3.71	8.19	0.32
Benzo(k)fluoranthene	5.82	7.94	0.43
Benzo(a)pyrene	7.27	8.38	0.55
Indeno(1,2,3-cd)pyrene	3.75	5.38	0.25
Dibenz(a,h)anthracene	0.67 J	1.84	0.07 J
Benzo(g,h,i)perylene	3.93	4.98	0.25
<b>Total PAHs:</b>	<b>424</b>	<b>113</b>	<b>6.88</b>
Surrogate #1 %Recovery	84	N	79
Surrogate #2 %Recovery	104	99	95
Detection Limit	0.58	0.04	0.04
Percent Solids	81.3%	95.9%	84.1%

U = Not detected at quantitation limit shown

I = Interference

ND = Not detected

E = Estimated value, above calibration range

L = Coeluted with compound listed above

J = Estimated value

Total MAHs does not include 1,2,4-Trimethylbenzene.

Total PAHs does not include Dibenzofuran.



**Monocyclic Aromatic Hydrocarbon (MAH) and  
Polycyclic Aromatic Hydrocarbon (PAH) Results  
for Atlantic Tidewater Site Samples,  
in ppm (mg/kg, dry weight)**

Lab ID Field ID:	AT960711-10 TTP13 (3-4)	AT960711-11 TTP 9 (8-9)	AT960711-12 TTP 14 (12-14)
<b>MAHs:</b>			
Benzene	389 <del>B</del>	0.23 <sup>UJ</sup> <del>B</del>	0.19 <sup>UJ</sup> <del>B</del>
Toluene	542 <del>B</del>	0.11 <sup>UJ</sup> <del>B</del>	0.05 <sup>UJ</sup> <del>B</del>
Ethylbenzene	114	0.07 <sup>U</sup>	0.10 <sup>U</sup>
m/p-Xylene	704	0.14	0.10 <sup>U</sup>
Styrene	137 <sup>U</sup>	0.58	0.10 <sup>U</sup>
o-Xylene	605	0.11 <sup>U</sup>	0.10 <sup>U</sup>
1,2,4-Trimethylbenzene	701	0.11 <sup>U</sup>	0.10 <sup>U</sup>
<b>Total MAHs:</b>	<b>2,350</b>	<b>1.13</b>	<b>0.24</b>
<b>PAHs:</b>			
Naphthalene	18,700	0.39	0.16
2-Methylnaphthalene	4,520	0.20	0.10 <sup>U</sup>
1-Methylnaphthalene	2,710	0.07 <sup>J</sup>	0.10 <sup>U</sup>
Acenaphthylene	3,130	0.70	0.10 <sup>U</sup>
Acenaphthene	1,810	0.08 <sup>J</sup>	0.10 <sup>U</sup>
Dibenzofuran	2,420	0.08 <sup>J</sup>	0.10 <sup>U</sup>
Fluorene	3,020	0.12	0.10 <sup>U</sup>
Phenanthrene	7,330	0.98	0.10 <sup>U</sup>
Anthracene	1,910	0.46	0.10 <sup>U</sup>
Fluoranthene	4,990	2.40	0.10 <sup>U</sup>
Pyrene	3,340	3.21	0.10 <sup>U</sup>
Benz(a)anthracene	1,880	2.30	0.10 <sup>U</sup>
Chrysene	1,500	2.19	0.10 <sup>U</sup>
Benzo(b)fluoranthene	953	2.63	0.10 <sup>U</sup>
Benzo(k)fluoranthene	1,120	2.73	0.10 <sup>U</sup>
Benzo(a)pyrene	1,300	4.10	0.10 <sup>U</sup>
Indeno(1,2,3-cd)pyrene	874	2.73	0.10 <sup>U</sup>
Dibenz(a,h)anthracene	195	0.65	0.10 <sup>U</sup>
Benzo(g,h,i)perylene	860	3.06	0.10 <sup>U</sup>
<b>Total PAHs:</b>	<b>60,200</b>	<b>29.0</b>	<b>0.16</b>
Surrogate #1 %Recovery	D	98	74
Surrogate #2 %Recovery	D	95	97
Detection Limit	54.83	0.05	0.04
Percent Solids	69.9%	94.2%	92.2%

U = Not detected at quantitation limit shown

I = Interference

ND = Not detected

E = Estimated value, above calibration range

L = Coeluted with compound listed above

J = Estimated value

Total MAHs does not include 1,2,4-Trimethylbenzene.

Total PAHs does not include Dibenzofuran.

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**Monocyclic Aromatic Hydrocarbon (MAH) and  
Polycyclic Aromatic Hydrocarbon (PAH) Results  
for Atlantic Tidewater Site Samples,  
in ppm (mg/kg, dry weight)**

Lab ID Field ID:	AT960711-13 TTP 16 (7-8)	AT960711-14 TB15 (0-2)	AT960711-15 TB 15 (4-6)
<b>MAHs:</b>			
Benzene	0.14 U 0.11 JB	N	0.12 U 0.09 JB
Toluene	0.20 U 0.20 B	N	0.12 U 0.12 JB
Ethylbenzene	0.14 U	N	0.12 U
m/p-Xylene	0.11 J	N	0.05 J
Styrene	0.14 U	N	1.31
o-Xylene	0.14 U	N	0.12 U
1,2,4-Trimethylbenzene	0.14 U	N	0.12 U
<b>Total MAHs:</b>	<b>0.42</b>	<b>ND</b>	<b>1.57</b>
<b>PAHs:</b>			
Naphthalene	0.13 J	1.85	0.42
2-Methylnaphthalene	0.19	1.14	0.39
1-Methylnaphthalene	0.10 J	0.57	0.14
Acenaphthylene	0.24	1.20	0.43
Acenaphthene	0.43	0.34	0.10 J
Dibenzofuran	0.14 U	0.21	0.06 J
Fluorene	0.49	0.45	0.26
Phenanthrene	0.98	3.41	1.51
Anthracene	0.12 J	0.89	0.38
Fluoranthene	0.49	4.48	1.82
Pyrene	0.64	5.69	2.21
Benz(a)anthracene	0.30	2.91	1.22
Chrysene	0.69	3.33	1.72
Benzo(b)fluoranthene	0.33	3.08	2.06
Benzo(k)fluoranthene	0.26	2.58	1.71
Benzo(a)pyrene	0.35	2.84	1.32
Indeno(1,2,3-cd)pyrene	0.19	1.85	1.22
Dibenz(a,h)anthracene	0.17	0.73	0.55
Benzo(g,h,i)perylene	0.41	2.05	1.40
<b>Total PAHs:</b>	<b>6.51</b>	<b>39.4</b>	<b>18.9</b>
Surrogate #1 %Recovery	87	N	91
Surrogate #2 %Recovery	101	94	95
Detection Limit	0.05	0.05	0.05
Percent Solids	84.3%	92.5%	91.6%

U = Not detected at quantitation limit shown

I = Interference

ND = Not detected

E = Estimated value, above calibration range

L = Coeluted with compound listed above

J = Estimated value

Total MAHs does not include 1,2,4-Trimethylbenzene.

Total PAHs does not include Dibenzofuran.

**Monocyclic Aromatic Hydrocarbon (MAH) and  
Polycyclic Aromatic Hydrocarbon (PAH) Results  
for Atlantic Tidewater Site Samples,  
in ppm (mg/kg, dry weight)**

Lab ID Field ID:	AT960711-16 TTP 10 (11-12)	AT960711-17 TB 14 (0-2)	AT960711-18 TB 14 (4-6)
<b>MAHs:</b>			
Benzene	0.45 <del>B</del>	<sup>U, J</sup> N	<sup>0.11 U, J</sup> 0.06 JB
Toluene	0.51 <del>B</del>	N	<sup>0.11 U, J</sup> 0.04 JB
Ethylbenzene	0.25	N	0.11 U
m/p-Xylene	0.33	N	0.11 U
Styrene	6.10	N	0.11 U
o-Xylene	0.13 U	N	0.11 U
1,2,4-Trimethylbenzene	2.42	N	0.11 U
<b>Total MAHs:</b>	<b>7.65</b>	<b>ND</b>	<b>0.10</b>
<b>PAHs:</b>			
Naphthalene	2.39	0.14 J	0.11 U
2-Methylnaphthalene	2.40	0.16	0.11 U
1-Methylnaphthalene	1.08	0.07 J	0.11 U
Acenaphthylene	9.12	0.14 J	0.11 U
Acenaphthene	1.28	0.18	0.11 U
Dibenzofuran	1.10	0.07 J	0.11 U
Fluorene	2.24	0.16	0.11 U
Phenanthrene	18.3	1.52	0.11 U
Anthracene	6.25	0.34	0.11 U
Fluoranthene	24.2	1.86	0.11 U
Pyrene	33.0	1.89	0.11 U
Benz(a)anthracene	20.6	0.78	0.11 U
Chrysene	22.0	1.06	0.11 U
Benzo(b)fluoranthene	15.7	0.86	0.11 U
Benzo(k)fluoranthene	18.9	0.89	0.11 U
Benzo(a)pyrene	23.3	1.09	0.11 U
Indeno(1,2,3-cd)pyrene	12.0	0.67	0.11 U
Dibenz(a,h)anthracene	2.89	0.64	0.11 U
Benzo(g,h,i)perylene	12.1	1.10	0.11 U
<b>Total PAHs:</b>	<b>228</b>	<b>13.6</b>	<b>ND</b>
Surrogate #1 %Recovery	86	N	75
Surrogate #2 %Recovery	98	97	95
Detection Limit	0.05	0.06	0.04
Percent Solids	79.9%	82.1%	81.4%

U = Not detected at quantitation limit shown

ND = Not detected

L = Coeluted with compound listed above

Total MAHs does not include 1,2,4-Trimethylbenzene.

Total PAHs does not include Dibenzofuran.

I = Interference

E = Estimated value, above calibration range

J = Estimated value

**Monocyclic Aromatic Hydrocarbon (MAH) and  
Polycyclic Aromatic Hydrocarbon (PAH) Results  
for Atlantic Tidewater Site Samples,  
in ppm (mg/kg, dry weight)**

Lab ID	AT960712-SB
Field ID:	BLANK
<b>MAHs:</b>	
Benzene	0.10 J
Toluene	0.07 J
Ethylbenzene	0.19 U
m/p-Xylene	0.19 U
Styrene	0.19 U
o-Xylene	0.19 U
1,2,4-Trimethylbenzene	0.19 U
<b>Total MAHs:</b>	<b>0.16</b>
<b>PAHs:</b>	
Naphthalene	0.19 U
2-Methylnaphthalene	0.19 U
1-Methylnaphthalene	0.19 U
Acenaphthylene	0.19 U
Acenaphthene	0.19 U
Dibenzofuran	0.19 U
Fluorene	0.19 U
Phenanthrene	0.19 U
Anthracene	0.19 U
Fluoranthene	0.19 U
Pyrene	0.19 U
Benz(a)anthracene	0.19 U
Chrysene	0.19 U
Benzo(b)fluoranthene	0.19 U
Benzo(k)fluoranthene	0.19 U
Benzo(a)pyrene	0.19 U
Indeno(1,2,3-cd)pyrene	0.19 U
Dibenz(a,h)anthracene	0.19 U
Benzo(g,h,i)perylene	0.19 U
<b>Total PAHs:</b>	<b>ND</b>
Surrogate #1 %Recovery	84
Surrogate #2 %Recovery	95
Detection Limit	0.08
Percent Solids	Not Applicable

ACT-02-11-01-15  
0.50  
0.35

U = Not detected at quantitation limit shown

ND = Not detected

L = Coeluted with compound listed above

Total MAHs does not include 1,2,4-Trimethylbenzene.

Total PAHs does not include Dibenzofuran.

49 Clark Street  
Waterford, MA 02172  
TEL: (617) 923-4662  
FAX: (617) 923-4610



PROJECT: TP (10-12)  
COMPANY: ATLANTIC ENVIRONMENTAL SERVICES  
ADDRESS: 188 NUTWICH AVE. COLCHESTER CT  
PHONE: (860) 537-0751

SAMPLED BY: PETER GEORGE  
(Print Name)  
Peter George  
(Print Name)  
BEN JESS  
(Print Name)  
BEN GUSTAFSON  
(Print Name)

SAMPLE NO.	DATE	TIME	CONTAINER		GRAB	COMP	NO OF CONTAINERS	SAMPLE MATRIX	PRESERVATIVE	COMMENTS
			SIZE	G/P						
1B11(0-2)	7/10/96		407	G	X		1	SOIL	COOL	AT960711-01
1S30										-02
1TP88(8-9)										-03
1B11(10-12)										-04
1B16(10-12)										-05
1B16(0-2)										-06
1TP11(6-7)										-07
1B17(0-2)										-08
1B17(18-20)										-09
1TP13(3-4)										-10

MSF PATH  
MSF PATH

Relinquished by <u>P. George</u>	Date/Time <u>7/10/96</u>	Received by <u>Fedex</u>	Date/Time <u>7/11/96 10:00am</u>
Relinquished by	Date/Time	Relinquished by	Date/Time
Method of Shipment	Remarks: <u>DETECTION LIMIT FOR PAH'S 0.1 ppm</u> <u>14°C upon receipt</u> <u>all samples intact</u>		
Received for Laboratory by <u>Sarah P. Willy</u>			

PROJECT NAME IDEUMATEX 2061-03-02  
 COMPANY ATLANTIC  
 ADDRESS 188 NORMANBY AVE COLCH. CT  
 PHONE (860) 537-0751  
 SAMPLED BY P. GEORGE  
 (Print Name) NESS  
 (Print Name) D. GUSTAFSON  
 (Print Name)

49 Clark St  
 Watertown, MA 02172  
 TEL: (617) 923-4662  
 FAX: (617) 923-4610

**META** Environmental, Inc.

SAMPLE NO.	DATE	TIME	SAMPLE LOCATION	CONTAINER		GRAB	COMP	NO OF CONTAINERS	SAMPLE MATRIX	PRESERVATIVE	ANALYSES	
				SIZE	G/P							COMMENTS
TPP9(8-9)	7-9-96			4UR	G	P		1	SILIC	COOL	X	AT 960711-11
TPP14(12-13)											X	-12
TPP16(7-8)											X	-13
TPP15(0-2)											X	-14
TPP10(11-12)											X	-15
TPP14(0-2)											X	-16
TPP14(4-6)											X	-17
											X	-18

RECEIVED BY: P. GEORGE  
 DATE/TIME: 7/10/96 6:10P

RECEIVED BY: FED EX 766249551  
 DATE/TIME: 7/6/96 10:00pm

RECEIVED BY: SARAH C. WATTS  
 DATE/TIME: 7/6/96 10:00pm

REMARKS: DETECTION UNITS FOR PAH 0.1 PPM  
14°C upon receipt  
all samples intact

20 August 1996

Mr. Peter Georgetti  
Atlantic Environmental Services, Inc.  
188 Norwich Ave  
PO Box 297  
Colchester, CT 06415

**RE: ANALYTICAL RESULTS  
TIDEWATER MGP INVESTIGATION**

Atlantic PO No.: S086  
Atlantic Project No.: 2061-03-02  
META No.: A01031  
META SDG: AT960713

Dear Mr. Georgetti:

This package contains the analytical results from solid and aqueous samples received by META Environmental, Inc. from the Atlantic Environmental Services Tidewater MGP Investigation on 13 July 1996.

### Methods


Two grams of solid or 35 mL of aqueous sample were prepared by Micro-Solvent Extraction (MSE) using methylene chloride. The extracts were dried with sodium sulfate and concentrated by Kuderna-Danish concentrators to 1 mL. The final extracts were analyzed for monocyclic aromatic hydrocarbons (MAHs) and polycyclic aromatic hydrocarbons (PAHs) using GC/FID.

### Results

The analytical results follow this cover letter. The result pages reflect the method detection limit as "Detection Limit". Target analytes flagged with a "J" were estimated because the concentration fell below the lowest calibration standard. Target analytes flagged with a "B" were detected in the blank. Professional judgement must be used to evaluate the validity of these hits. In general, a "B"-flagged analyte is considered valid if its concentration exceeds five times the concentration of the blank. Target analytes flagged with an "E" were estimated because the concentration exceeded the highest calibration standard. The "E"-flagged analytes were deemed accurate, because the concentration fell well within the linear range of the detector. Quality control compounds flagged with an "I" indicate the presence of significant interferences which bias positively the percent recovery. Analytes flagged with an "N" were not requested by the client.

Please contact me if you have any questions.

Sincerely,

  
Stephen Emsbo-Mattingly  
Laboratory Director



**Monocyclic Aromatic Hydrocarbon (MAH) and  
Polycyclic Aromatic Hydrocarbon (PAH) Results  
for Atlantic Tidewater Site Samples,  
in ppm (mg/kg dw or mg/L)**

Lab ID	AT960713-01	AT960713-02	AT960713-03
Field ID:	ER-2	TB-13(10-12)	TB13(14-16)
<b>MAHs:</b>			
Benzene	0.01 U	1.98 J <del>J</del>	89.7 J <del>J</del>
Toluene	0.01 U	1.82 J	242
Ethylbenzene	0.01 U	10.5	323
m/p-Xylene	0.01 U	3.54 J	235
Styrene	0.01 U	15.3	12.8 J
o-Xylene	0.01 U	1.82	109
1,2,4-Trimethylbenzene	0.01 U	45.0	205 J
<b>Total MAHs:</b>	<b>ND</b>	<b>34.9</b>	<b>1,010</b>
<b>PAHs:</b>			
Naphthalene	0.01 U	80.3	7,560
2-Methylnaphthalene	0.01 U	98.9	3,940
1-Methylnaphthalene	0.01 U	189	2,520
Acenaphthylene	0.01 U	188	288
Acenaphthene	0.01 U	199	3,590
Dibenzofuran	0.01 U	17.3	296
Fluorene	0.01 U	98.9	1,560
Phenanthrene	0.01 U	284 E, J	4,650
Anthracene	0.01 U	146	2,910
Fluoranthene	0.01 U	293 E, J	1,310
Pyrene	0.01 U	404 E, J	1,890
Benz(a)anthracene	0.01 U	176	846
Chrysene	0.01 U	171	788
Benzo(b)fluoranthene	0.01 U	57.9	235
Benzo(k)fluoranthene	0.01 U	90.7	380
Benzo(a)pyrene	0.01 U	133	564
Indeno(1,2,3-cd)pyrene	0.01 U	17.8	188
Dibenz(a,h)anthracene	0.01 U	6.52	47.9
Benzo(g,h,i)perylene	0.01 U	17.6	236
<b>Total PAHs:</b>	<b>ND</b>	<b>2,650</b>	<b>33,500</b>
Surrogate #1 %Recovery	102	78	89
Surrogate #2 %Recovery	99	I	I
Detection Limit	0.01	0.13	6.24
Percent Solids	Not Applicable	59.7%	59.6%

U = Not detected at quantitation limit shown

I = Interference

ND = Not detected

E = Estimated value, above calibration range

L = Coeluted with compound listed above

J = Estimated value

Total MAHs does not include 1,2,4-Trimethylbenzene.

Total PAHs does not include Dibenzofuran.

**Monocyclic Aromatic Hydrocarbon (MAH) and  
Polycyclic Aromatic Hydrocarbon (PAH) Results  
for Atlantic Tidewater Site Samples,  
in ppm (mg/kg dw or mg/L)**

Lab ID Field ID:	AT960713-04 TB13(0-2)	AT960713-05 TTP7(9-10)	AT960713-06 TTP3(3-4)
<b>MAHs:</b>			
Benzene	N	0.15 U 0.07 JB	2.40 1.55 B
Toluene	N	0.11 J	3.47
Ethylbenzene	N	1.32	11.7
m/p-Xylene	N	1.51	4.72
Styrene	N	1.24	146
o-Xylene	N	2.06	2.40 U
1,2,4-Trimethylbenzene	N	12.3	97.4
<b>Total MAHs:</b>	<b>137</b>	<b>6.31</b>	<b>167</b>
<b>PAHs:</b>			
Naphthalene	4.63	25.3	21.8
2-Methylnaphthalene	3.21	25.5	91.2
1-Methylnaphthalene	1.83	15.5	36.5
Acenaphthylene	8.80	33.7	2.40 U
Acenaphthene	0.77	17.8	7.51
Dibenzofuran	1.01	4.85	2.40 U
Fluorene	2.16	15.0	2.40 U
Phenanthrene	13.1	9.01	41.1
Anthracene	4.43	3.76	0.74
Fluoranthene	31.4	3.83	12.8
Pyrene	57.4	9.97	76.4
Benz(a)anthracene	41.7	3.91	2.40 U
Chrysene	35.0	37.0	44.9
Benzo(b)fluoranthene	30.8	1.32	9.74
Benzo(k)fluoranthene	30.8	1.39	41.0
Benzo(a)pyrene	54.1	2.28	15.5
Indeno(1,2,3-cd)pyrene	37.7	0.67	4.01
Dibenz(a,h)anthracene	3.23	0.25	4.03
Benzo(g,h,i)perylene	58.6	0.98	2.94
<b>Total PAHs:</b>	<b>420</b>	<b>207</b>	<b>410</b>
Surrogate #1 %Recovery	81	71	80
Surrogate #2 %Recovery	97	1	24
Detection Limit	0.07	0.05	0.96
Percent Solids	89.5%	82.0%	90.9%

U = Not detected at quantitation limit shown

I = Interference

ND = Not detected

E = Estimated value, above calibration range

L = Coeluted with compound listed above

J = Estimated value

Total MAHs does not include 1,2,4-Trimethylbenzene.

Total PAHs does not include Dibenzofuran.

**Monocyclic Aromatic Hydrocarbon (MAH) and  
Polycyclic Aromatic Hydrocarbon (PAH) Results  
for Atlantic Tidewater Site Samples,  
in ppm (mg/kg dw or mg/L)**

Lab ID Field ID:	AT960713-07 TTP6(9-10) ✓	AT960713-08 TTP5A(8-9) ✓	AT960713-09 TTP4(4-5)
<b>MAHs:</b>			
Benzene	0.13 <del>B</del> U, J	3.71 <del>B</del>	2.51 <del>B</del>
Toluene	0.90	4.99	11.2
Ethylbenzene	0.43	3.61	31.6
m/p-Xylene	1.65	14.4	19.7
Styrene	0.52	3.06	20.4
o-Xylene	1.17	10.9	12.3
1,2,4-Trimethylbenzene	1.10	52.7	52.6
<b>Total MAHs:</b>	<b>4.80</b>	<b>40.7</b>	<b>97.7</b>
<b>PAHs:</b>			
Naphthalene	2.83	1,240	9.74
2-Methylnaphthalene	3.34	349	32.1
1-Methylnaphthalene	2.21	229	18.0
Acenaphthylene	0.54	482	26.2
Acenaphthene	1.63	132	14.4
Dibenzofuran	0.52	219	2.53
Fluorene	1.10	355	6.46
Phenanthrene	2.94	840	12.3
Anthracene	0.44	301	26.8
Fluoranthene	5.01	845	10.5
Pyrene	4.78	690	34.0
Benz(a)anthracene	4.75	354	8.78
Chrysene	4.28	244	25.8
Benzo(b)fluoranthene	4.43	201	14.6
Benzo(k)fluoranthene	4.75	201	18.7
Benzo(a)pyrene	7.20	263	18.7
Indeno(1,2,3-cd)pyrene	4.86	121	25.7
Dibenz(a,h)anthracene	0.86	20.3	10.5
Benzo(g,h,i)perylene	6.40	99.3	52.8
<b>Total PAHs:</b>	<b>62.4</b>	<b>6,970</b>	<b>366</b>
Surrogate #1 %Recovery	73	63	86
Surrogate #2 %Recovery	94	1	127
Detection Limit	0.10	0.71	0.09
Percent Solids	53.2%	74.4%	81.2%

U = Not detected at quantitation limit shown

ND = Not detected

L = Coeluted with compound listed above

Total MAHs does not include 1,2,4-Trimethylbenzene.

Total PAHs does not include Dibenzofuran.

I = Interference

E = Estimated value, above calibration range

J = Estimated value

**Monocyclic Aromatic Hydrocarbon (MAH) and  
Polycyclic Aromatic Hydrocarbon (PAH) Results  
for Atlantic Tidewater Site Samples,  
in ppm (mg/kg dw or mg/L)**

Lab ID Field ID:	AT960713-10 TTP5(8.5-9.5)	AT960713-11 TTP2(1-2)	On Hold TTP2(5-6)
<b>MAHs:</b>			
Benzene	3.18 <del>B</del>	116 <del>B</del>	N
Toluene	4.53	254	N
Ethylbenzene	4.71	71.9	N
m/p-Xylene	17.5	182	N
Styrene	3.10	162	N
o-Xylene	13.3	95.4	N
1,2,4-Trimethylbenzene	62.7	255 J	N
<b>Total MAHs:</b>	<b>46.3</b>	<b>882</b>	<b>ND</b>
<b>PAHs:</b>			N
Naphthalene	1,310	6,950	N
2-Methylnaphthalene	354	2,970	N
1-Methylnaphthalene	258	1,980	N
Acenaphthylene	518	1,310	N
Acenaphthene	132	176	N
Dibenzofuran	241	116	N
Fluorene	370	1,030	N
Phenanthrene	875	2,640	N
Anthracene	307	728	N
Fluoranthene	790	778	N
Pyrene	560	1,170	N
Benz(a)anthracene	311	755	N
Chrysene	246	717	N
Benzo(b)fluoranthene	190	237	N
Benzo(k)fluoranthene	203	392	N
Benzo(a)pyrene	248	519	N
Indeno(1,2,3-cd)pyrene	126	177	N
Dibenz(a,h)anthracene	24.5	69.6	N
Benzo(g,h,i)perylene	114	209	N
<b>Total PAHs:</b>	<b>6,930</b>	<b>22,800</b>	<b>ND</b>
Surrogate #1 %Recovery	84	119	N
Surrogate #2 %Recovery	1	104	N
Detection Limit	1.14	10.59	N
Percent Solids	72.1%	89.4%	N

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I = Interference

ND = Not detected

E = Estimated value, above calibration range

L = Coeluted with compound listed above

J = Estimated value

Total MAHs does not include 1,2,4-Trimethylbenzene.

Total PAHs does not include Dibenzofuran.

**Monocyclic Aromatic Hydrocarbon (MAH) and  
Polycyclic Aromatic Hydrocarbon (PAH) Results  
for Atlantic Tidewater Site Samples,  
in ppm (mg/kg dw or mg/L)**

Lab ID Field ID:	AT960713-13 TTP1(8-9)	AT960713-14 FB-DRILL	AT960713-15 FB-DI
<b>MAHs:</b>			
Benzene	0.21 U, J <del>0.13 B</del>	0.01 U	0.01 U
Toluene	0.20 J	0.01 U	0.01 U
Ethylbenzene	0.45	0.01 U	0.01 U
m/p-Xylene	0.16	0.01 U	0.01 U
Styrene	11.2	0.01 U	0.01 U
o-Xylene	0.21 U	0.01 U	0.01 U
1,2,4-Trimethylbenzene	4.76	0.01 U	0.01 U
<b>Total MAHs:</b>	<b>12.1</b>	<b>ND</b>	<b>ND</b>
<b>PAHs:</b>			
Naphthalene	1.06	0.01 U	0.01 U
2-Methylnaphthalene	2.11	0.01 U	0.01 U
1-Methylnaphthalene	0.36	0.01 U	0.01 U
Acenaphthylene	1.19	0.01 U	0.01 U
Acenaphthene	0.24	0.01 U	0.01 U
Dibenzofuran	0.07 J	0.01 U	0.01 U
Fluorene	0.24	0.01 U	0.01 U
Phenanthrene	1.18	0.01 U	0.01 U
Anthracene	0.40	0.01 U	0.01 U
Fluoranthene	1.20	0.01 U	0.01 U
Pyrene	1.95	0.01 U	0.01 U
Benz(a)anthracene	0.78	0.01 U	0.01 U
Chrysene	1.88	0.01 U	0.01 U
Benzo(b)fluoranthene	1.05	0.01 U	0.01 U
Benzo(k)fluoranthene	1.16	0.01 U	0.01 U
Benzo(a)pyrene	1.35	0.01 U	0.01 U
Indeno(1,2,3-cd)pyrene	0.79	0.01 U	0.01 U
Dibenz(a,h)anthracene	0.23	0.01 U	0.01 U
Benzo(g,h,i)perylene	0.81	0.01 U	0.01 U
<b>Total PAHs:</b>	<b>18.0</b>	<b>ND</b>	<b>ND</b>
Surrogate #1 %Recovery	79	96	98
Surrogate #2 %Recovery	90	102	100
Detection Limit	0.08	0.01	0.01
Percent Solids	81.6%	Not Applicable	Not Applicable

U = Not detected at quantitation limit shown

I = Interference

ND = Not detected

E = Estimated value, above calibration range

L = Coeluted with compound listed above

J = Estimated value

Total MAHs does not include 1,2,4-Trimethylbenzene.

Total PAHs does not include Dibenzofuran.

**Monocyclic Aromatic Hydrocarbon (MAH) and  
Polycyclic Aromatic Hydrocarbon (PAH) Results  
for Atlantic Tidewater Site Samples,  
in ppm (mg/kg dw or mg/L)**

Lab ID Field ID:	AT960713-16 TTP-15(3-4)	AT960713-17 TTP-12(8-9)	AT960713-18 TB1(0-2)
<b>MAHs:</b>			
Benzene	0.46 B	8.79 B	N
Toluene	0.67	33.5	N
Ethylbenzene	0.26	99.0	N
m/p-Xylene	0.83	59.2	N
Styrene	0.85	47.9	N
o-Xylene	0.67	46.7	N
1,2,4-Trimethylbenzene	0.97	153	N
<b>Total MAHs:</b>	<b>3.74</b>	<b>295</b>	<del>2.10</del>
<b>PAHs:</b>			
Naphthalene	4.69	2,000	0.15 U
2-Methylnaphthalene	3.88	778	0.15 U
1-Methylnaphthalene	2.09	1,050	0.05 J
Acenaphthylene	4.72	454	0.15 U
Acenaphthene	1.34	346	0.05 J
Dibenzofuran	0.71	72.3	0.15 U
Fluorene	1.81	487	0.15 U
Phenanthrene	16.1	1,630	0.11 J
Anthracene	4.76	493	0.15 U
Fluoranthene	17.4	643	0.15
Pyrene	33.7	1,070	0.15
Benz(a)anthracene	15.8	497	0.16
Chrysene	12.1	451	0.10 J
Benzo(b)fluoranthene	7.50	167	0.06 J
Benzo(k)fluoranthene	10.4	260	0.07 J
Benzo(a)pyrene	15.1	416	0.10 J
Indeno(1,2,3-cd)pyrene	7.03	129	0.24
Dibenz(a,h)anthracene	1.79	46.8	0.04 J
Benzo(g,h,i)perylene	7.91	151	0.23
<b>Total PAHs:</b>	<b>168</b>	<b>11,100</b>	<b>1.52</b>
Surrogate #1 %Recovery	74	108	70
Surrogate #2 %Recovery	101	1	86
Detection Limit	0.05	3.39	0.06
Percent Solids	92.6%	70.4%	90.0%

U = Not detected at quantitation limit shown

ND = Not detected

L = Coeluted with compound listed above

Total MAHs does not include 1,2,4-Trimethylbenzene.

Total PAHs does not include Dibenzofuran.

I = Interference

E = Estimated value, above calibration range

J = Estimated value

**Monocyclic Aromatic Hydrocarbon (MAH) and  
Polycyclic Aromatic Hydrocarbon (PAH) Results  
for Atlantic Tidewater Site Samples,  
in ppm (mg/kg dw or mg/L)**

Lab ID Field ID:	AT960713-19 TB1(16-18) ✓	AT960713-20 ER-3	AT960717-SB SOIL BLANK
<b>MAHs:</b>			
Benzene	0.22 U <del>0.05 J</del>	0.01 U	0.05 J
Toluene	0.06 J	0.01 U	0.15 U
Ethylbenzene	0.22 U	0.01 U	0.15 U
m/p-Xylene	0.22 U	0.01 U	0.15 U
Styrene	0.22 U	0.01 U	0.15 U
o-Xylene	0.22 U	0.01 U	0.15 U
1,2,4-Trimethylbenzene	0.22 U	0.01 U	0.15 U
<b>Total MAHs:</b>	<b>0.11</b>	<b>ND</b>	<b>0.05</b>
<b>PAHs:</b>			
Naphthalene	0.22 U	0.01 U	0.15 U
2-Methylnaphthalene	0.66	0.01 U	0.15 U
1-Methylnaphthalene	0.29	0.01 U	0.08 J
Acenaphthylene	0.07 J	0.01 U	0.15 U
Acenaphthene	0.22 U	0.01 U	0.15 U
Dibenzofuran	0.22 U	0.01 U	0.15 U
Fluorene	0.22 U	0.01 U	0.15 U
Phenanthrene	0.20 J	0.01 U	0.10 J
Anthracene	0.22 U	0.01 U	0.15 U
Fluoranthene	0.22 U	0.01 U	0.15 U
Pyrene	0.22 U	0.01 U	0.15 U
Benz(a)anthracene	0.22 U	0.01 U	0.15 U
Chrysene	0.22 U	0.01 U	0.15 U
Benzo(b)fluoranthene	0.22 U	0.01 U	0.15 U
Benzo(k)fluoranthene	0.22 U	0.01 U	0.15 U
Benzo(a)pyrene	0.22 U	0.01 U	0.15 U
Indeno(1,2,3-cd)pyrene	0.22 U	0.01 U	0.15 U
Dibenz(a,h)anthracene	0.22 U	0.01 U	0.15 U
Benzo(g,h,i)perylene	0.22 U	0.01 U	0.15 U
<b>Total PAHs:</b>	<b>1.21</b>	<b>ND</b>	<b>0.18</b>
Surrogate #1 %Recovery	68	103	70
Surrogate #2 %Recovery	96	101	86
Detection Limit	0.09	0.01	0.06
Percent Solids	80.8%	Not Applicable	Not Applicable

U = Not detected at quantitation limit shown

I = Interference

ND = Not detected

E = Estimated value, above calibration range

L = Coeluted with compound listed above

J = Estimated value

Total MAHs does not include 1,2,4-Trimethylbenzene.

Total PAHs does not include Dibenzofuran.

**Monocyclic Aromatic Hydrocarbon (MAH) and  
Polycyclic Aromatic Hydrocarbon (PAH) Results  
for Atlantic Tidewater Site Samples,  
in ppm (mg/kg dw or mg/L)**

Lab ID	AT960719-AB
Field ID:	<b>WATER BLANK</b>
<b>MAHs:</b>	
Benzene	0.01 U
Toluene	0.01 U
Ethylbenzene	0.01 U
m/p-Xylene	0.01 U
Styrene	0.01 U
o-Xylene	0.01 U
1,2,4-Trimethylbenzene	0.01 U
<b>Total MAHs:</b>	<b>ND</b>
<b>PAHs:</b>	
Naphthalene	0.01 U
2-Methylnaphthalene	0.01 U
1-Methylnaphthalene	0.01 U
Acenaphthylene	0.01 U
Acenaphthene	0.01 U
Dibenzofuran	0.01 U
Fluorene	0.01 U
Phenanthrene	0.01 U
Anthracene	0.01 U
Fluoranthene	0.01 U
Pyrene	0.01 U
Benz(a)anthracene	0.01 U
Chrysene	0.01 U
Benzo(b)fluoranthene	0.01 U
Benzo(k)fluoranthene	0.01 U
Benzo(a)pyrene	0.01 U
Indeno(1,2,3-cd)pyrene	0.01 U
Dibenz(a,h)anthracene	0.01 U
Benzo(g,h,i)perylene	0.01 U
<b>Total PAHs:</b>	<b>ND</b>
Surrogate #1 %Recovery	51
Surrogate #2 %Recovery	66
Detection Limit	0.01
Percent Solids	Not Applicable

U = Not detected at quantitation limit shown

ND = Not detected

L = Coeluted with compound listed above

Total MAHs does not include 1,2,4-Trimethylbenzene.

Total PAHs does not include Dibenzofuran.

I = Interference

E = Estimated value, above calibration range

J = Estimated value



**CHAIN OF CUSTODY RECORD**

PROJECT NAME: Livingston - 061 USJC  
 COMPANY: ATLANTIC ENVIRONMENTAL SERVICES  
 ADDRESS: 188 Aldrich Ave Chestnut Ct  
 PHONE: (800) 537-0751

49 Clarendon Street  
 Watertown, MA 02172  
 TEL: (617) 923-4662  
 FAX: (617) 923-4610



SAMPLED BY

P. Gengen  
 (Print Name)  
P. GUSINOFFSON  
 (Print Name)  
EGRESS  
 (Print Name)

[Signature]  
 Signature  
[Signature]  
 Signature  
[Signature]  
 Signature

SAMPLE NO.	DATE	TIME	SAMPLE LOCATION		CONTAINER SIZE	G/P	GRAB	COMP	NO OF CONTAINERS	SAMPLE MATRIX	PRESERVATIVE	ANALYSES									
<del>TP1</del> <del>TP2</del> <del>TP3</del> <del>TP4</del> <del>TP5</del> <del>TP6</del> <del>TP7</del> <del>TP8</del> <del>TP9</del> <del>TP10</del> <del>TP11</del> <del>TP12</del> <del>TP13</del> <del>TP14</del> <del>TP15</del> <del>TP16</del> <del>TP17</del> <del>TP18</del> <del>TP19</del> <del>TP20</del> <del>TP21</del> <del>TP22</del> <del>TP23</del> <del>TP24</del> <del>TP25</del> <del>TP26</del> <del>TP27</del> <del>TP28</del> <del>TP29</del> <del>TP30</del> <del>TP31</del> <del>TP32</del> <del>TP33</del> <del>TP34</del> <del>TP35</del> <del>TP36</del> <del>TP37</del> <del>TP38</del> <del>TP39</del> <del>TP40</del> <del>TP41</del> <del>TP42</del> <del>TP43</del> <del>TP44</del> <del>TP45</del> <del>TP46</del> <del>TP47</del> <del>TP48</del> <del>TP49</del> <del>TP50</del> <del>TP51</del> <del>TP52</del> <del>TP53</del> <del>TP54</del> <del>TP55</del> <del>TP56</del> <del>TP57</del> <del>TP58</del> <del>TP59</del> <del>TP60</del> <del>TP61</del> <del>TP62</del> <del>TP63</del> <del>TP64</del> <del>TP65</del> <del>TP66</del> <del>TP67</del> <del>TP68</del> <del>TP69</del> <del>TP70</del> <del>TP71</del> <del>TP72</del> <del>TP73</del> <del>TP74</del> <del>TP75</del> <del>TP76</del> <del>TP77</del> <del>TP78</del> <del>TP79</del> <del>TP80</del> <del>TP81</del> <del>TP82</del> <del>TP83</del> <del>TP84</del> <del>TP85</del> <del>TP86</del> <del>TP87</del> <del>TP88</del> <del>TP89</del> <del>TP90</del> <del>TP91</del> <del>TP92</del> <del>TP93</del> <del>TP94</del> <del>TP95</del> <del>TP96</del> <del>TP97</del> <del>TP98</del> <del>TP99</del> <del>TP100</del> <del>TP101</del> <del>TP102</del> <del>TP103</del> <del>TP104</del> <del>TP105</del> <del>TP106</del> <del>TP107</del> <del>TP108</del> <del>TP109</del> <del>TP110</del> <del>TP111</del> <del>TP112</del> <del>TP113</del> <del>TP114</del> <del>TP115</del> <del>TP116</del> <del>TP117</del> <del>TP118</del> <del>TP119</del> <del>TP120</del> <del>TP121</del> <del>TP122</del> <del>TP123</del> <del>TP124</del> <del>TP125</del> <del>TP126</del> <del>TP127</del> <del>TP128</del> <del>TP129</del> <del>TP130</del> <del>TP131</del> <del>TP132</del> <del>TP133</del> <del>TP134</del> <del>TP135</del> <del>TP136</del> <del>TP137</del> <del>TP138</del> <del>TP139</del> <del>TP140</del> <del>TP141</del> <del>TP142</del> <del>TP143</del> <del>TP144</del> <del>TP145</del> <del>TP146</del> <del>TP147</del> <del>TP148</del> <del>TP149</del> <del>TP150</del> <del>TP151</del> <del>TP152</del> <del>TP153</del> <del>TP154</del> <del>TP155</del> <del>TP156</del> <del>TP157</del> <del>TP158</del> <del>TP159</del> <del>TP160</del> <del>TP161</del> <del>TP162</del> <del>TP163</del> <del>TP164</del> <del>TP165</del> <del>TP166</del> <del>TP167</del> <del>TP168</del> <del>TP169</del> <del>TP170</del> <del>TP171</del> <del>TP172</del> <del>TP173</del> <del>TP174</del> <del>TP175</del> <del>TP176</del> <del>TP177</del> <del>TP178</del> <del>TP179</del> <del>TP180</del> <del>TP181</del> <del>TP182</del> 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<del>TP1050</del> <del>TP1051</del> <del>TP1052</del> <del>TP1053</del> <del>TP1054</del> <del>TP1055</del> <del>TP1056</del> <del>TP1057</del> <del>TP1058</del> <del>TP1059</del> <del>TP1060</del> <del>TP1061</del> <del>TP1062</del> <del>TP1063</del> <del>TP1064</del> <del>TP1065</del> <del>TP1066</del> <del>TP1067</del> <del>TP1068</del> <del>TP1069</del> <del>TP1070</del> <del>TP1071</del> <del>TP1072</del> <del>TP1073</del> <del>TP1074</del> <del>TP1075</del> <del>TP1076</del> <del>TP1077</del> <del>TP1078</del> <del>TP1079</del> <del>TP1080</del> <del>TP1081</del> <del>TP1082</del> <del>TP1083</del> <del>TP1084</del> <del>TP1085</del> <del>TP1086</del> <del>TP1087</del> <del>TP1088</del> <del>TP1089</del> <del>TP1090</del> <del>TP1091</del> <del>TP1092</del> <del>TP1093</del> <del>TP1094</del> <del>TP1095</del> <del>TP1096</del> <del>TP1097</del> <del>TP1098</del> <del>TP1099</del> <del>TP1100</del> <del>TP1101</del> <del>TP1102</del> <del>TP1103</del> <del>TP1104</del> <del>TP1105</del> <del>TP1106</del> <del>TP1107</del> <del>TP1108</del> <del>TP1109</del> <del>TP1110</del> <del>TP1111</del> <del>TP1112</del> <del>TP1113</del> <del>TP1114</del> <del>TP1115</del> <del>TP1116</del> <del>TP1117</del> <del>TP1118</del> <del>TP1119</del> <del>TP1120</del> <del>TP1121</del> <del>TP1122</del> <del>TP1123</del> <del>TP1124</del> <del>TP1125</del> <del>TP1126</del> <del>TP1127</del> <del>TP1128</del> <del>TP1129</del> <del>TP1130</del> <del>TP1131</del> <del>TP1132</del> <del>TP1133</del> <del>TP1134</del> <del>TP1135</del> <del>TP1136</del> <del>TP1137</del> <del>TP1138</del> <del>TP1139</del> <del>TP1140</del> <del>TP1141</del> <del>TP1142</del> <del>TP1143</del> <del>TP1144</del> <del>TP1145</del> <del>TP1146</del> <del>TP1147</del> <del>TP1148</del> <del>TP1149</del> <del>TP1150</del> <del>TP1151</del> <del>TP1152</del> <del>TP1153</del>																					



**CHAIN OF CUSTODY RECORD**

PROJECT NAME TIVEWATER - 4061 USUL  
 COMPANY ATLANTIC ENVIR. SERVICES  
 ADDRESS 188 ADRWICH AVE CONCORD CT  
 PHONE (800) 537-0751

47 Videncourt Street  
 Watertown, MA 02172  
 TEL: (617) 923-4662  
 FAX: (617) 923-4610



SAMPLED BY P. GEORGETT  
 (Print Name)  
D. CUSIPARSON  
 (Print Name)  
FAJESS  
 (Print Name)

[Signature]  
 Signature  
[Signature]  
 Signature  
[Signature]  
 Signature

SAMPLE NO.	DATE	TIME	SAMPLE LOCATION	CONTAINER		GRAB	COMP	NO OF CONTAINERS	SAMPLE MATRIX	PRESERVATIVE	ANALYSES	
				SIZE	GP						MSF	TEK
<del>TRB-13</del> ENL 7-1-96				100ml	G	X		1	WATER	NONE	X	
TRB-13(10-12)				402	G				SOIL		X	
TRB13(14-16)											X	
TRB13(0-2)			TRB13(0-2)								X	
TRP7(9-10)											X	
TRP3(3-4)											X	
TRP6(9-10)											X	
TRPSA(8-9)			DUP. TRP5 (8-5-9.5)								X	
TRP4(4-5)											X	
TRPS(8-9)											X	
TRB(9-10)											X	
TRP2(1-2)											X	
TRP2(5-6)											X	
TRP1(8-9)											X	

Relinquished by	Date/Time	Received by	Date/Time	Relinquished by	Date/Time	Received by	Date/Time
<u>P. GEORGETT</u>	<u>7-17-96 2:00p</u>	<u>FEDSK</u>					

Method of Shipment

Remarks: PAH DETECTION UNIT 0.1 ppm

# CHAIN OF CUSTODY RECORD

PROJECT NAME TIDEWATER - 2001-03-02  
 COMPANY ATLANTIC ENV.  
 ADDRESS 188 AICKWICH AVE COLCHESTER CT  
 PHONE (860) 537-0751

49 Clarendon Street  
 Watertown, MA 02172  
 TEL: (617) 923-4662  
 FAX: (617) 923-4610

**META** Environmental, Inc.

SAMPLED BY

P. GEORGE  
 (Print Name)  
P. GEORGE  
 Signature

[Signature]  
 Signature

SAMPLE NO.	DATE	TIME	SAMPLE LOCATION	CONTAINER		GRAB	COMP	NO OF CONTAINERS	SAMPLE MATRIX	PRESERVATIVE	ANALYSES		COMMENTS
				SIZE	G/P						REL-NISE	LAB-NISE	
FB-DRILL 7-1-96				1 Litre G		X		1	WATER	NONE	X	X	
FB-DI				40Z G		X		1	SOIL		X	X	
TP-15(34) 7-10-96								1			X	X	
TP-12(89)								1			X	X	
IB1(0-2) 7-7-96								1			X	X	
IB1(16-8)								1			X	X	
FB-3				1 Litre G				1	WATER		X	X	

Relinquished by	Date/Time	Received by	Date/Time	Relinquished by	Date/Time	Received by	Date/Time
<u>P. GEORGE</u>	<u>7-12-96</u>	<u>Fedex</u>					

Method of Shipment

Remarks: DATA DETECTION LIMIT 01 PPM

20 August 1996

Mr. Peter Georgetti  
Atlantic Environmental Services, Inc.  
188 Norwich Ave  
PO Box 297  
Colchester, CT 06415

**RE: ANALYTICAL RESULTS  
TIDEWATER MGP INVESTIGATION**

Atlantic PO No.: S086  
Atlantic Project No.: 2061-03-02  
META No.: A01031  
META SDG: AT960717

Dear Mr. Georgetti:

This package contains the analytical results from solid and aqueous samples received by META Environmental, Inc. from the Atlantic Environmental Services Tidewater MGP Investigation on 17 July 1996.

**Methods**

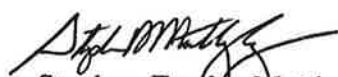
Two grams of solid or 35 mL of aqueous sample were prepared by Micro-Solvent Extraction (MSE) using methylene chloride. The extracts were dried with sodium sulfate and concentrated by Kuderna-Danish concentrators to 1 mL. The final extracts were analyzed for monocyclic aromatic hydrocarbons (MAHs) and polycyclic aromatic hydrocarbons (PAHs) using GC/FID.

**Results**

The analytical results follow this cover letter. The result pages reflect the method detection limit as "Detection Limit". Target analytes flagged with a "J" were estimated because the concentration fell below the lowest calibration standard. Target analytes flagged with a "B" were detected in the blank. Professional judgement must be used to evaluate the validity of these hits. In general, a "B"-flagged analyte is considered valid if its concentration exceeds five times the concentration of the blank. Target analytes flagged with an "E" were estimated because the concentration exceeded the highest calibration standard. The "E"-flagged analytes were deemed accurate, because the concentration fell well within the linear range of the detector. Quality control compounds flagged with an "I" indicate the presence of significant interferences which bias positively the percent recovery. Analytes flagged with an "N" were not requested by the client.

Please contact me if you have any questions.

Sincerely,

  
Stephen Emsbo-Mattingly  
Laboratory Director

**Monocyclic Aromatic Hydrocarbon (MAH) and  
Polycyclic Aromatic Hydrocarbon (PAH) Results  
for Atlantic Tidewater Site Samples,  
in ppm (mg/kg dw or mg/L)**

Lab ID	AT960717-01	AT960717-02	AT960717-03
Field ID:	TB4(0-2)	TB4A(0-2)	TB5(4-6)
<b>MAHs:</b>			
Benzene	N	N	1.79
Toluene	N	N	5.37
Ethylbenzene	N	N	1.99
m/p-Xylene	N	N	8.29
Styrene	N	N	29.6
o-Xylene	N	N	4.69
1,2,4-Trimethylbenzene	N	N	18.9
<b>Total MAHs:</b>	<b>ND</b>	<b>ND</b>	<b>51.7</b>
<b>PAHs:</b>			
Naphthalene	4.85	2.50	267
2-Methylnaphthalene	3.11	2.75	56.6
1-Methylnaphthalene	2.31	0.93	32.8
Acenaphthylene	21.7	5.86	21.6
Acenaphthene	1.68	1.09	8.01
Dibenzofuran	5.81	1.62	25.2
Fluorene	5.44	0.97	24.3
Phenanthrene	114	24.2	141
Anthracene	30.8	7.25	30.6
Fluoranthene	153	29.1	104
Pyrene	124	21.5	87.5
Benz(a)anthracene	77.0	14.0	40.2
Chrysene	66.3	13.9	37.7
Benzo(b)fluoranthene	54.3	12.0	23.3
Benzo(k)fluoranthene	50.0	13.6	29.5
Benzo(a)pyrene	47.7	12.1	27.0
Indeno(1,2,3-cd)pyrene	13.9	6.92	8.99
Dibenz(a,h)anthracene	3.15	2.19	2.55
Benzo(g,h,i)perylene	10.3	7.08	7.57
<b>Total PAHs:</b>	<b>783</b>	<b>178</b>	<b>950</b>
Surrogate #1 %Recovery	69	86	62
Surrogate #2 %Recovery	96	73	80
Detection Limit	0.06	0.10	0.05
Percent Solids	90.2%	88.4%	88.0%

U = Not detected at quantitation limit shown

I = Interference

ND = Not detected

E = Estimated value, above calibration range

L = Coeluted with compound listed above

J = Estimated value

Total MAHs does not include 1,2,4-Trimethylbenzene.

Total PAHs does not include Dibenzofuran.

**Monocyclic Aromatic Hydrocarbon (MAH) and  
Polycyclic Aromatic Hydrocarbon (PAH) Results  
for Atlantic Tidewater Site Samples,  
in ppm (mg/kg dw or mg/L)**

Lab ID Field ID:	AT960717-04 TB5(0-2)	AT960717-05 TB5(25-26)	AT960717-06 TB6(20-22)
<b>MAHs:</b>			
Benzene	N	12.0	10.1
Toluene	N	15.0	26.9
Ethylbenzene	N	13.0	9.37
m/p-Xylene	N	23.7	61.0
Styrene	N	3.03	13.7
o-Xylene	N	6.79	25.1
1,2,4-Trimethylbenzene	N	21.0	64.6
<b>Total MAHs:</b>	<b>ND</b>	<b>73.5</b>	<b>146</b>
<b>PAHs:</b>			
Naphthalene	1.66	1,240	1,870
2-Methylnaphthalene	1.74	270	434
1-Methylnaphthalene	0.72	117	237
Acenaphthylene	2.46	110	436
Acenaphthene	0.41	116	134
Dibenzofuran	0.22	191	229
Fluorene	1.00	199	343
Phenanthrene	6.20	812	886
Anthracene	1.98	276	304
Fluoranthene	7.62	520	610
Pyrene	9.14	405	416
Benz(a)anthracene	6.79	208	229
Chrysene	6.82	158	234
Benzo(b)fluoranthene	4.17	116	116
Benzo(k)fluoranthene	5.78	70.9	140
Benzo(a)pyrene	7.27	123	157
Indeno(1,2,3-cd)pyrene	4.00	28.4	77.7
Dibenz(a,h)anthracene	1.27	6.97	17.0
Benzo(g,h,i)perylene	4.74	29.3	76.3
<b>Total PAHs:</b>	<b>73.8</b>	<b>4,800</b>	<b>6,710</b>
Surrogate #1 %Recovery	84	61	53
Surrogate #2 %Recovery	118	74	1
Detection Limit	0.06	0.08	0.05
Percent Solids	90.0%	58.0%	74.4%

U = Not detected at quantitation limit shown

ND = Not detected

L = Coeluted with compound listed above

Total MAHs does not include 1,2,4-Trimethylbenzene.

Total PAHs does not include Dibenzofuran.

I = Interference

E = Estimated value, above calibration range

J = Estimated value



**Monocyclic Aromatic Hydrocarbon (MAH) and  
Polycyclic Aromatic Hydrocarbon (PAH) Results  
for Atlantic Tidewater Site Samples,  
in ppm (mg/kg dw or mg/L)**

Lab ID Field ID:	AT960717-07 TB6A(20-22)	AT960717-08 TB6(0-2)	AT960717-09 TB4(22-24)
<b>MAHs:</b>			
Benzene	10.7 J B	N	0.59 B
Toluene	29.8	N	0.69
Ethylbenzene	10.5	N	0.68
m/p-Xylene	68.2	N	0.49
Styrene	14.6	N	0.17 U
o-Xylene	28.5	N	0.20
1,2,4-Trimethylbenzene	73.3 V	N	0.48
<b>Total MAHs:</b>	<b>162</b>	<b>ND</b>	<b>2.64</b>
<b>PAHs:</b>			
Naphthalene	1,990 L	120	20.5
2-Methylnaphthalene	469	103	12.9
1-Methylnaphthalene	258	77.2	11.1
Acenaphthylene	468	122	1.67
Acenaphthene	141	15.1	21.7
Dibenzofuran	239	9.53	1.18
Fluorene	363	104	10.9
Phenanthrene	950	285	40.1
Anthracene	328	123	14.4
Fluoranthene	654	150	15.7
Pyrene	446	220	21.3
Benz(a)anthracene	255	139	8.31
Chrysene	246	137	7.18
Benzo(b)fluoranthene	122	71.3	2.78
Benzo(k)fluoranthene	149	75.8	4.25
Benzo(a)pyrene	166	92.4	6.70
Indeno(1,2,3-cd)pyrene	80.6	12.8	2.44
Dibenz(a,h)anthracene	18.6	5.32	0.65
Benzo(g,h,i)perylene	80.9	10.0	3.73
<b>Total PAHs:</b>	<b>7,180</b>	<b>1,860</b>	<b>206</b>
Surrogate #1 %Recovery	50	66	79
Surrogate #2 %Recovery	1	103	101
Detection Limit	0.06	0.07	0.07
Percent Solids	72.6%	89.8%	78.2%

U = Not detected at quantitation limit shown

I = Interference

ND = Not detected

E = Estimated value, above calibration range

L = Coeluted with compound listed above

J = Estimated value

Total MAHs does not include 1,2,4-Trimethylbenzene.

Total PAHs does not include Dibenzofuran.

**Monocyclic Aromatic Hydrocarbon (MAH) and  
Polycyclic Aromatic Hydrocarbon (PAH) Results  
for Atlantic Tidewater Site Samples,  
in ppm (mg/kg dw or mg/L)**

Lab ID Field ID:	AT960717-10 ER4	AT960717-11 TB9-(0-2)	AT960717-12 TB9(23-24)
<b>MAHs:</b>			
Benzene	0.01 U	N	6.22 <del>β</del>
Toluene	0.01 U	N	2.05
Ethylbenzene	0.01 U	N	2.51
m/p-Xylene	0.01 U	N	2.47
Styrene	0.01 U	N	1.25
o-Xylene	0.01 U	N	0.83
1,2,4-Trimethylbenzene	0.01 U	N	1.87
<b>Total MAHs:</b>	<b>ND</b>	<b>ND</b>	<b>15.3</b>
<b>PAHs:</b>			
Naphthalene	0.01 U	3.82	14.8
2-Methylnaphthalene	0.01 U	3.70	10.4
1-Methylnaphthalene	0.01 U	2.01	6.55
Acenaphthylene	0.01 U	3.27	6.40
Acenaphthene	0.01 U	1.91	9.38
Dibenzofuran	0.01 U	0.95	1.79
Fluorene	0.01 U	2.03	7.42
Phenanthrene	0.01 U	12.2	36.6
Anthracene	0.01 U	3.49	13.8
Fluoranthene	0.01 U	18.5	43.2
Pyrene	0.01 U	17.7	45.3
Benz(a)anthracene	0.01 U	12.3	31.2
Chrysene	0.01 U	12.4	26.2
Benzo(b)fluoranthene	0.01 U	8.83	13.2
Benzo(k)fluoranthene	0.01 U	10.7	16.1
Benzo(a)pyrene	0.01 U	11.3	20.2
Indeno(1,2,3-cd)pyrene	0.01 U	7.25	8.24
Dibenz(a,h)anthracene	0.01 U	2.01	2.47
Benzo(g,h,i)perylene	0.01 U	7.34	29.8
<b>Total PAHs:</b>	<b>ND</b>	<b>141</b>	<b>341</b>
Surrogate #1 %Recovery	85	76	74
Surrogate #2 %Recovery	98	101	109
Detection Limit	0.01	0.05	0.13
Percent Solids	Not Applicable	88.2%	53.8%

U = Not detected at quantitation limit shown

I = Interference

ND = Not detected

E = Estimated value, above calibration range

L = Coeluted with compound listed above

J = Estimated value

Total MAHs does not include 1,2,4-Trimethylbenzene.

Total PAHs does not include Dibenzofuran.

**Monocyclic Aromatic Hydrocarbon (MAH) and  
Polycyclic Aromatic Hydrocarbon (PAH) Results  
for Atlantic Tidewater Site Samples, .  
in ppm (mg/kg dw or mg/L)**

Lab ID	AT960717-13	AT960717-14	AT960717-15
Field ID:	TB10(11-12)	TB10(0-2)	TB8(12-14)
<b>MAHs:</b>			
Benzene	0.60 <del>J</del>	N	2.97 <del>J</del>
Toluene	0.58	N	2.92
Ethylbenzene	0.16 J	N	1.63
m/p-Xylene	0.33	N	4.00
Styrene	0.05 J	N	0.74
o-Xylene	0.09 J	N	1.60
1,2,4-Trimethylbenzene	0.19	N	8.52
<b>Total MAHs:</b>	<b>1.81</b>	<b>ND</b>	<b>13.9</b>
<b>PAHs:</b>			
Naphthalene	10.2	3.73	40.2
2-Methylnaphthalene	0.50	3.58	5.20
1-Methylnaphthalene	0.53	1.55	7.40
Acenaphthylene	0.15 J	10.1	11.1
Acenaphthene	0.65	0.96	5.71
Dibenzofuran	0.65	0.86	10.4
Fluorene	0.78	1.56	15.5
Phenanthrene	2.40	9.61	27.1
Anthracene	0.96	5.97	9.00
Fluoranthene	5.25	16.3	20.9
Pyrene	4.24	25.0	20.5
Benzo(a)anthracene	3.00	16.5	12.3
Chrysene	2.42	16.8	11.9
Benzo(b)fluoranthene	2.05	12.0	10.9
Benzo(k)fluoranthene	2.31	17.9	11.8
Benzo(a)pyrene	3.51	20.6	16.6
Indeno(1,2,3-cd)pyrene	2.99	12.1	13.3
Dibenz(a,h)anthracene	0.48	3.19	2.32
Benzo(g,h,i)perylene	4.44	14.0	16.5
<b>Total PAHs:</b>	<b>46.8</b>	<b>192</b>	<b>258</b>
Surrogate #1 %Recovery	67	84	77
Surrogate #2 %Recovery	90	95	98
Detection Limit	0.07	0.06	0.08
Percent Solids	73.5%	94.4%	69.2%

U = Not detected at quantitation limit shown

I = Interference

ND = Not detected

E = Estimated value, above calibration range

L = Coeluted with compound listed above

J = Estimated value

Total MAHs does not include 1,2,4-Trimethylbenzene.

Total PAHs does not include Dibenzofuran.

**Monocyclic Aromatic Hydrocarbon (MAH) and  
Polycyclic Aromatic Hydrocarbon (PAH) Results  
for Atlantic Tidewater Site Samples,  
in ppm (mg/kg dw or mg/L)**

Lab ID	AT960717-16	AT960717-17	AT960719-AB
Field ID:	TB9(6-8)	TB8(0-2)	WATER BLANK
<b>MAHs:</b>			
Benzene	0.15 <del>0.13</del> JB	N	0.01 U
Toluene	0.18	N	0.01 U
Ethylbenzene	0.15 U	N	0.01 U
m/p-Xylene	0.19	N	0.01 U
Styrene	0.15 U	N	0.01 U
o-Xylene	0.13 J	N	0.01 U
1,2,4-Trimethylbenzene	0.15 U	N	0.01 U
<b>Total MAHs:</b>	<b>0.63</b>	<b>ND</b>	<b>ND</b>
<b>PAHs:</b>			
Naphthalene	1.82	3.31	0.01 U
2-Methylnaphthalene	1.21	4.58	0.01 U
1-Methylnaphthalene	0.65	2.96	0.01 U
Acenaphthylene	0.59	2.28	0.01 U
Acenaphthene	0.27	2.14	0.01 U
Dibenzofuran	0.30	1.35	0.01 U
Fluorene	0.38	1.86	0.01 U
Phenanthrene	2.76	4.79	0.01 U
Anthracene	0.75	1.16	0.01 U
Fluoranthene	4.91	5.45	0.01 U
Pyrene	4.62	7.71	0.01 U
Benz(a)anthracene	3.26	4.56	0.01 U
Chrysene	3.12	4.41	0.01 U
Benzo(b)fluoranthene	2.85	3.50	0.01 U
Benzo(k)fluoranthene	3.52	4.51	0.01 U
Benzo(a)pyrene	4.24	5.09	0.01 U
Indeno(1,2,3-cd)pyrene	3.13	3.71	0.01 U
Dibenz(a,h)anthracene	0.71	0.98	0.01 U
Benzo(g,h,i)perylene	3.35	6.58	0.01 U
<b>Total PAHs:</b>	<b>42.1</b>	<b>69.6</b>	<b>ND</b>
Surrogate #1 %Recovery	78	88	56
Surrogate #2 %Recovery	99	116	99
Detection Limit	0.06	0.07	0.01
Percent Solids	88.1%	88.5%	Not Applicable

U = Not detected at quantitation limit shown

ND = Not detected

L = Coeluted with compound listed above

Total MAHs does not include 1,2,4-Trimethylbenzene.

Total PAHs does not include Dibenzofuran.

I = Interference

E = Estimated value, above calibration range

J = Estimated value

**Monocyclic Aromatic Hydrocarbon (MAH) and  
Polycyclic Aromatic Hydrocarbon (PAH) Results  
for Atlantic Tidewater Site Samples,  
in ppm (mg/kg dw or mg/L)**

Lab ID	AT960719-SB
Field ID:	<b>SOIL BLANK</b>
<b>MAHs:</b>	
Benzene	0.10 J
Toluene	0.16 U
Ethylbenzene	0.16 U
m/p-Xylene	0.16 U
Styrene	0.16 U
o-Xylene	0.16 U
1,2,4-Trimethylbenzene	0.16 U
<b>Total MAHs:</b>	<b>0.10</b>
<b>PAHs:</b>	
Naphthalene	0.16 U
2-Methylnaphthalene	0.16 U
1-Methylnaphthalene	0.16 U
Acenaphthylene	0.16 U
Acenaphthene	0.16 U
Dibenzofuran	0.16 U
Fluorene	0.16 U
Phenanthrene	0.16 U
Anthracene	0.16 U
Fluoranthene	0.16 U
Pyrene	0.16 U
Benz(a)anthracene	0.16 U
Chrysene	0.16 U
Benzo(b)fluoranthene	0.16 U
Benzo(k)fluoranthene	0.16 U
Benzo(a)pyrene	0.16 U
Indeno(1,2,3-cd)pyrene	0.16 U
Dibenz(a,h)anthracene	0.16 U
Benzo(g,h,i)perylene	0.16 U
<b>Total PAHs:</b>	<b>ND</b>
Surrogate #1 %Recovery	59
Surrogate #2 %Recovery	96
Detection Limit	0.07
Percent Solids	Not Applicable

Action  
Level  
0.50

U = Not detected at quantitation limit shown

ND = Not detected

L = Coeluted with compound listed above

Total MAHs does not include 1,2,4-Trimethylbenzene.

Total PAHs does not include Dibenzofuran.

I = Interference

E = Estimated value, above calibration range

J = Estimated value

CHAIN OF CUSTODY RECORD

49 Clarendon Street  
 Watertown, MA 02172  
 TEL: (617) 923-4662  
 FAX: (617) 923-4610



PROJECT NAME TIDEWATER  
 COMPANY ATLANTIC ENV.  
 ADDRESS 188 NORWICH AVE  
 PHONE (260) 537-0751

SAMPLED BY P. GEORGETT  
 Signature [Signature]  
 Signature \_\_\_\_\_  
 Signature \_\_\_\_\_

SAMPLE NO.	DATE	TIME	SAMPLE LOCATION	CONTAINER		GRAB	COMP	NO OF CONTAINERS	SAMPLE MATRIX	PRESERVATIVE	ANALYSES	COMMENTS
				SIZE	G/P							
TS4(02)	7-15-96		402 G			X		1	SOIL			ATT60717 - 01
TS4A(0-20)												02
TS5(0-6)												03
TS5(0-2)												04
TS5(25-26)												05
TS6(01-20)												06
TS6A(20-22)												07
TS6(0-2)												08
TS4(22-24)												09
GRAV			1 LA / 2.00A					3	WATER			10ABC

**COPY**

Relinquished by	Date/Time	Received by	Date/Time	Relinquished by	Date/Time	Received by	Date/Time
P. GEORGETT	7-16-96 5:00P	[Signature]	7-17-96 9:40				

Remarks: PAH DETECTION LIMIT 0.1 ppm

**COPY**



26 August 1996

# 1 E 1 1

AUG 29 1996

Mr. Peter Georgetti  
Atlantic Environmental Services, Inc.  
188 Norwich Ave  
PO Box 297  
Colchester, CT 06415

**RE: ANALYTICAL RESULTS  
TIDEWATER MGP INVESTIGATION**

Atlantic PO No.: S086  
Atlantic Project No.: 2061-03-02  
META No.: A01031  
META SDG: AT960802

Dear Mr. Georgetti:

This package contains the analytical results from solid and aqueous samples received by META Environmental, Inc. from the Atlantic Environmental Services Tidewater MGP Investigation on 2 August 1996.

**Methods**

Two grams of solid or 35 mL of aqueous sample were prepared by Micro-Solvent Extraction (MSE) using methylene chloride. The extracts were dried with sodium sulfate and concentrated by Kuderna-Danish concentrators to 1 mL. The final extracts were analyzed for monocyclic aromatic hydrocarbons (MAHs) and polycyclic aromatic hydrocarbons (PAHs) using GC/FID.

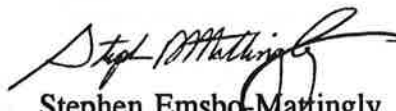
**Results**

The analytical results follow this cover letter. The result pages reflect the method detection limit as "Detection Limit". Target analytes flagged with a "J" were estimated because the concentration fell below the lowest calibration standard. Target analytes flagged with a "B" were detected in the blank. Professional judgement must be used to evaluate the validity of these hits. In general, a "B"-flagged analyte is considered valid if its concentration exceeds five times the concentration of the blank. Target analytes flagged with an "E" were estimated because the concentration exceeded the highest calibration standard. The "E"-flagged analytes were deemed accurate, because the concentration fell well within the linear range of the detector. Quality control compounds flagged with an "I" indicate the presence of significant interferences which bias positively the percent recovery. Analytes flagged with an "N" were not requested by the client.



Please contact me if you have any questions.

Sincerely,

  
Stephen Emsbo-Mattingly  
Laboratory Director

## ANALYTICAL RESULTS

### Monocyclic Aromatic Hydrocarbons (MAH) and Polycyclic Aromatic Hydrocarbons (PAH)

Client: Atlantic Project: Tidewater

Concentrations in ppm

(mg/kg-dry weight or mg/L)

Lab ID	AT960802-01	AT960802-02	AT960802-03
Field ID:	TSS17	TSS19	TSS34
<b>MAHs:</b>			
Benzene	N	N	N
Toluene	N	N	N
Ethylbenzene	N	N	N
m/p-Xylene	N	N	N
Styrene	N	N	N
o-Xylene	N	N	N
1,2,4-Trimethylbenzene	N	N	N
<b>Total MAHs:</b>	<b>ND</b>	<b>ND</b>	<b>ND</b>
<b>PAHs:</b>			
Naphthalene	<del>0.38</del> <sup>0.30, J</sup> <del>B</del>	<sup>U, J</sup> 0.31 <del>B</del>	3.00 <del>B</del>
2-Methylnaphthalene	0.19	0.84	2.10
1-Methylnaphthalene	0.12 U	0.16 U	1.55
Acenaphthylene	0.12 U	0.35	6.61
Acenaphthene	0.12 U	0.37	0.94
Dibenzofuran	0.12 U	0.16 U	3.52
Fluorene	0.12 U	0.16 U	1.34
Phenanthrene	0.32	0.19	33.7
Anthracene	0.12 U	0.16 U	7.88
Fluoranthene	0.22	0.24	31.9
Pyrene	0.39	1.03	29.6
Benzo(a)anthracene	0.12 U	0.16 U	15.2
Chrysene	0.43	0.16 U	14.3
Benzo(b)fluoranthene	0.12 U	0.52	11.4
Benzo(k)fluoranthene	0.12 U	0.42	11.2
Benzo(a)pyrene	0.12 U	1.12	15.0
Indeno(1,2,3-cd)pyrene	0.12 U	0.40	9.57
Dibenz(a,h)anthracene	0.12 U	0.16 U	2.46
Benzo(g,h,i)perylene	0.12 U	1.18	11.7
<b>Total PAHs:</b>	<b>1.93</b>	<b>6.97</b>	<b>210</b>
Surrogate #1 %Recovery	67	77	79
Surrogate #2 %Recovery	86	107	97
Detection Limit	0.05	0.06	0.09
Percent Solids	96.4%	98.2%	92.6%

U = Not detected at quantitation limit shown

ND = Not detected

L = Coeluted with compound listed above

Total MAHs does not include 1,2,4-Trimethylbenzene.

Total PAHs does not include Dibenzofuran.

I = Interference

E = Estimated value, above calibration range

J = Estimated value

N = Not requested by the client

## ANALYTICAL RESULTS

### Monocyclic Aromatic Hydrocarbons (MAH) and Polycyclic Aromatic Hydrocarbons (PAH)

Client: Atlantic Project: Tidewater

Concentrations in ppm  
(mg/kg-dry weight or mg/L)

Lab ID	AT960802-04	AT960802-05	AT960802-06
Field ID:	TSS39	TSS40	TSED1
<b>MAHs:</b>			
Benzene	N	N	0.21 U
Toluene	N	N	0.21 U
Ethylbenzene	N	N	0.21 U
m/p-Xylene	N	N	0.21 U
Styrene	N	N	0.21 U
o-Xylene	N	N	0.21 U
1,2,4-Trimethylbenzene	N	N	0.32
<b>Total MAHs:</b>	<b>ND</b>	<b>ND</b>	<b>ND</b>
<b>PAHs:</b>			
Naphthalene	0.36 <sup>U, J</sup> <del>B</del>	0.60 <del>B</del>	1.30 <del>B</del> <sup>U, J</sup>
2-Methylnaphthalene	0.20 U	0.38	0.59
1-Methylnaphthalene	0.20 U	0.17 U	0.28
Acenaphthylene	0.20 U	0.44	0.50
Acenaphthene	0.20 U	0.17 U	0.21 U
Dibenzofuran	0.20 U	0.17 U	0.21 U
Fluorene	0.20 U	0.17 U	0.31
Phenanthrene	0.65	0.90	1.66
Anthracene	0.20 U	0.37	0.52
Fluoranthene	0.84	1.38	2.42
Pyrene	0.79	1.54	2.42
Benz(a)anthracene	0.43	1.07	1.63
Chrysene	0.62	1.35	3.05
Benzo(b)fluoranthene	0.35	0.82	1.52
Benzo(k)fluoranthene	0.37	0.85	1.21
Benzo(a)pyrene	1.31	3.53	4.41
Indeno(1,2,3-cd)pyrene	0.20 U	0.89	1.44
Dibenz(a,h)anthracene	0.20 U	0.29	0.44
Benzo(g,h,i)perylene	0.79	1.02	1.50
<b>Total PAHs:</b>	<b>6.51</b>	<b>15.4</b>	<b>25.2</b>
Surrogate #1 %Recovery	75	82	66
Surrogate #2 %Recovery	88	93	89
Detection Limit	0.08	0.07	0.08
Percent Solids	93.7%	93.3%	60.1%

U = Not detected at quantitation limit shown

ND = Not detected

L = Coeluted with compound listed above

Total MAHs does not include 1,2,4-Trimethylbenzene.

Total PAHs does not include Dibenzofuran.

I = Interference

E = Estimated value, above calibration range

J = Estimated value

N = Not requested by the client

## ANALYTICAL RESULTS

### Monocyclic Aromatic Hydrocarbons (MAH) and Polycyclic Aromatic Hydrocarbons (PAH)

Client: Atlantic Project: Tidewater

Concentrations in ppm  
(mg/kg-dry weight or mg/L)

Lab ID Field ID:	AT960802-07 TSED2	AT960802-08 TSED3	AT960802-09 TSED4
<b>MAHs:</b>			
Benzene	0.85	0.72	2.26
Toluene	1.14	0.96	2.98
Ethylbenzene	1.22	0.50	1.20
m/p-Xylene	1.30	0.99	3.78
Styrene	17.4	8.19	1.81
o-Xylene	0.29 U	0.27 U	1.13
1,2,4-Trimethylbenzene	20.8	4.59	2.56
<b>Total MAHs:</b>	<b>21.9</b>	<b>11.4</b>	<b>13.2</b>
<b>PAHs:</b>			
Naphthalene	22.3 B	6.20 B	22.4 B
2-Methylnaphthalene	21.6	3.80	5.04
1-Methylnaphthalene	18.1	1.85	2.63
Acenaphthylene	127	6.50	6.94
Acenaphthene	18.4	1.82	3.17
Dibenzofuran	8.78	1.09	3.77
Fluorene	16.4	2.47	2.74
Phenanthrene	79.0	13.7	14.6
Anthracene	66.7	4.80	12.1
Fluoranthene	225	19.7	44.8
Pyrene	371	21.9	51.9
Benz(a)anthracene	226	14.3	26.5
Chrysene	218	15.6	27.7
Benzo(b)fluoranthene	198	9.96	12.4
Benzo(k)fluoranthene	116	1.35	16.2
Benzo(a)pyrene	363	17.7	27.5
Indeno(1,2,3-cd)pyrene	165	9.21	13.4
Dibenz(a,h)anthracene	42.7	2.21	3.15
Benzo(g,h,i)perylene	149	13.7	46.9
<b>Total PAHs:</b>	<b>2,440</b>	<b>167</b>	<b>340</b>
Surrogate #1 %Recovery	75	68	71
Surrogate #2 %Recovery	116	97	93
Detection Limit	0.11	0.11	0.10
Percent Solids	65.2%	52.2%	65.3%

U = Not detected at quantitation limit shown

ND = Not detected

L = Coeluted with compound listed above

Total MAHs does not include 1,2,4-Trimethylbenzene.

Total PAHs does not include Dibenzofuran.

I = Interference

E = Estimated value, above calibration range

J = Estimated value

N = Not requested by the client

## ANALYTICAL RESULTS

### Monocyclic Aromatic Hydrocarbons (MAH) and Polycyclic Aromatic Hydrocarbons (PAH)

Client: Atlantic Project: Tidewater

Concentrations in ppm  
(mg/kg-dry weight or mg/L)

Lab ID Field ID:	AT960802-10 TSED5	AT960802-11 TSED6	AT960802-12 ER-6
<b>MAHs:</b>			
Benzene	5.16	0.10 J	0.02 U
Toluene	5.15	0.18 J	0.02 U
Ethylbenzene	4.03	0.20 U	0.02 U
m/p-Xylene	4.51	0.20 U	0.02 U
Styrene	102	0.20 U	0.02 U
o-Xylene	3.86 U	0.20 U	0.02 U
1,2,4-Trimethylbenzene	55.5	0.20 U	0.02 U
<b>Total MAHs:</b>	<b>121</b>	<b>0.28</b>	<b>ND</b>
<b>PAHs:</b>			
Naphthalene	64.4 B	0.93 B	0.02 U
2-Methylnaphthalene	38.7	0.51	0.02 U
1-Methylnaphthalene	21.5	0.22	0.02 U
Acenaphthylene	103	0.52	0.02 U
Acenaphthene	21.3	0.17 J	0.02 U
Dibenzofuran	53.1	0.10 J	0.02 U
Fluorene	42.6	0.24	0.02 U
Phenanthrene	558	1.36	0.02 U
Anthracene	132	0.62	0.02 U
Fluoranthene	606	2.36	0.02 U
Pyrene	422	2.18	0.02 U
Benz(a)anthracene	240	1.68	0.02 U
Chrysene	237	1.98	0.02 U
Benzo(b)fluoranthene	175	1.23	0.02 U
Benzo(k)fluoranthene	188	1.19	0.02 U
Benzo(a)pyrene	190	2.89	0.02 U
Indeno(1,2,3-cd)pyrene	131	1.10	0.02 U
Dibenz(a,h)anthracene	27.0 J	0.29	0.02 U
Benzo(g,h,i)perylene	130	1.50	0.02 U
<b>Total PAHs:</b>	<b>3,330</b>	<b>21.0</b>	<b>ND</b>
Surrogate #1 %Recovery	80	77	92
Surrogate #2 %Recovery	110	87	100
Detection Limit	1.55	0.08	0.01
Percent Solids	63.6%	75.9%	Not Applicable

U = Not detected at quantitation limit shown

ND = Not detected

L = Coeluted with compound listed above

Total MAHs does not include 1,2,4-Trimethylbenzene.

Total PAHs does not include Dibenzofuran.

I = Interference

E = Estimated value, above calibration range

J = Estimated value

N = Not requested by the client

## ANALYTICAL RESULTS

### Monocyclic Aromatic Hydrocarbons (MAH) and Polycyclic Aromatic Hydrocarbons (PAH)

Client: Atlantic Project: Tidewater

Concentrations in ppm

(mg/kg-dry weight or mg/L)

*DUP of SEDS*

Lab ID Field ID:	AT960802-13 FB-Dispray	AT960802-14 TSED7	AT960802-02DUP DUP
<b>MAHs:</b>			
Benzene	0.02 U	0.83	0.19 U
Toluene	0.02 U	1.41	0.19 U
Ethylbenzene	0.02 U	1.30	0.19 U
m/p-Xylene	0.02 U	1.13	0.19 U
Styrene	0.02 U	17.6	3.53
o-Xylene	0.02 U	0.20 U	0.19 U
1,2,4-Trimethylbenzene	0.02 U	10.0	2.29
<b>Total MAHs:</b>	<b>ND</b>	<b>22.3</b>	<b>3.53</b>
<b>PAHs:</b>			
Naphthalene	0.02 U	15.1 B	1.02 B
2-Methylnaphthalene	0.02 U	9.20	0.92
1-Methylnaphthalene	0.02 U	3.73	0.19 U
Acenaphthylene	0.02 U	14.6	0.35
Acenaphthene	0.02 U	3.37	0.30
Dibenzofuran	0.02 U	2.46	0.19 U
Fluorene	0.02 U	5.38	0.19 U
Phenanthrene	0.02 U	30.6	0.28
Anthracene	0.02 U	10.0	0.19 U
Fluoranthene	0.02 U	43.0	0.24
Pyrene	0.02 U	44.0	0.71
Benz(a)anthracene	0.02 U	30.5	0.19 U
Chrysene	0.02 U	32.7	0.19 U
Benzo(b)fluoranthene	0.02 U	23.0	0.49
Benzo(k)fluoranthene	0.02 U	24.0	0.37
Benzo(a)pyrene	0.02 U	32.9	1.02
Indeno(1,2,3-cd)pyrene	0.02 U	18.7	0.33
Dibenz(a,h)anthracene	0.02 U	5.15	0.19 U
Benzo(g,h,i)perylene	0.02 U	22.9	0.69
<b>Total PAHs:</b>	<b>ND</b>	<b>369</b>	<b>6.70</b>
Surrogate #1 %Recovery	64	64	70
Surrogate #2 %Recovery	104	118	92
Detection Limit	0.01	0.08	0.08
Percent Solids	Not Applicable	57.0%	Not Applicable

U = Not detected at quantitation limit shown

ND = Not detected

L = Coeluted with compound listed above

Total MAHs does not include 1,2,4-Trimethylbenzene.

Total PAHs does not include Dibenzofuran.

I = Interference

E = Estimated value, above calibration range

J = Estimated value

N = Not requested by the client

## ANALYTICAL RESULTS

### Monocyclic Aromatic Hydrocarbons (MAH) and Polycyclic Aromatic Hydrocarbons (PAH)

Client: Atlantic Project: Tidewater

Concentrations in ppm  
(mg/kg-dry weight or mg/L)

ACTION  
LEVEL

Lab ID	AT960802-SB	AT960807-AB
Field ID:	Soil Blank	Water Blank
<b>MAHs:</b>		
Benzene	0.14 U	0.01 U
Toluene	0.14 U	0.01 U
Ethylbenzene	0.14 U	0.01 U
m/p-Xylene	0.14 U	0.01 U
Styrene	0.14 U	0.01 U
o-Xylene	0.14 U	0.01 U
1,2,4-Trimethylbenzene	0.14 U	0.01 U
<b>Total MAHs:</b>	<b>ND</b>	<b>ND</b>
<b>PAHs:</b>		
Naphthalene	0.37	0.01 U
2-Methylnaphthalene	0.14 U	0.01 U
1-Methylnaphthalene	0.14 U	0.01 U
Acenaphthylene	0.14 U	0.01 U
Acenaphthene	0.14 U	0.01 U
Dibenzofuran	0.14 U	0.01 U
Fluorene	0.14 U	0.01 U
Phenanthrene	0.14 U	0.01 U
Anthracene	0.14 U	0.01 U
Fluoranthene	0.14 U	0.01 U
Pyrene	0.14 U	0.01 U
Benz(a)anthracene	0.14 U	0.01 U
Chrysene	0.14 U	0.01 U
Benzo(b)fluoranthene	0.14 U	0.01 U
Benzo(k)fluoranthene	0.14 U	0.01 U
Benzo(a)pyrene	0.14 U	0.01 U
Indeno(1,2,3-cd)pyrene	0.14 U	0.01 U
Dibenz(a,h)anthracene	0.14 U	0.01 U
Benzo(g,h,i)perylene	0.14 U	0.01 U
<b>Total PAHs:</b>	<b>0.37</b>	<b>ND</b>
Surrogate #1 %Recovery	73	59
Surrogate #2 %Recovery	97	108
Detection Limit	0.06	0.01
Percent Solids	95.7%	Not Applicable

185

U = Not detected at quantitation limit shown

ND = Not detected

L = Coeluted with compound listed above

Total MAHs does not include 1,2,4-Trimethylbenzene.

Total PAHs does not include Dibenzofuran.

I = Interference

E = Estimated value, above calibration range

J = Estimated value

N = Not requested by the client

# ATLANTIC

ENVIRONMENTAL  
SERVICES, INC.

188 Norwich Avenue, P.O. Box 297, Colchester, CT 06415  
PHONE: (203) 537-0751 FAX: (203) 537-6347

No 2234

# CHAIN OF CUSTODY RECORD

SAMPLE NO.	DATE	TIME	GPS	NO. OF CONT.	SAMPLE MATRIX	ANALYSIS										COMMENTS		
						PRSY.	PRSY.	PRSY.	PRSY.	PRSY.	PRSY.	PRSY.	PRSY.	PRSY.	PRSY.		PRSY.	PRSY.
TSS 17	7-31-96	11:10	X	1	SOIL	X												ATP60802-01
TSS 19		11:35				X												-02
TSS 34		10:00				X												-03
TSS 39		12:00				X												-04
TSS 40		12:00				X												-05
TSED 1		17:30			SED	X	X											-06
TSED 2		17:00				X	X											-07
TSED 3		15:40				X	X											-08
TSED 4		15:20				X	X											-09
TSED 5		15:00				X	X											-10
TSED 6		18:15				X	X											-11
ENC-6	9-15-8	19:15		3	WATER	X	X											-12 ABC
FYS DISPRAY	11	9:30		3	"	X	X											-13 ABC
TSED 7	7-31-96	15:50		1	SED	X	X											-14
Relinquished by:	P. GEORGETT	Date/Time	8-1-96 5:00P	Received by:	F. DEEX	Date/Time		Relinquished by:		Date/Time		Received by:						
Relinquished by:		Date/Time		Relinquished by:		Date/Time		Relinquished by:		Date/Time		Relinquished by:						Received for Laboratory by: Chris Delaney
Method of Shipment:		Shipping Waybill No.:		Signature		Signature		Remarks:										
SAMPLED BY:	P. GEORGETT	PAU 0.1 ppm																
BY:	S. WANEAT	40C																

COPY

ATLANTIC FORM 1041

PT 1: ORIGINAL PT 2: Laboratory Project Manager-yellow PT 3: Field Copy-pink





# ATLANTIC ENVIRONMENTAL SERVICES, INC.

188 Norwich Avenue, P.O. Box 297, Colchester, CT 06415  
 PHONE: (203) 537-0751 FAX: (203) 537-6347

No 2234

# CHAIN OF CUSTODY RECORD

SAMPLE NO.	DATE	TIME	NO. OF CONT.	SAMPLE MATRIX	ANALYSIS										COMMENTS							
					PRV	PRV	PRV	PRV	PRV	PRV	PRV	PRV	PRV	PRV		PRV						
TSS 17	7-31-96	11:10	1	SOIL	X																	
TSS 19	↓	11:35	↓	SED	X																	
TSS 34		10:00																				
TSS 39		12:00																				
TSS 40		12:00																				
TSED 1		17:30																				
TSED 2		17:00																				
TSED 3		15:40																				
TSED 4		15:30																				
TSED 5		15:00																				
TSED 6		18:15																				
EC-6	8-1-96		3	WATER	X																	
FRASPRAY	"	9:30	3	"	X																	
TSED 7	7-31-96	15:50	1	SED	X																	
Relinquished by:	P. GEORGE	Date/Time	8-1-96	5:00P	Received by:	STDEX	Date/Time		Relinquished by:		Date/Time		Received by:		Date/Time		Relinquished by:		Date/Time			
Method of Shipment:	Shipping Waybill No. _____																					
SAMPLED BY:	Signature: 																					
BY:	Signature: 																					
Parameter: PAH 0.1 ppm																						

13 September 1996

Mr. Peter Georgetti  
Atlantic Environmental Services, Inc.  
188 Norwich Ave  
PO Box 297  
Colchester, CT 06415

**RE: ANALYTICAL RESULTS  
TIDEWATER MGP INVESTIGATION**

Atlantic PO No.: S086  
Atlantic Project No.: 2061-03-02  
META No.: A01031  
META SDG: AT960816

Dear Mr. Georgetti:

This package contains the analytical results from solid and aqueous samples received by META Environmental, Inc. from the Atlantic Environmental Services Tidewater MGP Investigation on 16 August 1996.

### Methods

Two grams of solid or 35 mL of aqueous sample were prepared by Micro-Solvent Extraction (MSE) using methylene chloride. The extracts were dried with sodium sulfate and concentrated by Kuderna-Danish concentrators to 1 mL. The final extracts were analyzed for monocyclic aromatic hydrocarbons (MAHs) and polycyclic aromatic hydrocarbons (PAHs) using GC/FID.

### Results

The analytical results follow this cover letter. The result pages reflect the method detection limit as "Detection Limit". Target analytes flagged with a "J" were estimated because the concentration fell below the lowest calibration standard. Target analytes flagged with a "B" were detected in the blank. Professional judgement must be used to evaluate the validity of these hits. In general, a "B"-flagged analyte is considered valid if its concentration exceeds five times the concentration of the blank. Target analytes flagged with an "E" were estimated because the concentration exceeded the highest calibration standard. The "E"-flagged analytes were deemed accurate, because the concentration fell well within the linear range of the detector. Quality control compounds flagged with an "I" indicate the presence of significant interferences which bias positively the percent recovery. Analytes flagged with an "N" were not requested by the client.

Please contact me if you have any questions.

Sincerely,

  
Stephen Emsbo-Mattingly  
Laboratory Director

**ANALYTICAL RESULTS**

**Monocyclic Aromatic Hydrocarbons (MAH) and Polycyclic Aromatic Hydrocarbons (PAH)**

**Client: Atlantic Project: Tidewater**

**Concentrations in ppm**

**(mg/kg-dry weight or mg/L)**

Lab ID	AT960816-01	AT960816-02	YG960816-SB	
Field ID:	TB 12 (0-2)	TB 12 (6-8)	SOIL BLANK	
<b>MAHs:</b>				
Benzene	N	<del>0.06</del> JB	0.06	J
Toluene	N	0.30 B	0.04	J
Ethylbenzene	N	2.77		
m/p-Xylene	N	4.96		
Styrene	N	3.92		
o-Xylene	N	1.08		
1,2,4-Trimethylbenzene	N	20.3		
<b>Total MAHs:</b>	<b>ND</b>	<b>13.1</b>	<b>0.10</b>	
<b>PAHs:</b>				
Naphthalene	2.45 B	84.7 B	0.06	J
2-Methylnaphthalene	3.34	102		
1-Methylnaphthalene	1.89	27.7		
Acenaphthylene	1.51	155		
Acenaphthene	1.28	118		
Dibenzofuran	1.13	6.54		
Fluorene	1.44	24.4		
Phenanthrene	15.9 B	22.4 B	0.06	J
Anthracene	2.95	92.1		
Fluoranthene	13.7	16.7		
Pyrene	15.2	33.8		
Benz(a)anthracene	9.22	9.53		
Chrysene	9.41	15.3		
Benzo(b)fluoranthene	7.40	3.82		
Benzo(k)fluoranthene	6.39	5.95		
Benzo(a)pyrene	8.85	8.52		
Indeno(1,2,3-cd)pyrene	5.00	3.39		
Dibenz(a,h)anthracene	0.98	0.64		
Benzo(g,h,i)perylene	6.06	4.21		
<b>Total PAHs:</b>	<b>113</b>	<b>729</b>	<b>0.13</b>	
Surrogate #1 %Recovery	99	74	72	
Surrogate #2 %Recovery	92	1	89	
Detection Limit	0.08	0.06	0.08	
Percent Solids	69.7%	85.2%	Not Applicable	

Action level

0.30  
0.30

0.30

0.30

U = Not detected at quantitation limit shown

ND = Not detected

L = Coeluted with compound listed above

Total MAHs does not include 1,2,4-Trimethylbenzene.

Total PAHs does not include Dibenzofuran.

I = Interference

E = Estimated value, above calibration range

J = Estimated value

N = Not requested by the client

## ANALYTICAL RESULTS

### Monocyclic Aromatic Hydrocarbons (MAH) and Polycyclic Aromatic Hydrocarbons (PAH)

Client: Atlantic Project: Tidewater

Concentrations in ppm  
(mg/kg-dry weight or mg/L)

Lab ID	AT960816-01D	
Field ID:	DUP	
<b>MAHs:</b>	<b>N</b>	
Benzene	N	
Toluene	N	
Ethylbenzene	N	
m/p-Xylene	N	
Styrene	N	
o-Xylene	N	
1,2,4-Trimethylbenzene	N	
<b>Total MAHs:</b>	<b>ND</b>	
<b>PAHs:</b>		
Naphthalene	2.13	B
2-Methylnaphthalene	2.76	
1-Methylnaphthalene	1.46	
Acenaphthylene	1.63	
Acenaphthene	0.52	
Dibenzofuran	0.72	
Fluorene	0.64	
Phenanthrene	8.83	B
Anthracene	1.87	
Fluoranthene	7.31	
Pyrene	8.73	
Benz(a)anthracene	5.46	
Chrysene	5.50	
Benzo(b)fluoranthene	4.63	
Benzo(k)fluoranthene	3.75	
Benzo(a)pyrene	4.58	
Indeno(1,2,3-cd)pyrene	2.86	
Dibenz(a,h)anthracene	0.63	
Benzo(g,h,i)perylene	4.11	
<b>Total PAHs:</b>	<b>67.4</b>	
Surrogate #1 %Recovery	78	
Surrogate #2 %Recovery	89	
Detection Limit	0.08	
Percent Solids	69.7%	

U = Not detected at quantitation limit shown

ND = Not detected

L = Coeluted with compound listed above

Total MAHs does not include 1,2,4-Trimethylbenzene.

Total PAHs does not include Dibenzofuran.

I = Interference

E = Estimated value, above calibration range

J = Estimated value

N = Not requested by the client



13 September 1996

Mr. Peter Georgetti  
Atlantic Environmental Services, Inc.  
188 Norwich Ave  
PO Box 297  
Colchester, CT 06415

**RE: ANALYTICAL RESULTS  
TIDEWATER MGP INVESTIGATION**

Atlantic PO No.:	S086
Atlantic Project No.:	2061-03-02
META No.:	A01031
META SDG:	AT960909

Dear Mr. Georgetti:

This package contains the analytical results from solid and aqueous samples received by META Environmental, Inc. from the Atlantic Environmental Services Tidewater MGP Investigation on 9 September 1996.

**Methods**

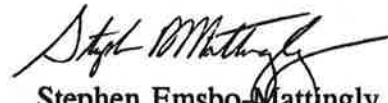
Two grams of solid or 35 mL of aqueous sample were prepared by Micro-Solvent Extraction (MSE) using methylene chloride. The extracts were dried with sodium sulfate and concentrated by Kuderna-Danish concentrators to 1 mL. The final extracts were analyzed for monocyclic aromatic hydrocarbons (MAHs) and polycyclic aromatic hydrocarbons (PAHs) using GC/FID.

**Results**

The analytical results follow this cover letter. The result pages reflect the method detection limit as "Detection Limit". Target analytes flagged with a "J" were estimated because the concentration fell below the lowest calibration standard. Target analytes flagged with a "B" were detected in the blank. Professional judgement must be used to evaluate the validity of these hits. In general, a "B"-flagged analyte is considered valid if its concentration exceeds five times the concentration of the blank. Target analytes flagged with an "E" were estimated because the concentration exceeded the highest calibration standard. The "E"-flagged analytes were deemed accurate, because the concentration fell well within the linear range of the detector. Quality control compounds flagged with an "I" indicate the presence of significant interferences which bias positively the percent recovery. Analytes flagged with an "N" were not requested by the client.

Please contact me if you have any questions.

Sincerely,

  
Stephen Emsbo-Mattingly  
Laboratory Director



**Monocyclic Aromatic Hydrocarbon (MAH) and  
Polycyclic Aromatic Hydrocarbon (PAH) Results  
for Atlantic Tidewater Site Samples,  
in ppm (mg/kg, dry weight)**

Lab ID Field ID:	AT960909-01 TSS-45	AT960909-02 TSS-46	AT960909-03 TSS-47
<b>MAHs:</b>			
Benzene	0.16 U	0.20 U	0.16 U
Toluene	0.16 U, J <del>0.11 JB</del>	0.20 U, J <del>0.12 JB</del>	0.16 U, J <del>0.09 JB</del>
Ethylbenzene	0.16 U	0.20 U	0.16 U
m/p-Xylene	0.16 U	0.20 U	0.16 U
Styrene	0.16 U	0.20 U	0.16 U
o-Xylene	0.16 U	0.20 U	0.16 U
1,2,4-Trimethylbenzene	0.16 U	0.20 U	0.16 U
<b>Total MAHs:</b>	<b>0.11</b>	<b>0.12</b>	<b>0.09</b>
<b>PAHs:</b>			
Naphthalene	0.16 U	0.20 U	0.16 U
2-Methylnaphthalene	0.19	0.20 U	0.16 U
1-Methylnaphthalene	0.16 U	0.20 U	0.16 U
Acenaphthylene	0.16 U	0.20 U	0.16 U
Acenaphthene	0.16 U	0.20 U	0.16 U
Dibenzofuran	0.16 U	0.20 U	0.16 U
Fluorene	0.16 U	0.20 U	0.16 U
Phenanthrene	0.11 J	0.20 U	0.40
Anthracene	0.16 U	0.20 U	0.16 U
Fluoranthene	0.19	0.20 U	0.83
Pyrene	0.23	0.20 U	0.70
Benz(a)anthracene	0.16 J	0.20 U	0.34
Chrysene	0.12 J	0.20 U	0.38
Benzo(b)fluoranthene	0.19	0.20 U	0.36
Benzo(k)fluoranthene	0.22	0.20 U	0.24
Benzo(a)pyrene	0.47	0.35	0.52
Indeno(1,2,3-cd)pyrene	0.17	0.20 U	0.21
Dibenz(a,h)anthracene	0.16 U	0.20 U	0.16 U
Benzo(g,h,i)perylene	0.45	0.52	0.28
<b>Total PAHs:</b>	<b>2.50</b>	<b>0.87</b>	<b>4.26</b>
Surrogate #1 %Recovery	62	71	68
Surrogate #2 %Recovery	68	77	79
Detection Limit	0.06	0.08	0.06
Percent Solids	85.3%	83.5%	94.3%

U = Not detected at quantitation limit shown

ND = Not detected

L = Coeluted with compound listed above

Total MAHs does not include 1,2,4-Trimethylbenzene.

Total PAHs does not include Dibenzofuran.

I = Interference

E = Estimated value, above calibration range

J = Estimated value

N = Not requested by client

**Monocyclic Aromatic Hydrocarbon (MAH) and  
Polycyclic Aromatic Hydrocarbon (PAH) Results  
for Atlantic Tidewater Site Samples,  
in ppm (mg/kg, dry weight)**

Lab ID Field ID:	AT960909-04 TSS-48	AT960909-05 TSS-49	AT960909-03D DUP
<b>MAHs:</b>			
Benzene	0.13 U	0.11 U	0.13 U
Toluene	0.15 U, J	0.10 U, J	0.09 U, J
Ethylbenzene	0.13 U	0.11 U	0.13 U
m/p-Xylene	0.13 U	0.11 U	0.13 U
Styrene	0.13 U	0.11 U	0.13 U
o-Xylene	0.13 U	0.11 U	0.13 U
1,2,4-Trimethylbenzene	0.13 U	0.11 U	0.13 U
<b>Total MAHs:</b>	<b>0.15</b>	<b>0.10</b>	<b>0.09</b>
<b>PAHs:</b>			
Naphthalene	0.21	0.16	0.13 U
2-Methylnaphthalene	0.15	0.11 J	0.13 U
1-Methylnaphthalene	0.08 J	0.07 J	0.13 U
Acenaphthylene	0.41	0.09 J	0.13 U
Acenaphthene	0.13 U	0.06 J	0.13 U
Dibenzofuran	0.13 U	0.10 J	0.13 U
Fluorene	0.13 U	0.19	0.13 U
Phenanthrene	1.13	1.04	0.13 U
Anthracene	0.21	0.29	0.13 U
Fluoranthene	2.08	1.33	0.23
Pyrene	1.89	1.02	0.17
Benz(a)anthracene	1.15	0.70	0.13 U
Chrysene	1.35	0.86	0.10
Benzo(b)fluoranthene	1.06	0.61	0.13 U
Benzo(k)fluoranthene	1.19	0.67	0.07
Benzo(a)pyrene	1.56	0.83	0.27
Indeno(1,2,3-cd)pyrene	0.98	0.50	0.06 J
Dibenz(a,h)anthracene	0.26	0.19	0.08
Benzo(g,h,i)perylene	1.15	0.78	0.43
<b>Total PAHs:</b>	<b>14.9</b>	<b>9.49</b>	<b>1.41</b>
Surrogate #1 %Recovery	73	69	66
Surrogate #2 %Recovery	83	81	83
Detection Limit	0.05	0.04	0.05
Percent Solids	96.5%	86.4%	94.3%

U = Not detected at quantitation limit shown

ND = Not detected

L = Coeluted with compound listed above

Total MAHs does not include 1,2,4-Trimethylbenzene.

Total PAHs does not include Dibenzofuran.

I = Interference

E = Estimated value, above calibration range

J = Estimated value

N = Not requested by client

**Monocyclic Aromatic Hydrocarbon (MAH) and  
Polycyclic Aromatic Hydrocarbon (PAH) Results  
for Atlantic Tidewater Site Samples,  
in ppm (mg/kg, dry weight)**

Lab ID	AT960909-SB
Field ID:	SOIL BLANK
<b>MAHs:</b>	
Benzene	0.16 U
Toluene	0.11 J
Ethylbenzene	0.16 U
m/p-Xylene	0.16 U
Styrene	0.16 U
o-Xylene	0.16 U
1,2,4-Trimethylbenzene	0.16 U
<b>Total MAHs:</b>	<b>0.11</b>
<b>PAHs:</b>	
Naphthalene	0.16 U
2-Methylnaphthalene	0.16 U
1-Methylnaphthalene	0.16 U
Acenaphthylene	0.16 U
Acenaphthene	0.16 U
Dibenzofuran	0.16 U
Fluorene	0.16 U
Phenanthrene	0.16 U
Anthracene	0.16 U
Fluoranthene	0.16 U
Pyrene	0.16 U
Benz(a)anthracene	0.16 U
Chrysene	0.16 U
Benzo(b)fluoranthene	0.16 U
Benzo(k)fluoranthene	0.16 U
Benzo(a)pyrene	0.16 U
Indeno(1,2,3-cd)pyrene	0.16 U
Dibenz(a,h)anthracene	0.16 U
Benzo(g,h,i)perylene	0.16 U
<b>Total PAHs:</b>	<b>ND</b>
Surrogate #1 %Recovery	75
Surrogate #2 %Recovery	85
Detection Limit	0.07
Percent Solids	Not Applicable

Action Level

0.55

U = Not detected at quantitation limit shown

ND = Not detected

L = Coeluted with compound listed above

Total MAHs does not include 1,2,4-Trimethylbenzene.

Total PAHs does not include Dibenzofuran.

I = Interference

E = Estimated value, above calibration range

J = Estimated value

N = Not requested by client



16 September 1996

Mr. Peter Georgetti  
Atlantic Environmental Services, Inc.  
188 Norwich Ave  
PO Box 297  
Colchester, CT 06415

**RE: ANALYTICAL RESULTS  
TIDEWATER MGP INVESTIGATION**

Atlantic PO No.:	S086
Atlantic Project No.:	2061-03-02
META No.:	A01031
META SDG:	AT960906

Dear Mr. Georgetti:

This package contains the analytical results from solid and aqueous samples received by META Environmental, Inc. from the Atlantic Environmental Services Tidewater MGP Investigation on 6 September 1996.

### Methods

Two grams of solid or 35 mL of aqueous sample were prepared by Micro-Solvent Extraction (MSE) using methylene chloride. The extracts were dried with sodium sulfate and concentrated by Kuderna-Danish concentrators to 1 mL. The final extracts were analyzed for monocyclic aromatic hydrocarbons (MAHs) and polycyclic aromatic hydrocarbons (PAHs) using GC/FID.

### Results

The analytical results follow this cover letter. The result pages reflect the method detection limit as "Detection Limit". Target analytes flagged with a "J" were estimated because the concentration fell below the lowest calibration standard. Target analytes flagged with a "B" were detected in the blank. Professional judgement must be used to evaluate the validity of these hits. In general, a "B"-flagged analyte is considered valid if its concentration exceeds five times the concentration of the blank. Target analytes flagged with an "E" were estimated because the concentration exceeded the highest calibration standard. The "E"-flagged analytes were deemed accurate, because the concentration fell well within the linear range of the detector. Quality control compounds flagged with an "I" indicate the presence of significant interferences which bias positively the percent recovery. Analytes flagged with an "N" were not requested by the client.

Please contact me if you have any questions.

Sincerely,

  
Stephen Emsbo-Mattingly  
Laboratory Director

## ANALYTICAL RESULTS

### Monocyclic Aromatic Hydrocarbons (MAH) and Polycyclic Aromatic Hydrocarbons (PAH)

Client: Atlantic Project: Tidewater

Concentrations in ppm  
(mg/kg-dry weight or mg/L)

Lab ID Field ID:	AT960906-1 MW-3	AT960906-2 MW-M + E1	AT960906-3 MW-7
<b>MAHs:</b>			
Benzene	0.01 J	0.01 U	0.02 U
Toluene	0.01 U	0.01 U	0.02 U
Ethylbenzene	0.01 U	0.01 U	0.02 U
m/p-Xylene	0.01 U	0.01 U	0.02 U
Styrene	0.01 U	0.01 U	0.02 U
o-Xylene	0.01 U	0.01 U	0.02 U
1,2,4-Trimethylbenzene	0.01 J	0.01 U	0.02 U
<b>Total MAHs:</b>	<b>0.01</b>	<b>ND</b>	<b>ND</b>
<b>PAHs:</b>			
Naphthalene	0.01 J	0.01 U	0.02 U
2-Methylnaphthalene	0.01 U	0.01 U	0.02 U
1-Methylnaphthalene	0.02	0.01 U	0.02 U
Acenaphthylene	0.02	0.01 U	0.02 U
Acenaphthene	0.01 J	0.01 U	0.02 U
Dibenzofuran	0.01 U	0.01 U	0.02 U
Fluorene	0.01 U	0.01 U	0.02 U
Phenanthrene	0.01 U	0.01 U	0.02 U
Anthracene	0.01 J	0.01 U	0.02 U
Fluoranthene	0.01 U	0.01 U	0.02 U
Pyrene	0.01 U	0.01 U	0.02 U
Benz(a)anthracene	0.01 U	0.01 U	0.02 U
Chrysene	0.01 U	0.01 U	0.02 U
Benzo(b)fluoranthene	0.01 U	0.01 U	0.02 U
Benzo(k)fluoranthene	0.01 U	0.01 U	0.02 U
Benzo(a)pyrene	0.01 U	0.01 U	0.02 U
Indeno(1,2,3-cd)pyrene	0.01 U	0.01 U	0.02 U
Dibenz(a,h)anthracene	0.01 U	0.01 U	0.02 U
Benzo(g,h,i)perylene	0.01 U	0.01 U	0.02 U
<b>Total PAHs:</b>	<b>0.07</b>	<b>ND</b>	<b>ND</b>
Surrogate #1 %Recovery	94	100	97
Surrogate #2 %Recovery	110	108	109
Detection Limit	0.01	0.01	0.01
Percent Solids	Not Applicable	Not Applicable	Not Applicable

E = Estimated value, above calibration range

I = Interference

J = Estimated value

L = Coeluted with compound listed above

N = Not requested by the client

ND = Not detected

U = Not detected at quantitation limit shown

Total MAHs does not include 1,2,4-Trimethylbenzene.

Total PAHs does not include Dibenzofuran.

## ANALYTICAL RESULTS

### Monocyclic Aromatic Hydrocarbons (MAH) and Polycyclic Aromatic Hydrocarbons (PAH)

Client: Atlantic Project: Tidewater

Concentrations in ppm

(mg/kg-dry weight or mg/L)

Lab ID	AT960906-4	AT960906-5	AT960906-6	
Field ID:	MW-4	MW-8	MW-6	
<b>MAHs:</b>				
Benzene	0.05	0.05	0.02	
Toluene	0.04	0.04	0.02	U
Ethylbenzene	0.02	0.04	0.03	
m/p-Xylene	0.07	0.05	0.02	U
Styrene	0.02	0.01	0.02	U
o-Xylene	0.05	0.04	0.02	
1,2,4-Trimethylbenzene	0.25	0.09	0.01	J
<b>Total MAHs:</b>	<b>0.25</b>	<b>0.20</b>	<b>0.07</b>	
<b>PAHs:</b>				
Naphthalene	0.32	0.45	0.02	U
2-Methylnaphthalene	1.83	0.65	0.04	
1-Methylnaphthalene	0.83	0.32	0.01	J
Acenaphthylene	1.09	0.32	0.13	
Acenaphthene	1.85	0.62	0.04	
Dibenzofuran	0.25	0.09	0.04	
Fluorene	0.45	0.15	0.03	
Phenanthrene	0.51	0.15	0.04	
Anthracene	0.58	0.18	0.02	U
Fluoranthene	1.20	0.38	0.02	U
Pyrene	1.62	0.51	0.01	J
Benz(a)anthracene	0.64	0.20	0.06	
Chrysene	0.63	0.24	0.02	U
Benzo(b)fluoranthene	0.21	0.10	0.02	U
Benzo(k)fluoranthene	0.30	0.04	0.02	U
Benzo(a)pyrene	0.43	0.14	0.02	U
Indeno(1,2,3-cd)pyrene	0.21	0.01	0.02	U
Dibenz(a,h)anthracene	0.08	0.01	0.02	U
Benzo(g,h,i)perylene	0.31	0.01	0.02	U
<b>Total PAHs:</b>	<b>13.1</b>	<b>4.44</b>	<b>0.34</b>	
Surrogate #1 %Recovery	114	110	111	
Surrogate #2 %Recovery	I	I	117	
Detection Limit	0.01	0.01	0.01	
Percent Solids	Not Applicable	Not Applicable	Not Applicable	

E = Estimated value, above calibration range

I = Interference

J = Estimated value

L = Coeluted with compound listed above

N = Not requested by the client

ND = Not detected

U = Not detected at quantitation limit shown

Total MAHs does not include 1,2,4-Trimethylbenzene.

Total PAHs does not include Dibenzofuran.



## ANALYTICAL RESULTS

### Monocyclic Aromatic Hydrocarbons (MAH) and Polycyclic Aromatic Hydrocarbons (PAH)

Client: Atlantic Project: Tidewater

Concentrations in ppm  
(mg/kg-dry weight or mg/L)

Lab ID	AT960906-7	AT960906-8	AT960906-9
Field ID:	MW-1	TRIP	ER-7
<b>MAHs:</b>			
Benzene	0.09	0.02 U	0.02 U
Toluene	0.16	0.02 U	0.02 U
Ethylbenzene	0.03	0.02 U	0.02 U
m/p-Xylene	0.25	0.02 U	0.02 U
Styrene	0.01 U	0.02 U	0.02 U
o-Xylene	0.15	0.02 U	0.02 U
1,2,4-Trimethylbenzene	0.14	0.02 U	0.02 U
<b>Total MAHs:</b>	<b>0.68</b>	<b>ND</b>	<b>ND</b>
<b>PAHs:</b>			
Naphthalene	3.72	0.02 U	0.02 U
2-Methylnaphthalene	0.37	0.02 U	0.02 U
1-Methylnaphthalene	0.23	0.02 U	0.02 U
Acenaphthylene	0.23	0.02 U	0.02 U
Acenaphthene	0.06	0.02 U	0.02 U
Dibenzofuran	0.15	0.02 U	0.02 U
Fluorene	0.11	0.02 U	0.02 U
Phenanthrene	0.13	0.02 U	0.02 U
Anthracene	0.08	0.02 U	0.02 U
Fluoranthene	0.05	0.02 U	0.02 U
Pyrene	0.30	0.02 U	0.02 U
Benz(a)anthracene	0.02	0.02 U	0.02 U
Chrysene	0.01 U	0.02 U	0.02 U
Benzo(b)fluoranthene	0.01 U	0.02 U	0.02 U
Benzo(k)fluoranthene	0.01 U	0.02 U	0.02 U
Benzo(a)pyrene	0.01 J	0.02 U	0.02 U
Indeno(1,2,3-cd)pyrene	0.01 J	0.02 U	0.02 U
Dibenz(a,h)anthracene	0.01 U	0.02 U	0.02 U
Benzo(g,h,i)perylene	0.01 U	0.02 U	0.02 U
<b>Total PAHs:</b>	<b>5.32</b>	<b>ND</b>	<b>ND</b>
Surrogate #1 %Recovery	110	104	104
Surrogate #2 %Recovery	116	108	109
Detection Limit	0.01	0.01	0.01
Percent Solids	Not Applicable	Not Applicable	Not Applicable

E = Estimated value, above calibration range

I = Interference

J = Estimated value

L = Coeluted with compound listed above

N = Not requested by the client

ND = Not detected

U = Not detected at quantitation limit shown

Total MAHs does not include 1,2,4-Trimethylbenzene.

Total PAHs does not include Dibenzofuran.

## ANALYTICAL RESULTS

### Monocyclic Aromatic Hydrocarbons (MAH) and Polycyclic Aromatic Hydrocarbons (PAH)

Client: Atlantic Project: Tidewater

Concentrations in ppm

(mg/kg-dry weight or mg/L)

Lab ID	AT960909-AB	
Field ID:	Water Blank	
<b>MAHs:</b>		
Benzene	0.01	U
Toluene	0.01	U
Ethylbenzene	0.01	U
m/p-Xylene	0.01	U
Styrene	0.01	U
o-Xylene	0.01	U
1,2,4-Trimethylbenzene	0.01	U
<b>Total MAHs:</b>	<b>ND</b>	
<b>PAHs:</b>		
Naphthalene	0.01	U
2-Methylnaphthalene	0.01	U
1-Methylnaphthalene	0.01	U
Acenaphthylene	0.01	U
Acenaphthene	0.01	U
Dibenzofuran	0.01	U
Fluorene	0.01	U
Phenanthrene	0.01	U
Anthracene	0.01	U
Fluoranthene	0.01	U
Pyrene	0.01	U
Benz(a)anthracene	0.01	U
Chrysene	0.01	U
Benzo(b)fluoranthene	0.01	U
Benzo(k)fluoranthene	0.01	U
Benzo(a)pyrene	0.01	U
Indeno(1,2,3-cd)pyrene	0.01	U
Dibenz(a,h)anthracene	0.01	U
Benzo(g,h,i)perylene	0.01	U
<b>Total PAHs:</b>	<b>ND</b>	
Surrogate #1 %Recovery	84	
Surrogate #2 %Recovery	114	
Detection Limit	0.01	
Percent Solids	Not Applicable	

E = Estimated value, above calibration range

I = Interference

J = Estimated value

L = Coeluted with compound listed above

N = Not requested by the client

ND = Not detected

U = Not detected at quantitation limit shown

Total MAHs does not include 1,2,4-Trimethylbenzene.

Total PAHs does not include Dibenzofuran.



COMPANY ATLANTIC ENVIRONMENTAL  
 ADDRESS 188 NORWICH AVE COLCHESTER, CT 06415  
 PHONE (860) 537-0751

SAMPLED BY P. Geomert  
 (Print Name)  
P. Geomert  
 Signature  
 (Print Name)  
P. Geomert  
 Signature  
 (Print Name)  
P. Geomert  
 Signature

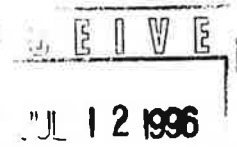
SAMPLE NO.	DATE	TIME	SAMPLE LOCATION	CONTAINER		GRAB	COMP	NO OF CONTAINERS	SAMPLE MATRIX	PRESERVATIVE	ANALYSES	
				SIZE	GP							COMMENTS
MW-3	9-4-96		2-V0A			✓		2	WAT		X	AT960906-01aL
MW-MTE1											X	-02ab
MW-7											X	-03ab
MW-4											X	-04ab
MW-8											X	-05ab
MW-6											X	-06ab
MW-1											X	-07ab
TRIP											X	-08ab
BN-7											X	-09ab
Relinquished by <u>[Signature]</u> Date/Time <u>9/5/96 8:30 am</u> Relinquished by _____ Date/Time _____ Relinquished by _____ Date/Time _____ Relinquished by _____ Date/Time <u>9/6/96 9:40 am</u> Received for Laboratory by <u>Sarah C. Wally</u> Method of Shipment _____ Remarks: <u>11.3°C UPON RECEIPT</u> <u>ALL SAMPLES INTACT</u>												





**Laboratory Resources, Inc.**  
New England Division

Route 205 - Regional Building  
Brooklyn, CT 06234  
Telephone: 203-774-6814 Fax: 203-774-2689



**ANALYTICAL DATA REPORT**

Report Number: E607065  
Project: Tidewater Former MGP

prepared for:

Atlantic Environmental  
188 Norwich Ave.  
P.O. Box 297  
Colchester, CT 06415

Attn: Jeff Wilson

Receive Date: 07/03/96  
Report Date: 07/11/96

T.F. McCommas  
Laboratory Director

Connecticut Department of Health Services PH-0465  
Maine Department of Environmental Protection TBD  
Massachusetts Department of Environmental Quality CT008  
New Hampshire Department of Environmental Services 2020  
New York Department of Health 11549  
Rhode Island Department of Health A44 0022

# GENERAL CHEMISTRY ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
Division: New England  
LRI Report No: E607065  
LRI Sample No: 1

Customer: Atlantic Environmental Eng  
Location: Pawtucket, RI  
Project: Tidewater Former MGP  
Sample Description: SS-10

Date Collected: 07/02/96  
Date Received: 07/03/96

Matrix: Soil  
Percent Moisture: 6.4%  
Units in Dry Weight

<u>Parameter</u>	<u>Result</u>	<u>QL</u>	<u>Units</u>	<u>Started</u> <u>Date</u>	<u>By</u>	<u>Completed</u> <u>Date</u>	<u>By</u>	<u>Dilution</u>
Cyanide, Total, by SW-846 9010								
Cyanide	1.0 U	1.0	mg/kg	07/05/96	EB	07/08/96	EB	

# METALS ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
 Division: New England  
 LRI Order No: E607065  
 LRI Sample No: 1

Client: Atlantic Environmental Eng  
 Location: Pawtucket, RI  
 Project: Tidewater Former MGP  
 Sample Description: SS-10

Date Collected: 07/02/96  
 Date Received: 07/03/96

Matrix: Soil  
 Percent Moisture: 6.4%

Parameter	Result	QL	Units	Started		Completed		Dilution
				Date	By	Date	By	
<u>Arsenic by Furnace by SW-846 7060</u>								
Arsenic	3.7	0.18	mg/kg	07/03/96	KH	07/08/96	MM	
<u>Mercury by Cold Vapor by SW-846 7471</u>								
Mercury	0.098U	0.098	mg/kg	07/08/96	KH	07/09/96	KH	
<u>Metals by ICP by SW-846 6010A</u>								
Beryllium	0.37	0.18	mg/kg	07/03/96	KH	07/05/96	BS	
Chromium	8.3	2.3	mg/kg	07/03/96	KH	07/05/96	BS	
Copper	17	2.3	mg/kg	07/03/96	KH	07/05/96	BS	
Nickel	8.4	2.3	mg/kg	07/03/96	KH	07/05/96	BS	
Silver	1.8U	1.8	mg/kg	07/03/96	KH	07/05/96	BS	
Zinc	61	0.92	mg/kg	07/03/96	KH	07/05/96	BS	
Barium	47	0.92	mg/kg	07/03/96	KH	07/05/96	BS	
Antimony	9.2U	9.2	mg/kg	07/03/96	KH	07/05/96	BS	
Lead	130	4.6	mg/kg	07/03/96	KH	07/05/96	BS	
Selenium	9.2U	9.2	mg/kg	07/03/96	KH	07/05/96	BS	
Cadmium	0.92U	0.92	mg/kg	07/03/96	KH	07/05/96	BS	
<u>Thallium by Furnace by SW-846 7841</u>								
Thallium	0.18U	0.18	mg/kg	07/03/96	KH	07/08/96	MM	

# GENERAL CHEMISTRY ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
Division: New England  
LRI Report No: E607065  
LRI Sample No: 2

Customer: Atlantic Environmental Eng  
Location: Pawtucket, RI  
Project: Tidewater Former MGP  
Sample Description: SS-9

Date Collected: 07/02/96  
Date Received: 07/03/96

Matrix: Soil  
Percent Moisture: 5.2%  
Units in Dry Weight

<u>Parameter</u>	<u>Result</u>	<u>QL</u>	<u>Units</u>	<u>Started</u> <u>Date</u>	<u>By</u>	<u>Completed</u> <u>Date</u>	<u>By</u>	<u>Dilution</u>
<u>Cyanide, Total, by SW-846 9010</u>								
Cyanide	0.98 U	0.98	mg/kg	07/05/96	EB	07/08/96	EB	



# METALS ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
 Division: New England  
 LRI Order No: E607065  
 LRI Sample No: 2

Client: Atlantic Environmental Eng  
 Location: Pawtucket, RI  
 Project: Tidewater Former MGP  
 Sample Description: SS-9

Date Collected: 07/02/96  
 Date Received: 07/03/96

Matrix: Soil  
 Percent Moisture: 5.2%



Parameter	Result	QL	Units	Started		Completed		Dilution
				Date	By	Date	By	
<u>Arsenic by Furnace by SW-846 7060</u>								
Arsenic	5.7	0.19	mg/kg	07/03/96	KH	07/08/96	MM	
<u>Mercury by Cold Vapor by SW-846 7471</u>								
Mercury	0.090U	0.090	mg/kg	07/08/96	KH	07/09/96	KH	
<u>Metals by ICP by SW-846 6010A</u>								
Beryllium	0.43	0.19	mg/kg	07/03/96	KH	07/05/96	BS	
Chromium	12	2.3	mg/kg	07/03/96	KH	07/05/96	BS	
Copper	16	2.3	mg/kg	07/03/96	KH	07/05/96	BS	
Nickel	8.7	2.3	mg/kg	07/03/96	KH	07/05/96	BS	
Silver	1.9U	1.9	mg/kg	07/03/96	KH	07/05/96	BS	
Zinc	35	0.93	mg/kg	07/03/96	KH	07/05/96	BS	
Barium	35	0.93	mg/kg	07/03/96	KH	07/05/96	BS	
Antimony	9.3U	9.3	mg/kg	07/03/96	KH	07/05/96	BS	
Lead	90	4.7	mg/kg	07/03/96	KH	07/05/96	BS	
Selenium	9.3U	9.3	mg/kg	07/03/96	KH	07/05/96	BS	
Cadmium	0.93U	0.93	mg/kg	07/03/96	KH	07/05/96	BS	
<u>Thallium by Furnace by SW-846 7841</u>								
Thallium	0.19U	0.19	mg/kg	07/03/96	KH	07/08/96	MM	

# GENERAL CHEMISTRY ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
Division: New England  
LRI Report No: E607065  
LRI Sample No: 3

Customer: Atlantic Environmental Eng  
Location: Pawtucket, RI  
Project: Tidewater Former MGP  
Sample Description: SS-14

Date Collected: 07/02/96  
Date Received: 07/03/96

Matrix: Soil  
Percent Moisture: 9.4%  
Units in Dry Weight

<u>Parameter</u>	<u>Result</u>	<u>QL</u>	<u>Units</u>	<u>Started</u> <u>Date</u>	<u>By</u>	<u>Completed</u> <u>Date</u>	<u>By</u>	<u>Dilution</u>
Cyanide, Total, by SW-846 9010								
Cyanide	0.90 U	0.90	mg/kg	07/05/96	EB	07/08/96	EB	

# METALS ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
 Division: New England  
 LRI Order No: E607065  
 LRI Sample No: 3

Client: Atlantic Environmental Eng  
 Location: Pawtucket, RI  
 Project: Tidewater Former MGP  
 Sample Description: SS-14

Date Collected: 07/02/96  
 Date Received: 07/03/96

Matrix: Soil  
 Percent Moisture: 9.4%

Parameter	Result	QL	Units	Started		Completed		Dilution
				Date	By	Date	By	
<u>Arsenic by Furnace by SW-846 7060</u>								
Arsenic	3.2	0.19	mg/kg	07/03/96	KH	07/08/96	MM	
<u>Mercury by Cold Vapor by SW-846 7471</u>								
Mercury	0.10U	0.10	mg/kg	07/08/96	KH	07/09/96	KH	
<u>Metals by ICP by SW-846 6010A</u>								
Beryllium	0.33	0.19	mg/kg	07/03/96	KH	07/05/96	BS	
Chromium	11	2.4	mg/kg	07/03/96	KH	07/05/96	BS	
Copper	9.9	2.4	mg/kg	07/03/96	KH	07/05/96	BS	
Nickel	11	2.4	mg/kg	07/03/96	KH	07/05/96	BS	
Silver	1.9U	1.9	mg/kg	07/03/96	KH	07/05/96	BS	
Zinc	32	0.97	mg/kg	07/03/96	KH	07/05/96	BS	
Barium	28	0.97	mg/kg	07/03/96	KH	07/05/96	BS	
Antimony	9.7U	9.7	mg/kg	07/03/96	KH	07/05/96	BS	
Lead	35	4.9	mg/kg	07/03/96	KH	07/05/96	BS	
Selenium	9.7U	9.7	mg/kg	07/03/96	KH	07/05/96	BS	
Cadmium	0.97U	0.97	mg/kg	07/03/96	KH	07/05/96	BS	
<u>Thallium by Furnace by SW-846 7841</u>								
Thallium	0.19U	0.19	mg/kg	07/03/96	KH	07/08/96	MM	

# GENERAL CHEMISTRY ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
Division: New England  
LRI Report No: E607065  
LRI Sample No: 4

Customer: Atlantic Environmental Eng  
Location: Pawtucket, RI  
Project: Tidewater Former MGP  
Sample Description: SS-13

Date Collected: 07/02/96  
Date Received: 07/03/96

Matrix: Soil  
Percent Moisture: 2.7%  
Units in Dry Weight

<u>Parameter</u>	<u>Result</u>	<u>QL</u>	<u>Units</u>	<u>Started</u> <u>Date</u>	<u>By</u>	<u>Completed</u> <u>Date</u>	<u>By</u>	<u>Dilution</u>
<u>Cyanide, Total, by SW-846 9010</u>								
Cyanide	0.67 U	0.67	mg/kg	07/05/96	EB	07/08/96	EB	

# METALS ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
 Division: New England  
 LRI Order No: E607065  
 LRI Sample No: 4

Client: Atlantic Environmental Eng  
 Location: Pawtucket, RI  
 Project: Tidewater Former MGP  
 Sample Description: SS-13

Date Collected: 07/02/96  
 Date Received: 07/03/96

Matrix: Soil  
 Percent Moisture: 2.7%

Parameter	Result	QL	Units	Started		Completed		Dilution
				Date	By	Date	By	
<u>Arsenic by Furnace by SW-846 7060</u>								
Arsenic	3.7	0.18	mg/kg	07/03/96	KH	07/08/96	MM	
<u>Mercury by Cold Vapor by SW-846 7471</u>								
Mercury	0.086 U	0.086	mg/kg	07/08/96	KH	07/09/96	KH	
<u>Metals by ICP by SW-846 6010A</u>								
Beryllium	0.43	0.18	mg/kg	07/03/96	KH	07/05/96	BS	
Chromium	12	2.2	mg/kg	07/03/96	KH	07/05/96	BS	
Copper	13	2.2	mg/kg	07/03/96	KH	07/05/96	BS	
Nickel	11	2.2	mg/kg	07/03/96	KH	07/05/96	BS	
Silver	1.8 U	1.8	mg/kg	07/03/96	KH	07/05/96	BS	
Zinc	79	0.91	mg/kg	07/03/96	KH	07/05/96	BS	
Barium	33	0.91	mg/kg	07/03/96	KH	07/05/96	BS	
Antimony	9.1 U	9.1	mg/kg	07/03/96	KH	07/05/96	BS	
Lead	38	4.5	mg/kg	07/03/96	KH	07/05/96	BS	
Selenium	9.1 U	9.1	mg/kg	07/03/96	KH	07/05/96	BS	
Cadmium	0.91 U	0.91	mg/kg	07/03/96	KH	07/05/96	BS	
<u>Thallium by Furnace by SW-846 7841</u>								
Thallium	0.18 U	0.18	mg/kg	07/03/96	KH	07/08/96	MM	

# GENERAL CHEMISTRY ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
Division: New England  
LRI Report No: E607065  
LRI Sample No: 5

Customer: Atlantic Environmental Eng  
Location: Pawtucket, RI  
Project: Tidewater Former MGP  
Sample Description: SS-12

Date Collected: 07/02/96  
Date Received: 07/03/96

Matrix: Soil  
Percent Moisture: 2.8%  
Units in Dry Weight

<u>Parameter</u>	<u>Result</u>	<u>QL</u>	<u>Units</u>	<u>Started</u> <u>Date</u>	<u>By</u>	<u>Completed</u> <u>Date</u>	<u>By</u>	<u>Dilution</u>
<u>Cyanide, Total, by SW-846 9010</u>								
Cyanide	0.66 U	0.66	mg/kg	07/05/96	EB	07/08/96	EB	

# METALS ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
 Division: New England  
 LRI Order No: E607065  
 LRI Sample No: 5

Client: Atlantic Environmental Eng  
 Location: Pawtucket, RI  
 Project: Tidewater Former MGP  
 Sample Description: SS-12

Date Collected: 07/02/96  
 Date Received: 07/03/96

Matrix: Soil  
 Percent Moisture: 2.8%

Parameter	Result	QL	Units	Started		Completed		Dilution
				Date	By	Date	By	
<u>Arsenic by Furnace by SW-846 7060</u>								
Arsenic	4.6	0.19	mg/kg	07/03/96	KH	07/08/96	MM	
<u>Mercury by Cold Vapor by SW-846 7471</u>								
Mercury	0.091 U	0.091	mg/kg	07/08/96	KH	07/09/96	KH	
<u>Metals by ICP by SW-846 6010A</u>								
Beryllium	0.48	0.19	mg/kg	07/03/96	KH	07/05/96	BS	
Chromium	13	2.3	mg/kg	07/03/96	KH	07/05/96	BS	
Copper	18	2.3	mg/kg	07/03/96	KH	07/05/96	BS	
Nickel	11	2.3	mg/kg	07/03/96	KH	07/05/96	BS	
Silver	1.9 U	1.9	mg/kg	07/03/96	KH	07/05/96	BS	
Zinc	46	0.93	mg/kg	07/03/96	KH	07/05/96	BS	
Barium	43	0.93	mg/kg	07/03/96	KH	07/05/96	BS	
Antimony	9.3 U	9.3	mg/kg	07/03/96	KH	07/05/96	BS	
Lead	100	4.6	mg/kg	07/03/96	KH	07/05/96	BS	
Selenium	9.3 U	9.3	mg/kg	07/03/96	KH	07/05/96	BS	
Cadmium	0.93 U	0.93	mg/kg	07/03/96	KH	07/05/96	BS	
<u>Thallium by Furnace by SW-846 7841</u>								
Thallium	0.19 U	0.19	mg/kg	07/03/96	KH	07/08/96	MM	

# GENERAL CHEMISTRY ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
Division: New England  
LRI Report No: E607065  
LRI Sample No: 6

Customer: Atlantic Environmental Eng  
Location: Pawtucket, RI  
Project: Tidewater Former MGP  
Sample Description: SS-11

Date Collected: 07/02/96  
Date Received: 07/03/96

Matrix: Soil  
Percent Moisture: 6.0%  
Units in Dry Weight

<u>Parameter</u>	<u>Result</u>	<u>QL</u>	<u>Units</u>	<u>Started</u> <u>Date</u>	<u>By</u>	<u>Completed</u> <u>Date</u>	<u>By</u>	<u>Dilution</u>
<u>Cyanide, Total, by SW-846 9010</u>								
Cyanide	0.88 U	0.88	mg/kg	07/05/96	EB	07/08/96	EB	



# METALS ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
 Division: New England  
 LRI Order No: E607065  
 LRI Sample No: 6

Client: Atlantic Environmental Eng  
 Location: Pawtucket, RI  
 Project: Tidewater Former MGP  
 Sample Description: SS-11

Date Collected: 07/02/96  
 Date Received: 07/03/96

Matrix: Soil  
 Percent Moisture: 6.0%

Parameter	Result	QL	Units	Started		Completed		Dilution
				Date	By	Date	By	
<u>Arsenic by Furnace by SW-846 7060</u>								
Arsenic	2.4	0.19	mg/kg	07/03/96	KH	07/08/96	MM	
<u>Mercury by Cold Vapor by SW-846 7471</u>								
Mercury	0.098 U	0.098	mg/kg	07/08/96	KH	07/09/96	KH	
<u>Metals by ICP by SW-846 6010A</u>								
Beryllium	0.35	0.19	mg/kg	07/03/96	KH	07/05/96	BS	
Chromium	8.0	2.3	mg/kg	07/03/96	KH	07/05/96	BS	
Copper	8.1	2.3	mg/kg	07/03/96	KH	07/05/96	BS	
Nickel	5.8	2.3	mg/kg	07/03/96	KH	07/05/96	BS	
Silver	1.9 U	1.9	mg/kg	07/03/96	KH	07/05/96	BS	
Zinc	32	0.94	mg/kg	07/03/96	KH	07/05/96	BS	
Barium	27	0.94	mg/kg	07/03/96	KH	07/05/96	BS	
Antimony	9.4 U	9.4	mg/kg	07/03/96	KH	07/05/96	BS	
Lead	75	4.7	mg/kg	07/03/96	KH	07/05/96	BS	
Selenium	9.4 U	9.4	mg/kg	07/03/96	KH	07/05/96	BS	
Cadmium	0.94 U	0.94	mg/kg	07/03/96	KH	07/05/96	BS	
<u>Thallium by Furnace by SW-846 7841</u>								
Thallium	0.19 U	0.19	mg/kg	07/03/96	KH	07/08/96	MM	

# GENERAL CHEMISTRY ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
Division: New England  
LRI Report No: E607065  
LRI Sample No: 7

Customer: Atlantic Environmental Eng  
Location: Pawtucket, RI  
Project: Tidewater Former MGP  
Sample Description: SS-1

Date Collected: 07/02/96  
Date Received: 07/03/96

Matrix: Soil  
Percent Moisture: 10.5%  
Units in Dry Weight

<u>Parameter</u>	<u>Result</u>	<u>QL</u>	<u>Units</u>	<u>Started</u> <u>Date</u>	<u>By</u>	<u>Completed</u> <u>Date</u>	<u>By</u>	<u>Dilution</u>
Cyanide, Total, by SW-846 9010								
Cyanide	1.1 U	1.1	mg/kg	07/05/96	EB	07/08/96	EB	

# METALS ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
 Division: New England  
 LRI Order No: E607065  
 LRI Sample No: 7

Client: Atlantic Environmental Eng  
 Location: Pawtucket, RI  
 Project: Tidewater Former MGP  
 Sample Description: SS-1

Date Collected: 07/02/96  
 Date Received: 07/03/96

Matrix: Soil  
 Percent Moisture: 10.5%

Parameter	Result	QL	Units	Started		Completed		Dilution
				Date	By	Date	By	
<u>Arsenic by Furnace by SW-846 7060</u>								
Arsenic	4.6	0.20	mg/kg	07/03/96	KH	07/08/96	MM	
<u>Mercury by Cold Vapor by SW-846 7471</u>								
Mercury	0.10U	0.10	mg/kg	07/08/96	KH	07/09/96	KH	
<u>Metals by ICP by SW-846 6010A</u>								
Beryllium	0.47	0.20	mg/kg	07/03/96	KH	07/05/96	BS	
Chromium	18	2.4	mg/kg	07/03/96	KH	07/05/96	BS	
Copper	17	2.4	mg/kg	07/03/96	KH	07/05/96	BS	
Nickel	13	2.4	mg/kg	07/03/96	KH	07/05/96	BS	
Silver	2.0U	2.0	mg/kg	07/03/96	KH	07/05/96	BS	
Zinc	42	0.99	mg/kg	07/03/96	KH	07/05/96	BS	
Barium	40	0.99	mg/kg	07/03/96	KH	07/05/96	BS	
Antimony	9.9U	9.9	mg/kg	07/03/96	KH	07/05/96	BS	
Lead	48	4.9	mg/kg	07/03/96	KH	07/05/96	BS	
Selenium	9.9U	9.9	mg/kg	07/03/96	KH	07/05/96	BS	
Cadmium	0.99U	0.99	mg/kg	07/03/96	KH	07/05/96	BS	
<u>Thallium by Furnace by SW-846 7841</u>								
Thallium	0.20U	0.20	mg/kg	07/03/96	KH	07/08/96	MM	

# GENERAL CHEMISTRY ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
Division: New England  
LRI Report No: E607065  
LRI Sample No: 8

Customer: Atlantic Environmental Eng  
Location: Pawtucket, RI  
Project: Tidewater Former MGP  
Sample Description: SS-2

Date Collected: 07/02/96  
Date Received: 07/03/96

Matrix: Soil  
Percent Moisture: 6.4%  
Units in Dry Weight

<u>Parameter</u>	<u>Result</u>	<u>QL</u>	<u>Units</u>	<u>Started</u> <u>Date</u>	<u>By</u>	<u>Completed</u> <u>Date</u>	<u>By</u>	<u>Dilution</u>
<u>Cyanide, Total, by SW-846 9010</u>								
Cyanide	0.90 U	0.90	mg/kg	07/05/96	EB	07/08/96	EB	

# METALS ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
 Division: New England  
 LRI Order No: E607065  
 LRI Sample No: 8

Client: Atlantic Environmental Eng  
 Location: Pawtucket, RI  
 Project: Tidewater Former MGP  
 Sample Description: SS-2

Date Collected: 07/02/96  
 Date Received: 07/03/96

Matrix: Soil  
 Percent Moisture: 6.4%

Parameter	Result	QL	Units	Started		Completed		Dilution
				Date	By	Date	By	
<u>Arsenic by Furnace by SW-846 7060</u>								
Arsenic	1.9	0.18	mg/kg	07/03/96	KH	07/08/96	MM	
<u>Mercury by Cold Vapor by SW-846 7471</u>								
Mercury	0.089 U	0.089	mg/kg	07/08/96	KH	07/09/96	KH	
<u>Metals by ICP by SW-846 6010A</u>								
Beryllium	0.45	0.18	mg/kg	07/03/96	KH	07/05/96	BS	
Chromium	30	2.2	mg/kg	07/03/96	KH	07/05/96	BS	
Copper	17	2.2	mg/kg	07/03/96	KH	07/05/96	BS	
Nickel	16	2.2	mg/kg	07/03/96	KH	07/05/96	BS	
Silver	1.8 U	1.8	mg/kg	07/03/96	KH	07/05/96	BS	
Zinc	68	0.89	mg/kg	07/03/96	KH	07/05/96	BS	
Barium	35	0.89	mg/kg	07/03/96	KH	07/05/96	BS	
Antimony	8.9 U	8.9	mg/kg	07/03/96	KH	07/05/96	BS	
Lead	65	4.5	mg/kg	07/03/96	KH	07/05/96	BS	
Selenium	8.9 U	8.9	mg/kg	07/03/96	KH	07/05/96	BS	
Cadmium	0.89 U	0.89	mg/kg	07/03/96	KH	07/05/96	BS	
<u>Thallium by Furnace by SW-846 7841</u>								
Thallium	0.18 U	0.18	mg/kg	07/03/96	KH	07/08/96	MM	

# GENERAL CHEMISTRY ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
Division: New England  
LRI Report No: E607065  
LRI Sample No: 9

Customer: Atlantic Environmental Eng  
Location: Pawtucket, RI  
Project: Tidewater Former MGP  
Sample Description: SS-3

Date Collected: 07/02/96  
Date Received: 07/03/96

Matrix: Soil  
Percent Moisture: 1.5%  
Units in Dry Weight

<u>Parameter</u>	<u>Result</u>	<u>QL</u>	<u>Units</u>	<u>Started</u> <u>Date</u>	<u>By</u>	<u>Completed</u> <u>Date</u>	<u>By</u>	<u>Dilution</u>
<u>Cyanide, Total, by SW-846 9010</u>								
Cyanide	1.4	0.81	mg/kg	07/05/96	EB	07/08/96	EB	

# METALS ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
 Division: New England  
 LRI Order No: E607065  
 LRI Sample No: 9

Client: Atlantic Environmental Eng  
 Location: Pawtucket, RI  
 Project: Tidewater Former MGP  
 Sample Description: SS-3

Date Collected: 07/02/96  
 Date Received: 07/03/96

Matrix: Soil  
 Percent Moisture: 1.5%

Parameter	Result	QL	Units	Started		Completed		Dilution
				Date	By	Date	By	
<u>Arsenic by Furnace by SW-846 7060</u>								
Arsenic	2.6	0.18	mg/kg	07/03/96	KH	07/08/96	MM	
<u>Mercury by Cold Vapor by SW-846 7471</u>								
Mercury	0.092 U	0.092	mg/kg	07/08/96	KH	07/09/96	KH	
<u>Metals by ICP by SW-846 6010A</u>								
Beryllium	0.23	0.18	mg/kg	07/03/96	KH	07/05/96	BS	
Chromium	8.7	2.1	mg/kg	07/03/96	KH	07/05/96	BS	
Copper	9.1	2.1	mg/kg	07/03/96	KH	07/05/96	BS	
Nickel	7.5	2.1	mg/kg	07/03/96	KH	07/05/96	BS	
Silver	1.8 U	1.8	mg/kg	07/03/96	KH	07/05/96	BS	
Zinc	44	0.88	mg/kg	07/03/96	KH	07/05/96	BS	
Barium	24	0.88	mg/kg	07/03/96	KH	07/05/96	BS	
Antimony	8.8 U	8.8	mg/kg	07/03/96	KH	07/05/96	BS	
Lead	21	4.4	mg/kg	07/03/96	KH	07/05/96	BS	
Selenium	8.8 U	8.8	mg/kg	07/03/96	KH	07/05/96	BS	
Cadmium	0.88 U	0.88	mg/kg	07/03/96	KH	07/05/96	BS	
<u>Thallium by Furnace by SW-846 7841</u>								
Thallium	0.18 U	0.18	mg/kg	07/03/96	KH	07/08/96	MM	

# GENERAL CHEMISTRY ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
Division: New England  
LRI Report No: E607065  
LRI Sample No: 10

Customer: Atlantic Environmental Eng  
Location: Pawtucket, RI  
Project: Tidewater Former MGP  
Sample Description: SS-4

Date Collected: 07/02/96  
Date Received: 07/03/96

Matrix: Soil  
Percent Moisture: 2.9%  
Units in Dry Weight

<u>Parameter</u>	<u>Result</u>	<u>QL</u>	<u>Units</u>	<u>Started</u> <u>Date</u>	<u>By</u>	<u>Completed</u> <u>Date</u>	<u>By</u>	<u>Dilution</u>
<u>Cyanide, Total, by SW-846 9010</u>								
Cyanide	4.2	0.85	mg/kg	07/05/96	EB	07/08/96	EB	



# METALS ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
 Division: New England  
 LRI Order No: E607065  
 LRI Sample No: 10

Client: Atlantic Environmental Eng  
 Location: Pawtucket, RI  
 Project: Tidewater Former MGP  
 Sample Description: SS-4

Date Collected: 07/02/96  
 Date Received: 07/03/96

Matrix: Soil  
 Percent Moisture: 2.9%

Parameter	Result	QL	Units	Started		Completed		Dilution
				Date	By	Date	By	
<u>Arsenic by Furnace by SW-846 7060</u>								
Arsenic	3.3	0.19	mg/kg	07/03/96	KH	07/08/96	MM	
<u>Mercury by Cold Vapor by SW-846 7471</u>								
Mercury	0.091 U	0.091	mg/kg	07/08/96	KH	07/09/96	KH	
<u>Metals by ICP by SW-846 6010A</u>								
Beryllium	0.46	0.19	mg/kg	07/03/96	KH	07/05/96	BS	
Chromium	16	2.3	mg/kg	07/03/96	KH	07/05/96	BS	
Copper	21	2.3	mg/kg	07/03/96	KH	07/05/96	BS	
Nickel	12	2.3	mg/kg	07/03/96	KH	07/05/96	BS	
Silver	1.9 U	1.9	mg/kg	07/03/96	KH	07/05/96	BS	
Zinc	74	0.93	mg/kg	07/03/96	KH	07/05/96	BS	
Barium	36	0.93	mg/kg	07/03/96	KH	07/05/96	BS	
Antimony	9.3 U	9.3	mg/kg	07/03/96	KH	07/05/96	BS	
Lead	56	4.6	mg/kg	07/03/96	KH	07/05/96	BS	
Selenium	9.3 U	9.3	mg/kg	07/03/96	KH	07/05/96	BS	
Cadmium	0.93 U	0.93	mg/kg	07/03/96	KH	07/05/96	BS	
<u>Thallium by Furnace by SW-846 7841</u>								
Thallium	0.19 U	0.19	mg/kg	07/03/96	KH	07/08/96	MM	

# SEMIVOLATILE ORGANIC ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
 Division: New England  
 LRI Report No: E607065  
 LRI Sample No: 10

Customer: Atlantic Environmental Eng  
 Location: Pawtucket, RI  
 Project: Tidewater Former MGP  
 Sample Description: SS-4

Date Collected: 07/02/96  
 Date Received: 07/03/96  
 Date Extracted: 07/05/96 By: MB  
 Date Analyzed: 07/09/96 By: RAW

Matrix: Soil  
 Percent Moisture: 2.9%  
 pH:  
 Sample Weight/Volume: 30.02 g  
 Extract Volume: 1  
 Injection Volume:  
 Dilution Factor:  
 Lab Data File: E01516

Method: 8270  
 Level: LOW  
 GC Column:  
 Units: ug/kg (Dry Weight)

CAS No.	Parameter	Result	Qual	QL
83-32-9	Acenaphthene	170	U	170
208-96-8	Acenaphthylene	810		170
120-12-7	Anthracene	520		170
56-55-3	Benzo[a]anthracene	2900		170
50-32-8	Benzo[a]pyrene	1900		85
205-99-2	Benzo[b]fluoranthene	2600		170
191-24-2	Benzo[g,h,i]perylene	1500		170
207-08-9	Benzo[k]fluoranthene	730		170
218-01-9	Chrysene	2200		85
53-70-3	Dibenzo[a,h]anthracene	160		85
206-44-0	Fluoranthene	2900		170
86-73-7	Fluorene	200		170
193-39-5	Indeno[1,2,3-cd]pyrene	1200		170
91-20-3	Naphthalene	170	U	170
85-01-8	Phenanthrene	2100		170
129-00-0	Pyrene	4000		170

# GENERAL CHEMISTRY ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
Division: New England  
LRI Report No: E607065  
LRI Sample No: 11

Customer: Atlantic Environmental Eng  
Location: Pawtucket, RI  
Project: Tidewater Former MGP  
Sample Description: SS-50

Date Collected: 07/02/96  
Date Received: 07/03/96

Matrix: Soil  
Percent Moisture: 2.4%  
Units in Dry Weight

Parameter	Result	QL	Units	Started		Completed		Dilution
				Date	By	Date	By	
<u>Cyanide, Total, by SW-846 9010</u>								
Cyanide	0.69 U	0.69	mg/kg	07/08/96	EB	07/08/96	EB	

# METALS ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
 Division: New England  
 LRI Order No: E607065  
 LRI Sample No: 11

Client: Atlantic Environmental Eng  
 Location: Pawtucket, RI  
 Project: Tidewater Former MGP  
 Sample Description: SS-50

Date Collected: 07/02/96  
 Date Received: 07/03/96

Matrix: Soil  
 Percent Moisture: 2.4%

Parameter	Result	QL	Units	Started		Completed		Dilution
				Date	By	Date	By	
<u>Arsenic by Furnace by SW-846 7060</u>								
Arsenic	3.3	0.18	mg/kg	07/03/96	KH	07/08/96	MM	
<u>Mercury by Cold Vapor by SW-846 7471</u>								
Mercury	0.089U	0.089	mg/kg	07/08/96	KH	07/09/96	KH	
<u>Metals by ICP by SW-846 6010A</u>								
Beryllium	0.47	0.18	mg/kg	07/03/96	KH	07/05/96	BS	
Chromium	16	2.3	mg/kg	07/03/96	KH	07/05/96	BS	
Copper	23	2.3	mg/kg	07/03/96	KH	07/05/96	BS	
Nickel	13	2.3	mg/kg	07/03/96	KH	07/05/96	BS	
Silver	1.8U	1.8	mg/kg	07/03/96	KH	07/05/96	BS	
Zinc	75	0.92	mg/kg	07/03/96	KH	07/05/96	BS	
Barium	44	0.92	mg/kg	07/03/96	KH	07/05/96	BS	
Antimony	9.2U	9.2	mg/kg	07/03/96	KH	07/05/96	BS	
Lead	69	4.6	mg/kg	07/03/96	KH	07/05/96	BS	
Selenium	9.2U	9.2	mg/kg	07/03/96	KH	07/05/96	BS	
Cadmium	0.92U	0.92	mg/kg	07/03/96	KH	07/05/96	BS	
<u>Thallium by Furnace by SW-846 7841</u>								
Thallium	0.18U	0.18	mg/kg	07/03/96	KH	07/08/96	MM	

# SEMIVOLATILE ORGANIC ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
 Division: New England  
 LRI Report No: E607065  
 LRI Sample No: 11

Customer: Atlantic Environmental Eng  
 Location: Pawtucket, RI  
 Project: Tidewater Former MGP  
 Sample Description: SS-50

Date Collected: 07/02/96  
 Date Received: 07/03/96  
 Date Extracted: 07/05/96 By: MB  
 Date Analyzed: 07/10/96 By: RAW

Matrix: Soil  
 Percent Moisture: 2.4%  
 pH:  
 Sample Weight/Volume: 30.08 g  
 Extract Volume: 1  
 Injection Volume:  
 Dilution Factor:  
 Lab Data File: E01521

Method: 8270  
 Level: LOW  
 GC Column:  
 Units: ug/kg ( Dry Weight )

CAS No.	Parameter	Result	Qual	QL
83-32-9	Acenaphthene	170	U	170
208-96-8	Acenaphthylene	640		170
120-12-7	Anthracene	540		170
56-55-3	Benzo[a]anthracene	1900		170
50-32-8	Benzo[a]pyrene	1300		85
205-99-2	Benzo[b]fluoranthene	1700		170
191-24-2	Benzo[g,h,i]perylene	920		170
207-08-9	Benzo[k]fluoranthene	850		170
218-01-9	Chrysene	2000		85
53-70-3	Dibenzo[a,h]anthracene	85	U	85
206-44-0	Fluoranthene	2600		170
86-73-7	Fluorene	180		170
193-39-5	Indeno[1,2,3-cd]pyrene	770		170
91-20-3	Naphthalene	170	U	170
85-01-8	Phenanthrene	1700		170
129-00-0	Pyrene	2600		170

# GENERAL CHEMISTRY ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
Division: New England  
LRI Report No: E607065  
LRI Sample No: 12

Customer: Atlantic Environmental Eng  
Location: Pawtucket, RI  
Project: Tidewater Former MGP  
Sample Description: SS-41

Date Collected: 07/03/96  
Date Received: 07/03/96

Matrix: Soil  
Percent Moisture: 10.8%  
Units in Dry Weight

<u>Parameter</u>	<u>Result</u>	<u>QL</u>	<u>Units</u>	<u>Started</u> <u>Date</u>	<u>By</u>	<u>Completed</u> <u>Date</u>	<u>By</u>	<u>Dilution</u>
<u>Cyanide, Total, by SW-846 9010</u>								
Cyanide	0.75 U	0.75	mg/kg	07/08/96	EB	07/08/96	EB	

# METALS ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
 Division: New England  
 LRI Order No: E607065  
 LRI Sample No: 12

Client: Atlantic Environmental Eng  
 Location: Pawtucket, RI  
 Project: Tidewater Former MGP  
 Sample Description: SS-41

Date Collected: 07/03/96  
 Date Received: 07/03/96

Matrix: Soil  
 Percent Moisture: 10.8%

Parameter	Result	QL	Units	Started		Completed		Dilution
				Date	By	Date	By	
<u>Arsenic by Furnace by SW-846 7060</u>								
Arsenic	3.0	0.20	mg/kg	07/03/96	KH	07/08/96	MM	
<u>Mercury by Cold Vapor by SW-846 7471</u>								
Mercury	0.099 U	0.099	mg/kg	07/08/96	KH	07/09/96	KH	
<u>Metals by ICP by SW-846 6010A</u>								
Beryllium	0.24	0.20	mg/kg	07/03/96	KH	07/05/96	BS	
Chromium	8.2	2.5	mg/kg	07/03/96	KH	07/05/96	BS	
Copper	11	2.5	mg/kg	07/03/96	KH	07/05/96	BS	
Nickel	8.1	2.5	mg/kg	07/03/96	KH	07/05/96	BS	
Silver	2.0 U	2.0	mg/kg	07/03/96	KH	07/05/96	BS	
Zinc	58	1.0	mg/kg	07/03/96	KH	07/05/96	BS	
Barium	24	1.0	mg/kg	07/03/96	KH	07/05/96	BS	
Antimony	10 U	10	mg/kg	07/03/96	KH	07/05/96	BS	
Lead	22	5.0	mg/kg	07/03/96	KH	07/05/96	BS	
Selenium	10 U	10	mg/kg	07/03/96	KH	07/05/96	BS	
Cadmium	1.0 U	1.0	mg/kg	07/03/96	KH	07/05/96	BS	
<u>Thallium by Furnace by SW-846 7841</u>								
Thallium	0.20 U	0.20	mg/kg	07/03/96	KH	07/08/96	MM	

# GENERAL CHEMISTRY ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
Division: New England  
LRI Report No: E607065  
LRI Sample No: 13

Customer: Atlantic Environmental Eng  
Location: Pawtucket, RI  
Project: Tidewater Former MGP  
Sample Description: SS-5

Date Collected: 07/03/96  
Date Received: 07/03/96

Matrix: Soil  
Percent Moisture: 3.8%  
Units in Dry Weight

<u>Parameter</u>	<u>Result</u>	<u>QL</u>	<u>Units</u>	<u>Started</u> <u>Date</u>	<u>By</u>	<u>Completed</u> <u>Date</u>	<u>By</u>	<u>Dilution</u>
Cyanide, Total, by SW-846 9010								
Cyanide	0.73 U	0.73	mg/kg	07/08/96	EB	07/08/96	EB	



# METALS ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
 Division: New England  
 LRI Order No: E607065  
 LRI Sample No: 13

Client: Atlantic Environmental Eng  
 Location: Pawtucket, RI  
 Project: Tidewater Former MGP  
 Sample Description: SS-5

Date Collected: 07/03/96  
 Date Received: 07/03/96

Matrix: Soil  
 Percent Moisture: 3.8%

Parameter	Result	QL	Units	Started		Completed		Dilution
				Date	By	Date	By	
<u>Arsenic by Furnace by SW-846 7060</u>								
Arsenic	2.4	0.19	mg/kg	07/03/96	KH	07/08/96	MM	
<u>Mercury by Cold Vapor by SW-846 7471</u>								
Mercury	0.096 U	0.096	mg/kg	07/08/96	KH	07/09/96	KH	
<u>Metals by ICP by SW-846 6010A</u>								
Beryllium	0.21	0.19	mg/kg	07/03/96	KH	07/05/96	BS	
Chromium	5.5	2.3	mg/kg	07/03/96	KH	07/05/96	BS	
Copper	6.7	2.3	mg/kg	07/03/96	KH	07/05/96	BS	
Nickel	7.8	2.3	mg/kg	07/03/96	KH	07/05/96	BS	
Silver	1.9 U	1.9	mg/kg	07/03/96	KH	07/05/96	BS	
Zinc	21	0.94	mg/kg	07/03/96	KH	07/05/96	BS	
Barium	11	0.94	mg/kg	07/03/96	KH	07/05/96	BS	
Antimony	9.4 U	9.4	mg/kg	07/03/96	KH	07/05/96	BS	
Lead	15	4.7	mg/kg	07/03/96	KH	07/05/96	BS	
Selenium	9.4 U	9.4	mg/kg	07/03/96	KH	07/05/96	BS	
Cadmium	0.94 U	0.94	mg/kg	07/03/96	KH	07/05/96	BS	
<u>Thallium by Furnace by SW-846 7841</u>								
Thallium	0.19 U	0.19	mg/kg	07/03/96	KH	07/08/96	MM	

# GENERAL CHEMISTRY ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
Division: New England  
LRI Report No: E607065  
LRI Sample No: 14

Customer: Atlantic Environmental Eng  
Location: Pawtucket, RI  
Project: Tidewater Former MGP  
Sample Description: SS-6

Date Collected: 07/03/96  
Date Received: 07/03/96

Matrix: Soil  
Percent Moisture: 6.8%  
Units in Dry Weight

<u>Parameter</u>	<u>Result</u>	<u>QL</u>	<u>Units</u>	<u>Started</u> <u>Date</u>	<u>By</u>	<u>Completed</u> <u>Date</u>	<u>By</u>	<u>Dilution</u>
<u>Cyanide, Total, by SW-846 9010</u>								
Cyanide	2.8	0.90	mg/kg	07/08/96	EB	07/08/96	EB	

# METALS ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
 Division: New England  
 LRI Order No: E607065  
 LRI Sample No: 14

Client: Atlantic Environmental Eng  
 Location: Pawtucket, RI  
 Project: Tidewater Former MGP  
 Sample Description: SS-6

Date Collected: 07/03/96  
 Date Received: 07/03/96

Matrix: Soil  
 Percent Moisture: 6.8%

Parameter	Result	QL	Units	Started		Completed		Dilution
				Date	By	Date	By	
<u>Arsenic by Furnace by SW-846 7060</u>								
Arsenic	12	0.39	mg/kg	07/03/96	KH	07/08/96	MM	2
<u>Mercury by Cold Vapor by SW-846 7471</u>								
Mercury	0.099 U	0.099	mg/kg	07/08/96	KH	07/09/96	KH	
<u>Metals by ICP by SW-846 6010A</u>								
Beryllium	0.65	0.19	mg/kg	07/03/96	KH	07/05/96	BS	
Chromium	13	2.4	mg/kg	07/03/96	KH	07/05/96	BS	
Copper	30	2.4	mg/kg	07/03/96	KH	07/05/96	BS	
Nickel	13	2.4	mg/kg	07/03/96	KH	07/05/96	BS	
Silver	1.9 U	1.9	mg/kg	07/03/96	KH	07/05/96	BS	
Zinc	37	0.97	mg/kg	07/03/96	KH	07/05/96	BS	
Barium	46	0.97	mg/kg	07/03/96	KH	07/05/96	BS	
Antimony	9.7 U	9.7	mg/kg	07/03/96	KH	07/05/96	BS	
Lead	100	4.8	mg/kg	07/03/96	KH	07/05/96	BS	
Selenium	9.7 U	9.7	mg/kg	07/03/96	KH	07/05/96	BS	
Cadmium	0.97 U	0.97	mg/kg	07/03/96	KH	07/05/96	BS	
<u>Thallium by Furnace by SW-846 7841</u>								
Thallium	0.19 U	0.19	mg/kg	07/03/96	KH	07/08/96	MM	

# SEMIVOLATILE ORGANIC ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
 Division: New England  
 LRI Report No: E607065  
 LRI Sample No: 14

Customer: Atlantic Environmental Eng  
 Location: Pawtucket, RI  
 Project: Tidewater Former MGP  
 Sample Description: SS-6

Date Collected: 07/03/96  
 Date Received: 07/03/96  
 Date Extracted: 07/05/96 By: MB  
 Date Analyzed: 07/09/96 By: RAW

Matrix: Soil  
 Percent Moisture: 6.8%  
 pH:  
 Sample Weight/Volume: 30.03 g  
 Extract Volume: 15  
 Injection Volume:  
 Dilution Factor: 3  
 Lab Data File: e01518

Method: 8270  
 Level: LOW  
 GC Column:  
 Units: ug/kg ( Dry Weight )

CAS No.	Parameter	Result	Qual	QL
83-32-9	Acenaphthene	8000	U	8000
208-96-8	Acenaphthylene	23000		8000
120-12-7	Anthracene	21000		8000
56-55-3	Benzo[a]anthracene	54000		8000
50-32-8	Benzo[a]pyrene	39000		4000
205-99-2	Benzo[b]fluoranthene	48000		8000
191-24-2	Benzo[g,h,i]perylene	22000		8000
207-08-9	Benzo[k]fluoranthene	21000		8000
218-01-9	Chrysene	57000		4000
53-70-3	Dibenzo[a,h]anthracene	4000	U	4000
206-44-0	Fluoranthene	94000		8000
86-73-7	Fluorene	8000	U	8000
193-39-5	Indeno[1,2,3-cd]pyrene	19000		8000
91-20-3	Naphthalene	8000	U	8000
85-01-8	Phenanthrene	83000		8000
129-00-0	Pyrene	100000		8000

# GENERAL CHEMISTRY ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
Division: New England  
LRI Report No: E607065  
LRI Sample No: 15

Customer: Atlantic Environmental Eng  
Location: Pawtucket, RI  
Project: Tidewater Former MGP  
Sample Description: ER-1

Date Collected: 07/03/96  
Date Received: 07/03/96

Matrix: Water  
Percent Moisture: N/A  
Units in Wet Weight

Parameter	Result	QL	Units	Started		Completed		Dilution
				Date	By	Date	By	
Cyanide, Total, by SW-846 9010								
Cyanide	0.020 U	0.020	mg/L	07/08/96	EB	07/08/96	EB	

# METALS ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
 Division: New England  
 LRI Order No: E607065  
 LRI Sample No: 15

Client: Atlantic Environmental Eng  
 Location: Pawtucket, RI  
 Project: Tidewater Former MGP  
 Sample Description: ER-1

Date Collected: 07/03/96  
 Date Received: 07/03/96

Matrix: Water  
 Percent Moisture: N/A

Parameter	Result	QL	Units	Started		Completed		Dilution
				Date	By	Date	By	
<u>Arsenic by Furnace by SW-846 7060</u>								
Arsenic	0.0020 U	0.0020	mg/L	07/05/96	BS	07/08/96	MM	
<u>Mercury by Cold Vapor by SW-846 7470</u>								
Mercury	0.00046 U	0.00046	mg/L	07/08/96	KH	07/09/96	KH	
<u>Metals by ICP by SW-846 6010A</u>								
Beryllium	0.0020 U	0.0020	mg/L	07/05/96	BS	07/08/96	BS	
Chromium	0.024 U	0.024	mg/L	07/05/96	BS	07/08/96	BS	
Copper	0.024 U	0.024	mg/L	07/05/96	BS	07/08/96	BS	
Nickel	0.024 U	0.024	mg/L	07/05/96	BS	07/08/96	BS	
Silver	0.020 U	0.020	mg/L	07/05/96	BS	07/08/96	BS	
Zinc	0.037	0.010	mg/L	07/05/96	BS	07/08/96	BS	
Barium	0.010 U	0.010	mg/L	07/05/96	BS	07/08/96	BS	
Antimony	0.10 U	0.10	mg/L	07/05/96	BS	07/08/96	BS	
Lead	0.050 U	0.050	mg/L	07/05/96	BS	07/08/96	BS	
Selenium	0.10 U	0.10	mg/L	07/05/96	BS	07/08/96	BS	
Cadmium	0.010 U	0.010	mg/L	07/05/96	BS	07/08/96	BS	
<u>Thallium by Furnace by SW-846 7841</u>								
Thallium	0.0020 U	0.0020	mg/L	07/05/96	BS	07/08/96	MM	

# SEMIVOLATILE ORGANIC ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
 Division: New England  
 LRI Report No: E607065  
 LRI Sample No: 15

Customer: Atlantic Environmental Eng  
 Location: Pawtucket, RI  
 Project: Tidewater Former MGP  
 Sample Description: ER-1

Date Collected: 07/03/96  
 Date Received: 07/03/96  
 Date Extracted: 07/05/96 By: MB  
 Date Analyzed: 07/09/96 By: RAW

Matrix: Water  
 Percent Moisture: N/A  
 pH:  
 Sample Weight/Volume: 1000 mL  
 Extract Volume: 1  
 Injection Volume:  
 Dilution Factor:  
 Lab Data File: e01504

Method: 8270  
 Level: LOW  
 GC Column:  
 Units: ug/L (Wet Weight)

CAS No.	Parameter	Result	Qual	QL
83-32-9	Acenaphthene	5.0	U	5.0
208-96-8	Acenaphthylene	5.0	U	5.0
120-12-7	Anthracene	5.0	U	5.0
56-55-3	Benzo[a]anthracene	5.0	U	5.0
50-32-8	Benzo[a]pyrene	5.0	U	5.0
205-99-2	Benzo[b]fluoranthene	5.0	U	5.0
191-24-2	Benzo[g,h,i]perylene	5.0	U	5.0
207-08-9	Benzo[k]fluoranthene	5.0	U	5.0
218-01-9	Chrysene	5.0	U	5.0
53-70-3	Dibenzo[a,h]anthracene	5.0	U	5.0
206-44-0	Fluoranthene	5.0	U	5.0
86-73-7	Fluorene	5.0	U	5.0
193-39-5	Indeno[1,2,3-cd]pyrene	5.0	U	5.0
91-20-3	Naphthalene	5.0	U	5.0
85-01-8	Phenanthrene	5.0	U	5.0
129-00-0	Pyrene	5.0	U	5.0







Laboratory Resources, Inc.  
New England Division

Route 205 - Regional Building  
Brooklyn, CT 06234  
Telephone: 203-774-6814 Fax: 203-774-2689

**ANALYTICAL DATA REPORT**

Report Number: E607132  
Project: Tidewater Former MGP

prepared for:

Atlantic Environmental  
188 Norwich Ave.  
P.O. Box 297  
Colchester, CT 06415

Attn: Peter Georgetti

Receive Date: 07/11/96  
Report Date: 07/16/96

T.F. McCommas  
Laboratory Director

Connecticut Department of Health Services PH-0465  
Maine Department of Environmental Protection TBD  
Massachusetts Department of Environmental Quality CT008  
New Hampshire Department of Environmental Services 2020  
New York Department of Health 11549  
Rhode Island Department of Health A44 0022

# VOLATILE ORGANIC ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
 Division: New England  
 LRI Report No: E607132  
 LRI Sample No: 1

Customer: Atlantic Environmental Eng  
 Location: Pawtucket, RI  
 Project: Tidewater Former MGP  
 Sample Description: TTP8B (8-9)

Date Collected: 07/10/96  
 Date Received: 07/11/96  
 Date Extracted: By:  
 Date Analyzed: 07/12/96 By: AT

Matrix: Soil  
 Percent Moisture: 21.2%  
 Sample Weight/Volume:  
 Dilution Factor: 10000  
 Soil Extract Volume:  
 Soil Aliquot Volume:  
 Lab Data File: BH866

Method: 8260A  
 Level: LOW  
 GC Column:  
 Units: ug/kg (Dry Weight)

CAS No.	Parameter	Result	Qual	QL
107-02-8	Acrolein	320000	U	320000
107-13-1	Acrylonitrile	320000	U	320000
71-43-2	Benzene	63000	U	63000
108-86-1	Bromobenzene	63000	U	63000
74-97-5	Bromochloromethane	63000	U	63000
75-27-4	Bromodichloromethane	63000	U	63000
75-25-2	Bromoform	63000	U	63000
74-83-9	Bromomethane	130000	U	130000
104-51-8	n-Butylbenzene	63000	U	63000
135-98-8	sec-Butylbenzene	63000	U	63000
98-06-6	tert-Butylbenzene	63000	U	63000
56-23-5	Carbon tetrachloride	63000	U	63000
108-90-7	Chlorobenzene	63000	U	63000
75-00-3	Chloroethane	130000	U	130000
67-66-3	Chloroform	63000	U	63000
74-87-3	Chloromethane	130000	U	130000
95-49-8	2-Chlorotoluene	63000	U	63000
106-43-4	4-Chlorotoluene	63000	U	63000
96-12-8	1,2-Dibromo-3-chloropropane (DBCP)	63000	U	63000
124-48-1	Dibromochloromethane	63000	U	63000
106-93-4	1,2-Dibromoethane (EDB)	63000	U	63000
74-95-3	Dibromomethane	63000	U	63000
95-50-1	1,2-Dichlorobenzene	63000	U	63000
541-73-1	1,3-Dichlorobenzene	63000	U	63000
106-46-7	1,4-Dichlorobenzene	63000	U	63000
75-71-8	Dichlorodifluoromethane	130000	U	130000
75-34-3	1,1-Dichloroethane	63000	U	63000
107-06-2	1,2-Dichloroethane	63000	U	63000
75-35-4	1,1-Dichloroethene	63000	U	63000
156-59-4	cis-1,2-Dichloroethene	63000	U	63000
156-60-5	trans-1,2-Dichloroethene	63000	U	63000
78-87-5	1,2-Dichloropropane	63000	U	63000
142-28-9	1,3-Dichloropropane	63000	U	63000
590-20-7	2,2-Dichloropropane	63000	U	63000
563-58-6	1,1-Dichloropropene	63000	U	63000
10061-01-5	cis-1,3-Dichloropropene	63000	U	63000
10061-02-6	trans-1,3-Dichloropropene	63000	U	63000
100-41-4	Ethylbenzene	230000		63000
87-68-3	Hexachlorobutadiene	63000	U	63000
98-82-8	Isopropylbenzene	63000	U	63000
99-87-6	4-Isopropyltoluene	63000	U	63000
1634-04-4	Methyl tert-butyl ether (MTBE)	63000	U	63000

# VOLATILE ORGANIC ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
Division: New England  
LRI Report No: E607132  
LRI Sample No: 1

Customer: Atlantic Environmental Eng  
Location: Pawtucket, RI  
Project: Tidewater Former MGP  
Sample Description: TTP8B (8-9)

Method: 8260A

CAS No.	Parameter	Result	Qual	QL
75-09-2	Methylene chloride	63000	U	63000
91-20-3	Naphthalene	1800000		63000
103-65-1	n-Propylbenzene	63000	U	63000
100-42-5	Styrene	63000	U	63000
96-18-4	1,2,3-Trichloropropane	63000	U	63000
630-20-6	1,1,1,2-Tetrachloroethane	63000	U	63000
79-34-5	1,1,1,2,2-Tetrachloroethane	63000	U	63000
127-18-4	Tetrachloroethene	63000	U	63000
108-88-3	Toluene	63000	U	63000
87-61-6	1,2,3-Trichlorobenzene	63000	U	63000
120-82-1	1,2,4-Trichlorobenzene	63000	U	63000
71-55-6	1,1,1-Trichloroethane	63000	U	63000
79-00-5	1,1,2-Trichloroethane	63000	U	63000
79-01-6	Trichloroethene (TCE)	63000	U	63000
75-69-4	Trichlorofluoromethane	130000	U	130000
95-63-6	1,2,4-Trimethylbenzene	94000		63000
108-67-8	1,3,5-Trimethylbenzene	63000	U	63000
75-01-4	Vinyl chloride	130000	U	130000
95-47-6	o-Xylene	63000	U	63000
	m,p-Xylenes	160000		63000

# VOLATILE ORGANIC ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
 Division: New England  
 LRI Report No: E607132  
 LRI Sample No: 2

Customer: Atlantic Environmental Eng  
 Location: Pawtucket, RI  
 Project: Tidewater Former MGP  
 Sample Description: TSS42

Date Collected: 07/09/96  
 Date Received: 07/11/96  
 Date Extracted: By:  
 Date Analyzed: 07/12/96 By: AT

Matrix: Soil  
 Percent Moisture: 4.5%  
 Sample Weight/Volume:  
 Dilution Factor: 400  
 Soil Extract Volume:  
 Soil Aliquot Volume:  
 Lab Data File: BH864

Method: 8260A  
 Level: LOW  
 GC Column:  
 Units: ug/kg (Dry Weight)

CAS No.	Parameter	Result	Qual	QL
107-02-8	Acrolein	10000	U	10000
107-13-1	Acrylonitrile	10000	U	10000
71-43-2	Benzene	2100	U	2100
108-86-1	Bromobenzene	2100	U	2100
74-97-5	Bromochloromethane	2100	U	2100
75-27-4	Bromodichloromethane	2100	U	2100
75-25-2	Bromoform	2100	U	2100
74-83-9	Bromomethane	4200	U	4200
104-51-8	n-Butylbenzene	2100	U	2100
135-98-8	sec-Butylbenzene	2100	U	2100
98-06-6	tert-Butylbenzene	2100	U	2100
56-23-5	Carbon tetrachloride	2100	U	2100
108-90-7	Chlorobenzene	2100	U	2100
75-00-3	Chloroethane	4200	U	4200
67-66-3	Chloroform	2100	U	2100
74-87-3	Chloromethane	4200	U	4200
95-49-8	2-Chlorotoluene	2100	U	2100
106-43-4	4-Chlorotoluene	2100	U	2100
96-12-8	1,2-Dibromo-3-chloropropane (DBCP)	2100	U	2100
124-48-1	Dibromochloromethane	2100	U	2100
106-93-4	1,2-Dibromoethane (EDB)	2100	U	2100
74-95-3	Dibromomethane	2100	U	2100
95-50-1	1,2-Dichlorobenzene	2100	U	2100
541-73-1	1,3-Dichlorobenzene	2100	U	2100
106-46-7	1,4-Dichlorobenzene	2100	U	2100
75-71-8	Dichlorodifluoromethane	4200	U	4200
75-34-3	1,1-Dichloroethane	2100	U	2100
107-06-2	1,2-Dichloroethane	2100	U	2100
75-35-4	1,1-Dichloroethene	2100	U	2100
156-59-4	cis-1,2-Dichloroethene	2100	U	2100
156-60-5	trans-1,2-Dichloroethene	2100	U	2100
78-87-5	1,2-Dichloropropane	2100	U	2100
142-28-9	1,3-Dichloropropane	2100	U	2100
590-20-7	2,2-Dichloropropane	2100	U	2100
563-58-6	1,1-Dichloropropene	2100	U	2100
10061-01-5	cis-1,3-Dichloropropene	2100	U	2100
10061-02-6	trans-1,3-Dichloropropene	2100	U	2100
100-41-4	Ethylbenzene	2100	U	2100
87-68-3	Hexachlorobutadiene	2100	U	2100
98-82-8	Isopropylbenzene	2100	U	2100
99-87-6	4-Isopropyltoluene	2100	U	2100
1634-04-4	Methyl tert-butyl ether (MTBE)	2100	U	2100

# VOLATILE ORGANIC ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
Division: New England  
LRI Report No: E607132  
LRI Sample No: 2

Customer: Atlantic Environmental Eng  
Location: Pawtucket, RI  
Project: Tidewater Former MGP  
Sample Description: TSS42

Method: 8260A

CAS No.	Parameter	Result	Qual	QL
75-09-2	Methylene chloride	2100	U	2100
91-20-3	Naphthalene	61000		2100
103-65-1	n-Propylbenzene	2100	U	2100
100-42-5	Styrene	2100	U	2100
96-18-4	1,2,3-Trichloropropane	2100	U	2100
630-20-6	1,1,1,2-Tetrachloroethane	2100	U	2100
79-34-5	1,1,2,2-Tetrachloroethane	2100	U	2100
127-18-4	Tetrachloroethene	2100	U	2100
108-88-3	Toluene	2100	U	2100
87-61-6	1,2,3-Trichlorobenzene	2100	U	2100
120-82-1	1,2,4-Trichlorobenzene	2100	U	2100
71-55-6	1,1,1-Trichloroethane	2100	U	2100
79-00-5	1,1,2-Trichloroethane	2100	U	2100
79-01-6	Trichloroethene (TCE)	2100	U	2100
75-69-4	Trichlorofluoromethane	4200	U	4200
95-63-6	1,2,4-Trimethylbenzene	2100	U	2100
108-67-8	1,3,5-Trimethylbenzene	2100	U	2100
75-01-4	Vinyl chloride	4200	U	4200
95-47-6	o-Xylene	2100	U	2100
	m,p-Xylenes	2100	U	2100

# VOLATILE ORGANIC ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
 Division: New England  
 LRI Report No: E607132  
 LRI Sample No: 3

Customer: Atlantic Environmental Eng  
 Location: Pawtucket, RI  
 Project: Tidewater Former MGP  
 Sample Description: TSS 43

Date Collected: 07/09/96  
 Date Received: 07/11/96  
 Date Extracted: By:  
 Date Analyzed: 07/12/96 By: RAW

Matrix: Soil  
 Percent Moisture: 0.6%  
 Sample Weight/Volume:  
 Dilution Factor: 1  
 Soil Extract Volume:  
 Soil Aliquot Volume:  
 Lab Data File: BH869

Method: 8260A  
 Level: LOW  
 GC Column:  
 Units: ug/kg ( Dry Weight )

CAS No.	Parameter	Result	Qual	QL
107-02-8	Acrolein	25	U	25
107-13-1	Acrylonitrile	25	U	25
71-43-2	Benzene	5.0	U	5.0
108-86-1	Bromobenzene	5.0	U	5.0
74-97-5	Bromochloromethane	5.0	U	5.0
75-27-4	Bromodichloromethane	5.0	U	5.0
75-25-2	Bromoform	5.0	U	5.0
74-83-9	Bromomethane	10	U	10
104-51-8	n-Butylbenzene	5.0	U	5.0
135-98-8	sec-Butylbenzene	5.0	U	5.0
98-06-6	tert-Butylbenzene	5.0	U	5.0
56-23-5	Carbon tetrachloride	5.0	U	5.0
108-90-7	Chlorobenzene	5.0	U	5.0
75-00-3	Chloroethane	10	U	10
67-66-3	Chloroform	5.0	U	5.0
74-87-3	Chloromethane	10	U	10
95-49-8	2-Chlorotoluene	5.0	U	5.0
106-43-4	4-Chlorotoluene	5.0	U	5.0
96-12-8	1,2-Dibromo-3-chloropropane (DBCP)	5.0	U	5.0
124-48-1	Dibromochloromethane	5.0	U	5.0
106-93-4	1,2-Dibromoethane (EDB)	5.0	U	5.0
74-95-3	Dibromomethane	5.0	U	5.0
95-50-1	1,2-Dichlorobenzene	5.0	U	5.0
541-73-1	1,3-Dichlorobenzene	5.0	U	5.0
106-46-7	1,4-Dichlorobenzene	5.0	U	5.0
75-71-8	Dichlorodifluoromethane	10	U	10
75-34-3	1,1-Dichloroethane	5.0	U	5.0
107-06-2	1,2-Dichloroethane	5.0	U	5.0
75-35-4	1,1-Dichloroethene	5.0	U	5.0
156-59-4	cis-1,2-Dichloroethene	5.0	U	5.0
156-60-5	trans-1,2-Dichloroethene	5.0	U	5.0
78-87-5	1,2-Dichloropropane	5.0	U	5.0
142-28-9	1,3-Dichloropropane	5.0	U	5.0
590-20-7	2,2-Dichloropropane	5.0	U	5.0
563-58-6	1,1-Dichloropropene	5.0	U	5.0
10061-01-5	cis-1,3-Dichloropropene	5.0	U	5.0
10061-02-6	trans-1,3-Dichloropropene	5.0	U	5.0
100-41-4	Ethylbenzene	5.0	U	5.0
87-68-3	Hexachlorobutadiene	5.0	U	5.0
98-82-8	Isopropylbenzene	5.0	U	5.0
99-87-6	4-Isopropyltoluene	5.0	U	5.0
1634-04-4	Methyl tert-butyl ether (MTBE)	5.0	U	5.0

# VOLATILE ORGANIC ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
Division: New England  
LRI Report No: E607132  
LRI Sample No: 3

Customer: Atlantic Environmental Eng  
Location: Pawtucket, RI  
Project: Tidewater Former MGP  
Sample Description: TSS 43

Method: 8260A

CAS No.	Parameter	Result	Qual	QL
75-09-2	Methylene chloride	5.0	U	5.0
91-20-3	Naphthalene	5.0	U	5.0
103-65-1	n-Propylbenzene	5.0	U	5.0
100-42-5	Styrene	5.0	U	5.0
96-18-4	1,2,3-Trichloropropane	5.0	U	5.0
630-20-6	1,1,1,2-Tetrachloroethane	5.0	U	5.0
79-34-5	1,1,2,2-Tetrachloroethane	5.0	U	5.0
127-18-4	Tetrachloroethene	5.0	U	5.0
108-88-3	Toluene	5.0	U	5.0
87-61-6	1,2,3-Trichlorobenzene	5.0	U	5.0
120-82-1	1,2,4-Trichlorobenzene	5.0	U	5.0
71-55-6	1,1,1-Trichloroethane	5.0	U	5.0
79-00-5	1,1,2-Trichloroethane	5.0	U	5.0
79-01-6	Trichloroethene (TCE)	5.0	U	5.0
75-69-4	Trichlorofluoromethane	10	U	10
95-63-6	1,2,4-Trimethylbenzene	5.0	U	5.0
108-67-8	1,3,5-Trimethylbenzene	5.0	U	5.0
75-01-4	Vinyl chloride	10	U	10
95-47-6	o-Xylene	5.0	U	5.0
	m,p-Xylenes	5.0	U	5.0

# VOLATILE ORGANIC ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
 Division: New England  
 LRI Report No: E607132  
 LRI Sample No: 4

Customer: Atlantic Environmental Eng  
 Location: Pawtucket, RI  
 Project: Tidewater Former MGP  
 Sample Description: TSS 44

Date Collected: 07/09/96  
 Date Received: 07/11/96  
 Date Extracted: By:  
 Date Analyzed: 07/12/96 By: AT

Matrix: Soil  
 Percent Moisture: 19.1%  
 Sample Weight/Volume:  
 Dilution Factor: 5000  
 Soil Extract Volume:  
 Soil Aliquot Volume:  
 Lab Data File: BH865

Method: 8260A  
 Level: LOW  
 GC Column:  
 Units: ug/kg (Dry Weight)

CAS No.	Parameter	Result	Qual	QL
107-02-8	Acrolein	150000	U	150000
107-13-1	Acrylonitrile	150000	U	150000
71-43-2	Benzene	31000	U	31000
108-86-1	Bromobenzene	31000	U	31000
74-97-5	Bromochloromethane	31000	U	31000
75-27-4	Bromodichloromethane	31000	U	31000
75-25-2	Bromoform	31000	U	31000
74-83-9	Bromomethane	62000	U	62000
104-51-8	n-Butylbenzene	31000	U	31000
135-98-8	sec-Butylbenzene	31000	U	31000
98-06-6	tert-Butylbenzene	31000	U	31000
56-23-5	Carbon tetrachloride	31000	U	31000
108-90-7	Chlorobenzene	31000	U	31000
75-00-3	Chloroethane	62000	U	62000
67-66-3	Chloroform	31000	U	31000
74-87-3	Chloromethane	62000	U	62000
95-49-8	2-Chlorotoluene	31000	U	31000
106-43-4	4-Chlorotoluene	31000	U	31000
96-12-8	1,2-Dibromo-3-chloropropane (DBCP)	31000	U	31000
124-48-1	Dibromochloromethane	31000	U	31000
106-93-4	1,2-Dibromoethane (EDB)	31000	U	31000
74-95-3	Dibromomethane	31000	U	31000
95-50-1	1,2-Dichlorobenzene	31000	U	31000
541-73-1	1,3-Dichlorobenzene	31000	U	31000
106-46-7	1,4-Dichlorobenzene	31000	U	31000
75-71-8	Dichlorodifluoromethane	62000	U	62000
75-34-3	1,1-Dichloroethane	31000	U	31000
107-06-2	1,2-Dichloroethane	31000	U	31000
75-35-4	1,1-Dichloroethene	31000	U	31000
156-59-4	cis-1,2-Dichloroethene	31000	U	31000
156-60-5	trans-1,2-Dichloroethene	31000	U	31000
78-87-5	1,2-Dichloropropane	31000	U	31000
142-28-9	1,3-Dichloropropane	31000	U	31000
590-20-7	2,2-Dichloropropane	31000	U	31000
563-58-6	1,1-Dichloropropene	31000	U	31000
10061-01-5	cis-1,3-Dichloropropene	31000	U	31000
10061-02-6	trans-1,3-Dichloropropene	31000	U	31000
100-41-4	Ethylbenzene	31000	U	31000
87-68-3	Hexachlorobutadiene	31000	U	31000
98-82-8	Isopropylbenzene	31000	U	31000
99-87-6	4-Isopropyltoluene	31000	U	31000
1634-04-4	Methyl tert-butyl ether (MTBE)	31000	U	31000



# VOLATILE ORGANIC ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
Division: New England  
LRI Report No: E607132  
LRI Sample No: 4

Customer: Atlantic Environmental Eng  
Location: Pawtucket, RI  
Project: Tidewater Former MGP  
Sample Description: TSS 44

Method: 8260A

CAS No.	Parameter	Result	Qual	QL
75-09-2	Methylene chloride	31000	U	31000
91-20-3	Naphthalene	1200000		31000
103-65-1	n-Propylbenzene	31000	U	31000
100-42-5	Styrene	31000	U	31000
96-18-4	1,2,3-Trichloropropane	31000	U	31000
630-20-6	1,1,1,2-Tetrachloroethane	31000	U	31000
79-34-5	1,1,2,2-Tetrachloroethane	31000	U	31000
127-18-4	Tetrachloroethene	31000	U	31000
108-88-3	Toluene	59000		31000
87-61-6	1,2,3-Trichlorobenzene	31000	U	31000
120-82-1	1,2,4-Trichlorobenzene	31000	U	31000
71-55-6	1,1,1-Trichloroethane	31000	U	31000
79-00-5	1,1,2-Trichloroethane	31000	U	31000
79-01-6	Trichloroethene (TCE)	31000	U	31000
75-69-4	Trichlorofluoromethane	62000	U	62000
95-63-6	1,2,4-Trimethylbenzene	31000	U	31000
108-67-8	1,3,5-Trimethylbenzene	31000	U	31000
75-01-4	Vinyl chloride	62000	U	62000
95-47-6	o-Xylene	31000	U	31000
	m,p-Xylenes	52000		31000

# SEMIVOLATILE ORGANIC ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
 Division: New England  
 LRI Report No: E607132  
 LRI Sample No: 1

Customer: Atlantic Environmental Eng  
 Location: Pawtucket, RI  
 Project: Tidewater Former MGP  
 Sample Description: TTP8B (8-9)

Date Collected: 07/10/96  
 Date Received: 07/11/96  
 Date Extracted: 07/11/96 By: MB  
 Date Analyzed: 07/12/96 By: RAW

Matrix: Soil  
 Percent Moisture: 21.2%  
 pH:  
 Sample Weight/Volume: 30.06 g  
 Extract Volume: 5  
 Injection Volume:  
 Dilution Factor: 75  
 Lab Data File: E01561

Method: 8270  
 Level: LOW  
 GC Column:  
 Units: ug/kg (Dry Weight)

CAS No.	Parameter	Result	Qual	QL
83-32-9	Acenaphthene	100000		79000
208-96-8	Acenaphthylene	79000	U	79000
120-12-7	Anthracene	79000	U	79000
56-55-3	Benzo[a]anthracene	79000	U	79000
50-32-8	Benzo[a]pyrene	79000	U	79000
205-99-2	Benzo[b]fluoranthene	79000	U	79000
191-24-2	Benzo[g,h,i]perylene	79000	U	79000
207-08-9	Benzo[k]fluoranthene	79000	U	79000
218-01-9	Chrysene	48000		43000
53-70-3	Dibenzo[a,h]anthracene	43000	U	43000
206-44-0	Fluoranthene	87000		79000
86-73-7	Fluorene	120000		79000
193-39-5	Indeno[1,2,3-cd]pyrene	79000	U	79000
91-20-3	Naphthalene	1500000		79000
85-01-8	Phenanthrene	330000		79000
129-00-0	Pyrene	170000		79000

# SEMIVOLATILE ORGANIC ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
 Division: New England  
 LRI Report No: E607132  
 LRI Sample No: 2

Customer: Atlantic Environmental Eng  
 Location: Pawtucket, RI  
 Project: Tidewater Former MGP  
 Sample Description: TSS42

Date Collected: 07/09/96  
 Date Received: 07/11/96  
 Date Extracted: 07/11/96 By: MB  
 Date Analyzed: 07/12/96 By: RAW

Matrix: Soil  
 Percent Moisture: 4.5%  
 pH:  
 Sample Weight/Volume: 30.09 g  
 Extract Volume: 35  
 Injection Volume:  
 Dilution Factor: 10  
 Lab Data File: E01560

Method: 8270  
 Level: LOW  
 GC Column:  
 Units: ug/kg ( Dry Weight )

CAS No.	Parameter	Result	Qual	QL
83-32-9	Acenaphthene	72000		61000
208-96-8	Acenaphthylene	370000		61000
120-12-7	Anthracene	330000		61000
56-55-3	Benzo[a]anthracene	540000		61000
50-32-8	Benzo[a]pyrene	230000		61000
205-99-2	Benzo[b]fluoranthene	300000		61000
191-24-2	Benzo[g,h,i]perylene	96000		61000
207-08-9	Benzo[k]fluoranthene	100000		61000
218-01-9	Chrysene	470000		33000
53-70-3	Dibenzo[a,h]anthracene	33000	U	33000
206-44-0	Fluoranthene	740000		61000
86-73-7	Fluorene	380000		61000
193-39-5	Indeno[1,2,3-cd]pyrene	90000		61000
91-20-3	Naphthalene	400000		61000
85-01-8	Phenanthrene	1900000		61000
129-00-0	Pyrene	1400000		61000

# SEMIVOLATILE ORGANIC ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
 Division: New England  
 LRI Report No: E607132  
 LRI Sample No: 3

Customer: Atlantic Environmental Eng  
 Location: Pawtucket, RI  
 Project: Tidewater Former MGP  
 Sample Description: TSS 43

Date Collected: 07/09/96  
 Date Received: 07/11/96  
 Date Extracted: 07/11/96 By: MB  
 Date Analyzed: 07/11/96 By: RAW

Matrix: Soil  
 Percent Moisture: 0.6%  
 pH:  
 Sample Weight/Volume: 30.14 g  
 Extract Volume: 35  
 Injection Volume:  
 Dilution Factor: 1  
 Lab Data File: E01552

Method: 8270  
 Level: LOW  
 GC Column:  
 Units: ug/kg (Dry Weight)

CAS No.	Parameter	Result	Qual	QL
83-32-9	Acenaphthene	5800	U	5800
208-96-8	Acenaphthylene	9200		5800
120-12-7	Anthracene	5800	U	5800
56-55-3	Benzo[a]anthracene	7600		5800
50-32-8	Benzo[a]pyrene	5800	U	5800
205-99-2	Benzo[b]fluoranthene	9000		5800
191-24-2	Benzo[g,h,i]perylene	5800	U	5800
207-08-9	Benzo[k]fluoranthene	5800	U	5800
218-01-9	Chrysene	23000		3200
53-70-3	Dibenzo[a,h]anthracene	3200	U	3200
206-44-0	Fluoranthene	17000		5800
86-73-7	Fluorene	5800	U	5800
193-39-5	Indeno[1,2,3-cd]pyrene	5800	U	5800
91-20-3	Naphthalene	5800	U	5800
85-01-8	Phenanthrene	12000		5800
129-00-0	Pyrene	16000		5800

# SEMIVOLATILE ORGANIC ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
 Division: New England  
 LRI Report No: E607132  
 LRI Sample No: 4

Customer: Atlantic Environmental Eng  
 Location: Pawtucket, RI  
 Project: Tidewater Former MGP  
 Sample Description: TSS 44

Date Collected: 07/09/96  
 Date Received: 07/11/96  
 Date Extracted: 07/11/96 By: MB  
 Date Analyzed: 07/12/96 By: RAW

Matrix: Soil  
 Percent Moisture: 19.1%  
 pH:  
 Sample Weight/Volume: 30.01 g  
 Extract Volume: 65  
 Injection Volume:  
 Dilution Factor: 50  
 Lab Data File: E01562

Method: 8270  
 Level: LOW  
 GC Column:  
 Units: ug/kg (Dry Weight)

CAS No.	Parameter	Result	Qual	QL
83-32-9	Acenaphthene	670000	U	670000
208-96-8	Acenaphthylene	4400000		670000
120-12-7	Anthracene	3400000		670000
56-55-3	Benzo[a]anthracene	2500000		670000
50-32-8	Benzo[a]pyrene	1400000		670000
205-99-2	Benzo[b]fluoranthene	1200000		670000
191-24-2	Benzo[g,h,i]perylene	670000	U	670000
207-08-9	Benzo[k]fluoranthene	670000	U	670000
218-01-9	Chrysene	2000000		360000
53-70-3	Dibenzo[a,h]anthracene	360000	U	360000
206-44-0	Fluoranthene	2900000		670000
86-73-7	Fluorene	3400000		670000
193-39-5	Indeno[1,2,3-cd]pyrene	670000	U	670000
91-20-3	Naphthalene	14000000		670000
85-01-8	Phenanthrene	11000000		670000
129-00-0	Pyrene	4600000		670000

# METALS ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
 Division: New England  
 LRI Order No: E607132  
 LRI Sample No: 1

Client: Atlantic Environmental Eng  
 Location: Pawtucket, RI  
 Project: Tidewater Former MGP  
 Sample Description: TTP8B (8-9)

Date Collected: 07/10/96  
 Date Received: 07/11/96

Matrix: Soil  
 Percent Moisture: 21.2%

Parameter	Result	QL	Units	Started		Completed		Dilution
				Date	By	Date	By	
<u>Arsenic by Furnace by SW-846 7060</u>								
Arsenic	1.1	0.20	mg/kg	07/11/96	KH	07/12/96	MM	
<u>Mercury by Cold Vapor by SW-846 7471</u>								
Mercury	0.11 U	0.11	mg/kg	07/11/96	KH	07/12/96	BS	
<u>Metals by ICP by SW-846 6010A</u>								
Beryllium	0.33	0.20	mg/kg	07/11/96	KH	07/12/96	BS	
Chromium	7.2	2.5	mg/kg	07/11/96	KH	07/12/96	BS	
Copper	5.6	2.5	mg/kg	07/11/96	KH	07/12/96	BS	
Nickel	9.2	2.5	mg/kg	07/11/96	KH	07/12/96	BS	
Silver	2.0U	2.0	mg/kg	07/11/96	KH	07/12/96	BS	
Zinc	20	1.0	mg/kg	07/11/96	KH	07/12/96	BS	
Barium	13	1.0	mg/kg	07/11/96	KH	07/12/96	BS	
Antimony	10U	10	mg/kg	07/11/96	KH	07/12/96	BS	
Lead	7.9	5.1	mg/kg	07/11/96	KH	07/12/96	BS	
Selenium	10U	10	mg/kg	07/11/96	KH	07/12/96	BS	
Cadmium	1.0U	1.0	mg/kg	07/11/96	KH	07/12/96	BS	

# GENERAL CHEMISTRY ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
Division: New England  
LRI Report No: E607132  
LRI Sample No: 1

Customer: Atlantic Environmental Eng  
Location: Pawtucket, RI  
Project: Tidewater Former MGP  
Sample Description: TTP8B (8-9)

Date Collected: 07/10/96  
Date Received: 07/11/96

Matrix: Soil  
Percent Moisture: 21.2%  
Units in Dry Weight

<u>Parameter</u>	<u>Result</u>	<u>QL</u>	<u>Units</u>	<u>Started</u> <u>Date</u>	<u>By</u>	<u>Completed</u> <u>Date</u>	<u>By</u>	<u>Dilution</u>
<u>Cyanide by 9012 Modified NE</u> Cyanide	75	11	mg/kg	07/11/96	EB	07/15/96	EB	25

# GENERAL CHEMISTRY ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
Division: New England  
LRI Report No: E607132  
LRI Sample No: 2

Customer: Atlantic Environmental Eng  
Location: Pawtucket, RI  
Project: Tidewater Former MGP  
Sample Description: TSS42

Date Collected: 07/09/96  
Date Received: 07/11/96

Matrix: Soil  
Percent Moisture: 4.5%  
Units in Dry Weight

<u>Parameter</u>	<u>Result</u>	<u>QL</u>	<u>Units</u>	<u>Started</u> <u>Date</u>	<u>By</u>	<u>Completed</u> <u>Date</u>	<u>By</u>	<u>Dilution</u>
<u>Cyanide by 9012 Modified NE</u>								
Cyanide	22	2.0	mg/kg	07/11/96	EB	07/15/96	EB	5



# METALS ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
 Division: New England  
 LRI Order No: E607132  
 LRI Sample No: 2

Client: Atlantic Environmental Eng  
 Location: Pawtucket, RI  
 Project: Tidewater Former MGP  
 Sample Description: TSS42

Date Collected: 07/09/96  
 Date Received: 07/11/96

Matrix: Soil  
 Percent Moisture: 4.5%

Parameter	Result	QL	Units	Started		Completed		Dilution
				Date	By	Date	By	
<u>Arsenic by Furnace by SW-846 7060</u>								
Arsenic	2.6	0.18	mg/kg	07/11/96	KH	07/12/96	MM	
<u>Mercury by Cold Vapor by SW-846 7471</u>								
Mercury	0.51	0.088	mg/kg	07/11/96	KH	07/12/96	BS	
<u>Metals by ICP by SW-846 6010A</u>								
Beryllium	0.18 U	0.18	mg/kg	07/11/96	KH	07/12/96	BS	
Chromium	2.2 U	2.2	mg/kg	07/11/96	KH	07/12/96	BS	
Copper	13	2.2	mg/kg	07/11/96	KH	07/12/96	BS	
Nickel	4.2	2.2	mg/kg	07/11/96	KH	07/12/96	BS	
Silver	1.8 U	1.8	mg/kg	07/11/96	KH	07/12/96	BS	
Zinc	74	0.91	mg/kg	07/11/96	KH	07/12/96	BS	
Barium	22	0.91	mg/kg	07/11/96	KH	07/12/96	BS	
Antimony	9.1 U	9.1	mg/kg	07/11/96	KH	07/12/96	BS	
Lead	66	4.5	mg/kg	07/11/96	KH	07/12/96	BS	
Selenium	9.1 U	9.1	mg/kg	07/11/96	KH	07/12/96	BS	
Cadmium	0.91 U	0.91	mg/kg	07/11/96	KH	07/12/96	BS	
<u>Thallium by Furnace by SW-846 7841</u>								
Thallium	0.23	0.18	mg/kg	07/11/96	KH	07/12/96	MM	

# GENERAL CHEMISTRY ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
Division: New England  
LRI Report No: E607132  
LRI Sample No: 3

Customer: Atlantic Environmental Eng  
Location: Pawtucket, RI  
Project: Tidewater Former MGP  
Sample Description: TSS 43

Date Collected: 07/09/96  
Date Received: 07/11/96

Matrix: Soil  
Percent Moisture: 0.6%  
Units in Dry Weight

<u>Parameter</u>	<u>Result</u>	<u>QL</u>	<u>Units</u>	<u>Started</u> <u>Date</u>	<u>By</u>	<u>Completed</u> <u>Date</u>	<u>By</u>	<u>Dilution</u>
Cyanide by 9012 Modified NE								
Cyanide	320	40	mg/kg	07/11/96	EB	07/15/96	EB	100

# METALS ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
 Division: New England  
 LRI Order No: E607132  
 LRI Sample No: 3

Client: Atlantic Environmental Eng  
 Location: Pawtucket, RI  
 Project: Tidewater Former MGP  
 Sample Description: TSS 43

Date Collected: 07/09/96  
 Date Received: 07/11/96

Matrix: Soil  
 Percent Moisture: 0.6%

Parameter	Result	QL	Units	Started		Completed		Dilution
				Date	By	Date	By	
<u>Arsenic by Furnace by SW-846 7060</u>								
Arsenic	3.0	0.18	mg/kg	07/11/96	KH	07/12/96	MM	
<u>Mercury by Cold Vapor by SW-846 7471</u>								
Mercury	0.084 U	0.084	mg/kg	07/11/96	KH	07/12/96	BS	
<u>Metals by ICP by SW-846 6010A</u>								
Beryllium	0.18 U	0.18	mg/kg	07/11/96	KH	07/12/96	BS	
Chromium	7.1	2.2	mg/kg	07/11/96	KH	07/12/96	BS	
Copper	43	2.2	mg/kg	07/11/96	KH	07/12/96	BS	
Nickel	8.6	2.2	mg/kg	07/11/96	KH	07/12/96	BS	
Silver	1.8 U	1.8	mg/kg	07/11/96	KH	07/12/96	BS	
Zinc	25	0.89	mg/kg	07/11/96	KH	07/12/96	BS	
Barium	31	0.89	mg/kg	07/11/96	KH	07/12/96	BS	
Antimony	8.9 U	8.9	mg/kg	07/11/96	KH	07/12/96	BS	
Lead	54	4.4	mg/kg	07/11/96	KH	07/12/96	BS	
Selenium	8.9 U	8.9	mg/kg	07/11/96	KH	07/12/96	BS	
Cadmium	0.89 U	0.89	mg/kg	07/11/96	KH	07/12/96	BS	
<u>Thallium by Furnace by SW-846 7841</u>								
Thallium	0.18 U	0.18	mg/kg	07/11/96	KH	07/12/96	MM	

# GENERAL CHEMISTRY ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
Division: New England  
LRI Report No: E607132  
LRI Sample No: 4

Customer: Atlantic Environmental Eng  
Location: Pawtucket, RI  
Project: Tidewater Former MGP  
Sample Description: TSS 44

Date Collected: 07/09/96  
Date Received: 07/11/96

Matrix: Soil  
Percent Moisture: 19.1%  
Units in Dry Weight

<u>Parameter</u>	<u>Result</u>	<u>QL</u>	<u>Units</u>	<u>Started</u> <u>Date</u>	<u>By</u>	<u>Completed</u> <u>Date</u>	<u>By</u>	<u>Dilution</u>
<u>Cyanide by 9012 Modified NE</u>								
Cyanide	72	12	mg/kg	07/11/96	EB	07/15/96	EB	25

# METALS ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
 Division: New England  
 LRI Order No: E607132  
 LRI Sample No: 4

Client: Atlantic Environmental Eng  
 Location: Pawtucket, RI  
 Project: Tidewater Former MGP  
 Sample Description: TSS 44

Date Collected: 07/09/96  
 Date Received: 07/11/96

Matrix: Soil  
 Percent Moisture: 19.1%

Parameter	Result	QL	Units	Started		Completed		Dilution
				Date	By	Date	By	
<u>Arsenic by Furnace by SW-846 7060</u>								
Arsenic	1.3	0.22	mg/kg	07/11/96	KH	07/12/96	MM	
<u>Mercury by Cold Vapor by SW-846 7471</u>								
Mercury	0.11 U	0.11	mg/kg	07/11/96	KH	07/12/96	BS	
<u>Metals by ICP by SW-846 6010A</u>								
Beryllium	0.22 U	0.22	mg/kg	07/11/96	KH	07/12/96	BS	
Chromium	4.3	2.7	mg/kg	07/11/96	KH	07/12/96	BS	
Copper	8.4	2.7	mg/kg	07/11/96	KH	07/12/96	BS	
Nickel	3.8	2.7	mg/kg	07/11/96	KH	07/12/96	BS	
Silver	2.2 U	2.2	mg/kg	07/11/96	KH	07/12/96	BS	
Zinc	11	1.1	mg/kg	07/11/96	KH	07/12/96	BS	
Barium	11	1.1	mg/kg	07/11/96	KH	07/12/96	BS	
Antimony	11 U	11	mg/kg	07/11/96	KH	07/12/96	BS	
Lead	11	5.5	mg/kg	07/11/96	KH	07/12/96	BS	
Selenium	11 U	11	mg/kg	07/11/96	KH	07/12/96	BS	
Cadmium	1.1 U	1.1	mg/kg	07/11/96	KH	07/12/96	BS	
<u>Thallium by Furnace by SW-846 7841</u>								
Thallium	0.22 U	0.22	mg/kg	07/11/96	KH	07/12/96	MM	

Data File : C:\HPCHEM\1\DATA\BH863.D  
 Acq On : 12 Jul 96 9:31 am  
 Sample : VBLK0712 CH#03  
 Misc : METHOD BLANK LOW WATER  
 Quant Time: Jul 12 10:03 1996

Vial: 30  
 Operator: AT  
 Inst : MSD #2  
 Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\8260A2.M  
 Title : 8260 AQUEOUS CALIBRATION  
 Last Update : Wed Jul 10 14:59:38 1996  
 Response via : Multiple Level Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev (Min)
1) 1,2-Dichloroethane-d4	9.50	67	295696	50.00	ug/l	0.03
24) 1,4-Difluorobenzene	10.86	114	1396647	50.00	ug/l	0.00
44) Chlorobenzene-d5	18.56	117	1125455	50.00	ug/l	0.02
55) 1,4-Dichlorobenzene-d4	24.35	152	843768	50.00	ug/l	0.00
System Monitoring Compounds						%Recovery
25) Dibromofluoromethane (S)	7.90	113	1036326	49.46	ug/l	98.92%
37) Toluene-d8 (S)	14.87	98	1220055	50.75	ug/l	101.49%
43) Bromofluorobenzene (S)	21.55	95	1141651	53.93	ug/l	107.87%
Target Compounds						Qvalue

(#) = qualifier out of range (m) = manual integration

Spike Recovery and RPD Summary Report - SOIL

Method : C:\HPCHEM\1\METHODS\8260S2.M  
 Title : 8260 SOIL CALIBRATION  
 Last Update : Fri Jul 12 13:47:13 1996  
 Response via : Initial Calibration

Non-Spiked Sample: BH777.D

Spike Sample	Spike Duplicate Sample
File ID : BH783.D	BH784.D
Sample : e606377-02ms	e606377-02msd
Acq Time: 2 Jul 96 6:50 pm	2 Jul 96 7:30 pm

Compound	Sample Conc	Spike Added	Spike Res	Dup Res	Spike %Rec	Dup %Rec	RPD	QC RPD	Limits % Rec
1,1-Dichloroethene	0.0	50	66	67	131	134	2	20	66-144
Benzene	0.0	50	52	52	103	103	0	20	63-145
Trichloroethene	0.0	50	57	57	114	115	1	20	65-145
Toluene	0.0	50	52	51	104	103	1	21	66-151
Chlorobenzene	0.0	50	54	54	108	107	1	21	63-148

8260S2.M

Tue Jul 16 09:58:20 1996

PC #7

Data File : C:\HPCHEM\1\DATA\BH868.D  
Acq On : 12 Jul 96 2:03 pm  
Sample : VBLK0712 CH#02  
Misc : METHOD BLANK LOW SOIL  
Quant Time: Jul 12 14:53 1996

Vial: 35  
Operator: AT  
Inst : MSD #2  
Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\8260A2.M  
Title : 8260 AQUEOUS CALIBRATION  
Last Update : Wed Jul 10 14:59:38 1996  
Response via : Multiple Level Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev (Min)
1) 1,2-Dichloroethane-d4	9.48	67	338488	50.00	ug/kg	0.00
24) 1,4-Difluorobenzene	10.84	114	1464516	50.00	ug/kg	0.00
44) Chlorobenzene-d5	18.56	117	1161796	50.00	ug/kg	0.00
55) 1,4-Dichlorobenzene-d4	24.36	152	839965	50.00	ug/kg	0.00
System Monitoring Compounds						%Recovery
25) Dibromofluoromethane (S)	7.88	113	1133894	51.12	ug/kg	102.24%
37) Toluene-d8 (S)	14.85	98	1250854	49.64	ug/kg	99.27%
43) Bromofluorobenzene (S)	21.54	95	1156671	52.77	ug/kg	105.55%

Target Compounds

Qvalue

(#) = qualifier out of range (m) = manual integration

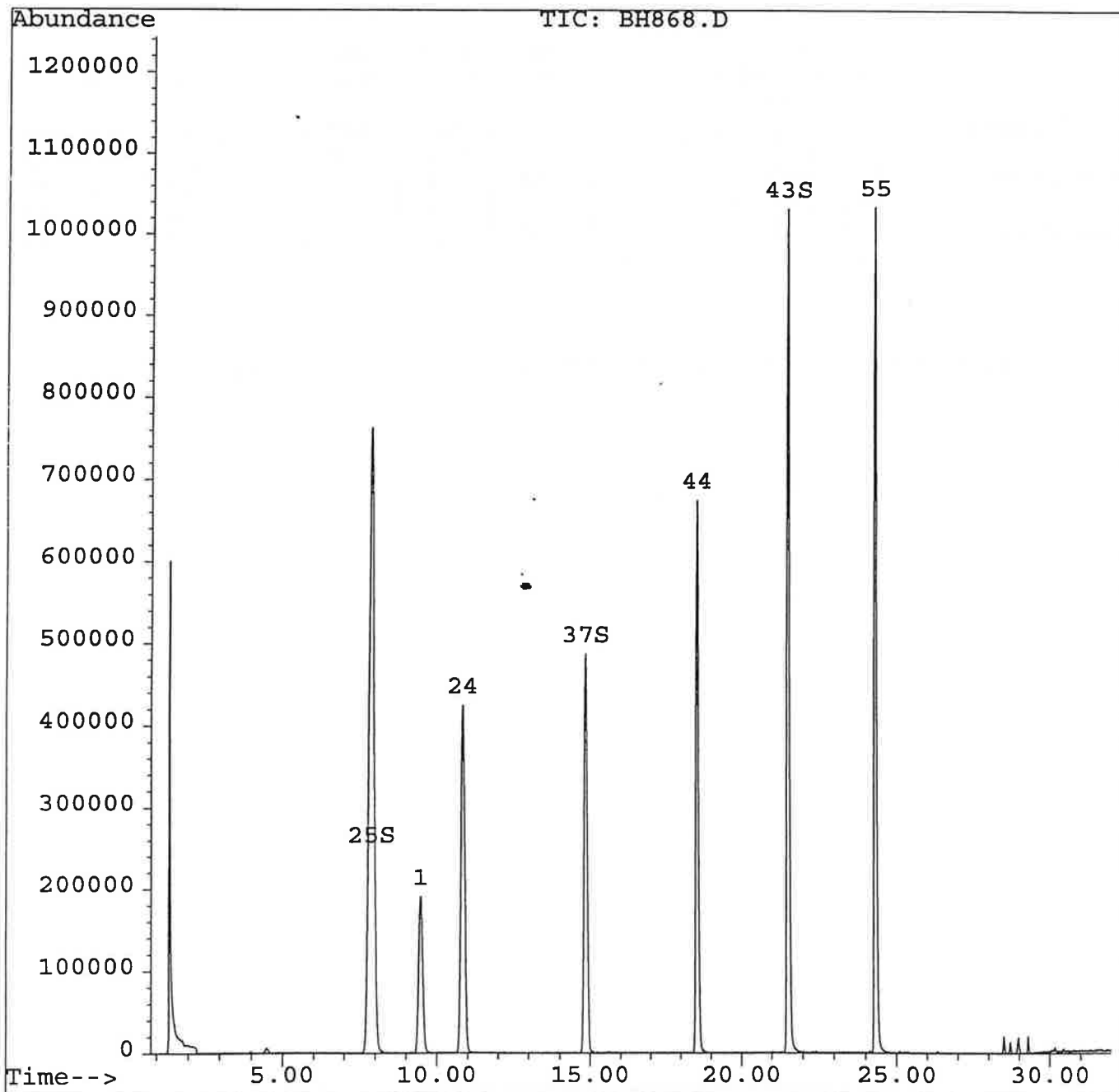


Quantitation Report

Data File : C:\HPCHEM\1\DATA\BH868.D  
Acq On : 12 Jul 96 2:03 pm  
Sample : VBLK0712 CH#02  
Misc : METHOD BLANK LOW SOIL  
Quant Time: Jul 12 14:53 1996

Vial: 35  
Operator: AT  
Inst : MSD #2  
Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\8260A2.M  
Title : 8260 AQUEOUS CALIBRATION  
Last Update : Wed Jul 10 14:59:38 1996  
Response via : Multiple Level Calibration



Method : C:\HPCHEM\1\METHODS\8260A2.M  
 Title : 8260 AQUEOUS CALIBRATION  
 Last Update : Wed Jul 10 14:59:38 1996  
 Response via : Initial Calibration

Non-Spiked Sample: BH836.D

Spike Sample	Spike Duplicate Sample
File ID : BH844.D	BH845.D
Sample : blkms	blkmsd
Acq Time: 10 Jul 96 7:03 pm	10 Jul 96 7:43 pm

Compound	Sample Conc	Spike Added	Spike Res	Dup Res	Spike %Rec	Dup %Rec	RPD	QC RPD	Limits % Rec
1,1-Dichloroethene	0.0	50	55	53	109	107	3	17	49-115
Benzene	0.0	50	58	58	115	116	0	20	51-132
Trichloroethene	0.0	50	57	58	114	116	2	17	62-129
Toluene	0.0	50	57	58	114	116	1	17	65-134
Chlorobenzene	0.0	50	57	56	113	113	1	17	64-131

8260A2.M

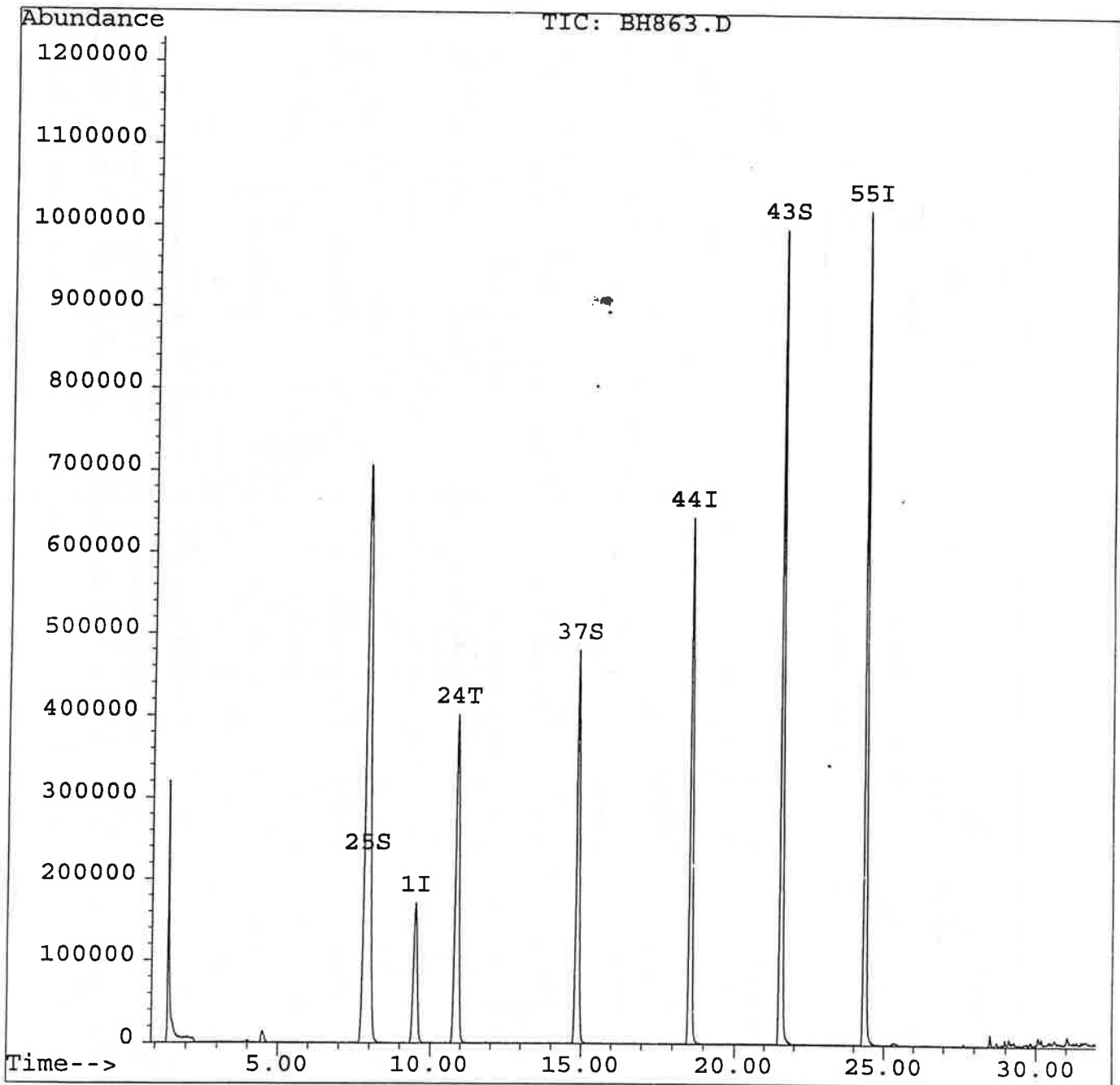
Thu Jul 11 07:52:13 1996

PC #7

Data File : C:\HPCHEM\1\DATA\BH863.D  
Acq On : 12 Jul 96 9:31 am  
Sample : VBLK0712 CH#03  
Misc : METHOD BLANK LOW WATER  
Quant Time: Jul 12 10:03 1996

Vial: 30  
Operator: AT  
Inst : MSD #2  
Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\8260A2.M  
Title : 8260 AQUEOUS CALIBRATION  
Last Update : Wed Jul 10 14:59:38 1996  
Response via : Multiple Level Calibration









Date: 7-12-96  
 Method#: \_\_\_\_\_  
 Parameter: TL-2 (in 30)  
 Analyst: mm  
 Supervisor: [Signature]

S1	25 PPS
S2	50 PPS
S3	75 PPS
S4	100 PPS

Sample #	Result ug/L	Final Vol.	Samp. Wt.	% Solids	DF	Result mg/Kg
Method Blank	ND	T	T	T	T	ND
QCTV= 50 PPS	47.1					0.047
LCS	41.1					0.041
Low Level Check Std.	10.6	T	T	T		100%
07132-1A	0.2	50 ml	0.56	79		ND
↓ -2A	2.3		0.53	96		7/11/96 0.23
↓ -3A	0.0		0.50	99		ND
↓ -4A	0.1		0.50	81		ND
07082-1	1.3		0.52	94		ND
↓ -2	0.5	↓	0.51	92	T	ND
/						
Calibration Blank						
CCV Mid TV=						
/						
Calibration Blank	ND	T	T	T	T	ND
CCV Low TV= 25 PPS	26.5	T	T	T	T	0.026
CCV Mid TV= 50 PPS	49.2	T	T	T	T	0.049
Dup. Samp# 07082-1	1.0	50 ml	0.52	94	T	ND
MS Samp# ↓ -1	36.1	-	-	-	36.1/71	0.036
MSD ↓ -1	37.7	-	-	-	-	0.038

Standard Lot #: W960712-1  
 LCS Spike Lot #: S960325-2  
 Matrix Spike Lot #: W960712-1

Blank Spk	Result	% Rec.	Dup. Samp #	Sample Result	Duplicate Result	RPD
TV= 50 PPS	41.1	82%	07082-1	ND	ND	0.0%

MS Samp#	Samp Conc	Spike Conc	Spike Result	% Rec	Dup Result	% Rec	RPD
07082-1	ND	50 PPS	36.1	72%	37.7	75%	4.3%

Date: 7-12-96  
 Method#: \_\_\_\_\_  
 Parameter: As-2 elem. slud  
 Analyst: mn  
 Supervisor: [Signature]

S1	25 ppb
S2	50 ppb
S3	75 ppb
S4	100 ppb

Sample #	Result ug/L	Final Vol.	Samp. Wt.	% Solids	DF	Result mg/Kg
Method Blank	0.82	T	T	T	T	ND
QCTV = 50 ml	45.17					0.045
LCS	45.55					0.046
Low Level Check Std.	8.44	T	T	T		84%
07132-1A	9.53	50 ml	656	79		1.2
↓ -2A	25.57		0.53	96		2.6
↓ -3A	30.51		0.50	99		3.0
↓ -4A	11.07		0.50	81		1.3
07082-1	14.62	↓	0.52	94	T	1.5
/						
Calibration Blank						
CCV Mid TV =						
/						
Calibration Blank	0.03	T	T	T	T	ND
CCV Low TV = 25 ppb	23.18	T	T	T		0.023
CCV Mid TV = 50 ppb	47.37	T	T	T		0.047
Dup. Samp# 07082-1	15.10	50 ml	0.52	94		1.5
MS Samp# ↓ -1	48.71	-	-	-		0.049
MSD ↓ -1	48.30	-	-	-	T	0.048

Standard Lot #: W960712-1  
 LCS Spike Lot #: 5960325.2  
 Matrix Spike Lot #: W960712-1

Blk Spk	Result	% Rec.	Dup. Samp #	Sample Result	Duplicate Result	RPD
TV = <u>45.55</u> <u>50 ppb</u>	45.55	91%	07082-1	14.62	15.10	3.2%

MS Samp#	Samp Conc	Spike Conc	Spike Result	% Rec	Dup Result	% Rec	RPD
07082-1	14.62	50 ppb	48.71	68%	48.30	67%	0.8%



Date: 7-12-96  
 Method#: \_\_\_\_\_  
 Parameter: Mercury  
 Analyst: [Signature]  
 Supervisor: [Signature]

Sample #	Result ug/L	Final Vol.	Samp. Wt. (g)	% Solids	DF	Result mg/Kg
Method Blank	ND	100ml	0.51	-	-	ND
QCTV = <u>5 ppb</u>	4.7	-	-	-	-	0.005 4.7%
Low Level Check Std. <u>1.0 ppb</u>	0.7	-	-	-	-	(0.7)
07132-1	ND	100ml	0.52	78.8	-	ND
↓ -2	2.7	↓	0.55	95.5	-	0.51
↓ -3	ND	↓	0.55	99.4	-	ND
↓ -4	ND	↓	0.54	80.9	-	ND
/						
Calibration Blank						
CCV Mid TV =						
/						
Calibration Blank	ND	-	-	-	-	ND
CCV Low TV = <u>2.0 ppb</u>	1.8	-	-	-	-	0.002 1.8%
CCV Mid TV = <u>5.0 ppb</u>	4.8	-	-	-	-	0.005 4.8%
Dup. Samp# <u>07132-3</u>	ND	100ml	0.53	99.4		ND
MS Samp# <u>07132-3</u>	4.3	↓	0.51	↓	-	(0.004)
MSD ↓	4.2	↓	0.50	↓	-	(0.004)

S1	<u>10 ppb</u>
S2	<u>90 ppb</u>
S3	/
S4	/
S5	/
S6	/

Dup. Samp #	Sample Result	Duplicate Result	RPD
07132-3	ND	ND	0%

MS Samp#	Samp Conc	Spike Conc	Spike Result	% Rec	Dup Result	% Rec	RPD
07132-3	ND	6.0 ppb	4.3 ppb	86	4.2 ppb	84	2.4%

Date: 7-15-96  
 Method#: 335.3/9010  
 Parameter: Cyanide  
 Analyst: E. Benson  
 Supervisor: [Signature]

Sample #	SO2	Amt. ml/g	Final Vol	Result	DF	Result
S1=0.50	-	100 mL	100 mL	0.500	-	0.500
S2=0.25	-			0.250	-	0.250
S3=0.125	-			0.125	-	0.125
QC	-			0.215	-	0.215
Blank	-			0.001	-	0.001
Low Level Check Std.	-	↓	↓	0.087	-	0.087
E607132-1A	-	28.36	500 mL	0.134	25X	3.34
↓ -2A	-	25.62		0.216	5X	1.08
↓ -3A	-	25.26		0.163	100X	16.3
↓ -4A	-	26.56	↓	0.124	25X	3.09
/						
Dup Samp# 132-3A	-	25.26	500 mL	0.160	100X	16.0
MS Samp# ↓ -3A	-	25.10	500 mL	0.173	100X	17.3
Blk Spk TV= 0.250	-	25.25	500 mL	0.245	-	0.245
/						
Dup. Samp# E607132-3A	-	25.26	500 mL	0.173	100X	17.3
MS Samp# ↓ -3A	-	25.10	500 mL	0.160	100X	16.0
Blk Spk TV= 0.250	-	25.25	500 mL	0.245	-	0.245

(+V=0.100)  
 78.8?  
 95.5?  
 99.4?  
 90.9?

mg/kg  
 74.9  
 22.1  
 325  
 72.1  
 318  
 346  
 4.85

QC Lot #	WS1195
TV	0.250
Result	0.245
QC Limits	± 0.100

11.04  
 17.32  
 EB 7-15-96  
 see above

Blk Spk	Result	% Rec	Dup. Samp#	Sample Result	Duplicate Result	RPD
TV= 0.250	0.245	98%	E607132-3A	16.3	16.0	1.8%

MS Samp #	Conc.	Sample Result	MS Result	% REC
E607132-3A	2	16.3	17.3	40%

EB 7-15-96

100x (0.250) (0.250)x2

Method : C:\HPCHEM\1\METHODS\8270B5M6.M  
 Title : EPA 8270 calibration  
 Last Update : Fri Jul 12 12:18:20 1996  
 Response via : Initial Calibration

Non-Spiked Sample: E01546.D

Spike Sample		Spike Duplicate Sample	
File ID :	E01564.D	E01565.D	
Sample :	E607110-02 MS SOIL	E607110-02 MSD SOIL	
Acq Time:	12 Jul 96 4:42 pm	12 Jul 96 5:09 pm	

Compound	Sample Conc	Spike Added	Spike Res	Dup Res	Spike %Rec	Dup %Rec	RPD	QC RPD	Limits % Rec
Phenol	0.0	200	149	157	74	78	5	35	26- 90
2-Chlorophenol	0.0	200	163	168	81	84	3	50	25-102
1,4-Dichlorobenzene	0.0	100	76	80	76	80	4	27	28-104
N-Nitroso-di-n-propy	0.0	100	77	81	77	81	4	38	41-126
1,2,4-Trichlorobenze	0.0	100	80	85	80	85	6	38	41-126
4-Chloro-3-methylphe	0.0	200	157	164	79	82	4	33	26-103
Acenaphthene	0.0	100	81	86	81	86	7	19	31-137
2,4-Dinitrotoluene	0.0	100	70	74	70	74	6	47	28- 89
4-Nitrophenol	0.0	200	158	167	79	83	6	50	11-114
Pentachlorophenol	0.0	200	189	200	94	100	6	47	17-109
Pyrene	0.0	100	99	108	99	108	8	36	35-142

8270B5M6.M

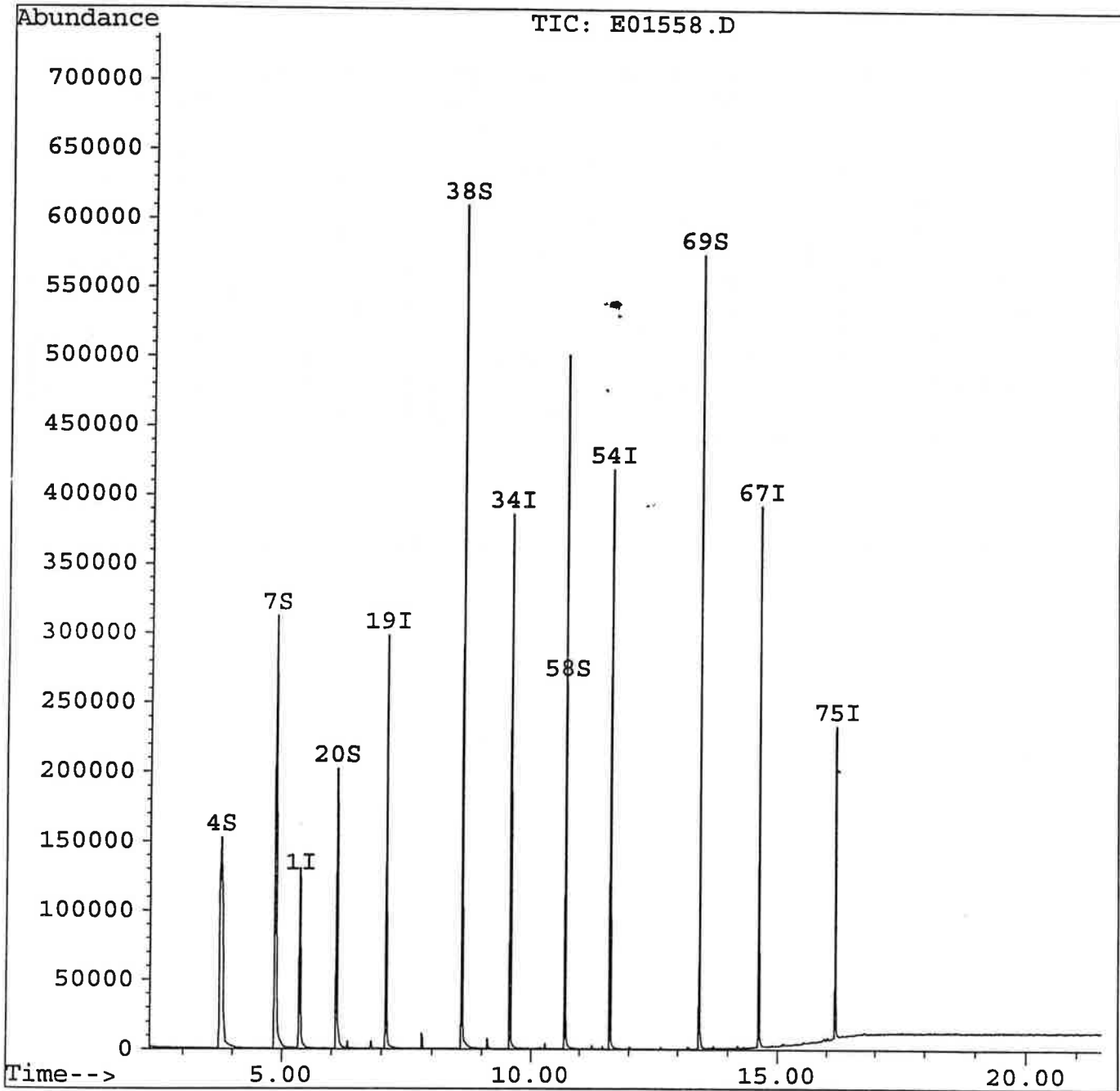
Tue Jul 16 08:21:36 1996

PC #5

Data File : C:\HPCHEM\1\DATA\E01558.D  
Acq On : 12 Jul 96 1:13 pm  
Sample : S0711BS-01  
Misc :  
Quant Time: Jul 12 13:35 1996

Vial: 5  
Operator: RAW  
Inst : 5972 MSD  
Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\8270B5M6.M  
Title : EPA 8270 calibration  
Last Update : Fri Jul 12 12:18:20 1996  
Response via : Multiple Level Calibration



Data File : C:\HPCHEM\1\DATA\E01558.D  
Acq On : 12 Jul 96 1:13 pm  
Sample : S0711BS-01  
Misc :  
Quant Time: Jul 12 13:35 1996

Vial: 5  
Operator: RAW  
Inst : 5972 MSD  
Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\8270B5M6.M  
Title : EPA 8270 calibration  
Last Update : Fri Jul 12 12:18:20 1996  
Response via : Multiple Level Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	5.38	152	44556	40.00	ug/ml	-0.01
19) Naphthalene-d8	7.09	136	167599	40.00	ug/ml	-0.01
34) Acenaphthene-d10	9.57	164	99859	40.00	ug/ml	-0.01
54) Phenanthrene-d10	11.62	188	155791	40.00	ug/ml	-0.01
67) Chrysene-d12	14.63	240	115786	40.00	ug/ml	-0.01
75) Perylene-d12	16.19	264	110475	40.00	ug/ml	-0.01
System Monitoring Compounds						%Recovery
4) 2-Fluorophenol	3.76	112	186052	160.99	ug/ml	80.50%
7) Phenol-d6	4.87	99	239926	157.82	ug/ml	78.91%
20) Nitrobenzene-d5	6.10	82	109515	73.98	ug/ml	73.98%
38) 2-Fluorobiphenyl	8.61	172	220117	76.77	ug/ml	76.77%
58) 2,4,6-Tribromophenol	10.71	330	60045	177.21	ug/ml	88.60%
69) Terphenyl-d14	13.43	244	169196	89.86	ug/ml	89.86%

Target Compounds

Qvalue

(#) = qualifier out of range (m) = manual integration













**Laboratory Resources, Inc.**  
New England Division

Route 205 - Regional Building  
Brooklyn, CT 06234  
Telephone: 203-774-6814 Fax: 203-774-2689

**ANALYTICAL DATA REPORT**

Report Number: E607139  
Project: Tidewater Former MGP

prepared for:

Atlantic Environmental  
188 Norwich Ave.  
P.O. Box 297  
Colchester, CT 06415

Attn: Peter Georgetti

Receive Date: 07/11/96  
Report Date: 07/29/96

T.F. McCommas  
Laboratory Director

Connecticut Department of Health Services PH-0465  
Maine Department of Environmental Protection TBD  
Massachusetts Department of Environmental Quality CT008  
New Hampshire Department of Environmental Services 2020  
New York Department of Health 11549  
Rhode Island Department of Health A44 0022

# GENERAL CHEMISTRY ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
Division: New England  
LRI Report No: E607139  
LRI Sample No: 1

Customer: Atlantic Environmental Eng  
Location: Pawtucket, RI  
Project: Tidewater Former MGP  
Sample Description: TTP9 (8-9)

Date Collected: 07/09/96  
Date Received: 07/11/96

Matrix: Soil  
Percent Moisture: 4.7%  
Units in Dry Weight

<u>Parameter</u>	<u>Result</u>	<u>QL</u>	<u>Units</u>	<u>Started</u> <u>Date</u>	<u>By</u>	<u>Completed</u> <u>Date</u>	<u>By</u>	<u>Dilution</u>
<u>Cyanide by 9012 Modified NE</u>								
Cyanide	0.36 U	0.36	mg/kg	07/15/96	EB	07/19/96	EB	

# METALS ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
 Division: New England  
 LRI Order No: E607139  
 LRI Sample No: 1

Client: Atlantic Environmental Eng  
 Location: Pawtucket, RI  
 Project: Tidewater Former MGP  
 Sample Description: TTP9 (8-9)

Date Collected: 07/09/96  
 Date Received: 07/11/96

Matrix: Soil  
 Percent Moisture: 4.7%

Parameter	Result	QL	Units	Started		Completed		Dilution
				Date	By	Date	By	
<u>Arsenic by Furnace by SW-846 7060</u>								
Arsenic	4.0	0.17	mg/kg	07/12/96	KH	07/16/96	MM	
<u>Mercury by Cold Vapor by SW-846 7471</u>								
Mercury	0.095 U	0.095	mg/kg	07/16/96	KH	07/18/96	KH	
<u>Metals by ICP by SW-846 6010A</u>								
Beryllium	0.29	0.17	mg/kg	07/12/96	KH	07/15/96	BS	
Chromium	5.2	2.1	mg/kg	07/12/96	KH	07/15/96	BS	
Copper	11	2.1	mg/kg	07/12/96	KH	07/15/96	BS	
Nickel	6.2	2.1	mg/kg	07/12/96	KH	07/15/96	BS	
Silver	1.7 U	1.7	mg/kg	07/12/96	KH	07/15/96	BS	
Zinc	17	0.86	mg/kg	07/12/96	KH	07/15/96	BS	
Barium	12	0.86	mg/kg	07/12/96	KH	07/15/96	BS	
Antimony	8.6 U	8.6	mg/kg	07/12/96	KH	07/15/96	BS	
Lead	8.1	4.3	mg/kg	07/12/96	KH	07/15/96	BS	
Selenium	8.6 U	8.6	mg/kg	07/12/96	KH	07/15/96	BS	
Cadmium	0.86 U	0.86	mg/kg	07/12/96	KH	07/16/96	BS	
<u>Thallium by Furnace by SW-846 7841</u>								
Thallium	0.17 U	0.17	mg/kg	07/12/96	KH	07/15/96	MM	

# GENERAL CHEMISTRY ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
Division: New England  
LRI Report No: E607139  
LRI Sample No: 2

Customer: Atlantic Environmental Eng  
Location: Pawtucket, RI  
Project: Tidewater Former MGP  
Sample Description: TTP14 (12-13)

Date Collected: 07/09/96  
Date Received: 07/11/96

Matrix: Soil  
Percent Moisture: 7.0%  
Units in Dry Weight

<u>Parameter</u>	<u>Result</u>	<u>QL</u>	<u>Units</u>	<u>Started</u> <u>Date</u>	<u>By</u>	<u>Completed</u> <u>Date</u>	<u>By</u>	<u>Dilution</u>
<u>Cyanide by 9012 Modified NE</u>								
Cyanide	2.8	0.39	mg/kg	07/15/96	EB	07/19/96	EB	

# METALS ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
 Division: New England  
 LRI Order No: E607139  
 LRI Sample No: 2

Client: Atlantic Environmental Eng  
 Location: Pawtucket, RI  
 Project: Tidewater Former MGP  
 Sample Description: TTP14 (12-13)

Date Collected: 07/09/96  
 Date Received: 07/11/96

Matrix: Soil  
 Percent Moisture: 7.0%

Parameter	Result	QL	Units	Started		Completed		Dilution
				Date	By	Date	By	
<u>Arsenic by Furnace by SW-846 7060</u>								
Arsenic	12	0.91	mg/kg	07/12/96	KH	07/16/96	MM	5
<u>Mercury by Cold Vapor by SW-846 7471</u>								
Mercury	0.095 U	0.095	mg/kg	07/16/96	KH	07/18/96	KH	
<u>Metals by ICP by SW-846 6010A</u>								
Beryllium	0.30	0.18	mg/kg	07/12/96	KH	07/15/96	BS	
Chromium	5.8	2.2	mg/kg	07/12/96	KH	07/15/96	BS	
Copper	11	2.2	mg/kg	07/12/96	KH	07/15/96	BS	
Nickel	8.5	2.2	mg/kg	07/12/96	KH	07/16/96	BS	
Silver	1.8 U	1.8	mg/kg	07/12/96	KH	07/15/96	BS	
Zinc	22	0.91	mg/kg	07/12/96	KH	07/15/96	BS	
Barium	13	0.91	mg/kg	07/12/96	KH	07/15/96	BS	
Antimony	9.1 U	9.1	mg/kg	07/12/96	KH	07/15/96	BS	
Lead	7.9	4.6	mg/kg	07/12/96	KH	07/16/96	BS	
Selenium	9.1 U	9.1	mg/kg	07/12/96	KH	07/15/96	BS	
Cadmium	0.91 U	0.91	mg/kg	07/12/96	KH	07/16/96	BS	
<u>Thallium by Furnace by SW-846 7841</u>								
Thallium	0.18 U	0.18	mg/kg	07/12/96	KH	07/15/96	MM	

# VOLATILE ORGANIC ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
 Division: New England  
 LRI Report No: E607139  
 LRI Sample No: 2

Customer: Atlantic Environmental Eng  
 Location: Pawtucket, RI  
 Project: Tidewater Former MGP  
 Sample Description: TTP14 (12-13)

Date Collected: 07/09/96  
 Date Received: 07/11/96  
 Date Extracted: By:  
 Date Analyzed: 07/23/96 By: RAW

Matrix: Soil  
 Percent Moisture: 7.0%  
 Sample Weight/Volume:  
 Dilution Factor: 1  
 Soil Extract Volume:  
 Soil Aliquot Volume:  
 Lab Data File: BH891

Method: 8260A  
 Level: LOW  
 GC Column:  
 Units: ug/kg (Dry Weight)

CAS No.	Parameter	Result	Qual	QL
107-02-8	Acrolein	27	U	27
107-13-1	Acrylonitrile	27	U	27
71-43-2	Benzene	5.4	U	5.4
108-86-1	Bromobenzene	5.4	U	5.4
74-97-5	Bromochloromethane	5.4	U	5.4
75-27-4	Bromodichloromethane	5.4	U	5.4
75-25-2	Bromoform	5.4	U	5.4
74-83-9	Bromomethane	11	U	11
104-51-8	n-Butylbenzene	5.4	U	5.4
135-98-8	sec-Butylbenzene	5.4	U	5.4
98-06-6	tert-Butylbenzene	5.4	U	5.4
56-23-5	Carbon tetrachloride	5.4	U	5.4
108-90-7	Chlorobenzene	5.4	U	5.4
75-00-3	Chloroethane	11	U	11
67-66-3	Chloroform	5.4	U	5.4
74-87-3	Chloromethane	11	U	11
95-49-8	2-Chlorotoluene	5.4	U	5.4
106-43-4	4-Chlorotoluene	5.4	U	5.4
96-12-8	1,2-Dibromo-3-chloropropane (DBCP)	5.4	U	5.4
124-48-1	Dibromochloromethane	5.4	U	5.4
106-93-4	1,2-Dibromoethane (EDB)	5.4	U	5.4
74-95-3	Dibromomethane	5.4	U	5.4
95-50-1	1,2-Dichlorobenzene	5.4	U	5.4
541-73-1	1,3-Dichlorobenzene	5.4	U	5.4
106-46-7	1,4-Dichlorobenzene	5.4	U	5.4
75-71-8	Dichlorodifluoromethane	11	U	11
75-34-3	1,1-Dichloroethane	5.4	U	5.4
107-06-2	1,2-Dichloroethane	5.4	U	5.4
75-35-4	1,1-Dichloroethene	5.4	U	5.4
156-59-4	cis-1,2-Dichloroethene	5.4	U	5.4
156-60-5	trans-1,2-Dichloroethene	5.4	U	5.4
78-87-5	1,2-Dichloropropane	5.4	U	5.4
142-28-9	1,3-Dichloropropane	5.4	U	5.4
590-20-7	2,2-Dichloropropane	5.4	U	5.4
563-58-6	1,1-Dichloropropene	5.4	U	5.4
10061-01-5	cis-1,3-Dichloropropene	5.4	U	5.4
10061-02-6	trans-1,3-Dichloropropene	5.4	U	5.4
100-41-4	Ethylbenzene	5.4	U	5.4
87-68-3	Hexachlorobutadiene	5.4	U	5.4
98-82-8	Isopropylbenzene	5.4	U	5.4
99-87-6	4-Isopropyltoluene	5.4	U	5.4
1634-04-4	Methyl tert-butyl ether (MTBE)	5.4	U	5.4

# VOLATILE ORGANIC ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
Division: New England  
LRI Report No: E607139  
LRI Sample No: 2

Customer: Atlantic Environmental Eng  
Location: Pawtucket, RI  
Project: Tidewater Former MGP  
Sample Description: TTP14 (12-13)

Method: 8260A

CAS No.	Parameter	Result	Qual	QL
75-09-2	Methylene chloride	5.4	U	5.4
91-20-3	Naphthalene	5.4	U	5.4
103-65-1	n-Propylbenzene	5.4	U	5.4
100-42-5	Styrene	5.4	U	5.4
96-18-4	1,2,3-Trichloropropane	5.4	U	5.4
630-20-6	1,1,1,2-Tetrachloroethane	5.4	U	5.4
79-34-5	1,1,2,2-Tetrachloroethane	5.4	U	5.4
127-18-4	Tetrachloroethene	5.4	U	5.4
108-88-3	Toluene	5.4	U	5.4
87-61-6	1,2,3-Trichlorobenzene	5.4	U	5.4
120-82-1	1,2,4-Trichlorobenzene	5.4	U	5.4
71-55-6	1,1,1-Trichloroethane	5.4	U	5.4
79-00-5	1,1,2-Trichloroethane	5.4	U	5.4
79-01-6	Trichloroethene (TCE)	5.4	U	5.4
75-69-4	Trichlorofluoromethane	11	U	11
95-63-6	1,2,4-Trimethylbenzene	5.4	U	5.4
108-67-8	1,3,5-Trimethylbenzene	5.4	U	5.4
75-01-4	Vinyl chloride	11	U	11
95-47-6	o-Xylene	5.4	U	5.4
	m,p-Xylenes	5.4	U	5.4

# SEMIVOLATILE ORGANIC ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
 Division: New England  
 LRI Report No: E607139  
 LRI Sample No: 2

Customer: Atlantic Environmental Eng  
 Location: Pawtucket, RI  
 Project: Tidewater Former MGP  
 Sample Description: TTP14 (12-13)

Date Collected: 07/09/96  
 Date Received: 07/11/96  
 Date Extracted: 07/23/96 By: RAW  
 Date Analyzed: 07/24/96 By: JTH

Matrix: Soil  
 Percent Moisture: 7.0%  
 pH:  
 Sample Weight/Volume: 30.01 g  
 Extract Volume: 1  
 Injection Volume:  
 Dilution Factor:  
 Lab Data File: E01645.D

Method: 8270  
 Level: LOW  
 GC Column:  
 Units: ug/kg (Dry Weight)

CAS No.	Parameter	Result	Qual	QL
83-32-9	Acenaphthene	180	U	180
208-96-8	Acenaphthylene	180	U	180
120-12-7	Anthracene	180	U	180
56-55-3	Benzo[a]anthracene	180	U	180
50-32-8	Benzo[a]pyrene	97	U	97
205-99-2	Benzo[b]fluoranthene	180	U	180
191-24-2	Benzo[g,h,i]perylene	180	U	180
207-08-9	Benzo[k]fluoranthene	180	U	180
218-01-9	Chrysene	180	U	180
53-70-3	Dibenzo[a,h]anthracene	97	U	97
206-44-0	Fluoranthene	180	U	180
86-73-7	Fluorene	180	U	180
193-39-5	Indeno[1,2,3-cd]pyrene	180	U	180
91-20-3	Naphthalene	180	U	180
85-01-8	Phenanthrene	180	U	180
129-00-0	Pyrene	180	U	180
91-57-6	2-Methylnaphthalene	180	U	180



# GENERAL CHEMISTRY ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
Division: New England  
LRI Report No: E607139  
LRI Sample No: 3

Customer: Atlantic Environmental Eng  
Location: Pawtucket, RI  
Project: Tidewater Former MGP  
Sample Description: TTP16 (7-8)

Date Collected: 07/09/96  
Date Received: 07/11/96

Matrix: Soil  
Percent Moisture: 13.9%  
Units in Dry Weight

<u>Parameter</u>	<u>Result</u>	<u>QL</u>	<u>Units</u>	<u>Started</u>	<u>Completed</u>	<u>Dilution</u>	
				<u>Date</u>	<u>By</u>	<u>Date</u>	<u>By</u>
<u>Cyanide by 9012 Modified NE</u>							
Cyanide	0.46	0.40	mg/kg	07/15/96	EB	07/19/96	EB

# METALS ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
 Division: New England  
 LRI Order No: E607139  
 LRI Sample No: 3

Client: Atlantic Environmental Eng  
 Location: Pawtucket, RI  
 Project: Tidewater Former MGP  
 Sample Description: TTP16 (7-8)

Date Collected: 07/09/96  
 Date Received: 07/11/96

Matrix: Soil  
 Percent Moisture: 13.9%

Parameter	Result	QL	Units	Started		Completed		Dilution
				Date	By	Date	By	
<u>Arsenic by Furnace by SW-846 7060</u>								
Arsenic	3.7	0.20	mg/kg	07/12/96	KH	07/16/96	MM	
<u>Mercury by Cold Vapor by SW-846 7471</u>								
Mercury	0.095U	0.095	mg/kg	07/16/96	KH	07/18/96	KH	
<u>Metals by ICP by SW-846 6010A</u>								
Beryllium	0.83	0.20	mg/kg	07/12/96	KH	07/15/96	BS	
Chromium	7.8	2.5	mg/kg	07/12/96	KH	07/15/96	BS	
Copper	17	2.5	mg/kg	07/12/96	KH	07/15/96	BS	
Nickel	7.0	2.5	mg/kg	07/12/96	KH	07/15/96	BS	
Silver	2.0U	2.0	mg/kg	07/12/96	KH	07/15/96	BS	
Zinc	18	1.0	mg/kg	07/12/96	KH	07/15/96	BS	
Barium	60	1.0	mg/kg	07/12/96	KH	07/15/96	BS	
Antimony	10U	10	mg/kg	07/12/96	KH	07/15/96	BS	
Lead	24	5.0	mg/kg	07/12/96	KH	07/15/96	BS	
Selenium	10U	10	mg/kg	07/12/96	KH	07/15/96	BS	
Cadmium	1.0U	1.0	mg/kg	07/12/96	KH	07/16/96	BS	
<u>Thallium by Furnace by SW-846 7841</u>								
Thallium	0.20U	0.20	mg/kg	07/12/96	KH	07/15/96	MM	

# GENERAL CHEMISTRY ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
Division: New England  
LRI Report No: E607139  
LRI Sample No: 4

Customer: Atlantic Environmental Eng  
Location: Pawtucket, RI  
Project: Tidewater Former MGP  
Sample Description: TB15 (0-2)

Date Collected: 07/09/96  
Date Received: 07/11/96

Matrix: Soil  
Percent Moisture: 6.0%  
Units in Dry Weight

Parameter	Result	QL	Units	Started		Completed		Dilution
				Date	By	Date	By	
<u>Cyanide by 9012 Modified NE</u>								
Cyanide	51	4.0	mg/kg	07/15/96	EB	07/19/96	EB	10

# METALS ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
 Division: New England  
 LRI Order No: E607139  
 LRI Sample No: 4

Client: Atlantic Environmental Eng  
 Location: Pawtucket, RI  
 Project: Tidewater Former MGP  
 Sample Description: TB15 (0-2)

Date Collected: 07/09/96  
 Date Received: 07/11/96

Matrix: Soil  
 Percent Moisture: 6.0%

Parameter	Result	QL	Units	Started		Completed		Dilution
				Date	By	Date	By	
<u>Arsenic by Furnace by SW-846 7060</u>								
Arsenic	9.8	0.37	mg/kg	07/12/96	KH	07/16/96	MM	2
<u>Mercury by Cold Vapor by SW-846 7471</u>								
Mercury	0.094U	0.094	mg/kg	07/16/96	KH	07/18/96	KH	
<u>Metals by ICP by SW-846 6010A</u>								
Beryllium	0.21	0.18	mg/kg	07/12/96	KH	07/15/96	BS	
Chromium	12	2.3	mg/kg	07/12/96	KH	07/15/96	BS	
Copper	29	2.3	mg/kg	07/12/96	KH	07/15/96	BS	
Nickel	11	2.3	mg/kg	07/12/96	KH	07/16/96	BS	
Silver	1.8U	1.8	mg/kg	07/12/96	KH	07/15/96	BS	
Zinc	14	0.92	mg/kg	07/12/96	KH	07/15/96	BS	
Barium	74	0.92	mg/kg	07/12/96	KH	07/15/96	BS	
Antimony	9.2U	9.2	mg/kg	07/12/96	KH	07/15/96	BS	
Lead	52	4.6	mg/kg	07/12/96	KH	07/15/96	BS	
Selenium	9.2U	9.2	mg/kg	07/12/96	KH	07/15/96	BS	
Cadmium	0.92U	0.92	mg/kg	07/12/96	KH	07/16/96	BS	
<u>Thallium by Furnace by SW-846 7841</u>								
Thallium	0.18U	0.18	mg/kg	07/12/96	KH	07/15/96	MM	

# VOLATILE ORGANIC ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
 Division: New England  
 LRI Report No: E607139  
 LRI Sample No: 4

Customer: Atlantic Environmental Eng  
 Location: Pawtucket, RI  
 Project: Tidewater Former MGP  
 Sample Description: TB15 (0-2)

Date Collected: 07/09/96  
 Date Received: 07/11/96  
 Date Extracted: By:  
 Date Analyzed: 07/23/96 By: RAW

Matrix: Soil  
 Percent Moisture: 6.0%  
 Sample Weight/Volume:  
 Dilution Factor: 1  
 Soil Extract Volume:  
 Soil Aliquot Volume:  
 Lab Data File: BH892

Method: 8260A  
 Level: LOW  
 GC Column:  
 Units: ug/kg (Dry Weight)

CAS No.	Parameter	Result	Qual	QL
107-02-8	Acrolein	27	U	27
107-13-1	Acrylonitrile	27	U	27
71-43-2	Benzene	5.3	U	5.3
108-86-1	Bromobenzene	5.3	U	5.3
74-97-5	Bromochloromethane	5.3	U	5.3
75-27-4	Bromodichloromethane	5.3	U	5.3
75-25-2	Bromoform	5.3	U	5.3
74-83-9	Bromomethane	11	U	11
104-51-8	n-Butylbenzene	5.3	U	5.3
135-98-8	sec-Butylbenzene	5.3	U	5.3
98-06-6	tert-Butylbenzene	5.3	U	5.3
56-23-5	Carbon tetrachloride	5.3	U	5.3
108-90-7	Chlorobenzene	5.3	U	5.3
75-00-3	Chloroethane	11	U	11
67-66-3	Chloroform	5.3	U	5.3
74-87-3	Chloromethane	11	U	11
95-49-8	2-Chlorotoluene	5.3	U	5.3
106-43-4	4-Chlorotoluene	5.3	U	5.3
96-12-8	1,2-Dibromo-3-chloropropane (DBCP)	5.3	U	5.3
124-48-1	Dibromochloromethane	5.3	U	5.3
106-93-4	1,2-Dibromoethane (EDB)	5.3	U	5.3
74-95-3	Dibromomethane	5.3	U	5.3
95-50-1	1,2-Dichlorobenzene	5.3	U	5.3
541-73-1	1,3-Dichlorobenzene	5.3	U	5.3
106-46-7	1,4-Dichlorobenzene	5.3	U	5.3
75-71-8	Dichlorodifluoromethane	11	U	11
75-34-3	1,1-Dichloroethane	5.3	U	5.3
107-06-2	1,2-Dichloroethane	5.3	U	5.3
75-35-4	1,1-Dichloroethene	5.3	U	5.3
156-59-4	cis-1,2-Dichloroethene	5.3	U	5.3
156-60-5	trans-1,2-Dichloroethene	5.3	U	5.3
78-87-5	1,2-Dichloropropane	5.3	U	5.3
142-28-9	1,3-Dichloropropane	5.3	U	5.3
590-20-7	2,2-Dichloropropane	5.3	U	5.3
563-58-6	1,1-Dichloropropene	5.3	U	5.3
10061-01-5	cis-1,3-Dichloropropene	5.3	U	5.3
10061-02-6	trans-1,3-Dichloropropene	5.3	U	5.3
100-41-4	Ethylbenzene	5.3	U	5.3
87-68-3	Hexachlorobutadiene	5.3	U	5.3
98-82-8	Isopropylbenzene	5.3	U	5.3
99-87-6	4-Isopropyltoluene	5.3	U	5.3
1634-04-4	Methyl tert-butyl ether (MTBE)	5.3	U	5.3

# VOLATILE ORGANIC ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
Division: New England  
LRI Report No: E607139  
LRI Sample No: 4

Customer: Atlantic Environmental Eng  
Location: Pawtucket, RI  
Project: Tidewater Former MGP  
Sample Description: TB15 (0-2)

Method: 8260A

CAS No.	Parameter	Result	Qual	QL
75-09-2	Methylene chloride	5.3	U	5.3
91-20-3	Naphthalene	5.3	U	5.3
103-65-1	n-Propylbenzene	5.3	U	5.3
100-42-5	Styrene	5.3	U	5.3
96-18-4	1,2,3-Trichloropropane	5.3	U	5.3
630-20-6	1,1,1,2-Tetrachloroethane	5.3	U	5.3
79-34-5	1,1,2,2-Tetrachloroethane	5.3	U	5.3
127-18-4	Tetrachloroethene	5.3	U	5.3
108-88-3	Toluene	5.3	U	5.3
87-61-6	1,2,3-Trichlorobenzene	5.3	U	5.3
120-82-1	1,2,4-Trichlorobenzene	5.3	U	5.3
71-55-6	1,1,1-Trichloroethane	5.3	U	5.3
79-00-5	1,1,2-Trichloroethane	5.3	U	5.3
79-01-6	Trichloroethene (TCE)	5.3	U	5.3
75-69-4	Trichlorofluoromethane	11	U	11
95-63-6	1,2,4-Trimethylbenzene	5.3	U	5.3
108-67-8	1,3,5-Trimethylbenzene	5.3	U	5.3
75-01-4	Vinyl chloride	11	U	11
95-47-6	o-Xylene	5.3	U	5.3
	m,p-Xylenes	5.3	U	5.3

# SEMIVOLATILE ORGANIC ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
 Division: New England  
 LRI Report No: E607139  
 LRI Sample No: 4

Customer: Atlantic Environmental Eng  
 Location: Pawtucket, RI  
 Project: Tidewater Former MGP  
 Sample Description: TB15 (0-2)

Date Collected: 07/09/96  
 Date Received: 07/11/96  
 Date Extracted: 07/23/96 By: RAW  
 Date Analyzed: 07/25/96 By: RAW

Matrix: Soil  
 Percent Moisture: 6.0%  
 pH:  
 Sample Weight/Volume: 30.08 g  
 Extract Volume: 1  
 Injection Volume:  
 Dilution Factor:  
 Lab Data File: E01661

Method: 8270  
 Level: LOW  
 GC Column:  
 Units: ug/kg ( Dry Weight )

CAS No.	Parameter	Result	Qual	QL
83-32-9	Acenaphthene	180	U	180
208-96-8	Acenaphthylene	290		180
120-12-7	Anthracene	210		180
56-55-3	Benzo[a]anthracene	840		180
50-32-8	Benzo[a]pyrene	630		88
205-99-2	Benzo[b]fluoranthene	1300		180
191-24-2	Benzo[g,h,i]perylene	400		180
207-08-9	Benzo[k]fluoranthene	310		180
218-01-9	Chrysene	900		180
53-70-3	Dibenzo[a,h]anthracene	91		88
206-44-0	Fluoranthene	1300		180
86-73-7	Fluorene	180	U	180
193-39-5	Indeno[1,2,3-cd]pyrene	340		180
91-20-3	Naphthalene	180	U	180
85-01-8	Phenanthrene	750		180
129-00-0	Pyrene	1900		180
91-57-6	2-Methylnaphthalene	180	U	180

# GENERAL CHEMISTRY ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
Division: New England  
LRI Report No: E607139  
LRI Sample No: 5

Customer: Atlantic Environmental Eng  
Location: Pawtucket, RI  
Project: Tidewater Former MGP  
Sample Description: TB15 (4-6)

Date Collected: 07/09/96  
Date Received: 07/11/96

Matrix: Soil  
Percent Moisture: 7.6%  
Units in Dry Weight

<u>Parameter</u>	<u>Result</u>	<u>QL</u>	<u>Units</u>	<u>Started</u> <u>Date</u>	<u>By</u>	<u>Completed</u> <u>Date</u>	<u>By</u>	<u>Dilution</u>
<u>Cyanide by 9012 Modified NE</u> Cyanide	48	4.1	mg/kg	07/15/96	EB	07/19/96	EB	10



# METALS ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
 Division: New England  
 LRI Order No: E607139  
 LRI Sample No: 5

Client: Atlantic Environmental Eng  
 Location: Pawtucket, RI  
 Project: Tidewater Former MGP  
 Sample Description: TB15 (4-6)

Date Collected: 07/09/96  
 Date Received: 07/11/96

Matrix: Soil  
 Percent Moisture: 7.6%

Parameter	Result	QL	Units	Started		Completed		Dilution
				Date	By	Date	By	
<u>Arsenic by Furnace by SW-846 7060</u>								
Arsenic	7.2	0.19	mg/kg	07/12/96	KH	07/16/96	MM	
<u>Mercury by Cold Vapor by SW-846 7471</u>								
Mercury	0.096 U	0.096	mg/kg	07/16/96	KH	07/18/96	KH	
<u>Metals by ICP by SW-846 6010A</u>								
Beryllium	0.19 U	0.19	mg/kg	07/12/96	KH	07/16/96	BS	
Chromium	12	2.4	mg/kg	07/12/96	KH	07/15/96	BS	
Copper	40	2.4	mg/kg	07/12/96	KH	07/15/96	BS	
Nickel	13	2.4	mg/kg	07/12/96	KH	07/15/96	BS	
Silver	1.9 U	1.9	mg/kg	07/12/96	KH	07/15/96	BS	
Zinc	15	0.97	mg/kg	07/12/96	KH	07/15/96	BS	
Barium	64	0.97	mg/kg	07/12/96	KH	07/15/96	BS	
Antimony	9.7 U	9.7	mg/kg	07/12/96	KH	07/15/96	BS	
Lead	31	4.9	mg/kg	07/12/96	KH	07/15/96	BS	
Selenium	9.7 U	9.7	mg/kg	07/12/96	KH	07/15/96	BS	
Cadmium	0.97 U	0.97	mg/kg	07/12/96	KH	07/16/96	BS	
<u>Thallium by Furnace by SW-846 7841</u>								
Thallium	0.19 U	0.19	mg/kg	07/12/96	KH	07/15/96	MM	

# GENERAL CHEMISTRY ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
Division: New England  
LRI Report No: E607139  
LRI Sample No: 6

Customer: Atlantic Environmental Eng  
Location: Pawtucket, RI  
Project: Tidewater Former MGP  
Sample Description: TTP10 (11-12)

Date Collected: 07/09/96  
Date Received: 07/11/96

Matrix: Soil  
Percent Moisture: 18.0%  
Units in Dry Weight

<u>Parameter</u>	<u>Result</u>	<u>QL</u>	<u>Units</u>	<u>Started</u> <u>Date</u>	<u>By</u>	<u>Completed</u> <u>Date</u>	<u>By</u>	<u>Dilution</u>
<u>Cyanide by 9012 Modified NE</u> Cyanide	97	11	mg/kg	07/15/96	EB	07/19/96	EB	25

# METALS ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
 Division: New England  
 LRI Order No: E607139  
 LRI Sample No: 6

Client: Atlantic Environmental Eng  
 Location: Pawtucket, RI  
 Project: Tidewater Former MGP  
 Sample Description: TTP10 (11-12)

Date Collected: 07/09/96  
 Date Received: 07/11/96

Matrix: Soil  
 Percent Moisture: 18.0%

Parameter	Result	QL	Units	Started		Completed		Dilution
				Date	By	Date	By	
<u>Arsenic by Furnace by SW-846 7060</u>								
Arsenic	9.2	0.20	mg/kg	07/12/96	KH	07/16/96	MM	
<u>Mercury by Cold Vapor by SW-846 7471</u>								
Mercury	4.0	1.0	mg/kg	07/16/96	KH	07/22/96	KH	10
<u>Metals by ICP by SW-846 6010A</u>								
Beryllium	0.38	0.20	mg/kg	07/12/96	KH	07/16/96	BS	
Chromium	53	2.4	mg/kg	07/12/96	KH	07/15/96	BS	
Copper	200	2.4	mg/kg	07/12/96	KH	07/15/96	BS	
Nickel	81	2.4	mg/kg	07/12/96	KH	07/15/96	BS	
Silver	2.0U	2.0	mg/kg	07/12/96	KH	07/15/96	BS	
Zinc	63	1.0	mg/kg	07/12/96	KH	07/15/96	BS	
Barium	52	1.0	mg/kg	07/12/96	KH	07/15/96	BS	
Antimony	10U	10	mg/kg	07/12/96	KH	07/15/96	BS	
Lead	82	5.0	mg/kg	07/12/96	KH	07/15/96	BS	
Selenium	10U	10	mg/kg	07/12/96	KH	07/15/96	BS	
Cadmium	1.0U	1.0	mg/kg	07/12/96	KH	07/16/96	BS	
<u>Thallium by Furnace by SW-846 7841</u>								
Thallium	0.20U	0.20	mg/kg	07/12/96	KH	07/15/96	MM	

# GENERAL CHEMISTRY ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
Division: New England  
LRI Report No: E607139  
LRI Sample No: 7

Customer: Atlantic Environmental Eng  
Location: Pawtucket, RI  
Project: Tidewater Former MGP  
Sample Description: TB14 (0-2)

Date Collected: 07/09/96  
Date Received: 07/11/96

Matrix: Soil  
Percent Moisture: 14.0%  
Units in Dry Weight

<u>Parameter</u>	<u>Result</u>	<u>QL</u>	<u>Units</u>	<u>Started</u> <u>Date</u>	<u>By</u>	<u>Completed</u> <u>Date</u>	<u>By</u>	<u>Dilution</u>
<u>Cyanide by 9012 Modified NE</u>								
Cyanide	0.80	0.44	mg/kg	07/15/96	EB	07/19/96	EB	

# METALS ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
 Division: New England  
 LRI Order No: E607139  
 LRI Sample No: 7

Client: Atlantic Environmental Eng  
 Location: Pawtucket, RI  
 Project: Tidewater Former MGP  
 Sample Description: TB14 (0-2)

Date Collected: 07/09/96  
 Date Received: 07/11/96

Matrix: Soil  
 Percent Moisture: 14.0%

Parameter	Result	QL	Units	Started		Completed		Dilution
				Date	By	Date	By	
<u>Arsenic by Furnace by SW-846 7060</u>								
Arsenic	8.1	0.21	mg/kg	07/12/96	KH	07/16/96	MM	
<u>Mercury by Cold Vapor by SW-846 7471</u>								
Mercury	0.10U	0.10	mg/kg	07/16/96	KH	07/18/96	KH	
<u>Metals by ICP by SW-846 6010A</u>								
Beryllium	0.62	0.21	mg/kg	07/12/96	KH	07/15/96	BS	
Chromium	35	2.5	mg/kg	07/12/96	KH	07/15/96	BS	
Copper	62	2.5	mg/kg	07/12/96	KH	07/15/96	BS	
Nickel	30	2.5	mg/kg	07/12/96	KH	07/15/96	BS	
Silver	2.1U	2.1	mg/kg	07/12/96	KH	07/15/96	BS	
Zinc	98	1.0	mg/kg	07/12/96	KH	07/15/96	BS	
Barium	61	1.0	mg/kg	07/12/96	KH	07/15/96	BS	
Antimony	10U	10	mg/kg	07/12/96	KH	07/15/96	BS	
Lead	220	5.1	mg/kg	07/12/96	KH	07/15/96	BS	
Selenium	10U	10	mg/kg	07/12/96	KH	07/15/96	BS	
Cadmium	1.0U	1.0	mg/kg	07/12/96	KH	07/16/96	BS	
<u>Thallium by Furnace by SW-846 7841</u>								
Thallium	0.21U	0.21	mg/kg	07/12/96	KH	07/15/96	MM	

# GENERAL CHEMISTRY ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
Division: New England  
LRI Report No: E607139  
LRI Sample No: 8

Customer: Atlantic Environmental Eng  
Location: Pawtucket, RI  
Project: Tidewater Former MGP  
Sample Description: TB14 (4-6)

Date Collected: 07/09/96  
Date Received: 07/11/96

Matrix: Soil  
Percent Moisture: 17.0%  
Units in Dry Weight

<u>Parameter</u>	<u>Result</u>	<u>QL</u>	<u>Units</u>	<u>Started</u> <u>Date</u>	<u>By</u>	<u>Completed</u> <u>Date</u>	<u>By</u>	<u>Dilution</u>
<u>Cyanide by 9012 Modified NE</u>								
Cyanide	0.46 U	0.46	mg/kg	07/15/96	EB	07/19/96	EB	

# METALS ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
 Division: New England  
 LRI Order No: E607139  
 LRI Sample No: 8

Client: Atlantic Environmental Eng  
 Location: Pawtucket, RI  
 Project: Tidewater Former MGP  
 Sample Description: TB14 (4-6)

Date Collected: 07/09/96  
 Date Received: 07/11/96

Matrix: Soil  
 Percent Moisture: 17.0%

Parameter	Result	QL	Units	Started		Completed		Dilution
				Date	By	Date	By	
<u>Arsenic by Furnace by SW-846 7060</u>								
Arsenic	2.6	0.20	mg/kg	07/12/96	KH	07/16/96	MM	
<u>Mercury by Cold Vapor by SW-846 7471</u>								
Mercury	0.099U	0.099	mg/kg	07/16/96	KH	07/18/96	KH	
<u>Metals by ICP by SW-846 6010A</u>								
Beryllium	0.20U	0.20	mg/kg	07/12/96	KH	07/16/96	BS	
Chromium	4.4	2.5	mg/kg	07/12/96	KH	07/15/96	BS	
Copper	4.3	2.5	mg/kg	07/12/96	KH	07/15/96	BS	
Nickel	6.1	2.5	mg/kg	07/12/96	KH	07/16/96	BS	
Silver	2.0U	2.0	mg/kg	07/12/96	KH	07/15/96	BS	
Zinc	15	1.0	mg/kg	07/12/96	KH	07/15/96	BS	
Barium	25	1.0	mg/kg	07/12/96	KH	07/15/96	BS	
Antimony	10U	10	mg/kg	07/12/96	KH	07/15/96	BS	
Lead	5.0U	5.0	mg/kg	07/12/96	KH	07/15/96	BS	
Selenium	10U	10	mg/kg	07/12/96	KH	07/15/96	BS	
Cadmium	1.0U	1.0	mg/kg	07/12/96	KH	07/16/96	BS	
<u>Thallium by Furnace by SW-846 7841</u>								
Thallium	0.20U	0.20	mg/kg	07/12/96	KH	07/15/96	MM	

# GENERAL CHEMISTRY ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
Division: New England  
LRI Report No: E607139  
LRI Sample No: 9

Customer: Atlantic Environmental Eng  
Location: Pawtucket, RI  
Project: Tidewater Former MGP  
Sample Description: TB11 (0-2)

Date Collected: 07/10/96  
Date Received: 07/11/96

Matrix: Soil  
Percent Moisture: 6.8%  
Units in Dry Weight

<u>Parameter</u>	<u>Result</u>	<u>QL</u>	<u>Units</u>	<u>Started</u> <u>Date</u>	<u>By</u>	<u>Completed</u> <u>Date</u>	<u>By</u>	<u>Dilution</u>
<u>Cyanide by 9012 Modified NE</u>								
Cyanide	86	9.4	mg/kg	07/15/96	EB	07/19/96	EB	25



# METALS ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
 Division: New England  
 LRI Order No: E607139  
 LRI Sample No: 9

Client: Atlantic Environmental Eng  
 Location: Pawtucket, RI  
 Project: Tidewater Former MGP  
 Sample Description: TB11 (0-2)

Date Collected: 07/10/96  
 Date Received: 07/11/96

Matrix: Soil  
 Percent Moisture: 6.8%

Parameter	Result	QL	Units	Started		Completed		Dilution
				Date	By	Date	By	
<u>Arsenic by Furnace by SW-846 7060</u>								
Arsenic	3.4	0.19	mg/kg	07/12/96	KH	07/16/96	MM	
<u>Mercury by Cold Vapor by SW-846 7471</u>								
Mercury	0.10	0.093	mg/kg	07/16/96	KH	07/18/96	KH	
<u>Metals by ICP by SW-846 6010A</u>								
Beryllium	0.33	0.19	mg/kg	07/12/96	KH	07/16/96	BS	
Chromium	13	2.3	mg/kg	07/12/96	KH	07/15/96	BS	
Copper	23	2.3	mg/kg	07/12/96	KH	07/15/96	BS	
Nickel	12	2.3	mg/kg	07/12/96	KH	07/15/96	BS	
Silver	1.9U	1.9	mg/kg	07/12/96	KH	07/15/96	BS	
Zinc	33	0.93	mg/kg	07/12/96	KH	07/15/96	BS	
Barium	46	0.93	mg/kg	07/12/96	KH	07/15/96	BS	
Antimony	9.3U	9.3	mg/kg	07/12/96	KH	07/15/96	BS	
Lead	67	4.6	mg/kg	07/12/96	KH	07/15/96	BS	
Selenium	9.3U	9.3	mg/kg	07/12/96	KH	07/15/96	BS	
Cadmium	0.93U	0.93	mg/kg	07/12/96	KH	07/16/96	BS	
<u>Thallium by Furnace by SW-846 7841</u>								
Thallium	0.19U	0.19	mg/kg	07/12/96	KH	07/15/96	MM	

# VOLATILE ORGANIC ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
 Division: New England  
 LRI Report No: E607139  
 LRI Sample No: 9

Customer: Atlantic Environmental Eng  
 Location: Pawtucket, RI  
 Project: Tidewater Former MGP  
 Sample Description: TB11 (0-2)

Date Collected: 07/10/96  
 Date Received: 07/11/96  
 Date Extracted: By:  
 Date Analyzed: 07/23/96 By: RAW

Matrix: Soil  
 Percent Moisture: 6.8%  
 Sample Weight/Volume:  
 Dilution Factor: 1  
 Soil Extract Volume:  
 Soil Aliquot Volume:  
 Lab Data File: BH893

Method: 8260A  
 Level: LOW  
 GC Column:  
 Units: ug/kg (Dry Weight)

CAS No.	Parameter	Result	Qual	QL
107-02-8	Acrolein	27	U	27
107-13-1	Acrylonitrile	27	U	27
71-43-2	Benzene	5.4	U	5.4
108-86-1	Bromobenzene	5.4	U	5.4
74-97-5	Bromochloromethane	5.4	U	5.4
75-27-4	Bromodichloromethane	5.4	U	5.4
75-25-2	Bromoform	5.4	U	5.4
74-83-9	Bromomethane	11	U	11
104-51-8	n-Butylbenzene	5.4	U	5.4
135-98-8	sec-Butylbenzene	5.4	U	5.4
98-06-6	tert-Butylbenzene	5.4	U	5.4
56-23-5	Carbon tetrachloride	5.4	U	5.4
108-90-7	Chlorobenzene	5.4	U	5.4
75-00-3	Chloroethane	11	U	11
67-66-3	Chloroform	5.4	U	5.4
74-87-3	Chloromethane	11	U	11
95-49-8	2-Chlorotoluene	5.4	U	5.4
106-43-4	4-Chlorotoluene	5.4	U	5.4
96-12-8	1,2-Dibromo-3-chloropropane (DBCP)	5.4	U	5.4
124-48-1	Dibromochloromethane	5.4	U	5.4
106-93-4	1,2-Dibromoethane (EDB)	5.4	U	5.4
74-95-3	Dibromomethane	5.4	U	5.4
95-50-1	1,2-Dichlorobenzene	5.4	U	5.4
541-73-1	1,3-Dichlorobenzene	5.4	U	5.4
106-46-7	1,4-Dichlorobenzene	5.4	U	5.4
75-71-8	Dichlorodifluoromethane	11	U	11
75-34-3	1,1-Dichloroethane	5.4	U	5.4
107-06-2	1,2-Dichloroethane	5.4	U	5.4
75-35-4	1,1-Dichloroethene	5.4	U	5.4
156-59-4	cis-1,2-Dichloroethene	5.4	U	5.4
156-60-5	trans-1,2-Dichloroethene	5.4	U	5.4
78-87-5	1,2-Dichloropropane	5.4	U	5.4
142-28-9	1,3-Dichloropropane	5.4	U	5.4
590-20-7	2,2-Dichloropropane	5.4	U	5.4
563-58-6	1,1-Dichloropropene	5.4	U	5.4
10061-01-5	cis-1,3-Dichloropropene	5.4	U	5.4
10061-02-6	trans-1,3-Dichloropropene	5.4	U	5.4
100-41-4	Ethylbenzene	5.4	U	5.4
87-68-3	Hexachlorobutadiene	5.4	U	5.4
98-82-8	Isopropylbenzene	5.4	U	5.4
99-87-6	4-Isopropyltoluene	5.4	U	5.4
1634-04-4	Methyl tert-butyl ether (MTBE)	5.4	U	5.4

# VOLATILE ORGANIC ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
Division: New England  
LRI Report No: E607139  
LRI Sample No: 9

Customer: Atlantic Environmental Eng  
Location: Pawtucket, RI  
Project: Tidewater Former MGP  
Sample Description: TB11 (0-2)

Method: 8260A

CAS No.	Parameter	Result	Qual	QL
75-09-2	Methylene chloride	5.4	U	5.4
91-20-3	Naphthalene	5.4	U	5.4
103-65-1	n-Propylbenzene	5.4	U	5.4
100-42-5	Styrene	5.4	U	5.4
96-18-4	1,2,3-Trichloropropane	5.4	U	5.4
630-20-6	1,1,1,2-Tetrachloroethane	5.4	U	5.4
79-34-5	1,1,2,2-Tetrachloroethane	5.4	U	5.4
127-18-4	Tetrachloroethene	5.4	U	5.4
108-88-3	Toluene	5.4	U	5.4
87-61-6	1,2,3-Trichlorobenzene	5.4	U	5.4
120-82-1	1,2,4-Trichlorobenzene	5.4	U	5.4
71-55-6	1,1,1-Trichloroethane	5.4	U	5.4
79-00-5	1,1,2-Trichloroethane	5.4	U	5.4
79-01-6	Trichloroethene (TCE)	5.4	U	5.4
75-69-4	Trichlorofluoromethane	11	U	11
95-63-6	1,2,4-Trimethylbenzene	5.4	U	5.4
108-67-8	1,3,5-Trimethylbenzene	5.4	U	5.4
75-01-4	Vinyl chloride	11	U	11
95-47-6	o-Xylene	5.4	U	5.4
	m,p-Xylenes	5.4	U	5.4

# SEMIVOLATILE ORGANIC ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
 Division: New England  
 LRI Report No: E607139  
 LRI Sample No: 9

Customer: Atlantic Environmental Eng  
 Location: Pawtucket, RI  
 Project: Tidewater Former MGP  
 Sample Description: TB11 (0-2)

Date Collected: 07/10/96  
 Date Received: 07/11/96  
 Date Extracted: 07/23/96 By: RAW  
 Date Analyzed: 07/26/96 By: RAW

Matrix: Soil  
 Percent Moisture: 6.8%  
 pH:  
 Sample Weight/Volume: 30.05 g  
 Extract Volume: 1  
 Injection Volume:  
 Dilution Factor: 2  
 Lab Data File: A12743

Method: 8270  
 Level: LOW  
 GC Column:  
 Units: ug/kg (Dry Weight)

CAS No.	Parameter	Result	Qual	QL
83-32-9	Acenaphthene	360	U	360
208-96-8	Acenaphthylene	1400		360
120-12-7	Anthracene	990		360
56-55-3	Benzo[a]anthracene	4700		360
50-32-8	Benzo[a]pyrene	5300		140
205-99-2	Benzo[b]fluoranthene	5500		360
191-24-2	Benzo[g,h,i]perylene	2600		360
207-08-9	Benzo[k]fluoranthene	4500		360
218-01-9	Chrysene	4900		360
53-70-3	Dibenzo[a,h]anthracene	140	U	140
206-44-0	Fluoranthene	5600		360
86-73-7	Fluorene	360	U	360
193-39-5	Indeno[1,2,3-cd]pyrene	2600		360
91-20-3	Naphthalene	360	U	360
85-01-8	Phenanthrene	2600		360
129-00-0	Pyrene	8400		360
91-57-6	2-Methylnaphthalene	360	U	360

# GENERAL CHEMISTRY ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
Division: New England  
LRI Report No: E607139  
LRI Sample No: 10

Customer: Atlantic Environmental Eng  
Location: Pawtucket, RI  
Project: Tidewater Former MGP  
Sample Description: TSS 30

Date Collected: 07/10/96  
Date Received: 07/11/96

Matrix: Soil  
Percent Moisture: 7.9%  
Units in Dry Weight

<u>Parameter</u>	<u>Result</u>	<u>QL</u>	<u>Units</u>	<u>Started</u>		<u>Completed</u>		<u>Dilution</u>
				<u>Date</u>	<u>By</u>	<u>Date</u>	<u>By</u>	
<u>Cyanide by 9012 Modified NE</u>								
Cyanide	14	1.9	mg/kg	07/15/96	EB	07/19/96	EB	5

# METALS ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
 Division: New England  
 LRI Order No: E607139  
 LRI Sample No: 10

Client: Atlantic Environmental Eng  
 Location: Pawtucket, RI  
 Project: Tidewater Former MGP  
 Sample Description: TSS 30

Date Collected: 07/10/96  
 Date Received: 07/11/96

Matrix: Soil  
 Percent Moisture: 7.9%

Parameter	Result	QL	Units	Started		Completed		Dilution
				Date	By	Date	By	
<u>Arsenic by Furnace by SW-846 7060</u>								
Arsenic	3.9	0.18	mg/kg	07/12/96	KH	07/16/96	MM	
<u>Mercury by Cold Vapor by SW-846 7471</u>								
Mercury	0.10U	0.10	mg/kg	07/16/96	KH	07/18/96	KH	
<u>Metals by ICP by SW-846 6010A</u>								
Beryllium	0.63	0.18	mg/kg	07/12/96	KH	07/15/96	BS	
Chromium	14	2.2	mg/kg	07/12/96	KH	07/15/96	BS	
Copper	30	2.2	mg/kg	07/12/96	KH	07/15/96	BS	
Nickel	22	2.2	mg/kg	07/12/96	KH	07/15/96	BS	
Silver	1.8U	1.8	mg/kg	07/12/96	KH	07/15/96	BS	
Zinc	55	0.89	mg/kg	07/12/96	KH	07/15/96	BS	
Barium	41	0.89	mg/kg	07/12/96	KH	07/15/96	BS	
Antimony	8.9U	8.9	mg/kg	07/12/96	KH	07/15/96	BS	
Lead	26	4.4	mg/kg	07/12/96	KH	07/15/96	BS	
Selenium	8.9U	8.9	mg/kg	07/12/96	KH	07/15/96	BS	
Cadmium	0.89U	0.89	mg/kg	07/12/96	KH	07/16/96	BS	
<u>Thallium by Furnace by SW-846 7841</u>								
Thallium	0.18U	0.18	mg/kg	07/12/96	KH	07/15/96	MM	

# GENERAL CHEMISTRY ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
 Division: New England  
 LRI Report No: E607139  
 LRI Sample No: 11

Customer: Atlantic Environmental Eng  
 Location: Pawtucket, RI  
 Project: Tidewater Former MGP  
 Sample Description: TTP8B (8-9)

Date Collected: 07/10/96  
 Date Received: 07/11/96

Matrix: Soil  
 Percent Moisture: 19.7%  
 Units in Dry Weight

Parameter	Result	QL	Units	Started Date	By	Completed Date	By	Dilution
<u>Ignitability by SW846 1010</u>								
Ignitability (Flashpoint)	>160		°F			07/19/96	PW	
<u>Reactive Cyanide by SW-846 7.3.3.2, Reactive</u>								
Cyanide	0.71	0.62	mg/kg			07/12/96	EB	
<u>Reactive Sulfide by SW-846 7.4.2.1, Reactive</u>								
Sulfide	120	0.62	mg/kg			07/12/96	EB	
<u>pH by SW-846 9040/9045</u>								
pH	8.3		pH Units			07/12/96	JS	

# METALS ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
 Division: New England  
 LRI Order No: E607139  
 LRI Sample No: 11

Client: Atlantic Environmental Eng  
 Location: Pawtucket, RI  
 Project: Tidewater Former MGP  
 Sample Description: TTP8B (8-9)

Date Collected: 07/10/96  
 Date Received: 07/11/96

Matrix: Soil  
 Percent Moisture: 19.7%

Parameter	Result	QL	Units	Started		Completed		Dilution
				Date	By	Date	By	
<u>Mercury by Cold Vapor by SW-846 7470, TCLP</u>								
Mercury	0.00046 U	0.00046	mg/L	07/18/96	KH	07/22/96	KH	
<u>Metals by ICP by SW-846 6010A, TCLP</u>								
Silver	0.020 U	0.020	mg/L	07/17/96	KH	07/18/96	BS	
Arsenic	0.24	0.10	mg/L	07/17/96	KH	07/18/96	BS	
Barium	0.61	0.010	mg/L	07/17/96	KH	07/18/96	BS	
Cadmium	0.010 U	0.010	mg/L	07/17/96	KH	07/18/96	BS	
Chromium	0.024 U	0.024	mg/L	07/17/96	KH	07/18/96	BS	
Lead	0.050 U	0.050	mg/L	07/17/96	KH	07/18/96	BS	
Selenium	0.10 U	0.10	mg/L	07/17/96	KH	07/18/96	BS	



# VOLATILE ORGANIC ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
 Division: New England  
 LRI Report No: E607139  
 LRI Sample No: 11

Customer: Atlantic Environmental Eng  
 Location: Pawtucket, RI  
 Project: Tidewater Former MGP  
 Sample Description: TTP8B (8-9)

Date Collected: 07/10/96  
 Date Received: 07/11/96  
 Date Extracted: By:  
 Date Analyzed: 07/24/96 By: RAW

Matrix: Soil  
 Percent Moisture: N/A  
 Sample Weight/Volume:  
 Dilution Factor: 40  
 Soil Extract Volume:  
 Soil Aliquot Volume:  
 Lab Data File: BH924

Method: 8240, TCLP  
 Level: LOW  
 GC Column:  
 Units: ug/L ( Wet Weight )

CAS No.	Parameter	Result	Qual	QL
71-43-2	Benzene	480		200
78-93-3	2-Butanone (MEK)	200	U	200
56-23-5	Carbon tetrachloride	200	U	200
108-90-7	Chlorobenzene	200	U	200
67-66-3	Chloroform	200	U	200
106-46-7	1,4-Dichlorobenzene	200	U	200
107-06-2	1,2-Dichloroethane	200	U	200
75-35-4	1,1-Dichloroethene	200	U	200
127-18-4	Tetrachloroethene	200	U	200
79-01-6	Trichloroethene (TCE)	200	U	200
75-01-4	Vinyl chloride	200	U	200

# SEMIVOLATILE ORGANIC ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
Division: New England  
LRI Report No: E607139  
LRI Sample No: 11

Customer: Atlantic Environmental Eng  
Location: Pawtucket, RI  
Project: Tidewater Former MGP  
Sample Description: TTP8B (8-9)

Date Collected: 07/10/96  
Date Received: 07/11/96  
Date Extracted: 07/23/96 By: KRB  
Date Analyzed: 07/23/96 By: KRB

Matrix: Soil  
Percent Moisture: N/A  
pH:  
Sample Weight/Volume: 50 mL  
Extract Volume: 10  
Injection Volume:  
Dilution Factor: 1  
Lab Data File: 4072304

Method: 8150, TCLP  
Level: LOW  
GC Column:  
Units: ug/L ( Wet Weight )

CAS No.	Parameter	Result	Qual	QL
93-72-1	2,4,5-TP (Silvex)	4.0	U	4.0
94-75-7	2,4-D (2,4-Dichlorophenoxyacetic acid)	4.0	U	4.0

# SEMIVOLATILE ORGANIC ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
Division: New England  
LRI Report No: E607139  
LRI Sample No: 11

Customer: Atlantic Environmental Eng  
Location: Pawtucket, RI  
Project: Tidewater Former MGP  
Sample Description: TTP8B (8-9)

Date Collected: 07/10/96  
Date Received: 07/11/96  
Date Extracted: 07/23/96 By: KRB  
Date Analyzed: 07/23/96 By: RB

Matrix: Soil  
Percent Moisture: N/A  
pH:  
Sample Weight/Volume: 50 mL  
Extract Volume: 2  
Injection Volume:  
Dilution Factor: 1  
Lab Data File: 8072310

Method: 8080, TCLP  
Level: LOW  
GC Column:  
Units: ug/L ( Wet Weight )

CAS No.	Parameter	Result	Qual	QL
59-89-9	gamma-BHC (Lindane)	0.20	U	0.20
57-74-9	Chlordane	0.40	U	0.40
72-20-8	Endrin	0.20	U	0.20
76-44-8	Heptachlor	0.40	U	0.40
1024-57-3	Heptachlor epoxide	0.40	U	0.40
72-43-5	Methoxychlor	0.20	U	0.20
8001-35-2	Toxaphene	10	U	10

# SEMIVOLATILE ORGANIC ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
 Division: New England  
 LRI Report No: E607139  
 LRI Sample No: 11

Customer: Atlantic Environmental Eng  
 Location: Pawtucket, RI  
 Project: Tidewater Former MGP  
 Sample Description: TTP8B (8-9)

Date Collected: 07/10/96  
 Date Received: 07/11/96  
 Date Extracted: 07/24/96 By: RW  
 Date Analyzed: 07/25/96 By: RAW

Matrix: Soil  
 Percent Moisture: N/A  
 pH:  
 Sample Weight/Volume: 500 mL  
 Extract Volume: 1  
 Injection Volume:  
 Dilution Factor:  
 Lab Data File: E01658

Method: 8270, TCLP  
 Level: LOW  
 GC Column:  
 Units: ug/L ( Wet Weight )

CAS No.	Parameter	Result	Qual	QL
121-14-2	2,4-Dinitrotoluene	10	U	10
118-74-1	Hexachlorobenzene	1.0	U	1.0
87-68-3	Hexachlorobutadiene	10	U	10
67-72-1	Hexachloroethane	10	U	10
95-48-7	2-Methylphenol	10	U	10
98-95-3	Nitrobenzene	10	U	10
87-86-5	Pentachlorophenol	1.0	U	1.0
110-86-1	Pyridine	20	U	20
95-95-4	2,4,5-Trichlorophenol	10	U	10
88-06-2	2,4,6-Trichlorophenol	10	U	10
	3- & 4-Methylphenols	10	U	10

# GENERAL CHEMISTRY ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
Division: New England  
LRI Report No: E607139  
LRI Sample No: 12

Customer: Atlantic Environmental Eng  
Location: Pawtucket, RI  
Project: Tidewater Former MGP  
Sample Description: TB 11 (10-12)

Date Collected: 07/10/96  
Date Received: 07/11/96

Matrix: Soil  
Percent Moisture: 17.7%  
Units in Dry Weight

Parameter	Result	QL	Units	Started		Completed		Dilution
				Date	By	Date	By	
<u>Cyanide by 9012 Modified NE</u>								
Cyanide	130	11	mg/kg	07/15/96	EB	07/19/96	EB	25

# METALS ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
 Division: New England  
 LRI Order No: E607139  
 LRI Sample No: 12

Client: Atlantic Environmental Eng  
 Location: Pawtucket, RI  
 Project: Tidewater Former MGP  
 Sample Description: TB 11 (10-12)

Date Collected: 07/10/96  
 Date Received: 07/11/96

Matrix: Soil  
 Percent Moisture: 17.7%

Parameter	Result	QL	Units	Started		Completed		Dilution
				Date	By	Date	By	
<u>Arsenic by Furnace by SW-846 7060</u>								
Arsenic	5.0	0.21	mg/kg	07/12/96	KH	07/16/96	MM	
<u>Mercury by Cold Vapor by SW-846 7471</u>								
Mercury	0.10U	0.10	mg/kg	07/16/96	KH	07/18/96	KH	
<u>Metals by ICP by SW-846 6010A</u>								
Beryllium	0.54	0.21	mg/kg	07/12/96	KH	07/15/96	BS	
Chromium	9.0	2.5	mg/kg	07/12/96	KH	07/15/96	BS	
Copper	9.9	2.5	mg/kg	07/12/96	KH	07/15/96	BS	
Nickel	11	2.5	mg/kg	07/12/96	KH	07/15/96	BS	
Silver	2.1U	2.1	mg/kg	07/12/96	KH	07/15/96	BS	
Zinc	23	1.0	mg/kg	07/12/96	KH	07/15/96	BS	
Barium	19	1.0	mg/kg	07/12/96	KH	07/15/96	BS	
Antimony	10U	10	mg/kg	07/12/96	KH	07/15/96	BS	
Lead	9.9	5.2	mg/kg	07/12/96	KH	07/16/96	BS	
Selenium	10U	10	mg/kg	07/12/96	KH	07/15/96	BS	
Cadmium	1.0U	1.0	mg/kg	07/12/96	KH	07/16/96	BS	
<u>Thallium by Furnace by SW-846 7841</u>								
Thallium	0.21U	0.21	mg/kg	07/12/96	KH	07/15/96	MM	

# VOLATILE ORGANIC ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
 Division: New England  
 LRI Report No: E607139  
 LRI Sample No: 12

Customer: Atlantic Environmental Eng  
 Location: Pawtucket, RI  
 Project: Tidewater Former MGP  
 Sample Description: TB 11 (10-12)

Date Collected: 07/10/96  
 Date Received: 07/11/96  
 Date Extracted: By:  
 Date Analyzed: 07/23/96 By: AT

Matrix: Soil  
 Percent Moisture: 17.7%  
 Sample Weight/Volume:  
 Dilution Factor: 500  
 Soil Extract Volume:  
 Soil Aliquot Volume:  
 Lab Data File: C4338

Method: 8260A  
 Level: LOW  
 GC Column:  
 Units: ug/kg (Dry Weight)

CAS No.	Parameter	Result	Qual	QL
107-02-8	Acrolein	15000	U	15000
107-13-1	Acrylonitrile	15000	U	15000
71-43-2	Benzene	3000	U	3000
108-86-1	Bromobenzene	3000	U	3000
74-97-5	Bromochloromethane	3000	U	3000
75-27-4	Bromodichloromethane	3000	U	3000
75-25-2	Bromoform	3000	U	3000
74-83-9	Bromomethane	6100	U	6100
104-51-8	n-Butylbenzene	14000		3000
135-98-8	sec-Butylbenzene	3000	U	3000
98-06-6	tert-Butylbenzene	3100		3000
56-23-5	Carbon tetrachloride	3000	U	3000
108-90-7	Chlorobenzene	3000	U	3000
75-00-3	Chloroethane	6100	U	6100
67-66-3	Chloroform	3000	U	3000
74-87-3	Chloromethane	6100	U	6100
95-49-8	2-Chlorotoluene	3000	U	3000
106-43-4	4-Chlorotoluene	3000	U	3000
96-12-8	1,2-Dibromo-3-chloropropane (DBCP)	3000	U	3000
124-48-1	Dibromochloromethane	3000	U	3000
106-93-4	1,2-Dibromoethane (EDB)	3000	U	3000
74-95-3	Dibromomethane	3000	U	3000
95-50-1	1,2-Dichlorobenzene	3000	U	3000
541-73-1	1,3-Dichlorobenzene	3000	U	3000
106-46-7	1,4-Dichlorobenzene	3000	U	3000
75-71-8	Dichlorodifluoromethane	6100	U	6100
75-34-3	1,1-Dichloroethane	3000	U	3000
107-06-2	1,2-Dichloroethane	3000	U	3000
75-35-4	1,1-Dichloroethene	3000	U	3000
156-59-4	cis-1,2-Dichloroethene	3000	U	3000
156-60-5	trans-1,2-Dichloroethene	3000	U	3000
78-87-5	1,2-Dichloropropane	3000	U	3000
142-28-9	1,3-Dichloropropane	3000	U	3000
590-20-7	2,2-Dichloropropane	3000	U	3000
563-58-6	1,1-Dichloropropene	3000	U	3000
10061-01-5	cis-1,3-Dichloropropene	3000	U	3000
10061-02-6	trans-1,3-Dichloropropene	3000	U	3000
100-41-4	Ethylbenzene	3700		3000
87-68-3	Hexachlorobutadiene	3000	U	3000
98-82-8	Isopropylbenzene	3000	U	3000
99-87-6	4-Isopropyltoluene	3600		3000
1634-04-4	Methyl tert-butyl ether (MTBE)	3000	U	3000

# VOLATILE ORGANIC ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
Division: New England  
LRI Report No: E607139  
LRI Sample No: 12

Customer: Atlantic Environmental Eng  
Location: Pawtucket, RI  
Project: Tidewater Former MGP  
Sample Description: TB 11 (10-12)

Method: 8260A

CAS No.	Parameter	Result	Qual	QL
75-09-2	Methylene chloride	3000	U	3000
91-20-3	Naphthalene	75000		3000
103-65-1	n-Propylbenzene	3000	U	3000
100-42-5	Styrene	3000	U	3000
96-18-4	1,2,3-Trichloropropane	3000	U	3000
630-20-6	1,1,1,2-Tetrachloroethane	3000	U	3000
79-34-5	1,1,2,2-Tetrachloroethane	3000	U	3000
127-18-4	Tetrachloroethene	3000	U	3000
108-88-3	Toluene	3000	U	3000
87-61-6	1,2,3-Trichlorobenzene	3000	U	3000
120-82-1	1,2,4-Trichlorobenzene	3000	U	3000
71-55-6	1,1,1-Trichloroethane	3000	U	3000
79-00-5	1,1,2-Trichloroethane	3000	U	3000
79-01-6	Trichloroethene (TCE)	3000	U	3000
75-69-4	Trichlorofluoromethane	6100	U	6100
95-63-6	1,2,4-Trimethylbenzene	16000		3000
108-67-8	1,3,5-Trimethylbenzene	3000	U	3000
75-01-4	Vinyl chloride	6100	U	6100
95-47-6	o-Xylene	5000		3000
	m,p-Xylenes	6300		3000



# SEMIVOLATILE ORGANIC ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
 Division: New England  
 LRI Report No: E607139  
 LRI Sample No: 12

Customer: Atlantic Environmental Eng  
 Location: Pawtucket, RI  
 Project: Tidewater Former MGP  
 Sample Description: TB 11 (10-12)

Date Collected: 07/10/96  
 Date Received: 07/11/96  
 Date Extracted: 07/23/96 By: RAW  
 Date Analyzed: 07/25/96 By: RAW

Matrix: Soil  
 Percent Moisture: 17.7%  
 pH:  
 Sample Weight/Volume: 30.05 g  
 Extract Volume: 1  
 Injection Volume:  
 Dilution Factor: 2  
 Lab Data File: E01662

Method: 8270  
 Level: LOW  
 GC Column:  
 Units: ug/kg (Dry Weight)

CAS No.	Parameter	Result	Qual	QL
83-32-9	Acenaphthene	400	U	400
208-96-8	Acenaphthylene	3300		400
120-12-7	Anthracene	1800		400
56-55-3	Benzo[a]anthracene	1900		400
50-32-8	Benzo[a]pyrene	1400		200
205-99-2	Benzo[b]fluoranthene	1400		400
191-24-2	Benzo[g,h,i]perylene	530		400
207-08-9	Benzo[k]fluoranthene	400	U	400
218-01-9	Chrysene	1600		400
53-70-3	Dibenzo[a,h]anthracene	200	U	200
206-44-0	Fluoranthene	2900		400
86-73-7	Fluorene	2600		400
193-39-5	Indeno[1,2,3-cd]pyrene	400	U	400
91-20-3	Naphthalene	14000		400
85-01-8	Phenanthrene	6900		400
129-00-0	Pyrene	4700		400
91-57-6	2-Methylnaphthalene	7300		400

# GENERAL CHEMISTRY ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
Division: New England  
LRI Report No: E607139  
LRI Sample No: 13

Customer: Atlantic Environmental Eng  
Location: Pawtucket, RI  
Project: Tidewater Former MGP  
Sample Description: TB16 (10-12)

Date Collected: 07/10/96  
Date Received: 07/11/96

Matrix: Soil  
Percent Moisture: 18.1%  
Units in Dry Weight

<u>Parameter</u>	<u>Result</u>	<u>QL</u>	<u>Units</u>	<u>Started</u> <u>Date</u>	<u>By</u>	<u>Completed</u> <u>Date</u>	<u>By</u>	<u>Dilution</u>
<u>Cyanide by 9012 Modified NE</u>								
Cyanide	0.42 U	0.42	mg/kg	07/15/96	EB	07/19/96	EB	

# METALS ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
 Division: New England  
 LRI Order No: E607139  
 LRI Sample No: 13

Client: Atlantic Environmental Eng  
 Location: Pawtucket, RI  
 Project: Tidewater Former MGP  
 Sample Description: TB16 (10-12)

Date Collected: 07/10/96  
 Date Received: 07/11/96

Matrix: Soil  
 Percent Moisture: 18.1%

Parameter	Result	QL	Units	Started		Completed		Dilution
				Date	By	Date	By	
<u>Arsenic by Furnace by SW-846 7060</u>								
Arsenic	4.8	0.22	mg/kg	07/12/96	KH	07/16/96	MM	
<u>Mercury by Cold Vapor by SW-846 7471</u>								
Mercury	0.11 U	0.11	mg/kg	07/16/96	KH	07/18/96	KH	
<u>Metals by ICP by SW-846 6010A</u>								
Beryllium	0.46	0.22	mg/kg	07/12/96	KH	07/15/96	BS	
Chromium	16	2.7	mg/kg	07/12/96	KH	07/15/96	BS	
Copper	17	2.7	mg/kg	07/12/96	KH	07/15/96	BS	
Nickel	9.1	2.7	mg/kg	07/12/96	KH	07/16/96	BS	
Silver	2.2 U	2.2	mg/kg	07/12/96	KH	07/15/96	BS	
Zinc	27	1.1	mg/kg	07/12/96	KH	07/15/96	BS	
Barium	31	1.1	mg/kg	07/12/96	KH	07/15/96	BS	
Antimony	11 U	11	mg/kg	07/12/96	KH	07/15/96	BS	
Lead	36	5.5	mg/kg	07/12/96	KH	07/15/96	BS	
Selenium	11 U	11	mg/kg	07/12/96	KH	07/15/96	BS	
Cadmium	1.1 U	1.1	mg/kg	07/12/96	KH	07/16/96	BS	
<u>Thallium by Furnace by SW-846 7841</u>								
Thallium	0.22 U	0.22	mg/kg	07/12/96	KH	07/15/96	MM	

# GENERAL CHEMISTRY ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
Division: New England  
LRI Report No: E607139  
LRI Sample No: 14

Customer: Atlantic Environmental Eng  
Location: Pawtucket, RI  
Project: Tidewater Former MGP  
Sample Description: TB16 (0-2)

Date Collected: 07/10/96  
Date Received: 07/11/96

Matrix: Soil  
Percent Moisture: 11.9%  
Units in Dry Weight

<u>Parameter</u>	<u>Result</u>	<u>QL</u>	<u>Units</u>	<u>Started</u> <u>Date</u>	<u>By</u>	<u>Completed</u> <u>Date</u>	<u>By</u>	<u>Dilution</u>
Cyanide by 9012 Modified NE								
Cyanide	9.1	0.90	mg/kg	07/15/96	EB	07/19/96	EB	2

# METALS ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
 Division: New England  
 LRI Order No: E607139  
 LRI Sample No: 14

Client: Atlantic Environmental Eng  
 Location: Pawtucket, RI  
 Project: Tidewater Former MGP  
 Sample Description: TB16 (0-2)

Date Collected: 07/10/96  
 Date Received: 07/11/96

Matrix: Soil  
 Percent Moisture: 11.9%

Parameter	Result	QL	Units	Started		Completed		Dilution
				Date	By	Date	By	
<u>Arsenic by Furnace by SW-846 7060</u>								
Arsenic	19	0.39	mg/kg	07/12/96	KH	07/16/96	MM	2
<u>Mercury by Cold Vapor by SW-846 7471</u>								
Mercury	0.10 U	0.10	mg/kg	07/16/96	KH	07/18/96	KH	
<u>Metals by ICP by SW-846 6010A</u>								
Beryllium	0.28	0.20	mg/kg	07/12/96	KH	07/16/96	BS	
Chromium	9.7	2.4	mg/kg	07/12/96	KH	07/15/96	BS	
Copper	22	2.4	mg/kg	07/12/96	KH	07/15/96	BS	
Nickel	10	2.4	mg/kg	07/12/96	KH	07/15/96	BS	
Silver	2.0 U	2.0	mg/kg	07/12/96	KH	07/15/96	BS	
Zinc	20	0.98	mg/kg	07/12/96	KH	07/15/96	BS	
Barium	50	0.98	mg/kg	07/12/96	KH	07/15/96	BS	
Antimony	9.8 U	9.8	mg/kg	07/12/96	KH	07/15/96	BS	
Lead	54	4.9	mg/kg	07/12/96	KH	07/15/96	BS	
Selenium	9.8 U	9.8	mg/kg	07/12/96	KH	07/15/96	BS	
Cadmium	0.98 U	0.98	mg/kg	07/12/96	KH	07/16/96	BS	
<u>Thallium by Furnace by SW-846 7841</u>								
Thallium	0.20 U	0.20	mg/kg	07/12/96	KH	07/15/96	MM	

# GENERAL CHEMISTRY ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
Division: New England  
LRI Report No: E607139  
LRI Sample No: 15

Customer: Atlantic Environmental Eng  
Location: Pawtucket, RI  
Project: Tidewater Former MGP  
Sample Description: TTP11 (6-7)

Date Collected: 07/10/96  
Date Received: 07/11/96

Matrix: Soil  
Percent Moisture: 16.3%  
Units in Dry Weight

<u>Parameter</u>	<u>Result</u>	<u>QL</u>	<u>Units</u>	<u>Started</u> <u>Date</u>	<u>By</u>	<u>Completed</u> <u>Date</u>	<u>By</u>	<u>Dilution</u>
<u>Cyanide by 9012 Modified NE</u>								
Cyanide	14	1.9	mg/kg	07/15/96	EB	07/19/96	EB	5

# METALS ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
 Division: New England  
 LRI Order No: E607139  
 LRI Sample No: 15

Client: Atlantic Environmental Eng  
 Location: Pawtucket, RI  
 Project: Tidewater Former MGP  
 Sample Description: TTP11 (6-7)

Date Collected: 07/10/96  
 Date Received: 07/11/96

Matrix: Soil  
 Percent Moisture: 16.3%

Parameter	Result	QL	Units	Started		Completed		Dilution
				Date	By	Date	By	
<u>Arsenic by Furnace by SW-846 7060</u>								
Arsenic	1.8	0.20	mg/kg	07/12/96	KH	07/16/96	MM	
<u>Mercury by Cold Vapor by SW-846 7471</u>								
Mercury	0.11 U	0.11	mg/kg	07/16/96	KH	07/18/96	KH	
<u>Metals by ICP by SW-846 6010A</u>								
Beryllium	0.36	0.20	mg/kg	07/12/96	KH	07/15/96	BS	
Chromium	7.5	2.4	mg/kg	07/12/96	KH	07/15/96	BS	
Copper	12	2.4	mg/kg	07/12/96	KH	07/15/96	BS	
Nickel	9.6	2.4	mg/kg	07/12/96	KH	07/15/96	BS	
Silver	2.0 U	2.0	mg/kg	07/12/96	KH	07/15/96	BS	
Zinc	25	0.98	mg/kg	07/12/96	KH	07/15/96	BS	
Barium	19	0.98	mg/kg	07/12/96	KH	07/15/96	BS	
Antimony	9.8 U	9.8	mg/kg	07/12/96	KH	07/15/96	BS	
Lead	17	4.9	mg/kg	07/12/96	KH	07/15/96	BS	
Selenium	9.8 U	9.8	mg/kg	07/12/96	KH	07/15/96	BS	
Cadmium	0.98 U	0.98	mg/kg	07/12/96	KH	07/16/96	BS	
<u>Thallium by Furnace by SW-846 7841</u>								
Thallium	0.20 U	0.20	mg/kg	07/12/96	KH	07/15/96	MM	

# GENERAL CHEMISTRY ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
Division: New England  
LRI Report No: E607139  
LRI Sample No: 16

Customer: Atlantic Environmental Eng  
Location: Pawtucket, RI  
Project: Tidewater Former MGP  
Sample Description: TB17 (0-2)

Date Collected: 07/10/96  
Date Received: 07/11/96

Matrix: Soil  
Percent Moisture: 6.6%  
Units in Dry Weight

<u>Parameter</u>	<u>Result</u>	<u>QL</u>	<u>Units</u>	<u>Started</u> <u>Date</u>	<u>By</u>	<u>Completed</u> <u>Date</u>	<u>By</u>	<u>Dilution</u>
<u>Cyanide by 9012 Modified NE</u> Cyanide	47	10.0	mg/kg	07/15/96	EB	07/19/96	EB	25



# METALS ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
 Division: New England  
 LRI Order No: E607139  
 LRI Sample No: 16

Client: Atlantic Environmental Eng  
 Location: Pawtucket, RI  
 Project: Tidewater Former MGP  
 Sample Description: TB17 (0-2)

Date Collected: 07/10/96  
 Date Received: 07/11/96

Matrix: Soil  
 Percent Moisture: 6.6%

Parameter	Result	QL	Units	Started		Completed		Dilution
				Date	By	Date	By	
<u>Arsenic by Furnace by SW-846 7060</u>								
Arsenic	35	0.77	mg/kg	07/12/96	KH	07/16/96	MM	4
<u>Mercury by Cold Vapor by SW-846 7471</u>								
Mercury	0.091 U	0.091	mg/kg	07/16/96	KH	07/18/96	KH	
<u>Metals by ICP by SW-846 6010A</u>								
Beryllium	0.41	0.19	mg/kg	07/12/96	KH	07/15/96	BS	
Chromium	8.7	2.4	mg/kg	07/12/96	KH	07/15/96	BS	
Copper	27	2.4	mg/kg	07/12/96	KH	07/15/96	BS	
Nickel	7.4	2.4	mg/kg	07/12/96	KH	07/15/96	BS	
Silver	1.9 U	1.9	mg/kg	07/12/96	KH	07/15/96	BS	
Zinc	16	0.96	mg/kg	07/12/96	KH	07/15/96	BS	
Barium	48	0.96	mg/kg	07/12/96	KH	07/15/96	BS	
Antimony	9.6 U	9.6	mg/kg	07/12/96	KH	07/15/96	BS	
Lead	98	4.8	mg/kg	07/12/96	KH	07/15/96	BS	
Selenium	9.6 U	9.6	mg/kg	07/12/96	KH	07/15/96	BS	
Cadmium	0.96 U	0.96	mg/kg	07/12/96	KH	07/16/96	BS	
<u>Thallium by Furnace by SW-846 7841</u>								
Thallium	0.19 U	0.19	mg/kg	07/12/96	KH	07/15/96	MM	

# GENERAL CHEMISTRY ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
Division: New England  
LRI Report No: E607139  
LRI Sample No: 17

Customer: Atlantic Environmental Eng  
Location: Pawtucket, RI  
Project: Tidewater Former MGP  
Sample Description: TB17 (18-20)

Date Collected: 07/10/96  
Date Received: 07/11/96

Matrix: Soil  
Percent Moisture: 6.2%  
Units in Dry Weight

<u>Parameter</u>	<u>Result</u>	<u>QL</u>	<u>Units</u>	<u>Started</u> <u>Date</u>	<u>By</u>	<u>Completed</u> <u>Date</u>	<u>By</u>	<u>Dilution</u>
<u>Cyanide by 9012 Modified NE</u>								
Cyanide	0.77	0.39	mg/kg	07/15/96	EB	07/19/96	EB	

# METALS ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
 Division: New England  
 LRI Order No: E607139  
 LRI Sample No: 17

Client: Atlantic Environmental Eng  
 Location: Pawtucket, RI  
 Project: Tidewater Former MGP  
 Sample Description: TB17 (18-20)

Date Collected: 07/10/96  
 Date Received: 07/11/96

Matrix: Soil  
 Percent Moisture: 6.2%

Parameter	Result	QL	Units	Started		Completed		Dilution
				Date	By	Date	By	
<u>Arsenic by Furnace by SW-846 7060</u>								
Arsenic	5.9	0.17	mg/kg	07/12/96	KH	07/16/96	MM	
<u>Mercury by Cold Vapor by SW-846 7471</u>								
Mercury	0.094 U	0.094	mg/kg	07/16/96	KH	07/18/96	KH	
<u>Metals by ICP by SW-846 6010A</u>								
Beryllium	0.37	0.17	mg/kg	07/12/96	KH	07/15/96	BS	
Chromium	34	2.1	mg/kg	07/12/96	KH	07/15/96	BS	
Copper	38	2.1	mg/kg	07/12/96	KH	07/15/96	BS	
Nickel	16	2.1	mg/kg	07/12/96	KH	07/15/96	BS	
Silver	1.7 U	1.7	mg/kg	07/12/96	KH	07/15/96	BS	
Zinc	61	0.87	mg/kg	07/12/96	KH	07/15/96	BS	
Barium	17	0.87	mg/kg	07/12/96	KH	07/15/96	BS	
Antimony	8.7 U	8.7	mg/kg	07/12/96	KH	07/15/96	BS	
Lead	25	4.4	mg/kg	07/12/96	KH	07/15/96	BS	
Selenium	8.7 U	8.7	mg/kg	07/12/96	KH	07/15/96	BS	
Cadmium	0.87 U	0.87	mg/kg	07/12/96	KH	07/16/96	BS	
<u>Thallium by Furnace by SW-846 7841</u>								
Thallium	0.17 U	0.17	mg/kg	07/12/96	KH	07/15/96	MM	

# GENERAL CHEMISTRY ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
 Division: New England  
 LRI Report No: E607139  
 LRI Sample No: 18

Customer: Atlantic Environmental Eng  
 Location: Pawtucket, RI  
 Project: Tidewater Former MGP  
 Sample Description: TTP13 (3-4)

Date Collected: 07/10/96  
 Date Received: 07/11/96

Matrix: Soil  
 Percent Moisture: 26.4%  
 Units in Dry Weight

<u>Parameter</u>	<u>Result</u>	<u>QL</u>	<u>Units</u>	<u>Started Date</u>	<u>By</u>	<u>Completed Date</u>	<u>By</u>	<u>Dilution</u>
<u>Cyanide by 9012 Modified NE</u>								
Cyanide	40	2.6	mg/kg	07/15/96	EB	07/19/96	EB	5
<u>Ignitability by SW846 1010</u>								
Ignitability (Flashpoint)	>160		°F			07/19/96	PW	
<u>Reactive Cyanide by SW-846 7.3.3.2, Reactive</u>								
Cyanide	0.68 U	0.68	mg/kg			07/12/96	EB	
<u>Reactive Sulfide by SW-846 7.4.2.1, Reactive</u>								
Sulfide	13	0.68	mg/kg			07/12/96	EB	
<u>pH by SW-846 9040/9045</u>								
pH	7.1		pH Units			07/12/96	JS	

# METALS ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
 Division: New England  
 LRI Order No: E607139  
 LRI Sample No: 18

Client: Atlantic Environmental Eng  
 Location: Pawtucket, RI  
 Project: Tidewater Former MGP  
 Sample Description: TTP13 (3-4)

Date Collected: 07/10/96  
 Date Received: 07/11/96

Matrix: Soil  
 Percent Moisture: 26.4%

Parameter	Result	QL	Units	Started		Completed		Dilution
				Date	By	Date	By	
<u>Mercury by Cold Vapor by SW-846 7470, TCLP</u>								
Mercury	0.00046 U	0.00046	mg/L	07/18/96	KH	07/22/96	KH	
<u>Metals by ICP by SW-846 6010A, TCLP</u>								
Silver	0.020 U	0.020	mg/L	07/17/96	KH	07/18/96	BS	
Arsenic	0.32	0.10	mg/L	07/17/96	KH	07/18/96	BS	
Barium	0.50	0.010	mg/L	07/17/96	KH	07/18/96	BS	
Cadmium	0.010 U	0.010	mg/L	07/17/96	KH	07/18/96	BS	
Chromium	0.024 U	0.024	mg/L	07/17/96	KH	07/18/96	BS	
Lead	0.069	0.050	mg/L	07/17/96	KH	07/18/96	BS	
Selenium	0.10 U	0.10	mg/L	07/17/96	KH	07/18/96	BS	
<u>Arsenic by Furnace by SW-846 7060</u>								
Arsenic	8.9	0.24	mg/kg	07/12/96	KH	07/16/96	MM	
<u>Mercury by Cold Vapor by SW-846 7471</u>								
Mercury	0.11 U	0.11	mg/kg	07/16/96	KH	07/18/96	KH	
<u>Metals by ICP by SW-846 6010A</u>								
Beryllium	0.24 U	0.24	mg/kg	07/12/96	KH	07/15/96	BS	
Chromium	4.5	2.9	mg/kg	07/12/96	KH	07/15/96	BS	
Copper	19	2.9	mg/kg	07/12/96	KH	07/15/96	BS	
Nickel	7.5	2.9	mg/kg	07/12/96	KH	07/15/96	BS	
Silver	2.4 U	2.4	mg/kg	07/12/96	KH	07/15/96	BS	
Zinc	130	1.2	mg/kg	07/12/96	KH	07/15/96	BS	
Barium	17	1.2	mg/kg	07/12/96	KH	07/15/96	BS	
Antimony	12 U	12	mg/kg	07/12/96	KH	07/15/96	BS	
Lead	91	5.9	mg/kg	07/12/96	KH	07/15/96	BS	
Selenium	12 U	12	mg/kg	07/12/96	KH	07/15/96	BS	
Cadmium	1.2 U	1.2	mg/kg	07/12/96	KH	07/16/96	BS	
<u>Thallium by Furnace by SW-846 7841</u>								
Thallium	2.4	0.24	mg/kg	07/12/96	KH	07/15/96	MM	

# VOLATILE ORGANIC ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
Division: New England  
LRI Report No: E607139  
LRI Sample No: 18

Customer: Atlantic Environmental Eng  
Location: Pawtucket, RI  
Project: Tidewater Former MGP  
Sample Description: TTP13 (3-4)

Date Collected: 07/10/96  
Date Received: 07/11/96  
Date Extracted: By:  
Date Analyzed: 07/24/96 By: RAW

Matrix: Soil  
Percent Moisture: N/A  
Sample Weight/Volume:  
Dilution Factor: 40  
Soil Extract Volume:  
Soil Aliquot Volume:  
Lab Data File: BH925

Method: 8240, TCLP  
Level: LOW  
GC Column:  
Units: ug/L ( Wet Weight )

CAS No.	Parameter	Result	Qual	QL
71-43-2	Benzene	5600		200
78-93-3	2-Butanone (MEK)	200	U	200
56-23-5	Carbon tetrachloride	200	U	200
108-90-7	Chlorobenzene	200	U	200
67-66-3	Chloroform	200	U	200
106-46-7	1,4-Dichlorobenzene	200	U	200
107-06-2	1,2-Dichloroethane	200	U	200
75-35-4	1,1-Dichloroethene	200	U	200
127-18-4	Tetrachloroethene	200	U	200
79-01-6	Trichloroethene (TCE)	200	U	200
75-01-4	Vinyl chloride	200	U	200

# SEMIVOLATILE ORGANIC ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
Division: New England  
LRI Report No: E607139  
LRI Sample No: 18

Customer: Atlantic Environmental Eng  
Location: Pawtucket, RI  
Project: Tidewater Former MGP  
Sample Description: TTP13 (3-4)

Date Collected: 07/10/96  
Date Received: 07/11/96  
Date Extracted: 07/23/96 By: KRB  
Date Analyzed: 07/23/96 By: KRB

Matrix: Soil  
Percent Moisture: N/A  
pH:  
Sample Weight/Volume: 50 mL  
Extract Volume: 10  
Injection Volume:  
Dilution Factor: 1  
Lab Data File: 4072305

Method: 8150, TCLP  
Level: LOW  
GC Column:  
Units: ug/L (Wet Weight)

CAS No.	Parameter	Result	Qual	QL
93-72-1	2,4,5-TP (Silvex)	4.0	U	4.0
94-75-7	2,4-D (2,4-Dichlorophenoxyacetic acid)	4.0	U	4.0

# SEMIVOLATILE ORGANIC ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
 Division: New England  
 LRI Report No: E607139  
 LRI Sample No: 18

Customer: Atlantic Environmental Eng  
 Location: Pawtucket, RI  
 Project: Tidewater Former MGP  
 Sample Description: TTP13 (3-4)

Date Collected: 07/10/96  
 Date Received: 07/11/96  
 Date Extracted: 07/23/96 By: KRB  
 Date Analyzed: 07/23/96 By: KRB

Matrix: Soil  
 Percent Moisture: N/A  
 pH:  
 Sample Weight/Volume: 50 mL  
 Extract Volume: 2  
 Injection Volume:  
 Dilution Factor: 1  
 Lab Data File: 8072311

Method: 8080, TCLP  
 Level: LOW  
 GC Column:  
 Units: ug/L (Wet Weight)

CAS No.	Parameter	Result	Qual	QL
59-89-9	gamma-BHC (Lindane)	0.20	U	0.20
57-74-9	Chlordane	0.40	U	0.40
72-20-8	Endrin	0.20	U	0.20
76-44-8	Heptachlor	0.40	U	0.40
1024-57-3	Heptachlor epoxide	0.40	U	0.40
72-43-5	Methoxychlor	0.20	U	0.20
8001-35-2	Toxaphene	10	U	10



# SEMIVOLATILE ORGANIC ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
 Division: New England  
 LRI Report No: E607139  
 LRI Sample No: 18

Customer: Atlantic Environmental Eng  
 Location: Pawtucket, RI  
 Project: Tidewater Former MGP  
 Sample Description: TTP13 (3-4)

Date Collected: 07/10/96  
 Date Received: 07/11/96  
 Date Extracted: 07/24/96 By: RW  
 Date Analyzed: 07/25/96 By: RAW

Matrix: Soil  
 Percent Moisture: N/A  
 pH:  
 Sample Weight/Volume: 500 mL  
 Extract Volume: 1  
 Injection Volume:  
 Dilution Factor: 100  
 Lab Data File: E01660

Method: 8270, TCLP  
 Level: LOW  
 GC Column:  
 Units: ug/L ( Wet Weight )

CAS No.	Parameter	Result	Qual	QL
121-14-2	2,4-Dinitrotoluene	1000	U	1000
118-74-1	Hexachlorobenzene	100	U	100
87-68-3	Hexachlorobutadiene	1000	U	1000
67-72-1	Hexachloroethane	1000	U	1000
95-48-7	2-Methylphenol	13000		1000
98-95-3	Nitrobenzene	1000	U	1000
87-86-5	Pentachlorophenol	100	U	100
110-86-1	Pyridine	2000	U	2000
95-95-4	2,4,5-Trichlorophenol	1000	U	1000
88-06-2	2,4,6-Trichlorophenol	1000	U	1000
	3- & 4-Methylphenols	21000		1000

Report No: E607139  
Client: Atlantic Environmental  
Case: Tidewater Former MGP

**SEMIVOLATILE NONCONFORMANCE SUMMARY**

One surrogate spike in the base fraction was outside of quality control limits for the 8270 analysis on sample E607139-11 due to matrix interference.



CUSTOMER: ATLANTIC COAST ENV.  
 ADDRESS: 188 ALM WICH AVE  
 COLCHESTER CT  
 TELEPHONE: 860 537 0751  
 FAX:

PROJECT: TIDEWATER  
 PROJECT LOCATION: BRUNNICKY STATE: RI  
 PROJECT MANAGER: PETER GEORGE  
 IN CASE WE HAVE ANY QUESTIONS WHEN SAMPLES ARRIVE WE SHOULD CALL:  
 NAME:  
 TELEPHONE: 860 537-0751  
 FAX: -6347

BILL TO: ATLANTIC  
 ADDRESS:  
 ATTENTION:  
 TELEPHONE:  
 PO #:

LAB ID CODE	SAMPLE IDENTIFICATION	DATE COLLECTED	TIME COLLECTED	SAMPLE TYPE		SAMPLE MATRIX	# OF BOTTLES	ANALYSIS				PRESERVATIVE					
				COMPOSITE	GRAB			CN	PH	PCB	PCDD	PCDF	PCMX	H2SO4	HCL	HNO3	HOH
	TB11(0-2)	7-10-96		X		SOIL	2	X	X	X	X						
	TSS 30						2										
	TTP8B(8-9)						6	X	X	X	X						
	TB11(10-12)						2	X	X	X	X						
	TB16(10-12)						2	X	X	X	X						
	TB16(0-2)						2	X	X	X	X						
	TTP11(6-7)						2	X	X	X	X						
	TB17(0-2)						2	X	X	X	X						
	TB17(18-20)						2	X	X	X	X						
	TTP13(3-4)						4	X	X	X	X						

TURNAROUND (INDICATE IN CALENDAR DAYS): \_\_\_\_\_ FAX \_\_\_\_\_ HARD COPY \_\_\_\_\_ DELIV. PKG. \_\_\_\_\_  
 NAME OF LAB PERSONNEL CONFIRMING: \_\_\_\_\_  
 DELIVERABLES / (CIRCLE ONE): DATA DATA/QC RED/DELIV NJ/CLP 1 NJ/CLP 2 OTHER \_\_\_\_\_  
 SAMPLER / AFFILIATION: P. GEORGE / ATLANTIC  
 RECEIVED / AFFILIATION: \_\_\_\_\_  
 RELINQUISHED / AFFILIATION: \_\_\_\_\_  
 RECEIVED / AFFILIATION: \_\_\_\_\_  
 DATE: 7-10-96  
 TIME: 7:00 P  
 DATE: 7/10/96  
 TIME: P  
 DATE: \_\_\_\_\_  
 TIME: \_\_\_\_\_  
 COMMENTS: TOTAL VIA 9012/9013  
 TTP8B(8-9) - 24 HR. T-AX (IN OTHERS SPDT)  
 DETECTION LIMIT PAH'S 0.1PPM  
 \* EXCEPT TCEP + HAP CHARGE

**SOIL VOLATILE SYSTEM MONITORING COMPOUND RECOVERY**

Lab Name: LRI

Contract: \_\_\_\_\_

Project No.: 139

Site: \_\_\_\_\_

Location: \_\_\_\_\_

Group: \_\_\_\_\_

Level: (low/med) LOW

	SAMPLE NO.	SMC1 (dfm) #	SMC2 (TOL) #	SMC3 (BFB) #	OTHER #	TOT OUT
01	VBLK0723	97	102	103		
02	139-02	97	103	103		
03	139-04	98	97	81		
04	139-09	96	103	86		
05						
06						
07						
08						
09						
10						
11						
12						
13						
14						
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16						
17						
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19						
20						
21						
22						
23						
24						
25						
26						
27						
28						
29						
30						

**QC LIMITS**

SMC1 (dfm) = Dibromofluoromethane (S)

(90-110)

SMC2 (TOL) = Toluene-d8 (S)

(77-121)

SMC3 (BFB) = Bromofluorobenzene (S)

(67-123)

# Column to be used to flag recovery values

\* Values outside of contract required QC limits

D System Monitoring Compound diluted out

spike recovery and RPD summary report - SOIL

Method : C:\HPCHEM\1\METHODS\8260S2.M  
 Title : 8260 SOIL CALIBRATION  
 Last Update : Tue Jul 23 12:51:04 1996  
 Response via : Initial Calibration

Non-Spiked Sample: BH891.D

Spike Sample	Spike Duplicate Sample
File ID : BH899.D	BH900.D
Sample : e607139-02ms	e607139-02msd
Acq Time: 23 Jul 96 7:48 pm	23 Jul 96 8:27 pm

Compound	Sample Conc	Spike Added	Spike Res	Dup Res	Spike %Rec	Dup %Rec	RPD	QC RPD	Limits % Rec
1,1-Dichloroethene	0.0	50	45	47	89	94	6	20	66-144
Benzene	0.0	50	55	56	110	112	1	20	63-145
Trichloroethene	0.0	50	56	56	111	112	1	20	65-145
Toluene	0.0	50	52	52	104	105	1	21	66-151
Chlorobenzene	0.0	50	48	47	96	94	2	21	63-148

8260S2.M

Wed Jul 24 09:47:10 1996

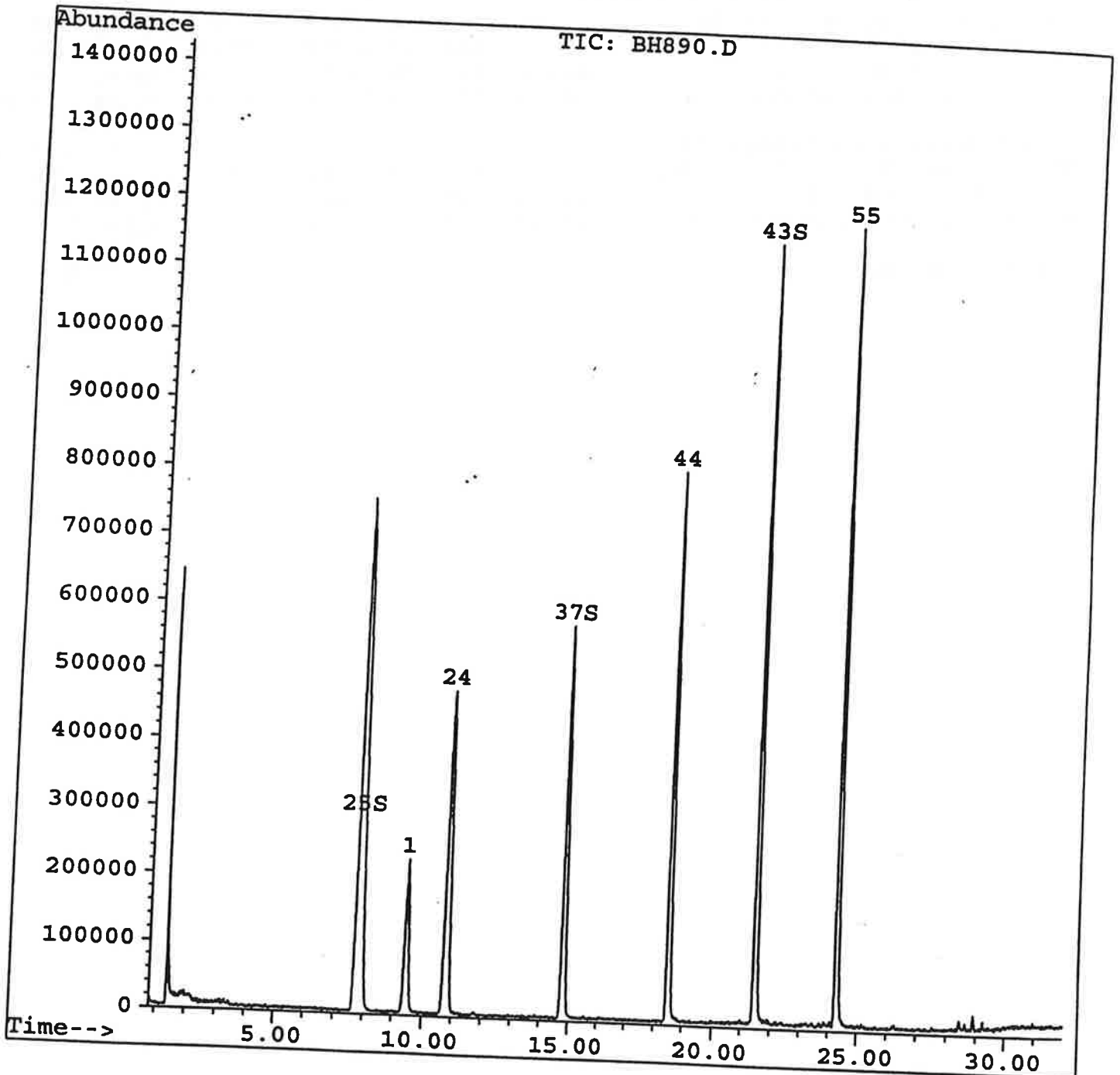
PC #7

Quantitation Report

Data File : C:\HPCHEM\1\DATA\BH890.D  
Acq On : 23 Jul 96 1:18 pm  
Sample : vblk0723  
Misc :  
Quant Time: Jul 23 14:01 1996

Vial: 10  
Operator: RAW  
Inst : MSD #2  
Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\8260S2.M  
Title : 8260 SOIL CALIBRATION  
Last Update : Tue Jul 23 12:51:04 1996  
Response via : Multiple Level Calibration



Quantitation Report

Data File : C:\HPCHEM\1\DATA\BH890.D  
 Acq On : 23 Jul 96 1:18 pm  
 Sample : vblk0723  
 Misc :  
 Quant Time: Jul 23 14:01 1996

Vial: 10  
 Operator: RAW  
 Inst : MSD #2  
 Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\8260S2.M  
 Title : 8260 SOIL CALIBRATION  
 Last Update : Tue Jul 23 12:51:04 1996  
 Response via : Multiple Level Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,2-Dichloroethane-d4	9.44	67	365432	50.00	ug/kg	-0.03
24) 1,4-Difluorobenzene	10.81	114	1543249	50.00	ug/kg	-0.02
44) Chlorobenzene-d5	18.52	117	1335328	50.00	ug/kg	0.00
55) 1,4-Dichlorobenzene-d4	24.29	152	905121	50.00	ug/kg	0.00
						%Recovery
System Monitoring Compounds						
25) Dibromofluoromethane (S)	7.86	113	1068618	48.64	ug/kg	97.27%
37) Toluene-d8 (S)	14.81	98	1379236	50.87	ug/kg	101.75%
43) Bromofluorobenzene (S)	21.49	95	1432626	51.29	ug/kg	102.57%

Target Compounds

Qvalue

(#) = qualifier out of range (m) = manual integration



## WATER VOLATILE SYSTEM MONITORING COMPOUND RECOVERY

Lab Name: LRI

Contract: \_\_\_\_\_

Project No.: E607139

Site: \_\_\_\_\_

Location: \_\_\_\_\_

Group: \_\_\_\_\_

	SAMPLE NO.	SMC1 #	SMC2 #	SMC3 #	OTHER #	TOT OUT
01	vblk0724	96	96	104		
02	139-11	95	96	101		
03	139-18	94	96	103		
04						
05						
06						
07						
08						
09						
10						
11						
12						
13						
14						
15						
16						
17						
18						
19						
20						
21						
22						
23						
24						
25						
26						
27						
28						
29						
30						

SMC1 = Dibromofluoromethane (S)

SMC2 = Toluene-d8 (S)

SMC3 = Bromofluorobenzene (S)

## QC LIMITS

(66-130)

(91-109)

(76-121)

# Column to be used to flag recovery values

\* Values outside of contract required QC limits

D System Monitoring Compound diluted out

**WATER VOLATILE SYSTEM MONITORING COMPOUND RECOVERY**

Lab Name: LRI

Contract: \_\_\_\_\_

Project No.: 139

Site: \_\_\_\_\_

Location: \_\_\_\_\_

Group: \_\_\_\_\_

	SAMPLE NO.	SMC1 #	SMC2 #	SMC3 #	OTHER #	TOT OUT
01	VBLK0723	112	98	98		
02	139-12	116	97	95		
03						
04						
05						
06						
07						
08						
09						
10						
11						
12						
13						
14						
15						
16						
17						
18						
19						
20						
21						
22						
23						
24						
25						
26						
27						
28						
29						
30						

SMC1 = Dibromofluoromethane (S)  
 SMC2 = Toluene-d8 (S)  
 SMC3 = Bromofluorobenzene (S)

**QC LIMITS**  
 (66-130)  
 (91-109)  
 (76-121)

- # Column to be used to flag recovery values
- \* Values outside of contract required QC limits
- D System Monitoring Compound diluted out

Method : C:\HPCHEM\1\METHODS\8260N3.M  
 Title : 8260 WATER CALIBRATION  
 Last Update : Fri Jul 19 12:04:02 1996  
 Response via : Initial Calibration

Non-Spiked Sample: C4185.D

Spike Sample	Spike Duplicate Sample
File ID : C4186.D	C4187.D
Sample : E607164-01MS CH#04	E607164-01MSD CH#05
Acq Time: 15 Jul 96 6:11 pm	15 Jul 96 6:47 pm

Compound	Sample Conc	Spike Added	Spike Res	Dup Res	Spike %Rec	Dup %Rec	RPD	QC RPD	Limits % Rec
1,1-Dichloroethene	0.8	50	56	58	109	114	4	17	49-115
Benzene	0.2	50	62	64	124	127	3	20	51-132
Trichloroethene	10.5	50	69	71	118	122	3	17	62-129
Toluene	0.4	50	63	64	126	128	2	17	65-134
Chlorobenzene	0.3	50	61	62	121	123	2	17	64-131

8260N3.M

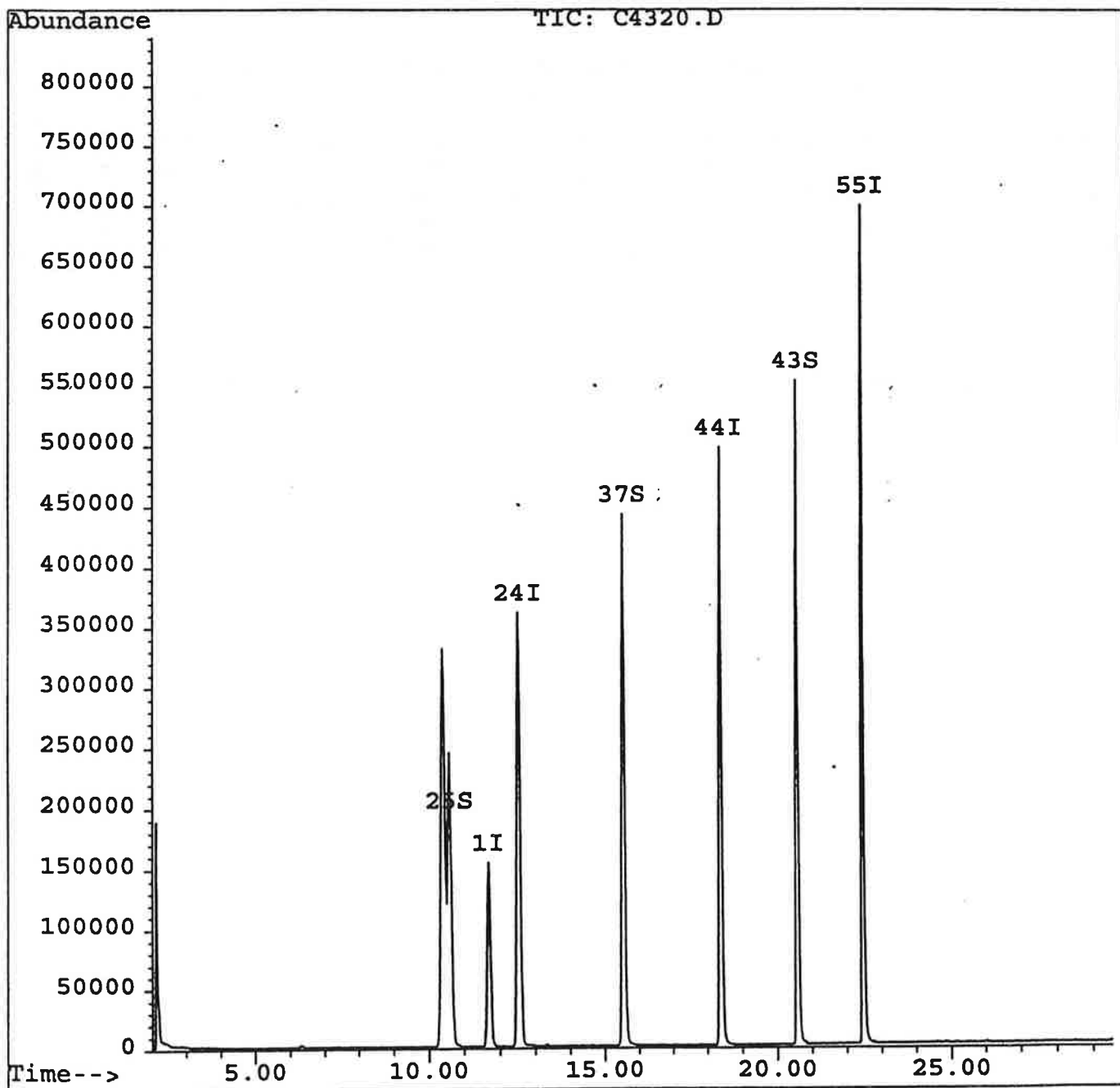
Fri Jul 19 12:30:40 1996

PC #8

Data File : C:\HPCHEM\1\DATA\C4320.D  
Acq On : 23 Jul 96 3:09 pm  
Sample : vblk0723b  
Misc :  
Quant Time: Jul 24 8:49 1996

Vial: 10  
Operator: AT  
Inst : GC/MS #3  
Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\8260A3.M  
Title : 8260 WATER CALIBRATION  
Last Update : Wed Jul 24 08:45:53 1996  
Response via : Multiple Level Calibration



Data File : C:\HPCHEM\1\DATA\C4320.D  
Acq On : 23 Jul 96 3:09 pm  
Sample : vblk0723b  
Misc :  
Quant Time: Jul 24 8:49 1996

Vial: 10  
Operator: AT  
Inst : GC/MS #3  
Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\8260A3.M  
Title : 8260 WATER CALIBRATION  
Last Update : Wed Jul 24 08:45:53 1996  
Response via : Multiple Level Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev (Min)
1) 1,2-Dichloroethane-d4	11.69	67	192702	50.00	ug/L	0.03
24) 1,4-Difluorobenzene	12.54	114	989781	50.00	ug/L	0.04
44) Chlorobenzene-d5	18.38	117	796425	50.00	ug/L	0.03
55) 1,4-Dichlorobenzene-d4	22.47	152	442232	50.00	ug/L	0.03

System Monitoring Compounds	R.T.	QIon	Response	Conc	Units	%Recovery
25) Dibromofluoromethane (S)	10.60	113	576793	56.24	ug/L	112.49%
37) Toluene-d8 (S)	15.54	98	963084	48.98	ug/L	97.96%
43) Bromofluorobenzene (S)	20.59	95	550494	48.83	ug/L	97.65%

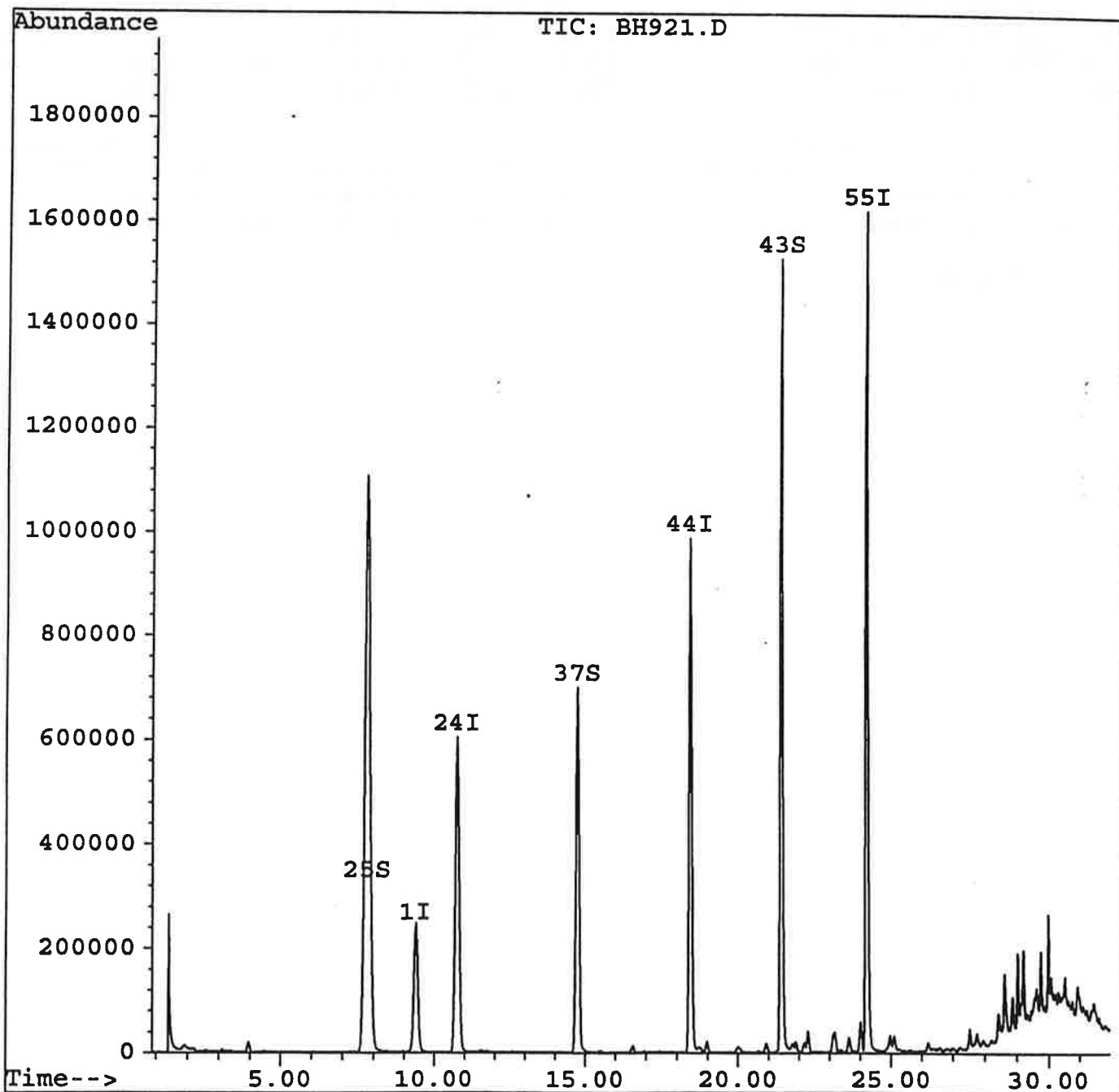
Target Compounds Qvalue

Quantitation Report

Data File : C:\HPCHEM\1\DATA\BH921.D  
Acq On : 24 Jul 96 9:44 pm  
Sample : VBLK0724  
Misc :  
Quant Time: Jul 25 11:05 1996

Vial: 9  
Operator: AT  
Inst : MSD #2  
Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\8260A2.M  
Title : 8260 AQUEOUS CALIBRATION  
Last Update : Thu Jul 25 10:45:36 1996  
Response via : Multiple Level Calibration



Quantitation Report

Data File : C:\HPCHEM\1\DATA\BH921.D  
 Acq On : 24 Jul 96 9:44 pm  
 Sample : VBLK0724  
 Misc :  
 Quant Time: Jul 25 11:05 1996

Vial: 9  
 Operator: AT  
 Inst : MSD #2  
 Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\8260A2.M  
 Title : 8260 AQUEOUS CALIBRATION  
 Last Update : Thu Jul 25 10:45:36 1996  
 Response via : Multiple Level Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev (Min)
1) 1,2-Dichloroethane-d4	9.38	67	428857	50.00	ug/l	0.00
24) 1,4-Difluorobenzene	10.74	114	2240305	50.00	ug/l	0.00
44) Chlorobenzene-d5	18.43	117	1891712	50.00	ug/l	0.00
55) 1,4-Dichlorobenzene-d4	24.22	152	1456773	50.00	ug/l	0.02
System Monitoring Compounds						%Recovery
25) Dibromofluoromethane (S)	7.81	113	1609745	47.89	ug/l	95.79%
37) Toluene-d8 (S)	14.75	98	1854444	48.09	ug/l	96.17%
43) Bromofluorobenzene (S)	21.42	95	1767664	52.06	ug/l	104.12%

Target Compounds

Qvalue

42  
SOIL SEMIVOLATILE SURROGATE RECOVERY

Lab Name: LRI Contract: \_\_\_\_\_  
 Project No.: 139 Site: \_\_\_\_\_ Location: \_\_\_\_\_ Group: \_\_\_\_\_  
 Level: (low/med) low

	SAMPLE NO.	S1 (2FP) #	S2 (PHL) #	S3 (NBZ) #	S4 (FBP) #	S5 (TBP) #	S6 (TPH) #	#	#	TOT OUT
01	s0723bs-01	58	55	73	74	57	97			
02	E607139-2	43	47	43	50	53	105			
03	E607139-4	28	24	23	33	28	27			
04	E607139-9	60	60	67	78	71	77			
05	E607139-12	27	35	35	41	49	51			
06										
07										
08										
09										
10										
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29										
30										

**QC LIMITS**

S1 (2FP) = 2-Fluorophenol (25-121)  
 S2 (PHL) = Phenol-d6 (24-113)  
 S3 (NBZ) = Nitrobenzene-d5 (23-120)  
 S4 (FBP) = 2-Fluorobiphenyl (30-115)  
 S5 (TBP) = 2,4,6-Tribromophenol (19-122)  
 S6 (TPH) = Terphenyl-d14 (18-137)

# Column to be used to flag recovery values  
 \* Values outside of contract required QC limits  
 D Surrogate diluted out



Spike Recovery and RPD Summary Report - SOIL

Method : C:\HPCHEM\1\METHODS\8270B1M3.M  
 Title : EPA 8270 calibration  
 Last Update : Wed Jul 31 12:14:05 1996  
 Response via : Initial Calibration

Non-Spiked Sample: A12748.D

Spike  
Sample

Spike  
Duplicate Sample

File ID :	A12756.D	A12757.D
Sample :	E607269-06 MS	E607269-06 MSD
Acq Time:	29 Jul 96 6:18 pm	29 Jul 96 6:55 pm

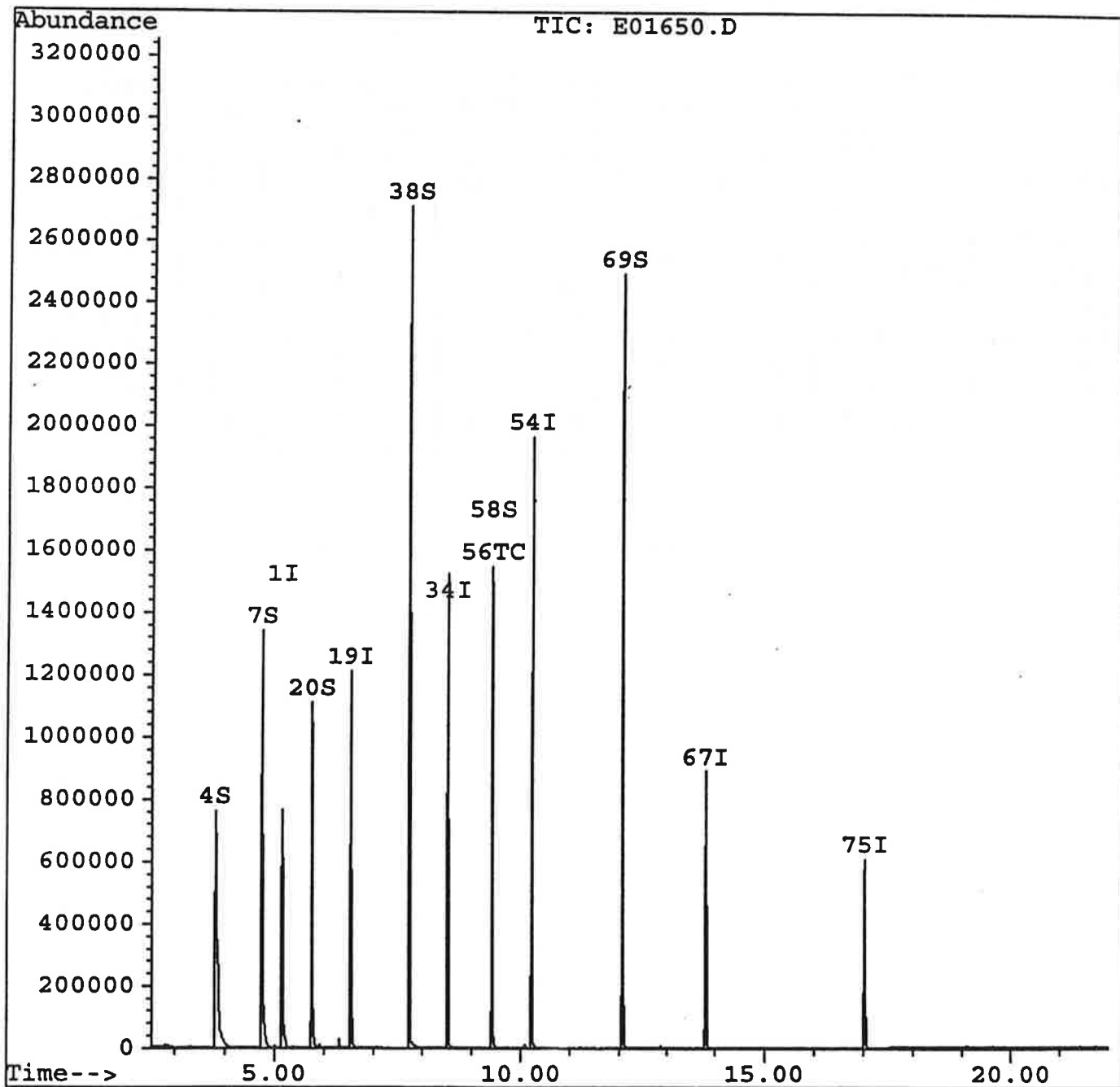
Compound	Sample Conc	Spike Added	Spike Res	Dup Res	Spike %Rec	Dup %Rec	RPD	QC RPD	Limits % Rec
Phenol	0.0	200	106	106	53	53	0	35	26- 90
2-Chlorophenol	0.0	200	104	103	52	52	1	50	25-102
1,4-Dichlorobenzene	0.0	100	55	54	55	54	1	27	28-104
N-Nitroso-di-n-propylamine	0.0	100	68	65	68	65	4	38	41-126
1,2,4-Trichlorobenzene	0.0	100	55	56	55	56	1	38	41-126
2-Chloro-3-methylphenol	0.0	200	102	98	51	49	5	33	26-103
Acenaphthene	0.3	100	41	47	41	46	13	19	31-137
2,4-Dinitrotoluene	0.0	100	51	50	51	50	2	47	28- 89
4-Nitrophenol	0.2	200	75	70	37	35	7	50	11-114
1,2,3,4,5-Pentachlorophenol	0.0	200	115	114	57	57	1	47	17-109
Pyrene	25.5	100	87	84	61	59	4	36	35-142

Quantitation Report

Data File : C:\HPCHEM\1\DATA\E01650.D  
Acq On : 24 Jul 96 6:18 pm  
Sample : s0723bs-01  
Misc :  
Quant Time: Jul 25 13:33 1996

Vial: 9  
Operator: RAW  
Inst : 5972 MSD  
Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\8270R.M  
Title : EPA 8270 calibration  
Last Update : Wed Jul 24 14:41:24 1996  
Response via : Multiple Level Calibration



Quantitation Report

Data File : C:\HPCHEM\1\DATA\E01650.D  
 Acq On : 24 Jul 96 6:18 pm  
 Sample : s0723bs-01  
 Misc :  
 Quant Time: Jul 25 13:33 1996

Vial: 9  
 Operator: RAW  
 Inst : 5972 MSD  
 Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\8270R.M  
 Title : EPA 8270 calibration  
 Last Update : Wed Jul 24 14:41:24 1996  
 Response via : Multiple Level Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	5.15	152	215908	40.00	ug/ml	0.00
19) Naphthalene-d8	6.53	136	728818	40.00	ug/ml	0.00
34) Acenaphthene-d10	8.53	164	480406	40.00	ug/ml	0.00
54) Phenanthrene-d10	10.22	188	736327	40.00	ug/ml	0.00
67) Chrysene-d12	13.81	240	478733	40.00	ug/ml	-0.02
75) Perylene-d12	17.04	264	389447	40.00	ug/ml	0.00

System Monitoring Compounds	R.T.	QIon	Response	Conc	Units	%Recovery
4) 2-Fluorophenol	3.81	112	621497	115.72	ug/ml	57.86%
7) Phenol-d6	4.73	99	746763	109.12	ug/ml	54.56%
20) Nitrobenzene-d5	5.74	82	519569	73.41	ug/ml	73.41%
38) 2-Fluorobiphenyl	7.74	172	1057475	74.23	ug/ml	74.23%
58) 2,4,6-Tribromophenol	9.43	330	255298	114.91	ug/ml	57.46%
69) Terphenyl-d14	12.08	244	914937	96.65	ug/ml	96.65%

Target Compounds Qvalue

## WATER SEMIVOLATILE SURROGATE RECOVERY

Lab Name: LRI Contract: \_\_\_\_\_  
 Project No.: 139 Site: \_\_\_\_\_ Location: \_\_\_\_\_ Group: \_\_\_\_\_

	SAMPLE NO.	S1 (2FP) #	S2 (PHL) #	S3 (NBZ) #	S4 (FBP) #	S5 (TBP) #	S6 (TPH) #	#	#	TOT OUT
01	s0724ba-01	76	70	70	74	66	94			
02	E607139-11	32	35	52	35 *	35	38			
03	E607139-18	52	61	55	55	36	44			
04										
05										
06										
07										
08										
09										
10										
11										
12										
13										
14										
15										
16										
17										
18										
19										
20										
21										
22										
23										
24										
25										
26										
27										
28										
29										
30										

S1 (2FP) = 2-Fluorophenol  
 S2 (PHL) = Phenol-d6  
 S3 (NBZ) = Nitrobenzene-d5  
 S4 (FBP) = 2-Fluorobiphenyl  
 S5 (TBP) = 2,4,6-Tribromophenol  
 S6 (TPH) = Terphenyl-d14

## QC LIMITS

(21-100)  
 (10-94)  
 (34-114)  
 (43-116)  
 (10-123)  
 (33-141)

# Column to be used to flag recovery values

\* Values outside of contract required QC limits

D Surrogate diluted out

Method : C:\HPCHEM\1\METHODS\8270B5M6.M  
 Title : EPA 8270 calibration  
 Last Update : Fri Jul 19 13:50:27 1996  
 Response via : Initial Calibration

Non-Spiked Sample: E01614.D

Spike Sample		Spike Duplicate Sample	
File ID :	E01625.D	File ID :	E01626.D
Sample :	e607154-01 ms	Sample :	e607154-01 msd
Acq Time:	22 Jul 96 9:26 pm	Acq Time:	22 Jul 96 9:55 pm

Compound	Sample Conc	Spike Added	Spike Res	Dup Res	Spike %Rec	Dup %Rec	RPD	QC RPD	Limits % Rec
Phenol	0.1	200	117	120	59	60	2	42	12-110
2-Chlorophenol	0.0	200	131	132	66	66	1	40	27-123
1,4-Dichlorobenzene	0.0	100	65	65	65	65	0	28	36- 97
1-Nitroso-di-n-propylamine	0.1	100	68	67	68	67	2	38	41-116
1,2,4-Trichlorobenzene	0.0	100	68	70	68	70	2	28	39- 98
4-Chloro-3-methylphenol	0.1	200	120	130	60	65	8	42	23- 97
Fluorene	0.1	100	60	57	60	57	6	31	46-118
2,4-Dinitrotoluene	0.3	100	60	57	59	57	4	38	24- 96
4-Nitrophenol	0.5	200	151	148	75	74	2	50	10- 80
1,2,4-Trichlorobenzene	0.6	200	146	144	73	72	1	50	9-103
Phenanthrene	0.0	100	73	76	73	76	4	31	26-127

8270B5M6.M

Wed Jul 31 12:56:59 1996

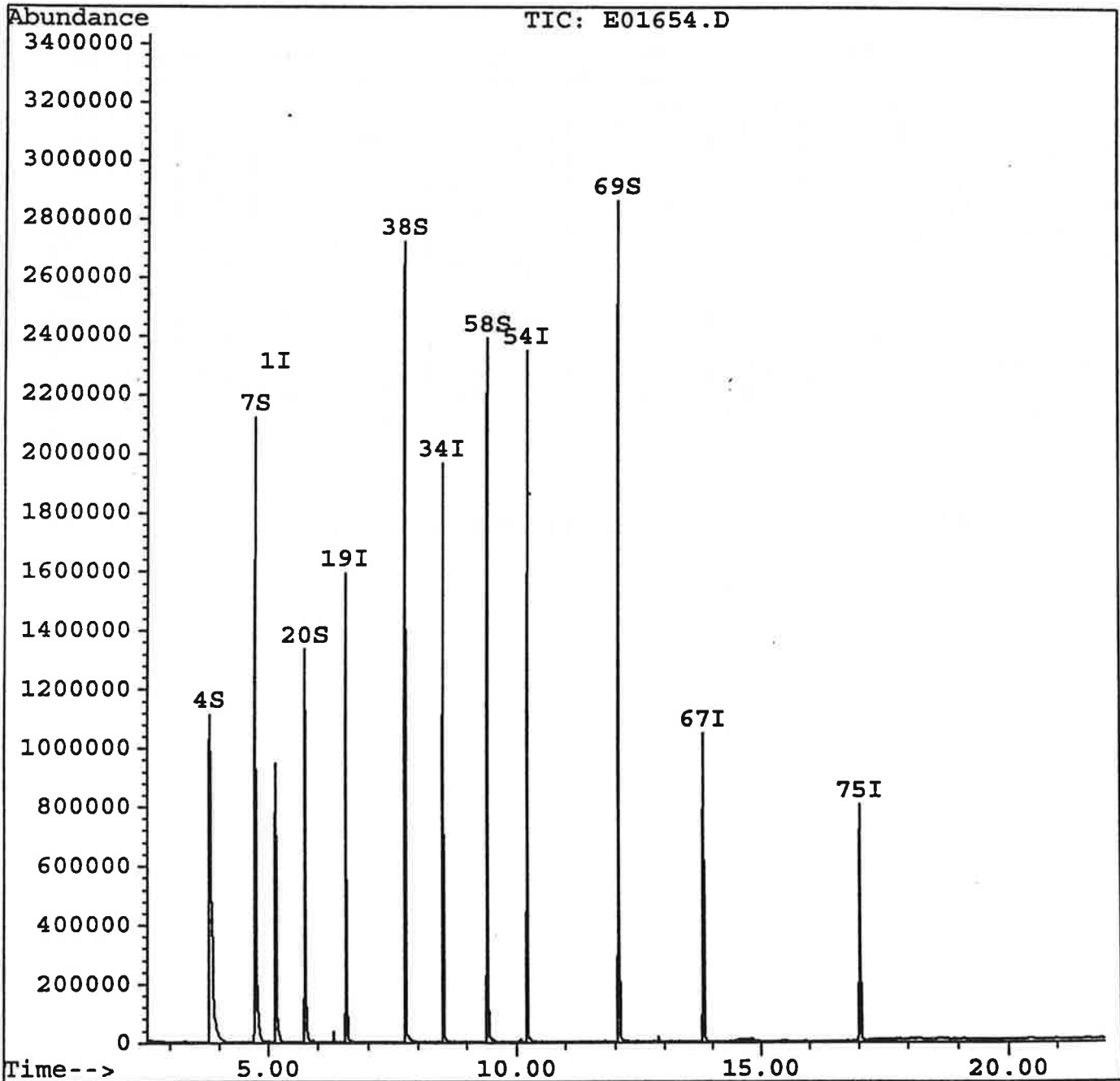
PC #5

Quantitation Report

Data File : C:\HPCHEM\1\DATA\E01654.D  
Acq On : 24 Jul 96 8:14 pm  
Sample : s0724ba-01  
Misc :  
Quant Time: Jul 24 20:36 1996

Vial: 13  
Operator: RAW  
Inst : 5972 MSD  
Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\8270R.M  
Title : EPA 8270 calibration  
Last Update : Wed Jul 24 14:41:24 1996  
Response via : Multiple Level Calibration



Data File : C:\HPCHEM\1\DATA\E01654.D  
 Acq On : 24 Jul 96 8:14 pm  
 Sample : s0724ba-01  
 Misc :  
 Quant Time: Jul 24 20:36 1996

Vial: 13  
 Operator: RAW  
 Inst : 5972 MSD  
 Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\8270R.M  
 Title : EPA 8270 calibration  
 Last Update : Wed Jul 24 14:41:24 1996  
 Response via : Multiple Level Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	5.15	152	262043	40.00	ug/ml	0.00
19) Naphthalene-d8	6.53	136	856047	40.00	ug/ml	0.00
34) Acenaphthene-d10	8.52	164	563434	40.00	ug/ml	0.00
54) Phenanthrene-d10	10.22	188	894739	40.00	ug/ml	0.00
67) Chrysene-d12	13.82	240	609982	40.00	ug/ml	0.00
75) Perylene-d12	17.04	264	511001	40.00	ug/ml	0.00

System Monitoring Compounds	R.T.	QIon	Response	Conc	Units	%Recovery
4) 2-Fluorophenol	3.81	112	996944	152.94	ug/ml	76.47%
7) Phenol-d6	4.73	99	1170281	140.90	ug/ml	70.45%
20) Nitrobenzene-d5	5.74	82	578359	69.57	ug/ml	69.57%
38) 2-Fluorobiphenyl	7.75	172	1244444	74.48	ug/ml	74.48%
58) 2,4,6-Tribromophenol	9.43	330	355758	131.78	ug/ml	65.89%
69) Terphenyl-d14	12.09	244	1134435	94.05	ug/ml	94.05%

Target Compounds

Qvalue

(#) = qualifier out of range (m) = manual integration

2C  
WATER SEMIVOLATILE SURROGATE RECOVERY

Signal 1

Lab Name: LRI INC.

Contract: 0

Lab Code: \_\_\_\_\_ Case No.: 0

SAS No.: 0

SDG No.: 0

	EPA SAMPLE NO.	S1 #	#	#	#	#	#	#	#	TOT OUT
01	SBLKH0723	94								
02	139-11	88								
03	139-18	74								
04										
05										
06										
07										
08										
09										
10										
11										
12										
13										
14										
15										
16										
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18										
19										
20										
21										
22										
23										
24										
25										
26										
27										
28										
29										
30										

SMC1 = DCAA

QC LIMITS  
(70-160)

# Column to be used to flag recovery values  
 \* Values outside of contract required QC limits  
 D Surrogate diluted out



Spike Recovery and RPD Summary Report - WATER

ethod : C:\HPCHEM\6\METHODS\8150B.M  
 Title :  
 Last Update : Thu Jul 11 13:47:53 1996  
 Response via : Continuing Calibration

Non-Spiked Sample: 4071102.D

Spike  
Sample

Spike  
Duplicate Sample

File ID :	4071105.D	4071106.D
Sample :	066-04 MS AX	066-04 MSD AX
Acq Time:	11 Jul 96 03:29 PM	11 Jul 96 04:02 PM

Compound	Sample Conc	Spike Added	Spike Res	Dup Res	Spike %Rec	Dup %Rec	RPD	QC RPD	Limits % Rec
2,4-D	0.00	0.20	0.15	0.17	77	84	9	20	60-140
2,4,5-TP	0.00	0.20	0.19	0.18	93	88	6	20	60-140
2,4,5-T	0.00	0.20	0.15	0.16	76	79	4	20	60-140
2,4-D #2	0.00	0.20	0.19	0.17	94	84	11	20	60-140
2,4,5-TP #2	0.00	0.20	0.19	0.19	96	95	0	20	60-140
2,4,5-T #2	0.00	0.20	0.16	0.16	79	82	4	20	60-140

8150B.M

Thu Jul 11 16:42:03 1996

GC

Quantitation Report

Data File : C:\HPCHEM\6\DATA\JUL23\4072302.D  
Acq On : 23 JUL 96 14:34  
Sample : h0723-ba1  
Misc :

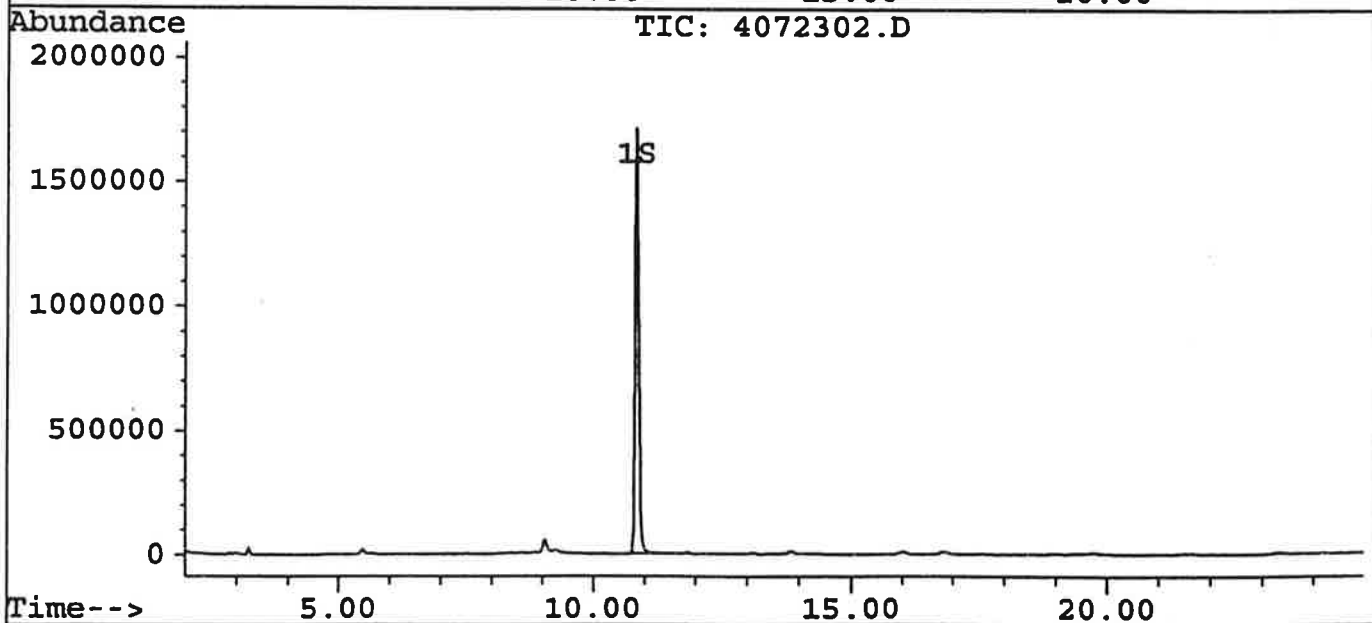
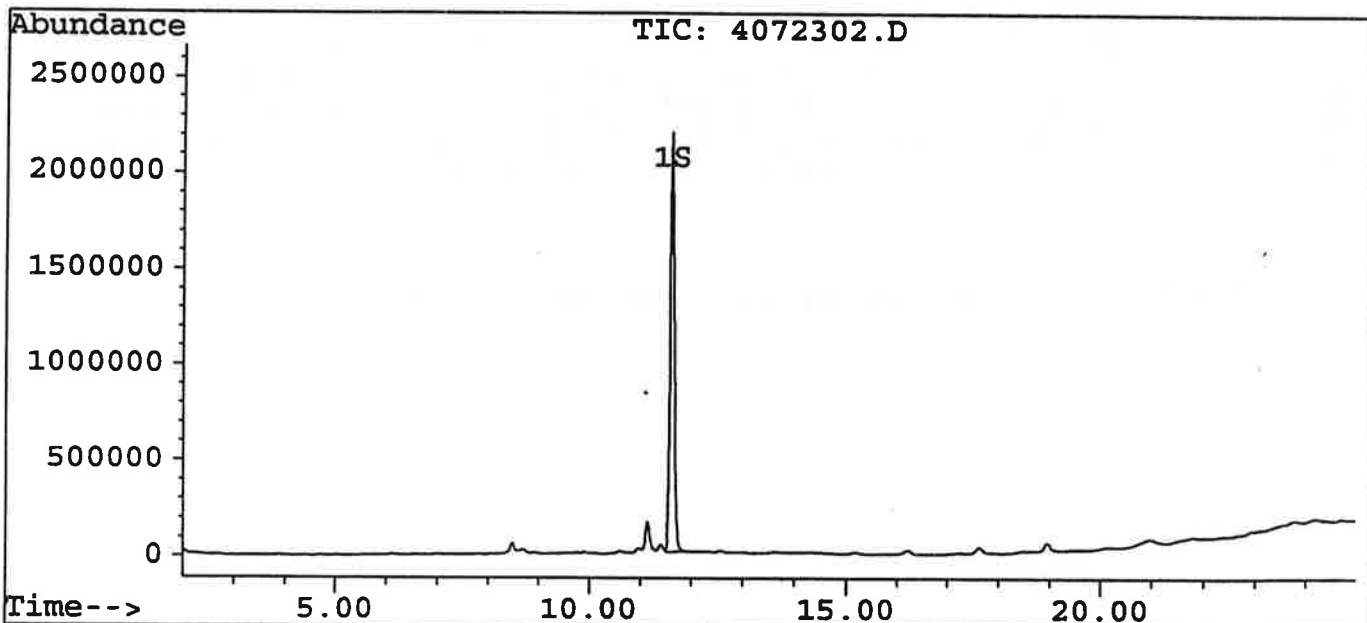
Vial: 2  
Operator: krb  
Inst : GC 4 - EC  
Multiplr: 1.00

Data File : C:\HPCHEM\6\DATA\JUL23\4072302.D\4072302.D  
Acq On : 23 JUL 96 14:34  
Sample : h0723-ba1  
Misc :  
Quant Time:

Vial: 2  
Operator: krb  
Inst : GC 4 - EC  
Multiplr: 1.00

Method : C:\HPCHEM\6\METHODS\8150.M  
Title :  
Last Update : Tue Jul 23 14:59:49 1996  
Response via : Multiple Level Calibration

Volume Inj. : 1uL  
Signal #1 Phase : RTx-1701  
Signal #1 Info : 0.53  
Signal #2 Phase : RTx-5  
Signal #2 Info : 0.53



Quantitation report

Data File : C:\HPCHEM\6\DATA\JUL23\4072302.D  
 Acq On : 23 JUL 96 14:34  
 Sample : h0723-ba1  
 Misc :

Vial: 2  
 Operator: krb  
 Inst : GC 4 - EC  
 Multiplr: 1.00

Data File : C:\HPCHEM\6\DATA\JUL23\4072302.D\4072302.D  
 Acq On : 23 JUL 96 14:34  
 Sample : h0723-ba1  
 Misc :  
 Quant Time: Jul 23 15:02 1996

Vial: 2  
 Operator: krb  
 Inst : GC 4 - EC  
 Multiplr: 1.00

Method : C:\HPCHEM\6\METHODS\8150.M  
 Title :  
 Last Update : Tue Jul 23 14:59:49 1996  
 Response via : Multiple Level Calibration

Volume Inj. : 1uL  
 Signal #1 Phase : RTx-1701  
 Signal #1 Info : 0.53  
 Signal #2 Phase : RTx-5  
 Signal #2 Info : 0.53

Compound	RT#1	RT#2	Resp#1	Resp#2	ug/ml	ug/ml
<b>System Monitoring Compounds</b>						
) S DCAA	11.63	10.87	123.7E6	85799805	0.470	0.493
			Recovery	=	94.00%	98.60%
<b>Target Compounds</b>						
2) 2,4-D	0.00	0.00	0	0	N.D.	N.D.
3) 2,4,5-TP	0.00	0.00	0	0	N.D. d	N.D.
) 2,4,5-T	0.00	0.00	0	0	N.D. d	N.D.

**WATER SEMIVOLATILE SURROGATE RECOVERY**

Signal 1

Lab Name: LRI INC.

Contract: 0

Lab Code: 0 Case No.: 0

SAS No.: 0

SDG No.: 0

	EPA SAMPLE NO.	S1 #	S2 #	#	#	#	#	#	#	TOT OUT
01	SBLK0723	64	128							
02	139-11	59	138							
03	139-18	46	119							
04										
05										
06										
07										
08										
09										
10										
11										
12										
13										
14										
15										
16										
17										
18										
19										
20										
21										
22										
23										
24										
25										
26										
27										
28										
29										
30										

SMC1 = Tetrachloro-m-xylene  
 SMC2 = Dibutylchloroendate

QC LIMITS  
 (38-150)  
 (52-151)

# Column to be used to flag recovery values  
 \* Values outside of contract required QC limits  
 D Surrogate diluted out

Spike Recovery and RPD Summary Report - WATER

Method : C:\HPCHEM\6\METHODS\PEST.M  
 Title : EPA 8080  
 Last Update : Wed Jul 24 12:47:42 1996  
 Response via : Initial Calibration

Non-Spiked Sample: 8072311.D

	Spike Sample	Spike Duplicate Sample
File ID :	8072312.D	8072313.D
Sample :	139-18 MS AX	139-18 MSD AX
Acq Time:	24 Jul 96 08:47 AM	24 Jul 96 09:19 AM

Compound	Sample Conc	Spike Added	Spike Res	Dup Res	Spike %Rec	Dup %Rec	RPD	QC Limits RPD	QC Limits % Rec
Gamma-BHC	4.4	20	23	21	93	82	12	20	56-123
Heptachlor	0.0	20	20	20	101	101	1	20	40-131
Endrin	2.7	20	24	19	106	81	19	20	40-120
Dieldrin	0.0	50	47	49	94	99	5	20	52-126
Endrin	0.0	50	48	56	96	112	15	20	56-121
IT	0.0	50	57	66	115	126	14	20	38-127

PEST.M

Wed Jul 24 12:54:04 1996

Data File : C:\HPCHEM\6\DATA\JUL23\8072308.D  
Acq On : 23 JUL 96 17:26  
Sample : P0723-BA1  
Misc :

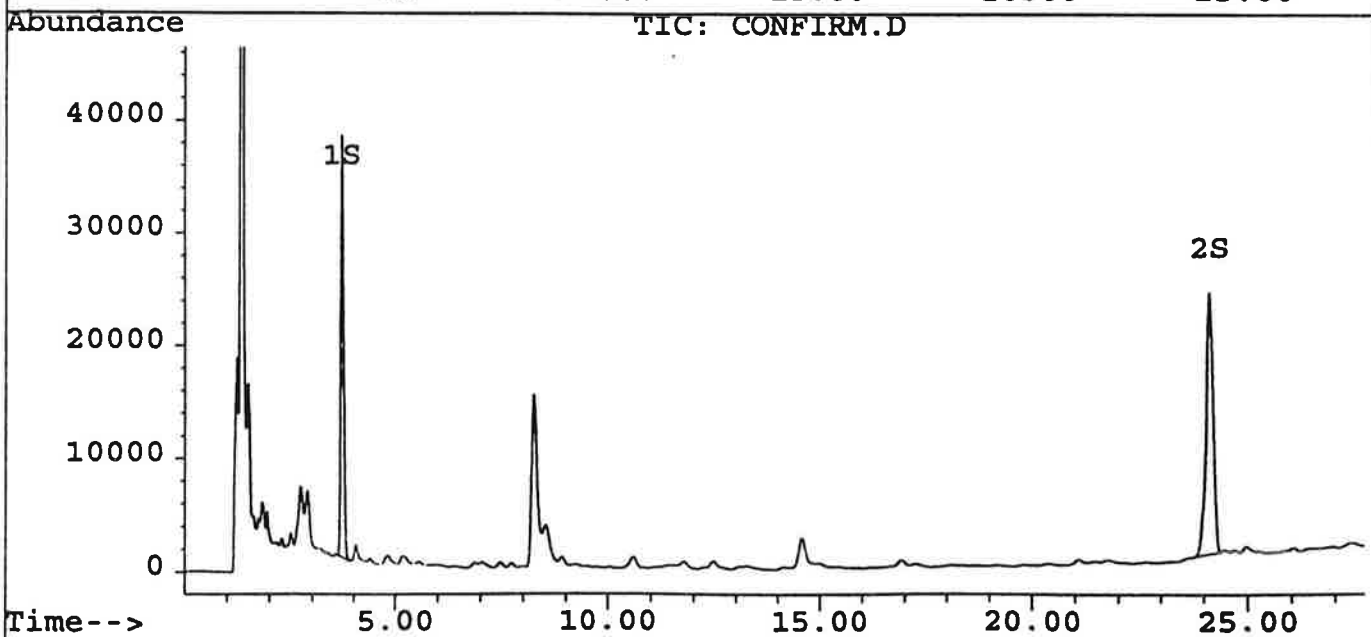
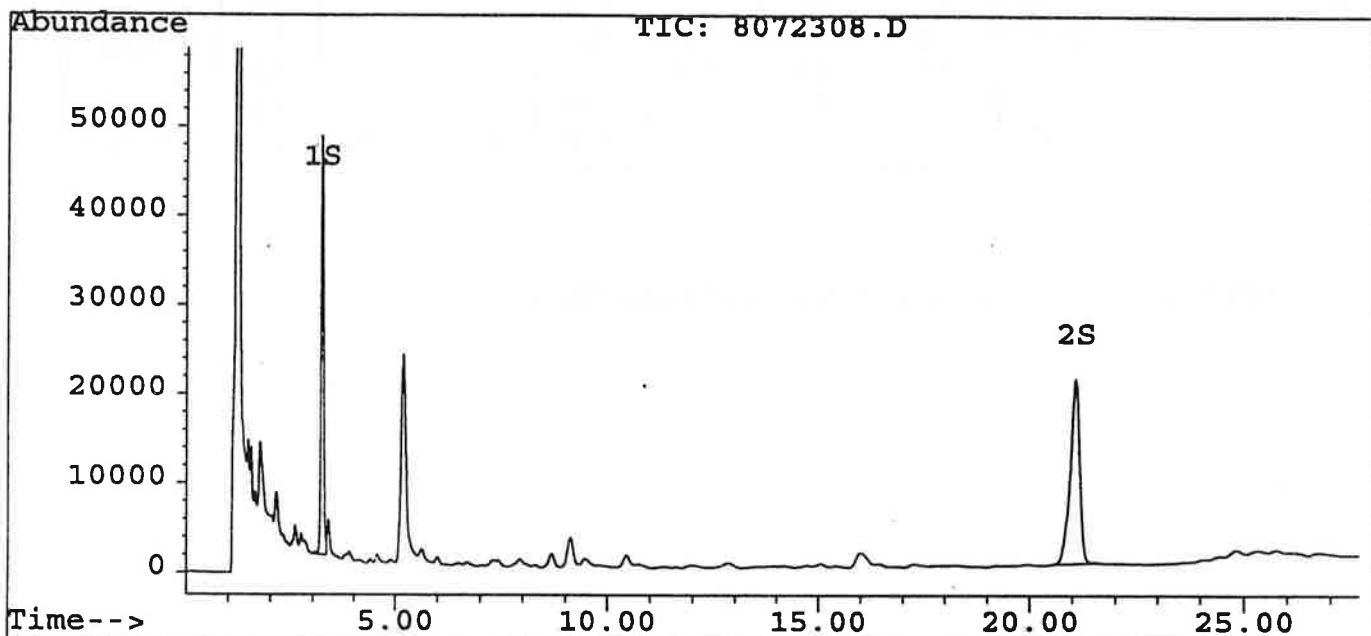
Vial: 8  
Operator: KRB  
Inst : GC 8  
Multiplr: 1.00

Data File : C:\HPCHEM\6\DATA\JUL23\8072308.D\CONFIRM.D  
Acq On : 23 JUL 96 17:26  
Sample : P0723-BA1  
Misc :  
Quant Time:

Vial: 8  
Operator: KRB  
Inst : GC 8  
Multiplr: 1.00

Method : C:\HPCHEM\6\METHODS\PEST.M  
Title : EPA 8080  
Last Update : Wed Jul 24 11:48:59 1996  
Response via : Multiple Level Calibration

Volume Inj. :  
Signal #1 Phase : Signal #2 Phase:  
Signal #1 Info : Signal #2 Info :



Signal #1 : C:\HPCHEM\6\DATA\JUL23\8072308.D Vial: 8  
 Signal #2 : C:\HPCHEM\6\DATA\JUL23\8072308.D\CONFIRM.D  
 Acq On : 23 JUL 96 17:26 Operator: KRB  
 Sample : P0723-BA1 Inst : GC 8  
 Misc : Multiplr: 1.00  
 Quant Time: Jul 24 11:51 1996

Method : C:\HPCHEM\6\METHODS\PEST.M  
 Title : EPA 8080  
 Last Update : Wed Jul 24 11:48:59 1996  
 Response via : Multiple Level Calibration

Volume Inj. :  
 Signal #1 Phase : Signal #2 Phase:  
 Signal #1 Info : Signal #2 Info :

Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L
<b>System Monitoring Compounds</b>						
1) S TETRA-M-XYLENE	3.23	3.73	2061825	1762643	63.732	66.765
			Recovery		= 63.73%	66.77%
2) S DIBUTYLCHLORENDATE	21.09	24.18	3185716	2631309	128.895	127.059
			Recovery		= 128.90%	127.06%
<b>Target Compounds</b>						
3) Alpha-BHC	0.00	0.00	0	0	N.D.	N.D.
4) Beta-BHC	0.00	0.00	0	0	N.D.	N.D.
5) Gamma-BHC	0.00	0.00	0	0	N.D.	N.D.
6) Delta-BHC	0.00	0.00	0	0	N.D. d	N.D.
7) Heptachlor	0.00	0.00	0	0	N.D.	N.D. d
8) Aldrin	0.00	0.00	0	0	N.D.	N.D.
9) Heptachlor Epoxide	0.00	0.00	0	0	N.D. d	N.D.
10) Gamma-Chlordane	0.00	0.00	0	0	N.D.	N.D.
11) *Endosulfan I	0.00	0.00	0	0	N.D.	N.D.
12) *Alpha-Chlordane	0.00	0.00	0	0	N.D.	N.D. d
13) *DDE	0.00	0.00	0	0	N.D.	N.D. d
14) *Dieldrin	0.00	0.00	0	0	N.D.	N.D.
15) Endrin	0.00	0.00	0	0	N.D.	N.D.
16) *Endosulfan II	0.00	0.00	0	0	N.D.	N.D.
17) *DDD	0.00	0.00	0	0	N.D.	N.D.
18) Endrin Aldehyde	0.00	0.00	0	0	N.D.	N.D.
19) *Endosulfan Sulfate	0.00	0.00	0	0	N.D. d	N.D.
20) DDT	0.00	0.00	0	0	N.D. d	N.D.
21) Endrin Ketone	0.00	0.00	0	0	N.D.	N.D.
22) *Methoxychlor	0.00	0.00	0	0	N.D.	N.D.

Date: 7-18-96  
 Method #: 6010  
 Analyst: BS  
 Supervisor: *[Signature]*

Matrix:  
 Solid   
 Aqueous   
 TCLP

Sample # 07139-11

MS/MSD							DUPLICATE			LLCS	
Metal	Samp Conc.	Spike Conc.	Matrix Spike Result	% Rec.	Matrix Dup. Result	% Rec.	RPD	Samp. Result	Dup. Result.	RPD	Result
Ag	NV	1000	991.4	99	971.7	97	2.1%	NV	NV	0%	109.4
As	219.9		1225	101	1197	98	2.3%	219.9	261.4	17%	111.0
Ba	550.0		1499	95	1471	92	1.9%	550.0	534.0	3.0%	106.9
Cd	NV		949.3	95	924.6	92	2.6%	NV	NV	0%	57.02
Cc	NV		963.8	96	942.4	94	2.6%	NV	NV	0%	57.41
Pb	NV		971.7	97	939.7	94	3.3%	NV	NV	0%	66.13
Se	NV	↓	1112	111	1089	109	2.1%	NV	NV	0%	NV
/											

Assoc. Samples											
07139-11											
↓ -18											
07162-10											
/											







Date: 7-15-96  
 Method #: GD10  
 Analyst: BS  
 Supervisor: [Signature]

Matrix:  
 Solid   
 Aqueous   
 TCLP

Sample # 07082-1 Sample # 07082-1

Assoc. Samples
07134-1
-2
-3
-4
-5
-6
-7
-8
-9
-10
-12
-13
-14
-15
-16
-17
-18

Metal	MS/MSD					DUPLICATE			LLCS		
	Samp Conc.	Spike Conc.	Matrix Spike Result	% Rec.	Matrix Dup. Result	% Rec.	RPD	Samp. Result	Dup. Result	RPD	Result
Ag	ND	1000	821.2	82	826.4	83	<1%	ND	ND	0%	104.0
Ba	360.0		1261	90	1267	91	<1%	360.0	346.0	40%	101.8
Be	3.707		912.6	91	915.0	91	<1%	3.707	3.754	<1%	51.49
Cc	126.3		985.5	86	984.0	86	<1%	126.3	117.2	7.5%	52.01
Cu	196.6		1196 1353	100 116	1158 1358	95	3.9%	196.6	190.0	3.4%	49.09
Ni	103.6		947.8	84	963.5	86	1.6%	103.6	100.3	3.2%	46.83
Pb	172.4		947.3	82	1011	84	1.4%	172.4	163.4	5.6%	ND
Sb	ND		986.4	99	943.0	94	4.5%	ND	ND	0%	ND
Se	ND		866.9	87	923.9	92	6.4%	ND	ND	0%	62.72
Zn	369.1		1245	88	1244	88	<1%	369.1	349.4	5.5%	54.51

\* Test Spike





Date: 7-16-96  
 Method #: 6010  
 Analyst: BS  
 Supervisor: [Signature]

Matrix:  
 Solid   
 Aqueous   
 TCLP

Sample # 07082-1 Sample # 07082-1

Assoc. Samples
07139-1
-2
-3
-4
-5
-6
-7
-8
-9
-10
<del>11</del> H-12
-13
-14
-15
-16
-17
↓ -18

Metal	MS/MSD				DUPLICATE			LLCS Result			
	Samp Conc.	Spike Conc.	Matrix Spike Result	% Rec.	Matrix Dup. Result	% Rec.	RPD		Samp. Result	Dup. Result.	RPD
Be	3.533	1000	936.4	93	927.8	92	<1%	3533	3201	99%	51.85
Cd	ND	1	906.4	91	894.0	89	1.4%	ND	ND	0%	50.10
Ni	117.7	↓	1003	89	1021	90	1.8%	117.1	114.3	2.4%	61.03
Pb	204.4	↓	1090	89	1097	89	<1%	204.4	189.2	7.7%	45.12







Date: 7-16-96  
 Method#: \_\_\_\_\_  
 Parameter: As-2eems-5100  
 Analyst: mm  
 Supervisor: [Signature]

S1	25 PPM
S2	50 PPM
S3	75 PPM
S4	100 PPM

Standard Lot #: W960716-1

LCS Spike Lot #: 5960325-2

Matrix Spike Lot #: <sup>76</sup>5960325-2

Sample #	Result ug/L	Final Vol.	Samp. Wt.	% Solids	DF	Result mg/Kg
Method Blank	0.42	T	T	T	T	ND
QCTV = 50 PPM	52.13					0.052
LCS	45.64					0.046
Low Level Check Std.	9.35	I	I	I	I	94%
07139-1	42.06	50 ml	0.55	95	I	4.0
-2A	23.51		0.53	93	1:5	12.0
-3	32.56		0.52	86	-	3.7
-4	47.58		0.52	94	1:2	9.8
-5	66.77		0.50	92	T	7.2
-6	82.88		0.55	82	I	9.2
-7	70.78		0.51	86	I	8.1
-8	23.24		0.54	83	I	2.6
-9A	32.75		0.52	93	I	3.4
-10	39.15	V	0.55	92	<del>7:45</del>	3.9
Calibration Blank	0.24	-	-	-	-	ND
CCV Mid TV = 50 PPM	51.16	-	-	-	-	0.051
07139-12A	44.01	50 ml	0.53	82	-	5.0
-13	<del>51.76</del> <sup>39.13</sup>		0.50	82	<del>1:2</del> <sup>1:2</sup>	4.8
-14	86.76		0.52	88	1:2	19.0
-15	16.39		0.55	84	-	1.8
-16	81.51		0.50	93	1:4	35.0
-17	60.82		0.55	94	-	5.9
-18	67.84	V	0.52	74	-	8.9
Calibration Blank	ND	T	T	T	T	ND
CCV Low TV = 25 PPM	23.50	I	I	I	I	0.024
CCV Mid TV = 50 PPM	52.57	<del>50 ml</del>	I	I	I	0.053
Dup. Samp# 07139-1	42.38	50 ml	0.55	95	I	4.0
MS Samp# -1	73.75	-	-	-	I	0.074
MSD -1	79.38	-	-	-	I	0.077

Blk Spk	Result	% Rec.	Dup. Samp #	Sample Result	Duplicate Result	RPD
V = 50 PPM	52.13	91%	07139-1	42.06	<del>45.39</del> 42.38	0.8%

MS Samp#	Samp Conc	Spike Conc	Spike Result	% Rec	Dup Result	% Rec	RPD
07139-1	42.06	50 PPM	73.75	63%	79.38	75%	7.4%

Date: 7-15-96  
 Method#: \_\_\_\_\_  
 Parameter: T1-Zan-3630  
 Analyst: [Signature]  
 Supervisor: [Signature]

S1	25 PPI
S2	50 PPI
S3	75 PPI
S4	100 PPI

Standard Lot #: 6960715-1

LCS Spike Lot #: 5960325-2

Matrix Spike Lot #: 5960325-2

Sample #	Result ug/L	Final Vol.	Samp. Wt.	% Solids	DF	Result mg/Kg
Method Blank	NO	T	T	T	T	NO
QCTV= 50 PPI	49.1	I	I	I	I	0.049
LCS	43.8	I	I	I	I	0.044
Low Level Check Std.	9.5	I	I	I	I	95%
07 139-1	0.5	50 ml	0.55	95		NO
-2A	1.0		0.53	93		NO
-3	0.6		0.52	86		NO
-4A	0.8		0.52	94		NO
-5	0.8		0.50	92		NO
-6	0.5		0.55	82		NO
-7	0.7		0.51	86		NO
-8	NO		0.54	83		NO
-9A	0.3		0.52	82.93		NO
-10	0.3	✓	0.55	92		NO
Calibration Blank	NO	-	-	-		NO
CCV Mid TV= 50 PPI	46.9	-	-	-		0.047
07 139-12A	0.0	50 ml	0.53	82		NO
-13	0.9		0.50	88.82		NO
-14	1.2		0.52	88.89		NO
-15	NO		0.55	84.84		NO
-16	1.6		0.50	89.93		NO
-17	0.0		0.55	94		NO
-18	18.7	✓	0.52	74	I	2.1
/						
Calibration Blank	NO	I	I	I	I	NO
CCV Low TV= 25 PPI	22.7	I	I	I	I	0.023
CCV Mid TV= 50 PPI	46.2	I	I	I	I	0.046
Dup. Samp# 07 139-1	36.1	50 ml	0.55	95		NO
MS Samp# ✓ -1	36.1	-	-	-		0.036
MSD ✓ -1	36.7	-	-	-	I	0.037

Blk Spk	Result	% Rec.	Dup. Samp #	Sample Result	Duplicate Result	RPD
TV= 50 PPI	43.8	88%	07 139-1	NO	NO	0.0%

MS Samp#	Samp Conc	Spike Conc	Spike Result	% Rec	Dup Result	% Rec	RPD
07 139-1	NO	50 PPI	36.1	72%	36.7	73%	1.6%

Date: 7.18.96  
 Method#: \_\_\_\_\_  
 Parameter: Mercury  
 Analyst: [Signature]  
 Supervisor: [Signature]

S1	<u>10 ppb</u>
S2	<u>90 ppb</u>
S3	
S4	
S5	
S6	

Sample #	Result ug/L	Final Vol.	Samp. Wt.	% Solids	DF	Result mg/Kg
Method Blank	ND	100 ml	0.52	-	T	ND
QC TV= <u>5 ppb</u>	5.0		-	-		0.005
Low Level Check Std. <u>1 ppb</u>	0.7		-	-		0.001
E607139-1	ND		0.51	95.3		ND
-2A	ND		0.52	93.0		ND
-3	ND		0.56	86.1		ND
-4A	ND		0.52	94.0		ND
-5	ND		0.52	92.4		ND
-6	OFF SCALE		0.55	82.0		OFF SCALE
-7	<u>0.3</u>		0.53	86.0		ND
-8	ND		0.56	83.0		ND
-9	0.5		0.53	93.2		0.100
-10	ND		0.50	92.1		ND
Calibration Blank	ND		-	-		ND
CCV Mid TV= <u>5 ppb</u>	4.5		-	-		0.005
E607139-12A	ND		0.56	82.3		ND
-13	ND		0.52	81.9		ND
-14	ND		0.50	88.1		ND
-15	ND		0.50	83.9		ND
-16	ND		0.54	93.4		ND
-17	ND		0.52	93.8		ND
-18	ND		0.55	73.6		ND
E607162-1	OFF SCALE		0.53	61.5		OFF SCALE
-2A	ND		0.53	83.6		ND
-3	ND		0.55	81.3		ND
Calibration Blank	ND		-	-		ND
CCV Low TV= <u>2 ppb</u>	1.9		-	-		0.002
CCV Mid TV= <u>5 ppb</u>	4.5		-	-		0.005
Dup. Samp# 7139-1	ND		0.53	95.3		ND
MS Samp#	4.1		0.54			0.004
MSD	4.3		0.52			0.004

Dup. Samp #	Sample Result	Duplicate Result	RPD
7139-1	ND	ND	0.0

MS Samp#	Samp Conc	Spike Conc	Spike Result	% Rec	Dup Result	% Rec	RPD
7139-1	ND	5 ppb	4.1	82	4.3	86	4.7

Date: 7.22.96  
 Method#: TCLP  
 Parameter: Mercury  
 Analyst: [Signature]  
 Supervisor: [Signature]

S1	<u>10ppb</u>
S2	<u>90ppb</u>
S3	
S4	
S5	
S6	

Sample #	Result ug/L	DF	Result mg/L
Method Blank	ND	1	ND
QCTV= <u>5ppb</u>	<u>4.9</u>		<u>0.005</u>
Low Level Check Std. <u>1ppb</u>	<u>0.5</u>		<u>0.001</u>
<u>E607139-11</u>	<u>ND</u>		<u>ND</u>
<u>↳ -18</u>	<u>ND</u>		<u>ND</u>
<u>E6071102-10</u>	<u>ND</u>		<u>ND</u>
Calibration Blank			
CCV Mid TV=			
Calibration Blank			
CCV Low TV=			
CCV Mid TV=			
Dup. Samp# <u>7139-11</u>			
MS Samp#	<u>1</u>	<u>4.5</u>	<u>1:2</u>
MSD	<u>1</u>	<u>4.7</u>	<u>1:2</u>
Calibration Blank			
CCV Low TV=			
CCV Mid TV=			
Dup. Samp# <u>7139-11</u>			
MS Samp#	<u>1</u>	<u>4.5</u>	<u>1:2</u>
MSD	<u>1</u>	<u>4.7</u>	<u>1:2</u>

Dup. Samp #	Sample Result	Duplicate Result	RPD
<u>7139-11</u>	<u>ND</u>	<u>ND</u>	<u>0.0</u>

MS Samp#	Samp Conc	Spike Conc	Spike Result	% Rec	Dup Result	% Rec	RPD
<u>7139-11</u>	<u>ND</u>	<u>5ppb</u>	<u>4.5</u>	<u>90%</u>	<u>4.7</u>	<u>94%</u>	<u>4.3</u>

Date: 7-12-96  
 Method#: 9045  
 Parameter: pH  
 Analyst: JS  
 Supervisor: JG

Sample #	Time	pH
pH 7.00 Buffer <sup>READ</sup> Cal.	0930	7.085
pH 4.00 Buffer Cal.	↓	3.999
pH 10.0 Buffer <sup>READ</sup> Cal.	↓	10.000
EL07139-18	1715	7.106
139-11	↓	8.322
Dup Samp# = 139-18	1720	7.115

Dup. Samp#	Sample Result	Duplicate Result	RPD
EL07139-18	7.106	7.115	0.17%

Date: 7-14-16  
 Method#: 335.3/9010  
 Parameter: Cyanide  
 Analyst: E. Benson  
 Supervisor: [Signature]

(TV=0.100)

Sample #	SO2	Amt. ml/g	Final Vol	Result	DF	Result	
S1=0.50	-	50mL	50mL	0.500	-	0.500	
S2=0.25	-			0.250	-	0.250	
S3=0.125	-			0.125	-	0.125	
QC	-			0.208	-	0.208	
Blank	-			0.001	-	0.001	
Low Level Check Std.	-	↓	↓	0.113	-	0.113	mg/kg.
E60713A-1	-	7.37	125mL	0.018	-	0.018	0.320
-2A	-	6.90		0.144	-	0.144	2.81
-3	-	7.24		0.023	-	0.023	0.458
-4A	-	6.57		0.250	10X	2.50	50.16
-5	-	6.60		0.233	10X	2.33	47.8
-6	-	6.96		0.177	25X	4.43	97.0
-7	-	6.56		0.036	-	0.036	0.797
-8	-	6.60		0.013	-	0.013	0.246
-9A	-	7.15		0.183	25X	4.57	85.7
-10	-	7.26		0.151	5X	0.753	14.0
-12A	-	7.08		0.239	25X	5.99	128
-13	-	7.28		0.005	-	0.005	0.104
-14	-	6.33		0.202	2X	0.404	4.74 9.01
-15	-	7.94		0.147	5X	0.736	14.15
-16	-	6.71		0.095	25X	2.39	47.7 EB 7-14
↓ -17	-	6.75	↓	0.039	-	0.039	0.769
E60713A-18	-	6.47	125mL	0.304	5X	1.52	39.9
E60716Z-15	-	5.71	↓	0.044	-	0.044	1.02
				0.142			
Dup Samp# 139-10	-	7.26	125mL	0.0071	5X	0.710	EB 7-14-
MS Samp# ↓ -10	-	7.31	↓	0.250	5X	1.25	
Blk Spk TV= 0.250	-	25.25	500mL	0.262	-	0.262	

QC Lot #	WS1195
TV	0.250
Result	0.208
QC Limits	±0.100

Blk Spk	Result	% Rec	Dup. Samp#	Sample Result	Duplicate Result	RPD
TV=0.250	0.262	105.7	E60713A-10	0.753	0.710	5.9%

MS Samp #	Conc.	Sample Result	MS Result	% REC
E60713A-10	0.250	0.753	1.25	144.2

EB 7-14-11

0.500

EB 7-14-16

99.7

Sample #	A or S	% Sol	Wt or Vol	Pump #	Pump Factor	Initial Pump Reading	Final Pump Reading	Total Pump Reading	Tube Reading		CN Res.	SO2 Res.
									CN	SO2		
Blank	S	100	10.07	1	0.29	805189	816032	10843	0	0	0	0
E607139-11	S	80.3	0.98	1	0.29	826721	832610	over range	-	-	-	-
E607139-18	S	73.6	1.31	1	0.29	844818	855752	10934	2	40	0.48/0.736	9.5/0.736
E607139-11	S	80.3	0.98	1	0.29	832610	844818	12208	2	350	0.59/0.903	100/0.803
E607162-9A	S	86.9	11.36	3	0.18	929466	940536	11070	0	6	0	0.26/0.869
<del>-----</del>												
Dup Samp# 162-9A	S		11.36	3	0.18	940536	951923	11387	0	6	0	0.26/0.869
System Check	S	100	10.07	1	0.29	816032	826721	10189	7100	730	73.2	70.97

E607

Date: 7-12-96  
 Method#: SW 846 CH 7  
 Parameter: Reactive Cyanide & Sulfide  
 Analyst: E. Benson  
 Supervisor: *[Signature]*

DUP SAMPLE #	SAMP RESULT		DUP RESULT		RPD	
	CN	SO2	CN	SO2	CN	SO2
E607162-9A	0	0.30	0	0.30	ND	0.07

Date: 7/19/96  
 Method#: 1010  
 Parameter: Flashpoint  
 Analyst: [Signature]  
 Supervisor: [Signature]

Sample #	Result Degrees F.
E607088 1A	> 200
E607139 11	> 160
↓ 18	> 160
E607162 9A	> 160
E607223 6A	> 160
QC TV = 84 Deg. F.	84
Dup Samp# E6071629A	> 160

Dup. Samp #	Sample Result	Duplicate Result	RPD
E607162	> 160	> 160	0%



**CUSTOMER INFORMATION**

CUSTOMER: ATLANTIC  
ADDRESS: COLCHESTER  
TELEPHONE: 860 537 0751  
FAX:

**PROJECT INFORMATION**

PROJECT: TIDEWATER  
PROJECT LOCATION: PAUNUCKY STATE RI  
PROJECT MANAGER: P. GEORGETT  
IN CASE WE HAVE ANY QUESTIONS WHEN SAMPLES ARRIVE WE SHOULD CALL:  
NAME: P. GEORGETT  
TELEPHONE: 860 537 0751  
FAX:

**BILLING INFORMATION**

BILL TO: ATLANTIC  
ADDRESS:  
ATTENTION:  
TELEPHONE:  
PO #:

LAB ID CODE	SAMPLE IDENTIFICATION	DATE COLLECTED	TIME COLLECTED	SAMPLE TYPE		SAMPLE MATRIX	# OF BOTTLES	ANALYSIS				PRESERVATIVES				
				COMPOSITE	GRAB			2500 KEX 0907	8230 DMS	MCPAN	CN	H2SO4	HCL	HNO3	NAOH	NON-PRES
✓	TP9 (8-9)	7-9-96		X		SOIL	2	X	X	X	X					
✓	TP14 (12-13)							X	X	X	X					
✓	TP16 (7-8)							X	X	X	X					
✓	TP15 (0-2)							X	X	X	X					
✓	TP15 (4-6)							X	X	X	X					
✓	TP10 (11-12)							X	X	X	X					
✓	TP14 (0-2)							X	X	X	X					
✓	TP14 (4-6)							X	X	X	X					

TURNAROUND (INDICATE IN CALENDAR DAYS): \_\_\_\_\_ FAX \_\_\_\_\_ HARD COPY \_\_\_\_\_ DELIV. PKG. \_\_\_\_\_  
 NAME OF LAB PERSONNEL CONFIRMING: \_\_\_\_\_  
 DELIVERABLES / (CIRCLE ONE): DATA DATA/QC RED/DELIV NJ/CLP I NJ/CLP II  
 NJ/REGI NY/ASP CLP OTHER  
 SAMPLER / AFFILIATION: P. GEORGETT / ATLANTIC  
 RECEIVED / AFFILIATION: \_\_\_\_\_  
 RELINQUISHED / AFFILIATION: \_\_\_\_\_  
 RECEIVED / AFFILIATION: \_\_\_\_\_  
 RELINQUISHED / AFFILIATION: \_\_\_\_\_

RETURN TO CLIENT FOR DISPOSAL  LAB DISPOSAL  
 KNOWN HAZARD (FLAMMABLE, EXPLOSIVE, TOXIC)  
 YES  NO (IF YES EXPLAIN UNDER COMMENTS)  
**LAB USE** CONDITIONS OF BOTTLES AND COOLER AT RECEIPT:  
 COMPLIANT  NOT COMPLIANT (IF NOT EXPLAIN UNDER COMMENTS)  
 COMMENTS: ANALYSIS PERIODITY PAUNUCKY + BACUM  
 CHANGE IN TOTAL VOA 10/12/19013  
 DETECTION LIMIT PALLS 0.1 ppm

CUSTOMER INFORMATION

CUSTOMER: Atlantic Environmental Services  
ADDRESS: 188 Norwich Ave  
Colchester CT

TELEPHONE: 860-537-0751  
FAX:

PROJECT INFORMATION

PROJECT: TIDEWATER  
PROJECT LOCATION: Branford STATE: RI  
PROJECT MANAGER: Peter Cozzetta

NAME:  
TELEPHONE: 860-537-0751  
FAX: -6347

BILLING INFORMATION

BILL TO: Atlantic  
ADDRESS:  
ATTENTION:  
TELEPHONE:  
PO #:

LAB ID CODE	SAMPLE IDENTIFICATION	DATE COLLECTED	TIME COLLECTED	SAMPLE TYPE		SAMPLE MATRIX	# OF BOTTLES	8260 8270 8280 PAH TSP FILL	ANALYSIS	PRESERVATIVES																
				COMPOST	SOIL						CN	Pb	MERCURY	CHLORIDE	INERT	H2SO4	HCL	HNO3	NaOH	NON-PRES						
✓	TB11(0-2)	7-10-96		✓	Soil	2	2	X	X	X																
✓	TSS30					2	2	X	X	X																
○	TTP8B(8-9)					6	6	X	X	X																
✓	TB11(10-12)					2	2	X	X	X																
✓	TB16(10-12)					2	2	X	X	X																
✓	TB16(0-2)					2	2	X	X	X																
✓	TTP11(6-7)					2	2	X	X	X																
✓	TB17(0-2)					2	2	X	X	X																
✓	TB17(18-20)					2	2	X	X	X																
✓	TTP13(3-4)					4	4	X	X	X																

TURNAROUND (INDICATE IN CALENDAR DAYS): \_\_\_\_\_ FAX \_\_\_\_\_ HARD COPY \_\_\_\_\_ DELIV. PKG. \_\_\_\_\_

NAME OF LAB PERSONNEL CONFIRMING: \_\_\_\_\_

DELIVERABLES / (CIRCLE ONE): DATA DATA/QC RED/DELIV NJ/CLP I NJ/CLP II

SAMPLER / AFFILIATION: P. Cozzetta / Atlantic  
RECEIVED / AFFILIATION: (Signature) / Atlantic  
RELINQUISHED / AFFILIATION: (Signature) / Atlantic  
RECEIVED / AFFILIATION: \_\_\_\_\_  
RELINQUISHED / AFFILIATION: \_\_\_\_\_

DATE: 7-10-96  
TIME: 7:00 P  
DATE: \_\_\_\_\_  
TIME: \_\_\_\_\_  
DATE: \_\_\_\_\_  
TIME: \_\_\_\_\_

LAB USE CONDITIONS OF BOTTLES AND COOLER AT RECEIPT:  
 YES  NO (IF YES EXPLAIN UNDER COMMENTS)

LAB RETURN TO CLIENT FOR DISPOSAL  LAB DISPOSAL  
KNOWN HAZARD (FLAMMABLE, EXPLOSIVE, TOXIC)

COMMENTS: Megas - Prior to sampling PLUS BARIUM  
CYANIDE - MAL VA 9012/9013  
TTP8B(8-9) - 24 HR. F-AK (w/ OTHERS SDTA)  
DETECTION LIMIT PAH'S 0.1 PPBM  
EXCEPT TSP & HAP

**CUSTOMER INFORMATION**  
 CUSTOMER: ATAMIC  
 ADDRESS: COUCHESTER  
 TELEPHONE: 800 557-0751  
 FAX: \_\_\_\_\_

**PROJECT INFORMATION**  
 PROJECT: TIDewater  
 PROJECT LOCATION: PLANT #1 STATE RI  
 PROJECT MANAGER: \_\_\_\_\_  
 IN CASE WE HAVE ANY QUESTIONS WHEN SAMPLES ARRIVE WE SHOULD CALL:  
 NAME: P. GEORGE  
 TELEPHONE: 800 557 0751  
 FAX: \_\_\_\_\_

**BILLING INFORMATION**  
 BILL TO: ATAMIC  
 ADDRESS: \_\_\_\_\_  
 ATTENTION: \_\_\_\_\_  
 TELEPHONE: \_\_\_\_\_  
 PO #: \_\_\_\_\_

LAB ID CODE	SAMPLE IDENTIFICATION	DATE COLLECTED	TIME COLLECTED	SAMPLE TYPE		SAMPLE MATRIX	# OF BOTTLES	ANALYSIS			PRESERVATIVES								
				COMPOSITE	SP			Metals	Metals	Metals	H2SO4	HCL	HNO3	NAOH	NON-PRES				
	TS42	7-9-96		X		SOLIC	2	X	X	X									
	TS43	↓		↓		↓	↓	X	X	X									
	TS44							X	X	X									

TURNAROUND (INDICATE IN CALENDAR DAYS): 24 hr FAX \_\_\_\_\_ HARD COPY \_\_\_\_\_ DELIV. PKG. \_\_\_\_\_  
 NAME OF LAB PERSONNEL CONFIRMING: \_\_\_\_\_  
 DELIVERABLES / (CIRCLE ONE): DATA DATA/QC RED/DELIV NJ/CLP I NJ/CLP II  
 NJ/REGL NY/ASP CLP OTHER \_\_\_\_\_  
 SAMPLER / AFFILIATION: P. GEORGE / ATAMIC DATE: 7-10-96  
 RECEIVED / AFFILIATION: C. GEORGE TIME: 7:00 P  
 RELINQUISHED / AFFILIATION: \_\_\_\_\_ DATE: \_\_\_\_\_  
 RECEIVED / AFFILIATION: \_\_\_\_\_ DATE: \_\_\_\_\_  
 RELINQUISHED / AFFILIATION: \_\_\_\_\_ DATE: \_\_\_\_\_

RETURN TO CLIENT FOR DISPOSAL  LAB DISPOSAL  
 KNOWN HAZARD (FLAMMABLE, EXPLOSIVE, TOXIC)  
 YES  NO (IF YES EXPLAIN UNDER COMMENTS)  
**LAB USE** CONDITIONS OF BOTTLES AND COOLER AT RECEIPT:  
 COMPLIANT  NOT COMPLIANT (IF NOT EXPLAIN UNDER COMMENTS)  
 COMMENTS: NETALS - PRIORITY POUWANTANJ + BARQUE  
CHAMIDE - TOTAL VIA 9012/9013  
PERFECTION LIMIT DATA 0.1 PPM  
TURBU - AMOUND 24 HR.





# Laboratory Resources, Inc.

New England Division

Route 205 - Regional Building

Brooklyn, CT 06234

Telephone: 203-774-6814 Fax: 203-774-2689

## ANALYTICAL DATA REPORT

Report Number: E607162

Project: Tidewater Former MGP

prepared for:

Atlantic Environmental

188 Norwich Ave.

P.O. Box 297

Colchester, CT 06415

Attn: Jeff Wilson

Receive Date: 07/12/96

Report Date: 07/29/96

T.F. McCommas  
Laboratory Director

Connecticut Department of Health Services PH-0465  
Maine Department of Environmental Protection TBD  
Massachusetts Department of Environmental Quality CT008  
New Hampshire Department of Environmental Services 2020  
New York Department of Health 11549  
Rhode Island Department of Health A44 0022

# GENERAL CHEMISTRY ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
Division: New England  
LRI Report No: E607162  
LRI Sample No: 1

Customer: Atlantic Environmental Eng  
Location: Pawtucket, RI  
Project: Tidewater Former MGP  
Sample Description: TB-13 (14-16)

Date Collected: 07/11/96  
Date Received: 07/12/96

Matrix: Soil  
Percent Moisture: 38.5%  
Units in Dry Weight

<u>Parameter</u>	<u>Result</u>	<u>QL</u>	<u>Units</u>	<u>Started</u> <u>Date</u>	<u>By</u>	<u>Completed</u> <u>Date</u>	<u>By</u>	<u>Dilution</u>
<u>Cyanide by 9012 Modified NE</u>								
Cyanide	5.7	0.48	mg/kg	07/18/96	EB	07/19/96	EB	

# METALS ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
 Division: New England  
 LRI Order No: E607162  
 LRI Sample No: 1

Client: Atlantic Environmental Eng  
 Location: Pawtucket, RI  
 Project: Tidewater Former MGP  
 Sample Description: TB-13 (14-16)

Date Collected: 07/11/96  
 Date Received: 07/12/96

Matrix: Soil  
 Percent Moisture: 38.5%

Parameter	Result	QL	Units	Started		Completed		Dilution
				Date	By	Date	By	
<u>Arsenic by Furnace by SW-846 7060</u>								
Arsenic	26	0.53	mg/kg	07/15/96	KH	07/19/96	MM	2
<u>Mercury by Cold Vapor by SW-846 7471</u>								
Mercury	2.2	0.28	mg/kg	07/16/96	KH	07/22/96	KH	2
<u>Metals by ICP by SW-846 6010A</u>								
Beryllium	0.54	0.27	mg/kg	07/15/96	KH	07/16/96	BS	
Chromium	250	3.3	mg/kg	07/15/96	KH	07/16/96	BS	
Copper	620	3.3	mg/kg	07/15/96	KH	07/16/96	BS	
Nickel	19	3.3	mg/kg	07/15/96	KH	07/16/96	BS	
Silver	2.7 U	2.7	mg/kg	07/15/96	KH	07/16/96	BS	
Zinc	360	1.3	mg/kg	07/15/96	KH	07/16/96	BS	
Barium	120	1.3	mg/kg	07/15/96	KH	07/16/96	BS	
Antimony	13 U	13	mg/kg	07/15/96	KH	07/16/96	BS	
Lead	440	6.7	mg/kg	07/15/96	KH	07/17/96	BS	
Selenium	13 U	13	mg/kg	07/15/96	KH	07/16/96	BS	
Cadmium	1.3 U	1.3	mg/kg	07/15/96	KH	07/16/96	BS	
<u>Thallium by Furnace by SW-846 7841</u>								
Thallium	1.1	0.27	mg/kg	07/15/96	KH	07/18/96	MM	

# GENERAL CHEMISTRY ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
Division: New England  
LRI Report No: E607162  
LRI Sample No: 2

Customer: Atlantic Environmental Eng  
Location: Pawtucket, RI  
Project: Tidewater Former MGP  
Sample Description: TB-13 (0-2)

Date Collected: 07/11/96  
Date Received: 07/12/96

Matrix: Soil  
Percent Moisture: 16.4%  
Units in Dry Weight

<u>Parameter</u>	<u>Result</u>	<u>QL</u>	<u>Units</u>	<u>Started</u> <u>Date</u>	<u>By</u>	<u>Completed</u> <u>Date</u>	<u>By</u>	<u>Dilution</u>
<u>Cyanide by 9012 Modified NE</u> Cyanide	50	4.5	mg/kg	07/18/96	EB	07/19/96	EB	10



# METALS ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
 Division: New England  
 LRI Order No: E607162  
 LRI Sample No: 2

Client: Atlantic Environmental Eng  
 Location: Pawtucket, RI  
 Project: Tidewater Former MGP  
 Sample Description: TB-13 (0-2)

Date Collected: 07/11/96  
 Date Received: 07/12/96

Matrix: Soil  
 Percent Moisture: 16.4%

Parameter	Result	QL	Units	Started		Completed		Dilution
				Date	By	Date	By	
<u>Arsenic by Furnace by SW-846 7060</u>								
Arsenic	9.8	0.20	mg/kg	07/15/96	KH	07/19/96	MM	
<u>Mercury by Cold Vapor by SW-846 7471</u>								
Mercury	0.10U	0.10	mg/kg	07/16/96	KH	07/18/96	KH	
<u>Metals by ICP by SW-846 6010A</u>								
Beryllium	0.77	0.20	mg/kg	07/15/96	KH	07/16/96	BS	
Chromium	8.6	2.4	mg/kg	07/15/96	KH	07/16/96	BS	
Copper	32	2.4	mg/kg	07/15/96	KH	07/16/96	BS	
Nickel	68	2.4	mg/kg	07/15/96	KH	07/16/96	BS	
Silver	2.0U	2.0	mg/kg	07/15/96	KH	07/16/96	BS	
Zinc	25	1.0	mg/kg	07/15/96	KH	07/16/96	BS	
Barium	55	1.0	mg/kg	07/15/96	KH	07/16/96	BS	
Antimony	10U	10	mg/kg	07/15/96	KH	07/16/96	BS	
Lead	20	5.0	mg/kg	07/15/96	KH	07/17/96	BS	
Selenium	10U	10	mg/kg	07/15/96	KH	07/16/96	BS	
Cadmium	1.0U	1.0	mg/kg	07/15/96	KH	07/16/96	BS	
<u>Thallium by Furnace by SW-846 7841</u>								
Thallium	0.20U	0.20	mg/kg	07/15/96	KH	07/18/96	MM	

# VOLATILE ORGANIC ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
 Division: New England  
 LRI Report No: E607162  
 LRI Sample No: 2

Customer: Atlantic Environmental Eng  
 Location: Pawtucket, RI  
 Project: Tidewater Former MGP  
 Sample Description: TB-13 (0-2)

Date Collected: 07/11/96  
 Date Received: 07/12/96  
 Date Extracted: By:  
 Date Analyzed: 07/24/96 By: AT

Matrix: Soil  
 Percent Moisture: 16.4%  
 Sample Weight/Volume:  
 Dilution Factor: 1  
 Soil Extract Volume:  
 Soil Aliquot Volume:  
 Lab Data File: BH910

Method: 8260A  
 Level: LOW  
 GC Column:  
 Units: ug/kg (Dry Weight)

CAS No.	Parameter	Result	Qual	QL
107-02-8	Acrolein	30	U	30
107-13-1	Acrylonitrile	30	U	30
71-43-2	Benzene	6.0	U	6.0
108-86-1	Bromobenzene	6.0	U	6.0
74-97-5	Bromochloromethane	6.0	U	6.0
75-27-4	Bromodichloromethane	6.0	U	6.0
75-25-2	Bromoform	6.0	U	6.0
74-83-9	Bromomethane	12	U	12
104-51-8	n-Butylbenzene	6.0	U	6.0
135-98-8	sec-Butylbenzene	6.0	U	6.0
98-06-6	tert-Butylbenzene	6.0	U	6.0
56-23-5	Carbon tetrachloride	6.0	U	6.0
108-90-7	Chlorobenzene	6.0	U	6.0
75-00-3	Chloroethane	12	U	12
67-66-3	Chloroform	6.0	U	6.0
74-87-3	Chloromethane	12	U	12
95-49-8	2-Chlorotoluene	6.0	U	6.0
106-43-4	4-Chlorotoluene	6.0	U	6.0
96-12-8	1,2-Dibromo-3-chloropropane (DBCP)	6.0	U	6.0
124-48-1	Dibromochloromethane	6.0	U	6.0
106-93-4	1,2-Dibromoethane (EDB)	6.0	U	6.0
74-95-3	Dibromomethane	6.0	U	6.0
95-50-1	1,2-Dichlorobenzene	6.0	U	6.0
541-73-1	1,3-Dichlorobenzene	6.0	U	6.0
106-46-7	1,4-Dichlorobenzene	6.0	U	6.0
75-71-8	Dichlorodifluoromethane	12	U	12
75-34-3	1,1-Dichloroethane	6.0	U	6.0
107-06-2	1,2-Dichloroethane	6.0	U	6.0
75-35-4	1,1-Dichloroethene	6.0	U	6.0
156-59-4	cis-1,2-Dichloroethene	6.0	U	6.0
156-60-5	trans-1,2-Dichloroethene	6.0	U	6.0
78-87-5	1,2-Dichloropropane	6.0	U	6.0
142-28-9	1,3-Dichloropropane	6.0	U	6.0
590-20-7	2,2-Dichloropropane	6.0	U	6.0
563-58-6	1,1-Dichloropropene	6.0	U	6.0
10061-01-5	cis-1,3-Dichloropropene	6.0	U	6.0
10061-02-6	trans-1,3-Dichloropropene	6.0	U	6.0
100-41-4	Ethylbenzene	6.0	U	6.0
87-68-3	Hexachlorobutadiene	6.0	U	6.0
98-82-8	Isopropylbenzene	6.0	U	6.0
99-87-6	4-Isopropyltoluene	6.0	U	6.0
1634-04-4	Methyl tert-butyl ether (MTBE)	6.0	U	6.0

# VOLATILE ORGANIC ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
 Division: New England  
 LRI Report No: E607162  
 LRI Sample No: 2

Customer: Atlantic Environmental Eng  
 Location: Pawtucket, RI  
 Project: Tidewater Former MGP  
 Sample Description: TB-13 (0-2)

Method: 8260A

CAS No.	Parameter	Result	Qual	QL
75-09-2	Methylene chloride	6.0	U	6.0
91-20-3	Naphthalene	6.0	U	6.0
103-65-1	n-Propylbenzene	6.0	U	6.0
100-42-5	Styrene	6.0	U	6.0
96-18-4	1,2,3-Trichloropropane	6.0	U	6.0
630-20-6	1,1,1,2-Tetrachloroethane	6.0	U	6.0
79-34-5	1,1,2,2-Tetrachloroethane	6.0	U	6.0
127-18-4	Tetrachloroethene	6.0	U	6.0
108-88-3	Toluene	6.0	U	6.0
87-61-6	1,2,3-Trichlorobenzene	6.0	U	6.0
120-82-1	1,2,4-Trichlorobenzene	6.0	U	6.0
71-55-6	1,1,1-Trichloroethane	6.0	U	6.0
79-00-5	1,1,2-Trichloroethane	6.0	U	6.0
79-01-6	Trichloroethene (TCE)	6.0	U	6.0
75-69-4	Trichlorofluoromethane	12	U	12
95-63-6	1,2,4-Trimethylbenzene	6.0	U	6.0
108-67-8	1,3,5-Trimethylbenzene	6.0	U	6.0
75-01-4	Vinyl chloride	12	U	12
95-47-6	o-Xylene	6.0	U	6.0
	m,p-Xylenes	6.0	U	6.0

# SEMIVOLATILE ORGANIC ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
 Division: New England  
 LRI Report No: E607162  
 LRI Sample No: 2

Customer: Atlantic Environmental Eng  
 Location: Pawtucket, RI  
 Project: Tidewater Former MGP  
 Sample Description: TB-13 (0-2)

Date Collected: 07/11/96  
 Date Received: 07/12/96  
 Date Extracted: 07/23/96 By: RAW  
 Date Analyzed: 07/26/96 By: RAW

Matrix: Soil  
 Percent Moisture: 16.4%  
 pH:  
 Sample Weight/Volume: 5.02 g  
 Extract Volume: 1  
 Injection Volume:  
 Dilution Factor:  
 Lab Data File: A12742

Method: 8270  
 Level: LOW  
 GC Column:  
 Units: ug/kg (Dry Weight)

CAS No.	Parameter	Result	Qual	QL
83-32-9	Acenaphthene	1200	U	1200
208-96-8	Acenaphthylene	4000		1200
120-12-7	Anthracene	1600		1200
56-55-3	Benzo[a]anthracene	14000		1200
50-32-8	Benzo[a]pyrene	16000		450
205-99-2	Benzo[b]fluoranthene	16000		1200
191-24-2	Benzo[g,h,i]perylene	20000		1200
207-08-9	Benzo[k]fluoranthene	11000		1200
218-01-9	Chrysene	15000		1200
53-70-3	Dibenzo[a,h]anthracene	3200		450
206-44-0	Fluoranthene	14000		1200
86-73-7	Fluorene	1200	U	1200
193-39-5	Indeno[1,2,3-cd]pyrene	11000		1200
91-20-3	Naphthalene	1300		1200
85-01-8	Phenanthrene	3400		1200
129-00-0	Pyrene	22000		1200
91-57-6	2-Methylnaphthalene	1200	U	1200

# GENERAL CHEMISTRY ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
Division: New England  
LRI Report No: E607162  
LRI Sample No: 3

Customer: Atlantic Environmental Eng  
Location: Pawtucket, RI  
Project: Tidewater Former MGP  
Sample Description: TTP7 (9-10)

Date Collected: 07/11/96  
Date Received: 07/12/96

Matrix: Soil  
Percent Moisture: 18.7%  
Units in Dry Weight

<u>Parameter</u>	<u>Result</u>	<u>QL</u>	<u>Units</u>	<u>Started</u>	<u>Completed</u>	<u>Dilution</u>	
				<u>Date</u>	<u>By</u>	<u>Date</u>	<u>By</u>
<u>Cyanide by 9012 Modified NE</u>							
Cyanide	3.2	0.38	mg/kg	07/18/96	EB	07/19/96	EB

# METALS ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
 Division: New England  
 LRI Order No: E607162  
 LRI Sample No: 3

Client: Atlantic Environmental Eng  
 Location: Pawtucket, RI  
 Project: Tidewater Former MGP  
 Sample Description: TTP7 (9-10)

Date Collected: 07/11/96  
 Date Received: 07/12/96

Matrix: Soil  
 Percent Moisture: 18.7%

Parameter	Result	QL	Units	Started		Completed		Dilution
				Date	By	Date	By	
<u>Arsenic by Furnace by SW-846 7060</u>								
Arsenic	4.4	0.20	mg/kg	07/15/96	KH	07/19/96	MM	
<u>Mercury by Cold Vapor by SW-846 7471</u>								
Mercury	0.10U	0.10	mg/kg	07/16/96	KH	07/18/96	KH	
<u>Metals by ICP by SW-846 6010A</u>								
Beryllium	0.27	0.20	mg/kg	07/15/96	KH	07/16/96	BS	
Chromium	9.3	2.4	mg/kg	07/15/96	KH	07/16/96	BS	
Copper	15	2.4	mg/kg	07/15/96	KH	07/16/96	BS	
Nickel	11	2.4	mg/kg	07/15/96	KH	07/16/96	BS	
Silver	2.0U	2.0	mg/kg	07/15/96	KH	07/16/96	BS	
Zinc	27	0.99	mg/kg	07/15/96	KH	07/16/96	BS	
Barium	20	0.99	mg/kg	07/15/96	KH	07/16/96	BS	
Antimony	9.9U	9.9	mg/kg	07/15/96	KH	07/16/96	BS	
Lead	9.5	4.9	mg/kg	07/15/96	KH	07/16/96	BS	
Selenium	9.9U	9.9	mg/kg	07/15/96	KH	07/16/96	BS	
Cadmium	0.99U	0.99	mg/kg	07/15/96	KH	07/16/96	BS	
<u>Thallium by Furnace by SW-846 7841</u>								
Thallium	0.20U	0.20	mg/kg	07/15/96	KH	07/18/96	MM	

# SEMIVOLATILE ORGANIC ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
 Division: New England  
 LRI Report No: E607162  
 LRI Sample No: 3

Customer: Atlantic Environmental Eng  
 Location: Pawtucket, RI  
 Project: Tidewater Former MGP  
 Sample Description: TTP7 (9-10)

Date Collected: 07/11/96  
 Date Received: 07/12/96  
 Date Extracted: 07/22/96 By: KRB  
 Date Analyzed: 07/22/96 By: KRB

Matrix: Soil  
 Percent Moisture: 18.7%  
 pH:  
 Sample Weight/Volume: 1.94 g  
 Extract Volume: 2  
 Injection Volume:  
 Dilution Factor: 1  
 Lab Data File: 8072207

Method: 8080  
 Level: LOW  
 GC Column:  
 Units: ug/kg (Dry Weight)

CAS No.	Parameter	Result	Qual	QL
12674-11-2	Aroclor 1016	630	U	630
11104-28-2	Aroclor 1221	630	U	630
11141-16-5	Aroclor 1232	630	U	630
53469-21-9	Aroclor 1242	630	U	630
12672-29-6	Aroclor 1248	630	U	630
11097-69-1	Aroclor 1254	630	U	630
11096-82-5	Aroclor 1260	630	U	630

# GENERAL CHEMISTRY ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
Division: New England  
LRI Report No: E607162  
LRI Sample No: 4

Customer: Atlantic Environmental Eng  
Location: Pawtucket, RI  
Project: Tidewater Former MGP  
Sample Description: TTP3 (3-4)

Date Collected: 07/11/96  
Date Received: 07/12/96

Matrix: Soil  
Percent Moisture: 8.4%  
Units in Dry Weight

<u>Parameter</u>	<u>Result</u>	<u>QL</u>	<u>Units</u>	<u>Started</u> <u>Date</u>	<u>By</u>	<u>Completed</u> <u>Date</u>	<u>By</u>	<u>Dilution</u>
<u>Cyanide by 9012 Modified NE</u> Cyanide	350	23	mg/kg	07/18/96	EB	07/19/96	EB	50



# METALS ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
 Division: New England  
 LRI Order No: E607162  
 LRI Sample No: 4

Client: Atlantic Environmental Eng  
 Location: Pawtucket, RI  
 Project: Tidewater Former MGP  
 Sample Description: TTP3 (3-4)

Date Collected: 07/11/96  
 Date Received: 07/12/96

Matrix: Soil  
 Percent Moisture: 8.4%

Parameter	Result	QL	Units	Started		Completed		Dilution
				Date	By	Date	By	
<u>Arsenic by Furnace by SW-846 7060</u>								
Arsenic	3.7	0.18	mg/kg	07/15/96	KH	07/19/96	MM	
<u>Mercury by Cold Vapor by SW-846 7471</u>								
Mercury	0.76	0.097	mg/kg	07/17/96	KH	07/22/96	KH	
<u>Metals by ICP by SW-846 6010A</u>								
Beryllium	0.18 U	0.18	mg/kg	07/15/96	KH	07/16/96	BS	
Chromium	6.4	2.2	mg/kg	07/15/96	KH	07/16/96	BS	
Copper	78	2.2	mg/kg	07/15/96	KH	07/16/96	BS	
Nickel	27	2.2	mg/kg	07/15/96	KH	07/16/96	BS	
Silver	1.8 U	1.8	mg/kg	07/15/96	KH	07/16/96	BS	
Zinc	8.1	0.91	mg/kg	07/15/96	KH	07/16/96	BS	
Barium	42	0.91	mg/kg	07/15/96	KH	07/16/96	BS	
Antimony	9.1 U	9.1	mg/kg	07/15/96	KH	07/16/96	BS	
Lead	36	4.5	mg/kg	07/15/96	KH	07/16/96	BS	
Selenium	9.1 U	9.1	mg/kg	07/15/96	KH	07/16/96	BS	
Cadmium	0.91 U	0.91	mg/kg	07/15/96	KH	07/16/96	BS	
<u>Thallium by Furnace by SW-846 7841</u>								
Thallium	0.18 U	0.18	mg/kg	07/15/96	KH	07/18/96	MM	

# SEMIVOLATILE ORGANIC ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
Division: New England  
LRI Report No: E607162  
LRI Sample No: 4

Customer: Atlantic Environmental Eng  
Location: Pawtucket, RI  
Project: Tidewater Former MGP  
Sample Description: TTP3 (3-4)

Date Collected: 07/11/96  
Date Received: 07/12/96  
Date Extracted: 07/22/96 By: KRB  
Date Analyzed: 07/22/96 By: KRB

Matrix: Soil  
Percent Moisture: 8.4%  
pH:  
Sample Weight/Volume: 2.01 g  
Extract Volume: 4  
Injection Volume:  
Dilution Factor: 1  
Lab Data File: 8072208

Method: 8080  
Level: LOW  
GC Column:  
Units: ug/kg (Dry Weight)

CAS No.	Parameter	Result	Qual	QL
12674-11-2	Aroclor 1016	1100	U	1100
11104-28-2	Aroclor 1221	1100	U	1100
11141-16-5	Aroclor 1232	1100	U	1100
53469-21-9	Aroclor 1242	1100	U	1100
12672-29-6	Aroclor 1248	1100	U	1100
11097-69-1	Aroclor 1254	1100	U	1100
11096-82-5	Aroclor 1260	1100	U	1100

# GENERAL CHEMISTRY ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
Division: New England  
LRI Report No: E607162  
LRI Sample No: 5

Customer: Atlantic Environmental Eng  
Location: Pawtucket, RI  
Project: Tidewater Former MGP  
Sample Description: TTP6 (9-10)

Date Collected: 07/11/96  
Date Received: 07/12/96

Matrix: Soil  
Percent Moisture: 46.1%  
Units in Dry Weight

Parameter	Result	QL	Units	Started		Completed		Dilution
				Date	By	Date	By	
<u>Cyanide by 9012 Modified NE</u>								
Cyanide	100	6.3	mg/kg	07/18/96	EB	07/19/96	EB	10

# METALS ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
 Division: New England  
 LRI Order No: E607162  
 LRI Sample No: 5

Client: Atlantic Environmental Eng  
 Location: Pawtucket, RI  
 Project: Tidewater Former MGP  
 Sample Description: TTP6 (9-10)

Date Collected: 07/11/96  
 Date Received: 07/12/96

Matrix: Soil  
 Percent Moisture: 46.1%

Parameter	Result	QL	Units	Started		Completed		Dilution
				Date	By	Date	By	
<u>Arsenic by Furnace by SW-846 7060</u>								
Arsenic	31	1.5	mg/kg	07/15/96	KH	07/22/96	MM	5
<u>Mercury by Cold Vapor by SW-846 7471</u>								
Mercury	0.16U	0.16	mg/kg	07/17/96	KH	07/22/96	KH	
<u>Metals by ICP by SW-846 6010A</u>								
Beryllium	1.1	0.31	mg/kg	07/15/96	KH	07/16/96	BS	
Chromium	160	3.8	mg/kg	07/15/96	KH	07/16/96	BS	
Copper	150	3.8	mg/kg	07/15/96	KH	07/16/96	BS	
Nickel	15	3.8	mg/kg	07/15/96	KH	07/16/96	BS	
Silver	3.1U	3.1	mg/kg	07/15/96	KH	07/16/96	BS	
Zinc	64	1.5	mg/kg	07/15/96	KH	07/16/96	BS	
Barium	37	1.5	mg/kg	07/15/96	KH	07/16/96	BS	
Antimony	15U	15	mg/kg	07/15/96	KH	07/16/96	BS	
Lead	95	7.7	mg/kg	07/15/96	KH	07/16/96	BS	
Selenium	15U	15	mg/kg	07/15/96	KH	07/16/96	BS	
Cadmium	1.5U	1.5	mg/kg	07/15/96	KH	07/16/96	BS	
<u>Thallium by Furnace by SW-846 7841</u>								
Thallium	0.31U	0.31	mg/kg	07/15/96	KH	07/18/96	MM	

# SEMIVOLATILE ORGANIC ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
Division: New England  
LRI Report No: E607162  
LRI Sample No: 5

Customer: Atlantic Environmental Eng  
Location: Pawtucket, RI  
Project: Tidewater Former MGP  
Sample Description: TTP6 (9-10)

Date Collected: 07/11/96  
Date Received: 07/12/96  
Date Extracted: 07/22/96 By: KRB  
Date Analyzed: 07/22/96 By: KRB

Matrix: Soil  
Percent Moisture: 46.1%  
pH:  
Sample Weight/Volume: 2.08 g  
Extract Volume: 2  
Injection Volume:  
Dilution Factor: 1  
Lab Data File: 8072209

Method: 8080  
Level: LOW  
GC Column:  
Units: ug/kg ( Dry Weight )

CAS No.	Parameter	Result	Qual	QL
12674-11-2	Aroclor 1016	890	U	890
11104-28-2	Aroclor 1221	890	U	890
11141-16-5	Aroclor 1232	890	U	890
53469-21-9	Aroclor 1242	890	U	890
12672-29-6	Aroclor 1248	890	U	890
11097-69-1	Aroclor 1254	890	U	890
11096-82-5	Aroclor 1260	890	U	890

# GENERAL CHEMISTRY ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
Division: New England  
LRI Report No: E607162  
LRI Sample No: 6

Customer: Atlantic Environmental Eng  
Location: Pawtucket, RI  
Project: Tidewater Former MGP  
Sample Description: TTP5A (8-9)

Date Collected: 07/11/96  
Date Received: 07/12/96

Matrix: Soil  
Percent Moisture: 25.2%  
Units in Dry Weight

<u>Parameter</u>	<u>Result</u>	<u>QL</u>	<u>Units</u>	<u>Started</u> <u>Date</u>	<u>By</u>	<u>Completed</u> <u>Date</u>	<u>By</u>	<u>Dilution</u>
<u>Cyanide by 9012 Modified NE</u>								
Cyanide	12	1.1	mg/kg	07/18/96	EB	07/19/96	EB	2

# METALS ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
 Division: New England  
 LRI Order No: E607162  
 LRI Sample No: 6

Client: Atlantic Environmental Eng  
 Location: Pawtucket, RI  
 Project: Tidewater Former MGP  
 Sample Description: TTP5A (8-9)

Date Collected: 07/11/96  
 Date Received: 07/12/96

Matrix: Soil  
 Percent Moisture: 25.2%

Parameter	Result	QL	Units	Started		Completed		Dilution
				Date	By	Date	By	
<u>Arsenic by Furnace by SW-846 7060</u>								
Arsenic	4.8	0.23	mg/kg	07/15/96	KH	07/19/96	MM	
<u>Mercury by Cold Vapor by SW-846 7471</u>								
Mercury	0.12 U	0.12	mg/kg	07/17/96	KH	07/22/96	KH	
<u>Metals by ICP by SW-846 6010A</u>								
Beryllium	0.41	0.23	mg/kg	07/15/96	KH	07/16/96	BS	
Chromium	9.3	2.8	mg/kg	07/15/96	KH	07/16/96	BS	
Copper	18	2.8	mg/kg	07/15/96	KH	07/16/96	BS	
Nickel	12	2.8	mg/kg	07/15/96	KH	07/16/96	BS	
Silver	2.3 U	2.3	mg/kg	07/15/96	KH	07/16/96	BS	
Zinc	33	1.1	mg/kg	07/15/96	KH	07/16/96	BS	
Barium	29	1.1	mg/kg	07/15/96	KH	07/16/96	BS	
Antimony	11 U	11	mg/kg	07/15/96	KH	07/16/96	BS	
Lead	18	5.7	mg/kg	07/15/96	KH	07/16/96	BS	
Selenium	11 U	11	mg/kg	07/15/96	KH	07/16/96	BS	
Cadmium	1.1 U	1.1	mg/kg	07/15/96	KH	07/16/96	BS	
<u>Thallium by Furnace by SW-846 7841</u>								
Thallium	0.23 U	0.23	mg/kg	07/15/96	KH	07/18/96	MM	

# SEMIVOLATILE ORGANIC ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
 Division: New England  
 LRI Report No: E607162  
 LRI Sample No: 6

Customer: Atlantic Environmental Eng  
 Location: Pawtucket, RI  
 Project: Tidewater Former MGP  
 Sample Description: TTP5A (8-9)

Date Collected: 07/11/96  
 Date Received: 07/12/96  
 Date Extracted: 07/22/96 By: KRB  
 Date Analyzed: 07/22/96 By: KRB

Matrix: Soil  
 Percent Moisture: 25.2%  
 pH:  
 Sample Weight/Volume: 1.97 g  
 Extract Volume: 2  
 Injection Volume:  
 Dilution Factor: 1  
 Lab Data File: 8072210

Method: 8080  
 Level: LOW  
 GC Column:  
 Units: ug/kg (Dry Weight)

CAS No.	Parameter	Result	Qual	QL
12674-11-2	Aroclor 1016	680	U	680
11104-28-2	Aroclor 1221	680	U	680
11141-16-5	Aroclor 1232	680	U	680
53469-21-9	Aroclor 1242	680	U	680
12672-29-6	Aroclor 1248	680	U	680
11097-69-1	Aroclor 1254	680	U	680
11096-82-5	Aroclor 1260	680	U	680



# GENERAL CHEMISTRY ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
Division: New England  
LRI Report No: E607162  
LRI Sample No: 7

Customer: Atlantic Environmental Eng  
Location: Pawtucket, RI  
Project: Tidewater Former MGP  
Sample Description: TTP4 (4-5)

Date Collected: 07/11/96  
Date Received: 07/12/96

Matrix: Soil  
Percent Moisture: 19.3%  
Units in Dry Weight

<u>Parameter</u>	<u>Result</u>	<u>QL</u>	<u>Units</u>	<u>Started</u>	<u>Completed</u>	<u>Dilution</u>		
				<u>Date</u>	<u>By</u>	<u>Date</u>	<u>By</u>	
<u>Cyanide by 9012 Modified NE</u>								
Cyanide	51	4.8	mg/kg	07/18/96	EB	07/19/96	EB	10

# METALS ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
 Division: New England  
 LRI Order No: E607162  
 LRI Sample No: 7

Client: Atlantic Environmental Eng  
 Location: Pawtucket, RI  
 Project: Tidewater Former MGP  
 Sample Description: TTP4 (4-5)

Date Collected: 07/11/96  
 Date Received: 07/12/96

Matrix: Soil  
 Percent Moisture: 19.3%

Parameter	Result	QL	Units	Started		Completed		Dilution
				Date	By	Date	By	
<u>Arsenic by Furnace by SW-846 7060</u>								
Arsenic	2.5	0.22	mg/kg	07/15/96	KH	07/19/96	MM	
<u>Mercury by Cold Vapor by SW-846 7471</u>								
Mercury	1.9	0.22	mg/kg	07/17/96	KH	07/24/96	KH	2
<u>Metals by ICP by SW-846 6010A</u>								
Beryllium	0.22 U	0.22	mg/kg	07/15/96	KH	07/16/96	BS	
Chromium	11	2.7	mg/kg	07/15/96	KH	07/16/96	BS	
Copper	16	2.7	mg/kg	07/15/96	KH	07/16/96	BS	
Nickel	6.7	2.7	mg/kg	07/15/96	KH	07/16/96	BS	
Silver	2.2 U	2.2	mg/kg	07/15/96	KH	07/16/96	BS	
Zinc	18	1.1	mg/kg	07/15/96	KH	07/16/96	BS	
Barium	17	1.1	mg/kg	07/15/96	KH	07/16/96	BS	
Antimony	11 U	11	mg/kg	07/15/96	KH	07/16/96	BS	
Lead	80	5.5	mg/kg	07/15/96	KH	07/16/96	BS	
Selenium	11 U	11	mg/kg	07/15/96	KH	07/16/96	BS	
Cadmium	1.1 U	1.1	mg/kg	07/15/96	KH	07/16/96	BS	
<u>Thallium by Furnace by SW-846 7841</u>								
Thallium	0.22 U	0.22	mg/kg	07/15/96	KH	07/18/96	MM	

# SEMIVOLATILE ORGANIC ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
Division: New England  
LRI Report No: E607162  
LRI Sample No: 7

Customer: Atlantic Environmental Eng  
Location: Pawtucket, RI  
Project: Tidewater Former MGP  
Sample Description: TTP4 (4-5)

Date Collected: 07/11/96  
Date Received: 07/12/96  
Date Extracted: 07/22/96 By: KRB  
Date Analyzed: 07/22/96 By: KRB

Matrix: Soil  
Percent Moisture: 19.3%  
pH:  
Sample Weight/Volume: 2.02 g  
Extract Volume: 2  
Injection Volume:  
Dilution Factor: 1  
Lab Data File: 8072211

Method: 8080  
Level: LOW  
GC Column:  
Units: ug/kg (Dry Weight)

CAS No.	Parameter	Result	Qual	QL
12674-11-2	Aroclor 1016	610	U	610
11104-28-2	Aroclor 1221	610	U	610
11141-16-5	Aroclor 1232	610	U	610
53469-21-9	Aroclor 1242	610	U	610
12672-29-6	Aroclor 1248	610	U	610
11097-69-1	Aroclor 1254	610	U	610
11096-82-5	Aroclor 1260	610	U	610

# GENERAL CHEMISTRY ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
Division: New England  
LRI Report No: E607162  
LRI Sample No: 8

Customer: Atlantic Environmental Eng  
Location: Pawtucket, RI  
Project: Tidewater Former MGP  
Sample Description: TTP5 (8.5-9.5)

Date Collected: 07/11/96  
Date Received: 07/12/96

Matrix: Soil  
Percent Moisture: 27.1%  
Units in Dry Weight

<u>Parameter</u>	<u>Result</u>	<u>QL</u>	<u>Units</u>	<u>Started</u> <u>Date</u>	<u>By</u>	<u>Completed</u> <u>Date</u>	<u>By</u>	<u>Dilution</u>
<u>Cyanide by 9012 Modified NE</u>								
Cyanide	22	2.9	mg/kg	07/18/96	EB	07/19/96	EB	5

# METALS ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
 Division: New England  
 LRI Order No: E607162  
 LRI Sample No: 8

Client: Atlantic Environmental Eng  
 Location: Pawtucket, RI  
 Project: Tidewater Former MGP  
 Sample Description: TTP5 (8.5-9.5)

Date Collected: 07/11/96  
 Date Received: 07/12/96

Matrix: Soil  
 Percent Moisture: 27.1%

Parameter	Result	QL	Units	Started		Completed		Dilution
				Date	By	Date	By	
<u>Arsenic by Furnace by SW-846 7060</u>								
Arsenic	5.1	0.25	mg/kg	07/15/96	KH	07/19/96	MM	
<u>Mercury by Cold Vapor by SW-846 7471</u>								
Mercury	0.12 U	0.12	mg/kg	07/17/96	KH	07/22/96	KH	
<u>Metals by ICP by SW-846 6010A</u>								
Beryllium	0.54	0.25	mg/kg	07/15/96	KH	07/16/96	BS	
Chromium	11	3.0	mg/kg	07/15/96	KH	07/16/96	BS	
Copper	21	3.0	mg/kg	07/15/96	KH	07/16/96	BS	
Nickel	12	3.0	mg/kg	07/15/96	KH	07/16/96	BS	
Silver	2.5 U	2.5	mg/kg	07/15/96	KH	07/16/96	BS	
Zinc	33	1.2	mg/kg	07/15/96	KH	07/16/96	BS	
Barium	43	1.2	mg/kg	07/15/96	KH	07/16/96	BS	
Antimony	12 U	12	mg/kg	07/15/96	KH	07/16/96	BS	
Lead	20	6.2	mg/kg	07/15/96	KH	07/16/96	BS	
Selenium	12 U	12	mg/kg	07/15/96	KH	07/16/96	BS	
Cadmium	1.2 U	1.2	mg/kg	07/15/96	KH	07/16/96	BS	
<u>Thallium by Furnace by SW-846 7841</u>								
Thallium	0.25 U	0.25	mg/kg	07/15/96	KH	07/18/96	MM	

# SEMIVOLATILE ORGANIC ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
 Division: New England  
 LRI Report No: E607162  
 LRI Sample No: 8

Customer: Atlantic Environmental Eng  
 Location: Pawtucket, RI  
 Project: Tidewater Former MGP  
 Sample Description: TTP5 (8.5-9.5)

Date Collected: 07/11/96  
 Date Received: 07/12/96  
 Date Extracted: 07/22/96 By: KRB  
 Date Analyzed: 07/22/96 By: KRB

Matrix: Soil  
 Percent Moisture: 27.1%  
 pH:  
 Sample Weight/Volume: 2.00 g  
 Extract Volume: 2  
 Injection Volume:  
 Dilution Factor: 1  
 Lab Data File: 8072212

Method: 8080  
 Level: LOW  
 GC Column:  
 Units: ug/kg (Dry Weight)

CAS No.	Parameter	Result	Qual	QL
12674-11-2	Aroclor 1016	690	U	690
11104-28-2	Aroclor 1221	690	U	690
11141-16-5	Aroclor 1232	690	U	690
53469-21-9	Aroclor 1242	690	U	690
12672-29-6	Aroclor 1248	690	U	690
11097-69-1	Aroclor 1254	690	U	690
11096-82-5	Aroclor 1260	690	U	690

# GENERAL CHEMISTRY ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
 Division: New England  
 LRI Report No: E607162  
 LRI Sample No: 9

Customer: Atlantic Environmental Eng  
 Location: Pawtucket, RI  
 Project: Tidewater Former MGP  
 Sample Description: TTP2 (1-2)

Date Collected: 07/11/96  
 Date Received: 07/12/96

Matrix: Soil  
 Percent Moisture: 13.1%  
 Units in Dry Weight

Parameter	Result	QL	Units	Started		Completed		Dilution
				Date	By	Date	By	
<u>Cyanide by 9012 Modified NE</u>								
Cyanide	18	2.7	mg/kg	07/18/96	EB	07/19/96	EB	10
<u>Ignitability by SW846 1010</u>								
Ignitability (Flashpoint)	>160		°F			07/19/96	PW	
<u>Reactive Cyanide by SW-846 7.3.3.2, Reactive</u>								
Cyanide	0.58 U	0.58	mg/kg			07/16/96	EB	
<u>Reactive Sulfide by SW-846 7.4.2.1, Reactive</u>								
Sulfide	0.58 U	0.58	mg/kg			07/16/96	EB	
<u>pH by SW-846 9040/9045</u>								
pH	5.0		pH Units			07/16/96	JS	

# METALS ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
 Division: New England  
 LRI Order No: E607162  
 LRI Sample No: 9

Client: Atlantic Environmental Eng  
 Location: Pawtucket, RI  
 Project: Tidewater Former MGP  
 Sample Description: TTP2 (1-2)

Date Collected: 07/11/96  
 Date Received: 07/12/96

Matrix: Soil  
 Percent Moisture: 13.1%

Parameter	Result	QL	Units	Started		Completed		Dilution
				Date	By	Date	By	
<u>Arsenic by Furnace by SW-846 7060</u>								
Arsenic	2.8	0.20	mg/kg	07/15/96	KH	07/19/96	MM	
<u>Mercury by Cold Vapor by SW-846 7471</u>								
Mercury	0.095 U	0.095	mg/kg	07/17/96	KH	07/22/96	KH	
<u>Metals by ICP by SW-846 6010A</u>								
Beryllium	0.20 U	0.20	mg/kg	07/15/96	KH	07/16/96	BS	
Chromium	4.0	2.4	mg/kg	07/15/96	KH	07/16/96	BS	
Copper	19	2.4	mg/kg	07/15/96	KH	07/16/96	BS	
Nickel	5.4	2.4	mg/kg	07/15/96	KH	07/16/96	BS	
Silver	2.0 U	2.0	mg/kg	07/15/96	KH	07/16/96	BS	
Zinc	15	0.98	mg/kg	07/15/96	KH	07/16/96	BS	
Barium	14	0.98	mg/kg	07/15/96	KH	07/16/96	BS	
Antimony	9.8 U	9.8	mg/kg	07/15/96	KH	07/16/96	BS	
Lead	36	4.9	mg/kg	07/15/96	KH	07/16/96	BS	
Selenium	9.8 U	9.8	mg/kg	07/15/96	KH	07/16/96	BS	
Cadmium	0.98 U	0.98	mg/kg	07/15/96	KH	07/16/96	BS	
<u>Thallium by Furnace by SW-846 7841</u>								
Thallium	0.20 U	0.20	mg/kg	07/15/96	KH	07/18/96	MM	



# VOLATILE ORGANIC ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
 Division: New England  
 LRI Report No: E607162  
 LRI Sample No: 9

Customer: Atlantic Environmental Eng  
 Location: Pawtucket, RI  
 Project: Tidewater Former MGP  
 Sample Description: TTP2 (1-2)

Date Collected: 07/11/96  
 Date Received: 07/12/96  
 Date Extracted: By:  
 Date Analyzed: 07/25/96 By: AT

Matrix: Soil  
 Percent Moisture: 13.1%  
 Sample Weight/Volume:  
 Dilution Factor: 10000  
 Soil Extract Volume:  
 Soil Aliquot Volume:  
 Lab Data File: C4368

Method: 8260A  
 Level: LOW  
 GC Column:  
 Units: ug/kg (Dry Weight)

CAS No.	Parameter	Result	Qual	QL
107-02-8	Acrolein	290000	U	290000
107-13-1	Acrylonitrile	290000	U	290000
71-43-2	Benzene	58000	U	58000
108-86-1	Bromobenzene	58000	U	58000
74-97-5	Bromochloromethane	58000	U	58000
75-27-4	Bromodichloromethane	58000	U	58000
75-25-2	Bromoform	58000	U	58000
74-83-9	Bromomethane	120000	U	120000
104-51-8	n-Butylbenzene	58000	U	58000
135-98-8	sec-Butylbenzene	58000	U	58000
98-06-6	tert-Butylbenzene	58000	U	58000
56-23-5	Carbon tetrachloride	58000	U	58000
108-90-7	Chlorobenzene	58000	U	58000
75-00-3	Chloroethane	120000	U	120000
67-66-3	Chloroform	58000	U	58000
74-87-3	Chloromethane	120000	U	120000
95-49-8	2-Chlorotoluene	58000	U	58000
106-43-4	4-Chlorotoluene	58000	U	58000
96-12-8	1,2-Dibromo-3-chloropropane (DBCP)	58000	U	58000
124-48-1	Dibromochloromethane	58000	U	58000
106-93-4	1,2-Dibromoethane (EDB)	58000	U	58000
74-95-3	Dibromomethane	58000	U	58000
95-50-1	1,2-Dichlorobenzene	58000	U	58000
541-73-1	1,3-Dichlorobenzene	58000	U	58000
106-46-7	1,4-Dichlorobenzene	58000	U	58000
75-71-8	Dichlorodifluoromethane	120000	U	120000
75-34-3	1,1-Dichloroethane	58000	U	58000
107-06-2	1,2-Dichloroethane	58000	U	58000
75-35-4	1,1-Dichloroethene	58000	U	58000
156-59-4	cis-1,2-Dichloroethene	58000	U	58000
156-60-5	trans-1,2-Dichloroethene	58000	U	58000
78-87-5	1,2-Dichloropropane	58000	U	58000
142-28-9	1,3-Dichloropropane	58000	U	58000
590-20-7	2,2-Dichloropropane	58000	U	58000
563-58-6	1,1-Dichloropropene	58000	U	58000
10061-01-5	cis-1,3-Dichloropropene	58000	U	58000
10061-02-6	trans-1,3-Dichloropropene	58000	U	58000
100-41-4	Ethylbenzene	58000	U	58000
87-68-3	Hexachlorobutadiene	58000	U	58000
98-82-8	Isopropylbenzene	58000	U	58000
99-87-6	4-Isopropyltoluene	58000	U	58000
1634-04-4	Methyl tert-butyl ether (MTBE)	58000	U	58000

# VOLATILE ORGANIC ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
 Division: New England  
 LRI Report No: E607162  
 LRI Sample No: 9

Customer: Atlantic Environmental Eng  
 Location: Pawtucket, RI  
 Project: Tidewater Former MGP  
 Sample Description: TTP2 (1-2)

Method: 8260A

CAS No.	Parameter	Result	Qual	QL
75-09-2	Methylene chloride	58000	U	58000
91-20-3	Naphthalene	1700000		58000
103-65-1	n-Propylbenzene	58000	U	58000
100-42-5	Styrene	58000	U	58000
96-18-4	1,2,3-Trichloropropane	58000	U	58000
630-20-6	1,1,1,2-Tetrachloroethane	58000	U	58000
79-34-5	1,1,2,2-Tetrachloroethane	58000	U	58000
127-18-4	Tetrachloroethene	58000	U	58000
108-88-3	Toluene	64000		58000
87-61-6	1,2,3-Trichlorobenzene	58000	U	58000
120-82-1	1,2,4-Trichlorobenzene	58000	U	58000
71-55-6	1,1,1-Trichloroethane	58000	U	58000
79-00-5	1,1,2-Trichloroethane	58000	U	58000
79-01-6	Trichloroethene (TCE)	58000	U	58000
75-69-4	Trichlorofluoromethane	120000	U	120000
95-63-6	1,2,4-Trimethylbenzene	58000	U	58000
108-67-8	1,3,5-Trimethylbenzene	58000	U	58000
75-01-4	Vinyl chloride	120000	U	120000
95-47-6	o-Xylene	58000	U	58000
	m,p-Xylenes	58000		58000

# SEMIVOLATILE ORGANIC ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
 Division: New England  
 LRI Report No: E607162  
 LRI Sample No: 9

Customer: Atlantic Environmental Eng  
 Location: Pawtucket, RI  
 Project: Tidewater Former MGP  
 Sample Description: TTP2 (1-2)

Date Collected: 07/11/96  
 Date Received: 07/12/96  
 Date Extracted: 07/22/96 By: KRB  
 Date Analyzed: 07/22/96 By: KRB

Matrix: Soil  
 Percent Moisture: 13.1%  
 pH:  
 Sample Weight/Volume: 2.07 g  
 Extract Volume: 2  
 Injection Volume:  
 Dilution Factor: 1  
 Lab Data File: 8072213

Method: 8080  
 Level: LOW  
 GC Column:  
 Units: ug/kg (Dry Weight)

CAS No.	Parameter	Result	Qual	QL
12674-11-2	Aroclor 1016	560	U	560
11104-28-2	Aroclor 1221	560	U	560
11141-16-5	Aroclor 1232	560	U	560
53469-21-9	Aroclor 1242	560	U	560
12672-29-6	Aroclor 1248	560	U	560
11097-69-1	Aroclor 1254	560	U	560
11096-82-5	Aroclor 1260	560	U	560

# SEMIVOLATILE ORGANIC ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
 Division: New England  
 LRI Report No: E607162  
 LRI Sample No: 9

Customer: Atlantic Environmental Eng  
 Location: Pawtucket, RI  
 Project: Tidewater Former MGP  
 Sample Description: TTP2 (1-2)

Date Collected: 07/11/96  
 Date Received: 07/12/96  
 Date Extracted: 07/23/96 By: RAW  
 Date Analyzed: 07/26/96 By: RAW

Matrix: Soil  
 Percent Moisture: 13.1%  
 pH:  
 Sample Weight/Volume: 5.05 g  
 Extract Volume: 10  
 Injection Volume:  
 Dilution Factor: 40  
 Lab Data File: A12744

Method: 8270  
 Level: LOW  
 GC Column:  
 Units: ug/kg ( Dry Weight )

CAS No.	Parameter	Result	Qual	QL
83-32-9	Acenaphthene	460000	U	460000
208-96-8	Acenaphthylene	2900000		460000
120-12-7	Anthracene	1800000		460000
56-55-3	Benzo[a]anthracene	1400000		460000
50-32-8	Benzo[a]pyrene	1100000		170000
205-99-2	Benzo[b]fluoranthene	690000		460000
191-24-2	Benzo[g,h,i]perylene	460000	U	460000
207-08-9	Benzo[k]fluoranthene	800000		460000
218-01-9	Chrysene	1600000		460000
53-70-3	Dibenzo[a,h]anthracene	170000	U	170000
206-44-0	Fluoranthene	2400000		460000
86-73-7	Fluorene	2900000		460000
193-39-5	Indeno[1,2,3-cd]pyrene	460000	U	460000
91-20-3	Naphthalene	14000000		460000
85-01-8	Phenanthrene	5500000		460000
129-00-0	Pyrene	2800000		460000
91-57-6	2-Methylnaphthalene	6200000		460000

# METALS ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
 Division: New England  
 LRI Order No: E607162  
 LRI Sample No: 10

Client: Atlantic Environmental Eng  
 Location: Pawtucket, RI  
 Project: Tidewater Former MGP  
 Sample Description: TTP2 (1-2)

Date Collected: 07/11/96  
 Date Received: 07/12/96

Matrix: Soil  
 Percent Moisture: N/A

Parameter	Result	QL	Units	Started		Completed		Dilution
				Date	By	Date	By	
<u>Mercury by Cold Vapor by SW-846 7470, TCLP</u>								
Mercury	0.00046U	0.00046	mg/L	07/18/96	KH	07/22/96	KH	
<u>Metals by ICP by SW-846 6010A, TCLP</u>								
Silver	0.020U	0.020	mg/L	07/17/96	KH	07/18/96	BS	
Arsenic	0.32	0.10	mg/L	07/17/96	KH	07/18/96	BS	
Barium	0.45	0.010	mg/L	07/17/96	KH	07/18/96	BS	
Cadmium	0.010U	0.010	mg/L	07/17/96	KH	07/18/96	BS	
Chromium	0.024U	0.024	mg/L	07/17/96	KH	07/18/96	BS	
Lead	0.050U	0.050	mg/L	07/17/96	KH	07/18/96	BS	
Selenium	0.10U	0.10	mg/L	07/17/96	KH	07/18/96	BS	

# VOLATILE ORGANIC ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
 Division: New England  
 LRI Report No: E607162  
 LRI Sample No: 10

Customer: Atlantic Environmental Eng  
 Location: Pawtucket, RI  
 Project: Tidewater Former MGP  
 Sample Description: TTP2 (1-2)

Date Collected: 07/11/96  
 Date Received: 07/12/96  
 Date Extracted: By:  
 Date Analyzed: 07/24/96 By: RAW

Matrix: Soil  
 Percent Moisture: N/A  
 Sample Weight/Volume:  
 Dilution Factor: 40  
 Soil Extract Volume:  
 Soil Aliquot Volume:  
 Lab Data File: BH923

Method: 8240, TCLP  
 Level: LOW  
 GC Column:  
 Units: ug/L ( Wet Weight )

CAS No.	Parameter	Result	Qual	QL
71-43-2	Benzene	640		200
78-93-3	2-Butanone (MEK)	200	U	200
56-23-5	Carbon tetrachloride	200	U	200
108-90-7	Chlorobenzene	200	U	200
67-66-3	Chloroform	200	U	200
106-46-7	1,4-Dichlorobenzene	200	U	200
107-06-2	1,2-Dichloroethane	200	U	200
75-35-4	1,1-Dichloroethene	200	U	200
127-18-4	Tetrachloroethene	200	U	200
79-01-6	Trichloroethene (TCE)	200	U	200
75-01-4	Vinyl chloride	200	U	200

# SEMIVOLATILE ORGANIC ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
Division: New England  
LRI Report No: E607162  
LRI Sample No: 10

Customer: Atlantic Environmental Eng  
Location: Pawtucket, RI  
Project: Tidewater Former MGP  
Sample Description: TTP2 (1-2)

Date Collected: 07/11/96  
Date Received: 07/12/96  
Date Extracted: 07/23/96 By: KRB  
Date Analyzed: 07/23/96 By: KRB

Matrix: Soil  
Percent Moisture: N/A  
pH:  
Sample Weight/Volume: 50 mL  
Extract Volume: 10  
Injection Volume:  
Dilution Factor: 1  
Lab Data File: 4072303

Method: 8150, TCLP  
Level: LOW  
GC Column:  
Units: ug/L ( Wet Weight )

CAS No.	Parameter	Result	Qual	QL
93-72-1	2,4,5-TP (Silvex)	4.0	U	4.0
94-75-7	2,4-D (2,4-Dichlorophenoxyacetic acid)	4.0	U	4.0

# SEMIVOLATILE ORGANIC ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
 Division: New England  
 LRI Report No: E607162  
 LRI Sample No: 10

Customer: Atlantic Environmental Eng  
 Location: Pawtucket, RI  
 Project: Tidewater Former MGP  
 Sample Description: TTP2 (1-2)

Date Collected: 07/11/96  
 Date Received: 07/12/96  
 Date Extracted: 07/23/96 By: KRB  
 Date Analyzed: 07/23/96 By: KRB

Matrix: Soil  
 Percent Moisture: N/A  
 pH:  
 Sample Weight/Volume: 50 mL  
 Extract Volume: 2  
 Injection Volume:  
 Dilution Factor: 1  
 Lab Data File: 8072309

Method: 8080, TCLP  
 Level: LOW  
 GC Column:  
 Units: ug/L (Wet Weight)

CAS No.	Parameter	Result	Qual	QL
59-89-9	gamma-BHC (Lindane)	0.20	U	0.20
57-74-9	Chlordane	0.40	U	0.40
72-20-8	Endrin	0.20	U	0.20
76-44-8	Heptachlor	0.40	U	0.40
1024-57-3	Heptachlor epoxide	0.40	U	0.40
72-43-5	Methoxychlor	0.20	U	0.20
8001-35-2	Toxaphene	10	U	10



# SEMIVOLATILE ORGANIC ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
 Division: New England  
 LRI Report No: E607162  
 LRI Sample No: 10

Customer: Atlantic Environmental Eng  
 Location: Pawtucket, RI  
 Project: Tidewater Former MGP  
 Sample Description: TTP2 (1-2)

Date Collected: 07/11/96  
 Date Received: 07/12/96  
 Date Extracted: 07/24/96 By: RW  
 Date Analyzed: 07/25/96 By: RAW

Matrix: Soil  
 Percent Moisture: N/A  
 pH:  
 Sample Weight/Volume: 500 mL  
 Extract Volume: 1  
 Injection Volume:  
 Dilution Factor:  
 Lab Data File: E01659

Method: 8270, TCLP  
 Level: LOW  
 GC Column:  
 Units: ug/L ( Wet Weight )

CAS No.	Parameter	Result	Qual	QL
121-14-2	2,4-Dinitrotoluene	10	U	10
118-74-1	Hexachlorobenzene	1.0	U	1.0
87-68-3	Hexachlorobutadiene	10	U	10
67-72-1	Hexachloroethane	10	U	10
95-48-7	2-Methylphenol	13		10
98-95-3	Nitrobenzene	10	U	10
87-86-5	Pentachlorophenol	1.0	U	1.0
110-86-1	Pyridine	20	U	20
95-95-4	2,4,5-Trichlorophenol	10	U	10
88-06-2	2,4,6-Trichlorophenol	10	U	10
	3- & 4-Methylphenols	20		10

# GENERAL CHEMISTRY ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
Division: New England  
LRI Report No: E607162  
LRI Sample No: 11

Customer: Atlantic Environmental Eng  
Location: Pawtucket, RI  
Project: Tidewater Former MGP  
Sample Description: TTP1 (8-9)

Date Collected: 07/11/96  
Date Received: 07/12/96

Matrix: Soil  
Percent Moisture: 20.4%  
Units in Dry Weight

<u>Parameter</u>	<u>Result</u>	<u>QL</u>	<u>Units</u>	<u>Started</u> <u>Date</u>	<u>By</u>	<u>Completed</u> <u>Date</u>	<u>By</u>	<u>Dilution</u>
<u>Cyanide by 9012 Modified NE</u>								
Cyanide	31	4.3	mg/kg	07/18/96	EB	07/23/96	EB	10

# METALS ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
 Division: New England  
 LRI Order No: E607162  
 LRI Sample No: 11

Client: Atlantic Environmental Eng  
 Location: Pawtucket, RI  
 Project: Tidewater Former MGP  
 Sample Description: TTP1 (8-9)

Date Collected: 07/11/96  
 Date Received: 07/12/96

Matrix: Soil  
 Percent Moisture: 20.4%

Parameter	Result	QL	Units	Started		Completed		Dilution
				Date	By	Date	By	
<u>Arsenic by Furnace by SW-846 7060</u>								
Arsenic	20	0.43	mg/kg	07/15/96	KH	07/19/96	MM	2
<u>Mercury by Cold Vapor by SW-846 7471</u>								
Mercury	0.49	0.11	mg/kg	07/17/96	KH	07/22/96	KH	
<u>Metals by ICP by SW-846 6010A</u>								
Beryllium	0.60	0.21	mg/kg	07/15/96	KH	07/16/96	BS	
Chromium	5.3	2.6	mg/kg	07/15/96	KH	07/16/96	BS	
Copper	80	2.6	mg/kg	07/15/96	KH	07/16/96	BS	
Nickel	8.6	2.6	mg/kg	07/15/96	KH	07/16/96	BS	
Silver	2.1 U	2.1	mg/kg	07/15/96	KH	07/16/96	BS	
Zinc	130	1.1	mg/kg	07/15/96	KH	07/16/96	BS	
Barium	58	1.1	mg/kg	07/15/96	KH	07/16/96	BS	
Antimony	11 U	11	mg/kg	07/15/96	KH	07/16/96	BS	
Lead	86	5.3	mg/kg	07/15/96	KH	07/16/96	BS	
Selenium	11 U	11	mg/kg	07/15/96	KH	07/16/96	BS	
Cadmium	1.1 U	1.1	mg/kg	07/15/96	KH	07/16/96	BS	
<u>Thallium by Furnace by SW-846 7841</u>								
Thallium	0.40	0.21	mg/kg	07/15/96	KH	07/18/96	MM	

# SEMIVOLATILE ORGANIC ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
Division: New England  
LRI Report No: E607162  
LRI Sample No: 11

Customer: Atlantic Environmental Eng  
Location: Pawtucket, RI  
Project: Tidewater Former MGP  
Sample Description: TTP1 (8-9)

Date Collected: 07/11/96  
Date Received: 07/12/96  
Date Extracted: 07/22/96 By: KRB  
Date Analyzed: 07/22/96 By: KRB

Matrix: Soil  
Percent Moisture: 20.4%  
pH:  
Sample Weight/Volume: 2.03 g  
Extract Volume: 2  
Injection Volume:  
Dilution Factor: 1  
Lab Data File: 8072214

Method: 8080  
Level: LOW  
GC Column:  
Units: ug/kg (Dry Weight)

CAS No.	Parameter	Result	Qual	QL
12674-11-2	Aroclor 1016	620	U	620
11104-28-2	Aroclor 1221	620	U	620
11141-16-5	Aroclor 1232	620	U	620
53469-21-9	Aroclor 1242	620	U	620
12672-29-6	Aroclor 1248	620	U	620
11097-69-1	Aroclor 1254	620	U	620
11096-82-5	Aroclor 1260	620	U	620

# GENERAL CHEMISTRY ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
Division: New England  
LRI Report No: E607162  
LRI Sample No: 12

Customer: Atlantic Environmental Eng  
Location: Pawtucket, RI  
Project: Tidewater Former MGP  
Sample Description: ER2

Date Collected: 07/11/96  
Date Received: 07/12/96

Matrix: Water  
Percent Moisture: N/A  
Units in Wet Weight

<u>Parameter</u>	<u>Result</u>	<u>QL</u>	<u>Units</u>	<u>Started</u>		<u>Completed</u>		<u>Dilution</u>
				<u>Date</u>	<u>By</u>	<u>Date</u>	<u>By</u>	
<u>Cyanide, Total, by EPA 335.3</u>								
Cyanide	0.020 U	0.020	mg/L	07/23/96	EB	07/23/96	EB	

# METALS ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
 Division: New England  
 LRI Order No: E607162  
 LRI Sample No: 12

Client: Atlantic Environmental Eng  
 Location: Pawtucket, RI  
 Project: Tidewater Former MGP  
 Sample Description: ER2

Date Collected: 07/11/96  
 Date Received: 07/12/96

Matrix: Water  
 Percent Moisture: N/A

Parameter	Result	QL	Units	Started		Completed		Dilution
				Date	By	Date	By	
<u>Arsenic by Furnace by 7060</u>								
Arsenic	0.0020 U	0.0020	mg/L	07/15/96	KH	07/22/96	MM	
<u>Mercury by Cold Vapor by 7470</u>								
Mercury	0.00046 U	0.00046	mg/L	07/15/96	KH	07/16/96	KH	
<u>Metals by ICP by SW-846 6010A</u>								
Beryllium	0.0020 U	0.0020	mg/L	07/15/96	KH	07/16/96	BS	
Chromium	0.024 U	0.024	mg/L	07/15/96	KH	07/16/96	BS	
Copper	0.024 U	0.024	mg/L	07/15/96	KH	07/16/96	BS	
Nickel	0.024 U	0.024	mg/L	07/15/96	KH	07/16/96	BS	
Silver	0.020 U	0.020	mg/L	07/15/96	KH	07/16/96	BS	
Zinc	0.017	0.010	mg/L	07/15/96	KH	07/16/96	BS	
Barium	0.010 U	0.010	mg/L	07/15/96	KH	07/16/96	BS	
Antimony	0.10 U	0.10	mg/L	07/15/96	KH	07/16/96	BS	
Lead	0.050 U	0.050	mg/L	07/15/96	KH	07/16/96	BS	
Selenium	0.10 U	0.10	mg/L	07/15/96	KH	07/16/96	BS	
Cadmium	0.010 U	0.010	mg/L	07/15/96	KH	07/16/96	BS	
<u>Thallium by Furnace by 7841</u>								
Thallium	0.0020 U	0.0020	mg/L	07/15/96	KH	07/18/96	MM	

# VOLATILE ORGANIC ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
 Division: New England  
 LRI Report No: E607162  
 LRI Sample No: 12

Customer: Atlantic Environmental Eng  
 Location: Pawtucket, RI  
 Project: Tidewater Former MGP  
 Sample Description: ER2

Date Collected: 07/11/96  
 Date Received: 07/12/96  
 Date Extracted: By:  
 Date Analyzed: 07/18/96 By: JTH

Matrix: Water  
 Percent Moisture: N/A  
 Sample Weight/Volume:  
 Dilution Factor:  
 Soil Extract Volume:  
 Soil Aliquot Volume:  
 Lab Data File: C4259.D

Method: 8260A  
 Level: LOW  
 GC Column:  
 Units: ug/L ( Wet Weight )

CAS No.	Parameter	Result	Qual	QL
107-02-8	Acrolein	25	U	25
107-13-1	Acrylonitrile	25	U	25
71-43-2	Benzene	5.0	U	5.0
108-86-1	Bromobenzene	5.0	U	5.0
74-97-5	Bromochloromethane	5.0	U	5.0
75-27-4	Bromodichloromethane	5.0	U	5.0
75-25-2	Bromoform	5.0	U	5.0
74-83-9	Bromomethane	10	U	10
104-51-8	n-Butylbenzene	5.0	U	5.0
135-98-8	sec-Butylbenzene	5.0	U	5.0
98-06-6	tert-Butylbenzene	5.0	U	5.0
56-23-5	Carbon tetrachloride	5.0	U	5.0
108-90-7	Chlorobenzene	5.0	U	5.0
75-00-3	Chloroethane	10	U	10
67-66-3	Chloroform	5.0	U	5.0
74-87-3	Chloromethane	10	U	10
95-49-8	2-Chlorotoluene	5.0	U	5.0
106-43-4	4-Chlorotoluene	5.0	U	5.0
96-12-8	1,2-Dibromo-3-chloropropane (DBCP)	5.0	U	5.0
124-48-1	Dibromochloromethane	5.0	U	5.0
106-93-4	1,2-Dibromoethane (EDB)	5.0	U	5.0
74-95-3	Dibromomethane	5.0	U	5.0
95-50-1	1,2-Dichlorobenzene	5.0	U	5.0
541-73-1	1,3-Dichlorobenzene	5.0	U	5.0
106-46-7	1,4-Dichlorobenzene	5.0	U	5.0
75-71-8	Dichlorodifluoromethane	10	U	10
75-34-3	1,1-Dichloroethane	5.0	U	5.0
107-06-2	1,2-Dichloroethane	5.0	U	5.0
75-35-4	1,1-Dichloroethene	5.0	U	5.0
156-59-4	cis-1,2-Dichloroethene	5.0	U	5.0
156-60-5	trans-1,2-Dichloroethene	5.0	U	5.0
78-87-5	1,2-Dichloropropane	5.0	U	5.0
142-28-9	1,3-Dichloropropane	5.0	U	5.0
590-20-7	2,2-Dichloropropane	5.0	U	5.0
563-58-6	1,1-Dichloropropene	5.0	U	5.0
10061-01-5	cis-1,3-Dichloropropene	5.0	U	5.0
10061-02-6	trans-1,3-Dichloropropene	5.0	U	5.0
100-41-4	Ethylbenzene	5.0	U	5.0
87-68-3	Hexachlorobutadiene	5.0	U	5.0
98-82-8	Isopropylbenzene	5.0	U	5.0
99-87-6	4-Isopropyltoluene	5.0	U	5.0
1634-04-4	Methyl tert-butyl ether (MTBE)	5.0	U	5.0

# VOLATILE ORGANIC ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
Division: New England  
LRI Report No: E607162  
LRI Sample No: 12

Customer: Atlantic Environmental Eng  
Location: Pawtucket, RI  
Project: Tidewater Former MGP  
Sample Description: ER2

Method: 8260A

CAS No.	Parameter	Result	Qual	QL
75-09-2	Methylene chloride	5.0	U	5.0
91-20-3	Naphthalene	5.0	U	5.0
103-65-1	n-Propylbenzene	5.0	U	5.0
100-42-5	Styrene	5.0	U	5.0
96-18-4	1,2,3-Trichloropropane	5.0	U	5.0
630-20-6	1,1,1,2-Tetrachloroethane	5.0	U	5.0
79-34-5	1,1,2,2-Tetrachloroethane	5.0	U	5.0
127-18-4	Tetrachloroethene	5.0	U	5.0
108-88-3	Toluene	5.0	U	5.0
87-61-6	1,2,3-Trichlorobenzene	5.0	U	5.0
120-82-1	1,2,4-Trichlorobenzene	5.0	U	5.0
71-55-6	1,1,1-Trichloroethane	5.0	U	5.0
79-00-5	1,1,2-Trichloroethane	5.0	U	5.0
79-01-6	Trichloroethene (TCE)	5.0	U	5.0
75-69-4	Trichlorofluoromethane	10	U	10
95-63-6	1,2,4-Trimethylbenzene	5.0	U	5.0
108-67-8	1,3,5-Trimethylbenzene	5.0	U	5.0
75-01-4	Vinyl chloride	10	U	10
95-47-6	o-Xylene	5.0	U	5.0
	m,p-Xylenes	5.0	U	5.0



# SEMIVOLATILE ORGANIC ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
 Division: New England  
 LRI Report No: E607162  
 LRI Sample No: 12

Customer: Atlantic Environmental Eng  
 Location: Pawtucket, RI  
 Project: Tidewater Former MGP  
 Sample Description: ER2

Date Collected: 07/11/96  
 Date Received: 07/12/96  
 Date Extracted: 07/17/96 By: KRB  
 Date Analyzed: 07/17/96 By: KRB

Matrix: Water  
 Percent Moisture: N/A  
 pH:  
 Sample Weight/Volume: 500 mL  
 Extract Volume: 1  
 Injection Volume:  
 Dilution Factor: 1  
 Lab Data File: 8071704

Method: 8080  
 Level: LOW  
 GC Column:  
 Units: ug/L ( Wet Weight )

CAS No.	Parameter	Result	Qual	QL
12674-11-2	Aroclor 1016	0.10	U	0.10
11104-28-2	Aroclor 1221	0.10	U	0.10
11141-16-5	Aroclor 1232	0.10	U	0.10
53469-21-9	Aroclor 1242	0.10	U	0.10
12672-29-6	Aroclor 1248	0.10	U	0.10
11097-69-1	Aroclor 1254	0.10	U	0.10
11096-82-5	Aroclor 1260	0.10	U	0.10

# SEMIVOLATILE ORGANIC ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
 Division: New England  
 LRI Report No: E607162  
 LRI Sample No: 12

Customer: Atlantic Environmental Eng  
 Location: Pawtucket, RI  
 Project: Tidewater Former MGP  
 Sample Description: ER2

Date Collected: 07/11/96  
 Date Received: 07/12/96  
 Date Extracted: 07/18/96 By: RW  
 Date Analyzed: 07/24/96 By: JTH

Matrix: Water  
 Percent Moisture: N/A  
 pH:  
 Sample Weight/Volume: 500 mL  
 Extract Volume: .5  
 Injection Volume:  
 Dilution Factor:  
 Lab Data File: E01640.D

Method: 8270  
 Level: LOW  
 GC Column:  
 Units: ug/L (Wet Weight)

CAS No.	Parameter	Result	Qual	QL
83-32-9	Acenaphthene	5.0	U	5.0
208-96-8	Acenaphthylene	5.0	U	5.0
120-12-7	Anthracene	5.0	U	5.0
56-55-3	Benzo[a]anthracene	5.0	U	5.0
50-32-8	Benzo[a]pyrene	5.0	U	5.0
205-99-2	Benzo[b]fluoranthene	5.0	U	5.0
191-24-2	Benzo[g,h,i]perylene	5.0	U	5.0
207-08-9	Benzo[k]fluoranthene	5.0	U	5.0
218-01-9	Chrysene	5.0	U	5.0
53-70-3	Dibenzo[a,h]anthracene	5.0	U	5.0
206-44-0	Fluoranthene	5.0	U	5.0
86-73-7	Fluorene	5.0	U	5.0
193-39-5	Indeno[1,2,3-cd]pyrene	5.0	U	5.0
91-20-3	Naphthalene	5.0	U	5.0
85-01-8	Phenanthrene	5.0	U	5.0
129-00-0	Pyrene	5.0	U	5.0
91-57-6	2-Methylnaphthalene	5.0	U	5.0

# GENERAL CHEMISTRY ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
Division: New England  
LRI Report No: E607162  
LRI Sample No: 13

Customer: Atlantic Environmental Eng  
Location: Pawtucket, RI  
Project: Tidewater Former MGP  
Sample Description: FB-DI

Date Collected: 07/11/96  
Date Received: 07/12/96

Matrix: Water  
Percent Moisture: N/A  
Units in Wet Weight

Parameter	Result	QL	Units	Started		Completed		Dilution
				Date	By	Date	By	
<u>Cyanide, Total, by EPA 335.3</u>								
Cyanide	0.020 U	0.020	mg/L	07/23/96	EB	07/23/96	EB	

# METALS ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
 Division: New England  
 LRI Order No: E607162  
 LRI Sample No: 13

Client: Atlantic Environmental Eng  
 Location: Pawtucket, RI  
 Project: Tidewater Former MGP  
 Sample Description: FB-DI

Date Collected: 07/11/96  
 Date Received: 07/12/96

Matrix: Water  
 Percent Moisture: N/A

Parameter	Result	QL	Units	Started		Completed		Dilution
				Date	By	Date	By	
<u>Arsenic by Furnace by 7060</u>								
Arsenic	0.0020 U	0.0020	mg/L	07/15/96	KH	07/22/96	MM	
<u>Mercury by Cold Vapor by 7470</u>								
Mercury	0.00046 U	0.00046	mg/L	07/15/96	KH	07/16/96	KH	
<u>Metals by ICP by SW-846 6010A</u>								
Beryllium	0.0020 U	0.0020	mg/L	07/15/96	KH	07/16/96	BS	
Chromium	0.024 U	0.024	mg/L	07/15/96	KH	07/16/96	BS	
Copper	0.024 U	0.024	mg/L	07/15/96	KH	07/16/96	BS	
Nickel	0.024 U	0.024	mg/L	07/15/96	KH	07/16/96	BS	
Silver	0.020 U	0.020	mg/L	07/15/96	KH	07/16/96	BS	
Zinc	0.020	0.010	mg/L	07/15/96	KH	07/16/96	BS	
Barium	0.010 U	0.010	mg/L	07/15/96	KH	07/16/96	BS	
Antimony	0.10 U	0.10	mg/L	07/15/96	KH	07/16/96	BS	
Lead	0.050 U	0.050	mg/L	07/15/96	KH	07/16/96	BS	
Selenium	0.10 U	0.10	mg/L	07/15/96	KH	07/16/96	BS	
Cadmium	0.010 U	0.010	mg/L	07/15/96	KH	07/16/96	BS	
<u>Thallium by Furnace by 7841</u>								
Thallium	0.0020 U	0.0020	mg/L	07/15/96	KH	07/18/96	MM	

# VOLATILE ORGANIC ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
 Division: New England  
 LRI Report No: E607162  
 LRI Sample No: 13

Customer: Atlantic Environmental Eng  
 Location: Pawtucket, RI  
 Project: Tidewater Former MGP  
 Sample Description: FB-DI

Date Collected: 07/11/96  
 Date Received: 07/12/96  
 Date Extracted: By:  
 Date Analyzed: 07/18/96 By: JTH

Matrix: Water  
 Percent Moisture: N/A  
 Sample Weight/Volume:  
 Dilution Factor:  
 Soil Extract Volume:  
 Soil Aliquot Volume:  
 Lab Data File: C4260.D

Method: 8260A  
 Level: LOW  
 GC Column:  
 Units: ug/L (Wet Weight)

CAS No.	Parameter	Result	Qual	QL
107-02-8	Acrolein	25	U	25
107-13-1	Acrylonitrile	25	U	25
71-43-2	Benzene	5.0	U	5.0
108-86-1	Bromobenzene	5.0	U	5.0
74-97-5	Bromochloromethane	5.0	U	5.0
75-27-4	Bromodichloromethane	5.0	U	5.0
75-25-2	Bromoform	5.0	U	5.0
74-83-9	Bromomethane	10	U	10
104-51-8	n-Butylbenzene	5.0	U	5.0
135-98-8	sec-Butylbenzene	5.0	U	5.0
98-06-6	tert-Butylbenzene	5.0	U	5.0
56-23-5	Carbon tetrachloride	5.0	U	5.0
108-90-7	Chlorobenzene	5.0	U	5.0
75-00-3	Chloroethane	10	U	10
67-66-3	Chloroform	5.0	U	5.0
74-87-3	Chloromethane	10	U	10
95-49-8	2-Chlorotoluene	5.0	U	5.0
106-43-4	4-Chlorotoluene	5.0	U	5.0
96-12-8	1,2-Dibromo-3-chloropropane (DBCP)	5.0	U	5.0
124-48-1	Dibromochloromethane	5.0	U	5.0
106-93-4	1,2-Dibromoethane (EDB)	5.0	U	5.0
74-95-3	Dibromomethane	5.0	U	5.0
95-50-1	1,2-Dichlorobenzene	5.0	U	5.0
541-73-1	1,3-Dichlorobenzene	5.0	U	5.0
106-46-7	1,4-Dichlorobenzene	5.0	U	5.0
75-71-8	Dichlorodifluoromethane	10	U	10
75-34-3	1,1-Dichloroethane	5.0	U	5.0
107-06-2	1,2-Dichloroethane	5.0	U	5.0
75-35-4	1,1-Dichloroethene	5.0	U	5.0
156-59-4	cis-1,2-Dichloroethene	5.0	U	5.0
156-60-5	trans-1,2-Dichloroethene	5.0	U	5.0
78-87-5	1,2-Dichloropropane	5.0	U	5.0
142-28-9	1,3-Dichloropropane	5.0	U	5.0
590-20-7	2,2-Dichloropropane	5.0	U	5.0
563-58-6	1,1-Dichloropropene	5.0	U	5.0
10061-01-5	cis-1,3-Dichloropropene	5.0	U	5.0
10061-02-6	trans-1,3-Dichloropropene	5.0	U	5.0
100-41-4	Ethylbenzene	5.0	U	5.0
87-68-3	Hexachlorobutadiene	5.0	U	5.0
98-82-8	Isopropylbenzene	5.0	U	5.0
99-87-6	4-Isopropyltoluene	5.0	U	5.0
1634-04-4	Methyl tert-butyl ether (MTBE)	5.0	U	5.0

# VOLATILE ORGANIC ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
Division: New England  
LRI Report No: E607162  
LRI Sample No: 13

Customer: Atlantic Environmental Eng  
Location: Pawtucket, RI  
Project: Tidewater Former MGP  
Sample Description: FB-DI

Method: 8260A

CAS No.	Parameter	Result	Qual	QL
75-09-2	Methylene chloride	5.0	U	5.0
91-20-3	Naphthalene	5.0	U	5.0
103-65-1	n-Propylbenzene	5.0	U	5.0
100-42-5	Styrene	5.0	U	5.0
96-18-4	1,2,3-Trichloropropane	5.0	U	5.0
630-20-6	1,1,1,2-Tetrachloroethane	5.0	U	5.0
79-34-5	1,1,2,2-Tetrachloroethane	5.0	U	5.0
127-18-4	Tetrachloroethene	5.0	U	5.0
108-88-3	Toluene	5.0	U	5.0
87-61-6	1,2,3-Trichlorobenzene	5.0	U	5.0
120-82-1	1,2,4-Trichlorobenzene	5.0	U	5.0
71-55-6	1,1,1-Trichloroethane	5.0	U	5.0
79-00-5	1,1,2-Trichloroethane	5.0	U	5.0
79-01-6	Trichloroethene (TCE)	5.0	U	5.0
75-69-4	Trichlorofluoromethane	10	U	10
95-63-6	1,2,4-Trimethylbenzene	5.0	U	5.0
108-67-8	1,3,5-Trimethylbenzene	5.0	U	5.0
75-01-4	Vinyl chloride	10	U	10
95-47-6	o-Xylene	5.0	U	5.0
	m,p-Xylenes	5.0	U	5.0

# SEMIVOLATILE ORGANIC ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
 Division: New England  
 LRI Report No: E607162  
 LRI Sample No: 13

Customer: Atlantic Environmental Eng  
 Location: Pawtucket, RI  
 Project: Tidewater Former MGP  
 Sample Description: FB-DI

Date Collected: 07/11/96  
 Date Received: 07/12/96  
 Date Extracted: 07/17/96 By: KRB  
 Date Analyzed: 07/17/96 By: RB

Matrix: Water  
 Percent Moisture: N/A  
 pH:  
 Sample Weight/Volume: 500 mL  
 Extract Volume: 1  
 Injection Volume:  
 Dilution Factor: 1  
 Lab Data File: 8071705

Method: 8080  
 Level: LOW  
 GC Column:  
 Units: ug/L ( Wet Weight )

CAS No.	Parameter	Result	Qual	QL
12674-11-2	Aroclor 1016	0.10	U	0.10
11104-28-2	Aroclor 1221	0.10	U	0.10
11141-16-5	Aroclor 1232	0.10	U	0.10
53469-21-9	Aroclor 1242	0.10	U	0.10
12672-29-6	Aroclor 1248	0.10	U	0.10
11097-69-1	Aroclor 1254	0.10	U	0.10
11096-82-5	Aroclor 1260	0.10	U	0.10

# SEMIVOLATILE ORGANIC ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
 Division: New England  
 LRI Report No: E607162  
 LRI Sample No: 13

Customer: Atlantic Environmental Eng  
 Location: Pawtucket, RI  
 Project: Tidewater Former MGP  
 Sample Description: FB-DI

Date Collected: 07/11/96  
 Date Received: 07/12/96  
 Date Extracted: 07/18/96 By: RW  
 Date Analyzed: 07/23/96 By: JTH

Matrix: Water  
 Percent Moisture: N/A  
 pH:  
 Sample Weight/Volume: 500 mL  
 Extract Volume: .5  
 Injection Volume:  
 Dilution Factor:  
 Lab Data File: E01636.D

Method: 8270  
 Level: LOW  
 GC Column:  
 Units: ug/L ( Wet Weight )

CAS No.	Parameter	Result	Qual	QL
83-32-9	Acenaphthene	5.0	U	5.0
208-96-8	Acenaphthylene	5.0	U	5.0
120-12-7	Anthracene	5.0	U	5.0
56-55-3	Benzo[a]anthracene	5.0	U	5.0
50-32-8	Benzo[a]pyrene	5.0	U	5.0
205-99-2	Benzo[b]fluoranthene	5.0	U	5.0
191-24-2	Benzo[g,h,i]perylene	5.0	U	5.0
207-08-9	Benzo[k]fluoranthene	5.0	U	5.0
218-01-9	Chrysene	5.0	U	5.0
53-70-3	Dibenzo[a,h]anthracene	5.0	U	5.0
206-44-0	Fluoranthene	5.0	U	5.0
86-73-7	Fluorene	5.0	U	5.0
193-39-5	Indeno[1,2,3-cd]pyrene	5.0	U	5.0
91-20-3	Naphthalene	5.0	U	5.0
85-01-8	Phenanthrene	5.0	U	5.0
129-00-0	Pyrene	5.0	U	5.0
91-57-6	2-Methylnaphthalene	5.0	U	5.0



# GENERAL CHEMISTRY ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
Division: New England  
LRI Report No: E607162  
LRI Sample No: 14

Customer: Atlantic Environmental Eng  
Location: Pawtucket, RI  
Project: Tidewater Former MGP  
Sample Description: FB-Drill

Date Collected: 07/11/96  
Date Received: 07/12/96

Matrix: Water  
Percent Moisture: N/A  
Units in Wet Weight

Parameter	Result	QL	Units	Started		Completed		Dilution
				Date	By	Date	By	
Cyanide, Total, by EPA 335.3								
Cyanide	0.020 U	0.020	mg/L	07/23/96	EB	07/23/96	EB	

# METALS ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
 Division: New England  
 LRI Order No: E607162  
 LRI Sample No: 14

Client: Atlantic Environmental Eng  
 Location: Pawtucket, RI  
 Project: Tidewater Former MGP  
 Sample Description: FB-Drill

Date Collected: 07/11/96  
 Date Received: 07/12/96

Matrix: Water  
 Percent Moisture: N/A

Parameter	Result	QL	Units	Started		Completed		Dilution
				Date	By	Date	By	
<u>Arsenic by Furnace by 7060</u>								
Arsenic	0.0020 U	0.0020	mg/L	07/15/96	KH	07/22/96	MM	
<u>Mercury by Cold Vapor by 7470</u>								
Mercury	0.00046 U	0.00046	mg/L	07/15/96	KH	07/16/96	KH	
<u>Metals by ICP by SW-846 6010A</u>								
Beryllium	0.0020 U	0.0020	mg/L	07/15/96	KH	07/16/96	BS	
Chromium	0.024 U	0.024	mg/L	07/15/96	KH	07/16/96	BS	
Copper	0.090	0.024	mg/L	07/15/96	KH	07/16/96	BS	
Nickel	0.024 U	0.024	mg/L	07/15/96	KH	07/16/96	BS	
Silver	0.020 U	0.020	mg/L	07/15/96	KH	07/16/96	BS	
Zinc	0.053	0.010	mg/L	07/15/96	KH	07/16/96	BS	
Barium	0.034	0.010	mg/L	07/15/96	KH	07/16/96	BS	
Antimony	0.10 U	0.10	mg/L	07/15/96	KH	07/16/96	BS	
Lead	0.050 U	0.050	mg/L	07/15/96	KH	07/16/96	BS	
Selenium	0.10 U	0.10	mg/L	07/15/96	KH	07/16/96	BS	
Cadmium	0.010 U	0.010	mg/L	07/15/96	KH	07/16/96	BS	
<u>Thallium by Furnace by 7841</u>								
Thallium	0.0020 U	0.0020	mg/L	07/15/96	KH	07/18/96	MM	

# VOLATILE ORGANIC ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
 Division: New England  
 LRI Report No: E607162  
 LRI Sample No: 14

Customer: Atlantic Environmental Eng  
 Location: Pawtucket, RI  
 Project: Tidewater Former MGP  
 Sample Description: FB-Drill

Date Collected: 07/11/96  
 Date Received: 07/12/96  
 Date Extracted: By:  
 Date Analyzed: 07/18/96 By: JTH

Matrix: Water  
 Percent Moisture: N/A  
 Sample Weight/Volume:  
 Dilution Factor:  
 Soil Extract Volume:  
 Soil Aliquot Volume:  
 Lab Data File: C4261.D

Method: 8260A  
 Level: LOW  
 GC Column:  
 Units: ug/L ( Wet Weight )

CAS No.	Parameter	Result	Qual	QL
107-02-8	Acrolein	25	U	25
107-13-1	Acrylonitrile	25	U	25
71-43-2	Benzene	5.0	U	5.0
108-86-1	Bromobenzene	5.0	U	5.0
74-97-5	Bromochloromethane	5.0	U	5.0
75-27-4	Bromodichloromethane	19		5.0
75-25-2	Bromoform	5.0	U	5.0
74-83-9	Bromomethane	10	U	10
104-51-8	n-Butylbenzene	5.0	U	5.0
135-98-8	sec-Butylbenzene	5.0	U	5.0
98-06-6	tert-Butylbenzene	5.0	U	5.0
56-23-5	Carbon tetrachloride	5.0	U	5.0
108-90-7	Chlorobenzene	5.0	U	5.0
75-00-3	Chloroethane	10	U	10
67-66-3	Chloroform	51		5.0
74-87-3	Chloromethane	10	U	10
95-49-8	2-Chlorotoluene	5.0	U	5.0
106-43-4	4-Chlorotoluene	5.0	U	5.0
96-12-8	1,2-Dibromo-3-chloropropane (DBCP)	5.0	U	5.0
124-48-1	Dibromochloromethane	5.0	U	5.0
106-93-4	1,2-Dibromoethane (EDB)	5.0	U	5.0
74-95-3	Dibromomethane	5.0	U	5.0
95-50-1	1,2-Dichlorobenzene	5.0	U	5.0
541-73-1	1,3-Dichlorobenzene	5.0	U	5.0
106-46-7	1,4-Dichlorobenzene	5.0	U	5.0
75-71-8	Dichlorodifluoromethane	10	U	10
75-34-3	1,1-Dichloroethane	5.0	U	5.0
107-06-2	1,2-Dichloroethane	5.0	U	5.0
75-35-4	1,1-Dichloroethene	5.0	U	5.0
156-59-4	cis-1,2-Dichloroethene	5.0	U	5.0
156-60-5	trans-1,2-Dichloroethene	5.0	U	5.0
78-87-5	1,2-Dichloropropane	5.0	U	5.0
142-28-9	1,3-Dichloropropane	5.0	U	5.0
590-20-7	2,2-Dichloropropane	5.0	U	5.0
563-58-6	1,1-Dichloropropene	5.0	U	5.0
10061-01-5	cis-1,3-Dichloropropene	5.0	U	5.0
10061-02-6	trans-1,3-Dichloropropene	5.0	U	5.0
100-41-4	Ethylbenzene	5.0	U	5.0
87-68-3	Hexachlorobutadiene	5.0	U	5.0
98-82-8	Isopropylbenzene	5.0	U	5.0
99-87-6	4-Isopropyltoluene	5.0	U	5.0
1634-04-4	Methyl tert-butyl ether (MTBE)	5.0	U	5.0

# VOLATILE ORGANIC ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
Division: New England  
LRI Report No: E607162  
LRI Sample No: 14

Customer: Atlantic Environmental Eng  
Location: Pawtucket, RI  
Project: Tidewater Former MGP  
Sample Description: FB-Drill

Method: 8260A

CAS No.	Parameter	Result	Qual	QL
75-09-2	Methylene chloride	5.0	U	5.0
91-20-3	Naphthalene	5.0	U	5.0
103-65-1	n-Propylbenzene	5.0	U	5.0
100-42-5	Styrene	5.0	U	5.0
96-18-4	1,2,3-Trichloropropane	5.0	U	5.0
630-20-6	1,1,1,2-Tetrachloroethane	5.0	U	5.0
79-34-5	1,1,2,2-Tetrachloroethane	5.0	U	5.0
127-18-4	Tetrachloroethene	5.0	U	5.0
108-88-3	Toluene	5.0	U	5.0
87-61-6	1,2,3-Trichlorobenzene	5.0	U	5.0
120-82-1	1,2,4-Trichlorobenzene	5.0	U	5.0
71-55-6	1,1,1-Trichloroethane	5.0	U	5.0
79-00-5	1,1,2-Trichloroethane	5.0	U	5.0
79-01-6	Trichloroethene (TCE)	5.0	U	5.0
75-69-4	Trichlorofluoromethane	10	U	10
95-63-6	1,2,4-Trimethylbenzene	5.0	U	5.0
108-67-8	1,3,5-Trimethylbenzene	5.0	U	5.0
75-01-4	Vinyl chloride	10	U	10
95-47-6	o-Xylene	5.0	U	5.0
	m,p-Xylenes	5.0	U	5.0

# SEMIVOLATILE ORGANIC ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
 Division: New England  
 LRI Report No: E607162  
 LRI Sample No: 14

Customer: Atlantic Environmental Eng  
 Location: Pawtucket, RI  
 Project: Tidewater Former MGP  
 Sample Description: FB-Drill

Date Collected: 07/11/96  
 Date Received: 07/12/96  
 Date Extracted: 07/17/96 By: KRB  
 Date Analyzed: 07/17/96 By: KRB

Matrix: Water  
 Percent Moisture: N/A  
 pH:  
 Sample Weight/Volume: 500 mL  
 Extract Volume: 1  
 Injection Volume:  
 Dilution Factor: 1  
 Lab Data File: 8071706

Method: 8080  
 Level: LOW  
 GC Column:  
 Units: ug/L ( Wet Weight )

CAS No.	Parameter	Result	Qual	QL
12674-11-2	Aroclor 1016	0.10	U	0.10
11104-28-2	Aroclor 1221	0.10	U	0.10
11141-16-5	Aroclor 1232	0.10	U	0.10
53469-21-9	Aroclor 1242	0.10	U	0.10
12672-29-6	Aroclor 1248	0.10	U	0.10
11097-69-1	Aroclor 1254	0.10	U	0.10
11096-82-5	Aroclor 1260	0.10	U	0.10

# SEMIVOLATILE ORGANIC ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
 Division: New England  
 LRI Report No: E607162  
 LRI Sample No: 14

Customer: Atlantic Environmental Eng  
 Location: Pawtucket, RI  
 Project: Tidewater Former MGP  
 Sample Description: FB-Drill

Date Collected: 07/11/96  
 Date Received: 07/12/96  
 Date Extracted: 07/18/96 By: RW  
 Date Analyzed: 07/24/96 By: JTH

Matrix: Water  
 Percent Moisture: N/A  
 pH:  
 Sample Weight/Volume: 500 mL  
 Extract Volume: .5  
 Injection Volume:  
 Dilution Factor:  
 Lab Data File: E01637.D

Method: 8270  
 Level: LOW  
 GC Column:  
 Units: ug/L ( Wet Weight )

CAS No.	Parameter	Result	Qual	QL
83-32-9	Acenaphthene	5.0	U	5.0
208-96-8	Acenaphthylene	5.0	U	5.0
120-12-7	Anthracene	5.0	U	5.0
56-55-3	Benzo[a]anthracene	5.0	U	5.0
50-32-8	Benzo[a]pyrene	5.0	U	5.0
205-99-2	Benzo[b]fluoranthene	5.0	U	5.0
191-24-2	Benzo[g,h,i]perylene	5.0	U	5.0
207-08-9	Benzo[k]fluoranthene	5.0	U	5.0
218-01-9	Chrysene	5.0	U	5.0
53-70-3	Dibenzo[a,h]anthracene	5.0	U	5.0
206-44-0	Fluoranthene	5.0	U	5.0
86-73-7	Fluorene	5.0	U	5.0
193-39-5	Indeno[1,2,3-cd]pyrene	5.0	U	5.0
91-20-3	Naphthalene	5.0	U	5.0
85-01-8	Phenanthrene	5.0	U	5.0
129-00-0	Pyrene	5.0	U	5.0
91-57-6	2-Methylnaphthalene	5.0	U	5.0

# GENERAL CHEMISTRY ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
Division: New England  
LRI Report No: E607162  
LRI Sample No: 15

Customer: Atlantic Environmental Eng  
Location: Pawtucket, RI  
Project: Tidewater Former MGP  
Sample Description: TTP-15 (3-4)

Date Collected: 07/10/96  
Date Received: 07/12/96

Matrix: Soil  
Percent Moisture: 5.3%  
Units in Dry Weight

<u>Parameter</u>	<u>Result</u>	<u>QL</u>	<u>Units</u>	<u>Started</u>		<u>Completed</u>		<u>Dilution</u>
				<u>Date</u>	<u>By</u>	<u>Date</u>	<u>By</u>	
<u>Cyanide by 9012 Modified NE</u>								
Cyanide	1.0	0.46	mg/kg	07/15/96	EB	07/19/96	EB	

# METALS ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
 Division: New England  
 LRI Order No: E607162  
 LRI Sample No: 15

Client: Atlantic Environmental Eng  
 Location: Pawtucket, RI  
 Project: Tidewater Former MGP  
 Sample Description: TTP-15 (3-4)

Date Collected: 07/10/96  
 Date Received: 07/12/96

Matrix: Soil  
 Percent Moisture: 5.3%

Parameter	Result	QL	Units	Started		Completed		Dilution
				Date	By	Date	By	
<u>Arsenic by Furnace by SW-846 7060</u>								
Arsenic	12	0.36	mg/kg	07/15/96	KH	07/19/96	MM	2
<u>Mercury by Cold Vapor by SW-846 7471</u>								
Mercury	0.98	0.18	mg/kg	07/17/96	KH	07/22/96	KH	2
<u>Metals by ICP by SW-846 6010A</u>								
Beryllium	0.63	0.18	mg/kg	07/15/96	KH	07/16/96	BS	
Chromium	13	2.2	mg/kg	07/15/96	KH	07/16/96	BS	
Copper	43	2.2	mg/kg	07/15/96	KH	07/16/96	BS	
Nickel	26	2.2	mg/kg	07/15/96	KH	07/16/96	BS	
Silver	1.8U	1.8	mg/kg	07/15/96	KH	07/16/96	BS	
Zinc	88	0.90	mg/kg	07/15/96	KH	07/16/96	BS	
Barium	45	0.90	mg/kg	07/15/96	KH	07/16/96	BS	
Antimony	9.0U	9.0	mg/kg	07/15/96	KH	07/16/96	BS	
Lead	69	4.5	mg/kg	07/15/96	KH	07/16/96	BS	
Selenium	9.0U	9.0	mg/kg	07/15/96	KH	07/16/96	BS	
Cadmium	0.90U	0.90	mg/kg	07/15/96	KH	07/16/96	BS	
<u>Thallium by Furnace by SW-846 7841</u>								
Thallium	0.18U	0.18	mg/kg	07/15/96	KH	07/18/96	MM	



# GENERAL CHEMISTRY ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
Division: New England  
LRI Report No: E607162  
LRI Sample No: 16

Customer: Atlantic Environmental Eng  
Location: Pawtucket, RI  
Project: Tidewater Former MGP  
Sample Description: TTP-12 (8-9)

Date Collected: 07/10/96  
Date Received: 07/12/96

Matrix: Soil  
Percent Moisture: 28.0%  
Units in Dry Weight

<u>Parameter</u>	<u>Result</u>	<u>QL</u>	<u>Units</u>	<u>Started</u>		<u>Completed</u>		<u>Dilution</u>
				<u>Date</u>	<u>By</u>	<u>Date</u>	<u>By</u>	
<u>Cyanide by 9012 Modified NE</u>								
Cyanide	31	2.4	mg/kg	07/15/96	EB	07/19/96	EB	5

# METALS ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
 Division: New England  
 LRI Order No: E607162  
 LRI Sample No: 16

Client: Atlantic Environmental Eng  
 Location: Pawtucket, RI  
 Project: Tidewater Former MGP  
 Sample Description: TTP-12 (8-9)

Date Collected: 07/10/96  
 Date Received: 07/12/96

Matrix: Soil  
 Percent Moisture: 28.0%

Parameter	Result	QL	Units	Started		Completed		Dilution
				Date	By	Date	By	
<u>Arsenic by Furnace by SW-846 7060</u>								
Arsenic	10	0.22	mg/kg	07/15/96	KH	07/19/96	MM	
<u>Mercury by Cold Vapor by SW-846 7471</u>								
Mercury	0.26	0.12	mg/kg	07/17/96	KH	07/22/96	KH	
<u>Metals by ICP by SW-846 6010A</u>								
Beryllium	0.47	0.22	mg/kg	07/15/96	KH	07/16/96	BS	
Chromium	17	2.7	mg/kg	07/15/96	KH	07/16/96	BS	
Copper	170	2.7	mg/kg	07/15/96	KH	07/16/96	BS	
Nickel	45	2.7	mg/kg	07/15/96	KH	07/16/96	BS	
Silver	2.2U	2.2	mg/kg	07/15/96	KH	07/16/96	BS	
Zinc	110	1.1	mg/kg	07/15/96	KH	07/16/96	BS	
Barium	40	1.1	mg/kg	07/15/96	KH	07/16/96	BS	
Antimony	11U	11	mg/kg	07/15/96	KH	07/16/96	BS	
Lead	150	5.6	mg/kg	07/15/96	KH	07/16/96	BS	
Selenium	21	11	mg/kg	07/15/96	KH	07/16/96	BS	
Cadmium	1.1U	1.1	mg/kg	07/15/96	KH	07/16/96	BS	
<u>Thallium by Furnace by SW-846 7841</u>								
Thallium	0.55	0.22	mg/kg	07/15/96	KH	07/18/96	MM	

# GENERAL CHEMISTRY ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
Division: New England  
LRI Report No: E607162  
LRI Sample No: 17

Customer: Atlantic Environmental Eng  
Location: Pawtucket, RI  
Project: Tidewater Former MGP  
Sample Description: TB1 (0-2)

Date Collected: 07/12/96  
Date Received: 07/12/96

Matrix: Soil  
Percent Moisture: 5.8%  
Units in Dry Weight

<u>Parameter</u>	<u>Result</u>	<u>QL</u>	<u>Units</u>	<u>Started</u>	<u>Completed</u>	<u>Dilution</u>		
				<u>Date</u>	<u>By</u>	<u>Date</u>	<u>By</u>	
<u>Cyanide by 9012 Modified NE</u>								
Cyanide	0.29 U	0.29	mg/kg	07/18/96	EB	07/23/96	EB	

# METALS ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
 Division: New England  
 LRI Order No: E607162  
 LRI Sample No: 17

Client: Atlantic Environmental Eng  
 Location: Pawtucket, RI  
 Project: Tidewater Former MGP  
 Sample Description: TB1 (0-2)

Date Collected: 07/12/96  
 Date Received: 07/12/96

Matrix: Soil  
 Percent Moisture: 5.8%

Parameter	Result	QL	Units	Started		Completed		Dilution
				Date	By	Date	By	
<u>Arsenic by Furnace by SW-846 7060</u>								
Arsenic	1.9	0.18	mg/kg	07/15/96	KH	07/19/96	MM	
<u>Mercury by Cold Vapor by SW-846 7471</u>								
Mercury	0.096U	0.096	mg/kg	07/17/96	KH	07/22/96	KH	
<u>Metals by ICP by SW-846 6010A</u>								
Beryllium	0.33	0.18	mg/kg	07/15/96	KH	07/16/96	BS	
Chromium	18	2.2	mg/kg	07/15/96	KH	07/16/96	BS	
Copper	19	2.2	mg/kg	07/15/96	KH	07/16/96	BS	
Nickel	13	2.2	mg/kg	07/15/96	KH	07/16/96	BS	
Silver	1.8U	1.8	mg/kg	07/15/96	KH	07/16/96	BS	
Zinc	41	0.92	mg/kg	07/15/96	KH	07/16/96	BS	
Barium	33	0.92	mg/kg	07/15/96	KH	07/16/96	BS	
Antimony	9.2U	9.2	mg/kg	07/15/96	KH	07/16/96	BS	
Lead	31	4.6	mg/kg	07/15/96	KH	07/16/96	BS	
Selenium	9.2U	9.2	mg/kg	07/15/96	KH	07/16/96	BS	
Cadmium	0.92U	0.92	mg/kg	07/15/96	KH	07/16/96	BS	
<u>Thallium by Furnace by SW-846 7841</u>								
Thallium	0.18U	0.18	mg/kg	07/15/96	KH	07/18/96	MM	

# GENERAL CHEMISTRY ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
Division: New England  
LRI Report No: E607162  
LRI Sample No: 18

Customer: Atlantic Environmental Eng  
Location: Pawtucket, RI  
Project: Tidewater Former MGP  
Sample Description: TB1 (16-18)

Date Collected: 07/12/96  
Date Received: 07/12/96

Matrix: Soil  
Percent Moisture: 18.3%  
Units in Dry Weight

<u>Parameter</u>	<u>Result</u>	<u>QL</u>	<u>Units</u>	<u>Started</u>		<u>Completed</u>		<u>Dilution</u>
				<u>Date</u>	<u>By</u>	<u>Date</u>	<u>By</u>	
<u>Cyanide by 9012 Modified NE</u>								
Cyanide	0.45 U	0.45	mg/kg	07/18/96	EB	07/23/96	EB	

# METALS ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
 Division: New England  
 LRI Order No: E607162  
 LRI Sample No: 18

Client: Atlantic Environmental Eng  
 Location: Pawtucket, RI  
 Project: Tidewater Former MGP  
 Sample Description: TB1 (16-18)

Date Collected: 07/12/96  
 Date Received: 07/12/96

Matrix: Soil  
 Percent Moisture: 18.3%

Parameter	Result	QL	Units	Started		Completed		Dilution
				Date	By	Date	By	
<u>Arsenic by Furnace by SW-846 7060</u>								
Arsenic	2.6	0.21	mg/kg	07/15/96	KH	07/19/96	MM	
<u>Mercury by Cold Vapor by SW-846 7471</u>								
Mercury	0.10 U	0.10	mg/kg	07/17/96	KH	07/22/96	KH	
<u>Metals by ICP by SW-846 6010A</u>								
Beryllium	0.43	0.21	mg/kg	07/15/96	KH	07/16/96	BS	
Chromium	9.1	2.6	mg/kg	07/15/96	KH	07/16/96	BS	
Copper	11	2.6	mg/kg	07/15/96	KH	07/16/96	BS	
Nickel	10	2.6	mg/kg	07/15/96	KH	07/16/96	BS	
Silver	2.1 U	2.1	mg/kg	07/15/96	KH	07/16/96	BS	
Zinc	27	1.1	mg/kg	07/15/96	KH	07/16/96	BS	
Barium	25	1.1	mg/kg	07/15/96	KH	07/16/96	BS	
Antimony	11 U	11	mg/kg	07/15/96	KH	07/16/96	BS	
Lead	11	5.3	mg/kg	07/15/96	KH	07/22/96	BS	
Selenium	11 U	11	mg/kg	07/15/96	KH	07/16/96	BS	
Cadmium	1.1 U	1.1	mg/kg	07/15/96	KH	07/16/96	BS	
<u>Thallium by Furnace by SW-846 7841</u>								
Thallium	0.21 U	0.21	mg/kg	07/15/96	KH	07/18/96	MM	

# GENERAL CHEMISTRY ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
Division: New England  
LRI Report No: E607162  
LRI Sample No: 19

Customer: Atlantic Environmental Eng  
Location: Pawtucket, RI  
Project: Tidewater Former MGP  
Sample Description: ER-3

Date Collected: 07/12/96  
Date Received: 07/12/96

Matrix: Water  
Percent Moisture: N/A  
Units in Wet Weight

Parameter	Result	QL	Units	Started		Completed		Dilution
				Date	By	Date	By	
<u>Cyanide, Total, by EPA 335.3</u>								
Cyanide	0.020 U	0.020	mg/L	07/23/96	EB	07/23/96	EB	

# METALS ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
 Division: New England  
 LRI Order No: E607162  
 LRI Sample No: 19

Client: Atlantic Environmental Eng  
 Location: Pawtucket, RI  
 Project: Tidewater Former MGP  
 Sample Description: ER-3

Date Collected: 07/12/96  
 Date Received: 07/12/96

Matrix: Water  
 Percent Moisture: N/A

Parameter	Result	QL	Units	Started		Completed		Dilution
				Date	By	Date	By	
<u>Arsenic by Furnace by 7060</u>								
Arsenic	0.0020 U	0.0020	mg/L	07/16/96	KH	07/22/96	MM	
<u>Mercury by Cold Vapor by 7470</u>								
Mercury	0.00046 U	0.00046	mg/L	07/15/96	KH	07/16/96	KH	
<u>Metals by ICP by SW-846 6010A</u>								
Beryllium	0.0020 U	0.0020	mg/L	07/16/96	KH	07/18/96	BS	
Chromium	0.024 U	0.024	mg/L	07/16/96	KH	07/18/96	BS	
Copper	0.024 U	0.024	mg/L	07/16/96	KH	07/18/96	BS	
Nickel	0.024 U	0.024	mg/L	07/16/96	KH	07/18/96	BS	
Silver	0.020 U	0.020	mg/L	07/16/96	KH	07/18/96	BS	
Zinc	0.028	0.010	mg/L	07/16/96	KH	07/18/96	BS	
Barium	0.010 U	0.010	mg/L	07/16/96	KH	07/18/96	BS	
Antimony	0.10 U	0.10	mg/L	07/16/96	KH	07/18/96	BS	
Lead	0.050 U	0.050	mg/L	07/16/96	KH	07/18/96	BS	
Selenium	0.10 U	0.10	mg/L	07/16/96	KH	07/18/96	BS	
Cadmium	0.010 U	0.010	mg/L	07/16/96	KH	07/18/96	BS	
<u>Thallium by Furnace by 7841</u>								
Thallium	0.0020 U	0.0020	mg/L	07/16/96	KH	07/18/96	MM	



# VOLATILE ORGANIC ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
 Division: New England  
 LRI Report No: E607162  
 LRI Sample No: 19

Customer: Atlantic Environmental Eng  
 Location: Pawtucket, RI  
 Project: Tidewater Former MGP  
 Sample Description: ER-3

Date Collected: 07/12/96  
 Date Received: 07/12/96  
 Date Extracted: By:  
 Date Analyzed: 07/18/96 By: JTH

Matrix: Water  
 Percent Moisture: N/A  
 Sample Weight/Volume:  
 Dilution Factor:  
 Soil Extract Volume:  
 Soil Aliquot Volume:  
 Lab Data File: C4262.D

Method: 8260A  
 Level: LOW  
 GC Column:  
 Units: ug/L (Wet Weight)

CAS No.	Parameter	Result	Qual	QL
107-02-8	Acrolein	25	U	25
107-13-1	Acrylonitrile	25	U	25
71-43-2	Benzene	5.0	U	5.0
108-86-1	Bromobenzene	5.0	U	5.0
74-97-5	Bromochloromethane	5.0	U	5.0
75-27-4	Bromodichloromethane	5.0	U	5.0
75-25-2	Bromoform	5.0	U	5.0
74-83-9	Bromomethane	10	U	10
104-51-8	n-Butylbenzene	5.0	U	5.0
135-98-8	sec-Butylbenzene	5.0	U	5.0
98-06-6	tert-Butylbenzene	5.0	U	5.0
56-23-5	Carbon tetrachloride	5.0	U	5.0
108-90-7	Chlorobenzene	5.0	U	5.0
75-00-3	Chloroethane	10	U	10
67-66-3	Chloroform	5.0	U	5.0
74-87-3	Chloromethane	10	U	10
95-49-8	2-Chlorotoluene	5.0	U	5.0
106-43-4	4-Chlorotoluene	5.0	U	5.0
96-12-8	1,2-Dibromo-3-chloropropane (DBCP)	5.0	U	5.0
124-48-1	Dibromochloromethane	5.0	U	5.0
106-93-4	1,2-Dibromoethane (EDB)	5.0	U	5.0
74-95-3	Dibromomethane	5.0	U	5.0
95-50-1	1,2-Dichlorobenzene	5.0	U	5.0
541-73-1	1,3-Dichlorobenzene	5.0	U	5.0
106-46-7	1,4-Dichlorobenzene	5.0	U	5.0
75-71-8	Dichlorodifluoromethane	10	U	10
75-34-3	1,1-Dichloroethane	5.0	U	5.0
107-06-2	1,2-Dichloroethane	5.0	U	5.0
75-35-4	1,1-Dichloroethene	5.0	U	5.0
156-59-4	cis-1,2-Dichloroethene	5.0	U	5.0
156-60-5	trans-1,2-Dichloroethene	5.0	U	5.0
78-87-5	1,2-Dichloropropane	5.0	U	5.0
142-28-9	1,3-Dichloropropane	5.0	U	5.0
590-20-7	2,2-Dichloropropane	5.0	U	5.0
563-58-6	1,1-Dichloropropene	5.0	U	5.0
10061-01-5	cis-1,3-Dichloropropene	5.0	U	5.0
10061-02-6	trans-1,3-Dichloropropene	5.0	U	5.0
100-41-4	Ethylbenzene	5.0	U	5.0
87-68-3	Hexachlorobutadiene	5.0	U	5.0
98-82-8	Isopropylbenzene	5.0	U	5.0
99-87-6	4-Isopropyltoluene	5.0	U	5.0
1634-04-4	Methyl tert-butyl ether (MTBE)	5.0	U	5.0

# VOLATILE ORGANIC ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
Division: New England  
LRI Report No: E607162  
LRI Sample No: 19

Customer: Atlantic Environmental Eng  
Location: Pawtucket, RI  
Project: Tidewater Former MGP  
Sample Description: ER-3

Method: 8260A

CAS No.	Parameter	Result	Qual	QL
75-09-2	Methylene chloride	5.0	U	5.0
91-20-3	Naphthalene	5.0	U	5.0
103-65-1	n-Propylbenzene	5.0	U	5.0
100-42-5	Styrene	5.0	U	5.0
96-18-4	1,2,3-Trichloropropane	5.0	U	5.0
630-20-6	1,1,1,2-Tetrachloroethane	5.0	U	5.0
79-34-5	1,1,2,2-Tetrachloroethane	5.0	U	5.0
127-18-4	Tetrachloroethene	5.0	U	5.0
108-88-3	Toluene	5.0	U	5.0
87-61-6	1,2,3-Trichlorobenzene	5.0	U	5.0
120-82-1	1,2,4-Trichlorobenzene	5.0	U	5.0
71-55-6	1,1,1-Trichloroethane	5.0	U	5.0
79-00-5	1,1,2-Trichloroethane	5.0	U	5.0
79-01-6	Trichloroethene (TCE)	5.0	U	5.0
75-69-4	Trichlorofluoromethane	10	U	10
95-63-6	1,2,4-Trimethylbenzene	5.0	U	5.0
108-67-8	1,3,5-Trimethylbenzene	5.0	U	5.0
75-01-4	Vinyl chloride	10	U	10
95-47-6	o-Xylene	5.0	U	5.0
	m,p-Xylenes	5.0	U	5.0

# SEMIVOLATILE ORGANIC ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
Division: New England  
LRI Report No: E607162  
LRI Sample No: 19

Customer: Atlantic Environmental Eng  
Location: Pawtucket, RI  
Project: Tidewater Former MGP  
Sample Description: ER-3

Date Collected: 07/12/96  
Date Received: 07/12/96  
Date Extracted: 07/17/96 By: KRB  
Date Analyzed: 07/17/96 By: KRB

Matrix: Water  
Percent Moisture: N/A  
pH:  
Sample Weight/Volume: 500 mL  
Extract Volume: 1  
Injection Volume:  
Dilution Factor: 1  
Lab Data File: 8071707

Method: 8080  
Level: LOW  
GC Column:  
Units: ug/L (Wet Weight)

CAS No.	Parameter	Result	Qual	QL
12674-11-2	Aroclor 1016	0.10	U	0.10
11104-28-2	Aroclor 1221	0.10	U	0.10
11141-16-5	Aroclor 1232	0.10	U	0.10
53469-21-9	Aroclor 1242	0.10	U	0.10
12672-29-6	Aroclor 1248	0.10	U	0.10
11097-69-1	Aroclor 1254	0.10	U	0.10
11096-82-5	Aroclor 1260	0.10	U	0.10

# SEMIVOLATILE ORGANIC ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
 Division: New England  
 LRI Report No: E607162  
 LRI Sample No: 19

Customer: Atlantic Environmental Eng  
 Location: Pawtucket, RI  
 Project: Tidewater Former MGP  
 Sample Description: ER-3

Date Collected: 07/12/96  
 Date Received: 07/12/96  
 Date Extracted: 07/18/96 By: RW  
 Date Analyzed: 07/24/96 By: JTH

Matrix: Water  
 Percent Moisture: N/A  
 pH:  
 Sample Weight/Volume: 500 mL  
 Extract Volume: .5  
 Injection Volume:  
 Dilution Factor:  
 Lab Data File: E01638.D

Method: 8270  
 Level: LOW  
 GC Column:  
 Units: ug/L (Wet Weight)

CAS No.	Parameter	Result	Qual	QL
83-32-9	Acenaphthene	5.0	U	5.0
208-96-8	Acenaphthylene	5.0	U	5.0
120-12-7	Anthracene	5.0	U	5.0
56-55-3	Benzo[a]anthracene	5.0	U	5.0
50-32-8	Benzo[a]pyrene	5.0	U	5.0
205-99-2	Benzo[b]fluoranthene	5.0	U	5.0
191-24-2	Benzo[g,h,i]perylene	5.0	U	5.0
207-08-9	Benzo[k]fluoranthene	5.0	U	5.0
218-01-9	Chrysene	5.0	U	5.0
53-70-3	Dibenzo[a,h]anthracene	5.0	U	5.0
206-44-0	Fluoranthene	5.0	U	5.0
86-73-7	Fluorene	5.0	U	5.0
193-39-5	Indeno[1,2,3-cd]pyrene	5.0	U	5.0
91-20-3	Naphthalene	5.0	U	5.0
85-01-8	Phenanthrene	5.0	U	5.0
129-00-0	Pyrene	5.0	U	5.0
91-57-6	2-Methylnaphthalene	5.0	U	5.0

Report No: E607162  
Client: Atlantic Environmental  
Case: Tidewater Former MGP

### **SEMIVOLATILE NONCONFORMANCE SUMMARY**

The quantification limits for the 8080 analysis on sample E607162-04 are elevated due to matrix interference.

LRI QUOTE #

**CUSTOMER INFORMATION**  
 CUSTOMER: ATLANTIC ENV.  
 ADDRESS: COLCHESTER CT  
 TELEPHONE: 860 5370751  
 FAX:

**PROJECT INFORMATION**  
 PROJECT: DEWEATER 260502  
 PROJECT LOCATION: RAMBLE STATE RT  
 PROJECT MANAGER: P Greenwell  
 IN CASE WE HAVE ANY QUESTIONS WHEN SAMPLES ARRIVE WE SHOULD CALL:  
 NAME: P Greenwell  
 TELEPHONE: 860 5370751  
 FAX:

**BILLING INFORMATION**  
 BILL TO: ATLANTIC  
 ADDRESS:  
 ATTENTION:  
 TELEPHONE:  
 PO #:

LAB ID CODE	SAMPLE IDENTIFICATION	DATE COLLECTED	TIME COLLECTED	SAMPLE TYPE		SAMPLE MATRIX	# OF BOTTLES	BH STX STX STX	NETALS	CHLORINE	ANALYSIS				PRESERVATIVE								
				COMPOSITE	GRAB						PCB	TCDF FULL	PCBT	IGNIT	COM	H2S04	HCL	HNO3	NAOH	NON-PRES			
	TB-13 (14-16)	7-11-96		X		SOIL	2		X	X													
	TB13 (0-2)							X	X	X													
	TTP7 (9-10)								X	X													
	TTP3 (3-4)								X	X													
	TTP6 (7-10)								X	X													
	TTP5A (8-9)								X	X													
	TTP4 (4-5)								X	X													
	TTP5 (8-9.5)								X	X													
	TTP3 (9-10)								X	X													

TURNAROUND (INDICATE IN CALENDAR DAYS): SP FAX \_\_\_\_\_ HARD COPY \_\_\_\_\_ DELIV. PKG. \_\_\_\_\_

NAME OF LAB PERSONNEL CONFIRMING: \_\_\_\_\_  
 DELIVERABLES / (CIRCLE ONE): DATA DATA/OC RED/DELIV NJ/CLP I NJ/CLP II

SAMPLER / AFFILIATION: P. GEORGETT / ATLANTIC  
 RECEIVED / AFFILIATION: \_\_\_\_\_ DATE: 7-12-96  
 RELINQUISHED / AFFILIATION: \_\_\_\_\_ TIME: 3:00  
 RECEIVED / AFFILIATION: \_\_\_\_\_ DATE: 7-12-96  
 RELINQUISHED / AFFILIATION: \_\_\_\_\_ TIME: 3:50  
 RECEIVED / AFFILIATION: \_\_\_\_\_ DATE: \_\_\_\_\_  
 RELINQUISHED / AFFILIATION: \_\_\_\_\_ TIME: \_\_\_\_\_

RETURN TO CLIENT FOR DISPOSAL  LAB DISPOSAL  
 KNOWN HAZARD (FLAMMABLE, EXPLOSIVE, TOXIC)  
 YES  NO (IF YES EXPLAIN UNDER COMMENTS)  
**LAB USE** CONDITIONS OF BOTTLES AND COOLER AT RECEIPT:  
 COMPLIANT  NOT COMPLIANT (IF NOT EXPLAIN UNDER COMMENTS)  
 COMMENTS: METALS - PULVERIZED POLLUTANT + RAINWATER  
 CHLORIDE - TOTAL 9017/9013  
 PAH DET. LIMIT 0-1 ppm



**CUSTOMER INFORMATION**  
 CUSTOMER: ATLANTIC ENV.  
 ADDRESS: CUCKERITE CT  
 TELEPHONE: 800 537 0751  
 FAX: \_\_\_\_\_

**PROJECT INFORMATION**  
 PROJECT: DEWATER  
 PROJECT LOCATION: PAWBUCKET STATE: RI  
 PROJECT MANAGER: P. GORDON  
 IN CASE WE HAVE ANY QUESTIONS WHEN SAMPLES ARRIVE WE SHOULD CALL:  
 NAME: P. GORDON  
 TELEPHONE: 800 537 0751  
 FAX: \_\_\_\_\_

**BILLING INFORMATION**  
 BILL TO: ATLANTIC  
 ADDRESS: \_\_\_\_\_  
 ATTENTION: \_\_\_\_\_  
 TELEPHONE: \_\_\_\_\_  
 PO #: \_\_\_\_\_

LAB ID CODE	SAMPLE IDENTIFICATION	DATE COLLECTED	TIME COLLECTED	SAMPLE TYPE		SAMPLE MATRIX	# OF BOTTLES	PRESERVATIVE	ANALYSIS											
				COMPOSITE	GRAB				H2SO4	HNO3	NaOH	NON-PRES	PCB	TRP	TRP	TRP				
	TRP 2 (1-2)	7/1/96			X	SOIL	4		X	X	X	X	X							
	TRP 2 (5-6)	15/1					2		X	X	X	X	X							
	TRP 1 (8-9)						2		X	X	X	X	X							
	TRP 5 ERZ						5		X	X	X	X	X							
	FRS DI						5		X	X	X	X	X							
	FRS-DRILL						5		X	X	X	X	X							
	TRP-15 (3-4)	7/10/96				SOIL	2		X	X	X	X	X							
	TRP-12 (8-9)					SOIL	2		X	X	X	X	X							

TURNAROUND (INDICATE IN CALENDAR DAYS): STD FAX \_\_\_\_\_ HARD COPY \_\_\_\_\_ DELIV. PKG. \_\_\_\_\_  
 NAME OF LAB PERSONNEL CONFIRMING: \_\_\_\_\_  
 DELIVERABLES / (CIRCLE ONE): DATA DATA/QC RED/DELIV NJ/CLP I NJ/CLP II  
 NJ/REGI NY/ASP CLP OTHER \_\_\_\_\_  
 SAMPLER / AFFILIATION: Peter GORDON / ATLANTIC  
 RECEIVED / AFFILIATION: C. Gordon DATE: 7-12-96  
 RELINQUISHED / AFFILIATION: C. Gordon TIME: 2:00  
 RECEIVED / AFFILIATION: C. Gordon DATE: 7-12-96  
 RELINQUISHED / AFFILIATION: C. Gordon TIME: 3:50  
 RECEIVED / AFFILIATION: \_\_\_\_\_ DATE: \_\_\_\_\_  
 RELINQUISHED / AFFILIATION: \_\_\_\_\_ TIME: \_\_\_\_\_

LAB USE CONDITIONS OF BOTTLES AND COOLER AT RECEIPT:  
 COMPLIANT  NOT COMPLIANT (IF NOT EXPLAIN UNDER COMMENTS)  
 COMMENTS: METALS - PAJOR, POLYMERIS + BACULUR  
 CHAMBER - TOTAL 9012/9013  
 PATH DEF. LIMIT 0.1 ppm

**CUSTOMER INFORMATION**  
 CUSTOMER: AT&T  
 ADDRESS: CALCIPSIEN CT  
 TELEPHONE: 800 5370751  
 FAX:                     

**PROJECT INFORMATION**  
 PROJECT: INDUSTRIAL  
 PROJECT LOCATION: PAWINGT STATE: CT  
 PROJECT MANAGER: P. Gember  
 IN CASE WE HAVE ANY QUESTIONS WHEN SAMPLES ARRIVE WE SHOULD CALL:  
 NAME: P. Gember  
 TELEPHONE: 800 5370751  
 FAX:                     

**BILLING INFORMATION**  
 BILL TO: AT&T  
 ADDRESS:                       
 ATTENTION:                       
 TELEPHONE:                       
 PO #:                     

LAB ID CODE	SAMPLE IDENTIFICATION	DATE COLLECTED	TIME COLLECTED	SAMPLE TYPE		SAMPLE MATRIX	# OF BOTTLES	ANALYSIS				PRESERVATIVE					
				COMPOSITE	GRAB			PAH 270	PAH 270	PAH 270	PAH 270	H2SO4	HCL	HNO3	NAOH	NON-PRES	
	TB1 (0-2)	7-12-92			X	SOIL	2		X	X	X						
	TB1 (16-18)					SOIL	2		X	X	X						
	<del>TB1</del> Ev-3					WATER	5	X	X	X	X						

TURNAROUND (INDICATE IN CALENDAR DAYS): SP FAX                      HARD COPY                      DELIV. PKG.                       
 NAME OF LAB PERSONNEL CONFIRMING:                       
 DELIVERABLES / (CIRCLE ONE): DATA DATA/QC RED/DELIV NJ/CLP I NJ/CLP II  
 NJ/REGL NY/ASP CLP OTHER  
 SAMPLER / AFFILIATION: P. Gember / AT&T  
 RECEIVED / AFFILIATION:                       
 RELINQUISHED / AFFILIATION:                       
 RECEIVED / AFFILIATION:                       
 RELINQUISHED / AFFILIATION:                       
 RECEIVED / AFFILIATION:                     

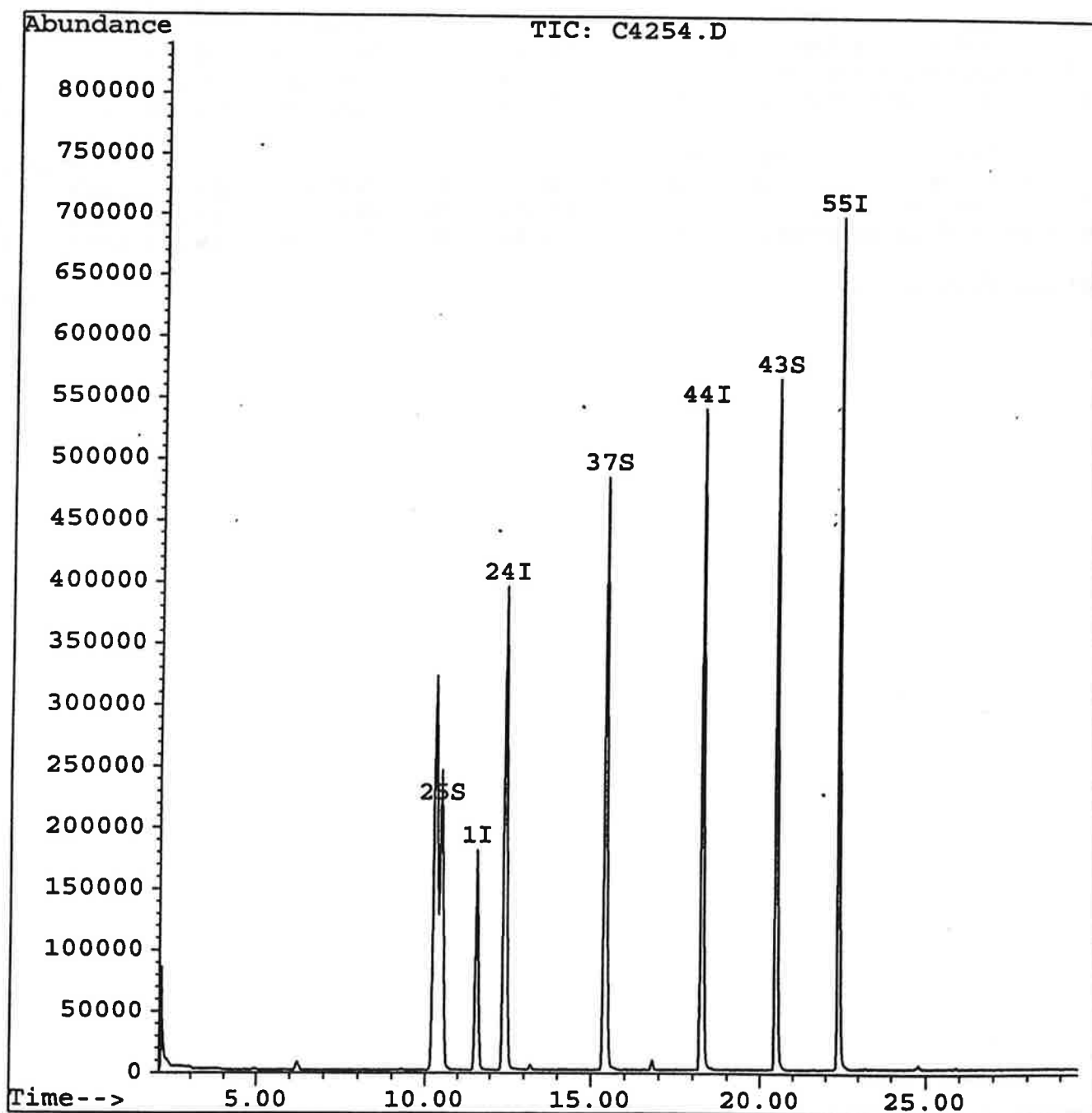
RETURN TO CLIENT FOR DISPOSAL  LAB DISPOSAL  
 KNOWN HAZARD (FLAMMABLE, EXPLOSIVE, TOXIC)  
 YES  NO (IF YES EXPLAIN UNDER COMMENTS)  
**LAB USE** CONDITIONS OF BOTTLES AND COOLER AT RECEIPT:  
 COMPLIANT  NOT COMPLIANT (IF NOT EXPLAIN UNDER COMMENTS)  
 COMMENTS: MEALS - PRIORITY POLYMERYS + STAIN  
SYNAPSE TOIAC 9012/9013  
PAH DEF. LIMIT 0.1 ppm



Data File : C:\HPCHEM\1\DATA\C4254.D  
Acq On : 18 Jul 96 11:55 am  
Sample : VBLK0718 CH#02  
Misc : METHOD BLANK LOW WATER  
Quant Time: Jul 31 9:57 1996

Vial: 3  
Operator: JTH  
Inst : GC/MS #  
Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\8260A3.M  
Title : 8260 WATER CALIBRATION  
Last Update : Tue Jul 30 14:08:16 1996  
Response via : Multiple Level Calibration



Data File : C:\HPCHEM\1\DATA\C4254.D  
 Acq On : 18 Jul 96 11:55 am  
 Sample : VBLK0718 CH#02  
 Misc : METHOD BLANK LOW WATER  
 Quant Time: Jul 31 9:57 1996

Vial: 3  
 Operator: JTH  
 Inst : GC/MS #  
 Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\8260A3.M  
 Title : 8260 WATER CALIBRATION  
 Last Update : Tue Jul 30 14:08:16 1996  
 Response via : Multiple Level Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Mi)
1) 1,2-Dichloroethane-d4	11.58	67	218528	50.00	ug/L	-0.2
24) 1,4-Difluorobenzene	12.43	114	1056218	50.00	ug/L	-0.2
44) Chlorobenzene-d5	18.26	117	846945	50.00	ug/L	-0.2
55) 1,4-Dichlorobenzene-d4	22.38	152	432008	50.00	ug/L	-0.1

System Monitoring Compounds	R.T.	QIon	Response	Conc	Units	%Recover
25) Dibromofluoromethane (S)	10.47	113	578495	52.86	ug/L	105.7
37) Toluene-d8 (S)	15.43	98	1070427	51.01	ug/L	102.0
43) Bromofluorobenzene (S)	20.48	95	593474	49.33	ug/L	98.6

Target Compounds

Qvalu

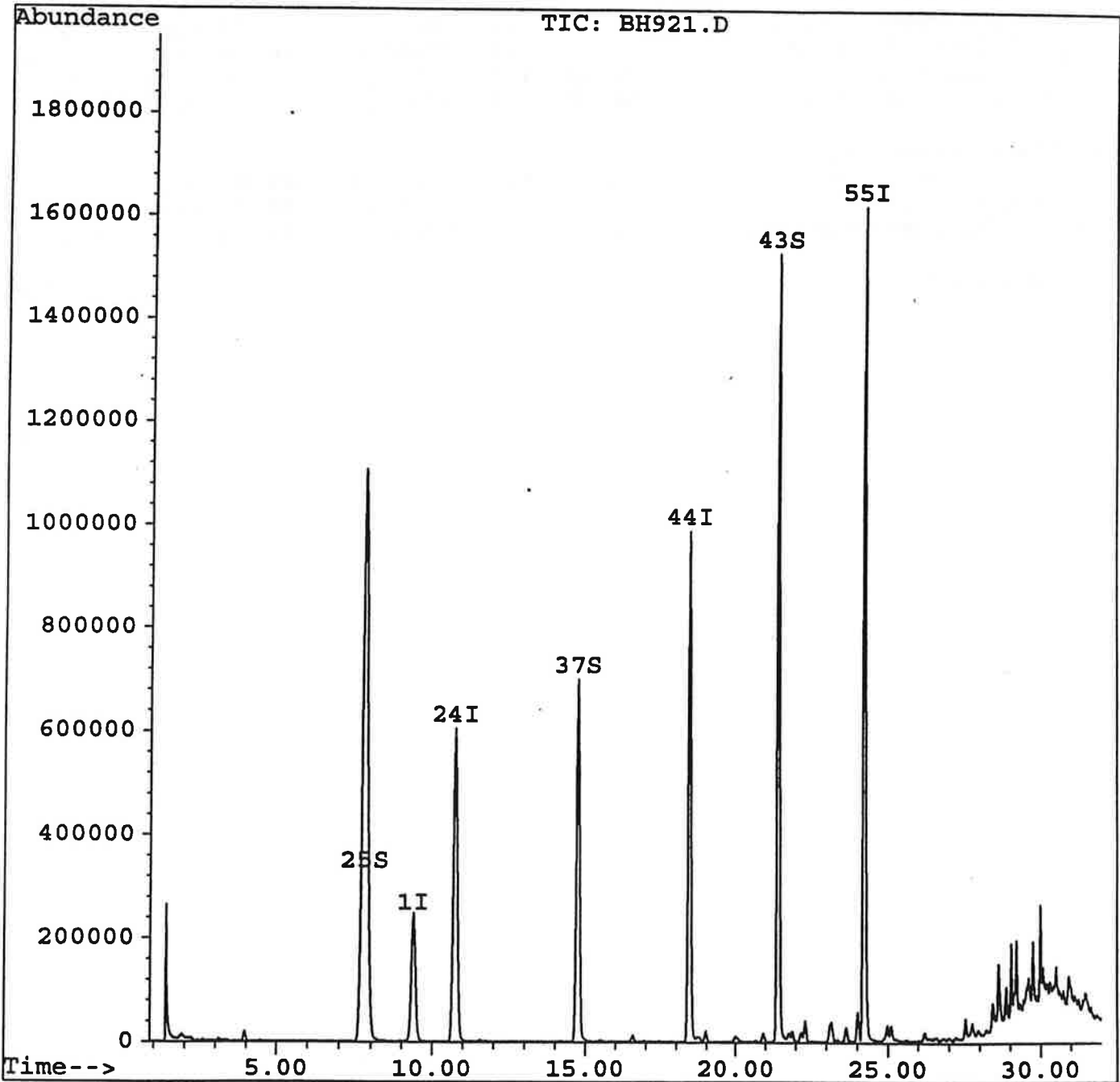
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\BH921.D  
Acq On : 24 Jul 96 9:44 pm  
Sample : VBLK0724  
Misc :  
Quant Time: Jul 25 11:05 1996

Vial: 9  
Operator: AT  
Inst : MSD #2  
Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\8260A2.M  
Title : 8260 AQUEOUS CALIBRATION  
Last Update : Thu Jul 25 10:45:36 1996  
Response via : Multiple Level Calibration



Quantitation Report

Data File : C:\HPCHEM\1\DATA\BH921.D  
 Acq On : 24 Jul 96 9:44 pm  
 Sample : VBLK0724  
 Misc :  
 Quant Time: Jul 25 11:05 1996

Vial: 9  
 Operator: AT  
 Inst : MSD #2  
 Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\8260A2.M  
 Title : 8260 AQUEOUS CALIBRATION  
 Last Update : Thu Jul 25 10:45:36 1996  
 Response via : Multiple Level Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev (Min)
1) 1,2-Dichloroethane-d4	9.38	67	428857	50.00	ug/l	0.00
24) 1,4-Difluorobenzene	10.74	114	2240305	50.00	ug/l	0.00
44) Chlorobenzene-d5	18.43	117	1891712	50.00	ug/l	0.00
55) 1,4-Dichlorobenzene-d4	24.22	152	1456773	50.00	ug/l	0.02

System Monitoring Compounds	R.T.	QIon	Response	Conc	Units	%Recovery
25) Dibromofluoromethane (S)	7.81	113	1609745	47.89	ug/l	95.79%
37) Toluene-d8 (S)	14.75	98	1854444	48.09	ug/l	96.17%
43) Bromofluorobenzene (S)	21.42	95	1767664	52.06	ug/l	104.12%

Target Compounds

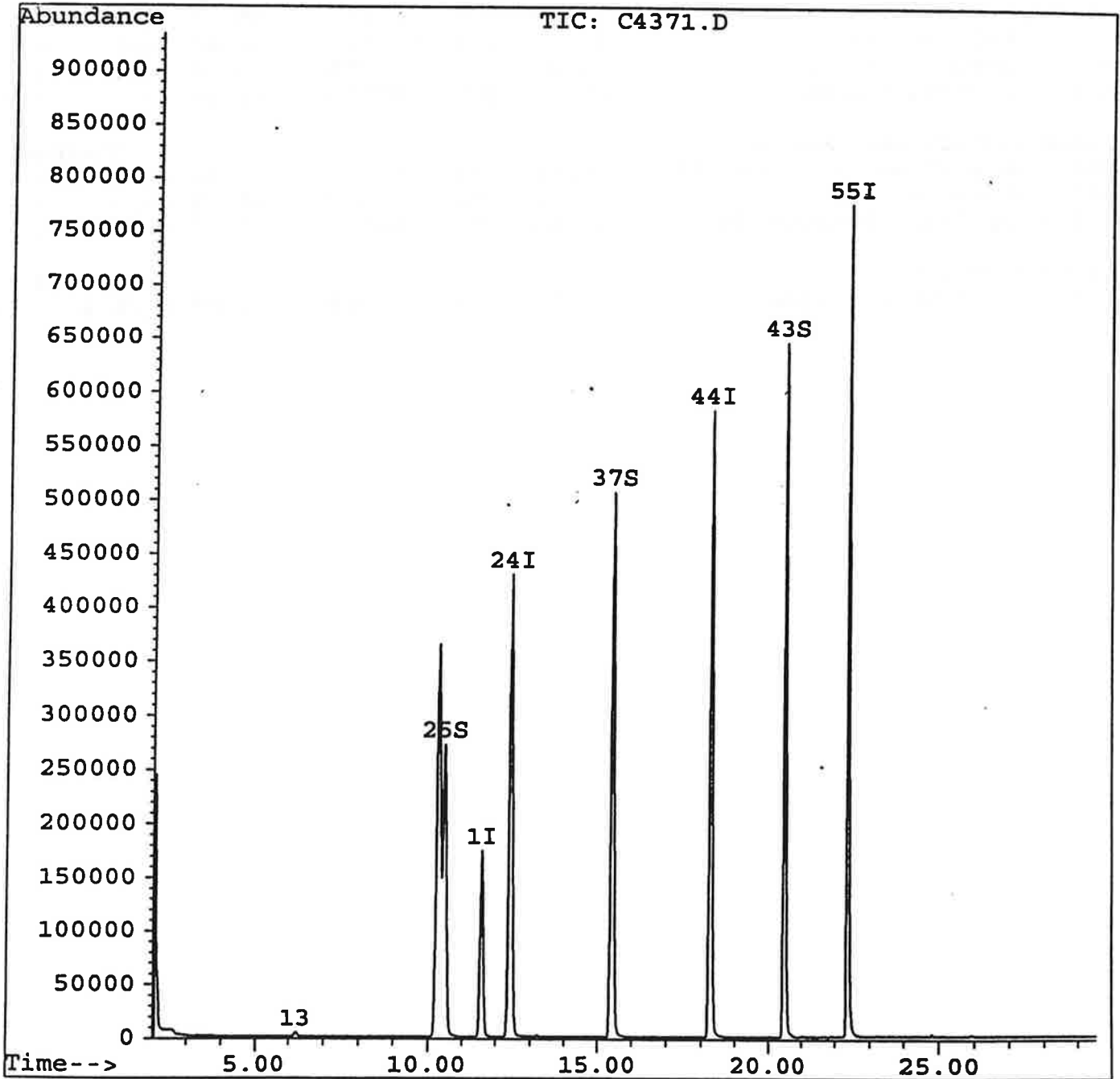
Qvalue

(#) = qualifier out of range (m) = manual integration

Data File : C:\HPCHEM\1\DATA\C4371.D  
Acq On : 25 Jul 96 10:36 am  
Sample : vblk0725  
Misc : cell #9  
Quant Time: Jul 25 13:03 1996

Vial: 3  
Operator: AT  
Inst : GC/MS #3  
Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\8260A3.M  
Title : 8260 WATER CALIBRATION  
Last Update : Tue Aug 06 14:49:28 1996  
Response via : Multiple Level Calibration



Data File : C:\HPCHEM\1\DATA\C4371.D  
 Acq On : 25 Jul 96 10:36 am  
 Sample : vblk0725  
 Misc : cell #9  
 Quant Time: Jul 25 13:03 1996

Vial: 3  
 Operator: AT  
 Inst : GC/MS #3  
 Multiplr: 1.00

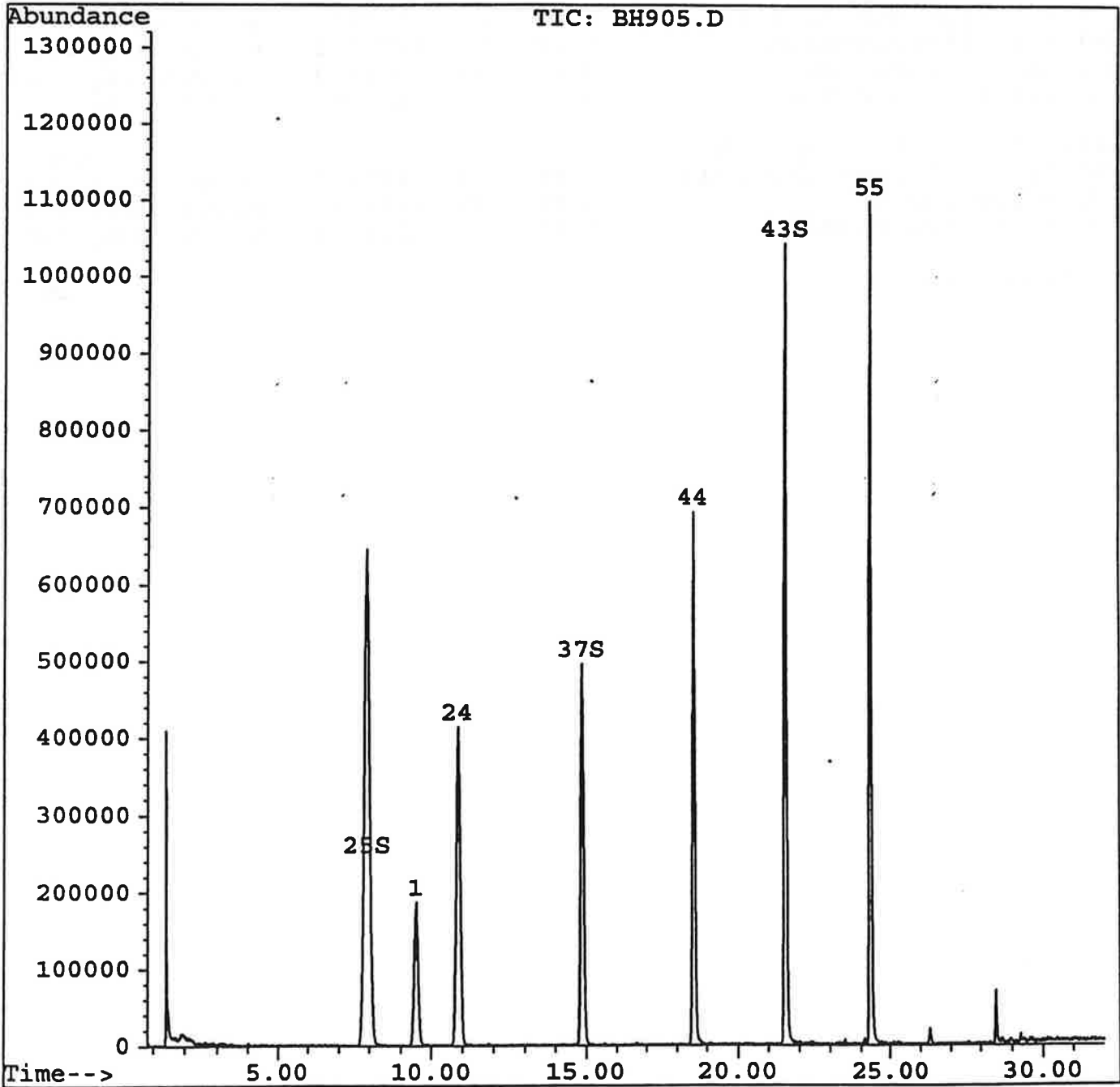
Method : C:\HPCHEM\1\METHODS\8260A3.M  
 Title : 8260 WATER CALIBRATION  
 Last Update : Tue Aug 06 14:49:28 1996  
 Response via : Multiple Level Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev (Min)
1) 1,2-Dichloroethane-d4	11.58	67	216364	50.00	ug/L	-0.12
24) 1,4-Difluorobenzene	12.43	114	1189757	50.00	ug/L	-0.12
44) Chlorobenzene-d5	18.27	117	965576	50.00	ug/L	-0.12
55) 1,4-Dichlorobenzene-d4	22.37	152	505738	50.00	ug/L	-0.10
<b>System Monitoring Compounds</b>						<b>%Recovery</b>
25) Dibromofluoromethane (S)	10.49	113	657574	53.34	ug/L	106.69%
37) Toluene-d8 (S)	15.42	98	1151889	48.73	ug/L	97.47%
43) Bromofluorobenzene (S)	20.48	95	650163	47.97	ug/L	95.95%
<b>Target Compounds</b>						<b>Qvalue</b>
13) Methylene chloride	6.21	84	8034	1.09	ug/L #	72

Data File : C:\HPCHEM\1\DATA\BH905.D  
Acq On : 24 Jul 96 8:53 am  
Sample : VBLK0724  
Misc :  
Quant Time: Jul 24 10:01 1996

Vial: 3  
Operator: AT  
Inst : MSD #2  
Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\8260S2.M  
Title : 8260 SOIL CALIBRATION  
Last Update : Wed Jul 24 09:56:07 1996  
Response via : Multiple Level Calibration



Quantitation Report

Data File : C:\HPCHEM\1\DATA\BH905.D  
 Acq On : 24 Jul 96 8:53 am  
 Sample : VBLK0724  
 Misc :  
 Quant Time: Jul 24 10:01 1996

Vial: 3  
 Operator: AT  
 Inst : MSD #2  
 Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\8260S2.M  
 Title : 8260 SOIL CALIBRATION  
 Last Update : Wed Jul 24 09:56:07 1996  
 Response via : Multiple Level Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,2-Dichloroethane-d4	9.52	67	302357	50.00	ug/kg	0.05
24) 1,4-Difluorobenzene	10.87	114	1279732	50.00	ug/kg	0.03
44) Chlorobenzene-d5	18.57	117	1079753	50.00	ug/kg	0.05
55) 1,4-Dichlorobenzene-d4	24.34	152	868244	50.00	ug/kg	0.04
System Monitoring Compounds						%Recovery
25) Dibromofluoromethane (S)	7.93	113	885697	48.61	ug/kg	97.22%
37) Toluene-d8 (S)	14.87	98	1156197	51.43	ug/kg	102.86%
43) Bromofluorobenzene (S)	21.53	95	1218412	52.60	ug/kg	105.20%

Target Compounds

Qvalue

(#) = qualifier out of range (m) = manual integration



## WATER VOLATILE SYSTEM MONITORING COMPOUND RECOVERY

Lab Name: LRI

Contract: \_\_\_\_\_

Project No.: 162

Site: \_\_\_\_\_

Location: \_\_\_\_\_

Group: \_\_\_\_\_

	SAMPLE NO.	SMC1 #	SMC2 #	SMC3 #	OTHER #	TOT OUT
01	VBLK0718	106	102	99		
02	162-12	108	103	104		
03	162-13	108	103	105		
04	162-14	110	102	106		
05	162-19	110	98	102		
06	VBLK0725	105	98	89		
07	162-09	111	92	92		
08						
09						
10						
11						
12						
13						
14						
15						
16						
17						
18						
19						
20						
21						
22						
23						
24						
25						
26						
27						
28						
29						
30						

## QC LIMITS

SMC1 = Dibromofluoromethane (S)

(66-130)

SMC2 = Toluene-d8 (S)

(91-109)

SMC3 = Bromofluorobenzene (S)

(76-121)

# Column to be used to flag recovery values

\* Values outside of contract required QC limits

D System Monitoring Compound diluted out

## WATER VOLATILE SYSTEM MONITORING COMPOUND RECOVERY

Lab Name: LRI

Contract: \_\_\_\_\_

Project No.: E607162

Site: \_\_\_\_\_

Location: \_\_\_\_\_

Group: \_\_\_\_\_

	SAMPLE NO.	SMC1 #	SMC2 #	SMC3 #	OTHER #	TOT OUT
01	vblk0724	96	96	104		
02	162-10	94	95	104		
03						
04						
05						
06						
07						
08						
09						
10						
11						
12						
13						
14						
15						
16						
17						
18						
19						
20						
21						
22						
23						
24						
25						
26						
27						
28						
29						
30						

SMC1 = Dibromofluoromethane (S)

SMC2 = Toluene-d8 (S)

SMC3 = Bromofluorobenzene (S)

## QC LIMITS

(66-130)

(91-109)

(76-121)

# Column to be used to flag recovery values

\* Values outside of contract required QC limits

D System Monitoring Compound diluted out

SOIL VOLATILE SYSTEM MONITORING COMPOUND RECOVERY

Lab Name: LRI

Contract: \_\_\_\_\_

Project No.: 162

Site: \_\_\_\_\_

Location: \_\_\_\_\_

Group: \_\_\_\_\_

Level: (low/med) LOW

	SAMPLE NO.	SMC1 (dfm) #	SMC2 (TOL) #	SMC3 (BFB) #	OTHER #	TOT OUT
01	VBLK0724	97	103	105		
02	162-02	98	97	83		
03						
04						
05						
06						
07						
08						
09						
10						
11						
12						
13						
14						
15						
16						
17						
18						
19						
20						
21						
22						
23						
24						
25						
26						
27						
28						
29						
30						

QC LIMITS

SMC1 (dfm) = Dibromofluoromethane (S)

(90-110)

SMC2 (TOL) = Toluene-d8 (S)

(77-121)

SMC3 (BFB) = Bromofluorobenzene (S)

(67-123)

# Column to be used to flag recovery values

\* Values outside of contract required QC limits

D System Monitoring Compound diluted out

Method : C:\HPCHEM\1\METHODS\8260A2.M  
 Title : 8260 AQUEOUS CALIBRATION  
 Last Update : Wed Jul 10 14:59:38 1996  
 Response via : Initial Calibration

Non-Spiked Sample: BH817.D

Spike Sample	Spike Duplicate Sample
File ID : BH821.D	BH822.D
Sample : e607068-03ms	e607068-03msd
Acq Time: 8 Jul 96 7:18 pm	8 Jul 96 7:57 pm

Compound	Sample Conc	Spike Added	Spike Res	Dup Res	Spike %Rec	Dup %Rec	RPD	QC RPD	Limits % Rec
1,1-Dichloroethene	0.0	50	49	47	99	94	5	17	49-115
Benzene	0.0	50	51	50	102	100	2	20	51-132
Trichloroethene	0.0	50	50	49	101	97	4	17	62-129
Toluene	0.0	50	52	49	104	98	6	17	65-134
Chlorobenzene	0.1	50	54	49	108	98	10	17	64-131

8260A2.M

Fri Jul 12 14:02:27 1996

PC #7

Method : C:\HPCHEM\1\METHODS\8260S2.M  
 Title : 8260 SOIL CALIBRATION  
 Last Update : Tue Jul 23 12:51:04 1996  
 Response via : Initial Calibration

Non-Spiked Sample: BH891.D

Spike Sample	Spike Duplicate Sample
File ID : BH899.D	BH900.D
Sample : e607139-02ms	e607139-02msd
Acq Time: 23 Jul 96 7:48 pm	23 Jul 96 8:27 pm

Compound	Sample Conc	Spike Added	Spike Res	Dup Res	Spike %Rec	Dup %Rec	RPD	QC RPD	Limits % Rec
1,1-Dichloroethene	0.0	50	45	47	89	94	6	20	66-144
Benzene	0.0	50	55	56	110	112	1	20	63-145
Trichloroethene	0.0	50	56	56	111	112	1	20	65-145
Toluene	0.0	50	52	52	104	105	1	21	66-151
Chlorobenzene	0.0	50	48	47	96	94	2	21	63-148

8260S2.M

Wed Jul 24 09:47:10 1996

PC #7

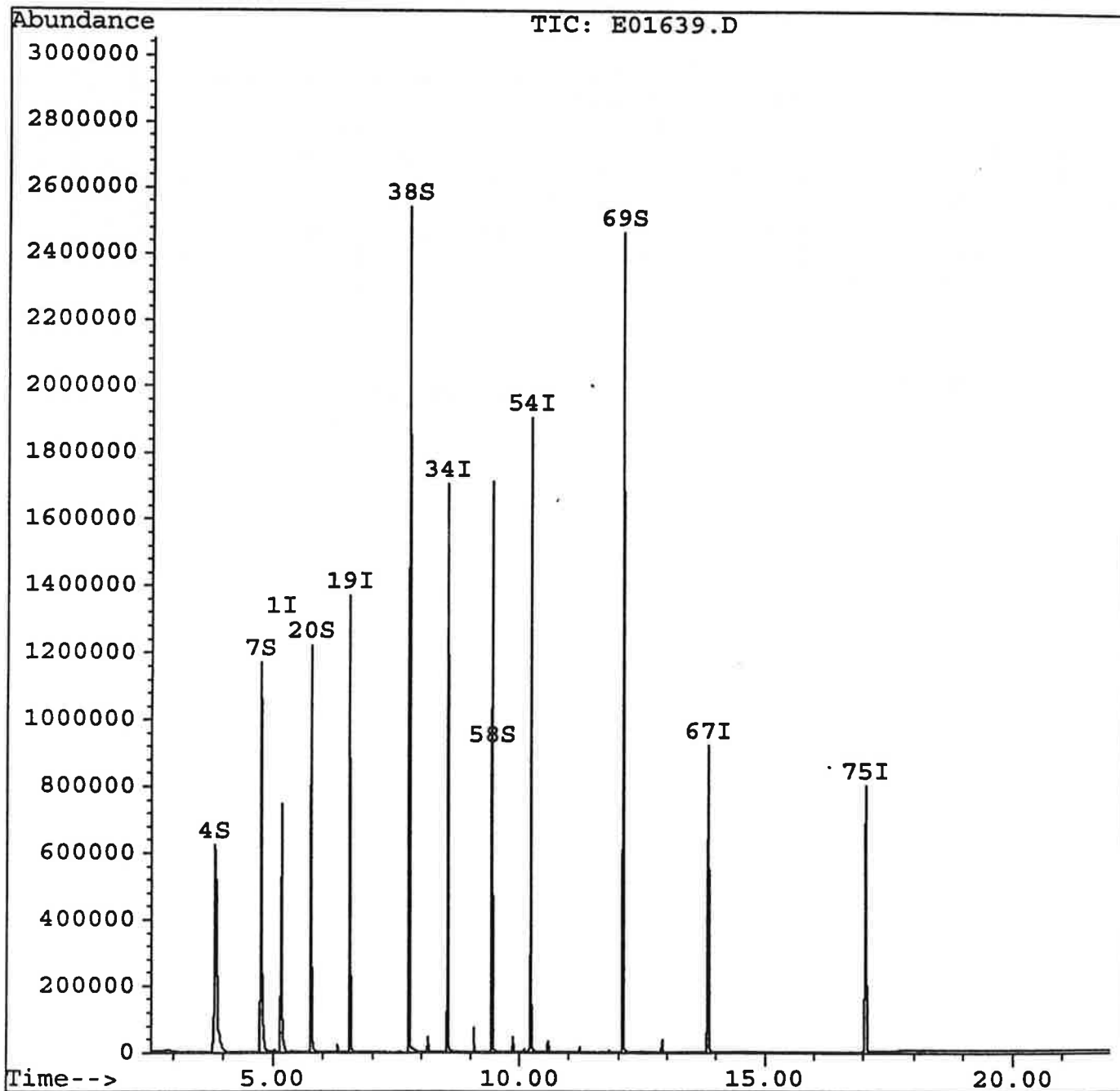
QUANTIFICATION REPORT

Data File : C:\HPCHEM\1\DATA\E01639.D  
Acq On : 23 Jul 96 4:17 pm  
Sample : s0718ba-01  
Misc :  
Quant Time: Jul 23 16:40 1996

Vial: 9  
Operator: RAW  
Inst : 5972 MSD  
Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\8270R.M  
Title : EPA 8270 calibration  
Last Update : Tue Jul 23 11:50:50 1996  
Response via : Multiple Level Calibration

*R2 checked*



Data File : C:\HPCHEM\1\DATA\E01639.D  
 Acq On : 23 Jul 96 4:17 pm  
 Sample : s0718ba-01  
 Misc :  
 Quant Time: Jul 23 16:40 1996

Vial: 9  
 Operator: RAW  
 Inst : 5972 MSD  
 Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\8270R.M  
 Title : EPA 8270 calibration  
 Last Update : Tue Jul 23 11:50:50 1996  
 Response via : Multiple Level Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	5.16	152	184836	40.00	ug/ml	0.00
19) Naphthalene-d8	6.54	136	615942	40.00	ug/ml	0.00
34) Acenaphthene-d10	8.53	164	402158	40.00	ug/ml	-0.01
54) Phenanthrene-d10	10.23	188	689097	40.00	ug/ml	0.00
67) Chrysene-d12	13.84	240	506623	40.00	ug/ml	-0.01
75) Perylene-d12	17.06	264	481353	40.00	ug/ml	-0.01

System Monitoring Compounds	R.T.	QIon	Response	Conc	Units	%Recovery
4) 2-Fluorophenol	3.84	112	545802	118.71	ug/ml	59.35%
7) Phenol-d6	4.74	99	649948	110.94	ug/ml	55.47%
20) Nitrobenzene-d5	5.75	82	442001	73.89	ug/ml	73.89%
38) 2-Fluorobiphenyl	7.74	172	900553	75.52	ug/ml	75.52%
58) 2,4,6-Tribromophenol	9.44	330	241644	116.22	ug/ml	58.11%
69) Terphenyl-d14	12.10	244	882727	88.12	ug/ml	88.12%

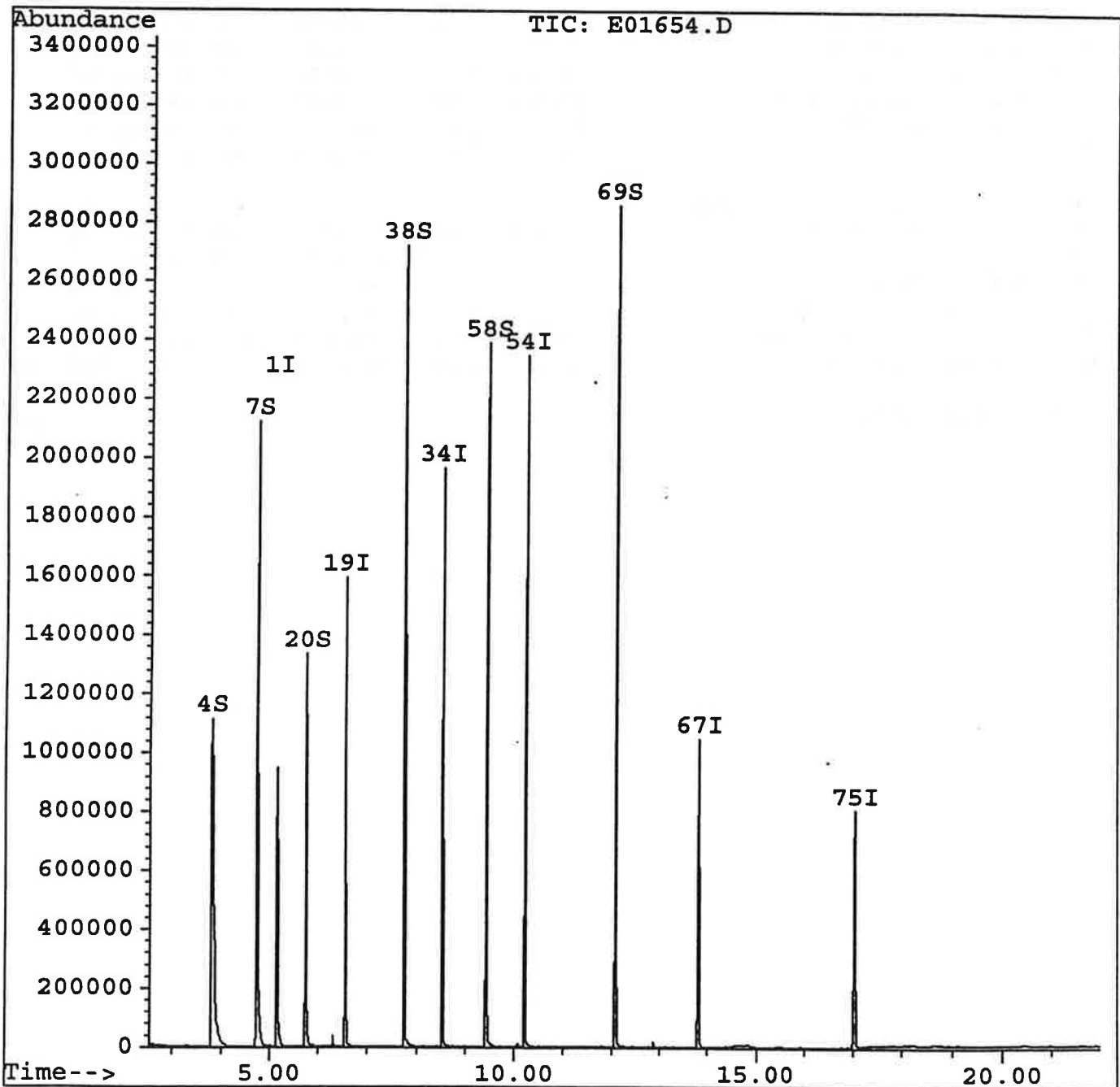
Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Data File : C:\HPCHEM\1\DATA\E01654.D  
Acq On : 24 Jul 96 8:14 pm  
Sample : s0724ba-01  
Misc :  
Quant Time: Jul 24 20:36 1996

Vial: 13  
Operator: RAW  
Inst : 5972 MSD  
Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\8270R.M  
Title : EPA 8270 calibration  
Last Update : Wed Jul 24 14:41:24 1996  
Response via : Multiple Level Calibration





Data File : C:\HPCHEM\1\DATA\E01654.D  
 Acq On : 24 Jul 96 8:14 pm  
 Sample : s0724ba-01  
 Misc :  
 Quant Time: Jul 24 20:36 1996

Vial: 13  
 Operator: RAW  
 Inst : 5972 MSD  
 Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\8270R.M  
 Title : EPA 8270 calibration  
 Last Update : Wed Jul 24 14:41:24 1996  
 Response via : Multiple Level Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev (Min)
1) 1,4-Dichlorobenzene-d4	5.15	152	262043	40.00	ug/ml	0.00
19) Naphthalene-d8	6.53	136	856047	40.00	ug/ml	0.00
34) Acenaphthene-d10	8.52	164	563434	40.00	ug/ml	0.00
54) Phenanthrene-d10	10.22	188	894739	40.00	ug/ml	0.00
67) Chrysene-d12	13.82	240	609982	40.00	ug/ml	0.00
75) Perylene-d12	17.04	264	511001	40.00	ug/ml	0.00

System Monitoring Compounds	R.T.	QIon	Response	Conc	Units	%Recovery
4) 2-Fluorophenol	3.81	112	996944	152.94	ug/ml	76.47%
7) Phenol-d6	4.73	99	1170281	140.90	ug/ml	70.45%
20) Nitrobenzene-d5	5.74	82	578359	69.57	ug/ml	69.57%
38) 2-Fluorobiphenyl	7.75	172	1244444	74.48	ug/ml	74.48%
58) 2,4,6-Tribromophenol	9.43	330	355758	131.78	ug/ml	65.89%
69) Terphenyl-d14	12.09	244	1134435	94.05	ug/ml	94.05%

Target Compounds

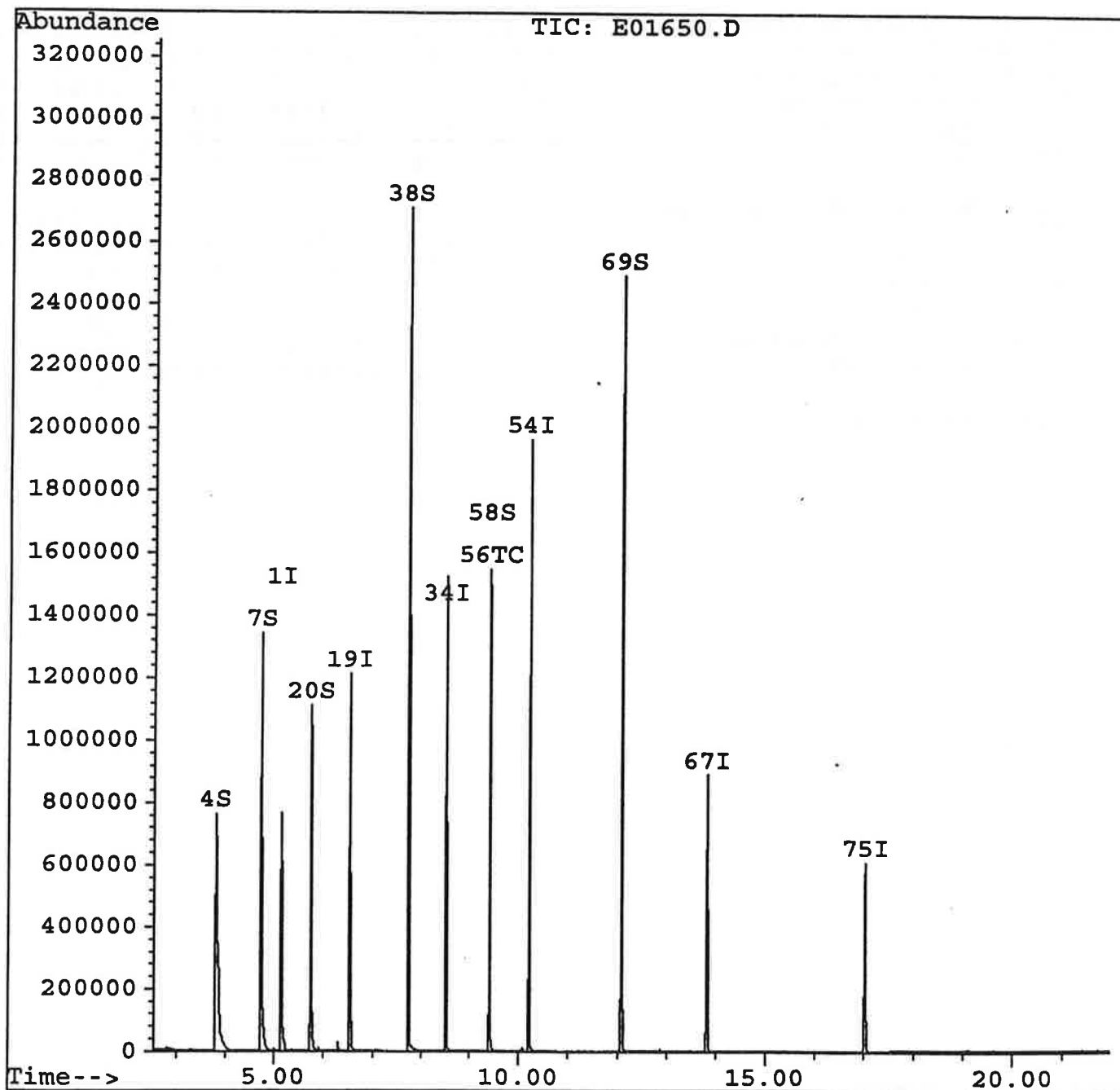
Qvalue

(#) = qualifier out of range (m) = manual integration

Data File : C:\HPCHEM\1\DATA\E01650.D  
Acq On : 24 Jul 96 6:18 pm  
Sample : s0723bs-01  
Misc :  
Quant Time: Jul 25 13:33 1996

Vial: 9  
Operator: RAW  
Inst : 5972 MSD  
Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\8270R.M  
Title : EPA 8270 calibration  
Last Update : Wed Jul 24 14:41:24 1996  
Response via : Multiple Level Calibration



Quantitation Report

Data File : C:\HPCHEM\1\DATA\E01650.D  
 Acq On : 24 Jul 96 6:18 pm  
 Sample : s0723bs-01  
 Misc :  
 Quant Time: Jul 25 13:33 1996

Vial: 9  
 Operator: RAW  
 Inst : 5972 MSD  
 Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\8270R.M  
 Title : EPA 8270 calibration  
 Last Update : Wed Jul 24 14:41:24 1996  
 Response via : Multiple Level Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	5.15	152	215908	40.00	ug/ml	0.00
19) Naphthalene-d8	6.53	136	728818	40.00	ug/ml	0.00
34) Acenaphthene-d10	8.53	164	480406	40.00	ug/ml	0.00
54) Phenanthrene-d10	10.22	188	736327	40.00	ug/ml	0.00
67) Chrysene-d12	13.81	240	478733	40.00	ug/ml	-0.02
75) Perylene-d12	17.04	264	389447	40.00	ug/ml	0.00
<b>System Monitoring Compounds</b>						
4) 2-Fluorophenol	3.81	112	621497	115.72	ug/ml	57.86%
7) Phenol-d6	4.73	99	746763	109.12	ug/ml	54.56%
20) Nitrobenzene-d5	5.74	82	519569	73.41	ug/ml	73.41%
38) 2-Fluorobiphenyl	7.74	172	1057475	74.23	ug/ml	74.23%
58) 2,4,6-Tribromophenol	9.43	330	255298	114.91	ug/ml	57.46%
69) Terphenyl-d14	12.08	244	914937	96.65	ug/ml	96.65%

Target Compounds

Qvalue

2C  
**WATER SEMIVOLATILE SURROGATE RECOVERY**

Lab Name: LRI Contract: \_\_\_\_\_  
 Project No.: 162 Site: \_\_\_\_\_ Location: \_\_\_\_\_ Group: \_\_\_\_\_

	SAMPLE NO.	S1 (2FP) #	S2 (PHL) #	S3 (NBZ) #	S4 (FBP) #	S5 (TBP) #	S6 (TPH) #	#	#	TOT OUT
01	E607162-10	50	58	80	60	59	69			6
02	E607162-12			51	54		80			
03	E607162-13			46	50		84			
04	E607162-14			55	60		81			
05	E607162-19			40	46		92			
06	s0718ba-01	59	55	74	76	58	88			
07	s0724ba-01	76	70	70	74	66	94			
08										
09										
10										
11										
12										
13										
14										
15										
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21										
22										
23										
24										
25										
26										
27										
28										
29										
30										

**QC LIMITS**

S1 (2FP) = 2-Fluorophenol (21-100)  
 S2 (PHL) = Phenol-d6 (10-94)  
 S3 (NBZ) = Nitrobenzene-d5 (34-114)  
 S4 (FBP) = 2-Fluorobiphenyl (43-116)  
 S5 (TBP) = 2,4,6-Tribromophenol (10-123)  
 S6 (TPH) = Terphenyl-d14 (33-141)

# Column to be used to flag recovery values  
 \* Values outside of contract required QC limits  
 D Surrogate diluted out

SOIL SEMIVOLATILE SURROGATE RECOVERY

Lab Name: LRI Contract: \_\_\_\_\_  
 Project No.: 162 Site: \_\_\_\_\_ Location: \_\_\_\_\_ Group: \_\_\_\_\_  
 Level: (low/med) LOW

	SAMPLE NO.	S1 (2FP) #	S2 (PHL) #	S3 (NBZ) #	S4 (FBP) #	S5 (TBP) #	S6 (TPH) #	#	#	TOT OUT
01	E607162-2	42	48	47	56	52	57			
02	E607162-9	D	D	D	D	D	D			
03	s0723bs-01	58	55	73	74	57	97			
04										
05										
06										
07										
08										
09										
10										
11										
12										
13										
14										
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30										

QC LIMITS  
 S1 (2FP) = 2-Fluorophenol (25-121)  
 S2 (PHL) = Phenol-d6 (24-113)  
 S3 (NBZ) = Nitrobenzene-d5 (23-120)  
 S4 (FBP) = 2-Fluorobiphenyl (30-115)  
 S5 (TBP) = 2,4,6-Tribromophenol (19-122)  
 S6 (TPH) = Terphenyl-d14 (18-137)

# Column to be used to flag recovery values  
 \* Values outside of contract required QC limits  
 D Surrogate diluted out

Spike Recovery and RPD Summary Report - WATER

Method : C:\HPCHEM\1\METHODS\8270B5M6.M  
 Title : EPA 8270 calibration  
 Last Update : Fri Jul 19 13:50:27 1996  
 Response via : Initial Calibration

Non-Spiked Sample: E01614.D

Spike  
Sample

Spike  
Duplicate Sample

File ID : E01625.D  
 Sample : e607154-01 ms  
 Acq Time: 22 Jul 96 9:26 pm

E01626.D  
 e607154-01 msd  
 22 Jul 96 9:55 pm

Compound	Sample Conc	Spike Added	Spike Res	Dup Res	Spike %Rec	Dup %Rec	RPD	QC RPD	Limits % Rec
Phenol	0.1	200	117	120	59	60	2	42	12-110
2-Chlorophenol	0.0	200	131	132	66	66	1	40	27-123
1,4-Dichlorobenzene	0.0	100	65	65	65	65	0	28	36- 97
N-Nitroso-di-n-propy	0.1	100	68	67	68	67	2	38	41-116
1,2,4-Trichlorobenze	0.0	100	68	70	68	70	2	28	39- 98
4-Chloro-3-methylphe	0.1	200	120	130	60	65	8	42	23- 97
Acenaphthene	0.1	100	60	57	60	57	6	31	46-118
2,4-Dinitrotoluene	0.3	100	60	57	59	57	4	38	24- 96
4-Nitrophenol	0.5	200	151	148	75	74	2	50	10- 80
Pentachlorophenol	0.6	200	146	144	73	72	1	50	9-103
Pyrene	0.0	100	73	76	73	76	4	31	26-127

8270B5M6.M

Wed Jul 31 12:56:59 1996

PC #5

Method : C:\HPCHEM\1\METHODS\8270B1M3.M  
 Title : EPA 8270 calibration  
 Last Update : Wed Jul 31 12:14:05 1996  
 Response via : Initial Calibration

Non-Spiked Sample: A12748.D

Spike Sample	Spike Duplicate Sample
File ID : A12756.D	A12757.D
Sample : E607269-06 MS	E607269-06 MSD
Acq Time: 29 Jul 96 6:18 pm	29 Jul 96 6:55 pm

Compound	Sample Conc	Spike Added	Spike Res	Dup Res	Spike %Rec	Dup %Rec	RPD	QC Limits	
								RPD	% Rec
Phenol	0.0	200	106	106	53	53	0	35	26- 90
2-Chlorophenol	0.0	200	104	103	52	52	1	50	25-102
1,4-Dichlorobenzene	0.0	100	55	54	55	54	1	27	28-104
N-Nitroso-di-n-propy	0.0	100	68	65	68	65	4	38	41-126
1,2,4-Trichlorobenze	0.0	100	55	56	55	56	1	38	41-126
1-Chloro-3-methylphe	0.0	200	102	98	51	49	5	33	26-103
Acenaphthene	0.3	100	41	47	41	46	13	19	31-137
2,4-Dinitrotoluene	0.0	100	51	50	51	50	2	47	28- 89
4-Nitrophenol	0.2	200	75	70	37	35	7	50	11-114
Pentachlorophenol	0.0	200	115	114	57	57	1	47	17-109
Pyrene	25.5	100	87	84	61	59	4	36	35-142

Quantitation Report

Data File : C:\HPCHEM\6\DATA\JUL23\8072308.D  
Acq On : 23 JUL 96 17:26  
Sample : P0723-BA1  
Misc :

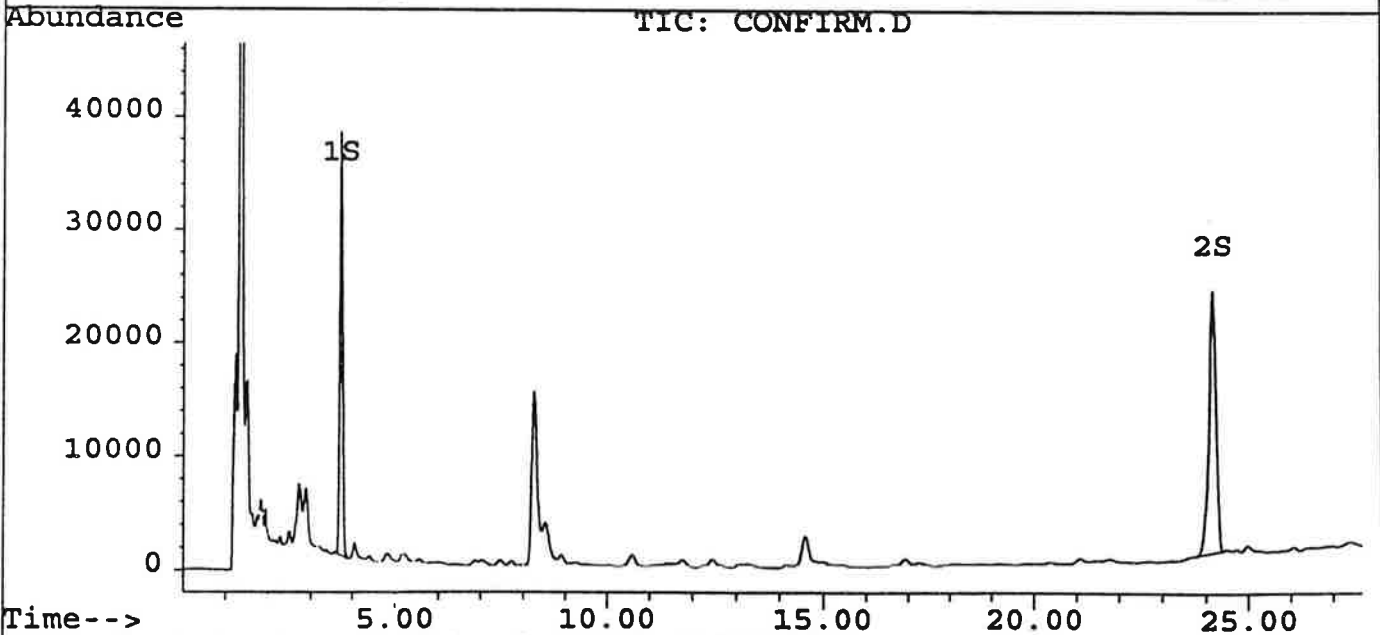
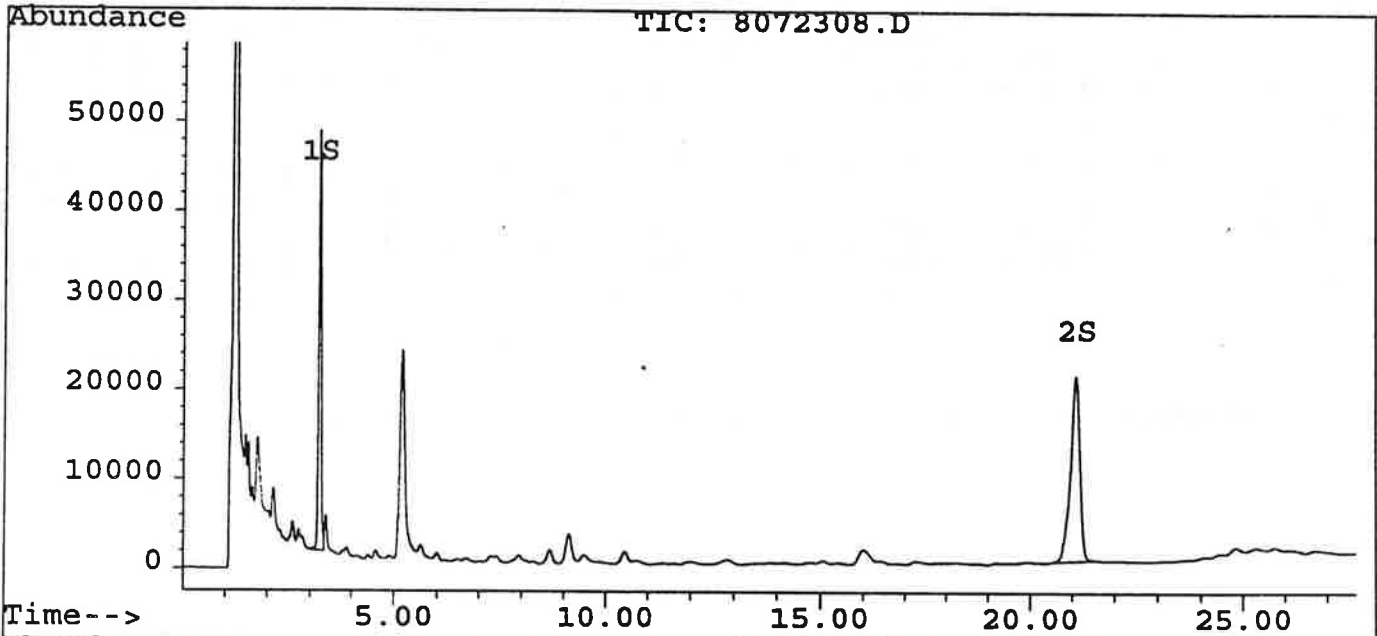
Vial: 8  
Operator: KRB  
Inst : GC 8  
Multiplr: 1.00

Data File : C:\HPCHEM\6\DATA\JUL23\8072308.D\CONFIRM.D  
Acq On : 23 JUL 96 17:26  
Sample : P0723-BA1  
Misc :  
Quant Time:

Vial: 8  
Operator: KRB  
Inst : GC 8  
Multiplr: 1.00

Method : C:\HPCHEM\6\METHODS\PEST.M  
Title : EPA 8080  
Last Update : Wed Jul 24 11:48:59 1996  
Response via : Multiple Level Calibration

Volume Inj. :  
Signal #1 Phase :                   Signal #2 Phase:  
Signal #1 Info :                   Signal #2 Info :





Quantitation Report

Signal #1 : C:\HPCHEM\6\DATA\JUL23\8072308.D Vial: 8  
 Signal #2 : C:\HPCHEM\6\DATA\JUL23\8072308.D\CONFIRM.D  
 Acq On : 23 JUL 96 17:26 Operator: KRB  
 Sample : P0723-BA1 Inst : GC 8  
 Misc : Multiplr: 1.00  
 Quant Time: Jul 24 11:51 1996

Method : C:\HPCHEM\6\METHODS\PEST.M  
 Title : EPA 8080  
 Last Update : Wed Jul 24 11:48:59 1996  
 Response via : Multiple Level Calibration

Volume Inj. :  
 Signal #1 Phase : Signal #2 Phase:  
 Signal #1 Info : Signal #2 Info :

Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L
<b>System Monitoring Compounds</b>						
1) S TETRA-M-XYLENE	3.23	3.73	2061825	1762643	63.732	66.765
			Recovery		= 63.73%	66.77%
2) S DIBUTYLCHLORENDATE	21.09	24.18	3185716	2631309	128.895	127.059
			Recovery		= 128.90%	127.06%
<b>Target Compounds</b>						
3) Alpha-BHC	0.00	0.00	0	0	N.D.	N.D.
4) Beta-BHC	0.00	0.00	0	0	N.D.	N.D.
5) Gamma-BHC	0.00	0.00	0	0	N.D.	N.D.
6) Delta-BHC	0.00	0.00	0	0	N.D.	N.D.
7) Heptachlor	0.00	0.00	0	0	N.D.	N.D. d
8) Aldrin	0.00	0.00	0	0	N.D.	N.D.
9) Heptachlor Epoxide	0.00	0.00	0	0	N.D.	N.D. d
10) Gamma-Chlordane	0.00	0.00	0	0	N.D.	N.D.
11) *Endosulfan I	0.00	0.00	0	0	N.D.	N.D.
12) *Alpha-Chlordane	0.00	0.00	0	0	N.D.	N.D. d
13) *DDE	0.00	0.00	0	0	N.D.	N.D. d
14) *Dieldrin	0.00	0.00	0	0	N.D.	N.D.
15) Endrin	0.00	0.00	0	0	N.D.	N.D.
16) *Endosulfan II	0.00	0.00	0	0	N.D.	N.D.
17) *DDD	0.00	0.00	0	0	N.D.	N.D.
18) Endrin Aldehyde	0.00	0.00	0	0	N.D.	N.D.
19) *Endosulfan Sulfate	0.00	0.00	0	0	N.D.	N.D. d
20) DDT	0.00	0.00	0	0	N.D.	N.D. d
21) Endrin Ketone	0.00	0.00	0	0	N.D.	N.D.
22) *Methoxychlor	0.00	0.00	0	0	N.D.	N.D.

**WATER SEMIVOLATILE SURROGATE RECOVERY**

Signal 1

Lab Name: LRI INC. Contract: 0  
 Lab Code: 0 Case No.: 162 SAS No.: 0 SDG No.: 0

	EPA SAMPLE NO.	S1 #	S2 #	#	#	#	#	#	#	TOT OUT
01	p0723-ba1	64	129							
02	e607162-10	71	148							
03										
04										
05										
06										
07										
08										
09										
10										
11										
12										
13										
14										
15										
16										
17										
18										
19										
20										
21										
22										
23										
24										
25										
26										
27										
28										
29										
30										

SMC1 = Tetrachloro-m-xylene  
 SMC2 = Dibutylchloroendate

QC LIMITS  
 (38-150)  
 (52-151)

# Column to be used to flag recovery values  
 \* Values outside of contract required QC limits  
 D Surrogate diluted out

Spike Recovery and RPD Summary Report - WATER

Method : C:\HPCHEM\6\METHODS\PEST.M  
 Title : EPA 8080  
 Last Update : Wed Jul 24 12:47:42 1996  
 Response via : Initial Calibration

Non-Spiked Sample: 8072311.D

Spike Sample	Spike Duplicate Sample
File ID : 8072312.D	8072313.D
Sample : 139-18 MS AX	139-18 MSD AX
Acq Time: 24 Jul 96 08:47 AM	24 Jul 96 09:19 AM

Compound	Sample Conc	Spike Added	Spike Res	Dup Res	Spike %Rec	Dup %Rec	RPD	QC RPD	Limits % Rec
Gamma-BHC	4.4	20	23	21	93	82	12	20	56-123
Heptachlor	0.0	20	20	20	101	101	1	20	40-131
ldrin	2.7	20	24	19	106	81	19	20	40-120
-Dieldrin	0.0	50	47	49	94	99	5	20	52-126
Endrin	0.0	50	48	56	96	112	15	20	56-121
DT	0.0	50	57	66	115	126	14	20	38-127

PEST.M

Wed Jul 24 12:54:04 1996

Quantitation report

Data File : C:\HPCHEM\6\DATA\JUL23\4072302.D  
Acq On : 23 JUL 96 14:34  
Sample : h0723-ba1  
Misc :

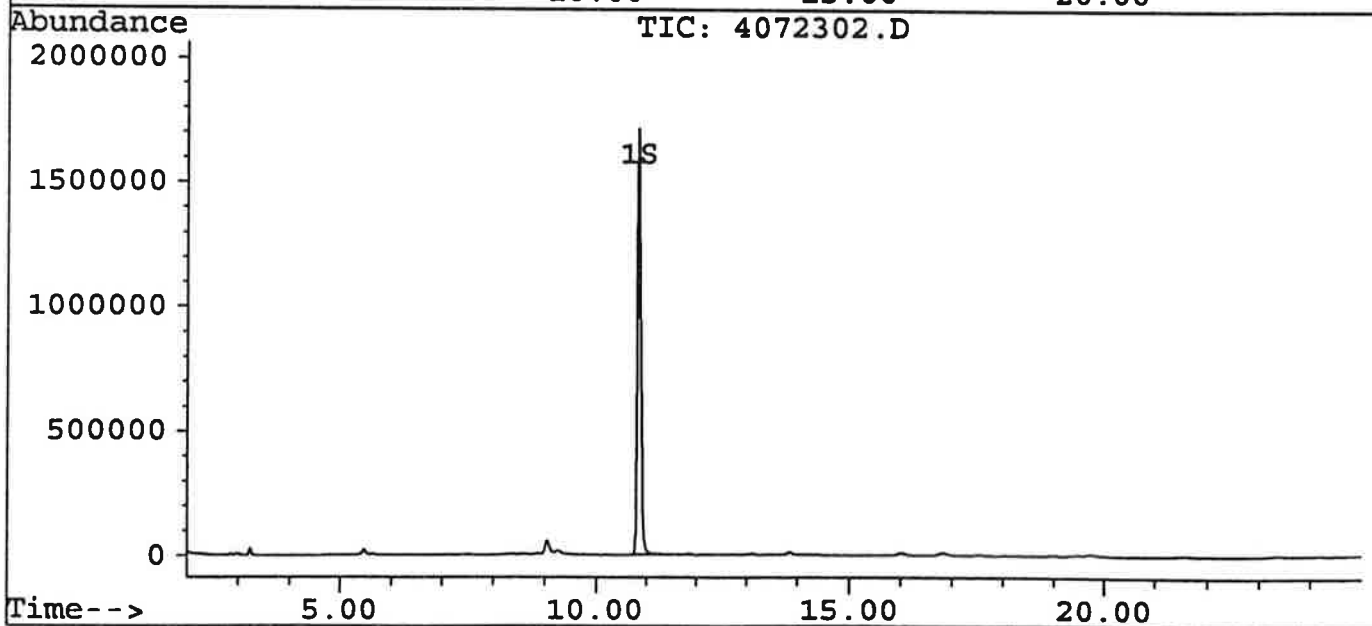
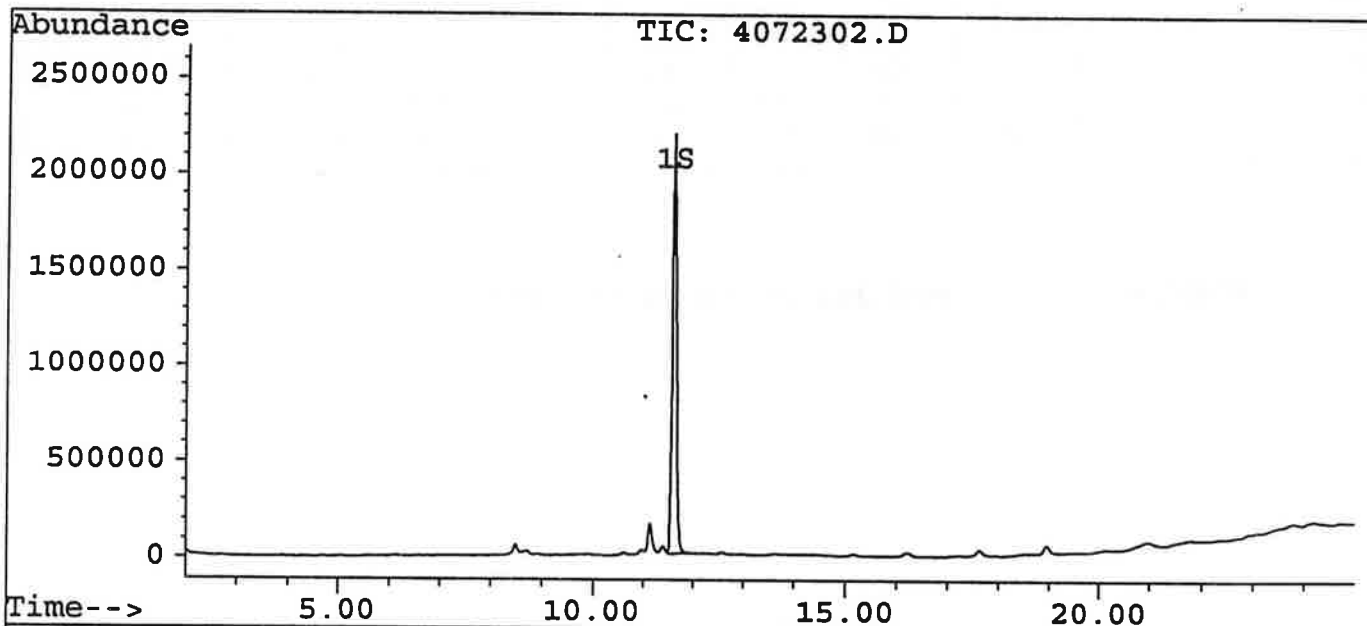
Vial: 2  
Operator: krb  
Inst : GC 4 - EC  
Multiplr: 1.00

Data File : C:\HPCHEM\6\DATA\JUL23\4072302.D\4072302.D  
Acq On : 23 JUL 96 14:34  
Sample : h0723-ba1  
Misc :  
Quant Time:

Vial: 2  
Operator: krb  
Inst : GC 4 - EC  
Multiplr: 1.00

Method : C:\HPCHEM\6\METHODS\8150.M  
Title :  
Last Update : Tue Jul 23 14:59:49 1996  
Response via : Multiple Level Calibration

Volume Inj. : 1uL  
Signal #1 Phase : RTx-1701  
Signal #1 Info : 0.53  
Signal #2 Phase : RTx-5  
Signal #2 Info : 0.53



Quantitation Report

Data File : C:\HPCHEM\6\DATA\JUL23\4072302.D  
 Acq On : 23 JUL 96 14:34  
 Sample : h0723-ba1  
 Misc :

Vial: 2  
 Operator: krb  
 Inst : GC 4 - EC  
 Multiplr: 1.00

Data File : C:\HPCHEM\6\DATA\JUL23\4072302.D\4072302.D  
 Acq On : 23 JUL 96 14:34  
 Sample : h0723-ba1  
 Misc :  
 Quant Time: Jul 23 15:02 1996

Vial: 2  
 Operator: krb  
 Inst : GC 4 - EC  
 Multiplr: 1.00

Method : C:\HPCHEM\6\METHODS\8150.M  
 Title :  
 Last Update : Tue Jul 23 14:59:49 1996  
 Response via : Multiple Level Calibration

Volume Inj. : 1uL  
 Signal #1 Phase : RTx-1701  
 Signal #1 Info : 0.53  
 Signal #2 Phase: RTx-5  
 Signal #2 Info : 0.53

Compound	RT#1	RT#2	Resp#1	Resp#2	ug/ml	ug/ml
<b>System Monitoring Compounds</b>						
S DCAA	11.63	10.87	123.7E6	85799805	0.470	0.493
			Recovery		=	94.00% 98.60%
<b>Target Compounds</b>						
2) 2,4-D	0.00	0.00	0	0	N.D.	N.D.
3) 2,4,5-TP	0.00	0.00	0	0	N.D. d	N.D.
4) 2,4,5-T	0.00	0.00	0	0	N.D. d	N.D.

**WATER SEMIVOLATILE SURROGATE RECOVERY**

Signal 2

Lab Name: LRI

Contract: \_\_\_\_\_

Project No.: 162 Site: \_\_\_\_\_

Location: \_\_\_\_\_

Group: \_\_\_\_\_

	SAMPLE NO.	S1 #	#	#	#	#	#	#	#	TOT OUT
01	h0723-ba1	94								
02	e607162-10	73								
03										
04										
05										
06										
07										
08										
09										
10										
11										
12										
13										
14										
15										
16										
17										
18										
19										
20										
21										
22										
23										
24										
25										
26										
27										
28										
29										
30										

SMC1 = DCAA

QC LIMITS  
(70-160)

# Column to be used to flag recovery values  
 \* Values outside of contract required QC limits  
 D Surrogate diluted out

Spike Recovery and RPD Summary Report - WATER

ethod : C:\HPCHEM\6\METHODS\8150B.M  
 Title :  
 Last Update : Thu Jul 11 13:47:53 1996  
 Response via : Continuing Calibration

Non-Spiked Sample: 4071102.D

Spike  
Sample

Spike  
Duplicate Sample

File ID :	4071105.D	4071106.D
Sample :	066-04 MS AX	066-04 MSD AX
Acq Time:	11 Jul 96 03:29 PM	11 Jul 96 04:02 PM

Compound	Sample Conc	Spike Added	Spike Res	Dup Res	Spike %Rec	Dup %Rec	RPD	QC RPD	Limits % Rec
2,4-D	0.00	0.20	0.15	0.17	77	84	9	20	60-140
2,4,5-TP	0.00	0.20	0.19	0.18	93	88	6	20	60-140
2,4,5-T	0.00	0.20	0.15	0.16	76	79	4	20	60-140
2,4-D #2	0.00	0.20	0.19	0.17	94	84	11	20	60-140
2,4,5-TP #2	0.00	0.20	0.19	0.19	96	95	0	20	60-140
2,4,5-T #2	0.00	0.20	0.16	0.16	79	82	4	20	60-140

8150B.M

Thu Jul 11 16:42:03 1996

GC

Quantitation Report

Data File : C:\HPCHEM\6\DATA\JUL17\8071703.D  
Acq On : 17 JUL 96 17:29  
Sample : B0717-BA1  
Misc :

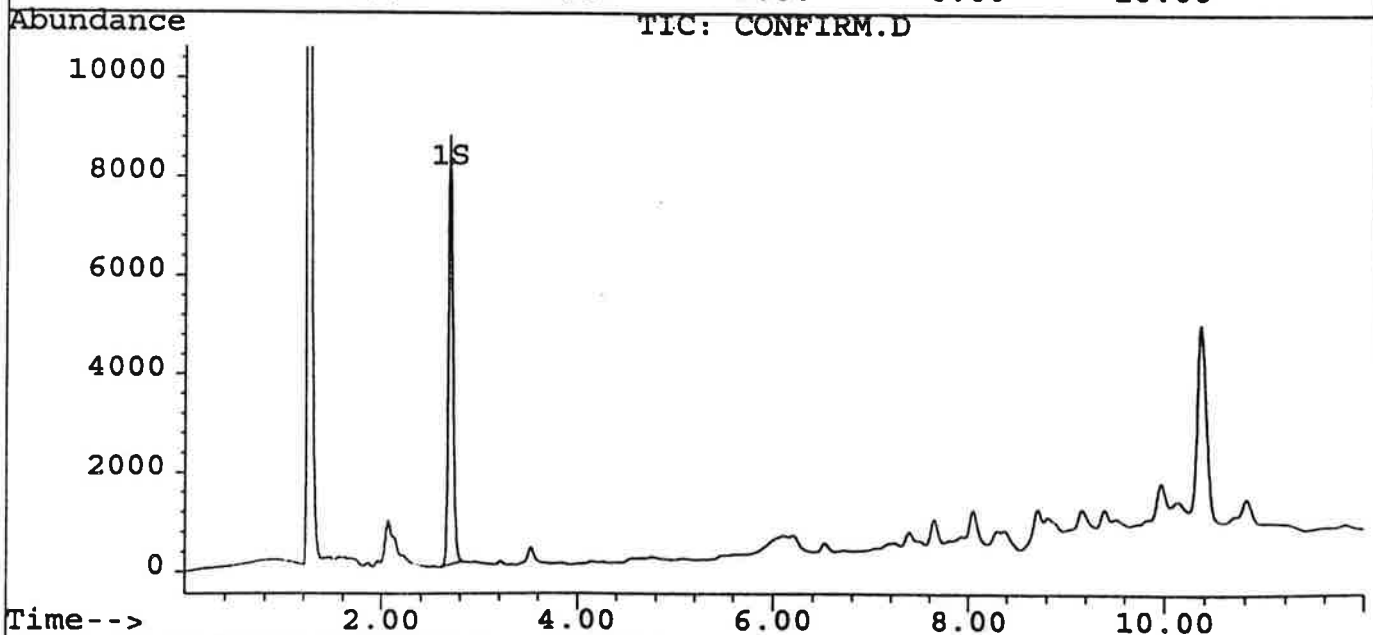
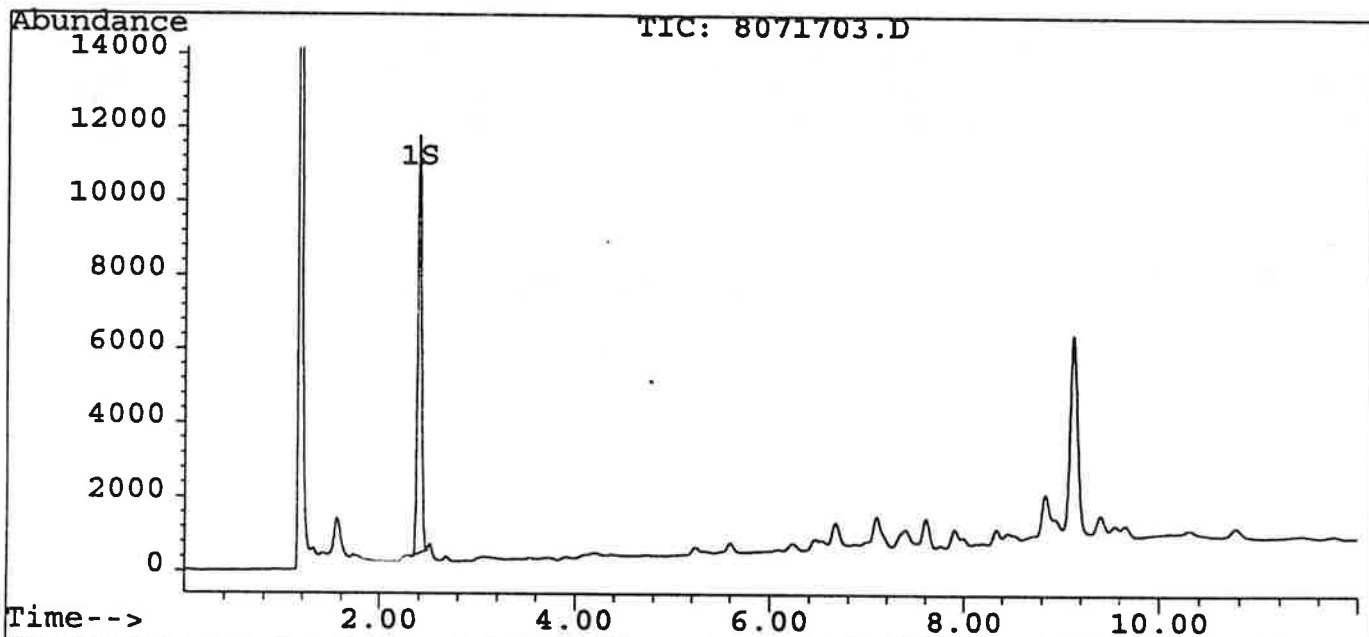
Vial: 3  
Operator: KRB  
Inst : GC 8  
Multiplr: 1.00

Data File : C:\HPCHEM\6\DATA\JUL17\8071703.D\CONFIRM.D  
Acq On : 17 JUL 96 17:29  
Sample : B0717-BA1  
Misc :  
Quant Time:

Vial: 3  
Operator: KRB  
Inst : GC 8  
Multiplr: 1.00

Method : C:\HPCHEM\6\METHODS\PCB1248.M  
Title :  
Last Update : Thu Jul 18 11:00:44 1996  
Response via : Multiple Level Calibration

Volume Inj. :  
Signal #1 Phase : Signal #2 Phase:  
Signal #1 Info : Signal #2 Info :





Data File : C:\HPCHEM\6\DATA\JUL17\8071703.D  
 Acq On : 17 JUL 96 17:29  
 Sample : B0717-BA1  
 Misc :

Vial: 3  
 Operator: KRB  
 Inst : GC 8  
 Multiplr: 1.00

Data File : C:\HPCHEM\6\DATA\JUL17\8071703.D\CONFIRM.D  
 Acq On : 17 JUL 96 17:29  
 Sample : B0717-BA1  
 Misc :  
 Quant Time: Jul 18 11:14 1996

Vial: 3  
 Operator: KRB  
 Inst : GC 8  
 Multiplr: 1.00

Method : C:\HPCHEM\6\METHODS\PCB1248.M  
 Title :  
 Last Update : Thu Jul 18 11:00:44 1996  
 Response via : Multiple Level Calibration

Volume Inj. :  
 Signal #1 Phase : Signal #2 Phase:  
 Signal #1 Info : Signal #2 Info :

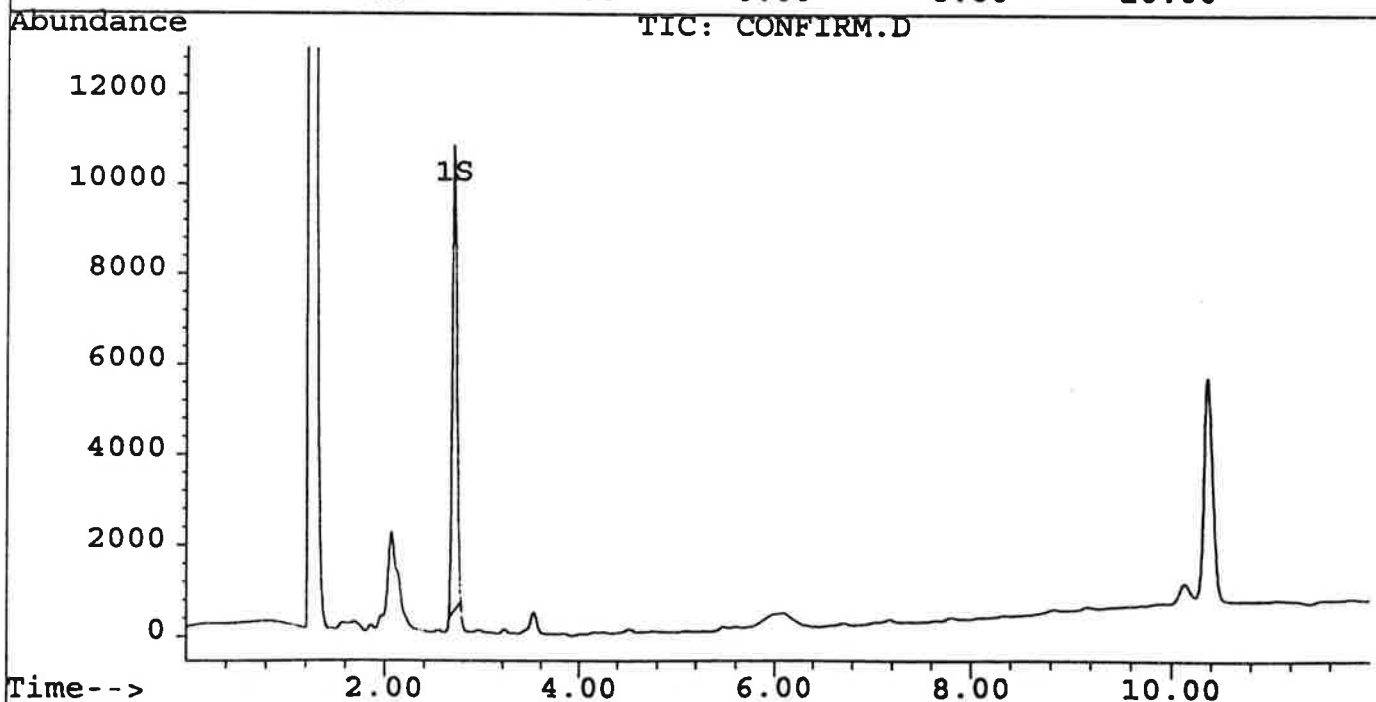
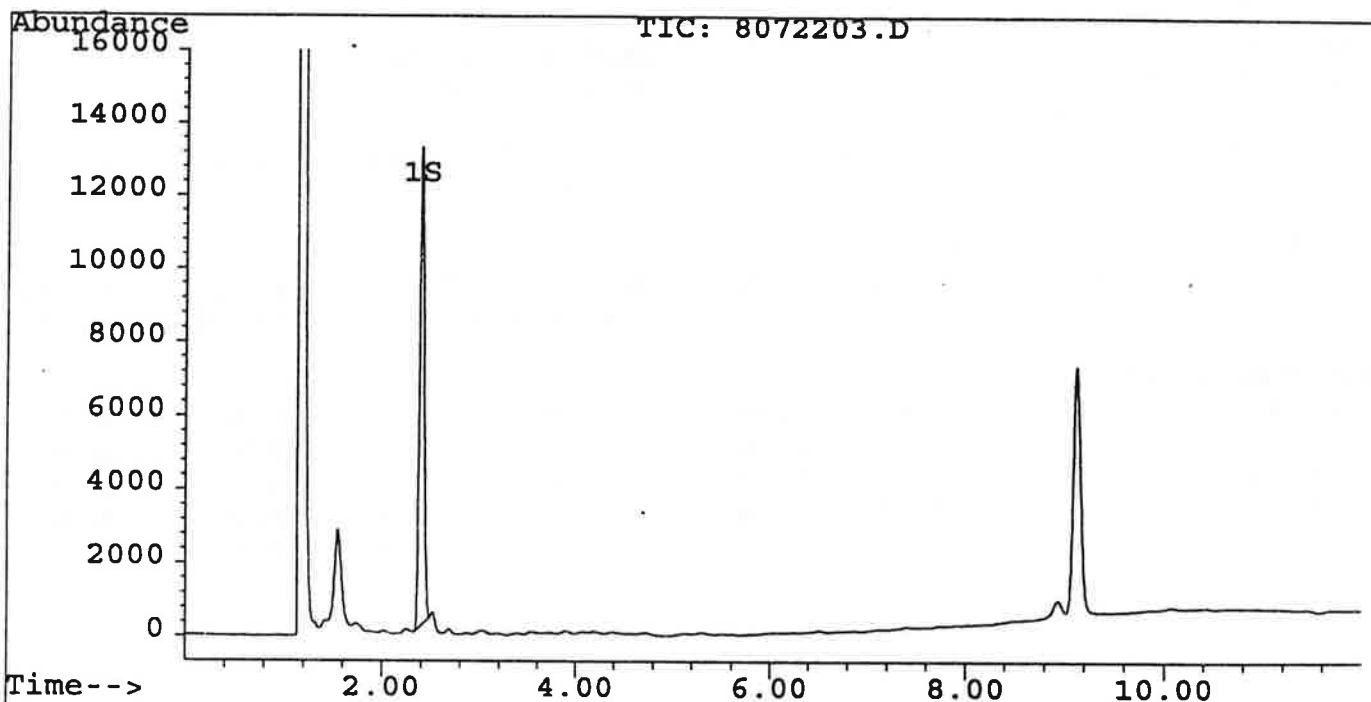
Compound	RT#1	RT#2	Resp#1	Resp#2	ppm	ppm
System Monitoring Compounds						
1) S tetrachloro-m-xylene	2.40	2.70	315013	278355	0.113	0.066 #
			Recovery	=	113.00%	66.00%
Target Compounds						
2) L1 1248 #1	0.00	0.00	0	0	N.D.	N.D.
3) L1 1248 #2	0.00	0.00	0	0	N.D.	N.D.
4) L1 1248 #3	0.00	0.00	0	0	N.D.	N.D.
5) L1 1248 #4	0.00	0.00	0	0	N.D.	N.D.
Avg. 1248 #1			0	0	N.D.	N.D.

QUANTIFICATION REPORT

Signal #1 : C:\HPCHEM\6\DATA\JUL22\8072203.D Vial: 3  
Signal #2 : C:\HPCHEM\6\DATA\JUL22\8072203.D\CONFIRM.D  
Acq On : 22 Jul 96 10:36 AM Operator: KRB  
Sample : B0722-BS1 Inst : GC 8  
Misc : Multiplr: 1.00  
Quant Time:

Method : C:\HPCHEM\6\METHODS\PCB1248.M  
Title :  
Last Update : Tue Jul 23 16:27:51 1996  
Response via : Multiple Level Calibration

Volume Inj. :  
Signal #1 Phase : Signal #2 Phase:  
Signal #1 Info : Signal #2 Info :



Signal #1 : C:\HPCHEM\6\DATA\JUL22\8072203.D Vial: 3  
 Signal #2 : C:\HPCHEM\6\DATA\JUL22\8072203.D\CONFIRM.D  
 Acq On : 22 Jul 96 10:36 AM Operator: KRB  
 Sample : B0722-BS1 Inst : GC 8  
 Misc : Multiplr: 1.00  
 Quant Time: Jul 23 16:28 1996

Method : C:\HPCHEM\6\METHODS\PCB1248.M  
 Title :  
 Last Update : Tue Jul 23 16:27:51 1996  
 Response via : Multiple Level Calibration

Volume Inj. :  
 Signal #1 Phase : Signal #2 Phase:  
 Signal #1 Info : Signal #2 Info :

Compound	RT#1	RT#2	Resp#1	Resp#2	ppm	ppm
<b>System Monitoring Compounds</b>						
) S tetrachloro-m-xylene	2.41	2.71	417549	336598	0.149	0.148m
			Recovery	=	149.00%	148.00%
<b>Target Compounds</b>						
2) L1 1248 #1	0.00	0.00	0	0	N.D.	N.D.
3) L1 1248 #2	0.00	0.00	0	0	N.D.	N.D.
) L1 1248 #3	0.00	0.00	0	0	N.D.	N.D.
) L1 1248 #4	0.00	0.00	0	0	N.D.	N.D.
Avg. 1248 #1			0	0	N.D.	N.D.

**WATER SEMIVOLATILE SURROGATE RECOVERY**

Signal 1

Lab Name: LRI INC.

Contract: 0

Project No.: 0 Site: 0

Location: 0

Group: 0

	SAMPLE NO.	S1	#	#	#	#	#	#	#	TOT OUT
01	B0717-BA1	66								
02	162-12	45								
03	162-13	83								
04	162-14	54								
05	162-19	51								
06	LCSMS	93								
07	LCSMSD	102								
08										
09										
10										
11										
12										
13										
14										
15										
16										
17										
18										
19										
20										
21										
22										
23										
24										
25										
26										
27										
28										
29										
30										

QC LIMITS  
(12-103)

SMC1 = tetrachloro-m-xylene

- # Column to be used to flag recovery values
- \* Values outside of contract required QC limits
- D Surrogate diluted out

**SOIL SEMIVOLATILE SURROGATE RECOVERY**

Signal 1

Lab Name: LRI INC. Contract: 0  
 Project No.: 0 Site: 0 Location: 0 Group: 0  
 Level: (low/med) LOW

	SAMPLE NO.	S1	#	#	#	#	#	#	#	TOT OUT
01	SBLK722	150								
02	162-03	110								
03	162-04	60								
04	162-05	100								
05	162-06	70								
06	162-07	110								
07	162-08	110								
08	162-09	60								
09	162-11	100								
10	SBLK731	60								
11	407-01	40								
12	407-01MS	70								
13	407-01MSD	70								
14										
15										
16										
17										
18										
19										
20										
21										
22										
23										
24										
25										
26										
27										
28										
29										
30										

SMC1 = tetrachloro-m-xylene

QC LIMITS  
(38-150)

# Column to be used to flag recovery values  
 \* Values outside of contract required QC limits  
 D Surrogate diluted out

WATER SEMIVOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: LRI INC. Signal 1  
 Contract: 0  
 Project No.: 0 Site: 0 Location: 0 Group: 0  
 Matrix Spike - Sample No.: LCS

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC #	QC. LIMITS REC.
1260 #1	4	0	4.0	100	(40-150)
1260 #2	4	0	3.6	90	(40-150)
1260 #3	4	0	3.6	80	(40-150)
1260 #4	4	0	3.6	89	(40-150)
1260 #5	4	0	3.5	88	(40-150)

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC #	% RPD #	QC RPD	LIMITS REC.
1260 #1	4	4.2	105	5	15	(40-150)
1260 #2	4	4.1	103	13	15	(40-150)
1260 #3	4	3.7	84	5	15	(40-150)
1260 #4	4	3.8	95	6	15	(40-150)
1260 #5	4	3.6	90	3	15	(40-150)

(1) N-Nitroso-di-n-propylamine

- # Column to be used to flag recovery and RPD values with an asterisk
- \* Values outside of QC limits

RPD: 0 out of 5 outside limits  
 Spike Recovery: 2 out of 10 outside limits

Comments: \_\_\_\_\_  
 \_\_\_\_\_

**SOIL SEMIVOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY**

Lab Name: LRI INC. Signal 1  
 Contract: 0  
 Project No.: \_\_\_\_\_ Site: 0 Location: 0 Group: 0  
 Matrix Spike - Sample No.: 407-01 Level: (low/med) LOW

COMPOUND	SPIKE ADDED (ug/Kg)	SAMPLE CONCENTRATION (ug/Kg)	MS CONCENTRATION (ug/Kg)	MS % REC #	QC. LIMITS REC.
1260 #1	2400	0	2100	88	(40-150)
1260 #2	2400	0	2100	88	(40-150)
1260 #3	2400	0	2100	88	(40-150)
1260 #4	2400	0	2100	88	(40-150)
1260 #5	2400	0	2000	83	(40-150)

COMPOUND	SPIKE ADDED (ug/Kg)	MSD CONCENTRATION (ug/Kg)	MSD % REC #	% RPD #	QC RPD	LIMITS REC.
1260 #1	2400	2000	83	5	15	(40-150)
1260 #2	2400	1900	79	10	15	(40-150)
1260 #3	2400	1900	79	10	15	(40-150)
1260 #4	2400	2000	83	5	15	(40-150)
1260 #5	2400	1900	79	5	15	(40-150)

# Column to be used to flag recovery and RPD values with an asterisk  
 \* Values outside of QC limits

RPD: 0 out of 5 outside limits  
 Spike Recovery: 2 out of 10 outside limits

Comments: \_\_\_\_\_  
 \_\_\_\_\_

Date: 7-16-96  
 Method#: 9045  
 Parameter: pH  
 Analyst: JS  
 Supervisor: [Signature]

Sample #	Time	pH
pH 7.00 Buffer Cal.	1300	7.075
pH 4.00 Buffer Cal.	↓	3.999
pH 10.0 Buffer <sup>Cal</sup> Read	↓	9.984
E607162-9A	2005	5.046
Dup Samp#=162-9A	2010	5.045

Dup. Samp#	Sample Result	Duplicate Result	RPD
E607162-9A	5.046	5.045	N.D.



Date: 7-16-96  
 Method #: 6610  
 Analyst: BS  
 Supervisor: [Signature]

Matrix:  
 Solid   
 Aqueous   
 TCLP

Sample # 07162-18      Sample # 07162-18

Assoc. Samples
07162-1
-2
-3
-4
-5
-6
-7
-8
-9
-11
-15
-16
-17
-18

Metal	MS/MSD						DUPLICATE			LLCS	
	Samp Conc.	Spike Conc.	Matrix Spike Result	% Rec.	Matrix Dup. Result	% Rec.	RPD	Samp. Result	Dup. Result.	RPD	Result
Ag	ND	1000	805.9	81	830.0	93	2.9%	ND	ND	0%	103.7
Ba	212.6		1236	102	1253	104	1.4%	212.6	210.3	<1%	103.0
Be	3.640		846.1	84	870.5	87	2.8%	3.640	3.494	4.1%	52.61
Cd	ND		816.0	82	840.4	84	2.9%	ND	ND	0%	56.19
Cr	77.54		943.6	87	973.8	90	3.2%	77.54	78.64	1.4%	51.82
Cu	96.97		931.4	83	964.8	87	3.5%	96.97	97.25	4%	52.79
Ni	88.04		903.2	82	938.6	85	3.8%	88.04	93.14	5.6%	47.07
* Pb	ND		1001	100	1008	101	<1%	ND	ND	0%	ND
Se	ND		938.0	84	856.1	86	2.7%	ND	ND	0%	ND
Zn	229.7		1099	87	1136	90	2.8%	229.7	230.6	<1%	55.23

\* Test Spike





Date: 7-17-96  
 Method #: 6210  
 Analyst: BS  
 Supervisor: [Signature]

Matrix:  Solid  
 Aqueous  
 TCLP

Sample # 07162-3

Sample # 07162-3

Metal	MS/MSD					DUPLICATE			LLCS		
	Samp Conc.	Spike Conc.	Matrix Spike Result	% Rec.	Matrix Dup. Result	% Rec.	RPD	Samp. Result		Dup. Result.	RPD
Pb	56.59	1000	1039	95	1041	95	4.1%	302.0	293.9	2.7%	56.61
Ni	1015	↓	1038	94	1034	93	4.1%	101.5	95.59	6.0%	45.24

\* Alternate Dup 07162-3

\* Spike

Assoc. Samples
07162-1
-2
-3
-4
-5
-6
-7
-8
-9
-11
-15
-16
-17
-18





Date: 7-22-96  
 Method #: 6010  
 Analyst: BS  
 Supervisor: [Signature]

Matrix:  
 Solid   
 Aqueous   
 TCLP

Sample # 07162-18      Sample # 07162-18

Assoc. Samples
07162-18
07228-1
↓ -2
07210-1
-2
-3
-4
-5
-6
-7
-8
-9
-11
-12
-13
-14
-15
-16
↓ -17

Metal	MS/MSD						DUPLICATE			LLCS	
	Samp Conc.	Spike Conc.	Matrix Spike Result	% Rec.	Matrix Dup. Result	% Rec.	RPD	Samp. Result	Dup. Result.	RPD	Result
Ag	1822.2	1000	836.0	84	849.8	82	2.0%	ND	ND	0%	106.0
* Ba	396.6		1433	104	1418	102	1.1%	396.6	401.4	1.0%	105.0
Be	6.651		847.3	84	840.5	83	4%	6.651	6.458	2.9%	52.28
Ca	ND		829.2	83	816.7	82	1.5%	ND	ND	0%	53.75
Cr	147.3		947.0	80	939.4	79	4%	147.3	150.1	1.9%	52.12
Cu	123.3		939.7	82	925.9	80	1.5%	123.3	124.8	1.2%	56.18
Ni	124.0		927.8	80	931.2	81	4%	124.0	126.4	1.9%	47.76
Pb	94.44		930.3	84	901.3	81	3.2%	94.44	115.9	20%	ND
* Sb	ND		1078	108	1048	105	2.8%	ND	ND	0%	ND
Se	ND		795.5	80	830.4	83	4.3%	ND	ND	0%	ND
* V	213.1		1206	99	1185	97	1.8%	213.1	215.4	1.1%	52.76
* Zn	287.0	↓	1305	102	1276	99	2.2%	287.0	289.5	4%	55.62

\* Post Spike







Date: 7-18-96  
 Method #: 6010  
 Analyst: BS  
 Supervisor: [Signature]

Matrix:  Solid  
 Aqueous  
 TCLP

Sample # 07139-11

Sample # 07139-11

Metal	MS/MSD				DUPLICATE			LLCS Result			
	Samp Conc.	Spike Conc.	Matrix Spike Result	% Rec.	Matrix Dup. Result	% Rec.	RPD		Samp. Result	Dup. Result.	RPD
Ag	ND	1006	991.9	99	971.7	97	2.1%	ND	ND	0%	109.4
As	219.4		1225	101	1197	98	2.3%	219.4	261.4	1.6%	111.0
Ba	550.0		1499	95	1471	92	1.9%	550.0	534.0	3.0%	106.9
Cd	ND		949.3	95	924.6	92	2.6%	ND	ND	0%	57.02
Cr	ND		963.8	96	942.4	94	2.6%	ND	ND	0%	57.41
Pb	ND		971.7	97	939.7	94	3.3%	ND	ND	0%	66.13
Se	ND		1112	111	1089	109	2.1%	ND	ND	0%	ND

Assoc. Samples
07139-11
↓ -18
07162-10





Date: 7-16-96

Method #: 6010

Analyst: BS

Supervisor: [Signature]

Matrix:

Solid

Aqueous

TCLP

Sample # 07162-14

Sample # 07162-14

Assoc. Samples
07164-1
↓ -2
07155-1
↓ -2
↓ -3
↓ -4
↓ -5
07156-3
↓ -4
07158-1
↓ -2
↓ -3
07162-12
↓ -13
↓ -14
/

Metal	MS/MSD					DUPLICATE			LLCS		
	Samp Conc.	Spike Conc.	Matrix Spike Result	% Rec.	Matrix Dup. Result	% Rec.	RPD	Samp. Result	Dup. Result.	RPD	Result
Ag	ND	1000	912.2	91	923.4	92	1.2%	ND	ND	0%	101.6
Ba	31.02		968.3	94	970.2	94	<1%	31.02	30.97	<1%	100.0
Be	ND		941.0	94	942.1	94	<1%	ND	ND	0%	52.66
Cd	ND		912.7	91	921.2	92	<1%	ND	ND	0%	54.05
Cr	ND		936.6	94	939.5	94	<1%	ND	ND	0%	51.04
Cu	80.61		1008	93	1005	92	<1%	80.61	82.29	2.1%	45.34
Ni	ND		921.2	92	924.2	92	<1%	ND	ND	0%	56.97
Pb	ND		927.8	93	923.5	92	<1%	ND	ND	0%	48.28
Sn	ND		930.7	93	938.4	94	<1%	ND	ND	0%	ND
Se	ND		901.5	90	939.0	94	4.1%	ND	ND	0%	ND
Zn	48.06	↓	995.4	95	998.0	95	<1%	48.06	46.55	3.2%	52.93
/											/

\* Post Spike





Date: 7-18-96  
 Method #: GD10  
 Analyst: BS  
 Supervisor: [Signature]

Matrix:  
 Solid   
 Aqueous   
 TCLP

Sample # 07192-12 Sample # 07192-12

Assoc. Samples
07162-19
07192-1C
-2C
-3C
-4C
-5C
-6C
-7C
-8C
-9C
-10C
-11C
-12C
-13C

Metal	MS/MSD						DUPLICATE			LLCS	
	Samp Conc.	Spike Conc.	Matrix Spike Result	% Rec.	Matrix Dup. Result	% Rec.	RPD	Samp. Result	Dup. Result.	RPD	Result
* Ag	ND	1000	961.6	96	1012	101	5.1%	ND	ND	0%	134.4
Ba	ND		932.5	93	950.7	95	1.9%	ND	ND	0%	101.9
Be	ND		934.2	93	953.4	95	2.0%	ND	ND	0%	52.24
Cd	ND		903.8	90	921.3	92	1.9%	ND	ND	0%	50.14
Cr	ND		953.6	95	978.3	98	2.6%	ND	ND	0%	54.09
Cu	68.26		974.8	92	1007	94	2.0%	68.26	65.32	4.4%	51.57
Ni	ND		939.8	94	935.4	94	1.9%	ND	ND	0%	57.75
Pb	ND		960.4	96	964.5	96	1.9%	ND	ND	0%	55.83
Sb	ND		943.2	94	955.8	96	1.3%	ND	ND	0%	ND
Se	ND		982.6	98	988.7	99	1.9%	ND	ND	0%	ND
Zn	37.75		974.8	94	998.4	96	2.4%	37.75	35.39	6.5%	53.17
Fe	202.4	↓	1185	98	1205	100	1.7%	202.4	187.6	7.6%	52.04
Mg	2274	11000	12650	94	12930	97	2.2%	2274	2172	4.6%	1100
Ca	12540	↓	22350	89	22910	94	2.5%	12540	12010	4.3%	994.7

\* Alternate Post Spike 07162-19







Date: 7-18-96  
 Method#: \_\_\_\_\_  
 Parameter: 71-Zeeman 3070  
 Analyst: mm  
 Supervisor: [Signature]

S1	25 ppb
S2	50 ppb
S3	75 ppb
S4	100 ppb

Standard Lot #: W 9607 R-1

LCS Spike Lot #: 55960716-1

Matrix Spike Lot #: 55960716-1

Sample #	Result ug/L	Digest Factor	DF	Result mg/L
Method Blank	1.3	T	T	ND
QCTV = 50 ppb	48.3	I	I	0.048
LCS	43.4	I	I	0.043
Low Level Check Std.	120	I	I	120%
07 162 <del>15</del> -12C	1.0	1:1.1	I	ND
<del>16</del> -13C	6.8	I	I	ND
<del>17</del> -14C	1.3	I	I	ND
<del>18</del> -19C	1.0	I	I	ND
/				
Calibration Blank				
CCV Mid TV =				
/				
Calibration Blank	0.7	T	T	ND
CCV Low TV = 25 ppb	26.5	I	I	0.026
CCV Mid TV = 50 ppb	53.6	I	I	0.054
Dup. Samp# 07162-19C	0.3	1:1.1	I	ND
MS Samp# -19C	41.0	-	I	0.041
MSD <del>18</del> -19C	43.2	-	I	0.043

Blk Spk	Result	% Rec.
TV = 50 ppb	43.4	87%

Dup. Samp #	Sample Result	Duplicate Result	RPD
07 162-19C	ND	ND	0.0%

MS Samp#	Samp Conc	Spike Conc	Spike Result	% Rec	Dup Result	% Rec	RPD
07 162-19C	ND	50 ppb	41.0	82%	43.2	86%	5.2%

Date: 7-18-96  
 Method#: \_\_\_\_\_  
 Parameter: Turbidity  
 Analyst: mn  
 Supervisor: [Signature]

S1	25 ppb
S2	50 ppb
S3	75 ppb
S4	100 ppb

Standard Lot #: W960715-1

LCS Spike Lot #: 55960716-1

Matrix Spike Lot #: 55 W960716-1

Sample #	Result ug/L	Final Vol.	Samp. Wt.	% Solids	DF	Result mg/Kg
Method Blank	0.9	T	T	T	T	ND
QC TV = 50 ppb	48.3					0.048
LCS	53.5					0.054
Low Level Check Std.	12.0					120%
07 162-1	7.2	50 ml	0.55	62		1.1
-2A	1.7		0.54	84		ND
-3	1.2		0.56	81		ND
-4	7.8 1.0		0.54	92		ND
-5	2.6 1.8		0.54	54		ND
-6	2.0 2.0 6		0.53	75		ND
-7	1.2		0.51	81		ND
-8	1.1		0.50	73		ND
-9A	0.9		0.53	87		ND
-11	3.4	√	0.53	80		0.40
Calibration Blank	0.7	-	-	-		ND
CCV Mid TV = 50 ppb	53.5	-	-	-		0.054
07 162-15	1.1	50 ml	0.53	95	1:2	ND
-16	4.4		0.56	72	T	0.55
-17	1.5		0.52	93		ND
-18	0.7	√	0.52	82	T	ND
/						
Calibration Blank	0.7	T	T	T	T	ND
CCV Low TV = 25 ppb	26.5					0.036
CCV Mid TV = 50 ppb	53.6					0.054
Dup. Samp# 07 162-15	0.8	50 ml	0.52	82		ND
MS Samp# ↓ -18	40.5	-	-	-		0.040
MSD ↓ -18	37.7	-	-	-		0.038

Blk Spk	Result	% Rec.	Dup. Samp #	Sample Result	Duplicate Result	RPD
TV = 50 ppb	53.5	107%	07 162-15	ND	ND	0.0%

MS Samp#	Samp Conc	Spike Conc	Spike Result	% Rec	Dup Result	% Rec	RPD
07 162-15	ND	50 ppb	40.5	81%	37.7	75%	7.2%

Date: 7-18-96  
 Method#: \_\_\_\_\_  
 Parameter: TL-200m-3070  
 Analyst: mf  
 Supervisor: [Signature]

S1	25 ppb
S2	50 ppb
S3	75 ppb
S4	100 ppb

Standard Lot #: W 9607 M-1

LCS Spike Lot #: 55960716-1

Matrix Spike Lot #: 55960716-1

Sample #	Result ug/L	Digest Factor	DF	Result mg/L
Method Blank	1.3	T	T	ND
QCTV = 50 ppb	48.3			0.048
LCS	43.4			0.043
Low Level Check Std.	120	T		120%
07 162 <del>15</del> -12C	1.0	1:1.1		ND
↓ <del>16</del> -13C	6.8			ND
↓ <del>17</del> -14C	1.3			ND
↓ -19C	1.0	↓	T	ND
/				
Calibration Blank				
CCV Mid TV =				
/				
Calibration Blank	0.7	T	T	ND
CCV Low TV = 25 ppb	26.5			0.026
CCV Mid TV = 50 ppb	53.6			0.054
Dup. Samp# 07162-19c	0.3	1:1.1		ND
MS Samp# -19c	41.0	-		0.041
MSD ↓ -19c	43.2	-	T	0.043

Blk Spk	Result	% Rec.
TV = 50 ppb	43.4	87%

Dup. Samp #	Sample Result	Duplicate Result	RPD
07 162-19c	ND	ND	0.0%

MS Samp#	Samp Conc	Spike Conc	Spike Result	% Rec	Dup Result	% Rec	RPD
07 162-19c	ND	50 ppb	41.0	82%	43.2	86%	5.2%

Date: 7-22-96  
 Method#: \_\_\_\_\_  
 Parameter: As 2000-5100  
 Analyst: mm  
 Supervisor: [Signature]

S1	25 Pps
S2	50 Pps
S3	75 Pps
S4	100 Pps

Standard Lot #: W 960722-1

LCS Spike Lot #: SS 960716-1

Matrix Spike Lot #: W 960722-1

Sample #	Result ug/L	Final Vol.	Samp. Wt.	% Solids	DF	Result mg/Kg
Method Blank	0.67	T	T	T	T	ND
QCTV = 50 Pps	47.33					0.047
LCS	46.93					0.047
Low Level Check Std.	6.66	I	I	I	I	6.7%
07 162-5	36.20	50 ml	0.54	54	1:5	31.0
07 228-1	43.07		0.56	58	T	<del>36.7</del>
√ -2	21.39		0.55	60		<del>43.3</del>
07 210-1A	73.48		0.50	89		<del>4.683</del>
-2	59.05		0.51	90		<del>3.864</del>
-3	40.91		0.50	88		4.6
-4	39.03		0.51	100	I	3.8
-5	<del>66.93</del> 66.93		0.50	57	<del>1:2</del>	44.0
-6A	66.40		0.53	72	1:2	17.0
√ -7	71.38	√	0.51	70	T	9.9
Calibration Blank	0.24	-	0.50	-		ND
CCV Mid TV = 50 Pps	46.25	-	-	-		0.046
07 210-8	34.48	50 ml	0.50	92		3.7
-9	53.78		0.53	72	I	7.1
-11A	91.63		0.54	89	1:2	19.0
-12	20.94		0.50	46	1:5	20.0
-13	36.76		0.54	73	-	4.7
-14	74.55		0.50	93	1:2	16.0
-15A	44.81		0.53	63	-	6.7
-16	92.83		0.51	91	1:2	20.0
√ -17	56.79	√	0.53	89%	-	6.0
Calibration Blank	ND	T	T	T	T	ND
CCV Low TV = 25 Pps	22.47					0.022
CCV Mid TV = 50 Pps	45.97	I	I	I	I	0.046
Dup. Samp# 07 210-17	55.53	50 ml	0.53	89	I	5.9
MS Samp# -17	60.39	-	-	-	Sample 1:2	0.066
MSD -17	60.44	-	-	-	√	0.060

Blk Spk	Result	% Rec.	Dup. Samp #	Sample Result	Duplicate Result	RPD
TV = 50 Pps	46.93	94%	07 210-17	56.79	55.53	2.2%

MS Samp#	Samp Conc	Spike Conc	Spike Result	% Rec	Dup Result	% Rec	RPD
07 210-17	24%	50 Pps	60.39	64%	60.44	64%	0.1%

Date: 7-22-96  
 Method#: \_\_\_\_\_  
 Parameter: As - Zeeman 5100  
 Analyst: mn  
 Supervisor: [Signature]

S1	25 Pps
S2	50 Pps
S3	75 Pps
S4	100 Pps

Standard Lot #: W 960722-1

LCS Spike Lot #: 55 960716-1

Matrix Spike Lot #: 55 960716-1

Sample #	Result ug/L	Digest Factor	DF	Result mg/L
Method Blank	0.53	T	T	ND
QC TV= 50 Pps	47.33			0.047
LCS	47.65			0.048
Low Level Check Std.	6.66	T		67%
07 162-12C	0.07	1:1.1		ND
-13C	0.09			ND
-14C	0.20			ND
-19C	0.07			ND
07 210-100	0.02		T	ND
Calibration Blank				
CCV Mid TV=				
Calibration Blank				
CCV Low TV= 25 Pps				
CCV Mid TV= 50 Pps				
Dup. Samp# 07 162-105	ND	1:1.1		ND
MS Samp#	-19C 43.40	-		0.043
MSD	-19C 47.42	-	T	0.047
Calibration Blank				
CCV Low TV= 25 Pps				
CCV Mid TV= 50 Pps				
Dup. Samp# 07 210-105	ND	1:1.1		ND
MS Samp#	-19C 43.40	-		0.043
MSD	-19C 47.42	-	T	0.047

Blk Spk	Result	% Rec.
TV= 50 Pps	47.65	95%

Dup. Samp #	Sample Result	Duplicate Result	RPD
07 162-19C	ND	ND	0.0%

MS Samp#	Samp Conc	Spike Conc	Spike Result	% Rec	Dup Result	% Rec	RPD
07 162-19C	ND	50 Pps	43.40	87%	47.42	95%	8.8%

Date: 7-19-96  
 Method#: \_\_\_\_\_  
 Parameter: As-5100 2eem-  
 Analyst: mm  
 Supervisor: [Signature]

S1	25 PPM
S2	50 PPM
S3	75 PPM
S4	100 PPM

Standard Lot #: 65960719-1

CS Spike Lot #: 55960716-1

Matrix Spike Lot #: 55960716-1

Sample #	Result ug/L	Final Vol.	Samp. Wt.	% Solids	DF	Result mg/Kg
Method Blank	0.78	T	T	T	T	ND
QCTV=	47.73					0.048
LCS	50.29					0.050
Low Level Check Std.	10.11					101%
07 223-1A	12.85	50ml	0.54	87		7126.0 1.4
-2A	12.52		0.51	89		7198.8 1.4
-3A	15.18		0.52	93		1.6
-4A	12.63		0.56	87		1.3
-5A	11.17		0.50	95		1.2
√ -6A	20.31		0.52	92	T	2.1
07 162-1	87.15		0.55	62	1:2	26.0
-2A	88.14		0.54	84	T	9.8
-3	39.95		0.56	81		4.4
√ -4	36.39	√	0.54	92		3.7
Calibration Blank	0.45	-	-	-	T	ND
CCV Mid TV= 50 PPM	50.29	-	-	-	T	0.050
07 162-6	37.92	50ml	0.53	75		4.8
-7	20.34		0.51	81		2.5
-8	37.13		0.50	73		5.1
-9A	25.85		0.53	87	T	2.8
-11	85.93		0.53	80	1:2	20.0
-15	58.44		0.53	95	1:2	12.0
-16	84.42		0.56	72	T	10.0
-17	18.71		0.52	93	T	1.9
√ -18	22.27	√	0.52	82	T	2.6
Calibration Blank	0.67	T	T	T	T	ND
CCV Low TV= 25 PPM	25.11					0.025
CCV Mid TV= 50 PPM	49.57					0.050
Dup. Samp# 07 223-2A	11.86	50ml	0.51	89		1.3
MS Samp#   2A	48.63	-	-	-		0.049
MSD   2A	52.39	-	-	-	T	0.052

Blk Spk	Result	% Rec.	Dup. Samp #	Sample Result	Duplicate Result	RPD
50 PPM	50.29	101%	07 223-2A	12.52	11.86	5.4

MS Samp#	Samp Conc	Spike Conc	Spike Result	% Rec	Dup Result	% Rec	RPD
07 223-2A	12.52	50 PPM	48.63	72%	52.39	80%	7.41



Date: 7.16.96  
 Method#: \_\_\_\_\_  
 Parameter: Mercury  
 Analyst: KA  
 Supervisor: DP

S1	<u>10pts</u>
S2	<u>90pts</u>
S3	
S4	
S5	
S6	

Sample #	Result ug/L	DF	Result mg/L
Method Blank	ND	NA	ND
QCTV= <u>5pts</u>	5.0		0.005
Low Level Check Std. <u>1pt</u>	0.7		0.001
<u>EL07162-12C</u>	ND		ND
<u>-13C</u>	ND		ND
<u>-14C</u>	ND		ND
<u>-19C</u>	ND		ND
<u>EL07164-1C</u>	ND		ND
<u>-2C</u>	ND		ND
<u>EL07155-1D</u>	ND		ND
<u>-2D</u>	ND		ND
<u>-3D</u>	ND		ND
<u>-4D</u>	ND		ND
Calibration Blank	ND		ND
CCV Mid TV= <u>5pts</u>	4.3		0.004
<u>EL07155-5D</u>	ND		ND
<u>EL07156-3D</u>	ND		ND
<u>-4D</u>	ND		ND
<u>EL07158-1D</u>	ND		ND
<u>-2D</u>	ND		ND
<u>-3F</u>	ND		ND
<u>EL07100-1</u>	ND		ND
<u>-2</u>	ND		ND
<u>-3</u>	ND		ND
<u>-4</u>	ND		ND
Calibration Blank	ND		ND
CCV Low TV= <u>2pts</u>	1.7		0.002
CCV Mid TV= <u>5pts</u>	4.3		0.004
Dup. Samp# <u>7100-3E</u>	ND		ND
MS Samp# <u>7100-4E</u>	4.1		0.004
MSD	4.1		0.004

Dup. Samp #	Sample Result	Duplicate Result	RPD
<u>7100-3E</u>	ND	ND	0.0

MS Samp#	Samp Conc	Spike Conc	Spike Result	% Rec	Dup Result	% Rec	RPD
<u>7100-4E</u>	NP	<u>3pts</u>	4.1	82	4.1	82	0.0

Date: 7.24.96  
 Method#: \_\_\_\_\_  
 Parameter: Mercury  
 Analyst: [Signature]  
 Supervisor: [Signature]

S1	10 ppb
S2	70 ppb
S3	/
S4	/
S5	/
S6	/

Sample #	Result ug/L	Final Vol.	Samp. Wt.	% Solids	DF	Result mg/Kg
Method Blank	ND	100ml	T	T	T	ND
QCTV= <u>5 ppb</u>	4.9		I	I	I	0.005
Low Level Check Std <u>1 ppb</u>	0.5		I	I	I	0.001
E607162-7	4.0		0.50	80.7	1:2	1.900
E607210-5	4.1		0.54	86.9	1:2	2.700
✓ -12	1.7		0.53	45.9	1:2	1300
E607269-1	ND		0.50	95.9	T	ND
✓ -2	ND		0.53	95.0		ND
✓ -3	ND		0.52	95.8		ND
✓ -4	ND		0.52	94.1		ND
✓ -5	ND		0.51	94.2		ND
✓ -6	ND		0.53	86.9		ND
✓ -7	ND		0.52	91.6		ND
Calibration Blank	ND		<del>0.5</del>	-		ND
CCV Mid TV= <u>5 ppb</u>	4.5		-	-		0.005
E607269-8	0.7		0.51	86.8		0.160
✓ -9	ND		0.54	93.3		ND
✓ -10	ND		0.55	93.4		ND
✓ -11	ND		0.55	96.9		ND
✓ -12	ND		0.53	95.4		ND
E607262-1	0.7		0.54	93.1		0.140
✓ -2A	ND		0.51	96.7		ND
✓ -3	ND		0.50	86.8		ND
✓ -4A	ND		0.50	93.5		ND
✓ -5	ND		0.51	89.0		ND
Calibration Blank	ND		T	T		ND
CCV Low TV= <u>2 ppb</u>	1.6		I	I		0.002
CCV Mid TV= <u>5 ppb</u>	4.7		I	I		0.005
Dup. Samp# <u>7269-5</u>	ND		0.52	94.2		ND
MS Samp#	4.5		0.54			0.005
MSD	4.3	γ	0.52	γ	γ	0.004

Dup. Samp #	Sample Result	Duplicate Result	RPD
E607269-5	ND	ND	0.0

MS Samp#	Samp Conc	Spike Conc	Spike Result	% Rec	Dup Result	% Rec	RPD
7269-5	ND	5 ppb	4.5	90%	4.3	86%	4.5

Date: 7.18.96  
 Method#: \_\_\_\_\_  
 Parameter: Mercury  
 Analyst: [Signature]  
 Supervisor: [Signature]

S1	<u>10 ppb</u>
S2	<u>90 ppb</u>
S3	
S4	
S5	
S6	

Sample #	Result ug/L	Final Vol.	Samp. Wt.	% Solids	DF	Result mg/Kg
Method Blank	ND	100 ml	0.52	-	T	ND
QCTV= <u>5 ppb</u>	5.0		-	-		0.005
Low Level Check Std. <u>1 ppb</u>	0.7		-	-		0.001
E607139-1	ND		0.51	95.3		ND
-2A	ND		0.52	93.0		ND
-3	ND		0.56	86.1		ND
-4A	ND		0.52	94.0		ND
-5	ND		0.52	92.4		ND
-6	OFF SCALE		0.55	82.0		OFF SCALE
-7	0.3		0.53	86.0		ND
-8	ND		0.56	83.0		ND
-9	0.5		0.53	93.2		0.100
✓ -10	ND		0.50	92.1		ND
Calibration Blank	ND		-	-		ND
CCV Mid TV= <u>5 ppb</u>	4.5		-	-		0.005
E607139 -12A	ND		0.56	82.3		ND
-13	ND		0.52	81.9		ND
-14	ND		0.50	88.1		ND
-15	ND		0.50	83.9		ND
-16	ND		0.54	93.4		ND
-17	ND		0.52	93.8		ND
✓ -18	ND		0.55	73.6		ND
E607162 -1	OFF SCALE		0.53	61.5		OFF SCALE
-2A	ND		0.53	83.6		ND
✓ -3	ND		0.55	81.3		ND
Calibration Blank	ND		-	-		ND
CCV Low TV= <u>2 ppb</u>	1.9		-	-		0.002
CCV Mid TV= <u>5 ppb</u>	4.5		-	-		0.005
Dup. Samp# 7139-1	ND		0.53	96.3		ND
MS Samp#	4.1		0.54			0.004
MSD	4.3		0.52			0.004

Dup. Samp #	Sample Result	Duplicate Result	RPD
7139-1	ND	ND	0.0

MS Samp#	Samp Conc	Spike Conc	Spike Result	% Rec	Dup Result	% Rec	RPD
7139-1	ND	5 ppb	4.1	82	4.3	86	4.7

Date: 7.22.96  
 Method#: \_\_\_\_\_  
 Parameter: Mercury  
 Analyst: [Signature]  
 Supervisor: [Signature]

S1	<u>10 ppb</u>
S2	<u>90 ppb</u>
S3	
S4	
S5	
S6	

Sample #	Result ug/L	Final Vol.	Samp. Wt.	% Solids	DF	Result mg/Kg
Method Blank	ND	I	I	I	I	ND
QCTV= <u>5 ppb</u>	<u>4.9</u>	I	I	I	I	<u>0.005</u>
Low Level Check Std. <u>1 ppb</u>	<u>0.9</u>	I	I	I	I	<u>0.001</u>
<u>EL07162-4</u>	<u>3.6</u>	<u>100ml</u>	<u>0.55</u>	<u>91.6</u>		<u>0.760</u>
<u>-5</u>	<u>ND</u>		<u>0.50</u>	<u>53.9</u>		<u>ND</u>
<u>-6</u>	<u>ND</u>		<u>0.54</u>	<u>74.8</u>		<u>ND</u>
<u>-7</u>	<u>OFF SCALE</u>		<u>0.57</u>	<u>80.7</u>		<u>OFF SCALE</u>
<u>-8</u>	<u>ND</u>		<u>0.52</u>	<u>72.9</u>		<u>ND</u>
<u>-9A</u>	<u>ND</u>		<u>0.56</u>	<u>86.9</u>		<u>ND</u>
<u>-11</u>	<u>4.620</u>		<u>0.51</u>	<u>79.6</u>		<u>0.490</u>
<u>-15</u>	<u>2.5</u>		<u>0.52</u>	<u>94.8</u>	<u>1:2</u>	<u>0.490</u>
<u>-16</u>	<u>1.0</u>		<u>0.53</u>	<u>72.0</u>	<u>T</u>	<u>0.260</u>
<u>-17</u>	<u>ND</u>		<u>0.54</u>	<u>94.2</u>		<u>ND</u>
Calibration Blank	ND		-	-		ND
CCV Mid TV= <u>5 ppb</u>	<u>4.2</u>		-	-		<u>0.004</u>
<u>EL07162-18</u>	<u>ND</u>		<u>0.51</u>	<u>81.7</u>		<u>ND</u>
<u>-1</u>	<u>3.6</u>		<u>0.51</u>	<u>61.5</u>	<u>1:2</u>	<u>2.200</u>
<u>EL07139-6</u>	<u>1.8</u>		<u>0.52</u>	<u>82.0</u>	<u>1:10</u>	<u>4.000</u>
<u>EL07228-1</u>	<u>ND</u>		<u>0.56</u>	<u>57.8</u>	<u>T</u>	<u>ND</u>
<u>-2</u>	<u>ND</u>		<u>0.55</u>	<u>59.6</u>		<u>ND</u>
<u>EL07210-16</u>	<u>ND</u>		<u>0.52</u>	<u>90.9</u>		<u>ND</u>
<u>-17</u>	<u>1.0</u>	<u>↓</u>	<u>0.52</u>	<u>89.2</u>	<u>↓</u>	<u>0.220</u>
Calibration Blank	ND	I	I	I	I	ND
CCV Low TV= <u>2 ppb</u>	<u>1.6</u>	I	I	I	I	<u>0.002</u>
CCV Mid TV= <u>5 ppb</u>	<u>4.9</u>	I	I	I	I	<u>0.005</u>
Dup. Samp# <u>7162-18</u>	<u>ND</u>	<u>100ml</u>	<u>0.52</u>	<u>81.7</u>		<u>ND</u>
MS Samp#	<u>4.3</u>	↓	<u>0.50</u>	↓	↓	<u>0.004</u>
MSD	<u>4.1</u>	↓	<u>0.50</u>	↓	↓	<u>0.004</u>

Dup. Samp #	Sample Result	Duplicate Result	RPD
<u>7162-18</u>	<u>ND</u>	<u>ND</u>	<u>0.0</u>

MS Samp#	Samp Conc	Spike Conc	Spike Result	% Rec	Dup Result	% Rec	RPD
<u>7162-18</u>	<u>ND</u>	<u>5.0 ppb</u>	<u>4.3</u>	<u>86</u>	<u>4.1</u>	<u>82</u>	<u>4.8</u>

Date: 7.22.96  
 Method#: TCLP  
 Parameter: Mercury  
 Analyst: [Signature]  
 Supervisor: [Signature]

S1	<u>10ppb</u>
S2	<u>90ppb</u>
S3	
S4	
S5	
S6	

Sample #	Result ug/L	DF	Result mg/L
Method Blank	ND	T	ND
QCTV= <u>5ppb</u>	<u>4.9</u>		<u>0.005</u>
Low Level Check Std. <u>1ppb</u>	<u>0.5</u>		<u>0.001</u>
<u>E607139-11</u>	<u>ND</u>		<u>ND</u>
<u>L -18</u>	<u>ND</u>		<u>ND</u>
<u>E6071102-10</u>	<u>ND</u>	T	<u>ND</u>
Calibration Blank			
CCV Mid TV=			
Calibration Blank			
CCV Low TV= <u>2ppb</u>	<u>1.8</u>	T	<u>0.002</u>
CCV Mid TV= <u>5ppb</u>	<u>4.9</u>	T	<u>0.005</u>
Dup. Samp# <u>7139-11</u>	<u>ND</u>	T	<u>ND</u>
MS Samp# <u>1</u>	<u>4.5</u>	<u>1:2</u>	<u>0.005</u>
MSD <u>1</u>	<u>4.7</u>	<u>1</u>	<u>0.005</u>

Dup. Samp #	Sample Result	Duplicate Result	RPD
<u>7139-11</u>	<u>ND</u>	<u>ND</u>	<u>0.0</u>

MS Samp#	Samp Conc	Spike Conc	Spike Result	% Rec	Dup Result	% Rec	RPD
<u>7139-11</u>	<u>ND</u>	<u>5ppb</u>	<u>4.5</u>	<u>90%</u>	<u>4.7</u>	<u>94%</u>	<u>4.3</u>

Date: 7/19/96  
 Method#: 1010  
 Parameter: Flashpoint  
 Analyst: [Signature]  
 Supervisor: [Signature]


Sample #	Result Degrees F.
E607088 1A	> 200
E607139 11	> 160
↓ 18	> 160
E607162 9A	> 160
E607223 6A	> 160
/	
QC TV = 84 Deg. F.	84
Dup Samp# E607162 9A	> 160

Dup. Samp #	Sample Result	Duplicate Result	RPD
E607162	> 160	> 160	0%

Sample #	A or S	% Sol	Wt or Vol	Pump # Factor	Initial Pump Reading	Final Pump Reading	Total Pump Reading	Tube Reading CN SO2	CN Res.	SO2 Res.
Blank	S	100	10.07	1 0.29	805189	816032	10843	0 0	0	0
E607139-11	S	80.3	0.98	1 0.29	826721	832610	OVER RANGE	-	-	-
E607139-18	S	73.6	1.31	1 0.29	844818	855752	10934	2 40	0.48/0.736	4.5/0.736
E607139-11	S	80.3	0.98	1 0.29	832610	844818	12208	2 350	0.57/0.803	100/0.803
E607162-9A	S	86.9	11.36	3 0.18	929466	940536	11070	0 6	0	0.26/0.869
<del>_____</del>										
Dup Samp# 162-9A	S		11.36	3 0.18	940536	951923	11387	0 6	0	0.26/0.869
System Check	S	100	10.07	1 0.29	816032	826721	10689	7100 730	73.2	70.97

E607

DUP SAMPLE #	SAMP RESULT		DUP RESULT		RPD	
	CN	SO2	CN	SO2	CN	SO2
E607162-9A	0	0.30	0	0.30	ND	0.07

Date: 7-17-96  
Method#: SW 846 CH 7  
Parameter: Reactive Cyanide & Sulfide  
Analyst: E. Benyon  
Supervisor: 

Date: 1-22-96  
 Method#: 335.3/9010  
 Parameter: Cyanide  
 Analyst: E. Bunker  
 Supervisor: [Signature]

Sample #	SO2	Amt. ml/g	Final Vol	Result	DF	Result
S1=0.50	-	50mL	50mL	0.500	-	0.500
S2=0.25	-			0.250	-	0.250
S3=0.125	-			0.125	-	0.125
QC	-			0.214	-	0.214
Blank	-			0.001	-	0.001
Low Level Check Std.	-	↓	↓	0.067	-	0.067
E60716Z-12D	-	50mL	50mL	0.001	-	0.001
-13D	-			0.000	-	0.000
-14D	-			0.000	-	0.000
↓ -14D	-	↓	↓	0.000	-	0.000
/						
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Dup Samp# E60716Z-14D	-	50mL	50mL	0.000	-	0.000
MS Samp# ↓ -14D	-			0.225	-	0.225
Blk Spk TV= 0.250	-	↓	↓	0.235	-	0.235

QC Lot #	WS1195
TV	0.250
Result	0.214
QC Limits	± 0.100

Blk Spk	Result	% Rec	Dup. Samp#	Sample Result	Duplicate Result	RPD
TV= 0.250	0.199	80%	E60716Z-14D	0.000	0.000	ND

MS Samp #	Conc.	Sample Result	MS Result	% REC
E60716Z-14D	0.250	0.000	0.225	90%

EB  
7-23-96  
0.199 0.199



Date: 1/20/14  
 Method#: 335.3/9010  
 Parameter: Cyanide  
 Analyst: E. Benson  
 Supervisor: [Signature]

(TV = 0.100)

Sample #	SO2	Amt. ml/g	Final Vol	Result	DF	Result	
S1=0.50	-	50mL	50mL	0.500	-	0.500	
S2=0.25	-			0.250	-	0.250	
S3=0.125	-			0.125	-	0.125	
QC	-			0.214	-	0.214	
Blank	-			0.001	-	0.001	
Low Level Check Std.	-	↓	↓	0.067	-	0.067	mg/kg.
E607162-11	-	7.35g	125mL	0.143	10X	1.43	30.5
↓ -17	-	9.09°		0.011	-	0.011	0.16
↓ -18	-	6.87		0.002	-	0.002	0.04
E607210-1A	-	7.24		0.153	25X	3.819	74.4
-2	-	6.87		0.284	25X	7.233	147
-3	-	10.32		0.352	25X	8.822	121
-4	-	7.27		0.276	25X	6.893	119
-5	-	8.85		0.210	10X	2.102	52.2
-6A	-	9.57		0.069	25X	1.741	31.7
-7	-	7.35		0.229	10X	2.290	55.3
-8	-	6.95		0.265	5X	1.323	25.9
-9	-	8.51		0.205	5X	1.015	20.7
-11	-	6.53		0.143	25X	3.594	77.3
-12	-	7.22		0.036	-	0.036	1.36
-13	-	7.81		0.215	10X	2.152	47.5
-14	-	7.91		0.151	25X	3.784	64.0
↓ -15A	-	8.93	↓	0.168	10X	1.677	37.0
/ / / / /							
Dup Samp#	Z10-11	-	6.53	125mL	0.145	25X	3.636
MS Samp#	↓ -11	-	7.57	↓	0.076	50X	3.811
Blk Spk TV =	0.250	-	25.25	500mL	0.235	-	0.235

QC Lot #	WS1195
TV	0.250
Result	0.235
QC Limits	± 0.100

E607

Blk Spk	Result	% Rec	Dup. Samp#	Sample Result	Duplicate Result	RPD
TV = 0.250	0.235	94%	E607210-11	3.594	3.636	1.2%

MS Samp #	Conc.	Sample Result	MS Result	% REC
E607210-11	0.250	3.594	3.811	87%



Date: 1-14-46  
 Method#: 335.3/9010  
 Parameter: Cyanide  
 Analyst: E. Benton  
 Supervisor: [Signature]

(TV=0.100)

Sample #	SO2	Amt. ml/g	Final Vol	Result	DF	Result	
S1=0.50	-	50mL	50mL	0.500	-	0.500	
S2=0.25	-			0.250	-	0.250	
S3=0.125	-			0.125	-	0.125	
QC	-			0.208	-	0.208	
Blank	-			0.001	-	0.001	
Low Level Check Std.	-	↓	↓	0.113	-	0.113	mg/kg.
E607139-1	-	7.37	125mL	0.018	-	0.018	6.320
-2A	-	6.90		0.144	-	0.144	2.81
-3	-	7.29		0.023	-	0.023	0.458
-4A	-	6.57		0.250	10X	2.50	50.6
-5	-	6.60		0.233	10X	2.33	47.8
-6	-	6.96		0.177	25X	4.43	97.0
-7	-	6.56		0.036	-	0.036	0.797
-8	-	6.60		0.013	-	0.013	0.296
-9A	-	7.15		0.183	25X	4.57	85.7
-10	-	7.26		0.151	5X	0.753	14.0
-12A	-	7.08		0.239	25X	5.99	128
-13	-	7.28		0.005	-	0.005	0.104
-14	-	6.33		0.202	2X	0.404	4.74 4.01
-15	-	7.94		0.147	5X	0.736	14.7 13.7
-16	-	6.71		0.095	25X	2.39	47.7 71.7
↓ -17	-	6.75	↓	0.039	-	0.039	0.769
E607139-18	-	6.47	125mL	0.304	5X	1.52	39.9
E607162-15	-	5.71	↓	0.044	-	0.044	1.02
\ \ \ \ \	\ \ \ \ \	\ \ \ \ \	\ \ \ \ \	0.142	\ \ \ \ \	\ \ \ \ \	\ \ \ \ \
Dup Samp# 139-10	-	7.26	125mL	0.0071	5X	0.710	EB 7-14-46
MS Samp# ↓ -10	-	7.31	↓	0.250	5X	1.25	
Blk Spk TV = 0.250	-	25.25	500mL	0.262	-	0.262	

QC Lot #	WS1195
TV	0.250
Result	0.208
QC Limits	±0.100

Blk Spk	Result	% Rec	Dup. Samp#	Sample Result	Duplicate Result	RPD
TV = 0.250	0.262	105.7	E607139-10	0.753	0.710	5.9%

MS Samp #	Conc.	Sample Result	MS Result	% REC
E607139-10	0.250	0.753	1.25	149.2

EB 7-14-46      0.500      EB 7-14-46      99.7





**Laboratory Resources, Inc.**  
New England Division

Route 205 - Regional Building  
Brooklyn, CT 06234  
Telephone: 203-774-6814 Fax: 203-774-2689



**ANALYTICAL DATA REPORT**

Report Number: E607210  
Project: Tidewater Former MGP

prepared for:

Atlantic Environmental  
188 Norwich Ave.  
P.O. Box 297  
Colchester, CT 06415

Attn: Jeff Wilson

Receive Date: 07/17/96  
Report Date: 08/01/96

T.F. McCommas  
Laboratory Director

Connecticut Department of Health Services PH-0465  
Maine Department of Environmental Protection TBD  
Massachusetts Department of Environmental Quality CT008  
New Hampshire Department of Environmental Services 2020  
New York Department of Health 11549  
Rhode Island Department of Health A44 0022

# GENERAL CHEMISTRY ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
Division: New England  
LRI Report No: E607210  
LRI Sample No: 1

Customer: Atlantic Environmental Eng  
Location: Pawtucket, RI  
Project: Tidewater Former MGP  
Sample Description: TB4 (0-2)

Date Collected: 07/15/96  
Date Received: 07/17/96

Matrix: Soil  
Percent Moisture: 11.4%  
Units in Dry Weight

<u>Parameter</u>	<u>Result</u>	<u>QL</u>	<u>Units</u>	<u>Started</u> <u>Date</u>	<u>By</u>	<u>Completed</u> <u>Date</u>	<u>By</u>	<u>Dilution</u>
<u>Cyanide by 9012 Modified NE</u>								
Cyanide	75	9.7	mg/kg	07/18/96	EB	07/23/96	EB	25

# METALS ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
 Division: New England  
 LRI Order No: E607210  
 LRI Sample No: 1

Client: Atlantic Environmental Eng  
 Location: Pawtucket, RI  
 Project: Tidewater Former MGP  
 Sample Description: TB4 (0-2)

Date Collected: 07/15/96  
 Date Received: 07/17/96

Matrix: Soil  
 Percent Moisture: 11.4%

Parameter	Result	QL	Units	Started		Completed		Dilution
				Date	By	Date	By	
<u>Arsenic by Furnace by SW-846 7060</u>								
Arsenic	8.3	0.20	mg/kg	07/18/96	KH	07/22/96	MM	
<u>Mercury by Cold Vapor by SW-846 7471</u>								
Mercury	0.10 U	0.10	mg/kg	07/18/96	KH	07/22/96	KH	
<u>Metals by ICP by SW-846 6010A</u>								
Beryllium	0.20 U	0.20	mg/kg	07/18/96	KH	07/22/96	BS	
Chromium	17	2.5	mg/kg	07/18/96	KH	07/22/96	BS	
Copper	49	2.5	mg/kg	07/18/96	KH	07/22/96	BS	
Nickel	17	2.5	mg/kg	07/18/96	KH	07/22/96	BS	
Silver	2.4	2.0	mg/kg	07/18/96	KH	07/22/96	BS	
Zinc	24	1.0	mg/kg	07/18/96	KH	07/22/96	BS	
Barium	64	1.0	mg/kg	07/18/96	KH	07/22/96	BS	
Antimony	10 U	10	mg/kg	07/18/96	KH	07/22/96	BS	
Lead	81	5.1	mg/kg	07/18/96	KH	07/22/96	BS	
Selenium	10 U	10	mg/kg	07/18/96	KH	07/22/96	BS	
Cadmium	1.0 U	1.0	mg/kg	07/18/96	KH	07/22/96	BS	
<u>Thallium by Furnace by SW-846 7841</u>								
Thallium	0.18 U	0.18	mg/kg	07/18/96	KH	07/24/96	MM	

# VOLATILE ORGANIC ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
 Division: New England  
 LRI Report No: E607210  
 LRI Sample No: 1

Customer: Atlantic Environmental Eng  
 Location: Pawtucket, RI  
 Project: Tidewater Former MGP  
 Sample Description: TB4 (0-2)

Date Collected: 07/15/96  
 Date Received: 07/17/96  
 Date Extracted: By:  
 Date Analyzed: 07/26/96 By: AT

Matrix: Soil  
 Percent Moisture: 11.4%  
 Sample Weight/Volume:  
 Dilution Factor: 1  
 Soil Extract Volume:  
 Soil Aliquot Volume:  
 Lab Data File: BH962

Method: 8260A  
 Level: LOW  
 GC Column:  
 Units: ug/kg (Dry Weight)

CAS No.	Parameter	Result	Qual	QL
107-02-8	Acrolein	28	U	28
107-13-1	Acrylonitrile	28	U	28
71-43-2	Benzene	5.6	U	5.6
108-86-1	Bromobenzene	5.6	U	5.6
74-97-5	Bromochloromethane	5.6	U	5.6
75-27-4	Bromodichloromethane	5.6	U	5.6
75-25-2	Bromoform	5.6	U	5.6
74-83-9	Bromomethane	11	U	11
104-51-8	n-Butylbenzene	5.6	U	5.6
135-98-8	sec-Butylbenzene	5.6	U	5.6
98-06-6	tert-Butylbenzene	5.6	U	5.6
56-23-5	Carbon tetrachloride	5.6	U	5.6
108-90-7	Chlorobenzene	5.6	U	5.6
75-00-3	Chloroethane	11	U	11
67-66-3	Chloroform	5.6	U	5.6
74-87-3	Chloromethane	11	U	11
95-49-8	2-Chlorotoluene	5.6	U	5.6
106-43-4	4-Chlorotoluene	5.6	U	5.6
96-12-8	1,2-Dibromo-3-chloropropane (DBCP)	5.6	U	5.6
124-48-1	Dibromochloromethane	5.6	U	5.6
106-93-4	1,2-Dibromoethane (EDB)	5.6	U	5.6
74-95-3	Dibromomethane	5.6	U	5.6
95-50-1	1,2-Dichlorobenzene	5.6	U	5.6
541-73-1	1,3-Dichlorobenzene	5.6	U	5.6
106-46-7	1,4-Dichlorobenzene	5.6	U	5.6
75-71-8	Dichlorodifluoromethane	11	U	11
75-34-3	1,1-Dichloroethane	5.6	U	5.6
107-06-2	1,2-Dichloroethane	5.6	U	5.6
75-35-4	1,1-Dichloroethene	5.6	U	5.6
156-59-4	cis-1,2-Dichloroethene	5.6	U	5.6
156-60-5	trans-1,2-Dichloroethene	5.6	U	5.6
78-87-5	1,2-Dichloropropane	5.6	U	5.6
142-28-9	1,3-Dichloropropane	5.6	U	5.6
590-20-7	2,2-Dichloropropane	5.6	U	5.6
563-58-6	1,1-Dichloropropene	5.6	U	5.6
10061-01-5	cis-1,3-Dichloropropene	5.6	U	5.6
10061-02-6	trans-1,3-Dichloropropene	5.6	U	5.6
100-41-4	Ethylbenzene	5.6	U	5.6
87-68-3	Hexachlorobutadiene	5.6	U	5.6
98-82-8	Isopropylbenzene	5.6	U	5.6
99-87-6	4-Isopropyltoluene	5.6	U	5.6
1634-04-4	Methyl tert-butyl ether (MTBE)	5.6	U	5.6



# VOLATILE ORGANIC ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
Division: New England  
LRI Report No: E607210  
LRI Sample No: 1

Customer: Atlantic Environmental Eng  
Location: Pawtucket, RI  
Project: Tidewater Former MGP  
Sample Description: TB4 (0-2)

Method: 8260A

CAS No.	Parameter	Result	Qual	QL
75-09-2	Methylene chloride	5.6	U	5.6
91-20-3	Naphthalene	5.6	U	5.6
103-65-1	n-Propylbenzene	5.6	U	5.6
100-42-5	Styrene	5.6	U	5.6
96-18-4	1,2,3-Trichloropropane	5.6	U	5.6
630-20-6	1,1,1,2-Tetrachloroethane	5.6	U	5.6
79-34-5	1,1,2,2-Tetrachloroethane	5.6	U	5.6
127-18-4	Tetrachloroethene	5.6	U	5.6
108-88-3	Toluene	5.6	U	5.6
87-61-6	1,2,3-Trichlorobenzene	5.6	U	5.6
120-82-1	1,2,4-Trichlorobenzene	5.6	U	5.6
71-55-6	1,1,1-Trichloroethane	5.6	U	5.6
79-00-5	1,1,2-Trichloroethane	5.6	U	5.6
79-01-6	Trichloroethene (TCE)	5.6	U	5.6
75-69-4	Trichlorofluoromethane	11	U	11
95-63-6	1,2,4-Trimethylbenzene	5.6	U	5.6
108-67-8	1,3,5-Trimethylbenzene	5.6	U	5.6
75-01-4	Vinyl chloride	11	U	11
95-47-6	o-Xylene	5.6	U	5.6
	m,p-Xylenes	5.6	U	5.6

# SEMIVOLATILE ORGANIC ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
Division: New England  
LRI Report No: E607210  
LRI Sample No: 1

Customer: Atlantic Environmental Eng  
Location: Pawtucket, RI  
Project: Tidewater Former MGP  
Sample Description: TB4 (0-2)

Date Collected: 07/15/96  
Date Received: 07/17/96  
Date Extracted: 07/26/96 By: KRB  
Date Analyzed: 07/26/96 By: KRB

Matrix: Soil  
Percent Moisture: 11.4%  
pH:  
Sample Weight/Volume: 2.01 g  
Extract Volume: 2  
Injection Volume:  
Dilution Factor: 1  
Lab Data File: 8072609

Method: 8080  
Level: LOW  
GC Column:  
Units: ug/kg (Dry Weight)

CAS No.	Parameter	Result	Qual	QL
12674-11-2	Aroclor 1016	560	U	560
11104-28-2	Aroclor 1221	560	U	560
11141-16-5	Aroclor 1232	560	U	560
53469-21-9	Aroclor 1242	560	U	560
12672-29-6	Aroclor 1248	560	U	560
11097-69-1	Aroclor 1254	560	U	560
11096-82-5	Aroclor 1260	560	U	560

# SEMIVOLATILE ORGANIC ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
 Division: New England  
 LRI Report No: E607210  
 LRI Sample No: 1

Customer: Atlantic Environmental Eng  
 Location: Pawtucket, RI  
 Project: Tidewater Former MGP  
 Sample Description: TB4 (0-2)

Date Collected: 07/15/96  
 Date Received: 07/17/96  
 Date Extracted: 07/29/96 By: RAW  
 Date Analyzed: 07/30/96 By: RAW

Matrix: Soil  
 Percent Moisture: 11.4%  
 pH:  
 Sample Weight/Volume: 30.0 g  
 Extract Volume: 1  
 Injection Volume:  
 Dilution Factor: 5  
 Lab Data File: a12776

Method: 8270  
 Level: LOW  
 GC Column:  
 Units: ug/kg ( Dry Weight )

CAS No.	Parameter	Result	Qual	QL
83-32-9	Acenaphthene	940	U	940
208-96-8	Acenaphthylene	2800		940
120-12-7	Anthracene	1500		940
56-55-3	Benzo[a]anthracene	4500		940
50-32-8	Benzo[a]pyrene	2600		280
205-99-2	Benzo[b]fluoranthene	5500		940
191-24-2	Benzo[g,h,i]perylene	1000		940
207-08-9	Benzo[k]fluoranthene	3800		940
218-01-9	Chrysene	5100		940
53-70-3	Dibenzo[a,h]anthracene	280	U	280
206-44-0	Fluoranthene	7900		940
86-73-7	Fluorene	940	U	940
193-39-5	Indeno[1,2,3-cd]pyrene	1300		940
91-20-3	Naphthalene	940	U	940
85-01-8	Phenanthrene	4400		940
129-00-0	Pyrene	8400		940
91-57-6	2-Methylnaphthalene	940	U	940

# GENERAL CHEMISTRY ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
Division: New England  
LRI Report No: E607210  
LRI Sample No: 2

Customer: Atlantic Environmental Eng  
Location: Pawtucket, RI  
Project: Tidewater Former MGP  
Sample Description: TB4A (0-2)

Date Collected: 07/15/96  
Date Received: 07/17/96

Matrix: Soil  
Percent Moisture: 10.2%  
Units in Dry Weight

<u>Parameter</u>	<u>Result</u>	<u>QL</u>	<u>Units</u>	<u>Started</u> <u>Date</u>	<u>By</u>	<u>Completed</u> <u>Date</u>	<u>By</u>	<u>Dilution</u>
<u>Cyanide by 9012 Modified NE</u>								
Cyanide	150	10	mg/kg	07/18/96	EB	07/23/96	EB	25

# METALS ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
 Division: New England  
 LRI Order No: E607210  
 LRI Sample No: 2

Client: Atlantic Environmental Eng  
 Location: Pawtucket, RI  
 Project: Tidewater Former MGP  
 Sample Description: TB4A (0-2)

Date Collected: 07/15/96  
 Date Received: 07/17/96

Matrix: Soil  
 Percent Moisture: 10.2%

Parameter	Result	QL	Units	Started		Completed		Dilution
				Date	By	Date	By	
<u>Arsenic by Furnace by SW-846 7060</u>								
Arsenic	6.4	0.20	mg/kg	07/18/96	KH	07/22/96	MM	
<u>Mercury by Cold Vapor by SW-846 7471</u>								
Mercury	0.10U	0.10	mg/kg	07/18/96	KH	07/22/96	KH	
<u>Metals by ICP by SW-846 6010A</u>								
Beryllium	0.36	0.20	mg/kg	07/18/96	KH	07/24/96	BS	
Chromium	14	2.4	mg/kg	07/18/96	KH	07/22/96	BS	
Copper	48	2.4	mg/kg	07/18/96	KH	07/22/96	BS	
Nickel	14	2.4	mg/kg	07/18/96	KH	07/22/96	BS	
Silver	2.0U	2.0	mg/kg	07/18/96	KH	07/22/96	BS	
Zinc	52	0.98	mg/kg	07/18/96	KH	07/22/96	BS	
Barium	68	0.98	mg/kg	07/18/96	KH	07/24/96	BS	
Antimony	9.8U	9.8	mg/kg	07/18/96	KH	07/22/96	BS	
Lead	91	4.9	mg/kg	07/18/96	KH	07/22/96	BS	
Selenium	9.8U	9.8	mg/kg	07/18/96	KH	07/22/96	BS	
Cadmium	0.98U	0.98	mg/kg	07/18/96	KH	07/22/96	BS	
<u>Thallium by Furnace by SW-846 7841</u>								
Thallium	0.18U	0.18	mg/kg	07/18/96	KH	07/24/96	MM	

# SEMIVOLATILE ORGANIC ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
Division: New England  
LRI Report No: E607210  
LRI Sample No: 2

Customer: Atlantic Environmental Eng  
Location: Pawtucket, RI  
Project: Tidewater Former MGP  
Sample Description: TB4A (0-2)

Date Collected: 07/15/96  
Date Received: 07/17/96  
Date Extracted: 07/26/96 By: KRB  
Date Analyzed: 07/26/96 By: KRB

Matrix: Soil  
Percent Moisture: 10.2%  
pH:  
Sample Weight/Volume: 2.07 g  
Extract Volume: 2  
Injection Volume:  
Dilution Factor: 1  
Lab Data File: 8072610

Method: 8080  
Level: LOW  
GC Column:  
Units: ug/kg (Dry Weight)

CAS No.	Parameter	Result	Qual	QL
12674-11-2	Aroclor 1016	540	U	540
11104-28-2	Aroclor 1221	540	U	540
11141-16-5	Aroclor 1232	540	U	540
53469-21-9	Aroclor 1242	540	U	540
12672-29-6	Aroclor 1248	540	U	540
11097-69-1	Aroclor 1254	540	U	540
11096-82-5	Aroclor 1260	540	U	540

# GENERAL CHEMISTRY ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
Division: New England  
LRI Report No: E607210  
LRI Sample No: 3

Customer: Atlantic Environmental Eng  
Location: Pawtucket, RI  
Project: Tidewater Former MGP  
Sample Description: TB5 (4-6)

Date Collected: 07/15/96  
Date Received: 07/17/96

Matrix: Soil  
Percent Moisture: 11.9%  
Units in Dry Weight

<u>Parameter</u>	<u>Result</u>	<u>QL</u>	<u>Units</u>	<u>Started</u> <u>Date</u>	<u>By</u>	<u>Completed</u> <u>Date</u>	<u>By</u>	<u>Dilution</u>
Cyanide by 9012 Modified NE								
Cyanide	120	6.8	mg/kg	07/18/96	EB	07/23/96	EB	25

# METALS ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
 Division: New England  
 LRI Order No: E607210  
 LRI Sample No: 3

Client: Atlantic Environmental Eng  
 Location: Pawtucket, RI  
 Project: Tidewater Former MGP  
 Sample Description: TB5 (4-6)

Date Collected: 07/15/96  
 Date Received: 07/17/96

Matrix: Soil  
 Percent Moisture: 11.9%

Parameter	Result	QL	Units	Started Date	By	Completed Date	By	Dilution
<u>Arsenic by Furnace by SW-846 7060</u>								
Arsenic	4.6	0.20	mg/kg	07/18/96	KH	07/22/96	MM	
<u>Mercury by Cold Vapor by SW-846 7471</u>								
Mercury	0.10U	0.10	mg/kg	07/18/96	KH	07/22/96	KH	
<u>Metals by ICP by SW-846 6010A</u>								
Beryllium	0.31	0.20	mg/kg	07/18/96	KH	07/24/96	BS	
Chromium	15	2.5	mg/kg	07/18/96	KH	07/22/96	BS	
Copper	44	2.5	mg/kg	07/18/96	KH	07/22/96	BS	
Nickel	15	2.5	mg/kg	07/18/96	KH	07/22/96	BS	
Silver	2.0U	2.0	mg/kg	07/18/96	KH	07/22/96	BS	
Zinc	58	1.0	mg/kg	07/18/96	KH	07/22/96	BS	
Barium	56	1.0	mg/kg	07/18/96	KH	07/24/96	BS	
Antimony	10U	10	mg/kg	07/18/96	KH	07/22/96	BS	
Lead	68	5.1	mg/kg	07/18/96	KH	07/22/96	BS	
Selenium	10U	10	mg/kg	07/18/96	KH	07/22/96	BS	
Cadmium	1.0U	1.0	mg/kg	07/18/96	KH	07/22/96	BS	
<u>Thallium by Furnace by SW-846 7841</u>								
Thallium	0.18U	0.18	mg/kg	07/18/96	KH	07/24/96	MM	



# SEMIVOLATILE ORGANIC ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
Division: New England  
LRI Report No: E607210  
LRI Sample No: 3

Customer: Atlantic Environmental Eng  
Location: Pawtucket, RI  
Project: Tidewater Former MGP  
Sample Description: TB5 (4-6)

Date Collected: 07/15/96  
Date Received: 07/17/96  
Date Extracted: 07/26/96 By: KRB  
Date Analyzed: 07/26/96 By: KRB

Matrix: Soil  
Percent Moisture: 11.9%  
pH:  
Sample Weight/Volume: 2.02 g  
Extract Volume: 2  
Injection Volume:  
Dilution Factor: 1  
Lab Data File: 8072611

Method: 8080  
Level: LOW  
GC Column:  
Units: ug/kg ( Dry Weight )

CAS No.	Parameter	Result	Qual	QL
12674-11-2	Aroclor 1016	560	U	560
11104-28-2	Aroclor 1221	560	U	560
11141-16-5	Aroclor 1232	560	U	560
53469-21-9	Aroclor 1242	560	U	560
12672-29-6	Aroclor 1248	560	U	560
11097-69-1	Aroclor 1254	560	U	560
11096-82-5	Aroclor 1260	560	U	560

# GENERAL CHEMISTRY ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
Division: New England  
LRI Report No: E607210  
LRI Sample No: 4

Customer: Atlantic Environmental Eng  
Location: Pawtucket, RI  
Project: Tidewater Former MGP  
Sample Description: TB5 (0-2)

Date Collected: 07/15/96  
Date Received: 07/17/96

Matrix: Soil  
Percent Moisture: 0.4%  
Units in Dry Weight

<u>Parameter</u>	<u>Result</u>	<u>QL</u>	<u>Units</u>	<u>Started</u> <u>Date</u>	<u>By</u>	<u>Completed</u> <u>Date</u>	<u>By</u>	<u>Dilution</u>
<u>Cyanide by 9012 Modified NE</u>								
Cyanide	120	8.6	mg/kg	07/18/96	EB	07/23/96	EB	25

# METALS ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
 Division: New England  
 LRI Order No: E607210  
 LRI Sample No: 4

Client: Atlantic Environmental Eng  
 Location: Pawtucket, RI  
 Project: Tidewater Former MGP  
 Sample Description: TB5 (0-2)

Date Collected: 07/15/96  
 Date Received: 07/17/96

Matrix: Soil  
 Percent Moisture: 0.4%

Parameter	Result	QL	Units	Started		Completed		Dilution
				Date	By	Date	By	
<u>Arsenic by Furnace by SW-846 7060</u>								
Arsenic	3.8	0.18	mg/kg	07/18/96	KH	07/22/96	MM	
<u>Mercury by Cold Vapor by SW-846 7471</u>								
Mercury	0.091 U	0.091	mg/kg	07/18/96	KH	07/22/96	KH	
<u>Metals by ICP by SW-846 6010A</u>								
Beryllium	0.29	0.18	mg/kg	07/18/96	KH	07/24/96	BS	
Chromium	25	2.2	mg/kg	07/18/96	KH	07/22/96	BS	
Copper	30	2.2	mg/kg	07/18/96	KH	07/22/96	BS	
Nickel	19	2.2	mg/kg	07/18/96	KH	07/22/96	BS	
Silver	1.8 U	1.8	mg/kg	07/18/96	KH	07/22/96	BS	
Zinc	73	0.89	mg/kg	07/18/96	KH	07/22/96	BS	
Barium	58	0.89	mg/kg	07/18/96	KH	07/24/96	BS	
Antimony	8.9 U	8.9	mg/kg	07/18/96	KH	07/22/96	BS	
Lead	79	4.4	mg/kg	07/18/96	KH	07/22/96	BS	
Selenium	8.9 U	8.9	mg/kg	07/18/96	KH	07/22/96	BS	
Cadmium	0.89 U	0.89	mg/kg	07/18/96	KH	07/22/96	BS	
<u>Thallium by Furnace by SW-846 7841</u>								
Thallium	0.18 U	0.18	mg/kg	07/18/96	KH	07/24/96	MM	

# SEMIVOLATILE ORGANIC ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
Division: New England  
LRI Report No: E607210  
LRI Sample No: 4

Customer: Atlantic Environmental Eng  
Location: Pawtucket, RI  
Project: Tidewater Former MGP  
Sample Description: TB5 (0-2)

Date Collected: 07/15/96  
Date Received: 07/17/96  
Date Extracted: 07/26/96 By: KRB  
Date Analyzed: 07/26/96 By: KRB

Matrix: Soil  
Percent Moisture: 0.4%  
pH:  
Sample Weight/Volume: 2.02 g  
Extract Volume: 2  
Injection Volume:  
Dilution Factor: 1  
Lab Data File: 8072612

Method: 8080  
Level: LOW  
GC Column:  
Units: ug/kg (Dry Weight)

CAS No.	Parameter	Result	Qual	QL
12674-11-2	Aroclor 1016	500	U	500
11104-28-2	Aroclor 1221	500	U	500
11141-16-5	Aroclor 1232	500	U	500
53469-21-9	Aroclor 1242	500	U	500
12672-29-6	Aroclor 1248	500	U	500
11097-69-1	Aroclor 1254	500	U	500
11096-82-5	Aroclor 1260	500	U	500

# GENERAL CHEMISTRY ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
Division: New England  
LRI Report No: E607210  
LRI Sample No: 5

Customer: Atlantic Environmental Eng  
Location: Pawtucket, RI  
Project: Tidewater Former MGP  
Sample Description: TB5 (25-26)

Date Collected: 07/15/96  
Date Received: 07/17/96

Matrix: Soil  
Percent Moisture: 43.1%  
Units in Dry Weight

Parameter	Result	QL	Units	Started		Completed		Dilution
				Date	By	Date	By	
<u>Cyanide by 9012 Modified NE</u>								
Cyanide	52	5.0	mg/kg	07/18/96	EB	07/23/96	EB	10

# METALS ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
 Division: New England  
 LRI Order No: E607210  
 LRI Sample No: 5

Client: Atlantic Environmental Eng  
 Location: Pawtucket, RI  
 Project: Tidewater Former MGP  
 Sample Description: TB5 (25-26)

Date Collected: 07/15/96  
 Date Received: 07/17/96

Matrix: Soil  
 Percent Moisture: 43.1%

Parameter	Result	QL	Units	Started		Completed		Dilution
				Date	By	Date	By	
<u>Arsenic by Furnace by SW-846 7060</u>								
Arsenic	44	1.6	mg/kg	07/18/96	KH	07/22/96	MM	5
<u>Mercury by Cold Vapor by SW-846 7471</u>								
Mercury	2.7	0.31	mg/kg	07/18/96	KH	07/24/96	KH	2
<u>Metals by ICP by SW-846 6010A</u>								
Beryllium	0.82	0.32	mg/kg	07/18/96	KH	07/24/96	BS	
Chromium	440	3.9	mg/kg	07/18/96	KH	07/22/96	BS	
Copper	1200	3.9	mg/kg	07/18/96	KH	07/22/96	BS	
Nickel	80	3.9	mg/kg	07/18/96	KH	07/22/96	BS	
Silver	3.2U	3.2	mg/kg	07/18/96	KH	07/22/96	BS	
Zinc	600	1.6	mg/kg	07/18/96	KH	07/22/96	BS	
Barium	89	1.6	mg/kg	07/18/96	KH	07/24/96	BS	
Antimony	16U	16	mg/kg	07/18/96	KH	07/22/96	BS	
Lead	350	7.9	mg/kg	07/18/96	KH	07/22/96	BS	
Selenium	16U	16	mg/kg	07/18/96	KH	07/22/96	BS	
Cadmium	1.6U	1.6	mg/kg	07/18/96	KH	07/22/96	BS	
<u>Thallium by Furnace by SW-846 7841</u>								
Thallium	0.18U	0.18	mg/kg	07/18/96	KH	07/24/96	MM	

# SEMIVOLATILE ORGANIC ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
Division: New England  
LRI Report No: E607210  
LRI Sample No: 5

Customer: Atlantic Environmental Eng  
Location: Pawtucket, RI  
Project: Tidewater Former MGP  
Sample Description: TB5 (25-26)

Date Collected: 07/15/96  
Date Received: 07/17/96  
Date Extracted: 07/26/96 By: KRB  
Date Analyzed: 07/26/96 By: KRB

Matrix: Soil  
Percent Moisture: 43.1%  
pH:  
Sample Weight/Volume: 2.01 g  
Extract Volume: 2  
Injection Volume:  
Dilution Factor: 1  
Lab Data File: 8072613

Method: 8080  
Level: LOW  
GC Column:  
Units: ug/kg (Dry Weight)

CAS No.	Parameter	Result	Qual	QL
12674-11-2	Aroclor 1016	870	U	870
11104-28-2	Aroclor 1221	870	U	870
11141-16-5	Aroclor 1232	870	U	870
53469-21-9	Aroclor 1242	870	U	870
12672-29-6	Aroclor 1248	870	U	870
11097-69-1	Aroclor 1254	870	U	870
11096-82-5	Aroclor 1260	870	U	870

# GENERAL CHEMISTRY ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
Division: New England  
LRI Report No: E607210  
LRI Sample No: 6

Customer: Atlantic Environmental Eng  
Location: Pawtucket, RI  
Project: Tidewater Former MGP  
Sample Description: TB6 (20-22)

Date Collected: 07/15/96  
Date Received: 07/17/96

Matrix: Soil  
Percent Moisture: 28.4%  
Units in Dry Weight

<u>Parameter</u>	<u>Result</u>	<u>QL</u>	<u>Units</u>	<u>Started</u> <u>Date</u>	<u>By</u>	<u>Completed</u> <u>Date</u>	<u>By</u>	<u>Dilution</u>
<u>Cyanide by 9012 Modified NE</u>								
Cyanide	31	9.1	mg/kg	07/18/96	EB	07/23/96	EB	25



# METALS ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
 Division: New England  
 LRI Order No: E607210  
 LRI Sample No: 6

Client: Atlantic Environmental Eng  
 Location: Pawtucket, RI  
 Project: Tidewater Former MGP  
 Sample Description: TB6 (20-22)

Date Collected: 07/15/96  
 Date Received: 07/17/96

Matrix: Soil  
 Percent Moisture: 28.4%

Parameter	Result	QL	Units	Started		Completed		Dilution
				Date	By	Date	By	
<u>Arsenic by Furnace by SW-846 7060</u>								
Arsenic	17	0.47	mg/kg	07/18/96	KH	07/22/96	MM	2
<u>Mercury by Cold Vapor by SW-846 7471</u>								
Mercury	0.19	0.12	mg/kg	07/18/96	KH	07/22/96	KH	
<u>Metals by ICP by SW-846 6010A</u>								
Beryllium	0.70	0.24	mg/kg	07/18/96	KH	07/24/96	BS	
Chromium	43	2.9	mg/kg	07/18/96	KH	07/22/96	BS	
Copper	96	2.9	mg/kg	07/18/96	KH	07/22/96	BS	
Nickel	41	2.9	mg/kg	07/18/96	KH	07/22/96	BS	
Silver	2.7	2.4	mg/kg	07/18/96	KH	07/22/96	BS	
Zinc	79	1.2	mg/kg	07/18/96	KH	07/22/96	BS	
Barium	35	1.2	mg/kg	07/18/96	KH	07/24/96	BS	
Antimony	12 U	12	mg/kg	07/18/96	KH	07/22/96	BS	
Lead	86	5.9	mg/kg	07/18/96	KH	07/22/96	BS	
Selenium	12 U	12	mg/kg	07/18/96	KH	07/22/96	BS	
Cadmium	1.2 U	1.2	mg/kg	07/18/96	KH	07/22/96	BS	
<u>Thallium by Furnace by SW-846 7841</u>								
Thallium	0.18 U	0.18	mg/kg	07/18/96	KH	07/24/96	MM	

# VOLATILE ORGANIC ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
 Division: New England  
 LRI Report No: E607210  
 LRI Sample No: 6

Customer: Atlantic Environmental Eng  
 Location: Pawtucket, RI  
 Project: Tidewater Former MGP  
 Sample Description: TB6 (20-22)

Date Collected: 07/15/96  
 Date Received: 07/17/96  
 Date Extracted: By:  
 Date Analyzed: 07/29/96 By: AT

Matrix: Soil  
 Percent Moisture: 28.4%  
 Sample Weight/Volume:  
 Dilution Factor: 20000  
 Soil Extract Volume:  
 Soil Aliquot Volume:  
 Lab Data File: C4389

Method: 8260A  
 Level: LOW  
 GC Column:  
 Units: ug/kg (Dry Weight)

CAS No.	Parameter	Result	Qual	QL
107-02-8	Acrolein	700000	U	700000
107-13-1	Acrylonitrile	700000	U	700000
71-43-2	Benzene	140000	U	140000
108-86-1	Bromobenzene	140000	U	140000
74-97-5	Bromochloromethane	140000	U	140000
75-27-4	Bromodichloromethane	140000	U	140000
75-25-2	Bromoform	140000	U	140000
74-83-9	Bromomethane	280000	U	280000
104-51-8	n-Butylbenzene	140000	U	140000
135-98-8	sec-Butylbenzene	140000	U	140000
98-06-6	tert-Butylbenzene	140000	U	140000
56-23-5	Carbon tetrachloride	140000	U	140000
108-90-7	Chlorobenzene	140000	U	140000
75-00-3	Chloroethane	280000	U	280000
67-66-3	Chloroform	140000	U	140000
74-87-3	Chloromethane	280000	U	280000
95-49-8	2-Chlorotoluene	140000	U	140000
106-43-4	4-Chlorotoluene	140000	U	140000
96-12-8	1,2-Dibromo-3-chloropropane (DBCP)	140000	U	140000
124-48-1	Dibromochloromethane	140000	U	140000
106-93-4	1,2-Dibromoethane (EDB)	140000	U	140000
74-95-3	Dibromomethane	140000	U	140000
95-50-1	1,2-Dichlorobenzene	140000	U	140000
541-73-1	1,3-Dichlorobenzene	140000	U	140000
106-46-7	1,4-Dichlorobenzene	140000	U	140000
75-71-8	Dichlorodifluoromethane	280000	U	280000
75-34-3	1,1-Dichloroethane	140000	U	140000
107-06-2	1,2-Dichloroethane	140000	U	140000
75-35-4	1,1-Dichloroethene	140000	U	140000
156-59-4	cis-1,2-Dichloroethene	140000	U	140000
156-60-5	trans-1,2-Dichloroethene	140000	U	140000
78-87-5	1,2-Dichloropropane	140000	U	140000
142-28-9	1,3-Dichloropropane	140000	U	140000
590-20-7	2,2-Dichloropropane	140000	U	140000
563-58-6	1,1-Dichloropropene	140000	U	140000
10061-01-5	cis-1,3-Dichloropropene	140000	U	140000
10061-02-6	trans-1,3-Dichloropropene	140000	U	140000
100-41-4	Ethylbenzene	140000	U	140000
87-68-3	Hexachlorobutadiene	140000	U	140000
98-82-8	Isopropylbenzene	140000	U	140000
99-87-6	4-Isopropyltoluene	140000	U	140000
1634-04-4	Methyl tert-butyl ether (MTBE)	140000	U	140000

# VOLATILE ORGANIC ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
 Division: New England  
 LRI Report No: E607210  
 LRI Sample No: 6

Customer: Atlantic Environmental Eng  
 Location: Pawtucket, RI  
 Project: Tidewater Former MGP  
 Sample Description: TB6 (20-22)

Method: 8260A

CAS No.	Parameter	Result	Qual	QL
75-09-2	Methylene chloride	140000	U	140000
91-20-3	Naphthalene	2300000		140000
103-65-1	n-Propylbenzene	140000	U	140000
100-42-5	Styrene	140000	U	140000
96-18-4	1,2,3-Trichloropropane	140000	U	140000
630-20-6	1,1,1,2-Tetrachloroethane	140000	U	140000
79-34-5	1,1,2,2-Tetrachloroethane	140000	U	140000
127-18-4	Tetrachloroethene	140000	U	140000
108-88-3	Toluene	140000	U	140000
87-61-6	1,2,3-Trichlorobenzene	140000	U	140000
120-82-1	1,2,4-Trichlorobenzene	140000	U	140000
71-55-6	1,1,1-Trichloroethane	140000	U	140000
79-00-5	1,1,2-Trichloroethane	140000	U	140000
79-01-6	Trichloroethene (TCE)	140000	U	140000
75-69-4	Trichlorofluoromethane	280000	U	280000
95-63-6	1,2,4-Trimethylbenzene	140000	U	140000
108-67-8	1,3,5-Trimethylbenzene	140000	U	140000
75-01-4	Vinyl chloride	280000	U	280000
95-47-6	o-Xylene	140000	U	140000
	m,p-Xylenes	140000	U	140000

# SEMIVOLATILE ORGANIC ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
Division: New England  
LRI Report No: E607210  
LRI Sample No: 6

Customer: Atlantic Environmental Eng  
Location: Pawtucket, RI  
Project: Tidewater Former MGP  
Sample Description: TB6 (20-22)

Date Collected: 07/15/96  
Date Received: 07/17/96  
Date Extracted: 07/26/96 By: KRB  
Date Analyzed: 07/26/96 By: KRB

Matrix: Soil  
Percent Moisture: 28.4%  
pH:  
Sample Weight/Volume: 2.13 g  
Extract Volume: 2  
Injection Volume:  
Dilution Factor: 1  
Lab Data File: 8072614

Method: 8080  
Level: LOW  
GC Column:  
Units: ug/kg (Dry Weight)

CAS No.	Parameter	Result	Qual	QL
12674-11-2	Aroclor 1016	660	U	660
11104-28-2	Aroclor 1221	660	U	660
11141-16-5	Aroclor 1232	660	U	660
53469-21-9	Aroclor 1242	660	U	660
12672-29-6	Aroclor 1248	660	U	660
11097-69-1	Aroclor 1254	660	U	660
11096-82-5	Aroclor 1260	660	U	660

# SEMIVOLATILE ORGANIC ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
 Division: New England  
 LRI Report No: E607210  
 LRI Sample No: 6

Customer: Atlantic Environmental Eng  
 Location: Pawtucket, RI  
 Project: Tidewater Former MGP  
 Sample Description: TB6 (20-22)

Date Collected: 07/15/96  
 Date Received: 07/17/96  
 Date Extracted: 07/29/96 By: RAW  
 Date Analyzed: 07/30/96 By: RAW

Matrix: Soil  
 Percent Moisture: 28.4%  
 pH:  
 Sample Weight/Volume: 10.0 g  
 Extract Volume: 1  
 Injection Volume:  
 Dilution Factor: 20  
 Lab Data File: a12775

Method: 8270  
 Level: LOW  
 GC Column:  
 Units: ug/kg ( Dry Weight )

CAS No.	Parameter	Result	Qual	QL
83-32-9	Acenaphthene	32000		14000
208-96-8	Acenaphthylene	150000		14000
120-12-7	Anthracene	120000		14000
56-55-3	Benzo[a]anthracene	83000		14000
50-32-8	Benzo[a]pyrene	57000		4200
205-99-2	Benzo[b]fluoranthene	69000		14000
191-24-2	Benzo[g,h,i]perylene	14000	U	14000
207-08-9	Benzo[k]fluoranthene	65000		14000
218-01-9	Chrysene	69000		14000
53-70-3	Dibenzo[a,h]anthracene	4200	U	4200
206-44-0	Fluoranthene	230000		14000
86-73-7	Fluorene	130000		14000
193-39-5	Indeno[1,2,3-cd]pyrene	16000		14000
91-20-3	Naphthalene	450000		14000
85-01-8	Phenanthrene	240000		14000
129-00-0	Pyrene	200000		14000
91-57-6	2-Methylnaphthalene	160000		14000

# GENERAL CHEMISTRY ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
Division: New England  
LRI Report No: E607210  
LRI Sample No: 7

Customer: Atlantic Environmental Eng  
Location: Pawtucket, RI  
Project: Tidewater Former MGP  
Sample Description: TB6A (20-22)

Date Collected: 07/15/96  
Date Received: 07/17/96

Matrix: Soil  
Percent Moisture: 29.6%  
Units in Dry Weight

<u>Parameter</u>	<u>Result</u>	<u>QL</u>	<u>Units</u>	<u>Started</u> <u>Date</u>	<u>By</u>	<u>Completed</u> <u>Date</u>	<u>By</u>	<u>Dilution</u>
<u>Cyanide by 9012 Modified NE</u>								
Cyanide	55	4.8	mg/kg	07/18/96	EB	07/23/96	EB	10

# METALS ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
 Division: New England  
 LRI Order No: E607210  
 LRI Sample No: 7

Client: Atlantic Environmental Eng  
 Location: Pawtucket, RI  
 Project: Tidewater Former MGP  
 Sample Description: TB6A (20-22)

Date Collected: 07/15/96  
 Date Received: 07/17/96

Matrix: Soil  
 Percent Moisture: 29.6%

Parameter	Result	QL	Units	Started		Completed		Dilution
				Date	By	Date	By	
<u>Arsenic by Furnace by SW-846 7060</u>								
Arsenic	9.9	0.25	mg/kg	07/18/96	KH	07/22/96	MM	
<u>Mercury by Cold Vapor by SW-846 7471</u>								
Mercury	0.24	0.12	mg/kg	07/18/96	KH	07/22/96	KH	
<u>Metals by ICP by SW-846 6010A</u>								
Beryllium	0.50	0.25	mg/kg	07/18/96	KH	07/24/96	BS	
Chromium	45	3.1	mg/kg	07/18/96	KH	07/22/96	BS	
Copper	100	3.1	mg/kg	07/18/96	KH	07/22/96	BS	
Nickel	23	3.1	mg/kg	07/18/96	KH	07/22/96	BS	
Silver	2.5U	2.5	mg/kg	07/18/96	KH	07/22/96	BS	
Zinc	72	1.3	mg/kg	07/18/96	KH	07/22/96	BS	
Barium	71	1.3	mg/kg	07/18/96	KH	07/24/96	BS	
Antimony	13U	13	mg/kg	07/18/96	KH	07/22/96	BS	
Lead	100	6.3	mg/kg	07/18/96	KH	07/22/96	BS	
Selenium	13U	13	mg/kg	07/18/96	KH	07/22/96	BS	
Cadmium	1.3U	1.3	mg/kg	07/18/96	KH	07/22/96	BS	
<u>Thallium by Furnace by SW-846 7841</u>								
Thallium	0.18U	0.18	mg/kg	07/18/96	KH	07/24/96	MM	

# SEMIVOLATILE ORGANIC ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
Division: New England  
LRI Report No: E607210  
LRI Sample No: 7

Customer: Atlantic Environmental Eng  
Location: Pawtucket, RI  
Project: Tidewater Former MGP  
Sample Description: TB6A (20-22)

Date Collected: 07/15/96  
Date Received: 07/17/96  
Date Extracted: 07/26/96 By: KRB  
Date Analyzed: 07/26/96 By: KRB

Matrix: Soil  
Percent Moisture: 29.6%  
pH:  
Sample Weight/Volume: 2.06 g  
Extract Volume: 2  
Injection Volume:  
Dilution Factor: 1  
Lab Data File: 8072615

Method: 8080  
Level: LOW  
GC Column:  
Units: ug/kg (Dry Weight)

CAS No.	Parameter	Result	Qual	QL
12674-11-2	Aroclor 1016	690	U	690
11104-28-2	Aroclor 1221	690	U	690
11141-16-5	Aroclor 1232	690	U	690
53469-21-9	Aroclor 1242	690	U	690
12672-29-6	Aroclor 1248	690	U	690
11097-69-1	Aroclor 1254	690	U	690
11096-82-5	Aroclor 1260	690	U	690



# GENERAL CHEMISTRY ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
Division: New England  
LRI Report No: E607210  
LRI Sample No: 8

Customer: Atlantic Environmental Eng  
Location: Pawtucket, RI  
Project: Tidewater Former MGP  
Sample Description: TB6 (0-2)

Date Collected: 07/15/96  
Date Received: 07/17/96

Matrix: Soil  
Percent Moisture: 8.0%  
Units in Dry Weight

<u>Parameter</u>	<u>Result</u>	<u>QL</u>	<u>Units</u>	<u>Started</u> <u>Date</u>	<u>By</u>	<u>Completed</u> <u>Date</u>	<u>By</u>	<u>Dilution</u>
<u>Cyanide by 9012 Modified NE</u>								
Cyanide	26	2.0	mg/kg	07/18/96	EB	07/23/96	EB	5

# METALS ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
 Division: New England  
 LRI Order No: E607210  
 LRI Sample No: 8

Client: Atlantic Environmental Eng  
 Location: Pawtucket, RI  
 Project: Tidewater Former MGP  
 Sample Description: TB6 (0-2)

Date Collected: 07/15/96  
 Date Received: 07/17/96

Matrix: Soil  
 Percent Moisture: 8.0%

Parameter	Result	QL	Units	Started		Completed		Dilution
				Date	By	Date	By	
<u>Arsenic by Furnace by SW-846 7060</u>								
Arsenic	3.7	0.20	mg/kg	07/19/96	KH	07/22/96	MM	
<u>Mercury by Cold Vapor by SW-846 7471</u>								
Mercury	0.098 U	0.098	mg/kg	07/18/96	KH	07/22/96	KH	
<u>Metals by ICP by SW-846 6010A</u>								
Beryllium	0.24	0.20	mg/kg	07/19/96	KH	07/24/96	BS	
Chromium	81	2.4	mg/kg	07/19/96	KH	07/22/96	BS	
Copper	52	2.4	mg/kg	07/19/96	KH	07/22/96	BS	
Nickel	16	2.4	mg/kg	07/19/96	KH	07/22/96	BS	
Silver	2.9	2.0	mg/kg	07/19/96	KH	07/22/96	BS	
Zinc	150	0.98	mg/kg	07/19/96	KH	07/22/96	BS	
Barium	190	0.98	mg/kg	07/19/96	KH	07/24/96	BS	
Antimony	9.8 U	9.8	mg/kg	07/19/96	KH	07/22/96	BS	
Lead	760	4.9	mg/kg	07/19/96	KH	07/22/96	BS	
Selenium	9.8 U	9.8	mg/kg	07/19/96	KH	07/22/96	BS	
Cadmium	1.5	0.98	mg/kg	07/19/96	KH	07/22/96	BS	
<u>Thallium by Furnace by SW-846 7841</u>								
Thallium	0.18 U	0.18	mg/kg	07/19/96	KH	07/24/96	MM	

# SEMIVOLATILE ORGANIC ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
Division: New England  
LRI Report No: E607210  
LRI Sample No: 8

Customer: Atlantic Environmental Eng  
Location: Pawtucket, RI  
Project: Tidewater Former MGP  
Sample Description: TB6 (0-2)

Date Collected: 07/15/96  
Date Received: 07/17/96  
Date Extracted: 07/26/96 By: KRB  
Date Analyzed: 07/26/96 By: KRB

Matrix: Soil  
Percent Moisture: 8.0%  
pH:  
Sample Weight/Volume: 2.11 g  
Extract Volume: 2  
Injection Volume:  
Dilution Factor: 1  
Lab Data File: 8072616

Method: 8080  
Level: LOW  
GC Column:  
Units: ug/kg (Dry Weight)

CAS No.	Parameter	Result	Qual	QL
12674-11-2	Aroclor 1016	520	U	520
11104-28-2	Aroclor 1221	520	U	520
11141-16-5	Aroclor 1232	520	U	520
53469-21-9	Aroclor 1242	520	U	520
12672-29-6	Aroclor 1248	520	U	520
11097-69-1	Aroclor 1254	520	U	520
11096-82-5	Aroclor 1260	520	U	520

# GENERAL CHEMISTRY ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
Division: New England  
LRI Report No: E607210  
LRI Sample No: 9

Customer: Atlantic Environmental Eng  
Location: Pawtucket, RI  
Project: Tidewater Former MGP  
Sample Description: TB4 (22-24)

Date Collected: 07/15/96  
Date Received: 07/17/96

Matrix: Soil  
Percent Moisture: 28.1%  
Units in Dry Weight

<u>Parameter</u>	<u>Result</u>	<u>QL</u>	<u>Units</u>	<u>Started</u> <u>Date</u>	<u>By</u>	<u>Completed</u> <u>Date</u>	<u>By</u>	<u>Dilution</u>
<u>Cyanide by 9012 Modified NE</u>								
Cyanide	21	2.0	mg/kg	07/18/96	EB	07/23/96	EB	5

# METALS ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
 Division: New England  
 LRI Order No: E607210  
 LRI Sample No: 9

Client: Atlantic Environmental Eng  
 Location: Pawtucket, RI  
 Project: Tidewater Former MGP  
 Sample Description: TB4 (22-24)

Date Collected: 07/15/96  
 Date Received: 07/17/96

Matrix: Soil  
 Percent Moisture: 28.1%

Parameter	Result	QL	Units	Started		Completed		Dilution
				Date	By	Date	By	
<u>Arsenic by Furnace by SW-846 7060</u>								
Arsenic	7.1	0.24	mg/kg	07/18/96	KH	07/22/96	MM	
<u>Mercury by Cold Vapor by SW-846 7471</u>								
Mercury	0.13 U	0.13	mg/kg	07/18/96	KH	07/22/96	KH	
<u>Metals by ICP by SW-846 6010A</u>								
Beryllium	0.24 U	0.24	mg/kg	07/18/96	KH	07/24/96	BS	
Chromium	20	2.9	mg/kg	07/18/96	KH	07/22/96	BS	
Copper	61	2.9	mg/kg	07/18/96	KH	07/22/96	BS	
Nickel	11	2.9	mg/kg	07/18/96	KH	07/22/96	BS	
Silver	2.4 U	2.4	mg/kg	07/18/96	KH	07/22/96	BS	
Zinc	78	1.2	mg/kg	07/18/96	KH	07/22/96	BS	
Barium	38	1.2	mg/kg	07/18/96	KH	07/24/96	BS	
Antimony	12 U	12	mg/kg	07/18/96	KH	07/22/96	BS	
Lead	24	5.9	mg/kg	07/18/96	KH	07/22/96	BS	
Selenium	12 U	12	mg/kg	07/18/96	KH	07/22/96	BS	
Cadmium	1.2 U	1.2	mg/kg	07/18/96	KH	07/22/96	BS	
<u>Thallium by Furnace by SW-846 7841</u>								
Thallium	0.18 U	0.18	mg/kg	07/18/96	KH	07/24/96	MM	

# SEMIVOLATILE ORGANIC ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
Division: New England  
LRI Report No: E607210  
LRI Sample No: 9

Customer: Atlantic Environmental Eng  
Location: Pawtucket, RI  
Project: Tidewater Former MGP  
Sample Description: TB4 (22-24)

Date Collected: 07/15/96  
Date Received: 07/17/96  
Date Extracted: 07/26/96 By: KRB  
Date Analyzed: 07/26/96 By: KRB

Matrix: Soil  
Percent Moisture: 28.1%  
pH:  
Sample Weight/Volume: 2.00 g  
Extract Volume: 2  
Injection Volume:  
Dilution Factor: 1  
Lab Data File: 8072617

Method: 8080  
Level: LOW  
GC Column:  
Units: ug/kg (Dry Weight)

CAS No.	Parameter	Result	Qual	QL
12674-11-2	Aroclor 1016	700	U	700
11104-28-2	Aroclor 1221	700	U	700
11141-16-5	Aroclor 1232	700	U	700
53469-21-9	Aroclor 1242	700	U	700
12672-29-6	Aroclor 1248	700	U	700
11097-69-1	Aroclor 1254	700	U	700
11096-82-5	Aroclor 1260	700	U	700

# GENERAL CHEMISTRY ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
Division: New England  
LRI Report No: E607210  
LRI Sample No: 10

Customer: Atlantic Environmental Eng  
Location: Pawtucket, RI  
Project: Tidewater Former MGP  
Sample Description: ER4

Date Collected: 07/15/96  
Date Received: 07/17/96

Matrix: Water  
Percent Moisture: N/A  
Units in Wet Weight

Parameter	Result	QL	Units	Started		Completed		Dilution
				Date	By	Date	By	
<u>Cyanide, Total, by EPA 335.3</u>								
Cyanide	0.020 U	0.020	mg/L	07/26/96	EB	07/26/96	EB	

# METALS ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
 Division: New England  
 LRI Order No: E607210  
 LRI Sample No: 10

Client: Atlantic Environmental Eng  
 Location: Pawtucket, RI  
 Project: Tidewater Former MGP  
 Sample Description: ER4

Date Collected: 07/15/96  
 Date Received: 07/17/96

Matrix: Water  
 Percent Moisture: N/A

Parameter	Result	QL	Units	Started		Completed		Dilution
				Date	By	Date	By	
<u>Arsenic by Furnace by 7060</u>								
Arsenic	0.0020 U	0.0020	mg/L	07/17/96	KH	07/22/96	MM	
<u>Mercury by Cold Vapor by 7470</u>								
Mercury	0.00046 U	0.00046	mg/L	07/23/96	KH	07/23/96	KH	
<u>Metals by ICP by SW-846 6010A</u>								
Beryllium	0.0020 U	0.0020	mg/L	07/17/96	KH	07/25/96	BS	
Chromium	0.024 U	0.024	mg/L	07/17/96	KH	07/25/96	BS	
Copper	0.024 U	0.024	mg/L	07/17/96	KH	07/25/96	BS	
Nickel	0.024 U	0.024	mg/L	07/17/96	KH	07/25/96	BS	
Silver	0.020 U	0.020	mg/L	07/17/96	KH	07/25/96	BS	
Zinc	0.018	0.010	mg/L	07/17/96	KH	07/25/96	BS	
Barium	0.010 U	0.010	mg/L	07/17/96	KH	07/25/96	BS	
Antimony	0.10 U	0.10	mg/L	07/17/96	KH	07/25/96	BS	
Lead	0.050 U	0.050	mg/L	07/17/96	KH	07/25/96	BS	
Selenium	0.10 U	0.10	mg/L	07/17/96	KH	07/25/96	BS	
Cadmium	0.010 U	0.010	mg/L	07/17/96	KH	07/25/96	BS	
<u>Thallium by Furnace by 7841</u>								
Thallium	0.0020 U	0.0020	mg/L	07/17/96	KH	07/25/96	MM	



# VOLATILE ORGANIC ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
 Division: New England  
 LRI Report No: E607210  
 LRI Sample No: 10

Customer: Atlantic Environmental Eng  
 Location: Pawtucket, RI  
 Project: Tidewater Former MGP  
 Sample Description: ER4

Date Collected: 07/15/96  
 Date Received: 07/17/96  
 Date Extracted: By:  
 Date Analyzed: 07/18/96 By: JTH

Matrix: Water  
 Percent Moisture: N/A  
 Sample Weight/Volume:  
 Dilution Factor:  
 Soil Extract Volume:  
 Soil Aliquot Volume:  
 Lab Data File: C4263.D

Method: 8260A  
 Level: LOW  
 GC Column:  
 Units: ug/L ( Wet Weight )

CAS No.	Parameter	Result	Qual	QL
107-02-8	Acrolein	25	U	25
107-13-1	Acrylonitrile	25	U	25
71-43-2	Benzene	5.0	U	5.0
108-86-1	Bromobenzene	5.0	U	5.0
74-97-5	Bromochloromethane	5.0	U	5.0
75-27-4	Bromodichloromethane	5.0	U	5.0
75-25-2	Bromoform	5.0	U	5.0
74-83-9	Bromomethane	10	U	10
104-51-8	n-Butylbenzene	5.0	U	5.0
135-98-8	sec-Butylbenzene	5.0	U	5.0
98-06-6	tert-Butylbenzene	5.0	U	5.0
56-23-5	Carbon tetrachloride	5.0	U	5.0
108-90-7	Chlorobenzene	5.0	U	5.0
75-00-3	Chloroethane	10	U	10
67-66-3	Chloroform	5.0	U	5.0
74-87-3	Chloromethane	10	U	10
95-49-8	2-Chlorotoluene	5.0	U	5.0
106-43-4	4-Chlorotoluene	5.0	U	5.0
96-12-8	1,2-Dibromo-3-chloropropane (DBCP)	5.0	U	5.0
124-48-1	Dibromochloromethane	5.0	U	5.0
106-93-4	1,2-Dibromoethane (EDB)	5.0	U	5.0
74-95-3	Dibromomethane	5.0	U	5.0
95-50-1	1,2-Dichlorobenzene	5.0	U	5.0
541-73-1	1,3-Dichlorobenzene	5.0	U	5.0
106-46-7	1,4-Dichlorobenzene	5.0	U	5.0
75-71-8	Dichlorodifluoromethane	10	U	10
75-34-3	1,1-Dichloroethane	5.0	U	5.0
107-06-2	1,2-Dichloroethane	5.0	U	5.0
75-35-4	1,1-Dichloroethene	5.0	U	5.0
156-59-4	cis-1,2-Dichloroethene	5.0	U	5.0
156-60-5	trans-1,2-Dichloroethene	5.0	U	5.0
78-87-5	1,2-Dichloropropane	5.0	U	5.0
142-28-9	1,3-Dichloropropane	5.0	U	5.0
590-20-7	2,2-Dichloropropane	5.0	U	5.0
563-58-6	1,1-Dichloropropene	5.0	U	5.0
10061-01-5	cis-1,3-Dichloropropene	5.0	U	5.0
10061-02-6	trans-1,3-Dichloropropene	5.0	U	5.0
100-41-4	Ethylbenzene	5.0	U	5.0
87-68-3	Hexachlorobutadiene	5.0	U	5.0
98-82-8	Isopropylbenzene	5.0	U	5.0
99-87-6	4-Isopropyltoluene	5.0	U	5.0
1634-04-4	Methyl tert-butyl ether (MTBE)	5.0	U	5.0

# VOLATILE ORGANIC ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
Division: New England  
LRI Report No: E607210  
LRI Sample No: 10

Customer: Atlantic Environmental Eng  
Location: Pawtucket, RI  
Project: Tidewater Former MGP  
Sample Description: ER4

Method: 8260A

CAS No.	Parameter	Result	Qual	QL
75-09-2	Methylene chloride	5.0	U	5.0
91-20-3	Naphthalene	5.0	U	5.0
103-65-1	n-Propylbenzene	5.0	U	5.0
100-42-5	Styrene	5.0	U	5.0
96-18-4	1,2,3-Trichloropropane	5.0	U	5.0
630-20-6	1,1,1,2-Tetrachloroethane	5.0	U	5.0
79-34-5	1,1,2,2-Tetrachloroethane	5.0	U	5.0
127-18-4	Tetrachloroethene	5.0	U	5.0
108-88-3	Toluene	5.0	U	5.0
87-61-6	1,2,3-Trichlorobenzene	5.0	U	5.0
120-82-1	1,2,4-Trichlorobenzene	5.0	U	5.0
71-55-6	1,1,1-Trichloroethane	5.0	U	5.0
79-00-5	1,1,2-Trichloroethane	5.0	U	5.0
79-01-6	Trichloroethene (TCE)	5.0	U	5.0
75-69-4	Trichlorofluoromethane	10	U	10
95-63-6	1,2,4-Trimethylbenzene	5.0	U	5.0
108-67-8	1,3,5-Trimethylbenzene	5.0	U	5.0
75-01-4	Vinyl chloride	10	U	10
95-47-6	o-Xylene	5.0	U	5.0
	m,p-Xylenes	5.0	U	5.0

# SEMIVOLATILE ORGANIC ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
 Division: New England  
 LRI Report No: E607210  
 LRI Sample No: 10

Customer: Atlantic Environmental Eng  
 Location: Pawtucket, RI  
 Project: Tidewater Former MGP  
 Sample Description: ER4

Date Collected: 07/15/96  
 Date Received: 07/17/96  
 Date Extracted: 07/18/96 By: KRB  
 Date Analyzed: 07/18/96 By:

Matrix: Water  
 Percent Moisture: N/A  
 pH:  
 Sample Weight/Volume: 500 mL  
 Extract Volume: 1  
 Injection Volume:  
 Dilution Factor: 1  
 Lab Data File: 8071804

Method: 8080  
 Level: LOW  
 GC Column:  
 Units: ug/L ( Wet Weight )

CAS No.	Parameter	Result	Qual	QL
12674-11-2	Aroclor 1016	0.10	U	0.10
11104-28-2	Aroclor 1221	0.10	U	0.10
11141-16-5	Aroclor 1232	0.10	U	0.10
53469-21-9	Aroclor 1242	0.10	U	0.10
12672-29-6	Aroclor 1248	0.10	U	0.10
11097-69-1	Aroclor 1254	0.10	U	0.10
11096-82-5	Aroclor 1260	0.10	U	0.10

# SEMIVOLATILE ORGANIC ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
 Division: New England  
 LRI Report No: E607210  
 LRI Sample No: 10

Customer: Atlantic Environmental Eng  
 Location: Pawtucket, RI  
 Project: Tidewater Former MGP  
 Sample Description: ER4

Date Collected: 07/15/96  
 Date Received: 07/17/96  
 Date Extracted: 07/19/96 By: RAW  
 Date Analyzed: 07/19/96 By: MM

Matrix: Water  
 Percent Moisture: N/A  
 pH:  
 Sample Weight/Volume: 500 mL  
 Extract Volume: .5  
 Injection Volume:  
 Dilution Factor: 1  
 Lab Data File: A12728

Method: 8270  
 Level: LOW  
 GC Column:  
 Units: ug/L ( Wet Weight )

CAS No.	Parameter	Result	Qual	QL
83-32-9	Acenaphthene	5.0	U	5.0
208-96-8	Acenaphthylene	5.0	U	5.0
120-12-7	Anthracene	5.0	U	5.0
56-55-3	Benzo[a]anthracene	5.0	U	5.0
50-32-8	Benzo[a]pyrene	5.0	U	5.0
205-99-2	Benzo[b]fluoranthene	5.0	U	5.0
191-24-2	Benzo[g,h,i]perylene	5.0	U	5.0
207-08-9	Benzo[k]fluoranthene	5.0	U	5.0
218-01-9	Chrysene	5.0	U	5.0
53-70-3	Dibenzo[a,h]anthracene	5.0	U	5.0
206-44-0	Fluoranthene	5.0	U	5.0
86-73-7	Fluorene	5.0	U	5.0
193-39-5	Indeno[1,2,3-cd]pyrene	5.0	U	5.0
91-20-3	Naphthalene	5.0	U	5.0
85-01-8	Phenanthrene	5.0	U	5.0
129-00-0	Pyrene	5.0	U	5.0
91-57-6	2-Methylnaphthalene			

# GENERAL CHEMISTRY ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
Division: New England  
LRI Report No: E607210  
LRI Sample No: 11

Customer: Atlantic Environmental Eng  
Location: Pawtucket, RI  
Project: Tidewater Former MGP  
Sample Description: TB9 (0-2)

Date Collected: 07/16/96  
Date Received: 07/17/96

Matrix: Soil  
Percent Moisture: 11.0%  
Units in Dry Weight

<u>Parameter</u>	<u>Result</u>	<u>QL</u>	<u>Units</u>	<u>Started</u>	<u>Completed</u>	<u>Dilution</u>		
				<u>Date</u>	<u>By</u>	<u>Date</u>	<u>By</u>	
<u>Cyanide by 9012 Modified NE</u>								
Cyanide	77	11	mg/kg	07/18/96	EB	07/23/96	EB	25

# METALS ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
 Division: New England  
 LRI Order No: E607210  
 LRI Sample No: 11

Client: Atlantic Environmental Eng  
 Location: Pawtucket, RI  
 Project: Tidewater Former MGP  
 Sample Description: TB9 (0-2)

Date Collected: 07/16/96  
 Date Received: 07/17/96

Matrix: Soil  
 Percent Moisture: 11.0%

Parameter	Result	QL	Units	Started		Completed		Dilution
				Date	By	Date	By	
<u>Arsenic by Furnace by SW-846 7060</u>								
Arsenic	19	0.37	mg/kg	07/18/96	KH	07/22/96	MM	2
<u>Mercury by Cold Vapor by SW-846 7471</u>								
Mercury	0.099 U	0.099	mg/kg	07/18/96	KH	07/22/96	KH	
<u>Metals by ICP by SW-846 6010A</u>								
Beryllium	0.58	0.19	mg/kg	07/18/96	KH	07/24/96	BS	
Chromium	20	2.3	mg/kg	07/18/96	KH	07/22/96	BS	
Copper	62	2.3	mg/kg	07/18/96	KH	07/22/96	BS	
Nickel	40	2.3	mg/kg	07/18/96	KH	07/22/96	BS	
Silver	1.9 U	1.9	mg/kg	07/18/96	KH	07/22/96	BS	
Zinc	190	0.94	mg/kg	07/18/96	KH	07/22/96	BS	
Barium	100	0.94	mg/kg	07/18/96	KH	07/24/96	BS	
Antimony	9.4 U	9.4	mg/kg	07/18/96	KH	07/22/96	BS	
Lead	120	4.7	mg/kg	07/18/96	KH	07/22/96	BS	
Selenium	9.4 U	9.4	mg/kg	07/18/96	KH	07/22/96	BS	
Cadmium	0.94 U	0.94	mg/kg	07/18/96	KH	07/22/96	BS	
<u>Thallium by Furnace by SW-846 7841</u>								
Thallium	0.18 U	0.18	mg/kg	07/18/96	KH	07/24/96	MM	

# GENERAL CHEMISTRY ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
Division: New England  
LRI Report No: E607210  
LRI Sample No: 12

Customer: Atlantic Environmental Eng  
Location: Pawtucket, RI  
Project: Tidewater Former MGP  
Sample Description: TB9 (23-24)

Date Collected: 07/16/96  
Date Received: 07/17/96

Matrix: Soil  
Percent Moisture: 54.1%  
Units in Dry Weight

<u>Parameter</u>	<u>Result</u>	<u>QL</u>	<u>Units</u>	<u>Started</u>	<u>Completed</u>	<u>Dilution</u>	
				<u>Date</u>	<u>By</u>	<u>Date</u>	<u>By</u>
<u>Cyanide by 9012 Modified NE</u>							
Cyanide	1.4	0.75	mg/kg	07/18/96	EB	07/23/96	EB

# METALS ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
 Division: New England  
 LRI Order No: E607210  
 LRI Sample No: 12

Client: Atlantic Environmental Eng  
 Location: Pawtucket, RI  
 Project: Tidewater Former MGP  
 Sample Description: TB9 (23-24)

Date Collected: 07/16/96  
 Date Received: 07/17/96

Matrix: Soil  
 Percent Moisture: 54.1%

Parameter	Result	QL	Units	Started		Completed		Dilution
				Date	By	Date	By	
<u>Arsenic by Furnace by SW-846 7060</u>								
Arsenic	20	1.8	mg/kg	07/18/96	KH	07/22/96	MM	5
<u>Mercury by Cold Vapor by SW-846 7471</u>								
Mercury	1.3	0.36	mg/kg	07/18/96	KH	07/24/96	KH	2
<u>Metals by ICP by SW-846 6010A</u>								
Beryllium	1.0	0.35	mg/kg	07/18/96	KH	07/24/96	BS	
Chromium	260	4.3	mg/kg	07/18/96	KH	07/22/96	BS	
Copper	820	4.3	mg/kg	07/18/96	KH	07/22/96	BS	
Nickel	25	4.3	mg/kg	07/18/96	KH	07/22/96	BS	
Silver	3.5 U	3.5	mg/kg	07/18/96	KH	07/22/96	BS	
Zinc	780	1.8	mg/kg	07/18/96	KH	07/22/96	BS	
Barium	150	1.8	mg/kg	07/18/96	KH	07/24/96	BS	
Antimony	18 U	18	mg/kg	07/18/96	KH	07/22/96	BS	
Lead	360	8.8	mg/kg	07/18/96	KH	07/22/96	BS	
Selenium	18 U	18	mg/kg	07/18/96	KH	07/22/96	BS	
Cadmium	3.3	1.8	mg/kg	07/18/96	KH	07/22/96	BS	
<u>Thallium by Furnace by SW-846 7841</u>								
Thallium	0.18 U	0.18	mg/kg	07/18/96	KH	07/24/96	MM	



# GENERAL CHEMISTRY ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
Division: New England  
LRI Report No: E607210  
LRI Sample No: 13

Customer: Atlantic Environmental Eng  
Location: Pawtucket, RI  
Project: Tidewater Former MGP  
Sample Description: TB10 (11-12)

Date Collected: 07/16/96  
Date Received: 07/17/96

Matrix: Soil  
Percent Moisture: 27.2%  
Units in Dry Weight

<u>Parameter</u>	<u>Result</u>	<u>QL</u>	<u>Units</u>	<u>Started</u>		<u>Completed</u>		<u>Dilution</u>
				<u>Date</u>	<u>By</u>	<u>Date</u>	<u>By</u>	
<u>Cyanide by 9012 Modified NE</u>								
Cyanide	47	4.4	mg/kg	07/18/96	EB	07/23/96	EB	10

# METALS ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
 Division: New England  
 LRI Order No: E607210  
 LRI Sample No: 13

Client: Atlantic Environmental Eng  
 Location: Pawtucket, RI  
 Project: Tidewater Former MGP  
 Sample Description: TB10 (11-12)

Date Collected: 07/16/96  
 Date Received: 07/17/96

Matrix: Soil  
 Percent Moisture: 27.2%

Parameter	Result	QL	Units	Started		Completed		Dilution
				Date	By	Date	By	
<u>Arsenic by Furnace by SW-846 7060</u>								
Arsenic	4.7	0.23	mg/kg	07/18/96	KH	07/22/96	MM	
<u>Mercury by Cold Vapor by SW-846 7471</u>								
Mercury	0.26	0.12	mg/kg	07/18/96	KH	07/22/96	KH	
<u>Metals by ICP by SW-846 6010A</u>								
Beryllium	0.75	0.23	mg/kg	07/18/96	KH	07/24/96	BS	
Chromium	57	2.8	mg/kg	07/18/96	KH	07/22/96	BS	
Copper	59	2.8	mg/kg	07/18/96	KH	07/22/96	BS	
Nickel	16	2.8	mg/kg	07/18/96	KH	07/22/96	BS	
Silver	2.3 U	2.3	mg/kg	07/18/96	KH	07/22/96	BS	
Zinc	71	1.1	mg/kg	07/18/96	KH	07/22/96	BS	
Barium	41	1.1	mg/kg	07/18/96	KH	07/24/96	BS	
Antimony	11 U	11	mg/kg	07/18/96	KH	07/22/96	BS	
Lead	90	5.7	mg/kg	07/18/96	KH	07/22/96	BS	
Selenium	11 U	11	mg/kg	07/18/96	KH	07/22/96	BS	
Cadmium	1.1 U	1.1	mg/kg	07/18/96	KH	07/22/96	BS	
<u>Thallium by Furnace by SW-846 7841</u>								
Thallium	0.18 U	0.18	mg/kg	07/18/96	KH	07/24/96	MM	

# GENERAL CHEMISTRY ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
Division: New England  
LRI Report No: E607210  
LRI Sample No: 14

Customer: Atlantic Environmental Eng  
Location: Pawtucket, RI  
Project: Tidewater Former MGP  
Sample Description: TB10 (0-2)

Date Collected: 07/16/96  
Date Received: 07/17/96

Matrix: Soil  
Percent Moisture: 6.6%  
Units in Dry Weight

<u>Parameter</u>	<u>Result</u>	<u>QL</u>	<u>Units</u>	<u>Started</u>		<u>Completed</u>		<u>Dilution</u>
				<u>Date</u>	<u>By</u>	<u>Date</u>	<u>By</u>	
<u>Cyanide by 9012 Modified NE</u>								
Cyanide	64	8.5	mg/kg	07/18/96	EB	07/23/96	EB	25

# METALS ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
 Division: New England  
 LRI Order No: E607210  
 LRI Sample No: 14

Client: Atlantic Environmental Eng  
 Location: Pawtucket, RI  
 Project: Tidewater Former MGP  
 Sample Description: TB10 (0-2)

Date Collected: 07/16/96  
 Date Received: 07/17/96

Matrix: Soil  
 Percent Moisture: 6.6%

Parameter	Result	QL	Units	Started Date	By	Completed Date	By	Dilution
<u>Arsenic by Furnace by SW-846 7060</u>								
Arsenic	16	0.39	mg/kg	07/18/96	KH	07/22/96	MM	2
<u>Mercury by Cold Vapor by SW-846 7471</u>								
Mercury	0.27	0.097	mg/kg	07/18/96	KH	07/22/96	KH	
<u>Metals by ICP by SW-846 6010A</u>								
Beryllium	0.57	0.19	mg/kg	07/18/96	KH	07/24/96	BS	
Chromium	16	2.4	mg/kg	07/18/96	KH	07/22/96	BS	
Copper	110	2.4	mg/kg	07/18/96	KH	07/22/96	BS	
Nickel	22	2.4	mg/kg	07/18/96	KH	07/22/96	BS	
Silver	1.9U	1.9	mg/kg	07/18/96	KH	07/22/96	BS	
Zinc	160	0.96	mg/kg	07/18/96	KH	07/22/96	BS	
Barium	140	0.96	mg/kg	07/18/96	KH	07/24/96	BS	
Antimony	9.6U	9.6	mg/kg	07/18/96	KH	07/22/96	BS	
Lead	280	4.8	mg/kg	07/18/96	KH	07/22/96	BS	
Selenium	9.6U	9.6	mg/kg	07/18/96	KH	07/22/96	BS	
Cadmium	0.96U	0.96	mg/kg	07/18/96	KH	07/22/96	BS	
<u>Thallium by Furnace by SW-846 7841</u>								
Thallium	0.18U	0.18	mg/kg	07/18/96	KH	07/24/96	MM	

# GENERAL CHEMISTRY ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
Division: New England  
LRI Report No: E607210  
LRI Sample No: 15

Customer: Atlantic Environmental Eng  
Location: Pawtucket, RI  
Project: Tidewater Former MGP  
Sample Description: TB8 (12-14)

Date Collected: 07/16/96  
Date Received: 07/17/96

Matrix: Soil  
Percent Moisture: 36.6%  
Units in Dry Weight

<u>Parameter</u>	<u>Result</u>	<u>QL</u>	<u>Units</u>	<u>Started</u>		<u>Completed</u>		<u>Dilution</u>
				<u>Date</u>	<u>By</u>	<u>Date</u>	<u>By</u>	
<u>Cyanide by 9012 Modified NE</u>								
Cyanide	37	4.4	mg/kg	07/18/96	EB	07/23/96	EB	10

# METALS ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
 Division: New England  
 LRI Order No: E607210  
 LRI Sample No: 15

Client: Atlantic Environmental Eng  
 Location: Pawtucket, RI  
 Project: Tidewater Former MGP  
 Sample Description: TB8 (12-14)

Date Collected: 07/16/96  
 Date Received: 07/17/96

Matrix: Soil  
 Percent Moisture: 36.6%

Parameter	Result	QL	Units	Started		Completed		Dilution
				Date	By	Date	By	
<u>Arsenic by Furnace by SW-846 7060</u>								
Arsenic	6.7	0.27	mg/kg	07/18/96	KH	07/22/96	MM	
<u>Mercury by Cold Vapor by SW-846 7471</u>								
Mercury	0.28	0.15	mg/kg	07/18/96	KH	07/22/96	KH	
<u>Metals by ICP by SW-846 6010A</u>								
Beryllium	0.47	0.27	mg/kg	07/18/96	KH	07/24/96	BS	
Chromium	59	3.3	mg/kg	07/18/96	KH	07/22/96	BS	
Copper	95	3.3	mg/kg	07/18/96	KH	07/22/96	BS	
Nickel	12	3.3	mg/kg	07/18/96	KH	07/22/96	BS	
Silver	2.7U	2.7	mg/kg	07/18/96	KH	07/22/96	BS	
Zinc	60	1.3	mg/kg	07/18/96	KH	07/22/96	BS	
Barium	41	1.3	mg/kg	07/18/96	KH	07/24/96	BS	
Antimony	13U	13	mg/kg	07/18/96	KH	07/22/96	BS	
Lead	56	6.7	mg/kg	07/18/96	KH	07/22/96	BS	
Selenium	13U	13	mg/kg	07/18/96	KH	07/22/96	BS	
Cadmium	1.3U	1.3	mg/kg	07/18/96	KH	07/22/96	BS	
<u>Thallium by Furnace by SW-846 7841</u>								
Thallium	0.18U	0.18	mg/kg	07/18/96	KH	07/24/96	MM	

# VOLATILE ORGANIC ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
 Division: New England  
 LRI Report No: E607210  
 LRI Sample No: 15

Customer: Atlantic Environmental Eng  
 Location: Pawtucket, RI  
 Project: Tidewater Former MGP  
 Sample Description: TB8 (12-14)

Date Collected: 07/16/96  
 Date Received: 07/17/96  
 Date Extracted: By:  
 Date Analyzed: 07/26/96 By: AT

Matrix: Soil  
 Percent Moisture: 36.6%  
 Sample Weight/Volume:  
 Dilution Factor: 1  
 Soil Extract Volume:  
 Soil Aliquot Volume:  
 Lab Data File: BH963

Method: 8260A  
 Level: LOW  
 GC Column:  
 Units: ug/kg (Dry Weight)

CAS No.	Parameter	Result	Qual	QL
107-02-8	Acrolein	39	U	39
107-13-1	Acrylonitrile	39	U	39
71-43-2	Benzene	7.9	U	7.9
108-86-1	Bromobenzene	7.9	U	7.9
74-97-5	Bromochloromethane	7.9	U	7.9
75-27-4	Bromodichloromethane	7.9	U	7.9
75-25-2	Bromoform	7.9	U	7.9
74-83-9	Bromomethane	16	U	16
104-51-8	n-Butylbenzene	7.9	U	7.9
135-98-8	sec-Butylbenzene	7.9	U	7.9
98-06-6	tert-Butylbenzene	7.9	U	7.9
56-23-5	Carbon tetrachloride	7.9	U	7.9
108-90-7	Chlorobenzene	7.9	U	7.9
75-00-3	Chloroethane	16	U	16
67-66-3	Chloroform	7.9	U	7.9
74-87-3	Chloromethane	16	U	16
95-49-8	2-Chlorotoluene	7.9	U	7.9
106-43-4	4-Chlorotoluene	7.9	U	7.9
96-12-8	1,2-Dibromo-3-chloropropane (DBCP)	7.9	U	7.9
124-48-1	Dibromochloromethane	7.9	U	7.9
106-93-4	1,2-Dibromoethane (EDB)	7.9	U	7.9
74-95-3	Dibromomethane	7.9	U	7.9
95-50-1	1,2-Dichlorobenzene	7.9	U	7.9
541-73-1	1,3-Dichlorobenzene	7.9	U	7.9
106-46-7	1,4-Dichlorobenzene	7.9	U	7.9
75-71-8	Dichlorodifluoromethane	16	U	16
75-34-3	1,1-Dichloroethane	7.9	U	7.9
107-06-2	1,2-Dichloroethane	7.9	U	7.9
75-35-4	1,1-Dichloroethene	7.9	U	7.9
156-59-4	cis-1,2-Dichloroethene	7.9	U	7.9
156-60-5	trans-1,2-Dichloroethene	7.9	U	7.9
78-87-5	1,2-Dichloropropane	7.9	U	7.9
142-28-9	1,3-Dichloropropane	7.9	U	7.9
590-20-7	2,2-Dichloropropane	7.9	U	7.9
563-58-6	1,1-Dichloropropene	7.9	U	7.9
10061-01-5	cis-1,3-Dichloropropene	7.9	U	7.9
10061-02-6	trans-1,3-Dichloropropene	7.9	U	7.9
100-41-4	Ethylbenzene	7.9	U	7.9
87-68-3	Hexachlorobutadiene	7.9	U	7.9
98-82-8	Isopropylbenzene	7.9	U	7.9
99-87-6	4-Isopropyltoluene	7.9	U	7.9
1634-04-4	Methyl tert-butyl ether (MTBE)	7.9	U	7.9

# VOLATILE ORGANIC ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
Division: New England  
LRI Report No: E607210  
LRI Sample No: 15

Customer: Atlantic Environmental Eng  
Location: Pawtucket, RI  
Project: Tidewater Former MGP  
Sample Description: TB8 (12-14)

Method: 8260A

CAS No.	Parameter	Result	Qual	QL
75-09-2	Methylene chloride	7.9	U	7.9
91-20-3	Naphthalene	74		7.9
103-65-1	n-Propylbenzene	7.9	U	7.9
100-42-5	Styrene	7.9	U	7.9
96-18-4	1,2,3-Trichloropropane	7.9	U	7.9
630-20-6	1,1,1,2-Tetrachloroethane	7.9	U	7.9
79-34-5	1,1,2,2-Tetrachloroethane	7.9	U	7.9
127-18-4	Tetrachloroethene	7.9	U	7.9
108-88-3	Toluene	7.9	U	7.9
87-61-6	1,2,3-Trichlorobenzene	7.9	U	7.9
120-82-1	1,2,4-Trichlorobenzene	7.9	U	7.9
71-55-6	1,1,1-Trichloroethane	7.9	U	7.9
79-00-5	1,1,2-Trichloroethane	7.9	U	7.9
79-01-6	Trichloroethene (TCE)	7.9	U	7.9
75-69-4	Trichlorofluoromethane	16	U	16
95-63-6	1,2,4-Trimethylbenzene	19		7.9
108-67-8	1,3,5-Trimethylbenzene	7.9	U	7.9
75-01-4	Vinyl chloride	16	U	16
95-47-6	o-Xylene	11		7.9
	m,p-Xylenes	7.9	U	7.9



# SEMIVOLATILE ORGANIC ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
 Division: New England  
 LRI Report No: E607210  
 LRI Sample No: 15

Customer: Atlantic Environmental Eng  
 Location: Pawtucket, RI  
 Project: Tidewater Former MGP  
 Sample Description: TB8 (12-14)

Date Collected: 07/16/96  
 Date Received: 07/17/96  
 Date Extracted: 07/30/96 By: JTH  
 Date Analyzed: 07/31/96 By: RAW

Matrix: Soil  
 Percent Moisture: 36.6%  
 pH:  
 Sample Weight/Volume: 30.4 g  
 Extract Volume: 1.0  
 Injection Volume:  
 Dilution Factor: 5  
 Lab Data File: A12793

Method: 8270  
 Level: LOW  
 GC Column:  
 Units: ug/kg ( Dry Weight )

CAS No.	Parameter	Result	Qual	QL
83-32-9	Acenaphthene	2200		1300
208-96-8	Acenaphthylene	2400		1300
120-12-7	Anthracene	4600		1300
56-55-3	Benzo[a]anthracene	11000		1300
50-32-8	Benzo[a]pyrene	14000		390
205-99-2	Benzo[b]fluoranthene	11000		1300
191-24-2	Benzo[g,h,i]perylene	11000		1300
207-08-9	Benzo[k]fluoranthene	11000		1300
218-01-9	Chrysene	11000		1300
53-70-3	Dibenzo[a,h]anthracene	870		390
206-44-0	Fluoranthene	17000		1300
86-73-7	Fluorene	2600		1300
193-39-5	Indeno[1,2,3-cd]pyrene	10000		1300
91-20-3	Naphthalene	4600		1300
85-01-8	Phenanthrene	14000		1300
129-00-0	Pyrene	17000		1300
91-57-6	2-Methylnaphthalene	1300	U	1300

# GENERAL CHEMISTRY ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
Division: New England  
LRI Report No: E607210  
LRI Sample No: 16

Customer: Atlantic Environmental Eng  
Location: Pawtucket, RI  
Project: Tidewater Former MGP  
Sample Description: TB9 (6-8)

Date Collected: 07/16/96  
Date Received: 07/17/96

Matrix: Soil  
Percent Moisture: 9.1%  
Units in Dry Weight

<u>Parameter</u>	<u>Result</u>	<u>QL</u>	<u>Units</u>	<u>Started</u> <u>Date</u>	<u>By</u>	<u>Completed</u> <u>Date</u>	<u>By</u>	<u>Dilution</u>
<u>Cyanide by 9012 Modified NE</u> Cyanide	8.1	1.5	mg/kg	07/18/96	EB	07/26/96	EB	5

# METALS ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
 Division: New England  
 LRI Order No: E607210  
 LRI Sample No: 16

Client: Atlantic Environmental Eng  
 Location: Pawtucket, RI  
 Project: Tidewater Former MGP  
 Sample Description: TB9 (6-8)

Date Collected: 07/16/96  
 Date Received: 07/17/96

Matrix: Soil  
 Percent Moisture: 9.1%

Parameter	Result	QL	Units	Started		Completed		Dilution
				Date	By	Date	By	
<u>Arsenic by Furnace by SW-846 7060</u>								
Arsenic	20	0.39	mg/kg	07/19/96	KH	07/22/96	MM	2
<u>Mercury by Cold Vapor by SW-846 7471</u>								
Mercury	0.095 U	0.095	mg/kg	07/19/96	KH	07/22/96	KH	
<u>Metals by ICP by SW-846 6010A</u>								
Beryllium	0.70	0.19	mg/kg	07/19/96	KH	07/24/96	BS	
Chromium	15	2.4	mg/kg	07/19/96	KH	07/22/96	BS	
Copper	35	2.4	mg/kg	07/19/96	KH	07/22/96	BS	
Nickel	17	2.4	mg/kg	07/19/96	KH	07/22/96	BS	
Silver	1.9 U	1.9	mg/kg	07/19/96	KH	07/22/96	BS	
Zinc	45	0.97	mg/kg	07/19/96	KH	07/22/96	BS	
Barium	29	0.97	mg/kg	07/19/96	KH	07/24/96	BS	
Antimony	9.7 U	9.7	mg/kg	07/19/96	KH	07/22/96	BS	
Lead	62	4.9	mg/kg	07/19/96	KH	07/22/96	BS	
Selenium	9.7 U	9.7	mg/kg	07/19/96	KH	07/22/96	BS	
Cadmium	0.97 U	0.97	mg/kg	07/19/96	KH	07/22/96	BS	
<u>Thallium by Furnace by SW-846 7841</u>								
Thallium	0.18 U	0.18	mg/kg	07/19/96	KH	07/24/96	MM	

# GENERAL CHEMISTRY ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
Division: New England  
LRI Report No: E607210  
LRI Sample No: 17

Customer: Atlantic Environmental Eng  
Location: Pawtucket, RI  
Project: Tidewater Former MGP  
Sample Description: TB8 (0-2)

Date Collected: 07/16/96  
Date Received: 07/17/96

Matrix: Soil  
Percent Moisture: 10.8%  
Units in Dry Weight

<u>Parameter</u>	<u>Result</u>	<u>QL</u>	<u>Units</u>	<u>Started</u> <u>Date</u>	<u>By</u>	<u>Completed</u> <u>Date</u>	<u>By</u>	<u>Dilution</u>
<u>Cyanide by 9012 Modified NE</u>								
Cyanide	55	4.1	mg/kg	07/15/96	EB	07/26/96	EB	10

# METALS ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
 Division: New England  
 LRI Order No: E607210  
 LRI Sample No: 17

Client: Atlantic Environmental Eng  
 Location: Pawtucket, RI  
 Project: Tidewater Former MGP  
 Sample Description: TB8 (0-2)

Date Collected: 07/16/96  
 Date Received: 07/17/96

Matrix: Soil  
 Percent Moisture: 10.8%

Parameter	Result	QL	Units	Started		Completed		Dilution
				Date	By	Date	By	
<u>Arsenic by Furnace by SW-846 7060</u>								
Arsenic	6.0	0.19	mg/kg	07/19/96	KH	07/22/96	MM	
<u>Mercury by Cold Vapor by SW-846 7471</u>								
Mercury	0.22	0.099	mg/kg	07/19/96	KH	07/22/96	KH	
<u>Metals by ICP by SW-846 6010A</u>								
Beryllium	0.41	0.19	mg/kg	07/19/96	KH	07/24/96	BS	
Chromium	8.4	2.3	mg/kg	07/19/96	KH	07/22/96	BS	
Copper	25	2.3	mg/kg	07/19/96	KH	07/22/96	BS	
Nickel	15	2.3	mg/kg	07/19/96	KH	07/22/96	BS	
Silver	1.9 U	1.9	mg/kg	07/19/96	KH	07/22/96	BS	
Zinc	74	0.95	mg/kg	07/19/96	KH	07/22/96	BS	
Barium	44	0.95	mg/kg	07/19/96	KH	07/24/96	BS	
Antimony	9.5 U	9.5	mg/kg	07/19/96	KH	07/22/96	BS	
Lead	52	4.8	mg/kg	07/19/96	KH	07/22/96	BS	
Selenium	9.5 U	9.5	mg/kg	07/19/96	KH	07/22/96	BS	
Cadmium	0.95 U	0.95	mg/kg	07/19/96	KH	07/22/96	BS	
<u>Thallium by Furnace by SW-846 7841</u>								
Thallium	0.18 U	0.18	mg/kg	07/19/96	KH	07/24/96	MM	

# VOLATILE ORGANIC ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
 Division: New England  
 LRI Report No: E607210  
 LRI Sample No: 17

Customer: Atlantic Environmental Eng  
 Location: Pawtucket, RI  
 Project: Tidewater Former MGP  
 Sample Description: TB8 (0-2)

Date Collected: 07/16/96  
 Date Received: 07/17/96  
 Date Extracted: By:  
 Date Analyzed: 07/26/96 By: AT

Matrix: Soil  
 Percent Moisture: 10.8%  
 Sample Weight/Volume:  
 Dilution Factor: 1  
 Soil Extract Volume:  
 Soil Aliquot Volume:  
 Lab Data File: BH957

Method: 8260A  
 Level: LOW  
 GC Column:  
 Units: ug/kg (Dry Weight)

CAS No.	Parameter	Result	Qual	QL
107-02-8	Acrolein	28	U	28
107-13-1	Acrylonitrile	28	U	28
71-43-2	Benzene	5.6	U	5.6
108-86-1	Bromobenzene	5.6	U	5.6
74-97-5	Bromochloromethane	5.6	U	5.6
75-27-4	Bromodichloromethane	5.6	U	5.6
75-25-2	Bromoform	5.6	U	5.6
74-83-9	Bromomethane	11	U	11
104-51-8	n-Butylbenzene	5.6	U	5.6
135-98-8	sec-Butylbenzene	5.6	U	5.6
98-06-6	tert-Butylbenzene	5.6	U	5.6
56-23-5	Carbon tetrachloride	5.6	U	5.6
108-90-7	Chlorobenzene	5.6	U	5.6
75-00-3	Chloroethane	11	U	11
67-66-3	Chloroform	5.6	U	5.6
74-87-3	Chloromethane	11	U	11
95-49-8	2-Chlorotoluene	5.6	U	5.6
106-43-4	4-Chlorotoluene	5.6	U	5.6
96-12-8	1,2-Dibromo-3-chloropropane (DBCP)	5.6	U	5.6
124-48-1	Dibromochloromethane	5.6	U	5.6
106-93-4	1,2-Dibromoethane (EDB)	5.6	U	5.6
74-95-3	Dibromomethane	5.6	U	5.6
95-50-1	1,2-Dichlorobenzene	5.6	U	5.6
541-73-1	1,3-Dichlorobenzene	5.6	U	5.6
106-46-7	1,4-Dichlorobenzene	5.6	U	5.6
75-71-8	Dichlorodifluoromethane	11	U	11
75-34-3	1,1-Dichloroethane	5.6	U	5.6
107-06-2	1,2-Dichloroethane	5.6	U	5.6
75-35-4	1,1-Dichloroethene	5.6	U	5.6
156-59-4	cis-1,2-Dichloroethene	5.6	U	5.6
156-60-5	trans-1,2-Dichloroethene	5.6	U	5.6
78-87-5	1,2-Dichloropropane	5.6	U	5.6
142-28-9	1,3-Dichloropropane	5.6	U	5.6
590-20-7	2,2-Dichloropropane	5.6	U	5.6
563-58-6	1,1-Dichloropropene	5.6	U	5.6
10061-01-5	cis-1,3-Dichloropropene	5.6	U	5.6
10061-02-6	trans-1,3-Dichloropropene	5.6	U	5.6
100-41-4	Ethylbenzene	5.6	U	5.6
87-68-3	Hexachlorobutadiene	5.6	U	5.6
98-82-8	Isopropylbenzene	5.6	U	5.6
99-87-6	4-Isopropyltoluene	5.6	U	5.6
1634-04-4	Methyl tert-butyl ether (MTBE)	5.6	U	5.6

# VOLATILE ORGANIC ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
Division: New England  
LRI Report No: E607210  
LRI Sample No: 17

Customer: Atlantic Environmental Eng  
Location: Pawtucket, RI  
Project: Tidewater Former MGP  
Sample Description: TB8 (0-2)

Method: 8260A

CAS No.	Parameter	Result	Qual	QL
75-09-2	Methylene chloride	5.6	U	5.6
91-20-3	Naphthalene	5.6	U	5.6
103-65-1	n-Propylbenzene	5.6	U	5.6
100-42-5	Styrene	5.6	U	5.6
96-18-4	1,2,3-Trichloropropane	5.6	U	5.6
630-20-6	1,1,1,2-Tetrachloroethane	5.6	U	5.6
79-34-5	1,1,2,2-Tetrachloroethane	5.6	U	5.6
127-18-4	Tetrachloroethene	5.6	U	5.6
108-88-3	Toluene	5.6	U	5.6
87-61-6	1,2,3-Trichlorobenzene	5.6	U	5.6
120-82-1	1,2,4-Trichlorobenzene	5.6	U	5.6
71-55-6	1,1,1-Trichloroethane	5.6	U	5.6
79-00-5	1,1,2-Trichloroethane	5.6	U	5.6
79-01-6	Trichloroethene (TCE)	5.6	U	5.6
75-69-4	Trichlorofluoromethane	11	U	11
95-63-6	1,2,4-Trimethylbenzene	5.6	U	5.6
108-67-8	1,3,5-Trimethylbenzene	5.6	U	5.6
75-01-4	Vinyl chloride	11	U	11
95-47-6	o-Xylene	5.6	U	5.6
	m,p-Xylenes	5.6	U	5.6

# SEMIVOLATILE ORGANIC ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
 Division: New England  
 LRI Report No: E607210  
 LRI Sample No: 17

Customer: Atlantic Environmental Eng  
 Location: Pawtucket, RI  
 Project: Tidewater Former MGP  
 Sample Description: TB8 (0-2)

Date Collected: 07/16/96  
 Date Received: 07/17/96  
 Date Extracted: 07/30/96 By: JTH  
 Date Analyzed: 07/31/96 By: RAW

Matrix: Soil  
 Percent Moisture: 10.8%  
 pH:  
 Sample Weight/Volume: 29.8 g  
 Extract Volume: 1.0  
 Injection Volume:  
 Dilution Factor: 5  
 Lab Data File: A12794

Method: 8270  
 Level: LOW  
 GC Column:  
 Units: ug/kg (Dry Weight)

CAS No.	Parameter	Result	Qual	QL
83-32-9	Acenaphthene	940		940
208-96-8	Acenaphthylene	1100	U	940
120-12-7	Anthracene	940	U	940
56-55-3	Benzo[a]anthracene	2800		940
50-32-8	Benzo[a]pyrene	2800		280
205-99-2	Benzo[b]fluoranthene	3300		940
191-24-2	Benzo[g,h,i]perylene	2100		940
207-08-9	Benzo[k]fluoranthene	2300		940
218-01-9	Chrysene	3100		940
53-70-3	Dibenzo[a,h]anthracene	280	U	280
206-44-0	Fluoranthene	4300		940
86-73-7	Fluorene	940	U	940
193-39-5	Indeno[1,2,3-cd]pyrene	2000		940
91-20-3	Naphthalene	970		940
85-01-8	Phenanthrene	2700		940
129-00-0	Pyrene	5000		940
91-57-6	2-Methylnaphthalene	1200		940



Report No: E607210  
Client: Atlantic Environmental  
Case: Tidewater Former MGP

### **VOLATILE NONCONFORMANCE SUMMARY**

One internal standard area was below the quality control limit of +100%/-50% for sample E607210-17 for the 8260 analysis. The sample was rerun. The internal standard area was still outside the quality control windows.



**CUSTOMER INFORMATION**  
 CUSTOMER: ATAPARC ENVU  
 ADDRESS: 188 Norwiche Ave  
Cochester CT 06415  
 TELEPHONE: 860 5370751  
 FAX: \_\_\_\_\_

**PROJECT INFORMATION**  
 PROJECT: RESIDENT  
 PROJECT LOCATION: PAWUCKE STATE RI  
 PROJECT MANAGER: \_\_\_\_\_  
 IN CASE WE HAVE ANY QUESTIONS WHEN SAMPLES ARRIVE WE SHOULD CALL: \_\_\_\_\_  
 NAME: P. GEORGETT  
 TELEPHONE: \_\_\_\_\_  
 FAX: \_\_\_\_\_

**BILLING INFORMATION**  
 BILL TO: ATAPARC  
 ADDRESS: \_\_\_\_\_  
 ATTENTION: \_\_\_\_\_  
 TELEPHONE: \_\_\_\_\_  
 PO #: \_\_\_\_\_

LAB ID CODE	SAMPLE IDENTIFICATION	DATE COLLECTED	TIME COLLECTED	SAMPLE TYPE		SAMPLE MATRIX	# OF BOTTLES	RTK 8200 PAY 2570	Mg Hs	CN	PCB	PRESERVATIVE:				
				COMPOSITE	GRAB							H2SO4	HCL	HNO3	NAOH	NON-PRES
	TR34 (0-2)	7-15-96		X		SOIL	2	X	X	X	X					
	TR4A (0-2)								X	X	X					
	TR5 (4-6)								X	X	X					
	TR5 (0-2)								X	X	X					
	TR5 (92-52)								X	X	X					
	TR6 (20-22)							X	X	X	X					
	TR6A (20-22)								X	X	X					
	TR6 (0-2)								X	X	X					
	TR4 (22-24)								X	X	X					

TURNAROUND (INDICATE IN CALENDAR DAYS): STD FAX \_\_\_\_\_ HARD COPY \_\_\_\_\_ DELIV. PKG. \_\_\_\_\_

NAME OF LAB PERSONNEL CONFIRMING: \_\_\_\_\_  
 DELIVERABLES / (CIRCLE ONE): DATA DATA/QC RED/DELIV NJ/CLP I NJ/CLP II

SAMPLER / AFFILIATION: P. GEORGETT / ATAPARC DATE: 7-16-96  
 RECEIVED / AFFILIATION: [Signature] TIME: 5:00 P  
 RELINQUISHED / AFFILIATION: [Signature] DATE: 7-17-96  
 RECEIVED / AFFILIATION: [Signature] TIME: 1:10  
 RELINQUISHED / AFFILIATION: [Signature] DATE: \_\_\_\_\_ TIME: \_\_\_\_\_

RETURN TO CLIENT FOR DISPOSAL  LAB DISPOSAL  
 KNOWN HAZARD (FLAMMABLE, EXPLOSIVE, TOXIC)  
 YES  NO (IF YES EXPLAIN UNDER COMMENTS)  
**LAB USE** CONDITIONS OF BOTTLES AND COOLER AT RECEIPT:  
 COMPLIANT  NOT COMPLIANT (IF NOT EXPLAIN UNDER COMMENTS)  
 COMMENTS: METAALS - Pb, Pd, Cu + Ni  
CN - TOTAL VIA 9012 / 9013  
PAY DET. LIMIT 0.1 ppm

LRI QUOTE #

PAGE 2 OF 2

**CUSTOMER INFORMATION**

CUSTOMER: ATLANTIC  
 ADDRESS: \_\_\_\_\_  
 TELEPHONE: \_\_\_\_\_  
 FAX: \_\_\_\_\_

**PROJECT INFORMATION**

PROJECT: TIDEWATER  
 PROJECT LOCATION: PAWTUCKET STATE PI  
 PROJECT MANAGER: \_\_\_\_\_  
 IN CASE WE HAVE ANY QUESTIONS WHEN SAMPLES ARRIVE WE SHOULD CALL: \_\_\_\_\_  
 NAME: \_\_\_\_\_  
 TELEPHONE: \_\_\_\_\_  
 FAX: \_\_\_\_\_

**BILLING INFORMATION**

BILL TO: ATLANTIC  
 ADDRESS: \_\_\_\_\_  
 ATTENTION: \_\_\_\_\_  
 TELEPHONE: \_\_\_\_\_  
 PO #: \_\_\_\_\_

LAB ID CODE	SAMPLE IDENTIFICATION	DATE COLLECTED	TIME COLLECTED	SAMPLE TYPE		SAMPLE MATRIX	# OF BOTTLES	DTEX SC60 DA4 ST20	CN	METS	PCB	PRESERVATIVES					
				COMPOSITE	GRAB							H2SO4	HCL	HNO3	NAOH	NON-PRES	
EN4		7-16-96			X	WATER	5		X	X	X						
TS9(0-2)		7-16-96			X	SOIL	2		X	X							
TS9(23-24)									X	X							
TS10(11-12)									X	X							
TS16(0-2)									X	X							
TS8(12-14)									X	X							
TS9(6-8)									X	X							
TS8(0-2)									X	X							

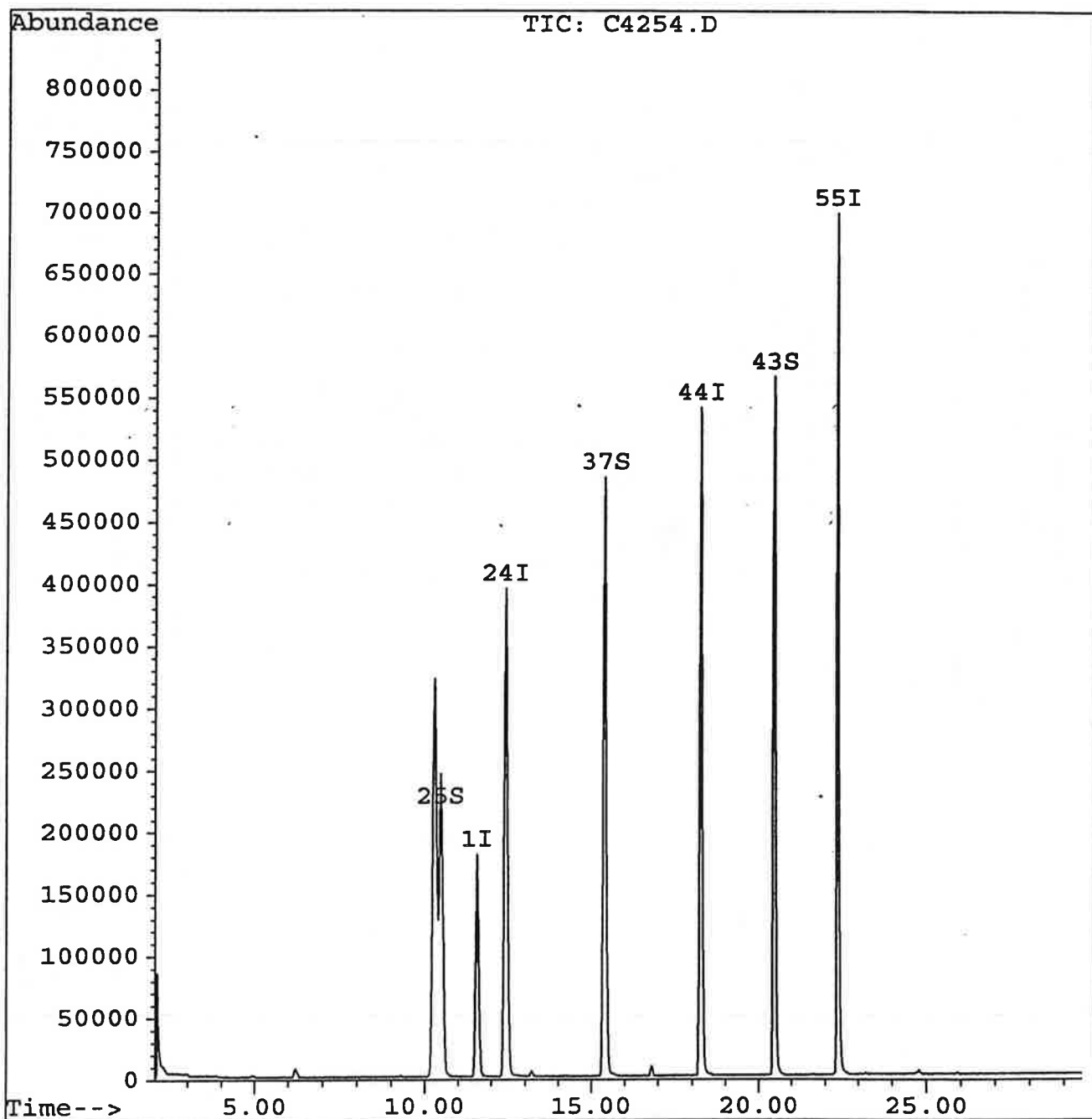
TURNAROUND (INDICATE IN CALENDAR DAYS): 5D FAX \_\_\_\_\_ HARD COPY \_\_\_\_\_ DELIV. PKG. \_\_\_\_\_  
 NAME OF LAB PERSONNEL CONFIRMING: \_\_\_\_\_  
 DELIVERABLES / (CIRCLE ONE): DATA DATA/QC RED/DELIV NJ/CLP I NJ/CLP II  
 NJ/REGL NY/ASP CLP OTHER \_\_\_\_\_  
 SAMPLER / AFFILIATION: P. GEORGETT LARSON  
 RECEIVED / AFFILIATION: \_\_\_\_\_ DATE: 7-16-96  
 RELINQUISHED / AFFILIATION: \_\_\_\_\_ TIME: 5:00P  
 RECEIVED / AFFILIATION: \_\_\_\_\_ DATE: 7-17-96  
 RELINQUISHED / AFFILIATION: \_\_\_\_\_ TIME: 1:46  
 RECEIVED / AFFILIATION: \_\_\_\_\_ DATE: \_\_\_\_\_  
 RELINQUISHED / AFFILIATION: \_\_\_\_\_ TIME: \_\_\_\_\_

RETURN TO CLIENT FOR DISPOSAL  LAB DISPOSAL  
 KNOWN HAZARD (FLAMMABLE, EXPLOSIVE, TOXIC)  
 YES  NO (IF YES EXPLAIN UNDER COMMENTS)  
**LAB USE** CONDITIONS OF BOTTLES AND COOLER AT RECEIPT:  
 COMPLIANT  NOT COMPLIANT (IF NOT EXPLAIN UNDER COMMENTS)  
 COMMENTS: METALS - PR. POLY + PLANIUM  
 CN - TOTAL VIA 901219013  
 DAM - DET. UM '1 0.1 ppm

Data File : C:\HPCHEM\1\DATA\C4254.D  
Acq On : 18 Jul 96 11:55 am  
Sample : VBLK0718 CH#02  
Misc : METHOD BLANK LOW WATER  
Quant Time: Jul 31 9:57 1996

Vial: 3  
Operator: JTH  
Inst : GC/MS #  
Multiplr: 1.00

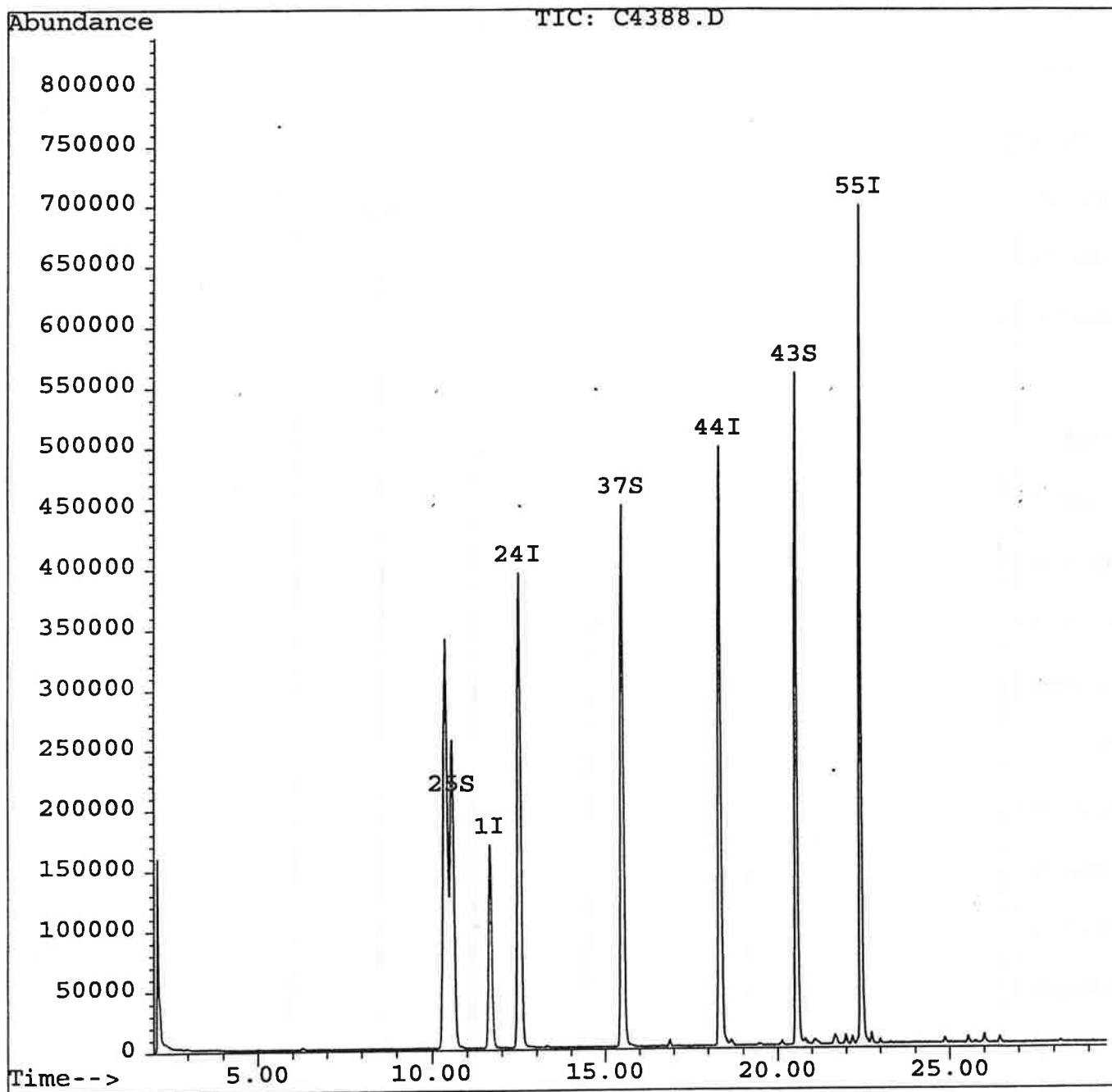
Method : C:\HPCHEM\1\METHODS\8260A3.M  
Title : 8260 WATER CALIBRATION  
Last Update : Tue Jul 30 14:08:16 1996  
Response via : Multiple Level Calibration



Data File : C:\HPCHEM\1\DATA\C4388.D  
Acq On : 29 Jul 96 10:21 am  
Sample : vblk0729  
Misc :  
Quant Time: Jul 30 9:54 1996

Vial: 3  
Operator: AT  
Inst : GC/MS #3  
Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\8260A3.M  
Title : 8260 WATER CALIBRATION  
Last Update : Mon Jul 29 09:57:36 1996  
Response via : Multiple Level Calibration

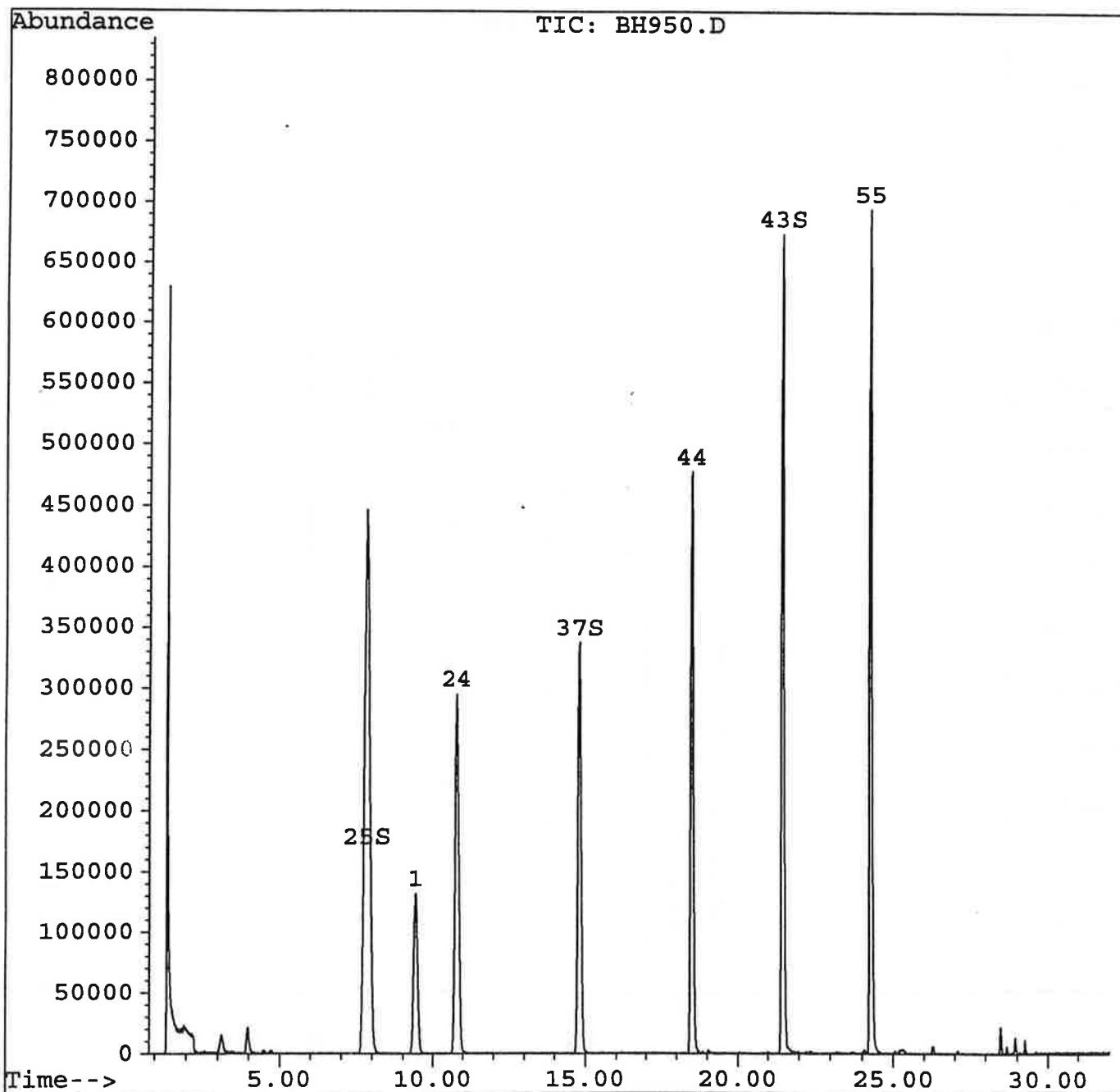


Quantitation Report

Data File : C:\HPCHEM\1\DATA\BH950.D  
Acq On : 26 Jul 96 12:17 pm  
Sample : VBLK0726 CH#03  
Misc :  
Quant Time: Aug 5 12:59 1996

Vial: 13  
Operator: JTH  
Inst : MSD #2  
Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\8260S2.M  
Title : 8260 SOIL CALIBRATION  
Last Update : Wed Aug 07 07:24:56 1996  
Response via : Multiple Level Calibration



Data File : C:\HPCHEM\1\DATA\C4254.D  
Acq On : 18 Jul 96 11:55 am  
Sample : VBLK0718 CH#02  
Misc : METHOD BLANK LOW WATER  
Quant Time: Jul 31 9:57 1996

Vial: 3  
Operator: JTH  
Inst : GC/MS #  
Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\8260A3.M  
Title : 8260 WATER CALIBRATION  
Last Update : Tue Jul 30 14:08:16 1996  
Response via : Multiple Level Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Mi)
1) 1,2-Dichloroethane-d4	11.58	67	218528	50.00	ug/L	-0.2
24) 1,4-Difluorobenzene	12.43	114	1056218	50.00	ug/L	-0.2
44) Chlorobenzene-d5	18.26	117	846945	50.00	ug/L	-0.2
55) 1,4-Dichlorobenzene-d4	22.38	152	432008	50.00	ug/L	-0.1
System Monitoring Compounds						%Recover
25) Dibromofluoromethane (S)	10.47	113	578495	52.86	ug/L	105.7
37) Toluene-d8 (S)	15.43	98	1070427	51.01	ug/L	102.0
43) Bromofluorobenzene (S)	20.48	95	593474	49.33	ug/L	98.6

Target Compounds

Qvalu

-----  
(#) = qualifier out of range (m) = manual integration

Data File : C:\HPCHEM\1\DATA\C4388.D  
 Acq On : 29 Jul 96 10:21 am  
 Sample : vblk0729  
 Misc :  
 Quant Time: Jul 30 9:54 1996

Vial: 3  
 Operator: AT  
 Inst : GC/MS #3  
 Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\8260A3.M  
 Title : 8260 WATER CALIBRATION  
 Last Update : Mon Jul 29 09:57:36 1996  
 Response via : Multiple Level Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)	
1) 1,2-Dichloroethane-d4	11.67	67	209587	50.00	ug/L	-0.03	
24) 1,4-Difluorobenzene	12.52	114	1076101	50.00	ug/L	-0.03	
44) Chlorobenzene-d5	18.35	117	801047	50.00	ug/L	-0.04	
55) 1,4-Dichlorobenzene-d4	22.44	152	443919	50.00	ug/L	-0.02	
System Monitoring Compounds							%Recovery
25) Dibromofluoromethane (S)	10.59	113	613628	55.04	ug/L	110.07%	
37) Toluene-d8 (S)	15.51	98	992618	46.43	ug/L	92.86%	
43) Bromofluorobenzene (S)	20.56	95	559476	45.64	ug/L	91.28%	

Target Compounds

Qvalue

(#) = qualifier out of range (m) = manual integration



Quantitation report

Data File : C:\HPCHEM\1\DATA\BH950.D  
 Acq On : 26 Jul 96 12:17 pm  
 Sample : VBLK0726 CH#03  
 Misc :  
 Quant Time: Aug 5 12:59 1996

Vial: 13  
 Operator: JTH  
 Inst : MSD #2  
 Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\8260S2.M  
 Title : 8260 SOIL CALIBRATION  
 Last Update : Wed Aug 07 07:24:56 1996  
 Response via : Multiple Level Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,2-Dichloroethane-d4	9.45	67	224519	50.00	ug/kg	-0.03
24) 1,4-Difluorobenzene	10.80	114	946253	50.00	ug/kg	-0.04
44) Chlorobenzene-d5	18.51	117	784941	50.00	ug/kg	0.00
55) 1,4-Dichlorobenzene-d4	24.30	152	545043	50.00	ug/kg	0.00
						%Recovery
System Monitoring Compounds						
25) Dibromofluoromethane (S)	7.84	113	628435	48.28	ug/kg	96.56%
37) Toluene-d8 (S)	14.82	98	821511	49.29	ug/kg	98.59%
43) Bromofluorobenzene (S)	21.49	95	855039	48.36	ug/kg	96.73%

Target Compounds

Qvalue

(#) = qualifier out of range (m) = manual integration

WA  
WATER VOLATILE SYSTEM MONITORING COMPOUND RECOVERY

Lab Name: LRI

Contract: \_\_\_\_\_

Project No.: 210

Site: \_\_\_\_\_

Location: \_\_\_\_\_

Group: \_\_\_\_\_

	SAMPLE NO.	SMC1 #	SMC2 #	SMC3 #	OTHER #	TOT OUT
01	VBLK0718	106	102	99		
02	210-10	110	103	104		
03	VBLK0729	110	93	91		
04	210-06	109	93	90		
05						
06						
07						
08						
09						
10						
11						
12						
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25						
26						
27						
28						
29						
30						

SMC1 = Dibromofluoromethane (S)  
 SMC2 = Toluene-d8 (S)  
 SMC3 = Bromofluorobenzene (S)

QC LIMITS  
 (66-130)  
 (91-109)  
 (76-121)

# Column to be used to flag recovery values  
 \* Values outside of contract required QC limits  
 D System Monitoring Compound diluted out

SOIL VOLATILE SYSTEM MONITORING COMPOUND RECOVERY

Lab Name: LRI

Contract: \_\_\_\_\_

Project No.: 210

Site: \_\_\_\_\_

Location: \_\_\_\_\_

Group: \_\_\_\_\_

Level: (low/med) LOW

	SAMPLE NO.	SMC1 (dfm) #	SMC2 (TOL) #	SMC3 (BFB) #	OTHER #	TOT OUT
01	VBLK0726	97	99	97		
02	210-17	108	95	67		
03	210-01	103	95	76		
04	210-15	99	94	84		
05						
06						
07						
08						
09						
10						
11						
12						
13						
14						
15						
16						
17						
18						
19						
20						
21						
22						
23						
24						
25						
26						
27						
28						
29						
30						

QC LIMITS

SMC1 (dfm) = Dibromofluoromethane (S)

(90-110)

SMC2 (TOL) = Toluene-d8 (S)

(77-121)

SMC3 (BFB) = Bromofluorobenzene (S)

(67-123)

# Column to be used to flag recovery values

\* Values outside of contract required QC limits

D System Monitoring Compound diluted out

Method : C:\HPCHEM\1\METHODS\8260A2.M  
 Title : 8260 AQUEOUS CALIBRATION  
 Last Update : Wed Jul 10 14:59:38 1996  
 Response via : Initial Calibration

Non-Spiked Sample: BH817.D

File ID	Spike Sample	Spike Duplicate Sample
BH821.D	BH821.D	BH822.D
e607068-03ms	e607068-03ms	e607068-03msd
8 Jul 96 7:18 pm	8 Jul 96 7:18 pm	8 Jul 96 7:57 pm

Compound	Sample Conc	Spike Added	Spike Res	Dup Res	Spike %Rec	Dup %Rec	RPD	QC RPD	Limits % Rec
1,1-Dichloroethene	0.0	50	49	47	99	94	5	17	49-115
Benzene	0.0	50	51	50	102	100	2	20	51-132
Trichloroethene	0.0	50	50	49	101	97	4	17	62-129
Toluene	0.0	50	52	49	104	98	6	17	65-134
Chlorobenzene	0.1	50	54	49	108	98	10	17	64-131

8260A2.M

Fri Jul 12 14:02:27 1996

PC #7

spike recovery and RPD summary report - SOIL

Method : C:\HPCHEM\1\METHODS\8260S2.M  
 Title : 8260 SOIL CALIBRATION  
 Last Update : Tue Jul 23 12:51:04 1996  
 Response via : Initial Calibration

Non-Spiked Sample: BH891.D

Spike Sample	Spike Duplicate Sample
File ID : BH899.D	BH900.D
Sample : e607139-02ms	e607139-02msd
Acq Time: 23 Jul 96 7:48 pm	23 Jul 96 8:27 pm

Compound	Sample Conc	Spike Added	Spike Res	Dup Res	Spike %Rec	Dup %Rec	RPD	QC RPD	Limits % Rec
1,1-Dichloroethene	0.0	50	45	47	89	94	6	20	66-144
Benzene	0.0	50	55	56	110	112	1	20	63-145
Trichloroethene	0.0	50	56	56	111	112	1	20	65-145
Toluene	0.0	50	52	52	104	105	1	21	66-151
Chlorobenzene	0.0	50	48	47	96	94	2	21	63-148

8260S2.M

Wed Jul 24 09:47:10 1996

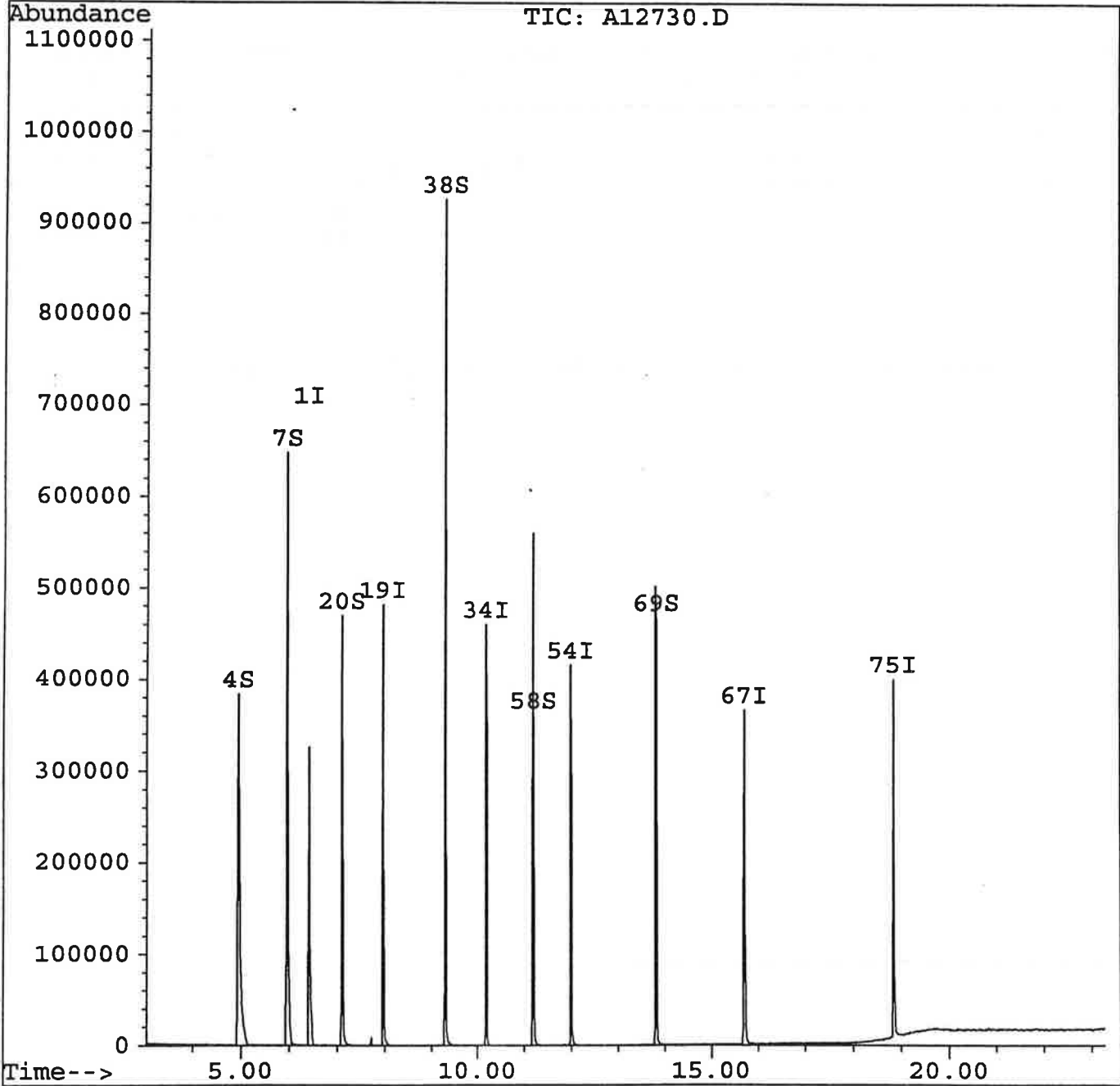
PC #7

Quantitation Report

Data File : C:\HPCHEM\1\DATA\A12730.D  
Acq On : 19 Jul 96 5:16 pm  
Sample : S0719BA-01  
Misc :  
Quant Time: Jul 19 17:40 1996

Vial: 4  
Operator: JTH  
Inst : MSD #1  
Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\8270B1M3.M  
Title : EPA 8270 calibration  
Last Update : Fri Jul 19 14:38:50 1996  
Response via : Multiple Level Calibration

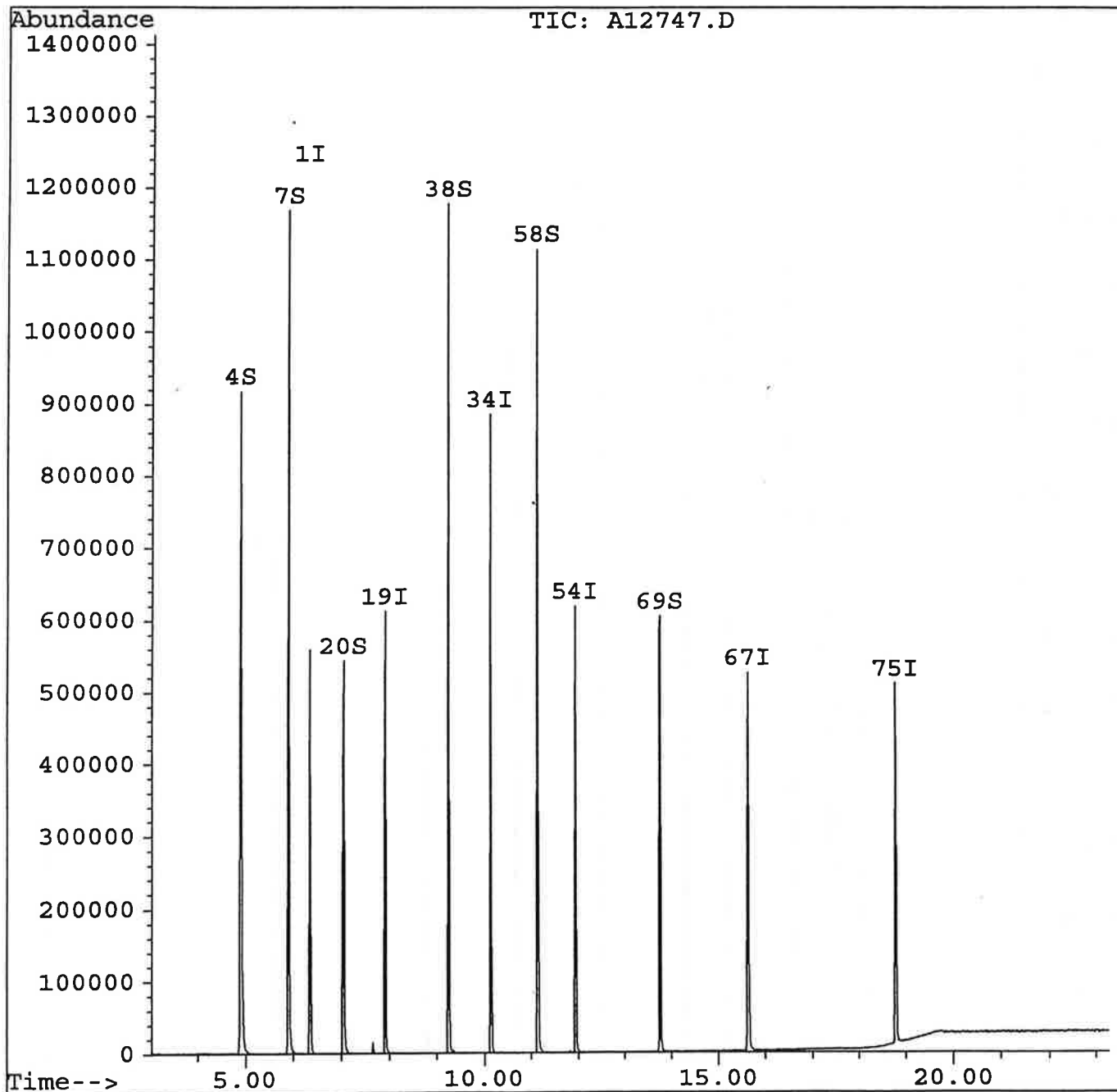


Quantitation Report

Data File : C:\HPCHEM\1\DATA\A12747.D  
Acq On : 29 Jul 96 12:07 pm  
Sample : S0729BS-01  
Misc :  
Quant Time: Jul 29 12:31 1996

Vial: 1  
Operator: RAW  
Inst : MSD #1  
Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\8270B1M3.M  
Title : EPA 8270 calibration  
Last Update : Fri Jul 26 15:23:56 1996  
Response via : Multiple Level Calibration

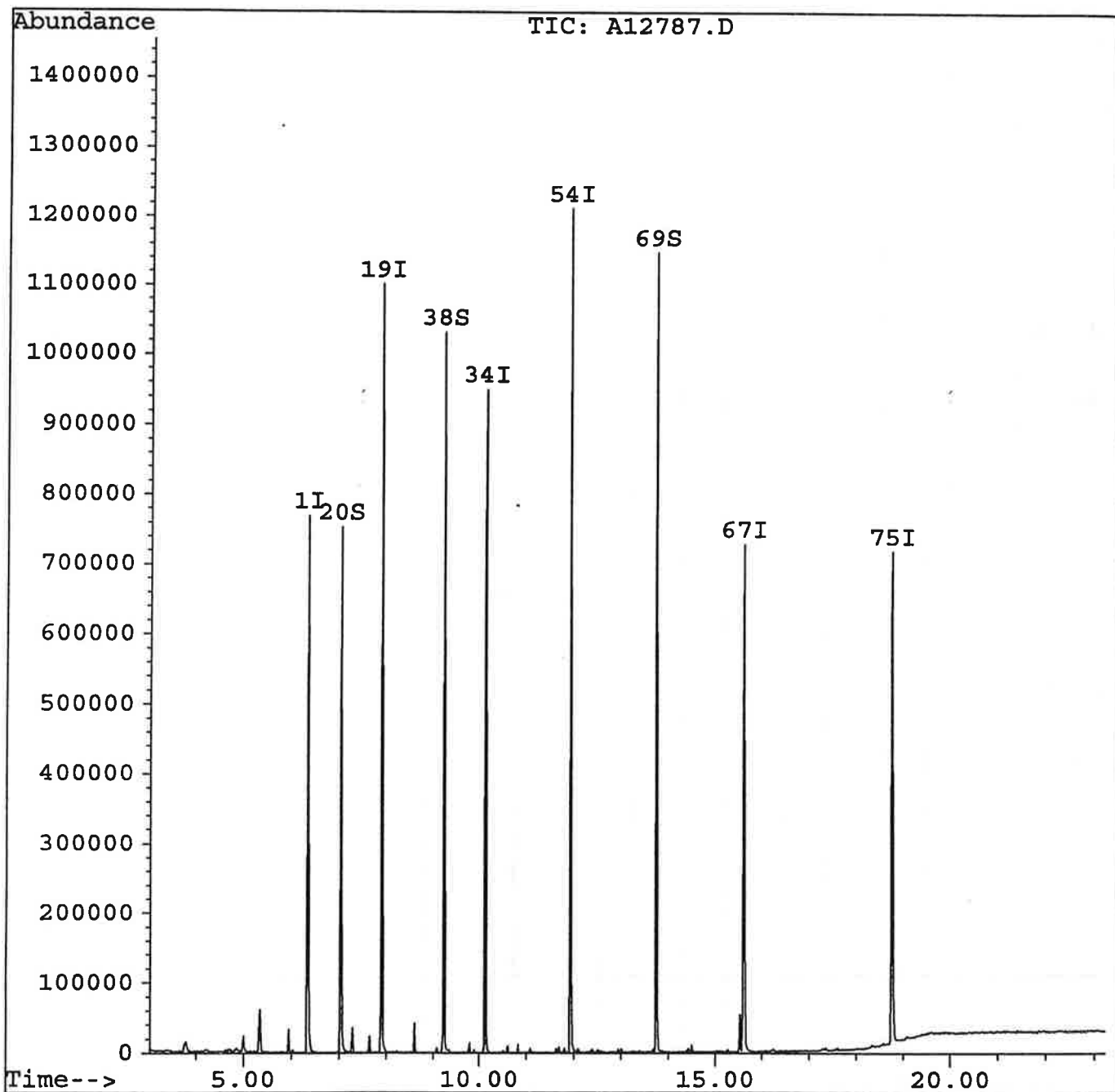


Quantitation Report

Data File : C:\HPCHEM\1\DATA\A12787.D  
Acq On : 31 Jul 96 12:17 pm  
Sample : s0730bs-01  
Misc : 8270  
Quant Time: Jul 31 12:41 1996

Vial: 3  
Operator: RAW  
Inst : MSD #1  
Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\8270B1M3.M  
Title : EPA 8270 calibration  
Last Update : Wed Jul 31 12:13:52 1996  
Response via : Multiple Level Calibration





Quantitation Report

Data File : C:\HPCHEM\1\DATA\A12730.D  
 Acq On : 19 Jul 96 5:16 pm  
 Sample : S0719BA-01  
 Misc :  
 Quant Time: Jul 19 17:40 1996

Vial: 4  
 Operator: JTH  
 Inst : MSD #1  
 Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\8270B1M3.M  
 Title : EPA 8270 calibration  
 Last Update : Fri Jul 19 14:38:50 1996  
 Response via : Multiple Level Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	6.41	152	95828	40.00	ug/ml	0.00
19) Naphthalene-d8	7.97	136	309873	40.00	ug/ml	0.00
34) Acenaphthene-d10	10.18	164	174314	40.00	ug/ml	0.00
54) Phenanthrene-d10	11.99	188	251384	40.00	ug/ml	0.00
67) Chrysene-d12	15.71	240	212108	40.00	ug/ml	-0.02 ✓
75) Perylene-d12	18.85	264	229172	40.00	ug/ml	0.00

System Monitoring Compounds	R.T.	QIon	Response	Conc	Units	%Recovery
4) 2-Fluorophenol	4.96	112	295224	113.80	ug/ml	56.90%
7) Phenol-d6	5.96	99	382197	119.12	ug/ml	59.56%
20) Nitrobenzene-d5	7.10	82	240692	77.07	ug/ml	77.07% ✓
38) 2-Fluorobiphenyl	9.30	172	369042	74.44	ug/ml	74.44%
58) 2,4,6-Tribromophenol	11.20	330	128058	127.13	ug/ml	63.56%
69) Terphenyl-d14	13.82	244	288601	78.74	ug/ml	78.74%

Target Compounds Qvalue

Quantitation Report

Data File : C:\HPCHEM\1\DATA\A12747.D  
 Acq On : 29 Jul 96 12:07 pm  
 Sample : S0729BS-01  
 Misc :  
 Quant Time: Jul 29 12:31 1996

Vial: 1  
 Operator: RAW  
 Inst : MSD #1  
 Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\8270B1M3.M  
 Title : EPA 8270 calibration  
 Last Update : Fri Jul 26 15:23:56 1996  
 Response via : Multiple Level Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev (Min)
1) 1,4-Dichlorobenzene-d4	6.35	152	134920	40.00	ug/ml	-0.02
19) Naphthalene-d8	7.92	136	423537	40.00	ug/ml	-0.02
34) Acenaphthene-d10	10.13	164	242686	40.00	ug/ml	-0.02
54) Phenanthrene-d10	11.95	188	369806	40.00	ug/ml	0.00
67) Chrysene-d12	15.64	240	301959	40.00	ug/ml	-0.02
75) Perylene-d12	18.79	264	285056	40.00	ug/ml	-0.02

System Monitoring Compounds	R.T.	QIon	Response	Conc	Units	%Recovery
4) 2-Fluorophenol	4.89	112	531330	121.77	ug/ml	60.89%
7) Phenol-d6	5.91	99	667791	116.15	ug/ml	58.07%
20) Nitrobenzene-d5	7.05	82	297909	57.47	ug/ml	57.47%
38) 2-Fluorobiphenyl	9.25	172	464157	64.13	ug/ml	64.13%
58) 2,4,6-Tribromophenol	11.13	330	223482	130.26	ug/ml	65.13%
69) Terphenyl-d14	13.77	244	374442	71.20	ug/ml	71.20%

Target Compounds

Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation report

Data File : C:\HPCHEM\1\DATA\A12787.D  
 Acq On : 31 Jul 96 12:17 pm  
 Sample : s0730bs-01  
 Misc : 8270  
 Quant Time: Jul 31 12:41 1996

Vial: 3  
 Operator: RAW  
 Inst : MSD #1  
 Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\8270B1M3.M  
 Title : EPA 8270 calibration  
 Last Update : Wed Jul 31 12:13:52 1996  
 Response via : Multiple Level Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev (Min)
1) 1,4-Dichlorobenzene-d4	6.35	152	202029	40.00	ug/ml	0.00
19) Naphthalene-d8	7.91	136	632613	40.00	ug/ml	0.00
34) Acenaphthene-d10	10.13	164	346402	40.00	ug/ml	0.00
54) Phenanthrene-d10	11.94	188	499245	40.00	ug/ml	0.00
67) Chrysene-d12	15.62	240	416162	40.00	ug/ml	0.00
75) Perylene-d12	18.79	264	484368	40.00	ug/ml	0.00
						%Recovery
System Monitoring Compounds						
4) 2-Fluorophenol	0.00	112	0	0.00	ug/ml	0.00%
7) Phenol-d6	0.00	99	0	0.00	ug/ml	0.00%
20) Nitrobenzene-d5	7.04	82	336729	43.49	ug/ml	43.49%
38) 2-Fluorobiphenyl	9.23	172	460232	44.55	ug/ml	44.55%
58) 2,4,6-Tribromophenol	0.00	330	0	0.00	ug/ml	0.00%
69) Terphenyl-d14	13.76	244	523599	72.24	ug/ml	72.24%

Target Compounds

Qvalue

Method : C:\HPCHEM\1\METHODS\8270B1M3.M EXTRACTED 7/15/96  
 Title : EPA 8270 calibration  
 Last Update : Wed Jul 31 12:14:05 1996  
 Response via : Initial Calibration

Non-Spiked Sample: E01585.D

Spike Sample	Spike Duplicate Sample
File ID : A12733.D	A12734.D
Sample : E607100-13MS	E607100-13MSD
Acq Time: 19 Jul 96 6:45 pm	19 Jul 96 7:15 pm

Compound	Sample Conc	Spike Added	Spike Res	Dup Res	Spike %Rec	Dup %Rec	RPD	QC RPD	Limits % Rec
Phenol	0.0	200	142	144	71	72	2	42	12-110
2-Chlorophenol	0.0	200	133	134	66	67	1	40	27-123
1,4-Dichlorobenzene	1.3	100	68	67	67	66	2	28	36- 97
N-Nitroso-di-n-propy	0.0	100	90	94	90	94	4	38	41-116
1,2,4-Trichlorobenze	0.0	100	63	65	63	65	4	28	39- 98
4-Chloro-3-methylphe	0.0	200	130	132	65	66	2	42	23- 97
Acenaphthene	0.0	100	59	60	59	60	2	31	46-118
2,4-Dinitrotoluene	0.0	100	83	81	83	81	2	38	24- 96
4-Nitrophenol	0.0	200	83	82	42	41	1	50	10- 80
Pentachlorophenol	0.0	200	140	141	70	71	1	50	9-103
Pyrene	0.0	100	69	71	69	71	2	31	26-127

8270B1M3.M

Wed Jul 31 13:18:03 1996

PC-6

Spike Recovery and RPD Summary Report - S01L

Method : C:\HPCHEM\1\METHODS\8270B1M3.M  
 Title : EPA 8270 calibration  
 Last Update : Wed Jul 31 12:14:05 1996  
 Response via : Initial Calibration

Non-Spiked Sample: A12748.D

Spike Sample	Spike Duplicate Sample
File ID : A12756.D	A12757.D
Sample : E607269-06 MS	E607269-06 MSD
Acq Time: 29 Jul 96 6:18 pm	29 Jul 96 6:55 pm

Compound	Sample Conc	Spike Added	Spike Res	Dup Res	Spike %Rec	Dup %Rec	RPD	QC RPD	Limits % Rec
Phenol	0.0	200	106	106	53	53	0	35	26- 90
2-Chlorophenol	0.0	200	104	103	52	52	1	50	25-102
1,4-Dichlorobenzene	0.0	100	55	54	55	54	1	27	28-104
N-Nitroso-di-n-propy	0.0	100	68	65	68	65	4	38	41-126
1,2,4-Trichlorobenze	0.0	100	55	56	55	56	1	38	41-126
4-Chloro-3-methylphe	0.0	200	102	98	51	49	5	33	26-103
Acenaphthene	0.3	100	41	47	41	46	13	19	31-137
2,4-Dinitrotoluene	0.0	100	51	50	51	50	2	47	28- 89
4-Nitrophenol	0.2	200	75	70	37	35	7	50	11-114
Pentachlorophenol	0.0	200	115	114	57	57	1	47	17-109
Pyrene	25.5	100	87	84	61	59	4	36	35-142

## WATER SEMIVOLATILE SURROGATE RECOVERY

Lab Name: LRI Contract: \_\_\_\_\_  
 Project No.: 210 Site: \_\_\_\_\_ Location: \_\_\_\_\_ Group: \_\_\_\_\_

	SAMPLE NO.	S1 (2FP) #	S2 (PHL) #	S3 (NBZ) #	S4 (FBP) #	S5 (TBP) #	S6 (TPH) #	#	#	TOT OUT
01	s0719ba-01	57	60	77	74	64	79			6
02	E607210-10	67	71	67	69	84	78			
03										
04										
05										
06										
07										
08										
09										
10										
11										
12										
13										
14										
15										
16										
17										
18										
19										
20										
21										
22										
23										
24										
25										
26										
27										
28										
29										
30										

S1 (2FP) = 2-Fluorophenol  
 S2 (PHL) = Phenol-d6  
 S3 (NBZ) = Nitrobenzene-d5  
 S4 (FBP) = 2-Fluorobiphenyl  
 S5 (TBP) = 2,4,6-Tribromophenol  
 S6 (TPH) = Terphenyl-d14

QC LIMITS  
 (21-100)  
 (10-94)  
 (34-114)  
 (43-116)  
 (10-123)  
 (33-141)

# Column to be used to flag recovery values  
 \* Values outside of contract required QC limits  
 D Surrogate diluted out

SOIL SEMIVOLATILE SURROGATE RECOVERY

Lab Name: LRI Contract: \_\_\_\_\_  
 Project No.: 210 Site: \_\_\_\_\_ Location: \_\_\_\_\_ Group: \_\_\_\_\_  
 Level: (low/med) LOW

	SAMPLE NO.	S1 (2FP) #	S2 (PHL) #	S3 (NBZ) #	S4 (FBP) #	S5 (TBP) #	S6 (TPH) #	#	#	TOT OUT
01	s0729bs-01	61	58	57	64	65	71			
02	s0730bs-01			43	45		72			
03	E607210-1	58	68	76	81	86	115			
04	E607210-6	57	59	61	75	79	106			
05	E607210-15			53	73		120			
06	E607210-17			105	115		134			
07										
08										
09										
10										
11										
12										
13										
14										
15										
16										
17										
18										
19										
20										
21										
22										
23										
24										
25										
26										
27										
28										
29										
30										

**QC LIMITS**  
 S1 (2FP) = 2-Fluorophenol (25-121)  
 S2 (PHL) = Phenol-d6 (24-113)  
 S3 (NBZ) = Nitrobenzene-d5 (23-120)  
 S4 (FBP) = 2-Fluorobiphenyl (30-115)  
 S5 (TBP) = 2,4,6-Tribromophenol (19-122)  
 S6 (TPH) = Terphenyl-d14 (18-137)

# Column to be used to flag recovery values  
 \* Values outside of contract required QC limits  
 D Surrogate diluted out

Quantitation Report

Data File : C:\HPCHEM\6\DATA\JUL18\8071803.D  
Acq On : 18 JUL 96 13:34  
Sample : 80718-BA1  
Misc :

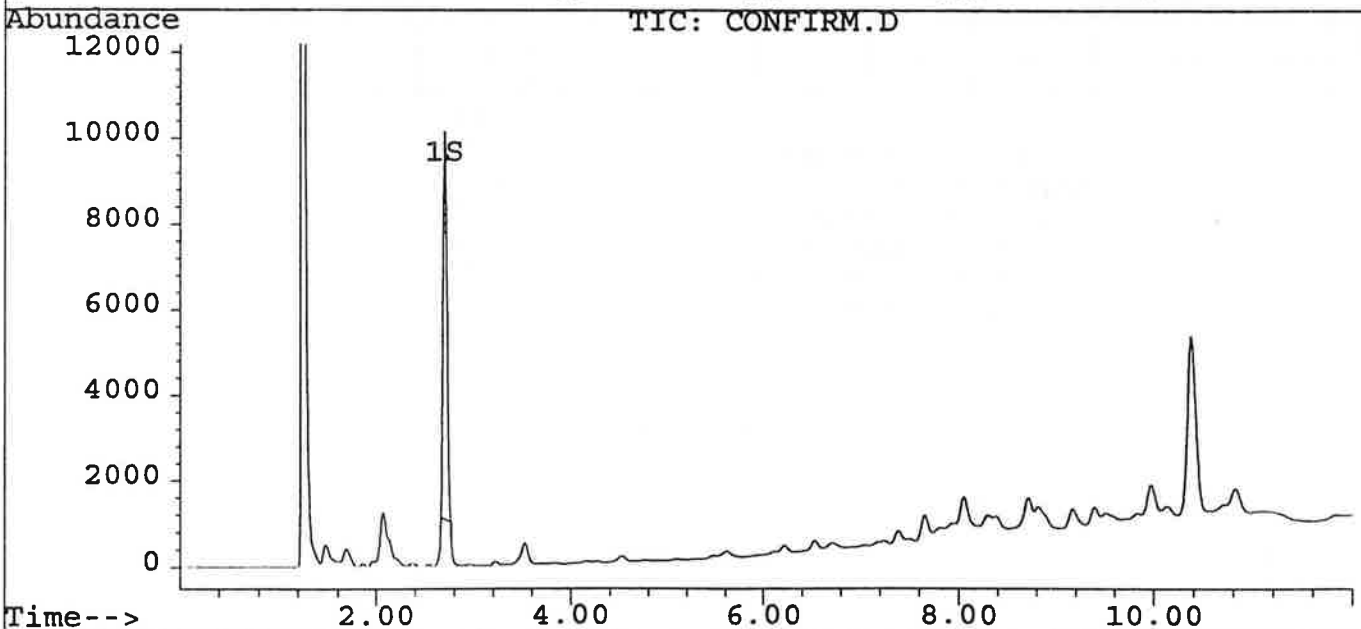
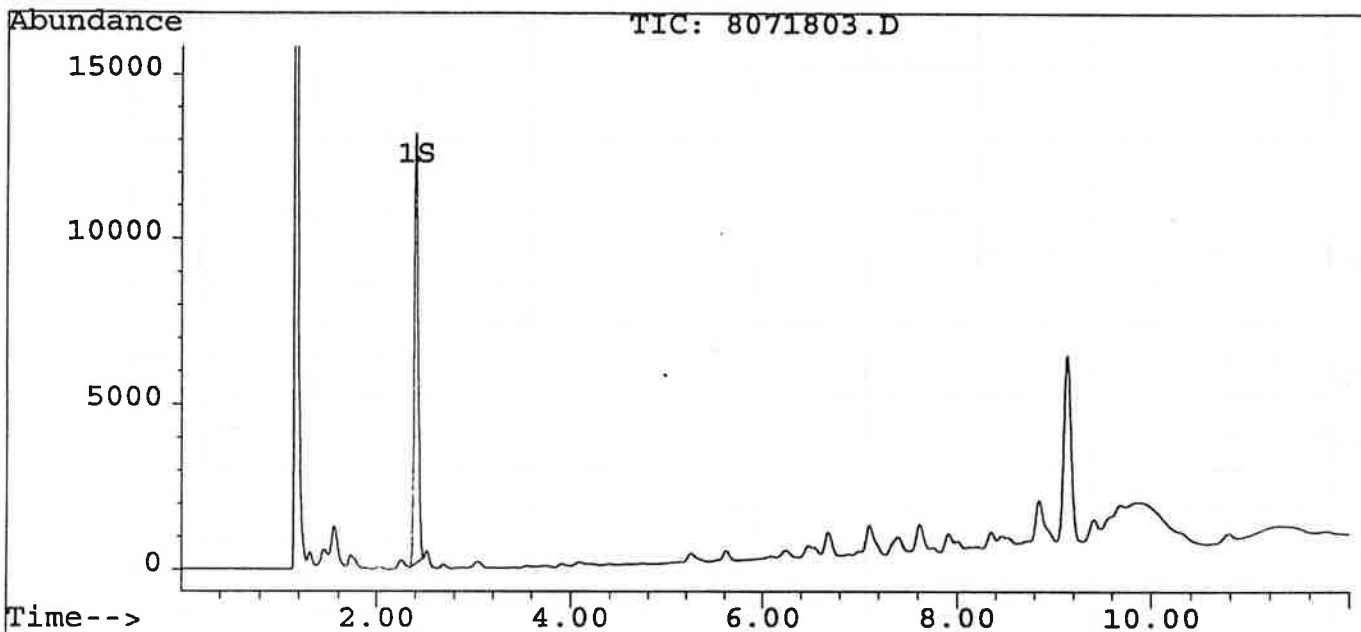
Vial: 3  
Operator: KRB  
Inst : GC 8  
Multiplr: 1.00

Data File : C:\HPCHEM\6\DATA\JUL18\8071803.D\CONFIRM.D  
Acq On : 18 JUL 96 13:34  
Sample : 80718-BA1  
Misc :  
Quant Time:

Vial: 3  
Operator: KRB  
Inst : GC 8  
Multiplr: 1.00

Method : C:\HPCHEM\6\METHODS\PCB1248.M  
Title :  
Last Update : Thu Jul 18 13:10:44 1996  
Response via : Multiple Level Calibration

Volume Inj. :  
Signal #1 Phase : Signal #2 Phase:  
Signal #1 Info : Signal #2 Info :





Data File : C:\HPCHEM\6\DATA\JUL26\8072606.D  
Acq On : 26 JUL 96 15:22  
Sample : B0726-BS1  
Misc :

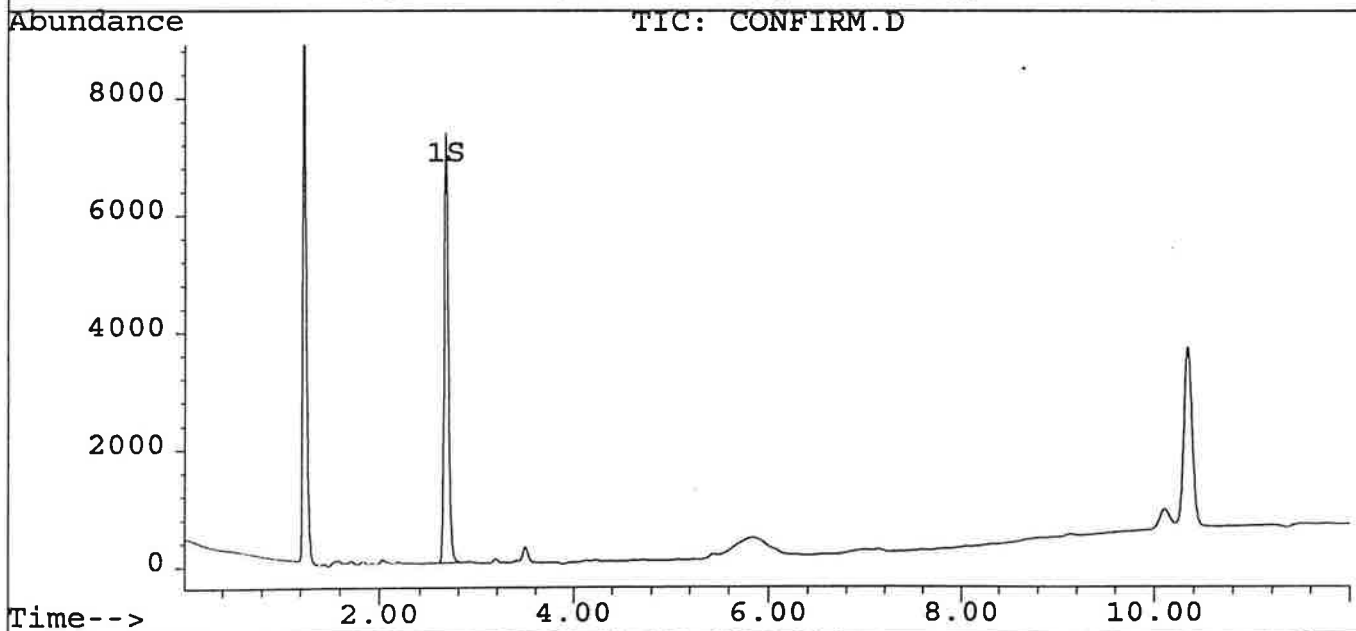
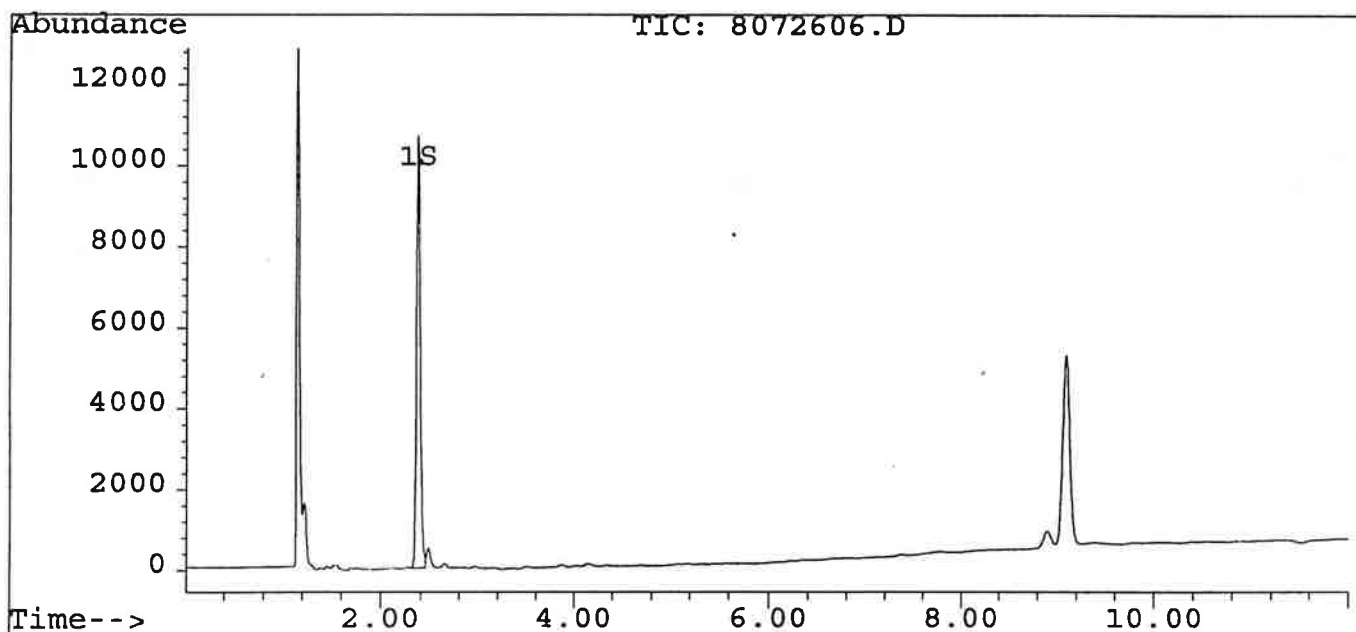
Vial: 6  
Operator: KRB  
Inst : GC 8  
Multiplr: 1.00

Data File : C:\HPCHEM\6\DATA\JUL26\8072606.D\CONFIRM.D  
Acq On : 26 JUL 96 15:22  
Sample : B0726-BS1  
Misc :  
Quant Time:

Vial: 6  
Operator: KRB  
Inst : GC 8  
Multiplr: 1.00

Method : C:\HPCHEM\6\METHODS\PCB.M  
Title :  
Last Update : Mon Jul 29 09:31:09 1996  
Response via : Single Level Calibration

Volume Inj. :  
Signal #1 Phase : Signal #2 Phase:  
Signal #1 Info : Signal #2 Info :



Quantitation Report

Signal #1 : C:\HPCHEM\6\DATA\JUL18\8071803.D Vial: 3  
 Signal #2 : C:\HPCHEM\6\DATA\JUL18\8071803.D\CONFIRM.D  
 Acq On : 18 JUL 96 13:34 Operator: KRB  
 Sample : 80718-BA1 Inst : GC 8  
 Misc : Multiplr: 1.00  
 Quant Time: Jul 18 13:52 1996

Method : C:\HPCHEM\6\METHODS\PCB1248.M  
 Title :  
 Last Update : Thu Jul 18 13:10:44 1996  
 Response via : Multiple Level Calibration

Volume Inj. :  
 Signal #1 Phase : Signal #2 Phase:  
 Signal #1 Info : Signal #2 Info :

Compound	RT#1	RT#2	Resp#1	Resp#2	ppm	ppm
System Monitoring Compounds						
1) S tetrachloro-m-xylene	2.41	2.71	367193	251044	0.131	0.085m#
			Recovery	=	131.00%	85.00%
Target Compounds						
2) L1 1248 #1	0.00	0.00	0	0	N.D.	N.D.
3) L1 1248 #2	0.00	0.00	0	0	N.D.	N.D.
4) L1 1248 #3	0.00	0.00	0	0	N.D.	N.D.
5) L1 1248 #4	0.00	0.00	0	0	N.D.	N.D.
Avg. 1248 #1			0	0	N.D.	N.D.

Signal #1 : C:\HPCHEM\6\DATA\JUL26\8072606.D Vial: 6  
 Signal #2 : C:\HPCHEM\6\DATA\JUL26\8072606.D\CONFIRM.D  
 Acq On : 26 JUL 96 15:22 Operator: KRB  
 Sample : B0726-BS1 Inst : GC 8  
 Misc : Multiplr: 1.00  
 Quant Time: Jul 29 9:31 1996

Method : C:\HPCHEM\6\METHODS\PCB.M  
 Title :  
 Last Update : Mon Jul 29 09:31:09 1996  
 Response via : Single Level Calibration

Volume Inj. :  
 Signal #1 Phase : Signal #2 Phase:  
 Signal #1 Info : Signal #2 Info :

Compound	RT#1	RT#2	Resp#1	Resp#2	ug/ml	ug/ml
-----						
System Monitoring Compounds						
1) S tetrachloro-m-xylene	2.37	2.67	284358	215447	0.077	0.076
			Recovery		=	77.00% 76.00%
Target Compounds						
2) L1M 1260 #1	0.00	0.00	0	0	N.D.	N.D.
3) L1M 1260 #2	0.00	0.00	0	0	N.D.	N.D.
4) L1M 1260 #3	0.00	0.00	0	0	N.D.	N.D.
5) L1M 1260 #4	0.00	0.00	0	0	N.D.	N.D.
6) L1M 1260 #5	0.00	0.00	0	0	N.D.	N.D.
Avg. 1260 #1			0	0	N.D.	N.D.

20  
WATER SEMIVOLATILE SURROGATE RECOVERY

Signal 2

Lab Name: LRI

Contract: \_\_\_\_\_

Project No.: 210

Site: \_\_\_\_\_

Location: \_\_\_\_\_

Group: \_\_\_\_\_

	SAMPLE NO.	S1 #	#	#	#	#	#	#	#	TOT OUT
01	b0718-ba1	85								
02	e607210-10	96								
03										
04										
05										
06										
07										
08										
09										
10										
11										
12										
13										
14										
15										
16										
17										
18										
19										
20										
21										
22										
23										
24										
25										
26										
27										
28										
29										
30										

QC LIMITS  
(38-150)

SMC1 = tetrachloro-m-xylene

# Column to be used to flag recovery values  
\* Values outside of contract required QC limits  
D Surrogate diluted out

2D  
SOIL SEMIVOLATILE SURROGATE RECOVERY

Signal 1

Lab Name: LRI Contract: \_\_\_\_\_  
 Project No.: \_\_\_\_\_ Site: \_\_\_\_\_ Location: \_\_\_\_\_ Group: \_\_\_\_\_  
 Level: (low/med) \_\_\_\_\_

	SAMPLE NO.	S1	#	#	#	#	#	#	#	TOT
			#	#	#	#	#	#	#	OUT
01	B0726-BS1	77								
02	e607210-01	104								
03	e607210-02	120								
04	e607210-03	120								
05	e607210-04	75								
06	e607210-05	56								
07	e607210-06	58								
08	e607210-07	62								
09	e607210-08	125								
10	e607210-09	73								
11										
12										
13										
14										
15										
16										
17										
18										
19										
20										
21										
22										
23										
24										
25										
26										
27										
28										
29										
30										

QC LIMITS  
(38-150)

SMC1 = tetrachloro-m-xylene

# Column to be used to flag recovery values  
 \* Values outside of contract required QC limits  
 D Surrogate diluted out

Spike Recovery and RPD Summary Report - WATER

Method : C:\HPCHEM\6\METHODS\PCB.M  
 Title :  
 Last Update : Tue Jul 16 15:29:40 1996  
 Response via : Initial Calibration

Non-Spiked Sample: 8071703.D

Spike  
Sample

Spike  
Duplicate Sample

File ID : 8071708.D

8071709.D

Sample : LCS 1

LCS 2

Acq Time: 17 Jul 96 06:43 PM

17 Jul 96 06:58 PM

Compound	Sample Conc	Spike Added	Spike Res	Dup Res	Spike %Rec	Dup %Rec	RPD	QC Limits RPD % Rec
1260 #1	0.3	2	3	3	122	116	5	15 40-150
1260 #2	0.3	2	3	3	126	119	6	15 40-150
1260 #3	0.2	2	3	3	132	126	5	15 40-150
1260 #4	0.5	2	3	3	130	120	8	15 40-150
1260 #5	0.4	2	3	3	140	129	8	15 40-150
1260 #1 #2	0.3	2	3	3	128	122	5	15 40-150
1260 #2 #2	0.4	2	3	3	129	126	2	15 40-150
1260 #3 #2	0.2	2	3	3	138	143	3	15 40-150
1260 #4 #2	0.4	2	3	3	134	124	8	15 40-150
1260 #5 #2	0.2	2	3	3	144	135	7	15 40-150

PCB.M

Thu Jul 18 11:24:25 1996

Spike Recovery and RPD Summary Report - SOIL

Method : C:\HPCHEM\6\METHODS\PCB.M  
 Title :  
 Last Update : Thu Jul 25 14:46:15 1996  
 Response via : Initial Calibration

Non-Spiked Sample: 8072508.D

Spike Sample	Spike Duplicate Sample
--------------	------------------------

File ID : 8072607.D	8072608.D
Sample : 228-01 MS SX	228-01 MSD SX
Acq Time: 26 Jul 96 03:37 PM	26 Jul 96 03:52 PM

Compound	Sample Conc	Spike Added	Spike Res	Dup Res	Spike %Rec	Dup %Rec	RPD	QC RPD	Limits % Rec
1260 #1	0.0	2	2	2	121	116	4	15	40-150
1260 #2	0.0	2	2	2	121	105	13	15	40-150
1260 #3	0.0	2	2	2	109	99	9	15	40-150
1260 #4	0.0	2	2	2	116	114	2	15	40-150
1260 #5	0.0	2	2	2	125	113	14	15	40-150
1260 #1 #2	0.0	2	2	2	97	110	12	15	40-150
1260 #2 #2	0.0	2	2	2	116	109	13	15	40-150
1260 #3 #2	0.0	2	2	2	113	117	4	15	40-150
1260 #4 #2	0.0	2	2	2	109	112	3	15	40-150
1260 #5 #2	0.0	2	2	2	107	93	14	15	40-150

PCB.M

Fri Jul 26 18:31:25 1996

Date: 7-22-96  
 Method #: 6010  
 Analyst: BS  
 Supervisor: [Signature]

Matrix:  
 Solid   
 Aqueous   
 TCLP

Sample # 07162-18 Sample # 07162-18

Assoc. Samples
07162-18
07228-1
↓ -2
07210-1
-2
-3
-4
-5
-6
-7
-8
-9
-11
-12
-13
-14
-15
-16
↓ -17

Metal	MS/MSD					DUPLICATE			LLCS		
	Samp Conc.	Spike Conc.	Matrix Spike Result	% Rec.	Matrix Dup. Result	% Rec.	RPD	Samp. Result	Dup. Result.	RPD	Result
Ag	ND	1000	836.0	84	89.8	82	2.0%	ND	ND	0%	106.0
* Ba	396.6		1433	104	1418	102	1.1%	396.6	400.4	1.0%	105.0
Be	6.651		847.3	84	840.5	83	4.1%	6.651	6.453	2.9%	52.28
Cd	ND		829.2	83	816.7	82	1.5%	ND	ND	0%	53.75
Cr	147.3		947.0	80	939.4	79	4.1%	147.3	150.1	1.9%	52.12
Cu	123.3		939.7	82	925.9	80	1.5%	123.3	124.8	1.2%	56.18
Ni	124.0		927.8	80	931.2	81	4.1%	124.0	126.4	1.9%	47.76
Pb	94.44		930.3	84	901.3	81	3.2%	94.44	115.9	20%	ND
* Sb	ND		1078	108	1048	105	2.8%	ND	ND	0%	ND
Se	ND		795.5	90	830.4	83	4.3%	ND	ND	0%	ND
* V	213.1		1206	99	1185	97	1.8%	213.1	215.4	1.1%	52.76
* Zn	287.0	↓	1305	102	1276	99	2.2%	287.0	289.5	4.1%	55.62

\* Test Spike







Date: 7-25-96  
 Method #: 6010  
 Analyst: BS  
 Supervisor: [Signature]

Matrix:  
 Solid   
 Aqueous   
 TCLP

Sample # 07246-3      Sample # 07246-3

Metal	MS/MSD						DUPLICATE			LLCS	
	Samp Conc.	Spike Conc.	Matrix Spike Result	% Rec.	Matrix Dup. Result	% Rec.	RPD	Samp. Result	Dup. Result.		RPD
Ag	ND	1000	740.0	74	742.4	74	<1%	ND	ND	0%	147.8
Ba	2116		952.2	93	947.2	93	<1%	2116	2089	1.3%	100.3
Be	ND		874.1	87	874.3	87	<1%	ND	ND	0%	51.86
Cd	ND		877.4	88	874.6	87	<1%	ND	ND	0%	50.03
Cc	85.87		976.7	89	983.9	90	<1%	85.87	89.35	4.0%	53.51
Cu	ND	↓	924.4	92	916.1	92	<1%	ND	ND	0%	50.10
Nh	11680	11000	21270	87	20970	84	1.4%	11680	11860	1.5%	1081
Ni	ND	1000	862.4	86	849.5	85	1.5%	ND	ND	0%	53.26
Pb	ND		905.3	91	925.2	93	2.2%	ND	ND	0%	58.27
Sb	ND		917.2	92	915.7	92	<1%	ND	ND	0%	ND
Se	ND		938.5	94	969.6	97	3.3%	ND	ND	0%	55.02
Zn	31.68	↓	916.9	89	916.9	89	0%	31.68	32.88	3.7%	51.96

Assoc. Samples
07210-10
07262-13
07235-1
↓
-2
-3
↓
-4
↘





Date: 7-24-96  
 Method #: 6010  
 Analyst: BS  
 Supervisor: [Signature]

Matrix:  
 Solid   
 Aqueous   
 TCLP

Sample # 07254-2 Sample # 07254-2

Metal	MS/MSD						DUPLICATE			LLCS	
	Samp Conc.	Spike Conc.	Matrix Spike Result	% Rec.	Matrix Dup. Result	% Rec.	RPD	Samp. Result	Dup. Result.	RPD	Result
Ba	286.8	1000	1356	107	1415	113	4.2%	286.8	385.5	<1%	107.4
Be	3.838 ↓		9020	90	911.3	91	1.0%	3.838	3.801	1.0%	52.73

Assoc. Samples

07210-2
-3
-4
-5
-6
-7
-8
-9
-11
-12
-13
-14
-15
-16
-17

by [Signature] 1/2/96









Date: 7-22-96  
 Method#: \_\_\_\_\_  
 Parameter: As 2eem-5100  
 Analyst: mm  
 Supervisor: [Signature]

S1	25 PPs
S2	50 PPs
S3	75 PPs
S4	100 PPs

Standard Lot #: W 960722-1  
 LCS Spike Lot #: SS 960716-1  
 Matrix Spike Lot #: W 960722-1

Sample #	Result ug/L	Final Vol.	Samp. Wt.	% Solids	DF	Result mg/Kg
Method Blank	0.27	T	T	T	T	ND
QCTV = 50 PPs	47.33	I	I	I	I	0.047
LCS	46.93	I	I	I	I	0.047
Low Level Check Std.	6.66	I	I	I	I	67%
07 162-5	36.20	50 ml	0.54	54	1:5	31.0
07 228-1	43.07		0.56	58	T	<del>36.7</del>
√ -2	21.39		0.55	60		<del>43.3</del>
07 210-1A	73.48		0.50	89		<del>4.6</del> 83
-2	59.05		0.51	90		<del>74.3</del> 864
-3	40.91		0.50	88		4.6
-4	39.03		0.51	100	I	3.8
-5	<del>62.90</del> <sup>50.93</sup>		0.50	57	<del>1:2</del>	44.0
-6A	66.40		0.53	72	1:2	17.0
√ -7	71.38	√	0.51	70	T	9.9
Calibration Blank	0.24	-	<del>0.50</del>	-		ND
CCV Mid TV = 50 PPs	46.25	-	-	-		0.046
07 210-8	34.48	50 ml	0.50	92		3.7
-9	53.78		0.53	72	I	7.1
-11A	91.63		0.54	89	1:2	19.0
-12	20.94		0.50	46	1:5	20.0
-13	36.76		0.54	73	-	4.7
-14	74.55		0.50	93	1:2	18.0
-15A	44.81		0.53	63	-	6.7
-16	92.83		0.51	91	1:2	20.0
√ -17	56.79	√	0.53	89%	-	6.0
Calibration Blank	ND	T	T	T	T	ND
CCV Low TV = 25 PPs	22.47	I	I	I	I	0.022
CCV Mid TV = 50 PPs	45.97	I	I	I	I	0.046
Dup. Samp# 07 210-17	55.53	50 ml	0.53	89	I	5.9
MS Samp# -17	60.39	-	-	-	Sample 1:2	0.060
MSD √ -17	60.44	-	-	-	√	0.060

Blk Spk	Result	% Rec.	Dup. Samp #	Sample Result	Duplicate Result	RPD
TV = 50 PPs	46.93	94%	07 210-17	56.79	55.53	2.2%

MS Samp#	Samp Conc	Spike Conc	Spike Result	% Rec	Dup Result	% Rec	RPD
07 210-17	24.8	50 PPs	60.39	64%	60.44	64%	0.1%

Date: 7-25-96  
 Method#: \_\_\_\_\_  
 Parameter: TL 2mm-5100  
 Analyst: mn  
 Supervisor: [Signature]

S1	25 ppb
S2	50 ppb
S3	75 ppb
S4	100 ppb

Standard Lot #: W 960725-1

LCS Spike Lot #: SS 960716-1

Matrix Spike Lot #: SS 960716-1

Sample #	Result ug/L	Digest Factor	DF	Result mg/L
Method Blank	ND	T	T	ND
QCTV= 50 ppb	50.52			0.051
LCS	49.78			0.051
Low Level Check Std.	7.90	T		79%
07 210-10D	0.61	1:1.1		ND
07 262-13C	0.15			ND
PC07098-1A	ND	↓	T	ND
/				
Calibration Blank				
CCV Mid TV=				
/				
Calibration Blank	ND	T	T	ND
CCV Low TV= 25 ppb	23.34			0.023
CCV Mid TV= 50 ppb	49.65			0.050
Dup. Samp# PC07098-1A	0.04	1:1.1	T	ND
MS Samp#	-1A 39.14	-	Samp 75	0.039
MSD	-1A 40.25	-	-	0.040

Blk Spk	Result	% Rec.
V= 50 ppb	49.78	100%

Dup. Samp #	Sample Result	Duplicate Result	RPD
PC07098-1A	ND	ND	0.0%

MS Samp#	Samp Conc	Spike Conc	Spike Result	% Rec	Dup Result	% Rec	RPD
PC07098-1A	ND	50 ppb	39.14	78%	40.25	80%	2.8%

Date: 7-24-96  
 Method#: \_\_\_\_\_  
 Parameter: Tl-Zeena 5100  
 Analyst: mm  
 Supervisor: [Signature]

S1	25ppm
S2	50ppm
S3	75ppm
S4	100ppm

Standard Lot #: W960724-1

CS Spike Lot #: 5960724-1  
0716-1

Matrix Spike Lot #: W960724-1

Sample #	Result ug/L	Final Vol.	Samp. Wt.	% Solids	DF	Result mg/Kg
Method Blank	0.42	T	T	T	T	ND
QCTV = 50 ppm	48.39					0.048
LCS	44.84					0.045
Low Level Check Std.	7.20					72%
07 210-8	0.68	50ml	0.50	92	T	ND
-9	0.95		0.53	77		ND
-11	0.16		0.54	89		ND
-12	0.49		0.56	46		ND
-13	0.79		0.54	73		ND
-14	0.47		0.50	93		ND
-15A	0.41		0.53	63		ND
-16	0.18		0.51	91		ND
07 262-1	0.68		0.52	93		ND
-2A	0.31		0.50	97		ND
Calibration Blank	0.65	-	-	-	-	ND
CCV Mid TV = 50 ppm	47.90	-	-	-	-	0.048
07 262-3	0.58	50ml	0.50	87	T	ND
-4A	0.35		0.54	94		ND
-5	0.21		0.54	89		ND
-6A	0.27		0.53	90		ND
-7A	0.29		0.52	90		ND
-8A	0.58		0.52	67		ND
-9	0.44		0.50	89		ND
-10	0.75		0.53	92		ND
-11	0.65		0.52	90		ND
-12	0.17		0.54	87		ND
Calibration Blank	0.19	T	T	T	T	ND
CCV Low TV = 25 ppm	22.34					0.022
CCV Mid TV = 50 ppm	50.24					0.050
Dup. Samp# 07 262-3	0.61	50ml	0.50	87		ND
MS Samp# -3	40.03	-	-	-	50ml 1:2	0.040
MSD -3	39.64	-	-	-		0.040

Blk Spk	Result	% Rec.	Dup. Samp #	Sample Result	Duplicate Result	RPD
50 ppm	48.39	97%	07 262-3	ND	ND	0.0%

MS Samp#	Samp Conc	Spike Conc	Spike Result	% Rec	Dup Result	% Rec	RPD
07 262-3	ND	50 ppm	40.03	80%	39.64	79%	1.0%

Date: 7.24.96  
 Method#: \_\_\_\_\_  
 Parameter: Tl. Zech-3100  
 Analyst: mm  
 Supervisor: [Signature]

S1	25 ppb
S2	50 ppb
S3	75 ppb
S4	100 ppb

Sample #	Result ug/L	Final Vol.	Samp. Wt.	% Solids	DF	Result mg/Kg
Method Blank	0.42	T	T	T	T	ND
QCTV= 50 ppb	45.39					0.048
LCS	44.84					0.045
Low Level Check Std.	7.20	T	T	T	T	72%
07 269-1	<del>7.10</del> <sup>0.98</sup>	50 ml	0.51	96	T	ND
-2	<del>7.14</del> <sup>1.10</sup>		0.51	95		ND
-3	<del>7.14</del> <sup>1.14</sup>		0.52	96		ND
-4	<del>7.80</del> <sup>1.10</sup>		0.50	85		ND
-5	<del>7.80</del> <sup>0.70</sup>		0.51	94		ND
-6	<del>7.99</del> <sup>0.55</sup>		0.50	87		ND
-7	0.99		0.52	92		ND
-8	0.89		0.53	87		ND
-9	0.53		0.53	93		ND
-10	0.78		0.53	93	T	ND
Calibration Blank	0.13	-	-	-	-	ND
CCV Mid TV= 50 ppb	46.66	-	-	-	-	0.047
07 269-11	0.62	50 ml	0.52	97	T	ND
-12	0.94		0.55	95		ND
07 210-1A	0.79		0.50	<del>75</del> 89		ND
-2A	0.83		0.51	<del>75</del> 90		ND
-3A	0.54		0.50	<del>76</del> 88		ND
-4A	0.04		0.51	<del>79</del> 100		ND
-5	1.46		0.50	<del>79</del> 57		ND
-6A	0.44		0.53	<del>78</del> 72		ND
-7	0.61		0.51	70		ND
-17	0.68		0.53	89	T	ND
Calibration Blank	0.13	T	T	T	T	ND
CCV Low TV= 25 ppb	21.40					0.021
CCV Mid TV= 50 ppb	47.16	T	T	T	T	0.047
Dup. Samp# 07 210-17	0.75	50 ml	0.53	89	T	ND
MS Samp# -17	43.70	-	-	-	Samp# 17	0.044
MSD -17	43.27	-	-	-		0.043

Blk Spk	Result	% Rec.	Dup. Samp #	Sample Result	Duplicate Result	RPD
TV= 50 ppb	44.84	90 %	07 210-17	ND	ND	0.01

MS Samp#	Samp Conc	Spike Conc	Spike Result	% Rec	Dup Result	% Rec	RPD
07 210-17	ND	50 ppb	43.70	87%	43.27	96%	1.01

Date: 7.23.96  
 Method#: \_\_\_\_\_  
 Parameter: Mercury  
 Analyst: [Signature]  
 Supervisor: [Signature]

S1	<u>Done</u>
S2	<u>OK</u>
S3	<u>OK</u>
S4	<u>OK</u>
S5	<u>OK</u>
S6	<u>OK</u>

Sample #	Result ug/L	DF	Result mg/L
Method Blank	ND		ND
QCTV= <u>5ppb</u>	5.0		0.005
Low Level Check Std. <u>1000</u>	0.7		0.001
<u>EL07224-2C</u>	ND		ND
<u>EL07240-1DD</u>	ND		ND
<u>EL07209-1C</u>	ND		ND
<u>EL07238-1C</u>	ND		ND
<u>EL07262-13C</u>	ND		ND
<u>EL07257-1</u>	ND		ND
<u>EL07188-1C</u>	ND		ND
<u>EL07267-1</u>	ND		ND
Calibration Blank			
CCV Mid TV=			
Calibration Blank	ND		ND
CCV Low TV= <u>2ppb</u>	1.8		0.002
CCV Mid TV= <u>5ppb</u>	4.5		0.005
Dup. Samp# <u>7257-1</u>	ND		ND
MS Samp# <u>7224-2C</u>	5.0	1:2	0.005
MSD <u>1</u>	5.2		0.005

Dup. Samp #	Sample Result	Duplicate Result	RPD
<u>7257-1</u>	<u>ND</u>	<u>ND</u>	<u>0.0</u>

MS Samp#	Samp Conc	Spike Conc	Spike Result	% Rec	Dup Result	% Rec	RPD
<u>7224-2C</u>	<u>ND</u>	<u>5ppb</u>	<u>5.0</u>	<u>100</u>	<u>5.2</u>	<u>104</u>	<u>3.9</u>

Date: 7.24.96  
 Method#: \_\_\_\_\_  
 Parameter: Mercury  
 Analyst: VH  
 Supervisor: [Signature]

S1	<u>10 ppb</u>
S2	<u>90 ppb</u>
S3	
S4	
S5	
S6	

Sample #	Result ug/L	Final Vol.	Samp. Wt.	% Solids	DF	Result mg/Kg
Method Blank	ND	100ml	T	T	T	ND
QCTV= <u>5 ppb</u>	4.9		I	I	I	0.005
Low Level Check Std <u>1 ppb</u>	0.5		I	I	I	0.001
<u>E607162-7</u>	4.0		0.50	80.7	1:2	1900
<u>E607210-5</u>	4.1		0.54	56.9	1:2	2700
<u>✓ -12</u>	1.7		0.53	45.9	1:2	1300
<u>E607269-1</u>	ND		0.50	95.9	T	ND
<u>✓ -2</u>	ND		0.53	95.0		ND
<u>✓ -3</u>	ND		0.52	95.8		ND
<u>✓ -4</u>	ND		0.52	94.1		ND
<u>✓ -5</u>	ND		0.51	94.2		ND
<u>✓ -6</u>	ND		0.53	86.9		ND
<u>✓ -7</u>	ND		0.52	91.6		ND
Calibration Blank	ND		<del>0.5</del>	-		ND
CCV Mid TV= <u>6 ppb</u>	4.5		-	-		0.005
<u>E607269-8</u>	0.7		0.51	86.8		<del>0.160</del>
<u>✓ -9</u>	ND		0.54	93.3		ND
<u>✓ -10</u>	ND		0.55	93.4		ND
<u>✓ -11</u>	ND		0.55	96.9		ND
<u>✓ -12</u>	ND		0.53	95.4		ND
<u>E607262-1</u>	0.7		0.54	93.1		0.140
<u>✓ -2A</u>	ND		0.51	96.7		ND
<u>✓ -3</u>	ND		0.50	86.8		ND
<u>✓ -4A</u>	ND		0.50	93.5		ND
<u>✓ -5</u>	ND		0.51	89.0		ND
Calibration Blank	ND		T	T		ND
CCV Low TV= <u>2 ppb</u>	1.6		I	I		0.002
CCV Mid TV= <u>5 ppb</u>	4.7		I	I		0.005
Dup. Samp# <u>7269-5</u>	ND		0.52	94.2		ND
MS Samp# <u>1</u>	4.5		0.54			0.005
MSD <u>1</u>	4.3	Y	0.52	✓	✓	0.004

Dup. Samp #	Sample Result	Duplicate Result	RPD
<u>E607269-5</u>	ND	ND	0.0

MS Samp#	Samp Conc	Spike Conc	Spike Result	% Rec	Dup Result	% Rec	RPD
<u>7269-5</u>	ND	<u>5 ppb</u>	4.5	<u>90%</u>	4.3	<u>86%</u>	4.5



Date: 1-23-96  
 Method#: 335.3/9010  
 Parameter: Cyanide  
 Analyst: E. Benson  
 Supervisor: [Signature]

(TV = 0.100)

Sample #	SO2	Amt. ml/g	Final Vol	Result	DF	Result	
S1=0.50	-	50mL	50mL	0.500	-	0.500	
S2=0.25	-			0.250	-	0.250	
S3=0.125	-			0.125	-	0.125	
QC	-			0.214	-	0.214	
Blank	-			0.001	-	0.001	
Low Level Check Std.	-	↓	↓	0.067	-	0.067	mg/kg
E607162-11	-	7.35g	125mL	0.143	10X	1.43	30.5
↓ -17	-	4.09°		0.011	-	0.011	0.16
↓ -18	-	6.87		0.002	-	0.002	0.04
E607210-1A	-	7.24		0.153	25X	3.819	74.4
-2	-	6.87		0.289	25X	7.233	147
-3	-	10.32		0.352	25X	8.822	121
-4	-	7.27		0.276	25X	6.893	119
-5	-	8.85		0.210	10X	2.102	52.2
-6A	-	9.57		0.069	25X	1.741	31.7
-7	-	7.35		0.229	10X	2.290	55.3
-8	-	6.45		0.265	5X	1.323	25.9
-9	-	8.51		0.203	5X	1.015	20.7
-11	-	6.53		0.143	25X	3.594	77.3
-12	-	7.22		0.036	-	0.036	1.36
-13	-	7.81		0.215	10X	2.152	47.5
-14	-	7.91		0.151	25X	3.784	64.1
↓ -15A	-	8.93	↓	0.168	10X	1.677	37.0
/ / / / /							
Dup Samp#	210-11	-	6.53	125mL	0.145	25X	3.636
MS Samp#	↓ -11	-	7.57	↓	0.076	50X	3.811
Blk Spk TV =	0.250	-	25.25	500mL	0.235	-	0.235

QC Lot #	WS1195
TV	0.250
Result	0.235
QC Limits	± 0.100

E607

Blk Spk	Result	% Rec	Dup. Samp#	Sample Result	Duplicate Result	RPD
TV = 0.250	0.235	94%	E607210-11	3.594	3.636	1.27%

MS Samp #	Conc.	Sample Result	MS Result	% REC
E607210-11	0.250	3.594	3.811	87%



Date: 1-16-96  
 Method#: 335.3/9010  
 Parameter: Cyanide  
 Analyst: E. Benson  
 Supervisor: [Signature]

Sample #	SO2	Amt. ml/g	Final Vol	Result	DF	Result
S1=0.50	-	50ml	50ml	0.500	-	0.500
S2=0.25	-			0.250	-	0.250
S3=0.125	-			0.125	-	0.125
QC	-			0.230	-	0.230
Blank	-	↓	↓	0.002	-	0.002
Low Level Check Std.	-	50ml	50ml	0.076	-	0.076 mg/kg ↓
EL07210-16	-	9.43	50ml	0.111	5X	0.555 8.09
↓ -17A	-	7.11	1125	0.273	10X	2.73 53.8
EL072162-1	-	6.76	ml	0.005	-	0.005 0.099
↓ -2A	-	9.46	EB 7-26	0.001	-	0.001 0.013
↓ -3	-	7.35		0.010	-	0.010 0.146
↓ -4A	-	8.32		0.042	-	0.042 0.674
↓ -5	-	8.92		0.035	-	0.035 0.551
↓ -6A	-	6.65		0.000	-	0.000 0
↓ -7A	-	7.52	25X	0.242	50X	12.14 6.76 mg/l EB-726
↓ -8A	-	7.14		0.242	50X	12.14 318
↓ -9	-	6.50		0.390	10X	3.90 83.8
↓ -10	-	8.37		0.231	25X	5.77 93.3
↓ -11	-	6.87		0.048	-	0.048 0.973
↓ -12A	-	7.65		0.001	-	0.001 0.018
↓ -14	-	7.6A		0.384	50X	19.22 336
↓ -15	-	6.96		0.320	25X	8.01 161
↓ -16	-	6.52	↓	0.273	10X	2.73 10.4
EB 7-26	-					
EL072162-9A 9	-	6.50	50ml	0.414	10X	4.14
↓ -9	-	7.29		0.198	25X	4.97
Dup Samp# 262-16	-	6.52		0.301	10X	3.01
MS Samp# ↓ -16	-	6.73	↓	0.267	10X	2.67
Blk Spk TV= 0.250	-	25.25	500ml	0.251	-	0.251

→ 125mg/kg

QC Lot #	W81195
TV	0.250
Result	0.230
QC Limits	± 0.100

Blk Spk	Result	% Rec	Dup. Samp#	Sample Result	Duplicate Result	RPD
TV= 0.250	0.251	100%	EL072162-9	3.90	4.14	5.97%

MS Samp #	Conc.	Sample Result	MS Result	% REC
EL072162-9	6.25	3.90	4.97	177%

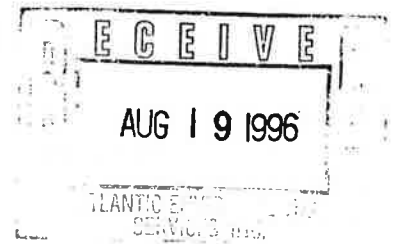
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Laboratory Resources, Inc.  
New England Division

Route 205 - Regional Building  
Brooklyn, CT 06234  
Telephone: 203-774-6814 Fax: 203-774-2689



## ANALYTICAL DATA REPORT

Report Number: E607262  
Project: Tidewater Former MGP

prepared for:

Atlantic Environmental  
188 Norwich Ave.  
P.O. Box 297  
Colchester, CT 06415

Attn: Jeff Wilson

Receive Date: 07/19/96  
Report Date: 08/02/96

T.F. McCommas  
Laboratory Director

Connecticut Department of Health Services PH-0465  
Maine Department of Environmental Protection TBD  
Massachusetts Department of Environmental Quality CT008  
New Hampshire Department of Environmental Services 2020  
New York Department of Health 11549  
Rhode Island Department of Health A44 0022

# GENERAL CHEMISTRY ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
Division: New England  
LRI Report No: E607262  
LRI Sample No: 1

Customer: Atlantic Environmental Eng  
Location: Pawtucket, RI  
Project: Tidewater Former MGP  
Sample Description: TB2 (0-2)

Date Collected: 07/17/96  
Date Received: 07/19/96

Matrix: Soil  
Percent Moisture: 6.9%  
Units in Dry Weight

<u>Parameter</u>	<u>Result</u>	<u>QL</u>	<u>Units</u>	<u>Started</u> <u>Date</u>	<u>By</u>	<u>Completed</u> <u>Date</u>	<u>By</u>	<u>Dilution</u>
<u>Cyanide by 9012 Modified NE</u>								
Cyanide	0.40 U	0.40	mg/kg	07/22/96	EB	07/26/96	EB	

# METALS ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
 Division: New England  
 LRI Order No: E607262  
 LRI Sample No: 1

Client: Atlantic Environmental Eng  
 Location: Pawtucket, RI  
 Project: Tidewater Former MGP  
 Sample Description: TB2 (0-2)

Date Collected: 07/17/96  
 Date Received: 07/19/96

Matrix: Soil  
 Percent Moisture: 6.9%

Parameter	Result	QL	Units	Started		Completed		Dilution
				Date	By	Date	By	
<u>Arsenic by Furnace by SW-846 7060</u>								
Arsenic	7.4	0.19	mg/kg	07/22/96	KH	07/23/96	MM	
<u>Mercury by Cold Vapor by SW-846 7471</u>								
Mercury	0.14	0.091	mg/kg	07/23/96	KH	07/24/96	KH	
<u>Metals by ICP by SW-846 6010A</u>								
Beryllium	0.47	0.19	mg/kg	07/22/96	KH	07/24/96	BS	
Chromium	13	2.3	mg/kg	07/22/96	KH	07/24/96	BS	
Copper	9.4	2.3	mg/kg	07/22/96	KH	07/24/96	BS	
Nickel	12	2.3	mg/kg	07/22/96	KH	07/24/96	BS	
Silver	1.9 U	1.9	mg/kg	07/22/96	KH	07/24/96	BS	
Zinc	34	0.93	mg/kg	07/22/96	KH	07/24/96	BS	
Barium	30	0.93	mg/kg	07/22/96	KH	07/24/96	BS	
Antimony	9.3 U	9.3	mg/kg	07/22/96	KH	07/24/96	BS	
Lead	34	4.6	mg/kg	07/22/96	KH	07/24/96	BS	
Selenium	9.3 U	9.3	mg/kg	07/22/96	KH	07/24/96	BS	
Cadmium	0.93 U	0.93	mg/kg	07/22/96	KH	07/24/96	BS	
<u>Thallium by Furnace by SW-846 7841</u>								
Thallium	0.18 U	0.18	mg/kg	07/22/96	KH	07/24/96	MM	

# SEMIVOLATILE ORGANIC ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
 Division: New England  
 LRI Report No: E607262  
 LRI Sample No: 1

Customer: Atlantic Environmental Eng  
 Location: Pawtucket, RI  
 Project: Tidewater Former MGP  
 Sample Description: TB2 (0-2)

Date Collected: 07/17/96  
 Date Received: 07/19/96  
 Date Extracted: 07/30/96 By: JTH  
 Date Analyzed: 08/01/96 By: RAW

Matrix: Soil  
 Percent Moisture: 6.9%  
 pH:  
 Sample Weight/Volume: 30.5 g  
 Extract Volume: 1.0  
 Injection Volume:  
 Dilution Factor:  
 Lab Data File: A12821

Method: 8270  
 Level: LOW  
 GC Column:  
 Units: ug/kg ( Dry Weight )

CAS No.	Parameter	Result	Qual	QL
83-32-9	Acenaphthene	180	U	180
208-96-8	Acenaphthylene	180	U	180
120-12-7	Anthracene	180	U	180
56-55-3	Benzo[a]anthracene	180	U	180
50-32-8	Benzo[a]pyrene	53	U	53
205-99-2	Benzo[b]fluoranthene	180	U	180
191-24-2	Benzo[g,h,i]perylene	180	U	180
207-08-9	Benzo[k]fluoranthene	180	U	180
218-01-9	Chrysene	180	U	180
53-70-3	Dibenzo[a,h]anthracene	53	U	53
206-44-0	Fluoranthene	180	U	180
86-73-7	Fluorene	180	U	180
193-39-5	Indeno[1,2,3-cd]pyrene	180	U	180
91-20-3	Naphthalene	180	U	180
85-01-8	Phenanthrene	180	U	180
129-00-0	Pyrene	180	U	180
91-57-6	2-Methylnaphthalene	180	U	180

# GENERAL CHEMISTRY ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
Division: New England  
LRI Report No: E607262  
LRI Sample No: 2

Customer: Atlantic Environmental Eng  
Location: Pawtucket, RI  
Project: Tidewater Former MGP  
Sample Description: TB2 (12-14)

Date Collected: 07/17/96  
Date Received: 07/19/96

Matrix: Soil  
Percent Moisture: 3.3%  
Units in Dry Weight

<u>Parameter</u>	<u>Result</u>	<u>QL</u>	<u>Units</u>	<u>Started</u> <u>Date</u>	<u>By</u>	<u>Completed</u> <u>Date</u>	<u>By</u>	<u>Dilution</u>
Cyanide by 9012 Modified NE Cyanide	0.27 U	0.27	mg/kg	07/22/96	EB	07/26/96	EB	

# METALS ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
 Division: New England  
 LRI Order No: E607262  
 LRI Sample No: 2

Client: Atlantic Environmental Eng  
 Location: Pawtucket, RI  
 Project: Tidewater Former MGP  
 Sample Description: TB2 (12-14)

Date Collected: 07/17/96  
 Date Received: 07/19/96

Matrix: Soil  
 Percent Moisture: 3.3%

Parameter	Result	QL	Units	Started		Completed		Dilution
				Date	By	Date	By	
<u>Arsenic by Furnace by SW-846 7060</u>								
Arsenic	2.5	0.19	mg/kg	07/22/96	KH	07/23/96	MM	
<u>Mercury by Cold Vapor by SW-846 7471</u>								
Mercury	0.093 U	0.093	mg/kg	07/23/96	KH	07/24/96	KH	
<u>Metals by ICP by SW-846 6010A</u>								
Beryllium	0.30	0.19	mg/kg	07/22/96	KH	07/24/96	BS	
Chromium	7.9	2.3	mg/kg	07/22/96	KH	07/24/96	BS	
Copper	7.5	2.3	mg/kg	07/22/96	KH	07/24/96	BS	
Nickel	7.5	2.3	mg/kg	07/22/96	KH	07/24/96	BS	
Silver	1.9 U	1.9	mg/kg	07/22/96	KH	07/24/96	BS	
Zinc	21	0.93	mg/kg	07/22/96	KH	07/24/96	BS	
Barium	24	0.93	mg/kg	07/22/96	KH	07/24/96	BS	
Antimony	9.3 U	9.3	mg/kg	07/22/96	KH	07/24/96	BS	
Lead	4.7 U	4.7	mg/kg	07/22/96	KH	07/24/96	BS	
Selenium	9.3 U	9.3	mg/kg	07/22/96	KH	07/24/96	BS	
Cadmium	0.93 U	0.93	mg/kg	07/22/96	KH	07/24/96	BS	
<u>Thallium by Furnace by SW-846 7841</u>								
Thallium	0.18 U	0.18	mg/kg	07/22/96	KH	07/24/96	MM	



# VOLATILE ORGANIC ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
 Division: New England  
 LRI Report No: E607262  
 LRI Sample No: 2

Customer: Atlantic Environmental Eng  
 Location: Pawtucket, RI  
 Project: Tidewater Former MGP  
 Sample Description: TB2 (12-14)

Date Collected: 07/17/96  
 Date Received: 07/19/96  
 Date Extracted: By:  
 Date Analyzed: 07/26/96 By: AT

Matrix: Soil  
 Percent Moisture: 3.3%  
 Sample Weight/Volume:  
 Dilution Factor: 1  
 Soil Extract Volume:  
 Soil Aliquot Volume:  
 Lab Data File: BH951

Method: 8260A  
 Level: LOW  
 GC Column:  
 Units: ug/kg (Dry Weight)

CAS No.	Parameter	Result	Qual	QL
107-02-8	Acrolein	26	U	26
107-13-1	Acrylonitrile	26	U	26
71-43-2	Benzene	5.2	U	5.2
108-86-1	Bromobenzene	5.2	U	5.2
74-97-5	Bromochloromethane	5.2	U	5.2
75-27-4	Bromodichloromethane	5.2	U	5.2
75-25-2	Bromoform	5.2	U	5.2
74-83-9	Bromomethane	10	U	10
104-51-8	n-Butylbenzene	5.2	U	5.2
135-98-8	sec-Butylbenzene	5.2	U	5.2
98-06-6	tert-Butylbenzene	5.2	U	5.2
56-23-5	Carbon tetrachloride	5.2	U	5.2
108-90-7	Chlorobenzene	5.2	U	5.2
75-00-3	Chloroethane	10	U	10
67-66-3	Chloroform	5.2	U	5.2
74-87-3	Chloromethane	10	U	10
95-49-8	2-Chlorotoluene	5.2	U	5.2
106-43-4	4-Chlorotoluene	5.2	U	5.2
96-12-8	1,2-Dibromo-3-chloropropane (DBCP)	5.2	U	5.2
124-48-1	Dibromochloromethane	5.2	U	5.2
106-93-4	1,2-Dibromoethane (EDB)	5.2	U	5.2
74-95-3	Dibromomethane	5.2	U	5.2
95-50-1	1,2-Dichlorobenzene	5.2	U	5.2
541-73-1	1,3-Dichlorobenzene	5.2	U	5.2
106-46-7	1,4-Dichlorobenzene	5.2	U	5.2
75-71-8	Dichlorodifluoromethane	10	U	10
75-34-3	1,1-Dichloroethane	5.2	U	5.2
107-06-2	1,2-Dichloroethane	5.2	U	5.2
75-35-4	1,1-Dichloroethene	5.2	U	5.2
156-59-4	cis-1,2-Dichloroethene	5.2	U	5.2
156-60-5	trans-1,2-Dichloroethene	5.2	U	5.2
78-87-5	1,2-Dichloropropane	5.2	U	5.2
142-28-9	1,3-Dichloropropane	5.2	U	5.2
590-20-7	2,2-Dichloropropane	5.2	U	5.2
563-58-6	1,1-Dichloropropene	5.2	U	5.2
10061-01-5	cis-1,3-Dichloropropene	5.2	U	5.2
10061-02-6	trans-1,3-Dichloropropene	5.2	U	5.2
100-41-4	Ethylbenzene	5.2	U	5.2
87-68-3	Hexachlorobutadiene	5.2	U	5.2
98-82-8	Isopropylbenzene	5.2	U	5.2
99-87-6	4-Isopropyltoluene	5.2	U	5.2
1634-04-4	Methyl tert-butyl ether (MTBE)	5.2	U	5.2

# VOLATILE ORGANIC ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
Division: New England  
LRI Report No: E607262  
LRI Sample No: 2

Customer: Atlantic Environmental Eng  
Location: Pawtucket, RI  
Project: Tidewater Former MGP  
Sample Description: TB2 (12-14)

Method: 8260A

CAS No.	Parameter	Result	Qual	QL
75-09-2	Methylene chloride	5.2	U	5.2
91-20-3	Naphthalene	5.2	U	5.2
103-65-1	n-Propylbenzene	5.2	U	5.2
100-42-5	Styrene	5.2	U	5.2
96-18-4	1,2,3-Trichloropropane	5.2	U	5.2
630-20-6	1,1,1,2-Tetrachloroethane	5.2	U	5.2
79-34-5	1,1,2,2-Tetrachloroethane	5.2	U	5.2
127-18-4	Tetrachloroethene	5.2	U	5.2
108-88-3	Toluene	5.2	U	5.2
87-61-6	1,2,3-Trichlorobenzene	5.2	U	5.2
120-82-1	1,2,4-Trichlorobenzene	5.2	U	5.2
71-55-6	1,1,1-Trichloroethane	5.2	U	5.2
79-00-5	1,1,2-Trichloroethane	5.2	U	5.2
79-01-6	Trichloroethene (TCE)	5.2	U	5.2
75-69-4	Trichlorofluoromethane	10	U	10
95-63-6	1,2,4-Trimethylbenzene	5.2	U	5.2
108-67-8	1,3,5-Trimethylbenzene	5.2	U	5.2
75-01-4	Vinyl chloride	10	U	10
95-47-6	o-Xylene	5.2	U	5.2
	m,p-Xylenes	5.2	U	5.2

# SEMIVOLATILE ORGANIC ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
 Division: New England  
 LRI Report No: E607262  
 LRI Sample No: 2

Customer: Atlantic Environmental Eng  
 Location: Pawtucket, RI  
 Project: Tidewater Former MGP  
 Sample Description: TB2 (12-14)

Date Collected: 07/17/96  
 Date Received: 07/19/96  
 Date Extracted: 07/30/96 By: JTH  
 Date Analyzed: 07/31/96 By: RAW

Matrix: Soil  
 Percent Moisture: 3.3%  
 pH:  
 Sample Weight/Volume: 27.8 g  
 Extract Volume: 1.0  
 Injection Volume:  
 Dilution Factor:  
 Lab Data File: A12788

Method: 8270  
 Level: LOW  
 GC Column:  
 Units: ug/kg (Dry Weight)

CAS No.	Parameter	Result	Qual	QL
83-32-9	Acenaphthene	190	U	190
208-96-8	Acenaphthylene	190	U	190
120-12-7	Anthracene	190	U	190
56-55-3	Benzo[a]anthracene	190	U	190
50-32-8	Benzo[a]pyrene	56	U	56
205-99-2	Benzo[b]fluoranthene	190	U	190
191-24-2	Benzo[g,h,i]perylene	190	U	190
207-08-9	Benzo[k]fluoranthene	190	U	190
218-01-9	Chrysene	190	U	190
53-70-3	Dibenzo[a,h]anthracene	56	U	56
206-44-0	Fluoranthene	190	U	190
86-73-7	Fluorene	190	U	190
193-39-5	Indeno[1,2,3-cd]pyrene	190	U	190
91-20-3	Naphthalene	190	U	190
85-01-8	Phenanthrene	190	U	190
129-00-0	Pyrene	190	U	190
91-57-6	2-Methylnaphthalene	190	U	190

# GENERAL CHEMISTRY ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
Division: New England  
LRI Report No: E607262  
LRI Sample No: 3

Customer: Atlantic Environmental Eng  
Location: Pawtucket, RI  
Project: Tidewater Former MGP  
Sample Description: TB19 (0-2)

Date Collected: 07/18/96  
Date Received: 07/19/96

Matrix: Soil  
Percent Moisture: 13.2%  
Units in Dry Weight

<u>Parameter</u>	<u>Result</u>	<u>QL</u>	<u>Units</u>	<u>Started</u> <u>Date</u>	<u>By</u>	<u>Completed</u> <u>Date</u>	<u>By</u>	<u>Dilution</u>
<u>Cyanide by 9012 Modified NE</u>								
Cyanide	0.39 U	0.39	mg/kg	07/22/96	EB	07/26/96	EB	

# METALS ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
 Division: New England  
 LRI Order No: E607262  
 LRI Sample No: 3

Client: Atlantic Environmental Eng  
 Location: Pawtucket, RI  
 Project: Tidewater Former MGP  
 Sample Description: TB19 (0-2)

Date Collected: 07/18/96  
 Date Received: 07/19/96

Matrix: Soil  
 Percent Moisture: 13.2%

Parameter	Result	QL	Units	Started		Completed		Dilution
				Date	By	Date	By	
<u>Arsenic by Furnace by SW-846 7060</u>								
Arsenic	3.6	0.21	mg/kg	07/22/96	KH	07/23/96	MM	
<u>Mercury by Cold Vapor by SW-846 7471</u>								
Mercury	0.11 U	0.11	mg/kg	07/23/96	KH	07/24/96	KH	
<u>Metals by ICP by SW-846 6010A</u>								
Beryllium	0.56	0.21	mg/kg	07/22/96	KH	07/24/96	BS	
Chromium	34	2.5	mg/kg	07/22/96	KH	07/24/96	BS	
Copper	28	2.5	mg/kg	07/22/96	KH	07/24/96	BS	
Nickel	19	2.5	mg/kg	07/22/96	KH	07/24/96	BS	
Silver	2.1 U	2.1	mg/kg	07/22/96	KH	07/24/96	BS	
Zinc	66	1.0	mg/kg	07/22/96	KH	07/24/96	BS	
Barium	62	1.0	mg/kg	07/22/96	KH	07/24/96	BS	
Antimony	10 U	10	mg/kg	07/22/96	KH	07/24/96	BS	
Lead	75	5.2	mg/kg	07/22/96	KH	07/24/96	BS	
Selenium	10 U	10	mg/kg	07/22/96	KH	07/24/96	BS	
Cadmium	1.0 U	1.0	mg/kg	07/22/96	KH	07/24/96	BS	
<u>Thallium by Furnace by SW-846 7841</u>								
Thallium	0.18 U	0.18	mg/kg	07/22/96	KH	07/24/96	MM	

# SEMIVOLATILE ORGANIC ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
 Division: New England  
 LRI Report No: E607262  
 LRI Sample No: 3

Customer: Atlantic Environmental Eng  
 Location: Pawtucket, RI  
 Project: Tidewater Former MGP  
 Sample Description: TB19 (0-2)

Date Collected: 07/18/96  
 Date Received: 07/19/96  
 Date Extracted: 07/30/96 By: JTH  
 Date Analyzed: 08/01/96 By: RAW

Matrix: Soil  
 Percent Moisture: 13.2%  
 pH:  
 Sample Weight/Volume: 28 g  
 Extract Volume: 1.0  
 Injection Volume:  
 Dilution Factor:  
 Lab Data File: A12819

Method: 8270  
 Level: LOW  
 GC Column:  
 Units: ug/kg (Dry Weight)

CAS No.	Parameter	Result	Qual	QL
83-32-9	Acenaphthene	210	U	210
208-96-8	Acenaphthylene	210	U	210
120-12-7	Anthracene	210	U	210
56-55-3	Benzo[a]anthracene	210	U	210
50-32-8	Benzo[a]pyrene	170		62
205-99-2	Benzo[b]fluoranthene	210		210
191-24-2	Benzo[g,h,i]perylene	210	U	210
207-08-9	Benzo[k]fluoranthene	210	U	210
218-01-9	Chrysene	220		210
53-70-3	Dibenzo[a,h]anthracene	62	U	62
206-44-0	Fluoranthene	470		210
86-73-7	Fluorene	210	U	210
193-39-5	Indeno[1,2,3-cd]pyrene	210	U	210
91-20-3	Naphthalene	210	U	210
85-01-8	Phenanthrene	210	U	210
129-00-0	Pyrene	460		210
91-57-6	2-Methylnaphthalene	210	U	210

# GENERAL CHEMISTRY ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
Division: New England  
LRI Report No: E607262  
LRI Sample No: 4

Customer: Atlantic Environmental Eng  
Location: Pawtucket, RI  
Project: Tidewater Former MGP  
Sample Description: TB19 (4-6)

Date Collected: 07/18/96  
Date Received: 07/19/96

Matrix: Soil  
Percent Moisture: 6.5%  
Units in Dry Weight

<u>Parameter</u>	<u>Result</u>	<u>QL</u>	<u>Units</u>	<u>Started</u> <u>Date</u>	<u>By</u>	<u>Completed</u> <u>Date</u>	<u>By</u>	<u>Dilution</u>
<u>Cyanide by 9012 Modified NE</u> Cyanide	0.67	0.32	mg/kg	07/22/96	EB	07/26/96	EB	

# METALS ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
 Division: New England  
 LRI Order No: E607262  
 LRI Sample No: 4

Client: Atlantic Environmental Eng  
 Location: Pawtucket, RI  
 Project: Tidewater Former MGP  
 Sample Description: TB19 (4-6)

Date Collected: 07/18/96  
 Date Received: 07/19/96

Matrix: Soil  
 Percent Moisture: 6.5%

Parameter	Result	QL	Units	Started		Completed		Dilution
				Date	By	Date	By	
<u>Arsenic by Furnace by SW-846 7060</u>								
Arsenic	3.1	0.18	mg/kg	07/22/96	KH	07/23/96	MM	
<u>Mercury by Cold Vapor by SW-846 7471</u>								
Mercury	0.098U	0.098	mg/kg	07/23/96	KH	07/24/96	KH	
<u>Metals by ICP by SW-846 6010A</u>								
Beryllium	0.32	0.18	mg/kg	07/22/96	KH	07/24/96	BS	
Chromium	16	2.2	mg/kg	07/22/96	KH	07/24/96	BS	
Copper	39	2.2	mg/kg	07/22/96	KH	07/24/96	BS	
Nickel	12	2.2	mg/kg	07/22/96	KH	07/24/96	BS	
Silver	1.8U	1.8	mg/kg	07/22/96	KH	07/24/96	BS	
Zinc	84	0.89	mg/kg	07/22/96	KH	07/24/96	BS	
Barium	42	0.89	mg/kg	07/22/96	KH	07/24/96	BS	
Antimony	8.9U	8.9	mg/kg	07/22/96	KH	07/24/96	BS	
Lead	49	4.5	mg/kg	07/22/96	KH	07/24/96	BS	
Selenium	8.9U	8.9	mg/kg	07/22/96	KH	07/24/96	BS	
Cadmium	0.89U	0.89	mg/kg	07/22/96	KH	07/24/96	BS	
<u>Thallium by Furnace by SW-846 7841</u>								
Thallium	0.18U	0.18	mg/kg	07/22/96	KH	07/24/96	MM	



# VOLATILE ORGANIC ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
 Division: New England  
 LRI Report No: E607262  
 LRI Sample No: 4

Customer: Atlantic Environmental Eng  
 Location: Pawtucket, RI  
 Project: Tidewater Former MGP  
 Sample Description: TB19 (4-6)

Date Collected: 07/18/96  
 Date Received: 07/19/96  
 Date Extracted: By:  
 Date Analyzed: 07/26/96 By: AT

Matrix: Soil  
 Percent Moisture: 6.5%  
 Sample Weight/Volume:  
 Dilution Factor: 1  
 Soil Extract Volume:  
 Soil Aliquot Volume:  
 Lab Data File: BH952

Method: 8260A  
 Level: LOW  
 GC Column:  
 Units: ug/kg (Dry Weight)

CAS No.	Parameter	Result	Qual	QL
107-02-8	Acrolein	27	U	27
107-13-1	Acrylonitrile	27	U	27
71-43-2	Benzene	5.3	U	5.3
108-86-1	Bromobenzene	5.3	U	5.3
74-97-5	Bromochloromethane	5.3	U	5.3
75-27-4	Bromodichloromethane	5.3	U	5.3
75-25-2	Bromoform	5.3	U	5.3
74-83-9	Bromomethane	11	U	11
104-51-8	n-Butylbenzene	5.3	U	5.3
135-98-8	sec-Butylbenzene	5.3	U	5.3
98-06-6	tert-Butylbenzene	5.3	U	5.3
56-23-5	Carbon tetrachloride	5.3	U	5.3
108-90-7	Chlorobenzene	5.3	U	5.3
75-00-3	Chloroethane	11	U	11
67-66-3	Chloroform	5.3	U	5.3
74-87-3	Chloromethane	11	U	11
95-49-8	2-Chlorotoluene	5.3	U	5.3
106-43-4	4-Chlorotoluene	5.3	U	5.3
96-12-8	1,2-Dibromo-3-chloropropane (DBCP)	5.3	U	5.3
124-48-1	Dibromochloromethane	5.3	U	5.3
106-93-4	1,2-Dibromoethane (EDB)	5.3	U	5.3
74-95-3	Dibromomethane	5.3	U	5.3
95-50-1	1,2-Dichlorobenzene	5.3	U	5.3
541-73-1	1,3-Dichlorobenzene	5.3	U	5.3
106-46-7	1,4-Dichlorobenzene	5.3	U	5.3
75-71-8	Dichlorodifluoromethane	11	U	11
75-34-3	1,1-Dichloroethane	5.3	U	5.3
107-06-2	1,2-Dichloroethane	5.3	U	5.3
75-35-4	1,1-Dichloroethene	5.3	U	5.3
156-59-4	cis-1,2-Dichloroethene	5.3	U	5.3
156-60-5	trans-1,2-Dichloroethene	5.3	U	5.3
78-87-5	1,2-Dichloropropane	5.3	U	5.3
142-28-9	1,3-Dichloropropane	5.3	U	5.3
590-20-7	2,2-Dichloropropane	5.3	U	5.3
563-58-6	1,1-Dichloropropene	5.3	U	5.3
10061-01-5	cis-1,3-Dichloropropene	5.3	U	5.3
10061-02-6	trans-1,3-Dichloropropene	5.3	U	5.3
100-41-4	Ethylbenzene	5.3	U	5.3
87-68-3	Hexachlorobutadiene	5.3	U	5.3
98-82-8	Isopropylbenzene	5.3	U	5.3
99-87-6	4-Isopropyltoluene	5.3	U	5.3
1634-04-4	Methyl tert-butyl ether (MTBE)	5.3	U	5.3

16-NOV-96  
 A  
 (Signature)

# VOLATILE ORGANIC ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
Division: New England  
LRI Report No: E607262  
LRI Sample No: 4

Customer: Atlantic Environmental Eng  
Location: Pawtucket, RI  
Project: Tidewater Former MGP  
Sample Description: TB19 (4-6)

Method: 8260A

CAS No.	Parameter	Result	Qual	QL
75-09-2	Methylene chloride	5.3	U	5.3
91-20-3	Naphthalene	5.3	U	5.3
103-65-1	n-Propylbenzene	5.3	U	5.3
100-42-5	Styrene	5.3	U	5.3
96-18-4	1,2,3-Trichloropropane	5.3	U	5.3
630-20-6	1,1,1,2-Tetrachloroethane	5.3	U	5.3
79-34-5	1,1,2,2-Tetrachloroethane	5.3	U	5.3
127-18-4	Tetrachloroethene	5.3	U	5.3
108-88-3	Toluene	5.3	U	5.3
87-61-6	1,2,3-Trichlorobenzene	5.3	U	5.3
120-82-1	1,2,4-Trichlorobenzene	5.3	U	5.3
71-55-6	1,1,1-Trichloroethane	5.3	U	5.3
79-00-5	1,1,2-Trichloroethane	5.3	U	5.3
79-01-6	Trichloroethene (TCE)	5.3	U	5.3
75-69-4	Trichlorofluoromethane	11	U	11
95-63-6	1,2,4-Trimethylbenzene	5.3	U	5.3
108-67-8	1,3,5-Trimethylbenzene	5.3	U	5.3
75-01-4	Vinyl chloride	11	U	11
95-47-6	o-Xylene	5.3	U	5.3
	m,p-Xylenes	5.3	U	5.3

# SEMIVOLATILE ORGANIC ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
 Division: New England  
 LRI Report No: E607262  
 LRI Sample No: 4

Customer: Atlantic Environmental Eng  
 Location: Pawtucket, RI  
 Project: Tidewater Former MGP  
 Sample Description: TB19 (4-6)

Date Collected: 07/18/96  
 Date Received: 07/19/96  
 Date Extracted: 07/30/96 By: JTH  
 Date Analyzed: 07/31/96 By: RAW

Matrix: Soil  
 Percent Moisture: 6.5%  
 pH:  
 Sample Weight/Volume: 30.3 g  
 Extract Volume: 1.0  
 Injection Volume:  
 Dilution Factor: 1  
 Lab Data File: A12789

Method: 8270  
 Level: LOW  
 GC Column:  
 Units: ug/kg (Dry Weight)

CAS No.	Parameter	Result	Qual	QL
83-32-9	Acenaphthene	180	U, J	180
208-96-8	Acenaphthylene	180	U	180
120-12-7	Anthracene	180	U	180
56-55-3	Benzo[a]anthracene	180	U	180
50-32-8	Benzo[a]pyrene	110	U	53
205-99-2	Benzo[b]fluoranthene	180	U	180
191-24-2	Benzo[g,h,i]perylene	180	U	180
207-08-9	Benzo[k]fluoranthene	180	U	180
218-01-9	Chrysene	180	U	180
53-70-3	Dibenzo[a,h]anthracene	53	U	53
206-44-0	Fluoranthene	180	U	180
86-73-7	Fluorene	180	U	180
193-39-5	Indeno[1,2,3-cd]pyrene	180	U	180
91-20-3	Naphthalene	180	U	180
85-01-8	Phenanthrene	180	U	180
129-00-0	Pyrene	180	U	180
91-57-6	2-Methylnaphthalene	180	U	180

# GENERAL CHEMISTRY ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
Division: New England  
LRI Report No: E607262  
LRI Sample No: 5

Customer: Atlantic Environmental Eng  
Location: Pawtucket, RI  
Project: Tidewater Former MGP  
Sample Description: TB3 (0-2)

Date Collected: 07/17/96  
Date Received: 07/19/96

Matrix: Soil  
Percent Moisture: 11.0%  
Units in Dry Weight

<u>Parameter</u>	<u>Result</u>	<u>QL</u>	<u>Units</u>	<u>Started</u> <u>Date</u>	<u>By</u>	<u>Completed</u> <u>Date</u>	<u>By</u>	<u>Dilution</u>
<u>Cyanide by 9012 Modified NE</u> Cyanide	0.55	0.31	mg/kg	07/22/96	EB	07/26/96	EB	

# METALS ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
 Division: New England  
 LRI Order No: E607262  
 LRI Sample No: 5

Client: Atlantic Environmental Eng  
 Location: Pawtucket, RI  
 Project: Tidewater Former MGP  
 Sample Description: TB3 (0-2)

Date Collected: 07/17/96  
 Date Received: 07/19/96

Matrix: Soil  
 Percent Moisture: 11.0%

Parameter	Result	QL	Units	Started		Completed		Dilution
				Date	By	Date	By	
<u>Arsenic by Furnace by SW-846 7060</u>								
Arsenic	4.8	0.19	mg/kg	07/22/96	KH	07/23/96	MM	
<u>Mercury by Cold Vapor by SW-846 7471</u>								
Mercury	0.10U	0.10	mg/kg	07/23/96	KH	07/24/96	KH	
<u>Metals by ICP by SW-846 6010A</u>								
Beryllium	0.41	0.19	mg/kg	07/22/96	KH	07/24/96	BS	
Chromium	12	2.3	mg/kg	07/22/96	KH	07/24/96	BS	
Copper	17	2.3	mg/kg	07/22/96	KH	07/24/96	BS	
Nickel	10	2.3	mg/kg	07/22/96	KH	07/24/96	BS	
Silver	1.9U	1.9	mg/kg	07/22/96	KH	07/24/96	BS	
Zinc	50	0.94	mg/kg	07/22/96	KH	07/24/96	BS	
Barium	52	0.94	mg/kg	07/22/96	KH	07/24/96	BS	
Antimony	9.4U	9.4	mg/kg	07/22/96	KH	07/24/96	BS	
Lead	130	4.7	mg/kg	07/22/96	KH	07/24/96	BS	
Selenium	9.4U	9.4	mg/kg	07/22/96	KH	07/24/96	BS	
Cadmium	0.94U	0.94	mg/kg	07/22/96	KH	07/24/96	BS	
<u>Thallium by Furnace by SW-846 7841</u>								
Thallium	0.18U	0.18	mg/kg	07/22/96	KH	07/24/96	MM	

# SEMIVOLATILE ORGANIC ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
 Division: New England  
 LRI Report No: E607262  
 LRI Sample No: 5

Customer: Atlantic Environmental Eng  
 Location: Pawtucket, RI  
 Project: Tidewater Former MGP  
 Sample Description: TB3 (0-2)

Date Collected: 07/17/96  
 Date Received: 07/19/96  
 Date Extracted: 07/30/96 By: JTH  
 Date Analyzed: 08/01/96 By: RAW

Matrix: Soil  
 Percent Moisture: 11.0%  
 pH:  
 Sample Weight/Volume: 29.3 g  
 Extract Volume: 1.0  
 Injection Volume:  
 Dilution Factor:  
 Lab Data File: A12820

Method: 8270  
 Level: LOW  
 GC Column:  
 Units: ug/kg ( Dry Weight )

CAS No.	Parameter	Result	Qual	QL
83-32-9	Acenaphthene	190	U	190
208-96-8	Acenaphthylene	190	U	190
120-12-7	Anthracene	190	U	190
56-55-3	Benzo[a]anthracene	690		190
50-32-8	Benzo[a]pyrene	650		58
205-99-2	Benzo[b]fluoranthene	780		190
191-24-2	Benzo[g,h,i]perylene	230		190
207-08-9	Benzo[k]fluoranthene	890		190
218-01-9	Chrysene	860		190
53-70-3	Dibenzo[a,h]anthracene	58	U	58
206-44-0	Fluoranthene	1600		190
86-73-7	Fluorene	190	U	190
193-39-5	Indeno[1,2,3-cd]pyrene	250		190
91-20-3	Naphthalene	190	U	190
85-01-8	Phenanthrene	340		190
129-00-0	Pyrene	1600		58

# GENERAL CHEMISTRY ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
Division: New England  
LRI Report No: E607262  
LRI Sample No: 6

Customer: Atlantic Environmental Eng  
Location: Pawtucket, RI  
Project: Tidewater Former MGP  
Sample Description: TB3 (18-20)

Date Collected: 07/17/96  
Date Received: 07/19/96

Matrix: Soil  
Percent Moisture: 9.5%  
Units in Dry Weight

<u>Parameter</u>	<u>Result</u>	<u>QL</u>	<u>Units</u>	<u>Started</u> <u>Date</u>	<u>By</u>	<u>Completed</u> <u>Date</u>	<u>By</u>	<u>Dilution</u>
<u>Cyanide by 9012 Modified NE</u>								
Cyanide	0.42 U	0.42	mg/kg	07/22/96	EB	07/26/96	EB	

# METALS ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
 Division: New England  
 LRI Order No: E607262  
 LRI Sample No: 6

Client: Atlantic Environmental Eng  
 Location: Pawtucket, RI  
 Project: Tidewater Former MGP  
 Sample Description: TB3 (18-20)

Date Collected: 07/17/96  
 Date Received: 07/19/96

Matrix: Soil  
 Percent Moisture: 9.5%

Parameter	Result	QL	Units	Started		Completed		Dilution
				Date	By	Date	By	
<u>Arsenic by Furnace by SW-846 7060</u>								
Arsenic	1.7	0.19	mg/kg	07/22/96	KH	07/23/96	MM	
<u>Mercury by Cold Vapor by SW-846 7471</u>								
Mercury	0.10U	0.10	mg/kg	07/24/96	KH	07/26/96	KH	
<u>Metals by ICP by SW-846 6010A</u>								
Beryllium	0.31	0.19	mg/kg	07/22/96	KH	07/24/96	BS	
Chromium	5.1	2.3	mg/kg	07/22/96	KH	07/24/96	BS	
Copper	6.6	2.3	mg/kg	07/22/96	KH	07/24/96	BS	
Nickel	6.7	2.3	mg/kg	07/22/96	KH	07/24/96	BS	
Silver	1.9U	1.9	mg/kg	07/22/96	KH	07/24/96	BS	
Zinc	15	0.94	mg/kg	07/22/96	KH	07/24/96	BS	
Barium	18	0.94	mg/kg	07/22/96	KH	07/24/96	BS	
Antimony	9.4U	9.4	mg/kg	07/22/96	KH	07/24/96	BS	
Lead	6.9	4.7	mg/kg	07/22/96	KH	07/24/96	BS	
Selenium	9.4U	9.4	mg/kg	07/22/96	KH	07/24/96	BS	
Cadmium	0.94U	0.94	mg/kg	07/22/96	KH	07/24/96	BS	
<u>Thallium by Furnace by SW-846 7841</u>								
Thallium	0.18U	0.18	mg/kg	07/22/96	KH	07/24/96	MM	



# VOLATILE ORGANIC ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
 Division: New England  
 LRI Report No: E607262  
 LRI Sample No: 6

Customer: Atlantic Environmental Eng  
 Location: Pawtucket, RI  
 Project: Tidewater Former MGP  
 Sample Description: TB3 (18-20)

Date Collected: 07/17/96  
 Date Received: 07/19/96  
 Date Extracted: By:  
 Date Analyzed: 07/26/96 By: AT

Matrix: Soil  
 Percent Moisture: 9.5%  
 Sample Weight/Volume:  
 Dilution Factor: 1  
 Soil Extract Volume:  
 Soil Aliquot Volume:  
 Lab Data File: BH953

Method: 8260A  
 Level: LOW  
 GC Column:  
 Units: ug/kg (Dry Weight)

CAS No.	Parameter	Result	Qual	QL
107-02-8	Acrolein	28	U	28
107-13-1	Acrylonitrile	28	U	28
71-43-2	Benzene	5.5	U	5.5
108-86-1	Bromobenzene	5.5	U	5.5
74-97-5	Bromochloromethane	5.5	U	5.5
75-27-4	Bromodichloromethane	5.5	U	5.5
75-25-2	Bromoform	5.5	U	5.5
74-83-9	Bromomethane	11	U	11
104-51-8	n-Butylbenzene	5.5	U	5.5
135-98-8	sec-Butylbenzene	5.5	U	5.5
98-06-6	tert-Butylbenzene	5.5	U	5.5
56-23-5	Carbon tetrachloride	5.5	U	5.5
108-90-7	Chlorobenzene	5.5	U	5.5
75-00-3	Chloroethane	11	U	11
67-66-3	Chloroform	5.5	U	5.5
74-87-3	Chloromethane	11	U	11
95-49-8	2-Chlorotoluene	5.5	U	5.5
106-43-4	4-Chlorotoluene	5.5	U	5.5
96-12-8	1,2-Dibromo-3-chloropropane (DBCP)	5.5	U	5.5
124-48-1	Dibromochloromethane	5.5	U	5.5
106-93-4	1,2-Dibromoethane (EDB)	5.5	U	5.5
74-95-3	Dibromomethane	5.5	U	5.5
95-50-1	1,2-Dichlorobenzene	5.5	U	5.5
541-73-1	1,3-Dichlorobenzene	5.5	U	5.5
106-46-7	1,4-Dichlorobenzene	5.5	U	5.5
75-71-8	Dichlorodifluoromethane	11	U	11
75-34-3	1,1-Dichloroethane	5.5	U	5.5
107-06-2	1,2-Dichloroethane	5.5	U	5.5
75-35-4	1,1-Dichloroethene	5.5	U	5.5
156-59-4	cis-1,2-Dichloroethene	5.5	U	5.5
156-60-5	trans-1,2-Dichloroethene	5.5	U	5.5
78-87-5	1,2-Dichloropropane	5.5	U	5.5
142-28-9	1,3-Dichloropropane	5.5	U	5.5
590-20-7	2,2-Dichloropropane	5.5	U	5.5
563-58-6	1,1-Dichloropropene	5.5	U	5.5
10061-01-5	cis-1,3-Dichloropropene	5.5	U	5.5
10061-02-6	trans-1,3-Dichloropropene	5.5	U	5.5
100-41-4	Ethylbenzene	5.5	U	5.5
87-68-3	Hexachlorobutadiene	5.5	U	5.5
98-82-8	Isopropylbenzene	5.5	U	5.5
99-87-6	4-Isopropyltoluene	5.5	U	5.5
1634-04-4	Methyl tert-butyl ether (MTBE)	5.5	U	5.5

# VOLATILE ORGANIC ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
Division: New England  
LRI Report No: E607262  
LRI Sample No: 6

Customer: Atlantic Environmental Eng  
Location: Pawtucket, RI  
Project: Tidewater Former MGP  
Sample Description: TB3 (18-20)

Method: 8260A

CAS No.	Parameter	Result	Qual	QL
75-09-2	Methylene chloride	5.5	U	5.5
91-20-3	Naphthalene	5.5	U	5.5
103-65-1	n-Propylbenzene	5.5	U	5.5
100-42-5	Styrene	5.5	U	5.5
96-18-4	1,2,3-Trichloropropane	5.5	U	5.5
630-20-6	1,1,1,2-Tetrachloroethane	5.5	U	5.5
79-34-5	1,1,2,2-Tetrachloroethane	5.5	U	5.5
127-18-4	Tetrachloroethene	5.5	U	5.5
108-88-3	Toluene	5.5	U	5.5
87-61-6	1,2,3-Trichlorobenzene	5.5	U	5.5
120-82-1	1,2,4-Trichlorobenzene	5.5	U	5.5
71-55-6	1,1,1-Trichloroethane	5.5	U	5.5
79-00-5	1,1,2-Trichloroethane	5.5	U	5.5
79-01-6	Trichloroethene (TCE)	5.5	U	5.5
75-69-4	Trichlorofluoromethane	11	U	11
95-63-6	1,2,4-Trimethylbenzene	5.5	U	5.5
108-67-8	1,3,5-Trimethylbenzene	5.5	U	5.5
75-01-4	Vinyl chloride	11	U	11
95-47-6	o-Xylene	5.5	U	5.5
	m,p-Xylenes	5.5	U	5.5

# SEMIVOLATILE ORGANIC ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
 Division: New England  
 LRI Report No: E607262  
 LRI Sample No: 6

Customer: Atlantic Environmental Eng  
 Location: Pawtucket, RI  
 Project: Tidewater Former MGP  
 Sample Description: TB3 (18-20)

Date Collected: 07/17/96  
 Date Received: 07/19/96  
 Date Extracted: 07/30/96 By: JTH  
 Date Analyzed: 07/31/96 By: RAW

Matrix: Soil  
 Percent Moisture: 9.5%  
 pH:  
 Sample Weight/Volume: 29.6 g  
 Extract Volume: 1.0  
 Injection Volume:  
 Dilution Factor:  
 Lab Data File: A12790

Method: 8270  
 Level: LOW  
 GC Column:  
 Units: ug/kg (Dry Weight)

CAS No.	Parameter	Result	Qual	QL
83-32-9	Acenaphthene	190	U	190
208-96-8	Acenaphthylene	190	U	190
120-12-7	Anthracene	190	U	190
56-55-3	Benzo[a]anthracene	190	U	190
50-32-8	Benzo[a]pyrene	56	U	56
205-99-2	Benzo[b]fluoranthene	190	U	190
191-24-2	Benzo[g,h,i]perylene	190	U	190
207-08-9	Benzo[k]fluoranthene	190	U	190
218-01-9	Chrysene	190	U	190
53-70-3	Dibenzo[a,h]anthracene	56	U	56
206-44-0	Fluoranthene	190	U	190
86-73-7	Fluorene	190	U	190
193-39-5	Indeno[1,2,3-cd]pyrene	190	U	190
91-20-3	Naphthalene	190	U	190
85-01-8	Phenanthrene	190	U	190
129-00-0	Pyrene	190	U	190
91-57-6	2-Methylnaphthalene	190	U	190

# GENERAL CHEMISTRY ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
Division: New England  
LRI Report No: E607262  
LRI Sample No: 7

Customer: Atlantic Environmental Eng  
Location: Pawtucket, RI  
Project: Tidewater Former MGP  
Sample Description: TB18 (0-2)

Date Collected: 07/18/96  
Date Received: 07/19/96

Matrix: Soil  
Percent Moisture: 10.0%  
Units in Dry Weight

<u>Parameter</u>	<u>Result</u>	<u>QL</u>	<u>Units</u>	<u>Started</u> <u>Date</u>	<u>By</u>	<u>Completed</u> <u>Date</u>	<u>By</u>	<u>Dilution</u>
<u>Cyanide by 9012 Modified NE</u>								
Cyanide	120	9.2	mg/kg	07/22/96	EB	07/26/96	EB	25

# METALS ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
 Division: New England  
 LRI Order No: E607262  
 LRI Sample No: 7

Client: Atlantic Environmental Eng  
 Location: Pawtucket, RI  
 Project: Tidewater Former MGP  
 Sample Description: TB18 (0-2)

Date Collected: 07/18/96  
 Date Received: 07/19/96

Matrix: Soil  
 Percent Moisture: 10.0%

Parameter	Result	QL	Units	Started		Completed		Dilution
				Date	By	Date	By	
<u>Arsenic by Furnace by SW-846 7060</u>								
Arsenic	3.6	0.19	mg/kg	07/22/96	KH	07/23/96	MM	
<u>Mercury by Cold Vapor by SW-846 7471</u>								
Mercury	0.10U	0.10	mg/kg	07/24/96	KH	07/26/96	KH	
<u>Metals by ICP by SW-846 6010A</u>								
Beryllium	0.39	0.19	mg/kg	07/22/96	KH	07/24/96	BS	
Chromium	16	2.4	mg/kg	07/22/96	KH	07/24/96	BS	
Copper	50	2.4	mg/kg	07/22/96	KH	07/24/96	BS	
Nickel	15	2.4	mg/kg	07/22/96	KH	07/24/96	BS	
Silver	1.9U	1.9	mg/kg	07/22/96	KH	07/24/96	BS	
Zinc	46	0.96	mg/kg	07/22/96	KH	07/24/96	BS	
Barium	50	0.96	mg/kg	07/22/96	KH	07/24/96	BS	
Antimony	9.6U	9.6	mg/kg	07/22/96	KH	07/24/96	BS	
Lead	84	4.8	mg/kg	07/22/96	KH	07/24/96	BS	
Selenium	9.6U	9.6	mg/kg	07/22/96	KH	07/24/96	BS	
Cadmium	0.96U	0.96	mg/kg	07/22/96	KH	07/24/96	BS	
<u>Thallium by Furnace by SW-846 7841</u>								
Thallium	0.18U	0.18	mg/kg	07/22/96	KH	07/24/96	MM	

# VOLATILE ORGANIC ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
 Division: New England  
 LRI Report No: E607262  
 LRI Sample No: 7

Customer: Atlantic Environmental Eng  
 Location: Pawtucket, RI  
 Project: Tidewater Former MGP  
 Sample Description: TB18 (0-2)

Date Collected: 07/18/96  
 Date Received: 07/19/96  
 Date Extracted: By:  
 Date Analyzed: 07/26/96 By: AT

Matrix: Soil  
 Percent Moisture: 10.0%  
 Sample Weight/Volume:  
 Dilution Factor: 1  
 Soil Extract Volume:  
 Soil Aliquot Volume:  
 Lab Data File: BH958

Method: 8260A  
 Level: LOW  
 GC Column:  
 Units: ug/kg (Dry Weight)

CAS No.	Parameter	Result	Qual	QL
107-02-8	Acrolein	28	U	28
107-13-1	Acrylonitrile	28	U	28
71-43-2	Benzene	5.6	U	5.6
108-86-1	Bromobenzene	5.6	U	5.6
74-97-5	Bromochloromethane	5.6	U	5.6
75-27-4	Bromodichloromethane	5.6	U	5.6
75-25-2	Bromoform	5.6	U	5.6
74-83-9	Bromomethane	11	U	11
104-51-8	n-Butylbenzene	5.6	U	5.6
135-98-8	sec-Butylbenzene	5.6	U	5.6
98-06-6	tert-Butylbenzene	5.6	U	5.6
56-23-5	Carbon tetrachloride	5.6	U	5.6
108-90-7	Chlorobenzene	5.6	U	5.6
75-00-3	Chloroethane	11	U	11
67-66-3	Chloroform	5.6	U	5.6
74-87-3	Chloromethane	11	U	11
95-49-8	2-Chlorotoluene	5.6	U	5.6
106-43-4	4-Chlorotoluene	5.6	U	5.6
96-12-8	1,2-Dibromo-3-chloropropane (DBCP)	5.6	U	5.6
124-48-1	Dibromochloromethane	5.6	U	5.6
106-93-4	1,2-Dibromoethane (EDB)	5.6	U	5.6
74-95-3	Dibromomethane	5.6	U	5.6
95-50-1	1,2-Dichlorobenzene	5.6	U	5.6
541-73-1	1,3-Dichlorobenzene	5.6	U	5.6
106-46-7	1,4-Dichlorobenzene	5.6	U	5.6
75-71-8	Dichlorodifluoromethane	11	U	11
75-34-3	1,1-Dichloroethane	5.6	U	5.6
107-06-2	1,2-Dichloroethane	5.6	U	5.6
75-35-4	1,1-Dichloroethene	5.6	U	5.6
156-59-4	cis-1,2-Dichloroethene	5.6	U	5.6
156-60-5	trans-1,2-Dichloroethene	5.6	U	5.6
78-87-5	1,2-Dichloropropane	5.6	U	5.6
142-28-9	1,3-Dichloropropane	5.6	U	5.6
590-20-7	2,2-Dichloropropane	5.6	U	5.6
563-58-6	1,1-Dichloropropene	5.6	U	5.6
10061-01-5	cis-1,3-Dichloropropene	5.6	U	5.6
10061-02-6	trans-1,3-Dichloropropene	5.6	U	5.6
100-41-4	Ethylbenzene	5.6	U	5.6
87-68-3	Hexachlorobutadiene	5.6	U	5.6
98-82-8	Isopropylbenzene	5.6	U	5.6
99-87-6	4-Isopropyltoluene	5.6	U	5.6
1634-04-4	Methyl tert-butyl ether (MTBE)	5.6	U	5.6

# VOLATILE ORGANIC ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
Division: New England  
LRI Report No: E607262  
LRI Sample No: 7

Customer: Atlantic Environmental Eng  
Location: Pawtucket, RI  
Project: Tidewater Former MGP  
Sample Description: TB18 (0-2)

Method: 8260A

CAS No.	Parameter	Result	Qual	QL
75-09-2	Methylene chloride	5.6	U	5.6
91-20-3	Naphthalene	5.6	U	5.6
103-65-1	n-Propylbenzene	5.6	U	5.6
100-42-5	Styrene	5.6	U	5.6
96-18-4	1,2,3-Trichloropropane	5.6	U	5.6
630-20-6	1,1,1,2-Tetrachloroethane	5.6	U	5.6
79-34-5	1,1,2,2-Tetrachloroethane	5.6	U	5.6
127-18-4	Tetrachloroethene	5.6	U	5.6
108-88-3	Toluene	5.6	U	5.6
87-61-6	1,2,3-Trichlorobenzene	5.6	U	5.6
120-82-1	1,2,4-Trichlorobenzene	5.6	U	5.6
71-55-6	1,1,1-Trichloroethane	5.6	U	5.6
79-00-5	1,1,2-Trichloroethane	5.6	U	5.6
79-01-6	Trichloroethene (TCE)	5.6	U	5.6
75-69-4	Trichlorofluoromethane	11	U	11
95-63-6	1,2,4-Trimethylbenzene	5.6	U	5.6
108-67-8	1,3,5-Trimethylbenzene	5.6	U	5.6
75-01-4	Vinyl chloride	11	U	11
95-47-6	o-Xylene	5.6	U	5.6
	m,p-Xylenes	5.6	U	5.6

# SEMIVOLATILE ORGANIC ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
 Division: New England  
 LRI Report No: E607262  
 LRI Sample No: 7

Customer: Atlantic Environmental Eng  
 Location: Pawtucket, RI  
 Project: Tidewater Former MGP  
 Sample Description: TB18 (0-2)

Date Collected: 07/18/96  
 Date Received: 07/19/96  
 Date Extracted: 07/30/96 By: JTH  
 Date Analyzed: 07/31/96 By: RAW

Matrix: Soil  
 Percent Moisture: 10.0%  
 pH:  
 Sample Weight/Volume: 30.2 g  
 Extract Volume: 1.0  
 Injection Volume:  
 Dilution Factor:  
 Lab Data File: A12801

Method: 8270  
 Level: LOW  
 GC Column:  
 Units: ug/kg (Dry Weight)

CAS No.	Parameter	Result	Qual	QL
83-32-9	Acenaphthene	180	U	180
208-96-8	Acenaphthylene	1300		180
120-12-7	Anthracene	1200		180
56-55-3	Benzo[a]anthracene	3600		180
50-32-8	Benzo[a]pyrene	3000		55
205-99-2	Benzo[b]fluoranthene	4100		180
191-24-2	Benzo[g,h,i]perylene	1200		180
207-08-9	Benzo[k]fluoranthene	3600		180
218-01-9	Chrysene	4000		180
53-70-3	Dibenzo[a,h]anthracene	170		55
206-44-0	Fluoranthene	3300		180
86-73-7	Fluorene	650		180
193-39-5	Indeno[1,2,3-cd]pyrene	1200		180
91-20-3	Naphthalene	740		180
85-01-8	Phenanthrene	3500		180
129-00-0	Pyrene	5000		180
91-57-6	2-Methylnaphthalene	430		180



# GENERAL CHEMISTRY ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
Division: New England  
LRI Report No: E607262  
LRI Sample No: 8

Customer: Atlantic Environmental Eng  
Location: Pawtucket, RI  
Project: Tidewater Former MGP  
Sample Description: TB18 (8-10)

Date Collected: 07/18/96  
Date Received: 07/19/96

Matrix: Soil  
Percent Moisture: 33.1%  
Units in Dry Weight

Parameter	Result	QL	Units	Started		Completed		Dilution
				Date	By	Date	By	
<u>Cyanide by 9012 Modified NE</u>								
Cyanide	320	26	mg/kg	07/22/96	EB	07/26/96	EB	50

# METALS ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
 Division: New England  
 LRI Order No: E607262  
 LRI Sample No: 8

Client: Atlantic Environmental Eng  
 Location: Pawtucket, RI  
 Project: Tidewater Former MGP  
 Sample Description: TB18 (8-10)

Date Collected: 07/18/96  
 Date Received: 07/19/96

Matrix: Soil  
 Percent Moisture: 33.1%

Parameter	Result	QL	Units	Started		Completed		Dilution
				Date	By	Date	By	
<u>Arsenic by Furnace by SW-846 7060</u>								
Arsenic	24	0.52	mg/kg	07/22/96	KH	07/24/96	MM	2
<u>Mercury by Cold Vapor by SW-846 7471</u>								
Mercury	0.13 U	0.13	mg/kg	07/24/96	KH	07/26/96	KH	
<u>Metals by ICP by SW-846 6010A</u>								
Beryllium	0.26 U	0.26	mg/kg	07/22/96	KH	07/24/96	BS	
Chromium	78	3.2	mg/kg	07/22/96	KH	07/24/96	BS	
Copper	200	3.2	mg/kg	07/22/96	KH	07/24/96	BS	
Nickel	79	3.2	mg/kg	07/22/96	KH	07/24/96	BS	
Silver	6.6	2.6	mg/kg	07/22/96	KH	07/24/96	BS	
Zinc	91	1.3	mg/kg	07/22/96	KH	07/24/96	BS	
Barium	49	1.3	mg/kg	07/22/96	KH	07/24/96	BS	
Antimony	13 U	13	mg/kg	07/22/96	KH	07/24/96	BS	
Lead	60	6.5	mg/kg	07/22/96	KH	07/24/96	BS	
Selenium	13 U	13	mg/kg	07/22/96	KH	07/24/96	BS	
Cadmium	1.3 U	1.3	mg/kg	07/22/96	KH	07/24/96	BS	
<u>Thallium by Furnace by SW-846 7841</u>								
Thallium	0.18 U	0.18	mg/kg	07/22/96	KH	07/24/96	MM	

# VOLATILE ORGANIC ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
 Division: New England  
 LRI Report No: E607262  
 LRI Sample No: 8

Customer: Atlantic Environmental Eng  
 Location: Pawtucket, RI  
 Project: Tidewater Former MGP  
 Sample Description: TB18 (8-10)

Date Collected: 07/18/96  
 Date Received: 07/19/96  
 Date Extracted: By:  
 Date Analyzed: 07/29/96 By: AT

Matrix: Soil  
 Percent Moisture: 33.1%  
 Sample Weight/Volume:  
 Dilution Factor: 20000  
 Soil Extract Volume:  
 Soil Aliquot Volume:  
 Lab Data File: C4390

Method: 8260A  
 Level: LOW  
 GC Column:  
 Units: ug/kg (Dry Weight)

CAS No.	Parameter	Result	Qual	QL
107-02-8	Acrolein	750000	U	750000
107-13-1	Acrylonitrile	750000	U	750000
71-43-2	Benzene	150000	U	150000
108-86-1	Bromobenzene	150000	U	150000
74-97-5	Bromochloromethane	150000	U	150000
75-27-4	Bromodichloromethane	150000	U	150000
75-25-2	Bromoform	150000	U	150000
74-83-9	Bromomethane	300000	U	300000
104-51-8	n-Butylbenzene	150000	U	150000
135-98-8	sec-Butylbenzene	150000	U	150000
98-06-6	tert-Butylbenzene	150000	U	150000
56-23-5	Carbon tetrachloride	150000	U	150000
108-90-7	Chlorobenzene	150000	U	150000
75-00-3	Chloroethane	300000	U	300000
67-66-3	Chloroform	150000	U	150000
74-87-3	Chloromethane	300000	U	300000
95-49-8	2-Chlorotoluene	150000	U	150000
106-43-4	4-Chlorotoluene	150000	U	150000
96-12-8	1,2-Dibromo-3-chloropropane (DBCP)	150000	U	150000
124-48-1	Dibromochloromethane	150000	U	150000
106-93-4	1,2-Dibromoethane (EDB)	150000	U	150000
74-95-3	Dibromomethane	150000	U	150000
95-50-1	1,2-Dichlorobenzene	150000	U	150000
541-73-1	1,3-Dichlorobenzene	150000	U	150000
106-46-7	1,4-Dichlorobenzene	150000	U	150000
75-71-8	Dichlorodifluoromethane	300000	U	300000
75-34-3	1,1-Dichloroethane	150000	U	150000
107-06-2	1,2-Dichloroethane	150000	U	150000
75-35-4	1,1-Dichloroethene	150000	U	150000
156-59-4	cis-1,2-Dichloroethene	150000	U	150000
156-60-5	trans-1,2-Dichloroethene	150000	U	150000
78-87-5	1,2-Dichloropropane	150000	U	150000
142-28-9	1,3-Dichloropropane	150000	U	150000
590-20-7	2,2-Dichloropropane	150000	U	150000
563-58-6	1,1-Dichloropropene	150000	U	150000
10061-01-5	cis-1,3-Dichloropropene	150000	U	150000
10061-02-6	trans-1,3-Dichloropropene	150000	U	150000
100-41-4	Ethylbenzene	150000	U	150000
87-68-3	Hexachlorobutadiene	150000	U	150000
98-82-8	Isopropylbenzene	150000	U	150000
99-87-6	4-Isopropyltoluene	150000	U	150000
1634-04-4	Methyl tert-butyl ether (MTBE)	150000	U	150000

# VOLATILE ORGANIC ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
Division: New England  
LRI Report No: E607262  
LRI Sample No: 8

Customer: Atlantic Environmental Eng  
Location: Pawtucket, RI  
Project: Tidewater Former MGP  
Sample Description: TB18 (8-10)

Method: 8260A

CAS No.	Parameter	Result	Qual	QL
75-09-2	Methylene chloride	150000	U	150000
91-20-3	Naphthalene	2500000		150000
103-65-1	n-Propylbenzene	150000	U	150000
100-42-5	Styrene	150000	U	150000
96-18-4	1,2,3-Trichloropropane	150000	U	150000
630-20-6	1,1,1,2-Tetrachloroethane	150000	U	150000
79-34-5	1,1,2,2-Tetrachloroethane	150000	U	150000
127-18-4	Tetrachloroethene	150000	U	150000
108-88-3	Toluene	150000	U	150000
87-61-6	1,2,3-Trichlorobenzene	150000	U	150000
120-82-1	1,2,4-Trichlorobenzene	150000	U	150000
71-55-6	1,1,1-Trichloroethane	150000	U	150000
79-00-5	1,1,2-Trichloroethane	150000	U	150000
79-01-6	Trichloroethene (TCE)	150000	U	150000
75-69-4	Trichlorofluoromethane	300000	U	300000
95-63-6	1,2,4-Trimethylbenzene	150000	U	150000
108-67-8	1,3,5-Trimethylbenzene	150000	U	150000
75-01-4	Vinyl chloride	300000	U	300000
95-47-6	o-Xylene	150000	U	150000
	m,p-Xylenes	150000	U	150000

# SEMIVOLATILE ORGANIC ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
 Division: New England  
 LRI Report No: E607262  
 LRI Sample No: 8

Customer: Atlantic Environmental Eng  
 Location: Pawtucket, RI  
 Project: Tidewater Former MGP  
 Sample Description: TB18 (8-10)

Date Collected: 07/18/96  
 Date Received: 07/19/96  
 Date Extracted: 07/30/96 By: JTH  
 Date Analyzed: 08/01/96 By: RAW

Matrix: Soil  
 Percent Moisture: 33.1%  
 pH:  
 Sample Weight/Volume: 31.0 g  
 Extract Volume: 10.0  
 Injection Volume:  
 Dilution Factor: 25  
 Lab Data File: A12823

Method: 8270  
 Level: LOW  
 GC Column:  
 Units: ug/kg (Dry Weight)

CAS No.	Parameter	Result	Qual	QL
83-32-9	Acenaphthene	60000	U	60000
208-96-8	Acenaphthylene	93000		60000
120-12-7	Anthracene	140000		60000
56-55-3	Benzo[a]anthracene	180000		60000
50-32-8	Benzo[a]pyrene	110000		18000
205-99-2	Benzo[b]fluoranthene	91000		60000
191-24-2	Benzo[g,h,i]perylene	60000	U	60000
207-08-9	Benzo[k]fluoranthene	97000		60000
218-01-9	Chrysene	190000		60000
53-70-3	Dibenzo[a,h]anthracene	18000	U	18000
206-44-0	Fluoranthene	280000		60000
86-73-7	Fluorene	150000		60000
193-39-5	Indeno[1,2,3-cd]pyrene	60000	U	60000
91-20-3	Naphthalene	1200000		60000
85-01-8	Phenanthrene	480000		60000
129-00-0	Pyrene	450000		60000
91-57-6	2-Methylnaphthalene	550000		60000

# GENERAL CHEMISTRY ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
Division: New England  
LRI Report No: E607262  
LRI Sample No: 9

Customer: Atlantic Environmental Eng  
Location: Pawtucket, RI  
Project: Tidewater Former MGP  
Sample Description: TSS 18

Date Collected: 07/18/96  
Date Received: 07/19/96

Matrix: Soil  
Percent Moisture: 10.6%  
Units in Dry Weight

<u>Parameter</u>	<u>Result</u>	<u>QL</u>	<u>Units</u>	<u>Started</u> <u>Date</u>	<u>By</u>	<u>Completed</u> <u>Date</u>	<u>By</u>	<u>Dilution</u>
<u>Cyanide by 9012 Modified NE</u>								
Cyanide	84	4.3	mg/kg	07/22/96	EB	07/26/96	EB	10

# METALS ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
 Division: New England  
 LRI Order No: E607262  
 LRI Sample No: 9

Client: Atlantic Environmental Eng  
 Location: Pawtucket, RI  
 Project: Tidewater Former MGP  
 Sample Description: TSS 18

Date Collected: 07/18/96  
 Date Received: 07/19/96

Matrix: Soil  
 Percent Moisture: 10.6%

Parameter	Result	QL	Units	Started		Completed		Dilution
				Date	By	Date	By	
<u>Arsenic by Furnace by SW-846 7060</u>								
Arsenic	6.7	0.20	mg/kg	07/22/96	KH	07/23/96	MM	
<u>Mercury by Cold Vapor by SW-846 7471</u>								
Mercury	0.099 U	0.099	mg/kg	07/24/96	KH	07/26/96	KH	
<u>Metals by ICP by SW-846 6010A</u>								
Beryllium	0.55	0.20	mg/kg	07/22/96	KH	07/24/96	BS	
Chromium	14	2.5	mg/kg	07/22/96	KH	07/24/96	BS	
Copper	66	2.5	mg/kg	07/22/96	KH	07/24/96	BS	
Nickel	19	2.5	mg/kg	07/22/96	KH	07/24/96	BS	
Silver	2.0 U	2.0	mg/kg	07/22/96	KH	07/24/96	BS	
Zinc	170	1.0	mg/kg	07/22/96	KH	07/24/96	BS	
Barium	100	1.0	mg/kg	07/22/96	KH	07/24/96	BS	
Antimony	10 U	10	mg/kg	07/22/96	KH	07/24/96	BS	
Lead	320	5.0	mg/kg	07/22/96	KH	07/24/96	BS	
Selenium	10 U	10	mg/kg	07/22/96	KH	07/24/96	BS	
Cadmium	1.0 U	1.0	mg/kg	07/22/96	KH	07/24/96	BS	
<u>Thallium by Furnace by SW-846 7841</u>								
Thallium	0.18 U	0.18	mg/kg	07/22/96	KH	07/24/96	MM	

# SEMIVOLATILE ORGANIC ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
Division: New England  
LRI Report No: E607262  
LRI Sample No: 9

Customer: Atlantic Environmental Eng  
Location: Pawtucket, RI  
Project: Tidewater Former MGP  
Sample Description: TSS 18

Date Collected: 07/18/96  
Date Received: 07/19/96  
Date Extracted: 07/18/96 By: KRB  
Date Analyzed: 07/26/96 By: KRB

Matrix: Soil  
Percent Moisture: 10.6%  
pH:  
Sample Weight/Volume: 2.00 g  
Extract Volume: 2  
Injection Volume:  
Dilution Factor: 1  
Lab Data File: 8072618

Method: 8080  
Level: LOW  
GC Column:  
Units: ug/kg (Dry Weight)

CAS No.	Parameter	Result	Qual	QL
12674-11-2	Aroclor 1016	560	U	560
11104-28-2	Aroclor 1221	560	U	560
11141-16-5	Aroclor 1232	560	U	560
53469-21-9	Aroclor 1242	560	U	560
12672-29-6	Aroclor 1248	560	U	560
11097-69-1	Aroclor 1254	560	U	560
11096-82-5	Aroclor 1260	560	U	560



# SEMIVOLATILE ORGANIC ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
 Division: New England  
 LRI Report No: E607262  
 LRI Sample No: 9

Customer: Atlantic Environmental Eng  
 Location: Pawtucket, RI  
 Project: Tidewater Former MGP  
 Sample Description: TSS 18

Date Collected: 07/18/96  
 Date Received: 07/19/96  
 Date Extracted: 07/30/96 By: JTH  
 Date Analyzed: 07/31/96 By: RAW

Matrix: Soil  
 Percent Moisture: 10.6%  
 pH:  
 Sample Weight/Volume: 29.6 g  
 Extract Volume: 1.0  
 Injection Volume:  
 Dilution Factor:  
 Lab Data File: A12799

Method: 8270  
 Level: LOW  
 GC Column:  
 Units: ug/kg (Dry Weight)

CAS No.	Parameter	Result	Qual	QL
83-32-9	Acenaphthene	290		190
208-96-8	Acenaphthylene	1000		190
120-12-7	Anthracene	1400		190
56-55-3	Benzo[a]anthracene	4200		190
50-32-8	Benzo[a]pyrene	3200		57
205-99-2	Benzo[b]fluoranthene	4200		190
191-24-2	Benzo[g,h,i]perylene	1100		190
207-08-9	Benzo[k]fluoranthene	2100		190
218-01-9	Chrysene	4000		190
53-70-3	Dibenzo[a,h]anthracene	160		57
206-44-0	Fluoranthene	5300		190
86-73-7	Fluorene	580		190
193-39-5	Indeno[1,2,3-cd]pyrene	1200		190
91-20-3	Naphthalene	320		190
85-01-8	Phenanthrene	3800		190
129-00-0	Pyrene	5800		190
91-57-6	2-Methylnaphthalene	190	U	190

# GENERAL CHEMISTRY ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
Division: New England  
LRI Report No: E607262  
LRI Sample No: 10

Customer: Atlantic Environmental Eng  
Location: Pawtucket, RI  
Project: Tidewater Former MGP  
Sample Description: TSS 16

Date Collected: 07/18/96  
Date Received: 07/19/96

Matrix: Soil  
Percent Moisture: 7.7%  
Units in Dry Weight

<u>Parameter</u>	<u>Result</u>	<u>QL</u>	<u>Units</u>	<u>Started</u> <u>Date</u>	<u>By</u>	<u>Completed</u> <u>Date</u>	<u>By</u>	<u>Dilution</u>
<u>Cyanide by 9012 Modified NE</u>								
Cyanide	93	8.1	mg/kg	07/22/96	EB	07/26/96	EB	25

# METALS ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
 Division: New England  
 LRI Order No: E607262  
 LRI Sample No: 10

Client: Atlantic Environmental Eng  
 Location: Pawtucket, RI  
 Project: Tidewater Former MGP  
 Sample Description: TSS 16

Date Collected: 07/18/96  
 Date Received: 07/19/96

Matrix: Soil  
 Percent Moisture: 7.7%

Parameter	Result	QL	Units	Started		Completed		Dilution
				Date	By	Date	By	
<u>Arsenic by Furnace by SW-846 7060</u>								
Arsenic	7.0	0.18	mg/kg	07/22/96	KH	07/23/96	MM	
<u>Mercury by Cold Vapor by SW-846 7471</u>								
Mercury	0.10 U	0.10	mg/kg	07/24/96	KH	07/26/96	KH	
<u>Metals by ICP by SW-846 6010A</u>								
Beryllium	0.42	0.18	mg/kg	07/22/96	KH	07/24/96	BS	
Chromium	21	2.2	mg/kg	07/22/96	KH	07/24/96	BS	
Copper	35	2.2	mg/kg	07/22/96	KH	07/24/96	BS	
Nickel	16	2.2	mg/kg	07/22/96	KH	07/24/96	BS	
Silver	1.8 U	1.8	mg/kg	07/22/96	KH	07/24/96	BS	
Zinc	38	0.92	mg/kg	07/22/96	KH	07/24/96	BS	
Barium	47	0.92	mg/kg	07/22/96	KH	07/24/96	BS	
Antimony	9.2 U	9.2	mg/kg	07/22/96	KH	07/24/96	BS	
Lead	19	4.6	mg/kg	07/22/96	KH	07/24/96	BS	
Selenium	9.2 U	9.2	mg/kg	07/22/96	KH	07/24/96	BS	
Cadmium	0.92 U	0.92	mg/kg	07/22/96	KH	07/24/96	BS	
<u>Thallium by Furnace by SW-846 7841</u>								
Thallium	0.18 U	0.18	mg/kg	07/22/96	KH	07/24/96	MM	

# SEMIVOLATILE ORGANIC ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
Division: New England  
LRI Report No: E607262  
LRI Sample No: 10

Customer: Atlantic Environmental Eng  
Location: Pawtucket, RI  
Project: Tidewater Former MGP  
Sample Description: TSS 16

Date Collected: 07/18/96  
Date Received: 07/19/96  
Date Extracted: 07/18/96 By: KRB  
Date Analyzed: 07/26/96 By: KRB

Matrix: Soil  
Percent Moisture: 7.7%  
pH:  
Sample Weight/Volume: 2.01 g  
Extract Volume: 2  
Injection Volume:  
Dilution Factor: 1  
Lab Data File: 8072619

Method: 8080  
Level: LOW  
GC Column:  
Units: ug/kg (Dry Weight)

CAS No.	Parameter	Result	Qual	QL
12674-11-2	Aroclor 1016	540	U	540
11104-28-2	Aroclor 1221	540	U	540
11141-16-5	Aroclor 1232	540	U	540
53469-21-9	Aroclor 1242	540	U	540
12672-29-6	Aroclor 1248	540	U	540
11097-69-1	Aroclor 1254	540	U	540
11096-82-5	Aroclor 1260	540	U	540

# SEMIVOLATILE ORGANIC ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
 Division: New England  
 LRI Report No: E607262  
 LRI Sample No: 10

Customer: Atlantic Environmental Eng  
 Location: Pawtucket, RI  
 Project: Tidewater Former MGP  
 Sample Description: TSS 16

Date Collected: 07/18/96  
 Date Received: 07/19/96  
 Date Extracted: 07/30/96 By: JTH  
 Date Analyzed: 07/30/96 By: RAW

Matrix: Soil  
 Percent Moisture: 7.7%  
 pH:  
 Sample Weight/Volume: 31.2 g  
 Extract Volume: 1.0  
 Injection Volume:  
 Dilution Factor:  
 Lab Data File: a12778

Method: 8270  
 Level: LOW  
 GC Column:  
 Units: ug/kg (Dry Weight)

CAS No.	Parameter	Result	Qual	QL
83-32-9	Acenaphthene	170	U	170
208-96-8	Acenaphthylene	410		170
120-12-7	Anthracene	280		170
56-55-3	Benzo[a]anthracene	1700		170
50-32-8	Benzo[a]pyrene	760		52
205-99-2	Benzo[b]fluoranthene	1300		170
191-24-2	Benzo[g,h,i]perylene	280		170
207-08-9	Benzo[k]fluoranthene	940		170
218-01-9	Chrysene	2100		170
53-70-3	Dibenzo[a,h]anthracene	52	U	52
206-44-0	Fluoranthene	1600		170
86-73-7	Fluorene	170	U	170
193-39-5	Indeno[1,2,3-cd]pyrene	320		170
91-20-3	Naphthalene	170	U	170
85-01-8	Phenanthrene	830		170
129-00-0	Pyrene	2300		170
91-57-6	2-Methylnaphthalene	170	U	170

# GENERAL CHEMISTRY ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
Division: New England  
LRI Report No: E607262  
LRI Sample No: 11

Customer: Atlantic Environmental Eng  
Location: Pawtucket, RI  
Project: Tidewater Former MGP  
Sample Description: TB7 (0-2)

Date Collected: 07/19/96  
Date Received: 07/19/96

Matrix: Soil  
Percent Moisture: 10.3%  
Units in Dry Weight

<u>Parameter</u>	<u>Result</u>	<u>QL</u>	<u>Units</u>	<u>Started</u> <u>Date</u>	<u>By</u>	<u>Completed</u> <u>Date</u>	<u>By</u>	<u>Dilution</u>
<u>Cyanide by 9012 Modified NE</u>								
Cyanide	0.97	0.41	mg/kg	07/22/96	EB	07/26/96	EB	

# METALS ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
 Division: New England  
 LRI Order No: E607262  
 LRI Sample No: 11

Client: Atlantic Environmental Eng  
 Location: Pawtucket, RI  
 Project: Tidewater Former MGP  
 Sample Description: TB7 (0-2)

Date Collected: 07/19/96  
 Date Received: 07/19/96

Matrix: Soil  
 Percent Moisture: 10.3%

Parameter	Result	QL	Units	Started		Completed		Dilution
				Date	By	Date	By	
<u>Arsenic by Furnace by SW-846 7060</u>								
Arsenic	4.8	0.19	mg/kg	07/22/96	KH	07/23/96	MM	
<u>Mercury by Cold Vapor by SW-846 7471</u>								
Mercury	0.10 U	0.10	mg/kg	07/24/96	KH	07/26/96	KH	
<u>Metals by ICP by SW-846 6010A</u>								
Beryllium	0.56	0.19	mg/kg	07/22/96	KH	07/24/96	BS	
Chromium	14	2.4	mg/kg	07/22/96	KH	07/24/96	BS	
Copper	22	2.4	mg/kg	07/22/96	KH	07/24/96	BS	
Nickel	12	2.4	mg/kg	07/22/96	KH	07/24/96	BS	
Silver	1.9 U	1.9	mg/kg	07/22/96	KH	07/24/96	BS	
Zinc	69	0.96	mg/kg	07/22/96	KH	07/24/96	BS	
Barium	40	0.96	mg/kg	07/22/96	KH	07/24/96	BS	
Antimony	9.6 U	9.6	mg/kg	07/22/96	KH	07/24/96	BS	
Lead	90	4.8	mg/kg	07/22/96	KH	07/24/96	BS	
Selenium	9.6 U	9.6	mg/kg	07/22/96	KH	07/24/96	BS	
Cadmium	0.96 U	0.96	mg/kg	07/22/96	KH	07/24/96	BS	
<u>Thallium by Furnace by SW-846 7841</u>								
Thallium	0.18 U	0.18	mg/kg	07/22/96	KH	07/24/96	MM	

# SEMIVOLATILE ORGANIC ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
 Division: New England  
 LRI Report No: E607262  
 LRI Sample No: 11

Customer: Atlantic Environmental Eng  
 Location: Pawtucket, RI  
 Project: Tidewater Former MGP  
 Sample Description: TB7 (0-2)

Date Collected: 07/19/96  
 Date Received: 07/19/96  
 Date Extracted: 07/30/96 By: JTH  
 Date Analyzed: 07/30/96 By: RAW

Matrix: Soil  
 Percent Moisture: 10.3%  
 pH:  
 Sample Weight/Volume: 29.5 g  
 Extract Volume: 1.0  
 Injection Volume:  
 Dilution Factor:  
 Lab Data File: a12783

Method: 8270  
 Level: LOW  
 GC Column:  
 Units: ug/kg (Dry Weight)

CAS No.	Parameter	Result	Qual	QL
83-32-9	Acenaphthene	190	U	190
208-96-8	Acenaphthylene	640		190
120-12-7	Anthracene	250		190
56-55-3	Benzo[a]anthracene	1400		190
50-32-8	Benzo[a]pyrene	1200		57
205-99-2	Benzo[b]fluoranthene	1300		190
191-24-2	Benzo[g,h,i]perylene	320		190
207-08-9	Benzo[k]fluoranthene	1600		190
218-01-9	Chrysene	1300		190
53-70-3	Dibenzo[a,h]anthracene	57	U	57
206-44-0	Fluoranthene	1900		190
86-73-7	Fluorene	190	U	190
193-39-5	Indeno[1,2,3-cd]pyrene	380		190
91-20-3	Naphthalene	190	U	190
85-01-8	Phenanthrene	580		190
129-00-0	Pyrene	2100		190
91-57-6	2-Methylnaphthalene	190	U	190



# GENERAL CHEMISTRY ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
Division: New England  
LRI Report No: E607262  
LRI Sample No: 12

Customer: Atlantic Environmental Eng  
Location: Pawtucket, RI  
Project: Tidewater Former MGP  
Sample Description: TB7 (28-30)

Date Collected: 07/19/96  
Date Received: 07/19/96

Matrix: Soil  
Percent Moisture: 13.3%  
Units in Dry Weight

Parameter	Result	QL	Units	Started		Completed		Dilution
				Date	By	Date	By	
<u>Cyanide by 9012 Modified NE</u>								
Cyanide	0.38 U	0.38	mg/kg	07/22/96	EB	07/26/96	EB	

# METALS ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
 Division: New England  
 LRI Order No: E607262  
 LRI Sample No: 12

Client: Atlantic Environmental Eng  
 Location: Pawtucket, RI  
 Project: Tidewater Former MGP  
 Sample Description: TB7 (28-30)

Date Collected: 07/19/96  
 Date Received: 07/19/96

Matrix: Soil  
 Percent Moisture: 13.3%

Parameter	Result	QL	Units	Started		Completed		Dilution
				Date	By	Date	By	
<u>Arsenic by Furnace by SW-846 7060</u>								
Arsenic	4.8	0.19	mg/kg	07/22/96	KH	07/23/96	MM	
<u>Mercury by Cold Vapor by SW-846 7471</u>								
Mercury	0.11 U	0.11	mg/kg	07/24/96	KH	07/26/96	KH	
<u>Metals by ICP by SW-846 6010A</u>								
Beryllium	0.54	0.19	mg/kg	07/22/96	KH	07/24/96	BS	
Chromium	20	2.3	mg/kg	07/22/96	KH	07/24/96	BS	
Copper	25	2.3	mg/kg	07/22/96	KH	07/24/96	BS	
Nickel	23	2.3	mg/kg	07/22/96	KH	07/24/96	BS	
Silver	1.9 U	1.9	mg/kg	07/22/96	KH	07/24/96	BS	
Zinc	46	0.96	mg/kg	07/22/96	KH	07/24/96	BS	
Barium	32	0.96	mg/kg	07/22/96	KH	07/24/96	BS	
Antimony	9.6 U	9.6	mg/kg	07/22/96	KH	07/24/96	BS	
Lead	16	4.8	mg/kg	07/22/96	KH	07/24/96	BS	
Selenium	9.6 U	9.6	mg/kg	07/22/96	KH	07/24/96	BS	
Cadmium	0.96 U	0.96	mg/kg	07/22/96	KH	07/24/96	BS	
<u>Thallium by Furnace by SW-846 7841</u>								
Thallium	0.18 U	0.18	mg/kg	07/22/96	KH	07/24/96	MM	

# VOLATILE ORGANIC ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
 Division: New England  
 LRI Report No: E607262  
 LRI Sample No: 12

Customer: Atlantic Environmental Eng  
 Location: Pawtucket, RI  
 Project: Tidewater Former MGP  
 Sample Description: TB7 (28-30)

Date Collected: 07/19/96  
 Date Received: 07/19/96  
 Date Extracted: By:  
 Date Analyzed: 07/26/96 By: AT

Matrix: Soil  
 Percent Moisture: 13.3%  
 Sample Weight/Volume:  
 Dilution Factor: 1  
 Soil Extract Volume:  
 Soil Aliquot Volume:  
 Lab Data File: BH956

Method: 8260A  
 Level: LOW  
 GC Column:  
 Units: ug/kg (Dry Weight)

CAS No.	Parameter	Result	Qual	QL
107-02-8	Acrolein	29	U	29
107-13-1	Acrylonitrile	29	U	29
71-43-2	Benzene	5.8	U	5.8
108-86-1	Bromobenzene	5.8	U	5.8
74-97-5	Bromochloromethane	5.8	U	5.8
75-27-4	Bromodichloromethane	5.8	U	5.8
75-25-2	Bromoform	5.8	U	5.8
74-83-9	Bromomethane	12	U	12
104-51-8	n-Butylbenzene	5.8	U	5.8
135-98-8	sec-Butylbenzene	5.8	U	5.8
98-06-6	tert-Butylbenzene	5.8	U	5.8
56-23-5	Carbon tetrachloride	5.8	U	5.8
108-90-7	Chlorobenzene	5.8	U	5.8
75-00-3	Chloroethane	12	U	12
67-66-3	Chloroform	5.8	U	5.8
74-87-3	Chloromethane	12	U	12
95-49-8	2-Chlorotoluene	5.8	U	5.8
106-43-4	4-Chlorotoluene	5.8	U	5.8
96-12-8	1,2-Dibromo-3-chloropropane (DBCP)	5.8	U	5.8
124-48-1	Dibromochloromethane	5.8	U	5.8
106-93-4	1,2-Dibromoethane (EDB)	5.8	U	5.8
74-95-3	Dibromomethane	5.8	U	5.8
95-50-1	1,2-Dichlorobenzene	5.8	U	5.8
541-73-1	1,3-Dichlorobenzene	5.8	U	5.8
106-46-7	1,4-Dichlorobenzene	5.8	U	5.8
75-71-8	Dichlorodifluoromethane	12	U	12
75-34-3	1,1-Dichloroethane	5.8	U	5.8
107-06-2	1,2-Dichloroethane	5.8	U	5.8
75-35-4	1,1-Dichloroethene	5.8	U	5.8
156-59-4	cis-1,2-Dichloroethene	5.8	U	5.8
156-60-5	trans-1,2-Dichloroethene	5.8	U	5.8
78-87-5	1,2-Dichloropropane	5.8	U	5.8
142-28-9	1,3-Dichloropropane	5.8	U	5.8
590-20-7	2,2-Dichloropropane	5.8	U	5.8
563-58-6	1,1-Dichloropropene	5.8	U	5.8
10061-01-5	cis-1,3-Dichloropropene	5.8	U	5.8
10061-02-6	trans-1,3-Dichloropropene	5.8	U	5.8
100-41-4	Ethylbenzene	5.8	U	5.8
87-68-3	Hexachlorobutadiene	5.8	U	5.8
98-82-8	Isopropylbenzene	5.8	U	5.8
99-87-6	4-Isopropyltoluene	5.8	U	5.8
1634-04-4	Methyl tert-butyl ether (MTBE)	5.8	U	5.8

# VOLATILE ORGANIC ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
Division: New England  
LRI Report No: E607262  
LRI Sample No: 12

Customer: Atlantic Environmental Eng  
Location: Pawtucket, RI  
Project: Tidewater Former MGP  
Sample Description: TB7 (28-30)

Method: 8260A

CAS No.	Parameter	Result	Qual	QL
75-09-2	Methylene chloride	5.8	U	5.8
91-20-3	Naphthalene	5.8	U	5.8
103-65-1	n-Propylbenzene	5.8	U	5.8
100-42-5	Styrene	5.8	U	5.8
96-18-4	1,2,3-Trichloropropane	5.8	U	5.8
630-20-6	1,1,1,2-Tetrachloroethane	5.8	U	5.8
79-34-5	1,1,2,2-Tetrachloroethane	5.8	U	5.8
127-18-4	Tetrachloroethene	5.8	U	5.8
108-88-3	Toluene	5.8	U	5.8
87-61-6	1,2,3-Trichlorobenzene	5.8	U	5.8
120-82-1	1,2,4-Trichlorobenzene	5.8	U	5.8
71-55-6	1,1,1-Trichloroethane	5.8	U	5.8
79-00-5	1,1,2-Trichloroethane	5.8	U	5.8
79-01-6	Trichloroethene (TCE)	5.8	U	5.8
75-69-4	Trichlorofluoromethane	12	U	12
95-63-6	1,2,4-Trimethylbenzene	5.8	U	5.8
108-67-8	1,3,5-Trimethylbenzene	5.8	U	5.8
75-01-4	Vinyl chloride	12	U	12
95-47-6	o-Xylene	5.8	U	5.8
	m,p-Xylenes	5.8	U	5.8

# SEMIVOLATILE ORGANIC ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
 Division: New England  
 LRI Report No: E607262  
 LRI Sample No: 12

Customer: Atlantic Environmental Eng  
 Location: Pawtucket, RI  
 Project: Tidewater Former MGP  
 Sample Description: TB7 (28-30)

Date Collected: 07/19/96  
 Date Received: 07/19/96  
 Date Extracted: 07/30/96 By: JTH  
 Date Analyzed: 07/31/96 By: RAW

Matrix: Soil  
 Percent Moisture: 13.3%  
 pH:  
 Sample Weight/Volume: 32.3 g  
 Extract Volume: 1.0  
 Injection Volume:  
 Dilution Factor:  
 Lab Data File: A12791

Method: 8270  
 Level: LOW  
 GC Column:  
 Units: ug/kg (Dry Weight)

CAS No.	Parameter	Result	Qual	QL
83-32-9	Acenaphthene	180	U	180
208-96-8	Acenaphthylene	180	U	180
120-12-7	Anthracene	180	U	180
56-55-3	Benzo[a]anthracene	180	U	180
50-32-8	Benzo[a]pyrene	54	U	54
205-99-2	Benzo[b]fluoranthene	180	U	180
191-24-2	Benzo[g,h,i]perylene	180	U	180
207-08-9	Benzo[k]fluoranthene	180	U	180
218-01-9	Chrysene	180	U	180
53-70-3	Dibenzo[a,h]anthracene	54	U	54
206-44-0	Fluoranthene	180	U	180
86-73-7	Fluorene	180	U	180
193-39-5	Indeno[1,2,3-cd]pyrene	180	U	180
91-20-3	Naphthalene	180	U	180
85-01-8	Phenanthrene	180	U	180
129-00-0	Pyrene	180	U	180
91-57-6	2-Methylnaphthalene	180	U	180

# GENERAL CHEMISTRY ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
Division: New England  
LRI Report No: E607262  
LRI Sample No: 13

Customer: Atlantic Environmental Eng  
Location: Pawtucket, RI  
Project: Tidewater Former MGP  
Sample Description: ER 5

Date Collected: 07/19/96  
Date Received: 07/19/96

Matrix: Water  
Percent Moisture: N/A  
Units in Wet Weight

<u>Parameter</u>	<u>Result</u>	<u>QL</u>	<u>Units</u>	<u>Started</u> <u>Date</u>	<u>By</u>	<u>Completed</u> <u>Date</u>	<u>By</u>	<u>Dilution</u>
<u>Cyanide, Total, by EPA 335.3</u>								
Cyanide	0.020 U	0.020	mg/L	07/26/96	EB	07/26/96	EB	

# METALS ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
 Division: New England  
 LRI Order No: E607262  
 LRI Sample No: 13

Client: Atlantic Environmental Eng  
 Location: Pawtucket, RI  
 Project: Tidewater Former MGP  
 Sample Description: ER 5

Date Collected: 07/19/96  
 Date Received: 07/19/96

Matrix: Water  
 Percent Moisture: N/A

Parameter	Result	QL	Units	Started		Completed		Dilution
				Date	By	Date	By	
<u>Arsenic by Furnace by 7060</u>								
Arsenic	0.0020 U	0.0020	mg/L	07/22/96	KH	07/24/96	MM	
<u>Mercury by Cold Vapor by 7470</u>								
Mercury	0.00046 U	0.00046	mg/L	07/23/96	KH	07/23/96	KH	
<u>Metals by ICP by SW-846 6010A</u>								
Beryllium	0.0020 U	0.0020	mg/L	07/22/96	KH	07/25/96	BS	
Chromium	0.024 U	0.024	mg/L	07/22/96	KH	07/25/96	BS	
Copper	0.024 U	0.024	mg/L	07/22/96	KH	07/25/96	BS	
Nickel	0.024 U	0.024	mg/L	07/22/96	KH	07/25/96	BS	
Silver	0.020 U	0.020	mg/L	07/22/96	KH	07/25/96	BS	
Zinc	0.025	0.010	mg/L	07/22/96	KH	07/25/96	BS	
Barium	0.010 U	0.010	mg/L	07/22/96	KH	07/25/96	BS	
Antimony	0.10 U	0.10	mg/L	07/22/96	KH	07/25/96	BS	
Lead	0.050 U	0.050	mg/L	07/22/96	KH	07/25/96	BS	
Selenium	0.10 U	0.10	mg/L	07/22/96	KH	07/25/96	BS	
Cadmium	0.010 U	0.010	mg/L	07/22/96	KH	07/25/96	BS	
<u>Thallium by Furnace by 7841</u>								
Thallium	0.0020 U	0.0020	mg/L	07/22/96	KH	07/25/96	MM	

# VOLATILE ORGANIC ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
 Division: New England  
 LRI Report No: E607262  
 LRI Sample No: 13

Customer: Atlantic Environmental Eng  
 Location: Pawtucket, RI  
 Project: Tidewater Former MGP  
 Sample Description: ER 5

Date Collected: 07/19/96  
 Date Received: 07/19/96  
 Date Extracted: By:  
 Date Analyzed: 07/29/96 By: AT

Matrix: Water  
 Percent Moisture: N/A  
 Sample Weight/Volume:  
 Dilution Factor: 1  
 Soil Extract Volume:  
 Soil Aliquot Volume:  
 Lab Data File: 1637

Method: 8260A  
 Level: LOW  
 GC Column:  
 Units: ug/L (Wet Weight)

CAS No.	Parameter	Result	Qual	QL
107-02-8	Acrolein	25	U	25
107-13-1	Acrylonitrile	25	U	25
71-43-2	Benzene	5.0	U	5.0
108-86-1	Bromobenzene	5.0	U	5.0
74-97-5	Bromochloromethane	5.0	U	5.0
75-27-4	Bromodichloromethane	5.0	U	5.0
75-25-2	Bromoform	5.0	U	5.0
74-83-9	Bromomethane	10	U	10
104-51-8	n-Butylbenzene	5.0	U	5.0
135-98-8	sec-Butylbenzene	5.0	U	5.0
98-06-6	tert-Butylbenzene	5.0	U	5.0
56-23-5	Carbon tetrachloride	5.0	U	5.0
108-90-7	Chlorobenzene	5.0	U	5.0
75-00-3	Chloroethane	10	U	10
67-66-3	Chloroform	5.0	U	5.0
74-87-3	Chloromethane	10	U	10
95-49-8	2-Chlorotoluene	5.0	U	5.0
106-43-4	4-Chlorotoluene	5.0	U	5.0
96-12-8	1,2-Dibromo-3-chloropropane (DBCP)	5.0	U	5.0
124-48-1	Dibromochloromethane	5.0	U	5.0
106-93-4	1,2-Dibromoethane (EDB)	5.0	U	5.0
74-95-3	Dibromomethane	5.0	U	5.0
95-50-1	1,2-Dichlorobenzene	5.0	U	5.0
541-73-1	1,3-Dichlorobenzene	5.0	U	5.0
106-46-7	1,4-Dichlorobenzene	5.0	U	5.0
75-71-8	Dichlorodifluoromethane	10	U	10
75-34-3	1,1-Dichloroethane	5.0	U	5.0
107-06-2	1,2-Dichloroethane	5.0	U	5.0
75-35-4	1,1-Dichloroethene	5.0	U	5.0
156-59-4	cis-1,2-Dichloroethene	5.0	U	5.0
156-60-5	trans-1,2-Dichloroethene	5.0	U	5.0
78-87-5	1,2-Dichloropropane	5.0	U	5.0
142-28-9	1,3-Dichloropropane	5.0	U	5.0
590-20-7	2,2-Dichloropropane	5.0	U	5.0
563-58-6	1,1-Dichloropropene	5.0	U	5.0
10061-01-5	cis-1,3-Dichloropropene	5.0	U	5.0
10061-02-6	trans-1,3-Dichloropropene	5.0	U	5.0
100-41-4	Ethylbenzene	5.0	U	5.0
87-68-3	Hexachlorobutadiene	5.0	U	5.0
98-82-8	Isopropylbenzene	5.0	U	5.0
99-87-6	4-Isopropyltoluene	5.0	U	5.0
1634-04-4	Methyl tert-butyl ether (MTBE)	5.0	U	5.0



# VOLATILE ORGANIC ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
Division: New England  
LRI Report No: E607262  
LRI Sample No: 13

Customer: Atlantic Environmental Eng  
Location: Pawtucket, RI  
Project: Tidewater Former MGP  
Sample Description: ER 5

Method: 8260A

CAS No.	Parameter	Result	Qual	QL
75-09-2	Methylene chloride	5.0	U	5.0
91-20-3	Naphthalene	5.0	U	5.0
103-65-1	n-Propylbenzene	5.0	U	5.0
100-42-5	Styrene	5.0	U	5.0
96-18-4	1,2,3-Trichloropropane	5.0	U	5.0
630-20-6	1,1,1,2-Tetrachloroethane	5.0	U	5.0
79-34-5	1,1,2,2-Tetrachloroethane	5.0	U	5.0
127-18-4	Tetrachloroethene	5.0	U	5.0
108-88-3	Toluene	5.0	U	5.0
87-61-6	1,2,3-Trichlorobenzene	5.0	U	5.0
120-82-1	1,2,4-Trichlorobenzene	5.0	U	5.0
71-55-6	1,1,1-Trichloroethane	5.0	U	5.0
79-00-5	1,1,2-Trichloroethane	5.0	U	5.0
79-01-6	Trichloroethene (TCE)	5.0	U	5.0
75-69-4	Trichlorofluoromethane	10	U	10
95-63-6	1,2,4-Trimethylbenzene	5.0	U	5.0
108-67-8	1,3,5-Trimethylbenzene	5.0	U	5.0
75-01-4	Vinyl chloride	10	U	10
95-47-6	o-Xylene	5.0	U	5.0
	m,p-Xylenes	5.0	U	5.0

# SEMIVOLATILE ORGANIC ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
Division: New England  
LRI Report No: E607262  
LRI Sample No: 13

Customer: Atlantic Environmental Eng  
Location: Pawtucket, RI  
Project: Tidewater Former MGP  
Sample Description: ER 5

Date Collected: 07/19/96  
Date Received: 07/19/96  
Date Extracted: 07/25/96 By: KRB  
Date Analyzed: 07/26/96 By: KRB

Matrix: Water  
Percent Moisture: N/A  
pH:  
Sample Weight/Volume: 500 mL  
Extract Volume: 1  
Injection Volume:  
Dilution Factor: 1  
Lab Data File: 8072604

Method: 8080  
Level: LOW  
GC Column:  
Units: ug/L ( Wet Weight )

CAS No.	Parameter	Result	Qual	QL
12674-11-2	Aroclor 1016	0.10	U	0.10
11104-28-2	Aroclor 1221	0.10	U	0.10
11141-16-5	Aroclor 1232	0.10	U	0.10
53469-21-9	Aroclor 1242	0.10	U	0.10
12672-29-6	Aroclor 1248	0.10	U	0.10
11097-69-1	Aroclor 1254	0.10	U	0.10
11096-82-5	Aroclor 1260	0.10	U	0.10

# SEMIVOLATILE ORGANIC ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
 Division: New England  
 LRI Report No: E607262  
 LRI Sample No: 13

Customer: Atlantic Environmental Eng  
 Location: Pawtucket, RI  
 Project: Tidewater Former MGP  
 Sample Description: ER 5

Date Collected: 07/19/96  
 Date Received: 07/19/96  
 Date Extracted: 07/24/96 By: RW  
 Date Analyzed: 07/25/96 By: RAW

Matrix: Water  
 Percent Moisture: N/A  
 pH:  
 Sample Weight/Volume: 500 mL  
 Extract Volume: 1  
 Injection Volume:  
 Dilution Factor:  
 Lab Data File: E01657

Method: 8270  
 Level: LOW  
 GC Column:  
 Units: ug/L ( Wet Weight )

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

U, J

# GENERAL CHEMISTRY ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
Division: New England  
LRI Report No: E607262  
LRI Sample No: 14

Customer: Atlantic Environmental Eng  
Location: Pawtucket, RI  
Project: Tidewater Former MGP  
Sample Description: TSS 23

Date Collected: 07/19/96  
Date Received: 07/19/96

Matrix: Soil  
Percent Moisture: 6.9%  
Units in Dry Weight

<u>Parameter</u>	<u>Result</u>	<u>QL</u>	<u>Units</u>	<u>Started</u> <u>Date</u>	<u>By</u>	<u>Completed</u> <u>Date</u>	<u>By</u>	<u>Dilution</u>
<u>Cyanide by 9012 Modified NE</u>								
Cyanide	340	17	mg/kg	07/22/96	EB	07/26/96	EB	50

# METALS ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
 Division: New England  
 LRI Order No: E607262  
 LRI Sample No: 14

Client: Atlantic Environmental Eng  
 Location: Pawtucket, RI  
 Project: Tidewater Former MGP  
 Sample Description: TSS 23

Date Collected: 07/19/96  
 Date Received: 07/19/96

Matrix: Soil  
 Percent Moisture: 6.9%

Parameter	Result	QL	Units	Started		Completed		Dilution
				Date	By	Date	By	
<u>Arsenic by Furnace by SW-846 7060</u>								
Arsenic	13	0.36	mg/kg	07/22/96	KH	07/24/96	MM	2
<u>Mercury by Cold Vapor by SW-846 7471</u>								
Mercury	0.099	0.092	mg/kg	07/24/96	KH	07/26/96	KH	
<u>Metals by ICP by SW-846 6010A</u>								
Beryllium	0.24	0.18	mg/kg	07/22/96	KH	07/24/96	BS	
Chromium	14	2.2	mg/kg	07/22/96	KH	07/24/96	BS	
Copper	64	2.2	mg/kg	07/22/96	KH	07/24/96	BS	
Nickel	20	2.2	mg/kg	07/22/96	KH	07/24/96	BS	
Silver	1.8 U	1.8	mg/kg	07/22/96	KH	07/24/96	BS	
Zinc	28	0.90	mg/kg	07/22/96	KH	07/24/96	BS	
Barium	120	0.90	mg/kg	07/22/96	KH	07/24/96	BS	
Antimony	9.0 U	9.0	mg/kg	07/22/96	KH	07/24/96	BS	
Lead	140	4.5	mg/kg	07/22/96	KH	07/24/96	BS	
Selenium	9.0 U	9.0	mg/kg	07/22/96	KH	07/24/96	BS	
Cadmium	0.90 U	0.90	mg/kg	07/22/96	KH	07/24/96	BS	
<u>Thallium by Furnace by SW-846 7841</u>								
Thallium	0.18 U	0.18	mg/kg	07/22/96	KH	07/25/96	MM	

# SEMIVOLATILE ORGANIC ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
 Division: New England  
 LRI Report No: E607262  
 LRI Sample No: 14

Customer: Atlantic Environmental Eng  
 Location: Pawtucket, RI  
 Project: Tidewater Former MGP  
 Sample Description: TSS 23

Date Collected: 07/19/96  
 Date Received: 07/19/96  
 Date Extracted: 07/30/96 By: JTH  
 Date Analyzed: 08/01/96 By: RAW

Matrix: Soil  
 Percent Moisture: 6.9%  
 pH:  
 Sample Weight/Volume: 30.1 g  
 Extract Volume: 1.0  
 Injection Volume:  
 Dilution Factor: 10  
 Lab Data File: A12825

Method: 8270  
 Level: LOW  
 GC Column:  
 Units: ug/kg ( Dry Weight )

CAS No.	Parameter	Result	Qual	QL
83-32-9	Acenaphthene	1800	U	1800
208-96-8	Acenaphthylene	8600		1800
120-12-7	Anthracene	4900		1800
56-55-3	Benzo[a]anthracene	20000		1800
50-32-8	Benzo[a]pyrene	14000		540
205-99-2	Benzo[b]fluoranthene	16000		1800
191-24-2	Benzo[g,h,i]perylene	4600		1800
207-08-9	Benzo[k]fluoranthene	20000		1800
218-01-9	Chrysene	24000		1800
53-70-3	Dibenzo[a,h]anthracene	540	U	540
206-44-0	Fluoranthene	23000		1800
86-73-7	Fluorene	3000		1800
193-39-5	Indeno[1,2,3-cd]pyrene	5200		1800
91-20-3	Naphthalene	3700		1800
85-01-8	Phenanthrene	12000		1800
129-00-0	Pyrene	42000		1800
91-57-6	2-Methylnaphthalene	2700		1800

# GENERAL CHEMISTRY ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
Division: New England  
LRI Report No: E607262  
LRI Sample No: 15

Customer: Atlantic Environmental Eng  
Location: Pawtucket, RI  
Project: Tidewater Former MGP  
Sample Description: TSS 24

Date Collected: 07/19/96  
Date Received: 07/19/96

Matrix: Soil  
Percent Moisture: 10.7%  
Units in Dry Weight

Parameter	Result	QL	Units	Started		Completed		Dilution
				Date	By	Date	By	
Cyanide by 9012 Modified NE								
Cyanide	160	10	mg/kg	07/22/96	EB	07/26/96	EB	25

# METALS ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
 Division: New England  
 LRI Order No: E607262  
 LRI Sample No: 15

Client: Atlantic Environmental Eng  
 Location: Pawtucket, RI  
 Project: Tidewater Former MGP  
 Sample Description: TSS 24

Date Collected: 07/19/96  
 Date Received: 07/19/96

Matrix: Soil  
 Percent Moisture: 10.7%

Parameter	Result	QL	Units	Started Date	By	Completed Date	By	Dilution
<u>Arsenic by Furnace by SW-846 7060</u>								
Arsenic	8.5	0.19	mg/kg	07/22/96	KH	07/23/96	MM	
<u>Mercury by Cold Vapor by SW-846 7471</u>								
Mercury	0.099 U	0.099	mg/kg	07/24/96	KH	07/26/96	KH	
<u>Metals by ICP by SW-846 6010A</u>								
Beryllium	0.25	0.19	mg/kg	07/22/96	KH	07/24/96	BS	
Chromium	9.3	2.3	mg/kg	07/22/96	KH	07/24/96	BS	
Copper	37	2.3	mg/kg	07/22/96	KH	07/24/96	BS	
Nickel	9.1	2.3	mg/kg	07/22/96	KH	07/24/96	BS	
Silver	9.8	1.9	mg/kg	07/22/96	KH	07/24/96	BS	
Zinc	20	0.95	mg/kg	07/22/96	KH	07/24/96	BS	
Barium	39	0.95	mg/kg	07/22/96	KH	07/24/96	BS	
Antimony	9.5 U	9.5	mg/kg	07/22/96	KH	07/24/96	BS	
Lead	90	4.8	mg/kg	07/22/96	KH	07/24/96	BS	
Selenium	9.5 U	9.5	mg/kg	07/22/96	KH	07/24/96	BS	
Cadmium	0.95 U	0.95	mg/kg	07/22/96	KH	07/24/96	BS	
<u>Thallium by Furnace by SW-846 7841</u>								
Thallium	0.18 U	0.18	mg/kg	07/22/96	KH	07/25/96	MM	



# SEMIVOLATILE ORGANIC ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
 Division: New England  
 LRI Report No: E607262  
 LRI Sample No: 15

Customer: Atlantic Environmental Eng  
 Location: Pawtucket, RI  
 Project: Tidewater Former MGP  
 Sample Description: TSS 24

Date Collected: 07/19/96  
 Date Received: 07/19/96  
 Date Extracted: 07/30/96 By: JTH  
 Date Analyzed: 07/31/96 By: RAW

Matrix: Soil  
 Percent Moisture: 10.7%  
 pH:  
 Sample Weight/Volume: 30.4 g  
 Extract Volume: 1.0  
 Injection Volume:  
 Dilution Factor:  
 Lab Data File: A12800

Method: 8270  
 Level: LOW  
 GC Column:  
 Units: ug/kg (Dry Weight)

CAS No.	Parameter	Result	Qual	QL
83-32-9	Acenaphthene	180	U	180
208-96-8	Acenaphthylene	970		180
120-12-7	Anthracene	240		180
56-55-3	Benzo[a]anthracene	600		180
50-32-8	Benzo[a]pyrene	650		55
205-99-2	Benzo[b]fluoranthene	1200		180
191-24-2	Benzo[g,h,i]perylene	380		180
207-08-9	Benzo[k]fluoranthene	1200		180
218-01-9	Chrysene	870		180
53-70-3	Dibenzo[a,h]anthracene	55	U	55
206-44-0	Fluoranthene	810		180
86-73-7	Fluorene	180	U	180
193-39-5	Indeno[1,2,3-cd]pyrene	460		180
91-20-3	Naphthalene	230		180
85-01-8	Phenanthrene	460		180
129-00-0	Pyrene	800		180
91-57-6	2-Methylnaphthalene	210		180

# GENERAL CHEMISTRY ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
Division: New England  
LRI Report No: E607262  
LRI Sample No: 16

Customer: Atlantic Environmental Eng  
Location: Pawtucket, RI  
Project: Tidewater Former MGP  
Sample Description: TSS 29

Date Collected: 07/19/96  
Date Received: 07/19/96

Matrix: Soil  
Percent Moisture: 13.3%  
Units in Dry Weight

<u>Parameter</u>	<u>Result</u>	<u>QL</u>	<u>Units</u>	<u>Started</u> <u>Date</u>	<u>By</u>	<u>Completed</u> <u>Date</u>	<u>By</u>	<u>Dilution</u>
Cyanide by 9012 Modified NE Cyanide	60	4.4	mg/kg	07/22/96	EB	07/26/96	EB	10

# METALS ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
 Division: New England  
 LRI Order No: E607262  
 LRI Sample No: 16

Client: Atlantic Environmental Eng  
 Location: Pawtucket, RI  
 Project: Tidewater Former MGP  
 Sample Description: TSS 29

Date Collected: 07/19/96  
 Date Received: 07/19/96

Matrix: Soil  
 Percent Moisture: 13.3%

Parameter	Result	QL	Units	Started		Completed		Dilution
				Date	By	Date	By	
<u>Arsenic by Furnace by SW-846 7060</u>								
Arsenic	6.8	0.21	mg/kg	07/22/96	KH	07/23/96	MM	
<u>Mercury by Cold Vapor by SW-846 7471</u>								
Mercury	0.095 U	0.095	mg/kg	07/24/96	KH	07/26/96	KH	
<u>Metals by ICP by SW-846 6010A</u>								
Beryllium	0.56	0.21	mg/kg	07/22/96	KH	07/24/96	BS	
Chromium	14	2.5	mg/kg	07/22/96	KH	07/24/96	BS	
Copper	19	2.5	mg/kg	07/22/96	KH	07/24/96	BS	
Nickel	19	2.5	mg/kg	07/22/96	KH	07/24/96	BS	
Silver	2.1 U	2.1	mg/kg	07/22/96	KH	07/24/96	BS	
Zinc	51	1.0	mg/kg	07/22/96	KH	07/24/96	BS	
Barium	43	1.0	mg/kg	07/22/96	KH	07/24/96	BS	
Antimony	10 U	10	mg/kg	07/22/96	KH	07/24/96	BS	
Lead	65	5.2	mg/kg	07/22/96	KH	07/24/96	BS	
Selenium	10 U	10	mg/kg	07/22/96	KH	07/24/96	BS	
Cadmium	1.0 U	1.0	mg/kg	07/22/96	KH	07/24/96	BS	
<u>Thallium by Furnace by SW-846 7841</u>								
Thallium	0.18 U	0.18	mg/kg	07/22/96	KH	07/25/96	MM	

# SEMIVOLATILE ORGANIC ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
 Division: New England  
 LRI Report No: E607262  
 LRI Sample No: 16

Customer: Atlantic Environmental Eng  
 Location: Pawtucket, RI  
 Project: Tidewater Former MGP  
 Sample Description: TSS 29

Date Collected: 07/19/96  
 Date Received: 07/19/96  
 Date Extracted: 07/30/96 By: JTH  
 Date Analyzed: 08/01/96 By: RAW

Matrix: Soil  
 Percent Moisture: 13.3%  
 pH:  
 Sample Weight/Volume: 29.7 g  
 Extract Volume: 1.0  
 Injection Volume:  
 Dilution Factor: 5  
 Lab Data File: A12824

Method: 8270  
 Level: LOW  
 GC Column:  
 Units: ug/kg ( Dry Weight )

CAS No.	Parameter	Result	Qual	QL
83-32-9	Acenaphthene	970	U	970
208-96-8	Acenaphthylene	4000		970
120-12-7	Anthracene	2300		970
56-55-3	Benzo[a]anthracene	4600		970
50-32-8	Benzo[a]pyrene	4400		290
205-99-2	Benzo[b]fluoranthene	5700		970
191-24-2	Benzo[g,h,i]perylene	1600		970
207-08-9	Benzo[k]fluoranthene	5400		970
218-01-9	Chrysene	4900		970
53-70-3	Dibenzo[a,h]anthracene	290	U	290
206-44-0	Fluoranthene	7000		970
86-73-7	Fluorene	1100		970
193-39-5	Indeno[1,2,3-cd]pyrene	1900		970
91-20-3	Naphthalene	1000		970
85-01-8	Phenanthrene	5100		970
129-00-0	Pyrene	9300		970
91-57-6	2-Methylnaphthalene	970	U	970

Report No: E607262  
Client: Atlantic Environmental  
Case: Tidewater Former MGP

### VOLATILE NONCONFORMANCE SUMMARY

Two internal standard areas were below the quality control limit of +100%/-50% for sample E607262-13<sup>\*</sup> for the 8260 analysis. The sample was rerun. The internal standard areas were still outside the quality control windows.

### SEMIVOLATILE NONCONFORMANCE SUMMARY

Two surrogate spikes for samples E607262-04 and 13<sup>\*</sup> were outside of quality control limits in the base fraction for the 8270 analysis due to matrix interference.

\* E607262-13 is an equipment rinseate sample. No action taken. (SOW)

**CUSTOMER INFORMATION**

CUSTOMER: Atlantic State

ADDRESS: \_\_\_\_\_

TELEPHONE: \_\_\_\_\_

FAX: \_\_\_\_\_

**PROJECT INFORMATION**

PROJECT: Wastewater

PROJECT LOCATION: Atlantic State, RI

PROJECT MANAGER: \_\_\_\_\_

IN CASE WE HAVE ANY QUESTIONS WHEN SAMPLES ARRIVE WE SHOULD CALL: \_\_\_\_\_

NAME: \_\_\_\_\_

TELEPHONE: \_\_\_\_\_

FAX: \_\_\_\_\_

**BILLING INFORMATION**

BILL TO: Atlantic

ADDRESS: \_\_\_\_\_

ATTENTION: \_\_\_\_\_

TELEPHONE: \_\_\_\_\_

PO #: \_\_\_\_\_

LAB ID CODE	SAMPLE IDENTIFICATION	DATE COLLECTED	TIME COLLECTED	SAMPLE TYPE		SAMPLE MATRIX	# OF BOTTLES	ANALYSIS					PRESERVATIVE				
				COMPOSITE	GRAB			PCB	NEG/POS	PCB	NEG/POS	H2SO4	HCL	HNO3	NAOH	NON-PRES	
	TSS16	7-18-96		X	X	SOIL	2	X	X	X	X	X					
	TB37(0-2)	7-19-96		X	X	↓	2	X	X	X	X	X					
	TB37(28-30)	↓		X	X	↓	2	X	X	X	X	X					
	EC5	↓		X	X	WATER	5	X	X	X	X	X					
	TSS23	↓		X	X	SOIL	2	X	X	X	X	X					
	TSS24	↓		X	X	↓	2	X	X	X	X	X					
	TSS29	↓		X	X	↓	2	X	X	X	X	X					

TURNAROUND (INDICATE IN CALENDAR DAYS): 5-7 FAX \_\_\_\_\_ HARD COPY \_\_\_\_\_ DELIV. PKG. \_\_\_\_\_

NAME OF LAB PERSONNEL CONFIRMING: \_\_\_\_\_

DELIVERABLES / (CIRCLE ONE): DATA  DATA/QC  RED/DELIV  NJ/CLP I  NJ/CLP II

NJ/REG:  NY/ASP  CLP  OTHER

SAMPLER / AFFILIATION: R. George / Atlantic DATE: 7-19-96

RECEIVED / AFFILIATION: \_\_\_\_\_ TIME: \_\_\_\_\_

RELINQUISHED / AFFILIATION: Richard / Atlantic DATE: 7/19/96

RECEIVED / AFFILIATION: Richard / Atlantic TIME: 3:00

RELINQUISHED / AFFILIATION: Richard / Atlantic DATE: 7-20-96

TIME: 7:41

RETURN TO CLIENT FOR DISPOSAL  LAB DISPOSAL

KNOWN HAZARD (FLAMMABLE, EXPLOSIVE, TOXIC)  YES  NO (IF YES EXPLAIN UNDER COMMENTS)

**LAB USE** CONDITIONS OF BOTTLES AND COOLER AT RECEIPT:

COMPLIANT  NOT COMPLIANT (IF NOT EXPLAIN UNDER COMMENTS)

COMMENTS: MEAS - PAI POLL + ISA.

CR - TOTAL PAI 9017/9013

AT PAI - PPT LIMIT @ 0.1 ppm

**CUSTOMER INFORMATION**

CUSTOMER: Atlantic Environmental  
 ADDRESS: 188 Norwich Ave  
 Colchester, CT  
 TELEPHONE: 860-537-0751  
 FAX:

**PROJECT INFORMATION**

PROJECT: TIDE WATER  
 PROJECT LOCATION: Danbury, CT  
 PROJECT MANAGER: [Signature]  
 IN CASE WE HAVE ANY QUESTIONS WHEN SAMPLES ARRIVE WE SHOULD CALL:  
 NAME:  
 TELEPHONE:  
 FAX:

**BILLING INFORMATION**

BILL TO: Atlantic  
 ADDRESS:  
 ATTENTION:  
 TELEPHONE:  
 PO #:

LAB ID CODE	SAMPLE IDENTIFICATION	DATE COLLECTED	TIME COLLECTED	SAMPLE TYPE		SAMPLE MATRIX	# OF BOTTLES	ANALYSIS				PRESERVATIVES					
				COMPOSITE	GRAB			PCBs	PCBs	H2SO4	HCL	HNO3	NAOH	NON-PRES			
	TR2(0-2)	7-17-96			Y	Soil	2	X	X	X	X						
	TR2(12-14)	"						X	X	X	X						
	TR19(0-2)	7-18-96						X	X	X	X						
	TR19(4-6)	"						X	X	X	X						
	TR3(0-2)	7-17-96						X	X	X	X						
	TR3(18-20)	"						X	X	X	X						
	TR18(0-2)	7-18-96						X	X	X	X						
	TR18(8-10)	"						X	X	X	X						
	TSS18	"						X	X	X	X						

TURNAROUND (INDICATE IN CALENDAR DAYS) 5 HARD COPY DELIV. PKG.

NAME OF LAB PERSONNEL CONFIRMING:

DELIVERABLES / (CIRCLE ONE): DATA DATA/QC RED/DELIV NJ/CLP I NJ/CLP II

SAMPLER / AFFILIATION: [Signature] / [Signature]

RECEIVED / AFFILIATION:

RELINQUISHED / AFFILIATION: [Signature] / [Signature]

RECEIVED / AFFILIATION: [Signature] / [Signature]

RELINQUISHED / AFFILIATION: [Signature] / [Signature]

RECEIVED / AFFILIATION:

RETURN TO CLIENT FOR DISPOSAL  LAB DISPOSAL  
 KNOWN HAZARD (FLAMMABLE, EXPLOSIVE, TOXIC)  
 YES  NO (IF YES EXPLAIN UNDER COMMENTS)

**LAB USE** CONDITIONS OF BOTTLES AND COOLER AT RECEIPT:  
 COMPLIANT  NOT COMPLIANT (IF NOT EXPLAIN UNDER COMMENTS)

COMMENTS: Max. Pri. Poly + Ba.  
 03/11/9012 (DIA)  
 Daily Inspection per Pete  
 Add Tests per Pete RW 7/27/96

Method : C:\HPCHEM\1\METHODS\8270B5M6.M  
 Title : EPA 8270 calibration  
 Last Update : Fri Jul 19 13:50:27 1996  
 Response via : Initial Calibration

Non-Spiked Sample: E01614.D

Spike Sample	Spike Duplicate Sample
File ID : E01625.D	E01626.D
Sample : e607154-01 ms	e607154-01 msd
Acq Time: 22 Jul 96 9:26 pm	22 Jul 96 9:55 pm

Compound	Sample Conc	Spike Added	Spike Res	Dup Res	Spike %Rec	Dup %Rec	RPD	QC RPD	Limits % Rec
Phenol	0.1	200	117	120	59	60	2	42	12-110
2-Chlorophenol	0.0	200	131	132	66	66	1	40	27-123
1,4-Dichlorobenzene	0.0	100	65	65	65	65	0	28	36- 97
N-Nitroso-di-n-propy	0.1	100	68	67	68	67	2	38	41-116
1,2,4-Trichlorobenze	0.0	100	68	70	68	70	2	28	39- 98
4-Chloro-3-methylphe	0.1	200	120	130	60	65	8	42	23- 97
Acenaphthene	0.1	100	60	57	60	57	6	31	46-118
2,4-Dinitrotoluene	0.3	100	60	57	59	57	4	38	24- 96
4-Nitrophenol	0.5	200	151	148	75	74	2	50	10- 80
Pentachlorophenol	0.6	200	146	144	73	72	1	50	9-103
Pyrene	0.0	100	73	76	73	76	4	31	26-127

8270B5M6.M

Wed Jul 31 12:56:59 1996

PC #5



Method : C:\HPCHEM\1\METHODS\8270B1M3.M  
 Title : EPA 8270 calibration  
 Last Update : Wed Jul 31 12:14:05 1996  
 Response via : Initial Calibration

Non-Spiked Sample: A12748.D

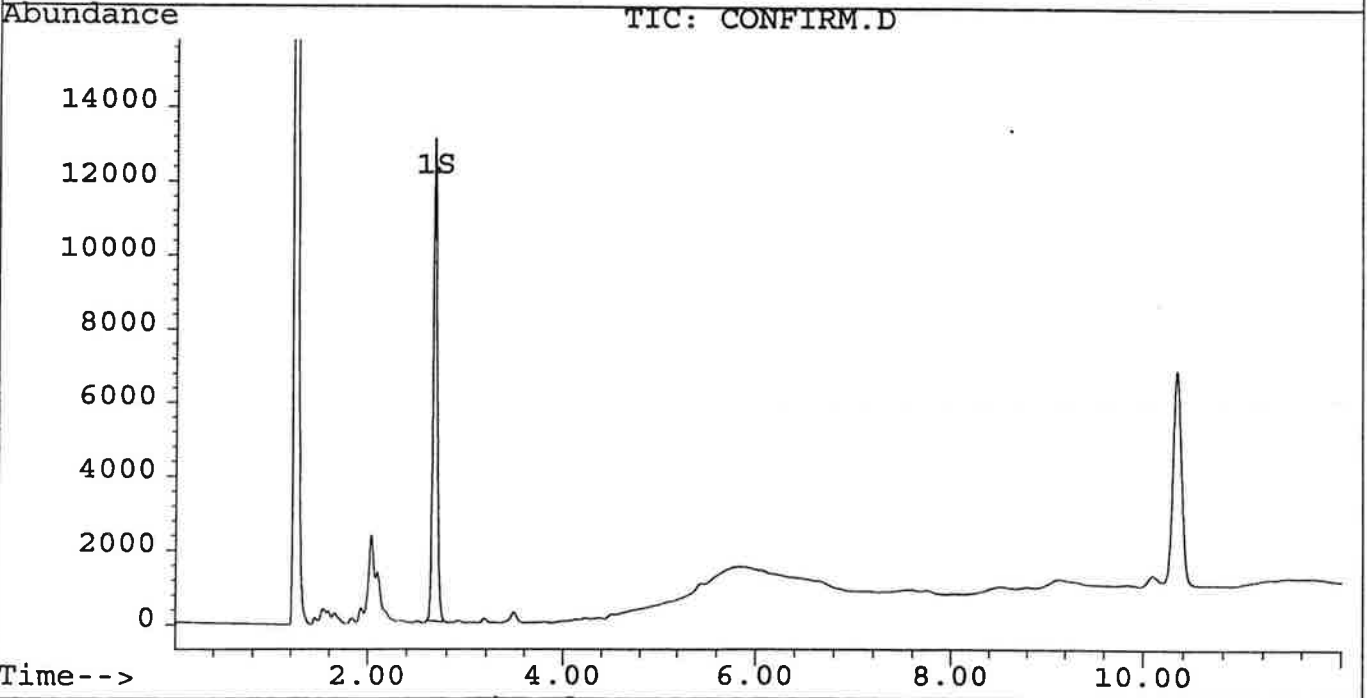
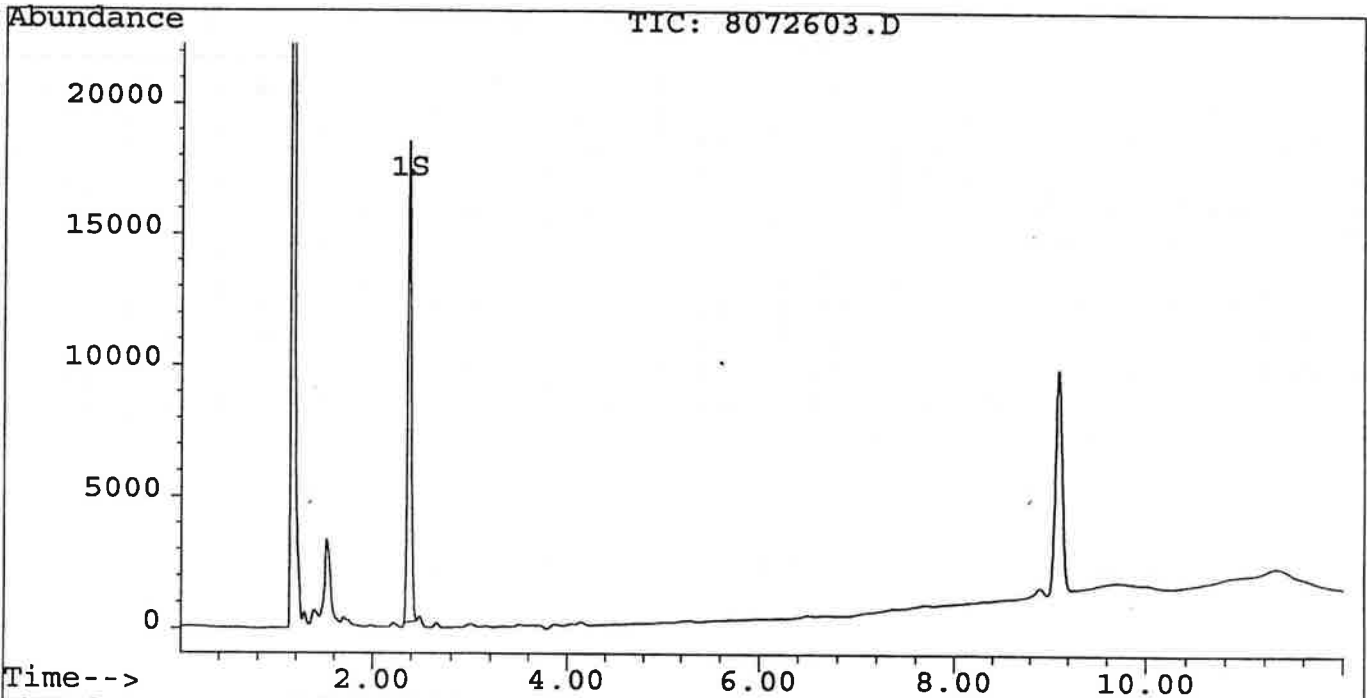
Spike Sample	Spike Duplicate Sample
File ID : A12756.D	A12757.D
Sample : E607269-06 MS	E607269-06 MSD
Acq Time: 29 Jul 96 6:18 pm	29 Jul 96 6:55 pm

Compound	Sample Conc	Spike Added	Spike Res	Dup Res	Spike %Rec	Dup %Rec	RPD	QC RPD	Limits % Rec
Phenol	0.0	200	106	106	53	53	0	35	26- 90
2-Chlorophenol	0.0	200	104	103	52	52	1	50	25-102
1,4-Dichlorobenzene	0.0	100	55	54	55	54	1	27	28-104
N-Nitroso-di-n-propy	0.0	100	68	65	68	65	4	38	41-126
1,2,4-Trichlorobenze	0.0	100	55	56	55	56	1	38	41-126
4-Chloro-3-methylphe	0.0	200	102	98	51	49	5	33	26-103
Acenaphthene	0.3	100	41	47	41	46	13	19	31-137
2,4-Dinitrotoluene	0.0	100	51	50	51	50	2	47	28- 89
4-Nitrophenol	0.2	200	75	70	37	35	7	50	11-114
Pentachlorophenol	0.0	200	115	114	57	57	1	47	17-109
Pyrene	25.5	100	87	84	61	59	4	36	35-142

Signal #1 : C:\HPCHEM\6\DATA\JUL26\8072603.D Vial: 3  
Signal #2 : C:\HPCHEM\6\DATA\JUL26\8072603.D\CONFIRM.D  
Acq On : 26 Jul 96 10:50 AM Operator: KRB  
Sample : B0725-BA1 Inst : GC 8  
Misc : Multiplr: 1.00  
Quant Time:

Method : C:\HPCHEM\6\METHODS\PCB1248.M  
Title :  
Last Update : Fri Jul 26 10:15:55 1996  
Response via : Multiple Level Calibration

Volume Inj. :  
Signal #1 Phase : Signal #2 Phase:  
Signal #1 Info : Signal #2 Info :



Data File : C:\HPCHEM\6\DATA\JUL26\8072606.D  
Acq On : 26 JUL 96 15:22  
Sample : B0726-BS1  
Misc :

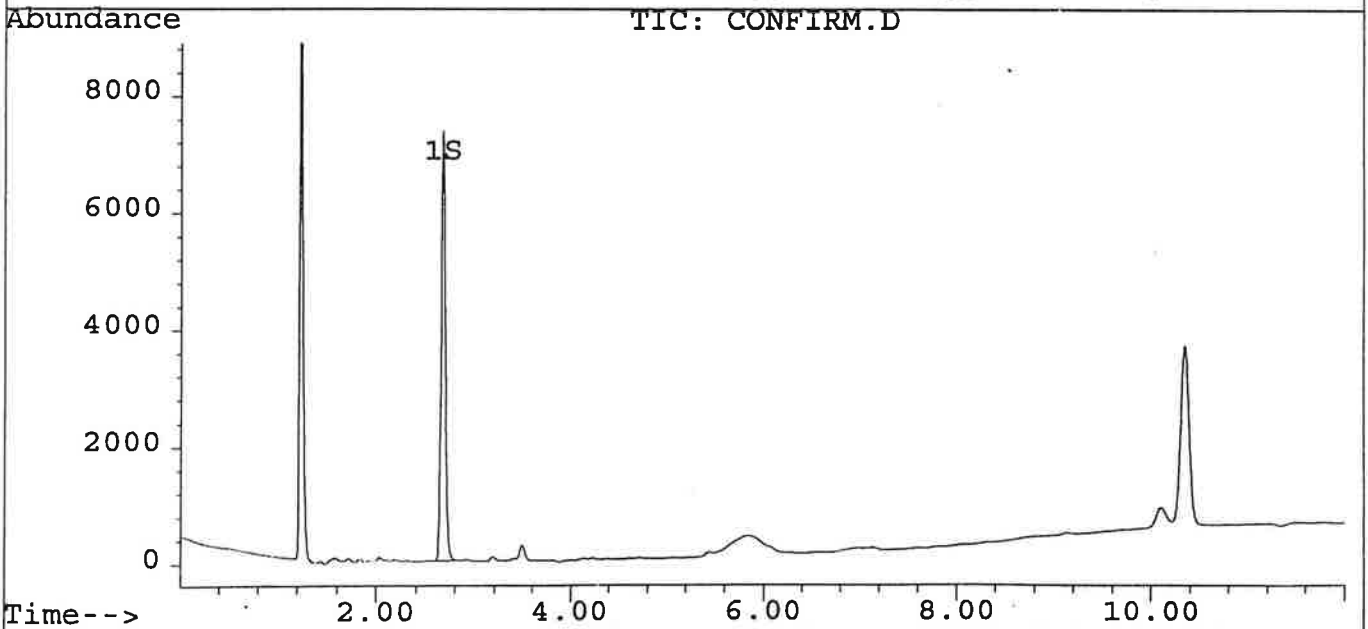
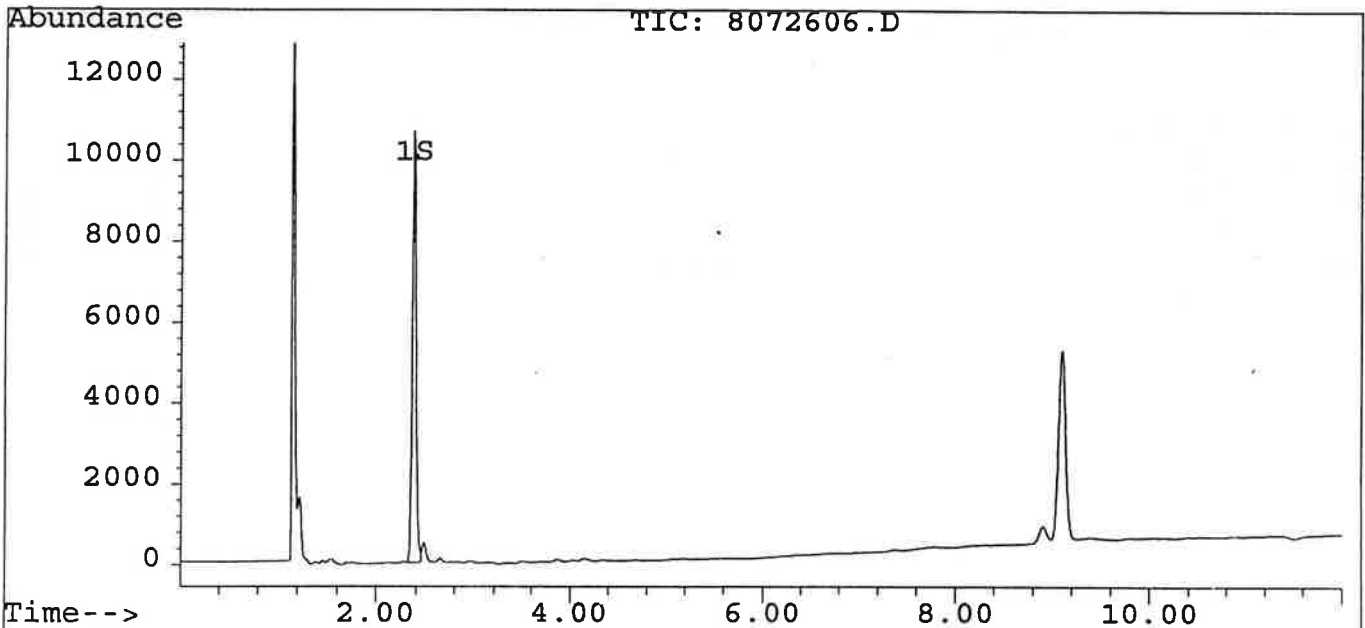
Vial: 6  
Operator: KRB  
Inst : GC 8  
Multiplr: 1.00

Data File : C:\HPCHEM\6\DATA\JUL26\8072606.D\CONFIRM.D  
Acq On : 26 JUL 96 15:22  
Sample : B0726-BS1  
Misc :  
Quant Time:

Vial: 6  
Operator: KRB  
Inst : GC 8  
Multiplr: 1.00

Method : C:\HPCHEM\6\METHODS\PCB.M  
Title :  
Last Update : Mon Jul 29 09:31:09 1996  
Response via : Single Level Calibration

Volume Inj. :  
Signal #1 Phase : Signal #2 Phase:  
Signal #1 Info : Signal #2 Info :



Signal #1 : C:\HPCHEM\6\DATA\JUL26\8072603.D Vial: 3  
 Signal #2 : C:\HPCHEM\6\DATA\JUL26\8072603.D\CONFIRM.D  
 Acq On : 26 Jul 96 10:50 AM Operator: KRB  
 Sample : B0725-BA1 Inst : GC 8  
 Misc : Multiplr: 1.00  
 Quant Time: Jul 26 11:07 1996

Method : C:\HPCHEM\6\METHODS\PCB1248.M  
 Title :  
 Last Update : Fri Jul 26 10:15:55 1996  
 Response via : Multiple Level Calibration

Volume Inj. :  
 Signal #1 Phase : Signal #2 Phase:  
 Signal #1 Info : Signal #2 Info :

Compound	RT#1	RT#2	Resp#1	Resp#2	ppm	ppm
<b>System Monitoring Compounds</b>						
1) S tetrachloro-m-xylene	2.37	2.67	357736	285016	0.128m	0.125n
			Recovery	=	128.00%	125.00%
<b>Target Compounds</b>						
2) L1 1248 #1	0.00	0.00	0	0	N.D.	N.D.
3) L1 1248 #2	0.00	0.00	0	0	N.D.	N.D.
4) L1 1248 #3	0.00	0.00	0	0	N.D.	N.D.
5) L1 1248 #4	0.00	0.00	0	0	N.D.	N.D.
Avg. 1248 #1			0	0	N.D.	N.D.

Signal #1 : C:\HPCHEM\6\DATA\JUL26\8072606.D Vial: 6  
 Signal #2 : C:\HPCHEM\6\DATA\JUL26\8072606.D\CONFIRM.D  
 Acq On : 26 JUL 96 15:22 Operator: KRB  
 Sample : B0726-BS1 Inst : GC 8  
 Misc : Multiplr: 1.00  
 Quant Time: Jul 29 9:31 1996

Method : C:\HPCHEM\6\METHODS\PCB.M  
 Title :  
 Last Update : Mon Jul 29 09:31:09 1996  
 Response via : Single Level Calibration

Volume Inj. :  
 Signal #1 Phase : Signal #2 Phase:  
 Signal #1 Info : Signal #2 Info :

Compound	RT#1	RT#2	Resp#1	Resp#2	ug/ml	ug/ml
<b>System Monitoring Compounds</b>						
1) S tetrachloro-m-xylene	2.37	2.67	284358	215447	0.077	0.076
			Recovery	=	77.00%	76.00%
<b>Target Compounds</b>						
2) L1M 1260 #1	0.00	0.00	0	0	N.D.	N.D.
3) L1M 1260 #2	0.00	0.00	0	0	N.D.	N.D.
4) L1M 1260 #3	0.00	0.00	0	0	N.D.	N.D.
5) L1M 1260 #4	0.00	0.00	0	0	N.D. d	N.D.
6) L1M 1260 #5	0.00	0.00	0	0	N.D.	N.D.
Avg. 1260 #1			0	0	N.D.	N.D.

20  
WATER SEMIVOLATILE SURROGATE RECOVERY

Signal 1

Lab Name: LRI

Contract: \_\_\_\_\_

Project No.: \_\_\_\_\_ Site: \_\_\_\_\_

Location: \_\_\_\_\_

Group: \_\_\_\_\_

	SAMPLE NO.	S1	#	#	#	#	#	#	#	TOT OUT
01	B0725-BA1	125								
02	e607262-13	122								
03										
04										
05										
06										
07										
08										
09										
10										
11										
12										
13										
14										
15										
16										
17										
18										
19										
20										
21										
22										
23										
24										
25										
26										
27										
28										
29										
30										

SMC1 = tetrachloro-m-xylene

QC LIMITS  
(38-150)

- # Column to be used to flag recovery values
- \* Values outside of contract required QC limits
- D Surrogate diluted out

2D  
SOIL SEMIVOLATILE SURROGATE RECOVERY

Signal 1

Lab Name: LRI INC. Contract: 0  
 Project No.: 0 Site: 0 Location: 0 Group: 0  
 Level: (low/med) LOW

	SAMPLE NO.	S1	#	#	#	#	#	#	#	TOT OUT
01	SBLK0726	80								
02	262-09	70								
03	262-10	40								
04	SBLK0731	60								
05	407-01	40								
06	407-01MS	70								
07	407-01MSD	70								
08										
09										
10										
11										
12										
13										
14										
15										
16										
17										
18										
19										
20										
21										
22										
23										
24										
25										
26										
27										
28										
29										
30										

SMC1 = tetrachloro-m-xylene

QC LIMITS  
(38-150)

# Column to be used to flag recovery values  
 \* Values outside of contract required QC limits  
 D Surrogate diluted out

Method : C:\HPCHEM\6\METHODS\PCB.M  
 Title :  
 Last Update : Tue Jul 16 15:29:40 1996  
 Response via : Initial Calibration

Non-Spiked Sample: 8071703.D

	Spike Sample	Spike Duplicate Sample
File ID :	8071708.D	8071709.D
Sample :	LCS 1	LCS 2
Acq Time:	17 Jul 96 06:43 PM	17 Jul 96 06:58 PM

Compound	Sample Conc	Spike Added	Spike Res	Dup Res	Spike %Rec	Dup %Rec	RPD	QC Limits	
								RPD	% Rec
1260 #1	0.3	2	3	3	122	116	5	15	40-150
1260 #2	0.3	2	3	3	126	119	6	15	40-150
1260 #3	0.2	2	3	3	132	126	5	15	40-150
1260 #4	0.5	2	3	3	130	120	8	15	40-150
1260 #5	0.4	2	3	3	140	129	8	15	40-150
1260 #1 #2	0.3	2	3	3	128	122	5	15	40-150
1260 #2 #2	0.4	2	3	3	129	126	2	15	40-150
1260 #3 #2	0.2	2	3	3	138	143	3	15	40-150
1260 #4 #2	0.4	2	3	3	134	124	8	15	40-150
1260 #5 #2	0.2	2	3	3	144	135	7	15	40-150

PCB.M

Thu Jul 18 11:24:25 1996



3D  
SOIL SEMIVOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: LRI INC. Contract: 0  
 Project No.: \_\_\_\_\_ Site: 0 Location: 0 Group: 0  
 Matrix Spike - Sample No.: 407-01 Level: (low/med) LOW

COMPOUND	SPIKE ADDED (ug/Kg)	SAMPLE CONCENTRATION (ug/Kg)	MS CONCENTRATION (ug/Kg)	MS % REC #	QC. LIMITS REC.
1260 #1	2400	0	2100	88	(40-150)
1260 #2	2400	0	2100	88	(40-150)
1260 #3	2400	0	2100	88	(40-150)
1260 #4	2400	0	2100	88	(40-150)
1260 #5	2400	0	2000	83	(40-150)

COMPOUND	SPIKE ADDED (ug/Kg)	MSD CONCENTRATION (ug/Kg)	MSD % REC #	% RPD #	QC RPD	LIMITS REC.
1260 #1	2400	2000	83	5	15	(40-150)
1260 #2	2400	1900	79	10	15	(40-150)
1260 #3	2400	1900	79	10	15	(40-150)
1260 #4	2400	2000	83	5	15	(40-150)
1260 #5	2400	1900	79	5	15	(40-150)

# Column to be used to flag recovery and RPD values with an asterisk  
 \* Values outside of QC limits

RPD: 0 out of 5 outside limits  
 Spike Recovery: 2 out of 10 outside limits

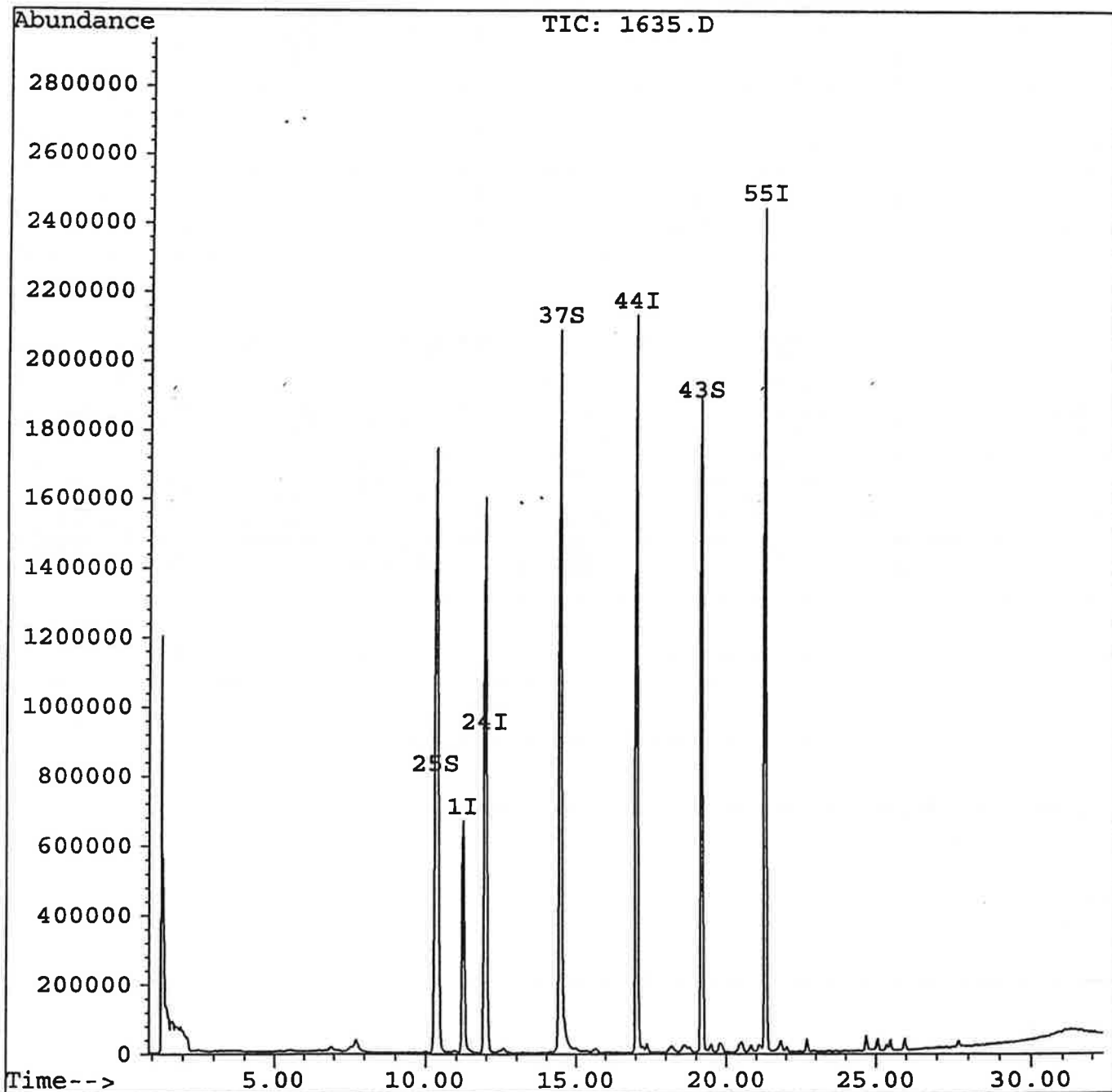
Comments: \_\_\_\_\_

Quantitation Report

Data File : C:\HPCHEM\1\DATA\1635.D  
Acq On : 29 Jul 96 10:21 am  
Sample : VBLK0729  
Misc :  
Quant Time: Jul 29 12:41 1996

Vial: 4  
Operator: AT  
Inst : MS\_5996  
Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\8260AH.M  
Title : 8260 AQUEOUS CALIBRATION  
Last Update : Mon Jul 29 10:58:40 1996  
Response via : Multiple Level Calibration

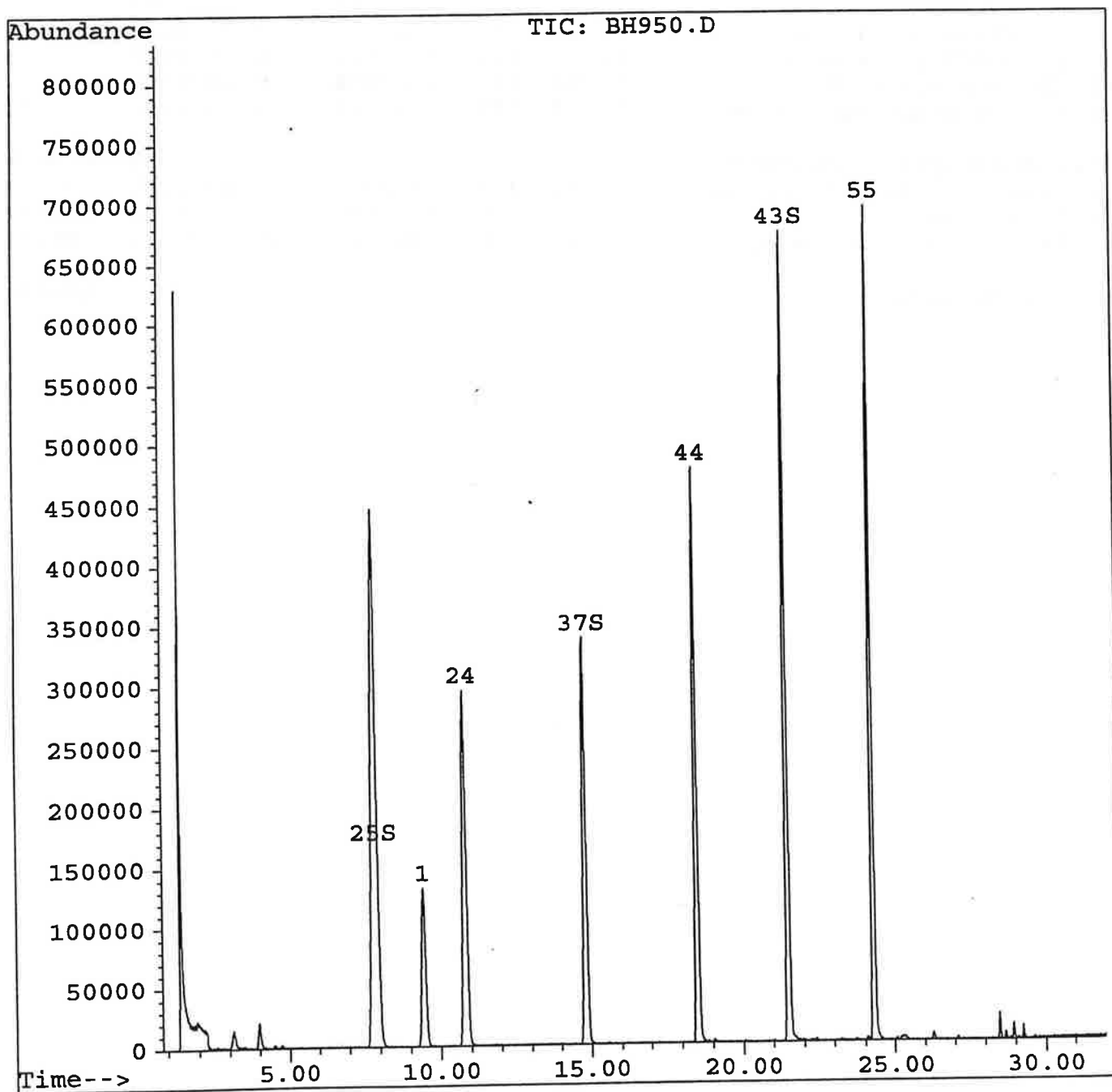


Quantitation report

Data File : C:\HPCHEM\1\DATA\BH950.D  
Acq On : 26 Jul 96 12:17 pm  
Sample : VBLK0726 CH#03  
Misc :  
Quant Time: Aug 5 12:59 1996

Vial: 13  
Operator: JTH  
Inst : MSD #2  
Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\8260S2.M  
Title : 8260 SOIL CALIBRATION  
Last Update : Wed Aug 07 07:24:56 1996  
Response via : Multiple Level Calibration



Quantitation Report

Data File : C:\HPCHEM\1\DATA\1635.D  
 Acq On : 29 Jul 96 10:21 am  
 Sample : VBLK0729  
 Misc :  
 Quant Time: Jul 29 12:41 1996

Vial: 4  
 Operator: AT  
 Inst : MS\_5996  
 Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\8260AH.M  
 Title : 8260 AQUEOUS CALIBRATION  
 Last Update : Mon Jul 29 10:58:40 1996  
 Response via : Multiple Level Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev (Min)
1) 1,2-Dichloroethane-d4	11.25	67	711810	50.00	ug/L	0.04
24) 1,4-Difluorobenzene	11.98	114	3872980	50.00	ug/L	0.03
44) Chlorobenzene-d5	17.04	117	3122098	50.00	ug/L	0.05
55) 1,4-Dichlorobenzene-d4	21.32	152	1678862	50.00	ug/L	0.04

System Monitoring Compounds	R.T.	QIon	Response	Conc	Units	%Recovery
25) Dibromofluoromethane (S)	10.35	113	1465998	51.08	ug/L	102.16%
37) Toluene-d8 (S)	14.48	98	4034071	49.68	ug/L	99.36%
43) Bromofluorobenzene (S)	19.21	95	2047727	48.06	ug/L	96.11%

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation report

Data File : C:\HPCHEM\1\DATA\BH950.D  
 Acq On : 26 Jul 96 12:17 pm  
 Sample : VBLK0726 CH#03  
 Misc :  
 Quant Time: Aug 5 12:59 1996

Vial: 13  
 Operator: JTH  
 Inst : MSD #2  
 Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\8260S2.M  
 Title : 8260 SOIL CALIBRATION  
 Last Update : Wed Aug 07 07:24:56 1996  
 Response via : Multiple Level Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev (Min)
1) 1,2-Dichloroethane-d4	9.45	67	224519	50.00	ug/kg	-0.03
24) 1,4-Difluorobenzene	10.80	114	946253	50.00	ug/kg	-0.04
44) Chlorobenzene-d5	18.51	117	784941	50.00	ug/kg	0.00
55) 1,4-Dichlorobenzene-d4	24.30	152	545043	50.00	ug/kg	0.00

System Monitoring Compounds	R.T.	QIon	Response	Conc	Units	%Recovery
25) Dibromofluoromethane (S)	7.84	113	628435	48.28	ug/kg	96.56%
37) Toluene-d8 (S)	14.82	98	821511	49.29	ug/kg	98.59%
43) Bromofluorobenzene (S)	21.49	95	855039	48.36	ug/kg	96.73%

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

4A  
**WATER VOLATILE SYSTEM MONITORING COMPOUND RECOVERY**

Lab Name: LRI

Contract: \_\_\_\_\_

Project No.: E608262

Site: \_\_\_\_\_

Location: \_\_\_\_\_

Group: \_\_\_\_\_

	SAMPLE NO.	SMC1 #	SMC2 #	SMC3 #	OTHER #	TOT OUT
01	262-13	101	99	93		
02	vblk0729	102	99	96		
03	262-08	109	99	95		
04						
05						
06						
07						
08						
09						
10						
11						
12						
13						
14						
15						
16						
17						
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19						
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21						
22						
23						
24						
25						
26						
27						
28						
29						
30						

	<b>QC LIMITS</b>
SMC1 = Dibromofluoromethane (S)	(66-130)
SMC2 = Toluene-d8 (S)	(91-109)
SMC3 = Bromofluorobenzene (S)	(76-121)

- # Column to be used to flag recovery values
- \* Values outside of contract required QC limits
- D System Monitoring Compound diluted out

## SOIL VOLATILE SYSTEM MONITORING COMPOUND RECOVERY

Lab Name: LRI

Contract: \_\_\_\_\_

Project No.: 262

Site: \_\_\_\_\_

Location: \_\_\_\_\_

Group: \_\_\_\_\_

Level: (low/med) LOW

	SAMPLE NO.	SMC1 (dfm) #	SMC2 (TOL) #	SMC3 (BFB) #	OTHER #	TOT OUT
01	VBLK0726	97	99	97		
02	262-02	97	100	100		
03	262-04	105	98	87		
04	262-06	98	99	97		
05	262-12	99	101	97		
06	262-07	104	100	82		
07						
08						
09						
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11						
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22						
23						
24						
25						
26						
27						
28						
29						
30						

## QC LIMITS

SMC1 (dfm) = Dibromofluoromethane (S)

(90-110)

SMC2 (TOL) = Toluene-d8 (S)

(77-121)

SMC3 (BFB) = Bromofluorobenzene (S)

(67-123)

# Column to be used to flag recovery values

\* Values outside of contract required QC limits

D System Monitoring Compound diluted out

Method : C:\HPCHEM\1\METHODS\8260A3.M  
 Title : 8260 WATER CALIBRATION  
 Last Update : Wed Jul 24 08:45:53 1996  
 Response via : Initial Calibration

Non-Spiked Sample: C4323.D

Spike Sample	Spike Duplicate Sample
File ID : C4334.D	C4335.D
Sample : e607232-04ms	e607232-04msd
Acq Time: 24 Jul 96 1:16 am	24 Jul 96 1:51 am

Compound	Sample Conc	Spike Added	Spike Res	Dup Res	Spike %Rec	Dup %Rec	RPD	QC RPD	Limits % Rec
1,1-Dichloroethene	0.0	50	51	50	102	99	3	17	49-115
Benzene	0.0	50	53	54	107	107	0	20	51-132
Trichloroethene	0.0	50	52	53	104	106	1	17	62-129
Toluene	0.0	50	55	55	110	110	1	17	65-134
Chlorobenzene	0.0	50	53	54	106	107	1	17	64-131

8260A3.M

Wed Jul 24 09:37:25 1996

PC #8



Spike Recovery and RPD Summary Report - SOIL

Method : C:\HPCHEM\1\METHODS\8260S2.M  
 Title : 8260 SOIL CALIBRATION  
 Last Update : Tue Jul 23 12:51:04 1996  
 Response via : Initial Calibration

Non-Spiked Sample: BH891.D

	Spike Sample	Spike Duplicate Sample
File ID :	BH899.D	BH900.D
Sample :	e607139-02ms	e607139-02msd
Acq Time:	23 Jul 96 7:48 pm	23 Jul 96 8:27 pm

Compound	Sample Conc	Spike Added	Spike Res	Dup Res	Spike %Rec	Dup %Rec	RPD	QC RPD	Limits % Rec
1,1-Dichloroethene	0.0	50	45	47	89	94	6	20	66-144
Benzene	0.0	50	55	56	110	112	1	20	63-145
Trichloroethene	0.0	50	56	56	111	112	1	20	65-145
Toluene	0.0	50	52	52	104	105	1	21	66-151
Chlorobenzene	0.0	50	48	47	96	94	2	21	63-148

8260S2.M

Wed Jul 24 09:47:10 1996

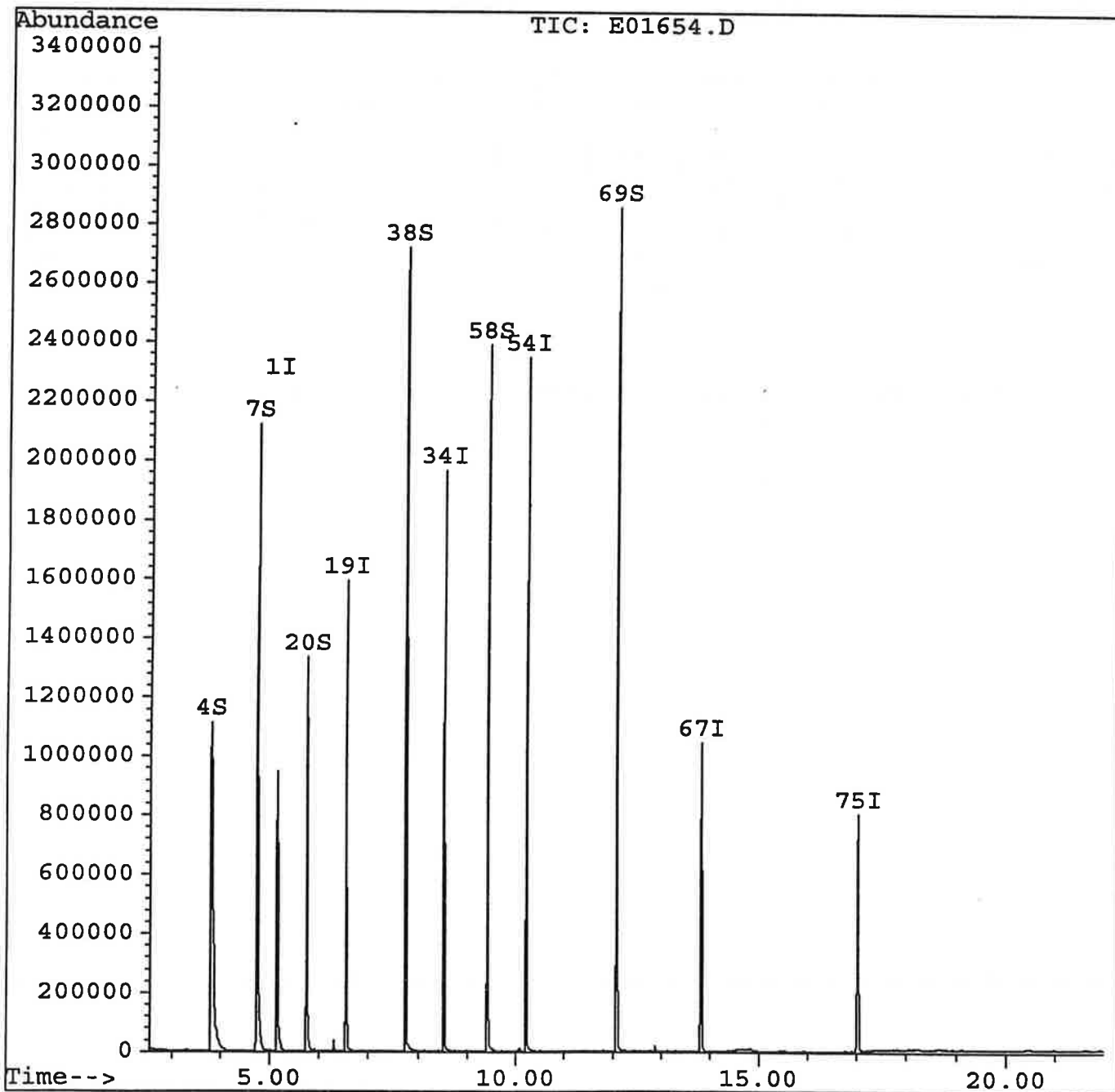
PC #7

Quantitation Report

Data File : C:\HPCHEM\1\DATA\E01654.D  
Acq On : 24 Jul 96 8:14 pm  
Sample : s0724ba-01  
Misc :  
Quant Time: Jul 24 20:36 1996

Vial: 13  
Operator: RAW  
Inst : 5972 MSD  
Multiplr: 1.00

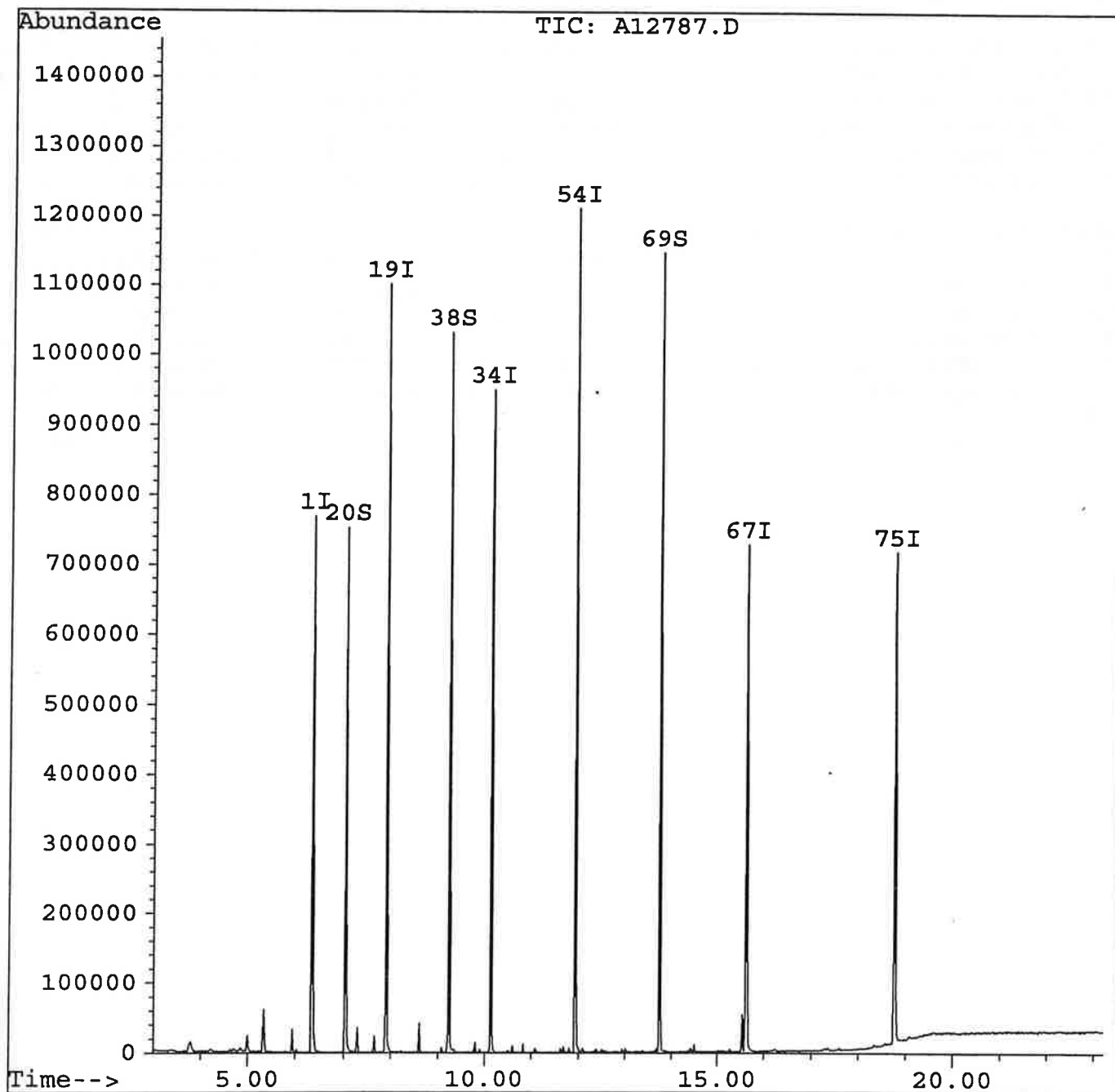
Method : C:\HPCHEM\1\METHODS\8270R.M  
Title : EPA 8270 calibration  
Last Update : Wed Jul 24 14:41:24 1996  
Response via : Multiple Level Calibration



Data File : C:\HPCHEM\1\DATA\A12787.D  
Acq On : 31 Jul 96 12:17 pm  
Sample : s0730bs-01  
Misc : 8270  
Quant Time: Jul 31 12:41 1996

Vial: 3  
Operator: RAW  
Inst : MSD #1  
Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\8270B1M3.M  
Title : EPA 8270 calibration  
Last Update : Wed Jul 31 12:13:52 1996  
Response via : Multiple Level Calibration



Quantitation Report

Data File : C:\HPCHEM\1\DATA\E01654.D  
 Acq On : 24 Jul 96 8:14 pm  
 Sample : s0724ba-01  
 Misc :  
 Quant Time: Jul 24 20:36 1996

Vial: 13  
 Operator: RAW  
 Inst : 5972 MSD  
 Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\8270R.M  
 Title : EPA 8270 calibration  
 Last Update : Wed Jul 24 14:41:24 1996  
 Response via : Multiple Level Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev (Min)
1) 1,4-Dichlorobenzene-d4	5.15	152	262043	40.00	ug/ml	0.00
19) Naphthalene-d8	6.53	136	856047	40.00	ug/ml	0.00
34) Acenaphthene-d10	8.52	164	563434	40.00	ug/ml	0.00
54) Phenanthrene-d10	10.22	188	894739	40.00	ug/ml	0.00
67) Chrysene-d12	13.82	240	609982	40.00	ug/ml	0.00
75) Perylene-d12	17.04	264	511001	40.00	ug/ml	0.00

System Monitoring Compounds	R.T.	QIon	Response	Conc	Units	%Recovery
4) 2-Fluorophenol	3.81	112	996944	152.94	ug/ml	76.47%
7) Phenol-d6	4.73	99	1170281	140.90	ug/ml	70.45%
20) Nitrobenzene-d5	5.74	82	578359	69.57	ug/ml	69.57%
38) 2-Fluorobiphenyl	7.75	172	1244444	74.48	ug/ml	74.48%
58) 2,4,6-Tribromophenol	9.43	330	355758	131.78	ug/ml	65.89%
69) Terphenyl-d14	12.09	244	1134435	94.05	ug/ml	94.05%

Target Compounds

Qvalue

(#) = qualifier out of range (m) = manual integration

Data File : C:\HPCHEM\1\DATA\A12787.D  
 Acq On : 31 Jul 96 12:17 pm  
 Sample : s0730bs-01  
 Misc : 8270  
 Quant Time: Jul 31 12:41 1996

Vial: 3  
 Operator: RAW  
 Inst : MSD #1  
 Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\8270B1M3.M  
 Title : EPA 8270 calibration  
 Last Update : Wed Jul 31 12:13:52 1996  
 Response via : Multiple Level Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	6.35	152	202029	40.00	ug/ml	0.00
19) Naphthalene-d8	7.91	136	632613	40.00	ug/ml	0.00
34) Acenaphthene-d10	10.13	164	346402	40.00	ug/ml	0.00
54) Phenanthrene-d10	11.94	188	499245	40.00	ug/ml	0.00
67) Chrysene-d12	15.62	240	416162	40.00	ug/ml	0.00
75) Perylene-d12	18.79	264	484368	40.00	ug/ml	0.00

System Monitoring Compounds	R.T.	QIon	Response	Conc	Units	%Recovery
4) 2-Fluorophenol	0.00	112	0	0.00	ug/ml	0.00%
7) Phenol-d6	0.00	99	0	0.00	ug/ml	0.00%
20) Nitrobenzene-d5	7.04	82	336729	43.49	ug/ml	43.49%
38) 2-Fluorobiphenyl	9.23	172	460232	44.55	ug/ml	44.55%
58) 2,4,6-Tribromophenol	0.00	330	0	0.00	ug/ml	0.00%
69) Terphenyl-d14	13.76	244	523599	72.24	ug/ml	72.24%

Target Compounds Qvalue

WATER SEMIVOLATILE SURROGATE RECOVERY

Lab Name: LRI Contract: \_\_\_\_\_  
 Project No.: 262 Site: \_\_\_\_\_ Location: \_\_\_\_\_ Group: \_\_\_\_\_

	SAMPLE NO.	S1 (2FP) #	S2 (PHL) #	S3 (NBZ) #	S4 (FBP) #	S5 (TBP) #	S6 (TPH) #	#	#	TOT OUT
01	s0724ba-01	76	70	70	74	66	94			6
02	E607262-13	29	35	29 *	35 *	46	50			
03										
04										
05										
06										
07										
08										
09										
10										
11										
12										
13										
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27										
28										
29										
30										

QC LIMITS  
 S1 (2FP) = 2-Fluorophenol (21-100)  
 S2 (PHL) = Phenol-d6 (10-94)  
 S3 (NBZ) = Nitrobenzene-d5 (34-114)  
 S4 (FBP) = 2-Fluorobiphenyl (43-116)  
 S5 (TBP) = 2,4,6-Tribromophenol (10-123)  
 S6 (TPH) = Terphenyl-d14 (33-141)

# Column to be used to flag recovery values  
 \* Values outside of contract required QC limits  
 D Surrogate diluted out

2D  
SOIL SEMIVOLATILE SURROGATE RECOVERY

Lab Name: \_\_\_\_\_ Contract: \_\_\_\_\_  
 Project No.: 262 Site: \_\_\_\_\_ Location: \_\_\_\_\_ Group: \_\_\_\_\_  
 Level: (low/med) LOW

	SAMPLE NO.	S1 (2FP) #	S2 (PHL) #	S3 (NBZ) #	S4 (FBP) #	S5 (TBP) #	S6 (TPH) #	#	#	TOT OUT
01	s0730bs-01			43	45		72			
02	E607262-1			24	33		96			
03	E607262-2			55	57		76			
04	E607262-3			26	40		86			
05	E607262-4			3 *	19 *		70			
06	E607262-5			24	42		95			
07	E607262-6			44	48		66			
08	E607262-7			51	65		81			
09	E607262-8			D	D		D			
10	E607262-9			31	52		74			
11	E607262-10			52	67		99			
12	E607262-11			40	55		93			
13	E607262-12			51	50		73			
14	E607262-14			64	88		123			
15	E607262-15			31	48		67			
16	E607262-16			50	79		124			
17										
18										
19										
20										
21										
22										
23										
24										
25										
26										
27										
28										
29										
30										

**QC LIMITS**

S1 (2FP) = 2-Fluorophenol	(25-121)
S2 (PHL) = Phenol-d6	(24-113)
S3 (NBZ) = Nitrobenzene-d5	(23-120)
S4 (FBP) = 2-Fluorobiphenyl	(30-115)
S5 (TBP) = 2,4,6-Tribromophenol	(19-122)
S6 (TPH) = Terphenyl-d14	(18-137)

# Column to be used to flag recovery values  
 \* Values outside of contract required QC limits  
 D Surrogate diluted out

Date: 7-25-96  
 Method #: 6010  
 Analyst: BS  
 Supervisor: [Signature]

Matrix:  
 Solid   
 Aqueous   
 TCLP

Sample # 07246-3      Sample # 07246-3

Assoc. Samples
07210-10
07262-13
07235-1
↓
-2
-3
↓
-4

Metal	MS/MSD						DUPLICATE			LLCS	
	Samp Conc.	Spike Conc.	Matrix Spike Result	% Rec.	Matrix Dup. Result	% Rec.	RPD	Samp. Result	Dup. Result.	RPD	Result
Ag	ND	1000	740.0	74	742.4	74	<1%	ND	ND	0%	147.8
Ba	2116		952.2	93	947.2	93	<1%	2116	2089	1.3%	100.3
Be	ND		874.1	87	874.3	87	<1%	ND	ND	0%	51.86
Cd	ND		877.4	88	874.6	87	<1%	ND	ND	0%	50.03
Cr	85.87		976.7	89	983.9	90	<1%	85.87	89.35	4.0%	53.51
Cu	ND	↓	924.4	92	916.1	92	<1%	ND	ND	0%	50.10
Nb	11690	11000	21270	87	20970	84	1.4%	11690	11860	1.5%	1081
Ni	ND	1000	862.4	86	849.5	85	1.5%	ND	ND	0%	53.26
Pb	ND		905.3	91	925.2	93	2.2%	ND	ND	0%	58.27
Sb	ND		917.2	92	915.7	92	<1%	ND	ND	0%	ND
Se	ND		938.5	94	969.6	97	3.3%	ND	ND	0%	55.02
Zn	31.68	↓	916.9	89	916.9	89	0%	31.68	32.88	3.7%	51.96







Date: 7-24-96  
 Method #: 6010  
 Analyst: BS  
 Supervisor: [Signature]

Matrix:  
 Solid   
 Aqueous   
 TCLP

Sample # 07264-2      Sample # 07264-2

Assoc. Samples
07262-1
-2
-3
-4
-5
-6
-7
-8
-9
-10
-11
-12
-14
-15
-16
07264-2
/

Metal	MS/MSD					DUPLICATE			LLCS		
	Samp Conc.	Spike Conc.	Matrix Spike Result	% Rec.	Matrix Dup. Result	% Rec.	RPD	Samp. Result	Dup. Result.	RPD	Result
Ag	ND	1000	912.3	91	907.3	91	<1%	ND	ND	0%	103.6
Ba	287.8		1406	111	1362	107	3.2%	287.8	285.9	<1%	101.7
Be	3.471		942.4	94	931.3	93	1.2%	3.471	3.471	0%	51.62
Cd	ND		942.3	94	928.9	93	1.4%	ND	ND	0%	54.65
Cr	133.8		1046	91	1031	90	1.4%	133.8	131.7	1.6%	54.38
Cu	91.87		1076	98	1054	96	2.1%	91.87	91.73	<1%	48.64
Ni	110.5		1024	91	1020	91	<1%	110.5	108.1	2.2%	51.05
Pb	60.50		980.2	92	1001	94	2.1%	1365	1342	1.7%	ND
Sb	ND		1011	101	1047	105	3.5%	ND	ND	0%	ND
Se	ND		996.6	100	1014	101	1.7%	ND	ND	0%	ND
Zn	342.9	↓	1336	99	1384	104	3.5%	342.9	341.9	<1%	54.32
											/

\* Post Spike

\* Alternate Dup 07262-14





Date: 7-24-96  
 Method#: \_\_\_\_\_  
 Parameter: As - 222-3030  
 Analyst: mm  
 Supervisor: [Signature]

S1	25 PPS
S2	50 PPS
S3	75 PPS
S4	100 PPS

Standard Lot #: W 960724-1

LCS Spike Lot #: 55 960716-1

Matrix Spike Lot #: 55 960716-1

Sample #	Result ug/L	Digest Factor	DF	Result mg/L
Method Blank	5.20	T	T	ND
QCTV = 50 PPS	46.8			0.047
LCS	48.9			0.049
Low Level Check Std.	8.6	T		56%
07 209-1C	0.3	1:1.1		ND
07 262-13C	ND			ND
9607098-1	0.4	V	T	ND
/				
Calibration Blank				
CCV Mid TV =				
/				
Calibration Blank	ND	T	T	ND
CCV Low TV = 25 PPS	21.5			0.021
CCV Mid TV = 50 PPS	48.0			0.048
Dup. Samp# 9607098-1	ND	1:1.1		ND
MS Samp#	-1	49.8	-	0.050
MSD	-1	48.6	-	0.048

Blk Spk	Result	% Rec.
TV = 50 PPS	48.9	98%

Dup. Samp #	Sample Result	Duplicate Result	RPD
9607098-1	ND	ND	0.0%

MS Samp#	Samp Conc	Spike Conc	Spike Result	% Rec	Dup Result	% Rec	RPD
9607098-1	ND	50 PPS	49.8	100%	48.0	96%	3.7%

Date: 7-24-96  
 Method#: \_\_\_\_\_  
 Parameter: As - 200-3010  
 Analyst: mm  
 Supervisor: [Signature]

S1	25 PPM
S2	50 PPM
S3	75 PPM
S4	100 PPM

Standard Lot #: LW960724-1

LUS Spike Lot #: 55960716-1

Mix Spike Lot #: 55960716-1

Sample #	Result ug/L	Final Vol.	Samp. Wt.	% Solids	DF	Result mg/Kg
Method Blank	0.7	I	I	I	I	ND
QCTV = 50 PPM	46.8	I	I	I	I	0.047
LCS	49.9	I	I	I	I	0.050
Low Level Check Std.	8.6	I	I	I	I	801
07 262-3	33.4	50ml	0.50	87	I	3.8
↓ -8	82.1	↓	0.52	67	1:2	24.0
↓ -14	65.4	↓	0.54	93	1:2	13.0
Calibration Blank	ND	I	I	I	I	ND
CCV Mid TV =						
Calibration Blank	ND	I	I	I	I	ND
CCV Low TV = 25 PPM	21.5	I	I	I	I	0.022
CCV Mid TV = 50 PPM	48.0	I	I	I	I	0.048
Dup. Samp# 07 262-3	33.1	50ml	0.50	87	I	3.8
MS Samp# ↓ -3	72.3	-	-	-	I	0.072
MSD ↓ -3	76.6	-	-	-	I	0.077

Blk Spk	Result	% Rec.	Dup. Samp #	Sample Result	Duplicate Result	RPD
TV : 50 PPM	44.9	100%	07 262-3	33.4	33.1	0.9%

MS Samp#	Samp Conc	Spike Conc	Spike Result	% Rec	Dup Result	% Rec	RPD
07 262-3	33.4	50 PPM	72.3	78%	76.6	86%	5.8%

Date: 7-23-96  
 Method#: \_\_\_\_\_  
 Parameter: As-2005100  
 Analyst: mm  
 Supervisor: [Signature]

S1	25 PPS
S2	50 PPS
S3	75 PPS
S4	100 PPS

Sample #	Result ug/L	Final Vol.	Samp. Wt.	% Solids	DF	Result mg/Kg
Method Blank	0.78	T	T	T	T	ND
QCTV= 50 PPS	47.10					0.047
LCS	51.02					0.051
Low Level Check Std.	10.22					102%
07 262-1	71.65	50 ml	0.52	93		7.4
-2A	23.54		0.50	97		2.5
-3	31.60		0.50	87		3.6
-4A	31.40		0.54	94		3.1
-5	46.31		0.54	89		4.8
-6A	15.59		0.53	90		1.7
-7A	33.37		0.52	90		3.6
<del>Sample out</del>	<del>87.7</del>		-	-		-
-9	59.95		0.50	87		6.7
✓ -10	68.28		0.53	92		7.0
Calibration Blank	ND	-	-	-	-	ND
CCV Mid TV= 50 PPS	48.59	-	-	-	-	0.049
07 262-11	44.84	50 ml	0.52	90		4.8
-12A	45.34		0.54	87		4.8
<del>non</del>	<del>99.27</del>		-	-		-
-15	80.35		0.53	87		8.5
✓ -16	59.08		0.50	87		6.8
/						
Calibration Blank	ND	T	T	T	T	ND
CCV Low TV= 25 PPS	23.52					0.024
CCV Mid TV= 50 PPS	48.92					0.049
Dup. Samp# 07 262-3	30.74	50 ml	0.50			
MS Samp#	-3					0.065
MSD	✓ -3					0.065

Standard Lot #: W960723-1

CS Spike Lot #: 55960716-1

Matrix Spike Lot #: 55960716-1

Blk Spk	Result	% Rec.	Dup. Samp #	Sample Result	Duplicate Result	RPD
50 PPS	51.02	102%	07 262-3	31.60	30.74	28%

MS Samp#	Samp Conc	Spike Conc	Spike Result	% Rec	Dup Result	% Rec	RPD
07 262-3	31.6	50 PPS	68.37	74%	65.04	67%	5.0%



Date: 7-24-96  
 Method#: \_\_\_\_\_  
 Parameter: Tl-Zeena-5100  
 Analyst: mm  
 Supervisor: [Signature]

S1	25ppm
S2	50ppm
S3	75ppm
S4	100ppm

Standard Lot #: W960724-1  
 Spike Lot #: 0716-1  
5960724-1  
 Spike Lot #: W960724-1

Sample #	Result ug/L	Final Vol.	Samp. Wt.	% Solids	DF	Result mg/Kg
Method Blank	0.42	T	T	T	T	ND
QCTV= 50 ppm	48.39	I	I	I	I	0.048
LCS	44.84	I	I	I	I	0.045
Low Level Check Std.	7.20	I	I	I	I	72%
07 210-8	0.68	50ml	0.50	92	T	ND
-9	0.95		0.53	77		ND
-11	0.16		0.54	89		ND
-12	0.49		0.56	46		ND
-13	0.79		0.54	73		ND
-14	0.47		0.50	93		ND
-15A	0.41		0.53	63		ND
-16	0.18		0.51	91		ND
07 262-1	0.68		0.52	93		ND
-2A	0.31		0.50	97	I	ND
Calibration Blank	0.65	-	-	-	-	ND
CCV Mid TV= 50 ppm	47.90	-	-	-	-	0.048
07 262-3	0.58	50ml	0.50	87	T	ND
-4A	0.35		0.54	94		ND
-5	0.21		0.54	89		ND
-6A	0.27		0.53	90		ND
-7A	0.29		0.52	90		ND
-8A	0.58		0.52	67		ND
-9	0.44		0.50	89		ND
-10	0.75		0.53	92		ND
-11	0.65		0.52	90		ND
-12	0.17		0.54	87	I	ND
Calibration Blank	0.19	T	T	T	T	ND
CCV Low TV= 25 ppm	22.34	I	I	I	I	0.022
CCV Mid TV= 50 ppm	50.24	I	I	I	I	0.050
Dup. Samp# 07 262-3	0.61	50ml	0.50	87	I	ND
MS Samp# -3	40.03	-	-	-	50ml 1:2	0.040
MSD -3	39.64	-	-	-		0.040

Spk	Result	% Rec.	Dup. Samp #	Sample Result	Duplicate Result	RPD
50ppm	48.39	97%	07 262-3	ND	ND	0.0%

MS Samp#	Samp Conc	Spike Conc	Spike Result	% Rec	Dup Result	% Rec	RPD
07 262-3	ND	50 ppm	40.03	80%	39.64	79%	1.0%

Date: 2-25-96  
 Method#: \_\_\_\_\_  
 Parameter: TK 2000-3100  
 Analyst: mn  
 Supervisor: [Signature]

S1	25 PPM
S2	50 PPM
S3	75 PPM
S4	100 PPM

Standard Lot #: W 960725-1

CS Spike Lot #: SS 9607<sup>16-1</sup>25-1335

Matrix Spike Lot #: W 960725-1

Sample #	Result ug/L	Final Vol.	Samp. Wt.	% Solids	DF	Result mg/Kg
Method Blank	ND	T	T	T	T	ND
QCTV = 50 PPM	50.52	I	I	I	I	0.051
LCS	50.79	I	I	I	I	0.051
Low Level Check Std.	7.90	I	I	I	I	79%
07 262-14	0.70	<del>50 ml</del>	0.50	93	I	ND
-15	ND	I	0.53	89	I	ND
-16	ND	I	0.50	87	I	ND
07 223-2A	ND	I	0.51	89	I	ND
/						
Calibration Blank						
CCV Mid TV =						
/						
Calibration Blank	ND	T	T	T	T	ND
CCV Low TV = 25 PPM	23.34	I	I	I	I	0.023
CCV Mid TV = 50 PPM	49.65	I	I	I	I	<del>0.050</del> 0.050
Dup. Samp# 07 223-2A	0.00	50 ml	0.51	89	I	ND
MS Samp# -2A	38.56	-	-	-	Impl 1:2	0.039
MSD -2A	38.38	-	-	-	I	0.038

Blk Spk	Result	% Rec.	Dup. Samp #	Sample Result	Duplicate Result	RPD
50 PPM	50.79	102%	07 223-2A	ND	ND	0.0%

MS Samp#	Samp Conc	Spike Conc	Spike Result	% Rec	Dup Result	% Rec	RPD
07 223-2A	ND	50 PPM	38.56	77%	38.38	77%	0.5%

Date: 7-25-96  
 Method#: \_\_\_\_\_  
 Parameter: TL 2mm 5100  
 Analyst: ms  
 Supervisor: [Signature]

S1	25 ppb
S2	50 ppb
S3	75 ppb
S4	100 ppb

Standard Lot #: W 960725-1

LCS Spike Lot #: SS 960716-1

Matrix Spike Lot #: SS 960716-1

Sample #	Result ug/L	Digest Factor	DF	Result mg/L
Method Blank	ND	T	T	ND
QC TV = 50 ppb	50.52			0.051
LCS	49.78			0.051
Low Level Check Std.	7.90	T		79%
07 210-10D	0.61	1:1.1		ND
07 262-13C	0.15			ND
PC07098-1A	ND	V	T	ND
/				
Calibration Blank				
CCV Mid TV =				
/				
Calibration Blank	ND	T	T	ND
CCV Low TV = 25 ppb	23.34			0.023
CCV Mid TV = 50 ppb	49.65			0.050
Dup. Samp# PC07098-1A	0.04	1:1.1	T	ND
MS Samp#	-1A 39.14	-	Sup 75	0.039
MSD	V -1A 40.25	-	-	0.040

Blk Spk	Result	% Rec.
V = 50 ppb	49.78	100%

Dup. Samp #	Sample Result	Duplicate Result	RPD
PC07098-1A	ND	ND	0.0%

MS Samp#	Samp Conc	Spike Conc	Spike Result	% Rec	Dup Result	% Rec	RPD
PC07098-1A	ND	50 ppb	39.14	78%	40.25	60%	2.8%

Date: 7.24.96  
 Method#: \_\_\_\_\_  
 Parameter: Mercury  
 Analyst: VA  
 Supervisor: [Signature]

Sample #	Result ug/L	Final Vol.	Samp. Wt.	% Solids	DF	Result mg/Kg
Method Blank	ND	100ml	T	T	T	ND
QCTV= <u>5ppb</u>	4.9		I	I	I	0.005
Low Level Check Std. <u>1ppb</u>	0.5		I	I	I	0.001
<u>E607162-7</u>	4.0		0.50	80.7	1:2	1.900
<u>E607210-5</u>	4.1		0.54	86.9	1:2	2.700
<u>✓ -12</u>	1.7		0.53	45.9	1:2	1.300
<u>E607269-1</u>	ND		0.50	95.9	T	ND
<u>✓ -2</u>	ND		0.53	95.0		ND
<u>-3</u>	ND		0.52	95.8		ND
<u>-4</u>	ND		0.52	94.1		ND
<u>-5</u>	ND		0.51	94.2		ND
<u>-6</u>	ND		0.53	86.9		ND
<u>✓ -7</u>	ND		0.52	91.6		ND
Calibration Blank	ND		<del>0.54</del>	—		ND
CCV Mid TV= <u>5ppb</u>	4.5		—	—		0.005
<u>E607269-8</u>	0.7		0.51	86.8		0.160
<u>-9</u>	ND		0.54	93.3		ND
<u>-10</u>	ND		0.55	93.4		ND
<u>-11</u>	ND		0.55	96.9		ND
<u>✓ -12</u>	ND		0.53	95.4		ND
<u>E607262-1</u>	0.7		0.54	93.1		0.140
<u>-2A</u>	ND		0.51	96.7		ND
<u>-3</u>	ND		0.50	86.8		ND
<u>-4A</u>	ND		0.50	93.5		ND
<u>✓ -5</u>	ND		0.51	89.0		ND
Calibration Blank	ND		T	T		ND
CCV Low TV= <u>2ppb</u>	1.6		I	I		0.002
CCV Mid TV= <u>5ppb</u>	4.7		I	I		0.005
Dup. Samp# <u>7269-5</u>	ND		0.52	94.2		ND
MS Samp# <u>1</u>	4.5		0.54			0.005
MSD <u>1</u>	4.3	Y	0.52			0.004

S1	<u>10ppb</u>
S2	<u>90ppb</u>
S3	<u>10ppb</u>
S4	
S5	
S6	

Dup. Samp #	Sample Result	Duplicate Result	RPD
<u>E607269-5</u>	ND	ND	0.0

MS Samp#	Samp Conc	Spike Conc	Spike Result	% Rec	Dup Result	% Rec	RPD
<u>7269-5</u>	ND	<u>5ppb</u>	4.5	<u>96%</u>	4.3	<u>86%</u>	4.5



Date: 7.23.96  
 Method#: \_\_\_\_\_  
 Parameter: Mercury  
 Analyst: [Signature]  
 Supervisor: [Signature]

S1	<del>ND</del>
S2	<del>ND</del>
S3	<del>ND</del>
S4	<del>ND</del>
S5	<del>ND</del>
S6	<del>ND</del>

Sample #	Result ug/L	DF	Result mg/L
Method Blank	ND	T	ND
QCTV= 5ppb	5.0		0.005
Low Level Check Std. 1ppb	0.7		0.001
E607224-2C	ND		ND
E607210-1DD	ND		ND
E607209-1C	ND		ND
E607238-1C	ND		ND
E607262-13C	ND		ND
E607257-1	ND		ND
E607188-1C	ND		ND
E607267-1	ND	L	ND
Calibration Blank			
CCV Mid TV=			
Calibration Blank	ND	T	ND
CCV Low TV= 2ppb	1.8		0.002
CCV Mid TV= 5ppb	4.5		0.005
Dup. Samp# 7257-1	ND	L	ND
MS Samp# 7224-2C	5.0	1:2	0.005
MSD	5.2		0.005

Dup. Samp #	Sample Result	Duplicate Result	RPD
7257-1	ND	ND	0.0

MS Samp#	Samp Conc	Spike Conc	Spike Result	% Rec	Dup Result	% Rec	RPD
7224-2C	ND	5ppb	5.0	100	5.2	104	3.9

Date: 7-16-96  
 Method#: 335.3/9010  
 Parameter: Cyanide  
 Analyst: E. Benson  
 Supervisor: [Signature]

Sample #	SO2	Amt. ml/g	Final Vol	Result	DF	Result
S1=0.50	-	50ml	50ml	0.500	-	0.500
S2=0.25	-			0.250	-	0.250
S3=0.125	-			0.125	-	0.125
QC	-			0.230	-	0.230
Blank	-	↓	↓	0.002	-	0.002
Low Level Check Std.	-	50ml	50ml	0.076	-	0.076 mg/kg ↓
E607210-16	-	0.43	50ml	0.111	5x	0.555 8.09
↓ -17A	-	7.11	125	0.273	10x	2.73 53.8
E607262-1	-	6.76	ml	0.005	-	0.005 0.099
↓ -2A	-	9.46	EB 7-26	0.001	-	0.001 0.013
↓ -3	-	7.35		0.010	-	0.010 0.146
↓ -4A	-	8.32		0.042	-	0.042 0.674
↓ -5	-	8.92		0.035	-	0.035 0.551
↓ -6A	-	6.65		0.000	-	0.000 0
↓ -7A	-	7.52	25x	0.242	50x	12.11 6.76 mg/l EB-7-26
↓ -8A	-	7.14		0.242	50x	12.14 318
↓ -9	-	6.50		0.390	10x	3.90 83.8
↓ -10	-	8.37		0.231	25x	5.77 43.3
↓ -11	-	6.87		0.048	-	0.048 0.973
↓ -12A	-	7.65		0.001	-	0.001 0.018
↓ -14	-	7.69		0.384	50x	19.22 336
↓ -15	-	6.96		0.320	25x	8.01 161
↓ -16	-	6.52	↓	0.273	10x	2.73 10.4
EB 7-26						
E607262-9A 9	-	6.50	50ml	0.414	10x	4.14
↓ -9	-	7.29		0.198	25x	4.97
Dup Samp# 262-16	-	6.52		0.301	10x	3.01
MS Samp# ↓ -16	-	6.73	↓	0.267	10x	2.67
Blk Spk TV= 0.250	-	25.25	500ml	0.251	-	0.251

→ 125mg/kg

QC Lot #	W81195
TV	0.250
Result	0.230
QC Limits	± 0.100

Blk Spk	Result	% Rec	Dup. Samp#	Sample Result	Duplicate Result	RPD
TV= 0.250	0.251	100%	E607262-4	3.90	4.14	5.9%

MS Samp #	Conc.	Sample Result	MS Result	% REC
E607262-9	6.25	3.90	4.97	177%

0.250 x 25 ↑









**Laboratory Resources, Inc.**  
New England Division

Route 205 - Regional Building  
Brooklyn, CT 06234  
Telephone: 203-774-6814 Fax: 203-774-2689

**ANALYTICAL DATA REPORT**

Report Number: E608014  
Project: Tidewater Former MGP

prepared for:

Atlantic Environmental  
188 Norwich Ave.  
P.O. Box 297  
Colchester, CT 06415

Attn: Jeff Wilson

Receive Date: 08/01/96  
Report Date: 08/12/96

T.F. McCommas  
Laboratory Director

Connecticut Department of Health Services PH-0465  
Maine Department of Environmental Protection TBD  
Massachusetts Department of Environmental Quality CT008  
New Hampshire Department of Environmental Services 2020  
New York Department of Health 11549  
Rhode Island Department of Health A44 0022

# GENERAL CHEMISTRY ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
Division: New England  
LRI Report No: E608014  
LRI Sample No: 1

Customer: Atlantic Environmental Eng  
Location: Pawtucket, RI  
Project: Tidewater Former MGP  
Sample Description: TSS-17

Date Collected: 07/31/96  
Date Received: 08/01/96

Matrix: Soil  
Percent Moisture: 4.8%  
Units in Dry Weight

<u>Parameter</u>	<u>Result</u>	<u>QL</u>	<u>Units</u>	<u>Started</u> <u>Date</u>	<u>By</u>	<u>Completed</u> <u>Date</u>	<u>By</u>	<u>Dilution</u>
Cyanide by 9012 Modified NE								
Cyanide	0.41 U	0.41	mg/kg	08/03/96	EB	08/07/96	EB	

# METALS ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
 Division: New England  
 LRI Order No: E608014  
 LRI Sample No: 1

Client: Atlantic Environmental Eng  
 Location: Pawtucket, RI  
 Project: Tidewater Former MGP  
 Sample Description: TSS-17

Date Collected: 07/31/96  
 Date Received: 08/01/96

Matrix: Soil  
 Percent Moisture: 4.8%

Parameter	Result	QL	Units	Started		Completed		Dilution
				Date	By	Date	By	
<u>Arsenic by Furnace by SW-846 7060</u>								
Arsenic	4.0	0.19	mg/kg	08/02/96	KH	08/06/96	MM	
<u>Mercury by Cold Vapor by SW-846 7471</u>								
Mercury	0.091 U	0.091	mg/kg	08/05/96	KH	08/06/96	KH	
<u>Metals by ICP by SW-846 6010A</u>								
Beryllium	0.46	0.19	mg/kg	08/02/96	KH	08/05/96	BS	
Chromium	8.3	2.3	mg/kg	08/02/96	KH	08/05/96	BS	
Copper	16	2.3	mg/kg	08/02/96	KH	08/05/96	BS	
Nickel	8.2	2.3	mg/kg	08/02/96	KH	08/05/96	BS	
Silver	1.9 U	1.9	mg/kg	08/02/96	KH	08/05/96	BS	
Zinc	56	0.95	mg/kg	08/02/96	KH	08/05/96	BS	
Barium	30	0.95	mg/kg	08/02/96	KH	08/05/96	BS	
Antimony	9.5 U	9.5	mg/kg	08/02/96	KH	08/05/96	BS	
Lead	51	4.7	mg/kg	08/02/96	KH	08/05/96	BS	
Selenium	9.5 U	9.5	mg/kg	08/02/96	KH	08/05/96	BS	
Cadmium	0.95 U	0.95	mg/kg	08/02/96	KH	08/05/96	BS	
<u>Thallium by Furnace by SW-846 7841</u>								
Thallium	0.18 U	0.18	mg/kg	08/02/96	KH	08/06/96	MM	

# SEMIVOLATILE ORGANIC ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
Division: New England  
LRI Report No: E608014  
LRI Sample No: 1

Customer: Atlantic Environmental Eng  
Location: Pawtucket, RI  
Project: Tidewater Former MGP  
Sample Description: TSS-17

Date Collected: 07/31/96  
Date Received: 08/01/96  
Date Extracted: 08/02/96 By: KRB  
Date Analyzed: 08/02/96 By: KRB

Matrix: Soil  
Percent Moisture: 4.8%  
pH:  
Sample Weight/Volume: 2.06 g  
Extract Volume: 2  
Injection Volume:  
Dilution Factor: 1  
Lab Data File: 8080207

Method: 8080  
Level: LOW  
GC Column:  
Units: ug/kg (Dry Weight)

CAS No.	Parameter	Result	Qual	QL
12674-11-2	Aroclor 1016	510	U	510
11104-28-2	Aroclor 1221	510	U	510
11141-16-5	Aroclor 1232	510	U	510
53469-21-9	Aroclor 1242	510	U	510
12672-29-6	Aroclor 1248	510	U	510
11097-69-1	Aroclor 1254	510	U	510
11096-82-5	Aroclor 1260	510	U	510

# GENERAL CHEMISTRY ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
Division: New England  
LRI Report No: E608014  
LRI Sample No: 2

Customer: Atlantic Environmental Eng  
Location: Pawtucket, RI  
Project: Tidewater Former MGP  
Sample Description: TSS-19

Date Collected: 07/31/96  
Date Received: 08/01/96

Matrix: Soil  
Percent Moisture: 4.9%  
Units in Dry Weight

<u>Parameter</u>	<u>Result</u>	<u>QL</u>	<u>Units</u>	<u>Started</u> <u>Date</u>	<u>By</u>	<u>Completed</u> <u>Date</u>	<u>By</u>	<u>Dilution</u>
<u>Cyanide by 9012 Modified NE</u>								
Cyanide	72	0.35	mg/kg	08/03/96	EB	08/07/96	EB	

# METALS ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
 Division: New England  
 LRI Order No: E608014  
 LRI Sample No: 2

Client: Atlantic Environmental Eng  
 Location: Pawtucket, RI  
 Project: Tidewater Former MGP  
 Sample Description: TSS-19

Date Collected: 07/31/96  
 Date Received: 08/01/96

Matrix: Soil  
 Percent Moisture: 4.9%

Parameter	Result	QL	Units	Started		Completed		Dilution
				Date	By	Date	By	
<u>Arsenic by Furnace by SW-846 7060</u>								
Arsenic	3.3	0.19	mg/kg	08/02/96	KH	08/06/96	MM	
<u>Mercury by Cold Vapor by SW-846 7471</u>								
Mercury	0.095 U	0.095	mg/kg	08/05/96	KH	08/06/96	KH	
<u>Metals by ICP by SW-846 6010A</u>								
Beryllium	0.34	0.19	mg/kg	08/02/96	KH	08/05/96	BS	
Chromium	8.0	2.3	mg/kg	08/02/96	KH	08/05/96	BS	
Copper	11	2.3	mg/kg	08/02/96	KH	08/05/96	BS	
Nickel	7.4	2.3	mg/kg	08/02/96	KH	08/05/96	BS	
Silver	1.9 U	1.9	mg/kg	08/02/96	KH	08/05/96	BS	
Zinc	22	0.95	mg/kg	08/02/96	KH	08/05/96	BS	
Barium	21	0.95	mg/kg	08/02/96	KH	08/05/96	BS	
Antimony	9.5 U	9.5	mg/kg	08/02/96	KH	08/05/96	BS	
Lead	24	4.7	mg/kg	08/02/96	KH	08/05/96	BS	
Selenium	9.5 U	9.5	mg/kg	08/02/96	KH	08/05/96	BS	
Cadmium	0.95 U	0.95	mg/kg	08/02/96	KH	08/05/96	BS	
<u>Thallium by Furnace by SW-846 7841</u>								
Thallium	0.18 U	0.18	mg/kg	08/02/96	KH	08/06/96	MM	

# SEMIVOLATILE ORGANIC ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
Division: New England  
LRI Report No: E608014  
LRI Sample No: 2

Customer: Atlantic Environmental Eng  
Location: Pawtucket, RI  
Project: Tidewater Former MGP  
Sample Description: TSS-19

Date Collected: 07/31/96  
Date Received: 08/01/96  
Date Extracted: 08/02/96 By: KRB  
Date Analyzed: 08/02/96 By: KRB

Matrix: Soil  
Percent Moisture: 4.9%  
pH:  
Sample Weight/Volume: 2.05 g  
Extract Volume: 2  
Injection Volume:  
Dilution Factor: 1  
Lab Data File: 8080206

Method: 8080  
Level: LOW  
GC Column:  
Units: ug/kg (Dry Weight)

CAS No.	Parameter	Result	Qual	QL
12674-11-2	Aroclor 1016	510	U	510
11104-28-2	Aroclor 1221	510	U	510
11141-16-5	Aroclor 1232	510	U	510
53469-21-9	Aroclor 1242	510	U	510
12672-29-6	Aroclor 1248	510	U	510
11097-69-1	Aroclor 1254	510	U	510
11096-82-5	Aroclor 1260	510	U	510

# GENERAL CHEMISTRY ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
Division: New England  
LRI Report No: E608014  
LRI Sample No: 3

Customer: Atlantic Environmental Eng  
Location: Pawtucket, RI  
Project: Tidewater Former MGP  
Sample Description: TSS-34

Date Collected: 07/31/96  
Date Received: 08/01/96

Matrix: Soil  
Percent Moisture: 8.0%  
Units in Dry Weight

<u>Parameter</u>	<u>Result</u>	<u>QL</u>	<u>Units</u>	<u>Started</u> <u>Date</u>	<u>By</u>	<u>Completed</u> <u>Date</u>	<u>By</u>	<u>Dilution</u>
Cyanide by 9012 Modified NE								
Cyanide	6.2	0.42	mg/kg	08/03/96	EB	08/07/96	EB	



# METALS ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
 Division: New England  
 LRI Order No: E608014  
 LRI Sample No: 3

Client: Atlantic Environmental Eng  
 Location: Pawtucket, RI  
 Project: Tidewater Former MGP  
 Sample Description: TSS-34

Date Collected: 07/31/96  
 Date Received: 08/01/96

Matrix: Soil  
 Percent Moisture: 8.0%

Parameter	Result	QL	Units	Started		Completed		Dilution
				Date	By	Date	By	
<u>Arsenic by Furnace by SW-846 7060</u>								
Arsenic	5.1	0.19	mg/kg	08/02/96	KH	08/06/96	MM	
<u>Mercury by Cold Vapor by SW-846 7471</u>								
Mercury	0.094 U	0.094	mg/kg	08/05/96	KH	08/06/96	KH	
<u>Metals by ICP by SW-846 6010A</u>								
Beryllium	0.45	0.19	mg/kg	08/02/96	KH	08/05/96	BS	
Chromium	12	2.3	mg/kg	08/02/96	KH	08/05/96	BS	
Copper	27	2.3	mg/kg	08/02/96	KH	08/05/96	BS	
Nickel	15	2.3	mg/kg	08/02/96	KH	08/05/96	BS	
Silver	1.9 U	1.9	mg/kg	08/02/96	KH	08/05/96	BS	
Zinc	82	0.96	mg/kg	08/02/96	KH	08/05/96	BS	
Barium	44	0.96	mg/kg	08/02/96	KH	08/05/96	BS	
Antimony	9.6 U	9.6	mg/kg	08/02/96	KH	08/05/96	BS	
Lead	110	4.8	mg/kg	08/02/96	KH	08/05/96	BS	
Selenium	9.6 U	9.6	mg/kg	08/02/96	KH	08/05/96	BS	
Cadmium	0.96 U	0.96	mg/kg	08/02/96	KH	08/05/96	BS	
<u>Thallium by Furnace by SW-846 7841</u>								
Thallium	0.18 U	0.18	mg/kg	08/02/96	KH	08/06/96	MM	

# GENERAL CHEMISTRY ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
Division: New England  
LRI Report No: E608014  
LRI Sample No: 4

Customer: Atlantic Environmental Eng  
Location: Pawtucket, RI  
Project: Tidewater Former MGP  
Sample Description: TSS-39

Date Collected: 07/31/96  
Date Received: 08/01/96

Matrix: Soil  
Percent Moisture: 5.5%  
Units in Dry Weight

<u>Parameter</u>	<u>Result</u>	<u>QL</u>	<u>Units</u>	<u>Started</u> <u>Date</u>	<u>By</u>	<u>Completed</u> <u>Date</u>	<u>By</u>	<u>Dilution</u>
<u>Cyanide by 9012 Modified NE</u>								
Cyanide	0.33 U	0.33	mg/kg	08/03/96	EB	08/07/96	EB	

# METALS ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
 Division: New England  
 LRI Order No: E608014  
 LRI Sample No: 4

Client: Atlantic Environmental Eng  
 Location: Pawtucket, RI  
 Project: Tidewater Former MGP  
 Sample Description: TSS-39

Date Collected: 07/31/96  
 Date Received: 08/01/96

Matrix: Soil  
 Percent Moisture: 5.5%

Parameter	Result	QL	Units	Started		Completed		Dilution
				Date	By	Date	By	
<u>Arsenic by Furnace by SW-846 7060</u>								
Arsenic	2.8	0.18	mg/kg	08/02/96	KH	08/06/96	MM	
<u>Mercury by Cold Vapor by SW-846 7471</u>								
Mercury	0.090 U	0.090	mg/kg	08/05/96	KH	08/06/96	KH	
<u>Metals by ICP by SW-846 6010A</u>								
Beryllium	0.54	0.18	mg/kg	08/02/96	KH	08/05/96	BS	
Chromium	8.8	2.2	mg/kg	08/02/96	KH	08/05/96	BS	
Copper	15	2.2	mg/kg	08/02/96	KH	08/05/96	BS	
Nickel	10	2.2	mg/kg	08/02/96	KH	08/05/96	BS	
Silver	1.8 U	1.8	mg/kg	08/02/96	KH	08/05/96	BS	
Zinc	50	0.92	mg/kg	08/02/96	KH	08/05/96	BS	
Barium	47	0.92	mg/kg	08/02/96	KH	08/05/96	BS	
Antimony	9.2 U	9.2	mg/kg	08/02/96	KH	08/05/96	BS	
Lead	77	4.6	mg/kg	08/02/96	KH	08/05/96	BS	
Selenium	9.2 U	9.2	mg/kg	08/02/96	KH	08/05/96	BS	
Cadmium	0.92 U	0.92	mg/kg	08/02/96	KH	08/05/96	BS	
<u>Thallium by Furnace by SW-846 7841</u>								
Thallium	0.18 U	0.18	mg/kg	08/02/96	KH	08/06/96	MM	

# SEMIVOLATILE ORGANIC ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
Division: New England  
LRI Report No: E608014  
LRI Sample No: 4

Customer: Atlantic Environmental Eng  
Location: Pawtucket, RI  
Project: Tidewater Former MGP  
Sample Description: TSS-39

Date Collected: 07/31/96  
Date Received: 08/01/96  
Date Extracted: 08/02/96 By: KRB  
Date Analyzed: 08/02/96 By: KRB

Matrix: Soil  
Percent Moisture: 5.5%  
pH:  
Sample Weight/Volume: 2.00 g  
Extract Volume: 2  
Injection Volume:  
Dilution Factor: 1  
Lab Data File: 8080209

Method: 8080  
Level: LOW  
GC Column:  
Units: ug/kg (Dry Weight)

CAS No.	Parameter	Result	Qual	QL
12674-11-2	Aroclor 1016	530	U	530
11104-28-2	Aroclor 1221	530	U	530
11141-16-5	Aroclor 1232	530	U	530
53469-21-9	Aroclor 1242	530	U	530
12672-29-6	Aroclor 1248	530	U	530
11097-69-1	Aroclor 1254	530	U	530
11096-82-5	Aroclor 1260	530	U	530

# GENERAL CHEMISTRY ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
Division: New England  
LRI Report No: E608014  
LRI Sample No: 5

Customer: Atlantic Environmental Eng  
Location: Pawtucket, RI  
Project: Tidewater Former MGP  
Sample Description: TSS-40

Date Collected: 07/31/96  
Date Received: 08/01/96

Matrix: Soil  
Percent Moisture: 9.0%  
Units in Dry Weight

<u>Parameter</u>	<u>Result</u>	<u>QL</u>	<u>Units</u>	<u>Started</u> <u>Date</u>	<u>By</u>	<u>Completed</u> <u>Date</u>	<u>By</u>	<u>Dilution</u>
<u>Cyanide by 9012 Modified NE</u> Cyanide	10	0.34	mg/kg	08/03/96	EB	08/07/96	EB	

# METALS ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
 Division: New England  
 LRI Order No: E608014  
 LRI Sample No: 5

Client: Atlantic Environmental Eng  
 Location: Pawtucket, RI  
 Project: Tidewater Former MGP  
 Sample Description: TSS-40

Date Collected: 07/31/96  
 Date Received: 08/01/96

Matrix: Soil  
 Percent Moisture: 9.0%

Parameter	Result	QL	Units	Started		Completed		Dilution
				Date	By	Date	By	
<u>Arsenic by Furnace by SW-846 7060</u>								
Arsenic	4.4	0.19	mg/kg	08/02/96	KH	08/06/96	MM	
<u>Mercury by Cold Vapor by SW-846 7471</u>								
Mercury	0.10 U	0.10	mg/kg	08/05/96	KH	08/06/96	KH	
<u>Metals by ICP by SW-846 6010A</u>								
Beryllium	0.57	0.19	mg/kg	08/02/96	KH	08/05/96	BS	
Chromium	14	2.3	mg/kg	08/02/96	KH	08/05/96	BS	
Copper	18	2.3	mg/kg	08/02/96	KH	08/05/96	BS	
Nickel	11	2.3	mg/kg	08/02/96	KH	08/05/96	BS	
Silver	1.9 U	1.9	mg/kg	08/02/96	KH	08/05/96	BS	
Zinc	49	0.95	mg/kg	08/02/96	KH	08/05/96	BS	
Barium	41	0.95	mg/kg	08/02/96	KH	08/05/96	BS	
Antimony	9.5 U	9.5	mg/kg	08/02/96	KH	08/05/96	BS	
Lead	67	4.8	mg/kg	08/02/96	KH	08/05/96	BS	
Selenium	9.5 U	9.5	mg/kg	08/02/96	KH	08/05/96	BS	
Cadmium	0.95 U	0.95	mg/kg	08/02/96	KH	08/05/96	BS	
<u>Thallium by Furnace by SW-846 7841</u>								
Thallium	0.18 U	0.18	mg/kg	08/02/96	KH	08/06/96	MM	

# SEMIVOLATILE ORGANIC ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
Division: New England  
LRI Report No: E608014  
LRI Sample No: 5

Customer: Atlantic Environmental Eng  
Location: Pawtucket, RI  
Project: Tidewater Former MGP  
Sample Description: TSS-40

Date Collected: 07/31/96  
Date Received: 08/01/96  
Date Extracted: 08/02/96 By: KRB  
Date Analyzed: 08/02/96 By: KRB

Matrix: Soil  
Percent Moisture: 9.0%  
pH:  
Sample Weight/Volume: 2.02 g  
Extract Volume: 2  
Injection Volume:  
Dilution Factor: 1  
Lab Data File: 8080210

Method: 8080  
Level: LOW  
GC Column:  
Units: ug/kg (Dry Weight)

CAS No.	Parameter	Result	Qual	QL
12674-11-2	Aroclor 1016	540	U	540
11104-28-2	Aroclor 1221	540	U	540
11141-16-5	Aroclor 1232	540	U	540
53469-21-9	Aroclor 1242	540	U	540
12672-29-6	Aroclor 1248	540	U	540
11097-69-1	Aroclor 1254	540	U	540
11096-82-5	Aroclor 1260	540	U	540

# GENERAL CHEMISTRY ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
Division: New England  
LRI Report No: E608014  
LRI Sample No: 6

Customer: Atlantic Environmental Eng  
Location: Pawtucket, RI  
Project: Tidewater Former MGP  
Sample Description: TSED-1

Date Collected: 07/31/96  
Date Received: 08/01/96

Matrix: Soil  
Percent Moisture: 42.9%  
Units in Dry Weight

<u>Parameter</u>	<u>Result</u>	<u>QL</u>	<u>Units</u>	<u>Started</u> <u>Date</u>	<u>By</u>	<u>Completed</u> <u>Date</u>	<u>By</u>	<u>Dilution</u>
<u>Cyanide by 9012 Modified NE</u>								
Cyanide	6.2	0.37	mg/kg	08/03/96	EB	08/07/96	EB	



# METALS ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
 Division: New England  
 LRI Order No: E608014  
 LRI Sample No: 6

Client: Atlantic Environmental Eng  
 Location: Pawtucket, RI  
 Project: Tidewater Former MGP  
 Sample Description: TSED-1

Date Collected: 07/31/96  
 Date Received: 08/01/96

Matrix: Soil  
 Percent Moisture: 42.9%

Parameter	Result	QL	Units	Started		Completed		Dilution
				Date	By	Date	By	
<u>Arsenic by Furnace by SW-846 7060</u>								
Arsenic	19	0.62	mg/kg	08/02/96	KH	08/06/96	MM	2
<u>Mercury by Cold Vapor by SW-846 7471</u>								
Mercury	0.16U	0.16	mg/kg	08/05/96	KH	08/06/96	KH	
<u>Metals by ICP by SW-846 6010A</u>								
Beryllium	0.88	0.31	mg/kg	08/02/96	KH	08/05/96	BS	
Chromium	120	3.8	mg/kg	08/02/96	KH	08/05/96	BS	
Copper	130	3.8	mg/kg	08/02/96	KH	08/05/96	BS	
Nickel	31	3.8	mg/kg	08/02/96	KH	08/05/96	BS	
Silver	3.1U	3.1	mg/kg	08/02/96	KH	08/05/96	BS	
Zinc	120	1.5	mg/kg	08/02/96	KH	08/05/96	BS	
Barium	51	1.5	mg/kg	08/02/96	KH	08/05/96	BS	
Antimony	15U	15	mg/kg	08/02/96	KH	08/05/96	BS	
Lead	200	7.7	mg/kg	08/02/96	KH	08/05/96	BS	
Selenium	15U	15	mg/kg	08/02/96	KH	08/05/96	BS	
Cadmium	1.5U	1.5	mg/kg	08/02/96	KH	08/05/96	BS	
<u>Thallium by Furnace by SW-846 7841</u>								
Thallium	0.18U	0.18	mg/kg	08/02/96	KH	08/06/96	MM	

# SEMIVOLATILE ORGANIC ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
Division: New England  
LRI Report No: E608014  
LRI Sample No: 6

Customer: Atlantic Environmental Eng  
Location: Pawtucket, RI  
Project: Tidewater Former MGP  
Sample Description: TSED-1

Date Collected: 07/31/96  
Date Received: 08/01/96  
Date Extracted: 08/02/96 By: KRB  
Date Analyzed: 08/02/96 By: KRB

Matrix: Soil  
Percent Moisture: 42.9%  
pH:  
Sample Weight/Volume: 2.04 g  
Extract Volume: 2  
Injection Volume:  
Dilution Factor: 1  
Lab Data File: 8080211

Method: 8080  
Level: LOW  
GC Column:  
Units: ug/kg (Dry Weight)

CAS No.	Parameter	Result	Qual	QL
12674-11-2	Aroclor 1016	860	U	860
11104-28-2	Aroclor 1221	860	U	860
11141-16-5	Aroclor 1232	860	U	860
53469-21-9	Aroclor 1242	860	U	860
12672-29-6	Aroclor 1248	860	U	860
11097-69-1	Aroclor 1254	860	U	860
11096-82-5	Aroclor 1260	860	U	860

# GENERAL CHEMISTRY ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
Division: New England  
LRI Report No: E608014  
LRI Sample No: 7

Customer: Atlantic Environmental Eng  
Location: Pawtucket, RI  
Project: Tidewater Former MGP  
Sample Description: TSED-2

Date Collected: 07/31/96  
Date Received: 08/01/96

Matrix: Soil  
Percent Moisture: 29.8%  
Units in Dry Weight

<u>Parameter</u>	<u>Result</u>	<u>QL</u>	<u>Units</u>	<u>Started</u> <u>Date</u>	<u>By</u>	<u>Completed</u> <u>Date</u>	<u>By</u>	<u>Dilution</u>
<u>Cyanide by 9012 Modified NE</u> Cyanide	49	0.50	mg/kg	08/03/96	EB	08/07/96	EB	

# METALS ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
 Division: New England  
 LRI Order No: E608014  
 LRI Sample No: 7

Client: Atlantic Environmental Eng  
 Location: Pawtucket, RI  
 Project: Tidewater Former MGP  
 Sample Description: TSED-2

Date Collected: 07/31/96  
 Date Received: 08/01/96

Matrix: Soil  
 Percent Moisture: 29.8%

Parameter	Result	QL	Units	Started		Completed		Dilution
				Date	By	Date	By	
<u>Arsenic by Furnace by SW-846 7060</u>								
Arsenic	4.4	0.23	mg/kg	08/02/96	KH	08/06/96	MM	
<u>Mercury by Cold Vapor by SW-846 7471</u>								
Mercury	0.12U	0.12	mg/kg	08/05/96	KH	08/06/96	KH	
<u>Metals by ICP by SW-846 6010A</u>								
Beryllium	0.45	0.23	mg/kg	08/02/96	KH	08/05/96	BS	
Chromium	21	2.8	mg/kg	08/02/96	KH	08/05/96	BS	
Copper	91	2.8	mg/kg	08/02/96	KH	08/05/96	BS	
Nickel	21	2.8	mg/kg	08/02/96	KH	08/05/96	BS	
Silver	2.3U	2.3	mg/kg	08/02/96	KH	08/05/96	BS	
Zinc	66	1.1	mg/kg	08/02/96	KH	08/05/96	BS	
Barium	20	1.1	mg/kg	08/02/96	KH	08/05/96	BS	
Antimony	11U	11	mg/kg	08/02/96	KH	08/05/96	BS	
Lead	55	5.7	mg/kg	08/02/96	KH	08/05/96	BS	
Selenium	11U	11	mg/kg	08/02/96	KH	08/05/96	BS	
Cadmium	1.1U	1.1	mg/kg	08/02/96	KH	08/05/96	BS	
<u>Thallium by Furnace by SW-846 7841</u>								
Thallium	0.18U	0.18	mg/kg	08/02/96	KH	08/06/96	MM	

# SEMIVOLATILE ORGANIC ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
Division: New England  
LRI Report No: E608014  
LRI Sample No: 7

Customer: Atlantic Environmental Eng  
Location: Pawtucket, RI  
Project: Tidewater Former MGP  
Sample Description: TSED-2

Date Collected: 07/31/96  
Date Received: 08/01/96  
Date Extracted: 08/02/96 By: KRB  
Date Analyzed: 08/02/96 By: KRB

Matrix: Soil  
Percent Moisture: 29.8%  
pH:  
Sample Weight/Volume: 2.04 g  
Extract Volume: 2  
Injection Volume:  
Dilution Factor: 1  
Lab Data File: 8080212

Method: 8080  
Level: LOW  
GC Column:  
Units: ug/kg ( Dry Weight )

CAS No.	Parameter	Result	Qual	QL
12674-11-2	Aroclor 1016	700	U	700
11104-28-2	Aroclor 1221	700	U	700
11141-16-5	Aroclor 1232	700	U	700
53469-21-9	Aroclor 1242	700	U	700
12672-29-6	Aroclor 1248	700	U	700
11097-69-1	Aroclor 1254	700	U	700
11096-82-5	Aroclor 1260	700	U	700

# GENERAL CHEMISTRY ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
Division: New England  
LRI Report No: E608014  
LRI Sample No: 8

Customer: Atlantic Environmental Eng  
Location: Pawtucket, RI  
Project: Tidewater Former MGP  
Sample Description: TSED-3

Date Collected: 07/31/96  
Date Received: 08/01/96

Matrix: Soil  
Percent Moisture: 50.5%  
Units in Dry Weight

<u>Parameter</u>	<u>Result</u>	<u>QL</u>	<u>Units</u>	<u>Started</u> <u>Date</u>	<u>By</u>	<u>Completed</u> <u>Date</u>	<u>By</u>	<u>Dilution</u>
<u>Cyanide by 9012 Modified NE</u> Cyanide	10	0.44	mg/kg	08/03/96	EB	08/07/96	EB	

# METALS ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
 Division: New England  
 LRI Order No: E608014  
 LRI Sample No: 8

Client: Atlantic Environmental Eng  
 Location: Pawtucket, RI  
 Project: Tidewater Former MGP  
 Sample Description: TSED-3

Date Collected: 07/31/96  
 Date Received: 08/01/96

Matrix: Soil  
 Percent Moisture: 50.5%

Parameter	Result	QL	Units	Started Date	By	Completed Date	By	Dilution
<u>Arsenic by Furnace by SW-846 7060</u>								
Arsenic	6.0	0.32	mg/kg	08/02/96	KH	08/06/96	MM	
<u>Mercury by Cold Vapor by SW-846 7471</u>								
Mercury	0.18U	0.18	mg/kg	08/05/96	KH	08/06/96	KH	
<u>Metals by ICP by SW-846 6010A</u>								
Beryllium	1.6	0.32	mg/kg	08/02/96	KH	08/05/96	BS	
Chromium	56	4.0	mg/kg	08/02/96	KH	08/05/96	BS	
Copper	97	4.0	mg/kg	08/02/96	KH	08/05/96	BS	
Nickel	26	4.0	mg/kg	08/02/96	KH	08/05/96	BS	
Silver	3.2U	3.2	mg/kg	08/02/96	KH	08/05/96	BS	
Zinc	100	1.6	mg/kg	08/02/96	KH	08/05/96	BS	
Barium	66	1.6	mg/kg	08/02/96	KH	08/05/96	BS	
Antimony	16U	16	mg/kg	08/02/96	KH	08/05/96	BS	
Lead	140	8.1	mg/kg	08/02/96	KH	08/05/96	BS	
Selenium	16U	16	mg/kg	08/02/96	KH	08/05/96	BS	
Cadmium	1.6U	1.6	mg/kg	08/02/96	KH	08/05/96	BS	
<u>Thallium by Furnace by SW-846 7841</u>								
Thallium	0.18U	0.18	mg/kg	08/02/96	KH	08/06/96	MM	

# SEMIVOLATILE ORGANIC ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
Division: New England  
LRI Report No: E608014  
LRI Sample No: 8

Customer: Atlantic Environmental Eng  
Location: Pawtucket, RI  
Project: Tidewater Former MGP  
Sample Description: TSED-3

Date Collected: 07/31/96  
Date Received: 08/01/96  
Date Extracted: 08/02/96 By: KRB  
Date Analyzed: 08/02/96 By: KRB

Matrix: Soil  
Percent Moisture: 50.5%  
pH:  
Sample Weight/Volume: 2.04 g  
Extract Volume: 2  
Injection Volume:  
Dilution Factor: 1  
Lab Data File: 8080213

Method: 8080  
Level: LOW  
GC Column:  
Units: ug/kg (Dry Weight)

CAS No.	Parameter	Result	Qual	QL
12674-11-2	Aroclor 1016	990	U	990
11104-28-2	Aroclor 1221	990	U	990
11141-16-5	Aroclor 1232	990	U	990
53469-21-9	Aroclor 1242	990	U	990
12672-29-6	Aroclor 1248	990	U	990
11097-69-1	Aroclor 1254	990	U	990
11096-82-5	Aroclor 1260	990	U	990



# GENERAL CHEMISTRY ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
Division: New England  
LRI Report No: E608014  
LRI Sample No: 9

Customer: Atlantic Environmental Eng  
Location: Pawtucket, RI  
Project: Tidewater Former MGP  
Sample Description: TSED-4

Date Collected: 07/31/96  
Date Received: 08/01/96

Matrix: Soil  
Percent Moisture: 23.6%  
Units in Dry Weight

<u>Parameter</u>	<u>Result</u>	<u>QL</u>	<u>Units</u>	<u>Started</u> <u>Date</u>	<u>By</u>	<u>Completed</u> <u>Date</u>	<u>By</u>	<u>Dilution</u>
<u>Cyanide by 9012 Modified NE</u>								
Cyanide	29	0.35	mg/kg	08/03/96	EB	08/07/96	EB	

# METALS ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
 Division: New England  
 LRI Order No: E608014  
 LRI Sample No: 9

Client: Atlantic Environmental Eng  
 Location: Pawtucket, RI  
 Project: Tidewater Former MGP  
 Sample Description: TSED-4

Date Collected: 07/31/96  
 Date Received: 08/01/96

Matrix: Soil  
 Percent Moisture: 23.6%

Parameter	Result	QL	Units	Started		Completed		Dilution
				Date	By	Date	By	
<u>Arsenic by Furnace by SW-846 7060</u>								
Arsenic	2.3	0.23	mg/kg	08/02/96	KH	08/06/96	MM	
<u>Mercury by Cold Vapor by SW-846 7471</u>								
Mercury	0.11 U	0.11	mg/kg	08/05/96	KH	08/06/96	KH	
<u>Metals by ICP by SW-846 6010A</u>								
Beryllium	0.33	0.23	mg/kg	08/02/96	KH	08/05/96	BS	
Chromium	21	2.8	mg/kg	08/02/96	KH	08/05/96	BS	
Copper	25	2.8	mg/kg	08/02/96	KH	08/05/96	BS	
Nickel	7.0	2.8	mg/kg	08/02/96	KH	08/05/96	BS	
Silver	2.3 U	2.3	mg/kg	08/02/96	KH	08/05/96	BS	
Zinc	16	1.1	mg/kg	08/02/96	KH	08/05/96	BS	
Barium	25	1.1	mg/kg	08/02/96	KH	08/05/96	BS	
Antimony	11 U	11	mg/kg	08/02/96	KH	08/05/96	BS	
Lead	21	5.7	mg/kg	08/02/96	KH	08/05/96	BS	
Selenium	11 U	11	mg/kg	08/02/96	KH	08/05/96	BS	
Cadmium	1.1 U	1.1	mg/kg	08/02/96	KH	08/05/96	BS	
<u>Thallium by Furnace by SW-846 7841</u>								
Thallium	0.18 U	0.18	mg/kg	08/02/96	KH	08/06/96	MM	

# SEMIVOLATILE ORGANIC ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
Division: New England  
LRI Report No: E608014  
LRI Sample No: 9

Customer: Atlantic Environmental Eng  
Location: Pawtucket, RI  
Project: Tidewater Former MGP  
Sample Description: TSED-4

Date Collected: 07/31/96  
Date Received: 08/01/96  
Date Extracted: 08/02/96 By: KRB  
Date Analyzed: 08/02/96 By: KRB

Matrix: Soil  
Percent Moisture: 23.6%  
pH:  
Sample Weight/Volume: 1.99 g  
Extract Volume: 2  
Injection Volume:  
Dilution Factor: 1  
Lab Data File: 8080214

Method: 8080  
Level: LOW  
GC Column:  
Units: ug/kg (Dry Weight)

CAS No.	Parameter	Result	Qual	QL
12674-11-2	Aroclor 1016	660	U	660
11104-28-2	Aroclor 1221	660	U	660
11141-16-5	Aroclor 1232	660	U	660
53469-21-9	Aroclor 1242	660	U	660
12672-29-6	Aroclor 1248	660	U	660
11097-69-1	Aroclor 1254	660	U	660
11096-82-5	Aroclor 1260	2800		660

# GENERAL CHEMISTRY ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
Division: New England  
LRI Report No: E608014  
LRI Sample No: 10

Customer: Atlantic Environmental Eng  
Location: Pawtucket, RI  
Project: Tidewater Former MGP  
Sample Description: TSED-5

Date Collected: 07/31/96  
Date Received: 08/01/96

Matrix: Soil  
Percent Moisture: 35.5%  
Units in Dry Weight

<u>Parameter</u>	<u>Result</u>	<u>QL</u>	<u>Units</u>	<u>Started</u> <u>Date</u>	<u>By</u>	<u>Completed</u> <u>Date</u>	<u>By</u>	<u>Dilution</u>
<u>Cyanide by 9012 Modified NE</u>								
Cyanide	25	0.41	mg/kg	08/03/96	EB	08/07/96	EB	

# METALS ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
 Division: New England  
 LRI Order No: E608014  
 LRI Sample No: 10

Client: Atlantic Environmental Eng  
 Location: Pawtucket, RI  
 Project: Tidewater Former MGP  
 Sample Description: TSED-5

Date Collected: 07/31/96  
 Date Received: 08/01/96

Matrix: Soil  
 Percent Moisture: 35.5%

Parameter	Result	QL	Units	Started		Completed		Dilution
				Date	By	Date	By	
<u>Arsenic by Furnace by SW-846 7060</u>								
Arsenic	5.1	0.25	mg/kg	08/02/96	KH	08/06/96	MM	
<u>Mercury by Cold Vapor by SW-846 7471</u>								
Mercury	0.14 U	0.14	mg/kg	08/05/96	KH	08/06/96	KH	
<u>Metals by ICP by SW-846 6010A</u>								
Beryllium	0.50	0.25	mg/kg	08/02/96	KH	08/05/96	BS	
Chromium	26	3.1	mg/kg	08/02/96	KH	08/05/96	BS	
Copper	54	3.1	mg/kg	08/02/96	KH	08/05/96	BS	
Nickel	9.1	3.1	mg/kg	08/02/96	KH	08/05/96	BS	
Silver	2.5 U	2.5	mg/kg	08/02/96	KH	08/05/96	BS	
Zinc	20	1.3	mg/kg	08/02/96	KH	08/05/96	BS	
Barium	57	1.3	mg/kg	08/02/96	KH	08/05/96	BS	
Antimony	13 U	13	mg/kg	08/02/96	KH	08/05/96	BS	
Lead	74	6.3	mg/kg	08/02/96	KH	08/05/96	BS	
Selenium	13 U	13	mg/kg	08/02/96	KH	08/05/96	BS	
Cadmium	1.3 U	1.3	mg/kg	08/02/96	KH	08/05/96	BS	
<u>Thallium by Furnace by SW-846 7841</u>								
Thallium	0.18 U	0.18	mg/kg	08/02/96	KH	08/06/96	MM	

# VOLATILE ORGANIC ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
 Division: New England  
 LRI Report No: E608014  
 LRI Sample No: 10

Customer: Atlantic Environmental Eng  
 Location: Pawtucket, RI  
 Project: Tidewater Former MGP  
 Sample Description: TSED-5

Date Collected: 07/31/96  
 Date Received: 08/01/96  
 Date Extracted: By:  
 Date Analyzed: 08/06/96 By: AT

Matrix: Soil  
 Percent Moisture: 35.5%  
 Sample Weight/Volume:  
 Dilution Factor: 1  
 Soil Extract Volume:  
 Soil Aliquot Volume:  
 Lab Data File: BI032

Method: 8260A  
 Level: LOW  
 GC Column:  
 Units: ug/kg (Dry Weight)

CAS No.	Parameter	Result	Qual	QL
107-02-8	Acrolein	39	U	39
107-13-1	Acrylonitrile	39	U	39
71-43-2	Benzene	7.8	U	7.8
108-86-1	Bromobenzene	7.8	U	7.8
74-97-5	Bromochloromethane	7.8	U	7.8
75-27-4	Bromodichloromethane	7.8	U	7.8
75-25-2	Bromoform	7.8	U	7.8
74-83-9	Bromomethane	16	U	16
104-51-8	n-Butylbenzene	7.8	U	7.8
135-98-8	sec-Butylbenzene	7.8	U	7.8
98-06-6	tert-Butylbenzene	7.8	U	7.8
56-23-5	Carbon tetrachloride	7.8	U	7.8
108-90-7	Chlorobenzene	7.8	U	7.8
75-00-3	Chloroethane	16	U	16
67-66-3	Chloroform	7.8	U	7.8
74-87-3	Chloromethane	16	U	16
95-49-8	2-Chlorotoluene	7.8	U	7.8
106-43-4	4-Chlorotoluene	7.8	U	7.8
96-12-8	1,2-Dibromo-3-chloropropane (DBCP)	7.8	U	7.8
124-48-1	Dibromochloromethane	7.8	U	7.8
106-93-4	1,2-Dibromoethane (EDB)	7.8	U	7.8
74-95-3	Dibromomethane	7.8	U	7.8
95-50-1	1,2-Dichlorobenzene	7.8	U	7.8
541-73-1	1,3-Dichlorobenzene	7.8	U	7.8
106-46-7	1,4-Dichlorobenzene	7.8	U	7.8
75-71-8	Dichlorodifluoromethane	16	U	16
75-34-3	1,1-Dichloroethane	7.8	U	7.8
107-06-2	1,2-Dichloroethane	7.8	U	7.8
75-35-4	1,1-Dichloroethene	7.8	U	7.8
156-59-4	cis-1,2-Dichloroethene	7.8	U	7.8
156-60-5	trans-1,2-Dichloroethene	7.8	U	7.8
78-87-5	1,2-Dichloropropane	7.8	U	7.8
142-28-9	1,3-Dichloropropane	7.8	U	7.8
590-20-7	2,2-Dichloropropane	7.8	U	7.8
563-58-6	1,1-Dichloropropene	7.8	U	7.8
10061-01-5	cis-1,3-Dichloropropene	7.8	U	7.8
10061-02-6	trans-1,3-Dichloropropene	7.8	U	7.8
100-41-4	Ethylbenzene	7.8	U	7.8
87-68-3	Hexachlorobutadiene	7.8	U	7.8
98-82-8	Isopropylbenzene	7.8	U	7.8
99-87-6	4-Isopropyltoluene	7.8	U	7.8
1634-04-4	Methyl tert-butyl ether (MTBE)	7.8	U	7.8

# VOLATILE ORGANIC ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
Division: New England  
LRI Report No: E608014  
LRI Sample No: 10

Customer: Atlantic Environmental Eng  
Location: Pawtucket, RI  
Project: Tidewater Former MGP  
Sample Description: TSED-5

Method: 8260A

CAS No.	Parameter	Result	Qual	QL
75-09-2	Methylene chloride	7.8	U	7.8
91-20-3	Naphthalene	7.8	U	7.8
103-65-1	n-Propylbenzene	7.8	U	7.8
100-42-5	Styrene	7.8	U	7.8
96-18-4	1,2,3-Trichloropropane	7.8	U	7.8
630-20-6	1,1,1,2-Tetrachloroethane	7.8	U	7.8
79-34-5	1,1,2,2-Tetrachloroethane	7.8	U	7.8
127-18-4	Tetrachloroethene	7.8	U	7.8
108-88-3	Toluene	7.8	U	7.8
87-61-6	1,2,3-Trichlorobenzene	7.8	U	7.8
120-82-1	1,2,4-Trichlorobenzene	7.8	U	7.8
71-55-6	1,1,1-Trichloroethane	7.8	U	7.8
79-00-5	1,1,2-Trichloroethane	7.8	U	7.8
79-01-6	Trichloroethene (TCE)	7.8	U	7.8
75-69-4	Trichlorofluoromethane	16	U	16
95-63-6	1,2,4-Trimethylbenzene	7.8	U	7.8
108-67-8	1,3,5-Trimethylbenzene	7.8	U	7.8
75-01-4	Vinyl chloride	3.1	U	3.1
95-47-6	o-Xylene	7.8	U	7.8
	m,p-Xylenes	7.8	U	7.8

# SEMIVOLATILE ORGANIC ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
Division: New England  
LRI Report No: E608014  
LRI Sample No: 10

Customer: Atlantic Environmental Eng  
Location: Pawtucket, RI  
Project: Tidewater Former MGP  
Sample Description: TSED-5

Date Collected: 07/31/96  
Date Received: 08/01/96  
Date Extracted: 08/02/96 By: KRB  
Date Analyzed: 08/02/96 By: KRB

Matrix: Soil  
Percent Moisture: 35.5%  
pH:  
Sample Weight/Volume: 2.07 g  
Extract Volume: 2  
Injection Volume:  
Dilution Factor: 1  
Lab Data File: 8080215

Method: 8080  
Level: LOW  
GC Column:  
Units: ug/kg (Dry Weight)

CAS No.	Parameter	Result	Qual	QL
12674-11-2	Aroclor 1016	750	U	750
11104-28-2	Aroclor 1221	750	U	750
11141-16-5	Aroclor 1232	750	U	750
53469-21-9	Aroclor 1242	750	U	750
12672-29-6	Aroclor 1248	750	U	750
11097-69-1	Aroclor 1254	750	U	750
11096-82-5	Aroclor 1260	750	U	750



# SEMIVOLATILE ORGANIC ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
 Division: New England  
 LRI Report No: E608014  
 LRI Sample No: 10

Customer: Atlantic Environmental Eng  
 Location: Pawtucket, RI  
 Project: Tidewater Former MGP  
 Sample Description: TSED-5

Date Collected: 07/31/96  
 Date Received: 08/01/96  
 Date Extracted: 08/05/96 By: SDB  
 Date Analyzed: 08/10/96 By: RAW

Matrix: Soil  
 Percent Moisture: 35.5%  
 pH:  
 Sample Weight/Volume: 30.01 g  
 Extract Volume: 1  
 Injection Volume:  
 Dilution Factor: 10  
 Lab Data File: E01689

Method: 8270  
 Level: LOW  
 GC Column:  
 Units: ug/kg (Dry Weight)

CAS No.	Parameter	Result	Qual	QL
83-32-9	Acenaphthene	2600	U	2600
208-96-8	Acenaphthylene	6400		2600
120-12-7	Anthracene	4700		2600
56-55-3	Benzo[a]anthracene	8400		2600
50-32-8	Benzo[a]pyrene	9900		770
205-99-2	Benzo[b]fluoranthene	12000		2600
191-24-2	Benzo[g,h,i]perylene	4700		2600
207-08-9	Benzo[k]fluoranthene	4000		2600
218-01-9	Chrysene	9800		2600
53-70-3	Dibenzo[a,h]anthracene	1500		770
206-44-0	Fluoranthene	14000		2600
86-73-7	Fluorene	4500		2600
193-39-5	Indeno[1,2,3-cd]pyrene	4100		2600
91-20-3	Naphthalene	2600		2600
85-01-8	Phenanthrene	22000		2600
129-00-0	Pyrene	15000		2600
91-57-6	2-Methylnaphthalene	2900		2600

# GENERAL CHEMISTRY ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
Division: New England  
LRI Report No: E608014  
LRI Sample No: 11

Customer: Atlantic Environmental Eng  
Location: Pawtucket, RI  
Project: Tidewater Former MGP  
Sample Description: TSED-6

Date Collected: 07/31/96  
Date Received: 08/01/96

Matrix: Soil  
Percent Moisture: 27.0%  
Units in Dry Weight

<u>Parameter</u>	<u>Result</u>	<u>QL</u>	<u>Units</u>	<u>Started</u> <u>Date</u>	<u>By</u>	<u>Completed</u> <u>Date</u>	<u>By</u>	<u>Dilution</u>
Cyanide by 9012 Modified NE								
Cyanide	0.34	0.32	mg/kg	08/03/96	EB	08/07/96	EB	

# METALS ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
 Division: New England  
 LRI Order No: E608014  
 LRI Sample No: 11

Client: Atlantic Environmental Eng  
 Location: Pawtucket, RI  
 Project: Tidewater Former MGP  
 Sample Description: TSED-6

Date Collected: 07/31/96  
 Date Received: 08/01/96

Matrix: Soil  
 Percent Moisture: 27.0%

Parameter	Result	QL	Units	Started		Completed		Dilution
				Date	By	Date	By	
<u>Arsenic by Furnace by SW-846 7060</u>								
Arsenic	7.5	0.24	mg/kg	08/02/96	KH	08/06/96	MM	
<u>Mercury by Cold Vapor by SW-846 7471</u>								
Mercury	0.44	0.13	mg/kg	08/05/96	KH	08/06/96	KH	
<u>Metals by ICP by SW-846 6010A</u>								
Beryllium	0.59	0.24	mg/kg	08/02/96	KH	08/05/96	BS	
Chromium	64	3.0	mg/kg	08/02/96	KH	08/05/96	BS	
Copper	110	3.0	mg/kg	08/02/96	KH	08/05/96	BS	
Nickel	13	3.0	mg/kg	08/02/96	KH	08/05/96	BS	
Silver	2.4 U	2.4	mg/kg	08/02/96	KH	08/05/96	BS	
Zinc	86	1.2	mg/kg	08/02/96	KH	08/05/96	BS	
Barium	21	1.2	mg/kg	08/02/96	KH	08/05/96	BS	
Antimony	12 U	12	mg/kg	08/02/96	KH	08/05/96	BS	
Lead	180	6.0	mg/kg	08/02/96	KH	08/05/96	BS	
Selenium	12 U	12	mg/kg	08/02/96	KH	08/05/96	BS	
Cadmium	1.2 U	1.2	mg/kg	08/02/96	KH	08/05/96	BS	
<u>Thallium by Furnace by SW-846 7841</u>								
Thallium	0.18 U	0.18	mg/kg	08/02/96	KH	08/06/96	MM	

# SEMIVOLATILE ORGANIC ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
Division: New England  
LRI Report No: E608014  
LRI Sample No: 11

Customer: Atlantic Environmental Eng  
Location: Pawtucket, RI  
Project: Tidewater Former MGP  
Sample Description: TSED-6

Date Collected: 07/31/96  
Date Received: 08/01/96  
Date Extracted: 08/02/96 By: KRB  
Date Analyzed: 08/02/96 By: KRB

Matrix: Soil  
Percent Moisture: 27.0%  
pH:  
Sample Weight/Volume: 2.08 g  
Extract Volume: 2  
Injection Volume:  
Dilution Factor: 1  
Lab Data File: 8080217

Method: 8080  
Level: LOW  
GC Column:  
Units: ug/kg (Dry Weight)

CAS No.	Parameter	Result	Qual	QL
12674-11-2	Aroclor 1016	660	U	660
11104-28-2	Aroclor 1221	660	U	660
11141-16-5	Aroclor 1232	660	U	660
53469-21-9	Aroclor 1242	660	U	660
12672-29-6	Aroclor 1248	660	U	660
11097-69-1	Aroclor 1254	660	U	660
11096-82-5	Aroclor 1260	660	U	660

# GENERAL CHEMISTRY ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
Division: New England  
LRI Report No: E608014  
LRI Sample No: 12

Customer: Atlantic Environmental Eng  
Location: Pawtucket, RI  
Project: Tidewater Former MGP  
Sample Description: TSED-7

Date Collected: 07/31/96  
Date Received: 08/01/96

Matrix: Soil  
Percent Moisture: 39.2%  
Units in Dry Weight

<u>Parameter</u>	<u>Result</u>	<u>QL</u>	<u>Units</u>	<u>Started</u> <u>Date</u>	<u>By</u>	<u>Completed</u> <u>Date</u>	<u>By</u>	<u>Dilution</u>
Cyanide by 9012 Modified NE Cyanide	53	0.56	mg/kg	08/03/96	EB	08/07/96	EB	

# METALS ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
 Division: New England  
 LRI Order No: E608014  
 LRI Sample No: 12

Client: Atlantic Environmental Eng  
 Location: Pawtucket, RI  
 Project: Tidewater Former MGP  
 Sample Description: TSED-7

Date Collected: 07/31/96  
 Date Received: 08/01/96

Matrix: Soil  
 Percent Moisture: 39.2%

Parameter	Result	QL	Units	Started		Completed		Dilution
				Date	By	Date	By	
<u>Arsenic by Furnace by SW-846 7060</u>								
Arsenic	4.1	0.26	mg/kg	08/02/96	KH	08/06/96	MM	
<u>Mercury by Cold Vapor by SW-846 7471</u>								
Mercury	0.15U	0.15	mg/kg	08/05/96	KH	08/06/96	KH	
<u>Metals by ICP by SW-846 6010A</u>								
Beryllium	1.5	0.26	mg/kg	08/02/96	KH	08/05/96	BS	
Chromium	47	3.2	mg/kg	08/02/96	KH	08/05/96	BS	
Copper	84	3.2	mg/kg	08/02/96	KH	08/05/96	BS	
Nickel	12	3.2	mg/kg	08/02/96	KH	08/05/96	BS	
Silver	2.6U	2.6	mg/kg	08/02/96	KH	08/05/96	BS	
Zinc	74	1.3	mg/kg	08/02/96	KH	08/05/96	BS	
Barium	49	1.3	mg/kg	08/02/96	KH	08/05/96	BS	
Antimony	13U	13	mg/kg	08/02/96	KH	08/05/96	BS	
Lead	100	6.6	mg/kg	08/02/96	KH	08/05/96	BS	
Selenium	13U	13	mg/kg	08/02/96	KH	08/05/96	BS	
Cadmium	1.3U	1.3	mg/kg	08/02/96	KH	08/05/96	BS	
<u>Thallium by Furnace by SW-846 7841</u>								
Thallium	0.18U	0.18	mg/kg	08/02/96	KH	08/06/96	MM	

# GENERAL CHEMISTRY ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
Division: New England  
LRI Report No: E608014  
LRI Sample No: 13

Customer: Atlantic Environmental Eng  
Location: Pawtucket, RI  
Project: Tidewater Former MGP  
Sample Description: ER-6

Date Collected: 08/01/96  
Date Received: 08/01/96

Matrix: Water  
Percent Moisture: N/A  
Units in Wet Weight

Parameter	Result	QL	Units	Started		Completed		Dilution
				Date	By	Date	By	
<u>Cyanide, Total, by SW-846 9012 NE</u>								
Cyanide	0.020 U	0.020	mg/L	08/07/96	EB	08/07/96	EB	

# METALS ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
 Division: New England  
 LRI Order No: E608014  
 LRI Sample No: 13

Client: Atlantic Environmental Eng  
 Location: Pawtucket, RI  
 Project: Tidewater Former MGP  
 Sample Description: ER-6

Date Collected: 08/01/96  
 Date Received: 08/01/96

Matrix: Water  
 Percent Moisture: N/A

Parameter	Result	QL	Units	Started		Completed		Dilution
				Date	By	Date	By	
<u>Arsenic by Furnace by SW-846 7060</u>								
Arsenic	0.0020 U	0.0020	mg/L	08/02/96	KH	08/06/96	MM	
<u>Mercury by Cold Vapor by SW-846 7470</u>								
Mercury	0.00046 U	0.00046	mg/L	08/05/96	KH	08/06/96	KH	
<u>Metals by ICP by SW-846 6010A</u>								
Beryllium	0.0020 U	0.0020	mg/L	08/02/96	KH	08/06/96	BS	
Chromium	0.024 U	0.024	mg/L	08/02/96	KH	08/06/96	BS	
Copper	0.024 U	0.024	mg/L	08/02/96	KH	08/06/96	BS	
Nickel	0.024 U	0.024	mg/L	08/02/96	KH	08/06/96	BS	
Silver	0.020 U	0.020	mg/L	08/02/96	KH	08/06/96	BS	
Zinc	0.014	0.010	mg/L	08/02/96	KH	08/06/96	BS	
Barium	0.010 U	0.010	mg/L	08/02/96	KH	08/06/96	BS	
Antimony	0.10 U	0.10	mg/L	08/02/96	KH	08/06/96	BS	
Lead	0.050 U	0.050	mg/L	08/02/96	KH	08/06/96	BS	
Selenium	0.10 U	0.10	mg/L	08/02/96	KH	08/06/96	BS	
Cadmium	0.010 U	0.010	mg/L	08/02/96	KH	08/06/96	BS	
<u>Thallium by Furnace by SW-846 7841</u>								
Thallium	0.0020 U	0.0020	mg/L	08/02/96	KH	08/06/96	MM	



# VOLATILE ORGANIC ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
 Division: New England  
 LRI Report No: E608014  
 LRI Sample No: 13

Customer: Atlantic Environmental Eng  
 Location: Pawtucket, RI  
 Project: Tidewater Former MGP  
 Sample Description: ER-6

Date Collected: 08/01/96  
 Date Received: 08/01/96  
 Date Extracted: By:  
 Date Analyzed: 08/02/96 By: AT

Matrix: Water  
 Percent Moisture: N/A  
 Sample Weight/Volume:  
 Dilution Factor: 1  
 Soil Extract Volume:  
 Soil Aliquot Volume:  
 Lab Data File: c4461

Method: 8260A  
 Level: LOW  
 GC Column:  
 Units: ug/L ( Wet Weight )

CAS No.	Parameter	Result	Qual	QL
107-02-8	Acrolein	25	U	25
107-13-1	Acrylonitrile	25	U	25
71-43-2	Benzene	5.0	U	5.0
108-86-1	Bromobenzene	5.0	U	5.0
74-97-5	Bromochloromethane	5.0	U	5.0
75-27-4	Bromodichloromethane	5.0	U	5.0
75-25-2	Bromoform	5.0	U	5.0
74-83-9	Bromomethane	10	U	10
104-51-8	n-Butylbenzene	5.0	U	5.0
135-98-8	sec-Butylbenzene	5.0	U	5.0
98-06-6	tert-Butylbenzene	5.0	U	5.0
56-23-5	Carbon tetrachloride	5.0	U	5.0
108-90-7	Chlorobenzene	5.0	U	5.0
75-00-3	Chloroethane	10	U	10
67-66-3	Chloroform	5.0	U	5.0
74-87-3	Chloromethane	10	U	10
95-49-8	2-Chlorotoluene	5.0	U	5.0
106-43-4	4-Chlorotoluene	5.0	U	5.0
96-12-8	1,2-Dibromo-3-chloropropane (DBCP)	5.0	U	5.0
124-48-1	Dibromochloromethane	5.0	U	5.0
106-93-4	1,2-Dibromoethane (EDB)	5.0	U	5.0
74-95-3	Dibromomethane	5.0	U	5.0
95-50-1	1,2-Dichlorobenzene	5.0	U	5.0
541-73-1	1,3-Dichlorobenzene	5.0	U	5.0
106-46-7	1,4-Dichlorobenzene	5.0	U	5.0
75-71-8	Dichlorodifluoromethane	10	U	10
75-34-3	1,1-Dichloroethane	5.0	U	5.0
107-06-2	1,2-Dichloroethane	5.0	U	5.0
75-35-4	1,1-Dichloroethene	5.0	U	5.0
156-59-4	cis-1,2-Dichloroethene	5.0	U	5.0
156-60-5	trans-1,2-Dichloroethene	5.0	U	5.0
78-87-5	1,2-Dichloropropane	5.0	U	5.0
142-28-9	1,3-Dichloropropane	5.0	U	5.0
590-20-7	2,2-Dichloropropane	5.0	U	5.0
563-58-6	1,1-Dichloropropene	5.0	U	5.0
10061-01-5	cis-1,3-Dichloropropene	5.0	U	5.0
10061-02-6	trans-1,3-Dichloropropene	5.0	U	5.0
100-41-4	Ethylbenzene	5.0	U	5.0
87-68-3	Hexachlorobutadiene	5.0	U	5.0
98-82-8	Isopropylbenzene	5.0	U	5.0
99-87-6	4-Isopropyltoluene	5.0	U	5.0
1634-04-4	Methyl tert-butyl ether (MTBE)	5.0	U	5.0

# VOLATILE ORGANIC ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
Division: New England  
LRI Report No: E608014  
LRI Sample No: 13

Customer: Atlantic Environmental Eng  
Location: Pawtucket, RI  
Project: Tidewater Former MGP  
Sample Description: ER-6

Method: 8260A

CAS No.	Parameter	Result	Qual	QL
75-09-2	Methylene chloride	5.0	U	5.0
91-20-3	Naphthalene	5.0	U	5.0
103-65-1	n-Propylbenzene	5.0	U	5.0
100-42-5	Styrene	5.0	U	5.0
96-18-4	1,2,3-Trichloropropane	5.0	U	5.0
630-20-6	1,1,1,2-Tetrachloroethane	5.0	U	5.0
79-34-5	1,1,2,2-Tetrachloroethane	5.0	U	5.0
127-18-4	Tetrachloroethene	5.0	U	5.0
108-88-3	Toluene	5.0	U	5.0
87-61-6	1,2,3-Trichlorobenzene	5.0	U	5.0
120-82-1	1,2,4-Trichlorobenzene	5.0	U	5.0
71-55-6	1,1,1-Trichloroethane	5.0	U	5.0
79-00-5	1,1,2-Trichloroethane	5.0	U	5.0
79-01-6	Trichloroethene (TCE)	5.0	U	5.0
75-69-4	Trichlorofluoromethane	10	U	10
95-63-6	1,2,4-Trimethylbenzene	5.0	U	5.0
108-67-8	1,3,5-Trimethylbenzene	5.0	U	5.0
75-01-4	Vinyl chloride	2.0	U	2.0
95-47-6	o-Xylene	5.0	U	5.0
	m,p-Xylenes	5.0	U	5.0

# SEMIVOLATILE ORGANIC ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
 Division: New England  
 LRI Report No: E608014  
 LRI Sample No: 13

Customer: Atlantic Environmental Eng  
 Location: Pawtucket, RI  
 Project: Tidewater Former MGP  
 Sample Description: ER-6

Date Collected: 08/01/96  
 Date Received: 08/01/96  
 Date Extracted: 08/06/96 By: SDB  
 Date Analyzed: 08/06/96 By: KRB

Matrix: Water  
 Percent Moisture: N/A  
 pH:  
 Sample Weight/Volume: 1000 mL  
 Extract Volume: 2  
 Injection Volume:  
 Dilution Factor: 1  
 Lab Data File: 8080604

Method: 8080  
 Level: LOW  
 GC Column:  
 Units: ug/L (Wet Weight)

CAS No.	Parameter	Result	Qual	QL
12674-11-2	Aroclor 1016	0.10	U	0.10
11104-28-2	Aroclor 1221	0.10	U	0.10
11141-16-5	Aroclor 1232	0.10	U	0.10
53469-21-9	Aroclor 1242	0.10	U	0.10
12672-29-6	Aroclor 1248	0.10	U	0.10
11097-69-1	Aroclor 1254	0.10	U	0.10
11096-82-5	Aroclor 1260	0.10	U	0.10

# SEMIVOLATILE ORGANIC ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
 Division: New England  
 LRI Report No: E608014  
 LRI Sample No: 13

Customer: Atlantic Environmental Eng  
 Location: Pawtucket, RI  
 Project: Tidewater Former MGP  
 Sample Description: ER-6

Date Collected: 08/01/96  
 Date Received: 08/01/96  
 Date Extracted: 08/06/96 By: SDB  
 Date Analyzed: 08/10/96 By: RAW

Matrix: Water  
 Percent Moisture: N/A  
 pH:  
 Sample Weight/Volume: 1000 mL  
 Extract Volume: 1  
 Injection Volume:  
 Dilution Factor: 1  
 Lab Data File: E01687

Method: 8270  
 Level: LOW  
 GC Column:  
 Units: ug/L (Wet Weight)

CAS No.	Parameter	Result	Qual	QL
83-32-9	Acenaphthene	5.0	U	5.0
208-96-8	Acenaphthylene	5.0	U	5.0
120-12-7	Anthracene	5.0	U	5.0
56-55-3	Benzo[a]anthracene	5.0	U	5.0
50-32-8	Benzo[a]pyrene	0.20	U	0.20
205-99-2	Benzo[b]fluoranthene	5.0	U	5.0
191-24-2	Benzo[g,h,i]perylene	5.0	U	5.0
207-08-9	Benzo[k]fluoranthene	5.0	U	5.0
218-01-9	Chrysene	5.0	U	5.0
53-70-3	Dibenzo[a,h]anthracene	5.0	U	5.0
206-44-0	Fluoranthene	5.0	U	5.0
86-73-7	Fluorene	5.0	U	5.0
193-39-5	Indeno[1,2,3-cd]pyrene	5.0	U	5.0
91-20-3	Naphthalene	5.0	U	5.0
85-01-8	Phenanthrene	5.0	U	5.0
129-00-0	Pyrene	5.0	U	5.0
91-57-6	2-Methylnaphthalene	5.0	U	5.0

# GENERAL CHEMISTRY ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
Division: New England  
LRI Report No: E608014  
LRI Sample No: 14

Customer: Atlantic Environmental Eng  
Location: Pawtucket, RI  
Project: Tidewater Former MGP  
Sample Description: FB-Dispray

Date Collected: 08/01/96  
Date Received: 08/01/96

Matrix: Water  
Percent Moisture: N/A  
Units in Wet Weight

Parameter	Result	QL	Units	Started Date	By	Completed Date	By	Dilution
<hr/>								
Cyanide, Total, by SW-846 9012 NE								
Cyanide	0.020 U	0.020	mg/L	08/07/96	EB	08/07/96	EB	

# METALS ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
 Division: New England  
 LRI Order No: E608014  
 LRI Sample No: 14

Client: Atlantic Environmental Eng  
 Location: Pawtucket, RI  
 Project: Tidewater Former MGP  
 Sample Description: FB-Dispray

Date Collected: 08/01/96  
 Date Received: 08/01/96

Matrix: Water  
 Percent Moisture: N/A

Parameter	Result	QL	Units	Started		Completed		Dilution
				Date	By	Date	By	
<u>Arsenic by Furnace by SW-846 7060</u>								
Arsenic	0.0020 U	0.0020	mg/L	08/02/96	KH	08/06/96	MM	
<u>Mercury by Cold Vapor by SW-846 7470</u>								
Mercury	0.00046 U	0.00046	mg/L	08/05/96	KH	08/06/96	KH	
<u>Metals by ICP by SW-846 6010A</u>								
Beryllium	0.0020 U	0.0020	mg/L	08/02/96	KH	08/06/96	BS	
Chromium	0.024 U	0.024	mg/L	08/02/96	KH	08/06/96	BS	
Copper	0.024 U	0.024	mg/L	08/02/96	KH	08/06/96	BS	
Nickel	0.024 U	0.024	mg/L	08/02/96	KH	08/06/96	BS	
Silver	0.020 U	0.020	mg/L	08/02/96	KH	08/06/96	BS	
Zinc	0.098	0.010	mg/L	08/02/96	KH	08/06/96	BS	
Barium	0.010 U	0.010	mg/L	08/02/96	KH	08/06/96	BS	
Antimony	0.10 U	0.10	mg/L	08/02/96	KH	08/06/96	BS	
Lead	0.050 U	0.050	mg/L	08/02/96	KH	08/06/96	BS	
Selenium	0.10 U	0.10	mg/L	08/02/96	KH	08/06/96	BS	
Cadmium	0.010 U	0.010	mg/L	08/02/96	KH	08/06/96	BS	
<u>Thallium by Furnace by SW-846 7841</u>								
Thallium	0.0020 U	0.0020	mg/L	08/02/96	KH	08/06/96	MM	

# VOLATILE ORGANIC ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
 Division: New England  
 LRI Report No: E608014  
 LRI Sample No: 14

Customer: Atlantic Environmental Eng  
 Location: Pawtucket, RI  
 Project: Tidewater Former MGP  
 Sample Description: FB-Dispray

Date Collected: 08/01/96  
 Date Received: 08/01/96  
 Date Extracted: By:  
 Date Analyzed: 08/02/96 By: AT

Matrix: Water  
 Percent Moisture: N/A  
 Sample Weight/Volume:  
 Dilution Factor: 1  
 Soil Extract Volume:  
 Soil Aliquot Volume:  
 Lab Data File: c4460

Method: 8260A  
 Level: LOW  
 GC Column:  
 Units: ug/L ( Wet Weight )

CAS No.	Parameter	Result	Qual	QL
107-02-8	Acrolein	25	U	25
107-13-1	Acrylonitrile	25	U	25
71-43-2	Benzene	5.0	U	5.0
108-86-1	Bromobenzene	5.0	U	5.0
74-97-5	Bromochloromethane	5.0	U	5.0
75-27-4	Bromodichloromethane	5.0	U	5.0
75-25-2	Bromoform	5.0	U	5.0
74-83-9	Bromomethane	10	U	10
104-51-8	n-Butylbenzene	5.0	U	5.0
135-98-8	sec-Butylbenzene	5.0	U	5.0
98-06-6	tert-Butylbenzene	5.0	U	5.0
56-23-5	Carbon tetrachloride	5.0	U	5.0
108-90-7	Chlorobenzene	5.0	U	5.0
75-00-3	Chloroethane	10	U	10
67-66-3	Chloroform	5.0	U	5.0
74-87-3	Chloromethane	10	U	10
95-49-8	2-Chlorotoluene	5.0	U	5.0
106-43-4	4-Chlorotoluene	5.0	U	5.0
96-12-8	1,2-Dibromo-3-chloropropane (DBCP)	5.0	U	5.0
124-48-1	Dibromochloromethane	5.0	U	5.0
106-93-4	1,2-Dibromoethane (EDB)	5.0	U	5.0
74-95-3	Dibromomethane	5.0	U	5.0
95-50-1	1,2-Dichlorobenzene	5.0	U	5.0
541-73-1	1,3-Dichlorobenzene	5.0	U	5.0
106-46-7	1,4-Dichlorobenzene	5.0	U	5.0
75-71-8	Dichlorodifluoromethane	10	U	10
75-34-3	1,1-Dichloroethane	5.0	U	5.0
107-06-2	1,2-Dichloroethane	5.0	U	5.0
75-35-4	1,1-Dichloroethene	5.0	U	5.0
156-59-4	cis-1,2-Dichloroethene	5.0	U	5.0
156-60-5	trans-1,2-Dichloroethene	5.0	U	5.0
78-87-5	1,2-Dichloropropane	5.0	U	5.0
142-28-9	1,3-Dichloropropane	5.0	U	5.0
590-20-7	2,2-Dichloropropane	5.0	U	5.0
563-58-6	1,1-Dichloropropene	5.0	U	5.0
10061-01-5	cis-1,3-Dichloropropene	5.0	U	5.0
10061-02-6	trans-1,3-Dichloropropene	5.0	U	5.0
100-41-4	Ethylbenzene	5.0	U	5.0
87-68-3	Hexachlorobutadiene	5.0	U	5.0
98-82-8	Isopropylbenzene	5.0	U	5.0
99-87-6	4-Isopropyltoluene	5.0	U	5.0
1634-04-4	Methyl tert-butyl ether (MTBE)	5.0	U	5.0

# VOLATILE ORGANIC ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
Division: New England  
LRI Report No: E608014  
LRI Sample No: 14

Customer: Atlantic Environmental Eng  
Location: Pawtucket, RI  
Project: Tidewater Former MGP  
Sample Description: FB-Dispray

Method: 8260A

CAS No.	Parameter	Result	Qual	QL
75-09-2	Methylene chloride	5.0	U	5.0
91-20-3	Naphthalene	5.0	U	5.0
103-65-1	n-Propylbenzene	5.0	U	5.0
100-42-5	Styrene	5.0	U	5.0
96-18-4	1,2,3-Trichloropropane	5.0	U	5.0
630-20-6	1,1,1,2-Tetrachloroethane	5.0	U	5.0
79-34-5	1,1,2,2-Tetrachloroethane	5.0	U	5.0
127-18-4	Tetrachloroethene	5.0	U	5.0
108-88-3	Toluene	5.0	U	5.0
87-61-6	1,2,3-Trichlorobenzene	5.0	U	5.0
120-82-1	1,2,4-Trichlorobenzene	5.0	U	5.0
71-55-6	1,1,1-Trichloroethane	5.0	U	5.0
79-00-5	1,1,2-Trichloroethane	5.0	U	5.0
79-01-6	Trichloroethene (TCE)	5.0	U	5.0
75-69-4	Trichlorofluoromethane	10	U	10
95-63-6	1,2,4-Trimethylbenzene	5.0	U	5.0
108-67-8	1,3,5-Trimethylbenzene	5.0	U	5.0
75-01-4	Vinyl chloride	2.0	U	2.0
95-47-6	o-Xylene	5.0	U	5.0
	m,p-Xylenes	5.0	U	5.0



# SEMIVOLATILE ORGANIC ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
Division: New England  
LRI Report No: E608014  
LRI Sample No: 14

Customer: Atlantic Environmental Eng  
Location: Pawtucket, RI  
Project: Tidewater Former MGP  
Sample Description: FB-Dispray

Date Collected: 08/01/96  
Date Received: 08/01/96  
Date Extracted: 08/06/96 By: SDB  
Date Analyzed: 08/06/96 By: KRB

Matrix: Water  
Percent Moisture: N/A  
pH:  
Sample Weight/Volume: 1000 mL  
Extract Volume: 2  
Injection Volume:  
Dilution Factor: 1  
Lab Data File: 8080605

Method: 8080  
Level: LOW  
GC Column:  
Units: ug/L (Wet Weight)

CAS No.	Parameter	Result	Qual	QL
12674-11-2	Aroclor 1016	0.10	U	0.10
11104-28-2	Aroclor 1221	0.10	U	0.10
11141-16-5	Aroclor 1232	0.10	U	0.10
53469-21-9	Aroclor 1242	0.10	U	0.10
12672-29-6	Aroclor 1248	0.10	U	0.10
11097-69-1	Aroclor 1254	0.10	U	0.10
11096-82-5	Aroclor 1260	0.10	U	0.10

# SEMIVOLATILE ORGANIC ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
 Division: New England  
 LRI Report No: E608014  
 LRI Sample No: 14

Customer: Atlantic Environmental Eng  
 Location: Pawtucket, RI  
 Project: Tidewater Former MGP  
 Sample Description: FB-Dispray

Date Collected: 08/01/96  
 Date Received: 08/01/96  
 Date Extracted: 08/06/96 By: SDB  
 Date Analyzed: 08/10/96 By: RAW

Matrix: Water  
 Percent Moisture: N/A  
 pH:  
 Sample Weight/Volume: 1000 mL  
 Extract Volume: 1  
 Injection Volume:  
 Dilution Factor: 1  
 Lab Data File: E01688

Method: 8270  
 Level: LOW  
 GC Column:  
 Units: ug/L ( Wet Weight )

CAS No.	Parameter	Result	Qual	QL
83-32-9	Acenaphthene	5.0	U	5.0
208-96-8	Acenaphthylene	5.0	U	5.0
120-12-7	Anthracene	5.0	U	5.0
56-55-3	Benzo[a]anthracene	5.0	U	5.0
50-32-8	Benzo[a]pyrene	0.20	U	0.20
205-99-2	Benzo[b]fluoranthene	5.0	U	5.0
191-24-2	Benzo[g,h,i]perylene	5.0	U	5.0
207-08-9	Benzo[k]fluoranthene	5.0	U	5.0
218-01-9	Chrysene	5.0	U	5.0
53-70-3	Dibenzo[a,h]anthracene	5.0	U	5.0
206-44-0	Fluoranthene	5.0	U	5.0
86-73-7	Fluorene	5.0	U	5.0
193-39-5	Indeno[1,2,3-cd]pyrene	5.0	U	5.0
91-20-3	Naphthalene	5.0	U	5.0
85-01-8	Phenanthrene	5.0	U	5.0
129-00-0	Pyrene	5.0	U	5.0
91-57-6	2-Methylnaphthalene	5.0	U	5.0



LRI QUOTE # \_\_\_\_\_

LABORATORY SERVICES, INC.  
CHAIN OF CUSTODY

PAGE 1 OF 2

**CUSTOMER INFORMATION**

CUSTOMER: ATLANTIC EDU.  
 ADDRESS: 188 NORWICH AVE  
 CHESTER CT  
 TELEPHONE: 800 537 0751  
 FAX: \_\_\_\_\_

**PROJECT INFORMATION**

PROJECT: TIDENWATER  
 PROJECT LOCATION: FAIRPORT STATE RI  
 PROJECT MANAGER: \_\_\_\_\_  
 IN CASE WE HAVE ANY QUESTIONS WHEN SAMPLES ARRIVE WE SHOULD CALL: \_\_\_\_\_  
 NAME: \_\_\_\_\_  
 TELEPHONE: \_\_\_\_\_  
 FAX: \_\_\_\_\_

**BILLING INFORMATION**

BILL TO: ATLANTIC  
 ADDRESS: \_\_\_\_\_  
 ATTENTION: \_\_\_\_\_  
 TELEPHONE: \_\_\_\_\_  
 PO #: \_\_\_\_\_

LAB ID CODE	SAMPLE IDENTIFICATION	DATE COLLECTED	TIME COLLECTED	SAMPLE TYPE		SAMPLE MATRIX	# OF BOTTLES	ANALYSIS				PRESERVATIVE				
				COMPOSITE	GRAB			PAH (277)	PAH (277)	NEGATIVE	NEGATIVE	H2SO4	HCL	HNO3	MAOH	NON-PRES
TSS 17		7/31/96	11:10		X	SOL	2	X	X	X	X					
TSS 19			11:35				2	X	X	X	X					
TSS 34			10:00				2	X	X	X	X					
TSS 39			12:00				2	X	X	X	X					
TSS 40			12:00				2	X	X	X	X					
TSED 1			17:30			Sed	2	X	X	X	X					
TSED 2			17:00				2	X	X	X	X					
TSED 3			15:40				2	X	X	X	X					
TSED 4			15:20				2	X	X	X	X					

TURNAROUND (INDICATE IN CALENDAR DAYS): 7D FAX \_\_\_\_\_ HARD COPY \_\_\_\_\_ DELIV. PKG. \_\_\_\_\_

NAME OF LAB PERSONNEL CONFIRMING: \_\_\_\_\_

DELIVERABLES / (CIRCLE ONE): DATA DATA/QC RED/DELIV NJ/CLP I NJ/CLP II

SAMPLER / AFFILIATION: P. GEORGE / TAPRATC  
 RECEIVED / AFFILIATION: X / TAPRATC  
 RELINQUISHED / AFFILIATION: \_\_\_\_\_  
 RECEIVED / AFFILIATION: \_\_\_\_\_  
 RELINQUISHED / AFFILIATION: \_\_\_\_\_  
 RECEIVED / AFFILIATION: \_\_\_\_\_

RETURN TO CLIENT FOR DISPOSAL  LAB DISPOSAL  
 KNOWN HAZARD (FLAMMABLE, EXPLOSIVE, TOXIC)

YES  NO (IF YES EXPLAIN UNDER COMMENTS)

**LAB USE** CONDITIONS OF BOTTLES AND COOLER AT RECEIPT:

COMPLIANT  NOT COMPLIANT (IF NOT EXPLAIN UNDER COMMENTS)  
 COMMENTS: METALS - DEL. POLY. + BAR IUM  
 CN TON AL VIA 9012 / 9013  
 PAH DET. 0.1 ppm

**CUSTOMER INFORMATION**

CUSTOMER: ATLANTIC

ADDRESS: \_\_\_\_\_

TELEPHONE: \_\_\_\_\_

FAX: \_\_\_\_\_

**PROJECT INFORMATION**

PROJECT: PAWBUCKET

PROJECT LOCATION: \_\_\_\_\_ STATE: \_\_\_\_\_

PROJECT MANAGER: \_\_\_\_\_

IN CASE WE HAVE ANY QUESTIONS WHEN SAMPLES ARRIVE WE SHOULD CALL: \_\_\_\_\_

NAME: \_\_\_\_\_

TELEPHONE: \_\_\_\_\_

FAX: \_\_\_\_\_

**BILLING INFORMATION**

BILL TO: ATLANTIC

ADDRESS: \_\_\_\_\_

ATTENTION: \_\_\_\_\_

TELEPHONE: \_\_\_\_\_

PO #: \_\_\_\_\_

LAB ID CODE	SAMPLE IDENTIFICATION	DATE COLLECTED	TIME COLLECTED	SAMPLE TYPE		SAMPLE MATRIX	# OF BOTTLES	ANALYSIS					PRESERVATIVE						
				COMPOSITE	GRAB			PCBs	Nytrn	CU	H2SO4	HCL	HNO3	NAOH	NON-PRES				
1	TSED 5	7-31-96	15:00	X		SED	2	X	X	X	X								
	TSED 6	"	18:15	X		"	2	X	X	X	X								
	ERC-6	8-1-96	9:15	X		water	6	X	X	X	X								
	FBI DISPRAY	"	9:30	X		"	6	X	X	X	X								
	TSED 7	7-31-96	15:50	X		SED	2	X	X	X	X								

TURNAROUND (INDICATE IN CALENDAR DAYS): STD FAX \_\_\_\_\_ HARD COPY \_\_\_\_\_ DELIV. PKG. \_\_\_\_\_

NAME OF LAB PERSONNEL CONFIRMING: \_\_\_\_\_

DELIVERABLES / (CIRCLE ONE): DATA DATA/QC RED/DELIV NJ/CLP I NJ/CLP II

NJ/REGL NY/ASP CLP OTHER \_\_\_\_\_

SAMPLER / AFFILIATION: P. G. ... / ATLANTIC

RECEIVED / AFFILIATION: [Signature] / ATLANTIC DATE: 8-1-96

RELINQUISHED / AFFILIATION: \_\_\_\_\_ DATE: \_\_\_\_\_

RECEIVED / AFFILIATION: [Signature] DATE: 8-1-96

RELINQUISHED / AFFILIATION: \_\_\_\_\_ DATE: \_\_\_\_\_

RETURN TO CLIENT FOR DISPOSAL  LAB DISPOSAL

KNOWN HAZARD (FLAMMABLE, EXPLOSIVE, TOXIC)  YES  NO (IF YES EXPLAIN UNDER COMMENTS)

**LAB USE** CONDITIONS OF BOTTLES AND COOLER AT RECEIPT:  COMPLIANT  NOT COMPLIANT (IF NOT EXPLAIN UNDER COMMENTS)

COMMENTS: MEALS - PRI. POL. + CA

CU - TOTAL VA 9012/9013

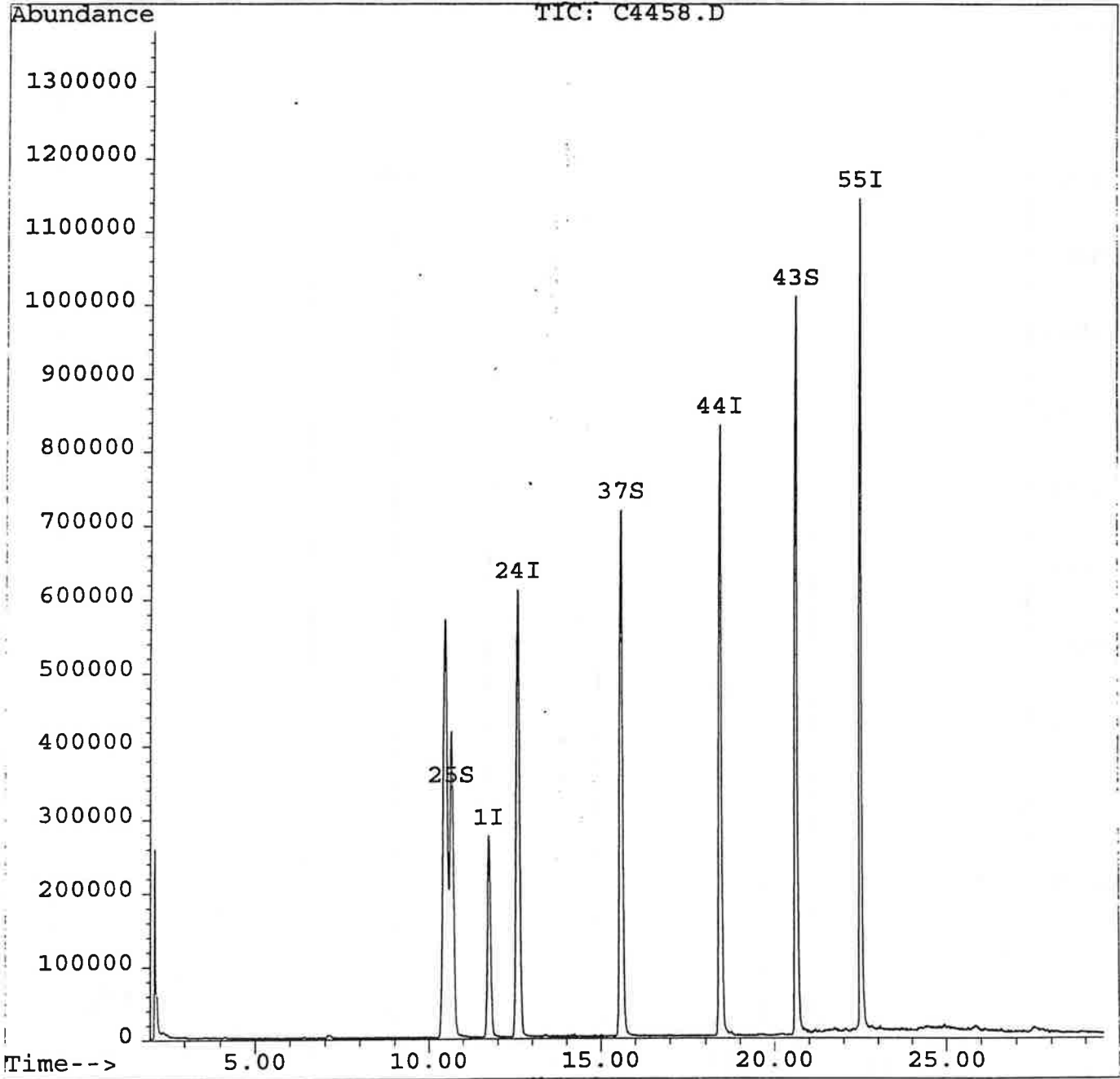
PM - 0.1 ppm

Quantitation Report

Data File : C:\HPCHEM\1\DATA\C4458.D  
Acq On : 2 Aug 96 10:20 am  
Sample : VBLK0802  
Misc : CELL#2  
Quant Time: Aug 2 11:21 1996

Vial: 4  
Operator: AT  
Inst : GC/MS #3  
Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\8260A3.M  
Title : 8260 WATER CALIBRATION  
Last Update : Fri Aug 02 09:22:48 1996  
Response via : Multiple Level Calibration

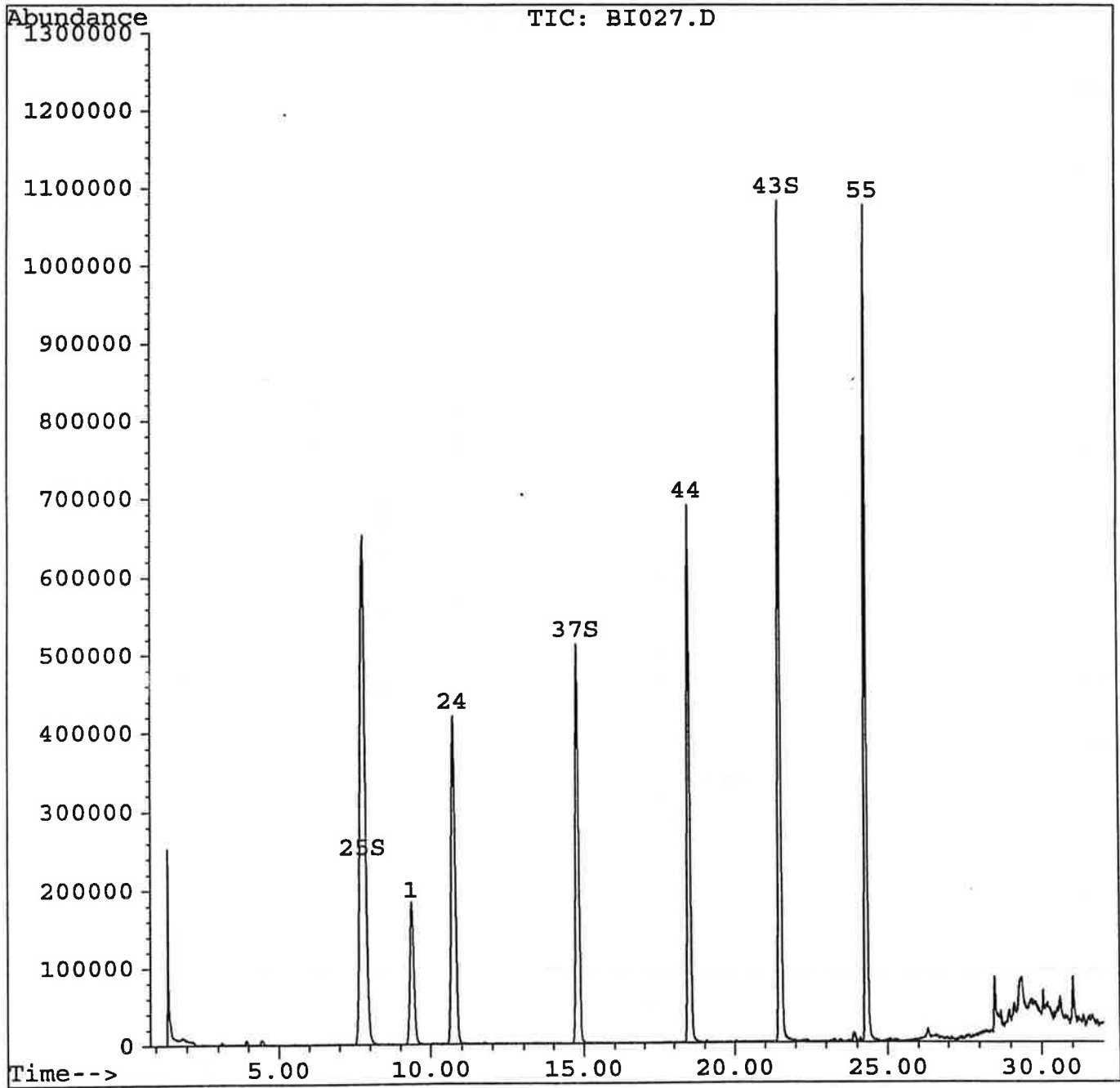


Quantitation Report

Data File : C:\HPCHEM\1\DATA\BI027.D  
Acq On : 6 Aug 96 11:49 am  
Sample : vblk0806  
Misc : cell 1  
Quant Time: Aug 7 7:30 1996

Vial: 4  
Operator: AT  
Inst : MSD #2  
Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\8260S2.M  
Title : 8260 SOIL CALIBRATION  
Last Update : Wed Aug 07 07:24:56 1996  
Response via : Multiple Level Calibration



Quantitation Report

Data File : C:\HPCHEM\1\DATA\C4458.D  
 Acq On : 2 Aug 96 10:20 am  
 Sample : VBLK0802  
 Misc : CELL#2  
 Quant Time: Aug 2 11:21 1996

Vial: 4  
 Operator: AT  
 Inst : GC/MS #3  
 Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\8260A3.M  
 Title : 8260 WATER CALIBRATION  
 Last Update : Fri Aug 02 09:22:48 1996  
 Response via : Multiple Level Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev (Min)	
1) 1,2-Dichloroethane-d4	11.75	67	344812	50.00	ug/L	0.09	
24) 1,4-Difluorobenzene	12.60	114	1576482	50.00	ug/L	0.09	
44) Chlorobenzene-d5	18.43	117	1303804	50.00	ug/L	0.08	
55) 1,4-Dichlorobenzene-d4	22.51	152	739156	50.00	ug/L	0.07	
							%Recovery
System Monitoring Compounds							
25) Dibromofluoromethane (S)	10.66	113	955800	49.14	ug/L	98.29%	
37) Toluene-d8 (S)	15.60	98	1569001	51.02	ug/L	102.03%	
43) Bromofluorobenzene (S)	20.64	95	1006366	50.22	ug/L	100.45%	

Target Compounds

Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\BI027.D  
 Acq On : 6 Aug 96 11:49 am  
 Sample : vblk0806  
 Misc : cell 1  
 Quant Time: Aug 7 7:30 1996

Vial: 4  
 Operator: AT  
 Inst : MSD #2  
 Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\8260S2.M  
 Title : 8260 SOIL CALIBRATION  
 Last Update : Wed Aug 07 07:24:56 1996  
 Response via : Multiple Level Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev (Min)
1) 1,2-Dichloroethane-d4	9.39	67	319882	50.00	ug/kg	-0.04
24) 1,4-Difluorobenzene	10.76	114	1395537	50.00	ug/kg	-0.04
44) Chlorobenzene-d5	18.52	117	1189375	50.00	ug/kg	-0.03
55) 1,4-Dichlorobenzene-d4	24.31	152	919958	50.00	ug/kg	-0.04
System Monitoring Compounds						%Recovery
25) Dibromofluoromethane (S)	7.78	113	910163	50.22	ug/kg	100.45%
37) Toluene-d8 (S)	14.79	98	1247424	50.53	ug/kg	101.07%
43) Bromofluorobenzene (S)	21.51	95	1295669	50.02	ug/kg	100.03%

Target Compounds

Qvalue

(#) = qualifier out of range (m) = manual integration





LD  
SOIL VOLATILE SYSTEM MONITORING COMPOUND RECOVERY

Lab Name: LRI Contract: \_\_\_\_\_  
 Project No.: 14 Site: \_\_\_\_\_ Location: \_\_\_\_\_ Group: \_\_\_\_\_  
 Level: (low/med) low

	SAMPLE NO.	SMC1 #	SMC2 #	SMC3 #	OTHER #	TOT OUT
01	vblk0806	100	101	100		
02	e608014-10	106	95	82		
03						
04						
05						
06						
07						
08						
09						
10						
11						
12						
13						
14						
15						
16						
17						
18						
19						
20						
21						
22						
23						
24						
25						
26						
27						
28						
29						
30						

**QC LIMITS**

SMC1 = Dibromofluoromethane (S) (90-110)  
 SMC2 = Toluene-d8 (S) (77-121)  
 SMC3 = Bromofluorobenzene (S) (67-123)

# Column to be used to flag recovery values  
 \* Values outside of contract required QC limits  
 D System Monitoring Compound diluted out

Spike Recovery and RPD Summary report - WATER

Method : C:\HPCHEM\1\METHODS\8260A3.M  
 Title : 8260 WATER CALIBRATION  
 Last Update : Fri Aug 09 08:27:53 1996  
 Response via : Initial Calibration

Non-Spiked Sample: C4461.D

Spike Sample	Spike Duplicate Sample
File ID : C4496.D	C4497.D
Sample : e608014-13ms	e608014-13msd
Acq Time: 6 Aug 96 3:30 pm	6 Aug 96 4:06 pm

Compound	Sample Conc	Spike Added	Spike Res	Dup Res	Spike %Rec	Dup %Rec	RPD	QC RPD	Limits % Rec
1,1-Dichloroethene	0.0	50	39	37	78	74	4	17	49-115
Benzene	0.0	50	53	53	105	105	0	20	51-132
Trichloroethene	0.0	50	50	49	99	99	0	17	62-129
Toluene	0.0	50	51	51	103	101	1	17	65-134
Chlorobenzene	0.0	50	50	50	100	100	0	17	64-131

8260A3.M

Fri Aug 09 09:00:14 1996

PC #8

Method : C:\HPCHEM\1\METHODS\8260S2.M  
 Title : 8260 SOIL CALIBRATION  
 Last Update : Mon Aug 12 09:00:41 1996  
 Response via : Initial Calibration

Non-Spiked Sample: BI028.D

Spike Sample	Spike Duplicate Sample
File ID : BI029.D	BI030.D
Sample : e608036-01ms	e608036-01msd
Acq Time: 6 Aug 96 2:16 pm	6 Aug 96 2:55 pm

Compound	Sample Conc	Spike Added	Spike Res	Dup Res	Spike %Rec	Dup %Rec	RPD	QC RPD	Limits % Rec
1,1-Dichloroethene	0.0	50	31	36	62	73	15	20	66-144
Benzene	0.0	50	40	47	80	94	16	20	63-145
Trichloroethene	0.0	50	43	48	86	96	12	20	65-145
Toluene	0.0	50	40	46	81	93	14	21	66-151
Chlorobenzene	0.0	50	38	46	76	92	19	21	63-148

8260S2.M

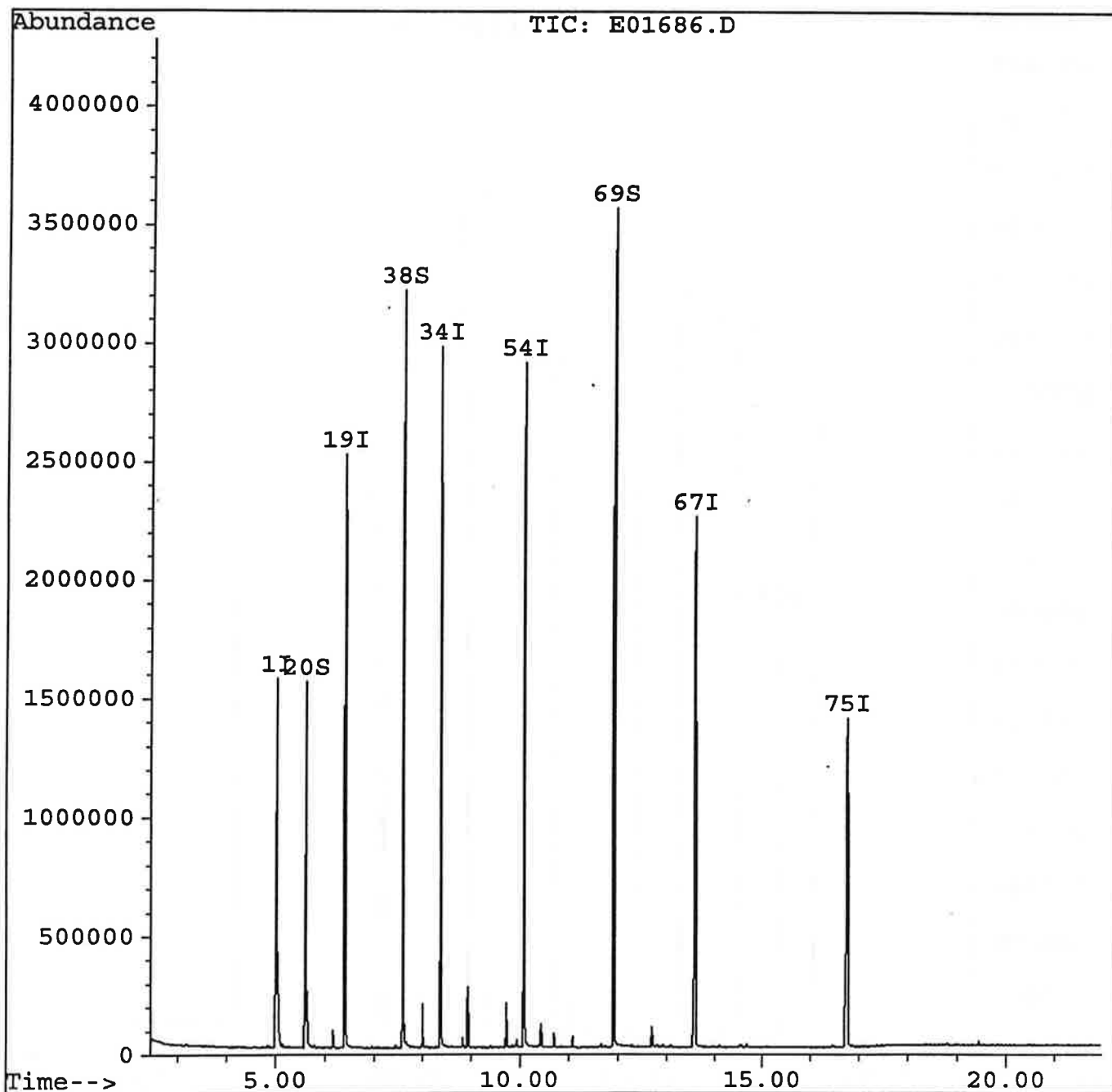
Mon Aug 12 15:08:40 1996

PC #7

Data File : c:\hpchem\1\data\e01686.d  
Acq On : 10 Aug 96 6:07 pm  
Sample : S0806BA-01  
Misc :  
Quant Time: Aug 11 14:34 1996

Vial: 7  
Operator:  
Inst : 5972 MSD  
Multiplr: 1.00

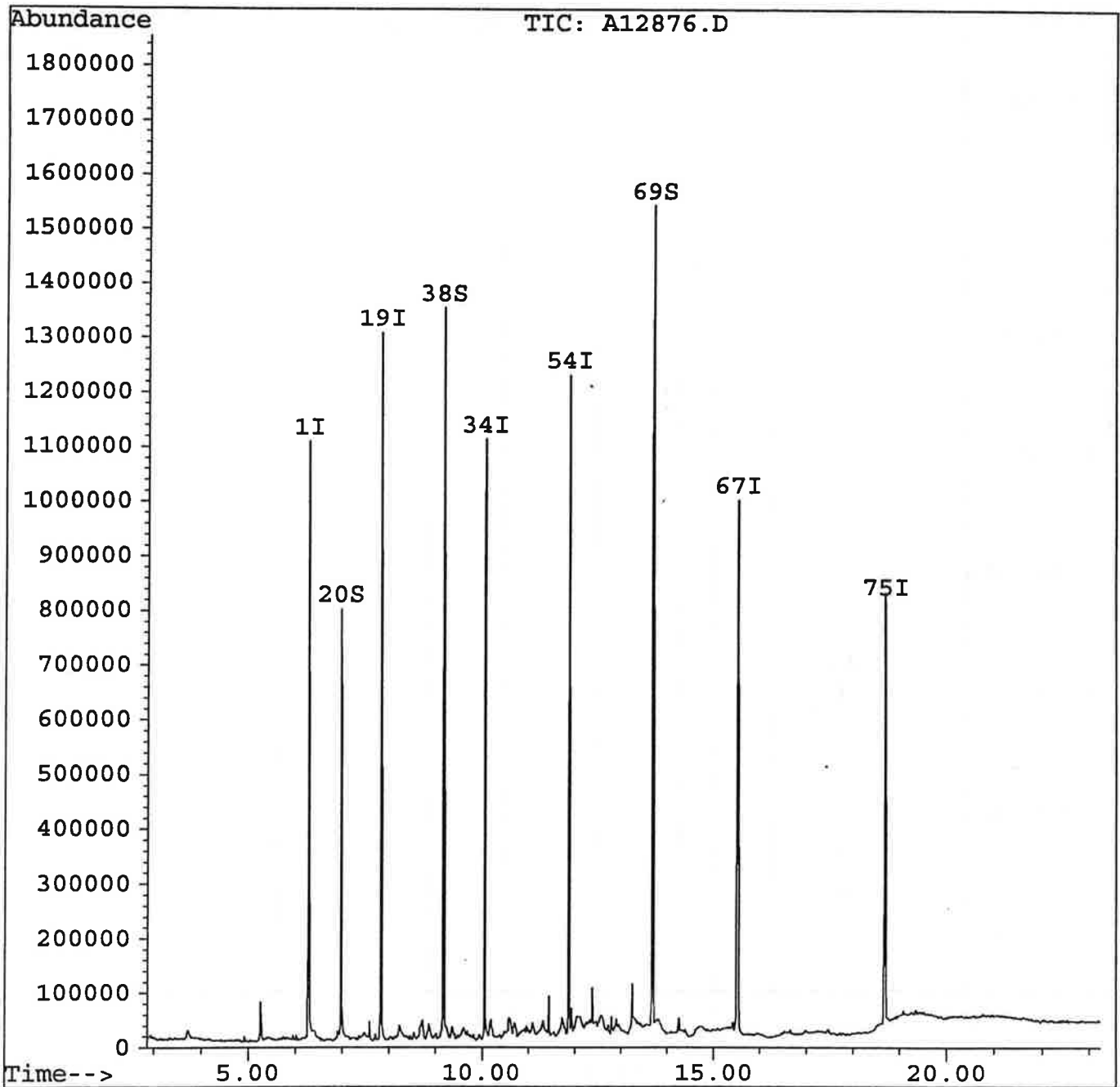
Method : C:\HPCHEM\1\METHODS\8270R.M  
Title : EPA 8270 calibration  
Last Update : Sun Aug 11 14:19:33 1996  
Response via : Multiple Level Calibration



Data File : C:\HPCHEM\1\DATA\A12876.D  
Acq On : 5 Aug 96 7:11 pm  
Sample : S0805BS-01  
Misc :  
Quant Time: Aug 5 19:35 1996

Vial: 15  
Operator: RAW  
Inst : MSD #1  
Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\8270B1M3.M  
Title : EPA 8270 calibration  
Last Update : Mon Aug 05 11:49:37 1996  
Response via : Multiple Level Calibration



Data File : c:\hpchem\1\data\e01686.d  
 Acq On : 10 Aug 96 6:07 pm  
 Sample : S0806BA-01  
 Misc :  
 Quant Time: Aug 11 14:34 1996

Vial: 7  
 Operator:  
 Inst : 5972 MSD  
 Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\8270R.M  
 Title : EPA 8270 calibration  
 Last Update : Sun Aug 11 14:19:33 1996  
 Response via : Multiple Level Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev (Min)
1) 1,4-Dichlorobenzene-d4	5.01	152	476593	40.00	ug/ml	0.00
19) Naphthalene-d8	6.39	136	1566680	40.00	ug/ml	-0.02
34) Acenaphthene-d10	8.38	164	851370	40.00	ug/ml	0.00
54) Phenanthrene-d10	10.08	188	1484650	40.00	ug/ml	0.00
67) Chrysene-d12	13.59	240	1353804	40.00	ug/ml	-0.02
75) Perylene-d12	16.76	264	1207864	40.00	ug/ml	-0.02

System Monitoring Compounds	R.T.	QIon	Response	Conc	Units	%Recovery
4) 2-Fluorophenol	3.74	112	403	0.03	ug/ml	0.01%
7) Phenol-d6	4.48	99	255	0.01	ug/ml	0.01%
20) Nitrobenzene-d5	5.61	82	644386	48.83	ug/ml	48.83%
38) 2-Fluorobiphenyl	7.60	172	1193787	50.10	ug/ml	50.10%
58) 2,4,6-Tribromophenol	9.29	330	37	0.01	ug/ml	0.00%
69) Terphenyl-d14	11.92	244	1685167	52.10	ug/ml	52.10%

Target Compounds

Qvalue

(#) = qualifier out of range (m) = manual integration

Data File : C:\HPCHEM\1\DATA\A12876.D  
 Acq On : 5 Aug 96 7:11 pm  
 Sample : S0805BS-01  
 Misc :  
 Quant Time: Aug 5 19:35 1996

Vial: 15  
 Operator: RAW  
 Inst : MSD #1  
 Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\8270B1M3.M  
 Title : EPA 8270 calibration  
 Last Update : Mon Aug 05 11:49:37 1996  
 Response via : Multiple Level Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	6.28	152	245083	40.00	ug/ml	0.01
19) Naphthalene-d8	7.84	136	784375	40.00	ug/ml	0.00
34) Acenaphthene-d10	10.07	164	432099	40.00	ug/ml	0.01
54) Phenanthrene-d10	11.87	188	632128	40.00	ug/ml	0.00
67) Chrysene-d12	15.52	240	572073	40.00	ug/ml	0.00
75) Perylene-d12	18.70	264	557411	40.00	ug/ml	0.01
<b>System Monitoring Compounds</b>						
						<b>%Recovery</b>
4) 2-Fluorophenol	0.00	112	0	0.00	ug/ml	0.00%
7) Phenol-d6	0.00	99	0	0.00	ug/ml	0.00%
20) Nitrobenzene-d5	6.97	82	484805	50.50	ug/ml	50.50%
38) 2-Fluorobiphenyl	9.17	172	687823	53.37	ug/ml	53.37%
58) 2,4,6-Tribromophenol	0.00	330	0	0.00	ug/ml	0.00%
69) Terphenyl-d14	13.69	244	754712	75.75	ug/ml	75.75%

Target Compounds

Qvalue

(#) = qualifier out of range (m) = manual integration



20  
WATER SEMIVOLATILE SURROGATE RECOVERY

Lab Name: LRI Contract: \_\_\_\_\_  
 Project No.: 14 Site: \_\_\_\_\_ Location: \_\_\_\_\_ Group: \_\_\_\_\_

	SAMPLE NO.	S1 (2FP) #	S2 (PHL) #	S3 (NBZ) #	S4 (FBP) #	S5 (TBP) #	S6 (TPH) #	#	#	TOT OUT
01	s0806ba-01			49	50		52			
02	E608014-13			40	46		51			
03	E608014-14			56	63		54			
04										
05										
06										
07										
08										
09										
10										
11										
12										
13										
14										
15										
16										
17										
18										
19										
20										
21										
22										
23										
24										
25										
26										
27										
28										
29										
30										

S1 (2FP) = 2-Fluorophenol	QC LIMITS
S2 (PHL) = Phenol-d6	(21-100)
S3 (NBZ) = Nitrobenzene-d5	(10-94)
S4 (FBP) = 2-Fluorobiphenyl	(34-114)
S5 (TBP) = 2,4,6-Tribromophenol	(43-116)
S6 (TPH) = Terphenyl-d14	(10-123)
	(33-141)

# Column to be used to flag recovery values  
 \* Values outside of contract required QC limits  
 D Surrogate diluted out

## SOIL SEMIVOLATILE SURROGATE RECOVERY

Lab Name: LRI Contract: \_\_\_\_\_  
 Project No.: 14 Site: \_\_\_\_\_ Location: \_\_\_\_\_ Group: \_\_\_\_\_  
 Level: (low/med) LOW

	SAMPLE NO.	S1 (2FP) #	S2 (PHL) #	S3 (NBZ) #	S4 (FBP) #	S5 (TBP) #	S6 (TPH) #	#	#	TOT OUT
01	s0805bs-01			50	53		76			
02	E608014-10			54	66		50			
03										
04										
05										
06										
07										
08										
09										
10										
11										
12										
13										
14										
15										
16										
17										
18										
19										
20										
21										
22										
23										
24										
25										
26										
27										
28										
29										
30										

QC LIMITS  
 S1 (2FP) = 2-Fluorophenol (25-121)  
 S2 (PHL) = Phenol-d6 (24-113)  
 S3 (NBZ) = Nitrobenzene-d5 (23-120)  
 S4 (FBP) = 2-Fluorobiphenyl (30-115)  
 S5 (TBP) = 2,4,6-Tribromophenol (19-122)  
 S6 (TPH) = Terphenyl-d14 (18-137)

# Column to be used to flag recovery values  
 \* Values outside of contract required QC limits  
 D Surrogate diluted out

Method : C:\HPCHEM\1\METHODS\8270R.M  
 Title : EPA 8270 calibration  
 Last Update : Sun Aug 11 14:19:33 1996  
 Response via : Initial Calibration

Non-Spiked Sample: E01694.D

Spike Sample	Spike Duplicate Sample
File ID : E01699.D	E01700.D
Sample : E607339-02MS	E607339-02MSD
Acq Time: 11 Aug 96 12:24 am	11 Aug 96 12:53 am

Compound	Sample Conc	Spike Added	Spike Res	Dup Res	Spike %Rec	Dup %Rec	RPD	QC RPD	Limits % Rec
Phenol	0.0	200	81	71	41	35	14	42	12-110
2-Chlorophenol	0.0	200	91	81	45	41	11	40	27-123
1,4-Dichlorobenzene	3.1	100	48	42	45	39	13	28	36- 97
N-Nitroso-di-n-propy	0.1	100	50	43	50	43	16	38	41-116
1,2,4-Trichlorobenze	0.0	100	50	44	50	43	14	28	39- 98
4-Chloro-3-methylphe	0.0	200	102	83	51	42	20	42	23- 97
Acenaphthene	0.1	100	47	53	46	53	12	31	46-118
2,4-Dinitrotoluene	0.0	100	55	51	55	51	7	38	24- 96
4-Nitrophenol	0.3	200	112	100	56	50	11	50	10- 80
Pentachlorophenol	0.0	200	91	86	45	43	6	50	9-103
Pyrene	0.0	100	37	33	37	33	11	31	26-127

Method : C:\HPCHEM\1\METHODS\8270B1M3.M  
 Title : EPA 8270 calibration  
 Last Update : Mon Aug 05 11:49:37 1996  
 Response via : Initial Calibration

Non-Spiked Sample: A12871.D

Spike Sample	Spike Duplicate Sample
File ID : A12874.D	A12875.D
Sample : E607358-03 MS	E607358-03 MSD
Acq Time: 5 Aug 96 6:12 pm	5 Aug 96 6:41 pm

Compound	Sample Conc	Spike Added	Spike Res	Dup Res	Spike %Rec	Dup %Rec	RPD	QC RPD	Limits % Rec
Phenol	0.0	200	110	122	55	61	10	35	26- 90
2-Chlorophenol	0.0	200	103	106	51	53	3	50	25-102
1,4-Dichlorobenzene	0.0	100	50	51	50	51	1	27	28-104
N-Nitroso-di-n-propy	0.0	100	61	61	61	61	0	38	41-126
1,2,4-Trichlorobenze	0.0	100	49	49	49	49	1	38	41-126
4-Chloro-3-methylphe	0.0	200	126	109	63	55	14	33	26-103
Acenaphthene	0.0	100	50	55	50	55	8	19	31-137
2,4-Dinitrotoluene	0.1	100	57	64	57	64	10	47	28- 89
4-Nitrophenol	0.1	200	116	121	58	61	5	50	11-114
Pentachlorophenol	0.0	200	102	96	51	48	6	47	17-109
Pyrene	0.0	100	80	81	80	81	1	36	35-142

Quantitation Report

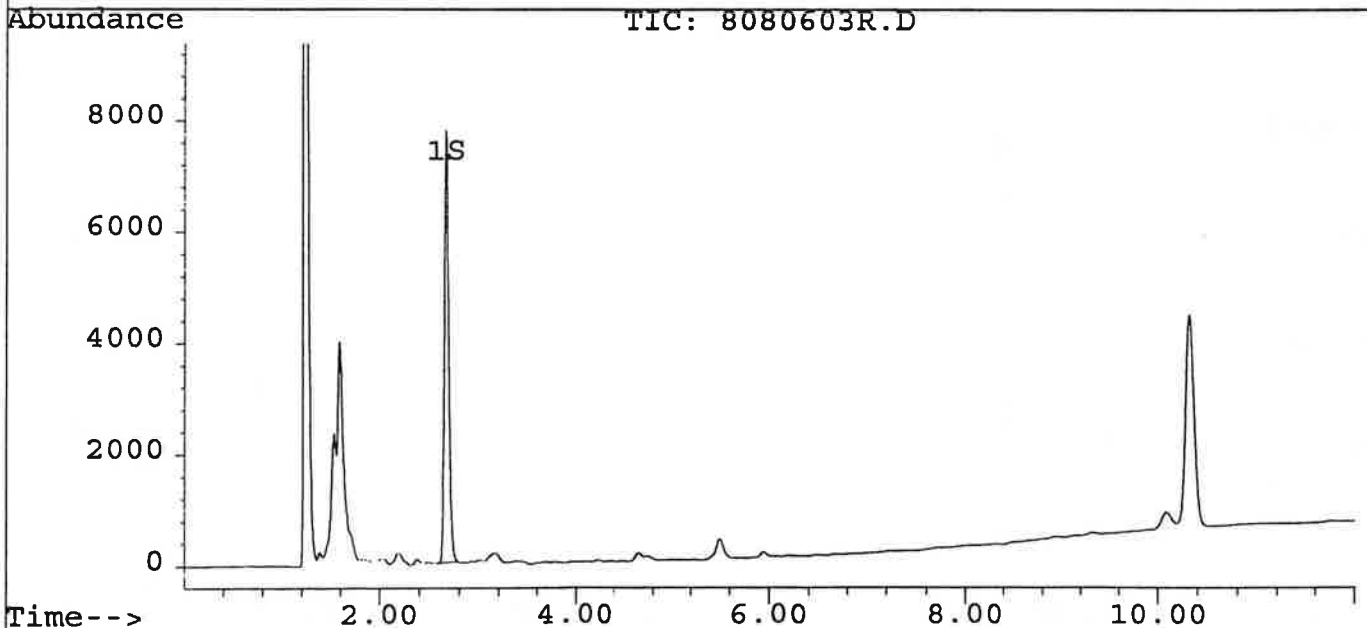
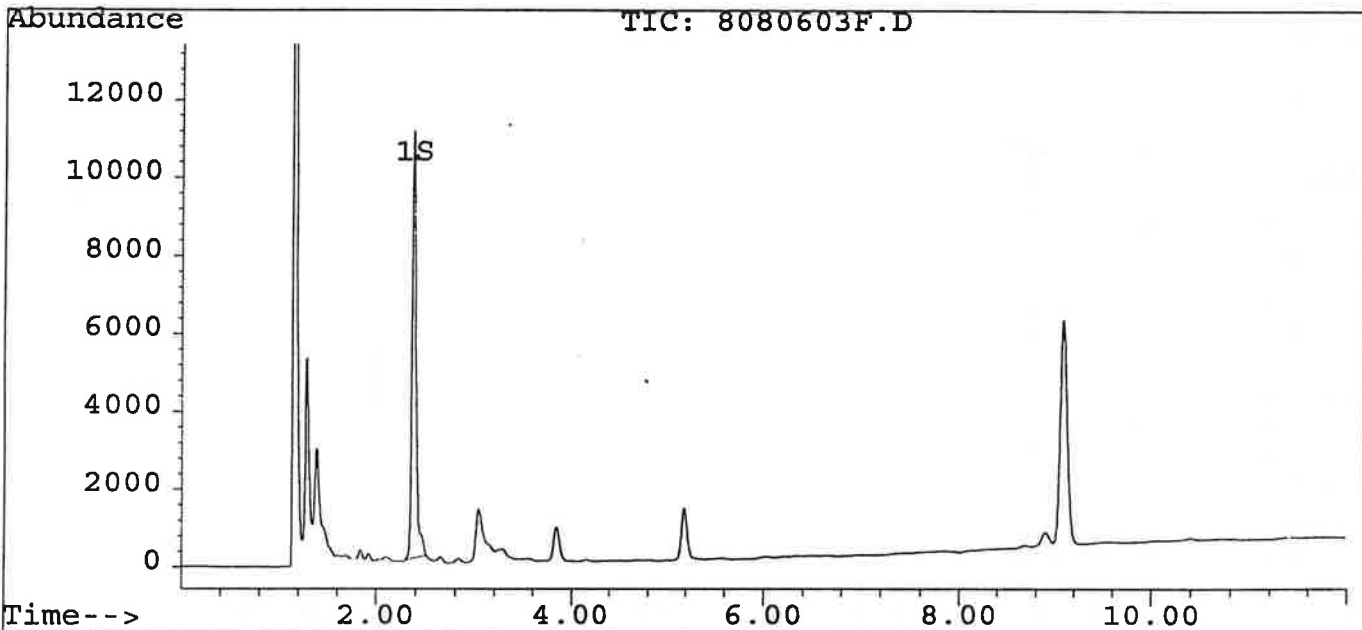
Data File : C:\HPCHEM\6\DATA\AUG06\8080603F.D  
Acq On : 06 AUG 96 14:27  
Sample : B0805-BA1  
Misc :

Vial: 3  
Operator: KRB  
Inst : GC 8  
Multiplr: 1.00

Data File : C:\HPCHEM\6\DATA\AUG06\8080603F.D\8080603R.D Vial: 3  
Acq On : 06 AUG 96 14:27 Operator: KRB  
Sample : B0805-BA1 Inst : GC 8  
Misc : Multiplr: 1.00  
Quant Time:

Method : C:\HPCHEM\6\METHODS\PCB1248.M  
Title :  
Last Update : Thu Aug 01 11:31:45 1996  
Response via : Multiple Level Calibration

Volume Inj. :  
Signal #1 Phase : Signal #2 Phase:  
Signal #1 Info : Signal #2 Info :



Data File : C:\HPCHEM\6\DATA\AUG02\8080203.D  
Acq On : 02 AUG 96 13:07  
Sample : B0802-BS1  
Misc :

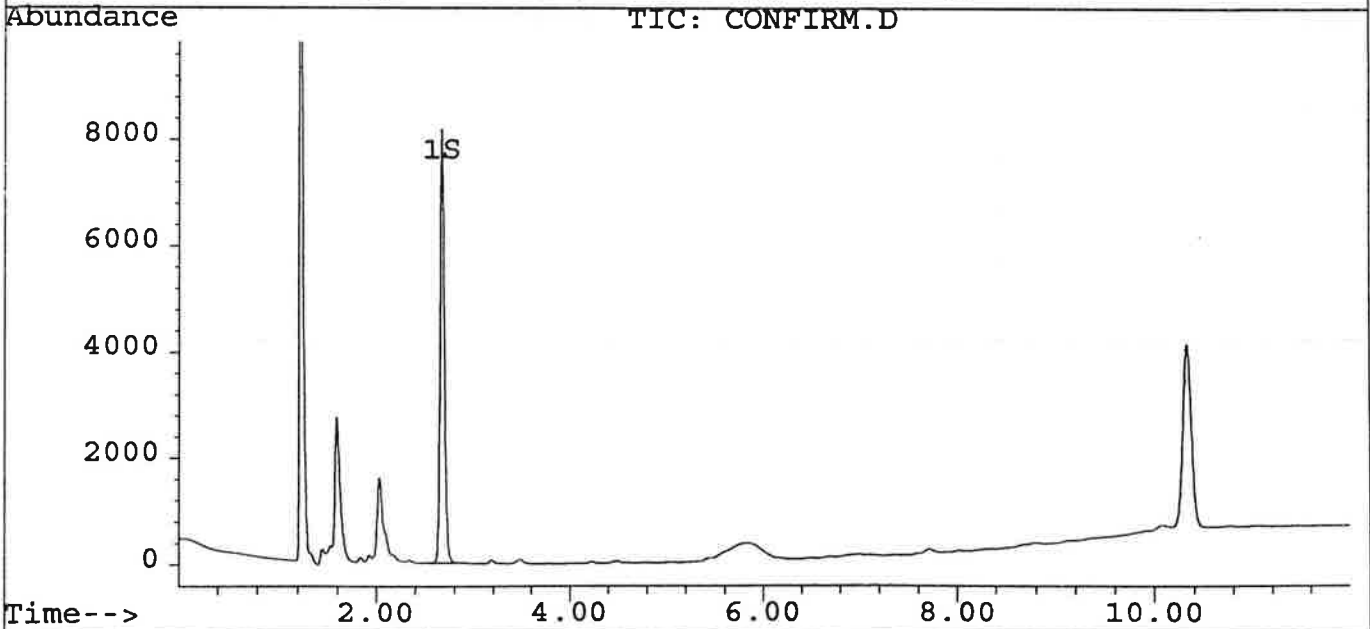
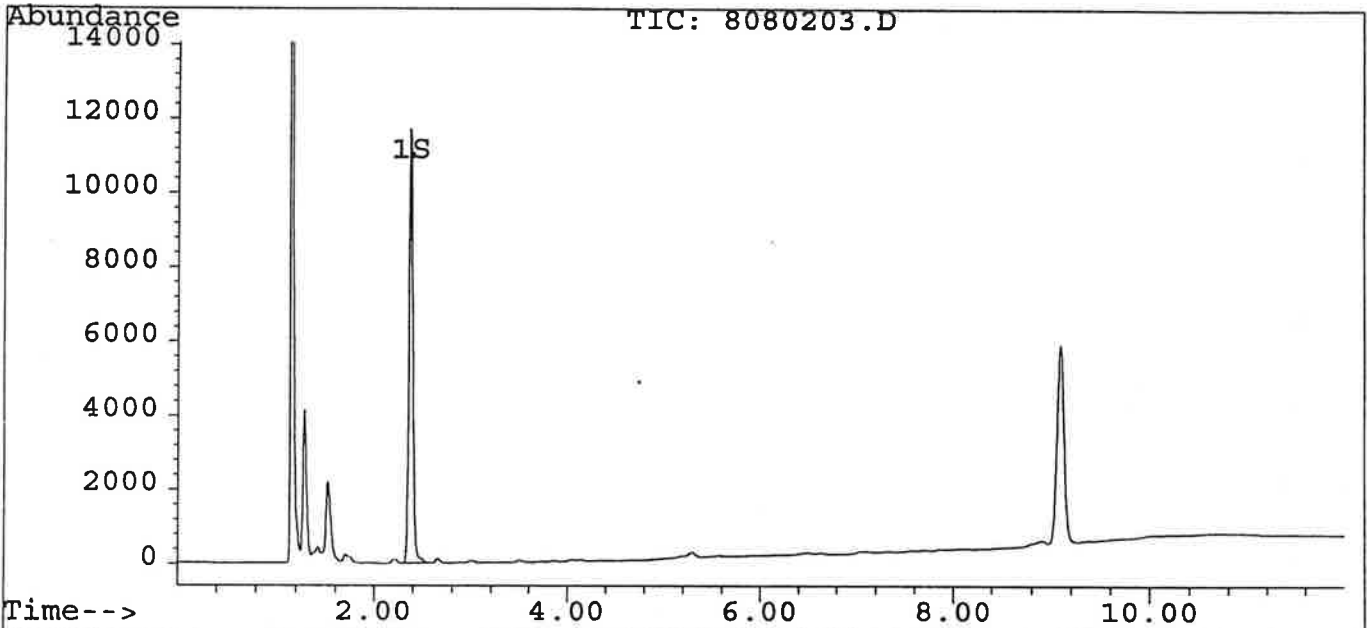
Vial: 3  
Operator: KRB  
Inst : GC 8  
Multiplr: 1.00

Data File : C:\HPCHEM\6\DATA\AUG02\8080203.D\CONFIRM.D  
Acq On : 02 AUG 96 13:07  
Sample : B0802-BS1  
Misc :  
Quant Time:

Vial: 3  
Operator: KRB  
Inst : GC 8  
Multiplr: 1.00

Method : C:\HPCHEM\6\METHODS\PCB.M  
Title :  
Last Update : Fri Aug 02 14:46:13 1996  
Response via : Multiple Level Calibration

Volume Inj. :  
Signal #1 Phase : Signal #2 Phase:  
Signal #1 Info : Signal #2 Info :



Quantitation report

Signal #1 : C:\HPCHEM\6\DATA\AUG06\8080603F.D Vial: 3  
 Signal #2 : C:\HPCHEM\6\DATA\AUG06\8080603F.D\8080603R.D  
 Acq On : 06 AUG 96 14:27 Operator: KRB  
 Sample : B0805-BA1 Inst : GC 8  
 Misc : Multiplr: 1.00  
 Quant Time: Aug 6 14:43 1996

Method : C:\HPCHEM\6\METHODS\PCB1248.M  
 Title :  
 Last Update : Thu Aug 01 11:31:45 1996  
 Response via : Multiple Level Calibration

Volume Inj. :  
 Signal #1 Phase : Signal #2 Phase:  
 Signal #1 Info : Signal #2 Info :

Compound	RT#1	RT#2	Resp#1	Resp#2	ppm	ppm
----------	------	------	--------	--------	-----	-----

System Monitoring Compounds

1) S tetrachloro-m-xylene	2.38	2.67	316471	232781	0.099	0.091
			Recovery		=	99.00% 91.00%

Target Compounds

2) L1 1248 #1	0.00	0.00	0	0	N.D.	N.D.
3) L1 1248 #2	0.00	0.00	0	0	N.D.	N.D.
4) L1 1248 #3	0.00	0.00	0	0	N.D.	N.D.
5) L1 1248 #4	0.00	0.00	0	0	N.D.	N.D.
Avg. 1248 #1			0	0	N.D.	N.D.

Data File : C:\HPCHEM\6\DATA\AUG02\8080203.D  
Acq On : 02 AUG 96 13:07  
Sample : B0802-BS1  
Misc :

Vial: 3  
Operator: KRB  
Inst : GC 8  
Multiplr: 1.00

Data File : C:\HPCHEM\6\DATA\AUG02\8080203.D\CONFIRM.D  
Acq On : 02 AUG 96 13:07  
Sample : B0802-BS1  
Misc :  
Quant Time: Aug 2 14:46 1996

Vial: 3  
Operator: KRB  
Inst : GC 8  
Multiplr: 1.00

Method : C:\HPCHEM\6\METHODS\PCB.M  
Title :  
Last Update : Fri Aug 02 14:46:13 1996  
Response via : Multiple Level Calibration

Volume Inj. :  
Signal #1 Phase : Signal #2 Phase:  
Signal #1 Info : Signal #2 Info :

Compound	RT#1	RT#2	Resp#1	Resp#2	ug/ml	ug/ml
System Monitoring Compounds						
1) S tetrachloro-m-xylene	2.37	2.67	321948	244385	0.102	0.096
			Recovery		= 102.00%	96.00%
Target Compounds						
2) L1M 1260 #1	0.00	0.00	0	0	N.D.	N.D.
3) L1M 1260 #2	0.00	0.00	0	0	N.D.	N.D.
4) L1M 1260 #3	0.00	0.00	0	0	N.D.	N.D.
5) L1M 1260 #4	0.00	0.00	0	0	N.D.	N.D.
6) L1M 1260 #5	0.00	0.00	0	0	N.D.	N.D.
Avg. 1260 #1			0	0	N.D.	N.D.



20  
WATER SEMIVOLATILE SURROGATE RECOVERY

Signal 1

Lab Name: LRI Contract: \_\_\_\_\_  
 Project No.: 608014 Site: \_\_\_\_\_ Location: \_\_\_\_\_ Group: \_\_\_\_\_

	SAMPLE NO.	S1 #	#	#	#	#	#	#	#	TOT OUT
01	b0805-ba1	91								
02	e608014-13	94								
03	e608014-14	91								
04										
05										
06										
07										
08										
09										
10										
11										
12										
13										
14										
15										
16										
17										
18										
19										
20										
21										
22										
23										
24										
25										
26										
27										
28										
29										
30										

SMC1 = tetrachloro-m-xylene

QC LIMITS  
(38-150)

# Column to be used to flag recovery values  
 \* Values outside of contract required QC limits  
 D Surrogate diluted out

ZU  
SOIL SEMIVOLATILE SURROGATE RECOVERY

Signal 1

Lab Name: LRI

Contract: \_\_\_\_\_

Project No.: 608014      Site: \_\_\_\_\_

Location: \_\_\_\_\_

Group: \_\_\_\_\_

Level: (low/med) \_\_\_\_\_

	SAMPLE NO.	S1	#	#	#	#	#	#	#	TOT OUT
01	b0802-bs1	102								
02	e608014-01	69								
03	e608014-02	55								
04	e608014-04	93								
05	e608014-05	95								
06	e608014-06	63								
07	e608014-07	85								
08	e608014-08	79								
09	e608014-09	122								
10	e608014-10	88								
11	e608014-11	80								
12										
13										
14										
15										
16										
17										
18										
19										
20										
21										
22										
23										
24										
25										
26										
27										
28										
29										
30										

SMC1 = tetrachloro-m-xylene

QC LIMITS  
(38-150)

- # Column to be used to flag recovery values
- \* Values outside of contract required QC limits
- D Surrogate diluted out

Spike Recovery and RPD Summary Report - WATER

Method : C:\HPCHEM\6\METHODS\PCB.M  
 Title :  
 Last Update : Tue Jul 16 15:29:40 1996  
 Response via : Initial Calibration

on-Spiked Sample: 8071703.D

Spike  
Sample

Spike  
Duplicate Sample

File ID :	8071708.D	8071709.D
Sample :	LCS 1	LCS 2
Acq Time:	17 Jul 96 06:43 PM	17 Jul 96 06:58 PM

Compound	Sample Conc	Spike Added	Spike Res	Dup Res	Spike %Rec	Dup %Rec	RPD	QC RPD	Limits % Rec
260 #1	0.3	2	3	3	122	116	5	15	40-150
260 #2	0.3	2	3	3	126	119	6	15	40-150
1260 #3	0.2	2	3	3	132	126	5	15	40-150
260 #4	0.5	2	3	3	130	120	8	15	40-150
260 #5	0.4	2	3	3	140	129	8	15	40-150
1260 #1 #2	0.3	2	3	3	128	122	5	15	40-150
260 #2 #2	0.4	2	3	3	129	126	2	15	40-150
260 #3 #2	0.2	2	3	3	138	143	3	15	40-150
1260 #4 #2	0.4	2	3	3	134	124	8	15	40-150
1260 #5 #2	0.2	2	3	3	144	135	7	15	40-150

PCB.M

Thu Jul 18 11:24:25 1996

Spike Recovery and RPD Summary Report - SOIL

Method : C:\HPCHEM\6\METHODS\PCB.M  
 Title :  
 Last Update : Fri Aug 02 14:46:13 1996  
 Response via : Initial Calibration

Non-Spiked Sample: 8080130.D

	Spike Sample	Spike Duplicate Sample
File ID :	8080204.D	8080205.D
Sample :	421-09 MS SX	421-09 MSD SX
Acq Time:	02 Aug 96 01:22 PM	02 Aug 96 01:37 PM

Compound	Sample Conc	Spike Added	Spike Res	Dup Res	Spike %Rec	Dup %Rec	RPD	QC RPD	Limits % Rec
1260 #1	0.0	2	2	2	106	105	1	15	40-150
1260 #2	0.0	2	2	2	107	105	2	15	40-150
1260 #3	0.0	2	2	2	103	101	2	15	40-150
1260 #4	0.1	2	2	2	95	92	3	15	40-150
1260 #5	0.0	2	2	2	98	95	3	15	40-150
1260 #1 #2	0.0	2	2	2	107	103	4	15	40-150
1260 #2 #2	0.0	2	2	2	106	102	3	15	40-150
1260 #3 #2	0.0	2	2	2	101	98	3	15	40-150
1260 #4 #2	0.2	2	2	2	91	88	3	15	40-150
1260 #5 #2	0.0	2	2	2	99	95	3	15	40-150

PCB.M

Fri Aug 02 14:49:06 1996







Date: 8-5-96  
 Method #: 6010A  
 Analyst: BS  
 Supervisor: [Signature]

Matrix:  
 Solid   
 Aqueous   
 TCLP

Sample # 07352-9

Metal	MS/MSD					DUPLICATE			LLCS		
	Samp Conc.	Spike Conc.	Matrix Spike Result	% Rec.	Matrix Dup. Result	% Rec.	RPD	Samp. Result		Dup. Result.	RPD
Ag	ND	1000	932.6	93	934.0	93	<1%	ND	ND	0%	102.7
Ba	23.27		998.0	97	989.9	97	<1%	23.27	23.29	<1%	102.8
Be	ND		940.8	94	938.2	94	<1%	ND	ND	0%	48.89
Cd	ND		888.0	89	900.0	90	1.3%	ND	ND	0%	45.43
Cr	40.78		961.6	92	956.8	92	<1%	40.78	36.87	10%	40.61
Cu	ND		982.3	98	969.0	97	1.4%	ND	ND	0%	44.15
Ni	ND		914.0	91	914.0	91	0%	ND	ND	0%	48.18
Pb	ND		956.9	96	935.1	94	2.3%	ND	ND	0%	ND
Sb	ND		891.4	89	888.9	89	<1%	ND	ND	0%	ND
Se	ND		941.3	94	928.2	93	1.4%	ND	ND	0%	ND
Zn	73.98		1052	98	1034	96	1.7%	73.98	77.78	5%	47.87

Assoc. Samples
08029-1
↓ -2
↓ -3
08014-1
↓ -2
↓ -3
↓ -4
↓ -5
↓ -6
↓ -7
↓ -8
↓ -9
↓ -10
↓ -11
↓ -12



Method: SOLIDS Sample Name: ICV  
 Run Time: 08/05/96 17:45:26  
 Comment:  
 Mode: CONC Corr. Factor: 1

Operator: BS

Elem	Ag3280	Al3082	Ba4934	Be3130	Ca3179	Cd2288	Cr2677
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avg	963.3	19700.	9936.	1001.	19820.	923.6	1976.
SDev	2.2	54.	31.	1.	39.	3.2	6.
MRSD	.2314	.2717	.3125	.0555	.1965	.3426	.2954
#1	962.6	19650.	9909.	1000.	19830.	921.4	1980.
#2	961.5	19700.	9929.	1001.	19780.	922.3	1970.
#3	965.8	19750.	9970.	1001.	19850.	927.3	1980.
Errors	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass
Value	1000.	20000.	10000.	1000.	20000.	1000.	2000.
Range	10.00	10.00	10.00	10.00	10.00	10.00	10.00
Elem	Cu3247	Fe2599	Mg2790	Na5889	Ni2316	Pb2203	Sb2068
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avg	1995.	10100.	20280.	20350.	4850.	4783.	4996.
SDev	6.	13.	114.	72.	22.	26.	16.
MRSD	.3142	.1313	.5627	.3527	.4442	.5396	.3289
#1	1988.	10090.	20160.	20280.	4865.	4754.	4981.
#2	1997.	10090.	20300.	20370.	4825.	4799.	4992.
#3	2000.	10120.	20380.	20420.	4859.	4798.	5014.
Errors	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass
Value	2000.	10000.	20000.	20000.	5000.	5000.	5000.
Range	10.00	10.00	10.00	10.00	10.00	10.00	10.00
Elem	Se1960	Zn2138					
Units	ppb	ppb					
Avg	4785.	986.8					
SDev	66.	2.0					
MRSD	1.374	.1987					
#1	4720.	987.2					
#2	4851.	984.7					
#3	4784.	988.6					
Errors	QC Pass	QC Pass					
Value	5000.	1000.					
Range	10.00	10.00					

Method: SOLIDS Sample Name: ICB

Operator: BS

Run Time: 08/05/96 17:48:30

Comment:

Mode: CONC Corr. Factor: 1

Elem	Ag3280	Al3082	Ba4934	Be3130	Ca3179	Cd2288	Cr2677
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avg	L18.00	L90.00	<9.000	L1.800	L450.0	L9.000	L22.00
SDev	1.97	4.99	.296	.152	5.6	3.577	.93
%RSD	534.4	209.2	92.01	26.30	25.53	114.6	11.22

#1	<18.00	<90.00	<9.000	L1.800	L450.0	L9.000	L22.00
#2	<18.00	L90.00	L9.000	L1.800	L450.0	L9.000	L22.00
#3	L18.00	L90.00	<9.000	L1.800	L450.0	<9.000	L22.00

Errors	LC Low	LC Low	LC Pass	LC Low	LC Low	LC Low	LC Low
High	20.00	100.0	10.00	2.000	500.0	10.00	25.00
Low	.0000	.0000	.0000	.0000	.0000	.0000	.0000

Elem	Cu3247	Fe2599	Mg2790	Na5889	Ni2316	Pb2203	Sb2068
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avg	L22.00	L45.00	L450.0	L900.0	L22.00	L45.00	<90.00
SDev	1.85	.71	12.4	4.0	6.11	4.90	10.74
%RSD	28.41	2.463	62.96	60.71	199.6	18.31	9279.

#1	L22.00	L45.00	L450.0	L900.0	L22.00	L45.00	L90.00
#2	L22.00	L45.00	L450.0	L900.0	<22.00	L45.00	<90.00
#3	L22.00	L45.00	L450.0	L900.0	L22.00	L45.00	L90.00

Errors	LC Low	LC Low	LC Low	LC Low	LC Low	LC Low	LC Pass
High	25.00	50.00	500.0	1000.	25.00	50.00	100.0
Low	.0000	.0000	.0000	.0000	.0000	.0000	.0000

Elem	Se1960	Zn2138
Units	ppb	ppb
Avg	<90.00	L9.000
SDev	9.39	2.456
%RSD	36.45	93.61

#1	<90.00	L9.000
#2	<90.00	L9.000
#3	<90.00	L9.000

Errors	LC Pass	LC Low
High	100.0	10.00
Low	.0000	.0000

Date: 8-6-96  
 Method#: \_\_\_\_\_  
 Parameter: AS 25100 2 ee  
 Analyst: mm  
 Supervisor: [Signature]

S1	25 ppb
S2	50 ppb
S3	75 ppb
S4	100 ppb

Standard Lot #: W 960806-1

LCS Spike Lot #: 55960716-1

Matrix Spike Lot #: 55960716-1

Sample #	Result ug/L.	Digest Factor	DF	Result mg/L
Method Blank	ND	T	T	ND
QCTV = 50 ppb	46.33	I	I	0.046
LCS	44.36	I	I	0.044
Low Level Check Std.	9.95	I	I	100%
08014-13D	0.18	1:1.1	I	ND
↓ - 14D	ND	I	I	ND
07 328-3	2.43	I	I	0.003
/				
Calibration Blank				
CCV Mid TV =				
/				
Calibration Blank	ND	T	T	ND
CCV Low TV = 25 ppb	22.93	I	I	0.023
CCV Mid TV = 50 ppb	45.29	I	I	0.045
Dup. Samp# 08014-13	0.36	1:1.1	I	ND
MS Samp# 07 328-3	48.00	-	I	0.048
MSD	↓ -3 50.07	-	I	0.050

Blk Spk	Result	% Rec.
TV = 50 ppb	44.36	89%

Dup. Samp #	Sample Result	Duplicate Result	RPD
07 328-3	ND	ND	0.0%

MS Samp#	Samp Conc	Spike Conc	Spike Result	% Rec	Dup Result	% Rec	RPD
07 328-3	2.43	50 ppb	48.00	91%	50.07	95%	4.2%

Date: 8-6-96  
 Method#: \_\_\_\_\_  
 Parameter: As - 200-5100  
 Analyst: ml  
 Supervisor: RL

S1	25 PPM
S2	50 PPM
S3	75 PPM
S4	100 PPM

Standard Lot # W90806-1

LCS Spike Lot #: 55960716-1

Matrix Spike Lot #: 55960716-1

Sample #	Result ug/L	Final Vol.	Samp. Wt.	% Solids	DF	Result mg/Kg
Method Blank	0.54	T	T	T	T	ND
QCTV=50 PPM	46.02					0.045
LCS	44.48					0.044
Low Level Check Std.	5.99	T	T	T		90%
08 028-1	5.1	50ml	0.50	91		0.50
√ -2	4.47		0.52	95		0.45
07 352-1	3.28		0.54	97		0.31
-2	2.86		0.52	91		0.31
-3	4.47		0.54	94		0.44
-4	3.03		0.50	96		0.31
-5	4.11		0.57	88		0.41
-6	2.71		0.50	93		0.29
-7	0.98		0.57	90		ND
√ -8	7.60	√	0.51	80		0.93
Calibration Blank	ND	-	-	-		ND
CCV Mid TV= 50 PPM	47.00	-	-	-		0.047
07 352-9	4.09	50ml	0.50	83		0.49
√ -10	89.46		0.50	93		3.1
07 358-60	9.08		0.56	81		1.0
08 014 -1	37.99		0.51	95		4.0
-2	31.14		0.50	98		3.3
-3	47.04		0.51	92		5.1
-4	27.76		0.52	94		2.8
√ -5	41.92		0.52	91	T	4.4
√ -6	55.88	√	0.51	57	1:2	19.0
Calibration Blank	ND	T	T	T	T	ND
CCV Low TV= 25 PPM	23.08	T	T	T		0.023
CCV Mid TV= 50 PPM	47.20	T	T	T		0.047
Dup. Samp# 07 352-2	3.22	50ml	0.52	91		0.34
MS Samp#   -2	57.21	-	-	-		0.057
MSD √ -2	50.83	-	-	-	T	0.051

Blk Spk	Result	% Rec.	Dup. Samp #	Sample Result	Duplicate Result	RPD
TV= 50 PPM	44.48	89%	07 352-2	2.86	3.22	12%

MS Samp#	Samp Conc	Spike Conc	Spike Result	% Rec	Dup Result	% Rec	RPD
07 352-3	2.86	50 PPM	57.21	109%	50.83	96%	12%

Date: 8-6-96  
 Method#: \_\_\_\_\_  
 Parameter: As-Zinc flow  
 Analyst: mm  
 Supervisor: [Signature]

S1	25 PPM
S2	50 PPM
S3	75 PPM
S4	100 PPM

Sample #	Result ug/L	Final Vol.	Samp. Wt.	% Solids	DF	Result mg/Kg
Method Blank	0.35	T	T	T	T	ND
QCTV= 50 PPM	46.33					0.046
LCS	46.17					0.046
Low Level Check Std.	9.95	T	T	T		700%
08014-7	34.89	50ml	0.56	70		4.4
-8	33.50		0.56	50		6.0
-9	18.63		0.52	76		2.3
-10	36.18		0.55	64		5.1
-11	55.53		0.51	73		7.5
-12	27.97		0.56	61		4.1
07352-10	26.48	T	0.50	93	T	2.8
/						
Calibration Blank						
CCV Mid TV=						
/						
Calibration Blank	ND	T	T	T	T	ND
CCV Low TV= 25 PPM	22.93	T	T	T		0.023
CCV Mid TV= 50 PPM	45.29	T	T	T		0.045
Dup. Samp# 07352-10	26.07	50ml	0.56	93	T	2.8
MS Samp# -10	58.99	-	-	-	Sample 1:2	0.059
MSD -10	60.35	-	-	-	T	0.060

Standard Lot #: W960806-1

LCS Spike Lot #: SS960716-1

Matrix Spike Lot #: W960806-1

Blk Spk	Result	% Rec.	Dup. Samp #	Sample Result	Duplicate Result	RPD
1/√= 50 PPM	46.17	92%	07352-10	26.48	26.07	1.6%

MS Samp#	Samp Conc	Spike Conc	Spike Result	% Rec	Dup Result	% Rec	RPD
07352-10	13.24	50 PPM	58.99	92%	60.35	94%	2.3%

Date: 8-5-96  
8-2-96 1/2  
 Method#: \_\_\_\_\_  
 Parameter: 5 Pb-51 Tl-Zeem 5100  
 Analyst: mm  
 Supervisor: MS

S1	25 Ppb
S2	50 Ppb
S3	75 Ppb
S4	100 Ppb

Standard Lot #: W 960805-1

LCS Spike Lot #: 55960716-1

Matrix Spike Lot #: 55960716-1

Sample #	Result ug/L	Digest Factor	DF	Result mg/L
Method Blank	ND	T	T	ND
QCTV=	49.33			0.049
LCS	45.17			0.045
Low Level Check Std.	8.21	-		82%
03 014-13D	ND	1:1.1		ND
↓ -14D	ND			ND
07 328.3	ND	↓	T	ND
/				
Calibration Blank				
CCV Mid TV=				
/				
Calibration Blank	ND	T	T	ND
CCV Low TV= 25 Ppb	22.57			0.027
CCV Mid TV= 50 Ppb	47.90	-		0.048
Dup. Samp# 07 328-3	ND	1:1.1		ND
MS Samp#	-3 47.10	-		0.047
MSD	√ -3 46.03	-	T	0.045

Blk Spk	Result	% Rec.
TV= 50 Ppb	45.17	90%

Dup. Samp #	Sample Result	Duplicate Result	RPD
07 328-3	ND	ND	0.0%

MS Samp#	Samp Conc	Spike Conc	Spike Result	% Rec	Dup Result	% Rec	RPD
07328-3	ND	50 Ppb	47.10	94%	46.03	92%	2.3%

Date: 8-5-96  
 Method#: \_\_\_\_\_  
 Parameter: Tl-232m-5100  
 Analyst: mm  
 Supervisor: [Signature]

S1	25ppm
S2	50ppm
S3	75ppm
S4	100ppm

Standard Lot #: 69608051

LCS Spike Lot #: 55960716-1

Matrix Spike Lot #: 55960716-1

Sample #	Result ug/L	Final Vol.	Samp. Wt.	% Solids	DF	Result mg/Kg
Method Blank	ND	T	T	T	T	ND
QCTV = 50ppm	49.33	I	I	I	I	0.049
LCS	44.87	I	I	I	I	0.045
Low Level Check Std.	8.21	I	I	I	I	82%
08014-1	ND	50ml	0.51	95		ND
-2	ND		0.50	95		ND
-3	ND		0.51	92		ND
-4	0.18		0.52	94		ND
-5	0.19		0.52	91		ND
-6	ND		0.51	57		ND
-7	ND		0.56	70		ND
-8	ND		0.56	50		ND
-9	ND		0.52	70		ND
-10	0.05	✓	0.55	64		ND
Calibration Blank	ND	-	-	-		ND
CCV Mid TV = 50ppm	46.05	-	-	-		0.046
08014-11	ND	50ml	0.51	73		ND
↓ -12	ND		0.56	61		ND
08020-1	ND		0.56	91		ND
↓ -2	ND		0.52	95		ND
07352-2	ND	✓	0.52	90	I	ND
/						
Calibration Blank	ND	T	T	T	T	ND
CCV Low TV = 25ppm	22.57	I	I	I	I	0.023
CCV Mid TV = 50ppm	47.90	I	I	I	I	0.048
Dup. Samp# 07352-2	ND	50ml	0.52	90	I	ND
MS Samp# ↓ -2	44.40	-	-	-	I	0.044
MSD ↓ -2	44.58	-	-	-	I	0.045

Blk Spk	Result	% Rec.	Dup. Samp #	Sample Result	Duplicate Result	RPD
TV = 50ppm	44.87	90%	07352-2	ND	ND	0.0%

MS Samp#	Samp Conc	Spike Conc	Spike Result	% Rec	Dup Result	% Rec	RPD
07352-2	ND	50ppm	44.40	89%	44.58	89%	0.4%

Date: 8.6.96  
 Method#: \_\_\_\_\_  
 Parameter: Mercury  
 Analyst: UNA  
 Supervisor: \_\_\_\_\_

S1	<u>10ppb</u>
S2	<u>90ppb</u>
S3	
S4	
S5	
S6	

Sample #	Result ug/L	Final Vol.	Samp. Wt.	% Solids	DF	Result mg/Kg
Method Blank	ND	I	I	I	I	ND
QC TV= <u>5ppb</u>	5.0	I	I	I		0.005
Low Level Check Std. <u>1ppb</u>	0.7	I	I	I		0.001
E608029-1	ND	100ml	0.50	91.0		ND
-2	ND		0.51	95.0		ND
E608014-1	ND		0.53	95.2		ND
-2	ND		0.51	95.1		ND
-3	ND		0.53	92.0		ND
-4	ND		0.54	94.5		ND
-5	ND		0.50	91.0		ND
-6	ND		0.57	57.1		ND
-7	ND		0.54	70.2		ND
-8	ND		0.51	49.5		ND
Calibration Blank	ND		-	-		ND
CCV Mid TV= <u>5ppb</u>	4.5		-	-		0.005
E608014-9	<del>4.5</del> 4.4		0.53	76.4		ND
-10A	ND		0.51	64.5		ND
-11	1.6		0.50	73.0		0.438
-12	ND		0.52	60.8	I	ND
/						
Calibration Blank	ND	100ml	I	I	I	ND
CCV Low TV= <u>2ppb</u>	1.6		I	I	I	0.002
CCV Mid TV= <u>5ppb</u>	5.0		I	I	I	0.005
Dup. Samp# 8014-1	ND		0.52	95.2		ND
MS Samp#	4.5		0.50			0.005
MSD	4.7		0.51			0.005

Dup. Samp #	Sample Result	Duplicate Result	RPD
E608014-1	ND	ND	0.0

MS Samp#	Samp Conc	Spike Conc	Spike Result	% Rec	Dup Result	% Rec	RPD
8014-1	ND	5ppb	4.5	90	4.7	94	4.3



Date: 8.6.96  
 Method#: \_\_\_\_\_  
 Parameter: Mercury  
 Analyst: [Signature]  
 Supervisor: [Signature]

S1	<u>[Signature]</u>
S2	<u>[Signature]</u>
S3	
S4	
S5	
S6	

Sample #	Result ug/L	DF	Result mg/L
Method Blank	ND	9	ND
QCTV = <u>5ppb</u>	5.0	I	0.005
Low Level Check Std. <u>1ppb</u>	0.7	I	0.001
E608005-1B	4.5	1:400	1.800
↓ -2B	3.6	1:400	1.400
E608008-3B	ND	T	ND
E608014-14D	ND	I	ND
↓ -13D	ND	I	ND
Calibration Blank			
CCV Mid TV =			
Calibration Blank	ND	T	ND
CCV Low TV = <u>2ppb</u>	1.8	I	0.002
CCV Mid TV = <u>5ppb</u>	4.7	I	0.005
Dup. Samp# 8014-13D	ND	L	ND
MS Samp# 8008-3B	4.7	1:2	0.005
MSD ↓	4.7	↓	0.005

Dup. Samp #	Sample Result	Duplicate Result	RPD
E608014-13D	ND	ND	0.0

MS Samp#	Samp Conc	Spike Conc	Spike Result	% Rec	Dup Result	% Rec	RPD
8008-3B	ND	5ppb	4.7	94	4.7	94	0.0

Date: 8-1-96  
 Method#: 335.3/9010  
 Parameter: Cyanide  
 Analyst: E. Benken  
 Supervisor: JS

(TV = 0.100)

Sample #	SO2	Amt. ml/g	Final Vol	Result	DF	Result	
S1=0.50	-	50ml	50mL	0.500	-	0.500	
S2=0.25	-			0.250	-	0.250	
S3=0.125	-			0.125	-	0.125	
QC	-			0.235	-	0.235	
Blank	-			0.004	-	0.004	
Low Level Check Std.	-	↓	↓	0.112	-	0.112	mg/kg ↓
EW08014-1	-	6.39	125mL	0.002	-	0.002	ND
-2	-	7.48		0.163	25X	4.082	72
-3	-	6.46		0.146	2X	0.243	6.2
-4	-	7.97		0.017	-	0.017	ND
-5	-	8.18		0.123	5X	0.617	10
-6	-	11.74		0.166	2X	0.333	6.2
-7	-	7.08		0.196	10X	1.966	49
-8	-	11.58		0.229	2X	0.459	10
-9	-	9.43		0.167	10X	1.677	29
-10A	-	9.51		0.124	10X	1.245	25
-11	-	10.60		0.021	-	0.021	0.34
-12	-	7.31	↓	0.189	10X	1.894	52
<del>_____</del>							
Dup Samp#	EW08014-1	-	6.39	125mL	0.001	-	0.001
MS Samp#	↓ -1	-	6.32	↓	0.022	-	0.022
Blk Spk TV =	0.250	-	25.25	500mL	0.248	-	0.248

QC Lot #	WS1195
TV	0.250
Result	0.235
QC Limits	± 0.100

Blk Spk	Result	% Rec	Dup. Samp#	Sample Result	Duplicate Result	RPD
TV = 0.250	0.248	99.2%	EW08014-1	0.002 (ND)	0.001 (ND)	67% 81%
MS Samp #	Conc.	Sample Result	MS Result	% REC		
EW08014-1	0.250	0.002	0.022	8.0%		







Laboratory Resources, Inc.  
New England Division

Route 205 - Regional Building  
Brooklyn, CT 06234  
Telephone: 203-774-6814 Fax: 203-774-2689

**ANALYTICAL DATA REPORT**

Report Number: E609061  
Project: Tidewater Former MGP

prepared for:

Atlantic Environmental  
188 Norwich Ave.  
P.O. Box 297  
Colchester, CT 06415

Attn: Steven Wallett

Receive Date: 09/05/96  
Report Date: 09/12/96

T.F. McCommas  
Laboratory Director

Connecticut Department of Health Services PH-0465  
Maine Department of Environmental Protection TBD  
Massachusetts Department of Environmental Quality CT008  
New Hampshire Department of Environmental Services 2020  
New York Department of Health 11549  
Rhode Island Department of Health A44 0022

# GENERAL CHEMISTRY ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
Division: New England  
LRI Report No: E609061  
LRI Sample No: 1

Customer: Atlantic Environmental Eng  
Location: Pawtucket, RI  
Project: Tidewater Former MGP  
Sample Description: MW-3

Date Collected: 09/04/96  
Date Received: 09/05/96

Matrix: Water  
Percent Moisture: N/A  
Units in Wet Weight

<u>Parameter</u>	<u>Result</u>	<u>QL</u>	<u>Units</u>	<u>Started</u> <u>Date</u>	<u>By</u>	<u>Completed</u> <u>Date</u>	<u>By</u>	<u>Dilution</u>
<u>Cyanide, Total, by EPA 335.3</u>								
Cyanide	0.068	0.020	mg/L	09/06/96	EB	09/06/96	EB	

# METALS ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
 Division: New England  
 LRI Order No: E609061  
 LRI Sample No: 1

Client: Atlantic Environmental Eng  
 Location: Pawtucket, RI  
 Project: Tidewater Former MGP  
 Sample Description: MW-3

Date Collected: 09/04/96  
 Date Received: 09/05/96

Matrix: Water  
 Percent Moisture: N/A

Parameter	Result	QL	Units	Started		Completed		Dilution
				Date	By	Date	By	
<u>Arsenic by Furnace by SW-846 7060</u>								
Arsenic	0.0027	0.0020	mg/L	09/05/96	KH	09/06/96	MM	
<u>Mercury by Cold Vapor by SW-846 7470</u>								
Mercury	0.00020 U	0.00020	mg/L	09/09/96	KH	09/10/96	MM	
<u>Metals by ICP by SW-846 6010A</u>								
Beryllium	0.0020 U	0.0020	mg/L	09/05/96	KH	09/09/96	BS	
Chromium	0.024 U	0.024	mg/L	09/05/96	KH	09/09/96	BS	
Copper	0.024 U	0.024	mg/L	09/05/96	KH	09/09/96	BS	
Nickel	0.024 U	0.024	mg/L	09/05/96	KH	09/09/96	BS	
Silver	0.020 U	0.020	mg/L	09/05/96	KH	09/09/96	BS	
Zinc	0.025	0.010	mg/L	09/05/96	KH	09/09/96	BS	
Barium	0.049	0.010	mg/L	09/05/96	KH	09/09/96	BS	
Antimony	0.10 U	0.10	mg/L	09/05/96	KH	09/09/96	BS	
Lead	0.050 U	0.050	mg/L	09/05/96	KH	09/09/96	BS	
Selenium	0.10 U	0.10	mg/L	09/05/96	KH	09/09/96	BS	
Cadmium	0.010 U	0.010	mg/L	09/05/96	KH	09/09/96	BS	
<u>Thallium by Furnace by SW-846 7841</u>								
Thallium	0.0020 U	0.0020	mg/L	09/05/96	KH	09/09/96	MM	

# GENERAL CHEMISTRY ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
Division: New England  
LRI Report No: E609061  
LRI Sample No: 2

Customer: Atlantic Environmental Eng  
Location: Pawtucket, RI  
Project: Tidewater Former MGP  
Sample Description: MW-M+E 1

Date Collected: 09/04/96  
Date Received: 09/05/96

Matrix: Water  
Percent Moisture: N/A  
Units in Wet Weight

<u>Parameter</u>	<u>Result</u>	<u>QL</u>	<u>Units</u>	<u>Started</u> <u>Date</u>	<u>By</u>	<u>Completed</u> <u>Date</u>	<u>By</u>	<u>Dilution</u>
<u>Cyanide, Total, by EPA 335.3</u>								
Cyanide	0.68	0.040	mg/L	09/06/96	EB	09/09/96	EB	2



# METALS ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
 Division: New England  
 LRI Order No: E609061  
 LRI Sample No: 2

Client: Atlantic Environmental Eng  
 Location: Pawtucket, RI  
 Project: Tidewater Former MGP  
 Sample Description: MW-M+E 1

Date Collected: 09/04/96  
 Date Received: 09/05/96

Matrix: Water  
 Percent Moisture: N/A

Parameter	Result	QL	Units	Started Date	By	Completed Date	By	Dilution
<u>Arsenic by Furnace by SW-846 7060</u>								
Arsenic	0.0020U	0.0020	mg/L	09/05/96	KH	09/06/96	MM	
<u>Mercury by Cold Vapor by SW-846 7470</u>								
Mercury	0.00020U	0.00020	mg/L	09/09/96	KH	09/10/96	MM	
<u>Metals by ICP by SW-846 6010A</u>								
Beryllium	0.0020U	0.0020	mg/L	09/05/96	KH	09/09/96	BS	
Chromium	0.024U	0.024	mg/L	09/05/96	KH	09/09/96	BS	
Copper	0.024U	0.024	mg/L	09/05/96	KH	09/09/96	BS	
Nickel	0.024U	0.024	mg/L	09/05/96	KH	09/09/96	BS	
Silver	0.020U	0.020	mg/L	09/05/96	KH	09/09/96	BS	
Zinc	0.016	0.010	mg/L	09/05/96	KH	09/09/96	BS	
Barium	0.024	0.010	mg/L	09/05/96	KH	09/09/96	BS	
Antimony	0.10U	0.10	mg/L	09/05/96	KH	09/09/96	BS	
Lead	0.050U	0.050	mg/L	09/05/96	KH	09/09/96	BS	
Selenium	0.10U	0.10	mg/L	09/05/96	KH	09/09/96	BS	
Cadmium	0.010U	0.010	mg/L	09/05/96	KH	09/09/96	BS	
<u>Thallium by Furnace by SW-846 7841</u>								
Thallium	0.0020U	0.0020	mg/L	09/05/96	KH	09/09/96	MM	

# GENERAL CHEMISTRY ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
Division: New England  
LRI Report No: E609061  
LRI Sample No: 3

Customer: Atlantic Environmental Eng  
Location: Pawtucket, RI  
Project: Tidewater Former MGP  
Sample Description: MW-7

Date Collected: 09/04/96  
Date Received: 09/05/96

Matrix: Water  
Percent Moisture: N/A  
Units in Wet Weight

<u>Parameter</u>	<u>Result</u>	<u>QL</u>	<u>Units</u>	<u>Started</u> <u>Date</u>	<u>By</u>	<u>Completed</u> <u>Date</u>	<u>By</u>	<u>Dilution</u>
<u>Cyanide, Total, by EPA 335.3</u>								
Cyanide	0.020 U	0.020	mg/L	09/06/96	EB	09/06/96	EB	

# METALS ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
 Division: New England  
 LRI Order No: E609061  
 LRI Sample No: 3

Client: Atlantic Environmental Eng  
 Location: Pawtucket, RI  
 Project: Tidewater Former MGP  
 Sample Description: MW-7

Date Collected: 09/04/96  
 Date Received: 09/05/96

Matrix: Water  
 Percent Moisture: N/A

Parameter	Result	QL	Units	Started		Completed		Dilution
				Date	By	Date	By	
<u>Arsenic by Furnace by SW-846 7060</u>								
Arsenic	0.0020 U	0.0020	mg/L	09/05/96	KH	09/06/96	MM	
<u>Mercury by Cold Vapor by SW-846 7470</u>								
Mercury	0.00020 U	0.00020	mg/L	09/09/96	KH	09/10/96	MM	
<u>Metals by ICP by SW-846 6010A</u>								
Beryllium	0.0020 U	0.0020	mg/L	09/05/96	KH	09/09/96	BS	
Chromium	0.024 U	0.024	mg/L	09/05/96	KH	09/09/96	BS	
Copper	0.024 U	0.024	mg/L	09/05/96	KH	09/09/96	BS	
Nickel	0.024 U	0.024	mg/L	09/05/96	KH	09/09/96	BS	
Silver	0.020 U	0.020	mg/L	09/05/96	KH	09/09/96	BS	
Zinc	0.023	0.010	mg/L	09/05/96	KH	09/09/96	BS	
Barium	0.017	0.010	mg/L	09/05/96	KH	09/09/96	BS	
Antimony	0.10 U	0.10	mg/L	09/05/96	KH	09/09/96	BS	
Lead	0.050 U	0.050	mg/L	09/05/96	KH	09/09/96	BS	
Selenium	0.10 U	0.10	mg/L	09/05/96	KH	09/09/96	BS	
Cadmium	0.010 U	0.010	mg/L	09/05/96	KH	09/09/96	BS	
<u>Thallium by Furnace by SW-846 7841</u>								
Thallium	0.0020 U	0.0020	mg/L	09/05/96	KH	09/09/96	MM	

# GENERAL CHEMISTRY ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
Division: New England  
LRI Report No: E609061  
LRI Sample No: 4

Customer: Atlantic Environmental Eng  
Location: Pawtucket, RI  
Project: Tidewater Former MGP  
Sample Description: MW-4

Date Collected: 09/04/96  
Date Received: 09/05/96

Matrix: Water  
Percent Moisture: N/A  
Units in Wet Weight

<u>Parameter</u>	<u>Result</u>	<u>QL</u>	<u>Units</u>	<u>Started</u> <u>Date</u>	<u>By</u>	<u>Completed</u> <u>Date</u>	<u>By</u>	<u>Dilution</u>
Cyanide, Total, by EPA 335.3								
Cyanide	0.24	0.020	mg/L	09/06/96	EB	09/06/96	EB	

# METALS ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
 Division: New England  
 LRI Order No: E609061  
 LRI Sample No: 4

Client: Atlantic Environmental Eng  
 Location: Pawtucket, RI  
 Project: Tidewater Former MGP  
 Sample Description: MW-4

Date Collected: 09/04/96  
 Date Received: 09/05/96

Matrix: Water  
 Percent Moisture: N/A

Parameter	Result	QL	Units	Started		Completed		Dilution
				Date	By	Date	By	
<u>Arsenic by Furnace by SW-846 7060</u>								
Arsenic	0.0020 U	0.0020	mg/L	09/05/96	KH	09/06/96	MM	
<u>Mercury by Cold Vapor by SW-846 7470</u>								
Mercury	0.00020 U	0.00020	mg/L	09/09/96	KH	09/10/96	MM	
<u>Metals by ICP by SW-846 6010A</u>								
Beryllium	0.0020 U	0.0020	mg/L	09/05/96	KH	09/09/96	BS	
Chromium	0.024 U	0.024	mg/L	09/05/96	KH	09/09/96	BS	
Copper	0.024 U	0.024	mg/L	09/05/96	KH	09/09/96	BS	
Nickel	0.024 U	0.024	mg/L	09/05/96	KH	09/09/96	BS	
Silver	0.020 U	0.020	mg/L	09/05/96	KH	09/09/96	BS	
Zinc	0.028	0.010	mg/L	09/05/96	KH	09/09/96	BS	
Barium	0.036	0.010	mg/L	09/05/96	KH	09/09/96	BS	
Antimony	0.10 U	0.10	mg/L	09/05/96	KH	09/09/96	BS	
Lead	0.050 U	0.050	mg/L	09/05/96	KH	09/09/96	BS	
Selenium	0.10 U	0.10	mg/L	09/05/96	KH	09/09/96	BS	
Cadmium	0.010 U	0.010	mg/L	09/05/96	KH	09/09/96	BS	
<u>Thallium by Furnace by SW-846 7841</u>								
Thallium	0.0020 U	0.0020	mg/L	09/05/96	KH	09/09/96	MM	

# VOLATILE ORGANIC ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
 Division: New England  
 LRI Report No: E609061  
 LRI Sample No: 4

Customer: Atlantic Environmental Eng  
 Location: Pawtucket, RI  
 Project: Tidewater Former MGP  
 Sample Description: MW-4

Date Collected: 09/04/96  
 Date Received: 09/05/96  
 Date Extracted: By:  
 Date Analyzed: 09/10/96 By: AP

Matrix: Water  
 Percent Moisture: N/A  
 Sample Weight/Volume:  
 Dilution Factor: 5  
 Soil Extract Volume:  
 Soil Aliquot Volume:  
 Lab Data File: C4806

Method: 8260A  
 Level: LOW  
 GC Column:  
 Units: ug/L ( Wet Weight )

CAS No.	Parameter	Result	Qual	QL
107-02-8	Acrolein	120	U	120
107-13-1	Acrylonitrile	120	U	120
71-43-2	Benzene	40		25
108-86-1	Bromobenzene	25	U	25
74-97-5	Bromochloromethane	25	U	25
75-27-4	Bromodichloromethane	25	U	25
75-25-2	Bromoform	25	U	25
74-83-9	Bromomethane	50	U	50
104-51-8	n-Butylbenzene	25	U	25
135-98-8	sec-Butylbenzene	25	U	25
98-06-6	tert-Butylbenzene	25	U	25
56-23-5	Carbon tetrachloride	25	U	25
108-90-7	Chlorobenzene	25	U	25
75-00-3	Chloroethane	50	U	50
67-66-3	Chloroform	25	U	25
74-87-3	Chloromethane	50	U	50
95-49-8	2-Chlorotoluene	25	U	25
106-43-4	4-Chlorotoluene	25	U	25
96-12-8	1,2-Dibromo-3-chloropropane (DBCP)	25	U	25
124-48-1	Dibromochloromethane	25	U	25
106-93-4	1,2-Dibromoethane (EDB)	25	U	25
74-95-3	Dibromomethane	25	U	25
95-50-1	1,2-Dichlorobenzene	25	U	25
541-73-1	1,3-Dichlorobenzene	25	U	25
106-46-7	1,4-Dichlorobenzene	25	U	25
75-71-8	Dichlorodifluoromethane	50	U	50
75-34-3	1,1-Dichloroethane	25	U	25
107-06-2	1,2-Dichloroethane	25	U	25
75-35-4	1,1-Dichloroethene	25	U	25
156-59-4	cis-1,2-Dichloroethene	25	U	25
156-60-5	trans-1,2-Dichloroethene	25	U	25
78-87-5	1,2-Dichloropropane	25	U	25
142-28-9	1,3-Dichloropropane	25	U	25
590-20-7	2,2-Dichloropropane	25	U	25
563-58-6	1,1-Dichloropropene	25	U	25
10061-01-5	cis-1,3-Dichloropropene	25	U	25
10061-02-6	trans-1,3-Dichloropropene	25	U	25
100-41-4	Ethylbenzene	36		25
87-68-3	Hexachlorobutadiene	25	U	25
98-82-8	Isopropylbenzene	25	U	25
99-87-6	4-Isopropyltoluene	25	U	25
1634-04-4	Methyl tert-butyl ether (MTBE)	25	U	25

# VOLATILE ORGANIC ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
Division: New England  
LRI Report No: E609061  
LRI Sample No: 4

Customer: Atlantic Environmental Eng  
Location: Pawtucket, RI  
Project: Tidewater Former MGP  
Sample Description: MW-4

Method: 8260A

CAS No.	Parameter	Result	Qual	QL
75-09-2	Methylene chloride	25	U	25
91-20-3	Naphthalene	320		25
103-65-1	n-Propylbenzene	25	U	25
100-42-5	Styrene	25	U	25
96-18-4	1,2,3-Trichloropropane	25	U	25
630-20-6	1,1,1,2-Tetrachloroethane	25	U	25
79-34-5	1,1,2,2-Tetrachloroethane	25	U	25
127-18-4	Tetrachloroethene	25	U	25
108-88-3	Toluene	28		25
87-61-6	1,2,3-Trichlorobenzene	25	U	25
120-82-1	1,2,4-Trichlorobenzene	25	U	25
71-55-6	1,1,1-Trichloroethane	25	U	25
79-00-5	1,1,2-Trichloroethane	25	U	25
79-01-6	Trichloroethene (TCE)	25	U	25
75-69-4	Trichlorofluoromethane	50	U	50
95-63-6	1,2,4-Trimethylbenzene	25	U	25
108-67-8	1,3,5-Trimethylbenzene	25	U	25
75-01-4	Vinyl chloride	50	U	50
95-47-6	o-Xylene	25	U	25
	m,p-Xylenes	30		25

# SEMIVOLATILE ORGANIC ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
 Division: New England  
 LRI Report No: E609061  
 LRI Sample No: 4

Customer: Atlantic Environmental Eng  
 Location: Pawtucket, RI  
 Project: Tidewater Former MGP  
 Sample Description: MW-4

Date Collected: 09/04/96  
 Date Received: 09/05/96  
 Date Extracted: 09/07/96 By: SB  
 Date Analyzed: 09/11/96 By: RAW

Matrix: Water  
 Percent Moisture: N/A  
 pH:  
 Sample Weight/Volume: 1000 mL  
 Extract Volume: 1  
 Injection Volume:  
 Dilution Factor: 2  
 Lab Data File: E01981

Method: 8270  
 Level: LOW  
 GC Column:  
 Units: ug/L (Wet Weight)

CAS No.	Parameter	Result	Qual	QL
83-32-9	Acenaphthene	26		10
208-96-8	Acenaphthylene	10	U	10
120-12-7	Anthracene	10	U	10
56-55-3	Benzo[a]anthracene	10	U	10
50-32-8	Benzo[a]pyrene	0.46		0.40
205-99-2	Benzo[b]fluoranthene	10	U	10
191-24-2	Benzo[g,h,i]perylene	10	U	10
207-08-9	Benzo[k]fluoranthene	10	U	10
218-01-9	Chrysene	10	U	10
53-70-3	Dibenzo[a,h]anthracene	10	U	10
206-44-0	Fluoranthene	10	U	10
86-73-7	Fluorene	10	U	10
193-39-5	Indeno[1,2,3-cd]pyrene	10	U	10
91-20-3	Naphthalene	200		10
85-01-8	Phenanthrene	17		10
129-00-0	Pyrene	10	U	10



# GENERAL CHEMISTRY ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
Division: New England  
LRI Report No: E609061  
LRI Sample No: 5

Customer: Atlantic Environmental Eng  
Location: Pawtucket, RI  
Project: Tidewater Former MGP  
Sample Description: MW-8

Date Collected: 09/04/96  
Date Received: 09/05/96

Matrix: Water  
Percent Moisture: N/A  
Units in Wet Weight

<u>Parameter</u>	<u>Result</u>	<u>QL</u>	<u>Units</u>	<u>Started</u> <u>Date</u>	<u>By</u>	<u>Completed</u> <u>Date</u>	<u>By</u>	<u>Dilution</u>
Cyanide, Total, by EPA 335.3								
Cyanide	0.17	0.020	mg/L	09/06/96	EB	09/06/96	EB	

# METALS ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
 Division: New England  
 LRI Order No: E609061  
 LRI Sample No: 5

Client: Atlantic Environmental Eng  
 Location: Pawtucket, RI  
 Project: Tidewater Former MGP  
 Sample Description: MW-8

Date Collected: 09/04/96  
 Date Received: 09/05/96

Matrix: Water  
 Percent Moisture: N/A

Parameter	Result	QL	Units	Started		Completed		Dilution
				Date	By	Date	By	
<u>Arsenic by Furnace by SW-846 7060</u>								
Arsenic	0.0020 U	0.0020	mg/L	09/05/96	KH	09/06/96	MM	
<u>Mercury by Cold Vapor by SW-846 7470</u>								
Mercury	0.00020 U	0.00020	mg/L	09/09/96	KH	09/10/96	MM	
<u>Metals by ICP by SW-846 6010A</u>								
Beryllium	0.0020 U	0.0020	mg/L	09/05/96	KH	09/09/96	BS	
Chromium	0.024 U	0.024	mg/L	09/05/96	KH	09/09/96	BS	
Copper	0.024 U	0.024	mg/L	09/05/96	KH	09/09/96	BS	
Nickel	0.024 U	0.024	mg/L	09/05/96	KH	09/09/96	BS	
Silver	0.020 U	0.020	mg/L	09/05/96	KH	09/09/96	BS	
Zinc	0.019	0.010	mg/L	09/05/96	KH	09/09/96	BS	
Barium	0.037	0.010	mg/L	09/05/96	KH	09/09/96	BS	
Antimony	0.10 U	0.10	mg/L	09/05/96	KH	09/09/96	BS	
Lead	0.050 U	0.050	mg/L	09/05/96	KH	09/09/96	BS	
Selenium	0.10 U	0.10	mg/L	09/05/96	KH	09/09/96	BS	
Cadmium	0.010 U	0.010	mg/L	09/05/96	KH	09/09/96	BS	
<u>Thallium by Furnace by SW-846 7841</u>								
Thallium	0.0020 U	0.0020	mg/L	09/05/96	KH	09/09/96	MM	

# GENERAL CHEMISTRY ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
Division: New England  
LRI Report No: E609061  
LRI Sample No: 6

Customer: Atlantic Environmental Eng  
Location: Pawtucket, RI  
Project: Tidewater Former MGP  
Sample Description: MW-6

Date Collected: 09/04/96  
Date Received: 09/05/96

Matrix: Water  
Percent Moisture: N/A  
Units in Wet Weight

<u>Parameter</u>	<u>Result</u>	<u>QL</u>	<u>Units</u>	<u>Started</u> <u>Date</u>	<u>By</u>	<u>Completed</u> <u>Date</u>	<u>By</u>	<u>Dilution</u>
<u>Cyanide, Total, by EPA 335.3</u>								
Cyanide	0.18	0.020	mg/L	09/06/96	EB	09/06/96	EB	

# METALS ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
 Division: New England  
 LRI Order No: E609061  
 LRI Sample No: 6

Client: Atlantic Environmental Eng  
 Location: Pawtucket, RI  
 Project: Tidewater Former MGP  
 Sample Description: MW-6

Date Collected: 09/04/96  
 Date Received: 09/05/96

Matrix: Water  
 Percent Moisture: N/A

Parameter	Result	QL	Units	Started		Completed		Dilution
				Date	By	Date	By	
<u>Arsenic by Furnace by SW-846 7060</u>								
Arsenic	0.0020U	0.0020	mg/L	09/05/96	KH	09/06/96	MM	
<u>Mercury by Cold Vapor by SW-846 7470</u>								
Mercury	0.00020U	0.00020	mg/L	09/09/96	KH	09/10/96	MM	
<u>Metals by ICP by SW-846 6010A</u>								
Beryllium	0.0020U	0.0020	mg/L	09/05/96	KH	09/09/96	BS	
Chromium	0.024U	0.024	mg/L	09/05/96	KH	09/09/96	BS	
Copper	0.024U	0.024	mg/L	09/05/96	KH	09/09/96	BS	
Nickel	0.024U	0.024	mg/L	09/05/96	KH	09/09/96	BS	
Silver	0.020U	0.020	mg/L	09/05/96	KH	09/09/96	BS	
Zinc	0.023	0.010	mg/L	09/05/96	KH	09/09/96	BS	
Barium	0.23	0.010	mg/L	09/05/96	KH	09/09/96	BS	
Antimony	0.10U	0.10	mg/L	09/05/96	KH	09/09/96	BS	
Lead	0.050U	0.050	mg/L	09/05/96	KH	09/09/96	BS	
Selenium	0.10U	0.10	mg/L	09/05/96	KH	09/09/96	BS	
Cadmium	0.010U	0.010	mg/L	09/05/96	KH	09/09/96	BS	
<u>Thallium by Furnace by SW-846 7841</u>								
Thallium	0.0020U	0.0020	mg/L	09/05/96	KH	09/09/96	MM	

# VOLATILE ORGANIC ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
 Division: New England  
 LRI Report No: E609061  
 LRI Sample No: 6

Customer: Atlantic Environmental Eng  
 Location: Pawtucket, RI  
 Project: Tidewater Former MGP  
 Sample Description: MW-6

Date Collected: 09/04/96  
 Date Received: 09/05/96  
 Date Extracted: By:  
 Date Analyzed: 09/10/96 By: AP

Matrix: Water  
 Percent Moisture: N/A  
 Sample Weight/Volume:  
 Dilution Factor: 1  
 Soil Extract Volume:  
 Soil Aliquot Volume:  
 Lab Data File: C4809

Method: 8260A  
 Level: LOW  
 GC Column:  
 Units: ug/L ( Wet Weight )

CAS No.	Parameter	Result	Qual	QL
107-02-8	Acrolein	25	U	25
107-13-1	Acrylonitrile	25	U	25
71-43-2	Benzene	26		5.0
108-86-1	Bromobenzene	5.0	U	5.0
74-97-5	Bromochloromethane	5.0	U	5.0
75-27-4	Bromodichloromethane	5.0	U	5.0
75-25-2	Bromoform	5.0	U	5.0
74-83-9	Bromomethane	10	U	10
104-51-8	n-Butylbenzene	5.0	U	5.0
135-98-8	sec-Butylbenzene	5.0	U	5.0
98-06-6	tert-Butylbenzene	5.0	U	5.0
56-23-5	Carbon tetrachloride	5.0	U	5.0
108-90-7	Chlorobenzene	5.0	U	5.0
75-00-3	Chloroethane	10	U	10
67-66-3	Chloroform	5.0	U	5.0
74-87-3	Chloromethane	10	U	10
95-49-8	2-Chlorotoluene	5.0	U	5.0
106-43-4	4-Chlorotoluene	5.0	U	5.0
96-12-8	1,2-Dibromo-3-chloropropane (DBCP)	5.0	U	5.0
124-48-1	Dibromochloromethane	5.0	U	5.0
106-93-4	1,2-Dibromoethane (EDB)	5.0	U	5.0
74-95-3	Dibromomethane	5.0	U	5.0
95-50-1	1,2-Dichlorobenzene	5.0	U	5.0
541-73-1	1,3-Dichlorobenzene	5.0	U	5.0
106-46-7	1,4-Dichlorobenzene	5.0	U	5.0
75-71-8	Dichlorodifluoromethane	10	U	10
75-34-3	1,1-Dichloroethane	5.0	U	5.0
107-06-2	1,2-Dichloroethane	5.0	U	5.0
75-35-4	1,1-Dichloroethene	5.0	U	5.0
156-59-4	cis-1,2-Dichloroethene	5.0	U	5.0
156-60-5	trans-1,2-Dichloroethene	5.0	U	5.0
78-87-5	1,2-Dichloropropane	5.0	U	5.0
142-28-9	1,3-Dichloropropane	5.0	U	5.0
590-20-7	2,2-Dichloropropane	5.0	U	5.0
563-58-6	1,1-Dichloropropene	5.0	U	5.0
10061-01-5	cis-1,3-Dichloropropene	5.0	U	5.0
10061-02-6	trans-1,3-Dichloropropene	5.0	U	5.0
100-41-4	Ethylbenzene	38		5.0
87-68-3	Hexachlorobutadiene	5.0	U	5.0
98-82-8	Isopropylbenzene	5.2		5.0
99-87-6	4-Isopropyltoluene	5.0	U	5.0
1634-04-4	Methyl tert-butyl ether (MTBE)	5.0	U	5.0

# VOLATILE ORGANIC ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
Division: New England  
LRI Report No: E609061  
LRI Sample No: 6

Customer: Atlantic Environmental Eng  
Location: Pawtucket, RI  
Project: Tidewater Former MGP  
Sample Description: MW-6

Method: 8260A

CAS No.	Parameter	Result	Qual	QL
75-09-2	Methylene chloride	5.0	U	5.0
91-20-3	Naphthalene	37		5.0
103-65-1	n-Propylbenzene	5.1		5.0
100-42-5	Styrene	5.0	U	5.0
96-18-4	1,2,3-Trichloropropane	5.0	U	5.0
630-20-6	1,1,1,2-Tetrachloroethane	5.0	U	5.0
79-34-5	1,1,2,2-Tetrachloroethane	5.0	U	5.0
127-18-4	Tetrachloroethene	5.0	U	5.0
108-88-3	Toluene	5.0	U	5.0
87-61-6	1,2,3-Trichlorobenzene	5.0	U	5.0
120-82-1	1,2,4-Trichlorobenzene	5.0	U	5.0
71-55-6	1,1,1-Trichloroethane	5.0	U	5.0
79-00-5	1,1,2-Trichloroethane	5.0	U	5.0
79-01-6	Trichloroethene (TCE)	5.0	U	5.0
75-69-4	Trichlorofluoromethane	10	U	10
95-63-6	1,2,4-Trimethylbenzene	12		5.0
108-67-8	1,3,5-Trimethylbenzene	5.0	U	5.0
75-01-4	Vinyl chloride	10	U	10
95-47-6	o-Xylene	39		5.0
	m,p-Xylenes	12		5.0

# SEMIVOLATILE ORGANIC ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
 Division: New England  
 LRI Report No: E609061  
 LRI Sample No: 6

Customer: Atlantic Environmental Eng  
 Location: Pawtucket, RI  
 Project: Tidewater Former MGP  
 Sample Description: MW-6

Date Collected: 09/04/96  
 Date Received: 09/05/96  
 Date Extracted: 09/07/96 By: SB  
 Date Analyzed: 09/11/96 By: RAW

Matrix: Water  
 Percent Moisture: N/A  
 pH:  
 Sample Weight/Volume: 1000 mL  
 Extract Volume: 1  
 Injection Volume:  
 Dilution Factor:  
 Lab Data File: E01980

Method: 8270  
 Level: LOW  
 GC Column:  
 Units: ug/L (Wet Weight)

CAS No.	Parameter	Result	Qual	QL
83-32-9	Acenaphthene	11		5.0
208-96-8	Acenaphthylene	51		5.0
120-12-7	Anthracene	5.0	U	5.0
56-55-3	Benzo[a]anthracene	5.0	U	5.0
50-32-8	Benzo[a]pyrene	0.20	U	0.20
205-99-2	Benzo[b]fluoranthene	5.0	U	5.0
191-24-2	Benzo[g,h,i]perylene	5.0	U	5.0
207-08-9	Benzo[k]fluoranthene	5.0	U	5.0
218-01-9	Chrysene	5.0	U	5.0
53-70-3	Dibenzo[a,h]anthracene	5.0	U	5.0
206-44-0	Fluoranthene	5.0	U	5.0
86-73-7	Fluorene	12		5.0
193-39-5	Indeno[1,2,3-cd]pyrene	5.0	U	5.0
91-20-3	Naphthalene	8.1		5.0
85-01-8	Phenanthrene	18		5.0
129-00-0	Pyrene	5.0	U	5.0

# GENERAL CHEMISTRY ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
Division: New England  
LRI Report No: E609061  
LRI Sample No: 7

Customer: Atlantic Environmental Eng  
Location: Pawtucket, RI  
Project: Tidewater Former MGP  
Sample Description: MW-1

Date Collected: 09/04/96  
Date Received: 09/05/96

Matrix: Water  
Percent Moisture: N/A  
Units in Wet Weight

<u>Parameter</u>	<u>Result</u>	<u>QL</u>	<u>Units</u>	<u>Started</u> <u>Date</u>	<u>By</u>	<u>Completed</u> <u>Date</u>	<u>By</u>	<u>Dilution</u>
<u>Cyanide, Total, by EPA 335.3</u>								
Cyanide	0.30	0.020	mg/L	09/06/96	EB	09/06/96	EB	



# METALS ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
 Division: New England  
 LRI Order No: E609061  
 LRI Sample No: 7

Client: Atlantic Environmental Eng  
 Location: Pawtucket, RI  
 Project: Tidewater Former MGP  
 Sample Description: MW-1

Date Collected: 09/04/96  
 Date Received: 09/05/96

Matrix: Water  
 Percent Moisture: N/A

Parameter	Result	QL	Units	Started		Completed		Dilution
				Date	By	Date	By	
<u>Arsenic by Furnace by SW-846 7060</u>								
Arsenic	0.010	0.0020	mg/L	09/05/96	KH	09/06/96	MM	
<u>Mercury by Cold Vapor by SW-846 7470</u>								
Mercury	0.00020U	0.00020	mg/L	09/09/96	KH	09/10/96	MM	
<u>Metals by ICP by SW-846 6010A</u>								
Beryllium	0.0074	0.0020	mg/L	09/05/96	KH	09/09/96	BS	
Chromium	0.25	0.024	mg/L	09/05/96	KH	09/09/96	BS	
Copper	0.12	0.024	mg/L	09/05/96	KH	09/09/96	BS	
Nickel	0.25	0.024	mg/L	09/05/96	KH	09/09/96	BS	
Silver	0.020U	0.020	mg/L	09/05/96	KH	09/09/96	BS	
Zinc	0.95	0.010	mg/L	09/05/96	KH	09/09/96	BS	
Barium	0.028	0.010	mg/L	09/05/96	KH	09/09/96	BS	
Antimony	0.10U	0.10	mg/L	09/05/96	KH	09/09/96	BS	
Lead	0.24	0.050	mg/L	09/05/96	KH	09/09/96	BS	
Selenium	0.10U	0.10	mg/L	09/05/96	KH	09/09/96	BS	
Cadmium	0.010U	0.010	mg/L	09/05/96	KH	09/09/96	BS	
<u>Thallium by Furnace by SW-846 7841</u>								
Thallium	0.0020U	0.0020	mg/L	09/05/96	KH	09/09/96	MM	

# GENERAL CHEMISTRY ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
Division: New England  
LRI Report No: E609061  
LRI Sample No: 8

Customer: Atlantic Environmental Eng  
Location: Pawtucket, RI  
Project: Tidewater Former MGP  
Sample Description: ER-7

Date Collected: 09/04/96  
Date Received: 09/05/96

Matrix: Water  
Percent Moisture: N/A  
Units in Wet Weight

<u>Parameter</u>	<u>Result</u>	<u>QL</u>	<u>Units</u>	<u>Started</u> <u>Date</u>	<u>By</u>	<u>Completed</u> <u>Date</u>	<u>By</u>	<u>Dilution</u>
<u>Cyanide, Total, by EPA 335.3</u>								
Cyanide	0.020 U	0.020	mg/L	09/06/96	EB	09/06/96	EB	

# METALS ANALYSIS DATA SHEET

Laboratory: Laboratory Resources, Inc.  
 Division: New England  
 LRI Order No: E609061  
 LRI Sample No: 8

Client: Atlantic Environmental Eng  
 Location: Pawtucket, RI  
 Project: Tidewater Former MGP  
 Sample Description: ER-7

Date Collected: 09/04/96  
 Date Received: 09/05/96

Matrix: Water  
 Percent Moisture: N/A

Parameter	Result	QL	Units	Started Date	By	Completed Date	By	Dilution
<u>Arsenic by Furnace by SW-846 7060</u>								
Arsenic	0.0020 U	0.0020	mg/L	09/05/96	KH	09/06/96	MM	
<u>Mercury by Cold Vapor by SW-846 7470</u>								
Mercury	0.00020 U	0.00020	mg/L	09/09/96	KH	09/10/96	MM	
<u>Metals by ICP by SW-846 6010A</u>								
Beryllium	0.0020 U	0.0020	mg/L	09/05/96	KH	09/09/96	BS	
Chromium	0.024 U	0.024	mg/L	09/05/96	KH	09/09/96	BS	
Copper	0.024 U	0.024	mg/L	09/05/96	KH	09/09/96	BS	
Nickel	0.024 U	0.024	mg/L	09/05/96	KH	09/09/96	BS	
Silver	0.020 U	0.020	mg/L	09/05/96	KH	09/09/96	BS	
Zinc	0.023	0.010	mg/L	09/05/96	KH	09/09/96	BS	
Barium	0.010 U	0.010	mg/L	09/05/96	KH	09/09/96	BS	
Antimony	0.10 U	0.10	mg/L	09/05/96	KH	09/09/96	BS	
Lead	0.050 U	0.050	mg/L	09/05/96	KH	09/09/96	BS	
Selenium	0.10 U	0.10	mg/L	09/05/96	KH	09/09/96	BS	
Cadmium	0.010 U	0.010	mg/L	09/05/96	KH	09/09/96	BS	
<u>Thallium by Furnace by SW-846 7841</u>								
Thallium	0.0020 U	0.0020	mg/L	09/05/96	KH	09/09/96	MM	

**CUSTOMER INFORMATION**

CUSTOMER: ATLANTIC  
 ADDRESS: CO. CAL & STAN CT  
 TELEPHONE: \_\_\_\_\_  
 FAX: \_\_\_\_\_

**PROJECT INFORMATION**

PROJECT: TIDEWATER  
 PROJECT LOCATION: DANBURGH STATE: RI  
 PROJECT MANAGER: \_\_\_\_\_  
 IN CASE WE HAVE ANY QUESTIONS WHEN SAMPLES ARRIVE WE SHOULD CALL: \_\_\_\_\_  
 NAME: \_\_\_\_\_  
 TELEPHONE: \_\_\_\_\_  
 FAX: \_\_\_\_\_

**BILLING INFORMATION**

BILL TO: ATLANTIC  
 ADDRESS: \_\_\_\_\_  
 ATTENTION: \_\_\_\_\_  
 TELEPHONE: \_\_\_\_\_  
 PO #: \_\_\_\_\_

LAB ID CODE	SAMPLE IDENTIFICATION	DATE COLLECTED	TIME COLLECTED	SAMPLE TYPE		SAMPLE MATRIX	# OF BOTTLES	ANALYSIS				PRESERVATIVE					
				COMPOSITE	GRAB			MS	MS28	MS28	MS28	H2SO4	HCL	HNO3	MAOH	NON-PRES	
MW-3		9-4-96			X	WATER	2	X	X								
MW-M+E							2	X	X								
MW-7							2	X	X								
MW-4							6	X	X								
MW-8							2	X	X								
MW-6							6	X	X								
MW-1							2	X	X								
MW-5							2	X	X								
ER-7							2	X	X								

TURNAROUND (INDICATE IN CALENDAR DAYS): STD FAX \_\_\_\_\_ HARD COPY \_\_\_\_\_ DELIV: PKG. \_\_\_\_\_

NAME OF LAB PERSONNEL CONFIRMING: \_\_\_\_\_

DELIVERABLES / (CIRCLE ONE): DATA DATA/QC RED/DELIV NJ/CLP I NJ/CLP II

SAMPLER / AFFILIATION: Y. GARDNER  
 RECEIVED / AFFILIATION: \_\_\_\_\_ DATE: 9/4  
 RELINQUISHED / AFFILIATION: \_\_\_\_\_ TIME: 5:00  
 RECEIVED / AFFILIATION: \_\_\_\_\_ DATE: 9/5  
 RELINQUISHED / AFFILIATION: \_\_\_\_\_ TIME: 9:30  
 RECEIVED / AFFILIATION: \_\_\_\_\_ DATE: 8-5  
 RELINQUISHED / AFFILIATION: \_\_\_\_\_ TIME: 2:05

RETURN TO CLIENT FOR DISPOSAL  LAB DISPOSAL  
 KNOWN HAZARD (FLAMMABLE, EXPLOSIVE, TOXIC)  
 YES  NO (IF YES EXPLAIN UNDER COMMENTS)

**LAB USE** CONDITIONS OF BOTTLES AND COOLER AT RECEIPT:  
 COMPLIANT  NOT COMPLIANT (IF NOT EXPLAIN UNDER COMMENTS)  
 COMMENTS: METALS, PAH, PULV + ISA

CN. TIDEWATER VIA 9012 / 9013  
~~8070-PAH only~~ ONS

**Report No: E609061**  
**Client: Atlantic Environmental**  
**Case: Tidewater Former MGP**

**NONCONFORMANCE SUMMARY**

**There were no nonconformances associated with these samples.**



### **VOLATILES BY GC/MS**

No Blank corrections are made for Volatiles by GC/MS analysis.  
All volatile instruments are tuned daily using bromofluorobenzene (BFB) as per EPA methods. Instruments are calibrated according to the method and the manufacturers recommendations. Standards are prepared using commercially purchased certified standards. All spikes and check standards are prepared from a secondary commercial source.

### **SEMIVOLATILES BY GC/MS**

No Blank corrections are made for Semivolatiles by GC/MS analysis.  
All semivolatile instruments are tuned daily using decafluorotriphenylphosphine (DFTPP) as per EPA methods. Instruments are calibrated according to the method and the manufacturers recommendations. Standards are prepared using commercially purchased certified standards. All spikes and check standards are prepared from a secondary commercial source.

### **VOLATILES and SEMIVOLATILES BY GC**

No Blank corrections are made for volatiles and semivolatiles by GC analysis.  
Instruments are calibrated according to the method and the manufacturers recommendations. Standards are prepared using commercially purchased certified standards. All spikes and check standards are prepared from a secondary commercial source.

### **METALS**

No Blank corrections are made for Metals analysis  
Instrument calibration is performed according to the method and the instrument manufacturers recommendations. Standards are prepared from commercially purchased certified standards. Spiking solutions and check standards are prepared from a secondary commercial source.

### **GENERAL CHEMISTRY**

Blank corrections are not made unless the analysis specifically requires it.  
Instrument calibration is performed according to the method and/or the instrument manufacturers recommendations. Standards are prepared from commercially purchased certified reagents or standards. Spiking solutions and check standards are prepared from a secondary commercial source.

**AQUEOUS VOLATILE SYSTEM MONITORING COMPOUND RECOVERY**

Lab Name: Laboratory Resources Inc.

Contract: \_\_\_\_\_

Lab Code: \_\_\_\_\_

Case No.: E609061

SAS No.: \_\_\_\_\_

SDG No.: \_\_\_\_\_

Level: (low/med) low

	EPA SAMPLE NO.	SMC#1	SMC#2	SMC#3	OTHER	TOT OUT
01	VBLK0910	91	94	95		
02	E609061-04	98	95	99		
03	E609061-06	94	95	95		
04	E609016-06MS	97	93	93		
05	E609016-06MSD	96	94	95		
06						
07						
08						
09						
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11						
12						
13						
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17						
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21						
22						
23						
24						
25						
26						
27						
28						
29						
30						

SMC#1 Dibromofluoromethane  
 SMC#2 Toluene-d8  
 SMC#3 Bromofluorobenzene

QC LIMITS  
 (66-130)  
 (91-109)  
 (76-121)

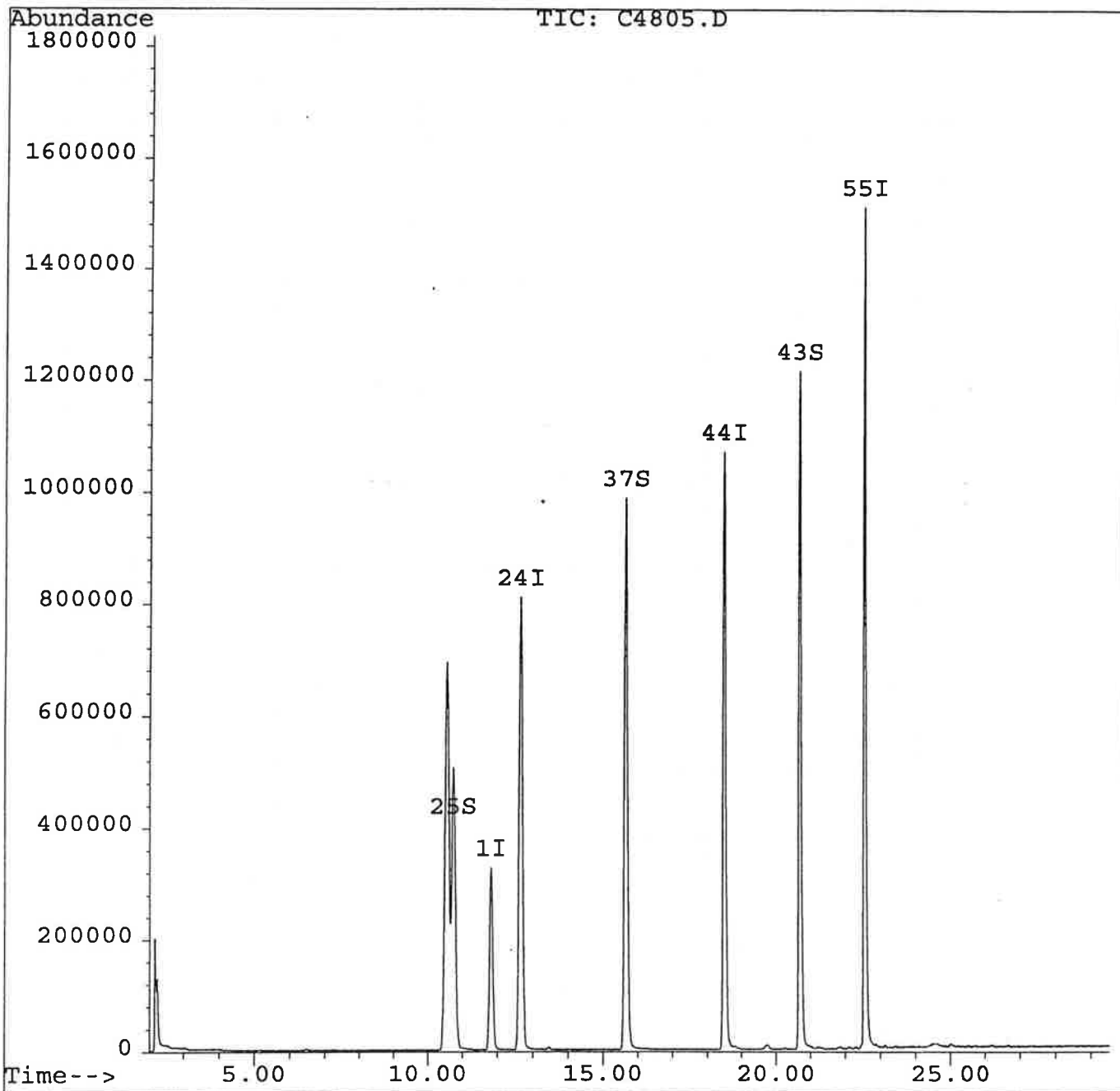
- # Column to be used to flag recovery values
- \* Values outside of contract required QC limits
- D System Monitoring Compound diluted out

Quantitation Report

Data File : C:\HPCHEM\1\DATA\C4805.D  
Acq On : 10 Sep 96 2:30 pm  
Sample : vBLK0910  
Misc : CELL# 1  
Quant Time: Sep 10 15:05 1996

Vial: 3  
Operator: AT  
Inst : GC/MS #3  
Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\8260A3.M  
Title : 8260 WATER CALIBRATION  
Last Update : Tue Sep 10 14:17:27 1996  
Response via : Multiple Level Calibration





Quantitation Report

Data File : C:\HPCHEM\1\DATA\C4805.D  
 Acq On : 10 Sep 96 2:30 pm  
 Sample : vBLK0910  
 Misc : CELL# 1  
 Quant Time: Sep 10 15:05 1996

Vial: 3  
 Operator: AT  
 Inst : GC/MS #3  
 Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\8260A3.M  
 Title : 8260 WATER CALIBRATION  
 Last Update : Tue Sep 10 14:17:27 1996  
 Response via : Multiple Level Calibration

Internal Standards	R.T.	QI on	Response	Conc	Units	Dev (Min)
1) 1,2-Dichloroethane-d4	11.84	67	404312	50.00	ug/L	0.03
24) 1,4-Difluorobenzene	12.67	114	2311810	50.00	ug/L	0.02
44) Chlorobenzene-d5	18.51	117	1830902	50.00	ug/L	0.00
55) 1,4-Dichlorobenzene-d4	22.57	152	999000	50.00	ug/L	0.00
System Monitoring Compounds						%Recovery
25) Dibromofluoromethane (S)	10.74	113	1230569	45.67	ug/L	91.35%
37) Toluene-d8 (S)	15.65	98	2289199	47.15	ug/L	94.31%
43) Bromofluorobenzene (S)	20.71	95	1302519	47.64	ug/L	95.28%

Target Compounds Qvalue

Spike recovery and RPD Summary Report - WATER

Method : C:\HPCHEM\1\METHODS\8260A3.M  
 Title : 8260 WATER CALIBRATION  
 Last Update : Mon Sep 16 14:10:06 1996  
 Response via : Initial Calibration

Non-Spiked Sample: C4771.D

Spike Sample	Spike Duplicate Sample
-----------------	---------------------------

File ID : C4778.D	C4779.D
Sample : e608016-06ms	e608016-06msd
Acq Time: 8 Sep 96 7:48 pm	8 Sep 96 8:23 pm

Compound	Sample Conc	Spike Added	Spike Res	Dup Res	Spike %Rec	Dup %Rec	RPD	QC RPD	Limits % Rec
1,1-Dichloroethene	0.0	50	53	58	106	115	8	17	49-115
Benzene	0.0	50	46	53	91	106	15	20	51-132
Trichloroethene	0.0	50	51	58	101	116	14	17	62-129
Toluene	0.0	50	48	55	96	110	14	17	65-134
Chlorobenzene	0.0	50	49	56	98	113	14	17	64-131

8260A3.M

Tue Sep 17 11:12:57 1996

PC #8

20  
WATER SEMIVOLATILE SURROGATE RECOVERY

Lab Name: LRI Contract: \_\_\_\_\_  
 Project No.: 64 Site: \_\_\_\_\_ Location: \_\_\_\_\_ Group: \_\_\_\_\_

	SAMPLE NO.	S1 (2FP) #	S2 (PHL) #	S3 (NBZ) #	S4 (FBP) #	S5 (TBP) #	S6 (TPH) #	#	#	TOT OUT
01	e609061-06			39	47		68			
02	e609061-04			52	66		92			
03	s0906ba-01			69	74		87			
04	e609070-03	34	29	44	43	58	66			
05	e609070-03 ms	51	35	57	53	72	74			
06	e609070-03 msd	51	36	60	55	73	55			
07										
08										
09										
10										
11										
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29										
30										

**QC LIMITS**

S1 (2FP) = 2-Fluorophenol (21-110)  
 S2 (PHL) = Phenol-d6 (10-94)  
 S3 (NBZ) = Nitrobenzene-d5 (34-114)  
 S4 (FBP) = 2-Fluorobiphenyl (43-116)  
 S5 (TBP) = 2,4,6-Tribromophenol (10-123)  
 S6 (TPH) = Terphenyl-d14 (33-141)

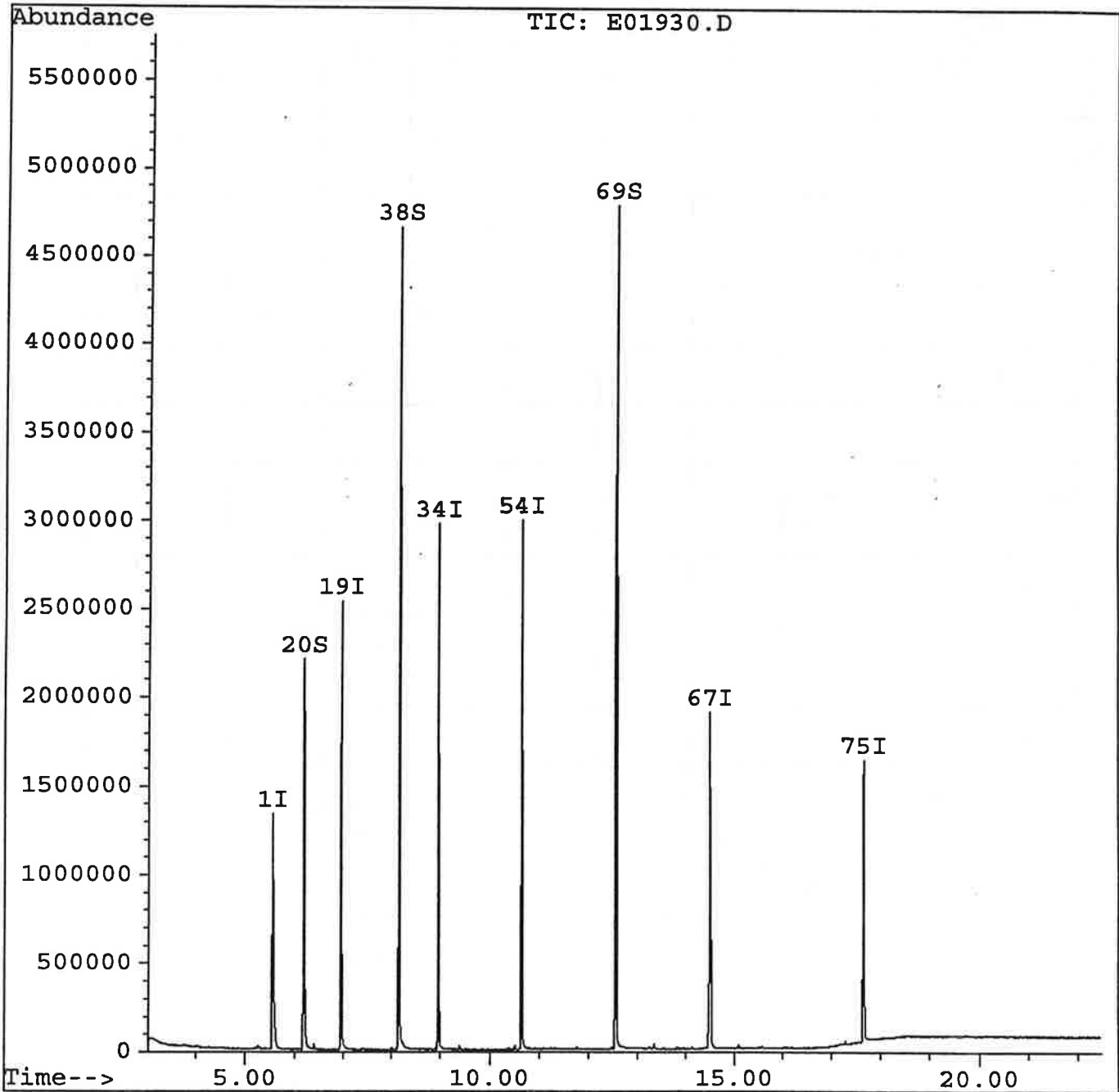
# Column to be used to flag recovery values  
 \* Values outside of contract required QC limits  
 D Surrogate diluted out

Quantitation Report

Data File : C:\HPCHEM\1\DATA\E01930.D  
Acq On : 6 Sep 96 12:35 pm  
Sample : s0906ba-01  
Misc :  
Quant Time: Sep 6 12:58 1996

Vial: 6  
Operator: RAW  
Inst : 5972 MSD  
Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\8270R.M  
Title : EPA 8270 calibration  
Last Update : Tue Sep 17 13:28:47 1996  
Response via : Multiple Level Calibration



Quantitation Report

Data File : C:\HPCHEM\1\DATA\E01930.D  
 Acq On : 6 Sep 96 12:35 pm  
 Sample : s0906ba-01  
 Misc :  
 Quant Time: Sep 6 12:58 1996

Vial: 6  
 Operator: RAW  
 Inst : 5972 MSD  
 Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\8270R.M  
 Title : EPA 8270 calibration  
 Last Update : Tue Sep 17 13:28:47 1996  
 Response via : Multiple Level Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	5.56	152	422003	40.00	ug/ml	-0.01
19) Naphthalene-d8	6.96	136	1527731	40.00	ug/ml	-0.02
34) Acenaphthene-d10	8.96	164	817929	40.00	ug/ml	-0.01
54) Phenanthrene-d10	10.64	188	1373938	40.00	ug/ml	-0.01
67) Chrysene-d12	14.50	240	1180994	40.00	ug/ml	-0.03
75) Perylene-d12	17.67	264	1022165	40.00	ug/ml	-0.02

System Monitoring Compounds	R.T.	QIon	Response	Conc	Units	%Recovery
4) 2-Fluorophenol	4.35	112	360	0.03	ug/ml	0.01%
7) Phenol-d6	5.21	99	204	0.01	ug/ml	0.01%
20) Nitrobenzene-d5	6.19	82	894150	69.48	ug/ml	69.48%
38) 2-Fluorobiphenyl	8.16	172	1691859	73.90	ug/ml	73.90%
58) 2,4,6-Tribromophenol	0.00	330	0	0.00	ug/ml	0.00%
69) Terphenyl-d14	12.57	244	2465343	87.38	ug/ml	87.38%

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

spike recovery and RPD Summary Report - WATER (extracted 9/9/96)

Method : C:\HPCHEM\1\METHODS\8270R.M  
 Title : EPA 8270 calibration  
 Last Update : Tue Sep 17 13:28:47 1996  
 Response via : Initial Calibration

Non-Spiked Sample: E02009.D

Spike  
Sample

Spike  
Duplicate Sample

File ID : E02041.D | E02042.D  
 Sample : e609070-03 ms | e609070-03 msd  
 Acq Time: 17 Sep 96 7:38 pm | 17 Sep 96 8:07 pm

Compound	Sample Conc	Spike Added	Spike Res	Dup Res	Spike %Rec	Dup %Rec	RPD	QC Limits RPD	Limits % Rec
Phenol	0.1	200	90	91	45	45	1	42	12-110
2-Chlorophenol	0.0	200	113	114	57	57	1	40	27-123
1,4-Dichlorobenzene	0.0	100	62	62	62	62	0	28	36- 97
N-Nitroso-di-n-propy	0.0	100	67	70	67	70	4	38	41-116
1,2,4-Trichlorobenze	0.0	100	60	63	60	63	5	28	39- 98
4-Chloro-3-methylphe	0.0	200	113	119	56	60	5	42	23- 97
Acenaphthene	0.0	100	59	61	59	61	3	31	46-118
2,4-Dinitrotoluene	0.0	100	80	83	80	83	3	38	24- 96
4-Nitrophenol	0.1	200	126	128	63	64	1	50	10- 80
Pentachlorophenol	0.0	200	125	129	63	65	3	50	9-103
Pyrene	0.0	100	53	55	53	55	3	31	26-127

8270R.M

Wed Sep 18 13:01:49 1996

PC #5

**Metals Method Blank Analysis**

Workorder # :	E609061	Matrix:	Aqueous
Element	Result	MDL	
	ug/L	ug/L	
Antimony	100U	100	
Aluminum		100	
Arsenic		100	
Barium	10U	10	
Beryllium	2U	2	
Boron		50	
Calcium		500	
Cadmium	10U	10	
Cobalt		25	
Chromium	25U	25	
Copper	25U	25	
Iron		50	
Lead	50U	50	
Magnesium		500	
Manganese		15	
Mercury CV	0.5U	0.5	
Molybdenum		50	
Nickel	25U	25	
Potassium		1000	
Selenium	100U	100	
Silver	20U	20	
Silicon		100	
Sodium		500	
Thallium		200	
Titanium		10	
Tin		200	
Vanadium		50	
Zinc	10U	10	
( * ) Elevated MDLs due to dilution for range ( ** ) Elevated MDLs due to dilution for interferences			

### GFAA METHOD BLANK RESULTS

Workorder No: E609061

Matrix: AQUEOUS

Element	PQL (ug/L)	Result (ug/L)
Aluminum	5.0	
Antimony	2.0	
Arsenic	2.0	2.0U
Beryllium	1.0	
Cadmium	2.0	
Chromium	2.0	
Copper	4.0	
Lead	2.0	
Nickel	3.0	
Selenium	2.0	
Silver	2.0	
Thallium	2.0	2.0U





RI QUOTE # \_\_\_\_\_

CUSTOMER INFORMATION

CUSTOMER: Atlantic Environmental  
 ADDRESS: 151 Norwich Ave  
Colchester, CT  
 TELEPHONE: (860) 327-0751  
 FAX: \_\_\_\_\_

PROJECT INFORMATION

PROJECT: 1666 03602  
 PROJECT LOCATION: North Haven STATE: MA  
 PROJECT MANAGER: S. Wallatt  
 IN CASE WE HAVE ANY QUESTIONS WHEN SAMPLES ARRIVE WE SHOULD CALL:  
 NAME: \_\_\_\_\_  
 TELEPHONE: \_\_\_\_\_  
 FAX: \_\_\_\_\_

ANALYSIS INFORMATION

BILL TO: \_\_\_\_\_  
 ADDRESS: \_\_\_\_\_  
 ATTENTION: \_\_\_\_\_  
 TELEPHONE: \_\_\_\_\_  
 PO #: \_\_\_\_\_

LAB ID CODE	SAMPLE IDENTIFICATION	DATE COLLECTED	TIME COLLECTED	SAMPLE TYPE		SAMPLE MATRIX	# OF BOTTLES	VOC	SAC	P.E.	KRA	ANALYSIS			PRESERVATIVES				
				COMPOSITE	GRAB							CS	TOTAL	SPAD	H2SO4	HCL	HNO3	NAOH	NON-PRES
	NA-MW14 (34-36)	9-16-96	13:45		X	Soil	2	✓	✓	✓	✓	✓	✓						
	NA-MW13 (37-38)	9-17-96	10:45		X	Soil	3	✓	✓	✓	✓	✓	✓						
	NA-ERZ	9-17-96	10:30		X	Aggrav.	6	✓	✓	✓	✓	✓	✓						
	NA-FB3	9-17-96	11:00		X	Aggrav.	6	✓	✓	✓	✓	✓	✓						

TURNAROUND (INDICATE IN CALENDAR DAYS): \_\_\_\_\_ FAX \_\_\_\_\_ HARD COPY \_\_\_\_\_ DELIV. PKG. \_\_\_\_\_

NAME OF LAB PERSONNEL CONFIRMING: \_\_\_\_\_

DELIVERABLES / (CIRCLE ONE): DATA (DATA/QC) RED/DELIV NJ/CLP I NJ/CLP II

SAMPLER / AFFILIATION: S. Wallatt / Pym. Assoc. MA DATE: 9-19-96  
 RECEIVED / AFFILIATION: J.A. Smith / P.I.B.T. TIME: 11:00  
 RELINQUISHED / AFFILIATION: \_\_\_\_\_ DATE: \_\_\_\_\_  
 RECEIVED / AFFILIATION: \_\_\_\_\_ TIME: \_\_\_\_\_  
 RELINQUISHED / AFFILIATION: \_\_\_\_\_ DATE: \_\_\_\_\_  
 RECEIVED / AFFILIATION: \_\_\_\_\_ TIME: \_\_\_\_\_

RETURN TO CLIENT FOR DISPOSAL  LAB DISPOSAL  
 KNOWN HAZARD (FLAMMABLE, EXPLOSIVE, TOXIC)  
 YES  NO (IF YES EXPLAIN UNDER COMMENTS)  
**LAB USE** CONDITIONS OF BOTTLES AND COOLER AT RECEIPT:  
 COMPLIANT  NOT COMPLIANT (IF NOT EXPLAIN UNDER COMMENTS)  
 COMMENTS \_\_\_\_\_





**WET CHEMISTRY METHOD BLANK SUMMARY**

Workorder No. : E609061

Parameter	PQL	Result
TPH, solid		mg/L
TPH, aqueous		
Ignitability		
Reactive Cyanide		
Reactive Sulfide		
pH		
Total Cyanide	0.020	0.020 U
Oil and Grease		
TOX, solid		
TOX, aqueous		

**GFAA MATRIX SPIKE/DUPLICATE RECOVERY DATA SHEET**

Workorder No: E608061

Matrix: AQUEOUS

QC Sample No: E60839901

Elements	Sample Result (ug/L)	Sample Duplicate (ug/L)	%RPD	%Limit
Aluminum				20
Antimony				20
Arsenic	2.0U	2.0U	0.0	20
Beryllium				20
Cadmium				20
Chromium				20
Copper				20
Lead				20
Nickel				20
Selenium				20
Silver				20
Thallium	2.0U	2.0U	0.0	20

QC Sample Number	Spike Added (ug/L)	MATRIX		SPIKE		SPIKE DUPLICATE		% Limit
		Result (ug/L)	% Rec.	Result (ug/L)	% Rec.	Result (ug/L)	% Rec.	
	25							
	50							
E60839901	50	41.33	83	40.2	80	68-139		
	5.0							
	12.5							
	5.0							
	50							
	50							
	50							
	5.0							
E60839901	50	54.14	108	53.84	108	67-108		

Matrix Spike/Duplicate Recovery

Workorder No: E609061

QC Sample No E608390-3

Hg E609061-7

Matrix: AQUEOUS

Parameters	Sample Result ug/L	Sample Duplicate ug/L	%RPD	%LIMIT	Spike Added ug/L	Matrix Spike ug/L	% Rec.	Spike Duplicate ug/L	%Rec.	Limits %
Aluminum				20	1000					77-114
Antimony	U	U	0	20	1000	936.2	94	938.4	94	73-109
Arsenic				20	1000					87-105
Barium	14.7	14.59	<1	20	1000	909.5	89	908.5	89	77-114
Beryllium	U	U	0	20	1000	924.6	92	929	92	79-106
Boron				20	1000					80-120
Cadmium	U	U	0	20	1000	947.4	95	950.2	95	83-108
Calcium				20	11000					73-111
Chromium	73.58	75.55	2.1	20	1000	1008	93	1010	94	78-112
Cobalt				20	1000					80-120
Copper	U	U	0	20	1000	891.8	89	891.6	89	80-106
Iron				20	1000					72-121
Lead	U	U	0	20	1000	926.8	93	948.9	95	81-113
Magnesium				20	11000					77-123
Manganese				20	1000					77-113
Mercury CV	U	U	0	20	5.0	5.06	101	4.92	98	68-112
Molybdenum				20	1000					80-120
Nickel	U	U	0	20	1000	920.9	92	916.6	92	80-107
Potassium				20	10000					80-120
Selenium	U	U	0	20	1000	968.4	97	962.3	96	83-104
Silicon				20	1000					80-120
Silver	U	U	0	20	1000	910	91	885.9	89	73-109
Sodium				20	11000					80-118
Thallium				20	1000					80-120
Tin				20	1000					80-120
Thoronium				20	1000					80-120
Vanadium				20	1000					80-120
Zinc	24.3	23.53	3.2	20	1000	973.7	95	986.8	96	77-113

U = UNDETECTED

NA = NOT APPLICABLE; ANALYTE CONC. IS GREATER THAN 4X SPIKE AMOUNT

ND = NOT DETERMINABLE

N = SPIKE RECOVERY OUTSIDE OF THE REQUIRED QUALITY CONTROL LIMIT.