



aquatec INC. ENVIRONMENTAL SERVICES

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75 GREEN MOUNTAIN DRIVE, SOUTH BURLINGTON, VERMONT 05403, TELEPHONE (802) 658-1074

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OTHER: 468894

October 23, 1989



SDMS DocID 468894

Mr. Stefan Sokol
Balsam Environmental Consultants, Inc.
59 Stiles Road
Salem, NH 03079

Re: Project 89000, ETR 18676

The results of the analysis of five water samples received
by Aquatec on October 6, 1989 are enclosed.

R. Mason McNeer
Chemist

RMM/dbs

Enclosure

89000



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ENVIRONMENTAL SERVICES

75 Green Mountain Drive, So. Burlington, VT 05403

TEL. 802/658-1074

ANALYTICAL REPORT

Date: 23 October 1989

Aquatec Lab No.:

ETR No.: 18676, Project No. 89000

Sample Received On:

Sample Identification: Blank CGWB002CV for Aquatec Lab No's. 104703-104707.

Volatile Organic Compounds in ug/l EPA Method 624

benzene	5 U	methylene chloride	5
carbon tetrachloride	5 U	chloromethane	10 U
chlorobenzene	5 U	bromomethane	10 U
1,2-dichloroethane	5 U	bromoform	5 U
1,1,1-trichloroethane	5 U	bromodichloromethane	5 U
1,1-dichloroethane	5 U	dibromochloromethane	5 U
1,1,2-trichloroethane	5 U	tetrachloroethene	5 U
1,1,2,2-tetrachloroethane	5 U	toluene	5 U
chloroethane	10 U	trichloroethene	5 U
2-chloroethyl vinyl ether	10 U	vinyl chloride	10 U
chloroform	4J	acetone	12
1,1-dichloroethene	5 U	2-butanone	10 U
1,2-dichloroethenes	5 U	carbon disulfide	5 U
1,2-dichloropropane	5 U	2-hexanone	10 U
trans-1,3-dichloropropene	5 U	4-methyl-2-pentanone	10 U
cis-1,3-dichloropropene	5 U	styrene	5 U
ethylbenzene	5 U	vinyl acetate	10 U
tetrahydrofuran	10 U	total xylenes	5 U

Summary of Surrogate Recoveries

	% Rec
1,2-dichloroethane-d ₄	100
toluene-d ₈	107
p-bromofluorobenzene	100

Note: No other volatile organic compounds were found in reportable concentrations.

Key to the letters used to qualify the results of the analysis:

U - The compound was analyzed for but not detected. The number is the detection limit for the compound.

J - An estimated value. The mass spectrum indicates the presence of the compound, but the calculated result is less than the reliable detection limit for this compound.

LCB - Compound was found but at low concentration, comparable to that in the blank. Quantitation is not possible.

C - The result has been corrected for the presence of the compound in the blank.

Quality controls were analyzed with the sample as part of Aquatec's standard analytical procedures. The results of these are maintained on file at Aquatec.



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ENVIRONMENTAL SERVICES

75 Green Mountain Drive, So. Burlington, VT 05403
TEL. 802/658-1074

ANALYTICAL REPORT

Date: 23 October 1989
Aquatec Lab No.: 104703
ETR No.: 18676, Project No. 89000
Sample Received On: 6 October 1989; Analyzed on: 14 October 1989
Sample Identification: Balsam Environmental Consultants, water sample
labeled MTL-GW-MW20D-133, 10/5/89 at 1120 hours.

Volatile Organic Compounds in ug/l

EPA Method 624

benzene	5 U	methylene chloride	LCB
carbon tetrachloride	5 U	chloromethane	10 U
chlorobenzene	5 U	bromomethane	10 U
1,2-dichloroethane	5 U	bromoform	5 U
1,1,1-trichloroethane	5 U	bromodichloromethane	5 U
1,1-dichloroethane	5 U	dibromochloromethane	5 U
1,1,2-trichloroethane	5 U	tetrachloroethene	5 U
1,1,2,2-tetrachloroethane	5 U	toluene	5 U
chloroethane	10 U	trichloroethene	5 U
2-chloroethyl vinyl ether	10 U	vinyl chloride	10 U
chloroform	5 U	acetone	LCB
1,1-dichloroethene	5 U	2-butanone	10 U
1,2-dichloroethenes	5 U	carbon disulfide	5 U
1,2-dichloropropane	5 U	2-hexanone	10 U
trans-1,3-dichloropropene	5 U	4-methyl-2-pentanone	10 U
cis-1,3-dichloropropene	5 U	styrene	5 U
ethylbenzene	5 U	vinyl acetate	10 U
tetrahydrofuran	10 U	total xylenes	5 U

Summary of Surrogate Recoveries

	% Rec
1,2-dichloroethane-d ₄	104
toluene-d ₈	109
p-bromofluorobenzene	103

Note: No other volatile organic compounds were found in reportable concentrations.

Key to the letters used to qualify the results of the analysis:

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J - An estimated value. The mass spectrum indicates the presence of the compound, but the calculated result is less than the reliable detection limit for this compound.

LCB - Compound was found but at low concentration, comparable to that in the blank. Quantitation is not possible.

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ANALYTICAL REPORT

Date: 23 October 1989
Aquatec Lab No.: 104704
ETR No.: 18676, Project No. 89000
Sample Received On: 6 October 1989; Analyzed on: 14 October 1989
Sample Identification: Balsam Environmental Consultants, water sample
labeled MTL-GW-MW20S-132, 10/5/89 at 1145 hours.

Volatile Organic Compounds in ug/l EPA Method 624

benzene	5 U	methylene chloride	LCB
carbon tetrachloride	5 U	chloromethane	10 U
chlorobenzene	5 U	bromomethane	10 U
1,2-dichloroethane	5 U	bromoform	5 U
1,1,1-trichloroethane	5 U	bromodichloromethane	5 U
1,1-dichloroethane	5 U	dibromochloromethane	5 U
1,1,2-trichloroethane	5 U	tetrachloroethene	5 U
1,1,2,2-tetrachloroethane	5 U	toluene	5 U
chloroethane	10 U	trichloroethene	5 U
2-chloroethyl vinyl ether	10 U	vinyl chloride	10 U
chloroform	5 U	acetone	LCB
1,1-dichloroethene	5 U	2-butanone	10 U
1,2-dichloroethenes	5 U	carbon disulfide	5 U
1,2-dichloropropane	5 U	2-hexanone	10 U
trans-1,3-dichloropropene	5 U	4-methyl-2-pentanone	10 U
cis-1,3-dichloropropene	5 U	styrene	5 U
ethylbenzene	5 U	vinyl acetate	10 U
tetrahydrofuran	10 U	total xylenes	5 U

Summary of Surrogate Recoveries

	% Rec
1,2-dichloroethane-d ₄	102
toluene-d ₈	107
p-bromofluorobenzene	100

Note: See enclosed report of other volatile organic compounds found.

Key to the letters used to qualify the results of the analysis:

U - The compound was analyzed for but not detected. The number is the detection limit for the compound.

LCB - Compound was found but at low concentration, comparable to that in the blank. Quantitation is not possible.

J - An estimated value. The mass spectrum indicates the presence of the compound, but the calculated result is less than the reliable detection limit for this compound.

C - The result has been corrected for the presence of the compound in the blank.

Quality controls were analyzed with the sample as part of Aquatec's standard analytical procedures. The results of these are maintained on file at Aquatec.



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ANALYTICAL REPORT

Date: 23 October 1989
Aquatec Lab No.: 104704
ETR No.: 18676, Project 89000
Sample Received On: 6 October 1989; Analyzed on: 14 October 1989
Sample Identification: Balsam Environmental Consultants, water sample
labeled MTL-GW-MW20S-132, 10/5/89 at 1145 hours.

Other Volatile Organic Compounds

<u>Scan No.*</u>	<u>Name</u>	<u>Estimated Conc.** (ug/l)</u>
409	Hexanal	4

* Indicates relative location of chromatographic peak in a total of 760 scans in the chromatogram, at three seconds per scan.

** Concentration estimated from ratio of Enhanced Reconstructed Ion Chromatogram (ERIC) of compound to ERIC of nearest internal standard, assuming a response factor of 1.



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ANALYTICAL REPORT

Date: 23 October 1989

Aquatec Lab No.: 104705

ETR No.: 18676, Project No. 89000

Sample Received On: 6 October 1989; Analyzed on: 14 October 1989

Sample Identification: Balsam Environmental Consultants, water sample labeled MTL-GW-MW21D-135, 10/5/89 at 1050 hours.

Volatile Organic Compounds in ug/l EPA Method 624

benzene	50 U	methylene chloride	50 U
carbon tetrachloride	50 U	chloromethane	100 U
chlorobenzene	50 U	bromomethane	100 U
1,2-dichloroethane	50 U	bromoform	50 U
1,1,1-trichloroethane	50 U	bromodichloromethane	50 U
1,1-dichloroethane	50 U	dibromochloromethane	50 U
1,1,2-trichloroethane	50 U	tetrachloroethene	50 U
1,1,2,2-tetrachloroethane	50 U	toluene	50 U
chloroethane	100 U	trichloroethene	1100
2-chloroethyl vinyl ether	100 U	vinyl chloride	100 U
chloroform	50 U	acetone	LCB
1,1-dichloroethene	50 U	2-butanone	100 U
1,2-dichloroethenes	32J	carbon disulfide	50 U
1,2-dichloropropane	50 U	2-hexanone	100 U
trans-1,3-dichloropropene	50 U	4-methyl-2-pentanone	100 U
cis-1,3-dichloropropene	50 U	styrene	50 U
ethylbenzene	50 U	vinyl acetate	100 U
tetrahydrofuran	100 U	total xylenes	50 U

Summary of Surrogate Recoveries

	% Rec
1,2-dichloroethane-d ₄	100
toluene-d ₈	100
p-bromofluorobenzene	95

Note: Sample was diuted 10 fold for analysis.

No other volatile organic compounds were found in reportable concentrations.

Key to the letters used to qualify the results of the analysis:

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LCB - Compound was found but at low concentration, comparable to that in the blank. Quantitation is not possible.

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C - The result has been corrected for the presence of the compound in the blank.

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ANALYTICAL REPORT

Date: 23 October 1989
Aquatec Lab No.: 104706
ETR No.: 18676, Project No. 89000
Sample Received On: 6 October 1989; Analyzed on: 14 October 1989
Sample Identification: Balsam Environmental Consultants, water sample
labeled MTL-GW-MW21S-134, 10/5/89 at 1408 hours.

Volatile Organic Compounds in ug/l EPA Method 624

benzene	5 U	methylene chloride	5 U
carbon tetrachloride	5 U	chloromethane	10 U
chlorobenzene	5 U	bromomethane	10 U
1,2-dichloroethane	5 U	bromoform	5 U
1,1,1-trichloroethane	5 U	bromodichloromethane	5 U
1,1-dichloroethane	5 U	dibromochloromethane	5 U
1,1,2-trichloroethane	5 U	tetrachloroethene	5 U
1,1,2,2-tetrachloroethane	5 U	toluene	5 U
chloroethane	10 U	trichloroethene	5 U
2-chloroethyl vinyl ether	10 U	vinyl chloride	10 U
chloroform	5 U	acetone	LCB
1,1-dichloroethene	5 U	2-butanone	10 U
1,2-dichloroethenes	5 U	carbon disulfide	5 U
1,2-dichloropropane	5 U	2-hexanone	10 U
trans-1,3-dichloropropene	5 U	4-methyl-2-pentanone	10 U
cis-1,3-dichloropropene	5 U	styrene	5 U
ethylbenzene	5 U	vinyl acetate	10 U
tetrahydrofuran	10 U	total xylenes	5 U

Summary of Surrogate Recoveries

	% Rec
1,2-dichloroethane-d ₄	104
toluene-d ₈	109
p-bromofluorobenzene	101

Note: See enclosed report of other volatile organic compounds found.

Key to the letters used to qualify the results of the analysis:

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LCB - Compound was found but at low concentration, comparable to that in the blank. Quantitation is not possible.

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Date: 23 October 1989
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ETR No.: 18676, Project 89000
Sample Received On: 6 October 1989; Analyzed on: 14 October 1989
Sample Identification: Balsam Environmental Consultants, water sample
labeled MTL-GW-MW21S-134, 10/5/89 at 1408 hours.

Other Volatile Organic Compounds

<u>Scan No.*</u>	<u>Name</u>	<u>Estimated Conc.**</u> <u>(ug/l)</u>
410	Hexanal	120

* Indicates relative location of chromatographic peak in a total of 760 scans in the chromatogram, at three seconds per scan.

** Concentration estimated from ratio of Enhanced Reconstructed Ion Chromatogram (ERIC) of compound to ERIC of nearest internal standard, assuming a response factor of 1.



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ANALYTICAL REPORT

Date: 23 October 1989
Aquatec Lab No.: 104707
ETR No.: 18676, Project No. 89000
Sample Received On: 6 October 1989; Analyzed on: 14 October 1989
Sample Identification: Balsam Environmental Consultants, water sample
labeled MTL-QA-102, 9/21/89 at 1200 hours.

Volatile Organic Compounds in ug/l EPA Method 624

benzene	5 U	methylene chloride	LCB
carbon tetrachloride	5 U	chloromethane	10 U
chlorobenzene	5 U	bromomethane	10 U
1,2-dichloroethane	5 U	bromoform	5 U
1,1,1-trichloroethane	5 U	bromodichloromethane	5 U
1,1-dichloroethane	5 U	dibromochloromethane	5 U
1,1,2-trichloroethane	5 U	tetrachloroethene	5 U
1,1,2,2-tetrachloroethane	5 U	toluene	5 U
chloroethane	10 U	trichloroethene	5 U
2-chloroethyl vinyl ether	10 U	vinyl chloride	10 U
chloroform	5 U	acetone	LCB
1,1-dichloroethene	5 U	2-butanone	10 U
1,2-dichloroethenes	5 U	carbon disulfide	5 U
1,2-dichloropropane	5 U	2-hexanone	10 U
trans-1,3-dichloropropene	5 U	4-methyl-2-pentanone	10 U
cis-1,3-dichloropropene	5 U	styrene	5 U
ethylbenzene	5 U	vinyl acetate	10 U
tetrahydrofuran	10 U	total xylenes	5 U

Summary of Surrogate Recoveries

	% Rec
1,2-dichloroethane-d ₄	100
toluene-d ₈	104
p-bromofluorobenzene	96

Note: No other semivolatile organic compounds were found in reportable concentrations.

Key to the letters used to qualify the results of the analysis:

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LCB - Compound was found but at low concentration, comparable to that in the blank. Quantitation is not possible.

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ANALYTICAL REPORT

Date: 23 October 1989

Aquatec Lab No.:

ETR No.: 18676, Project 89000

Sample Received On:

Sample Identification: Blank BB1009J3S for Aquatec Lab No.'s 104703 -
104705.

Base/Neutral Extractable Semivolatile Organic Compounds in ug/l EPA Method 625

acenaphthene	10 U	benzyl butyl phthalate	10 U
1,2,4-trichlorobenzene	10 U	di-n-butyl phthalate	10 U
hexachlorobenzene	10 U	di-n-octyl phthalate	10 U
hexachloroethane	10 U	diethyl phthalate	10 U
bis (2-chloroethyl) ether	10 U	dimethyl phthalate	10 U
2-chloronaphthalene	10 U	benzo(a)anthracene	10 U
1,2-dichlorobenzene	10 U	benzo(a)pyrene	10 U
1,3-dichlorobenzene	10 U	benzo(b)fluoranthene	10 U
1,4-dichlorobenzene	10 U	benzo(k)fluoranthene	10 U
3,3'-dichlorobenzidine	20 U	chrysene	10 U
2,4-dinitrotoluene	10 U	acenaphthylene	10 U
2,6-dinitrotoluene	10 U	anthracene	10 U
fluoranthene	10 U	benzo(ghi)perylene	10 U
4-chlorophenyl phenyl ether	10 U	fluorene	10 U
4-bromophenyl phenyl ether	10 U	phenanthrene	10 U
bis (2-chloroisopropyl) ether	10 U	dibenzo(ah)anthracene	10 U
bis (2-chloroethoxy)methane	10 U	indeno(1,2,3-cd)pyrene	10 U
hexachlorobutadiene	10 U	pyrene	10 U
hexachlorocyclopentadiene	10 U	benzyl alcohol	10 U
isophorone	10 U	4-chloroaniline	10 U
naphthalene	10 U	dibenzofuran	10 U
nitrobenzene	10 U	2-methylnaphthalene	10 U
N-nitrosodiphenylamine+	10 U	2-nitroaniline	50 U
N-nitrosodipropylamine	10 U	3-nitroaniline	50 U
bis (2-ethylhexyl) phthalate	10 U	4-nitroaniline	50 U

Note: No other semivolatile organic compounds were found in reportable concentrations.

Key to the letters used to qualify the results of the analysis:

U - The compound was analyzed for but not detected. The number is the detection limit for the compound.

LCB - Compound was found at low concentration, comparable to that in the blank. Quantitation is not possible.

+ Cannot be separated from diphenylamine.

J - An estimated value. The mass spectrum indicates the presence of the compound, but the calculated result is less than the reliable detection limit for this compound.

C - The result has been corrected for the presence of the compound in the blank.

Quality controls were analyzed with the sample as part of Aquatec's standard analytical procedures. The results of these are maintained on file at Aquatec.



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ANALYTICAL REPORT

Date: 23 October 1989

Aquatec Lab No.:

ETR No.: 18676, Project 89000

Sample Received On:

Sample Identification: Blank BB1009J3S for Aquatec Lab No.'s 104703-104705.

Acid Extractable Semivolatile Organic Compounds in ug/l EPA Method 625

<u>2,4,6-trichlorophenol</u>	10 U
<u>p-chloro-m-cresol</u>	10 U
<u>2-chlorophenol</u>	10 U
<u>2,4-dichlorophenol</u>	10 U
<u>2,4-dimethylphenol</u>	10 U
<u>2-nitrophenol</u>	10 U
<u>4-nitrophenol</u>	50 U
<u>2,4-dinitrophenol</u>	50 U
<u>4,6-dinitro-2-methylphenol</u>	50 U
<u>pentachlorophenol</u>	50 U
<u>phenol</u>	10 U
<u>benzoic acid</u>	50 U
<u>2-methylphenol</u>	10 U
<u>4-methylphenol</u>	10 U
<u>2,4,5-trichlorophenol</u>	50 U

Summary of Surrogate Recoveries

	<u>% Rec</u>		<u>% Rec</u>
2-fluorophenol	37	nitrobenzene-d ₅	60
phenol-d ₆	21	2-fluorobiphenyl	65
2,4,6-tribromophenol	40	terphenyl-d ₁₄	77

Note: No other semivolatile organic compounds were found in reportable concentrations.

Key to the letters used to qualify the results of the analysis:

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J - An estimated value. The mass spectrum indicates the presence of the compound, but the calculated result is less than the reliable detection limit for this compound.

LCB - Compound was found but at low concentration, comparable to that in the blank. Quantitation is not possible.

C - The result has been corrected for the presence of the compound in the blank.

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ANALYTICAL REPORT

Date: 23 October 1989

Aquatec Lab No.: 104703

ETR No.: 18676, Project 89000

Sample Received On: 6 October 1989; Extracted on: 9 October 1989

Sample Identification: Balsam Environmental Consultants, water sample labeled MTL-GW-MW20D-133, 10/5/89 at 1120 hours.

Base/Neutral Extractable Semivolatile Organic Compounds in ug/l
EPA Method 625

<u>acenaphthene</u>	10 U	<u>benzyl butyl phthalate</u>	10 U
<u>1,2,4-trichlorobenzene</u>	10 U	<u>di-n-butyl phthalate</u>	10 U
<u>hexachlorobenzene</u>	10 U	<u>di-n-octyl phthalate</u>	10 U
<u>hexachloroethane</u>	10 U	<u>diethyl phthalate</u>	10 U
<u>bis (2-chloroethyl) ether</u>	10 U	<u>dimethyl phthalate</u>	10 U
<u>2-chloronaphthalene</u>	10 U	<u>benzo(a)anthracene</u>	10 U
<u>1,2-dichlorobenzene</u>	10 U	<u>benzo(a)pyrene</u>	10 U
<u>1,3-dichlorobenzene</u>	10 U	<u>benzo(b)fluoranthene</u>	10 U
<u>1,4-dichlorobenzene</u>	10 U	<u>benzo(k)fluoranthene</u>	10 U
<u>3,3'-dichlorobenzidine</u>	20 U	<u>chrysene</u>	10 U
<u>2,4-dinitrotoluene</u>	10 U	<u>acenaphthylene</u>	10 U
<u>2,6-dinitrotoluene</u>	10 U	<u>anthracene</u>	10 U
<u>fluoranthene</u>	10 U	<u>benzo(ghi)perylene</u>	10 U
<u>4-chlorophenyl phenyl ether</u>	10 U	<u>fluorene</u>	10 U
<u>4-bromophenyl phenyl ether</u>	10 U	<u>phenanthrene</u>	10 U
<u>bis (2-chloroisopropyl) ether</u>	10 U	<u>dibenzo(ah)anthracene</u>	10 U
<u>bis (2-chloroethoxy)methane</u>	10 U	<u>indeno(1,2,3-cd)pyrene</u>	10 U
<u>hexachlorobutadiene</u>	10 U	<u>pyrene</u>	10 U
<u>hexachlorocyclopentadiene</u>	10 U	<u>benzyl alcohol</u>	10 U
<u>isophorone</u>	10 U	<u>4-chloroaniline</u>	10 U
<u>naphthalene</u>	10 U	<u>dibenzofuran</u>	10 U
<u>nitrobenzene</u>	10 U	<u>2-methylnaphthalene</u>	10 U
<u>N-nitrosodiphenylamine+</u>	10 U	<u>2-nitroaniline</u>	50 U
<u>N-nitrosodipropylamine</u>	10 U	<u>3-nitroaniline</u>	50 U
<u>bis (2-ethylhexyl) phthalate</u>	10 U	<u>4-nitroaniline</u>	50 U

Note: No other semivolatile organic compounds were found in reportable concentrations.

Key to the letters used to qualify the results of the analysis:

- | | |
|---|--|
| U - The compound was analyzed for but not detected. The number is the detection limit for the compound. | J - An estimated value. The mass spectrum indicates the presence of the compound, but the calculated result is less than the reliable detection limit for this compound. |
| LCB - Compound was found at low concentration, comparable to that in the blank. Quantitation is not possible. | C - The result has been corrected for the presence of the compound in the blank. |
| + Cannot be separated from diphenylamine. | |



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ANALYTICAL REPORT

Date: 23 October 1989
Aquatec Lab No.: 104703
ETR No.: 18676, Project 89000
Sample Received On: 6 October 1989; Extracted on: 9 October 1989
Sample Identification: Balsam Environmental Consultants, water sample labeled
MTL-GW-MW20D-133, 10/5/89 at 1120 hours.

Acid Extractable Semivolatile Organic Compounds in ug/l
EPA Method 625

<u>2,4,6-trichlorophenol</u>	10 U
<u>p-chloro-m-cresol</u>	10 U
<u>2-chlorophenol</u>	10 U
<u>2,4-dichlorophenol</u>	10 U
<u>2,4-dimethylphenol</u>	10 U
<u>2-nitrophenol</u>	10 U
<u>4-nitrophenol</u>	50 U
<u>2,4-dinitrophenol</u>	50 U
<u>4,6-dinitro-2-methylphenol</u>	50 U
<u>pentachlorophenol</u>	50 U
<u>phenol</u>	10 U
<u>benzoic acid</u>	50 U
<u>2-methylphenol</u>	10 U
<u>4-methylphenol</u>	10 U
<u>2,4,5-trichlorophenol</u>	50 U

Summary of Surrogate Recoveries

	<u>% Rec</u>		<u>% Rec</u>
2-fluorophenol	39	nitrobenzene-d ₅	67
phenol-d ₆	24	2-fluorobiphenyl	75
2,4,6-tribromophenol	54	terphenyl-d ₁₄	87

Note: No other semivolatile organic compounds were found in reportable concentrations.

Key to the letters used to qualify the results of the analysis:

U - The compound was analyzed for but not detected. The number is the detection limit for the compound.

J - An estimated value. The mass spectrum indicates the presence of the compound, but the calculated result is less than the reliable detection limit for this compound.

LCB - Compound was found but at low concentration, comparable to that in the blank. Quantitation is not possible.

C - The result has been corrected for the presence of the compound in the blank.

Quality controls were analyzed with the sample as part of Aquatec's standard analytical procedures. The results of these are maintained on file at Aquatec.



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ENVIRONMENTAL SERVICES

75 Green Mountain Drive, So. Burlington, VT 05403
TEL. 802/658-1074

ANALYTICAL REPORT

Date: 23 October 1989

Aquatec Lab No.: 104704

ETR No.: 18676, Project 89000

Sample Received On: 6 October 1989; Extracted on: 9 October 1989

Sample Identification: Balsam Environmental Consultants, water sample labeled
MTL-GW-MW20S-132, 10/5/89 at 1145 hours.

Base/Neutral Extractable Semivolatile Organic Compounds in ug/l
EPA Method 625

<u>acenaphthene</u>	10 U	<u>benzyl butyl phthalate</u>	10 U
<u>1,2,4-trichlorobenzene</u>	10 U	<u>di-n-butyl phthalate</u>	10 U
<u>hexachlorobenzene</u>	10 U	<u>di-n-octyl phthalate</u>	10 U
<u>hexachloroethane</u>	10 U	<u>diethyl phthalate</u>	4J
<u>bis (2-chloroethyl) ether</u>	10 U	<u>dimethyl phthalate</u>	10 U
<u>2-chloronaphthalene</u>	10 U	<u>benzo(a)anthracene</u>	10 U
<u>1,2-dichlorobenzene</u>	10 U	<u>benzo(a)pyrene</u>	10 U
<u>1,3-dichlorobenzene</u>	10 U	<u>benzo(b)fluoranthene</u>	10 U
<u>1,4-dichlorobenzene</u>	10 U	<u>benzo(k)fluoranthene</u>	10 U
<u>3,3'-dichlorobenzidine</u>	20 U	<u>chrysene</u>	10 U
<u>2,4-dinitrotoluene</u>	10 U	<u>acenaphthylene</u>	10 U
<u>2,6-dinitrotoluene</u>	10 U	<u>anthracene</u>	10 U
<u>fluoranthene</u>	10 U	<u>benzo(ghi)perylene</u>	10 U
<u>4-chlorophenyl phenyl ether</u>	10 U	<u>fluorene</u>	10 U
<u>4-bromophenyl phenyl ether</u>	10 U	<u>phenanthrene</u>	10 U
<u>bis (2-chloroisopropyl) ether</u>	10 U	<u>dibenzo(ah)anthracene</u>	10 U
<u>bis (2-chloroethoxy)methane</u>	10 U	<u>indeno(1,2,3-cd)pyrene</u>	10 U
<u>hexachlorobutadiene</u>	10 U	<u>pyrene</u>	10 U
<u>hexachlorocyclopentadiene</u>	10 U	<u>benzyl alcohol</u>	10 U
<u>isophorone</u>	10 U	<u>4-chloroaniline</u>	10 U
<u>naphthalene</u>	10 U	<u>dibenzofuran</u>	10 U
<u>nitrobenzene</u>	10 U	<u>2-methylnaphthalene</u>	10 U
<u>N-nitrosodiphenylamine+</u>	10 U	<u>2-nitroaniline</u>	50 U
<u>N-nitrosodipropylamine</u>	10 U	<u>3-nitroaniline</u>	50 U
<u>bis (2-ethylhexyl) phthalate</u>	10 U	<u>4-nitroaniline</u>	50 U

Note: No other semivolatile organic compounds were found in reportable concentrations.

Key to the letters used to qualify the results of the analysis:

- U - The compound was analyzed for but not detected. The number is the detection limit for the compound.
- LCB - Compound was found at low concentration, comparable to that in the blank. Quantitation is not possible.
- + Cannot be separated from diphenylamine.
- J - An estimated value. The mass spectrum indicates the presence of the compound, but the calculated result is less than the reliable detection limit for this compound.
- C - The result has been corrected for the presence of the compound in the blank.



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TEL. 802/658-1074

ANALYTICAL REPORT

Date: 23 October 1989

Aquatec Lab No.: 104704

ETR No.: 18676, Project 89000

Sample Received On: 6 October 1989; Extracted on: 9 October 1989

Sample Identification: Balsam Environmental Consultants, water sample labeled
MTL-GW-MW20S-132, 10/5/89 at 1145 hours.

Acid Extractable Semivolatile Organic Compounds in ug/l EPA Method 625

<u>2,4,6-trichlorophenol</u>	10 U
<u>p-chloro-m-cresol</u>	10 U
<u>2-chlorophenol</u>	10 U
<u>2,4-dichlorophenol</u>	10 U
<u>2,4-dimethylphenol</u>	10 U
<u>2-nitrophenol</u>	10 U
<u>4-nitrophenol</u>	50 U
<u>2,4-dinitrophenol</u>	50 U
<u>4,6-dinitro-2-methylphenol</u>	50 U
<u>pentachlorophenol</u>	50 U
<u>phenol</u>	10 U
<u>benzoic acid</u>	50 U
<u>2-methylphenol</u>	10 U
<u>4-methylphenol</u>	10 U
<u>2,4,5-trichlorophenol</u>	50 U

Summary of Surrogate Recoveries

	<u>% Rec</u>		<u>% Rec</u>
2-fluorophenol	30	nitrobenzene-d ₅	60
phenol-d ₆	17	2-fluorobiphenyl	71
2,4,6-tribromophenol	43	terphenyl-d ₁₄	78

Note: No other semivolatile organic compounds were found in reportable concentrations.

Key to the letters used to qualify the results of the analysis:

- | | |
|---|--|
| U - The compound was analyzed for but not detected. The number is the detection limit for the compound. | J - An estimated value. The mass spectrum indicates the presence of the compound, but the calculated result is less than the reliable detection limit for this compound. |
| LCB - Compound was found but at low concentration, comparable to that in the blank. Quantitation is not possible. | C - The result has been corrected for the presence of the compound in the blank. |

Quality controls were analyzed with the sample as part of Aquatec's standard analytical procedures. The results of these are maintained on file at Aquatec.



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75 Green Mountain Drive, So. Burlington, VT 05403

TEL. 802/658-1074

ANALYTICAL REPORT

Date: 23 October 1989

Aquatec Lab No.: 104705

ETR No.: 18676, Project 89000

Sample Received On: 6 October 1989; Extracted on: 9 October 1989

Sample Identification: Balsam Environmental Consultants, water sample labeled MTL-GW-MW21D-135, 10/5/89 at 1050 hours.

Base/Neutral Extractable Semivolatile Organic Compounds in ug/l
EPA Method 625

acenaphthene	10 U	benzyl butyl phthalate	10 U
1,2,4-trichlorobenzene	10 U	di-n-butyl phthalate	10 U
hexachlorobenzene	10 U	di-n-octyl phthalate	10 U
hexachloroethane	10 U	diethyl phthalate	10 U
bis (2-chloroethyl) ether	10 U	dimethyl phthalate	10 U
2-chloronaphthalene	10 U	benzo(a)anthracene	10 U
1,2-dichlorobenzene	10 U	benzo(a)pyrene	10 U
1,3-dichlorobenzene	10 U	benzo(b)fluoranthene	10 U
1,4-dichlorobenzene	10 U	benzo(k)fluoranthene	10 U
3,3'-dichlorobenzidine	20 U	chrysene	10 U
2,4-dinitrotoluene	10 U	acenaphthylene	10 U
2,6-dinitrotoluene	10 U	anthracene	10 U
fluoranthene	10 U	benzo(ghi)perylene	10 U
4-chlorophenyl phenyl ether	10 U	fluorene	10 U
4-bromophenyl phenyl ether	10 U	phenanthrene	10 U
bis (2-chloroisopropyl) ether	10 U	dibenzo(ah)anthracene	10 U
bis (2-chloroethoxy)methane	10 U	indeno(1,2,3-cd)pyrene	10 U
hexachlorobutadiene	10 U	pyrene	10 U
hexachlorocyclopentadiene	10 U	benzyl alcohol	10 U
isophorone	10 U	4-chloroaniline	10 U
naphthalene	10 U	dibenzofuran	10 U
nitrobenzene	10 U	2-methylnaphthalene	10 U
N-nitrosodiphenylamine+	10 U	2-nitroaniline	50 U
N-nitrosodipropylamine	10 U	3-nitroaniline	50 U
bis (2-ethylhexyl) phthalate	10 U	4-nitroaniline	50 U

Note: No other semivolatile organic compounds were found in reportable concentrations.

Key to the letters used to qualify the results of the analysis:

U - The compound was analyzed for but not detected. The number is the detection limit for the compound.

LCB - Compound was found at low concentration, comparable to that in the blank. Quantitation is not possible.

+ Cannot be separated from diphenylamine.

J - An estimated value. The mass spectrum indicates the presence of the compound, but the calculated result is less than the reliable detection limit for this compound.

C - The result has been corrected for the presence of the compound in the blank.

Quality controls were analyzed with the sample as part of Aquatec's standard analytical procedures. The results of these are maintained on file at Aquatec.



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TEL. 802/658-1074

ANALYTICAL REPORT

Date: 23 October 1989
Aquatec Lab No.: 104705
ETR No.: 18676, Project 89000
Sample Received On: 6 October 1989; Extracted on: 9 October 1989
Sample Identification: Balsam Environmental Consultants, water sample labeled
MTL-GW-MW21D-135, 10/5/89 at 1050 hours.

Acid Extractable Semivolatile Organic Compounds in ug/l EPA Method 625

<u>2,4,6-trichlorophenol</u>	10 U
<u>p-chloro-m-cresol</u>	10 U
<u>2-chlorophenol</u>	10 U
<u>2,4-dichlorophenol</u>	10 U
<u>2,4-dimethylphenol</u>	10 U
<u>2-nitrophenol</u>	10 U
<u>4-nitrophenol</u>	50 U
<u>2,4-dinitrophenol</u>	50 U
<u>4,6-dinitro-2-methylphenol</u>	50 U
<u>pentachlorophenol</u>	50 U
<u>phenol</u>	10 U
<u>benzoic acid</u>	50 U
<u>2-methylphenol</u>	10 U
<u>4-methylphenol</u>	10 U
<u>2,4,5-trichlorophenol</u>	50 U

Summary of Surrogate Recoveries

	<u>% Rec</u>		<u>% Rec</u>
2-fluorophenol	31	nitrobenzene-d ₅	61
phenol-d ₆	19	2-fluorobiphenyl	69
2,4,6-tribromophenol	51	terphenyl-d ₁₄	87

Note: No other semivolatile organic compounds were found in reportable concentrations.

Key to the letters used to qualify the results of the analysis:

- | | |
|---|--|
| U - The compound was analyzed for but not detected. The number is the detection limit for the compound. | J - An estimated value. The mass spectrum indicates the presence of the compound, but the calculated result is less than the reliable detection limit for this compound. |
| LCB - Compound was found but at low concentration, comparable to that in the blank. Quantitation is not possible. | C - The result has been corrected for the presence of the compound in the blank. |

Quality controls were analyzed with the sample as part of Aquatec's standard analytical procedures. The results of these are maintained on file at Aquatec.



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75 Green Mountain Drive, So. Burlington, VT 05403
TEL. 802/658-1074

ANALYTICAL REPORT

Date: 23 October 1989

Aquatec Lab No.:

ETR No.: 18676, Project 89000

Sample Received On:

Sample Identification: Blank PBLKM9, for Aquatec Lab No.'s 104703-104705.

Pesticides and PCBs in ug/l EPA Method 608

aldrin	0.05 U	a-BHC	0.05 U
dieldrin	0.10 U	b-BHC	0.05 U
chlordane	0.50 U	d-BHC	0.05 U
4,4'-DDT	0.10 U	g-BHC (lindane)	0.05 U
4,4'-DDE	0.10 U	methoxychlor	0.50 U
4,4'-DDD	0.10 U	toxaphene	1.0 U
a-endosulfan	0.05 U	PCB-1242	0.50 U
b-endosulfan	0.10 U	PCB-1254	1.0 U
endosulfan sulfate	0.10 U	PCB-1221	0.50 U
endrin	0.10 U	PCB-1232	0.50 U
endrin ketone	0.10 U	PCB-1248	0.50 U
heptachlor	0.05 U	PCB-1260	1.0 U
heptachlor epoxide	0.05 U	PCB-1016	0.50 U

Surrogate Recovery

Dibutyl Chlorendate 97%

Key to the letters used to qualify the results of the analysis:

U - The compound was analyzed for but not detected. The number is the detection limit for the compound.

C - The result has been corrected for the presence of the compound in the blank.

LCB - Compound was found but at low concentration, comparable to that in the blank. Quantitation is not possible.

Quality controls were analyzed with the sample as part of Aquatec's standard analytical procedures. The results of these are maintained on file at Aquatec.



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TEL. 802/658-1074

ANALYTICAL REPORT

Date: 23 October 1989
Aquatec Lab No.: 104703
ETR No.: 18676, Project 89000
Sample Received On: 6 October 1989; Extracted on: 9 October 1989
Sample Identification: Balsam Environmental Consultants, water sample labeled
MTL-GW-MW20D-133, 10/5/89 at 1120 hours.

Pesticides and PCBs in ug/l EPA Method 608

aldrin	0.05 U	a-BHC	0.05 U
dieldrin	0.10 U	b-BHC	0.05 U
chlordane	0.50 U	d-BHC	0.05 U
4,4'-DDT	0.10 U	g-BHC (lindane)	0.05 U
4,4'-DDE	0.10 U	methoxychlor	0.50 U
4,4'-DDD	0.10 U	toxaphene	1.0 U
a-endosulfan	0.05 U	PCB-1242	0.50 U
b-endosulfan	0.10 U	PCB-1254	1.0 U
endosulfan sulfate	0.10 U	PCB-1221	0.50 U
endrin	0.10 U	PCB-1232	0.50 U
endrin ketone	0.10 U	PCB-1248	0.50 U
heptachlor	0.05 U	PCB-1260	1.0 U
heptachlor epoxide	0.05 U	PCB-1016	0.50 U

Surrogate Recovery

Dibutyl Chlorendate 92%

Key to the letters used to qualify the results of the analysis:

- | | |
|---|--|
| U - The compound was analyzed for but not detected. The number is the detection limit for the compound. | C - The result has been corrected for the presence of the compound in the blank. |
|---|--|

LCB - Compound was found but at low concentration, comparable to that in the blank. Quantitation is not possible.

Quality controls were analyzed with the sample as part of Aquatec's standard analytical procedures. The results of these are maintained on file at Aquatec.



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ANALYTICAL REPORT

Date: 23 October 1989

Aquatec Lab No.: 104704

ETR No.: 18676, Project 89000

Sample Received On: 6 October 1989; Extracted on: 9 October 1989

Sample Identification: Balsam Environmental Consultants, water sample labeled MTL-GW-MW20S-132, 10/5/89 at 1145 hours.

Pesticides and PCBs in ug/l EPA Method 608

<u>aldrin</u>	0.05 U	<u>a-BHC</u>	0.05 U
<u>dieldrin</u>	0.10 U	<u>b-BHC</u>	0.05 U
<u>chlordane</u>	0.50 U	<u>d-BHC</u>	0.05 U
<u>4,4'-DDT</u>	0.10 U	<u>g-BHC (lindane)</u>	0.05 U
<u>4,4'-DDE</u>	0.10 U	<u>methoxychlor</u>	0.50 U
<u>4,4'-DDD</u>	0.10 U	<u>toxaphene</u>	1.0 U
<u>a-endosulfan</u>	0.05 U	<u>PCB-1242</u>	0.50 U
<u>b-endosulfan</u>	0.10 U	<u>PCB-1254</u>	1.0 U
<u>endosulfan sulfate</u>	0.10 U	<u>PCB-1221</u>	0.50 U
<u>endrin</u>	0.10 U	<u>PCB-1232</u>	0.50 U
<u>endrin ketone</u>	0.10 U	<u>PCB-1248</u>	0.50 U
<u>heptachlor</u>	0.05 U	<u>PCB-1260</u>	1.0 U
<u>heptachlor epoxide</u>	0.05 U	<u>PCB-1016</u>	0.50 U

Surrogate Recovery

Dibutyl Chlorendate 99%

Key to the letters used to qualify the results of the analysis:

U - The compound was analyzed for but not detected. The number is the detection limit for the compound.

C - The result has been corrected for the presence of the compound in the blank.

LCB - Compound was found but at low concentration, comparable to that in the blank. Quantitation is not possible.

Quality controls were analyzed with the sample as part of Aquatec's standard analytical procedures. The results of these are maintained on file at Aquatec.



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ENVIRONMENTAL SERVICES

75 Green Mountain Drive, So. Burlington, VT 05403
TEL. 802/658-1074

ANALYTICAL REPORT

Date: 23 October 1989
Aquatec Lab No.: 104705
ETR No.: 18676, Project 89000
Sample Received On: 6 October 1989; Extracted on: 9 October 1989
Sample Identification: Balsam Environmental Consultants, water sample labeled
MTL-GW-MW21D-135, 10/5/89 at 1050 hours.

Pesticides and PCBs in ug/l EPA Method 608

aldrin	0.05 U	a-BHC	0.26
dieldrin	0.10 U	b-BHC	0.03
chlordane	0.50 U	d-BHC	0.05 U
4,4'-DDT	0.10 U	g-BHC (lindane)	0.04
4,4'-DDE	0.10 U	methoxychlor	0.50 U
4,4'-DDD	0.10 U	toxaphene	1.0 U
a-endosulfan	0.05 U	PCB-1242	0.50 U
b-endosulfan	0.10 U	PCB-1254	1.0 U
endosulfan sulfate	0.10 U	PCB-1221	0.50 U
endrin	0.10 U	PCB-1232	0.50 U
endrin ketone	0.10 U	PCB-1248	0.50 U
heptachlor	0.05 U	PCB-1260	1.0 U
heptachlor epoxide	0.05 U	PCB-1016	0.50 U

Surrogate Recovery

Dibutyl Chlorendate 95%

Key to the letters used to qualify the results of the analysis:

U - The compound was analyzed for but not detected. The number is the detection limit for the compound.

C - The result has been corrected for the presence of the compound in the blank.

LCB - Compound was found but at low concentration, comparable to that in the blank. Quantitation is not possible.

Quality controls were analyzed with the sample as part of Aquatec's standard analytical procedures. The results of these are maintained on file at Aquatec.

CHAIN-OF-CUSTODY RECORD

Samples Shipped to Aquatec



59 STILES RD.
SALEM N.H., 03079

PROJECT NAME <hr/>		PROJECT ADDRESS <hr/>		PROJECT NO. 6185/830	SAMPLERS (SIGNATURES) <i>Dorothy J. Secker</i> <i>Stephan C. Schol</i>						
I.D. NUMBER	SAMPLING LOCATION	DATE	TIME	SAMPLE TYPE					NO. OF CONTAINERS	ANALYSES	COMMENTS
				SOIL	WATER	OIL	AIR	BULK			
MTL-GW-MW215-134		10/5/89	1408		✓				2x40ml	2x HSL VOC'S (EPA 624)	
MTL-GW-MW205-132		10/5/89	1145		✓				2x40ml 1x4 Liter	EPA 624; BNA; Pest./PCB	
MTL-GW-MW200-133		10/5/89	1130		✓				2x40ml 1x4 Liter	EPA 624; BNA; Pest./PCB	
MTL-GW-MW210-135		10/5/89	1050		✓				2x40ml 1x4 Liter	EPA 624; BNA; Pest./PCB	
MTL-GW-DUP-142		10/5/89	1050		✓						
MTL-QA-102		10/5/89 9/21/89	1800		✓				2x40ml	EPA 624	
RELINQUISHED BY: <i>Dorothy J. Secker</i>		DATE: 10/5/89	TIME: 16:50	RECEIVED BY: Federal Express		DATE:	TIME:				
RELINQUISHED BY:		DATE:	TIME:	RECEIVED BY:		DATE:	TIME:				
RELINQUISHED BY:		DATE:	TIME:	RECEIVED FOR LABORATORY BY: <i>Dorothy J. Secker</i>		DATE: 10.6.89	TIME: 1030				
METHOD OF SHIPMENT: Federal Express				AIRBILL (OR SHIPPING INVOICE) NUMBER: 3936474640							