



VOLATILE ORGANIC ANALYSIS
EPA METHOD 8021B
ANALYZED VIA EPA METHOD 8260B

CUSTOMER: HIGGINS ENVIRONMENTAL

LAB#: 99040303-01

SAMPLE LOCATION: MASSACHUSETTS

JOB#: 03014-99

SAMPLE IDENTITY: 03014-SB5-SOUTH

CONTROL#: 20122,20123,20124

DATE SAMPLED: 04/28/99

DATE REC'D: 04/29/99

DATE ANALYZED: 05/11/99

MATRIX: SOLID

% TOTAL SOLIDS: 95.1

COMPOUND	CONCENTRATION BASED ON DRY WEIGHT (UG/KG)	DETECTION LIMIT MULTIPLIER: PQL BASED ON DRY WEIGHT (UG/KG) X 25.0
CHLOROMETHANE	BDL	1
BROMOMETHANE	BDL	1
VINYL CHLORIDE	BDL	1
CHLOROETHANE	BDL	1
METHYLENE CHLORIDE	BDL	1
TRICHLOROFLUOROMETHANE	200	1
1,1-DICHLOROETHENE	BDL	1
1,1-DICHLOROETHANE	BDL	1
TRANS-1,2-DICHLOROETHENE	BDL	1
CIS-1,2-DICHLOROETHENE	BDL	1
CHLOROFORM	BDL	1
1,2-DICHLOROETHANE	BDL	1
1,1,1-TRICHLOROETHANE	BDL	1
CARBON TETRACHLORIDE	BDL	1
BROMODICHLOROMETHANE	BDL	1
1,2-DICHLOROPROPANE	BDL	1
CIS-1,3-DICHLOROPROPENE	BDL	1
TRICHLOROETHENE	BDL	1
DIBROMOCHLOROMETHANE	BDL	1
TRANS-1,3-DICHLOROPROPENE	BDL	1
1,1,2-TRICHLOROETHANE	BDL	1
BROMOFORM	BDL	1
1,1,2,2-TETRACHLOROETHANE	BDL	1
TETRACHLOROETHENE	BDL	1
CHLOROBENZENE	BDL	1
1,2-DICHLOROBENZENE	BDL	1
1,3-DICHLOROBENZENE	BDL	1
1,4-DICHLOROBENZENE	BDL	1

NOTE: DILUTION PERFORMED DUE TO SAMPLE MATRIX

BDL = BELOW DETECTION LIMIT

ANALYZED BY: CP



PCB
EPA METHOD 8082

CUSTOMER: HIGGINS ENVIRONMENTAL

LAB#: 99040303-01

SAMPLE LOCATION: MASSACHUSETTS

JOB#: 03014-99

SAMPLE IDENTITY: 03014-SB5-SOUTH

CONTROL#: 20122,20123,20124

DATE SAMPLED: 04/28/99

DATE REC'D: 04/29/99

DATE ANALYZED: 05/12/99

DATE EXTRACTED: 05/11/99

MATRIX: SOLID

% TOTAL SOLIDS: 95.1

COMPOUND

CONCENTRATION
BASED ON DRY WEIGHT
(UG/KG)

DETECTION LIMIT MULTIPLIER:
PQL BASED ON DRY WEIGHT
(UG/KG) X 1,580

AROCLOR 1016/1242

BDL

0.1

AROCLOR 1221

BDL

0.2

AROCLOR 1232

BDL

0.1

AROCLOR 1248

BDL

0.1

AROCLOR 1254

BDL

0.1

AROCLOR 1260

BDL

0.1

NOTE: NON-TARGET COMPOUNDS PRESENT

BDL = BELOW DETECTION LIMIT

ANALYZED BY: WN



VOLATILE ORGANIC ANALYSIS
EPA METHOD 8021B
ANALYZED VIA EPA METHOD 8260B

CUSTOMER: HIGGINS ENVIRONMENTAL

LAB#: 99040303-02

SAMPLE LOCATION: MASSACHUSETTS

JOB#: 03014-99

SAMPLE IDENTITY: 03014-SB5-WEST

CONTROL#: 20122,20123,20124

DATE SAMPLED: 04/28/99

DATE REC'D: 04/29/99

DATE ANALYZED: 05/11/99

MATRIX: SOLID

% TOTAL SOLIDS: 97.1

COMPOUND	CONCENTRATION	DETECTION LIMIT MULTIPLIER:
	BASED ON DRY WEIGHT (UG/KG)	PQL BASED ON DRY WEIGHT (UG/KG) X 19.9
CHLOROMETHANE	BDL	1
BROMOMETHANE	BDL	1
VINYL CHLORIDE	BDL	1
CHLOROETHANE	BDL	1
METHYLENE CHLORIDE	BDL	1
TRICHLOROFLUOROMETHANE	720	1
1,1-DICHLOROETHENE	BDL	1
1,1-DICHLOROETHANE	BDL	1
TRANS-1,2-DICHLOROETHENE	BDL	1
CIS-1,2-DICHLOROETHENE	BDL	1
CHLOROFORM	BDL	1
1,2-DICHLOROETHANE	BDL	1
1,1,1-TRICHLOROETHANE	BDL	1
CARBON TETRACHLORIDE	BDL	1
BROMODICHLOROMETHANE	BDL	1
1,2-DICHLOROPROPANE	BDL	1
CIS-1,3-DICHLOROPROPENE	BDL	1
TRICHLOROETHENE	BDL	1
DIBROMOCHLOROMETHANE	BDL	1
TRANS-1,3-DICHLOROPROPENE	BDL	1
1,1,2-TRICHLOROETHANE	BDL	1
BROMOFORM	BDL	1
1,1,2,2-TETRACHLOROETHANE	BDL	1
TETRACHLOROETHENE	79	1
CHLOROBENZENE	BDL	1
1,2-DICHLOROBENZENE	BDL	1
1,3-DICHLOROBENZENE	BDL	1
1,4-DICHLOROBENZENE	BDL	1

NOTE: DILUTION PERFORMED DUE TO SAMPLE MATRIX

BDL = BELOW DETECTION LIMIT

ANALYZED BY: CP



PCB
EPA METHOD 8082

CUSTOMER: HIGGINS ENVIRONMENTAL

LAB#: 99040303-02

SAMPLE LOCATION: MASSACHUSETTS

JOB#: 03014-99

SAMPLE IDENTITY: 03014-SB5-WEST

CONTROL#: 20122,20123,20124

DATE SAMPLED: 04/28/99

DATE REC'D: 04/29/99

DATE ANALYZED: 05/12/99

DATE EXTRACTED: 05/11/99

MATRIX: SOLID

% TOTAL SOLIDS: 97.1

COMPOUND

CONCENTRATION
BASED ON DRY WEIGHT
(UG/KG)

DETECTION LIMIT MULTIPLIER:
PQL BASED ON DRY WEIGHT
(UG/KG) X 1,030

AROCLOR 1016/1242
AROCLOR 1221
AROCLOR 1232
AROCLOR 1248
AROCLOR 1254
AROCLOR 1260

BDL
BDL
BDL
BDL
2,300
BDL

0.1
0.2
0.1
0.1
0.1
0.1

NOTE: NON-TARGET COMPOUNDS PRESENT

BDL=BELOW DETECTION LIMIT

ANALYZED BY: WN



VOLATILE ORGANIC ANALYSIS
EPA METHOD 8021B
ANALYZED VIA EPA METHOD 8260B

CUSTOMER: HIGGINS ENVIRONMENTAL

LAB#: 99040303-03

SAMPLE LOCATION: MASSACHUSETTS

JOB#: 03014-99

SAMPLE IDENTITY: 03014-SB5-EAST

CONTROL#: 20122,20123,20124

DATE SAMPLED: 04/28/99

DATE REC'D: 04/29/99

DATE ANALYZED: 05/12/99

MATRIX: SOLID

% TOTAL SOLIDS: 94.2

COMPOUND

CONCENTRATION
BASED ON DRY WEIGHT
(UG/KG)

DETECTION LIMIT MULTIPLIER:
PQL BASED ON DRY WEIGHT
(UG/KG) X 20.7

CHLOROMETHANE	BDL	1
BROMOMETHANE	BDL	1
VINYL CHLORIDE	BDL	1
CHLOROETHANE	BDL	1
METHYLENE CHLORIDE	BDL	1
TRICHLOROFLUOROMETHANE	690	1
1,1-DICHLOROETHENE	BDL	1
1,1-DICHLOROETHANE	BDL	1
TRANS-1,2-DICHLOROETHENE	BDL	1
CIS-1,2-DICHLOROETHENE	BDL	1
CHLOROFORM	BDL	1
1,2-DICHLOROETHANE	BDL	1
1,1,1-TRICHLOROETHANE	BDL	1
CARBON TETRACHLORIDE	BDL	1
BROMODICHLOROMETHANE	BDL	1
1,2-DICHLOROPROPANE	BDL	1
CIS-1,3-DICHLOROPROPENE	BDL	1
TRICHLOROETHENE	BDL	1
DIBROMOCHLOROMETHANE	BDL	1
TRANS-1,3-DICHLOROPROPENE	BDL	1
1,1,2-TRICHLOROETHANE	BDL	1
BROMOFORM	BDL	1
1,1,2,2-TETRACHLOROETHANE	BDL	1
TETRACHLOROETHENE	BDL	1
CHLOROBENZENE	BDL	1
1,2-DICHLOROBENZENE	BDL	1
1,3-DICHLOROBENZENE	BDL	1
1,4-DICHLOROBENZENE	BDL	1

NOTE: DILUTION PERFORMED DUE TO SAMPLE MATRIX

BDL=BELOW DETECTION LIMIT

ANALYZED BY: CP



PCB
EPA METHOD 8082

CUSTOMER: HIGGINS ENVIRONMENTAL

LAB#: 99040303-03

SAMPLE LOCATION: MASSACHUSETTS

JOB#: 03014-99

SAMPLE IDENTITY: 03014-SB5-EAST

CONTROL#: 20122,20123,20124

DATE SAMPLED: 04/28/99

DATE REC'D: 04/29/99

DATE ANALYZED: 05/12/99

DATE EXTRACTED: 05/11/99

MATRIX: SOLID

% TOTAL SOLIDS: 94.2

COMPOUND

CONCENTRATION
BASED ON DRY WEIGHT
(UG/KG)

DETECTION LIMIT MULTIPLIER:
PQL BASED ON DRY WEIGHT
(UG/KG) X 1,060

AROCLOR 1016/1242
AROCLOR 1221
AROCLOR 1232
AROCLOR 1248
AROCLOR 1254
AROCLOR 1260

BDL
BDL
BDL
BDL
2,000
BDL

0.1
0.2
0.1
0.1
0.1
0.1

NOTE: NON-TARGET COMPOUNDS PRESENT

BDL = BELOW DETECTION LIMIT

ANALYZED BY: WN



VOLATILE ORGANIC ANALYSIS
EPA METHOD 8021B
ANALYZED VIA EPA METHOD 8260B

CUSTOMER: HIGGINS ENVIRONMENTAL

LAB#: 99040303-04

SAMPLE LOCATION: MASSACHUSETTS

JOB#: 03014-99

SAMPLE IDENTITY: 03014-SB5-NORTH

CONTROL#: 20122,20123,20124

DATE SAMPLED: 04/28/99

DATE REC'D: 04/29/99

MATRIX: SOLID

% TOTAL SOLIDS: 96.8

COMPOUND

CONCENTRATION
BASED ON DRY WEIGHT
(UG/KG)

DETECTION LIMIT MULTIPLIER:
PQL BASED ON DRY WEIGHT
(UG/KG) X 21.4

CHLOROMETHANE	BDL	1
BROMOMETHANE	BDL	1
VINYL CHLORIDE	BDL	1
CHLOROETHANE	BDL	1
METHYLENE CHLORIDE	BDL	1
TRICHLOROFLUOROMETHANE	1,000	1
1,1-DICHLOROETHENE	BDL	1
1,1-DICHLOROETHANE	BDL	1
TRANS-1,2-DICHLOROETHENE	BDL	1
CIS-1,2-DICHLOROETHENE	BDL	1
CHLOROFORM	BDL	1
1,2-DICHLOROETHANE	BDL	1
1,1,1-TRICHLOROETHANE	BDL	1
CARBON TETRACHLORIDE	BDL	1
BROMODICHLOROMETHANE	BDL	1
1,2-DICHLOROPROPANE	BDL	1
CIS-1,3-DICHLOROPROPENE	BDL	1
TRICHLOROETHENE	BDL	1
DIBROMOCHLOROMETHANE	BDL	1
TRANS-1,3-DICHLOROPROPENE	BDL	1
1,1,2-TRICHLOROETHANE	BDL	1
BROMOFORM	BDL	1
1,1,2,2-TETRACHLOROETHANE	BDL	1
TETRACHLOROETHENE	220	1
CHLOROBENZENE	BDL	1
1,2-DICHLOROBENZENE	BDL	1
1,3-DICHLOROBENZENE	BDL	1
1,4-DICHLOROBENZENE	BDL	1

NOTE: DILUTION PERFORMED DUE TO SAMPLE MATRIX

BDL=BELOW DETECTION LIMIT

ANALYZED BY: CP



PCB
EPA METHOD 8082

CUSTOMER: HIGGINS ENVIRONMENTAL

LAB#: 99040303-04

SAMPLE LOCATION: MASSACHUSETTS

JOB#: 03014-99

SAMPLE IDENTITY: 03014-SB5-NORTH

CONTROL#: 20122,20123,20124

DATE SAMPLED: 04/28/99

DATE REC'D: 04/29/99

DATE ANALYZED: 05/12/99

DATE EXTRACTED: 05/11/99

MATRIX: SOLID

% TOTAL SOLIDS: 96.8

COMPOUND

CONCENTRATION
BASED ON DRY WEIGHT
(UG/KG)

DETECTION LIMIT MULTIPLIER:
PQL BASED ON DRY WEIGHT
(UG/KG) X 1,030

AROCLOR 1016/1242	BDL	0.1
AROCLOR 1221	BDL	0.2
AROCLOR 1232	BDL	0.1
AROCLOR 1248	BDL	0.1
AROCLOR 1254	2,100	0.1
AROCLOR 1260	BDL	0.1

NOTE: NON-TARGET COMPOUNDS PRESENT

BDL=BELOW DETECTION LIMIT

ANALYZED BY: WN



VOLATILE ORGANIC ANALYSIS
EPA METHOD 8021B
ANALYZED VIA EPA METHOD 8260B

CUSTOMER: HIGGINS ENVIRONMENTAL

LAB#: 99040303-05

SAMPLE LOCATION: MASSACHUSETTS

JOB#: 03014-99

SAMPLE IDENTITY: 03014-F2

CONTROL#: 20122,20123,20124

DATE SAMPLED: 04/28/99

DATE REC'D: 04/29/99

DATE ANALYZED: 05/12/99

MATRIX: SOLID

% TOTAL SOLIDS: 87.7

COMPOUND

CONCENTRATION
BASED ON DRY WEIGHT
(UG/KG)

DETECTION LIMIT MULTIPLIER:
PQL BASED ON DRY WEIGHT
(UG/KG) X 28.4

CHLOROMETHANE	BDL	1
BROMOMETHANE	BDL	1
VINYL CHLORIDE	BDL	1
CHLOROETHANE	BDL	1
METHYLENE CHLORIDE	BDL	1
TRICHLOROFLUOROMETHANE	2,600	1
1,1-DICHLOROETHENE	BDL	1
1,1-DICHLOROETHANE	BDL	1
TRANS-1,2-DICHLOROETHENE	BDL	1
CIS-1,2-DICHLOROETHENE	BDL	1
CHLOROFORM	BDL	1
1,2-DICHLOROETHANE	BDL	1
1,1,1-TRICHLOROETHANE	BDL	1
CARBON TETRACHLORIDE	BDL	1
BROMODICHLOROMETHANE	BDL	1
1,2-DICHLOROPROPANE	BDL	1
CIS-1,3-DICHLOROPROPENE	BDL	1
TRICHLOROETHENE	BDL	1
DIBROMOCHLOROMETHANE	BDL	1
TRANS-1,3-DICHLOROPROPENE	BDL	1
1,1,2-TRICHLOROETHANE	BDL	1
BROMOFORM	BDL	1
1,1,2,2-TETRACHLOROETHANE	BDL	1
TETRACHLOROETHENE	BDL	1
CHLOROBENZENE	BDL	1
1,2-DICHLOROBENZENE	BDL	1
1,3-DICHLOROBENZENE	BDL	1
1,4-DICHLOROBENZENE	BDL	1

NOTE: DILUTION PERFORMED DUE TO SAMPLE MATRIX

BDL = BELOW DETECTION LIMIT

ANALYZED BY: CP



PCB
EPA METHOD 8082

CUSTOMER: HIGGINS ENVIRONMENTAL

LAB#: 99040303-05

SAMPLE LOCATION: MASSACHUSETTS

JOB#: 03014-99

SAMPLE IDENTITY: 03014-F2

CONTROL#: 20122,20123,20124

DATE SAMPLED: 04/28/99

DATE REC'D: 04/29/99

DATE ANALYZED: 05/13/99

DATE EXTRACTED: 05/11/99

MATRIX: SOLID

% TOTAL SOLIDS: 87.7

COMPOUND

CONCENTRATION
BASED ON DRY WEIGHT
(UG/KG)

DETECTION LIMIT MULTIPLIER:
PQL BASED ON DRY WEIGHT
(UG/KG) X 5,700

AROCLOR 1016/1242
AROCLOR 1221
AROCLOR 1232
AROCLOR 1248
AROCLOR 1254
AROCLOR 1260

BDL
BDL
BDL
BDL
6,100
BDL

0.1
0.2
0.1
0.1
0.1
0.1

NOTE: NON-TARGET COMPOUNDS PRESENT

BDL = BELOW DETECTION LIMIT

ANALYZED BY: WN



PCB
EPA METHOD 8082

CUSTOMER: HIGGINS ENVIRONMENTAL

LAB#: 99040303-06

SAMPLE LOCATION: MASSACHUSETTS

JOB#: 03014-99

SAMPLE IDENTITY: 03014-SS8

CONTROL#: 20122,20123,20124

DATE SAMPLED: 04/28/99

DATE REC'D: 04/29/99

DATE ANALYZED: 05/12/99

DATE EXTRACTED: 05/11/99

MATRIX: SOLID

% TOTAL SOLIDS: 96.0

COMPOUND

CONCENTRATION
BASED ON DRY WEIGHT
(UG/KG)

DETECTION LIMIT MULTIPLIER:
PQL BASED ON DRY WEIGHT
(UG/KG) X 1,040

AROCLOR 1016/1242

BDL

0.1

AROCLOR 1221

BDL

0.2

AROCLOR 1232

BDL

0.1

AROCLOR 1248

BDL

0.1

AROCLOR 1254

950

0.1

AROCLOR 1260

BDL

0.1

NOTE: NON-TARGET COMPOUNDS PRESENT

BDL=BELOW DETECTION LIMIT

ANALYZED BY: WN



PCB
EPA METHOD 8082

CUSTOMER: HIGGINS ENVIRONMENTAL

LAB#: 99040303-07

SAMPLE LOCATION: MASSACHUSETTS

JOB#: 03014-99

SAMPLE IDENTITY: 03014-SS8-NORTH

CONTROL#: 20122,20123,20124

DATE SAMPLED: 04/28/99

DATE REC'D: 04/29/99

DATE ANALYZED: 05/12/99

DATE EXTRACTED: 05/11/99

MATRIX: SOLID

% TOTAL SOLIDS: 96.6

COMPOUND

CONCENTRATION
BASED ON DRY WEIGHT
(UG/KG)

DETECTION LIMIT MULTIPLIER:
PQL BASED ON DRY WEIGHT
(UG/KG) X 1,040

AROCLOR 1016/1242

BDL

0.1

AROCLOR 1221

BDL

0.2

AROCLOR 1232

BDL

0.1

AROCLOR 1248

BDL

0.1

AROCLOR 1254

3,000

0.1

AROCLOR 1260

BDL

0.1

NOTE: NON-TARGET COMPOUNDS PRESENT

BDL=BELOW DETECTION LIMIT

ANALYZED BY: WN



PCB
EPA METHOD 8082

CUSTOMER: HIGGINS ENVIRONMENTAL

LAB#: 99040303-08

SAMPLE LOCATION: MASSACHUSETTS

JOB#: 03014-99

SAMPLE IDENTITY: 03014-SS8-WEST

CONTROL#: 20122,20123,20124

DATE SAMPLED: 04/28/99

DATE REC'D: 04/29/99

DATE ANALYZED: 05/12/99

DATE EXTRACTED: 05/11/99

MATRIX: SOLID

% TOTAL SOLIDS: 95.4

COMPOUND

CONCENTRATION
BASED ON DRY WEIGHT
(UG/KG)

DETECTION LIMIT MULTIPLIER:
PQL BASED ON DRY WEIGHT
(UG/KG) X 1,050

AROCLOR 1016/1242
AROCLOR 1221
AROCLOR 1232
AROCLOR 1248
AROCLOR 1254
AROCLOR 1260

BDL
BDL
BDL
BDL
2,300
BDL

0.1
0.2
0.1
0.1
0.1
0.1

NOTE: NON-TARGET COMPOUNDS PRESENT

BDL=BELOW DETECTION LIMIT

ANALYZED BY: WN



PCB
EPA METHOD 8082

CUSTOMER: HIGGINS ENVIRONMENTAL

LAB#: 99040303-09

SAMPLE LOCATION: MASSACHUSETTS

JOB#: 03014-99

SAMPLE IDENTITY: 03014-SS8-EAST

CONTROL#: 20122,20123,20124

DATE SAMPLED: 04/28/99

DATE REC'D: 04/29/99

DATE ANALYZED: 05/12/99

DATE EXTRACTED: 05/11/99

MATRIX: SOLID

% TOTAL SOLIDS: 98.4

COMPOUND

CONCENTRATION
BASED ON DRY WEIGHT
(UG/KG)

DETECTION LIMIT MULTIPLIER:
PQL BASED ON DRY WEIGHT
(UG/KG) X 1,020

AROCLOR 1016/1242
AROCLOR 1221
AROCLOR 1232
AROCLOR 1248
AROCLOR 1254
AROCLOR 1260

BDL
BDL
BDL
BDL
2,700
BDL

0.1
0.2
0.1
0.1
0.1
0.1

NOTE: NON-TARGET COMPOUNDS PRESENT

BDL = BELOW DETECTION LIMIT

ANALYZED BY: WN



PCB
EPA METHOD 8082

CUSTOMER: HIGGINS ENVIRONMENTAL

LAB#: 99040303-10

SAMPLE LOCATION: MASSACHUSETTS

JOB#: 03014-99

SAMPLE IDENTITY: 03014-SS8-SOUTH

CONTROL#: 20122,20123,20124

DATE SAMPLED: 04/28/99

DATE REC'D: 04/29/99

DATE ANALYZED: 05/12/99

DATE EXTRACTED: 05/11/99

MATRIX: SOLID

% TOTAL SOLIDS: 97.5

COMPOUND

CONCENTRATION
BASED ON DRY WEIGHT
(UG/KG)

DETECTION LIMIT MULTIPLIER:
PQL BASED ON DRY WEIGHT
(UG/KG) X 1,030

AROCLOR 1016/1242
AROCLOR 1221
AROCLOR 1232
AROCLOR 1248
AROCLOR 1254
AROCLOR 1260

BDL
BDL
BDL
BDL
3,400
BDL

0.1
0.2
0.1
0.1
0.1
0.1

NOTE: NON-TARGET COMPOUNDS PRESENT

BDL=BELOW DETECTION LIMIT

ANALYZED BY: WN



PCB
EPA METHOD 8082

CUSTOMER: HIGGINS ENVIRONMENTAL

LAB#: 99040303-11

SAMPLE LOCATION: MASSACHUSETTS

JOB#: 03014-99

SAMPLE IDENTITY: 03014-SS7

CONTROL#: 20122,20123,20124

DATE SAMPLED: 04/28/99

DATE REC'D: 04/29/99

DATE ANALYZED: 05/12/99

DATE EXTRACTED: 05/11/99

MATRIX: SOLID

% TOTAL SOLIDS: 98.2

COMPOUND

CONCENTRATION
BASED ON DRY WEIGHT
(UG/KG)

DETECTION LIMIT MULTIPLIER:
PQL BASED ON DRY WEIGHT
(UG/KG) X 1,020

AROCLOR 1016/1242
AROCLOR 1221
AROCLOR 1232
AROCLOR 1248
AROCLOR 1254
AROCLOR 1260

BDL
BDL
BDL
BDL
BDL
3,200

0.1
0.2
0.1
0.1
0.1
0.1

NOTE: NON-TARGET COMPOUNDS PRESENT

BDL=BELOW DETECTION LIMIT

ANALYZED BY: WN



PCB
EPA METHOD 8082

CUSTOMER: HIGGINS ENVIRONMENTAL

LAB#: 99040303-12

SAMPLE LOCATION: MASSACHUSETTS

JOB#: 03014-99

SAMPLE IDENTITY: 03014-SS7-EAST

CONTROL#: 20122,20123,20124

DATE SAMPLED: 04/28/99

DATE REC'D: 04/29/99

DATE ANALYZED: 05/12/99

DATE EXTRACTED: 05/11/99

MATRIX: SOLID

% TOTAL SOLIDS: 92.9

COMPOUND

CONCENTRATION
BASED ON DRY WEIGHT
(UG/KG)

DETECTION LIMIT MULTIPLIER:
PQL BASED ON DRY WEIGHT
(UG/KG) X 1,080

AROCLOR 1016/1242
AROCLOR 1221
AROCLOR 1232
AROCLOR 1248
AROCLOR 1254
AROCLOR 1260

BDL
BDL
BDL
BDL
BDL
3,500

0.1
0.2
0.1
0.1
0.1
0.1

NOTE: NON-TARGET COMPOUNDS PRESENT

BDL=BELOW DETECTION LIMIT

ANALYZED BY: WN



PCB
EPA METHOD 8082

CUSTOMER: HIGGINS ENVIRONMENTAL

LAB#: 99040303-13

SAMPLE LOCATION: MASSACHUSETTS

JOB#: 03014-99

SAMPLE IDENTITY: 03014-SS7-NORTH

CONTROL#: 20122,20123,20124

DATE SAMPLED: 04/28/99

DATE REC'D: 04/29/99

DATE ANALYZED: 05/12/99

DATE EXTRACTED: 05/11/99

MATRIX: SOLID

% TOTAL SOLIDS: 98.9

COMPOUND

CONCENTRATION
BASED ON DRY WEIGHT
(UG/KG)

DETECTION LIMIT MULTIPLIER:
PQL BASED ON DRY WEIGHT
(UG/KG) X 1,010

AROCOR 1016/1242
AROCOR 1221
AROCOR 1232
AROCOR 1248
AROCOR 1254
AROCOR 1260

BDL
BDL
BDL
BDL
BDL
2,600

0.1
0.2
0.1
0.1
0.1
0.1

NOTE: NON-TARGET COMPOUNDS PRESENT

BDL=BELOW DETECTION LIMIT

ANALYZED BY: WN



PCB
EPA METHOD 8082

CUSTOMER: HIGGINS ENVIRONMENTAL

LAB#: 99040303-14

SAMPLE LOCATION: MASSACHUSETTS

JOB#: 03014-99

SAMPLE IDENTITY: 03014-SS7-WEST

CONTROL#: 20122,20123,20124

DATE SAMPLED: 04/28/99

DATE REC'D: 04/29/99

DATE ANALYZED: 05/13/99

DATE EXTRACTED: 05/11/99

MATRIX: SOLID

% TOTAL SOLIDS: 97.5

COMPOUND

CONCENTRATION
BASED ON DRY WEIGHT
(UG/KG)

DETECTION LIMIT MULTIPLIER:
PQL BASED ON DRY WEIGHT
(UG/KG) X 1,030

AROCLOR 1016/1242
AROCLOR 1221
AROCLOR 1232
AROCLOR 1248
AROCLOR 1254
AROCLOR 1260

BDL
BDL
BDL
BDL
BDL
2,900

0.1
0.2
0.1
0.1
0.1
0.1

NOTE: NON-TARGET COMPOUNDS PRESENT

BDL=BELOW DETECTION LIMIT

ANALYZED BY: WN



PCB
EPA METHOD 8082

CUSTOMER: HIGGINS ENVIRONMENTAL

LAB#: 99040303-15

SAMPLE LOCATION: MASSACHUSETTS

JOB#: 03014-99

SAMPLE IDENTITY: 03014-SS7-SOUTH

CONTROL#: 20122,20123,20124

DATE SAMPLED: 04/28/99

DATE REC'D: 04/29/99

DATE ANALYZED: 05/13/99

DATE EXTRACTED: 05/11/99

MATRIX: SOLID

% TOTAL SOLIDS: 94.5

COMPOUND

CONCENTRATION
BASED ON DRY WEIGHT
(UG/KG)

DETECTION LIMIT MULTIPLIER:
PQL BASED ON DRY WEIGHT
(UG/KG) X 1,060

AROCLOR 1016/1242
AROCLOR 1221
AROCLOR 1232
AROCLOR 1248
AROCLOR 1254
AROCLOR 1260

BDL
BDL
BDL
BDL
BDL
3,200

0.1
0.2
0.1
0.1
0.1
0.1

NOTE: NON-TARGET COMPOUNDS PRESENT

BDL=BELOW DETECTION LIMIT

ANALYZED BY: WN



VOLATILE ORGANIC ANALYSIS
EPA METHOD 8021B
ANALYZED VIA EPA METHOD 8260B

CUSTOMER: HIGGINS ENVIRONMENTAL

LAB#: 99040303-16

SAMPLE LOCATION: MASSACHUSETTS

JOB#: 03014-99

SAMPLE IDENTITY: 03014-F7

CONTROL#: 20122,20123,20124

DATE SAMPLED: 04/28/99

DATE REC'D: 04/29/99

DATE ANALYZED: 05/12/99

MATRIX: SOLID

% TOTAL SOLIDS: 97.7

COMPOUND	CONCENTRATION	DETECTION LIMIT MULTIPLIER:
	BASED ON DRY WEIGHT (UG/KG)	PQL BASED ON DRY WEIGHT (UG/KG) X 22.7
CHLOROMETHANE	BDL	1
BROMOMETHANE	BDL	1
VINYL CHLORIDE	BDL	1
CHLOROETHANE	BDL	1
METHYLENE CHLORIDE	BDL	1
TRICHLOROFLUOROMETHANE	2,700	1
1,1-DICHLOROETHENE	BDL	1
1,1-DICHLOROETHANE	BDL	1
TRANS-1,2-DICHLOROETHENE	BDL	1
CIS-1,2-DICHLOROETHENE	BDL	1
CHLOROFORM	BDL	1
1,2-DICHLOROETHANE	BDL	1
1,1,1-TRICHLOROETHANE	BDL	1
CARBON TETRACHLORIDE	BDL	1
BROMODICHLOROMETHANE	BDL	1
1,2-DICHLOROPROPANE	BDL	1
CIS-1,3-DICHLOROPROPENE	BDL	1
TRICHLOROETHENE	BDL	1
DIBROMOCHLOROMETHANE	BDL	1
TRANS-1,3-DICHLOROPROPENE	BDL	1
1,1,2-TRICHLOROETHANE	BDL	1
BROMOFORM	BDL	1
1,1,2,2-TETRACHLOROETHANE	BDL	1
TETRACHLOROETHENE	BDL	1
CHLOROBENZENE	BDL	1
1,2-DICHLOROBENZENE	BDL	1
1,3-DICHLOROBENZENE	BDL	1
1,4-DICHLOROBENZENE	BDL	1

NOTE: DILUTION PERFORMED DUE TO SAMPLE MATRIX

BDL=BELOW DETECTION LIMIT

ANALYZED BY: CP



PCB
EPA METHOD 8082

CUSTOMER: HIGGINS ENVIRONMENTAL

LAB#: 99040303-16

SAMPLE LOCATION: MASSACHUSETTS

JOB#: 03014-99

SAMPLE IDENTITY: 03014-F7

CONTROL#: 20122,20123,20124

DATE SAMPLED: 04/28/99

DATE REC'D: 04/29/99

DATE ANALYZED: 05/13/99

DATE EXTRACTED: 05/11/99

MATRIX: SOLID

% TOTAL SOLIDS: 97.7

COMPOUND

CONCENTRATION
BASED ON DRY WEIGHT
(UG/KG)

DETECTION LIMIT MULTIPLIER:
PQL BASED ON DRY WEIGHT
(UG/KG) X 1,020

AROCLOR 1016/1242
AROCLOR 1221
AROCLOR 1232
AROCLOR 1248
AROCLOR 1254
AROCLOR 1260

BDL
BDL
BDL
BDL
3,000
BDL

0.1
0.2
0.1
0.1
0.1
0.1

NOTE: NON-TARGET COMPOUNDS PRESENT

BDL=BELOW DETECTION LIMIT

ANALYZED BY: WN



PCB
EPA METHOD 8082

CUSTOMER: HIGGINS ENVIRONMENTAL

LAB#: 99040303-17

SAMPLE LOCATION: MASSACHUSETTS

JOB#: 03014-99

SAMPLE IDENTITY: 03014-SB2-SS1

CONTROL#: 20122,20123,20124

DATE SAMPLED: 04/28/99

DATE REC'D: 04/29/99

DATE ANALYZED: 05/13/99

DATE EXTRACTED: 05/11/99

MATRIX: SOLID

% TOTAL SOLIDS: 96.5

COMPOUND

CONCENTRATION
BASED ON DRY WEIGHT
(UG/KG)

DETECTION LIMIT MULTIPLIER:
PQL BASED ON DRY WEIGHT
(UG/KG) X 1,040

AROCLOR 1016/1242
AROCLOR 1221
AROCLOR 1232
AROCLOR 1248
AROCLOR 1254
AROCLOR 1260

2,000
BDL
BDL
BDL
BDL
BDL

0.1
0.2
0.1
0.1
0.1
0.1

NOTE: NON-TARGET COMPOUNDS PRESENT

BDL=BELOW DETECTION LIMIT

ANALYZED BY: WN



VOLATILE ORGANIC ANALYSIS
EPA METHOD 8021B
ANALYZED VIA EPA METHOD 8260B

CUSTOMER: HIGGINS ENVIRONMENTAL

LAB#: 99040303-18

SAMPLE LOCATION: MASSACHUSETTS

JOB#: 03014-99

SAMPLE IDENTITY: 03014-SB6-SS1

CONTROL#: 20122,20123,20124

DATE SAMPLED: 04/28/99

DATE REC'D: 04/29/99

DATE ANALYZED: 05/12/99

MATRIX: SOLID

% TOTAL SOLIDS: 91.9

COMPOUND

CONCENTRATION
BASED ON DRY WEIGHT
(UG/KG)

DETECTION LIMIT MULTIPLIER:
PQL BASED ON DRY WEIGHT
(UG/KG) X 27.6

CHLOROMETHANE	BDL	1
BROMOMETHANE	BDL	1
VINYL CHLORIDE	BDL	1
CHLOROETHANE	BDL	1
METHYLENE CHLORIDE	BDL	1
TRICHLOROFLUOROMETHANE	470	1
1,1-DICHLOROETHENE	BDL	1
1,1-DICHLOROETHANE	BDL	1
TRANS-1,2-DICHLOROETHENE	BDL	1
CIS-1,2-DICHLOROETHENE	BDL	1
CHLOROFORM	BDL	1
1,2-DICHLOROETHANE	BDL	1
1,1,1-TRICHLOROETHANE	250	1
CARBON TETRACHLORIDE	BDL	1
BROMODICHLOROMETHANE	BDL	1
1,2-DICHLOROPROPANE	BDL	1
CIS-1,3-DICHLOROPROPENE	BDL	1
TRICHLOROETHENE	BDL	1
DIBROMOCHLOROMETHANE	BDL	1
TRANS-1,3-DICHLOROPROPENE	BDL	1
1,1,2-TRICHLOROETHANE	BDL	1
BROMOFORM	BDL	1
1,1,2,2-TETRACHLOROETHANE	BDL	1
TETRACHLOROETHENE	BDL	1
CHLOROBENZENE	BDL	1
1,2-DICHLOROBENZENE	BDL	1
1,3-DICHLOROBENZENE	BDL	1
1,4-DICHLOROBENZENE	BDL	1

NOTE: DILUTION PERFORMED DUE TO SAMPLE MATRIX

BDL=BELOW DETECTION LIMIT

ANALYZED BY: CP



PCB
EPA METHOD 8082

CUSTOMER: HIGGINS ENVIRONMENTAL

LAB#: 99040303-18

SAMPLE LOCATION: MASSACHUSETTS

JOB#: 03014-99

SAMPLE IDENTITY: 03014-SB6-SS1

CONTROL#: 20122,20123,20124

DATE SAMPLED: 04/28/99

DATE REC'D: 04/29/99

DATE ANALYZED: 05/13/99

DATE EXTRACTED: 05/11/99

MATRIX: SOLID

% TOTAL SOLIDS: 91.9

COMPOUND

CONCENTRATION
BASED ON DRY WEIGHT
(UG/KG)

DETECTION LIMIT MULTIPLIER:
PQL BASED ON DRY WEIGHT
(UG/KG) X 54,500

AROCLOR 1016/1242
AROCLOR 1221
AROCLOR 1232
AROCLOR 1248
AROCLOR 1254
AROCLOR 1260

BDL
BDL
BDL
BDL
BDL
57,000

0.1
0.2
0.1
0.1
0.1
0.1

NOTE: NON-TARGET COMPOUNDS PRESENT

BDL = BELOW DETECTION LIMIT

ANALYZED BY: WN



VOLATILE ORGANIC ANALYSIS
EPA METHOD 8021B
ANALYZED VIA EPA METHOD 8260B

CUSTOMER: HIGGINS ENVIRONMENTAL

LAB#: 99040303-19

SAMPLE LOCATION: MASSACHUSETTS

JOB#: 03014-99

SAMPLE IDENTITY: 03014-ALL

CONTROL#: 20122,20123,20124

DATE SAMPLED: 04/28/99

DATE REC'D: 04/29/99

DATE ANALYZED: 05/12/99

MATRIX: SOLID

% TOTAL SOLIDS: 96.8

COMPOUND	CONCENTRATION	DETECTION LIMIT MULTIPLIER:
	BASED ON DRY WEIGHT (UG/KG)	PQL BASED ON DRY WEIGHT (UG/KG) X 26.4
CHLOROMETHANE	BDL	1
BROMOMETHANE	BDL	1
VINYL CHLORIDE	BDL	1
CHLOROETHANE	BDL	1
METHYLENE CHLORIDE	BDL	1
TRICHLOROFLUOROMETHANE	110	1
1,1-DICHLOROETHENE	BDL	1
1,1-DICHLOROETHANE	BDL	1
TRANS-1,2-DICHLOROETHENE	BDL	1
CIS-1,2-DICHLOROETHENE	BDL	1
CHLOROFORM	BDL	1
1,2-DICHLOROETHANE	BDL	1
1,1,1-TRICHLOROETHANE	BDL	1
CARBON TETRACHLORIDE	BDL	1
BROMODICHLOROMETHANE	BDL	1
1,2-DICHLOROPROPANE	BDL	1
CIS-1,3-DICHLOROPROPENE	BDL	1
TRICHLOROETHENE	BDL	1
DIBROMOCHLOROMETHANE	BDL	1
TRANS-1,3-DICHLOROPROPENE	BDL	1
1,1,2-TRICHLOROETHANE	BDL	1
BROMOFORM	BDL	1
1,1,2,2-TETRACHLOROETHANE	BDL	1
TETRACHLOROETHENE	BDL	1
CHLOROBENZENE	BDL	1
1,2-DICHLOROBENZENE	BDL	1
1,3-DICHLOROBENZENE	BDL	1
1,4-DICHLOROBENZENE	BDL	1

NOTE: DILUTION PERFORMED DUE TO SAMPLE MATRIX

BDL = BELOW DETECTION LIMIT

ANALYZED BY: CP



PCB
EPA METHOD 8082

CUSTOMER: HIGGINS ENVIRONMENTAL

LAB#: 99040303-19

SAMPLE LOCATION: MASSACHUSETTS

JOB#: 03014-99

SAMPLE IDENTITY: 03014-ALL

CONTROL#: 20122,20123,20124

DATE SAMPLED: 04/28/99

DATE REC'D: 04/29/99

DATE ANALYZED: 05/13/99

DATE EXTRACTED: 05/11/99

MATRIX: SOLID

% TOTAL SOLIDS: 96.8

COMPOUND

CONCENTRATION
BASED ON DRY WEIGHT
(UG/KG)

DETECTION LIMIT MULTIPLIER:
PQL BASED ON DRY WEIGHT
(UG/KG) X 1,030

AROCLOR 1016/1242

BDL

0.1

AROCLOR 1221

BDL

0.2

AROCLOR 1232

BDL

0.1

AROCLOR 1248

BDL

0.1

AROCLOR 1254

BDL

0.1

AROCLOR 1260

BDL

0.1

NOTE: NON-TARGET COMPOUNDS PRESENT

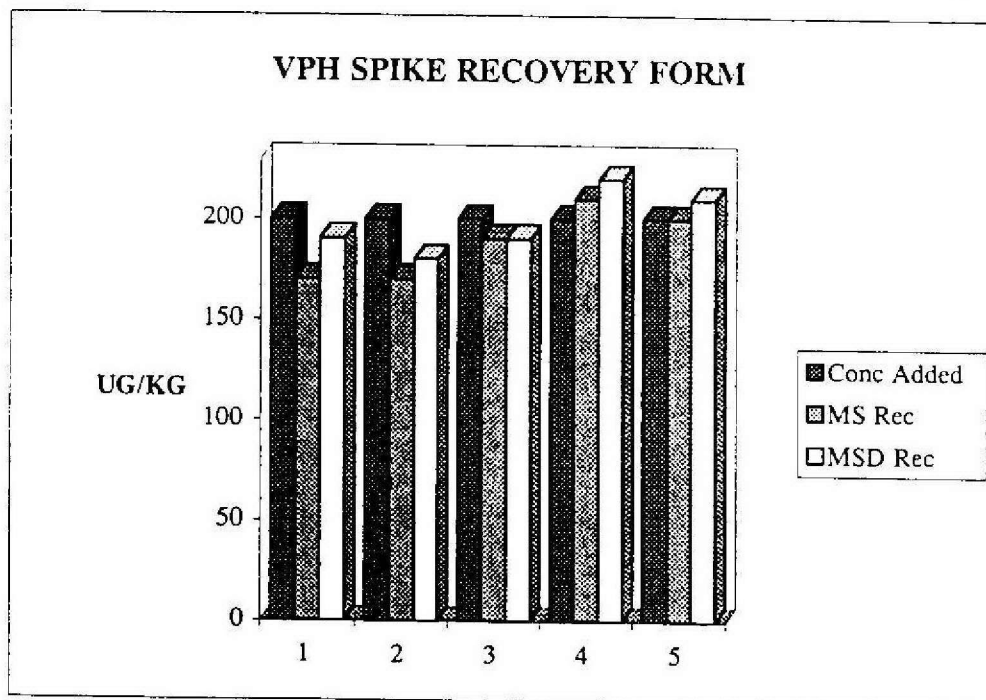
BDL = BELOW DETECTION LIMIT

ANALYZED BY: WN

MADEP VPH SPIKE DATA

Lab ID:	99040303
Date Analyzed:	05/11/99
Sample Identity:	CONTROL SPIKE 05/11/99

Target Spiking Compounds	Conc Added (UG/KG)	Amt Rec (UG/KG)	Dup Amt Rec (UG/KG)	%Rec	Dup %Rec	%Diff
Pentane	200	170	190	85%	95%	10%
2-Methylpentane	200	170	180	85%	90%	5%
Nonane	200	190	190	95%	95%	0%
Benzene	200	210	220	105%	110%	5%
Toluene	200	200	210	100%	105%	5%

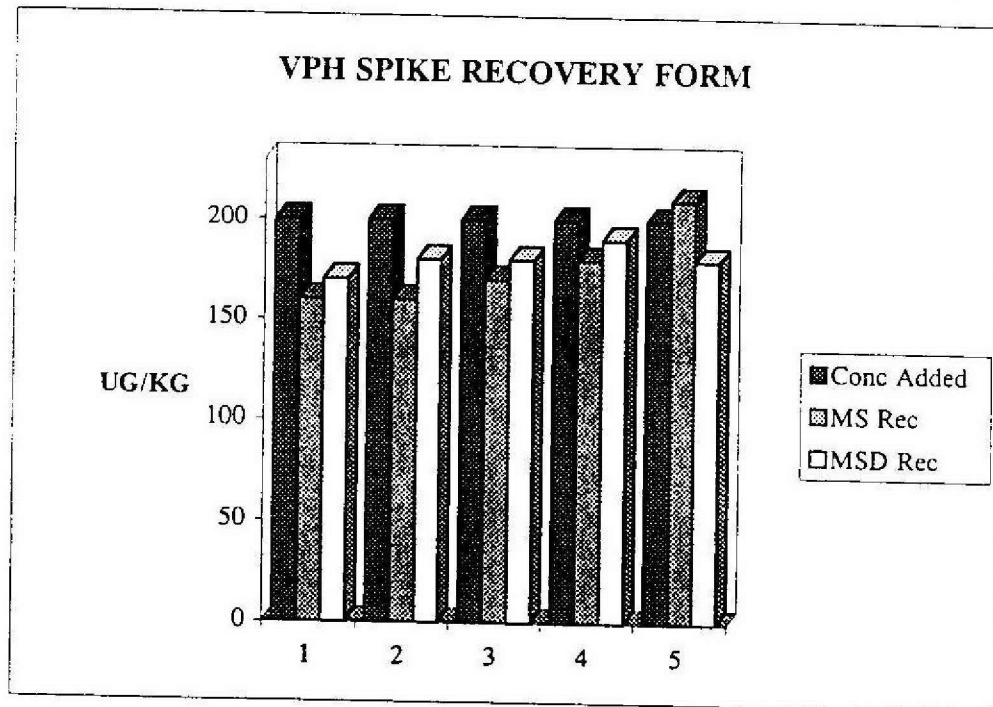


Spike Acceptance Range
65-135%

MADEP VPH SPIKE DATA

Lab ID:	99040303
Date Analyzed:	05/12/99
Sample Identity:	CONTROL SPIKE 05/12/99

Target Spiking Compounds	Conc Added (UG/KG)	Amt Rec (UG/KG)	Dup Amt Rec (UG/KG)	%Rec	Dup %Rec	%Diff
Pentane	200	160	170	80%	85%	5%
2-Methylpentane	200	160	180	80%	90%	10%
Nonane	200	170	180	85%	90%	5%
Benzene	200	180	190	90%	95%	5%
Toluene	200	210	180	105%	90%	15%



Spike Acceptance Range
65-135%



VOA SPIKE RECOVERY FORM
EPA METHOD 8021B

CUSTOMER: HIGGINS ENVIRONMENTAL

LAB#: 99040303

SAMPLE LOCATION: MASSACHUSETTS

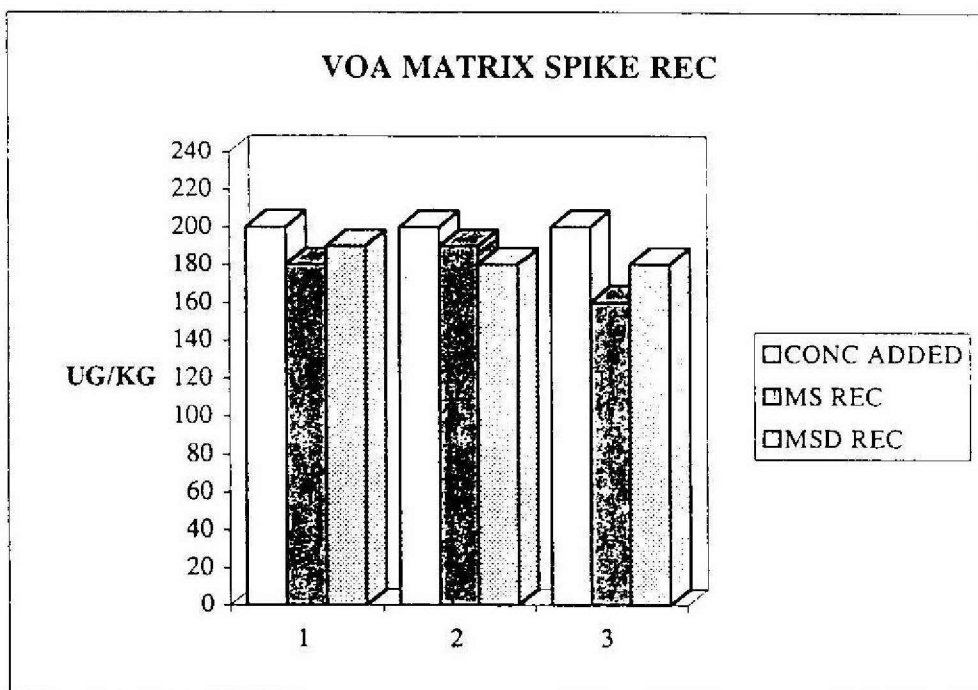
JOB#: 03014-99

SAMPLE IDENTITY: CONTROL SPIKES 05/12/99

CONTROL#: 20122,20123,20124

DATE ANALYZED: 05/12/99

COMPOUND	CONC ADDED (UG/KG)	AMT REC (UG/KG)	DUP AMT REC (UG/KG)	%REC	DUP % REC	%DIFF
1,1-DICHLOROETHENE	200	180	190	90%	95%	5%
TRICHLOROETHENE	200	190	180	95%	90%	5%
CHLOROBENZENE	200	160	180	80%	90%	10%



SPIKE RECOVERY LIMITS
65-135%



VOA SPIKE RECOVERY FORM
EPA METHOD 8021B

CUSTOMER: HIGGINS ENVIRONMENTAL

LAB#: 99040303

SAMPLE LOCATION: MASSACHUSETTS

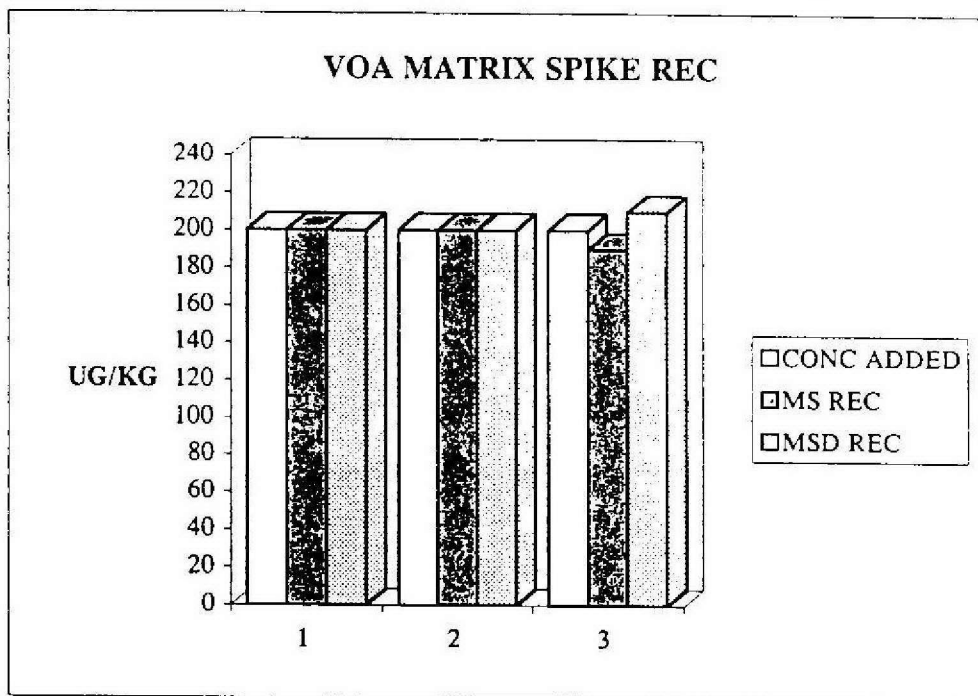
JOB#: 03014-99

SAMPLE IDENTITY: CONTROL SPIKES 05/11/99

CONTROL#: 20122,20123,20124

DATE ANALYZED: 05/11/99

COMPOUND	CONC ADDED (UG/KG)	AMT REC (UG/KG)	DUP AMT REC (UG/KG)	%REC	DUP % REC	%DIFF
1,1-DICHLOROETHENE	200	200	200	100%	100%	0%
TRICHLOROETHENE	200	200	200	100%	100%	0%
CHLOROBENZENE	200	190	210	95%	105%	10%



SPIKE RECOVERY LIMITS
65-135%

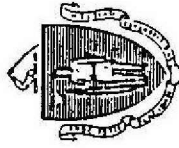
CHAIN OF CUSTODY

[illegible]

CHAIN OF CUSTODY

CUSTOMER INFORMATION			PROJECT INFORMATION			SAMPLE INFORMATION											
CUSTOMER: <u>HEA</u> ADDRESS: <u>19 Elizabeth St.</u> CITY/STATE/ZIP: <u>Amesbury MA 01913</u> TELEPHONE: <u>978 834-9000</u> REPORT TO: <u>Jon Higgins</u> P.O. NUMBER: <u>03014-99</u>			JOB NAME: <u>03014-1000000</u> JOB NUMBER: <u>03014-99</u> LOCATION: <u>Massachusetts</u> TELEPHONE: <u>978-834-9000</u> CONTACT: <u>Jon Higgins</u> QUOTE NUMBER: <u>03014-99</u>			TURNAROUND TIME: (CIRCLE ONE) <u>STANDARD</u> RUSH T.A.T. (CHECK w/LAB) RUSH AMBER GLASS (AG) / GLASS (G) / PLASTIC (P)											
SAMPLE IDENTIFICATION & LOCATION (F) NO. IN LOT (F)			COLLECTED (F) DATE TIME			SAMPLE TYPE (F) GRAB (F)			MATRIX (F) SOLIDS (F) LIQUIDS (F) COMBINED (F) HAZARDOUS (F)			CONTAINERS (F) NO. OF CONTAINERS (F)			ANALYSIS (F) (A) PCBs (B) PCBs (C) PCBs (D) PCBs (E) PCBs (F) PCBs (G) PCBs (H) PCBs (I) PCBs (J) PCBs (K) PCBs (L) PCBs (M) PCBs (N) PCBs (O) PCBs (P) PCBs (Q) PCBs (R) PCBs (S) PCBs (T) PCBs (U) PCBs (V) PCBs (W) PCBs (X) PCBs (Y) PCBs (Z) PCBs (AA) PCBs (AB) PCBs (AC) PCBs (AD) PCBs (AE) PCBs (AF) PCBs (AG) PCBs (AH) PCBs (AI) PCBs (AJ) PCBs (AK) PCBs (AL) PCBs (AM) PCBs (AN) PCBs (AO) PCBs (AP) PCBs (AQ) PCBs (AR) PCBs (AS) PCBs (AT) PCBs (AU) PCBs (AV) PCBs (AW) PCBs (AX) PCBs (AY) PCBs (AZ) PCBs (BA) PCBs (BB) PCBs (BC) PCBs (BD) PCBs (BE) PCBs (BF) PCBs (BG) PCBs (BH) PCBs (BI) PCBs (BJ) PCBs (BK) PCBs (BL) PCBs (BM) PCBs (BN) PCBs (BO) PCBs (BP) PCBs (BQ) PCBs (BR) PCBs (BS) PCBs (BT) PCBs (BU) PCBs (BV) PCBs (BW) PCBs (BX) PCBs (BY) PCBs (BZ) PCBs (CA) PCBs (CB) PCBs (CC) PCBs (CD) PCBs (CE) PCBs (CF) PCBs (CG) PCBs (CH) PCBs (CI) PCBs (CJ) PCBs (CK) PCBs (CL) PCBs (CM) PCBs (CN) PCBs (CO) PCBs (CP) PCBs (CQ) PCBs (CR) PCBs (CS) PCBs (CT) PCBs (CU) PCBs (CV) PCBs (CW) PCBs (CX) PCBs (CY) PCBs (CZ) PCBs (DA) PCBs (DB) PCBs (DC) PCBs (DD) PCBs (DE) PCBs (DF) PCBs (DG) PCBs (DH) PCBs (DI) PCBs (DJ) PCBs (DK) PCBs (DL) PCBs (DM) PCBs (DN) PCBs (DO) PCBs (DP) PCBs (DQ) PCBs (DR) PCBs (DS) PCBs (DT) PCBs (DU) PCBs (DV) PCBs (DW) PCBs (DX) PCBs (DY) PCBs (DZ) PCBs (EA) PCBs (EB) PCBs (EC) PCBs (ED) PCBs (EE) PCBs (EF) PCBs (EG) PCBs (EH) PCBs (EI) PCBs (EJ) PCBs (EK) PCBs (EL) PCBs (EM) PCBs (EN) PCBs (EO) PCBs (EP) PCBs (EQ) PCBs (ER) PCBs (ES) PCBs (ET) PCBs (EU) PCBs (EV) PCBs (EW) PCBs (EX) PCBs (EY) PCBs (EZ) PCBs (FA) PCBs (FB) PCBs (FC) PCBs (FD) PCBs (FE) PCBs (FF) PCBs (FG) PCBs (FH) PCBs (FI) PCBs (FJ) PCBs (FK) PCBs (FL) PCBs (FM) PCBs (FN) PCBs (FO) PCBs (FP) PCBs (FQ) PCBs (FR) PCBs (FS) PCBs (FT) PCBs (FU) PCBs (FV) PCBs (FW) PCBs (FX) PCBs (FY) PCBs (FZ) PCBs (GA) PCBs (GB) PCBs (GC) PCBs (GD) PCBs (GE) PCBs (GF) PCBs (GG) PCBs (GH) PCBs (GI) PCBs (GJ) PCBs (GK) PCBs (GL) PCBs (GM) PCBs (GN) PCBs (GO) PCBs (GP) PCBs (GQ) PCBs (GR) PCBs (GS) PCBs (GT) PCBs (GU) PCBs (GV) PCBs (GW) PCBs (GX) PCBs (GY) PCBs (GZ) PCBs (HA) PCBs (HB) PCBs (HC) PCBs (HD) PCBs (HE) PCBs (HF) PCBs (HG) PCBs (HH) PCBs (HI) PCBs (HJ) PCBs (HK) PCBs (HL) PCBs (HM) PCBs (HN) PCBs (HO) PCBs (HP) PCBs (HQ) PCBs (HR) PCBs (HS) PCBs (HT) PCBs (HU) PCBs (HV) PCBs (HW) PCBs (HX) PCBs (HY) PCBs (HZ) PCBs (IA) PCBs (IB) PCBs (IC) PCBs (ID) PCBs (IE) PCBs (IF) PCBs (IG) PCBs (IH) PCBs (II) PCBs (IJ) PCBs (IK) PCBs (IL) PCBs (IM) PCBs (IN) PCBs (IO) PCBs (IP) PCBs (IQ) PCBs (IR) PCBs (IS) PCBs (IT) PCBs (IU) PCBs (IV) PCBs (IW) PCBs (IX) PCBs (IY) PCBs (IZ) PCBs (JA) PCBs (JB) PCBs (JC) PCBs (JD) PCBs (JE) PCBs (JF) PCBs (JG) PCBs (JH) PCBs (JI) PCBs (JJ) PCBs (JK) PCBs (JL) PCBs (JM) PCBs (JN) PCBs (JO) PCBs (JP) PCBs (JQ) PCBs (JR) PCBs (JS) PCBs (JT) PCBs (JU) PCBs (JV) PCBs (JW) PCBs (JX) PCBs (JY) PCBs (JZ) PCBs (KA) PCBs (KB) PCBs (KC) PCBs (KD) PCBs (KE) PCBs (KF) PCBs (KG) PCBs (KH) PCBs (KI) PCBs (KJ) PCBs (KK) PCBs (KL) PCBs (KM) PCBs 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The Commonwealth of Massachusetts



Department of Environmental Protection

Division of Environmental Analysis

Senator William A. Wall Experiment Station

certifies

M-111023 Chemserve
317 Elm Street
Millsford, NH 03055

Laboratory Director: Jay W. Crystal

for the Chemical Analysis of Potable and Non-Potable Water

pursuant to 310 CMR 42.00

This certificate supersedes all previous Massachusetts certificates issued in this laboratory. The laboratory is regulated by and shall be responsible for being in compliance with Massachusetts regulations at 310 CMR 42.00.

This certificate is valid only when accompanied by the latest dated Certified Parameter List as issued by the Massachusetts D.E.P.

Certification is no guarantee of the validity of the data. This certification is subject to unannounced laboratory inspections.

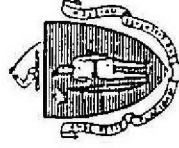
Neal C. Lawrence

Director, Division of Environmental Analysis

Issued: 07/01/98

Expires: 06/30/99

The Commonwealth of Massachusetts



Department of Environmental Protection

Division of Environmental Analysis

Senator William A. Wall Experiment Station

certifies

M-111023 Chemserve
317 Elm Street
Millsford, NH 03055

Laboratory Director: Jay W. Crystal

for the Microbiological Analysis of Water

pursuant to 310 CMR 42.00

This certificate supersedes all previous Massachusetts certificates issued in this laboratory. The laboratory is regulated by and shall be responsible for being in compliance with Massachusetts regulations at 310 CMR 42.00.

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Neal C. Lawrence

Director, Division of Environmental Analysis

Issued: 07/01/98

Expires: 06/30/99

COMMONWEALTH OF MASSACHUSETTS
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Certified Parameter List

EFFECTIVE DATE: 07/01/98
EXPIRATION DATE: 06/30/99

M-NH023 Chemserve
Milford, NH

NON-POTABLE WATER

201 Aluminum
202 Antimony
203 Arsenic
204 Beryllium
205 Cadmium
206 Chromium
207 Cobalt
208 Copper
209 Iron
210 Lead
211 Manganese
212 Mercury
213 Molybdenum
214 Nickel
215 Selenium
216 Silver
218 Thallium
220 Vanadium
221 Zinc
222 pH
224 Total Dissolved Solids
225 Total Hardness (CaCO₃)
226 Calcium
227 Magnesium
228 Sodium
229 Potassium
230 Total Alkalinity
231 Chloride
232 Fluoride
233 Sulfate
234 Ammonia-N
235 Nitrate-N
236 Kjeldahl-N
237 Orthophosphate
239 Chemical Oxygen Demand
240 Biochemical Oxygen Demand
242 Total Cyanide
243 Non-Filterable Residue
244 Total Residual Chlorine
245 Oil and Grease
246 Total Phenolics

* Provisional Certification

COMMONWEALTH OF MASSACHUSETTS
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Certified Parameter List

EFFECTIVE DATE: 07/01/98
EXPIRATION DATE: 06/30/99

M-NH023 Chemserve
Milford, NH

NON-POTABLE WATER

247 Volatile Halocarbons
248 Volatile Aromatics
249 Chlordane
250 Aldrin
251 Dieldrin
252 DDE
253 DDE
254 DDT
255 Heptachlor Epoxide
256 Heptachlor Epoxide
257 Polychlorinated Biphenyls (water)
258 Polychlorinated Biphenyls (oil)

COMMONWEALTH OF MASSACHUSETTS
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Certified Parameter List

EFFECTIVE DATE: 04/21/99
EXPIRATION DATE: 06/30/99

M-NH023 Chemserve
Milford, NH

POTABLE WATER

- 102 Arsenic
- 103 Barium
- 104 Beryllium
- 105 Cadmium
- 106 Chromium
- 107 Copper
- 108 Lead
- * 109 Mercury
- 110 Nickel
- 111 Selenium
- 113 Thallium
- 114 Nitrate-N
- 115 Nitrite-N
- 116 Fluoride
- 117 Sodium
- 119 Cyanide
- 120 Turbidity
- * 121 Residual Free Chlorine
- 122 Calcium
- 123 Total Alkalinity
- 124 Total Dissolved Solids
- 128 2,4-D
- 130 Dalapon
- 132 Pentachlorophenol
- 133 Picloram
- 134 Alachlor
- 135 Atrazine
- 136 Chlordane
- 137 Endrin
- 138 Heptachlor
- 139 Heptachlor Epoxide
- 140 Hexachlorobenzene
- 141 Hexachlorocyclopentadiene
- 142 Lindane
- 143 Methoxychlor
- 144 Simazine
- 145 Toxaphene
- 153 Trihalomethanes
- 154 Volatile Organic Compounds
- 155 1,2-Dibromoethane
- 156 1,2-Dibromo-3-chloropropane

* Provisional Certification

COMMONWEALTH OF MASSACHUSETTS
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Certified Parameter List

EFFECTIVE DATE: 11/18/98
EXPIRATION DATE: 06/30/99

M-NH023 Chemserve
Milford, NH

MICROBIOLOGY

- 301 Total Coliform
- 302 Fecal Coliform
- 303 Heterotrophic Plate Count
- 304 E-Coli

APPENDIX C

**Monitoring Well Drilling Logs
Groundwater Sample Laboratory Data**

SOIL BORING/MONITORING LOG

PROJECT NO. 03014-00
PROJECT Tombarello's
LOCATION Lawrence, MA
HEA PERSONNEL JBM

DATE STARTED 8/1/99
DATE COMPLETED 8/1/99
DRILLING CO. NM Boring
FOREMAN Greg Levitt

SOIL BORING/WELL NO. SB5/MW5
SHEET 1 of 1
CHECKED BY JBM

DRILLING METHOD

MAKE Felling
MODEL track-mounted
TYPE 4.25" IDHSA

SAMPLER

TYPE 2 1/2 inch Split Spoon
HAMMER 140 lbs.
FALL 30 inches

GROUND WATER MEASUREMENTS

DATE	DEPTH(ft)	DATUM	STABILIZATION
8/1/99	7	BGS	Drilling

Depth(ft.)	Sample				Sample Description	Stratum Description	Well Schematic	Field Screening (PPM) (1)	Notes
	No.	Pen/Rec (inches)	Depth (feet)	Blows					
					Earthen		Concrete		
1					HSA to five feet below grade.	Sand			
2					Brown, C-F SAND. Some Subang. Fine Gravel Dry.				
3									
4									
5						Bentonite			
6									
7	S1	24/14	5-7	4-4	Light Brown, VF-F SAND. little/trace Silt. Wet.			0.0	1
8				6-7	Saturated in tip. M. Dense.				
9						Sand Pack			
10									
11	82	24/18	10-12	7-7	Similar to S1 except Saturated. some/little M. Sand.			0.0	
12				8-13					
13						Bedrock			
14									
15									
16	B3	18/12	15-	18-78	15-15 ft. Similar to 10-12 ft. 15.8-18.2 ft.			0.0	
			16.2	60/0.2	Ang. Rock fragments (Gabbro diorite)				

Granular Soils

Relative Density	Consistency
0-4	V Loose
4-10	Loose
10-30	M. Dense
30-50	Dense
>50	V Dense

Cohesive Soils

Relative Density	Consistency
<2	V Soft
2-4	Soft
4-8	M. Stiff
8-15	Stiff
15-30	V. Stiff
>30	Hard

Penetration of Soil

Penetration	Description
0-10	Trace
10-20	Little
20-30	Some
30-50	And

Notes

1. Field Headspace Screening with an 11.7 eV Photoionization Detector

SOIL BORING/MONITORING LOG

PROJECT NO. 03014-89	DATE STARTED: 6/1/99	SOIL BORING/WELL NO. SB6/MW6
PROJECT Tombarello's	DATE COMPLETED: 6/1/99	SHEET 1 of 1
LOCATION: Lawrence, MA	DRILLING CO.: NH Boring	CHECKED BY: JBH
HEA PERSONNEL JBH	FOREMAN: Greg Levitt	

DRILLING METHOD		SAMPLER		GROUND WATER MEASUREMENTS			
MAKE: Felling	TYPE: 2ftx2inch Split Spoon	DATE: 6/1/99	DEPTH(ft): 7	DATUM: BGS	STABILIZATION: Drilling		
MODEL: track-mounted	HAMMER: 140 lbs.						
TYPE: 4.26" IDHSA	FALL: 30 inches						

Depth(ft.)	Sample				Sample Description	Stratum Description	Well Schematic	Field Screening (PPM) (1)	Notes
	No	Pen/Rec (inches)	Depth (feet)	Blows					
1					Earthen HSA to five feet below grade. Brown, F SAND, some Silt Dry	Sand	Concrete		
2									
3									
4									
5									
6									
7									
8									
9									
10									
	S1	24/24	5-7	5-5	Light Brown, F SAND, some Silt, little C-F Sand layers. Saturated at 7 feet. M. Dense.	Sand	Bentonite	00	1
6				6-7					
7									
8									
9									
10									
11									
12									
13									
14									
	S2	24/20	10-12	13-20	Light Brown-Gray, F SAND, some Silt, little subang. Gravel, trace Clay Dense	Sand	Sand Pack	00	
11				26-28					
12									
13									
14									
15									
16									
17									
18									
19									
	S3	24/15	16-17	23-20	Similar to S2.			00	
				40-21					

Granular Soil	Consistency	Penetration	Resistance	Notes
0-4 V. Loose	<2 V. Soft	0-10 Trace		
4-10 Loose	2-4 Soft	10-20 Little		
10-30 M. Dense	4-8 M. Stiff	20-30 Some		
30-50 Dense	8-15 Stiff	30-50 And		
>50 V. Dense	15-30 V. Stiff			
	>30 Hard			

1 Field Headspace Screening with an 11.7 eV Photoionization Detector

SOIL BORING/MONITORING LOG

PROJECT NO	03014-99	DATE STARTED:	8/1/99	SOIL BORING/WELL NO.	SB7/MW7
PROJECT	Tombarallo's	DATE COMPLETED:	8/1/99	SHEET	1 of 1
LOCATION:	Lawrence, MA	DRILLING CO.:	NH Boring	CHECKED BY:	JBH
HEA PERSONNEL	JBH	FOREMAN:	Greg Levitt		

DRILLING METHOD		SAMPLER		GROUND WATER MEASUREMENTS			
MAKE:	Falling	TYPE:	27x2inch Split Spoon	DATE	DEPTH(ft)	DATUM	STABILIZATION
MODEL:	track-mounted	HAMMER	140 lbs.	8/1/99	8	BGS	Drilling
TYPE:	4.25" IDHSA	FALL:	30 inches				

Depth(ft)	Sample				Sample Description	Stratum Description	Well Schematic	Field Screening (PPM) (1)	Notes
	No	Pen/Rec (inches)	Depth (feet)	Blows					
1					SAND and Gravel at Grade HSA to five feet below grade.	Sandy Fill	Concrete		
2					2-3ft Fill: Dark Gray to Black, C-F SAND and BRICK, WOOD, GLASS, little M-F Subang. - Rounded Gravel.			1.7	1
3									
4									
5									
	S1	24/2	5-7	4-1	Similar to above off augers Very Loose Wet in tip		Bentonite	0.0	
8				1-3					
7									
8									
9									
							Sand Pack		
10									
	S2	24/8	10-12	3-1				0.0	
11				2-3					
12									
13									
14									
15									
	S3	24/4	15-17	2-1				0.0	
				1-2					

Granular Soil		Cohesive Soil		Consistency		Penetration		Description	
Blows/ft	Density	Blows/ft	Consistency	Penetration	Description	Blows/ft	Density	Blows/ft	Description
0-4	V. Loose	<2	V. Soft	0-15	Trace				
4-10	Loose	2-4	Soft	15-30	LRU				
10-30	M. Dense	4-8	M. Stiff	30-45	Some				
30-50	Dense	8-15	Stiff	45-60	And				
>50	V. Dense	15-30	V. Stiff						
		>30	Hard						

NOTES

1. Field Headspace Screening with an 11.7 eV Photoionization Detector



317 Elm Street
Milford NH 03055
Tel (603) 673-5440
Fax (603) 673-0366

June 22, 1999

Mr. Jonathan Higgins
Higgins Environmental Assoc.
19 Elizabeth St.
Amesbury, MA 01913

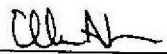
Job Name	: 03014-Lawrence	Laboratory #	: 99060126
Job #	: 03014-99	Purchase Order #	: 03014-99
Location	: Lawrence MA	Control #	: 28831

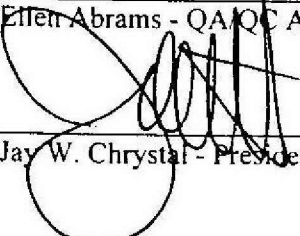
Dear Mr. Higgins,

Enclosed please find the laboratory results for the above referenced samples which were received by the Chemserve sample custodian, under chain of custody control number 28831 on June 11, 1999. Samples were collected by Jonathan Higgins on June 10, 1999. Any abnormalities to the samples on receipt would be noted on the enclosed chain of custody document. This report is not valid without a completed Chemserve chain of custody with the corresponding control number, attached.

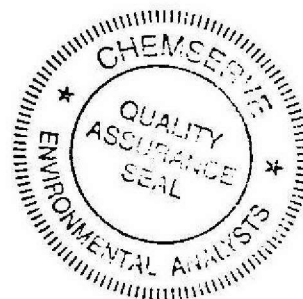
All samples analyzed by Chemserve are subjected to quality standards. These standards are either as stringent or more stringent than those established under 40 CFR Part 136, state certification programs, and corresponding methodologies. Chemserve has a written QA/QC Procedures Manual which outlines these standards, and is available, upon request, for your reference. Unless otherwise stated on the Chain of Custody or within the report, all holding times, preservation techniques, container types, and analytical methods are analogous with those outlined by the U.S. EPA.

I certify that I have reviewed the above referenced analytical data and state forms, and I have found this report within compliance with the procedures outlined in the Chemserve QA/QC Procedures Manual.


Ellen Abrams - QA/QC Administrator


Jay W. Chrystal - President/Laboratory Director

This report contains 18 pages.



MADEP EPH DATA

SAMPLE INFORMATION

Matrix	☒ Aq. ☐ Soil ☐ Sediment ☐ Other
Containers	☒ Satisfactory ☐ Broken ☐ Leaking
Preservation	☐ N/A ☒ pH<2 ☐ pH>2 Comment:
Temperature	☐ On Ice ☒ At 4C ☐ Other
Extraction Method	Water: SW846 3510A Soil:

EPH ANALYTICAL RESULTS

		Lab ID:	99060126-01
		Client ID:	03014-MW1-GW2
		Date Collected:	06/10/99
		Date Received:	06/11/99
		Date Extracted:	06/16/99
		Date Analyzed:	06/17/99
		Dilution Factor:	2
Range /Target Analyte		RL	Units
Unadjusted C11-C22 Aromatics ¹		10	UG/L <RL
Diesel PAH Analytes	Naphthalene	10	UG/L <RL
	2-Methylnaphthalene	5	UG/L <RL
	Phenanthrene	10	UG/L <RL
	Acenaphthene	10	UG/L <RL
Other Target Analytes	Acenaphthalene	10	UG/L <RL
	Anthracene	10	UG/L <RL
	Benzo(a)Anthracene	0.1	UG/L <RL
	Benzo(a)Pyrene	0.1	UG/L <RL
	Benzo(b)Fluoranthene	0.1	UG/L <RL
	Benzo(g,h,i)Perylene	0.1	UG/L <RL
	Benzo(k)Fluoranthene	0.1	UG/L <RL
	Chrysene	0.1	UG/L <RL
	Dibenzo(a,h)Anthracene	0.1	UG/L <RL
	Fluoranthene	10	UG/L <RL
	Fluorene	10	UG/L <RL
	Ideno(1,2,3-cd)Pyrene	0.1	UG/L <RL
	Pyrene	10	UG/L <RL
C9-C18 Aliphatic Hydrocarbons ¹		10	UG/L <RL
C19-C36 Aliphatic Hydrocarbons ¹		10	UG/L <RL
C11-C22 Aromatic Hydrocarbons ^{1,2}		10	UG/L <RL
Chloro-octadecane % Recovery			51%
o-Terphenyl % Recovery			80%
Surrogate Acceptance Range			40-140%
2-Fluorobiphenyl % Recovery			60%
2-Bromonaphthalene % Recovery			50%
Surrogate Acceptance Range			40-140%

¹Hydrocarbon Range data exclude concentrations of any surrogate(s) and/or internal standards eluting in that range

²C11-C22 Aromatic Hydrocarbons exclude the concentration of Target PAH Analytes

Certification

Were all QA/QC procedures required by the EPH method followed? ☒ Yes ☐ No- Details attached

Were all performance/acceptance standards for the required QA/QC procedures Achieved? ☒ Yes ☐ No- Details attached

Were any significant modifications made to the EPH method, as specified in section 11.3? ☐ No ☒ Yes-Details attached
sample analyzed via GC/MS

I attest under the pains and penalties of perjury, that based upon my inquiry of those individuals responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

Jay W. Chrystal Laboratory Director

6/23/99
Date

MADEP EPH DATA

SAMPLE INFORMATION

Matrix	☒ Aq. ☐ Soil ☐ Sediment ☐ Other
Containers	☒ Satisfactory ☐ Broken ☐ Leaking
Preservation	☐ N/A ☒ pH<2 ☐ pH>2 Comment:
Temperature	☐ On Ice ☒ At 4C ☐ Other
Extraction Method	Water: SW846 3510A Soil:

EPH ANALYTICAL RESULTS

		Lab ID:	99060126-02
		Client ID:	03014-MW5-GW1
		Date Collected:	06/10/99
		Date Received:	06/11/99
		Date Extracted:	06/16/99
		Date Analyzed:	06/17/99
		Dilution Factor:	2
Range /Target Analyte		RL	Units
Unadjusted C11-C22 Aromatics ¹		10	UG/L <RL
Diesel PAH Analytes	Naphthalene	10	UG/L <RL
	2-Methylnaphthalene	5	UG/L <RL
	Phenanthrene	10	UG/L <RL
	Acenaphthene	10	UG/L <RL
Other Target Analytes	Acenaphthalene	10	UG/L <RL
	Anthracene	10	UG/L <RL
	Benzo(a)Anthracene	0.1	UG/L <RL
	Benzo(a)Pyrene	0.1	UG/L <RL
	Benzo(b)Fluoranthene	0.1	UG/L <RL
	Benzo(g,h,i)Perylene	0.1	UG/L <RL
	Benzo(k)Fluoranthene	0.1	UG/L <RL
	Chrysene	0.1	UG/L <RL
	Dibenzo(a,h)Anthracene	0.1	UG/L <RL
	Fluoranthene	10	UG/L <RL
	Fluorene	10	UG/L <RL
	Ideno(1,2,3-cd)Pyrene	0.1	UG/L <RL
	Pyrene	10	UG/L <RL
	C9-C18 Aliphatic Hydrocarbons ¹		10
C19-C36 Aliphatic Hydrocarbons ¹		10	UG/L <RL
C11-C22 Aromatic Hydrocarbons ^{1,2}		10	UG/L <RL
Chloro-octadecane % Recovery			51%
o-Terphenyl % Recovery			76%
Surrogate Acceptance Range			40-140%
2-Fluorobiphenyl % Recovery			54%
2-Bromonaphthalene % Recovery			54%
Surrogate Acceptance Range			40-140%

¹Hydrocarbon Range data exclude concentrations of any surrogate(s) and/or internal standards eluting in that range

²C11-C22 Aromatic Hydrocarbons exclude the concentration of Target PAH Analytes

Certification

Were all QA/QC procedures required by the EPH method followed? ☒ Yes ☐ No- Details attached

Were all performance/acceptance standards for the required QA/QC procedures Achieved? ☒ Yes ☐ No- Details attached

Were any significant modifications made to the EPH method, as specified in section 11.3? ☐ No ☒ Yes-Details attached

sample analyzed via GC/MS

I attest under the pains and penalties of perjury, that based upon my inquiry of those individuals responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

Jay W. Chrystal Laboratory Director

6/23/99
Date

MADEP VPH DATA

SAMPLE INFORMATION

Matrix	☒ Aq. ☐ Soil ☐ Sediment ☐ Other
Containers	☒ Satisfactory ☐ Broken ☐ Leaking
Preservation	☐ N/A ☒ pH<2 ☐ pH>2 Comment: ☒ N/A ☐ Samples NOT preserved in Methanol or air-tight container ☐ Samples rec'd in Methanol ☐ covering soil ☐ not covering soil ☒ Samples rec'd in air-tight container
Temperature	On Ice ☐ At 4C ☒ Other ☐ mL Methanol / g soil N/A

VPH ANALYTICAL RESULTS

Lab ID:	99060126-01		
Client ID:	03014-MW1-GW1		
Date Collected:	06/10/99		
Date Received:	06/11/99		
Date Analyzed:	06/18/99		
Dilution Factor:	1		
Range /Target Analyte	RL	Units	
Unadjusted C5-C8 Aliphatics ¹	1	UG/L	<RL
Unadjusted C9-C12 Aliphatics ¹	1	UG/L	<RL
Methyl-tert-butylether	1	UG/L	<RL
Benzene	1	UG/L	<RL
Toluene	1	UG/L	<RL
m- & p- Xylenes	1	UG/L	<RL
o-Xylene	1	UG/L	<RL
Ethylbenzene	1	UG/L	<RL
Naphthalene	1	UG/L	<RL
C5-C8 Aliphatic Hydrocarbons ^{1,2}	1	UG/L	<RL
C9-C12 Aliphatic Hydrocarbons ^{1,3}	1	UG/L	<RL
C9-C10 Aromatic Hydrocarbons ¹	1	UG/L	<RL
Dibromofluoromethane % Recovery			110%
Toluene-d8 % Recovery			92%
4-Bromofluorobenzene % Recovery			99%
Surrogate Acceptance Range			70-130%
¹ Hydrocarbon Range data exclude concentrations of any surrogate(s) and/or internal standards eluting in that range			
² C5-C8 Aliphatic Hydrocarbons exclude the concentration of Target Analytes in that range			
³ C9-C12 Aliphatic Hydrocarbons exclude conc of Target Analytes eluting in that range and conc of C9-C10 Aromatics			

Certification

Were all QA/QC procedures required by the VPH method followed? ☒ Yes ☐ No- Details attached

Were all performance/acceptance standards for the required QA/QC procedures Achieved? ☒ Yes ☐ No- Details attached

Were any significant modifications made to the VPH method, as specified in section 11.37 ☐ No ☒ Yes-Details attached

sample analyzed via GC/MS

I attest under the pains and penalties of perjury, that based upon my inquiry of those individuals responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

Jay W. Chrystal Laboratory Director

Date

6/23/99

MADEP VPH DATA

SAMPLE INFORMATION

Matrix Containers Preservation	☒ Aq. ☐ Soil ☐ Sediment ☐ Other	
	☒ Satisfactory ☐ Broken ☐ Leaking	
	☐ N/A ☒ pH<2 ☐ pH>2 Comment:	
	☒ N/A ☐ Samples NOT preserved in Methanol or air-tight container	
	☐ Samples rec'd in Methanol ☐ covering soil ☐ not covering soil	
	☒ Samples rec'd in air-tight container	
Temperature	On Ice ☒ At 4C ☐ Other	mL Methanol / g soil N/A

VPH ANALYTICAL RESULTS

		Lab ID:	99060126-02
		Client ID:	03014-MW5-GW1
		Date Collected:	06/10/99
		Date Received:	06/11/99
		Date Analyzed:	06/18/99
		Dilution Factor:	1
Range /Target Analyte	RL	Units	
Unadjusted C5-C8 Aliphatics ¹	1	UG/L	<RL
Unadjusted C9-C12 Aliphatics ¹	1	UG/L	<RL
Methyl-tert-butylether	1	UG/L	<RL
Benzene	1	UG/L	<RL
Toluene	1	UG/L	<RL
m- & p- Xylenes	1	UG/L	<RL
o-Xylene	1	UG/L	<RL
Ethylbenzene	1	UG/L	<RL
Naphthalene	1	UG/L	<RL
C5-C8 Aliphatic Hydrocarbons ^{1,2}	1	UG/L	<RL
C9-C12 Aliphatic Hydrocarbons ^{1,3}	1	UG/L	<RL
C9-C10 Aromatic Hydrocarbons ¹	1	UG/L	<RL
Dibromofluoromethane % Recovery			114%
Toluene-d8 % Recovery			100%
4-Bromofluorobenzene % Recovery			101%
Surrogate Acceptance Range			70-130%
¹ Hydrocarbon Range data exclude concentrations of any surrogate(s) and/or internal standards eluting in that range			
² C5-C8 Aliphatic Hydrocarbons exclude the concentration of Target Analytes in that range			
³ C9-C12 Aliphatic Hydrocarbons exclude conc of Target Analytes eluting in that range and conc of C9-C10 Aromatics			
Certification			

Certification

Were all QA/QC procedures required by the VPH method followed?

☒ Yes ☐ No- Details attached

Were all performance/acceptance standards for the required QA/QC procedures Achieved?

☒ Yes ☐ No- Details attachedWere any significant modifications made to the VPH method, as specified in section 11.3? ☐ No ☒ Yes-Details attached

sample analyzed via GC/MS

I attest under the pains and penalties of perjury, that based upon my inquiry of those individuals responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

Jay W. Chrystal Laboratory Director

Date

6/23/99

Higgins Environmental Associates

Project Name: 03014-Lawrence
Project #: 03014-99
Collection Site: Lawrence MA

Group#: 99060126
Chain of Custody ID: 28831
DATE SAMPLED: 6/10/1999

METHOD #	ANALYTE	RESULTS	UNIT OF MEASURE	DATE COMPLETED	DETECTION LIMIT (PQL)	ANALYST
SAMPLE#: 99060126-01						
Higgins Environmental Associates ID: 03014-MW1-GW2						
	6010A Chromium	<0.010 mg/L		6/14/1999	0.010 mg/L	PF
	SW 3015 Digestion	N/A		6/14/1999	N/A	DR
	7060 Arsenic	<0.010 mg/L		6/15/1999	0.010 mg/L	PF
	7421 Lead	<0.005 mg/L		6/16/1999	0.005 mg/L	PF
SAMPLE#: 99060126-02						
Higgins Environmental Associates ID: 03014-MW5-GW1						
	6010A Chromium	<0.010 mg/L		6/14/1999	0.010 mg/L	PF
	SW 3015 Digestion	N/A		6/14/1999	N/A	DR
	7060 Arsenic	<0.010 mg/L		6/15/1999	0.010 mg/L	PF
	7421 Lead	<0.005 mg/L		6/16/1999	0.005 mg/L	PF
SAMPLE#: 99060126-03						
Higgins Environmental Associates ID: 03014-MW6-GW1						
	6010A Chromium	0.013 mg/L		6/14/1999	0.010 mg/L	PF
	SW 3015 Digestion	N/A		6/14/1999	N/A	DR
	7060 Arsenic	<0.010 mg/L		6/15/1999	0.010mg/L	PF
	7421 Lead	<0.005 mg/L		6/16/1999	0.005 mg/L	PF
SAMPLE#: 99060126-04						
Higgins Environmental Associates ID: 03014-MW7-GW1						
	6010A Chromium	0.016 mg/L		6/14/1999	0.010 mg/L	PF
	SW 3015 Digestion	N/A		6/14/1999	N/A	DR
	7060 Arsenic	<0.010 mg/L		6/15/1999	0.010 mg/L	PF
	7421 Lead	<0.005 mg/L		6/16/1999	0.005 mg/L	PF

**VOLATILE ORGANIC ANALYSIS
EPA METHOD 8260B**

CUSTOMER: HIGGINS ENVIRONMENTAL ASSOCIATES

LAB#: 99060126-01

SAMPLE LOCATION: LAWRENCE, MA

JOB#: 03014-99

SAMPLE IDENTITY: 03014-MW1-GW2

CONTROL#: 28831

DATE SAMPLED: 06/10/99

DATE REC'D: 06/11/99

DATE ANALYZED: 06/18/99

MATRIX: LIQUID

COMPOUND

**CONCENTRATION
(UG/L)**

**DETECTION LIMIT BASED ON PQL
DETECTION LIMIT MULTIPLIER:
(UG/L) X 1**

BENZENE	BDL	1
BROMOBENZENE	BDL	1
BROMOCHLOROMETHANE	BDL	1
BROMODICHLOROMETHANE	BDL	1
BROMOFORM	BDL	1
BROMOMETHANE	BDL	1
CARBON TETRACHLORIDE	BDL	1
CHLOROBENZENE	BDL	1
CHLOROETHANE	BDL	1
CHLOROFORM	BDL	1
CHLOROMETHANE	BDL	1
2-CHLOROTOLUENE	BDL	1
4-CHLOROTOLUENE	BDL	1
DIBROMOCHLOROMETHANE	BDL	1
1,2-DIBROMO-3-CHLOROPROPANE	BDL	1
1,2-DIBROMOETHANE	BDL	1
DIBROMOMETHANE	BDL	1
1,2-DICHLOROBENZENE	BDL	1
1,3-DICHLOROBENZENE	BDL	1
1,4-DICHLOROBENZENE	BDL	1
DICHLORODIFLUOROMETHANE	BDL	1
1,1-DICHLOROETHANE	BDL	1
1,2-DICHLOROETHANE	BDL	1
1,1-DICHLOROETHENE	BDL	1
CIS-1,2-DICHLOROETHENE	BDL	1
TRANS-1,2-DICHLOROETHENE	BDL	1
1,2-DICHLOROPROPANE	BDL	1
1,3-DICHLOROPROPANE	BDL	1
2,2-DICHLOROPROPANE	BDL	1
1,1-DICHLOROPROPENE	BDL	1
CIS-1,3-DICHLOROPROPENE	BDL	1
TRANS-1,3-DICHLOROPROPENE	BDL	1
ETHYLBENZENE	BDL	1
METHYLENE CHLORIDE	BDL	1
STYRENE	BDL	1
1,1,1,2-TETRACHLOROETHANE	BDL	1
1,1,2,2-TETRACHLOROETHANE	BDL	1
TETRACHLOROETHENE	BDL	1
TOLUENE	BDL	1
1,1,1-TRICHLOROETHANE	BDL	1

CONTINUED: 1 OF 2 PAGES

EPA METHOD 8260B
CUSTOMER: HIGGINS ENVIRONMENTAL ASSOCIATES
LAB#: 99060126-01
SAMPLE LOCATION: LAWRENCE, MA
JOB#: 03014-99
SAMPLE IDENTITY: 03014-MW1-GW2
CONTROL#: 28831
DATE SAMPLED: 06/10/99
DATE REC'D: 06/11/99
DATE ANALYZED: 06/18/99
MATRIX: LIQUID
COMPOUND
CONCENTRATION
DETECTION LIMIT BASED ON PQL
DETECTION LIMIT MULTIPLIER:
(UG/L)
(UG/L) X 1
1,1,2-TRICHLOROETHANE
BDL
1
TRICHLOROETHENE
BDL
1
TRICHLOROFLUOROMETHANE
BDL
1
1,2,3-TRICHLOROPROPANE
BDL
1
VINYL CHLORIDE
BDL
1
M/P-XYLENE
BDL
1
O-XYLENE
BDL
1
METHYL-TERTIARY-BUTYL ETHER
BDL
1
CARBON DISULFIDE
BDL
1
n-BUTYLBENZENE
BDL
1
sec-BUTYLBENZENE
BDL
1
tert-BUTYLBENZENE
BDL
1
ISOPROPYLBENZENE
BDL
1
4-ISOPROPYLTOLUENE
BDL
1
n-PROPYLBENZENE
BDL
1
1,2,3-TRICHLOROBENZENE
BDL
1
1,2,4-TRICHLOROBENZENE
BDL
1
1,2,4-TRIMETHYLBENZENE
BDL
1
1,3,5-TRIMETHYLBENZENE
BDL
1
NAPHTHALENE
BDL
1
ACRYLONITRILE
BDL
1
HEXACHLOROBUTADIENE
BDL
1
TETRAHYDROFURAN
BDL
5
DIETHYL ETHER
BDL
5
2-HEXANONE
BDL
10
4-METHYL-2-PENTANONE
BDL
10
2-BUTANONE
BDL
10
ACETONE
BDL
15
2-CHLOROETHYL VINYL ETHER
BDL
20
ACROLEIN
BDL
50
SURROGATE
PERCENT RECOVERY
ACCEPTANCE LIMITS
DIBROMOFLUOROMETHANE
110%
76-115%
TOLUENE-D8
92%
76-115%
4-BROMOFLUOROBENZENE
99%
76-115%
BDL=BELOW DETECTION LIMIT
ANALYZED BY: CP

CUSTOMER: HIGGINS ENVIRONMENTAL ASSOCIATES
LAB#: 99060126-02
SAMPLE LOCATION: LAWRENCE, MA
JOB#: 03014-99
SAMPLE IDENTITY: 03014-MW5-GW1
CONTROL#: 28831
DATE SAMPLED: 06/10/99
DATE REC'D: 06/11/99
DATE ANALYZED: 06/18/99
MATRIX: LIQUID
COMPOUND
CONCENTRATION
DETECTION LIMIT BASED ON PQL
DETECTION LIMIT MULTIPLIER:
(UG/L)
(UG/L) X 1
BENZENE
BDL
1
BROMOBENZENE
BDL
1
BROMOCHLOROMETHANE
BDL
1
BROMODICHLOROMETHANE
BDL
1
BROMOFORM
BDL
1
BROMOMETHANE
BDL
1
CARBON TETRACHLORIDE
BDL
1
CHLOROBENZENE
BDL
1
CHLOROETHANE
BDL
1
CHLOROFORM
BDL
1
CHLOROMETHANE
BDL
1
2-CHLOROTOLUENE
BDL
1
4-CHLOROTOLUENE
BDL
1
DIBROMOCHLOROMETHANE
BDL
1
1,2-DIBROMO-3-CHLOROPROPANE
BDL
1
1,2-DIBROMOETHANE
BDL
1
DIBROMOMETHANE
BDL
1
1,2-DICHLOROBENZENE
BDL
1
1,3-DICHLOROBENZENE
BDL
1
1,4-DICHLOROBENZENE
BDL
1
DICHLORODIFLUOROMETHANE
BDL
1
1,1-DICHLOROETHANE
BDL
1
1,2-DICHLOROETHANE
BDL
1
1,1-DICHLOROETHENE
BDL
1
CIS-1,2-DICHLOROETHENE
BDL
1
TRANS-1,2-DICHLOROETHENE
BDL
1
1,2-DICHLOROPROPANE
BDL
1
1,3-DICHLOROPROPANE
BDL
1
2,2-DICHLOROPROPANE
BDL
1
1,1-DICHLOROPROPENE
BDL
1
CIS-1,3-DICHLOROPROPENE
BDL
1
TRANS-1,3-DICHLOROPROPENE
BDL
1
ETHYLBENZENE
BDL
1
METHYLENE CHLORIDE
BDL
1
STYRENE
BDL
1
1,1,1,2-TETRACHLOROETHANE
BDL
1
1,1,1,2-TETRACHLOROETHANE
BDL
1
TETRACHLOROETHENE
BDL
1
TOLUENE
BDL
1
1,1,1-TRICHLOROETHANE
BDL
1
CONTINUED: 1 OF 2 PAGES

EPA METHOD 8260B
CUSTOMER: HIGGINS ENVIRONMENTAL ASSOCIATES
LAB#: 99060126-02
SAMPLE LOCATION: LAWRENCE, MA
JOB#: 03014-99
SAMPLE IDENTITY: 03014-MW5-GW1
CONTROL#: 28831
DATE SAMPLED: 06/10/99
DATE REC'D: 06/11/99
DATE ANALYZED: 06/18/99
MATRIX: LIQUID
COMPOUND
CONCENTRATION
DETECTION LIMIT BASED ON PQL
DETECTION LIMIT MULTIPLIER:
(UG/L)
(UG/L) X 1
1,1,2-TRICHLOROETHANE
BDL
1
TRICHLOROETHENE
BDL
1
TRICHLOROFLUOROMETHANE
BDL
1
1,2,3-TRICHLOROPROPANE
BDL
1
VINYL CHLORIDE
BDL
1
M/P-XYLENE
BDL
1
O-XYLENE
BDL
1
METHYL-TERTIARY-BUTYL ETHER
BDL
1
CARBON DISULFIDE
BDL
1
n-BUTYLBENZENE
BDL
1
sec-BUTYLBENZENE
BDL
1
tert-BUTYLBENZENE
BDL
1
ISOPROPYLBENZENE
BDL
1
4-ISOPROPYLTOLUENE
BDL
1
n-PROPYLBENZENE
BDL
1
1,2,3-TRICHLOROBENZENE
BDL
1
1,2,4-TRICHLOROBENZENE
BDL
1
1,2,4-TRIMETHYLBENZENE
BDL
1
1,3,5-TRIMETHYLBENZENE
BDL
1
NAPHTHALENE
BDL
1
ACRYLONITRILE
BDL
1
HEXACHLOROBUTADIENE
BDL
1
TETRAHYDROFURAN
BDL
1
DIETHYL ETHER
BDL
5
2-HEXANONE
BDL
5
4-METHYL-2-PENTANONE
BDL
10
2-BUTANONE
BDL
10
ACETONE
BDL
10
2-CHLOROETHYL VINYL ETHER
BDL
15
ACROLEIN
BDL
20
50
SURROGATE
PERCENT RECOVERY
ACCEPTANCE LIMITS
DIBROMOFLUOROMETHANE
114%
76-115%
TOLUENE-D8
100%
76-115%
4-BROMOFLUOROBENZENE
101%
76-115%
BDL=BELOW DETECTION LIMIT
ANALYZED BY: CP

CUSTOMER: HIGGINS ENVIRONMENTAL ASSOCIATES
LAB#: 99060126-03
SAMPLE LOCATION: LAWRENCE, MA
JOB#: 03014-99
SAMPLE IDENTITY: 03014-MW6-GW1
CONTROL#: 28831
DATE SAMPLED: 06/10/99
DATE REC'D: 06/11/99
DATE ANALYZED: 06/18/99
MATRIX: LIQUID
COMPOUND
CONCENTRATION
DETECTION LIMIT BASED ON PQL
DETECTION LIMIT MULTIPLIER:
(UG/L)
(UG/L) X 1

BENZENE	BDL	1
BROMOBENZENE	BDL	1
BROMOCHLOROMETHANE	BDL	1
BROMODICHLOROMETHANE	BDL	1
BROMOFORM	BDL	1
BROMOMETHANE	BDL	1
CARBON TETRACHLORIDE	BDL	1
CHLOROBENZENE	BDL	1
CHLOROETHANE	BDL	1
CHLOROFORM	BDL	1
CHLOROMETHANE	BDL	1
2-CHLOROTOLUENE	BDL	1
4-CHLOROTOLUENE	BDL	1
DIBROMOCHLOROMETHANE	BDL	1
1,2-DIBROMO-3-CHLOROPROPANE	BDL	1
1,2-DIBROMOETHANE	BDL	1
DIBROMOMETHANE	BDL	1
1,2-DICHLOROBENZENE	BDL	1
1,3-DICHLOROBENZENE	BDL	1
1,4-DICHLOROBENZENE	BDL	1
DICHLORODIFLUOROMETHANE	BDL	1
1,1-DICHLOROETHANE	BDL	1
1,2-DICHLOROETHANE	BDL	1
1,1-DICHLOROETHENE	BDL	1
CIS-1,2-DICHLOROETHENE	BDL	1
TRANS-1,2-DICHLOROETHENE	BDL	1
1,2-DICHLOROPROPANE	BDL	1
1,3-DICHLOROPROPANE	BDL	1
2,2-DICHLOROPROPANE	BDL	1
1,1-DICHLOROPROPENE	BDL	1
CIS-1,3-DICHLOROPROPENE	BDL	1
TRANS-1,3-DICHLOROPROPENE	BDL	1
ETHYLBENZENE	BDL	1
METHYLENE CHLORIDE	BDL	1
STYRENE	BDL	1
1,1,1,2-TETRACHLOROETHANE	BDL	1
1,1,2,2-TETRACHLOROETHANE	BDL	1
TETRACHLOROETHENE	2	1
TOLUENE	BDL	1
1,1,1-TRICHLOROETHANE	BDL	1

CONTINUED: 1 OF 2 PAGES

CUSTOMER: HIGGINS ENVIRONMENTAL ASSOCIATES

LAB#: 99060126-03

SAMPLE LOCATION: LAWRENCE, MA

JOB#: 03014-99

SAMPLE IDENTITY: 03014-MW6-GW1

CONTROL#: 28831

DATE SAMPLED: 06/10/99

DATE REC'D: 06/11/99

DATE ANALYZED: 06/18/99

MATRIX: LIQUID

COMPOUND

CONCENTRATION

**DETECTION LIMIT BASED ON PQL
DETECTION LIMIT MULTIPLIER:**

	(UG/L)	(UG/L) X 1
1,1,2-TRICHLOROETHANE	BDL	1
TRICHLOROETHENE	13	1
TRICHLOROFLUOROMETHANE	BDL	1
1,2,3-TRICHLOROPROPANE	BDL	1
VINYL CHLORIDE	BDL	1
M/P-XYLENE	BDL	1
O-XYLENE	BDL	1
METHYL-TERTIARY-BUTYL ETHER	5	1
CARBON DISULFIDE	BDL	1
n-BUTYLBENZENE	BDL	1
sec-BUTYLBENZENE	BDL	1
tert-BUTYLBENZENE	BDL	1
ISOPROPYLBENZENE	BDL	1
4-ISOPROPYLTOLUENE	BDL	1
n-PROPYLBENZENE	BDL	1
1,2,3-TRICHLOROBENZENE	BDL	1
1,2,4-TRICHLOROBENZENE	BDL	1
1,2,4-TRIMETHYLBENZENE	BDL	1
1,3,5-TRIMETHYLBENZENE	BDL	1
NAPHTHALENE	BDL	1
ACRYLONITRILE	BDL	1
HEXACHLOROBUTADIENE	BDL	1
TETRAHYDROFURAN	BDL	5
DIETHYL ETHER	BDL	5
2-HEXANONE	BDL	10
4-METHYL-2-PENTANONE	BDL	10
2-BUTANONE	BDL	10
ACETONE	BDL	15
2-CHLOROETHYL VINYL ETHER	BDL	20
ACROLEIN	BDL	50

SURROGATE

PERCENT RECOVERY

ACCEPTANCE LIMITS

DIBROMOFLUOROMETHANE	106%	76-115%
TOLUENE-D8	101%	76-115%
4-BROMOFLUOROBENZENE	103%	76-115%

**BDL = BELOW DETECTION LIMIT
ANALYZED BY: CP**

LABORATORY
VOLATILE ORGANIC ANALYSIS
EPA METHOD 8260B

CUSTOMER: HIGGINS ENVIRONMENTAL ASSOCIATES

LAB#: 99060126-04

SAMPLE LOCATION: LAWRENCE, MA

JOB#: 03014-99

SAMPLE IDENTITY: 03014-MW7-GW1

CONTROL#: 28831

DATE SAMPLED: 06/10/99

DATE REC'D: 06/11/99

DATE ANALYZED: 06/18/99

MATRIX: LIQUID

COMPOUND

CONCENTRATION

DETECTION LIMIT BASED ON PQL
DETECTION LIMIT MULTIPLIER:

	(UG/L)	(UG/L) X 1
BENZENE	BDL	1
BROMOBENZENE	BDL	1
BROMOCHLOROMETHANE	BDL	1
BROMODICHLOROMETHANE	BDL	1
BROMOFORM	BDL	1
BROMOMETHANE	BDL	1
CARBON TETRACHLORIDE	BDL	1
CHLOROBENZENE	BDL	1
CHLOROETHANE	13	1
CHLOROFORM	BDL	1
CHLOROMETHANE	BDL	1
2-CHLOROTOLUENE	BDL	1
4-CHLOROTOLUENE	BDL	1
DIBROMOCHLOROMETHANE	BDL	1
1,2-DIBROMO-3-CHLOROPROPANE	BDL	1
1,2-DIBROMOETHANE	BDL	1
DIBROMOMETHANE	BDL	1
1,2-DICHLOROBENZENE	BDL	1
1,3-DICHLOROBENZENE	BDL	1
1,4-DICHLOROBENZENE	BDL	1
DICHLORODIFLUOROMETHANE	BDL	1
1,1-DICHLOROETHANE	BDL	1
1,2-DICHLOROETHANE	BDL	1
1,1-DICHLOROETHENE	BDL	1
CIS-1,2-DICHLOROETHENE	BDL	1
TRANS-1,2-DICHLOROETHENE	BDL	1
1,2-DICHLOROPROPANE	BDL	1
1,3-DICHLOROPROPANE	BDL	1
2,2-DICHLOROPROPANE	BDL	1
1,1-DICHLOROPROPENE	BDL	1
CIS-1,3-DICHLOROPROPENE	BDL	1
TRANS-1,3-DICHLOROPROPENE	BDL	1
ETHYLBENZENE	BDL	1
METHYLENE CHLORIDE	BDL	1
STYRENE	BDL	1
1,1,1,2-TETRACHLOROETHANE	BDL	1
1,1,2,2-TETRACHLOROETHANE	BDL	1
TETRACHLOROETHENE	BDL	1
TOLUENE	BDL	1
1,1,1-TRICHLOROETHANE	BDL	1

CONTINUED: 1 OF 2 PAGES

CUSTOMER: HIGGINS ENVIRONMENTAL ASSOCIATES

LAB#: 99060126-04

SAMPLE LOCATION: LAWRENCE, MA

JOB#: 03014-99

SAMPLE IDENTITY: 03014-MW7-GW1

CONTROL#: 28831

DATE SAMPLED: 06/10/99

DATE REC'D: 06/11/99

DATE ANALYZED: 06/18/99

MATRIX: LIQUID

COMPOUND

CONCENTRATION

**DETECTION LIMIT BASED ON PQL
DETECTION LIMIT MULTIPLIER:**

(UG/L)

(UG/L) X 1

1,1,2-TRICHLOROETHANE

BDL

1

TRICHLOROETHENE

BDL

1

TRICHLOROFLUOROMETHANE

BDL

1

1,2,3-TRICHLOROPROPANE

BDL

1

VINYL CHLORIDE

BDL

1

M/P-XYLENE

BDL

1

O-XYLENE

BDL

1

METHYL-TERTIARY-BUTYL ETHER

BDL

1

CARBON DISULFIDE

BDL

1

n-BUTYLBENZENE

BDL

1

sec-BUTYLBENZENE

BDL

1

tert-BUTYLBENZENE

BDL

1

ISOPROPYLBENZENE

BDL

1

4-ISOPROPYLTOLUENE

BDL

1

n-PROPYLBENZENE

BDL

1

1,2,3-TRICHLOROBENZENE

BDL

1

1,2,4-TRICHLOROBENZENE

BDL

1

1,2,4-TRIMETHYLBENZENE

BDL

1

1,3,5-TRIMETHYLBENZENE

BDL

1

NAPHTHALENE

BDL

1

ACRYLONITRILE

BDL

1

HEXACHLOROBUTADIENE

BDL

1

TETRAHYDROFURAN

BDL

5

DIETHYL ETHER

BDL

5

2-HEXANONE

BDL

10

4-METHYL-2-PENTANONE

BDL

10

2-BUTANONE

BDL

10

ACETONE

BDL

15

2-CHLOROETHYL VINYL ETHER

BDL

20

ACROLEIN

BDL

50

SURROGATE

PERCENT RECOVERY

ACCEPTANCE LIMITS

DIBROMOFLUOROMETHANE

103%

76-115%

TOLUENE-D8

100%

76-115%

4-BROMOFLUOROBENZENE

93%

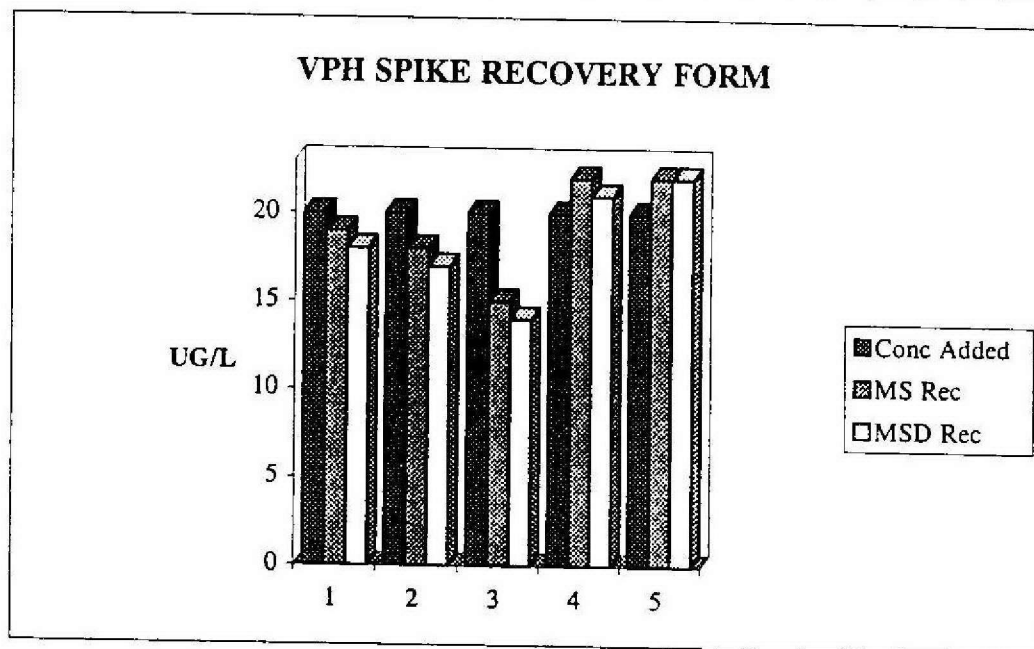
76-115%

**BDL=BELOW DETECTION LIMIT
ANALYZED BY: CP**

MADEP VPH SPIKE DATA

Lab ID:	99060126
Date Analyzed:	06/18/99
Sample Identity:	CONTROL SPIKES 06/18/99

Target Spiking Compounds	Conc Added (UG/L)	Amt Rec (UG/L)	Dup Amt Rec (UG/L)	%Rec	Dup %Rec	%Diff
Pentane	20	19	18	95%	90%	5%
2-Methylpentane	20	18	17	90%	85%	5%
Nonane	20	15	14	75%	70%	5%
Benzene	20	22	21	110%	105%	5%
Toluene	20	22	22	110%	110%	0%



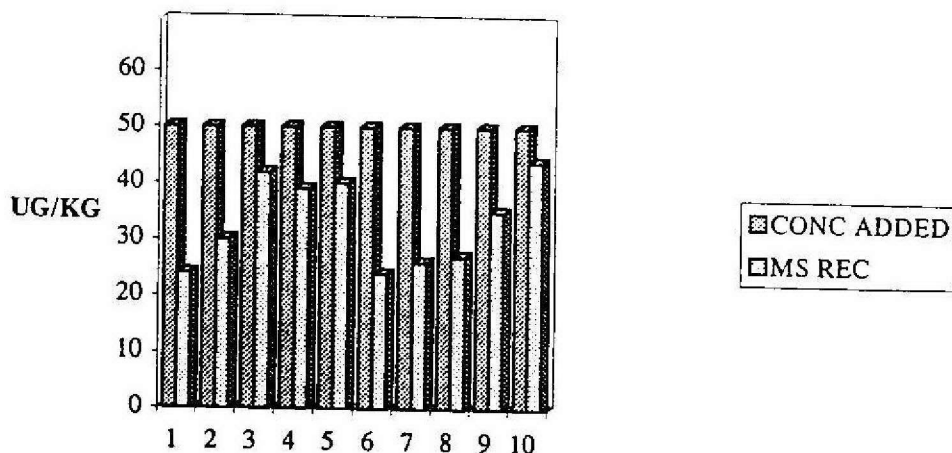
Spike Acceptance Range
65-135%

MADEP EPH SPIKE DATA

Lab ID:	99060126
Date Analyzed:	06/17/99
Sample Identity:	CONTROL SPIKE 06/16/99

Target Spiking Compounds	Concentration Added (UG/L)	Amount Recovered (UG/L)	%RECOVERY
Tetradecane	50	24	48%
Hexadecane	50	30	60%
Eicosane	50	42	84%
Tetracosane	50	39	78%
Octacosane	50	40	80%
2-Methylnaphthalene	50	24	48%
Acenaphthene	50	26	52%
Fluorene	50	27	54%
Phenanthrene	50	35	70%
Pyrene	50	44	88%

EPH FRACTIONATION SPIKE RECOVERY FORM



Spike Acceptance Range
40-140%



VOA SPIKE RECOVERY FORM
EPA METHOD 8260B

CUSTOMER: HIGGINS ENVIRONMENTAL ASSOCIATES

SAMPLE LOCATION: LAWRENCE, MA

SAMPLE IDENTITY: CONTROL SPIKES 06/18/99

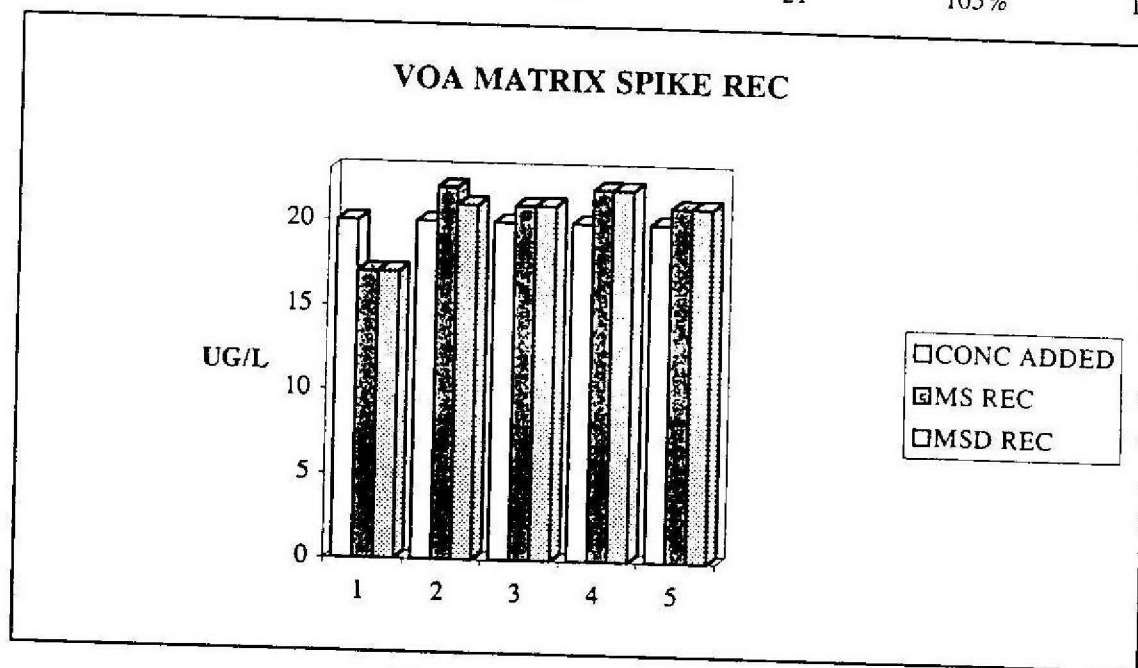
LAB#: 99060126

JOB#: 03014-99

CONTROL#: 28831

DATE ANALYZED: 06/18/

COMPOUND	CONC ADDED (UG/L)	AMT REC (UG/L)	DUP AMT REC (UG/L)	%REC	DUP % REC
1,1-DICHLOROETHENE	20	17	17	85%	85%
BENZENE	20	22	21	110%	105%
TRICHLOROETHENE	20	21	21	105%	105%
TOLUENE	20	22	22	110%	110%
CHLOROBENZENE	20	21	21	105%	105%



SPIKE RECOVERY LIMITS
75-115%

**The Following
Document Contains**

Some Poor Quality

Originals

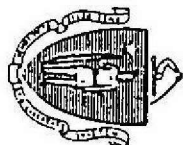
Multiple COC's Yes No



317 Elm Street Milford, NH 03055
(603) 673-5440/ Fax (603) 673-0366

[illegible]

The Commonwealth of Massachusetts



Department of Environmental Protection

Division of Environmental Analysis

Senator William A. Wall Experiment Station

certifies

M-NH023 Chemserve
317 Elm Street
Millsford, NH 03055

Laboratory Director: Jay W. Crystal

for the Chemical Analysis of Potable and Non-Potable Water

pursuant to 310 CMR 42.00

This certificate supersedes all previous Massachusetts certificates issued to this laboratory. The laboratory is regulated by and shall be responsible for being in compliance with Massachusetts regulations at 310 CMR 42.00.

This certificate is valid only when accompanied by the latest dated Certified Parameter List as issued by the Massachusetts D.E.P.

Certification is no guarantee of the validity of the data. This certification is subject to unannounced laboratory inspections.

David P. Quirk
Director, Division of Environmental Analysis

Issued: 07/01/98
Expires: 06/30/99

The Commonwealth of Massachusetts



Department of Environmental Protection

Division of Environmental Analysis

Senator William A. Wall Experiment Station

certifies

M-NH023 Chemserve
317 Elm Street
Millsford, NH 03055

Laboratory Director: Jay W. Crystal

for the Microbiological Analysis of Water

pursuant to 310 CMR 42.00

This certificate supersedes all previous Massachusetts certificates issued to this laboratory. The laboratory is regulated by and shall be responsible for being in compliance with Massachusetts regulations at 310 CMR 42.00.

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David P. Quirk
Director, Division of Environmental Analysis

Issued: 07/01/98
Expires: 06/30/99

COMMONWEALTH OF MASSACHUSETTS
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Certified Parameter List

EFFECTIVE DATE: 07/01/98

EXPIRATION DATE: 06/30/99

M-NH023
Chemserve
Milford, NH

COMMONWEALTH OF MASSACHUSETTS
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Certified Parameter List

EFFECTIVE DATE: 07/01/98

EXPIRATION DATE: 06/30/99

M-NH023
Chemserve
Milford, NH

NON-POTABLE WATER

- 201 Aluminum
- 202 Antimony
- 203 Arsenic
- 204 Beryllium
- 205 Cadmium
- 206 Chromium
- 207 Cobalt
- 208 Copper
- 209 Iron
- 210 Lead
- 211 Manganese
- 212 Mercury
- 213 Molybdenum
- 214 Nickel
- 215 Selenium
- 216 Silver
- 218 Thallium
- * 220 Vanadium
- 221 Zinc
- 222 pH
- 224 Total Dissolved Solids
- 225 Total Hardness (CaCO3)
- 226 Calcium
- 227 Magnesium
- 228 Sodium
- 229 Potassium
- 230 Total Alkalinity
- 231 Chloride
- 232 Fluoride
- * 233 Sulfate
- * 234 Ammonia-N
- 235 Nitrate-N
- 236 Kjeldahl-N
- 237 Orthophosphate
- 239 Chemical Oxygen Demand
- 240 Biochemical Oxygen Demand
- 242 Total Cyanide
- 243 Non-filterable Residue
- 244 Total Residual Chlorine
- 245 Oil and Grease
- 246 Total Phenolics

* Provisional Certification

NON-POTABLE WATER

- 247 Volatile Halocarbons
- 248 Volatile Aromatics
- 249 Chlordane
- 250 Aldrin
- 251 Dieldrin
- 252 DDT
- 253 DDE
- 254 DDT
- 255 Heptachlor
- 256 Heptachlor Epoxide
- 257 Polychlorinated Biphenyls (water)
- 258 Polychlorinated Biphenyls (oil)

COMMONWEALTH OF MASSACHUSETTS
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Certified Parameter List

EFFECTIVE DATE: 06/07/99

EXPIRATION DATE: 06/30/99

M-NH023
Chemsolve
Milford, NH

POTABLE WATER

- * 101 Antimony
- 102 Arsenic
- 103 Barium
- 104 Beryllium
- 105 Cadmium
- 106 Chromium
- 107 Copper
- 108 Lead
- 109 Mercury
- 110 Nickel
- 111 Selenium
- 113 Thallium
- 114 Nitrate-N
- 115 Nitrite-N
- 116 Fluoride
- 117 Sodium
- 118 Sulfate
- 119 Cyanide
- 120 Turbidity
- * 121 Residual Free Chlorine
- 122 Calcium
- 123 Total Alkalinity
- 124 Total Dissolved Solids
- 128 2,4-D
- 130 Dalapon
- 132 Pentachlorophenol
- 133 Picloram
- 134 Alachlor
- 135 Atrazine
- 136 Chlordane
- 137 Endrin
- 138 Heptachlor
- 139 Heptachlor Epoxide
- 140 Hexachlorobenzene
- 141 Hexachlorocyclopentadiene
- 142 Lindane
- 143 Methoxychlor
- 144 Simazine
- 145 Toxaphene
- 151 Polynuclear Aromatic Hydrocarbons
- 152 Adipates/Phthalates

* Provisional Certification

COMMONWEALTH OF MASSACHUSETTS
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Certified Parameter List

EFFECTIVE DATE: 11/18/98

EXPIRATION DATE: 06/30/99

M-NH023
Chemsolve
Milford, NH

MICROBIOLOGY

- 301 Total Coliform
- 302 Fecal Coliform
- 303 Heterotrophic Plate Count
- 304 E-Coli

COMMONWEALTH OF MASSACHUSETTS
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Certified Parameter List

EFFECTIVE DATE: 06/07/99

EXPIRATION DATE: 06/30/99

M-NH023
Chemsolve
Milford, NH

POTABLE WATER

- 153 Trihalomethanes
- 154 Volatile Organic Compounds
- 155 1,2-Dibromoethane
- 156 1,2-Dibromo-3-chloropropane