

DATA ASSESSMENT NARRATIVE

VOLATILE ORGANICS

General

The organic findings offered in this screening report assumes that all analytical results are correct as reported and is based upon the examination of the reported holding times, blank analysis results, surrogate and matrix spike recoveries, GC/MS performance, tuning results, calibration results and internal standard areas. This report was prepared in compliance relative to the analytical and deliverable requirements specified in the SW-846 Method 8260, The NYSDEC-ASP, September 1989, 12/91 Revisions, the National Functional Guidelines for Organic Data Review, and DQO Level III. All comments made within this report should be considered when examining the analytical results.

SDG # 5586

Holding Times

All analysis holding times were met. No qualifications were required.

Tuning

All of the BFB tunes in the initial and continuing calibrations met the percent relative abundance criteria. No qualifications are required.

Initial Calibrations

The initial calibrations that were analyzed by the laboratory for these samples were not acceptable for all compound %RSDs. However, there were no samples associated with the non-compliant ICAL. The average RRFs for all of the criteria compounds did meet the initial calibration criteria. No qualifications were required.

Continuing Calibrations

The continuing calibrations that were analyzed by the laboratory for these samples were not acceptable for all compound %Ds. All compound RRFs were within criteria.

DATA ASSESSMENT NARRATIVE
VOLATILE ANALYSIS

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Continuing Calibrations, continued

Specific Finding

1. The continuing calibration standard 96DC002M exhibited one (1) compound with a %D greater than 50% but less than 90% for which qualifications were required. For the following samples and compound, the reported positive results are qualified as estimated, J. and the non-detect results are qualified as estimated, UJ.

MW11196	1,1-dichloroethane
EB021196	
WP41196	
WP51196	
FI121196	
GWTB1121	
LAW51196	
LAW61196	

Internal Standards

All of the internal standard EICP areas were acceptable for all samples and blanks. No qualifications were required.

Method Blanks

The method blanks that were analyzed did exhibit contamination for target compounds methylene chloride and 1,1,2,2-tetrachloroethane. However, these compounds were not reported in the associated samples. Therefore, no qualifications were required.

Trip Blanks

The trip blank, GWTB1121, that was analyzed did exhibit contamination for target compounds. The associated samples were compared to the trip blank. Please refer to the glossary of data qualifiers for definition of the blank qualifiers, U, CRQL, and NA.

Specific Finding

2. The following samples were qualified for trip blank contamination. The qualifications are for all trip blanks.

LAW51196	m,p-xylene & o-xylene	CRQL

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Rinseate Blanks

One of the rinseate blanks, EB01, that was analyzed did not exhibit contamination for target compounds. The other rinseate blank EB021196 exhibited contamination for two (2) target compounds. The associated samples were compared to the rinseate blanks. Please refer to the glossary of data qualifiers for definition of the blank qualifiers, U, CRQL, and NA.

Specific Finding

3. The following samples were qualified for rinseate blank contamination. The qualifications are for all rinseate blanks.

FI121196	acetone	U
FI121196	toluene	CRQL
LAW51196		
WP41196		
WP51196		

Surrogates

Surrogate recoveries for all samples and blanks did meet QA/QC criteria. No qualifications were required.

Matrix Spike/Matrix Spike Duplicate

There was no MS/MSD pair in this SDG. No qualifications were required.

Field Duplicates

There was no field duplicate pair in this SDG. No qualifications were required.

Compound Identification/Quantitation

No qualifications were required.

System Performance and Overall Assessment

The data, as reported, required qualifications.

GLOSSARY OF DATA QUALIFIERS

QUALIFICATION CODES

U = Not detected

J = Estimated value

UJ = Reported Quantitation limit is qualified as estimated

R = Result is rejected and unusable

D = Result value is based on dilution analysis

METHOD BLANK QUALIFICATION CODES

CRQL = The sample result for the blank contaminant is less than the sample CRQL and is less than 5X (10X for common lab contaminants) the method blank value. The sample result for the blank contaminant is rejected and the CRQL for that compound is reported.

U = The sample result for the blank contaminant is greater than the sample CRQL and is less than 5X (10X for common lab contaminants) the method blank value. The sample result for the blank contaminant is qualified as non detected at the compound value reported.

No Action = The sample result for the blank contaminant is greater than the sample CRQL and is greater than 5X (10X for common lab contaminants) the method blank value. The sample result for the blank contaminant is not qualified with any blank qualifiers.

SUMMARY OF DATA QUALIFICATIONS

<u>SAMPLE ID</u>	<u>COMPOUND ID</u>	<u>DL</u>	<u>QL</u>	<u>SPECIFIC FINDINGS</u>
MW11196 EB021196 WP41196 WP51196 FI121196 GWTB1121 LAW51196 LAW61196	1,1-dichloroethane	+/-	J/UJ	1
LAW51196	m,p-xylene o-xylene	+	CRQL	2
FI121196	acetone	+	U	3
FI121196 LAW51196 WP41196 WP51196	toluene	+	CRQL	3

- * DL denotes the Form I qualifier supplied by the laboratory
 QL denotes the qualifier used by the data validation firm
 + in the DL column denotes a positive result
 - in the DL column denotes a non detect result

DATA ASSESSMENT NARRATIVE

SEMIVOLATILE ORGANICS

General

The organic findings offered in this screening report assumes that all analytical results are correct as reported and is based upon the examination of the reported holding times, blank analysis results, surrogate and matrix spike recoveries, GC/MS performance, tuning results, calibration results and internal standard areas. This report was prepared in compliance relative to the analytical and deliverable requirements specified in the U.S. EPA SW846 Method 8270, the NYSDEC Guidelines, The National Functional Guidelines for Organic Data Review, and DQO Level III. All comments made within this report should be considered when examining the analytical results (Form I's).

SDG # 96-5586

Holding Times

All extraction and analysis holding times for all samples were met for all samples per the SOW and National Functional Guidelines. No qualifications are required.

Tuning

All of the DFTPP tunes in the initial and continuing calibrations met the percent relative abundance criteria of the SOW and the Organic Functional Guidelines. No qualifications are required.

Initial Calibrations

The initial calibrations that were analyzed by the laboratory for these samples were acceptable for all compound %RSDs. The average RRFs for all of the initial calibrations were within QA/QC calibration criteria. No qualifications are required.

Continuing Calibrations

The continuing calibrations that were analyzed met all calibration requirements for the RRFs. However, qualifications are required for compounds with non compliant %Ds.

DATA ASSESSMENT NARRATIVE
SEMIVOLATILE ANALYSIS

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Continuing Calibrations (continued)

Specific Findings:

1. The continuing calibration, M41222C2, contained compounds with %Ds greater than 25 % D but less than 50 % D. For the samples and non compliant compounds listed below, qualify all positive results as estimated (J).

GWEB011196	hexachlorocyclopentadiene
GWLAW51196	
GWLAW61196	
GWWP41196	

2. The continuing calibration, M41222C2, contained compounds with %Ds greater than 50 % D but less than 90 % D. For the samples and non compliant compounds listed below, qualify all positive results as estimated (J) and all non detects as estimated (UJ).

GWEB011196	4,6-dinitro-2-methylphenol
GWLAW51196	
GWLAW61196	
GWWP41196	

3. The continuing calibration, M41222C2, contained compounds with RRFs less than 0.05. For the samples and non compliant compounds listed below, qualify all positive results as estimated (J) and reject all non detects (R).

GWEB011196	2,4-dinitrophenol (67.3)
GWLAW51196	
GWLAW61196	
GWWP41196	

4. The continuing calibration, M40203C1, contained compounds with %Ds greater than 25 % D but less than 50 % D. For the samples and non compliant compounds listed below, qualify all positive results as estimated (J).

GWMW11196	hexachlorocyclopentadiene
GWWP51196	2,4-dinitrophenol
GWRFI121196	4-nitroaniline
	3,3'-dichlorobenzidine
	benzo(b)fluoranthene

DATA ASSESSMENT NARRATIVE SEMIVOLATILE ANALYSIS

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Internal Standards

All of the blank and sample internal standard EICP areas met the EICP internal standard area QA/QC criteria. No qualifications are required.

Method Blanks

The method blank that was analyzed exhibited contamination for TIC's. No qualifications are required.

Rinseate Blanks

The associated rinseate blanks was not identified for this SDG. No qualifications are required.

Field Blanks

The associated field blanks were not identified for this SDG. No qualifications are required.

Surrogates

Surrogate recoveries for all of the samples did not meet QA/QC criteria.

Specific Finding:

5. The sample listed below, exhibited surrogate recoveries that were less than the QA/QC limits. Qualify all positive results as estimated (J) and all non detects as estimated (UJ).

GWMW11196	acid fraction
GWEB021196	

GWWP51196	All results
GWLAW51196	
GWWP41196	

6. Sample GWLAW61196, exhibited surrogate recoveries that were less than 10%. Qualify all positive results associated with the acid fraction as estimated (J) and reject all non detects (R).

**DATA ASSESSMENT NARRATIVE
SEMIVOLATILE ANALYSIS**

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Matrix Spike/Matrix Spike Duplicate

The associated MS/MSD was not identified for this SDG. No qualifications are required.

Field Duplicates

No qualifications are required.

Compound Identification/Quantitation

No qualifications are required.

System Performance and Overall Assessment

The laboratory did not encounter any large problems. The data as presented required qualification

GLOSSARY OF DATA QUALIFIERS

QUALIFICATION CODES

U = Not detected

J = Estimated value

UJ = Reported Quantitation limit is qualified as estimated

R = Result is rejected and unusable

NJ = Presumptive evidence for the presence of the material at an estimated value

K = Result is biased high

L = Result is biased low

METHOD BLANK QUALIFICATION CODES

CRQL = The sample result for the blank contaminant is less than the sample CRQL and is less than 10X the method blank value. The sample result for the blank contaminant is rejected and the CRQL for that analyte is reported.

U = The sample result for the blank contaminant is greater than the sample CRQL and is less than 10X the method blank value. The sample result for the blank contaminant is qualified as non detected at the analyte value reported.

No Action = The sample result for the blank contaminant is greater than the sample CRQL and is greater than 10X the method blank value. The sample result for the blank contaminant is not qualified with any blank qualifiers.

The specific findings will be noted in numerical form on the Form Is in this data validation report. These specific finding footnotes will reflect the conclusions found in the data validation process that resulted in the qualification of the data.

SUMMARY OF DATA QUALIFICATIONS

<u>SAMPLE ID</u>	<u>ANALYTE ID</u>	<u>DL</u>	<u>QL</u>	<u>SPECIFIC FINDINGS</u>
GWEB011196 GWLAW51196 GWLAW61196 GWWP41196	hexachlorocyclopentadiene	+	J	1
GWEB011196 GWLAW51196 GWLAW61196 GWWP41196	4,6-dinitro-2-methylphenol	+/-	J/UJ	2
GWEB011196 GWLAW51196 GWLAW61196 GWWP41196	2,4-dinitrophenol (67.3)	+/-	J/R	3
GWMW11196 GWWP51196 GWRFI121196	hexachlorocyclopentadiene 2,4-dinitrophenol 4-nitroaniline 3,3'-dichlorobenzidine benzo(b)fluoranthene	+	J	4
GWMW11196 GWEB021196	All results acid fraction	+/-	J/UJ	5
GWWP51196 GWLAW51196 GWWP41196	All results	+/-	J/UJ	5
GWLAW61196	All results acid fraction	+/-	J/R	6

- * DL denotes the Form I qualifier supplied by the laboratory
 QL denotes the qualifier used by the data validation firm
 + in the DL column denotes a positive result
 - in the DL column denotes a non detect result

DATA ASSESSMENT NARRATIVE

PCB ANALYSIS

General

The organic findings offered in this screening report assume that all analytical results are correct as reported and are based upon the examination of the reported holding times, GC instrument performance, initial and continuing calibrations, analytical sequence, blank analysis results, surrogate recoveries, and MS/MSD results. This report was prepared in compliance relative to the analytical and deliverable requirements specified in the U.S. SW-846 method 8080; the National Functional Guidelines for Organic Data Review, where applicable, and NYSDEC Level III. All comments made within this report should be considered when examining the analytical results (Form Is). Please refer the specific findings found in each category to the Summary of Data Qualification table.

SDG # 96-5586

Contractual Non-Compliance

The method requires that all target compounds, including the multi-component compounds, be analyzed with a five (5) point calibration curve. The laboratory did not calibrate the instrument for AR1232. The method also requires a mid-level calibration standard be injected after each group of ten (10) samples and at the end of the analysis day. The laboratory did not analyze a mid-level calibration standard after every ten (10) samples.

Holding Times

All extraction and analysis holding times were met. No qualifications were required.

GC Instrument Performance

This GC analytical fraction was analyzed utilizing external standards. No qualifications were required.

Initial Calibrations

The laboratory did not calibrate the instrument for AR1232. Therefore, this compound must be rejected in all samples. The initial calibrations were acceptably linear for all other compounds.

Data Assessment Narrative
PCB

Page 2

Initial Calibrations, Continued

Specific Finding

1. The following compound is rejected, R, in all samples because the instrument was not calibrated in accordance with the method.

AR1232

Continuing Calibrations

Several continuing calibration standards associated with the reported samples exhibited percent differences, %Ds, above the QC limit of 15 % but less than 50%. This non-compliance requires the qualification of positive results only. However, there were no positive results in the associated samples for the non-compliant compounds. No qualifications are required.

Method Blanks

The method blank did not exhibit positive results for target compounds. No qualifications were required.

QC Blanks

The rinse blanks, ALT-GW-EB01-1118 and ALT-GW-EB02-1196, did not exhibit positive results for target compounds. No qualifications were required.

Surrogate Recoveries

One (1) field sample exhibited non-compliant surrogate recoveries.

Specific Finding

2. One (1) field sample exhibited low TCX and DCB recoveries. For the following sample, the positive results are qualified as estimated, J, and the non-detect results are qualified as estimated, UJ.

ALT-GW-LAW6-1196

**Data Assessment Narrative
PCB**

Page 3

Matrix Spike/Matrix Spike Duplicate

A MS/MSD pair was not included in this SDG. No qualifications were required.

Field Duplicates

A field duplicate pair was not included in this SDG. No qualifications were required.

Compound Identification/Quantitation

No positive results were reported in the samples. No qualifications were required.

Overall Assessment

The reported results are accepted as reported by the laboratory with the noted qualifications.

GLOSSARY OF DATA QUALIFIERS

QUALIFICATION CODES

U = Not detected

J = Estimated value

UJ = Reported quantitation limit is qualified as estimated

R = Result is rejected and unusable

NJ = Presumptive evidence for the presence of the material at an estimated value

K = Result is biased high

L = Result is biased low

METHOD BLANK QUALIFICATION CODES

CRQL = The sample result for the blank contaminant is less than the sample CRQL and is less than 5X the method blank value. The sample result for the blank contaminant is rejected and the CRQL for that compound is reported.

U = The sample result for the blank contaminant is greater than the sample CRQL and is less than 5X the method blank value. The sample result for the blank contaminant is qualified as non detected at the compound value reported.

No Action = The sample result for the blank contaminant is greater than the sample CRQL and is greater than 5X the method blank value. The sample result for the blank contaminant is not qualified with any blank qualifiers.

The specific findings will be noted in numerical form on the Form Is in this data validation report. These specific finding footnotes will reflect the conclusions found in the data validation process that resulted in the qualification of the data.

SUMMARY OF DATA QUALIFICATIONS

<u>SAMPLE ID</u>	<u>COMPOUND ID</u>	<u>DL</u>	<u>QL</u>	<u>SPECIFIC FINDINGS</u>
ALL	AR1232	+/-	R	1
ALT-GW-LAW6-1196	ALL	+/-	J/UJ	2

- * DL denotes the Form I qualifier supplied by the laboratory
QL denotes the qualifier(s) used by the data validation firm
+ in the DL column denotes a positive result
_ in the DL column denotes a non-detect result

DATA ASSESSMENT NARRATIVE

Metals, Cyanide and Wet Chemistry

General

The inorganic findings offered in this screening report assumes that all analytical results are correct as reported and is based upon the examination of the reported holding times, calibration standards, blank analysis results and MS/MSD results. A minimum of ten percent of all laboratory calculations are recalculated by the reviewer. All comments made within this report should be considered when examining the analytical results (Form Is).

This data package consisted of results from **ESC, Altech, Ltd. Dunkirk Project, SDG# 5586EV**, the analysis of eight (8) water samples (7 total and 1 dissolved) for TAL Metals, free and total Cyanide and wet chemistry. Overall, the inorganic data quality was fair. All protocol requirements were followed with the exception of the following problems.

Specific QA/QC deficiency Findings are listed numerically in the following categories:

Holding Times

1. The Holding Times for Cyanide and Nitrate were exceeded. All positive and non-detect results are qualified as estimated, "J" or "UJ".

Calibration

2. The ICB's for Cadmium, Chromium, Molybdenum and Silver were above the CRDL. All positive results less than five (5) times the CRDL are qualified as estimated, "J". There is no impact for Silver.

Preparation and Field Blank

3. The Preparation Blank exhibited contamination for the following elements:

Copper	5.17 ug/l	All positive results below 25.85 ug/l
Nickel	10.10 ug/l	All positive results below 50.5 ug/l
Vanadium	5.91 ug/l	All positive results below 29.55 ug/l

The USEPA requires that all sample values below five times the preparation or calibration blank contamination be negated, "U".

Metals, Cyanide and Wet Chemistry Data Assessment Narrative
(continued - Page 2)

Interferences

No significant interferences were observed.

Spike Recovery

No deficiencies in this section.

Duplicate

No deficiencies in this section.

LCS

No deficiencies in this section.

Serial Dilution

4. The Serial Dilutions for Iron and Manganese were outside the control limits. All positive results are qualified as estimated, "J".

SUMMARY OF DATA QUALIFICATIONS

<u>SAMPLE ID</u>	<u>ANALYTE</u>	<u>DL</u>	<u>QL</u>	<u>SPECIFIC FINDING</u>
All samples	Cn and Nitrate	+/U	J/UJ	1
All samples below 5X CRDL	Cd, Cr and Mo	+	J	2
All samples below 5X prep blank	Cu, Ni and V	+	U	3
All samples	Fe and Mn	+	J	4

DL - denotes laboratory qualifier/reported value
 + denotes positive values
 U denotes non-detect values

QL - denotes data validation qualifier

ANNOTATED FORM Is

000129

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

E8021196

Lab Name: Antech Ltd.

Contract:

Lab Code: ANTECH

Case No.: 5586

SAS No.:

SDG No.: 5586

Matrix: (soil/water) WATER

Lab Sample ID: 96112615

Sample wt/vol: 5.000 (g/mL) ML

Lab File ID: 96D0006M

Level: (low/med) LOW

Date Received: 11/22/96

% Moisture: not dec.

Date Analyzed: 12/02/96

GC Column: RTX502.2 ID: .53 (mm)

Dilution Factor: 1.0

Soil Extract Volume: (uL)

Soil Aliquot Volume: (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	-----Chloromethane	10.	U
74-83-9	-----Bromomethane	10.	U
75-01-4	-----Vinyl Chloride	10.	U
75-00-3	-----Chloroethane	10.	U
75-09-2	-----Methylene Chloride	10.	U
67-64-1	-----Acetone	5.	J
75-15-0	-----Carbon Disulfide	10.	U
75-35-4	-----1,1-Dichloroethane	10.	U
75-34-3	-----1,1-Dichloroethane	10.	U
156-60-5	-----Trans-1,2-Dichloroethane	10.	U
156-59-2	-----Cis-1,2-Dichloroethane	10.	U
67-66-3	-----Chloroform	10.	U
107-06-2	-----1,2-Dichloroethane	10.	U
78-93-3	-----2-Butanone	10.	U
71-55-6	-----1,1,1-Trichloroethane	10.	U
56-23-5	-----Carbon Tetrachloride	10.	U
75-27-4	-----Bromodichloromethane	10.	U
78-87-5	-----1,2-Dichloropropane	10.	U
10061-01-5	-----Cis-1,3-Dichloropropane	10.	U
79-01-6	-----Trichloroethane	10.	U
124-48-1	-----Dibromochloromethane	10.	U
79-00-5	-----1,1,2-Trichloroethane	10.	U
71-43-2	-----Benzene	10.	U
10061-02-6	-----Trans-1,3-Dichloropropane	10.	U
75-25-2	-----Bromoform	10.	U
108-10-1	-----4-Methyl-2-Pentanone	10.	U
591-78-6	-----2-Hexanone	10.	U
127-18-4	-----Tetrachloroethane	10.	U
79-34-5	-----1,1,2,2-Tetrachloroethane	10.	U
108-88-3	-----Toluene	2.	J
108-90-7	-----Chlorobenzene	10.	U
100-41-4	-----Ethyl Benzene	10.	U
100-42-5	-----Styrene	10.	U
1330-20-7	-----m,p-Xylene	10.	U
95-47-6	-----o-Xylene	10.	U

021

000130

EPA SAMPLE NO.

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

E8021196

Lab Name: Antech Ltd.

Contract:

Lab Code: ANTECH

Case No.: 5586

SAS No.:

SDG No.: 5586

Matrix: (soil/water) WATER

Lab Sample ID: 96112615

Sample wt/vol: 5.000 (g/mL) ML

Lab File ID: 96DCC06M

Level: (low/med) LOW

Date Received: 11/22/96

% Moisture: not dec.

Date Analyzed: 12/02/96

GC Column: RTX502.2 ID: .53 (mm)

Dilution Factor: 1.0

Soil Extract Volume: (uL)

Soil Aliquot Volume: (uL)

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

Number TICs found: 0

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	g
1.				
2.				
3.				
4.				
5.				
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7.				
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9.				
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23.				
24.				
25.				
26.				
27.				
28.				
29.				
30.				

000145

1A

EPA SAMPLE NO.

VOLATILE ORGANICS ANALYSIS DATA SHEET

LAW51196

Lab Name: Antech Ltd.

Contract:

Lab Code: ANTECH

Case No.: 5586

SAS No.:

SDG No.: 5586

Matrix: (soil/water) WATER

Lab Sample ID: 96112616

Sample wt/vol: 5.000 (g/mL) ML

Lab File ID: 96DC014M

Level: (low/med) LOW

Date Received: 11/22/96

% Moisture: not dec.

Date Analyzed: 12/02/96

GC Column: RTX502.2 ID: .53 (mm)

Dilution Factor: 1.0

Soil Extract Volume: (uL)

Soil Aliquot Volume: (uL)

CONCENTRATION UNITS:

CAS NO.

COMPOUND

(ug/L or ug/Kg) UG/L

Q

74-87-3-----	Chloromethane	10.	U	
74-83-9-----	Bromomethane	10.	U	
75-01-4-----	Vinyl Chloride	10.	U	
75-00-3-----	Chloroethane	10.	U	
75-09-2-----	Methylene Chloride	10.	U	
67-64-1-----	Acetone	10.	U	
75-15-0-----	Carbon Disulfide	10.	U	
75-35-4-----	1,1-Dichloroethane	10.	U	
75-34-3-----	1,1-Dichloroethane	10.	U	UT 1
156-60-5-----	Trans-1,2-Dichloroethane	10.	U	
156-59-2-----	Cis-1,2-Dichloroethane	10.	U	
67-66-3-----	Chloroform	10.	U	
107-06-2-----	1,2-Dichloroethane	10.	U	
78-93-3-----	2-Butanone	10.	U	
71-55-6-----	1,1,1-Trichloroethane	10.	U	
56-23-5-----	Carbon Tetrachloride	10.	U	
75-27-4-----	Bromodichloromethane	10.	U	
78-37-5-----	1,2-Dichloropropane	10.	U	
10061-01-5-----	Cis-1,3-Dichloropropene	10.	U	
79-01-6-----	Trichloroethane	10.	U	
124-48-1-----	Dibromochloromethane	10.	U	
79-00-5-----	1,1,2-Trichloroethane	10.	U	
71-43-2-----	Benzene	10.	U	
10061-02-6-----	Trans-1,3-Dichloropropene	10.	U	
75-25-2-----	Bromoform	10.	U	
108-10-1-----	4-Methyl-2-Pentanone	10.	U	
591-78-6-----	2-Hexanone	10.	U	
127-18-4-----	Tetrachloroethane	10.	U	
79-34-5-----	1,1,2,2-Tetrachloroethane	10.	U	
108-88-3-----	Toluene	10.	U	UT 3
108-90-7-----	Chlorobenzene	10.	U	
100-41-4-----	Ethyl Benzene	10.	U	
100-42-5-----	Styrene	10.	U	
1330-20-7-----	m,p-Xylene	10.	U	UT 023
95-47-6-----	o-Xylene	10.	U	

000-207

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO. 000146

LAWS1196

Lab Name: Antech Ltd.

Contract:

Lab Code: ANTECH

Case No.: 5586

SAS No.:

SDG No.: 5526

Matrix: (soil/water) WATER

Lab Sample ID: 96112616

Sample wt/vol: 5.000 (g/mL) ML

Lab File ID: 96DCG14M

Level: (low/med) LOW

Date Received: 11/22/96

% Moisture: not dec.

Date Analyzed: 12/02/96

GC Column: RTX502.2 ID: .53 (mm)

Dilution Factor: 1.0

Soil Extract Volume: (uL)

Soil Aliquot Volume: (uL)

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

Number TICs found: 0

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.				
2.				
3.				
4.				
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6.				
7.				
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27.				
28.				
29.				
30.				

CAC
12/30/97

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

LAW61196

Lab Name: Antech Ltd.

Contract:

Lab Code: ANTECH

Case No.: 5586

SAS No.:

SDG No.: 5586

Matrix: (soil/water) WATER

Lab Sample ID: 96112617

Sample wt/vol: 5.000 (g/mL) ML

Lab File ID: 96DC013M

Level: (low/med) LOW

Date Received: 11/22/96

% Moisture: not dec.

Date Analyzed: 12/02/96

GC Column: RTX502.2 ID: .53 (mm)

Dilution Factor: 1.0

Soil Extract Volume: (uL)

Soil Aliquot Volumes: (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L		Q
74-87-3	Chloromethane	10.	U	
74-83-9	Bromomethane	10.	U	
75-01-4	Vinyl Chloride	10.	U	
75-00-3	Chloroethane	10.	U	
75-09-2	Methylene Chloride	10.	U	
67-64-1	Acetone	10.	U	
75-15-0	Carbon Disulfide	10.	U	
75-35-4	1,1-Dichloroethane	10.	U	
75-34-3	1,1-Dichloroethane	10.	U	
156-60-5	Trans-1,2-Dichloroethane	10.	U	
156-59-2	Cis-1,2-Dichloroethane	10.	U	
67-66-3	Chloroform	10.	U	
107-06-2	1,2-Dichloroethane	10.	U	
78-93-3	2-Butanone	10.	U	
71-55-6	1,1,1-Trichloroethane	10.	U	
56-23-5	Carbon Tetrachloride	10.	U	
75-27-4	Bromodichloromethane	10.	U	
78-87-5	1,2-Dichloropropane	10.	U	
10061-01-5	Cis-1,3-Dichloropropene	10.	U	
79-01-6	Trichloroethene	10.	U	
124-48-1	Dibromochloromethane	10.	U	
79-00-5	1,1,2-Trichloroethane	10.	U	
71-43-2	Benzene	10.	U	
10061-02-6	Trans-1,3-Dichloropropene	10.	U	
75-25-2	Bromoform	10.	U	
108-10-1	4-Methyl-2-Pentanone	10.	U	
591-78-6	2-Hexanone	10.	U	
127-18-4	Tetrachloroethane	10.	U	
79-34-5	1,1,2,2-Tetrachloroethane	10.	U	
108-88-3	Toluene	10.	U	
108-90-7	Chlorobenzene	10.	U	
100-41-4	Ethyl Benzene	10.	U	
100-42-5	Styrene	10.	U	
1330-20-7	m,p-Xylene	10.	U	
95-47-6	o-Xylene	10.	U	

XUT 1

CUC 11:17

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE ID: 000161

LAW61196

Lab Name: Antech Ltd.

Contract:

Lab Code: ANTECH

Case No.: 5586

SAS No.:

SDG No.: 5586

Matrix: (soil/water) WATER

Lab Sample ID: 96112617

Sample wt/vol: 5.000 (g/mL) ML

Lab File ID: 96DC015M

Level: (low/med) LOW

Date Received: 11/22/96

% Moisture: not dec.

Date Analyzed: 12/02/96

GC Column: RTX502.2 ID: .53 (mm)

Dilution Factor: 1.0

Soil Extract Volume: (uL)

Soil Aliquot Volume: (uL)

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
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1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

MW11196

Lab Name: Antech Ltd.

Contract:

Lab Code: ANTECH

Case No.: 5586

SAS No.:

SDG No.: 5586

Matrix: (soil/water) WATER

Lab Sample ID: 96112614

Sample wt/vol: 5.000 (g/mL) ML

Lab File ID: 96DCCGSM

Level: (low/med) LOW

Date Received: 11/22/96

Moisture: not dec.

Date Analyzed: 12/02/96

GC Column: RTX502.2 ID: .53 (mm)

Dilution Factor: 1.0

Soil Extract Volume: (uL)

Soil Aliquot Volume:

(uL)

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

CAS NO.

COMPOUND

g

74-87-3-----	Chloromethane	10.	U
74-83-9-----	Bromomethane	10.	U
75-01-4-----	Vinyl Chloride	10.	U
75-00-3-----	Chloroethane	10.	U
75-09-2-----	Methylene Chloride	10.	U
67-64-1-----	Acetone	10.	U
75-15-0-----	Carbon Disulfide	10.	U
73-35-4-----	1,1-Dichloroethane	10.	U
75-34-3-----	1,1-Dichloroethane	10.	U
156-60-5-----	Trans-1,2-Dichloroethane	10.	U
156-59-2-----	Cis-1,2-Dichloroethane	10.	U
67-66-3-----	Chloroform	10.	U
107-06-2-----	1,2-Dichloroethane	10.	U
78-93-3-----	2-Butanone	10.	U
71-55-6-----	1,1,1-Trichloroethane	10.	U
56-23-5-----	Carbon Tetrachloride	10.	U
75-27-4-----	Bromodichloromethane	10.	U
78-87-5-----	1,2-Dichloropropane	10.	U
10061-01-5-----	Cis-1,3-Dichloropropene	10.	U
79-01-6-----	Trichloroethane	10.	U
124-48-1-----	Dibromochloromethane	10.	U
79-00-5-----	1,1,2-Trichloroethane	10.	U
71-43-2-----	Benzene	10.	U
10061-02-6-----	Trans-1,3-Dichloropropene	10.	U
75-25-2-----	Bromoform	10.	U
108-10-1-----	4-Methyl-2-Pentanone	10.	U
591-78-6-----	2-Hexanone	10.	U
127-18-4-----	Tetrachloroethane	10.	U
79-34-5-----	1,1,2,2-Tetrachloroethane	10.	U
108-88-3-----	Toluene	10.	U
108-90-7-----	Chlorobenzene	10.	U
100-41-4-----	Ethyl Benzene	10.	U
100-42-5-----	Styrene	10.	U
1330-20-7-----	m,p-Xylene	10.	U
95-47-6-----	o-Xylene	10.	U

ut

CAC

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.
00017

MW11196

Lab Name: Antech Ltd.

Contract:

Lab Code: ANTECH

Case No.: 5586

SAS No.:

SDG No.: 5586

Matrix: (soil/water) WATER

Lab Sample ID: 96112614

Sample wt/vol: 5.000 (g/mL) ML

Lab File ID: 96DC005M

Level: (low/med) LOW

Date Received: 11/22/96

% Moisture: not dec.

Date Analyzed: 12/02/96

GC Column: RTX502.2 ID: .53 (mm)

Dilution Factor: 1.0

Soil Extract Volume: (uL)

Soil Aliquot Volume: (uL)

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.				
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QC
6/30/97

VOLATILE ORGANICS ANALYSIS DATA SHEET

FI121196

Lab Name: Antech Ltd.

Contract:

Lab Code: ANTECH

Case No. : 5586

SAS No. :

SDG No. : 5586

Matrix: (soil/water) WATER

Lab Sample ID: 96112620

Sample wt/vol: 5.000 (g/mL) mL

Lab File ID: 96DC009M

Level: (low/med) LOW

Date Received: 11/22/96

% Moisture: not dec.

Date Analyzed: 12/02/96

GC Column: RTX502.2 ID: .53 (mm)

Dilution Factor: 1.0

Soil Extract Volume: (uL)

Soil Aliquot Volume: (uL)

CONCENTRATION UNITS:

(ug/L or ug/Kg) UG/L

2

CAS NO.

~~CONFIDENTIAL~~

74-87-3-----Chloromethane
74-83-9-----Bromomethane
75-01-4-----Vinyl Chloride
75-00-3-----Chloroethane
75-09-2-----Methylene Chloride
67-64-1-----Acetone
75-15-0-----Carbon Disulfide
75-35-4-----1,1-Dichloroethene
75-34-3-----1,1-Dichloroethane
156-60-5-----Trans-1,2-Dichloroethane
156-59-2-----Cis-1,2-Dichloroethane
67-66-3-----Chloroform
107-06-2-----1,2-Dichloroethane
78-93-3-----2-Butanone
71-55-6-----1,1,1-Trichloroethane
56-23-5-----*Carbon Tetrachloride
75-27-4-----Bromodichloromethane
78-87-5-----1,2-Dichloropropane
10061-01-5-----Cis-1,3-Dichloropropane
79-01-6-----Trichloroethane
124-48-1-----Dibromochloromethane
79-00-5-----1,1,2-Trichloroethane
71-43-2-----Benzene
10061-02-6-----Trans-1,3-Dichloropropane
75-25-2-----Bromoform
108-10-1-----4-Methyl-2-Pentanone
591-78-6-----2-Hexanone
127-18-4-----Tetrachloroethane
79-34-5-----1,1,2,2-Tetrachloroethane
108-88-3-----Toluene
108-90-7-----Chlorobenzene
100-41-4-----Ethyl Benzene
100-42-5-----Styrene
1330-20-7-----m,p-Xylene
95-47-6-----o-Xylene

[illegible]

029

000182

EPA SAMPLE NO.

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

FI121196

Lab Name: Antech Ltd.

Contract:

Lab Code: ANTECH

Case No.: 5586

SAS No.:

SDG No.: 5586

Matrix: (soil/water) WATER

Lab Sample ID: 96112620

Sample wt/vol: 5.000 (g/mL) ML

Lab File ID: 96DC009M

Level: (low/med) LOW

Date Received: 11/22/96

% Moisture: not dec.

Date Analyzed: 12/02/96

GC Column: RTX502.2 ID: .53 (mm)

Dilution Factor: 1.0

Soil Extract Volume: (uL)

Soil Aliquot Volume: (uL)

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

Number TICs found: 0

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
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QC
6/30/97

000153

EPA SAMPLE NO.

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

GWTS1121

Lab Name: Antech Ltd.

Contract:

Lab Code: ANTECH

Case No.: 5586

SAS No.:

SDG No.: 5586

Matrix: (soil/water) WATER

Lab Sample ID: 96112621

Sample wt/vol: 5.000 (g/mL) ML

Lab File ID: 9600010M

Level: (low/med) LOW

Date Received: 11/22/96

% Moisture: not det.

Date Analyzed: 12/02/96

GC Column: RTX502.2 ID: .53 (mm)

Dilution Factor: 1.0

Soil Extract Volume: (uL)

Soil Aliquot Volume: (uL)

CONCENTRATION UNITS:

CAS NO.

COMPOUND

(ug/L or ug/Kg) UG/L

Q

74-87-3-----	Chloromethane	10.	U
74-83-9-----	Bromomethane	10.	U
75-01-4-----	Vinyl Chloride	10.	U
75-00-3-----	Chloroethane	10.	U
75-09-2-----	Methylene Chloride	10.	U
67-64-1-----	Acetone	2.	J
75-15-0-----	Carbon Disulfide	10.	U
75-35-4-----	1,1-Dichloroethane	10.	U
75-34-3-----	1,1-Dichloroethane	10.	U
156-60-5-----	Trans-1,2-Dichloroethane	10.	U
156-59-2-----	Cis-1,2-Dichloroethane	10.	U
67-66-3-----	Chloroform	10.	U
107-06-2-----	1,2-Dichloroethane	10.	U
78-93-3-----	2-Butanone	10.	U
71-55-6-----	1,1,1-Trichloroethane	10.	U
56-23-5-----	Carbon Tetrachloride	10.	U
75-27-4-----	Bromodichloromethane	10.	U
78-87-3-----	1,2-Dichloropropane	10.	U
10061-01-5-----	Cis-1,3-Dichloropropene	10.	U
79-01-6-----	Trichloroethane	10.	U
124-48-1-----	Dibromochloromethane	10.	U
79-00-5-----	1,1,2-Trichloroethane	10.	U
71-43-2-----	Benzene	10.	U
10061-02-6-----	Trans-1,3-Dichloropropene	10.	U
75-25-2-----	Bromoform	10.	U
108-10-1-----	4-Methyl-2-Pentanone	10.	U
591-78-6-----	2-Hexanone	10.	U
127-18-4-----	Tetrachloroethane	10.	U
79-34-5-----	1,1,2,2-Tetrachloroethane	10.	U
108-88-3-----	Toluene	.3	J
108-90-7-----	Chlorobenzene	10.	U
100-41-4-----	Ethyl Benzene	10.	U
100-42-5-----	Styrene	10.	U
1330-20-7-----	m,p-Xylene	.2	J
95-47-6-----	o-Xylene	.1	J

031

SAC
12/15/97

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO. 000194

GWTB1121

Lab Name: Antech Ltd.

Contract:

Lab Code: ANTECH

Case No.: 5526

SAS No.:

SDG No.: 5526

Matrix: (soil/water) WATER

Lab Sample ID: 96112621

Sample wt/vol: 5.000 (g/mL) ML

Lab File ID: 96DC010M

Level: (low/med) LOW

Date Received: 11/22/96

% Moisture: not dec.

Date Analyzed: 12/02/96

GC Column: RTX502.2 ID: .53 (mm)

Dilution Factor: 1.0

Soil Extract Volume: (uL)

Soil Aliquot Volume: (uL)

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.				
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1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

WP41196

Lab Name: Antech Ltd.

Contract:

Lab Code: ANTECH

Case No.: 5586

SAS No.:

SDG No.: 5586

Matrix: (soil/water) WATER

Lab Sample ID: 96112618

Sample wt/vol: 5.000 (g/mL) ML

Lab File ID: 9600007M

Level: (low/med) LOW

Date Received: 11/22/96

Moisture: not dsc.

Date Analyzed: 12/02/96

GC Column: RTX502.2 ID: .53 (mm)

Dilution Factor: 1.0

Soil Extract Volume: (uL)

Soil Aliquot Volume: (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	-----Chloromethane	10.	U
74-83-9	-----Bromomethane	10.	U
75-01-4	-----Vinyl Chloride	10.	U
75-00-3	-----Chloroethane	10.	U
75-09-2	-----Methylene Chloride	10.	U
67-64-1	-----Acetone	10.	U
75-15-0	-----Carbon Disulfide	10.	U
75-35-4	-----1,1-Dichloroethene	10.	U
75-34-3	-----1,1-Dichloroethane	10.	U
156-60-5	-----Trans-1,2-Dichloroethane	2.	U
156-59-2	-----Cis-1,2-Dichloroethane	130.	U
67-66-3	-----Chloroform	10.	U
107-06-2	-----1,2-Dichloroethane	10.	U
78-93-3	-----2-Butanone	10.	U
71-55-6	-----1,1,1-Trichloroethane	10.	U
56-23-5	-----Carbon Tetrachloride	10.	U
75-27-4	-----Bromodichloromethane	10.	U
78-87-5	-----1,2-Dichloropropane	10.	U
10061-01-5	-----Cis-1,3-Dichloropropene	10.	U
79-01-6	-----Trichloroethane	190.	U
124-48-1	-----Dibromochloromethane	10.	U
79-00-5	-----1,1,2-Trichloroethane	10.	U
71-43-2	-----Benzene	10.	U
10061-02-6	-----Trans-1,3-Dichloropropene	10.	U
75-25-2	-----Bromoform	10.	U
108-10-1	-----4-Methyl-2-Pentanone	10.	U
591-78-6	-----2-Hexanone	10.	U
127-18-4	-----Tetrachloroethane	10.	U
79-34-5	-----1,1,2,2-Tetrachloroethane	10.	U
108-88-3	-----Toluene	10.	U
108-90-7	-----Chlorobenzene	10.	U
100-41-4	-----Ethyl Benzene	10.	U
100-42-5	-----Styrene	10.	U
1330-20-7	-----m,p-Xylene	10.	U
95-47-6	-----o-Xylene	10.	U

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

000209

WP41196

Lab Name: Antech Ltd.

Contract:

Lab Code: ANTECH

Case No.: 5586

SAS No.:

SDG No.: 5586

Matrix: (soil/water) WATER

Lab Sample ID: 96112618

Sample wt/vol: 5.000 (g/mL) ML

Lab File ID: 96DC007M

Level: (low/med) LOW

Date Received: 11/22/96

% Moisture: not dec.

Date Analyzed: 12/02/96

GC Column: RTX502.2 ID: .53 (mm)

Dilution Factor: 1.0

Soil Extract Volume: (uL)

Soil Aliquot Volume: (uL)

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

Number TICs found: 0

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
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000221

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

WPS1196

Lab Name: Antech Ltd.

Contract:

Lab Code: ANTECH

Case No.: 5586

SAS No.:

SDG No.: 5586

Matrix: (soil/water) WATER

Lab Sample ID: 96112619

Sample wt/vol: 5.000 (g/mL) ML

Lab File ID: 96DCC08M

Level: (low/med) LOW

Date Received: 11/22/96

Moisture: not det.

Date Analyzed: 12/02/96

GC Column: RTX502.2 ID: .53 (mm)

Dilution Factor: 1.0

Soil Extract Volume: (uL)

Soil Aliquot Volume: (uL)

CONCENTRATION UNITS:

CAS NO.

COMPOUND

(ug/L or ug/Kg) UG/L

Q

74-87-3-----	Chloromethane	10.	U	
74-83-9-----	Bromomethane	10.	U	
75-01-4-----	Vinyl Chloride	10.	U	
75-00-3-----	Chloroethane	10.	U	
75-09-2-----	Methylene Chloride	10.	U	
67-64-1-----	Acetone	10.	U	
75-15-0-----	Carbon Disulfide	10.	U	
75-35-4-----	1,1-Dichloroethene	10.	U	
75-34-3-----	1,1-Dichloroethane	10.	U	1
156-60-5-----	Trans-1,2-Dichloroethene	10.	U	
156-59-2-----	Cis-1,2-Dichloroethene	10.	U	
67-66-3-----	Chloroform	10.	U	
107-06-2-----	1,2-Dichloroethane	10.	U	
78-93-3-----	2-Butanone	10.	U	
71-55-6-----	1,1,1-Trichloroethane	10.	U	
56-23-5-----	Carbon Tetrachloride	10.	U	
75-27-4-----	Bromodichloromethane	10.	U	
78-87-5-----	1,2-Dichloropropane	10.	U	
10061-01-3-----	Cis-1,3-Dichloropropene	10.	U	
79-01-6-----	Trichloroethane	10.	U	
124-48-1-----	Dibromochloromethane	10.	U	
79-00-5-----	1,1,2-Trichloroethane	10.	U	
71-43-2-----	Benzene	10.	U	
10061-02-6-----	Trans-1,3-Dichloropropene	10.	U	
75-25-2-----	Bromoform	10.	U	
108-10-1-----	4-Methyl-2-Pentanone	10.	U	
591-78-6-----	2-Hexanone	10.	U	
127-18-4-----	Tetrachloroethane	10.	U	
79-34-5-----	1,1,2,2-Tetrachloroethane	10.	U	
108-88-3-----	Toluene	10.	U	
108-90-7-----	Chlorobenzene	10.	U	
100-41-4-----	Ethyl Benzene	10.	U	
100-42-5-----	Styrene	10.	U	
1330-20-7-----	m,p-Xylene	10.	U	
95-47-6-----	o-Xylene	10.	U	

035

GC-107

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

000222

WP51196

Lab Name: Antech Ltd.

Contract:

Lab Code: ANTECH

Case No.: 5586

SAS No.:

SDG No.: 5586

Matrix: (soil/water) WATER

Lab Sample ID: 96112619

Sample wt/vol: 5.000 (g/mL) ML

Lab File ID: 96D0008M

Level: (low/med) LOW

Date Received: 11/22/96

% Moisture: not dec.

Date Analyzed: 12/02/96

GC Column: RTX502.2 ID: .53 (mm)

Dilution Factor: 1.0

Soil Extract Volume: (uL)

Soil Aliquot Volume: (uL)

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.				
2.				
3.				
4.				
5.				
6.				
7.				
8.				
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10.				
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13.				
14.				
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1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO. **000339**

GW-EB02-1196

Lab Name: ANTECH LTD.

Contract: _____

Lab Code: _____

Case No.: 96-5586

SAS No.: _____

SDG No.: _____

Matrix: (soil/water) WATER

Lab Sample ID: A11-2615

Sample wt/vol: 900.0 (g/mL ML

Lab File ID: M41222D6.D

Level: (low/med) _____

Date Received: 11/22/96

% Moisture: 0

decanted: (Y/N): N

Date Extracted: 11/27/96

Concentrated Extract Volume: 10000 (uL)

Date Analyzed: 12/22/96

Injection Volume: 1.0 (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) N

pH: _____

Concentration Units:

CAS No.	Compound	(ug/L or ug/Kg)	ug/L	Q
108-95-2	Phenol	11	U	5
111-44-4	Bis(2-chloroethyl)ether	11	U	
95-57-8	2-Chlorophenol	11	U	5
541-73-1	1,3-Dichlorobenzene	11	U	
106-46-7	1,4-Dichlorobenzene	11	U	
95-50-1	1,2-Dichlorobenzene	11	U	
95-48-7	o-Cresol	11	U	5
108-60-1	Bis(2-chloroisopropyl)ether	11	U	
106-44-5	m/p-Cresol	11	U	5
621-64-7	N-Nitrosodi-n-propyl amine	11	U	
67-72-1	Hexachloroethane	11	U	
98-95-3	Nitrobenzene	11	U	
78-59-1	Isophorone	11	U	
88-75-5	2-Nitrophenol	11	U	5
105-67-9	2,4-Dimethylphenol	11	U	5
111-91-1	Bis(2-chloroethoxy)methane	11	U	
120-83-2	2,4-Dichlorophenol	11	U	5
120-82-1	1,2,4-Trichlorobenzene	11	U	
91-20-3	Naphthalene	11	U	
106-47-3	4-Chloroaniline	11	U	
87-68-3	Hexachlorobutadiene	11	U	
59-50-7	4-Chloro-3-methylphenol	11	U	5
91-57-6	2-Methylnaphthalene	11	U	
77-47-4	Hexachlorocyclopentadiene	11	U	
88-06-2	2,4,6-Trichlorophenol	11	U	5
95-95-4	2,4,5-Trichlorophenol	28	U	5
91-58-7	2-Chloronaphthalene	11	U	
88-74-4	2-Nitroaniline	28	U	
131-11-3	Dimethylphthalate	11	U	
208-96-8	Acenaphthylene	11	U	
606-20-2	2,6-Dinitrotoluene	11	U	
99-09-2	3-Nitroaniline	28	U	
83-32-9	Acenaphthene	11	U	

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO. 000340

GW-EB02-1196

Lab Name: ANTECH LTD. Contract: _____
Lab Code: _____ Case No.: 96-5586 SAS No.: _____ SDG No.: _____
Matrix: (soil/water) WATER Lab Sample ID: A11-2615
Sample wt/vol: 900.0 (g/mL ML) Lab File ID: M41222D6.D
Level: (low/med) _____ Date Received: 11/22/96
% Moisture: 0 decanted: (Y/N): N Date Extracted: 11/27/96
Concentrated Extract Volume: 10000 (uL) Date Analyzed: 12/22/96
Injection Volume: 1.0 (uL) Dilution Factor: 1.0
GPC Cleanup: (Y/N) N pH: _____

Concentration Units:

CAS No.	Compound	(ug/L or ug/Kg)	ug/L	Q
51-28-5	2,4-Dinitrophenol	28		~~U~~ 3.5
100-02-7	4-Nitrophenol	28		~~U~~ 5
132-64-9	Dibenzofuran	11		U
121-14-2	2,4-Dinitrotoluene	11		U
84-66-2	Diethylphthalate	11		U
7005-72-3	4-Chlorophenyl-phenylether	11		U
86-73-7	Fluorene	11		U
100-01-6	4-Nitroaniline	28		U
534-52-1	2-Methyl-4,6-dinitrophenol	28		~~U~~ 2.5
86-30-6	N-Nitrosodiphenylamine	11		U
101-55-3	4-Bromophenyl phenyl ether	11		U
118-74-1	Hexachlorobenzene	11		U
87-86-5	Pentachlorophenol	28		~~U~~ 5
85-01-8	Phenanthrene	11		U
120-12-7	Anthracene	11		U
86-74-8	Carbazole	11		U
84-74-2	Di-n-Butylphthalate	11		U
206-44-0	Fluoranthene	11		U
129-00-0	Pyrene	11		U
85-68-7	Butylbenzylphthalate	11		U
91-94-1	3,3'-Dichlorobenzidine	11		U
56-55-3	Benzo[a]anthracene	11		U
218-01-9	Chrysene	11		U
117-81-7	Bis(2-ethylhexyl)phthalate	11		U
117-84-0	Di-n-octylphthalate	11		U
205-99-2	Benzo[b]fluoranthene	11		U
207-08-9	Benzo[k]fluoranthene	11		U
50-52-8	Benzo[a]pyrene	11		U
193-39-5	Indeno(1,2,3-c,d)pyrene	11		U
53-70-3	Dibenzo[a,h]anthracene	11		U
191-24-2	Benzo[g,h,i]perylene	11		U

(1) - Cannot be separated from Diphenylamine

000341

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

GW-EB02-1196

Lab Name: ANTECH LTD.

Contract: _____

Lab Code: _____

Case No.: 96-5586

SAS No.: _____

SDG No.: _____

Matrix: (soil/water) WATERLab Sample ID: A11-2615Sample wt/vol: 900.0 (g/mL) MLLab File ID: M41222D6.D

Level: (low/med) _____

Date Received: 11/22/96% Moisture: 0decanted: (Y/N) NDate Extracted: 11/27/96Concentrated Extract Volume: 10000 (uL)Date Analyzed: 12/22/96Injection Volume: 1.0 (uL)Dilution Factor: 1.0GPC Cleanup: (Y/N) N

pH: _____

Concentration Units:

Number TICs found: 25(ug/L or ug/Kg) ug/L

CAS Number	Compound Name	RT	Est. Conc	Q
1.	Unknown	2.71	23	✓
2.	Unknown	2.73	27	
3.	Unknown	3.74	12	
4.	Unknown	3.79	20	
5.	Unknown	3.80	18	
6.	Unknown	4.44	8	
7.	Unknown	4.46	12	
8.	Unknown Hydrocarbon	4.49	14	
9.	Unknown	5.58	19	
10.	Unknown	6.55	81	
11.	Unknown Hydrocarbon	6.57	8	
12.	Unknown	6.59	13	
13.	Unknown Hydrocarbon	6.79	20	
14.	Unknown	6.98	17	
15.	Unknown	6.99	72	
16.	Unknown	6.99	13	
17.	Unknown Hydrocarbon	7.01	28	
18.	Unknown Hydrocarbon	7.21	39	
19.	Unknown Hydrocarbon	7.42	26	
20.	Unknown	7.55	20	
21.	Unknown Hydrocarbon	7.63	28	
22.	Unknown Hydrocarbon	7.83	30	
23.	Unknown Hydrocarbon	8.04	23	
24.	Unknown Hydrocarbon	8.24	20	
25.	Unknown Hydrocarbon	8.45	17	✓
26.				
27.				
28.				
29.				
30.				

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO 00037

GW-LAW5-1196

Lab Name: ANTECH LTD.

Contract: _____

Lab Code: _____

Case No.: 96-5586

SAS No.: _____

SDG No.: _____

Matrix: (soil/water) WATER

Lab Sample ID: A11-2616

Sample wt/vol: 900.0 (g/mL ML

Lab File ID: M41222D7.D

Level: (low/med) _____

Date Received: 11/22/96

% Moisture: 0

decanted: (Y/N): N

Date Extracted: 11/27/96

Concentrated Extract Volume: 10000 (uL)

Date Analyzed: 12/22/96

Injection Volume: 1.0 (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) N

pH: _____

Concentration Units:

CAS No.	Compound	(ug/L or ug/Kg)	ug/L	Q
108-95-2	Phenol	11		U
111-44-4	Bis(2-chloroethyl)ether	11		U
95-57-8	2-Chlorophenol	11		U
541-73-1	1,3-Dichlorobenzene	11		U
106-46-7	1,4-Dichlorobenzene	11		U
95-50-1	1,2-Dichlorobenzene	11		U
95-48-7	o-Cresol	11		U
108-60-1	Bis(2-chloroisopropyl)ether	11		U
106-44-5	m/p-Cresol	11		U
621-64-7	N-Nitrosodi-n-propyl amine	11		U
67-72-1	Hexachloroethane	11		U
98-95-3	Nitrobenzene	11		U
78-59-1	Isophorone	11		U
88-75-5	2-Nitrophenol	11		U
105-67-9	2,4-Dimethylphenol	11		U
111-91-1	Bis(2-chloroethoxy)methane	11		U
120-83-2	2,4-Dichlorophenol	11		U
120-82-1	1,2,4-Trichlorobenzene	11		U
91-20-3	Naphthalene	11		U
106-47-8	4-Chloroaniline	11		U
87-68-3	Hexachlorobutadiene	11		U
59-50-7	4-Chloro-3-methylphenol	11		U
91-57-6	2-Methylnaphthalene	11		U
77-47-4	Hexachlorocyclopentadiene	11		U
88-06-2	2,4,6-Trichlorophenol	11		U
95-95-4	2,4,5-Trichlorophenol	28		U
91-58-7	2-Chloronaphthalene	11		U
88-74-4	2-Nitroaniline	28		U
131-11-3	Dimethylphthalate	11		U
208-96-8	Acenaphthylene	11		U
606-20-2	2,6-Dinitrotoluene	11		U
99-09-2	3-Nitroaniline	28		U
83-32-9	Acenaphthene	11		U

IC
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE 000372

GW-LAW5-1196

Lab Name: ANTECH LTD.

Contract: _____

Lab Code: _____

Case No.: 96-5586

SAS No.: _____

SDG No.: _____

Matrix: (soil/water) WATER

Lab Sample ID: A11-2616

Sample wt/vol: 900.0 (g/mL ML

Lab File ID: M41222D7.D

Level: (low/med) _____

Date Received: 11/22/96

% Moisture: 0

decanted: (Y/N): N

Date Extracted: 11/27/96

Concentrated Extract Volume: 10000 (uL)

Date Analyzed: 12/22/96

Injection Volume: 1.0 (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) N

pH: _____

Concentration Units:

CAS No.	Compound	(ug/L or ug/Kg)	ug/L	Q
51-28-5	2,4-Dinitrophenol	28	28	3.5
100-02-7	4-Nitrophenol	28	28	5
132-64-9	Dibenzofuran	11	11	
121-14-2	2,4-Dinitrotoluene	11	11	
84-66-2	Diethylphthalate	11	11	
7005-72-3	4-Chlorophenyl-phenylether	11	11	
86-73-7	Fluorene	11	11	
100-01-6	4-Nitroaniline	28	28	
534-52-1	2-Methyl-4,6-dinitrophenol	28	28	2.5
86-30-6	N-Nitrosodiphenylamine	11	11	5
101-55-3	4-Bromophenyl phenyl ether	11	11	
118-74-1	Hexachlorobenzene	11	11	
87-86-5	Pentachlorophenol	28	28	
85-01-8	Phenanthrene	11	11	
120-12-7	Anthracene	11	11	
86-74-8	Carbazole	11	11	
84-74-2	Di-n-Butylphthalate	11	11	
206-44-0	Fluoranthene	11	11	
129-00-0	Pyrene	11	11	
85-68-7	Butylbenzylphthalate	11	11	
91-94-1	3,3'-Dichlorobenzidine	11	11	
56-55-3	Benzo[a]anthracene	11	11	
218-01-9	Chrysene	11	11	
117-81-7	Bis(2-ethylhexyl)phthalate	11	11	
117-84-0	Di-n-octylphthalate	11	11	
205-99-2	Benzo[b]fluoranthene	11	11	
207-08-9	Benzo[k]fluoranthene	11	11	
50-32-8	Benzo[a]pyrene	11	11	
193-39-5	Indeno(1,2,3-c,d)pyrene	11	11	
53-70-3	Dibenzo[a,h]anthracene	11	11	
191-24-2	Benzo[g,h,i]perylene	11	11	

(1) - Cannot be separated from Diphenylamine

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO. 000373

GW-LAW5-1196

Lab Name: ANTECH LTD. Contract: _____

Lab Code: _____ Case No.: 96-5586 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: A11-2616

Sample wt/vol: 900.0 (g/mL) ML Lab File ID: M41222D7.D

Level: (low/med) _____ Date Received: 11/22/96

% Moisture: 0 decanted: (Y/N) N Date Extracted: 11/27/96

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 12/22/96

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

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

Concentration Units:

Number TICs found: 25 (ug/L or ug/Kg) ug/L

CAS Number	Compound Name	RT	Est. Conc	Q
1.	Unknown	2.71	12	N
2.	Unknown	2.73	25	
3.	Unknown Hydrocarbon	3.74	7	
4.	Unknown Hydrocarbon	3.79	14	
5.	Unknown	3.80	12	
6.	Unknown	4.47	8	
7.	Unknown Hydrocarbon	4.49	10	
8.	Unknown	5.52	7	
9.	Unknown	5.58	17	
10.	Unknown	6.55	68	
11.	Unknown	6.60	12	
12.	Unknown Hydrocarbon	6.79	18	
13.	Unknown	6.98	11	
14.	Unknown	6.99	70	
15.	Unknown Hydrocarbon	7.22	24	
16.	Unknown Hydrocarbon	7.23	6	
17.	Unknown Hydrocarbon	7.43	20	
18.	Unknown	7.55	16	
19.	Unknown	7.55	13	
20.	Unknown Hydrocarbon	7.63	20	
21.	Unknown Hydrocarbon	7.84	24	
22.	Unknown Hydrocarbon	8.03	19	
23.	Unknown Hydrocarbon	8.23	16	
24.	Unknown Hydrocarbon	8.45	16	
25.	Unknown Hydrocarbon	8.70	8	
26.				
27.				
28.				
29.				
30.				

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO. 00400

GW-LAW6-1196

Lab Name: ANTECH LTD. Contract: _____

Lab Code: _____ Case No.: 96-5586 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: A11-2617

Sample wt/vol: 900.0 (g/mL ML) Lab File ID: M41222D8.D

Level: (low/med) _____ Date Received: 11/22/96

% Moisture: 0 decanted: (Y/N): N Date Extracted: 11/27/96

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 12/22/96

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

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

Concentration Units:

CAS No.	Compound	(ug/L or ug/Kg)	ug/L	Q
108-95-2	Phenol	11		SL 4
111-44-4	Bis(2-chloroethyl)ether	11		U
95-57-8	2-Chlorophenol	11		SL 4
541-73-1	1,3-Dichlorobenzene	11		U
106-46-7	1,4-Dichlorobenzene	11		U
95-50-1	1,2-Dichlorobenzene	11		U
95-48-7	o-Cresol	11		SL 4
108-60-1	Bis(2-chloroisopropyl)ether	11		U
106-44-5	m/p-Cresol	11		SL 4
621-64-7	N-Nitrosodi-n-propyl amine	11		U
67-72-1	Hexachloroethane	11		U
98-95-3	Nitrobenzene	11		U
78-59-1	Isophorone	11		U
88-75-5	2-Nitrophenol	11		SL 4
105-67-9	2,4-Dimethylphenol	11		SL 4
111-91-1	Bis(2-chloroethoxy)methane	11		U
120-83-2	2,4-Dichlorophenol	11		SL 4
120-82-1	1,2,4-Trichlorobenzene	11		U
91-20-3	Naphthalene	11		U
106-47-3	4-Chloroaniline	11		U
87-68-3	Hexachlorobutadiene	11		U
59-50-7	4-Chloro-3-methylphenol	11		SL 4
91-57-6	2-Methylnaphthalene	11		U
77-47-4	Hexachlorocyclopentadiene	11		U
88-06-2	2,4,6-Trichlorophenol	11		SL 4
95-95-4	2,4,5-Trichlorophenol	28		SL 4
91-58-7	2-Chloronaphthalene	11		U
88-74-4	2-Nitroaniline	28		U
131-11-3	Dimethylphthalate	11		U
208-96-8	Acenaphthylene	11		U
606-20-2	2,6-Dinitrotoluene	11		U
99-09-2	3-Nitroaniline	28		U
83-32-9	Acenaphthene	11		U

0043

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO. 00404

GW-LAW6-1196

Lab Name: ANTECH LTD.

Contract: _____

Lab Code: _____

Case No.: 96-5586

SAS No.: _____

SDG No.: _____

Matrix: (soil/water) WATER

Lab Sample ID: A11-2617

Sample wt/vol: 900.0 (g/mL ML

Lab File ID: M41222D8.D

Level: (low/med) _____

Date Received: 11/22/96

% Moisture: 0

decanted: (Y/N): N

Date Extracted: 11/27/96

Concentrated Extract Volume: 10000 (uL)

Date Analyzed: 12/22/96

Injection Volume: 1.0 (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) N

pH: _____

Concentration Units:

CAS No.	Compound	(ug/L or ug/Kg)	ug/L	Q
51-28-5	2,4-Dinitrophenol	28	28	214
100-02-7	4-Nitrophenol	28	28	6
132-64-9	Dibenzofuran	11	11	U
121-14-2	2,4-Dinitrotoluene	11	11	U
84-66-2	Diethylphthalate	11	11	U
7005-72-3	4-Chlorophenyl-phenylether	11	11	U
86-73-7	Fluorene	11	11	U
100-01-6	4-Nitroaniline	28	28	U
534-52-1	2-Methyl-4,6-dinitrophenol	28	28	214
86-30-6	N-Nitrosodiphenylamine	11	11	U
101-55-3	4-Bromophenyl phenyl ether	11	11	U
118-74-1	Hexachlorobenzene	11	11	U
87-86-5	Pentachlorophenol	28	28	6
85-01-8	Phenanthrene	11	11	U
120-12-7	Anthracene	11	11	U
86-74-8	Carbazole	11	11	U
84-74-2	Di-n-Butylphthalate	11	11	U
206-44-0	Fluoranthene	11	11	U
129-00-0	Pyrene	11	11	U
85-63-7	Butylbenzylphthalate	11	11	U
91-94-1	3,3'-Dichlorobenzidine	11	11	U
56-55-3	Benzo[a]anthracene	11	11	U
218-01-9	Chrysene	11	11	U
117-81-7	Bis(2-ethylhexyl)phthalate	11	11	U
117-84-0	Di-n-octylphthalate	11	11	U
205-99-2	Benzo[b]fluoranthene	11	11	U
207-08-9	Benzo[k]fluoranthene	11	11	U
50-32-8	Benzo[a]pyrene	11	11	U
193-39-5	Indeno(1,2,3-c,d)pyrene	11	11	U
53-70-3	Dibenzo[a,h]anthracene	11	11	U
191-24-2	Benzo[g,h,i]perylene	11	11	U

(1) - Cannot be separated from Diphenylamine

11/01/97 44
3790

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

000405
EPA SAMPLE NO.

GW-LAW6-1196

Lab Name: ANTECH LTD. Contract: _____

Lab Code: _____ Case No.: 96-5586 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: A11-2617

Sample wt/vol: 900.0 (g/mL) ML Lab File ID: M41222D8.D

Level: (low/med) _____ Date Received: 11/22/96

% Moisture: 0 decanted: (Y/N) N Date Extracted: 11/27/96

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 12/22/96

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

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

Concentration Units:

Number TICs found: 25 (ug/L or ug/Kg) ug/L

CAS Number	Compound Name	RT	Est. Conc	Q
1.	Unknown	2.47	12	J
2.	Unknown	2.50	11	J
3.	Unknown	2.71	20	J
4.	Unknown	2.73	32	J
5.	Unknown	3.25	41	J
6.	Unknown	3.39	120	J
7.	Unknown	3.74	8	J
8.	Unknown	3.79	16	J
9.	Unknown	3.80	13	J
10.	Unknown	4.00	10	J
11.	Unknown	4.52	12	J
12.	Unknown	4.84	9	J
13.	Unknown	6.52	74	J
14.	Unknown	6.53	18	J
15.	Unknown Hydrocarbon	6.54	9	J
16.	Unknown	6.57	14	J
17.	Unknown Hydrocarbon	6.76	15	J
18.	Unknown	6.95	75	J
19.	Unknown Hydrocarbon	6.97	21	J
20.	Unknown Hydrocarbon	7.18	20	J
21.	Unknown Hydrocarbon	7.39	20	J
22.	Unknown Hydrocarbon	7.59	19	J
23.	Unknown Hydrocarbon	7.79	22	J
24.	Unknown Hydrocarbon	7.99	17	J
25.	Unknown Hydrocarbon	8.18	12	J
26.				
27.				
28.				
29.				
30.				

000405
12/22/96

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO. 000435

GW-RFI12-1196

Lab Name: ANTECH LTD.

Contract: _____

Lab Code: _____

Case No.: 96-5586

SAS No.: _____

SDG No.: _____

Matrix: (soil/water) WATER

Lab Sample ID: A11-2620

Sample wt/vol: 900.0 (g/mL ML

Lab File ID: M40203S9.D

Level: (low/med) _____

Date Received: 11/22/96

% Moisture: 0

decanted: (Y/N): N

Date Extracted: 11/27/96

Concentrated Extract Volume: 10000 (uL)

Date Analyzed: 2/3/97

Injection Volume: 1.0 (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) N

pH: _____

Concentration Units:

CAS No.	Compound	(ug/L or ug/Kg)	ug/L	Q
108-95-2	Phenol	11		U
111-44-4	Bis(2-chloroethyl)ether	11		U
95-57-8	2-Chlorophenol	11		U
541-73-1	1,3-Dichlorobenzene	11		U
106-46-7	1,4-Dichlorobenzene	11		U
95-50-1	1,2-Dichlorobenzene	11		U
95-48-7	o-Cresol	11		U
108-60-1	Bis(2-chloroisopropyl)ether	11		U
106-44-5	m/p-Cresol	11		U
621-64-7	N-Nitrosodi-n-propyl amine	11		U
67-72-1	Hexachloroethane	11		U
98-95-3	Nitrobenzene	11		U
78-59-1	Isophorone	11		U
88-75-5	2-Nitrophenol	11		U
105-67-9	2,4-Dimethylphenol	11		U
111-91-1	Bis(2-chloroethoxy)methane	11		U
120-83-2	2,4-Dichlorophenol	11		U
120-82-1	1,2,4-Trichlorobenzene	11		U
91-20-3	Naphthalene	11		U
106-47-8	4-Chloroaniline	11		U
87-68-3	Hexachlorobutadiene	11		U
59-50-7	4-Chloro-3-methylphenol	11		U
91-57-6	2-Methylnaphthalene	11		U
77-47-4	Hexachlorocyclopentadiene	11		U
88-06-2	2,4,6-Trichlorophenol	11		U
95-95-4	2,4,5-Trichlorophenol	28		U
91-58-7	2-Chloronaphthalene	11		U
88-74-4	2-Nitroaniline	28		U
131-11-3	Dimethylphthalate	11		U
208-96-8	Acenaphthylene	11		U
606-20-2	2,6-Dinitrotoluene	11		U
99-09-2	3-Nitroaniline	28		U
83-32-9	Acenaphthene	11		U

11/11/97 1048
3/90

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO. 000-36

GW-RF112-1196

Lab Name: ANTECH LTD. Contract: _____
 Lab Code: _____ Case No.: 96-5586 SAS No.: _____ SDG No.: _____
 Matrix: (soil/water) WATER Lab Sample ID: A11-2620
 Sample wt/vol: 900.0 (g/mL ML) Lab File ID: M40203S9.D
 Level: (low/med) _____ Date Received: 11/22/96
 % Moisture: 0 decanted: (Y/N): N Date Extracted: 11/27/96
 Concentrated Extract Volume: 10000 (uL) Date Analyzed: 2/3/97
 Injection Volume: 1.0 (uL) Dilution Factor: 1.0
 GPC Cleanup: (Y/N) N pH: _____

Concentration Units:

CAS No.	Compound	(ug/L or ug/Kg)	ug/L	Q
51-28-5	2,4-Dinitrophenol	28		U
100-02-7	4-Nitrophenol	28		U
132-64-9	Dibenzofuran	11		U
121-14-2	2,4-Dinitrotoluene	11		U
84-66-2	Diethylphthalate	11		U
7005-72-3	4-Chlorophenyl-phenylether	11		U
86-73-7	Fluorene	11		U
100-01-6	4-Nitroaniline	28		U
534-52-1	2-Methyl-4,6-dinitrophenol	28		U
86-30-6	N-Nitrosodiphenylamine	11		U
101-55-3	4-Bromophenyl phenyl ether	11		U
118-74-1	Hexachlorobenzene	11		U
87-86-5	Pentachlorophenol	28		U
85-01-8	Phenanthrene	11		U
120-12-7	Anthracene	11		U
86-74-8	Carbazole	11		U
84-74-2	Di-n-Butylphthalate	11		U
206-44-0	Fluoranthene	11		U
129-00-0	Pyrene	11		U
85-68-7	Burylbenzylphthalate	11		U
91-94-1	3,3'-Dichlorobenzidine	11		U
56-55-3	Benzo[a]anthracene	11		U
218-01-9	Chrysene	11		U
117-81-7	Bis(2-ethylhexyl)phthalate	11		U
117-84-0	Di-n-octylphthalate	11		U
205-99-2	Benzo[b]fluoranthene	11		U
207-08-9	Benzo[k]fluoranthene	11		U
50-32-8	Benzo[a]pyrene	11		U
193-39-5	Indeno(1,2,3-c,d)pyrene	11		U
53-70-3	Dibenzo[a,h]anthracene	11		U
191-24-2	Benzo[g,h,i]perylene	11		U

(1) - Cannot be separated from Diphenylamine

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO. 000437

GW-RFI12-1196

Lab Name: ANTECH LTD.

Contract: _____

Lab Code: _____

Case No.: 96-5586

SAS No.: _____

SDG No.: _____

Matrix: (soil/water)

WATER

Lab Sample ID: A11-2620

Sample wt/vol:

900.0

(g/mL)

ML

Lab File ID: M40203S9.D

Level: (low/med)

Date Received: 11/22/96

% Moisture: 0

decanted: (Y/N)

N

Date Extracted: 11/27/96

Concentrated Extract Volume:

10000

(uL)

Date Analyzed: 2/3/97

Injection Volume:

1.0

(uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N)

N

pH: _____

Concentration Units:

Number TICs found: 15

(ug/L or ug/Kg)

ug/L

CAS Number	Compound Name	RT	Est. Conc	Q
1.	Unknown	3.42	35	125
2.	Unknown	6.44	100	
3.	Unknown	6.49	31	
4.	Unknown	6.88	81	
5.	Unknown	6.88	20	
6.	Unknown Hydrocarbon	6.90	20	
7.	Unknown	7.10	25	
8.	Unknown Hydrocarbon	7.11	28	
9.	Unknown Hydrocarbon	7.31	37	
10.	Unknown Hydrocarbon	7.52	43	
11.	Unknown Hydrocarbon	7.72	35	
12.	Unknown Hydrocarbon	7.91	29	
13.	Unknown Hydrocarbon	8.11	20	
14.	Unknown Hydrocarbon	8.31	20	
15.	Unknown	9.15	32	
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Handwritten: 11/27/96 048
3/90

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO. **00048**

GW-WP4-1196

Lab Name: ANTECH LTD. Contract: _____

Lab Code: _____ Case No.: 96-5586 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: A11-2618

Sample wt/vol: 900.0 (g/mL ML) Lab File ID: M41222D9.D

Level: (low/med) _____ Date Received: 11/22/96

% Moisture: 0 decanted: (Y/N): N Date Extracted: 11/27/96

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 12/22/96

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

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

Concentration Units:

CAS No.	Compound	(ug/L or ug/Kg)	ug/L	Q
108-95-2	Phenol	11	U	W5
111-44-4	Bis(2-chloroethyl)ether	11	U	
95-57-8	2-Chlorophenol	11	U	
541-73-1	1,3-Dichlorobenzene	11	U	
106-46-7	1,4-Dichlorobenzene	11	U	
95-50-1	1,2-Dichlorobenzene	11	U	
95-48-7	o-Cresol	11	U	
108-60-1	Bis(2-chloroisopropyl)ether	11	U	
106-44-5	m/p-Cresol	11	U	
621-64-7	N-Nitrosodi-n-propyl amine	11	U	
67-72-1	Hexachloroethane	11	U	
98-95-3	Nitrobenzene	11	U	
78-59-1	Isophorone	11	U	
88-75-5	2-Nitrophenol	11	U	
105-67-9	2,4-Dimethylphenol	11	U	
111-91-1	Bis(2-chloroethoxy)methane	11	U	
120-83-2	2,4-Dichlorophenol	11	U	
120-82-1	1,2,4-Trichlorobenzene	11	U	
91-20-3	Naphthalene	11	U	
106-47-3	4-Chloroaniline	11	U	
87-68-3	Hexachlorobutadiene	11	U	
59-50-7	4-Chloro-3-methylphenol	11	U	
91-57-6	2-Methylnaphthalene	11	U	
77-47-4	Hexachlorocyclopentadiene	11	U	
88-06-2	2,4,6-Trichlorophenol	11	U	
95-95-4	2,4,5-Trichlorophenol	28	U	
91-58-7	2-Chloronaphthalene	11	U	
88-74-4	2-Nitroaniline	28	U	
131-11-3	Dimethylphthalate	11	U	
208-96-3	Acenaphthylene	11	U	
606-20-2	2,6-Dinitrotoluene	11	U	
99-09-2	3-Nitroaniline	28	U	
83-32-9	Acenaphthene	11	U	

Handwritten: 11/11/97 049
13/90

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE 800468

GW-WP4-1196

Lab Name: ANTECH LTD.

Contract: _____

Lab Code: _____

Case No.: 96-5586

SAS No.: _____

SDG No.: _____

Matrix: (soil/water) WATER

Lab Sample ID: A11-2618

Sample wt/vol: 900.0 (g/mL ML

Lab File ID: M41222D9.D

Level: (low/med) _____

Date Received: 11/22/96

% Moisture: 0

decanted: (Y/N): N

Date Extracted: 11/27/96

Concentrated Extract Volume: 10000 (uL)

Date Analyzed: 12/22/96

Injection Volume: 1.0 (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) N

pH: _____

Concentration Units:

CAS No.	Compound	(ug/L or ug/Kg)	ug/L	Q
51-28-5	2,4-Dinitrophenol	28	✓	2.15
100-02-7	4-Nitrophenol	28	✓	4.5
132-64-9	Dibenzofuran	11	✓	
121-14-2	2,4-Dinitrotoluene	11	✓	
84-66-2	Diethylphthalate	11	✓	
7005-72-3	4-Chlorophenyl-phenylether	11	✓	
86-73-7	Fluorene	11	✓	
100-01-6	4-Nitroaniline	28	✓	
534-52-1	2-Methyl-4,6-dinitrophenol	28	✓	2.15
86-30-6	N-Nitrosodiphenylamine	11	✓	4.5
101-55-3	4-Bromophenyl phenyl ether	11	✓	
118-74-1	Hexachlorobenzene	11	✓	
87-86-5	Pentachlorophenol	28	✓	
85-01-8	Phenanthrene	11	✓	
120-12-7	Anthracene	11	✓	
86-74-8	Carbazole	11	✓	
34-74-2	Di-n-Butylphthalate	11	✓	
206-44-0	Fluoranthene	11	✓	
129-00-0	Pyrene	11	✓	
85-68-7	Butylbenzylphthalate	11	✓	
91-94-1	3,3'-Dichlorobenzidine	11	✓	
56-55-3	Benzo[a]anthracene	11	✓	
218-01-9	Chrysene	11	✓	
117-81-7	Bis(2-ethylhexyl)phthalate	11	✓	
117-84-0	Di-n-octylphthalate	11	✓	
205-99-2	Benzo[b]fluoranthene	11	✓	
207-08-9	Benzo[k]fluoranthene	11	✓	
50-32-8	Benzo[a]pyrene	11	✓	
193-39-5	Indeno(1,2,3-c,d)pyrene	11	✓	
53-70-3	Dibenzo[a,h]anthracene	11	✓	
191-24-2	Benzo[g,h,i]perylene	11	✓	

(1) - Cannot be separated from Diphenylamine

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

000469
EPA SAMPLE NO.

GW-WP4-1196

Lab Name: ANTECH LTD. Contract: _____

Lab Code: _____ Case No.: 96-5586 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: A11-2618

Sample wt/vol: 900.0 (g/mL) ML Lab File ID: M41222D9.D

Level: (low/med) _____ Date Received: 11/22/96

% Moisture: 0 decanted: (Y/N) N Date Extracted: 11/27/96

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 12/22/96

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

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

Concentration Units:

Number TICs found: 25 (ug/L or ug/Kg) ug/L

CAS Number	Compound Name	RT	Est. Conc	Q
1.	Unknown	2.71	20	J N
2.	Unknown	2.73	21	J
3.	Unknown Hydrocarbon	3.74	13	J
4.	Unknown	3.79	16	J
5.	Unknown	3.80	14	J
6.	Unknown	4.46	9	J
7.	Unknown Hydrocarbon	4.48	11	J
8.	Unknown	5.57	15	J
9.	Unknown	6.53	94	J
10.	Unknown Hydrocarbon	6.55	10	J
11.	Unknown	6.58	18	J
12.	Unknown Hydrocarbon	6.77	21	J
13.	Unknown	6.96	17	J
14.	Unknown	6.97	90	J
15.	Unknown Hydrocarbon	7.19	31	J
16.	Unknown Hydrocarbon	7.19	11	J
17.	Unknown Hydrocarbon	7.40	31	J
18.	Unknown	7.51	23	J
19.	Unknown	7.52	18	J
20.	Unknown Hydrocarbon	7.60	30	J
21.	Unknown Hydrocarbon	7.61	9	J
22.	Unknown Hydrocarbon	7.80	37	J
23.	Unknown Hydrocarbon	8.00	33	J
24.	Unknown Hydrocarbon	8.20	28	J
25.	Unknown Hydrocarbon	8.41	24	J V
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11/11/97
051
3790

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE 000499

GW-WP5-1196

Lab Name: ANTECH LTD.

Contract: _____

Lab Code: _____

Case No.: 96-5586

SAS No.: _____

SDG No.: _____

Matrix: (soil/water) WATER

Lab Sample ID: A11-2619

Sample wt/vol: 900.0 (g/mL ML)

Lab File ID: M40203S8.D

Level: (low/med) _____

Date Received: 11/22/96

% Moisture: 0

decanted: (Y/N): N

Date Extracted: 11/27/96

Concentrated Extract Volume: 10000 (uL)

Date Analyzed: 2/3/97

Injection Volume: 1.0 (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) N

pH: _____

Concentration Units:

CAS No.	Compound	(ug/L or ug/Kg)	ug/L	Q
108-95-2	Phenol	11	U	5
111-44-4	Bis(2-chloroethyl)ether	11	U	
95-57-8	2-Chlorophenol	11	U	
541-73-1	1,3-Dichlorobenzene	11	U	
106-46-7	1,4-Dichlorobenzene	11	U	
95-50-1	1,2-Dichlorobenzene	11	U	
95-48-7	o-Cresol	11	U	
108-60-1	Bis(2-chloroisopropyl)ether	11	U	
106-44-5	m/p-Cresol	11	U	
621-64-7	N-Nitrosodi-n-propyl amine	11	U	
67-72-1	Hexachloroethane	11	U	
98-95-3	Nitrobenzene	11	U	
78-59-1	Isophorone	11	U	
88-75-5	2-Nitrophenol	11	U	
105-67-9	2,4-Dimethylphenol	11	U	
111-91-1	Bis(2-chloroethoxy)methane	11	U	
120-83-2	2,4-Dichlorophenol	11	U	
120-82-1	1,2,4-Trichlorobenzene	11	U	
91-20-3	Naphthalene	11	U	
106-47-3	4-Chloroaniline	11	U	
87-68-3	Hexachlorobutadiene	11	U	
59-50-7	4-Chloro-3-methylphenol	11	U	
91-57-6	2-Methylnaphthalene	11	U	
77-47-4	Hexachlorocyclopentadiene	11	U	
88-06-2	2,4,6-Trichlorophenol	11	U	
95-95-4	2,4,5-Trichlorophenol	28	U	
91-58-7	2-Chloronaphthalene	11	U	
88-74-4	2-Nitroaniline	28	U	
131-11-3	Dimethylphthalate	11	U	
208-96-8	Acenaphthylene	11	U	
606-20-2	2,6-Dinitrotoluene	11	U	
99-09-2	3-Nitroaniline	28	U	
83-32-9	Acenaphthene	11	U	

11/22/96
052
3/90

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO. 000500

GW-WP5-1196

Lab Name: ANTECH LTD. Contract: _____
Lab Code: _____ Case No.: 96-5586 SAS No.: _____ SDG No.: _____
Matrix: (soil/water) WATER Lab Sample ID: A11-2619
Sample wt/vol: 900.0 (g/mL ML) Lab File ID: M40203S8.D
Level: (low/med) _____ Date Received: 11/22/96
% Moisture: 0 decanted: (Y/N): N Date Extracted: 11/27/96
Concentrated Extract Volume: 10000 (uL) Date Analyzed: 2/3/97
Injection Volume: 1.0 (uL) Dilution Factor: 1.0
GPC Cleanup: (Y/N) N pH: _____

Concentration Units:

CAS No.	Compound	(ug/L or ug/Kg)	ug/L	Q
51-28-5	2,4-Dinitrophenol	28	U	1455
100-02-7	4-Nitrophenol	28	U	
132-64-9	Dibenzofuran	11	U	
121-14-2	2,4-Dinitrotoluene	11	U	
84-66-2	Diethylphthalate	11	U	
7005-72-3	4-Chlorophenyl-phenylether	11	U	
86-73-7	Fluorene	11	U	
100-01-6	4-Nitroaniline	28	U	
534-52-1	2-Methyl-4,6-dinitrophenol	28	U	
86-30-6	N-Nitrosodiphenylamine	11	U	
101-55-3	4-Bromophenyl phenyl ether	11	U	
118-74-1	Hexachlorobenzene	11	U	
87-86-5	Pentachlorophenol	28	U	
85-01-8	Phenanthrene	11	U	
120-12-7	Anthracene	11	U	
86-74-8	Carbazole	11	U	
84-74-2	Di-n-Butylphthalate	11	U	
206-44-0	Fluoranthene	11	U	
129-00-0	Pyrene	11	U	
85-68-7	Butylbenzylphthalate	11	U	
91-94-1	3,3'-Dichlorobenzidine	11	U	
56-55-3	Benzo[a]anthracene	11	U	
218-01-9	Chrysene	11	U	
117-81-7	Bis(2-ethylhexyl)phthalate	11	U	
117-84-0	Di-n-octylphthalate	11	U	
205-99-2	Benzo[b]fluoranthene	11	U	
207-08-9	Benzo[k]fluoranthene	11	U	
50-32-8	Benzo[a]pyrene	11	U	
193-39-5	Indeno(1,2,3-c,d)pyrene	11	U	
53-70-3	Dibenzo[a,h]anthracene	11	U	
191-24-2	Benzo[g,h,i]perylene	11	U	

(1) - Cannot be separated from Diphenylamine

11/28/96 53

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

000501
EPA SAMPLE NO.

GW-WP5-1196

Lab Name: ANTECH LTD. Contract: _____

Lab Code: _____ Case No.: 96-5586 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: A11-2619

Sample wt/vol: 900.0 (g/mL) ML Lab File ID: M40203S8.D

Level: (low/med) _____ Date Received: 11/22/96

% Moisture: 0 decanted: (Y/N) N Date Extracted: 11/27/96

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 2/3/97

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

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

Concentration Units:

Number TICs found: 15 (ug/L or ug/Kg) ug/L

CAS Number	Compound Name	RT	Est. Conc	Q
1.	Unknown	2.61	21	J
2.	Unknown	3.42	24	J
3.	Unknown	6.46	88	J
4.	Unknown	6.51	32	J
5.	Unknown Hydrocarbon	6.69	17	J
6.	Unknown	6.89	89	J
7.	Unknown	7.11	28	J
8.	Unknown Hydrocarbon	7.12	26	J
9.	Unknown Hydrocarbon	7.32	35	J
10.	Unknown Hydrocarbon	7.53	43	J
11.	Unknown Hydrocarbon	7.73	33	J
12.	Unknown Hydrocarbon	7.92	24	J
13.	Unknown Hydrocarbon	8.12	17	J
14.	Unknown Hydrocarbon	8.32	16	J
15.	Unknown	9.16	28	J
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1054

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO. 0531

GW-MW1-1196

Lab Name: ANTECH LTD. Contract: _____
 Lab Code: _____ Case No.: 96-5586 SAS No.: _____ SDG No.: _____
 Matrix: (soil/water) WATER Lab Sample ID: A11-2614
 Sample wt/vol: 900.0 (g/mL ML) Lab File ID: M40203S7.D
 Level: (low/med) _____ Date Received: 11/22/96
 % Moisture: 0 decanted: (Y/N): N Date Extracted: 11/27/96
 Concentrated Extract Volume: 10000 (uL) Date Analyzed: 2/3/97
 Injection Volume: 1.0 (uL) Dilution Factor: 1.0
 GPC Cleanup: (Y/N) N pH: _____

Concentration Units:

CAS No.	Compound	(ug/L or ug/Kg)	ug/L	Q
108-95-2	Phenol	11	~~U~~ 45	5
111-44-4	Bis(2-chloroethyl)ether	11	U	
95-57-8	2-Chlorophenol	11	~~U~~ 45	5
541-73-1	1,3-Dichlorobenzene	11	U	
106-46-7	1,4-Dichlorobenzene	11	U	
95-50-1	1,2-Dichlorobenzene	11	U	
95-48-7	o-Cresol	11	~~U~~ 45	5
108-60-1	Bis(2-chloroisopropyl)ether	11	U	
106-44-5	m/p-Cresol	11	~~U~~ 45	5
621-64-7	N-Nitrosodi-n-propyl amine	11	U	
67-72-1	Hexachloroethane	11	U	
98-95-3	Nitrobenzene	11	U	
78-59-1	Isophorone	11	U	
88-75-5	2-Nitrophenol	11	~~U~~ 45	5
105-67-9	2,4-Dimethylphenol	11	~~U~~ 45	5
111-91-1	Bis(2-chloroethoxy)methane	11	U	
120-83-2	2,4-Dichlorophenol	11	~~U~~ 45	5
120-82-1	1,2,4-Trichlorobenzene	11	U	
91-20-3	Naphthalene	11	U	
106-47-3	4-Chloroaniline	11	U	
87-68-3	Hexachlorobutadiene	11	U	
59-50-7	4-Chloro-3-methylphenol	11	~~U~~ 45	5
91-57-6	2-Methylnaphthalene	11	U	
77-47-4	Hexachlorocyclopentadiene	11	U	
88-06-2	2,4,6-Trichlorophenol	11	~~U~~ 45	5
95-95-4	2,4,5-Trichlorophenol	28	~~U~~ 45	5
91-58-7	2-Chloronaphthalene	11	U	
88-74-4	2-Nitroaniline	28	U	
131-11-3	Dimethylphthalate	11	U	
208-96-8	Acenaphthylene	11	U	
606-20-2	2,6-Dinitrotoluene	11	U	
99-09-2	3-Nitroaniline	28	U	
83-32-9	Acenaphthene	11	U	

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE ~~10053~~

GW-MW1-1196

Lab Name: ANTECH LTD.

Contract: _____

Lab Code: _____

Case No.: 96-5586

SAS No.: _____

SDG No.: _____

Matrix: (soil/water) WATER

Lab Sample ID: A11-2614

Sample wt/vol: 900.0 (g/mL ML)

Lab File ID: M40203S7.D

Level: (low/med) _____

Date Received: 11/22/96

% Moisture: 0

decanted: (Y/N): N

Date Extracted: 11/27/96

Concentrated Extract Volume: 10000 (uL)

Date Analyzed: 2/3/97

Injection Volume: 1.0 (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) N

pH: _____

Concentration Units:

CAS No.	Compound	(ug/L or ug/Kg)	ug/L	Q
51-28-5	2,4-Dinitrophenol	28		~~U~~ <u>U</u> <u>5</u>
100-02-7	4-Nitrophenol	28		~~U~~ <u>U</u> <u>5</u>
132-64-9	Dibenzofuran	11		U
121-14-2	2,4-Dinitrotoluene	11		U
84-66-2	Diethylphthalate	11		U
7005-72-3	4-Chlorophenyl-phenylether	11		U
86-73-7	Fluorene	11		U
100-01-6	4-Nitroaniline	28		U
534-52-1	2-Methyl-4,6-dinitrophenol	28		~~U~~ <u>U</u> <u>5</u>
86-30-6	N-Nitrosodiphenylamine	11		U
101-55-3	4-Bromophenyl phenyl ether	11		U
118-74-1	Hexachlorobenzene	11		U
87-86-5	Pentachlorophenol	28		~~U~~ <u>U</u> <u>5</u>
85-01-8	Phenanthrene	11		U
120-12-7	Anthracene	11		U
86-74-8	Carbazole	11		U
84-74-2	Di-n-Butylphthalate	11		U
206-44-0	Fluoranthene	11		U
129-00-0	Pyrene	11		U
85-63-7	Butylbenzylphthalate	11		U
91-94-1	3,3'-Dichlorobenzidine	11		U
56-55-3	Benzo[a]anthracene	11		U
218-01-9	Chrysene	11		U
117-81-7	Bis(2-ethylhexyl)phthalate	11		U
117-84-0	Di-n-octylphthalate	11		U
205-99-2	Benzo[b]fluoranthene	11		U
207-08-9	Benzo[k]fluoranthene	11		U
50-52-8	Benzo[a]pyrene	11		U
193-39-5	Indeno(1,2,3-c,d)pyrene	11		U
53-70-3	Dibenzo[a,h]anthracene	11		U
191-24-2	Benzo[g,h,i]perylene	11		U

(1) - Cannot be separated from Diphenylamine

Handwritten: 57
1056

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO. 550533
GW-MW1-1196

Lab Name: ANTECH LTD. Contract: _____

Lab Code: _____ Case No.: 96-5586 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: A11-2614

Sample wt/vol: 900.0 (g/mL) ML Lab File ID: M40203S7.D

Level: (low/med) _____ Date Received: 11/22/96

% Moisture: 0 decanted: (Y/N) N Date Extracted: 11/27/96

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 2/3/97

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

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

Concentration Units:

Number TICs found: 14 (ug/L or ug/Kg) ug/L

CAS Number	Compound Name	RT	Est. Conc	Q
1.	Unknown	2.61	18	✓
2.	Unknown	3.43	33	✓
3.	Unknown	6.45	95	✓
4.	Unknown	6.50	32	✓
5.	Unknown	6.88	91	✓
6.	Unknown Hydrocarbon	6.90	26	✓
7.	Unknown	7.10	25	✓
8.	Unknown Hydrocarbon	7.11	24	✓
9.	Unknown Hydrocarbon	7.32	36	✓
10.	Unknown Hydrocarbon	7.52	45	✓
11.	Unknown Hydrocarbon	7.72	34	✓
12.	Unknown Hydrocarbon	7.92	27	✓
13.	Unknown Hydrocarbon	8.11	18	✓
14.	Unknown	9.16	26	✓
15.				
16.				
17.				
18.				
19.				
20.				
21.				
22.				
23.				
24.				
25.				
26.				
27.				
28.				
29.				
30.				

Handwritten signature and date:
11/2/97
557

1D
PESTICIDES ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

Lab Name: ANTECH LTD. Contract: ALT-GW-MW1-1196

Lab Code: ANTECH Case No. 96-5586 SAS No.: SDG No.: 5586

Matrix: (soil/water) WATER Lab Sample ID: 11-2614

Sample wt/vol: 950 g/mL ml Lab File ID: 5I/01051

% Moisture: decanted: (Y/N) Date Received: 11/22/96

Extraction: (SepF/Cont/Sonc) SepF Date Extracted: 11/27/96

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 12/12/96

Injection Volume: 2 (uL) Dilution Factor: 1

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

CAS NO. COMPOUND CONCENTRATION UNITS:
(ug/L or mg/Kg) ug/L Q

12674-11-2 - - - - -	Aroclor-1016	<1.0	U
11104-28-2 - - - - -	Aroclor-1221	<1.0	U
11141-16-5 - - - - -	Aroclor-1232	~~<1.0~~	~~U~~
53469-21-9 - - - - -	Aroclor-1242	<1.0	U
12672-29-6 - - - - -	Aroclor-1248	<1.0	U
11097-69-1 - - - - -	Aroclor-1254	<1.0	U
11096-82-5 - - - - -	Aroclor-1260	<1.0	U

000702

1D
PESTICIDES ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

Lab Name: ANTECH LTD. Contract: ALT-GW-EB02-1196

Lab Code: ANTECH Case No. 96-5586 SAS No.: SDG No.: 5586

Matrix: (soil/water) WATER Lab Sample ID: 11-2615

Sample wt/vol: 945 mg/mL ml Lab File ID: 5I/01052

% Moisture: decanted: (Y/N) Date Received: 11/22/96

Extraction: (SepF/Cont/Sonc) SepF Date Extracted: 11/27/96

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 12/12/96

Injection Volume: 2 (uL) Dilution Factor: 1

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

CAS NO.	COMPOUND	CONCENTRATION UNITS:	
		(ug/L or mg/Kg)	ug/L
12674-11-2	- - - - - Aroclor-1016	<1.0	U
11104-29-2	- - - - - Aroclor-1221	<1.0	U
11141-16-5	- - - - - Aroclor-1232	<1.0	U-2
53469-21-9	- - - - - Aroclor-1242	<1.0	U
12672-29-6	- - - - - Aroclor-1243	<1.0	U
11097-69-1	- - - - - Aroclor-1254	<1.0	U
11096-82-5	- - - - - Aroclor-1260	<1.0	U

FORM I PEST

Form by WindowChem(707)864-0843;p/11015.v3.0:1/1/96

OLM02.0

EXP
6/30/97

059

1D
PESTICIDES ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

Lab Name: ANTECH LTD. Contract: ALT-GW-LAW5-1196

Lab Code: ANTECH Case No. 96-5586 SAS No.: SDG No.: 5586

Matrix: (soil/water) WATER Lab Sample ID: 11-2616

Sample wt/vol: 920 (g/mL) ml Lab File ID: 5I/01053

% Moisture: decanted: (Y/N) Date Received: 11/22/96

Extraction: (SepF/Cont/Sonc) SepF Date Extracted: 11/27/96

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 12/12/96

Injection Volume: 2 (uL) Dilution Factor: 1

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

CAS NO. COMPOUND CONCENTRATION UNITS: ug/L Q
(ug/L or mg/Kg)

12674-11-2 - - - - -	Aroclor-1016	<1.0	U
11104-28-2 - - - - -	Aroclor-1221	<1.0	U
11141-16-5 - - - - -	Aroclor-1232	~~<1.0~~	~~U~~ <u>2</u>
53469-21-9 - - - - -	Aroclor-1242	<1.0	U
12672-29-6 - - - - -	Aroclor-1248	<1.0	U
11097-69-1 - - - - -	Aroclor-1254	<1.0	U
11096-82-5 - - - - -	Aroclor-1260	<1.0	U

FORM I PEST

Form by WindowChem(707)864-0845;p/ml1015;v3.0;1/1/96

OLM02.0

EXF
6/30/96
060

1D
PESTICIDES ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

Lab Name: ANTECH LTD. Contract: ALT-GW-LAW6-1196

Lab Code: ANTECH Case No. 96-5586 SAS No.: SDG No.: 5586

Matrix: (soil/water) WATER Lab Sample ID: 11-2617

Sample wt/vol: 920 (g/mL) ml Lab File ID: 5I/01054

% Moisture: decanted: (Y/N) Date Received: 11/22/96

Extraction: (SepF/Cont/Sonc) SepF Date Extracted: 11/27/96

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 12/12/96

Injection Volume: 2 (uL) Dilution Factor: 1

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

CAS NO. COMPOUND CONCENTRATION UNITS: (ug/L or mg/Kg) ug/L Q

12674-11-2 - - - - -	Aroclor-1016	<1.0	UJ	2
11104-28-2 - - - - -	Aroclor-1221	<1.0	U	↓
11141-16-5 - - - - -	Aroclor-1232	<1.0	U	1
53469-21-9 - - - - -	Aroclor-1242	<1.0	UJ	2
12672-29-6 - - - - -	Aroclor-1248	<1.0	U	↓
11097-69-1 - - - - -	Aroclor-1254	<1.0	U	↓
11096-82-5 - - - - -	Aroclor-1260	<1.0	U	↓

FORM I PEST

Form by WindevChem(737)864-0845;p/n11015:v3.0:1/1/96

OLM02.0

ELF
6/30/97

061

1D
PESTICIDES ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

Lab Name: ANTECH LTD. Contract: ALT-GW-WP4-1196

Lab Code: ANTECH Case No. 96-5586 SAS No.: SDG No.: 5586

Matrix: (soil/water) WATER Lab Sample ID: 11-2618

Sample wt/vol: 96g - (g/mL) ml Lab File ID: 5I/01055

% Moisture: decanted: (Y/N) Date Received: 11/22/96

Extraction: (SepF/Cont/Sonc) SepF Date Extracted: 11/27/96

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 12/12/96

Injection Volume: 2 (uL) Dilution Factor: 1

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

CAS NO. COMPOUND CONCENTRATION UNITS: ug/L Q
(ug/L or mg/Kg)

12674-11-2 - - - - -	Aroclor-1016	<1.0	U
11104-28-2 - - - - -	Aroclor-1221	<1.0	U
11141-16-5 - - - - -	Aroclor-1232	<1.0	U <i>e</i>
53469-21-9 - - - - -	Aroclor-1242	<1.0	U
12672-29-6 - - - - -	Aroclor-1248	<1.0	U
11097-69-1 - - - - -	Aroclor-1254	<1.0	U
11096-82-5 - - - - -	Aroclor-1260	<1.0	U

FORM I PEST

Form by WindowsChem(707)854-0845;p/n11015:v3.0:1/1/96
OLM02.0

ELF
6/5/97

1D
PESTICIDES ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

Lab Name: ANTECH LTD. Contract: ALT-GW-WP5-1196

Lab Code: ANTECH Case No. 96-5586 SAS No.: SDG No.: 5586

Matrix: (soil/water) WATER Lab Sample ID: 11-2619

Sample wt/vol: 910 (g/mL) ml Lab File ID: 5I/01056

% Moisture: decanted: (Y/N) Date Received: 11/22/96

Extraction: (SepF/Cont/Sonc) SepF Date Extracted: 11/27/96

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 12/12/96

Injection Volume: 2 (uL) Dilution Factor: 1

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or mg/Kg)	ug/L	Q
12674-11-2 - - - - -	Aroclor-1016		<1.0	U
11104-28-2 - - - - -	Aroclor-1221		<1.0	U
11141-16-5 - - - - -	Aroclor-1232		<1.0	U
53469-21-9 - - - - -	Aroclor-1242		<1.0	U
12672-29-6 - - - - -	Aroclor-1248		<1.0	U
11097-69-1 - - - - -	Aroclor-1254		<1.0	U
11096-82-5 - - - - -	Aroclor-1260		<1.0	U

FORM I PEST

Form by WindowChem(707)864-0345;p/ml1015:v7.0:1/1/96

OLM02.0

ELF
6/30/97

063

1D
PESTICIDES ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

Lab Name: ANTECH LTD. Contract: ALT-GW-RFI12-1196

Lab Code: ANTECH Case No. 96-5586 SAS No.: SDG No.: 5586

Matrix: (soil/water) WATER Lab Sample ID: 11-2620

Sample wt/vol: 960 µg/mL ml Lab File ID: 5I/01057

% Moisture: decanted: (Y/N) Date Received: 11/22/96

Extraction: (SepF/Cont/Sonc) SepF Date Extracted: 11/27/96

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 12/12/96

Injection Volume: 2 (uL) Dilution Factor: 1

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or mg/Kg)	ug/L	Q
12674-11-2 - - - - -	Aroclor-1016	<1.0	U	
11104-28-2 - - - - -	Aroclor-1221	<1.0	U	
11141-16-5 - - - - -	Aroclor-1232	<1.0	U	R
53469-21-9 - - - - -	Aroclor-1242	<1.0	U	
12672-29-6 - - - - -	Aroclor-1248	<1.0	U	
11097-69-1 - - - - -	Aroclor-1254	<1.0	U	
11096-82-5 - - - - -	Aroclor-1260	<1.0	U	

FORM I PEST

Form by WinSovChem(707)864-0845;p/n11015:v3.0:1/1/96
OLM02.0

EXP
6/3/96

ENVIROFORMS/INORGANIC CLP

SAMPLE NO.

1
INORGANIC ANALYSIS DATA SHEET

E-1196

Lab Name: Antech Ltd

Contract: ENSTRAT

Lab Code: ANT

Case No.:

SAS No.:

SDG No.: 5507EV

Matrix (soil/water): WATER

Lab Sample ID: 11-2615

Level (low/med): MED

Date Received: 11/22/96

% Solids: 0.0

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

CAS No.	Analyte	Concentration	CI	Q	IM
7440-22-4	Silver	8.3	UI		P
7429-90-5	Aluminum	57.7	UI		P
7440-38-2	Arsenic	2.3	BI		P
7440-39-3	Barium	13.7	UI		P
7440-41-7	Beryllium	0.60	UI		P
7440-70-2	Calcium	321	UI		P
7440-43-2	Cadmium	2.2	UI		P
7440-48-4	Cobalt	5.6	UI		P
7440-47-3	Chromium	7.8	UI		P
7440-50-9	Copper	4.7	UI		P
7439-89-6	Iron	31.1	BI		P
7439-97-6	Mercury	0.20	UI		CV
7440-09-7	Potassium	292	UI		P
7439-95-4	Magnesium	320	UI		P
7439-96-5	Manganese	1.2	UI		P
	Molybdenum	10.3			P
7440-23-5	Sodium	415	UI		P
7440-02-0	Nickel	10.1	UI		P
7439-92-1	Lead	2.5	BI		P
7440-36-0	Antimony	1.6	UI		P
7782-49-2	Selenium	2.7	UI		P
7440-28-0	Thallium	2.3	UI		P
7440-62-2	Vanadium	5.4	UI		P
7440-66-6	Zinc	2.9	UI		P

KAS
6/30/97

Color Before:

Clarity Before:

Texture:

Color After:

Clarity After:

Artifacts:

Comments:

ENVIROFORMS/INORGANIC CLP

SAMPLE NO.

1
INORGANIC ANALYSIS DATA SHEET

5-1196

Lab Name: Antech Ltd

Contract: ENSTRAT

Lab Code: ANT

Case No.:

SAS No.:

SDG No.: 5507EV

Matrix (soil/water): WATER

Lab Sample ID: 11-2616

Level (low/med): MED

Date Received: 11/22/96

% Solids: 0.0

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

CAS No.	Analyte	Concentration	Q	M
7440-22-4	Silver	8.3	U	P
7429-90-5	Aluminum	57.7	U	P
7440-38-2	Arsenic	1.8	U	P
7440-39-3	Barium	13.7	U	P
7440-41-7	Beryllium	2.1	B	P
7440-70-2	Calcium	282000		P
7440-43-9	Cadmium	2.2	U	P
7440-48-4	Cobalt	5.6	U	P
7440-47-3	Chromium	4760		P
7440-50-8	Copper	4.7	U	P
7439-89-6	Iron	181	✓	P
7439-97-6	Mercury	0.20	U	CV
7440-09-7	Potassium	4530	P	P
7439-95-4	Magnesium	90800		P
7439-96-5	Manganese	134	✓	P
	Molybdenum	318		P
7440-23-5	Sodium	412000		P
7440-02-0	Nickel	75.3		P
7439-92-1	Lead	2.6	B	P
7440-36-0	Antimony	9.3	B	P
7782-49-2	Selenium	2.7	U	P
7440-28-0	Thallium	3.9	B	P
7440-62-2	Vanadium	5.4	U	P
7440-66-6	Zinc	4.1	B	P

Color Before:

Clarity Before:

Texture:

Color After:

Clarity After:

Artifacts:

Comments:

KAS
6/30/97

ENVIROFORMS/INORGANIC CLP

SAMPLE NO.

1
INORGANIC ANALYSIS DATA SHEET

AT1196

Lab Name: Antech Ltd

Contract: ENSTRAT

Lab Code: ANT

Case No.:

SAS No.:

SDG No.: 5507EV

Matrix (soil/water): WATER

Lab Sample ID: 11-2617T

Level (low/med): MED

Date Received: 11/22/96

% Solids: 0.0

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

CAS No.	Analyte	Concentration	U	M
7440-22-4	Silver	8.3	U	P
7429-90-5	Aluminum	57.7	U	P
7440-38-2	Arsenic	134		P
7440-39-3	Barium	13.7	U	P
7440-41-7	Beryllium	0.60	U	P
7440-70-2	Calcium	12100		P
7440-43-7	Cadmium	2.2	U	P
7440-48-4	Cobalt	5.6	U	P
7440-47-3	Chromium	42500		P
7440-50-8	Copper	72.2		P
7439-89-6	Iron	153	/	P
7439-97-6	Mercury	0.20	U	PV
7440-09-7	Potassium	11100		P
7439-95-4	Magnesium	77200		P
7439-96-5	Manganese	1.3	B	P
	Molybdenum	6000		P
7440-23-5	Sodium	2420000		P
7440-02-0	Nickel	39.6	B	P
7439-92-1	Lead	1.7	U	P
7440-36-0	Antimony	85.6		P
7782-49-2	Selenium	27.1		P
7440-28-0	Thallium	7.0	B	P
7440-62-2	Vanadium	197		P
7440-66-6	Zinc	19.0	B	P

Color Before:

Clarity Before:

Texture:

Color After:

Clarity After:

Artifacts:

Comments:

ENVIROFORMS/INORGANIC CLP

SAMPLE NO.

1
INORGANIC ANALYSIS DATA SHEET

A-1196

Lab Name: Antech Ltd

Contract: ENSTRAT

Lab Code: ANT

Case No.:

SAS No.:

SDG No.: 5507EV

Matrix (soil/water): WATER

Lab Sample ID: 11-2617D

Level (low/med): MED

Date Received: 11/22/96

% Solids: 0.0

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

CAS No.	Analyte	Concentration	U	M
7440-22-4	Silver	8.3	U	P
7429-90-5	Aluminum	300		P
7440-38-2	Arsenic	133		P
7440-39-3	Barium	13.7	U	P
7440-41-7	Beryllium	0.60	U	P
7440-70-2	Calcium	13500		P
7440-48-9	Cadmium	2.2	U	P
7440-48-4	Cobalt	5.6	U	P
7440-47-3	Chromium	40700		P
7440-50-8	Copper	30.6		P
7439-89-6	Iron	1540	✓	P
7439-97-6	Mercury	0.20	U	P
7440-09-7	Potassium	10000		P
7439-95-4	Magnesium	74900		P
7439-96-5	Manganese	14.1	✓	P
	Molybdenum	5790		P
7440-23-5	Sodium	2400000		P
7440-02-0	Nickel	10.1	U	P
7439-92-1	Lead	1.7	U	P
7440-36-0	Antimony	85.6		P
7782-49-2	Selenium	23.7		P
7440-28-0	Thallium	5.2	✓	P
7440-62-2	Vanadium	138		P
7440-66-6	Zinc	14.4	✓	P

Color Before:

Clarity Before:

Texture:

Color After:

Clarity After:

Artifacts:

Comments:

ENVIROFORMS/INORGANIC CLP

SAMPLE NO.

1

INORGANIC ANALYSIS DATA SHEET

W-1196

Lab Name: Antech Ltd

Contract: ENSTRAT

Lab Code: ANT

Case No.:

SAS No.:

SDG No.: 5507EV

Matrix (soil/water): WATER

Lab Sample ID: 11-2614

Level (low/med): MED

Date Received: 11/22/96

% Solids: 0.0

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

CAS No.	Analyte	Concentration	U	M
7440-22-4	Silver	8.3	U	P
7429-90-3	Aluminum	279	U	P
7440-38-2	Arsenic	1.8	U	P
7440-39-3	Barium	44.3	U	P
7440-41-7	Beryllium	0.60	U	P
7440-70-2	Calcium	77300	U	P
7440-43-7	Cadmium	2.2	U	P
7440-48-4	Cobalt	3.6	U	P
7440-47-3	Chromium	7.8	U	P
7440-50-8	Copper	4.7	U	P
7439-89-6	Iron	1930	U	P
7439-97-6	Mercury	0.20	U	P
7440-09-7	Potassium	3870	U	P
7439-95-4	Magnesium	35300	U	P
7439-96-5	Manganese	262	U	P
	Molybdenum	599	U	P
7440-23-5	Sodium	183000	U	P
7440-02-0	Nickel	10.1	U	P
7439-92-1	Lead	2.1	U	P
7440-36-0	Antimony	1.6	U	P
7782-49-2	Selenium	2.7	U	P
7440-28-0	Thallium	2.3	U	P
7440-62-2	Vanadium	5.4	U	P
7440-66-6	Zinc	23.8	U	P

34

34

KAS
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Color Before:

Clarity Before:

Texture:

Color After:

Clarity After:

Artifacts:

Comments:

ENVIROFORMS/INORGANIC CLP

SAMPLE NO.

1
INORGANIC ANALYSIS DATA SHEET

F-1196

Lab Name: Antech Ltd

Contract: ENSTRAT

Lab Code: ANT

Case No.:

SAS No.:

SDG No.: 5507EV

Matrix (soil/water): WATER

Lab Sample ID: 11-2620

Level (low/med): MED

Date Received: 11/22/96

% Solids: 0.0

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

CAS No.	Analyte	Concentration	Q	IM
7440-22-4	Silver	8.3	U	P
7429-90-5	Aluminum	57.7	U	P
7440-38-2	Arsenic	1.8	U	P
7440-39-3	Barium	56.7	E	P
7440-41-7	Beryllium	0.60	U	P
7440-70-2	Calcium	83100		P
7440-43-2	Cadmium	2.2	U	P
7440-48-4	Cobalt	5.6	U	P
7440-47-3	Chromium	7.8	U	P
7440-50-8	Copper	4.7	U	P
7439-89-6	Iron	266	✓	P
7439-97-6	Mercury	0.20	U	CV
7440-09-7	Potassium	14900		P
7439-95-4	Magnesium	37900		P
7439-96-5	Manganese	181	✓	P
	Molybdenum	94.7		P
7440-23-5	Sodium	28900		P
7440-02-0	Nickel	10.1	U	P
7439-92-1	Lead	1.7	U	P
7440-36-0	Antimony	2.3	E	P
7782-49-2	Selenium	2.7	U	P
7440-28-0	Thallium	2.3	U	P
7440-62-2	Vanadium	5.4	U	P
7440-66-6	Zinc	319		P

Color Before:

Clarity Before:

Texture:

Color After:

Clarity After:

Artifacts:

Comments:

000759

ENVIROFORMS/INORGANIC CLP

SAMPLE NO.

1
INORGANIC ANALYSIS DATA SHEET

4-1196

Lab Name: Antech Ltd

Contract: ENSTRAT

Lab Code: ANT

Case No.:

SAS No.:

SDG No.: 5507EV

Matrix (soil/water): WATER

Lab Sample ID: 11-2618

Level (low/med): MED

Date Received: 11/22/96

% Solids: 0.0

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

CAS No.	Analyte	Concentration	C	Q	M
7440-22-4	Silver	8.3	U		P
7429-90-5	Aluminum	136	B		P
7440-38-2	Arsenic	1.8	U		P
7440-39-3	Barium	29.8	B		P
7440-41-7	Beryllium	3.0	B		P
7440-70-2	Calcium	135000			P
7440-43-9	Cadmium	6.5			P
7440-48-4	Cobalt	12.6	B		P
7440-47-3	Chromium	28.0			P
7440-50-8	Copper	23.8	B		P
7439-89-6	Iron	436			P
7439-97-6	Mercury	0.20	U		P
7440-09-7	Potassium	3060	B		P
7439-95-4	Magnesium	44200			P
7439-96-5	Manganese	70.9			P
	Molybdenum	485			P
7440-23-5	Sodium	75900			P
7440-02-0	Nickel	18.6	B		P
7439-92-1	Lead	3.6			P
7440-36-0	Antimony	2.0	B		P
7782-49-2	Selenium	2.7	U		P
7440-28-0	Thallium	2.2	U		P
7440-62-2	Vanadium	13.5	B		P
7440-66-6	Zinc	44.1			P

J2

J2

J3

J4

J4

J3

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J3

Color Before:

Clarity Before:

Texture:

Color After:

Clarity After:

Artifacts:

Comments:

071

ENVIROFORMS/INORGANIC CLP

SAMPLE NO.

1

INORGANIC ANALYSIS DATA SHEET

P-1196

Lab Name: Antech Ltd

Contract: ENSTRAT

Lab Code: ANT

Case No.:

SAS No.:

SDG No.: 5507EV

Matrix (soil/water): WATER

Lab Sample ID: 11-2619

Level (low/med): MED

Date Received: 11/23/96

% Solids: 0.0

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

CAS No.	Analyte	Concentration	U	Q	IM
7440-22-4	Silver	8.3	U		F
7429-90-5	Aluminum	417			F
7440-38-2	Arsenic	2.2	B		F
7440-39-3	Barium	62.8	B		F
7440-41-7	Beryllium	1.4	B		F
7440-70-2	Calcium	91300			F
7440-43-9	Cadmium	3.4	B		F
7440-48-4	Cobalt	10.8	B		F
7440-47-3	Chromium	7.8	U		F
7440-50-8	Copper	12.0	U		F
7439-89-6	Iron	3140	U		F
7439-97-6	Mercury	0.20	U		CV
7440-09-7	Potassium	1830	B		F
7439-95-4	Magnesium	23600			F
7439-96-5	Manganese	324	U		F
	Molybdenum	30.7			F
7440-23-5	Sodium	20200			F
7440-02-0	Nickel	10.1	U		F
7439-92-1	Lead	2.3	B		F
7440-36-0	Antimony	1.8	B		F
7782-49-2	Selenium	2.7	U		F
7440-29-0	Thallium	2.3	U		F
7440-62-2	Vanadium	5.4	U		F
7440-66-6	Zinc	8.8	B		F

Color Before:

Clarity Before:

Texture:

Color After:

Clarity After:

Artifacts:

Comments:

KAS
6/30/97

ENVIROFORMS/INORGANIC CLP

9
ICP SERIAL DILUTIONS

SAMPLE NO.

1-1196L

Lab Name: Antech Ltd

Contract: ENSTRAT

Lab Code: ANT

Case No.:

SAS No.:

SDG No.: 5507EV

Matrix (soil/water): WATER

Level (low/med): MED

Concentration Units: ug/L

Analyte	Initial Sample Result (I)	C	Serial Dilution Result (S)	C	% Difference	Q	M
Silver	8.30	U	41.50	U			P
Aluminum	977.34	I	288.50	U	100.0		P
Arsenic	2.34	B	9.04	B	286.3		P
Barium	104.43	B	68.50	U	100.0		P
Beryllium	1.24	B	3.00	U	100.0		P
Calcium	90050.38	I	86731.22	I	3.7		P
Cadmium	4.80	B	11.00	U	100.0		P
Cobalt	5.60	U	28.00	U			P
Chromium	15.89	I	39.00	U	100.0		P
Copper	11.03	B	23.50	U	100.0		P
Iron	1266.28	I	1119.35	I	11.6		P
Mercury							
Potassium	2242.70	B	1460.00	U	100.0		P
Magnesium	29115.59	I	27287.36	I	6.3		P
Manganese	114.48	I	90.89	I	20.6		P
Molybdenum	23.22	I	51.50	U	100.0		P
Sodium	28284.94	I	27474.23	I	2.9		P
Nickel	18.58	B	50.50	U	100.0		P
Lead	5.18	I	8.50	U	100.0		P
Antimony	2.89	B	8.00	U	100.0		P
Selenium	2.70	U	13.50	U			P
Thallium	3.38	B	14.20	B	163.9		P
Vanadium	3.40	U	27.00	U			P
Zinc	32.57	I	22.27	B	31.6		P

KAS
6/30/97

ENVIROFORMS/INORGANIC CLP

9

ICP SERIAL DILUTIONS

SAMPLE NO.

4-1196L

Lab Name: Antech Ltd

Contract: ENSTRAT

Lab Code: ANT

Case No.:

SAS No.:

SDG No.: 5507EV

Matrix (soil/water): WATER

Level (low/med): MED

Concentration Units: ug/L

Analyte	Initial Sample Result (I)	Serial Dilution	% Difference	QIM
Silver	8.301U	48.271B		IF
Aluminum	135.821B	359.721B	164.9	IF
Arsenic	1.801U	9.001U		IF
Barium	29.791B	68.501U	100.0	IF
Beryllium	3.031B	3.001U	100.0	IF
Calcium	135026.961	136981.231	1.4	IF
Cadmium	6.461	16.361B	153.3	IF
Cobalt	12.571B	28.001U	100.0	IF
Chromium	27.991	39.001U	100.0	IF
Copper	23.851B	53.931B	126.1	IF
Iron	435.871	463.881B	6.4	IF
Mercury				
Potassium	3056.441B	3999.251B	30.8	IF
Magnesium	44172.901	45513.681	3.0	IF
Manganese	70.921	73.531B	3.7	IF
Molybdenum	484.771	531.221	9.6	IF
Sodium	75852.431	78157.231	3.0	IF
Nickel	18.581B	50.501B	100.0	IF
Lead	3.561	8.501U	100.0	IF
Antimony	2.041B	8.001U	100.0	IF
Selenium	2.701U	13.501U		IF
Thallium	2.301U	11.501U		IF
Vanadium	13.501B	48.341B	258.1	IF
Zinc	44.061	65.741B	49.2	IF

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Table 1
General Data Table
Environmental Strategies Corporation
Antech Ltd. Project No. 96-5586
Groundwater Characterization; Project No. 483803; Task 14
AlTech; Dunkirk

Page 1 of 3

Parameter	Analytical Method	Units	Sample Identification		
			9611-2614 ALT-GW- MW1-1196 (11/20/96)	9611-2615 ALT-GW- EB02-1196 (11/20/96)	9611-2616 ALT-GW- LAW5-1196 (11/21/96)
Alkalinity (Total)	310.1(1)	mg/l CaCO ₃	216	2.01	233
Chloride	9251(2)	mg/l	57	1.5	300
Cyanide (Free)	4500CN-I(3)	mg/l	<0.0050 <i>uS</i>	<0.0050 <i>uS</i>	<0.0050 <i>uS</i>
Cyanide (Total)	9015(2)	mg/l	0.0090 <i>SI</i>	0.0050 <i>SI</i>	0.014 <i>SI</i>
Fluoride	340.2(1)	mg/l	<0.10	<0.10	0.19
Ammonia	350.1(1)	mg/l NH ₃ -N	0.63	<0.10	1.2
Nitrate	9200(2)	mg/l NO ₃ -N	0.11 <i>SI</i>	<0.10 <i>uS</i>	14 <i>SI</i>
pH	9040(2)	pH units	7.51	5.35	6.98
Phenolics	9066(2)	mg/l	<0.0050	<0.0050	<0.0050
Sulfate	9038(2)	mg/l	350	<1.0	2300
Specific Conductance @ 25°C	9050(2)	µmhos/cm	1340	8.74	3160

See footnotes at end of table.

KAS
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Table 1
(Continued)

Page 2 of 3

Parameter	Analytical Method	Units	Sample Identification		
			9611-2617 ALT-GW- LAW6-1196 (11/21/96)	9611-2618 ALT-GW- WP4-1196 (11/21/96)	9611-2619 ALT-GW- WP5-1196 (11/21/96)
Alkalinity (Total)	310.1(1)	mg/l CaCO ₃	3360	237	145
Chloride	9251(2)	mg/l	140	84	21
Cyanide (Free)	4500CN-I(3)	mg/l	0.16 <i>Jl</i>	0.013 <i>Jl</i>	<0.0050 <i>uJl</i>
Cyanide (Total)	9012(2)	mg/l	0.14 <i>Jl</i>	0.014 <i>Jl</i>	0.0050 <i>Jl</i>
Fluoride	340.2(1)	mg/l	6.3	0.31	0.36
Ammonia	350.1(1)	mg/l NH ₃ -N	2.5	2.2	1.4
Nitrate	~~9200(2)~~	mg/l NO ₃ -N	30 <i>Jl</i>	<0.10 <i>uJl</i>	<0.10 <i>uJl</i>
pH	9040(2)	pH units	8.98	7.30	7.16
Phenolics	9066(2)	mg/l	<0.0050	<0.0050	<0.0050
Sulfate	9038(2)	mg/l	1100	150	61
Specific Conductance @ 25°C	9050(2)	μmhos/cm	9700	1220	673

See footnotes at end of table.

KAS
6/30/97

Table 1
(Continued)

Page 3 of 3

Parameter	Analytical Method	Units	Sample Identification	
			9611-2620 ALT-GW- RF112-1196 (11/21/96)	9611-2622 Method Blank (11/22/96)
Alkalinity (Total)	310.1(1)	mg/l CaCO ₃	180	<2.00
Chloride	9251(2)	mg/l	12	<0.50
Cyanide (Free)	4500CN-I(3)	mg/l	0.0060 <i>SI</i>	<0.0050
Cyanide (Total)	9012(2)	mg/l	<0.0050 <i>uSI</i>	<0.0050
Fluoride	340.2(1)	mg/l	0.49	<0.10
Ammonia	350.1(1)	mg/l NH ₃ -N	0.15	<0.10
Nitrate	~~9200~~ (2)	mg/l NO ₃ -N	0.67 <i>SI</i>	<0.10
pH	9040(2)	pH units	8.03	NAP(4)
Phenolics	9066(2)	mg/l	<0.0050	<0.0050
Sulfate	9038(2)	mg/l	160	<1.0
Specific Conductance @ 25°C	9050(2)	µmhos/cm	764	NAP

(1) U.S. Environmental Protection Agency, 1983, Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, Environmental Monitoring and Support Laboratory, Cincinnati, Ohio.

(2) U.S. Environmental Protection Agency, 1987, Test Methods for Evaluating Solid Waste, SW-846, 3rd ed., Office of Solid Waste and Emergency Response, Washington, DC.

(3) Water Pollution Control Federation, 1989, Standard Methods for the Examination of Water and Wastewater, A. E. Greenbert, R. R. Trussel, L. S. Clesceri, eds., 17th ed., American Public Health Association, and American Water Works Association, Washington, DC.

(4) NAP = Not applicable.

KAS
6/30/97

DATA VALIDATION WORKSHEETS

MULTI-MEDIA VOLATILE ORGANIC FRACTION

CASE NUMBER: 5586 SDG NUMBER: 5586LABORATORY: Antech Ltd.CLIENT: ESC PROJECT: DunkirkREVIEWER: JACleveland DATE: 8/6/97

QA/QC LEVEL

- ☐ NEESA C
- ☐ NEESA D
- ☒ DQO LEVEL III
- ☐ DQO LEVEL IV
- ☐ _____

Statement Of Work (SOW)

- ☐ CLP 3/90
- ☐ CLP 2/88
- ☒ SW846 8240
- ☐ SW846 8240 Appendix IX
- ☐ _____

ANALYSIS MODIFICATIONS: NYSDOC 12/91 Requirements

CLP/SW846 :	14 days from date of sampling (If properly preserved)
Region I :	10 days from VTSR
Region III :	14 days from date of sampling (If properly preserved)
NYSDEC :	10 days from date VTSR (If properly preserved)

- VTSR 11/20, 11/21 2-12/2

If yes, complete the following form for all samples that exceeded holding times.

[illegible]

Action: DA - The number of days that the holding time was exceeded.

DA ≤ 5 : Qualify all positive results as estimated (J).

DA > 5 ≤ 15: Qualify all positive results as estimated (J) and all non detects estimated (UJ).

DA > 15: Qualify all positive results estimated (J) and reject all non detects.

SA
VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

000126

Lab Name: Antech Ltd.

Contract:

Lab Code: ANTECH

Case No.: 5586

SAS No.:

SDG No.: 5586

Lab File ID: 960C560M

BFB Injection Date: 10/25/96

Instrument ID.: ELQ400M

BFB Injection Time: 18:48

GC Column: RTX502.2 ID: .53 (mm)

Heated Purge: (Y/N) N

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	8.0 - 40.0% of mass 95	22.8
75	30.0 - 66.0% of mass 95	50.4
95	Base peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	7.8
173	Less than 2.0% of mass 174	.2 (.3)1
174	50.0 - 120.0% of mass 95	60.2
175	4.0 - 9.0 % of mass 174	4.7 (7.3)1
176	93.0 - 101.0% of mass 174	57.7 (95.8)1
177	5.0 - 9.0% of mass 176	4.3 (7.5)2

1-Value is % mass 174

2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, M3, MSD, BLANKS, AND STANDARDS:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
1	VSTD200		960C561M	10/25/96	20:00
2	VSTD100		960C562M	10/25/96	20:37
3	VSTD50		960C563M	10/25/96	21:14
4	VSTD20		960C564M	10/25/96	21:50
5	VSTD10		960C565M	10/25/96	22:27
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					

081

VOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: Antech Ltd.

Contract:

Lab Code: ANTECH

Case No.: 5586

SAS No.:

SDG No.: 5586

Instrument ID: ELQ400M

Calibration Date(s): 10/25/96

10/25/96

Heated Purge: (Y/N) N

Calibration Times:

20:00

22:27

GC Column: RTX502.2 ID: .53 (mm)

LAB FILE ID:

RRF10 = 9600565M

RRF20 = 9600564M

RRF50 = 9600563M

RRF100 = 9600562M

RRF200 = 9600561M

COMPOUND	RRF10	RRF20	RRF50	RRF100	RRF200	RRF	%RSD
Chloromethane	2.427	2.410	2.547	2.658	2.793	2.567	6.3
Bromomethane	* 1.180	1.121	1.102	.957	.767	1.026	16.1
Vinyl Chloride	* .880	.809	.772	.786	.609	.771	13.0
Chloroethane	.643	.589	.550	.495	.423	.540	15.7
Methylene Chloride	1.057	1.035	.988	.954	.866	.980	7.7
Acetone	.521	.577	.538	.499	.474	.522	7.0
Carbon Disulfide	3.312	3.436	3.452	3.375	3.017	3.319	3.3
1,1-Dichloroethene	* .847	.940	.901	.874	.805	.873	5.4
1,1-Dichloroethane	* 5.082	5.330	5.164	4.954	4.460	4.998	2.1
Trans-1,2-Dichloroethane	.985	1.053	1.026	.993	.917	.995	1.1
Cis-1,2-Dichloroethane	2.573	2.707	2.645	2.547	2.387	2.572	4.7
Chloroform	* 4.612	4.813	4.743	4.602	4.315	4.617	4.1
1,2-Dichloroethane	* 4.081	4.273	4.270	4.028	3.699	4.070	5.8
2-Butanone	1.724	1.637	1.727	1.642	1.653	1.680	3.0
1,1,1-Trichloroethane	* .395	.425	.421	.417	.392	.410	3.9
Carbon Tetrachloride	* .320	.347	.347	.345	.320	.336	4.3
Bromodichloromethane	* .567	.594	.597	.588	.552	.580	3.4
1,2-Dichloropropane	.501	.530	.518	.501	.467	.503	4.7
Cis-1,3-Dichloropropane	* .844	.886	.894	.879	.806	.862	4.2
Trichloroethane	* .304	.321	.316	.304	.279	.305	5.4
Dibromochloromethane	* .417	.441	.445	.440	.418	.432	3.1
1,1,2-Trichloroethane	* .406	.420	.417	.407	.389	.408	3.0
Benzene	* 1.449	1.535	1.518	1.482	1.354	1.468	4.9
Trans-1,3-Dichloropropene	* .653	.686	.689	.684	.628	.669	3.9
Bromoform	* .218	.234	.241	.254	.233	.236	5.0
4-Methyl-2-Pentanone	.729	.776	.794	.833	.820	.790	5.2
2-Hexanone	.985	.715	.538	.491	.454	.637	34.4
Tetrachloroethene	* .193	.209	.205	.208	.190	.201	4.4
1,1,2,2-Tetrachloroethane	* .486	.526	.526	.558	.516	.522	4.9
Toluene	* 1.494	1.614	1.614	1.569	1.422	1.543	5.4
Chlorobenzene	* .995	1.067	1.009	1.001	.904	.995	5.9
Ethyl Benzene	* .520	.571	.550	.530	.484	.531	6.3
Styrene	* 1.275	1.355	1.248	1.265	1.120	1.253	6.8
m,p-Xylene	* .687	.728	.733	.733	.637	.704	7.9
o-Xylene	* .721	.766	.732	.739	.640	.720	5.7
Toluene-d8	1.228	1.371	1.395	1.364	1.205	1.313	6.8
4-Bromofluorobenzene	* .598	.632	.648	.638	.549	.613	8.6
1,2-Dichloroethane-d4	3.424	3.548	3.608	3.533	3.267	3.476	3.9

* Compounds with required minimum RRF and maximum %RSD values.

VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: Antech Ltd.

Contract:

Lab Code: ANTECH

Case No.: 5586

SAS No.:

SDG No.: 5586

Instrument ID: ELQ400M

Calibration Date: 12/02/96

Time: 10:03

Lab File ID: 96DC002M

Init. Calib. Date(s): 10/25/96

10/25/96

Heated Purge: (Y/N) N

Init. Calib. Times:

20:00

22:27

GC Column: RTX502.2 ID: .53 (mm)

COMPOUND	RRF	RRF50	MIN RRF	%D	MAX %D
Chloromethane	2.567	1.950		24.0	
Bromomethane	1.026	1.105	.100	-7.7	25.0
Vinyl Chloride	.771	.909	.100	-17.9	25.0
Chloroethane	.540	.568		-5.2	
Methylene Chloride	.980	.879		10.3	
Acetone	.522	.616		-18.0	
Carbon Disulfide	3.319	2.458		25.9	
1,1-Dichloroethane	.873	.717	.100	17.9	25.0
1,1-Dichloroethane	4.998	2.339	.200	53.2	25.0
Trans-1,2-Dichloroethane	.995	.920		7.5	
Cis-1,2-Dichloroethane	2.572	2.330		9.4	
Chloroform	4.617	4.125	.200	10.7	25.0
1,2-Dichloroethane	4.070	3.497	.100	14.1	25.0
2-Butanone	1.680	1.490		11.3	
1,1,1-Trichloroethane	.410	.406	.100	1.0	25.0
Carbon Tetrachloride	.336	.355	.100	-5.7	25.0
Bromodichloromethane	.580	.601	.200	-3.6	25.0
1,2-Dichloropropane	.503	.482		4.2	
Cis-1,3-Dichloropropene	.862	.868	.200	-7	25.0
Trichloroethane	.305	.335	.300	-9.8	25.0
Dibromochloromethane	.432	.524	.100	-21.3	25.0
1,1,2-Trichloroethane	.408	.453	.100	-11.0	25.0
Benzene	1.468	1.430	.500	2.6	25.0
Trans-1,3-Dichloropropene	.669	.668	.100	1	25.0
Bromoform	.236	.324	.100	-37.3	25.0
4-Methyl-2-Pentanone	.790	.713		9.7	
2-Hexanone	.637	.364		42.9	
Tetrachloroethane	.201	.232	.200	-15.4	25.0
1,1,2,2-Tetrachloroethane	.522	.627	.500	-20.1	25.0
Toluene	1.543	1.500	.400	2.8	25.0
Chlorobenzene	.995	1.059	.500	-6.4	25.0
Ethyl Benzene	.531	.523	.100	1.5	25.0
Styrene	1.253	1.184	.300	5.5	25.0
m,p-Xylene	.704	.731	.300	-3.8	25.0
o-Xylene	.720	.705	.300	2.1	25.0
Toluene-d8	1.313	1.158		11.8	
4-Bromofluorobenzene	.613	.542	.200	11.6	25.0
1,2-Dichloroethane-d4	3.476	2.536		27.0	

J+ - NA

J/W

J+ - NA

J+ - NA

VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: Antech Ltd.

Contract:

Lab Code: ANTECH

Case No.: 5586

SAS No.:

SDG No.: 5526

Lab File ID (Standard): 96DC002M

Date Analyzed: 12/02/96

Instrument ID: ELQ400M

Time Analyzed: 10:03

GC Column: RTX502.2 ID: .53 (mm)

Heated Purge: (Y/N) N

		IS1(BCM)		IS2(DFB)		IS3(CBZ)	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
=====		=====	=====	=====	=====	=====	=====
12 HOUR STD		38512.	9.93	256497.	13.88	309384.	21.25
UPPER LIMIT		77024.	10.43	512994.	14.38	618768.	21.75
LOWER LIMIT		19256.	9.43	128249.	13.38	154692.	20.75
=====		=====	=====	=====	=====	=====	=====
EPA SAMPLE							
NO.							
=====		=====	=====	=====	=====	=====	=====
1	VBLK1	38432.	9.95	256018.	13.88	301178.	21.23
2	MW11196	37577.	9.93	252093.	13.90	296356.	21.23
3	EB021196	37539.	9.93	256704.	13.88	306056.	21.25
4	WP41196	38110.	9.93	256515.	13.88	308312.	21.23
5	WP51196	36225.	9.93	241723.	13.88	287232.	21.23
6	FI121196	37878.	9.93	253736.	13.90	306072.	21.23
7	GWT81121	37877.	9.93	253883.	13.88	307020.	21.23
8	LAW51196	36808.	9.93	247431.	13.88	301216.	21.23
9	LAW61196	36831.	9.93	250023.	13.88	287084.	21.23
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							

IS1 (BCM) = Bromochloromethane

IS2 (DFB) = 1,4-Difluorobenzene

IS3 (CBZ) = Chlorobenzene-d5

AREA UPPER LIMIT = +100% of internal standard area

AREA LOWER LIMIT = - 50% of internal standard area

RT UPPER LIMIT = + .50 minutes of internal standard RT

RT LOWER LIMIT = - .50 minutes of internal standard RT

Column used to flag internal standard area values with an asterisk.

* Values outside of QC limits.

084

**BLANK SUMMARY
VOLATILE ORGANIC FRACTION**

1. Blank qualification guidelines:

- a) If a compound is found in the blank but not in the sample, no action is taken.
- b) Any compound (other than the three (3) listed below) detected in the sample, which was also detected in the associated blank, must be qualified by elevating the limit of detection or adjusting the limit of detection to the sample result, when the sample concentration is less than five (5) times the blank concentration. For the following four (4) compounds, the results are qualified by elevating the limit of detection or adjusting the limit of detection to the sample result, when the sample concentration is less than ten (10) times the blank concentration.

Common laboratory contaminants: methylene chloride
 acetone
 2-butanone

- c) The reviewer should take note that the blank analysis may not involve the same weights, volumes or dilution factors as associated samples. These factors must be taken into consideration when applying the 5X and 10X criteria.
- d) In addition, the reviewer must review the trip blanks, rinseate blanks and field blanks (if they were submitted with the data package) and all associated samples. Apply the same data validation guidelines used in assessing the method blanks.
- e) Qualification/Action codes:

U - The sample result is greater than the CRQL and less than ten times (10X) the blank value. Cross out the "B" flag and qualify the sample result with a "U".

CRQL - The sample result is less than the CRQL and less than ten times (10X) the blank value. Reject the sample result, cross out the "B" flag, and report the CRQL.

greater No Action - The sample result is greater than the CRQL and
 than ten times (10X) the blank value.

5A

VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: Antech Ltd.

Contract:

Lab Code: ANTECH

Case No.: 5586

SAS No.:

SDG No.: 5586

Lab File ID: 96DC001M

BFB Injection Date: 12/02/96

Instrument ID.: ELQ400M

BFB Injection Time: 09:39

GC Column: RTX502.2 ID: .53 (mm)

Heated Purge: (Y/N) N

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	8.0 - 40.0% of mass 95	20.5
75	30.0 - 66.0% of mass 95	45.1
95	Base peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	6.8
173	Less than 2.0% of mass 174	.3 (.4)1
174	50.0 - 120.0% of mass 95	74.6
175	4.0 - 9.0 % of mass 174	5.7 (7.6)1
176	93.0 - 101.0% of mass 174	72.4 (97.1)1
177	5.0 - 9.0% of mass 176	5.0 (6.9)1

1-Value is % mass 174

2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
1	VSTD50.		96DC002M	12/02/96	10:03
2	VBLK1	VBLK1	96DC004M	12/02/96	11:23
3	MW11196	96112614	96DC005M	12/02/96	11:53
4	EBO21196	96112615	96DC006M	12/02/96	12:24
5	WP41196	96112618	96DC007M	12/02/96	12:54
6	WP51196	96112619	96DC008M	12/02/96	13:25
7	FI121196	96112620	96DC009M	12/02/96	13:55
8	GWTB1121	96112621	96DC010M	12/02/96	14:26
9	LAW51196	96112616	96DC014M	12/02/96	16:27
10	LAW61196	96112617	96DC015M	12/02/96	16:57
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					

A

4A
VOLATILE METHOD BLANK SUMMARY

EPA SAMPLE NO.
000125

VBLK1

Lab Name: Antech Ltd.

Contract:

Lab Code: ANTECH

Case No.: 5586

SAS No.:

SDG No.: 5586

Lab File ID: 96DC004M

Lab Sample ID: VBLK1

Date Analyzed: 12/02/96

Time Analyzed: 11:23

Column: RTX302.2 ID: .53 (mm)

Heated Purge: (Y/N) N

Instrument ID: ELQ400M

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS AND MSD:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
1	MW11196	96112614	96DC005M	11:53
2	EB021196	96112615	96DC006M	12:24
3	WP41196	96112618	96DC007M	12:54
4	WP51196	96112619	96DC008M	13:25
5	FI121196	96112620	96DC009M	13:55
6	GNT81121	96112621	96DC010M	14:26
7	LAW51196	96112616	96DC014M	16:27
8	LAW61196	96112617	96DC015M	16:57
9				
10				
11				
12				
13				
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15				
16				
17				
18				
19				
20				
21				
22				
23				
24				
25				
26				
27				
28				
29				
30				

*none in associated
samples. JAC
6/30/97*

COMMENTS:

*MnCl₂ @ 1µg/L - action @ 10
1,1,2,2-tetrachloroethane @ 0.2µg/L - action @ 1.0*

☐ Method Blank ☒ Trip Blank ☐ Rinseate Blank ☐ Field Blank ☐ Other

File ID: _____

Action

20 ug/l	
1.5	↓
1.0	↓
.5	↓

088

HESI94.1

☐ Method Blank ☐ Trip Blank ☒ Rinseate Blank ☐ Field Blank ☐ Other

File ID: _____

no contamination
9/18/97

HEARTLAND ESI VOA 13

HESI94.1

BLANK SUMMARY - TCL SUMMARY
VOLATILE ORGANIC FRACTION☐ Method Blank ☐ Trip Blank ☒ Rinseate Blank ☐ Field Blank ☐ OtherSample ID: EB021196

File ID: _____

COMPOUND	CONCENTRATION	CRQL
acetone	5 ug/L	10 ug/L
toluene	2 ug/L	10 ↓

Action

50 ug/

10 ↓

EPA SAMPLE ID	acetone	toluene		
FI121196	U	CRQL		
LAW51196	~~CRQL~~ ^{8/6/97}	CRQL		
LAW61196	—	—		
MW111196	—	—		
WP41196	—	CRQL		
WP51196	—	CRQL		

2A

WATER VOLATILE SYSTEM MONITORING COMPOUND RECOVERY

Lab Name: Antech Ltd.

Contract:

Lab Code: ANTECH

Case No.: 5586

SAS No.:

SDG No.: 5586

	EPA SAMPLE NO.	SMC1 (TOL)#	SMC2 (SFB)#	SMC3 (DCE)#	OTHER	TOT OUT
1	VELK1	103	86	102		0
2	MW11196	102	89	103		0
3	EB021196	101	92	104		0
4	WP41196	101	93	102		0
5	WP51196	100	94	102		0
6	FI121196	100	92	103		0
7	GWT81121	100	93	104		0
8	LAW51196	100	94	102		0
9	LAW61196	104	86	105		0
10						
11						
12						
13						
14						
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23						
24						
25						
26						
27						
28						
29						
30						

QC LIMITS

SMC1 (TOL) = Toluene-d8 (88-110)
 SMC2 (SFB) = 4-Bromofluorobenzene (86-115)
 SMC3 (DCE) = 1,2-Dichloroethane-d4 (76-114)

Column to be used to flag recovery values

* Values outside of contract required QC limits

D System Monitoring Compound diluted out

HEARTLAND ESI VOA 17

HESI94.1

FIELD DUPLICATE SAMPLE SUMMARY
VOLATILE ORGANIC FRACTION

Sample ID: Y000 Duplicate Sample ID: _____

Matrix: aqueous / non aqueous Units: ug/L ug/Kg

Compound Name	Sample Concentration	Duplicate Concentration	RPD	Action

Water RPDs < 20% RPD

Soil RPDs < 35% RPD

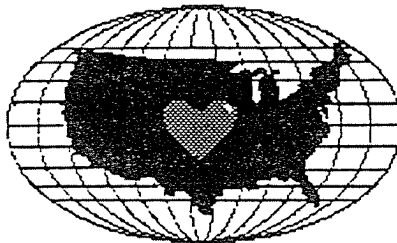
Comments: _____

SAMPLE RESULT VERIFICATION
VOLATILE ORGANIC FRACTION

1. Were the sample results reported within the calibration range? Yes ☒ No
2. Were the percent moistures reported? Yes No ☒ NR
3. Were the data reported on a dry weight basis? Yes No ☒ NR
4. Did the GC/MS RIC and TIC exhibit interferences, off scale peaks or elevated baseline? Level 3 review Yes No
5. Did the data contain elevated detection limits that could not be accounted for? Yes ☒ No
6. Were any computational or transcription errors found? Yes ☒ No

Specific Comments: _____

Reviewer: David D. AVP for Date: 8, 8, 1997
~~HEARTLAND ESI VOA 5B~~ Jackie Cleveland ~~HESI94.1~~



HEARTLAND
ENVIRONMENTAL SERVICES, INC.

MULTI-MEDIA SEMIVOLATILE ORGANIC FRACTION

CASE/SDG NUMBER: 96-5586

LABORATORY: ANTECH LTD

CLIENT: ESC

PROJECT: DUNKIRK

REVIEWER: Daniel J. Heil, A.V.P.

DATE: June 26, 1997

QA/QC LEVEL: LEVEL III

STATEMENT OF WORK: SW846-8270

ANALYSIS MODIFICATIONS: NYSDEC, CALIBRATION STDS AND SAMPLE CONCENTRATION

NUMBER OF SAMPLES: 7

SAMPLE MATRIX: WATER

NUMBER OF MS/MSDs: NONE

MULTI-MEDIA SEMIVOLATILE ORGANIC FRACTION

HOLDING TIMES

	<u>Water</u>	<u>soil</u>	<u>Analysis</u>
CLP:	7 days from sampling	14 days from sampling	40 days from VTSR
SW846:	7 days from sampling	14 days from sampling	40 days from VTSR
Region I:	5 days from VTSR	7 days from VTSR	40 days from VTSR
Region III:	7 days from sampling	7 days from sampling	40 days from VTSR
NYSDEC:	5 days form VTSR	5 days from VTSR	40 days From VTSR

Action: DA - The number of days that the holding time was exceeded.

DA $\leq$ 5: Qualify all positive results as estimated (J).

DA $> 5 \leq 15$: Qualify all positive results as estimated (J) and all non detects estimated (UJ).

DA > 15 : Qualify all positive results estimated (J) and reject all non detects.

All associated samples met holding time requirements for extraction and/or analysis. No qualifications are required.

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SEMIVOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: Amgen Ltd Contract: _____
 Lab Code: Amgen Case No.: 98-558 SAS No.: _____ SDG No.: 965586
 Lab File ID: m40114 DFTPP Injection Date: 1/14/97
 Instrument ID: mu DFTPP Injection Time: 1705

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	30.0 - 80.0% of mass 198	57.9
68	Less than 2.0% of mass 69	0 (0) 1
69	Mass 69 relative abundance	69.4
70	Less than 2.0% of mass 69	0 (0.1) 1
127	25.0 - 75.0% of mass 198	45.9
197	Less than 1.0% of mass 198	0
198	Base Peak, 100% relative abundance	100
199	5.0 to 9.0% of mass 198	6.7
275	10.0 - 30.0% of mass 198	21.8
365	Greater than 0.75% of mass 198	3.4
441	Present, but less than mass 443	80.2
442	40.0 - 110.0% of mass 198	65.3
443	15.0 - 24.0% of mass 442	13.1 (19.2) 2

1-Value is % mass 69

2-Value is % mass 442

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	STD 016	STD 16	m40114P1	1/14/97	1738
02	STD 012	STD 12	m40114P2	1/14/97	1754
03	STD 008	STD 8	m40114P3	1/14/97	1810
04	STD 005	STD 5	m40114P4	1/14/97	1826
05	STD 002	STD 2	m40114P5	1/14/97	1842
06					
07					
08					
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21					
22					

63
SEMI-VOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: Antech Ltd Contract: _____
 Lab Code: Antech Case No.: 96-5586 SAS No.: _____ SDG No.: 5586
 Instrument ID: MU Calibration Date(s): 1/1/97 1/1/97
 Calibration Times: 1735 1802

LAB FILE ID:		RRF20 = <u>m40114PS</u>	RRF50 = <u>m40114PS</u>	RRF80 = <u>m40114PS</u>	RRF120 = <u>m40114PS</u>	RRF160 = <u>m40114PS</u>	
RRF20 = <u>m40114PS</u>		RRF120 = <u>m40114PS</u>	RRF150 = <u>m40114PS</u>	RRF160 = <u>m40114PS</u>			
COMPOUND	RRF20	RRF50	RRF80	RRF120	RRF160	RRF	% RSD
Phenol	1.931	1.942	2.024	1.925	1.912	1.9	4.25
bis(2-Chloroethyl)ether	1.324	1.322	1.518	1.485	1.487	1.4	4.71
2-Chlorophenol	1.273	1.275	1.403	1.355	1.315	1.3	4.49
1,3-Dichlorobenzene	1.323	1.323	1.419	1.327	1.358	1.3	3.11
1,4-Dichlorobenzene	1.601	1.614	1.734	1.753	1.764	1.7	4.90
1,2-Dichlorobenzene	1.333	1.327	1.435	1.457	1.472	1.4	5.20
2-Methylphenol	1.246	1.231	1.351	1.218	1.283	1.3	4.07
2,2'-oxybis(1-Chloropropane)	1.463	1.451	2.174	2.048	2.128	2.1	4.87
4-Methylphenol	1.286	1.318	1.447	1.332	1.283	1.3	5.03
N-Nitroso-di-n-propylamine	1.001	1.003	1.059	1.040	1.049	1.0	2.53
Hexachloroethane	0.601	0.597	0.631	0.621	0.599	0.6	2.51
Nitrobenzene	0.425	0.432	0.451	0.446	0.415	0.4	3.80
Isophorone	0.801	0.801	0.822	0.840	0.829	0.8	3.65
2-Nitrophenol	0.201	0.205	0.222	0.202	0.183	0.2	6.92
2,4-Dimethylphenol	0.350	0.402	0.435	0.414	0.401	0.4	4.43
bis(2-Chloroethoxy)methane	0.422	0.461	0.492	0.495	0.487	0.5	6.00
2,4-Dichlorophenol	0.305	0.314	0.329	0.342	0.321	0.3	3.20
1,2,4-Trichlorobenzene	0.382	0.371	0.400	0.382	0.370	0.4	4.46
Naphthalene	0.942	0.944	1.005	1.051	1.057	1.0	5.52
4-Chloroaniline	0.364	0.387	0.416	0.395	0.403	0.4	4.92
Hexachlorobutadiene	0.209	0.211	0.238	0.217	0.217	0.2	3.43
4-Chloro-3-methylphenol	0.279	0.242	0.281	0.352	0.328	0.4	5.11
2-Methylnaphthalene	0.644	0.675	0.748	0.715	0.721	0.7	4.90
Hexachlorocyclopentadiene	0.266	0.261	0.252	0.224	0.163	0.2	18.4
2,4,6-Trichlorophenol	0.291	0.355	0.425	0.454	0.223	0.4	2.24
2,4,5-Trichlorophenol	0.423	0.413	0.455	0.395	0.421	0.4	5.22
2-Chloronaphthalene	1.417	1.415	1.449	1.307	1.273	1.3	4.88
2-Nitroaniline	0.409	0.423	0.438	0.452	0.403	0.4	6.42
Dimethylphthalate	1.510	1.511	1.757	1.632	1.613	1.6	5.30
Acenaphthylene	1.853	1.884	2.129	2.051	2.022	2.0	5.85
2,6-Dinitrotoluene	0.306	0.469	0.435	0.269	0.332	0.4	6.60
3-Nitroaniline	0.345	0.350	0.401	0.222	0.255	0.4	6.30
Acenaphthene	1.116	1.153	1.260	1.242	1.248	1.2	6.21
2,4-Dinitrophenol	0.117	0.088	0.087	0.051	0.015	0.1	55.2
4-Nitrophenol	0.246	0.226	0.242	0.200	0.120	0.2	13.2
Dibenzofuran	1.654	1.721	1.928	1.852	1.832	1.8	5.63
2,4-Dinitrotoluene	0.502	0.496	0.541	0.491	0.445	0.5	7.24

* Compounds with required minimum RRF and maximum %RSD values.
 All other compounds must meet a minimum RRF of 0.010.

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SEMIVOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: ANZCH LTD Contract: _____
 Lab Code: ANZCH Case No.: 96-5516 SAS No.: _____ SDG No.: 5556
 Instrument ID: MU Calibration Date(s): 11/14/97 11/14/97
 Calibration Times: 1738 1842

LAB FILE ID:		RRF20 = MU0114P5	RRF50 = MU0114D4				
RRF80 = MU0114P3		RRF120 = MU0114D2	RRF160 = MU0114D1				
COMPOUND	RRF20	RRF50	RRF80	RRF120	RRF160	RRF	RSD
Diethylphthalate	1.449	1.521	1.715	1.623	1.643	1.6	5.57
4-Chlorophenyl-phenylether	0.658	0.658	0.738	0.726	0.732	0.7	5.71
Fluorene	1.280	1.301	1.452	1.384	1.415	1.4	5.40
4-Nitroaniline	0.317	0.274	0.281	0.357	0.357	0.3	4.71
4,6-Dinitro-2-methylphenol	0.179	0.178	0.115	0.083	0.088	0.1	30.0
N-Nitrosodiphenylamine (i)	0.678	0.688	0.757	0.726	0.734	0.7	4.37
4-Bromophenyl-phenylether	0.303	0.300	0.311	0.300	0.309	0.3	23.7
Hexachlorobenzene	0.265	0.267	0.283	0.267	0.271	0.4	2.01
Pentachlorophenol	0.214	0.220	0.169	0.179	0.167	0.2	10.7
Phenanthrene	1.262	1.405	1.567	1.433	1.495	1.5	5.19
Anthracene	1.247	1.351	1.424	1.400	1.465	1.4	4.15
Carbazole	1.161	1.194	1.332	1.311	1.418	1.3	8.21
Di-n-butylphthalate	1.697	1.737	1.843	1.740	1.929	1.8	5.12
Fluoranthene	1.413	1.416	1.555	1.485	1.574	1.5	5.45
Pyrene	2.069	2.045	2.251	2.195	2.235	2.2	4.36
Butylbenzylphthalate	0.989	0.972	1.096	1.023	1.063	1.0	4.46
3,3'-Dichlorobenzidine	0.507	0.510	0.605	0.609	0.613	0.6	8.20
Benzo(a)anthracene	1.603	1.667	1.720	1.675	1.680	1.7	3.14
Chrysene	1.584	1.492	1.672	1.587	1.727	1.6	6.09
bis(2-Ethylhexyl)phthalate	1.261	1.234	1.432	1.388	1.412	1.4	5.72
Di-n-octylphthalate	1.494	1.973	2.180	1.899	1.936	2.0	5.44
Benzo(b)fluoranthene	1.640	1.605	1.745	1.697	1.478	1.60	8.91
Benzo(k)fluoranthene	1.220	1.238	1.741	1.167	1.451	1.4	17.6
Benzo(a)pyrene	1.293	1.260	1.275	1.227	1.305	1.3	4.31
Indeno(1,2,3-cd)pyrene	1.282	1.281	1.591	1.671	1.682	1.4	5.11
Dibenz(a,h)anthracene	1.244	1.219	1.445	1.260	1.239	1.3	5.45
Benzo(g,h,i)perylene	1.571	1.529	1.648	1.444	1.482	1.5	5.16
Nitrobenzene-d5	0.352	0.363	0.386	0.437	0.440	0.4	4.90
2-Fluorobiphenyl	1.165	1.200	1.315	1.272	1.279	1.2	5.00
Terphenyl-d14	1.023	1.062	1.155	1.088	1.190	1.1	6.48
Phenol-d5	1.290	1.372	1.523	1.451	1.421	1.4	4.14
2-Fluorophenol	1.094	1.078	1.195	1.067	0.935	1.1	7.88
2,4,6-Tribromophenol	2.160	2.156	0.468	0.142	0.143	0.2	6.44
2-Chlorophenol-d4	1.050	1.043	1.131	1.093	1.096	1.1	3.36
1,2-Dichlorobenzene-d4	0.716	0.735	0.913	0.757	0.814	0.8	5.95

- (1) Cannot be separated from Diphenylamine
 * Compounds with required minimum RRF and maximum %RSD values.
 All other compounds must meet a minimum RRF of 0.010.

DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)
 QUALITY CONTROL INSTRUMENT PERFORMANCE CHECK

000001.01

Lab Name: ANTECH LTD. Contract: _____
 Lab Code: _____ Case No.: _____ SAS No.: _____ SDG No.: _____
 Lab File ID: M41219T1.D DFTPP Injection Date: 12/19/96
 Instrument ID: _____ DFTPP Injection Time: 1154

m/e	ION ABUNDANCE CRITERIA	%RELATIVE ABUNDANCE
51	30.0 - 30.0% of mass 193	52.2
63	Less than 2.0% of mass 69	0.5 (0.3)1
69	Mass 69 relative abundance	64.5
70	Less than 2.0% of mass 69	0.0 (0.0)1
127	25.0 - 75.0% of mass 193	46.4
197	Less than 1.0% of mass 193	0.0
193	Base Peak, 100 % relative abundance	100.0
199	5.0 - 9.0% of mass 193	6.3
275	10.0 - 30.0% of mass 193	15.9
365	Greater than 0.75% of mass 193	2.5
441	Present, but less than mass 443	6.2
442	40.0 - 110.0% of mass 193	43.0
443	15.0 - 24.0% of mass 442	8.3 (20.4)2

1-Value is % mass 69

2-Value is % mass 442

This check applies to the following SAMPLES, MS, MSD, BLANKS and STANDARDS:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	SSTD02	2STD	M41219P1.D	12/19/96	1250
02	SSTD05	5STD	M41219P2.D	12/19/96	1306
03	SSTD03	3STD	M41219P3.D	12/19/96	1322
04	SSTD12	12STD	M41219P4.D	12/19/96	1339
05	SSTD16	16STD	M41219P5.D	12/19/96	1355
06					
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SEMIVOLATILE ORGANICS INITIAL CALIBRATION DATA

000563

Lab Name: ANTECH LTD.

Contract: _____

Lab Code: _____

Case No.: _____

SAS No.: _____

SDG No.: _____

Instrument ID: M4

Calibration Date(s): _____

Calibration Times: 1250 1355

Lab File ID:	RRF2.0 M41219P1.D			RRF5.0 M41219P2.D				
RRF3.0	M41219P3.D			RRF12.0 M41219P4.D			RRF16.0 M41219P5.D	
COMPOUND	RRF2.0	RRF5.0	RRF3.0	RRF12.0	RRF16.0	RRF	%	RSD
Phenol	2.191	1.997	2.027	1.805	1.696	1.943		10.0
Bis(2-chloroethyl)ether	1.708	1.532	1.529	1.344	1.241	1.471		12.4
2-Chlorophenol	1.529	1.415	1.427	1.274	1.192	1.368		9.8
1,3-Dichlorobenzene	1.534	1.356	1.329	1.148	1.118	1.293		13.0
1,4-Dichlorobenzene	1.860	1.775	1.811	1.673	1.528	1.730		7.6
1,2-Dichlorobenzene	1.614	1.465	1.432	1.305	1.189	1.401		11.5
o-Cresol	1.517	1.385	1.368	1.227	1.156	1.330		10.7
Bis(2-chloroisopropyl)ether	2.436	2.292	2.203	1.942	1.750	2.124		13.0
m/p-Cresol	1.590	1.410	1.432	1.282	1.187	1.350		11.1
N-Nitrosodi-n-propyl amine	1.237	1.108	1.122	0.976	0.900	1.069		12.3
Hexachloroethane	0.672	0.595	0.608	0.547	0.514	0.587		10.3
Nitrobenzene	0.466	0.423	0.443	0.394	0.366	0.413		9.4
Isophorone	0.931	0.860	0.894	0.796	0.719	0.850		11.7
2-Nitrophenol	0.211	0.202	0.213	0.198	0.181	0.201		6.3
2,4-Dimethylphenol	0.412	0.371	0.335	0.303	0.281	0.340		15.4
Bis(2-chloroethoxy)methane	0.550	0.485	0.499	0.448	0.401	0.476		11.7
2,4-Dichlorophenol	0.729	0.637	0.682	0.613	0.557	0.643		10.2
1,2,4-Trichlorobenzene	0.575	0.345	0.359	0.317	0.291	0.337		10.0
Naphthalene	1.192	1.030	1.075	0.942	0.867	1.021		12.2
4-Chloroaniline	0.462	0.423	0.408	0.373	0.345	0.402		11.2
Hexachlorobutadiene	0.197	0.183	0.192	0.174	0.158	0.181		8.6
4-Chloro-3-methylphenol	0.369	0.335	0.359	0.317	0.296	0.335		9.0
2-Methylnaphthalene	0.778	0.692	0.722	0.630	0.580	0.680		11.4
Hexachlorocyclopentadiene	0.231	0.239	0.259	0.243	0.231	0.241		4.9
2,4,6-Trichlorophenol	0.446	0.413	0.458	0.400	0.344	0.412		10.9
2,4,5-Trichlorophenol	0.427	0.399	0.410	0.356	0.348	0.383		8.9
2-Chloronaphthalene	1.375	1.231	1.293	1.132	0.998	1.206		12.1
2-Nitroaniline	0.469	0.432	0.461	0.402	0.366	0.426		10.0
Dimethylphthalate	1.651	1.556	1.603	1.403	1.277	1.499		10.3
Acenaphthylene	2.223	2.021	2.074	1.839	1.645	1.961		11.4
2,6-Dinitrotoluene	0.376	0.375	0.392	0.358	0.322	0.365		7.4
3-Nitroaniline	0.412	0.401	0.406	0.362	0.333	0.383		8.9
Acenaphthene	1.352	1.221	1.257	1.089	0.987	1.181		12.2
2,4-Dinitrophenol	0.069	0.100	0.129	0.134	0.136	0.113		25.5
4-Nitrophenol	0.215	0.229	0.246	0.236	0.215	0.228		5.8
Dibenzofuran	1.963	1.764	1.795	1.601	1.445	1.714		11.5
2,4-Dinitrotoluene	0.468	0.502	0.527	0.479	0.445	0.484		6.5

* Compounds with required minimum RRF and maximum %RSD values.
All other compounds must meet a minimum RRF of 0.010.

SEMI-VOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: ANTECH LTD.

Contract: _____

Lab Code: _____

Case No.: _____

SAS No.: _____

SDG No.: _____

Instrument ID: M4

Calibration Date(s): _____

Calibration Times: 1250

1355

Lab File ID:	RRF2.0 M41219P1.D	RRF5.0 M41219P2.D					
RRF3.0 M41219P3.D	RRF12.0 M41219P4.D	RRF16.0 M41219P5.D					
COMPOUND	RRF2.0	RRF5.0	RRF3.0	RRF12.0	RRF16.0	RRF	% RSD
Diethylphthalate	1.793	1.677	1.703	1.489	1.790	1.690	7.3
4-Chlorophenyl-phenylether	0.713	0.665	0.688	0.594	0.552	0.642	10.5
Fluorene	1.526	1.397	1.442	1.236	1.144	1.349	11.5
4-Nitroaniline	0.438	0.395	0.361	0.323	0.297	0.363	15.5
2-Methyl-4,6-dinitrophenol	0.091	0.124	0.149	0.152	0.152	0.134	19.9
N-Nitrosodiphenylamine	0.826	0.789	0.811	0.723	0.666	0.764	8.7
4-Bromophenyl phenyl ether	0.320	0.302	0.317	0.289	0.271	0.300	6.9
Hexachlorobenzene	0.373	0.351	0.365	0.354	0.311	0.347	7.2
Pentachlorophenol	0.190	0.207	0.224	0.211	0.197	0.206	6.3
Phenanthrene	1.646	1.557	1.579	1.394	1.320	1.499	9.1
Anthracene	1.603	1.446	1.493	1.379	1.254	1.435	9.1
Carbazole	1.552	1.442	1.412	1.191	1.090	1.337	14.3
Di-n-Butylphthalate	2.234	2.083	2.046	1.859	1.682	1.981	10.8
Fluoranthene	1.655	1.570	1.528	1.389	1.268	1.482	10.4
Pyrene	2.365	2.338	2.247	2.046	1.884	2.176	9.5
Butylbenzylphthalate	1.256	1.216	1.149	1.050	0.974	1.129	10.3
3,3'-Dichlorobenzidine	0.657	0.659	0.653	0.604	0.545	0.624	7.9
Benzo[a]anthracene	1.740	1.705	1.748	1.602	1.434	1.646	8.0
Chrysene	1.668	1.660	1.603	1.450	1.360	1.548	8.8
Bis(2-ethylhexyl)phthalate	1.595	1.554	1.529	1.378	1.252	1.462	9.8
Di-n-octylphthalate	2.282	2.301	2.320	2.139	1.906	2.190	7.9
Benzo[b]fluoranthene	1.477	1.469	1.447	1.502	1.497	1.478	1.5
Benzo[k]fluoranthene	1.533	1.558	1.551	1.319	1.081	1.409	14.8
Benzo[a]pyrene	1.551	1.569	1.545	1.266	1.177	1.302	6.2
Indeno(1,2,3-c,d)pyrene	1.735	1.778	1.830	1.721	1.654	1.744	3.8
Dibenzo[a,h]anthracene	1.320	1.376	1.418	1.323	1.268	1.341	4.3
Benzo[g,h,i]perylene	1.561	1.602	1.631	1.543	1.491	1.567	3.4
2-Fluorophenol	1.577	1.435	1.460	1.326	1.255	1.410	8.8
Phenol-d5	2.040	1.877	1.878	1.679	1.573	1.809	10.2
2-Chlorophenol-d4	1.530	1.390	1.405	1.239	1.173	1.348	10.5
1,2-Dichlorobenzene-d4	1.091	0.971	0.966	0.852	0.793	0.934	12.4
Nitrobenzene-d5	0.501	0.444	0.465	0.417	0.379	0.441	10.5
2-Fluorobiphenyl	1.531	1.415	1.463	1.273	1.146	1.376	12.3
2,4,6-Tribromophenol	0.166	0.169	0.182	0.166	0.161	0.169	4.6
Terphenyl-d14	1.469	1.456	1.426	1.327	1.200	1.375	8.2

* Compounds with required minimum RRF and maximum %RSD values.
All other compounds must meet a minimum RRF of 0.010.

SEMIVOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

000334

Lab Name : ANTECH LTD. Contract: _____Lab Code: _____ Case No.: 96-5586 SAS No.: _____ SDG No.: _____Lab File ID: M41222T1.D DFTPP Injection Date: 12/22/96Instrument ID: M4 DFTPP Injection Time: 1233

m/e	ION ABUNDANCE CRITERIA	%RELATIVE ABUNDANCE
51	30.0 - 80.0% of mass 198	60.0
68	Less than 2.0% of mass 69	0.0 (0.0)1
69	Mass 69 relative abundance	75.5
70	Less than 2.0% of mass 69	0.7 (1.0)1
127	25.0 - 75.0% of mass 198	53.1
197	Less than 1.0% of mass 198	0.0
198	Base Peak, 100 % relative abundance	100.0
199	5.0 - 9.0% of mass 198	6.8
275	10.0 - 30.0% of mass 198	20.3
365	Greater than 0.75% of mass 198	2.6
441	Present, but less than mass 443	9.0
442	40.0 - 110.0% of mass 198	63.7
443	15.0 - 24.0% of mass 442	12.9 (20.3)2

1-Value is % mass 69

2-Value is % mass 442

This check applies to the following SAMPLES, MS, MSD, BLANKS and STANDARDS:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	SSTD08	ACCAL	M41222C2.D	12/22/96	1248
02	SBLK01	AMBLK	M41222S1.D	12/22/96	1327
03	GW-EB02-1196	A11-2615	M41222D6.D	12/22/96	2201
04	GW-LAW5-1196	A11-2616	M41222D7.D	12/22/96	2217
05	GW-LAW6-1196	A11-2617	M41222D8.D	12/22/96	2233
06	GW-WP4-1196	A11-2618	M41222D9.D	12/22/96	2249
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SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: ANTECH LTD. Contract: _____

Lab Code: _____ Case No.: 96-5586 SAS No.: _____ SDG No.: 5586

Instrument ID: M4 Calibration Date: _____ Time: 1248

Lab File ID: M41222C2.D Init. Calib. Date(s): _____

Init. Calib. Times: _____

COMPOUND	RRF	RRF8.0	MIN RRF	%D	MAX %D
Phenol	1.943	2.065		-6.3	
Bis(2-chloroethyl)ether	1.471	1.549		-5.3	
2-Chlorophenol	1.368	1.466		-7.2	
1,3-Dichlorobenzene	1.293	1.458		-12.8	
1,4-Dichlorobenzene	1.730	1.793		-3.6	
1,2-Dichlorobenzene	1.401	1.454		-3.8	
o-Cresol	1.330	1.406		-5.7	
Bis(2-chloroisopropyl)ether	2.124	2.219		-4.5	
m/p-Cresol	1.380	1.469		-6.4	
N-Nitrosodi-n-propyl amine	1.069	1.154		-8.0	
Hexachloroethane	0.587	0.600		-2.2	
Nitrobenzene	0.418	0.458		-9.6	
Isophorone	0.850	0.921		-8.4	
2-Nitrophenol	0.201	0.202		-0.5	
2,4-Dimethylphenol	0.340	0.358		-5.3	
Bis(2-chloroethoxy)methane	0.476	0.515		-8.2	
2,4-Dichlorophenol	0.643	0.695		-8.1	
1,2,4-Trichlorobenzene	0.337	0.374		-11.0	
Naphthalene	1.021	1.088		-6.6	
4-Chloroaniline	0.402	0.424		-5.5	
Hexachlorobutadiene	0.181	0.206		-13.8	
4-Chloro-3-methylphenol	0.335	0.375		-11.9	
2-Methylnaphthalene	0.680	0.734		-7.9	
Hexachlorocyclopentadiene	0.241	0.128		(46.9)	
2,4,6-Trichlorophenol	0.412	0.412		0.0	
2,4,5-Trichlorophenol	0.388	0.425		-9.5	
2-Chloronaphthalene	1.206	1.247		-3.4	
2-Nitroaniline	0.426	0.443		-4.0	
Dimethylphthalate	1.499	1.579		-5.3	
Acenaphthylene	1.961	2.031		-3.6	
2,6-Dinitrotoluene	0.365	0.375		-2.7	
3-Nitroaniline	0.383	0.383		0.0	
Acenaphthene	1.181	1.257		-6.4	
2,4-Dinitrophenol	0.113	(0.057)		(67.3)	
4-Nitrophenol	0.228	0.214		6.1	
Dibenzofuran	1.714	1.801		-5.1	
2,4-Dinitrotoluene	0.484	0.484		0.0	

All other compounds must meet a minimum RRF of 0.010.

SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: ANTECH LTD.

Contract: _____

Lab Code: _____ Case No.: 96-5586 SAS No.: _____

SDG No.: 5586

Instrument ID: M4 Calibration Date: _____

Time: 1248

Lab File ID: M41222C2.D Init. Calib. Date(s): _____

Init. Calib. Times: _____

COMPOUND	RRF	RRF3.0	MIN RRF	%D	MAX %D
Diethylphthalate	1.690	1.649		2.4	
4-Chlorophenyl-phenylether	0.642	0.686		-6.9	
Fluorene	1.349	1.369		-1.5	
4-Nitroaniline	0.363	0.349		3.9	
2-Methyl-4,6-dinitrophenol	0.134	0.056		58.2	
N-Nitrosodiphenylamine	0.764	0.792		-3.7	
4-Bromophenyl phenyl ether	0.300	0.318		-6.0	
Hexachlorobenzene	0.347	0.376		-8.4	
Pentachlorophenol	0.206	0.203		1.5	
Phenanthrene	1.499	1.531		-2.1	
Anthracene	1.435	1.511		-5.3	
Carbazole	1.337	1.271		4.9	
Di-n-Butylphthalate	1.981	1.969		0.6	
Fluoranthene	1.482	1.485		-0.2	
Pyrene	2.176	2.124		2.4	
Burylbenzylphthalate	1.129	1.113		1.4	
3,3'-Dichlorobenzidine	0.624	0.635		-1.8	
Benzo[a]anthracene	1.646	1.711		-3.9	
Chrysene	1.548	1.560		-0.8	
Bis(2-ethylhexyl)phthalate	1.462	1.487		-1.7	
Di-n-octylphthalate	2.190	2.168		1.0	
Benzo[b]fluoranthene	1.478	1.606		-8.7	
Benzo[k]fluoranthene	1.409	1.346		4.5	
Benzo[a]pyrene	1.302	1.427		-9.6	
Indeno(1,2,3-c,d)pyrene	1.744	1.767		-1.3	
Dibenzo[a,h]anthracene	1.341	1.379		-2.8	
Benzo[g,h,i]perylene	1.567	1.462		6.7	
2-Fluorophenol	1.410	1.511		-7.2	
Phenol-d5	1.809	1.910		-5.6	
2-Chlorophenol-d4	1.348	1.461		-8.4	
1,2-Dichlorobenzene-d4	0.934	0.992		-6.2	
Nitrobenzene-d5	0.441	0.480		-8.8	
2-Fluorobiphenyl	1.376	1.463		-6.3	
2,4,6-Tribromophenol	0.169	0.180		-6.5	
Terphenyl-d14	1.375	1.375		0.0	

5/45

All other compounds must meet a minimum RRF of 0.010.

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SEMIVOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: ANTECH LTD. Contract: _____
 Lab Code: _____ Case No.: 96-5536 SAS No.: _____ SDG No.: 556
 Lab File ID: M40203T1.D DFTPP Injection Date: 2/3/97
 Instrument ID: M4 DFTPP Injection Time: 1003

m/e	ION ABUNDANCE CRITERIA	%RELATIVE ABUNDANCE
51	30.0 - 80.0% of mass 198	37.8
68	Less than 2.0% of mass 69	0.0 (0.0)1
69	Mass 69 relative abundance	45.4
70	Less than 2.0% of mass 69	0.0 (0.0)1
127	25.0 - 75.0% of mass 198	41.4
197	Less than 1.0% of mass 198	0.0
198	Base Peak, 100 % relative abundance	100.0
199	5.0 - 9.0% of mass 198	7.1
275	10.0 - 30.0% of mass 198	22.6
365	Greater than 0.75% of mass 198	3.2
441	Present, but less than mass 443	10.1
442	40.0 - 110.0% of mass 198	68.9
443	15.0 - 24.0% of mass 442	13.1 (19.1)2

1-Value is % mass 69

2-Value is % mass 442

This check applies to the following SAMPLES, MS, MSD, BLANKS and STANDARDS:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	SST SST08	ACCAL	M40203C1.D	2/3/97	1222
02	SBLK01	AMBLK	M40203S6.D	2/3/97	1519
03	GW-MW1-1196	A11-2614	M40203S7.D	2/3/97	1535
04	GW-WP5-1196	A11-2619	M40203S8.D	2/3/97	1551
05	GW-RF112-1196	A11-2620	M40203S9.D	2/3/97	1607
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SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: ANTECH LTD. Contract: _____

Lab Code: _____ Case No.: 96-5586 SAS No.: _____ SDG No.: 5586

Instrument ID: M4 Calibration Date: 2/3/97 Time: 1222

Lab File ID: M40203C1.D Init. Calib. Date(s): _____

Init. Calib. Times: _____

COMPOUND	RRF	RRF8.0	MIN RRF	%D	MAX %D
Phenol	1.909	1.725		9.6	
Bis(2-chloroethyl)ether	1.445	1.287		10.9	
2-Chlorophenol	1.324	1.205		9.0	
1,3-Dichlorobenzene	1.345	1.253		6.8	
1,4-Dichlorobenzene	1.698	1.504		11.4	
1,2-Dichlorobenzene	1.420	1.292		9.0	
o-Cresol	1.287	1.114		13.4	
Bis(2-chloroisopropyl)ether	2.063	1.841		10.8	
m/p-Cresol	1.334	1.164		12.7	
N-Nitrosodi-n-propyl amine	1.036	0.963		7.0	
Hexachloroethane	0.610	0.573		6.1	
Nitrobenzene	0.434	0.415		4.4	
Isophorone	0.831	0.790		4.9	
2-Nitrophenol	0.203	0.195		3.9	
2,4-Dimethylphenol	0.406	0.309		23.9	
Bis(2-chloroethoxy)methane	0.472	0.423		10.4	
2,4-Dichlorophenol	0.315	0.298		5.4	
1,2,4-Trichlorobenzene	0.377	0.365		3.2	
Naphthalene	1.026	0.958		6.6	
4-Chloroaniline	0.393	0.300		23.7	
Hexachlorobutadiene	0.216	0.217		-0.5	
4-Chloro-3-methylphenol	0.351	0.339		3.4	
2-Methylnaphthalene	0.695	0.663		4.6	
Hexachlorocyclopentadiene	0.234	0.140		40.2	
2,4,6-Trichlorophenol	0.411	0.394		4.1	
2,4,5-Trichlorophenol	0.426	0.401		5.9	
2-Chloronaphthalene	1.268	1.147		9.5	
2-Nitroaniline	0.433	0.390		9.9	
Dimethylphthalate	1.594	1.467		8.0	
Acenaphthylene	1.988	1.700		14.5	
2,6-Dinitrotoluene	0.369	0.348		5.7	
3-Nitroaniline	0.366	0.286		21.9	
Acenaphthene	1.214	1.085		10.6	
2,4-Dinitrophenol	0.074	0.098		-32.4	
4-Nitrophenol	0.219	0.223		-1.8	
Dibenzofuran	1.307	1.608		11.0	
2,4-Dinitrotoluene	0.493	0.451		8.5	

All other compounds must meet a minimum RRF of 0.010.

SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: ANTECH LTD. Contract: _____

Lab Code: _____ Case No.: 96-5586 SAS No.: _____ SDG No.: 5586

Instrument ID: M4 Calibration Date: 2/3/97 Time: 1222

Lab File ID: M40203C1.D Init. Calib. Date(s): _____

Init. Calib. Times: _____

COMPOUND	RRF	RRF8.0	MIN RRF	%D	MAX %D
Diethylphthalate	1.600	1.462		8.6	
4-Chlorophenyl-phenylether	0.702	0.623		11.3	
Fluorene	1.366	1.197		12.4	
4-Nitroaniline	0.346	0.256		26.0	5
2-Methyl-4,6-dinitrophenol	0.103	0.115		-11.7	
N-Nitrosodiphenylamine	0.716	0.588		17.9	
4-Bromophenyl phenyl ether	0.307	0.260		15.3	
Hexachlorobenzene	0.370	0.328		11.4	
Pentachlorophenol	0.195	0.183		6.2	
Phenanthrene	1.457	1.224		16.0	
Anthracene	1.410	1.118		20.7	
Carbazole	1.283	1.017		20.7	
Di-n-Butylphthalate	1.799	1.551		13.8	
Fluoranthene	1.493	1.258		15.7	
Pyrene	2.179	1.746		19.9	
Butylbenzylphthalate	1.033	0.861		16.7	
3,3'-Dichlorobenzidine	0.576	0.418		27.4	5
Benzo[a]anthracene	1.663	1.363		18.0	
Chrysene	1.579	1.289		18.4	
Bis(2-ethylhexyl)phthalate	1.351	1.236		8.5	
Di-n-octylphthalate	1.997	1.884		5.7	
Benzo[b]fluoranthene	1.581	1.156		26.9	5
Benzo[k]fluoranthene	1.367	1.347		1.5	
Benzo[a]pyrene	1.292	1.037		19.7	
Indeno(1,2,3-c,d)pyrene	1.752	1.480		15.5	
Dibenzo[a,h]anthracene	1.329	1.129		15.0	
Benzo[g,h,i]perylene	1.535	1.235		19.5	
2-Fluorophenol	1.066	1.009		5.3	
Phenol-d5	1.431	1.265		11.6	
2-Chlorophenol-d4	1.083	0.987		8.9	
1,2-Dichlorobenzene-d4	0.775	0.708		8.6	
Nitrobenzene-d5	0.362	0.358		1.1	
2-Fluorobiphenyl	1.247	1.123		9.9	
2,4,6-Tribromophenol	0.155	0.146		5.8	
Terphenyl-d14	1.097	0.858		21.8	

All other compounds must meet a minimum RRF of 0.010.

**MULTI-MEDIA SEMIVOLATILE ORGANIC FRACTION
INTERNAL STANDARD AREA SUMMARY**

Is the EICP area for each internal standard in all associated field samples, QC samples, and blanks within - 50% and + 100% of the respective internal standard EICP areas (Yes/No)? YES

If no, the non compliant internal standards have been circled in red.

If the EICP area of one (1) or more internal standard is less than -50%:

- Positive results for those compounds that are quantified using the particular internal standard are flagged as estimated (J).
- Non detected for that fraction are flagged with the sample quantitation limit classified as estimated (UJ).

If the EICP area of one (1) or more internal standards is greater than +100%:

- Positive results for those compounds that are quantified using the particular internal standard are flagged as estimated (J).

The internal standard area form 8's or equivalent have been included.

SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: ANTECH LTD.

Contract: _____

Lab Code: _____

Case No.: 96-5586

SAS No.: _____

SDG No.: 5586

Lab File ID (Standard): M41222C2.D

Date Analyzed: 12/22/96

Instrument ID: M4

Time Analyzed: 1248

	IS1 AREA #	RT #	IS2 AREA #	RT #	IS3 AREA #	RT #
12 HOUR STD	222220	3.59	780453	4.17	435317	5.01
UPPER LIMIT	444440	4.09	1560906	4.67	870634	5.51
LOWER LIMIT	111110	3.09	390227	3.67	217659	4.51
EPA SAMPLE NO.						
01 SBLK01	210411	3.59	750286	4.19	399258	5.06
02 GW-EB02-1196	223976	3.59	808467	4.17	397659	5.00
03 GW-LAW5-1196	206363	3.59	758050	4.17	379436	5.00
04 GW-LAW6-1196	207785	3.59	757433	4.17	390097	4.99
05 GW-WP4-1196	225557	3.59	816214	4.17	400537	5.00
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IS1 = 1,4-Dichlorobenzene-d4

IS2 = Naphthalene-d8

IS3 = Acenaphthene-d10

AREA UPPER LIMIT = +100% of internal standard area

AREA LOWER LIMIT = - 50% of internal standard area

RT UPPER LIMIT = +0.50 minutes of internal standard RT

RT LOWER LIMIT = -0.50 minutes of internal standard RT

Column used to flag internal standard area values with an asterisk.

* Values outside of QC limits.

SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: ANTECH LTD.

Contract: _____

Lab Code: _____

Case No.: 96-5586

SAS No.: _____

SDG No.: 5586Lab File ID (Standard): M41222C2.DDate Analyzed: 12/22/96Instrument ID: M4Time Analyzed: 1248

	IS4 AREA #	RT #	IS5 AREA #	RT #	IS6 AREA #	RT #
12 HOUR STD	570378	5.79	405650	7.41	493181	8.34
UPPER LIMIT	1140756	6.29	811300	7.91	986362	8.84
LOWER LIMIT	285189	5.29	202825	6.91	246591	7.84
EPA SAMPLE NO.						
01 SBLK01	526315	5.86	383925	7.53	444973	8.48
02 GW-EB02-1196	545629	5.77	392727	7.36	445936	8.29
03 GW-LAW5-1196	505184	5.77	361918	7.37	406464	8.28
04 GW-LAW6-1196	~~516906~~	~~5.75~~	377502	7.33	422696	8.24
05 GW-WP4-1196	553440	5.76	393226	7.34	441827	8.25
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IS4 = Phenanthrene-d10

IS5 = Chrysene-d12

IS6 = Perylene-D12

AREA UPPER LIMIT = +100% of internal standard area

AREA LOWER LIMIT = - 50% of internal standard area

RT UPPER LIMIT = +0.50 minutes of internal standard RT

RT LOWER LIMIT = -0.50 minutes of internal standard RT

Column used to flag internal standard area values with an asterisk.

* Values outside of QC limits.

SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: ANTECH LTD.

Contract: _____

Lab Code: _____

Case No.: 96-5586

SAS No.: _____

SDG No.: 5586Lab File ID (Standard): M40203C1.DDate Analyzed: 2/3/97Instrument ID: M4Time Analyzed: 1222

	IS1 AREA #	RT #	IS2 AREA #	RT #	IS3 AREA #	RT #
12 HOUR STD	186706	3.52	630858	4.10	365397	4.95
UPPER LIMIT	373412	4.02	1261716	4.60	730794	5.45
LOWER LIMIT	93353	3.02	315429	3.60	182699	4.45
EPA SAMPLE NO.						
01 SBLK01	167886	3.52	577863	4.10	312456	4.93
02 GW-MW1-1196	176597	3.52	573308	4.10	325245	4.92
03 GW-WP5-1196	171404	3.52	594622	4.10	325194	4.92
04 GW-RFI12-1196	~~192548~~	3.51	647560	4.09	346348	4.91
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IS1 = 1,4-Dichlorobenzene-d4

IS2 = Naphthalene-d8

IS3 = Acenaphthene-d10

AREA UPPER LIMIT = +100% of internal standard area

AREA LOWER LIMIT = - 50% of internal standard area

RT UPPER LIMIT = +0.50 minutes of internal standard RT

RT LOWER LIMIT = -0.50 minutes of internal standard RT

Column used to flag internal standard area values with an asterisk.

* Values outside of QC limits.

SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

000338

Lab Name: ANTECH LTD.

Contract: _____

Lab Code: _____

Case No.: 96-5586

SAS No.: _____

SDG No.: 5586Lab File ID (Standard): M40203C1.DDate Analyzed: 2/3/97Instrument ID: M4Time Analyzed: 1222

	IS4 AREA #	RT #	IS5 AREA #	RT #	IS6 AREA #	RT #
12 HOUR STD	526319	5.74	373164	7.38	408947	8.33
UPPER LIMIT	1052638	6.24	746328	7.88	817894	8.83
LOWER LIMIT	263160	5.24	186582	6.88	204474	7.83
EPA SAMPLE NO.						
01 SBLK01	457021	5.69	324492	7.27	365479	8.18
02 GW-MW1-1196	466316	5.67	336272	7.24	381949	8.14
03 GW-WP5-1196	445329	5.68	335680	7.25	371941	8.15
04 GW-RF112-1196	~~498900~~	5.66	372280	7.24	422124	8.14
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IS4 = Phenanthrene-d10

IS5 = Chrysene-d12

IS6 = Perylene-D12

AREA UPPER LIMIT = +100% of internal standard area

AREA LOWER LIMIT = - 50% of internal standard area

RT UPPER LIMIT = +0.50 minutes of internal standard RT

RT LOWER LIMIT = -0.50 minutes of internal standard RT

Column used to flag internal standard area values with an asterisk.

* Values outside of QC limits.

**MULTI-MEDIA SEMIVOLATILE ORGANIC FRACTION
BLANK SUMMARY**

1. Blank qualification guidelines:

- a) If a compound is found in the blank but not in the sample, no action is taken.
- b) Any compound (other than listed below) detected in the sample, which was also detected in the associated blank, must be qualified by elevating the limit of detection or adjusting the limit of detection to the sample result, when the sample concentration is less than five (5) times the blank concentration. For the following compounds, the results are qualified by elevating the limit of detection or adjusting the limit of detection to the sample result, when the sample concentration is less than ten (10) times the blank concentration.

Common laboratory contaminants: phthalates

- c) The reviewer should take note that the blank analysis may not involve the same weights, volumes or dilution factors as associated samples. These factors must be taken into consideration when applying the 5X and 10X criteria.
- d) In addition, the reviewer must review the trip blanks, rinseate blanks and field blanks (if they were submitted with the data package) and all associated samples. Apply the same data validation guidelines used in assessing the method blanks.
- e) Qualification/Action codes:

U - The sample result is greater than the CRQL and less than ten times (10X) the blank value. Cross out the "B" flag and qualify the sample result with a "U".

CRQL - The sample result is less than the CRQL and less than ten times (10X) the blank value. Reject the sample result, cross out the "B" flag, and report the CRQL.

No Action - The sample result is greater than the CRQL and greater than ten times (10X) the blank value.

4B
SEMIVOLATILE METHOD BLANK SUMMARY

EPA SAMPLE NO. **000331**

SBLK01

Lab Name: ANTECH LTD. Contract: _____

Lab Code: _____ Case No.: 96-5586 SAS No.: _____ SDG No.: _____

Lab File ID: M41222S1.D Lab Sample ID: AMBLK

Instrument ID: M4 Date Extracted: 11/27/96

Matrix: (soil/water) WATER Date Analyzed: 12/22/96

Level: (low/med) _____ Time Analyzed: 1327

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS AND MSD:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
01	GW-EB02-1196	A11-2615	M41222D6.D	12/22/96
02	GW-LAW5-1196	A11-2616	M41222D7.D	12/22/96
03	GW-LAW6-1196	A11-2617	M41222D8.D	12/22/96
04	GW-WP4-1196	A11-2618	M41222D9.D	12/22/96
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COMMENTS:

No contamination

4B
SEMIVOLATILE METHOD BLANK SUMMARY

000332
EPA SAMPLE NO.

SBLK01

Lab Name: ANTECH LTD. Contract: _____

Lab Code: _____ Case No.: 96-5586 SAS No.: _____ SDG No.: _____

Lab File ID: M40203S6.D Lab Sample ID: AMBLK

Instrument ID: M4 Date Extracted: 11/27/96

Matrix: (soil/water) WATER Date Analyzed: 2/3/97

Level: (low/med) _____ Time Analyzed: 1519

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS AND MSD:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
01	GW-MW1-1196	A11-2614	M40203S7.D	02/03/97
02	GW-WP5-1196	A11-2619	M40203S8.D	02/03/97
03	GW-RFI12-1196	A11-2620	M40203S9.D	02/03/97
04				
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COMMENTS:

no contamination

MULTI-MEDIA SEMIVOLATILE ORGANIC FRACTION
BLANK SUMMARY - TCL SUMMARY

Type of Blank: RINSEATE

Matrix: WATER

Sample ID: GWEB021196

File ID:

# Compound	Concentration	CRQL	Action Level

1. NONE

2.

3.

4.

5.

6.

7.

8.

9.

10.

1	2	3	4	5	6	7	8	9	10

Sample ID:

ALL ASSOCIATED SAMPLES

2C
WATER SEMIVOLATILE SURROGATE RECOVERY

000329

Lab Name: ANTECH LTD.

Contract: _____

Lab Code: _____ Case No.: 96-5586

SAS No.: _____

SDG No.: 5586

	EPA SAMPLE NO.	S1 2PF #	S2 PHE #	S3 2CP #	S4 DCB #	S5 NB5 #	S6 2FB #	S7 TBP #	S8 TPD #	TOT OUT
01	SBLK01	35	24	59	51	68	74	89	89	
02	GW-MW1-1196	18 *	14	30 *	30	37	40 *	40	46	3
03	GW-WP5-1196	13 *	11	22 *	22	26 *	31 *	31	40	4
04	GW-RFI12-1196	20 *	15	33	35	45	49	54	57	1
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J/45
J/45
NA

S1 2PF = 2-Fluorophenol
S2 PHE = Phenol-d5
S3 2CP = 2-Chlorophenol-d4
S4 DCB = 1,2-Dichlorobenzene-d4
S5 NB5 = Nitrobenzene-d5
S6 2FB = 2-Fluorobiphenyl
S7 TBP = 2,4,6-Tribromophenol
S8 TPD = Terphenyl-d14

QC LIMITS

(21-110)
(10-110)
(33-110)
(18-110)
(35-114)
(43-116)
(10-123)
(33-141)

Column to be used to flag recovery values
* Values outside of contract required QC limits
D Surrogate diluted out

2C

WATER SEMIVOLATILE SURROGATE RECOVERY

Lab Name: ANTECH LTD.

Contract: _____

Lab Code: _____ Case No.: 96-5586

SAS No.: _____ SDG No.: 5586

	EPA SAMPLE NO.	S1 2PF #	S2 PHE #	S3 2CP #	S4 DCB #	S5 NB5 #	S6 2FB #	S7 TBP #	S8 TPD #	TOT OUT
01	SBLK01	27	18	45	38	46	54	54	58	
02	GW-EB02-1196	20 *	15	31 *	30	33 *	44	51	64	3
03	GW-LAW5-1196	15 *	12	22 *	20	23 *	32 *	26	50	4
04	GW-LAW6-1196	3 *	2 *	15 *	33	46	55	10	59	3
05	GW-WP4-1196	16 *	13	26 *	25	28 *	35 *	28	39	4
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5/45

QC LIMITS

S1 2PF = 2-Fluorophenol
 S2 PHE = Phenol-d5
 S3 2CP = 2-Chlorophenol-d4
 S4 DCB = 1,2-Dichlorobenzene-d4
 S5 NB5 = Nitrobenzene-d5
 S6 2FB = 2-Fluorobiphenyl
 S7 TBP = 2,4,6-Tribromophenol
 S8 TPD = Terphenyl-d14

(21-110)
 (10-110)
 (33-110)
 (18-110)
 (35-114)
 (43-116)
 (10-123)
 (33-141)

Column to be used to flag recovery values
 * Values outside of contract required QC limits
 D Surrogate diluted out

MULTI-MEDIA SEMIVOLATILE ORGANIC FRACTION
SAMPLE RESULT VERIFICATION

1. Were the sample results reported within the calibration range (YES/NO)? YES
2. Was the percent moisture reported for all soil samples (YES/NO/NA)? NA
3. Was the data reported on a dry weight basis (YES/NO/NA)? NA
4. Did the GC/MS RIC's and TIC's exhibit interferences, off scale peaks or elevated baseline (YES/NO)? NO
5. Did the data contain elevated detection limits that could not be verified (YES/NO)? NO
6. Were any computational or transcription errors found (YES/NO)? NO

Specific Comments:

Reviewer

Daniel J. Heil AVP

Date: 6/30/97

HEARTLAND ESI P/A 1

HESI95.1

MULTI-MEDIA PESTICIDE/AROCLOR ORGANIC FRACTION

CASE NUMBER: _____ SDG NUMBER: 96-5586

LABORATORY: Antech Ltd

CLIENT: ESC PROJECT: Dunkirk

REVIEWER: E. Frederick DATE: 6/30/97

QA/QC LEVEL

- ☐ NEESA C
- ☐ NEESA D
- ☐ DQO LEVEL III
- ☐ DQO LEVEL IV
- ☒ NYSDEC level III

Statement Of Work (SOW):

- ☐ CLP 3/90
- ☒ SW846 8030

ANALYSIS MODIFICATIONS: PCB only

	<u>Water</u>	<u>Soil</u>	<u>Analysis</u>
CLP:	7 days from sampling	14 days from sampling	40 days from EXTR.
Region I:	7 days from sampling	7 days from sampling	40 days from EXTR.
Region II:	7 days from sampling	7 days from sampling	40 days from EXTR.
Region III:	7 days from sampling	7 days from sampling	40 days from EXTR.
✓ NYSDEC:	5 days form VTSR	5 days from VTSR	40 days From EXTR.

Yes ☒ No ☐

If no, complete the following form for all samples that exceeded holding times.

[illegible]

Action: DA - The number of days that the holding time was exceeded.

DA $\leq$ 5: Qualify all positive results as estimated (J).

DA > 5 ≤ 15: Qualify all positive results as estimated (J) and all non detects estimated (UJ).

DA > 15: Qualify all positive results estimated (J) and reject all non detects.

Instrument Run Logbook

(1) Code Key:

- C = Confirmation
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- B = Dilutable Sample (First Injection whether used or not)
- D = Sample dilutions/Reruns
- R = Reextraction runs
- N = Nonbillable samples (Instrument blanks, MDLs, method development)

Run No.	Project No.	Sample Identification	Dilution Factor	Analysis	Comments	Code (1)	Folio No.
1	12-5-98	Ac 2048 0.1 gr GC-144-23		PEB		8	754
2		Ac 2048 0.1 gr GC-144-23		PEB		8	755
3		Ac 2048 0.1 gr GC-144-23				2	152
4		Ac 2048 0.1 gr GC-144-23				1.43	157
5		Ac 2048 0.1 gr GC-144-23				1	158
6		Hexane					159
7		Ac 2048 0.1 gr GC-144-23				10	160
8		Ac 2048 0.1 gr GC-144-23				8	161
9		Ac 2048 0.1 gr GC-144-23				2	162
10		Ac 2048 0.1 gr GC-144-23				1.43	163
11		Ac 2048 0.1 gr GC-144-23				1	164
12		Hexane					165
13		Ac 2048 0.1 gr GC-144-23				10	166
14		Ac 2048 0.1 gr GC-144-23				8	167
15		Ac 2048 0.1 gr GC-144-23				2	168
16		Ac 2048 0.1 gr GC-144-23				1.43	169
17		Ac 2048 0.1 gr GC-144-23				1	170
18		Hexane					171
19		Ac 2048 0.1 gr GC-144-23				10	172
20		Ac 2048 0.1 gr GC-144-23				8	173
21		Ac 2048 0.1 gr GC-144-23				2	174
22		Ac 2048 0.1 gr GC-144-23				1.43	175
23		Ac 2048 0.1 gr GC-144-23				1	176
24		Hexane					177
25		Ac 2048 0.1 gr GC-144-23				10	178
26		Ac 2048 0.1 gr GC-144-23				8	179
27		Ac 2048 0.1 gr GC-144-23				2	180
28		Ac 2048 0.1 gr GC-144-23				1.43	181
29		Ac 2048 0.1 gr GC-144-23				1	182
30		Hexane					183
31		Ac 2048 0.1 gr GC-144-23				10	184
32		Ac 2048 0.1 gr GC-144-23				8	185
33		Ac 2048 0.1 gr GC-144-23				2	186
34		Ac 2048 0.1 gr GC-144-23				1.43	187
35		Ac 2048 0.1 gr GC-144-23				1	188
36		Hexane					189
37		Ac 2048 0.1 gr GC-144-23				10	190
38		Ac 2048 0.1 gr GC-144-23				8	191
39		Ac 2048 0.1 gr GC-144-23				2	192
40		Ac 2048 0.1 gr GC-144-23				1.43	193
41		Ac 2048 0.1 gr GC-144-23				1	194
42		Hexane					195
43		Ac 2048 0.1 gr GC-144-23				10	196
44		Ac 2048 0.1 gr GC-144-23				8	197
45		Ac 2048 0.1 gr GC-144-23				2	198
46		Ac 2048 0.1 gr GC-144-23				1.43	199
47		Ac 2048 0.1 gr GC-144-23				1	200
48		Hexane					201
49		Ac 2048 0.1 gr GC-144-23				10	202
50		Ac 2048 0.1 gr GC-144-23				8	203
51		Ac 2048 0.1 gr GC-144-23				2	204
52		Ac 2048 0.1 gr GC-144-23				1.43	205
53		Ac 2048 0.1 gr GC-144-23				1	206
54		Hexane					207
55		Ac 2048 0.1 gr GC-144-23				10	208
56		Ac 2048 0.1 gr GC-144-23				8	209
57		Ac 2048 0.1 gr GC-144-23				2	210
58		Ac 2048 0.1 gr GC-144-23				1.43	211
59		Ac 2048 0.1 gr GC-144-23				1	212
60		Hexane					213
61		Ac 2048 0.1 gr GC-144-23				10	214
62		Ac 2048 0.1 gr GC-144-23				8	215
63		Ac 2048 0.1 gr GC-144-23				2	216
64		Ac 2048 0.1 gr GC-144-23				1.43	217
65		Ac 2048 0.1 gr GC-144-23				1	218
66		Hexane					219
67		Ac 2048 0.1 gr GC-144-23				10	220
68		Ac 2048 0.1 gr GC-144-23				8	221
69		Ac 2048 0.1 gr GC-144-23				2	222
70		Ac 2048 0.1 gr GC-144-23				1.43	223
71		Ac 2048 0.1 gr GC-144-23				1	224
72		Hexane					225
73		Ac 2048 0.1 gr GC-144-23				10	226
74		Ac 2048 0.1 gr GC-144-23				8	227
75		Ac 2048 0.1 gr GC-144-23				2	228
76		Ac 2048 0.1 gr GC-144-23				1.43	229
77		Ac 2048 0.1 gr GC-144-23				1	230
78		Hexane					231
79		Ac 2048 0.1 gr GC-144-23				10	232
80		Ac 2048 0.1 gr GC-144-23				8	233
81		Ac 2048 0.1 gr GC-144-23				2	234
82		Ac 2048 0.1 gr GC-144-23				1.43	235
83		Ac 2048 0.1 gr GC-144-23				1	236
84		Hexane					237
85		Ac 2048 0.1 gr GC-144-23				10	238
86		Ac 2048 0.1 gr GC-144-23				8	239
87		Ac 2048 0.1 gr GC-144-23				2	240
88		Ac 2048 0.1 gr GC-144-23				1.43	241
89		Ac 2048 0.1 gr GC-144-23				1	242
90		Hexane					243
91		Ac 2048 0.1 gr GC-144-23				10	244
92		Ac 2048 0.1 gr GC-144-23				8	245
93		Ac 2048 0.1 gr GC-144-23				2	246
94		Ac 2048 0.1 gr GC-144-23				1.43	247
95		Ac 2048 0.1 gr GC-144-23				1	248
96		Hexane					249
97		Ac 2048 0.1 gr GC-144-23				10	250
98		Ac 2048 0.1 gr GC-144-23				8	251
99		Ac 2048 0.1 gr GC-144-23				2	252
100		Ac 2048 0.1 gr GC-144-23				1.43	253
101		Ac 2048 0.1 gr GC-144-23				1	254
102		Hexane					255
103		Ac 2048 0.1 gr GC-144-23				10	256
104		Ac 2048 0.1 gr GC-144-23				8	257
105		Ac 2048 0.1 gr GC-144-23				2	258
106		Ac 2048 0.1 gr GC-144-23				1.43	259
107		Ac 2048 0.1 gr GC-144-23				1	260
108		Hexane					261
109		Ac 2048 0.1 gr GC-144-23				10	262
110		Ac 2048 0.1 gr GC-144-23				8	263
111		Ac 2048 0.1 gr GC-144-23				2	264
112		Ac 2048 0.1 gr GC-144-23				1.43	265
113		Ac 2048 0.1 gr GC-144-23				1	266
114		Hexane					267
115		Ac 2048 0.1 gr GC-144-23				10	268
116		Ac 2048 0.1 gr GC-144-23				8	269
117		Ac 2048 0.1 gr GC-144-23				2	270
118		Ac 2048 0.1 gr GC-144-23				1.43	271
119		Ac 2048 0.1 gr GC-144-23				1	272
120		Hexane					273
121		Ac 2048 0.1 gr GC-144-23				10	274
122		Ac 2048 0.1 gr GC-144-23				8	275
123		Ac 2048 0.1 gr GC-144-23				2	276
124		Ac 2048 0.1 gr GC-144-23				1.43	277
125		Ac 2048 0.1 gr GC-144-23				1	278
126		Hexane					279
127		Ac 2048 0.1 gr GC-144-23				10	280
128		Ac 2048 0.1 gr GC-144-23				8	281
129		Ac 2048 0.1 gr GC-144-23				2	282
130		Ac 2048 0.1 gr GC-144-23				1.43	283
131		Ac 2048 0.1 gr GC-144-23				1	284
132		Hexane					285
133		Ac 2048 0.1 gr GC-144-23				10	286
134		Ac 2048 0.1 gr GC-144-23				8	287
135		Ac 2048 0.1 gr GC-144-23				2	288
136		Ac 2048 0.1 gr GC-144-23				1.43	289
137		Ac 2048 0.1 gr GC-144-23				1	290
138		Hexane					291
139		Ac 2048 0.1 gr GC-144-23				10	292
140		Ac 2048 0.1 gr GC-144-23				8	293
141		Ac 2048 0.1 gr GC-144-23				2	294
142		Ac 2048 0.1 gr GC-144-23				1.43	295
143		Ac 2048 0.1 gr GC-144-23				1	296
144		Hexane					297
145		Ac 2048 0.1 gr GC-144-23				10	298
146		Ac 2048 0.1 gr GC-144-23				8	299
147		Ac 2048 0.1 gr GC-144-23				2	300
148		Ac 2048 0.1 gr GC-144-23				1.43	301
149		Ac 2048 0.1 gr GC-144-23				1	302
150		Hexane					303
151		Ac 2048 0.1 gr GC-144-23				10	304
152		Ac 2048 0.1 gr GC-144-23				8	305
153		Ac 2048 0.1 gr GC-144-23				2	306
154		Ac 2048 0.1 gr GC-144-23				1.43	307
155		Ac 2048 0.1 gr GC-144-23				1	308
156		Hexane					309
157		Ac 2048 0.1 gr GC-144-23				10	310
158		Ac 2048 0.1 gr GC-144-23				8	311
159		Ac 2048 0.1 gr GC-144-23				2	312
160		Ac 2048 0.1 gr GC-144-23				1.43	313
161		Ac 2048 0.1 gr GC-144-23				1	314
162		Hexane					315
163		Ac 2048 0.1 gr GC-144-23				10	316
164		Ac 2048 0.1 gr GC-144-23				8	317
165		Ac 2048 0.1 gr GC-144-23				2	318
166		Ac 2048 0.1 gr GC-144-23				1.43	319
167		Ac 2048 0.1 gr GC-144-23				1	320
168		Hexane					321
169		Ac 2048 0.1 gr GC-144-23				10	322
170		Ac 2048 0.1 gr GC-144-23				8	323
171		Ac 2048 0.1 gr GC-144-23				2	324
172		Ac 2048 0.1 gr GC-144-23				1.43	325
173		Ac 2048 0.1 gr GC-144-23				1	326
174		Hexane					327
175		Ac 2048 0.1 gr GC-144-23				10	328
176		Ac 2048 0.1 gr GC-144-23				8	329
177		Ac 2048 0.1 gr GC-144-23				2	330
178		Ac 2048 0.1 gr GC-144-23				1.43	331
179		Ac 2048 0.1 gr GC-144-23				1	332
180		Hexane					333
181		Ac 2048 0.1 gr GC-144-23				10	334
182		Ac 2048 0.1 gr GC-144-23				8	335
183		Ac 2048 0.1 gr GC-144-23				2	336
184		Ac 2048 0.1 gr GC-144-23				1.43	337
185		Ac 2048 0.1 gr GC-144-23				1	338
186		Hexane					

Instrument Run Logbook

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Date: 12-10-91

By: [Signature]

IS

Run No.	Project No.	Sample Identification	Dilution Factor	Analysis	Comments	Code (1)	File No.
1		Heedee				N	856
2		Heedee				N	857
3		Heedee				N	858
4		Heedee				N	859
5		Heedee				N	860
6		Heedee				N	861
7		Heedee				N	862
8		Heedee				N	863
9		Heedee				N	864
10		Heedee				N	865
11		Heedee				N	866
12		Heedee				N	867
13		Heedee				N	868
14		Heedee				N	869
15		Heedee				N	870
16		Heedee				N	871
17		Heedee				N	872
18		Heedee				N	873
19		Heedee				N	874
20		Heedee				N	875
21		Heedee				N	876
22		Heedee				N	877
23		Heedee				N	878
24		Heedee				N	879
25		Heedee				N	880
26		Heedee				N	881
27		Heedee				N	882
28		Heedee				N	883
29		Heedee				N	884
30		Heedee				N	885
31		Heedee				N	886
32		Heedee				N	887
33		Heedee				N	888
34		Heedee				N	889
35		Heedee				N	890
36		Heedee				N	891
37		Heedee				N	892
38		Heedee				N	893
39		Heedee				N	894
40		Heedee				N	895
41		Heedee				N	896
42		Heedee				N	897
43		Heedee				N	898
44		Heedee				N	899
45		Heedee				N	900
46		Heedee				N	901
47		Heedee				N	902
48		Heedee				N	903
49		Heedee				N	904
50		Heedee				N	905
51		Heedee				N	906
52		Heedee				N	907
53		Heedee				N	908
54		Heedee				N	909
55		Heedee				N	910
56		Heedee				N	911
57		Heedee				N	912
58		Heedee				N	913
59		Heedee				N	914
60		Heedee				N	915
61		Heedee				N	916
62		Heedee				N	917
63		Heedee				N	918
64		Heedee				N	919
65		Heedee				N	920
66		Heedee				N	921
67		Heedee				N	922
68		Heedee				N	923
69		Heedee				N	924
70		Heedee				N	925
71		Heedee				N	926
72		Heedee				N	927
73		Heedee				N	928
74		Heedee				N	929
75		Heedee				N	930
76		Heedee				N	931
77		Heedee				N	932
78		Heedee				N	933
79		Heedee				N	934
80		Heedee				N	935
81		Heedee				N	936
82		Heedee				N	937
83		Heedee				N	938
84		Heedee				N	939
85		Heedee				N	940
86		Heedee				N	941
87		Heedee				N	942
88		Heedee				N	943
89		Heedee				N	944
90		Heedee				N	945
91		Heedee				N	946
92		Heedee				N	947
93		Heedee				N	948
94		Heedee				N	949
95		Heedee				N	950
96		Heedee				N	951
97		Heedee				N	952
98		Heedee				N	953
99		Heedee				N	954
100		Heedee				N	955

Instrument Run Logbook

12-596

Date: 12-596

By: 12-596

Run No.	Project No.	Sample Identification	Dilution Factor	Analysis	Commons	Code (1)	File No.
1	12-596	Heure				N	871
2	12-596	1A2-16010.002pm GC 145-10				S	872
3	12-596	1A2-16010.002pm GC 145-10	9			S	873
4	12-596	1A2-16010.002pm GC 145-10	8			S	874
5	12-596	1A2-16010.002pm GC 145-10	7			S	875
6	12-596	1A2-16010.002pm GC 145-10	6			S	876
7	12-596	1A2-16010.002pm GC 145-10	5			S	877
8	12-596	1A2-16010.002pm GC 145-10	5 (4-10)			S	878
9	12-596	1A2-16010.002pm GC 145-10	30			S	879
10	12-596	1A2-16010.002pm GC 145-10				S	880
11	12-596	1A2-16010.002pm GC 145-10				S	881
12	12-596	1A2-16010.002pm GC 145-10				S	882
13	12-596	1A2-16010.002pm GC 145-10				S	883
14	12-596	1A2-16010.002pm GC 145-10				S	884
15	12-596	1A2-16010.002pm GC 145-10				S	885
16	12-596	1A2-16010.002pm GC 145-10				S	886
17	12-596	1A2-16010.002pm GC 145-10				S	887
18	12-596	1A2-16010.002pm GC 145-10				S	888
19	12-596	1A2-16010.002pm GC 145-10				S	889
20	12-596	1A2-16010.002pm GC 145-10				S	890
21	12-596	1A2-16010.002pm GC 145-10				S	891

Instrument Run Logbook

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Project No.	Sample Identification	Dilution Factor	Analysis	Comments	Code (1)	File No.
11600	11600-01	1			N	973
11600	11600-02	1			N	974
11600	11600-03	1			N	975
11600	11600-04	1			N	976
11600	11600-05	1			N	977
11600	11600-06	1			N	978
11600	11600-07	1			N	979
11600	11600-08	1			N	980
11600	11600-09	1			N	981
11600	11600-10	1			N	982
11600	11600-11	1			N	983
11600	11600-12	1			N	984
11600	11600-13	1			N	985
11600	11600-14	1			N	986
11600	11600-15	1			N	987
11600	11600-16	1			N	988
11600	11600-17	1			N	989
11600	11600-18	1			N	990
11600	11600-19	1			N	991
11600	11600-20	1			N	992
11600	11600-21	1			N	993
11600	11600-22	1			N	994
11600	11600-23	1			N	995
11600	11600-24	1			N	996
11600	11600-25	1			N	997
11600	11600-26	1			N	998
11600	11600-27	1			N	999
11600	11600-28	1			N	1000

MAC Antech-RunLog/Instrument

000687

Instrument Run Logbook

IS

10-11-2014

1005/104/508

(1) Code Key:
 C - Confirmation
 S - Standards
 Q - MS/MSD/LCS/ASD/Method Blanks
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 D - Sample dilutions/Reruns
 R - Reextraction runs
 N - Nonbillable samples (Instrument blanks, MDLs, method development)

Project No.	Sample Identification	Dilution Factor	Analysis	Comments	Code (1)	File No.
1005/104/508	1005/104/508				5	993
1005/104/508	1005/104/508				1	994
1005/104/508	1005/104/508				4	996
1005/104/508	1005/104/508				4	997
1005/104/508	1005/104/508				2	999
1005/104/508	1005/104/508				8	1000
1005/104/508	1005/104/508				1	101
1005/104/508	1005/104/508				1	102
1005/104/508	1005/104/508				1	103
1005/104/508	1005/104/508				2	104
1005/104/508	1005/104/508				3	105
1005/104/508	1005/104/508				1	106
1005/104/508	1005/104/508				1	107
1005/104/508	1005/104/508				1	108
1005/104/508	1005/104/508				1	109
1005/104/508	1005/104/508				1	110
1005/104/508	1005/104/508				1	111
1005/104/508	1005/104/508				1	112
1005/104/508	1005/104/508				0	113

MAC Antech-Run Log/Instrument

Totals for Page: S = 0 D = 0 C = 0
 1005/104/508

00000000

Instrument Run Logbook

Date: 12-11-92

By: [Signature]

(51)

Run No.	Project No.	Sample Identification	Dilution Factor	Analysis	Comments	Code (1)	Filo No.
57	96-5413	11-1579 soil	37		Dyson Clean	B	1035
58		↓ 80 ↓	↓				36
59		↓ 81 ↓	↓				37
60	96-5761	11-0111 H2O	1		Can ✓	B	31
61		11-0360 ↓	1			B	39
62	96-5613	11-2998 PEO/PEIS H2O	1		Clean only		40
63	96-5869	12-1066 soil	37		BL7 Sumon? Clean		41
64	96-5731	12-81874 waste	1			B	42
65		12-0158 ↓	10		12-0158 waste 12-12-12 1016		43
66	96-5810	12-0628 soil	8		DD x10 = 100 12-12-12 1016		44
67		↓ 21 ↓	5		Clean only		45
68		↓ 130 ↓	8				46
69	96-5828	12-0696 waste	1				47
70	96-5811	12-0632 soil	120		43		48
71		1 0633 ↓	8				49
72	96-5881	12-1124 waste	8		BL7 Sumon? 12-12-12 1016		50
73	96-5886	12-2614 H2O	1		Clean		51
74		↓ 2616 ↓	↓				52
75		↓ 2616 ↓	↓		12-60		53
76		↓ 2617 ↓	↓		Clean		54
77		↓ 2618 ↓	↓		12-60		55

M/C: Antech-Runt-log/Instrument

(1) Total for Page: 5 C = _____
 D = _____
 R = _____
 N = _____

Instrument Run Logbook

File: 211-92
007060/508

SI

Run No.	Project No.	Sample Identification	Dilution Factor	Analysis	Comments	Code (1)	Filo No.
8	96-5586	11-2619 H2O	1		DT-96	B	1056
9		11-2619	1				1057
10		11-2619	1				1058
11		11-2619 WP	1				1059
12		11-2619 1	1				1060
13		11-2619 2	1				1061
14		11-2619 3	1				1062
15		11-2619 4	1				1063
16		11-2619 5	1				1064
17		11-2619 6	1				1065
18		11-2619 7	1				1066
19		11-2619 8	1				1067
20		11-2619 9	1				1068
21		11-2619 10	1				1069
22		11-2619 11	1				1070
23		11-2619 12	1				1071
24		11-2619 13	1				1072
25		11-2619 14	1				1073
26		11-2619 15	1				1074
27		11-2619 16	1				1075
28		11-2619 17	1				1076
29		11-2619 18	1				1077
30		11-2619 19	1				1078
31		11-2619 20	1				1079
32		11-2619 21	1				1080
33		11-2619 22	1				1081
34		11-2619 23	1				1082
35		11-2619 24	1				1083
36		11-2619 25	1				1084
37		11-2619 26	1				1085
38		11-2619 27	1				1086
39		11-2619 28	1				1087
40		11-2619 29	1				1088
41		11-2619 30	1				1089
42		11-2619 31	1				1090
43		11-2619 32	1				1091
44		11-2619 33	1				1092
45		11-2619 34	1				1093
46		11-2619 35	1				1094
47		11-2619 36	1				1095
48		11-2619 37	1				1096
49		11-2619 38	1				1097
50		11-2619 39	1				1098
51		11-2619 40	1				1099
52		11-2619 41	1				1100
53		11-2619 42	1				1101
54		11-2619 43	1				1102
55		11-2619 44	1				1103
56		11-2619 45	1				1104
57		11-2619 46	1				1105
58		11-2619 47	1				1106
59		11-2619 48	1				1107
60		11-2619 49	1				1108
61		11-2619 50	1				1109
62		11-2619 51	1				1110
63		11-2619 52	1				1111
64		11-2619 53	1				1112
65		11-2619 54	1				1113
66		11-2619 55	1				1114
67		11-2619 56	1				1115
68		11-2619 57	1				1116
69		11-2619 58	1				1117
70		11-2619 59	1				1118
71		11-2619 60	1				1119
72		11-2619 61	1				1120
73		11-2619 62	1				1121
74		11-2619 63	1				1122
75		11-2619 64	1				1123
76		11-2619 65	1				1124
77		11-2619 66	1				1125
78		11-2619 67	1				1126
79		11-2619 68	1				1127
80		11-2619 69	1				1128
81		11-2619 70	1				1129
82		11-2619 71	1				1130
83		11-2619 72	1				1131
84		11-2619 73	1				1132
85		11-2619 74	1				1133
86		11-2619 75	1				1134
87		11-2619 76	1				1135
88		11-2619 77	1				1136
89		11-2619 78	1				1137
90		11-2619 79	1				1138
91		11-2619 80	1				1139
92		11-2619 81	1				1140
93		11-2619 82	1				1141
94		11-2619 83	1				1142
95		11-2619 84	1				1143
96		11-2619 85	1				1144
97		11-2619 86	1				1145
98		11-2619 87	1				1146
99		11-2619 88	1				1147
100		11-2619 89	1				1148
101		11-2619 90	1				1149
102		11-2619 91	1				1150
103		11-2619 92	1				1151
104		11-2619 93	1				1152
105		11-2619 94	1				1153
106		11-2619 95	1				1154
107		11-2619 96	1				1155
108		11-2619 97	1				1156
109		11-2619 98	1				1157
110		11-2619 99	1				1158
111		11-2619 100	1				1159
112		11-2619 101	1				1160
113		11-2619 102	1				1161
114		11-2619 103	1				1162
115		11-2619 104	1				1163
116		11-2619 105	1				1164
117		11-2619 106	1				1165
118		11-2619 107	1				1166
119		11-2619 108	1				1167
120		11-2619 109	1				1168
121		11-2619 110	1				1169
122		11-2619 111	1				1170
123		11-2619 112	1				1171
124		11-2619 113	1				1172
125		11-2619 114	1				1173
126		11-2619 115	1				1174
127		11-2619 116	1				1175
128		11-2619 117	1				1176
129		11-2619 118	1				1177
130		11-2619 119	1				1178
131		11-2619 120	1				1179
132		11-2619 121	1				1180
133		11-2619 122	1				1181
134		11-2619 123	1				1182
135		11-2619 124	1				1183
136		11-2619 125	1				1184
137		11-2619 126	1				1185
138		11-2619 127	1				1186
139		11-2619 128	1				1187
140		11-2619 129	1				1188
141		11-2619 130	1				1189
142		11-2619 131	1				1190
143		11-2619 132	1				1191
144		11-2619 133	1				1192
145		11-2619 134	1				1193
146		11-2619 135	1				1194
147		11-2619 136	1				1195
148		11-2619 137	1				1196
149		11-2619 138	1				1197
150		11-2619 139	1				1198
151		11-2619 140	1				1199
152		11-2619 141	1				1200
153		11-2619 142	1				1201
154		11-2619 143	1				1202
155		11-2619 144	1				1203
156		11-2619 145	1				1204
157		11-2619 146	1				1205
158		11-2619 147	1				1206
159		11-2619 148	1				1207
160		11-2619 149	1				1208
161		11-2619 150	1				1209
162		11-2619 151	1				1210
163		11-2619 152	1				1211
164		11-2619 153	1				1212
165		11-2619 154	1				1213
166		11-2619 155	1				1214
167		11-2619 156	1				1215
168		11-2619 157	1				1216
169		11-2619 158	1				1217
170		11-2619 159	1				1218
171		11-2619 160	1				1219
172		11-2619 161	1				1220
173		11-2619 162	1				1221
174		11-2619 163	1				1222
175		11-2619 164	1				1223
176		11-2619 165	1				1224
177		11-2619 166	1				1225
178		11-2619 167	1				1226
179		11-2619 168	1				1227
180		11-2619 169	1				1228
181		11-2619 170	1				1229
182		11-2619 171	1				1230
183		11-2619 172	1				1231
184		11-2619 173	1				1232
185		11-2619 174	1				1233
186		11-2619 175	1				1234
187		11-2619 176	1				1235
188		11-2619 177	1				1236
189		11-2619 178	1				1237
190		11-2619 179	1				1238
191		11-2619 180	1				1239
192		11-2619 181	1				1240
193		11-2619 182	1				1241
194		11-2619 183	1				1242
195		11-2619 184	1				1243
196		11-2619 185	1				1244
197		11-2619 186	1				1245
198		11-2619 187	1				1246
199		11-2619 188	1				1247
200		11-2619 189	1				1248
201		11-2619 190	1				1249
202		11-2619 191	1				1250
203		11-2619 192	1				1251
204		11-2619 193	1				1252
205		11-2619 194	1				1253
206		11-2619 195	1				1254
207		11-2619 196	1				1255
208		11-2619 197	1				1256
209		11-2619 198	1				1257
210		11-2					

Instrument Run Logbook

Date: 11-2-96

By: RAS/ACE

(50, 100)

- (1) Code Key:
 C = Confirmation
 S = Standards
 Q = MS/MSD/LCS/AS/ASD/Method Blanks
 B = Billable Sample (First Injection whether used or not)
 D = Sample dilutions/Reruns
 R = Reextraction runs
 N = Nonbillable samples (Instrument blanks, MDLs, method development)

Run No.	Project No.	Sample Identification	Dilution Factor	Analysis	Comments	Code (1)	Folio No.
1		Hexane		223		N	4414
2		Hexane		922		N	4416
3		An 1000 10 ppm				S	4416
4		Hexane				N	4417
5		An 1600 0.02 ppm 144-29			51660110296 55=50	S	4418
6		0.1 ppm 21			012		4419
7		0.2 27					4420
8		0.5 26					4421
9		0.7 28					4422
10		1.0 24					4423
11		2.0 ppm 144-24 (Geochem)					4424
12		Hexane				N	4426
13		An 2154 0.1 ppm Geo-144-23			52194110296 55=50	S	4426
14		0.2 22			012		4427
15		0.8 21					4428
16		0.7 20					4429
17		1.0 19					4430
18		Hexane				N	4431
19		Std. NIST (460)					4432
20							4433
21							4434
22							4435
23							4436
24							4437
25							4438
26							4439
27							4440
28							4441
29							4442
30							4443
31							4444
32							4445
33							4446
34							4447
35							4448
36							4449
37							4450
38							4451
39							4452
40							4453
41							4454
42							4455
43							4456
44							4457
45							4458
46							4459
47							4460
48							4461
49							4462
50							4463

MAC-Antech-Run Log/Instrument

(1) Totals for P: S = 0, R = 0, N = 0, C = 0

Instrument Run Logbook

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Date: 11-19-2007 12:00/503

(1) Code Key:
 C = Confirmation
 S = Standards
 Q = MS/MSD/LCS/AS/ASD/Method Blanks
 B = Billable Sample (First Injection whether used or not)
 D = Sample dilutions/Reruns
 R = Reextraction runs
 N = Nonbillable samples (Instrument blanks, MDLs, method development)

Run No.	Project No.	Sample Identification	Dilution Factor	Analysis	Comments	Code (1)	File No.
118	124201	GC-143-13		QCB	51242110796.55=50	5	4432
119	124202	GC-143-13		QCB	612		4433
120	124203	GC-143-13					4434
121	124204	GC-143-13					4435
122	124205	GC-143-13					4436
123	124206	GC-143-13					4437
124	124207	GC-143-13					4438
125	124208	GC-143-13					4439
126	124209	GC-143-13					4440
127	124210	GC-143-13					4441
128	124211	GC-143-13					4442
129	124212	GC-143-13					4443
130	124213	GC-143-13					4444
131	124214	GC-143-13					4445
132	124215	GC-143-13					4446
133	124216	GC-143-13					4447
134	124217	GC-143-13					4448
135	124218	GC-143-13					4449
136	124219	GC-143-13					4450
137	124220	GC-143-13					4451
138	124221	GC-143-13					4452

MAC Antech-KunLag Instrument

Instrument Run Logbook

ato: 11/02/08/96

PGSAS R.D.

32

(1) Code Key:

- C = Confirmation
- S = Standards
- Q = MS/MSD/LCS/AS/ASD/Method Blank
- D = Dilutable Sample (First Injection whether used or not)
- D = Sample dilutions/Reruns
- R = Reextraction runs
- N = Nonbillable samples (Instrument blanks, MDLs, method development)

Run No.	Project No.	Sample Identification	Dilution Factor	Analysis	Comments	Code (1)	Filo No.
23		Hexane Blank		✓		N	4516
24		Hexane		✓		N	4517
32		AP-1660 0.5 ppm GC-144-26			51660110596 COI PA	S	4518
42		GC-144-26			52154	S	4519
52		GC-143-21			51242	S	4520
62		GC-143-21			51248	S	4521
72		Hexane Blank				N	4522
82		AP-1660 0.02 GC-144-29			51660110896 SS=560	S	4523
92		GC-144-29					4524
102		GC-144-29					4525
112		GC-144-29					4526
122		GC-144-29					4527
132		GC-144-29					4528
142		GC-144-29					4529
152		Hexane Blank			4516=2.0 ppm	N	4530
162		Hexane					4531
172		GC-144-29					4532
182		GC-144-29					4533
192		GC-144-29					4534
202		GC-144-29					4535
212		GC-144-29					4536
222		GC-144-29					4537
232		GC-144-29					4538
242		GC-144-29					4539
252		GC-144-29					4540
262		GC-144-29					4541
272		GC-144-29					4542
282		GC-144-29					4543
292		GC-144-29					4544
302		GC-144-29					4545
312		GC-144-29					4546
322		GC-144-29					4547
332		GC-144-29					4548
342		GC-144-29					4549
352		GC-144-29					4550
362		GC-144-29					4551
372		GC-144-29					4552
382		GC-144-29					4553
392		GC-144-29					4554
402		GC-144-29					4555
412		GC-144-29					4556
422		GC-144-29					4557
432		GC-144-29					4558
442		GC-144-29					4559
452		GC-144-29					4560
462		GC-144-29					4561
472		GC-144-29					4562
482		GC-144-29					4563
492		GC-144-29					4564
502		GC-144-29					4565
512		GC-144-29					4566
522		GC-144-29					4567
532		GC-144-29					4568
542		GC-144-29					4569
552		GC-144-29					4570
562		GC-144-29					4571
572		GC-144-29					4572
582		GC-144-29					4573
592		GC-144-29					4574
602		GC-144-29					4575
612		GC-144-29					4576
622		GC-144-29					4577
632		GC-144-29					4578
642		GC-144-29					4579
652		GC-144-29					4580
662		GC-144-29					4581
672		GC-144-29					4582
682		GC-144-29					4583
692		GC-144-29					4584
702		GC-144-29					4585
712		GC-144-29					4586
722		GC-144-29					4587
732		GC-144-29					4588
742		GC-144-29					4589
752		GC-144-29					4590
762		GC-144-29					4591
772		GC-144-29					4592
782		GC-144-29					4593
792		GC-144-29					4594
802		GC-144-29					4595
812		GC-144-29					4596
822		GC-144-29					4597
832		GC-144-29					4598
842		GC-144-29					4599
852		GC-144-29					4600
862		GC-144-29					4601
872		GC-144-29					4602
882		GC-144-29					4603
892		GC-144-29					4604
902		GC-144-29					4605
912		GC-144-29					4606
922		GC-144-29					4607
932		GC-144-29					4608
942		GC-144-29					4609
952		GC-144-29					4610
962		GC-144-29					4611
972		GC-144-29					4612
982		GC-144-29					4613
992		GC-144-29					4614
1002		GC-144-29					4615

MAC-Antech-RunLog/Instrument

Totals for Page: S = D = C =

R = Q =

B = N =

Instrument Run Logbook

Date: 11-15-96

(35)

By: (Signature) / KAC/SAS

Run No.	Project No.	Sample Identification	Dilution Factor	Analysis	Comments	Code (1)	Folio No.
22	110896	Ac 1660 0.5 ppm GC-144-26			S1160 110896 COT	S	51571
23	110896	2151	↓ -21		2151 110896 COT	S	51572
24	110896	1242	143-21		1242 110896 COT + 5047-FAL	S	51573
25	110896	1248	↓ -16		1248 110896 COT	S	51604
26	110896	Hexane				N	↓ 614
27	110896	Hexane				N	↓ 614
28	110896	Ac 1242 0.5 ppm GC-142-21 (Hexane)			51242 110896 COT	S	↓ 614
29	110896	Hexane				N	↓ 614
30	110896	Hexane				N	↓ 614
31	110896	Ac 1242 0.1 ppm GC-143-23				S	↓ 614
32	110896	22	22			S	↓ 614
33	110896	21	21			S	↓ 614
34	110896	20	20			S	↓ 614
35	110896	19	19			S	↓ 614
36	110896	Hexane				N	↓ 614
37	110896	10-96-1067				S	↓ 614
38	110896	10-96-1067				S	↓ 614
39	110896	10-96-1067				S	↓ 614
40	110896	10-96-1067				S	↓ 614
41	110896	10-96-1067				S	↓ 614
42	110896	10-96-1067				S	↓ 614
43	110896	10-96-1067				S	↓ 614
44	110896	10-96-1067				S	↓ 614
45	110896	10-96-1067				S	↓ 614
46	110896	10-96-1067				S	↓ 614
47	110896	10-96-1067				S	↓ 614
48	110896	10-96-1067				S	↓ 614

Instrument Run Logbook

Date: 12/1/96
 By: RCE/MS
 (Signature)

(1) Code Key:

- C = Confirmation
- S = Standards
- Q = MS/MSD/LCS/AS/ASD/Method Blanks
- B = Billable Sample (First Injection whether used or not)
- D = Sample dilutions/Runs
- R = Reextraction runs
- N = Nonbillable samples (Instrument blanks, MDLs, method development)

Run No.	Project No.	Sample Identification	Dilution Factor	Analysis	Comments	Code (1)	File No.
2192	6019061190	Hexane Blank		(C)		N	5550
2193	6019061190	Hexane Blank		(C)		N	5551
2194	6019061190	AR 1660-015 ppm GC-1424-26		(C)	51660 110876-509-615	N	5552
2195	6019061190	21524-1		(C)	21534 1108916-584-615	N	5553
2196	6019061190	21524-2		(C)	51242-11896-502-615	N	5554
2197	6019061190	21524-3		(C)	51248 110796-509-615	N	5555
2198	6019061190	Hexane Blank		(C)		N	5556
2199	6019061190	12-0501		(C)		B	5557
2200	6019061190	12-0502		(C)		N	5558
2201	6019061190	12-0503		(C)		N	5559
2202	6019061190	12-0504		(C)		N	5560
2203	6019061190	12-0505		(C)		N	5561
2204	6019061190	12-0506		(C)		N	5562
2205	6019061190	12-0507		(C)		N	5563
2206	6019061190	12-0508		(C)		N	5564
2207	6019061190	12-0509		(C)		N	5565
2208	6019061190	12-0510		(C)		N	5566
2209	6019061190	12-0511		(C)		N	5567
2210	6019061190	12-0512		(C)		N	5568
2211	6019061190	12-0513		(C)		N	5569
2212	6019061190	12-0514		(C)		N	5570

MAC Antech-Run Log/Instru

MAC Antech-Run Log/Instru

Totals (as Pogo)

12/1/96

12/1/96

12/1/96

12/1/96

Instrument Run Logbook

Date: 12/11-12/96
 By: RCE/SAS/PRD

32

(1) Code Key:
 C = Confirmation
 S = Standards
 Q = MS/MSD/LCS/AS/ASD/Method Blanks
 B = Billable Sample (First Injection whether used or not)
 D = Sample dilutions/Retruns
 R = Reextraction runs
 N = Nonbillable samples (instrument blanks, MDLs, method development)

Run No.	Project No.	Sample Identification	Dilution Factor	Analysis	Comments	Code (1)	Folio No.
22	955806	12-0605 WP	1	RP		B	551
23		1-0606	1	QCD			552
24		1-0607	1				553
25		1-0608	1				554
26		1-0609	1				555
27		1-0610	1				556
28		1-0611	1				557
29		12-0612	1				558
30		Hexane Blank	1				559
31	955664	12-11-3003	32				560
32		12-11-3003	32				561
33		Hexane Blank	1				562
34	965586	11-31-01120	1				563
35	965586	11-31-01120	1				564
36		Blank WP	1				565
37		Blank WP	1				566
38		Blank WP	1				567
39		Blank WP	1				568
40		Blank WP	1				569
41		Blank WP	1				570
42		Blank WP	1				571

TARGETS

Target Name	Dilution	Response Factor Unit Concentration/Microvolt*Seconds
TCMX	5.000	4.2164e-03
TCMX	2.000	4.3978e-03
TCMX	1.430	4.3097e-03
TCMX	1.000	4.4032e-03
TCMX	AVERAGE	4.3318e-03
TCMX	%RSD	2.6553e-00
DCB	5.000	9.0074e-03
DCB	2.000	7.5014e-03
DCB	1.430	8.0252e-03
DCB	1.000	8.3845e-03
DCB	AVERAGE	8.2296e-03
DCB	%RSD	7.6882e-00
1016	5.000	3.1769e-03
1016	2.000	3.5965e-03
1016	1.430	3.7857e-03
1016	1.000	4.0306e-03
&1016	AVERAGE	3.6474e-03
&1016	%RSD	9.5851e-00
1260	5.000	4.0767e-03
1260	2.000	5.6101e-03
1260	1.430	6.2213e-03
1260	1.000	6.4865e-03
&1260	AVERAGE	5.5987e-03
&1260	%RSD	1.9272e-01

ibration File sys:clm/crv/U1650121096

Fixed Retention Time Window: 5.00 Seconds

Variable Retention Time Window: 0.0050

Slope Sensitivity 50 Until 999.90 Minutes

Serial Dilutions: 10.000 5.000 2.000 1.430 1.000

PC 12/1/96

Target Name	Ret. Time	Max Amount	Std #
TCMX	1.750	5.0000e+02	0
&1016	2.428	1.0000e+03	0
&1016	2.822	1.0000e+03	0
&1016	2.953	1.0000e+03	0
&1016	3.050	1.0000e+03	0
&1016	3.153	1.0000e+03	0
&1016	3.388	1.0000e+03	0
&1016	3.487	1.0000e+03	0
&1260	4.622	1.0000e+03	0
&1260	4.863	1.0000e+03	0
&1260	5.250	1.0000e+03	0
&1260	5.653	1.0000e+03	0
&1260	6.012	1.0000e+03	0
&1260	6.525	1.0000e+03	0
DCB	8.700	5.0000e+02	0

RESPONSE FACTOR REPORT File sys:clm/crv/U2154120596 06-Dec-96 13:55

TARGETS

Target Name	Dilution	Response Factor Unit Concentration/Microvolt*Seconds
TCMX	10.000	3.7490e-04
TCMX	5.000	3.9126e-04
TCMX	2.000	3.5632e-04
TCMX	1.430	3.8845e-04
TCMX	1.000	3.8681e-04
TCMX	AVERAGE	3.7609e-04
TCMX	%RSD	3.6226e+00
DCB	10.000	7.7316e-04
DCB	AVERAGE	7.7316e-04
1221	10.000	9.9502e-03
1221	5.000	1.1181e-02
1221	2.000	9.8390e-03
1221	1.430	1.0979e-02
1221	1.000	9.4578e-03
&1221	AVERAGE	1.0281e-02
&1221	%RSD	7.3412e+00 7%.0x
1254	10.000	2.3248e-03
1254	5.000	2.7042e-03
1254	2.000	2.0606e-03
1254	1.430	2.5176e-03
1254	1.000	2.9277e-03
&1254	AVERAGE	2.5070e-03
&1254	%RSD	1.3356e+01 13%.0x

Calibration File sys:clm/crv/U2154120596

Fixed Retention Time Window: 5.00 Seconds

Variable Retention Time Window: 0.0050

Slope Sensitivity 50 Until 999.90 Minutes

Serial Dilutions: 10.000 5.000 2.000 1.430 1.000

Target Name	Ret. Time	Max Amount	Std #
TCMX	1.750	5.0000e+01	0
&1221	1.958	1.0000e+03	0
&1221	2.075	1.0000e+03	0
&1221	2.117	1.0000e+03	0
&1254	3.778	1.0000e+03	0
&1254	3.972	1.0000e+03	0
&1254	4.463	1.0000e+03	0
&1254	4.722	1.0000e+03	0
&1254	4.863	1.0000e+03	0
&1254	5.253	1.0000e+03	0
DCB	8.512	5.0000e+01	0

RESPONSE FACTOR REPORT File sys:clm/crv/U1242121196 25-Jul-97 14:58

TARGETS

Target Name	Dilution	Response Factor Unit Concentration/Microvolt*Seconds
1242	10.000	2.3032e-03
1242	5.000	2.3932e-03
1242	2.000	2.2606e-03
1242	1.430	1.5100e-03
1242	1.000	2.2176e-03
&1242	AVERAGE	2.1369e-03
&1242	%RSD	1.6679e+01 17%✓

Calibration File sys:clm/crv/U1242121196

Fixed Retention Time Window: 5.00 Seconds
Variable Retention Time Window: 0.0050

Slope Sensitivity 50 Until 999.90 Minutes

Serial Dilutions: 10.000 5.000 2.000 1.430 1.000

Target Name	Ret. Time	Max Amount	Std #
&1242	2.175	1.0000e+03	0
&1242	2.483	1.0000e+03	0
&1242	2.903	1.0000e+03	0
&1242	3.225	1.0000e+03	0
&1242	3.467	1.0000e+03	0
&1242	3.567	1.0000e+03	0

RESPONSE FACTOR REPORT File sys:clm/crv/U1248121196 12-Dec-96 10:02

TARGETS

Target Name	Dilution	Response Factor Unit Concentration/Microvolt*Seconds
TCMX	10.000	4.7250e-04
TCMX	5.000	4.1790e-04
TCMX	2.000	2.7021e-04
TCMX	1.430	3.1484e-04
TCMX	1.000	2.7358e-04
TCMX	AVERAGE	3.4981e-04
TCMX	%RSD	2.5989e+01

SEE U1660

1248	10.000	3.9695e-03
1248	5.000	4.0195e-03
1248	2.000	4.2389e-03
1248	1.430	3.1776e-03
1248	1.000	3.1039e-03
&1248	AVERAGE	3.7019e-03
&1248	%RSD	1.4123e+01 14% ok

Calibration File sys:clm/crv/U1248121196

Fixed Retention Time Window: 5.00 Seconds

Variable Retention Time Window: 0.0050

Slope Sensitivity 50 Until 999.90 Minutes

Serial Dilutions: 10.000 5.000 2.000 1.430 1.000

Target Name	Ret. Time	Max Amount	Std #
TCMX	1.750	5.0000e+01	0
&1248	2.425	1.0000e+03	0
&1248	2.813	1.0000e+03	0
&1248	2.942	1.0000e+03	0
&1248	3.050	1.0000e+03	0
&1248	3.138	1.0000e+03	0
&1248	3.783	1.0000e+03	0
&1248	4.028	1.0000e+03	0
DCB	8.512	5.0000e+01	0

TARGETS

Target Name	Dilution	Response Factor Unit Concentration/Microvolt*Seconds
TCMX	10.000	2.8977e-04
TCMX	5.000	3.0138e-04
TCMX	2.000	3.3794e-04
TCMX	1.430	3.2983e-04
TCMX	1.000	3.0448e-04
TCMX	AVERAGE	3.1257e-04 ✓
TCMX	%RSD	6.5011e+00 7% x
DCB	10.000	3.0240e-04
DCB	5.000	3.2665e-04
DCB	2.000	3.4238e-04
DCB	1.430	3.4556e-04
DCB	1.000	3.1593e-04
DCB	AVERAGE	3.2658e-04 ✓
DCB	%RSD	5.5364e+00 6% x
1016	50.000	1.1466e-03
1016	10.000	1.0471e-03
1016	5.000	9.2116e-04
1016	2.000	9.9923e-04
016	1.430	9.9724e-04
1016	1.000	9.6841e-04
81016	AVERAGE	9.6663e-04 1.0250 x 10 ⁻³ 7pt ✓
81016	%RSD	4.6852e+00 8% x
1260	50.000	5.4391e-04
1260	10.000	7.1414e-04
1260	5.000	7.0589e-04
1260	2.000	7.4445e-04
1260	1.430	7.4221e-04
1260	1.000	7.1217e-04
81260	AVERAGE	7.2377e-04 6.9649 x 10 ⁻⁴ 7pt ✓
81260	%RSD	2.5912e+00 10% x

2.0 ppm 1.6952 x 10⁻³

2.0 ppm 7.1266 x 10⁻⁴

6.9649 x 10⁻⁴ 7pt ✓

Calibration File sys:clm/crv/S1660110876

Fixed Retention Time Window: 5.00 Seconds

Variable Retention Time Window: 0.0050

Slope Sensitivity 50 Until 999.90 Minutes

Serial Dilutions: 10.000 5.000 2.000 1.430 1.000

Target Name	Ret. Time	Max Amount	Std #
TCMX	1.725	5.0000e+02	0
81016	2.408	1.0000e+03	0
81016	2.792	1.0000e+03	0
81016	2.925	1.0000e+03	0
81016	3.020	1.0000e+03	0
81016	3.120	1.0000e+03	0
81016	3.362	1.0000e+03	0
81016	3.453	1.0000e+03	0
81260	4.445	1.0000e+03	0
81260	4.535	1.0000e+03	0
81260	4.833	1.0000e+03	0
81260	5.220	1.0000e+03	0
81260	5.283	1.0000e+03	0
81260	5.628	1.0000e+03	0
81260	5.978	1.0000e+03	0
81260	6.425	1.0000e+03	0
81260	6.495	1.0000e+03	0
DCB	8.503	5.0000e+02	0

TARGETS:

Target Name	Dilution	Response Factor Unit Concentration/Microvolt*Seconds
TCMX	10.000	2.5861e-04
TCMX	5.000	2.2822e-04
TCMX	2.000	2.3782e-04
TCMX	1.430	2.5863e-04
TCMX	1.000	2.6896e-04
TCMX	AVERAGE	2.5045e-04
TCMX	XRSD	6.7109e+00
DCB	10.000	2.1143e-04
DCB	5.000	2.3183e-04
DCB	2.000	2.4902e-04
DCB	1.430	2.4894e-04
DCB	1.000	2.6556e-04
DCB	AVERAGE	2.4136e-04
DCB	XRSD	8.5119e+00
1221	10.000	4.6624e-03
1221	5.000	4.4578e-03
1221	2.000	4.7576e-03
1221	1.430	5.5199e-03
1221	1.000	5.7867e-03
1221	AVERAGE	5.0369e-03
1221	XRSD	1.1529e+01
1254	10.000	8.6653e-04
1254	5.000	8.6583e-04
1254	2.000	9.4731e-04
1254	1.430	9.7984e-04
1254	1.000	1.0642e-03
1254	AVERAGE	9.4475e-04
1254	XRSD	2.8339e+00

See 7660

12x.

9x.

libration File sys:clm/crv/S2154110796

Fixed Retention Time Window: 5.00 Seconds
Variable Retention Time Window: 0.0050

Slope Sensitivity 50 Until 999.90 Minutes

Serial Dilutions: 10.000 5.000 2.000 1.430 1.000

Target Name	Ret. Time	Max Amount	Std #
TCMX	1.728	5.0000e+01	0
81221	1.937	1.0000e+03	0
81221	2.100	1.0000e+03	0
81221	2.412	1.0000e+03	0
81221	2.517	1.0000e+03	0
81254	<u>3.762</u>	1.0000e+03	0
81254	3.942	1.0000e+03	0
81254	4.045	1.0000e+03	0
~~81254~~	~~4.312~~	1.0000e+03	0
81254	4.433	1.0000e+03	0
81254	4.600	1.0000e+03	0
81254	4.687	1.0000e+03	0
81254	5.225	1.0000e+03	0
ICB	8.512	5.0000e+01	0

000738

TARGETS

Target Name	Dilution	Response Factor Unit Concentration/Microvolt*Seconds

1242	10.000	1.3346e-03
1242	5.000	1.2018e-03
1242	1.430	1.1688e-03
1242	1.000	1.4761e-03
81242	AVERAGE	1.2966e-03
81242	XRSD	1.0731e+01

11/1.4 (4*propane : oxygen 11-19-96)

Calibration File sys:clm/crv/S1242111996

Fixed Retention Time Window: 5.00 Seconds

Variable Retention Time Window: 0.0050

Slope Sensitivity 50 Until 999.90 Minutes

Serial Dilutions: 10.000 5.000 2.000 1.430 1.000

Target Name	Ret. Time	Max Amount	Std #
TCMX	1.728	5.0000e+01	0
81242	2.412	1.0000e+03	0
81242	2.800	1.0000e+03	0
81242	2.928	1.0000e+03	0
81242	3.028	1.0000e+03	0
81242	3.125	1.0000e+03	0
81242	3.370	1.0000e+03	0
81242	3.467	1.0000e+03	0
81242	3.650	1.0000e+03	0
81242	3.770	1.0000e+03	0
DEE	8.825	5.0000e+01	0

* Excess Hex: 9.45 ch100 micro. to 2 ch100 ch100

TARGETS

Target Name	Dilution	Response Factor Unit Concentration/Microvolt*Seconds.
TCMX	10.000	2.1695e-04
TCMX	5.000	2.3467e-04
TCMX	2.000	1.7877e-04
TCMX	1.430	2.2670e-04
TCMX	1.000	2.4285e-04
TCMX	AVERAGE	2.1999e-04
TCMX	%RSD	1.1344e+01
DCB	10.000	2.1648e-04
DCB	5.000	2.3819e-04
DCB	2.000	1.7711e-04
DCB	1.430	2.2376e-04
DCB	1.000	2.4090e-04
DCB	AVERAGE	2.1929e-04
DCB	%RSD	1.1696e+01
1248	10.000	9.2654e-04
1248	5.000	9.3544e-04
1248	2.000	1.1147e-03
1248	1.430	9.8671e-04
1248	1.000	1.0727e-03
1248	AVERAGE	1.0072e-03
1248	%RSD	8.2952e+00

See 1660

84. ✓

Calibration File sys:clm/crv/S1248110796

Fixed Retention Time Window: 5.00 Seconds

Variable Retention Time Window: 0.0050

Slope Sensitivity 50 Until 999.90 Minutes

Serial Dilutions: 10.000 5.000 2.000 1.430 1.000

Target Name	Ret. Time	Max Amount	Std #
TCMX	1.733	5.0000e+01	0
1248	2.417	1.0000e+03	0
1248	2.800	1.0000e+03	0
1248	2.933	1.0000e+03	0
1248	3.037	1.0000e+03	0
1248	3.123	1.0000e+03	0
1248	3.375	1.0000e+03	0
1248	3.467	1.0000e+03	0
1248	3.775	1.0000e+03	0
DCB	8.520	5.0000e+01	0

RSP/RSI

RESPONSE FACTOR REPORT File sys:clm/rsp/U1660121096C01 11-Dec-96 14:56

TARGETS

Target Name	File Number	Response Factor or Relative Response Factor	RF	%
TCMX	974	4.6023e-03		
TCMX	Average	4.6023e-03	4.2813 e04	70x
DCB	974	7.7654e-03		
DCB	Average	7.7654e-03	8.8605	120x
1016	974	3.8926e-03		
1016	Average	3.8926e-03	3.7308	40x
1260	974	4.1310e-03	0.364	
1260	Average	4.1310e-03	5.125A	27 HIGH

J not

① A 1260 NOT IN SAMPLE

Calibration File sys:clm/crv/U1660121096

Fixed Retention Time Window: 5.00 Seconds

Variable Retention Time Window: 0.0050

Slope Sensitivity 50 Until 999.90 Minutes

Serial Dilutions: 10.000 5.000 2.000 1.430 1.000

Target Name	Ret. Time	Max Amount	Std #
TCMX	1.750	5.0000e+02	0
&1016	2.428	1.0000e+03	0
&1016	2.822	1.0000e+03	0
&1016	2.953	1.0000e+03	0
&1016	3.050	1.0000e+03	0
&1016	3.153	1.0000e+03	0
&1016	3.398	1.0000e+03	0
&1016	3.487	1.0000e+03	0
&1260	4.622	1.0000e+03	0
&1260	4.863	1.0000e+03	0
&1260	5.250	1.0000e+03	0
&1260	5.653	1.0000e+03	0
&1260	6.012	1.0000e+03	0
&1260	6.525	1.0000e+03	0
DCB	8.700	5.0000e+02	0

RESPONSE FACTOR REPORT File sys:clm/rsp/U2154120596C02 11-Dec-96 14:58

TARGETS

Target Name	File Number	Response Factor or Relative Response Factor	
1221	975	1.2219e-02	
1221	Average	1.2219e-02	1.0281e02
1254	975	2.6345e-03	
1254	Average	2.6345e-03	2.5070e03

RF *1.0*
#19 H2A B44
J NOT
5 OK

Calibration File sys:clm/crv/U2154120596

Fixed Retention Time Window: 5.00 Seconds
Variable Retention Time Window: 0.0050

Slope Sensitivity 50 Until 999.90 Minutes

Serial Dilutions: 10.000 5.000 2.000 1.430 1.000

Target Name	Ret. Time	Max Amount	Std #
TCMX	1.750	5.0000e+01	0
&1221	1.958	1.0000e+03	0
&1221	2.075	1.0000e+03	0
&1221	2.117	1.0000e+03	0
&1254	3.778	1.0000e+03	0
&1254	3.972	1.0000e+03	0
&1254	4.463	1.0000e+03	0
&1254	4.722	1.0000e+03	0
&1254	4.863	1.0000e+03	0
&1254	5.253	1.0000e+03	0
DCB	8.512	5.0000e+01	0

RESPONSE FACTOR REPORT File sys:clm/rso/S1660110896C09 11-Dec-96 16:32

TARGETS

Target Name	File Number	Response Factor of Relative Response Factor	
TCMX	5552	3.1313e-04	
TCMX	Average	3.1313e-04	3.1267×10^{-4} $\leftarrow 1 \sim$
DCB	5552	2.8273e-04	
DCB	Average	2.8273e-04	3.2658×10^{-4} $13 \sim$
1016	5552	1.1615e-03	
1016	Average	1.1615e-03	1.0250×10^{-3} 13
1260	5552	6.5173e-04	
1260	Average	6.5173e-04	6.9849×10^{-4} $6 \sim$

- 7pt

Calibration File sys:clm/crv/S1660110896

Fixed Retention Time Window: 5.00 Seconds

Variable Retention Time Window: 0.0050

Slope Sensitivity 50 Until 999.90 Minutes

Serial Dilutions: 10.000 5.000 2.000 1.430 1.000

Target Name	Ret. Time	Max Amount	Std #
TCMX	1.725	5.0000e+02	0
&1016	2.408	1.0000e+03	0
&1016	2.792	1.0000e+03	0
&1016	2.925	1.0000e+03	0
&1016	3.020	1.0000e+03	0
&1016	3.120	1.0000e+03	0
&1016	3.362	1.0000e+03	0
&1016	3.458	1.0000e+03	0
&1260	4.445	1.0000e+03	0
&1260	4.595	1.0000e+03	0
&1260	4.833	1.0000e+03	0
&1260	5.220	1.0000e+03	0
&1260	5.283	1.0000e+03	0
&1260	5.628	1.0000e+03	0
&1260	5.978	1.0000e+03	0
&1260	6.425	1.0000e+03	0
&1260	6.495	1.0000e+03	0
DCB	8.503	5.0000e+02	0

RESPONSE FACTOR REPORT File sys:clm/rso/S2154110796C09

11-Dec-96 17:20

TARGETS

Target Name

File Number

Response Factor or
Relative Response Factor

TCMX

5553

2.0890e-03

TCMX

Average

2.0890e-03

DCB

5553

2.1393e-03

DCB

Average

2.1393e-03

1221

5553

4.2289e-03

1221

Average

4.2289e-03

1254

5553

8.2912e-04

1254

Average

8.2912e-04

RF

7.0

7.

5.0369x10⁻³

16

9.4475x10⁻⁴

12 ✓

NA - only
ME assoc

Calibration File sys:clm/crv/S2154110796

Fixed Retention Time Window: 5.00 Seconds

Variable Retention Time Window: 0.0050

Slope Sensitivity 50 Until 999.90 Minutes

Serial Dilutions: 10.000 5.000 2.000 1.430 1.000

Target Name	Ret. Time	Max Amount	Std #
TCMX	1.728	5.0000e+01	0
&1221	1.937	1.0000e+03	0
&1221	2.100	1.0000e+03	0
&1221	2.412	1.0000e+03	0
&1221	2.517	1.0000e+03	0
&1254	3.762	1.0000e+03	0
&1254	3.942	1.0000e+03	0
&1254	4.045	1.0000e+03	0
&1254	4.312	1.0000e+03	0
&1254	4.433	1.0000e+03	0
&1254	4.500	1.0000e+03	0
&1254	4.687	1.0000e+03	0
&1254	5.225	1.0000e+03	0
DCB	8.512	5.0000e+01	0

000744

RESPONSE FACTOR REPORT File: sys:clm/rsd/S1242111996C01 11-Dec-96 17:24

TARGETS

Target Name	File Number	Response Factor or Relative Response Factor
TCMX	5554	2.1959e-04
TCMX	Average	2.1959e-04
DCB	5554	2.5423e-04
DCB	Average	2.5423e-04
1242	5554	1.3077e-03
1242	Average	1.3077e-03

1.296640-3 21✓

Calibration File: sys:clm/crv/S1242111996

Fixed Retention Time Window: 5.00 Seconds

Variable Retention Time Window: 10.0050

Slope Sensitivity: 50 Until 999.90 Minutes

Serial Dilutions: 10.000 5.000 2.000 1.430 1.000

Target Name	Ret. Time	Max Amount	Std. #
TCMX	1.728	5.0000e+01	0
1242	2.412	1.0000e+03	0
1242	2.800	1.0000e+03	0
1242	2.928	1.0000e+03	0
1242	3.028	1.0000e+03	0
1242	3.125	1.0000e+03	0
1242	3.370	1.0000e+03	0
1242	3.467	1.0000e+03	0
1242	3.650	1.0000e+03	0
1242	3.770	1.0000e+03	0
DCB	8.525	5.0000e+01	0

RESPONSE FACTOR REPORT File sys:clm/rsd/S1248110796009 11-Dec-96 17:28

TARGETS

Target Name	File Number	Response Factor or Relative Response Factor
TCMX	5555	1.8325e-03
TCMX	Average	1.8325e-03
DCB	5555	2.0387e-03
DCB	Average	2.0387e-03
1248	5555	1.1604e-03
1248	Average	1.1604e-03

RF RD

1.0072 x 10⁻³ 15 ✓

Calibration File sys:clm/crv/S1248110796

Fixed Retention Time Window: 5.00 Seconds

Variable Retention Time Window: 0.0050

Slope Sensitivity: 50 Until 999.90 Minutes

Serial Dilutions: 10.000 5.000 2.000 1.430 1.000

Target Name	Ret. Time	Max. Amount	Std #
TCMX	1.733	5.0000e+01	0
1248	2.417	1.0000e+03	0
1248	2.800	1.0000e+03	0
1248	2.933	1.0000e+03	0
1248	3.037	1.0000e+03	0
1248	3.128	1.0000e+03	0
1248	3.375	1.0000e+03	0
1248	3.467	1.0000e+03	0
1248	3.775	1.0000e+03	0
DCB	8.520	5.0000e+01	0

BLANK SUMMARY
PESTICIDE/AROCLOR FRACTION

1. Blank qualification guidelines:

- a) If a compound is found in the blank but not in the sample, no action is taken.
- b) Any compound detected in the sample, which was also detected in the associated blank, must be qualified by elevating the limit of detection or adjusting the limit of detection to the sample result, when the sample concentration is less than five (5) times the blank concentration.
- c) The reviewer should take note that the blank analysis may not involve the same weights, volume or dilution factors as associated samples. These factors must be taken into consideration when applying the 5X and 10X criteria.
- d) In addition, the reviewer must review the, rinseate blanks and field blanks (if they were submitted with the data package) and all associated samples. Apply the same data validation guidelines used in assessing the method blanks.
- e) Qualification/Action codes:

CRQL - The sample result is less than the CRQL and less than five times (5X) the blank value. Reject the sample result, cross out the "B" flag, and report the CRQL.

U - The sample result is greater than the CRQL and less than five times (5X) the blank value. Cross out the "B" flag and qualify the sample result with a "U".

greater
No Action - The sample result is greater than the CRQL and
than five times (5X) the blank value.

HESI95.1

☒ Method ☐ Instrument ☐ Rinseate ☐ Field ☐ Sulfur

File ID: 3I/05583

[illegible]

HES195.1

☐ Method ☐ Instrument ☒ Rinseate ☐ Field ☐ Sulfur

File ID: SI/00604

[illegible]

HES195.1

☐ Method ☐ Instrument ☒ Rinseate ☐ Field ☐ Suifur

File ID: SI/01052

[illegible]

2F

WATER PESTICIDE SURROGATE RECOVERY

Lab Name: Antech Ltd.

Contract: _____

Lab Code: Antech Case No.: 96-5586

SAS No.: _____

SDG No.: 5586GC Column(1) RTX-1701 ID 0.53 (mm)

	EPA SAMPLE NO.	TCX 1 REC #	DCB 1 REC #	TOT OUT
01	MW1-1196	37	69	0
02	EB02-1196	37	36	0
03	LAW5-1196	45	62	0
04	LAW6-1196	21 *	(2529*)	12
05	WP4-1196	43	60	0
06	WP5-1196	47	60	0
07	FI12-1196	44	77	0
08	MBLANK	43	43	0
09				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				
23				
24				
25				
26				
27				
28				
29				
30				

see 11/20/97 JHJ

ADVISORY
QC LIMITS
(30-150)
(30-150)

TCX = Tetrachloro-m-xylene
DCB = Decachlorobiphenyl

Column to be used to flag recovery values
* Values outside of contract required QC limits
D Surrogate diluted out

Sample ID: None Duplicate Sample ID: _____

[illegible]

Comments: _____

- _____

— _____

SAMPLE RESULT VERIFICATION
PESTICIDE/AROCLOR FRACTION

1. Were the sample results reported within the calibration range? Yes ☒ No
2. Were the percent moisture reported? Yes No ☒ NR
3. Were the data reported on a dry weight basis? Yes No ☒ NR
4. Did the GC chromatogram exhibit interferences, off scale peaks or elevated baseline? Yes ☒ No
5. Did the data contain elevated detection limits that could not be accounted for? Yes ☒ No
6. Were any computational or transcription errors found? Yes ☒ No

Specific Comments: _____

no positive resultsInstruments not calibrated for AR 1232R in all samplesReviewer: Erica K. FredericiDate: 7/1/97

5586
DATA DELIVERABLES (DQO Level IV or D)
INORGANICS - PART I

Site Name: Dunkirk
Location: ESC
Analytical Fraction: TAL + WLC

Client: Antech-ESC
Lab: Antech Ltd.

16/30/97

Reviewer: K. Sappington

Date(s): 16/30/97

- A. Control Chart - ~~results of the method blank~~ spikes run with each batch of samples processed : Yes No ☒ NR
- B. CLP Form 1s with associated sample results and CLP flagging system. All percent moistures for soils and discussion of sample type : ☒ Yes No NR
- C. CLP Form 2s with Initial and continuing calibration standards (part 1 only) : ☒ Yes No NR
- D. CLP Form 3s with prep and method blanks : ☒ Yes No NR
- E. CLP Form 4s with Interference check sample data : ☒ Yes No NR
- F. CLP Form 5s with Matrix spike recovery and the postdigestion spike recovery for ICP Metals. Only done if predigest spike recovery exceeds limits : Yes No ☒ NR
- G. CLP Form 6s with Duplicate data results : Yes No ☒ NR
- H. CLP Form 7s with LCS data results : ☒ Yes No NR
- I. CLP Form 8s with GFAA standard addition data : Yes No ☒ NR
- J. CLP Form 9s with Serial Dilution data results : ☒ Yes No NR

DATA DELIVERABLES (DQO Level IV or D)
INORGANICS - PART II

K.	CLP Form 10s with Instrument Detection Data	: ☒ Yes	No	NR
L.	CLP Forms 11 and 12 with Quarterly Verification of Instrument Parameters	: ☒ Yes	No	NR
M.	CLP Form 13s with Preparation Log data	: ☒ Yes	No	NR
N.	CLP Form 14s with Run Log data	: ☒ Yes	No	NR

HEARTLAND ESI Form A

DATA DELIVERABLE REQUIREMENTS

-
A.	Permanently Bound	Yes	☒ No	NR
B.	Paginated	☒ Yes	No	NR
C.	Table of Contents	Yes	☒ No	NR
D.	Digestion Records (internal C-O-C)	☒ Yes	No	☒ NR 6/30/07
E.	Chain-Of-Custody (external)	☒ Yes	No	NR
F.	Case Narrative			
1.	Sample list with Client and Lab IDs cross-referenced (copy attached)	☒ Yes	No	NR
2.	All Protocol deviations and QC problems noted	☒ Yes	No	NR
3.	Comments: _____			
-

G.	Uninitialed Strikeovers	Yes	☒ No	NR
H.	Legible Photocopies	☒ Yes	No	NR
I.	Consistent Dates	☒ Yes	No	NR
J.	Preparation Logs	☒ Yes	No	NR
K.	Instrument Run Logs	☒ Yes	No	NR
L.	Other Deviations or Comments: _____			

HEARTLAND ESI Form B

HOLDING TIMES FOR METALS

1. Was the holding time exceeded on any of the Metal Fractions

ICP/GFAA/FAA - Holding time of 6 months VTSR

Mercury - Holding time of 28 days VTSR

Cyanide - Holding time of 14 days VTSR

Yes

No

2. If yes, complete the following form for all samples that exceeding holding times.

Fraction Cyanide

Sample ID : Matrix : VTSR : Date of Analysis : DA : QC
Decision

<u>Al</u>	<u>H₂O</u>	<u>11/22/96</u>	<u>CN 12/5</u>	<u>1</u>	<u>USF</u>
			<u>nitrate 11/29</u>	<u>6</u>	<u>"</u>

Note: DA = The number of days holding time to analysis is exceeded.

S = Non-aqueous

A = Aqueous

X = Air

QA Decision: Results > IDL - J - estimated

Results < IDL - R - rejected

HEARTLAND ESI Form C-1

INSTRUMENT CALIBRATION AND INITIAL CALIBRATION
VERIFICATION (ICV)

Associated Samples all

1. a. Was the ICP instrument properly standardized? ☒ Yes No
If no, explain and list action. _____

b. Was the furnace instrument properly standardized? If no, were the required standards analyzed immediately after the instrument calibration and results within 95-105% recovery? Yes No
Yes No
If no, explain and list action. n/a

c. Were the instruments for the analyses of Cyanide and Mercury properly standardized? ☒ Yes No
If no, explain and list action. _____

2. Was the ICV analyzed immediately after the system(s) were calibrated? ☒ Yes No
If no, explain and list action. _____

3. Was the ICV analyzed for every analyte? ☒ Yes No
If no, explain and list action. _____

4. Do all ICV analytes meet the QC requirements for % recovery? ☒ Yes No
If no, list affected analytes, their % recovery, and action for which:

a. % recovery is between 75-89% (CN, 70-84% or HG, 65-79%)

HEARTLAND ESI Form C-2

b. % recovery is between 111-125% (CN, 116-130% or HG, 121-135%) _____

c. % recovery is less than 75% or greater than 125% (CN, <70 or >130%, Hg <65 or >135) _____

5. a. Show calculation for the % recovery of one ICV analyte by ICP. Lab value 94.19.

Fl

$$\frac{9408.55}{10000.0} \times 100 = 94.19\%$$

b. Show calculation for the % recovery of one ICV analyte by furnace AA: Lab value NA

c. Show calculation for the ICV % recovery of Mercury. Lab Value 90.49.

$$\frac{4.52}{5.0} \times 100 = 90.49\%$$

d. Show calculation for the ~~ICV~~ ^{CCV} % recovery of Cyanide. Lab value 109.29.

$$\frac{0.273}{0.300} \times 100 = 91\%$$

6/30/97

6. Specific comments: _____

HEARTLAND ESI Form D-1

CONTINUING CALIBRATION VERIFICATION (CCV)

Associated Samples All

1. a. Was the CCV performed every two hours or at the 10% frequency? ☒ Yes No
If no, list action: _____

- b. Was the CCV performed at the beginning and end of the sample analysis? ☒ Yes No
If no, list action: _____

2. Were the CCV standards analyzed for all analytes? ☒ Yes No
If no, list affected analytes, their associated samples and action: _____

3. Was the same concentration used for CCV throughout the analyses? ☒ Yes No
If no, list affected analytes, their associated samples and action: _____

4. Do all CCV analytes meet the QC requirements for % recovery? ☒ Yes No
If no, list affected analytes, their associated samples and action for which:
 - a. % recovery is between 75-89%(CN, 70-84% or Hg, 65-79%) _____

 - b. % recovery is between 111-125%(CN, 116-130% or Hg, 121-135%) _____

 - c. % recovery is less than 75% or greater than 125%(CN, <70 or >125% or Hg, <65 or >135%) _____

HEARTLAND ESI Form D-2

5. a. Show calculation for the % recovery of one CCV analyte analyzed by ICP. Cd $\frac{983.32}{1000.0} \times 100 = 98.3\%$ Lab value 98.3%

b. Show calculation for the % recovery of one CCV analyte analyzed by furnace AA. Lab value Na

c. Show calculation for the % recovery of one CCV analyte analyzed for Mercury. $\frac{4.52}{5.0} \times 100 = 90.4\%$ Lab value 90.4%

d. Show calculation for the % recovery of one ^{ICV}CCV analyte for Cyanide. $\frac{0.131}{0.125} \times 100 = 104.8\%$ Lab value 105.2% 16 6/30

6. Specific comments: _____

HEARTLAND ESI Form F

INITIAL & CONTINUING CALIBRATION BLANK

Associated Samples AW

1. Were the initial calibration blanks analyzed for all analytes and run after the initial calibration verification? ☒ Yes ☐ No
If no, list affected analytes, and action.

2. Was the absolute value for all analytes in the initial calibration blank below the CRDL? ☐ Yes ☒ No
If no, list affected analytes and reject them. Ag, Cd, Cr & Mn -
see data narrative

3. Were the continuing calibration blanks analyzed for all analytes and run after the continuing calibration verification? ☒ Yes ☐ No
If no, list affected analytes, associated samples and action.

4. Was the frequency for the continuing calibration blanks correct? ☒ Yes ☐ No
If no, list affected analytes, associated samples and action.

5. Was the absolute value of all analytes for the continuing calibration blank below the CRDL? ☐ Yes ☒ No
If no, list affected analytes, associated samples and reject them. Cd & Hg have negative drift - no
action taken.

HEARTLAND ESI Form G

PREPARATION BLANK SUMMARY

Sample Matrix: Soil
Units: mg/kg

Water
ug/L

Air
ug/m3

Preparation Blank ID PBW

1. Did the frequency of the preparation blank analysis meet method requirements? Yes No
If no, explain and note action. _____

Analyte	: Conc	: <CRDL	: Comments/Action

Cu

5.17

yes

0-5 x PB rule

ni

10-10

v

5.91

Associated Samples All

CRDL Codes: Yes < CRDL
 No > CRDL

HEARTLAND ESI Form H

ICP INTERFERENCE CHECK SAMPLE

Associated Samples All

1. Was an ICP interference check sample performed ☒ Yes ☐ No
at the correct frequency?
If no, note any deviations and action. _____
2. a. Were the interferences for solution A ☒ Yes ☐ No
reported?
If no, note deviations _____
b. Were the analytes and interferences for ☒ Yes ☐ No
solution AB reported?
If no, note deviations _____
3. Were the concentrations of Al, Ca, Fe and Mg ☐ Yes ☒ No
in associated samples found to be significantly less than
(i.e., < 50%) their respective concentrations in solution A?
If yes, no action is required.
4. Did all required analytes in solution AB meet ☒ Yes ☐ No
the QC limit of 80-120%?
If no,
 - a. List any analytes and their % recovery which are greater than or equal
to 30% but less than 80% and action. _____
 - b. List any analytes and their % recovery which are greater
than 120% and action. _____
 - c. List any analytes and their % recovery which are less than
30% and action. _____
5. Show the calculation for % recovery for one analyte in solution AB

$$\frac{983.6}{98.49} \times 100 = 98.19$$

Zn Lab value 98.49

HEARTLAND ESI Form I-1

SAMPLE SPIKE ANALYSIS

Sample Spike Analysis performed on sample not provided

Matrix: Soil Water Air
Units: mg/kg ug/l ug/m3
% Solids _____

Associated Samples _____

1. Was the sample spike analysis performed at the correct frequency? Yes No
If no, note deviations and action. _____
2. Was the sample spike analysis performed on a field sample? Yes No
If no, reject all associated samples.
3. a. Were two analytical methods used to obtain reported values for one analyte? Yes No
If yes, list analytes _____
b. Was sample spike analysis performed using both methods for that analyte? Yes No
If no, reject affected sample(s) which did not have spike analysis performed. _____
4. Was sample analysis performed at the proper concentration? Yes No
If no, list analytes and quality. _____
5. Did the % recovery for all analytes meet the criteria of 75-125%? Yes No
If no, list only those analytes which % recovery are out and whose sample result (SR) is less than 4 times the sample added (SA). List % recovery in parenthesis next to the analyte out and action. _____

HEARTLAND ESI Form I-2

6. Were outliers for % recovery flagged with the "N" qualifier? Yes No

If no, list analytes not flagged. _____

7. a. Show calculation for % recovery for one analyte analyzed by ICP. Lab value _____

- b. Show calculation for % recovery for one analyte analyzed by furnace AA. Lab value _____

- c. Show calculation for % recovery for Mercury. Lab value _____

- d. Show calculation for % recovery for Cyanide. Lab value _____

KAS
6/30/97

HEARTLAND ESI Form K-1

DUPLICATE ANALYSIS

Duplicate Analysis performed on sample not provided

Matrix: Soil Water Air
Units: mg/kg ug/l ug/m3
% Solids: _____

Associated Samples _____

1. Were duplicate analyses performed at the Yes No
 correct frequency?
 If no, note deviations and action. _____

2. Was duplicate analysis performed on a field Yes No
 sample?
 If no, reject all associated samples.
3. Were two analytical methods used to obtain Yes No
 reported values for one analyte?
 If yes,
 a. List analytes _____

 b. Were duplicate analysis performed using both Yes No
 methods for that analyte?
 If no, reject affected samples which did not have
 duplicate analysis performed. _____

4. Is the laboratory using the correct control limit Yes No
 (i.e. $\pm$ CRDL or 20% for water and $\pm$ CRDL or 35% for soils criteria)
 to judge duplicate RPD results?
 If no, note deviations. _____

HEARTLAND ESI Form K-2

5. Do all analytes meet these QC control limits? Yes No

If no, list the analytes outside the limits and qualify these analytes. _____

6. Were outliers correctly flagged with the "++" qualifier? Yes No

If no, list those analytes not correctly flagged. _____

7. a. Show calculation for RPD for one analyte analyzed by ICP.

Lab value _____

b. Show calculation for RPD for one analyte analyzed by furnace AA.

Lab value _____

c. Show calculation for RPD for Mercury.

Lab value _____

d. Show calculation for RPD for Cyanide.

Lab value _____

KAS
6/30/07

HEARTLAND ESI Form L

LABORATORY CONTROL SAMPLE

Matrix: Soil Water Air
Units: mg/kg ug/l ug/m³

Associated Samples All

1. Was the laboratory control sample performed at the correct frequency? ☒ Yes No
If no, give action. _____

2. Do all analytes meet the QC limits of 80-120% (except Silver, Antimony, Mercury and Cyanide for aqueous samples) or within the control limits established by EPA for soils? ☒ Yes No
If no, list analytes, their recovery and action. _____

3. a. Show the calculation for % recovery for at least one analyte by ICP. Cu
$$\frac{249.24}{250.0} \times 100 = 99.7\%$$
 Lab value 99.7%

b. Show the calculation for % recovery for at least one analyte analyzed by furnace AA.
Lab value NA

c. Show the calculation for % recovery of Mercury (soil only).
Lab value /

HEARTLAND ESI Form N

SAMPLE RESULT VERIFICATION

Associated Samples

All

1. Were all samples reported within the calibration range?

☒ Yes ☐ No

If no, list affected samples and action.

2. Was the % solids analysis performed for all nonaqueous samples?

Yes ☐ No ☐

If no, list affected samples and action.

n/a

3. Show calculation for % solids for one sample.

Lab value n/a

4. Was the raw data free of any anomalies?

☒ Yes ☐ No

If no, list affected samples and action.

5. Was the data package free of any computational or transcriptional errors?

☒ Yes ☐ No

If no, list affected samples and action.

6. Verify that nonaqueous samples were reported on a dry weight basis by recalculating the results for one analyte in a sample.

Lab value n/a

HEARTLAND ESI Form 0

ICP SERIAL DILUTION

Serial Dilution performed on Sample 1-11964-4-1196
Dilution Factor 5

Matrix: Soil mg/kg Water ug/l Air ug/m3
Units:

Associated Samples 000

1. Was a serial dilution performed at the correct frequency? Yes No
If no, give action. _____

2. Was a field sample used for serial dilution? Yes No
If no, give action. _____

3. For all analytes greater than fifty times the IDL, was a serial dilution performed? Yes No
If no, list analytes and reject them. _____

4. a. For all analytes greater than ten times the IDL, did the the serial dilution analysis meet the QC limit of 10% D? Yes No
If no, list those analytes outside the limits and qualify them.

1-1196 Fe + Mn - Qualify all PD results as est. J.

b. Show a calculation for % D for one analyte analyzed by ICP.

Fe 4-1196

Lab Value 6.49

$$\frac{1435.87 - 463.88}{435.87} \times 100 = 6.49$$

HEARTLAND ESI Form P

QUARTERLY VERIFICATION OF INSTRUMENT PARAMETERS

1. Was the IDL analyzed and reported quarterly (every three calendar months) for each element on Form X. ☒ Yes ☐ No

If no, explain and list action. _____

2. Was the IDL below the CRDL for each element? ☒ Yes ☐ No

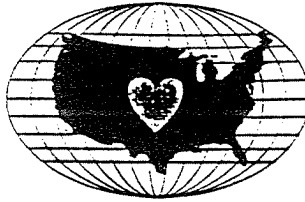
If no, explain and list action. _____

3. Was the ICP interelement correction factor analyzed and reported for each element on Form 11 and 12. ☒ Yes ☐ No

If no, explain and list action. _____

4. Was the linear range analyzed and reported annually and quarterly respectively for each element on Form 11 and 12. ☒ Yes ☐ No

If no, explain and list action. _____



HEARTLAND

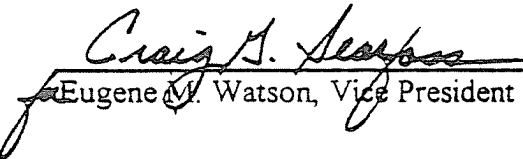
ENVIRONMENTAL SERVICES, INC.

Data Validation Report

SDG#: 5653
Date: July 1, 1997
Client Name: Environmental Strategies Corporation
Project/Site Name: Al Tech - Dunkirk
Date Sampled: November 25, 1996
Number of Samples: 2 Aqueous Sample(s) with 0 MS/MSD(s)
Laboratory: Aitech Ltd.
Validation Guidance: NYSDEC
QA/QC Level: Level III
Method(s) Utilized: SW846 Third Edition
Analytical Fractions: Volatiles, Semivolatiles, Pesticide/PCB's, TAL Metals, Dissolved TAL Metals, Alkalinity, Chloride, Free Cyanide, Total Cyanide, Fluoride, Ammonia, Nitrate, pH, Phenols, Sulfate, Specific Conductance, Chemical Oxygen Demand, Total Suspended Solids, Total Organic Carbons

Analytical data in this report were screened to determine usability of results and also to determine contractual compliance relative to these requirements and deliverables. This screening assumes analytical results are correct as reported and merely provides an interpretation of the reported quality control results. A minimum of 10% of all laboratory calculations have been verified as part of this validation. All instrument output, i.e. spectra, chromatograms, etc., for each sample have been carefully reviewed. The end-user is urged to review the Specific Findings and associated Data Qualifications presented in this report. Annotated Form 1s or spreadsheets for all samples reviewed are included after the Data Assessment Narratives. Form 1s for MS/MSD samples or spreadsheets are not annotated.

The release of this Data Validation Report is authorized by the following signature:


Eugene M. Watson, Vice President

8/8/97
Date

SDG# 5653

Samples and Fractions Reviewed

Sample Identifications

Analytical Fractions

ESC ID	Matrix	VOA	SVOA	P/P	PHI	TAL	DTAL	ALK	CHL	FCN	TCN	COD	FL	AMM	NIT	PH	SUL	SCON	TSS	TOC
AL T-GW-WT2-1196	WATER	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
AL T-GW-TB-1125	WATER	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Total Billable Samples (Water/Soil)		2	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1

VOA = Volatiles

SVOA = Semivolatiles

P/P = Pesticide/PCB's

PHI = Phenols

TAL = TAL Metals

DTAL = Dissolved TAL Metals

ALK = Alkalinity

CHL = Chloride

FCN = Free Cyanide

TCN = Total Cyanide

COD = Chemical Oxygen Demand

FL = Fluoride

AMM = Ammonia

NIT = Nitrate

PH = pH

SUL = Sulfate

SCON = Specific Conductance

TSS = Total Suspended Solids

TOC = Total Organic Carbons

DATA ASSESSMENT NARRATIVES

DATA ASSESSMENT NARRATIVE

VOLATILE ORGANICS

General

The organic findings offered in this screening report assumes that all analytical results are correct as reported and is based upon the examination of the reported holding times, blank analysis results, surrogate and matrix spike recoveries, GC/MS performance, tuning results, calibration results and internal standard areas. This report was prepared in compliance relative to the analytical and deliverable requirements specified in the SW-846 Method 8260, The NYSDEC-ASP, September 1989, 12/91 Revisions, the National Functional Guidelines for Organic Data Review, and DQO Level III. All comments made within this report should be considered when examining the analytical results.

SDG # 5653

Holding Times

All analysis holding times were met. No qualifications were required.

Tuning

All of the BFB tunes in the initial and continuing calibrations met the percent relative abundance criteria. No qualifications are required.

Initial Calibrations

The initial calibrations that were analyzed by the laboratory for these samples were not acceptable for all compound %RSDs. However, there were no samples associated with the non-compliant ICAL. The average RRFs for all of the criteria compounds did meet the initial calibration criteria. No qualifications were required.

Continuing Calibrations

The continuing calibrations that were analyzed by the laboratory for these samples were not acceptable for all compound %Ds. However, the non-compliant %Ds were between 25 % and 50%, which requires qualification of positive results only. No positive results were reported for the non-compliant compounds. All compound RRFs were within criteria. No qualifications were required.

**DATA ASSESSMENT NARRATIVE
VOLATILE ANALYSIS**

PAGE -2

Internal Standards

All of the internal standard EICP areas were not acceptable for all samples and blanks.

Specific Finding

1. The following sample exhibited non-compliant EICP areas below the QC limits for the noted internal standard. All compounds associated with that internal standard are qualified as estimated, J/UJ.

WT21196DL 1,4-difluorobenzene

Method Blanks

The method blanks that were analyzed did not exhibit contamination for target compounds. No qualifications were required.

Trip Blanks

The trip blank, TB1125, that was analyzed did not exhibit contamination for target compounds. No qualifications were required.

Rinseate Blanks

One of the rinseate blanks, EB01, that was analyzed did not exhibit contamination for target compounds. The other rinseate blank EB021196 exhibited contamination for two (2) target compounds. However, qualifications were not required.

Surrogates

Surrogate recoveries for all samples and blanks did not meet QA/QC criteria.

Specific Finding

2. The following samples exhibited non-compliant recoveries above the QC limits for one (1) or more of the surrogate compounds. All reported positive results are qualified as estimated, J.

WT21196
TB1125
WT21196DL

**DATA ASSESSMENT NARRATIVE
VOLATILE ANALYSIS**

PAGE - 3

Matrix Spike/Matrix Spike Duplicate

There was no MS/MSD pair in this SDG. No qualifications were required.

Field Duplicates

There was no field duplicate pair in this SDG. No qualifications were required.

Compound Identification/Quantitation

Specific Finding

3. For the following samples, the E flagged results are rejected, R, in favor of the corresponding D-flagged results from the dilution analysis. All other results from the dilution analysis are rejected, R, in favor of the undiluted results.

WT21196

System Performance and Overall Assessment

The data, as reported, required qualifications.

GLOSSARY OF DATA QUALIFIERS

QUALIFICATION CODES

U = Not detected

J = Estimated value

UJ = Reported Quantitation limit is qualified as estimated

R = Result is rejected and unusable

D = Result value is based on dilution analysis

METHOD BLANK QUALIFICATION CODES

CRQL = The sample result for the blank contaminant is less than the sample CRQL and is less than 5X (10X for common lab contaminants) the method blank value. The sample result for the blank contaminant is rejected and the CRQL for that compound is reported.

U = The sample result for the blank contaminant is greater than the sample CRQL and is less than 5X (10X for common lab contaminants) the method blank value. The sample result for the blank contaminant is qualified as non detected at the compound value reported.

No Action = The sample result for the blank contaminant is greater than the sample CRQL and is greater than 5X (10X for common lab contaminants) the method blank value. The sample result for the blank contaminant is not qualified with any blank qualifiers.

SUMMARY OF DATA QUALIFICATIONS

<u>SAMPLE ID</u>	<u>COMPOUND ID</u>	<u>DL</u>	<u>QL</u>	<u>SPECIFIC FINDINGS</u>
WT21196DL	All Associated With 1,4-difluorobenzene	+/-	J/UJ	1
WT21196 TB1125 WT21196DL	All Compounds	+	J	2
WT21196	All E flagged results	+E	R	3
WT21196DL	All except corresponding D flagged results	+/-	R	3

- * DL denotes the Form I qualifier supplied by the laboratory
 QL denotes the qualifier used by the data validation firm
 + in the DL column denotes a positive result
 - in the DL column denotes a non detect result

DATA ASSESSMENT NARRATIVE

SEMIVOLATILE ORGANICS

General

The organic findings offered in this screening report assumes that all analytical results are correct as reported and is based upon the examination of the reported holding times, blank analysis results, surrogate and matrix spike recoveries, GC/MS performance, tuning results, calibration results and internal standard areas. This report was prepared in compliance relative to the analytical and deliverable requirements specified in the U.S. EPA SW846 Method 8270, the NYSDEC Guidelines, The National Functional Guidelines for Organic Data Review, and DQO Level III. All comments made within this report should be considered when examining the analytical results (Form I's).

SDG # 96-5653

Holding Times

All extraction and analysis holding times for all samples were met for all samples per the SOW and National Functional Guidelines. No qualifications are required.

Tuning

All of the DFTPP tunes in the initial and continuing calibrations met the percent relative abundance criteria of the SOW and the Organic Functional Guidelines. No qualifications are required.

Initial Calibrations

The initial calibration that was analyzed by the laboratory for these samples was acceptable for all compound %RSDs. The average RRFs for all of the initial calibrations were within QA/QC calibration criteria. No qualifications are required.

Continuing Calibrations

The continuing calibrations that were analyzed met all calibration requirements for the RRFs. However, qualifications are required for compounds with non compliant %Ds.

**DATA ASSESSMENT NARRATIVE
SEMIVOLATILE ANALYSIS**

PAGE - 2

Continuing Calibrations (continued)

Specific Findings:

1. The continuing calibration, M41222C2, contained compounds with %Ds greater than 25 % D but less than 50 % D. For the samples and non compliant compounds listed below, qualify all positive results as estimated (J).

GWWT21196 hexachlorocyclopentadiene

2. The continuing calibration, M41222C2, contained compounds with %Ds greater than 50 % D but less than 90 % D. For the samples and non compliant compounds listed below, qualify all positive results as estimated (J) and all non detects as estimated (UJ).

GWWT21196 4,6-dinitro-2-methylphenol

3. The continuing calibration, M41222C2, contained compounds with RRFs less than 0.05. For the samples and non compliant compounds listed below, qualify all positive results as estimated (J) and reject all non detects (R).

GWWT21196 2,4-dinitrophenol (67.3)

Internal Standards

All of the blank and sample internal standard EICP areas met the EICP internal standard area QA/QC criteria. No qualifications are required.

Method Blanks

The method blank that was analyzed exhibited contamination for TIC's. No qualifications are required.

Rinseate Blanks

The associated rinseate blanks was not identified for this SDG. No qualifications are required.

Field Blanks

The associated field blanks were not identified for this SDG. No qualifications are required.

DATA ASSESSMENT NARRATIVE SEMIVOLATILE ANALYSIS

PAGE - 3

Surrogates

Surrogate recoveries for all of the samples did not meet QA/QC criteria.

Specific Finding:

4. Sample GWWT21196, exhibited surrogate recoveries that were less than 10%. Qualify all positive results as estimated (J) and reject all non detects (R).

Matrix Spike/Matrix Spike Duplicate

The associated MS/MSD was not identified for this SDG. No qualifications are required.

Field Duplicates

No qualifications are required.

Compound Identification/Quantitation

No qualifications are required.

System Performance and Overall Assessment

The laboratory did not encounter any large problems. The data as presented required qualification

GLOSSARY OF DATA QUALIFIERS

QUALIFICATION CODES

U = Not detected

J = Estimated value

UJ = Reported Quantitation limit is qualified as estimated

R = Result is rejected and unusable

NJ = Presumptive evidence for the presence of the material at an estimated value

K = Result is biased high

L = Result is biased low

METHOD BLANK QUALIFICATION CODES

CRQL = The sample result for the blank contaminant is less than the sample CRQL and is less than 10X the method blank value. The sample result for the blank contaminant is rejected and the CRQL for that analyte is reported.

U = The sample result for the blank contaminant is greater than the sample CRQL and is less than 10X the method blank value. The sample result for the blank contaminant is qualified as non detected at the analyte value reported.

No Action = The sample result for the blank contaminant is greater than the sample CRQL and is greater than 10X the method blank value. The sample result for the blank contaminant is not qualified with any blank qualifiers.

The specific findings will be noted in numerical form on the Form Is in this data validation report. These specific finding footnotes will reflect the conclusions found in the data validation process that resulted in the qualification of the data.

SUMMARY OF DATA QUALIFICATIONS

<u>SAMPLE ID</u>	<u>ANALYTE ID</u>	<u>DL</u>	<u>QL</u>	<u>SPECIFIC ENDINGS</u>
GWWT21196	hexachlorocyclopentadiene	+	J	1
GWWT21196	4,6-dinitro-2-methylphenol	+/-	J/UJ	2
GWWT21196	2,4-dinitrophenol (67.3)	+/-	J/R	3
GWWT21196	All results	+/-	J/R	4

- * DL denotes the Form I qualifier supplied by the laboratory
QL denotes the qualifier used by the data validation firm
+ in the DL column denotes a positive result
- in the DL column denotes a non detect result

DATA ASSESSMENT NARRATIVE

PESTICIDE/PCB ANALYSIS

General

The organic findings offered in this screening report assume that all analytical results are correct as reported and are based upon the examination of the reported holding times, GC instrument performance, initial and continuing calibrations, analytical sequence, blank analysis results, surrogate recoveries, and MS/MSD results. This report was prepared in compliance relative to the analytical and deliverable requirements specified in the U.S. SW-846 method 8080; the National Functional Guidelines for Organic Data Review, where applicable, and NYSDEC Level III. All comments made within this report should be considered when examining the analytical results (Form Is). Please refer the specific findings found in each category to the Summary of Data Qualification table.

SDG # 5653

Contractual Non-Compliance

The method requires that all target compounds, including the multi-component compounds, be analyzed with a five (5) point calibration curve. The laboratory did not calibrate the instrument for AR1232 or Toxaphene. The method also requires a mid-level calibration standard be injected after each group of ten (10) samples and at the end of the analysis day. The laboratory did not analyze a mid-level calibration standard after every ten (10) samples.

Holding Times

The extraction holding time was exceeded for all samples.

Specific Finding

1. The extraction holding time was exceeded for all water samples by one (1) day. For the following samples, the positive results are qualified as estimated, J.

All Water Samples

GC Instrument Performance

The percent breakdowns for Endrin and 4,4'-DDT were not reported in the data package. The samples in this data package did not exhibit positive results for Endrin, 4,4'-DDT, or their breakdown products. Therefore, no qualifications were required.

**Data Assessment Narrative
Pesticide/PCB**

Page 2

Initial Calibrations

The laboratory did not calibrate the instrument for AR1232 and Toxaphene. Therefore, these compounds must be rejected in all samples. The initial calibrations were not acceptably linear for all other compounds. Several compounds exhibited relative standard deviations, %RSDs, above the QC limit of 20% but less than 50%. This non-compliance requires the qualification of positive results only. However, there were no positive results in the associated samples for the non-compliant compounds.

Specific Finding

2. The following compounds are rejected, R, in all samples because the instrument was not calibrated in accordance with the method.

AR1232
Toxaphene

Continuing Calibrations

Two (2) continuing calibration standards associated with the reported samples exhibited percent differences, %Ds, above the QC limit of 15% but less than 50%. This non-compliance requires the qualification of positive results only. However, there were no positive results in the associated samples for the non-compliant compounds. No qualifications are required.

Method Blanks

The method blank did not exhibit positive results for target compounds. No qualifications were required.

QC Blanks

The rinse blanks, ALT-GW-EB01-1118 and ALT-GW-EB02-1196, did not exhibit positive results for target compounds. No qualifications were required.

Surrogate Recoveries

The field sample exhibited non-compliant surrogate recoveries.

**Data Assessment Narrative
Pesticide/PCB**

Page 3

Surrogate Recoveries, Continued

Specific Finding

3. The following sample exhibited a low TCX recovery in the single component pesticide analysis. The positive results are qualified as estimated, J, and the non-detect results are qualified as estimated, UJ.

ALT-GW-WT2-1196

4. The following sample exhibited a high DCB recovery in the PCB analysis. The positive results are qualified as estimated, J.

ALT-GW-WT2-1196

Matrix Spike/Matrix Spike Duplicate

A MS/MSD pair was not included in this data package. No qualifications were required.

Field Duplicates

A field duplicate pair was not included in this data package. No qualifications were required.

Compound Identification/Quantitation

No positive results were reported in the samples. The PCBs were analyzed on a separate date and instrument than the single component pesticides. Therefore, the PCB results are reported from the 12/03/96 analysis. No qualifications were required.

Overall Assessment

The reported results are accepted as reported by the laboratory with the noted qualifications.

GLOSSARY OF DATA QUALIFIERS

QUALIFICATION CODES

U = Not detected

J = Estimated value

UJ = Reported quantitation limit is qualified as estimated

R = Result is rejected and unusable

NJ = Presumptive evidence for the presence of the material at an estimated value

K = Result is biased high

L = Result is biased low

METHOD BLANK QUALIFICATION CODES

CRQL = The sample result for the blank contaminant is less than the sample CRQL and is less than 5X the method blank value. The sample result for the blank contaminant is rejected and the CRQL for that compound is reported.

U = The sample result for the blank contaminant is greater than the sample CRQL and is less than 5X the method blank value. The sample result for the blank contaminant is qualified as non detected at the compound value reported.

No Action = The sample result for the blank contaminant is greater than the sample CRQL and is greater than 5X the method blank value. The sample result for the blank contaminant is not qualified with any blank qualifiers.

The specific findings will be noted in numerical form on the Form Is in this data validation report. These specific finding footnotes will reflect the conclusions found in the data validation process that resulted in the qualification of the data.

SUMMARY OF DATA QUALIFICATIONS

<u>SAMPLE ID</u>	<u>COMPOUND ID</u>	<u>DL</u>	<u>QL</u>	<u>SPECIFIC FINDINGS</u>
All Water Samples	ALL	+	J	1
ALL	AR1232 Toxaphene	+/-	R	2
ALT-GW-WT2-1196	ALL (pesticide analysis)	+/-	J/UJ	3
ALT-GW-WT2-1196	ALL (PCB analysis)	+	J	4

- * DL denotes the Form I qualifier supplied by the laboratory
 QL denotes the qualifier(s) used by the data validation firm
 + in the DL column denotes a positive result
 _ in the DL column denotes a non-detect result

DATA ASSESSMENT NARRATIVE Metals, Cyanide and Wet Chemistry

General

The inorganic findings offered in this screening report assumes that all analytical results are correct as reported and is based upon the examination of the reported holding times, calibration standards, blank analysis results and MS/MSD results. A minimum of ten percent of all laboratory calculations are recalculated by the reviewer. All comments made within this report should be considered when examining the analytical results (Form Is).

This data package consisted of results from ESC, Altech, Ltd. Dunkirk Project, SDG# 5653EV, the analysis of two (2) water samples (1 total and 1 dissolved) and three (3) Matrix Spike and Duplicate pairs for TAL Metals; and this sample also for free and total Cyanide, COD, TSS, TOC and wet chemistry. Overall, the inorganic data quality was fair. All protocol requirements were followed with the exception of the following problems.

Specific QA/QC deficiency **Findings** are listed numerically in the following categories:

Holding Times

1. The Holding Time for Nitrate was exceeded. All positive and non-detect results are qualified as estimated, "J" or "UJ".

Calibration

2. The CCV for Calcium was below the lower control limits. All positive and non-detect sample results are qualified as estimated, "J" or "UJ".

Preparation and Field Blank

3. The CCB for Selenium was above the CRDL. All positive sample results below five (5) times the CRDL are qualified as estimated, "J".

Interferences

No significant interferences were observed.

Metals, Cyanide and Wet Chemistry Data Assessment Narrative
(continued - Page 2)

Spike Recovery

4. The Matrix Spike Recovery for Silver (total) was below the lower control limits. All positive and non-detect total results are qualified as estimated, "J" or "UJ".
5. The Matrix Spike Recovery for Aluminum (diss) was above the upper control limits. All positive results are qualified as estimated, "J".

Duplicate

6. The Duplicate Recoveries for Molybdenum (total and dissolved) and Calcium, Magnesium, Manganese and Sodium (dissolved) were outside the control limits. All positive results are qualified as estimated, "J".

LCS

No deficiencies in this section.

Serial Dilution

7. The Serial Dilutions for Iron, Lead and Manganese (dissolved) were outside the control limits. All positive dissolved results are qualified as estimated, "J".

SUMMARY OF DATA QUALIFICATIONS

<u>SAMPLE ID</u>	<u>ANALYTE</u>	<u>DL</u>	<u>QL</u>	<u>SPECIFIC FINDING</u>
All samples	Nitrate	+/U	J/UJ	1
All samples	Ca	+/U	J/UJ	2
All samples <5X CRDL	Se	+	J	3
All total sample results	Ag	+/U	J/UJ	4
All dissolved sample results	Al	+	J	5
All sample results	Mo (diss, total), Ca, Mg, Mn and Na (diss)	+	J	6
All dissolved sample results	Fe, Pb and Mn	+	J	7

DL - denotes laboratory qualifier/reported value
 + denotes positive values
 U denotes non-detect values

QL - denotes data validation qualifier

ANNOTATED FORM Is

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

WT21196

Lab Name: Antech Ltd.

Contract:

Lab Code: ANTECH

Case No.: 5653

SAS No.:

SDG No.: 5653

Matrix: (soil/water) WATER

Lab Sample ID: 112992

Sample wt/vol: 5.000 (g/mL) ML

Lab File ID: 96NV548S

Level: (low/med) LOW

Date Received: 11/26/96

% Moisture: not dec.

Date Analyzed: 11/29/96

GC Column: RTX502.2 ID: .53 (mm)

Dilution Factor: 1.0

Soil Extract Volume: (uL)

Soil Aliquot Volume: (uL)

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

CAS NO.

COMPOUND

Q

74-87-3-----	Chloromethane	10.	U	
74-83-9-----	Bromomethane	10.	U	
75-01-4-----	Vinyl chloride	18.	J	2
75-00-3-----	Chloroethane	10.	U	
75-09-2-----	Methylene chloride	10.	U	
67-64-1-----	Acetone	~~200.~~	~~U~~	~~2~~ 3
75-15-0-----	Carbon disulfide	10.	U	
75-35-4-----	1,1-Dichloroethane	10.	U	
75-34-3-----	1,1-Dichloroethane	10.	U	
156-60-5-----	trans-1,2-Dichloroethane	10.	U	
156-59-2-----	cis-1,2-Dichloroethane	51.	J	2
67-66-3-----	Chloroform	10.	U	
107-06-2-----	1,2-Dichloroethane	10.	U	
78-93-3-----	2-Butanone	10.	U	
71-55-6-----	1,1,1-Trichloroethane	10.	U	
56-23-5-----	Carbon tetrachloride	10.	U	
75-27-4-----	Bromodichloromethane	10.	U	
78-87-5-----	1,2-Dichloropropane	10.	U	
10061-01-5-----	cis-1,3-Dichloropropene	10.	U	
79-01-6-----	Trichloroethane	8.	J	2
124-48-1-----	Dibromochloromethane	10.	U	
79-00-5-----	1,1,2-Trichloroethane	10.	U	
71-43-2-----	Benzene	10.	U	
10061-02-6-----	trans-1,3-Dichloropropene	10.	U	
75-25-2-----	Bromoform	10.	U	
108-10-1-----	4-Methyl-2-pentanone	10.	U	
591-78-6-----	2-Hexanone	10.	U	
127-18-4-----	Tetrachloroethane	10.	U	
79-34-5-----	1,1,2,2-Tetrachloroethane	10.	U	
108-88-3-----	Toluene	10.	U	
108-90-7-----	Chlorobenzene	10.	U	
100-41-4-----	Ethyl benzene	10.	U	
100-42-5-----	Styrene	10.	U	
1330-20-7-----	m,p-Xylene	10.	U	
95-47-6-----	o-Xylene	10.	U	

021

200
1/12

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

WT21196

Lab Name: Antech Ltd.

Contract:

Lab Code: ANTECH

Case No.: 5653

SAS No.:

SDG No.: 5653

Matrix: (soil/water) WATER

Lab Sample ID: 112998

Sample wt/vol: 5.000 (g/mL) ML

Lab File ID: 96NV548S

Level: (low/med) LOW

Date Received: 11/26/96

% Moisture: not dec.

Date Analyzed: 11/29/96

GC Column: RTX502.2 ID: .53 (mm)

Dilution Factor: 1.0

Soil Extract Volume: (uL)

Soil Aliquot Volume: (uL)

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

Number TICs found: 1

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	11.57	100.	✓NT
2.				
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Chemical Name	Concentration (ppm)	Peak Shape	Integration	Area (%)
74-87-3-----Chloromethane	20.			
74-83-9-----Bromomethane	20.			
75-01-4-----Vinyl chloride	19.			
75-00-3-----Chloroethane	20.			
75-09-2-----Methylene chloride	20.			
67-64-1-----Acetone	250.			
75-15-0-----Carbon disulfide	20.			
75-35-4-----1,1-Dichloroethane	20.			
75-34-3-----1,1-Dichloroethane	20.			
156-60-5-----trans-1,2-Dichloroethane	2.			
156-59-2-----cis-1,2-Dichloroethane	44.			
67-66-3-----Chloroform	20.			
107-06-2-----1,2-Dichloroethane	20.			
78-93-3-----2-Butanone	20.			
71-55-6-----1,1,1-Trichloroethane	20.			
56-23-5-----Carbon tetrachloride	20.			
75-27-4-----Bromodichloromethane	20.			
78-87-5-----1,2-Dichloropropane	20.			
10061-01-5-----cis-1,3-Dichloropropene	20.			
79-01-6-----Trichloroethane	7.			
124-48-1-----Dibromochloromethane	20.			
79-00-5-----1,1,2-Trichloroethane	20.			
71-43-2-----Benzene	20.			
10061-02-6-----trans-1,3-Dichloropropene	20.			
75-25-2-----Bromoform	20.			
108-10-1-----4-Methyl-2-pentanone	20.			
591-78-6-----2-Hexanone	20.			
127-18-4-----Tetrachloroethene	20.			
79-34-5-----1,1,2,2-Tetrachloroethane	20.			
108-88-3-----Toluene	20.			
108-90-7-----Chlorobenzene	20.			
100-41-4-----Ethyl benzene	20.			
100-42-5-----Styrene	20.			
1330-20-7-----m,p-Xylene	20.			
95-47-6-----o-Xylene	20.			

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

WT21196 DL

Lab Name: Antech Ltd.

Contract:

Lab Code: ANTECH.

Case No.: 5653

SAS No.:

SDG No.: 5653

Matrix: (soil/water) WATER

Lab Sample ID: 112998

Sample wt/vol: 5.000 (g/mL) ML

Lab File ID: 96NVS833

Level: (low/med) LOW

Date Received: 11/26/96

% Moisture: not dec.

Date Analyzed: 11/30/96

GC Column: RTX502.2 ID: .53 (mm)

Dilution Factor: 2.0

Soil Extract Volume: (uL)

Soil Aliquot Volume: (uL)

Number TICs found: 2

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	11.67	50.	7 NT
2.	UNKNOWN	29.07	30.	↓
3.				
4.				
5.				
6.				
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024

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

T21125

Lab Name: Antech Ltd.

Contract:

Lab Code: ANTECH

Case No.: 5653

SAS No.:

SDG No.: 5653

Matrix: (soil/water) WATER

Lab Sample ID: 112999

Sample wt/vol: 5.000 (g/mL) ML

Lab File ID: 96NV5495

Level: (low/med) LOW

Date Received: 11/26/96

% Moisture: not dec.

Date Analyzed: 11/29/96

GC Column: RTX502.2 ID: .53 (mm)

Dilution Factor: 1.0

Soil Extract Volume: (uL)

Soil Aliquot Volume: (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3-----	Chloromethane	10.	U
74-83-9-----	Bromomethane	10.	U
75-01-4-----	Vinyl chloride	10.	U
75-00-3-----	Chloroethane	10.	U
75-09-2-----	Methylene chloride	10.	U
67-64-1-----	Acetone	10.	U
75-15-0-----	Carbon disulfide	10.	U
75-35-4-----	1,1-Dichloroethane	10.	U
75-34-3-----	1,1-Dichloroethane	10.	U
156-60-5-----	trans-1,2-Dichloroethane	10.	U
156-59-2-----	cis-1,2-Dichloroethane	10.	U
67-66-3-----	Chloroform	10.	U
107-06-2-----	1,2-Dichloroethane	10.	U
78-93-3-----	2-Butanone	10.	U
71-55-6-----	1,1,1-Trichloroethane	10.	U
56-23-5-----	Carbon tetrachloride	10.	U
75-27-4-----	Bromodichloromethane	10.	U
78-87-5-----	1,2-Dichloropropane	10.	U
10061-01-5-----	cis-1,3-Dichloropropene	10.	U
79-01-6-----	Trichloroethane	10.	U
124-48-1-----	Dibromochloromethane	10.	U
79-00-5-----	1,1,2-Trichloroethane	10.	U
71-43-2-----	Benzene	10.	U
10061-02-6-----	trans-1,3-Dichloropropene	10.	U
75-25-2-----	Bromoform	10.	U
108-10-1-----	4-Methyl-2-pentanone	10.	U
591-78-6-----	2-Hexanone	10.	U
127-18-4-----	Tetrachloroethane	10.	U
79-34-5-----	1,1,2,2-Tetrachloroethane	10.	U
108-88-3-----	Toluene	10.	U
108-90-7-----	Chlorobenzene	10.	U
100-41-4-----	Ethyl benzene	10.	U
100-42-5-----	Styrene	10.	U
1330-20-7-----	m,p-Xylene	10.	U
95-47-5-----	o-Xylene	10.	U

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

TB1125

Lab Name: Antech Ltd.

Contract:

Lab Code: ANTECH

Case No.: 5653

SAS No.:

SDG No.: 5653

Matrix: (soil/water) WATER

Lab Sample ID: 112999

Sample wt/vol: 5.000 (g/mL) ML

Lab File ID: 96NV549S

Level: (low/med) LOW

Date Received: 11/26/96

% Moisture: not dec.

Date Analyzed: 11/29/96

GC Column: RTX502.2 ID: .53 (mm)

Dilution Factor: 1.0

Soil Extract Volume: (uL)

Soil Aliquot Volume: (uL)

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.				
2.				
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1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

000218
EPA SAMPLE NO.

GW-WT2-1196

Lab Name: ANTECH LTD. Contract: _____

Lab Code: _____ Case No.: 96-5653 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: A11-2998

Sample wt/vol: 250.0 (g/mL ML) Lab File ID: M41222B9.D

Level: (low/med) _____ Date Received: 11/26/96

% Moisture: 0 decanted: (Y/N): N Date Extracted: 12/2/96

Concentrated Extract Volume: 2000 (uL) Date Analyzed: 12/22/96

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

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

Concentration Units:

CAS No.	Compound	(ug/L or ug/Kg)	ug/L	Q
108-95-2	Phenol	17	J	5 4
111-44-4	Bis(2-chloroethyl)ether	10	U	4
95-57-8	2-Chlorophenol	10	U	
541-73-1	1,3-Dichlorobenzene	10	U	
106-46-7	1,4-Dichlorobenzene	10	U	
95-50-1	1,2-Dichlorobenzene	10	U	
95-48-7	o-Cresol	10	U	
108-60-1	Bis(2-chloroisopropyl)ether	10	U	
106-44-5	m/p-Cresol	10	U	
621-64-7	N-Nitrosodi-n-propyl amine	10	U	
67-72-1	Hexachloroethane	10	U	
98-95-3	Nitrobenzene	10	U	
78-59-1	Isophorone	10	U	
88-75-5	2-Nitrophenol	10	U	
105-67-9	2,4-Dimethylphenol	10	U	
111-91-1	Bis(2-chloroethoxy)methane	10	U	
120-83-2	2,4-Dichlorophenol	10	U	
120-82-1	1,2,4-Trichlorobenzene	10	U	
91-20-3	Naphthalene	10	U	
106-47-8	4-Chloroaniline	10	U	
87-68-3	Hexachlorobutadiene	10	U	
59-50-7	4-Chloro-3-methylphenol	10	U	
91-57-6	2-Methylnaphthalene	10	U	
77-47-4	Hexachlorocyclopentadiene	10	U	
88-06-2	2,4,6-Trichlorophenol	10	U	
95-95-4	2,4,5-Trichlorophenol	25	U	
91-58-7	2-Chloronaphthalene	10	U	
88-74-4	2-Nitroaniline	25	U	
131-11-3	Dimethylphthalate	10	U	
208-96-3	Acenaphthylene	10	U	
606-20-2	2,6-Dinitrotoluene	10	U	
99-09-2	3-Nitroaniline	25	U	
83-32-9	Acenaphthene	10	U	

IC
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

000219
EPA SAMPLE NO.

GW-WT2-1196

Lab Name: ANTECH LTD.

Contract: _____

Lab Code: _____

Case No.: 96-5653

SAS No.: _____

SDG No.: _____

Matrix: (soil/water) WATER

Lab Sample ID: A11-2998

Sample wt/vol: 250.0 (g/mL ML)

Lab File ID: M41222B9.D

Level: (low/med) _____

Date Received: 11/26/96

% Moisture: 0

decanted: (Y/N): N

Date Extracted: 12/2/96

Concentrated Extract Volume: 2000 (uL)

Date Analyzed: 12/22/96

Injection Volume: 1.0 (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) N

pH: _____

Concentration Units:

CAS No.	Compound	(ug/L or ug/Kg)	ug/L	Q
51-28-5	2,4-Dinitrophenol	25	U	4
100-02-7	4-Nitrophenol	25	U	
132-64-9	Dibenzofuran	10	U	
121-14-2	2,4-Dinitrotoluene	10	U	
84-66-2	Diethylphthalate	10	U	
7005-72-3	4-Chlorophenyl-phenylether	10	U	
86-73-7	Fluorene	10	U	
100-01-6	4-Nitroaniline	25	U	
534-52-1	2-Methyl-4,6-dinitrophenol	25	U	
86-30-6	N-Nitrosodiphenylamine	10	U	
101-55-3	4-Bromophenyl phenyl ether	10	U	
118-74-1	Hexachlorobenzene	10	U	
87-86-5	Pentachlorophenol	25	U	
85-01-8	Phenanthrene	10	U	
120-12-7	Anthracene	10	U	
86-74-8	Carbazole	10	U	
84-74-2	Di-n-Butylphthalate	10	U	
206-44-0	Fluoranthene	10	U	
129-00-0	Pyrene	10	U	
85-68-7	Butylbenzylphthalate	10	U	
91-94-1	3,3'-Dichlorobenzidine	10	U	
56-55-3	Benzo[a]anthracene	10	U	
218-01-9	Chrysene	10	U	
117-81-7	Bis(2-ethylhexyl)phthalate	10	U	
117-84-0	Di-n-octylphthalate	10	U	
205-99-2	Benzo[b]fluoranthene	10	U	
207-08-9	Benzo[k]fluoranthene	10	U	
50-32-8	Benzo[a]pyrene	10	U	
193-39-5	Indeno(1,2,3-c,d)pyrene	10	U	
53-70-3	Dibenzo[a,h]anthracene	10	U	
191-24-2	Benzo[g,h,i]perylene	10	U	

(1) - Cannot be separated from Diphenylamine

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

000220
EPA SAMPLE NO.

GW-WT2-1196

Lab Name: ANTECH LTD. Contract: _____

Lab Code: _____ Case No.: 96-5653 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: A11-2998

Sample wt/vol: 250.0 (g/mL) ML Lab File ID: M41222B9.D

Level: (low/med) _____ Date Received: 11/26/96

% Moisture: 0 decanted: (Y/N) N Date Extracted: 12/2/96

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 12/22/96

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

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

Concentration Units:

Number TICs found: 25 (ug/L or ug/Kg) ug/L

CAS Number	Compound Name	RT	Est. Conc	Q
1.	Unknown	2.58	10	J NO
2.	Unknown	2.71	39	J
3.	Unknown	2.73	46	J
4.	Unknown Hydrocarbon	3.74	20	J
5.	Unknown	3.79	36	J
6.	Unknown	3.81	37	J
7.	Unknown Hydrocarbon	4.28	23	J
8.	Unknown	4.29	25	J
9.	Unknown Hydrocarbon	4.37	23	J
10.	Unknown	4.45	34	J
11.	Unknown	4.47	48	J
12.	Unknown	4.49	59	J
13.	Unknown Hydrocarbon	4.52	12	J
14.	Unknown Hydrocarbon	4.54	15	J
15.	Unknown Hydrocarbon	5.35	10	J
16.	Unknown	5.59	17	J
17.	Unknown	6.57	28	J
18.	Unknown	7.01	44	J
19.	Unknown	7.02	36	J
20.	Unknown Hydrocarbon	7.25	12	J
21.	Unknown	7.58	32	J
22.	Unknown	7.58	24	J
23.	Unknown Hydrocarbon	7.66	21	J
24.	Unknown	7.67	14	J
25.	Unknown Hydrocarbon	7.87	10	J
26.				
27.				
28.				
29.				
30.				

1D
 PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

ALT-GW-WT2-1196

Lab Name: Antech Ltd. Contract: _____
 Lab Code: ANTECH Case No.: 96-5653 SAS No.: _____ SDG No.: 5653
 Matrix: (soil/water) WATER Lab Sample ID: 11-2998
 Sample wt/vol: 500 (g/mL) mL Lab File ID: 3I/05847
 % Moisture: _____ decanted: (Y/N) _____ Date Received: 11/26/96
 Extraction: (SepF/Cont/Sonc) SepF Date Extracted: 12/02/96
 Concentrated Extract Volume: 5000 (uL) Date Analyzed: 12/19/96
 Injection Volume: 2 (uL) Dilution Factor: 1
 GPC Cleanup: (Y/N) N pH: _____ Sulfur Cleanup: (Y/N) N

CAS NO. _____ COMPOUND _____ CONCENTRATION UNITS: _____
 (ug/L or ug/Kg) _____ ug/L _____ Q _____

319-84-6 - - - - -	alpha-BHC	0.05	U	15	3
319-85-7 - - - - -	beta-BHC	0.05	U		
319-86-8 - - - - -	delta-BHC	0.05	U	1	
58-89-9 - - - - -	gamma-BHC (Lindane)	0.05	U		
76-44-8 - - - - -	Heptachlor	0.05	U		
309-00-2 - - - - -	Aldrin	0.05	U		
1024-57-3 - - - - -	Heptachlor epoxide	0.05	U		
959-98-8 - - - - -	Endosulfan I	0.05	U		
60-57-1 - - - - -	Dieldrin	0.1	U		
72-55-9 - - - - -	4,4'-DDE	0.1	U		
72-20-8 - - - - -	Endrin	0.1	U		
33213-65-9 - - - - -	Endosulfan II	0.1	U		
72-54-8 - - - - -	4,4'-DDD	0.1	U		
1031-07-8 - - - - -	Endosulfan sulfate	0.1	U		
50-29-3 - - - - -	4,4'-DDT	0.1	U		
72-43-5 - - - - -	Methoxychlor	0.5	U		
53494-70-5 - - - - -	Endrin ketone	0.1	U		
7421-36-3 - - - - -	Endrin aldehyde	0.1	U		
5103-71-9 - - - - -	alpha-Chlordane	0.1	U		
5103-74-2 - - - - -	gamma-Chlordane	0.1	U		
8001-35-2 - - - - -	Toxaphene	1	U		
~~12674-11-2 - - - - -~~	~~Aroclor-1016~~	~~1~~	~~U~~	<del></del>	<del></del>
~~11104-28-2 - - - - -~~	~~Aroclor-1221~~	~~1~~	~~U~~	<del></del>	<del></del>
~~11141-16-5 - - - - -~~	~~Aroclor-1232~~	~~1~~	~~U~~	<del></del>	<del></del>
~~53469-21-9 - - - - -~~	~~Aroclor-1242~~	~~1~~	~~U~~	<del></del>	<del></del>
~~12672-29-6 - - - - -~~	~~Aroclor-1248~~	~~1~~	~~U~~	<del></del>	<del></del>
~~11097-69-1 - - - - -~~	~~Aroclor-1254~~	~~1~~	~~U~~	<del></del>	<del></del>
~~11096-82-5 - - - - -~~	~~Aroclor-1260~~	~~1~~	~~U~~	<del></del>	<del></del>

1D
PESTICIDES ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

Lab Name: ANTECH LTD. Contract: ALT-GW-WT2-1196

Lab Code: ANTECH Case No. 96-5653 SAS No.: SDG No.: 5653

Matrix: (soil/water) WATER Lab Sample ID: 11-2998

Sample wt/vol: 500 (g/mL) ml Lab File ID: 5I/01040

% Moisture: ~~decanted:~~ (Y/N) Date Received: 11/26/96

Extraction: (SepF/Cont/Sonc) SepF Date Extracted: 12/02/96

Concentrated Extract Volume: 5000 (uL) Date Analyzed: 12/12/96

Injection Volume: 2 (uL) Dilution Factor: 1

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or mg/Kg)	ug/L	Q
12674-11-2 - - - - -	Aroclor-1016	<1.0	U	
11104-28-2 - - - - -	Aroclor-1221	<1.0	U	
11141-16-5 - - - - -	Aroclor-1232	<1.0	U	2
53469-21-9 - - - - -	Aroclor-1242	<1.0	U	
12672-29-6 - - - - -	Aroclor-1248	<1.0	U	
11097-69-1 - - - - -	Aroclor-1254	<1.0	U	
11096-82-5 - - - - -	Aroclor-1260	<1.0	U	

FORM I PEST

Form by WindowsChem(7071864-0945/p/all015.v3.0:1/1/75)

OLM02.0

ENVIROFORMS/INORGANIC CLP

SAMPLE NO.

1
INORGANIC ANALYSIS DATA SHEET

T21196

Lab Name: Antech Ltd

Contract: ENSTRAT

Lab Code: ANT

Case No.:

SAS No.:

SDG No.: 5567EV

Matrix (soil/water): WATER

Lab Sample ID: 11-299SD

Level (low/med): MED

Date Received: 11/26/96

% Solids: 0.0

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

CAS No.	Analyte	Concentration	CI	Q	IM
7440-22-4	Silver	26.1			P
7429-90-6	Aluminum	799			P
7440-38-2	Arsenic	1.9	U		P
7440-39-3	Barium	179	B		P
7440-41-7	Beryllium	7.1			P
7440-70-2	Calcium	234000			P
7440-43-9	Cadmium	11.7			P
7440-48-4	Cobalt	25.3	B		P
7440-47-3	Chromium	30.3			P
7440-50-8	Copper	50.3			P
7439-89-6	Iron	187			P
7439-97-6	Mercury	0.20	U		CV
7440-09-7	Potassium	15000			P
7439-95-4	Magnesium	323			P
7439-96-3	Manganese	19.6			P
	Molybdenum	221			P
7440-23-5	Sodium	30400			P
7440-02-0	Nickel	123			P
7439-92-1	Lead	92.9			P
7440-36-0	Antimony	2.2			P
7782-49-8	Selenium	2.2			P
7440-28-0	Thallium	2.2			P
7440-62-2	Vanadium	24.7			P
7440-66-6	Zinc	12.6			P

35

32.6

37

36

36.7

36

37

33

KAS
6/30/97

Color Before:

Clarity Before:

Texture:

Color After:

Clarity After:

Artifacts:

Comments:

ENVIROFORMS/INORGANIC CLF

SAMPLE NO.

1
INORGANIC ANALYSIS DATA SHEET

T21T96

Lab Name: Antech Ltd

Contract: ENSTRAT

Lab Code: ANT

Case No.:

SAS No.:

SDG No.: 5567EV

Matrix (soil/water): WATER

Lab Sample ID: 11-2998T

Level (low/med): MED

Date Received: 11/26/96

% Solids: 0.0

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

CAS No.	Analyte	Concentration	Q	M
7440-22-4	Silver	31.6		P
7429-90-5	Aluminum	820		P
7440-38-2	Arsenic	1.8	U	P
7440-39-3	Barium	166	B	P
7440-41-7	Beryllium	7.0		P
7440-70-2	Calcium	224000	F	P
7440-43-9	Cadmium	14.2		P
7440-48-4	Cobalt	28.1	B	P
7440-47-3	Chromium	36.0		P
7440-50-8	Copper	52.0		P
7439-89-6	Iron	80.7	B	P
7439-97-6	Mercury	0.20	U	CV
7440-09-7	Potassium	14700		P
7439-95-4	Magnesium	320	B	P
7439-96-5	Manganese	14.9	B	P
	Molybdenum	285	F	P
7440-23-5	Sodium	29100	F	P
7440-02-0	Nickel	124		P
7439-92-1	Lead	94.1		P
7440-36-0	Antimony	1.6	U	P
7782-49-2	Selenium	6.6		P
7440-28-0	Thallium	2.3	U	P
7440-62-2	Vanadium	38.4	B	P
7440-66-6	Zinc	17.8	B	P

34

32

36

33

KAS
6/30/97

Color Before:

Clarity Before:

Texture:

Color After:

Clarity After:

Artifacts:

Comments:

ENVIROFORMS/INORGANIC CLP

SA
SPIKE SAMPLE RECOVERY

SAMPLE NO.

1311963

Lab Name: Antech Ltd

Contract: ENSTRAT

Lab Code: ANT

Case No.:

SAS No.:

SDG No.: 5567EV

Matrix (soil/water): WATER

Level (low/med): MED

% Solids for Sample: 0.0

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

Analyte	Control Limit %R	Spiked Sample Result (SSR)	Sample Result (SR)	Spike Added (SA)	%R	Q/M
Silver	75-125	82.1689	24.5323	50.00	113.2	P
Aluminum	75-125	5306.5850	1286.3969	4000.00	100.5	P
Arsenic	75-125	4362.3000	2.6513	4000.00	102.0	P
Barium	75-125	4221.2101	123.5741	4000.00	102.4	P
Beryllium	75-125	108.2041	3.3340	100.00	104.9	P
Calcium						
Cadmium	75-125	113.8010	11.9373	100.00	101.9	P
Cobalt	75-125	1030.7776	26.1365	1000.00	100.5	P
Chromium	75-125	434.4903	35.1956	400.00	99.8	P
Copper	75-125	538.1978	29.3665	500.00	101.8	P
Iron	75-125	3652.3797	1774.9387	2000.00	78.9	P
Mercury	75-125	0.8054	0.2000	1.00	80.5	CV
Potassium						NR
Magnesium						NR
Manganese	75-125	1230.8406	195.1918	1000.00	103.6	P
Molybdenum						NR
Sodium						NR
Nickel	75-125	1074.8426	39.3347	1000.00	103.6	P
Lead	75-125	1031.3000	1.7000	1000.00	103.1	P
Antimony	75-125	1072.3000	1.6000	1000.00	107.2	P
Selenium	75-125	4775.2000	2.7000	4000.00	119.4	P
Thallium	75-125	4241.3000	2.3000	4000.00	106.0	P
Vanadium	75-125	1077.2424	22.2763	1000.00	104.4	P
Zinc	75-125	1062.3765	20.6338	1000.00	104.2	P

KAS
6/30/97

Comments:

ENVIROFORMS/INORGANIC CLP

SA
SPIKE SAMPLE RECOVERY

SAMPLE NO.

1511968

Lab Name: Antech Ltd

Contract: ENSTRAT

Lab Code: ANT

Case No.:

SAS No.:

SDG No.: 5567EV

Matrix (soil/water): WATER

Level (low/med): MED

% Solids for Sample: 0.0

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

Analyte	Control Limit XR	Spiked Sample Result (SSR)	Sample Result (SR)	Spike Added (SA)	%R	QIM
Silver	75-125	97.6785	22.6476	100.00	75.0	P
Aluminum	75-125	6158.9270	284.3433	4000.00	46.91	P
Arsenic	75-125	3759.8000	1.8356	4000.00	93.9	P
Barium	75-125	3637.4761	68.8431	4000.00	89.7	P
Beryllium	75-125	92.3746	4.2595	100.00	88.1	P
Calcium						NR
Cadmium	75-125	97.4566	11.4119	100.00	86.0	P
Cobalt	75-125	898.3646	25.4415	1000.00	87.3	P
Chromium	75-125	373.1336	30.7528	400.00	85.6	P
Copper	75-125	477.4746	33.0855	500.00	88.9	P
Iron	75-125	4486.8794	257.0576	4000.00	105.7	P
Mercury	75-125	1.0569	0.2000	1.00	105.7	CV
Potassium						NR
Magnesium						NR
Manganese	75-125	1075.5017	134.0247	1000.00	94.1	P
Molybdenum						NR
Sodium						NR
Nickel	75-125	932.3404	44.1423	1000.00	93.0	P
Lead	75-125	883.9100	1.7000	1000.00	88.4	P
Antimony	75-125	914.5100	1.6000	1000.00	91.5	P
Selenium	75-125	4102.2000	5.2272	4000.00	102.4	P
Thallium	75-125	3642.2000	2.3000	4000.00	91.1	P
Vanadium	75-125	919.1918	30.4634	1000.00	88.0	P
Zinc	75-125	924.9421	9.6634	1000.00	91.5	P

KQS
6/30/97

Comments:

ENVIROFORMS/INORGANIC CLF

5A

SAMPLE NO.

SPIKE SAMPLE RECOVERY

151T968

Lab Name: Antech Ltd

Contract: ENSTRAT

Lab Code: ANT

Case No.:

SAS No.:

SDG No.: 5567EV

Matrix (soil/water): WATER

Level (low/med): MED

% Solids for Sample: 0.0

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

Analyte	Control Limit %R	Spiked Sample Result (SSR)	Sample Result (SR)	Spike Added (SA)	%R	QIM
Silver	75-125	95.2301	24.1442	100.00	51.1	NI
Aluminum		56616.4570	43034.6860	4000.00	339.5	P
Arsenic	75-125	3909.6000	32.4710	4000.00	96.9	P
Barium	75-125	4199.9450	632.2067	4000.00	89.2	P
Beryllium	75-125	97.8000	8.8951	100.00	88.9	P
Calcium						
Cadmium	75-125	120.6704	27.4956	100.00	93.2	P
Cobalt	75-125	981.1698	95.2449	1000.00	88.6	P
Chromium	75-125	533.9790	165.7970	400.00	92.0	P
Copper	75-125	600.1404	145.4478	500.00	90.9	P
Iron		99015.0100	88379.3620	2000.00	531.8	P
Mercury	75-125	0.9731	0.2000	1.00	97.3	CV
Potassium						NR
Magnesium						NR
Manganese	75-125	2292.5772	1248.4372	1000.00	104.4	P
Molybdenum						NR
Sodium						NR
Nickel	75-125	1097.3533	184.6342	1000.00	91.3	P
Lead	75-125	937.3000	32.1660	1000.00	90.3	P
Antimony	75-125	431.7600	4.3734	500.00	85.3	P
Selenium	75-125	4233.5000	2.7000	4000.00	105.8	P
Thallium	75-125	3463.4000	2.3000	4000.00	85.6	P
Vanadium	75-125	1011.8748	104.0225	1000.00	90.8	P
Zinc	75-125	1166.7130	236.1192	1000.00	93.1	P

KAS
6/30/97

Comments:

ENVIROFORMS/INORGANIC CLP

6
DUPLICATES

SAMPLE NO.

131196D

Lab Name: Antech Ltd

Contract: ENSTRAT

Lab Code: ANT

Case No.:

SAS No.:

SDG No.: 3367EV

Matrix (soil/water): WATER

Level (low/med): MED

% Solids for Sample: 0.0

% Solids for Duplicate: 0.0

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

Analyte	Control Limit	Sample (S)	C	Duplicate (D)	C	RPD	QIM
Silver	10.0	24.5523		21.5592		13.0	F
Aluminum		1235.3767		1557.2436		19.0	F
Arsenic		2.6513	B	1.9480	B	30.6	F
Barium		123.5741	B	101.8645	B	19.3	F
Beryllium		3.3340	B	3.2332	B	2.9	F
Calcium		97312.3700		97573.3540		0.3	F
Cadmium	5.0	11.9373		11.9133		0.2	F
Cobalt		25.1555	B	25.4029	B	2.9	F
Chromium	10.0	35.1956		30.9350		12.9	F
Copper	25.0	29.3665		29.1471		4.2	F
Iron		1774.9387		1970.3375		10.4	F
Mercury		0.2000	U	0.2000	U		CV
Potassium	5000.0	6802.2144		6885.6170		1.2	F
Magnesium		43125.7630		43237.2470		0.3	F
Manganese		195.1918		207.4355		6.1	F
Molybdenum		35.8637		49.2235		31.4	F
Sodium		95240.0710		95307.8130		0.6	F
Nickel	40.0	39.3347	B	44.3773		12.0	F
Lead		1.7000	U	2.2379	B	200.0	F
Antimony		1.6000	U	2.9244	B	200.0	F
Selenium		2.7000	U	2.7000	U		F
Thallium		2.3000	U	2.3000	U		F
Vanadium		32.2763	B	30.7698	B	6.6	F
Zinc	20.0	20.6532		30.0916		37.2	F

KAS
6/30/97

ENVIROFORMS/INORGANIC CLP

6
DUPLICATES

SAMPLE NO.

151196D

Lab Name: Antech Ltd

Contract: ENSTRAT

Lab Code: ANT

Case No.:

SAS No.:

SDG No.: 5567EV

Matrix (soil/water): WATER

Level (low/med): MED

% Solids for Sample: 0.0

% Solids for Duplicate:

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

Analyte	Control Limit	Sample (S)	C	Duplicate (D)	C	RPD	QIM
Silver	10.0	22.6476		18.4301		20.5	P
Aluminum	200.0	284.3453		151.9314		60.9	P
Arsenic		1.8336		2.2457		20.1	P
Barium		68.8431		34.9321		65.2	P
Beryllium		4.2593		2.1692		55.0	P
Calcium		128384.1600		56627.3980		77.6	P
Cadmium	5.0	11.4119		9.1612		21.9	P
Cobalt		25.4413		20.1453		23.2	P
Chromium	10.0	20.7528		21.4912		33.5	P
Copper	25.0	23.0853		25.7083		25.1	P
Iron	100.0	257.0576		203.6250		23.2	P
Mercury		0.2000	U	0.2000	U		QV
Potassium	5000.0	5477.3972		2693.0354		68.2	P
Magnesium	5000.0	50147.4920		22499.2190		76.1	P
Manganese	15.0	134.0247		66.5975		67.5	P
Molybdenum		75.8261		41.7162		58.0	P
Sodium	3000.0	23761.4480		10804.6780		75.0	P
Nickel	40.0	44.1423		23.3111		43.7	P
Lead		1.7000	U	1.7000	U		P
Antimony		1.6000	U	1.6000	U		P
Selenium	5.0	3.9272		3.8350		42.9	P
Thallium		2.3000	U	3.0000		200.0	P
Vanadium		30.4654		22.6440		29.3	P
Zinc		9.6634		12.6914		34.5	P

KAS
6/30/97

ENVIROFORMS/INORGANIC CLP

6
DUPLICATES

SAMPLE NO.

151T96D

Lab Name: Antech Ltd

Contract: ENSTRAT

Lab Code: ANT

Case No.:

SAS No.:

SDG No.: 5567EV

Matrix (soil/water): WATER

Level (low/med): MED

% Solids for Sample: 0.0

% Solids for Duplicate:

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

Analyte	Control Limit	Sample (S)	C	Duplicate (D)	C	RPD	QIM
Silver	10.0	24.1442		28.8378		17.7	F
Aluminum		43034.6860		41466.1620		3.7	F
Arsenic	10.0	32.4710		29.8230		3.5	F
Barium	200.0	632.2067		608.0025		3.2	F
Beryllium	3.0	8.8951		8.7674		1.4	F
Calcium		208116.4300		198755.7600		4.6	F
Cadmium		27.4856		28.0693		2.1	F
Cobalt	50.0	95.2449		95.1371		0.1	F
Chromium		165.7970		167.4042		1.0	F
Copper		145.4478		142.6433		1.2	F
Iron		88379.3620		83861.7340		5.2	F
Mercury		0.2000	U	0.2000	U		CV
Potassium	5000.0	13378.1840		13413.4690		0.3	F
Magnesium		79806.9480		73691.7120		3.0	F
Manganese		1248.4372		1266.3394		1.4	F
Molybdenum		92.4527		97.4435		5.3	F
Sodium	5000.0	25202.4690		23057.7250		3.2	F
Nickel	40.0	184.6342		186.3868		2.0	F
Lead		32.1660		32.1620		0.0	F
Antimony		4.3734	B	1.9294	B	77.6	F
Selenium		2.7000	U	3.7870	B	200.0	F
Thallium		2.3000	U	2.3000	U		F
Vanadium	50.0	104.0925		106.6102		2.4	F
Zinc		236.1193		222.3227		6.0	F

KAS
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ENVIROFORMS/INORGANIC CLP

9

ICP SERIAL DILUTIONS

SAMPLE NO.

4-1196L

Lab Name: Antech Ltd

Contract: ENSTRAT

Lab Code: ANT

Case No.:

SAS No.:

SDS No.: 5567EV

Matrix (soil/water): WATER

Level (low/med): MED

Concentration Units: ug/L

Analyte	Initial Sample Result (I)	Serial Dilution Result (S)	% Difference	QIM
Silver	8.30U	41.50U		F
Aluminum	388.03U	288.50U	100.0	F
Arsenic	1.80U	9.00U		F
Barium	34.95U	68.50U	100.0	F
Beryllium	0.60U	3.00U		F
Calcium	77683.25U	76678.43U	1.3	F
Cadmium	2.20U	11.00U		F
Cobalt	5.60U	28.00U		F
Chromium	7.80U	39.00U		F
Copper	4.70U	23.50U		F
Iron	647.49U	563.40U	13.0	F
Mercury				
Potassium	672.13U	1460.00U	100.0	F
Magnesium	33754.29U	23211.94U	2.3	F
Manganese	112.94U	97.32U	13.7	F
Molybdenum	10.30U	51.50U		F
Sodium	40842.19U	41260.01U	1.0	F
Nickel	10.10U	50.50U		F
Lead	1.70U	8.50U		F
Antimony	1.60U	8.00U		F
Selenium	2.70U	13.50U		F
Thallium	2.30U	11.50U		F
Vanadium	3.40U	27.00U		F
Zinc	5.17U	14.50U	100.0	F

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000001

ENVIROFORMS/INORGANIC CLP

9

ICP SERIAL DILUTIONS

SAMPLE NO.

T21196L

Lab Name: Antech Ltd

Contract: ENSTRAT

Lab Code: ANT

Case No.:

SAS No.:

SDG No.: 5367EV

Matrix (soil/water): WATER

Level (low/med): MED

Concentration Units: ug/L

Analyte	Initial Sample Result (I)	C	Serial Dilution Result (S)	C	% Differ- ence	QIM
Silver						P
Aluminum						P
Arsenic	1.80	U	9.00	U		P
Barium						P
Beryllium						P
Calcium						P
Cadmium						P
Cobalt						P
Chromium						P
Copper						P
Iron						P
Mercury						
Potassium						P
Magnesium						P
Manganese						P
Molybdenum						P
Sodium						P
Nickel						P
Lead	93.88		79.12		15.7	P
Antimony	2.18	B	3.00	U	100.0	P
Selenium	3.94	B	13.61	B	245.4	P
Thallium	2.30	U	18.00	B		P
Vanadium						P
Zinc						P

KAS
6/30/97

ENVIROFORMS/INORGANIC CLP

9

ICP SERIAL DILUTIONS

SAMPLE NO.

141196L

Lab Name: Antech Ltd

Contract: ENSTRAT

Lab Code: ANT

Case No.:

SAS No.:

SDG No.: 5567EV

Matrix (soil/water): WATER

Level (low/med): MED

Concentration Units: ug/L

Analyte	Initial Sample Result (I)	Serial Dilution Result (S)	% Difference	QIM
Silver	8.36 E	41.50 U	100.0	P
Aluminum	1672.48	1637.30	2.1	P
Arsenic				P
Barium	118.19 E	117.36 E	0.7	P
Beryllium	1.92 E	3.00 U	100.0	P
Calcium	57636.92	58976.65	2.3	P
Cadmium	6.19	11.00 U	100.0	P
Cobalt	16.66 E	34.35 E	103.7	P
Chromium	21.82	39.00 U	100.0	P
Copper	22.23 E	23.50 U	100.0	P
Iron	2029.80	2109.70	3.9	P
Mercury				
Potassium	44172.97	45061.91	2.0	P
Magnesium	24803.43	25984.51	4.8	P
Manganese	117.40	120.62	2.7	P
Molybdenum	106.88	130.00	21.6	P
Sodium	29236.79	30313.02	3.7	P
Nickel	104.54	126.90 E	21.4	P
Lead				
Antimony				
Selenium				
Thallium				
Vanadium	15.48 E	27.00 U	100.0	P
Zinc	20.41	41.42 E	102.9	P

KAS
6/30/97

Table 1
General Data Table
Environmental Strategies Corporation
Antech Ltd. Project No. 96-5653
Groundwater Characterization; Project No. 483803; Task 14
AlTech; Dunkirk

Page 1 of 2

Parameter	Analytical Method	Units	Sample Identification	
			9611-2998 ALT-GW- WT2-1196 (11/25/96)	9611-3000 Method Blank (11/26/96)
Alkalinity (Total)	310.1(1)	mg/l CaCO ₃	1020	<2.00
Chloride	9251(2)	mg/l	12	<0.50
Cyanide (Free)	4500CN-I(3)	mg/l	<0.0050	<0.0050
Cyanide (Total)	9012(2)	mg/l	<0.0050	<0.0050
Chemical Oxygen Demand	410.4(1)	mg/l	46	<5.0
Fluoride	340.2(1)	mg/l	0.33	<0.10
Ammonia	350.1(1)	mg/l NH ₃ -N	2.9	<0.10
Nitrate	9200(2)	mg/l NO ₃ -N	<0.10 USI	<0.10
pH	9040(2)	pH units	12.41	NAP(4)
Phenolics	9066(2)	mg/l	0.054	<0.0050
Sulfate	9038(2)	mg/l	8.8	<1.0
Specific Conductance @ 25°C	9050(2)	µmhos/cm	4560	NAP
Total Suspended Solids @ 105°C	160.2(1)	mg/l	129	<1
Total Organic Carbon	9060(2)	mg/l	15	<1.0
Metals:				
Silver (Dissolved)	6010(2)	mg/l	0.026	<0.0083
Silver (Total)	6010(2)	mg/l	0.032	<0.0083
Aluminum (Dissolved)	6010(2)	mg/l	0.80	<0.058
Aluminum (Total)	6010(2)	mg/l	0.82	<0.058
Arsenic (Dissolved)	6010(2)	mg/l	<0.0018	<0.0018
Arsenic (Total)	6010(2)	mg/l	<0.0018	<0.0018
Barium (Dissolved)	6010(2)	mg/l	0.18	<0.014
Barium (Total)	6010(2)	mg/l	0.17	<0.014
Beryllium (Dissolved)	6010(2)	mg/l	0.0071	<0.00060
Beryllium (Total)	6010(2)	mg/l	0.0070	<0.00060
Calcium (Dissolved)	6010(2)	mg/l	230	<0.32
Calcium (Total)	6010(2)	mg/l	220	<0.32
Cadmium (Dissolved)	6010(2)	mg/l	0.012	<0.0022
Cadmium (Total)	6010(2)	mg/l	0.014	<0.0022
Cobalt (Dissolved)	6010(2)	mg/l	0.025	<0.0056
Cobalt (Total)	6010(2)	mg/l	0.028	<0.0056
Chromium (Dissolved)	6010(2)	mg/l	0.030	<0.0078
Chromium (Total)	6010(2)	mg/l	0.036	<0.0078
Copper (Dissolved)	6010(2)	mg/l	0.050	<0.0047
Copper (Total)	6010(2)	mg/l	0.052	<0.0047

See footnotes at end of table.

KAS
6/30/97

043

DATA VALIDATION WORKSHEETS

MULTI-MEDIA VOLATILE ORGANIC FRACTION

CASE NUMBER: 5653 SDG NUMBER: 5653LABORATORY: Antech Ltd.CLIENT: ESC PROJECT: DunkirkREVIEWER: JACleveland DATE: 8/6/97

QA/QC LEVEL

- ☐ NEESA C
☐ NEESA D
☒ DQO LEVEL III
☐ DQO LEVEL IV
☐ _____

Statement Of Work (SOW)

- ☐ CLP 3/90
☐ CLP 2/88
☒ SW846 8240
☐ SW846 8240 Appendix IX
☐ _____

ANALYSIS MODIFICATIONS: NYSDES 12/91 Requirements

CLP/SW846 :	14 days from date of sampling (If properly preserved)
Region I :	10 days from VTSR
Region III :	14 days from date of sampling (If properly preserved)
NYSDEC :	10 days from date VTSR (If properly preserved)

- UTSR - 11/25 2- 11/29, 11/30

If yes, complete the following form for all samples that exceeded holding times.

[illegible]

Action: DA - The number of days that the holding time was exceeded.

DA $\leq$ 5: Qualify all positive results as estimated (J).

DA > 5 ≤ 15: Qualify all positive results as estimated (J) and all non detects estimated (UJ).

DA > 15: Qualify all positive results estimated (J) and reject all non detects.

000030

SA
VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: Antech Ltd.

Contract:

Lab Code: ANTECH

Case No.: 5653

SAS No.:

SDG No.: 5653

Lab File ID: 96NV504S

BFB Injection Date: 11/27/96

Instrument ID.: EXTRELEL

BFB Injection Time: 09:42

GC Column: RTX502.2 ID: .53 (mm)

Heated Purge: (Y/N) N

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	8.0 - 40.0% of mass 95	12.6
75	30.0 - 66.0% of mass 95	37.4
95	Base peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	7.1
173	Less than 2.0% of mass 174	.7 (.8)1
174	50.0 - 120.0% of mass 95	85.7
175	4.0 - 9.0 % of mass 174	6.5 (7.6)1
176	93.0 - 101.0% of mass 174	83.9 (97.9)1
177	5.0 - 9.0% of mass 176	5.9 (7.0)2

1-Value is % mass 174

2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
1	VSTD200		96NV505S	11/27/96	10:15
2	VSTD100		96NV506S	11/27/96	10:50
3	VSTD50		96NV507S	11/27/96	11:20
4	VSTD20		96NV508S	11/27/96	11:50
5	VSTD10		96NV509S	11/27/96	12:20
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					

047

6A

VOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: Antech Ltd.

Contract:

Lab Code: ANTECH

Case No.: 5653

SAS No.:

SDG No.: 5653

Instrument ID: EXTRELEL

Calibration Date(s): 11/27/96

11/27/96

Heated Purge: (Y/N) N

Calibration Times:

10:15

12:20

GC Column: RTX502.2 ID: .53 (mm)

LAB FILE ID:

RRF10 = 96NV509S

RRF20 = 96NV508S

RRF50 = 96NV507S

RRF100 = 96NV506S

RRF200 = 96NV505S

COMPOUND	RRF10	RRF20	RRF50	RRF100	RRF200	RRF	% RSD
Chloromethane	2.474	2.834	2.382	2.945	2.655	2.658	8.9
Bromomethane	* 1.483	1.721	1.492	1.695	1.607	1.600	6.9
Vinyl chloride	* 1.818	2.048	1.699	1.979	1.922	1.893	7.3
Chloroethane	1.039	1.141	1.002	1.177	1.211	1.114	8.1
Methylene chloride	1.494	1.782	1.639	1.710	1.664	1.658	4.1
Acetone	.689	.714	.477	.399	.332	.522	32.8
Carbon disulfide	3.122	2.994	2.777	3.119	2.957	2.994	1.7
1,1-Dichloroethane	* .944	1.311	1.221	1.309	1.302	1.217	7.9
1,1-Dichloroethane	* 2.322	2.777	2.723	2.723	2.530	2.615	2.2
trans-1,2-Dichloroethane	.976	1.237	1.185	1.153	1.138	1.138	3.5
cis-1,2-Dichloroethane	1.269	1.484	1.452	1.456	1.393	1.411	6.1
Chloroform	* 2.200	2.487	2.366	2.199	2.059	2.262	7.3
1,2-Dichloroethane	* .992	1.056	.928	.834	.672	.896	16.8
2-Butanone	.938	.761	.685	.630	.499	.703	23.1
1,1,1-Trichloroethane	* .163	.227	.218	.212	.251	.214	15.1
Carbon tetrachloride	* .154	.193	.177	.178	.188	.178	8.4
Bromodichloromethane	* .416	.479	.454	.439	.529	.463	9.4
1,2-Dichloropropane	.367	.462	.451	.450	.548	.456	14.1
cis-1,3-Dichloropropene	* .377	.498	.519	.541	.680	.523	20.7
Trichloroethane	* .257	.340	.335	.343	.427	.340	17.7
Dibromochloromethane	* .347	.413	.410	.436	.523	.426	14.2
1,1,2-Trichloroethane	* .311	.367	.352	.356	.413	.360	10.2
Benzene	* .533	.662	.635	.644	.691	.633	9.4
trans-1,3-Dichloropropene	* .281	.362	.380	.398	.484	.381	19.1
Bromoform	* .313	.411	.399	.448	.541	.423	19.6
4-Methyl-2-pentanone	.344	.310	.377	.370	.332	.347	7.9
2-Hexanone	.216	.200	.245	.249	.227	.227	9.0
Tetrachloroethane	* .258	.329	.374	.341	.319	.324	13.0
1,1,2,2-Tetrachloroethane	* .616	.783	.842	.785	.705	.746	11.7
Toluene	* .879	1.231	1.429	1.308	1.227	1.215	16.9
Chlorobenzene	* .721	.960	1.054	.979	.926	.928	13.4
Ethyl benzene	* .263	.383	.448	.428	.403	.385	16.9
Styrene	* .871	.939	1.036	1.072	.962	.976	8.2
m,p-Xylene	* .467	.502	.569	.587	.539	.533	2.4
o-Xylene	* .448	.499	.566	.593	.542	.529	1.8
Toluene-d8	1.126	1.095	1.260	1.271	1.130	1.176	7.0
4-Bromofluorobenzene	* .715	.714	.757	.772	.686	.735	04.8
1,2-Dichloroethane-d4	1.158	.928	.812	.820	.652	.873	21.4

SA
VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: Antech Ltd.

Contract:

Lab Code: ANTECH

Case No.: 5653

SAS No.:

SDG No.: 5653

Lab File ID: 96NV544S

BFB Injection Date: 11/29/96

Instrument ID.: EXTRELEL

BFB Injection Time: 12:40

GC Column: RTX502.2 ID: .53 (mm)

Heated Purge: (Y/N) N

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	8.0 - 40.0% of mass 95	13.8
75	30.0 - 66.0% of mass 95	41.9
95	Base peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	6.8
173	Less than 2.0% of mass 174	.3 (.4)1
174	50.0 - 120.0% of mass 95	78.6
175	4.0 - 9.0 % of mass 174	6.4 (8.1)1
176	93.0 - 101.0% of mass 174	78.0 (99.2)1
177	5.0 - 9.0% of mass 176	5.8 (7.4)2

1-Value is % mass 174 2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
1	VSTD50.		96NV545S	11/29/96	13:17
2	VBLK2	VBLK2	96NV546S	11/29/96	14:01
3	WT21196	112998	96NV548S	11/29/96	15:20
4	TB1125	112999	96NV549S	11/29/96	15:50
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					

7A

VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: Antech Ltd.

Contract:

Lab Code: ANTECH

Case No.: 5653

SAS No.:

SDG No.: 3653

Instrument ID: EXTRELEL

Calibration Date: 11/29/96

Time: 13:17

Lab File ID: 96NV5453

Init. Calib. Date(s): 11/27/96

11/27/96

Heated Purge: (Y/N) N

Init. Calib. Times:

10:15

12:20

GC Column: RTX502.2 ID: .53 (mm)

COMPOUND	RRF	RRF50	MIN RRF	%D	MAX %D
Chloromethane	2.658	2.696		-1.4	
Bromomethane	1.600	1.556	.100	2.8	25.0
Vinyl chloride	1.893	1.958	.100	-3.4	25.0
Chloroethane	1.114	1.192		-7.0	
Methylane chloride	1.658	1.966		-18.6	
Acetone	.522	.396		24.1	
Carbon disulfide	2.994	2.773		7.4	
1,1-Dichloroethene	1.217	1.329	.100	-9.2	25.0
1,1-Dichloroethane	2.615	2.852	.200	-9.1	25.0
trans-1,2-Dichloroethene	1.138	1.148		-.9	
cis-1,2-Dichloroethene	1.411	1.456		-3.2	
Chloroform	2.262	2.369	.200	-4.7	25.0
1,2-Dichloroethane	.896	.920	.100	-2.7	25.0
2-Butanone	.703	.656		6.7	
1,1,1-Trichloroethane	.214	.250	.100	-16.8	25.0
Carbon tetrachloride	.178	.197	.100	-10.7	25.0
Bromedichloromethane	.463	.576	.200	-24.4	25.0
1,2-Dichloropropane	.456	.537		-17.8	
cis-1,3-Dichloropropene	.523	.618	.200	-18.2	25.0
Trichloroethene	.340	.372	.300	-9.4	25.0
Dibromochloromethane	.426	.484	.100	-13.6	25.0
1,1,2-Trichloroethane	.360	.421	.100	-16.9	25.0
Benzene	.633	.657	.500	-3.8	25.0
trans-1,3-Dichloropropene	.381	.471	.100	-23.6	25.0
Bromoform	.423	.445	.100	-5.2	25.0
4-Methyl-2-pentanone	.347	.380		-9.5	
2-Hexanone	.227	.259		-14.1	
Tetrachloroethene	.324	.316	.200	2.5	25.0
1,1,2,2-Tetrachloroethane	.746	.811	.500	-8.7	25.0
Toluene	1.215	1.333	.400	-9.7	25.0
Chlorobenzene	.928	1.044	.500	-12.5	25.0
Ethyl benzene	.385	.458	.100	-19.0	25.0
Styrene	.976	1.156	.300	-18.4	25.0
m,p-Xylene	.533	.623	.300	-16.9	25.0
o-Xylene	.529	.652	.300	-23.3	25.0
Toluene-d8	1.176	1.138		-1.0	
1-Bromofluorobenzene	.733	.758	.200	-3.1	25.0
1,2-Dichloroethane-d4	.873	.904		-3.6	

5A

VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: Antech Ltd.

Contract:

Lab Code: ANTECH

Case No.: 5653

SAS No.:

SDG No.: 5653

Lab File ID: 96NV579S

BFB Injection Date: 11/30/96

Instrument ID.: EXTRELEL

BFB Injection Time: 10:53

GC Column: RTX502.2 ID: .53 (mm)

Heated Purge: (Y/N) N

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	8.0 - 40.0% of mass 95	14.0
75	30.0 - 66.0% of mass 95	38.7
95	Base peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	6.9
173	Less than 2.0% of mass 174	.0 (.0) 1
174	50.0 - 120.0% of mass 95	78.5
175	4.0 - 9.0 % of mass 174	5.7 (7.3) 1
176	93.0 - 101.0% of mass 174	76.0 (96.8) 1
177	5.0 - 9.0% of mass 176	5.2 (6.8) 2

1-Value is % mass 174

2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
1	VSTD50.		96NV580S	11/30/96	11:11
2	VBLK3	VBLK3	96NV582S	11/30/96	12:55
3	WT21196 DL	112998	96NV583S	11/30/96	13:23
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					

7A

VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: Antech-Ltd.

Contract:

Lab Code: ANTECH

Case No.: 5653

SAS No.:

SDG No.: 5653

Instrument ID: EXTRELEL

Calibration Date: 11/30/96

Time: 11:11

Lab File ID: 96NV580S

Init. Calib. Date(s): 11/27/96

11/27/96

Heated Purge: (Y/N) N

Init. Calib. Times:

10:15

12:20

GC Column: RTX502.2 ID: .53 (mm)

COMPOUND	RRF	RRF50	MIN RRF	%D	MAX %D
Chloromethane	2.658	1.966		26.0	
Bromomethane	1.600	1.208	.100	24.5	25.0
Vinyl chloride	1.893	1.448	.100	23.5	25.0
Chloroethane	1.114	.955		14.3	
Methylene chloride	1.658	1.735		-4.6	
Acetone	.522	.549		-5.2	
Carbon disulfide	2.994	2.384		20.4	
1,1-Dichloroethane	1.217	1.068	.100	12.2	25.0
1,1-Dichloroethane	2.615	2.772	.200	-6.0	25.0
trans-1,2-Dichloroethane	1.138	1.207		-6.1	
cis-1,2-Dichloroethane	1.411	1.575		-11.6	
Chloroform	2.262	2.469	.200	-9.2	25.0
1,2-Dichloroethane	.896	.932	.100	-4.0	25.0
2-Butanone	.703	.802		-14.1	
1,1,1-Trichloroethane	.214	.208	.100	2.8	25.0
Carbon tetrachloride	.178	.153	.100	14.0	25.0
Bromodichloromethane	.463	.512	.200	-10.6	25.0
1,2-Dichloropropane	.456	.504		-10.5	
cis-1,3-Dichloropropane	.523	.579	.200	-10.7	25.0
Trichloroethene	.340	.319	.300	6.2	25.0
Dibromochloromethane	.426	.429	.100	-.7	25.0
1,1,2-Trichloroethane	.360	.328	.100	-7.8	25.0
Benzene	.633	.612	.500	3.3	25.0
trans-1,3-Dichloropropane	.381	.420	.100	-10.2	25.0
Bromoform	.423	.374	.100	11.6	25.0
4-Methyl-2-pentanone	.347	.482		-39.9	
2-Hexanone	.227	.297		-30.8	
Tetrachloroethane	.324	.283	.200	12.7	25.0
1,1,2,2-Tetrachloroethane	.746	.819	.500	-9.8	25.0
Toluene	1.215	1.274	.400	-4.9	25.0
Chlorobenzene	.928	.932	.500	-.4	25.0
Ethyl benzene	.385	.390	.100	-1.3	25.0
Styrene	.976	.932	.300	4.5	25.0
m,p-Xylene	.533	.470	.300	11.8	25.0
o-Xylene	.529	.505	.300	4.5	25.0
Toluene-d8	1.176	1.235		-5.0	
4-Bromofluorobenzene	.735	.621	.200	15.5	25.0
1,2-Dichloroethane-d4	.873	.894		-2.4	

All other compounds must meet a minimum RRF of .010.

052

8A

VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: Antech Ltd.

Contract:

Lab Code: ANTECH

Case No.: 5653

SAS No.:

SDG No.: 5653

Lab File ID (Standard): 96NV5455

Date Analyzed: 11/29/96

Instrument ID: EXTRELEL

Time Analyzed: 13:17

GC Column: RTX502.2 ID: .53 (mm)

Heated Purge: (Y/N) N

		IS1(BCM)		IS2(DFB)		IS3(CBZ)	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
=====		=====	=====	=====	=====	=====	=====
12 HOUR STD		10909.	11.30	57059.	14.78	58770.	21.62
UPPER LIMIT		21818.	11.80	114118.	15.28	117540.	22.12
LOWER LIMIT		5455.	10.80	28530.	14.28	29385.	21.12
=====		=====	=====	=====	=====	=====	=====
EPA SAMPLE							
NO.							
=====		=====	=====	=====	=====	=====	=====
1	VBLK2	9487.	11.25	31537.	14.75	39799.	21.60
2	WT21196	9311.	11.27	40179.	14.80	34871.	21.58
3	TB1125	9196.	11.30	37123.	14.85	32520.	21.62
4							
5							
6							
7							
8							
9							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							

IS1 (BCM) = Bromochloromethane
 IS2 (DFB) = 1,4-Difluorobenzene
 IS3 (CBZ) = Chlorobenzene-d5

AREA UPPER LIMIT = +100% of internal standard area
 AREA LOWER LIMIT = - 50% of internal standard area
 RT UPPER LIMIT = + .50 minutes of internal standard RT
 RT LOWER LIMIT = - .50 minutes of internal standard RT

Column used to flag internal standard area values with an asterisk.
 * Values outside of QC limits.

053

SA
VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: Antech Ltd.

Contract:

Lab Code: ANTECH

Case No.: 5653

SAS No.:

SDG No.: 5653

Lab File ID (Standard): 96NV580S

Date Analyzed: 11/30/96

Instrument ID: EXTRELEL

Time Analyzed: 11:11

GC Column: RTX502.2 ID: .53 (mm)

Heated Purge: (Y/N) N

		IS1(BCM)		IS2(DFB)		IS3(CBZ)		
		AREA #	RT #	AREA #	RT #	AREA #	RT #	
=====		=====	=====	=====	=====	=====	=====	
12 HOUR STD		25425.	11.07	152042.	14.63	133422.	21.57	
UPPER LIMIT		50850.	11.57	304084.	15.13	266844.	22.07	
LOWER LIMIT		12713.	10.57	76021.	14.13	66711.	21.07	
=====		=====	=====	=====	=====	=====	=====	
EPA SAMPLE								
NO:								
=====		=====	=====	=====	=====	=====	=====	
1	VBLK3	18078.	11.35	66062.*	14.83	81355.	21.65	NA
2	WT21196 DL	16186.	11.40	72339.*	14.93	70334.	21.65	JW
3								
4								
5								
6								
7								
8								
9								
10								
11								
12								
13								
14								
15								
16								
17								
18								
19								
20								
21								
22								

IS1 (BCM) = Bromochloromethane
 IS2 (DFB) = 1,4-Difluorobenzene
 IS3 (CBZ) = Chlorobenzene-d5

AREA UPPER LIMIT = +100% of internal standard area
 AREA LOWER LIMIT = - 50% of internal standard area
 RT UPPER LIMIT = + .50 minutes of internal standard RT
 RT LOWER LIMIT = - .50 minutes of internal standard RT

Column used to flag internal standard area values with an asterisk
 * Values outside of GC limits.

**BLANK SUMMARY
VOLATILE ORGANIC FRACTION**

1. Blank qualification guidelines:

- a) If a compound is found in the blank but not in the sample, no action is taken.
- b) Any compound (other than the three (3) listed below) detected in the sample, which was also detected in the associated blank, must be qualified by elevating the limit of detection or adjusting the limit of detection to the sample result, when the sample concentration is less than five (5) times the blank concentration. For the following four (4) compounds, the results are qualified by elevating the limit of detection or adjusting the limit of detection to the sample result, when the sample concentration is less than ten (10) times the blank concentration.

Common laboratory contaminants: methylene chloride
 acetone
 2-butanone

- c) The reviewer should take note that the blank analysis may not involve the same weights, volumes or dilution factors as associated samples. These factors must be taken into consideration when applying the 5X and 10X criteria.
- d) In addition, the reviewer must review the trip blanks, rinseate blanks and field blanks (if they were submitted with the data package) and all associated samples. Apply the same data validation guidelines used in assessing the method blanks.
- e) Qualification/Action codes:

U - The sample result is greater than the CRQL and less than ten times (10X) the blank value. Cross out the "B" flag and qualify the sample result with a "U".

CRQL - The sample result is less than the CRQL and less than ten times (10X) the blank value. Reject the sample result, cross out the "B" flag, and report the CRQL.

greater
No Action - The sample result is greater than the CRQL and
 than ten times (10X) the blank value.

000088

4A
VOLATILE METHOD BLANK SUMMARY

EPA SAMPLE NO.

VBLK2

Lab Name: Antech Ltd.

Contract:

Lab Code: ANTECH Case No.: 5653

SAS No.:

SDG No.: 5653

Lab File ID: 96NV546S

Lab Sample ID: VBLK2

Date Analyzed: 11/29/96

Time Analyzed: 14:01

GC Column: RTX502.2 ID: .53 (mm)

Heated Purge: (Y/N) N

Instrument ID: EXTRELEL

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS AND MSD:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
1	WT21196	112998	96NV548S	15:20
2	TB1125	112999	96NV549S	15:50
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				
23				
24				
25				
26				
27				
28				
29				
30				

COMMENTS:

no contamination

4A
VOLATILE METHOD BLANK SUMMARY

EPA SAMPLE NO.

Lab Name: Antech Ltd.

Contract:

VBLK3

Lab Code: ANTECH Case No.: 5653 SAS No.: SDG No.: 5653

Lab File ID: 96NV582S

Lab Sample ID: VBLK3

Date Analyzed: 11/30/96

Time Analyzed: 12:55

GC Column: RTX502.2 ID: .53 (mm)

Heated Purge: (Y/N) N

Instrument ID: EXTRELEL

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS AND MSD:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
1	WT21196 DL	112998	96NV583S	13:28
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				
23				
24				
25				
26				
27				
28				
29				
30				

COMMENTS:

no contamination

HESI94.1

☐ Method Blank ☒ Trip Blank ☐ Rinseate Blank ☐ Field Blank ☐ Other

File ID: _____

No Contamination
04/06/19

HESI94.1

☐ Method Blank ☐ Trip Blank ☒ Rinseate Blank ☐ Field Blank ☐ Other

File ID: _____

No contamination
Dec 8/19/97

2A

WATER VOLATILE SYSTEM MONITORING COMPOUND RECOVERY

Lab Name: Antech Ltd.

Contract:

Lab Code: ANTECH

Case No.: 5653

SAS No.:

SDG No.: 5653

	EPA SAMPLE NO.	SMC1 (TOL)#	SMC2 (BFB)#	SMC3 (DCE)#	OTHER	TOT OUT	
1	V8LK2	109	100	147 *		1	NA
2	WT21196	120 *	105	196 *		2	J+
3	TB1125	119 *	92	183 *		2	J+
4	V8LK3	103	130 *	133 *		2	NA
5	WT21196 DL	106	133 *	192 *		2	J+
6							
7							
8							
9							
10							
11							
12							
13							
14							
15							
16							
17							
18							
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20							
21							
22							
23							
24							
25							
26							
27							
28							
29							
30							

QC LIMITS

SMC1 (TOL) = Toluene-d8 (88-110)
 SMC2 (BFB) = 4-Bromofluorobenzene (86-115)
 SMC3 (DCE) = 1,2-Dichloroethane-d4 (76-114)

Column to be used to flag recovery values

* Values outside of contract required QC limits

D System Monitoring Compound diluted out

Sample ID: none Duplicate Sample ID:

Units: ug/L ug/Kg

[illegible]

Soil RPDs < 35% RPD

Comments: _____

SAMPLE RESULT VERIFICATION
VOLATILE ORGANIC FRACTION

1. Were the sample results reported within the calibration range? Dilution required Yes ☐ No ☒
2. Were the percent moistures reported? Yes ☐ No ☒ NR
3. Were the data reported on a dry weight basis? Yes ☐ No ☒ NR
4. Did the GC/MS RIC and TIC exhibit interferences, off scale peaks or elevated baseline? Level 3 Review Yes ☐ No ☐
5. Did the data contain elevated detection limits that could not be accounted for? Yes ☐ No ☒
6. Were any computational or transcription errors found? Yes ☐ No ☒

Specific Comments: _____

* For WT211910 - reject E flags for
corresponding D flags

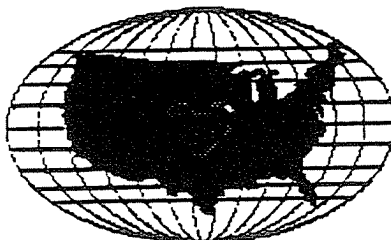
Reviewer: _____

HEARTLAND ESI VOA 5B

Date: _____

8/6/97

HESI94.1



HEARTLAND
ENVIRONMENTAL SERVICES, INC.

MULTI-MEDIA SEMIVOLATILE ORGANIC FRACTION

CASE/SDG NUMBER: 5653

LABORATORY: ANTECH LTD

CLIENT: ESC

PROJECT: DUNKIRK

REVIEWER: Daniel J. Heil, A.V.P.

DATE: June 26, 1997

QA/QC LEVEL: LEVEL III

STATEMENT OF WORK: NYSDEC, CALIBRATION STDS AND SAMPLE CONCENTRATION

ANALYSIS MODIFICATIONS: SW846-8270

NUMBER OF SAMPLES: 1

SAMPLE MATRIX: WATER

NUMBER OF MS/MSDs: NONE

MULTI-MEDIA SEMIVOLATILE ORGANIC FRACTION

HOLDING TIMES

	<u>Water</u>	<u>soil</u>	<u>Analysis</u>
CLP:	7 days from sampling	14 days from sampling	40 days from VTSR
SW846:	7 days from sampling	14 days from sampling	40 days from VTSR
Region I:	5 days from VTSR	7 days from VTSR	40 days from VTSR
Region III:	7 days from sampling	7 days from sampling	40 days from VTSR
NYSDEC:	5 days form VTSR	5 days from VTSR	40 days From VTSR

Action: DA - The number of days that the holding time was exceeded.

DA $\leq$ 5: Qualify all positive results as estimated (J).

DA $> 5 \leq 15$: Qualify ~~all~~ positive results as estimated (J) and all non detects estimated (UJ).

DA > 15 : Qualify all positive results estimated (J) and reject all non detects.

All associated samples met holding time requirements for extraction and/or analysis. No qualifications are required.

SEMIVOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

000215

Lab Name: ANTECH LTD. Contract: _____
 Lab Code: _____ Case No.: _____ SAS No.: _____ SDG No.: _____
 Lab File ID: M41219T1.D DFTPP Injection Date: 12/19/96
 Instrument ID: _____ DFTPP Injection Time: 1154

m/e	ION ABUNDANCE CRITERIA	%RELATIVE ABUNDANCE
51	30.0 - 80.0% of mass 198	52.2
68	Less than 2.0% of mass 69	0.5 (0.8)1
69	Mass 69 relative abundance	64.5
70	Less than 2.0% of mass 69	0.0 (0.0)1
127	25.0 - 75.0% of mass 198	46.4
197	Less than 1.0% of mass 198	0.0
198	Base Peak, 100 % relative abundance	100.0
199	5.0 - 9.0% of mass 198	6.3
275	10.0 - 30.0% of mass 198	18.9
365	Greater than 0.75% of mass 198	2.5
441	Present, but less than mass 443	6.2
442	40.0 - 110.0% of mass 198	43.0
443	15.0 - 24.0% of mass 442	8.8 (20.4)2

1-Value is % mass 69

2-Value is % mass 442

This check applies to the following SAMPLES, MS, MSD, BLANKS and STANDARDS:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	SSTD02	2STD	M41219P1.D	12/19/96	1250
02	SSTD05	5STD	M41219P2.D	12/19/96	1306
03	SSTD08	8STD	M41219P3.D	12/19/96	1322
04	SSTD12	12STD	M41219P4.D	12/19/96	1339
05	SSTD16	16STD	M41219P5.D	12/19/96	1355
06					
07					
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					

SEMI-VOLATILE ORGANICS INITIAL CALIBRATION DATA

000252

Lab Name: ANTECH LTD.

Contract: _____

Lab Code: _____

Case No.: _____

SAS No.: _____

SDG No.: _____

Instrument ID: M4

Calibration Date(s): _____

Calibration Times: 1250 1355

Lab File ID:		RRF2.0 M41219P1.D			RRF5.0 M41219P2.D		
RRF8.0 M41219P3.D		RRF12.0 M41219P4.D			RRF16.0 M41219P5.D		
COMPOUND	RRF2.0	RRF5.0	RRF8.0	RRF12.0	RRF16.0	RRF	% RSD
Phenol	2.191	1.997	2.027	1.805	1.696	1.943	10.0
Bis(2-chloroethyl)ether	1.708	1.532	1.529	1.544	1.241	1.471	12.4
2-Chlorophenol	1.529	1.415	1.427	1.274	1.192	1.368	9.8
1,3-Dichlorobenzene	1.534	1.356	1.329	1.148	1.118	1.293	13.0
1,4-Dichlorobenzene	1.860	1.775	1.811	1.673	1.528	1.730	7.6
1,2-Dichlorobenzene	1.614	1.465	1.432	1.305	1.189	1.401	11.5
o-Cresol	1.517	1.385	1.368	1.227	1.156	1.330	10.7
Bis(2-chloroisopropyl)ether	2.436	2.292	2.203	1.942	1.750	2.124	13.0
m/p-Cresol	1.590	1.410	1.432	1.282	1.187	1.380	11.1
N-Nitrosodi-n-propyl amine	1.237	1.108	1.122	0.976	0.900	1.069	12.3
Hexachloroethane	0.672	0.595	0.608	0.547	0.514	0.587	10.3
Nitrobenzene	0.466	0.423	0.443	0.394	0.366	0.418	9.4
Isophorone	0.981	0.860	0.894	0.796	0.719	0.850	11.7
2-Nitrophenol	0.211	0.202	0.213	0.198	0.181	0.201	6.3
2,4-Dimethylphenol	0.412	0.371	0.355	0.303	0.281	0.340	15.4
Bis(2-chloroethoxy)methane	0.550	0.485	0.499	0.448	0.401	0.476	11.7
2,4-Dichlorophenol	0.729	0.657	0.682	0.613	0.557	0.643	10.2
1,2,4-Trichlorobenzene	0.375	0.345	0.359	0.317	0.291	0.337	10.0
Naphthalene	1.192	1.050	1.075	0.942	0.867	1.021	12.2
4-Chloroaniline	0.462	0.423	0.408	0.373	0.345	0.402	11.2
Hexachlorobutadiene	0.197	0.183	0.192	0.174	0.158	0.181	8.6
4-Chloro-3-methylphenol	0.369	0.335	0.359	0.317	0.296	0.335	9.0
2-Methylnaphthalene	0.778	0.692	0.722	0.630	0.580	0.680	11.4
Hexachlorocyclopentadiene	0.231	0.239	0.259	0.243	0.231	0.241	4.9
2,4,6-Trichlorophenol	0.446	0.413	0.453	0.400	0.344	0.412	10.9
2,4,5-Trichlorophenol	0.427	0.399	0.410	0.356	0.348	0.383	8.9
2-Chloronaphthalene	1.375	1.231	1.293	1.132	0.993	1.206	12.1
2-Nitroaniline	0.469	0.432	0.461	0.402	0.366	0.426	10.0
Dimethylphthalate	1.651	1.556	1.603	1.403	1.277	1.499	10.3
Acenaphthylene	2.223	2.021	2.074	1.839	1.645	1.961	11.4
2,6-Dinitrotoluene	0.376	0.375	0.392	0.358	0.322	0.365	7.4
3-Nitroaniline	0.412	0.401	0.406	0.362	0.333	0.383	8.9
Acenaphthene	1.352	1.221	1.257	1.089	0.987	1.181	12.2
2,4-Dinitrophenol	0.069	0.100	0.129	0.134	0.136	0.113	25.5
4-Nitrophenol	0.215	0.229	0.246	0.236	0.215	0.228	5.8
Dibenzofuran	1.963	1.764	1.795	1.601	1.445	1.714	11.5
2,4-Dinitrotoluene	0.463	0.502	0.527	0.479	0.445	0.484	6.5

* Compounds with required minimum RRF and maximum %RSD values.
 All other compounds must meet a minimum RRF of 0.010. %

067

SEMI-VOLATILE ORGANICS INITIAL CALIBRATION DATA

000250

Lab Name: ANTECH LTD.

Contract: _____

Lab Code: _____

Case No.: _____

SAS No.: _____

SDG No.: _____

Instrument ID: M4

Calibration Date(s): _____

Calibration Times: 1250 1355

Lab File ID:	RRF2.0 M41219P1.D	RRF5.0 M41219P2.D					
RRF8.0	M41219P3.D	RRF12.0 M41219P4.D	RRF16.0 M41219P5.D				
COMPOUND	RRF2.0	RRF5.0	RRF8.0	RRF12.0	RRF16.0	RRF	% RSD
Diethylphthalate	1.793	1.677	1.703	1.489	1.790	1.690	7.3
4-Chlorophenyl-phenylether	0.713	0.665	0.683	0.594	0.552	0.642	10.5
Fluorene	1.526	1.597	1.442	1.236	1.144	1.349	11.5
4-Nitroaniline	0.438	0.395	0.361	0.323	0.297	0.363	15.5
2-Methyl-4,6-dinitrophenol	0.091	0.124	0.149	0.152	0.152	0.134	19.9
N-Nitrosodiphenylamine	0.826	0.789	0.811	0.728	0.666	0.764	8.7
4-Bromophenyl phenyl ether	0.320	0.302	0.317	0.289	0.271	0.300	6.9
Hexachlorobenzene	0.373	0.351	0.365	0.334	0.311	0.347	7.2
Pentachlorophenol	0.190	0.207	0.224	0.211	0.197	0.206	6.3
Phenanthrene	1.646	1.557	1.579	1.394	1.320	1.499	9.1
Anthracene	1.603	1.446	1.493	1.379	1.254	1.435	9.1
Carbazole	1.552	1.442	1.412	1.191	1.090	1.337	14.3
Di-n-Butylphthalate	2.234	2.053	2.046	1.859	1.682	1.981	10.8
Fluoranthene	1.655	1.570	1.528	1.389	1.268	1.482	10.4
Pyrene	2.365	2.338	2.247	2.046	1.884	2.176	9.5
Butylbenzylphthalate	1.256	1.216	1.149	1.050	0.974	1.129	10.3
3,3'-Dichlorobenzidine	0.657	0.639	0.653	0.604	0.545	0.624	7.9
Benzo[a]anthracene	1.740	1.705	1.748	1.602	1.434	1.646	8.0
Chrysene	1.668	1.660	1.603	1.450	1.360	1.548	8.8
Bis(2-ethylhexyl)phthalate	1.595	1.554	1.529	1.378	1.252	1.462	9.8
Di-n-octylphthalate	2.282	2.301	2.320	2.139	1.906	2.190	7.9
Benzo[b]fluoranthene	1.477	1.469	1.447	1.502	1.497	1.478	1.5
Benzo[k]fluoranthene	1.533	1.558	1.551	1.319	1.081	1.409	14.8
Benzo[a]pyrene	1.351	1.369	1.345	1.266	1.177	1.302	6.2
Indeno(1,2,3-c,d)pyrene	1.735	1.773	1.830	1.721	1.654	1.744	3.3
Dibenzo[a,h]anthracene	1.320	1.376	1.413	1.323	1.268	1.341	4.3
Benzo[g,h,i]perylene	1.561	1.602	1.631	1.548	1.491	1.567	3.4
2-Fluorophenol	1.577	1.455	1.460	1.326	1.255	1.410	8.3
Phenol-d5	2.040	1.877	1.873	1.679	1.573	1.809	10.2
2-Chlorophenol-d4	1.530	1.590	1.405	1.239	1.173	1.348	10.5
1,2-Dichlorobenzene-d4	1.091	0.971	0.966	0.852	0.793	0.934	12.4
Nitrobenzene-d5	0.501	0.444	0.465	0.417	0.379	0.441	10.5
2-Fluorobiphenyl	1.581	1.415	1.463	1.273	1.146	1.376	12.3
2,4,6-Tribromophenol	0.166	0.169	0.182	0.166	0.161	0.169	4.6
Terphenyl-d14	1.469	1.456	1.426	1.327	1.200	1.375	8.2

* Compounds with required minimum RRF and maximum %RSD values.
All other compounds must meet a minimum RRF of 0.010.

068

SEMIVOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name : ANTECH LTD. Contract: _____

Lab Code: _____ Case No.: 96-3653 SAS No.: _____ SDG No.: _____

Lab File ID: M41222T1.D DFTPP Injection Date: 12/22/96

Instrument ID: M4 DFTPP Injection Time: 1233

m/e	ION ABUNDANCE CRITERIA	%RELATIVE ABUNDANCE
51	30.0 - 80.0% of mass 198	60.0
68	Less than 2.0% of mass 69	0.0 (0.0)1
69	Mass 69 relative abundance	75.5
70	Less than 2.0% of mass 69	0.7 (1.0)1
127	25.0 - 75.0% of mass 198	53.1
197	Less than 1.0% of mass 198	0.0
198	Base Peak, 100 % relative abundance	100.0
199	5.0 - 9.0% of mass 198	6.8
275	10.0 - 30.0% of mass 198	20.3
365	Greater than 0.75% of mass 198	2.6
441	Present, but less than mass 443	9.0
442	40.0 - 110.0% of mass 198	63.7
443	15.0 - 24.0% of mass 442	12.9 (20.3)2

1-Value is % mass 69

2-Value is % mass 442

This check applies to the following SAMPLES, MS, MSD, BLANKS and STANDARDS:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	SSTD08	ACCAL	M41222C2.D	12/22/96	1248
02	SBLK01	AMBLK	M41222B8.D	12/22/96	2009
03	GW-WT2-1196	A11-2998	M41222B9.D	12/22/96	2025
04					
05					
06					
07					
08					
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16					
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19					
20					
21					
22					

SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: ANTECH LTD. Contract: _____

Lab Code: _____ Case No.: 96-5653 SAS No.: _____ SDG No.: 5653

Instrument ID: M4 Calibration Date: _____ Time: 1248

Lab File ID: M41222C2.D Init. Calib. Date(s): _____

Init. Calib. Times: _____

COMPOUND	RRF	RRF8.0	MIN RRF	%D	MAX %D
Phenol	1.943	2.065		-6.3	
Bis(2-chloroethyl)ether	1.471	1.549		-5.3	
2-Chlorophenol	1.368	1.466		-7.2	
1,3-Dichlorobenzene	1.293	1.458		-12.8	
1,4-Dichlorobenzene	1.730	1.793		-3.6	
1,2-Dichlorobenzene	1.401	1.454		-3.8	
o-Cresol	1.330	1.406		-5.7	
Bis(2-chloroisopropyl)ether	2.124	2.219		-4.5	
m/p-Cresol	1.380	1.469		-6.4	
N-Nitrosodi-n-propyl amine	1.069	1.154		-8.0	
Hexachloroethane	0.587	0.600		-2.2	
Nitrobenzene	0.418	0.458		-9.6	
Isophorone	0.850	0.921		-8.4	
2-Nitrophenol	0.201	0.202		-0.5	
2,4-Dimethylphenol	0.340	0.358		-5.3	
Bis(2-chloroethoxy)methane	0.476	0.515		-8.2	
2,4-Dichlorophenol	0.643	0.695		-8.1	
1,2,4-Trichlorobenzene	0.337	0.374		-11.0	
Naphthalene	1.021	1.088		-6.6	
4-Chloroaniline	0.402	0.424		-5.5	
Hexachlorobutadiene	0.181	0.206		-13.8	
4-Chloro-3-methylphenol	0.335	0.375		-11.9	
2-Methylnaphthalene	0.680	0.734		-7.9	
Hexachlorocyclopentadiene	0.241	0.123		46.9	
2,4,6-Trichlorophenol	0.412	0.412		0.0	
2,4,5-Trichlorophenol	0.388	0.425		-9.5	
2-Chloronaphthalene	1.206	1.247		-3.4	
2-Nitroaniline	0.426	0.443		-4.0	
Dimethylphthalate	1.499	1.579		-5.3	
Acenaphthylene	1.961	2.031		-3.6	
2,6-Dinitrotoluene	0.365	0.375		-2.7	
3-Nitroaniline	0.383	0.383		0.0	
Acenaphthene	1.181	1.257		-6.4	
2,4-Dinitrophenol	0.113	0.037		67.3	
4-Nitrophenol	0.228	0.214		6.1	
Dibenzofuran	1.714	1.801		-5.1	
2,4-Dinitrotoluene	0.484	0.484		0.0	

All other compounds must meet a minimum RRF of 0.010.

SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: ANTECH LTD. Contract: _____

Lab Code: _____ Case No.: 96-5653 SAS No.: _____ SDG No.: 5653

Instrument ID: M4 Calibration Date: _____ Time: 1248

Lab File ID: M41222C2.D Init. Calib. Date(s): _____

Init. Calib. Times: _____

COMPOUND	RRF	RRF8.0	MIN RRF	%D	MAX %D
Diethylphthalate	1.690	1.649		2.4	
4-Chlorophenyl-phenylether	0.642	0.686		-6.9	
Fluorene	1.349	1.369		-1.5	
4-Nitroaniline	0.363	0.349		3.9	
2-Methyl-4,6-dinitrophenol	0.134	0.056		58.2	
N-Nitrosodiphenylamine	0.764	0.792		-3.7	
4-Bromophenyl phenyl ether	0.300	0.318		-6.0	
Hexachlorobenzene	0.347	0.376		-8.4	
Pentachlorophenol	0.206	0.203		1.5	
Phenanthrene	1.499	1.531		-2.1	
Anthracene	1.435	1.511		-5.3	
Carbazole	1.337	1.271		4.9	
Di-n-Butylphthalate	1.981	1.969		0.6	
Fluoranthene	1.482	1.485		-0.2	
Pyrene	2.176	2.124		2.4	
Butylbenzylphthalate	1.129	1.113		1.4	
3,3'-Dichlorobenzidine	0.624	0.635		-1.8	
Benzo[a]anthracene	1.646	1.711		-3.9	
Chrysene	1.548	1.560		-0.8	
Bis(2-ethylhexyl)phthalate	1.462	1.487		-1.7	
Di-n-octylphthalate	2.190	2.168		1.0	
Benzo[b]fluoranthene	1.478	1.606		-8.7	
Benzo[k]fluoranthene	1.409	1.346		4.5	
Benzo[a]pyrene	1.302	1.427		-9.6	
Indeno(1,2,3-c,d)pyrene	1.744	1.767		-1.3	
Dibenzo[a,h]anthracene	1.341	1.379		-2.8	
Benzo[g,h,i]perylene	1.567	1.462		6.7	
2-Fluorophenol	1.410	1.511		-7.2	
Phenol-d5	1.809	1.910		-5.6	
2-Chlorophenol-d4	1.348	1.461		-8.4	
1,2-Dichlorobenzene-d4	0.934	0.992		-6.2	
Nitrobenzene-d5	0.441	0.480		-8.8	
2-Fluorobiphenyl	1.376	1.463		-6.3	
2,4,6-Tribromophenol	0.169	0.180		-6.5	
Terphenyl-d14	1.375	1.375		0.0	

J/W

All other compounds must meet a minimum RRF of 0.010.

071

**MULTI-MEDIA SEMIVOLATILE ORGANIC FRACTION
INTERNAL STANDARD AREA SUMMARY**

Is the EICP area for each internal standard in all associated field samples, QC samples, and blanks within - 50% and + 100% of the respective internal standard EICP areas (Yes/No)? YES

If no, the non compliant internal standards have been circled in red.

If the EICP area of one (1) or more internal standard is less than -50%:

- Positive results for those compounds that are quantified using the particular internal standard are flagged as estimated (J).
- Non detected for that fraction are flagged with the sample quantitation limit classified as estimated (UJ).

If the EICP area of one (1) or more internal standards is greater than +100%:

- Positive results for those compounds that are quantified using the particular internal standard are flagged as estimated (J).

The internal standard area form 8's or equivalent have been included.

SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: ANTECH LTD. Contract: _____Lab Code: _____ Case No.: 96-5653 SAS No.: _____ SDG No.: 5653Lab File ID (Standard): M41222C2.D Date Analyzed: 12/22/96Instrument ID: M4 Time Analyzed: 1248

	IS1 AREA #	RT #	IS2 AREA #	RT #	IS3 AREA #	RT #
12 HOUR STD	222220	3.59	780453	4.17	435317	5.01
UPPER LIMIT	444440	4.09	1560906	4.67	870634	5.51
LOWER LIMIT	111110	3.09	390227	3.67	217659	4.51
EPA SAMPLE NO.						
01 SBLK01	201814	3.59	751521	4.18	381305	5.02
02 GW-WT2-1196	198324	3.59	718994	4.17	371598	5.01
03						
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22						

IS1 = 1,4-Dichlorobenzene-d4

IS2 = Naphthalene-d8

IS3 = Acenaphthene-d10

AREA UPPER LIMIT = +100% of internal standard area

AREA LOWER LIMIT = - 50% of internal standard area

RT UPPER LIMIT = +0.50 minutes of internal standard RT

RT LOWER LIMIT = -0.50 minutes of internal standard RT

Column used to flag internal standard area values with an asterisk.

* Values outside of QC limits.

SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: ANTECH LTD.

Contract: _____

Lab Code: _____

Case No.: 96-5653

SAS No.: _____

SDG No.: 5653Lab File ID (Standard): M41222C2.DDate Analyzed: 12/22/96Instrument ID: M4Time Analyzed: 1248

	IS4 AREA #	RT #	IS5 AREA #	RT #	IS6 AREA #	RT #
12 HOUR STD	570378	5.79	405630	7.41	493181	8.34
UPPER LIMIT	1140756	6.29	811300	7.91	986362	8.84
LOWER LIMIT	285189	5.29	202825	6.91	246591	7.84
EPA SAMPLE NO.						
01 SBLK01	504310	5.79	358724	7.41	404614	8.34
02 GW-WT2-1196	487707	5.79	344645	7.39	397466	8.32
03						
04						
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20						
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22						

IS4 = Phenanthrene-d10

IS5 = Chrysene-d12

IS6 = Perylene-D12

AREA UPPER LIMIT = +100% of internal standard area

AREA LOWER LIMIT = - 50% of internal standard area

RT UPPER LIMIT = +0.50 minutes of internal standard RT

RT LOWER LIMIT = -0.50 minutes of internal standard RT

Column used to flag internal standard area values with an asterisk.

* Values outside of QC limits.

**MULTI-MEDIA SEMIVOLATILE ORGANIC FRACTION
BLANK SUMMARY**

1. Blank qualification guidelines:

- a) If a compound is found in the blank but not in the sample, no action is taken.
- b) Any compound (other than listed below) detected in the sample, which was also detected in the associated blank, must be qualified by elevating the limit of detection or adjusting the limit of detection to the sample result, when the sample concentration is less than five (5) times the blank concentration. For the following compounds, the results are qualified by elevating the limit of detection or adjusting the limit of detection to the sample result, when the sample concentration is less than ten (10) times the blank concentration.

Common laboratory contaminants: phthalates

- c) The reviewer should take note that the blank analysis may not involve the same weights, volumes or dilution factors as associated samples. These factors must be taken into consideration when applying the 5X and 10X criteria.
- d) In addition, the reviewer must review the trip blanks, rinseate blanks and field blanks (if they were submitted with the data package) and all associated samples. Apply the same data validation guidelines used in assessing the method blanks.
- e) Qualification/Action codes:

U - The sample result is greater than the CRQL and less than ten times (10X) the blank value. Cross out the "B" flag and qualify the sample result with a "U".

CRQL - The sample result is less than the CRQL and less than ten times (10X) the blank value. Reject the sample result, cross out the "B" flag, and report the CRQL.

No Action - The sample result is greater than the CRQL and greater than ten times (10X) the blank value.

4B
SEMIVOLATILE METHOD BLANK SUMMARY

000013
EPA SAMPLE NO.

SBLK01

Lab Name: ANTECH LTD. Contract: _____

Lab Code: _____ Case No.: 96-5653 SAS No.: _____ SDG No.: _____

Lab File ID: M41222B8.D Lab Sample ID: AMBLK

Instrument ID: M4 Date Extracted: 12/2/96

Matrix: (soil/water) WATER Date Analyzed: 12/22/96

Level: (low/med) _____ Time Analyzed: 2009

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS AND MSD:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
01	GW-WT2-1196	A11-2998	M41222B9.D	12/22/96
02				
03				
04				
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10				
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30				

COMMENTS:

TIC's only

WATER SEMIVOLATILE SURROGATE RECOVERY

Lab Name: ANTECH LTD.

Contract: _____

Lab Code: _____ Case No.: 96-5653

SAS No.: _____

SDG No.: 5653

	EPA SAMPLE NO.	S1 2PF #	S2 PHE #	S3 2CP #	S4 DCB #	S5 NB5 #	S6 2FB #	S7 TBP #	S8 TPD #	TOT OUT
01	SBLK01	14 *	11	23 *	16 *	21 *	28 *	34	51	5
02	GW-WT2-1196	7 *	7 *	7 *	6 *	7 *	9 *	12	15 *	7
03										
04										
05										
06										
07										
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J/K

QC LIMITS

S1 2PF = 2-Fluorophenol
 S2 PHE = Phenol-d5
 S3 2CP = 2-Chlorophenol-d4
 S4 DCB = 1,2-Dichlorobenzene-d4
 S5 NB5 = Nitrobenzene-d5
 S6 2FB = 2-Fluorobiphenyl
 S7 TBP = 2,4,6-Tribromophenol
 S8 TPD = Terphenyl-d14

(21-110)
 (10-110)
 (33-110)
 (18-110)
 (35-114)
 (43-116)
 (10-123)
 (33-141)

Column to be used to flag recovery values

* Values outside of contract required QC limits

D Surrogate diluted out

MULTI-MEDIA SEMIVOLATILE ORGANIC FRACTION
SAMPLE RESULT VERIFICATION

1. Were the sample results reported within the calibration range (YES/NO)? YES
2. Was the percent moisture reported for all soil samples (YES/NO/NA)? NA
3. Was the data reported on a dry weight basis (YES/NO/NA)? NA
4. Did the GC/MS RIC's and TIC's exhibit interferences, off scale peaks or elevated baseline (YES/NO)? NO
5. Did the data contain elevated detection limits that could not be verified (YES/NO)? NO
6. Were any computational or transcription errors found (YES/NO)? NO

Specific Comments:

Reviewer

Danilo J. Lopez AVP

Date

06/29/96

HEARTLAND ESI P/A 1

HESI95.1

MULTI-MEDIA PESTICIDE/AROCOLOR ORGANIC FRACTION

CASE NUMBER: _____ SDG NUMBER: 5653

LABORATORY: Antech Ltd.

CLIENT: ESC PROJECT: Dunkirk

REVIEWER: E. Frederick DATE: 6/30/97

QA/QC LEVEL

- ☐ NEESA C
- ☐ NEESA D
- ☐ DQO LEVEL III
- ☐ DQO LEVEL IV
- ☒ NYSDEC Level III

Statement Of Work (SOW)

- ☐ CLP 3/90
- ☒ SW846 8080

ANALYSIS MODIFICATIONS: _____

PESTICIDE/AROCOR HOLDING TIMES

	<u>Water</u>	<u>Soil</u>	<u>Analysis</u>
CLP:	7 days from sampling	14 days from sampling	40 days from EXTR.
Region I:	7 days from sampling	7 days from sampling	40 days from EXTR.
Region II:	7 days from sampling	7 days from sampling	40 days from EXTR.
Region III:	7 days from sampling	7 days from sampling	40 days from EXTR.
✓NYSDEC:	5 days form VTSR	5 days from VTSR	40 days From EXTR.

1. Were the holding times met for the all pesticide/aroclor samples?

Yes ☐ No ☒

If no, complete the following form for all samples that exceeded holding times.

EPA SAMPLE NO.	MATRIX	VTSR OR DATE SAMPLED	DATE OF EXTRACTION ANALYSIS	DA	Action
ALT-GW-WT2-1196	water	11/26/96	12/2/96	1	J

(pest +
PCB)

not

Action:

DA - The number of days that the holding time was exceeded.

DA ≤ 5:

Qualify all positive results as estimated (J).

DA > 5 ≤ 15:

Qualify all positive results as estimated (J) and all non detects estimated (UJ).

DA > 15:

Qualify all positive results estimated (J) and reject all non detects.

Instrument Run Logbook

Date: 12-18-76

By: RCR/KGG/SOR

31

Run No.	Project No.	Sample Identification	Dilution Factor	Analysis	Comments	Code (1)	File No.
1		Heads (2x)				TM	5812
2		Pest mix A 0.01/0.02 GC 143-5 (see 20)				S	5815
3		↓ B 1 ↓ 1-10				L	5816
4		Heads				N	5817
5	95-6001	12-19-73 Soil Bus 11!	37			B	5818
6		11-29-78 Bus 1	1			B	5819
7		Heads				N	5820
8		Heads				N	5821
9		Pest mix A 0.005/0.01 GC 143-7	55-80			S	5822
10		↓ 0.007/0.014					5823
11		0.01/0.02					5824
12		0.02/0.04					5825
13		0.05/0.10					5826
14		Heads				N	5827
15		Pest mix B 0.005/0.01 GC 143-12				N	5828
16		↓ 0.007/0.014				S	5829
17		0.010/0.020					5830
18		0.020/0.040					5831
19		0.050/0.100					5832
20		Heads				N	5833
21		11-29-78 Bus 1	1			B	5834
22		Heads				N	5835

(1) Code Key:
 C = Confirmation
 S = Standards
 Q = MS/MSD/LCS/AS/ASD/Method Blanks
 B = Billable Sample (First Injection whether used or not)
 D = Sample dilutions/Reruns
 R = Reextraction runs
 N = Nonbillable samples (instrument blanks, MDLs, method development)

000334

(1) Code Key:

By: 205/1266/505

HS

Run No.	Project No.	Sample Identification	Dilution Factor	Analysis	Comments	Code (1)	File No.
1		Heads (2x)				7M	5811/2
2		Pest mix A 0.01/0.01 GC 143-5 (900)				S	5815
3		↓ B 1 1 ↓ -10				1	5816
4		Heads				N	5817
5	96-5603	12 1953 Soil Busby!!	37			B	5818
121		↓ -Bus 1	1			B	5819
1		Heads				N	5821
2		Heads				N	5822
3		Pest mix A 0.005/0.01 GC 143-7	53-50			S	5823
4		↓ 0.007/0.01					5824
5		0.01/0.02					5825
6		0.02/0.04					5826
7		0.05/0.10					5827
8		Heads				N	5828
9		Pest mix B 0.005/0.01 GC 143-12				S	5829
10		↓ 0.007/0.01					5830
11		0.010/0.020					5831
12		0.020/0.040					5832
13		0.050/0.100					5833
14		Heads Pest mix B 0.005/0.01 GC 143-12				S	5834
15	96-5603	11-2998 Pest 4.0	1			0	5835

MAC.Antech-Rundf.org/Instrum

(1) Totals for Page 2

Instrument Run Logbook

Date: 12-18-96

35

By: RSC/ALC/SJS

(1) Code Key:
 C = Confirmation
 S = Standards
 Q = MS/MSD/LCS/ASD/Method Blanks
 B = Billable Sample (First Injection whether used or not)
 D = Sample dilutions/Reruns
 R = Reextraction runs
 N = Nonbillable samples (Instrument blanks, MDLs, method development)

Run No.	Project No.	Sample Identification	Dilution Factor	Analysis	Comments	Code (1)	File No.
16	96-5528	11-2305 PEST H ₂ O	1			Q	5836
17		2306					37
18		2307					38
19		2308					39
20		2309					40
21		2311					41
22		Hexae					42
23	96-5507	11-2402 H ₂ O (PCO) PEST	1			Q	43
24		Hexae					5144
25		1					46
26		12-1996 PEST					
27		Hexae					5146
28	96-5853	11-2998 PEST H ₂ O	1			M	5146
29		Hexae				D	47
30						M	48
31							
32							
33							
34							
35							
36							
37							
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Rev: 12/16/94

MAC/Autech-RunLog/Instrument

000333

RESPONSE FACTOR REPORT File sys:clm/crv/SPESTA121896 19-Dec-96 07:40

TARGETS

Target Name	Dilution	Response Factor Unit Concentration/Microvolt*Seconds
TCMX	10.000	2.5355e-04
TCMX	7.140	2.6452e-04
TCMX	5.000	2.7648e-04
TCMX	2.500	2.0647e-04
TCMX	1.000	2.8094e-04
TCMX	AVERAGE	2.5637e-04
TCMX	%RSD	1.1649e+01 12% ✓
alpha-BHC	10.000	2.1094e-04
alpha-BHC	7.140	2.0581e-04
alpha-BHC	5.000	2.5453e-04
alpha-BHC	2.500	1.4466e-04
alpha-BHC	1.000	1.8205e-04
alpha-BHC	AVERAGE	1.9960e-04
alpha-BHC	%RSD	2.0213e+01 20% ✓
gamma-BHC	10.000	2.3641e-04
gamma-BHC	7.140	2.4278e-04
gamma-BHC	5.000	2.9816e-04
gamma-BHC	2.500	1.7314e-04
gamma-BHC	1.000	2.0999e-04
gamma-BHC	AVERAGE	2.3250e-04
gamma-BHC	%RSD	1.9807e+01 20% ✓
heptachlor	10.000	3.2580e-04
heptachlor	7.140	3.1096e-04
heptachlor	5.000	3.7059e-04
heptachlor	2.500	2.2521e-04
heptachlor	1.000	2.4937e-04
heptachlor	AVERAGE	2.9639e-04
heptachlor	%RSD	1.9860e+01 20% ✓
endosulfan I	10.000	2.8153e-04
endosulfan I	7.140	2.8600e-04
endosulfan I	5.000	3.5321e-04
endosulfan I	2.500	2.1407e-04
endosulfan I	1.000	2.6639e-04
endosulfan I	AVERAGE	2.8024e-04
endosulfan I	%RSD	1.7778e+01 18% ✓
dieldrin	10.000	2.9637e-04
dieldrin	7.140	2.8491e-04
dieldrin	5.000	3.4983e-04
dieldrin	2.500	2.0740e-04
dieldrin	1.000	2.5704e-04
dieldrin	AVERAGE	2.7911e-04
dieldrin	%RSD	1.8756e+01 19% ✓
endrin	10.000	5.5760e-04
endrin	7.140	5.2564e-04
endrin	5.000	5.4715e-04
endrin	2.500	5.1711e-04
endrin	1.000	5.4711e-04
endrin	AVERAGE	5.3911e-04
endrin	%RSD	5.1711e+01 52% ✓

		AVERAGE	5.3716 ~~5.9842e-04~~	} 49% Conc : OK RGS 12-19-76
		%RSD	~~2.5510e-04~~	
endrin				
endrin				
4'4-DDD	10.000	4.2407e-04		
4'4-DDD	7.140	4.6073e-04		
4'4-DDD	5.000	5.5614e-04		
4'4-DDD	2.500	3.4255e-04		
4'4-DDD	1.000	4.2399e-04		
4'4-DDD	AVERAGE	4.4150e-04		
4'4-DDD	%RSD	1.7514e+01	18% OK	
4'4-DDT	10.000	1.9829e-03		
4'4-DDT	7.140	2.2477e-03		
4'4-DDT	5.000	3.1250e-03		
4'4-DDT	2.500	1.0131e-03		
4'4-DDT	1.000	1.0444e-03		
4'4-DDT	AVERAGE	1.8826e-03		
4'4-DDT	%RSD	4.7103e+01	47% HIGH	J NOT
methoxychlor	10.000	2.7042e-03		
methoxychlor	7.140	2.6639e-03		
methoxychlor	5.000	3.9061e-03		
methoxychlor	2.500	1.6695e-03		
methoxychlor	1.000	1.9888e-03		
methoxychlor	AVERAGE	2.5865e-03		
methoxychlor	%RSD	3.3255e+01	33% HIGH	J NOT
DCB	10.000	3.2247e-04		
DCB	7.140	2.4068e-04		
DCB	5.000	3.5422e-04		
DCB	2.500	2.8044e-04		
DCB	1.000	3.5150e-04		
DCB	AVERAGE	3.0986e-04		
DCB	%RSD	1.5737e+01	16% OK	

000369

Calibration File sys:clm/crv/SPESTA121896

Fixed Retention Time Window: 5.00 Seconds

Variable Retention Time Window: 0.0050

Slope Sensitivity 50 Until 999.90 Minutes

Serial Dilutions: 10.000 7.140 5.000 2.500 1.000

Target Name	Ret. Time	Max Amount	Std #
TCMX	2.283	5.0000e+01	0
alpha-BHC	3.283	5.0000e+01	0
gamma-BHC	3.783	5.0000e+01	0
heptachlor	4.028	5.0000e+01	0
endosulfan I	5.703	5.0000e+01	0
dieldrin	6.208	1.0000e+02	0
endrin	6.503	1.0000e+02	0
4'-4-DDD	7.133	1.0000e+02	0
4'-4-DDT	7.350	1.0000e+02	0
methoxychlor	8.252	5.0000e+02	0
DCB	10.700	1.0000e+02	0

RESPONSE FACTOR REPORT File sys: c:\m\crv\SPESTB121896 19-Dec-96 09:17

TARGETS

Target Name

Dilution Response Factor
Unit Concentration/Microvolt*Seconds

beta-BHC	10.000	2.2539e-04
beta-BHC	7.140	2.2497e-04
beta-BHC	5.000	2.8130e-04
beta-BHC	2.500	2.1938e-04
beta-BHC	1.000	2.1543e-04
beta-BHC	AVERAGE	2.3329e-04
beta-BHC	%RSD	1.1640e+01 12% ✓

delta-BHC	10.000	4.8638e-04
delta-BHC	7.140	4.9257e-04
delta-BHC	5.000	5.6488e-04
delta-BHC	2.500	5.0974e-04
delta-BHC	1.000	5.0459e-04
delta-BHC	AVERAGE	5.1163e-04
delta-BHC	%RSD	6.0946e+00 6% ✓

aldrin	10.000	2.5756e-04
aldrin	7.140	2.5844e-04
aldrin	5.000	4.1215e-04
drin	2.500	2.7895e-04
drin	1.000	2.6432e-04
aldrin	AVERAGE	2.5756e-04
aldrin	%RSD	2.2578e+01 22% ✓

4pt CURVE ; see 12-18-96

heptachlor epoxide	10.000	3.5997e-04
heptachlor epoxide	7.140	3.5736e-04
heptachlor epoxide	5.000	3.2891e-04
heptachlor epoxide	2.500	3.2332e-04
heptachlor epoxide	1.000	2.7290e-04
heptachlor epoxide	AVERAGE	3.2849e-04
heptachlor epoxide	%RSD	1.0699e+01 10% ✓

gamma-chlordane	7.140	2.7492e-04
gamma-chlordane	5.000	3.3541e-04
gamma-chlordane	2.500	2.8124e-04
gamma-chlordane	1.000	2.7409e-04
gamma-chlordane	AVERAGE	2.9142e-04
gamma-chlordane	%RSD	1.0125e+01 10% ✓

alpha-chlordane	10.000	2.7568e-04
alpha-chlordane	7.140	2.3522e-04
alpha-chlordane	5.000	2.7778e-04
alpha-chlordane	2.500	2.3240e-04
alpha-chlordane	1.000	2.3410e-04
alpha-chlordane	AVERAGE	2.5104e-04
alpha-chlordane	%RSD	9.3563e+00 9% ✓

4,4'-DDE	10.000	3.6606e-04
4,4'-DDE	7.140	3.5170e-04
4,4'-DDE	5.000	3.7471e-04
4,4'-DDE	2.500	3.1278e-04
4,4'-DDE	1.000	2.8930e-04
4,4'-DDE	AVERAGE	3.3891e-04

4,4'-DDE	%RSD	1.0767e+01	11% ✓
endosulfan II	10.000	3.1427e-04	
endosulfan II	7.140	3.1278e-04	
endosulfan II	5.000	3.6210e-04	
endosulfan II	2.500	3.1871e-04	
endosulfan II	1.000	3.2661e-04	
endosulfan II	AVERAGE	3.2689e-04	
endosulfan II	%RSD	6.2409e+00	6% ✓

endrin aldehyde	10.000	5.9435e-04	
endrin aldehyde	7.140	5.7414e-04	
endrin aldehyde	5.000	4.9704e-04	
endrin aldehyde	2.500	5.5290e-04	
endrin aldehyde	1.000	5.3189e-04	
endrin aldehyde	AVERAGE	5.5006e-04	
endrin aldehyde	%RSD	6.8573e+00	7% ✓

endosulfan sulfate	10.000	4.2976e-04	
endosulfan sulfate	7.140	4.3016e-04	
endosulfan sulfate	5.000	4.8268e-04	
endosulfan sulfate	2.500	3.9636e-04	
endosulfan sulfate	1.000	4.0102e-04	
endosulfan sulfate	AVERAGE	4.2800e-04	
endosulfan sulfate	%RSD	8.0322e+00	8% ✓

endrin ketone	10.000	4.5554e-04	
endrin ketone	7.140	4.4462e-04	
endrin ketone	5.000	5.0711e-04	
endrin ketone	2.500	4.1179e-04	
endrin ketone	1.000	3.7648e-04	
endrin ketone	AVERAGE	4.3911e-04	
endrin ketone	%RSD	1.1153e+01	11% ✓

Calibration File sys:clm/crv/SPESTB121896

Fixed Retention Time Window: 5.00 Seconds
Variable Retention Time Window: 0.0050

Slope Sensitivity 50 Until 999.90 Minutes

Serial Dilutions: 10.000 7.140 5.000 2.500 1.000

Target Name	Ret. Time	Max Amount	Std #
beta-BHC	4.375	5.0000e+01	0
delta-BHC	4.825	5.0000e+01	0
aldrin	5.125	5.0000e+01	0
heptachlor epoxide	5.328	5.0000e+01	0
gamma-chlordane	5.792	5.0000e+01	0
alpha-chlordane	5.878	5.0000e+01	0
4,4'-DDE	6.000	1.0000e+02	0
endosulfan II	7.208	1.0000e+02	0
endrin aldehyde	7.825	1.0000e+02	0
endosulfan sulfate	8.297	1.0000e+02	0
endrin ketone	8.900	1.0000e+02	0

Instrument Run Logbook

Date: 12-5-96

By: [Signature]

(1) Code Key:
 C = Confirmation
 S = Standards
 Q = MS/MSD/LCS/AS/ASD/Method Blanks
 B = Billable Sample (First Injection whether used or not)
 D = Sample dilutions/Reruns
 R = Reextraction runs
 N = Nonbillable samples (Instrument blanks, MDLs, method development)

Run No.	Project No.	Sample Identification	Dilution Factor	Analysis	Comments	Code (1)	File No.
10	Ar 2054	Ar 2054 GC-144-23		PCB	10	5	754
11		0.2	22	955			755
12		0.5	21				136
13		0.7	20				137
14		1.0	19				138
15		Hexane					139
16	Ar 1242	Ar 1242 GC-143-23					60
17		0.2	22				61
18		0.5	21				62
19		0.7	20				63
20		1.0	19				64
21		Hexane					65
22	Ar 1248	Ar 1248 GC-143-17					66
23		0.2	16				67
24		0.5	15				68
25		0.7	14				69
26		1.0	13				70
27		Hexane					71
28	96-5280	Ar 12-0441 PCB 012 Run 1	5		012-0441	B	772
29		12-0442	5			B	773
30		12-0448	5			B	774
31		Hexane Blank					

(1) Total 30
 0 =
 R =
 N =

00000000

Instrument Run Logbook

Date: 12-09-06

By: RGS, QEE, SAD

59

(1) Code Key:

C = Confirmation

S = Standards

Q = MS/MSD/LCS/ASD/Method Blanks

B = Billable Sample (First injection whether used or not)

D = Sample dilutions/Reruns

R = Reextraction runs

N = Nonbillable samples (instrument blanks, MDLs, method development)

Run No.	Project No.	Sample Identification	Dilution Factor	Analysis	Comments	Code (1)	File No.
1		Hexane				N	871
2		A2 1160 0.02 ppm GC 145-10				S	872
3		0.1	9				873
4		0.2	8				874
5		0.5	7				875
6		6.7	6				876
7		1.0	5				877
8		2.0	5 (4.2)				878
9		Hexane				N	879
10	96-5652	11-2993 Waste	30			O	880
11		Hexane				N	881
12	96-5551	11-825 W.P.	1			Q	882
13	96-5611	11-2740 E6W.P.	2			Q	883
14	✓ 15	1-2739 ↓	10			Q	884
15	96-5558	11-2454 W.P.	10			Q	885
16		1-158	5			Q	886
17		1-156	1			Q	887
18		1-157	1			Q	888
19		1-158	1			Q	889
20		1-159	1			Q	890
21		1-160	1			Q	891

(1) 10

Page: S =

D =

R =

C =

N =

MAC, Antech-Run Log/Instrument

Rev: 12/16/94

000334

N = Nonbillable samples (instrument blanks, MDLs, method development)

By: 2008-06-15/505

	(I) Total No. of Instruments	C =	MAC, Antech-Kuhl.org/Instrument

N = Nonbillable samples (Instrument blanks, MDLs, method development)

255/256/596

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Instrument Run Logbook

Date: 12-11-11

By: [signature]

- (1) Code Key:
- C = Confirmation
 - S = Standards
 - Q = MS/MSD/LCS/AS/ASD/Method Blanks
 - B = Billable Sample (First Injection whether used or not)
 - D = Sample dilutions/Reruns
 - R = Reextraction runs
 - N = Nonbillable samples (instrument blanks, MDLs, method development)

Run No.	Project No.	Sample Identification	Dilution Factor	Analysis	Comments	Code (1)	Filo No.
15		Ar 12-12 0.1 ppm GC 143-23				S	993
16		0.2					994
17		0.5					995
18		0.7					996
19		1.0					997
20		Blank					998
21		Ar 12-18 0.1 ppm GC 143-23 12			10	S	999
22		0.2			1		1000
23		0.5			2		01
24		0.7			11-13		02
25		1.0			1		03
26		Blank					04
27	96-5782	12-0475 WP	1		DX=DL	N	05
28		76			DD 1:10 Juncat (5000)		06
29		77			DX=DL		07
30		78					08
31		79					09
32	96-5858	80			DD (1:5) Juncat (1000)		10
33	96-5858	11-0968 WP	1		DX=DL CLEP- COT/VGOS		11
34		Blank					12
35	96-5812	11-2893 WP	60		DX=DL 12-12-106 (COT)	N	13

Date: 12-11-92

By: [Signature]

Code Key:

C = Confirmation

S = Standards

Q = MS/MSD/LCS/ASD/Method Blanks

B = Dilutable Sample (First Injection whether used or not)

D = Sample dilutions/Reruns

R = Reextraction runs

N = Nonbillable samples (instrument blanks, MDLs, method development)

Run No.	Project No.	Sample Identification	Dilution Factor	Analysis	Comments	Code (1)	File No.
57	96-5413	11-1579 SO11	37		DL7 CLN	B	1035
58		↓ 80 ↓	↓				36
59		↓ 81 ↓	↓				37
60	96-5761	11-0411 H2O	1		CLN	B	31
61		11-0360 ↓	1				39
62	96-5613	11-2998 PCO/Peris H2O	1		CLN only	B	40
63	96-5869	12-1068 SO11	37		DL7 CLN	B	41
64	96-5731	12-0312-14 LWDJTC	1				42
65		12-0158 ↓	1				43
66	96-5810	12-0628 SO11	10		DL7 CLN	B	44
67		↓ 24 ↓	5				45
68		↓ 30 ↓	5				46
69	96-5828	12-0696 LWDJTC	1				47
70	96-5811	12-0632 SO11	120				48
71		↓ 0633 ↓	5				49
72	96-5881	12-1124 LWDJTC	5				50
73	96-5886	12-2414 H2O	1		DL7 CLN	B	51
74		↓ 2616 ↓	1				52
75		↓ 2617 ↓	1				53
76		↓ 2618 ↓	1				54
77							55

(1) Totals for Page: S = D = C =
Q = R =
B = N =

MAC Antech-Runt-og/Instrument

000340

TARGETS

Target Name	Dilution	Response Factor	Unit Concentration/Microvolt*Seconds
TCMX	5.000	4.2164e-03	4.114e03
TCMX	2.000	4.3978e-03	
TCMX	1.430	4.3097e-03	
TCMX	1.000	4.4032e-03	
TCMX	AVERAGE	4.3318e-03	
TCMX	%RSD	2.0392e+00	(2.376e03) 177
DCB	5.000	9.0074e-03	
DCB	2.000	7.5014e-03	
DCB	1.430	8.0252e-03	
DCB	1.000	8.3845e-03	
DCB	AVERAGE	8.2276e-03	(4.337e03) 177
DCB	%RSD	7.6882e+00	
1016	5.000	3.1769e-03	
1016	2.000	3.5965e-03	
1016	1.430	3.7857e-03	
1016	1.000	4.0306e-03	0.5000 4.8172 e03
&1016	AVERAGE	3.6474e-03	
&1016	%RSD	9.3351e+00	131
1260	5.000	4.0767e-03	
1260	2.000	5.6101e-03	
1260	1.430	6.2213e-03	
1260	1.000	6.4865e-03	0.5000 4.8424 e03
&1260	AVERAGE	5.5987e-03	
&1260	%RSD	1.9272e+01	187

bration File sys:clm/crv/UI660121096

Fixed Retention Time Window: 5.00 Seconds

Variable Retention Time Window: 0.0050

Retention Time: 1.750

Slope Sensitivity 50 Until 999.90 Minutes

Retention Time: 1.750

Serial Dilutions: 10.000 5.000 2.000 1.430 1.000

Retention Time: 1.750

Retention Time: 1.750

Target Name	Ret. Time	Max Amount	Std #
TCMX	1.750	5.0000e+02	0
&1016	2.428	1.0000e+03	0
&1016	2.822	1.0000e+03	0
&1016	2.953	1.0000e+03	0
&1016	3.050	1.0000e+03	0
&1016	3.153	1.0000e+03	0
&1016	3.388	1.0000e+03	0
&1016	3.487	1.0000e+03	0
&1260	4.622	1.0000e+03	0
&1260	4.863	1.0000e+03	0
&1260	5.250	1.0000e+03	0
&1260	5.653	1.0000e+03	0
&1260	6.012	1.0000e+03	0
&1260	6.525	1.0000e+03	0
DCB	8.700	5.0000e+02	0

RDS/Re-

000375

Target Name	Dilution	Response Factor	Unit Concentration/Microvolt*Seconds
CMX	10.000	4.0154e-03	50000 4.1701e-04
CMX	5.000	4.2167e-03	
CMX	2.000	4.3855e-03	
CMX	1.430	4.5303e-03	
CMX	1.000	5.0138e-03	
CMX	AVERAGE	4.4324e-03	
CMX	%RSD	8.5185e+00	
CB	10.000	7.3271e-03	50 → 5.4765e-04
CB	5.000	7.2046e-03	
CB	2.000	6.4139e-03	
CB	1.430	6.8996e-03	
CB	1.000	6.4497e-03	
CB	AVERAGE	6.8590e-03	
CB	%RSD	6.1245e+00	
16	10.000	3.3465e-03	
16	5.000	3.3447e-03	
16	2.000	3.5148e-03	
16	1.430	3.8686e-03	
16	1.000	3.8237e-03	
16	AVERAGE	3.5797e-03	
16	%RSD	7.0786e+00	
60	10.000	3.6161e-03	2.5922e-03
60	5.000	1.0858e-02	2.6659e-03
60	2.000	1.1016e-02	2.9324e-03
60	1.430	1.1034e-02	2.0694e-03
60	1.000	6.1017e-03	2.9192e-03
60	AVERAGE	8.5371e-03	2.9192e-03
60	%RSD	4.0668e+01	

0.02 1.2902x10⁻³

2.0 ppm 2.7337x10⁻³

2.8/22x10⁻³ 6pt
2.5941x10⁻³ 7pt

Low Pt. Cal ppm

ation File sys:clm/crv/U1660121196
 Fixed Retention Time Window: 5.00 Seconds
 Variable Retention Time Window: 0.0050
 Slope Sensitivity: 50 Until 999.90 Minutes
 Serial Dilutions: 10.000 5.000 2.000 1.430 1.000

Target Name	Ret. Time	Max Amount	Std #
TCMX	1.750	5.0000e+01	0
&1016	2.428	1.0000e+03	0
&1016	2.822	1.0000e+03	0
&1016	2.953	1.0000e+03	0
&1016	3.050	1.0000e+03	0
&1016	3.153	1.0000e+03	0
&1016	3.388	1.0000e+03	0
&1016	3.487	1.0000e+03	0
&1260	4.622	1.0000e+03	0
&1260	4.863	1.0000e+03	0
&1260	5.250	1.0000e+03	0
&1260	5.653	1.0000e+03	0
&1260	6.012	1.0000e+03	0
&1260	6.525	1.0000e+03	0
DCB	8.708	5.0000e+01	0

RESPONSE FACTOR REPORT File sys:clm/crv/U2154120596 06-Dec-96 13:55

TARGETS

Target Name	Dilution	Response Factor Unit Concentration/Microvolt*Seconds
TCMX	10.000	3.7490e-04
TCMX	5.000	3.9136e-04
TCMX	2.000	3.5832e-04
TCMX	1.430	3.6845e-04
TCMX	1.000	3.8681e-04
TCMX	AVERAGE	3.7609e-04
TCMX	%RSD	3.6226e+00
DCB	10.000	7.7316e-04
DCB	AVERAGE	7.7316e-04
1221	10.000	9.9502e-03
1221	5.000	1.1181e-02
1221	2.000	9.8390e-03
1221	1.430	1.0979e-02
1221	1.000	9.4578e-03
&1221	AVERAGE	1.0281e-02
&1221	%RSD	7.3418e+00 71.0%
1254	10.000	2.3248e-03
1254	5.000	2.7042e-03
1254	2.000	2.0606e-03
1254	1.430	2.5176e-03
1254	1.000	2.9277e-03
&1254	AVERAGE	2.5070e-03
&1254	%RSD	1.3356e+01 133.6%

see U1660

Calibration File sys:clm/crv/U2154120596

Fixed Retention Time Window: 5.00 Seconds

Variable Retention Time Window: 0.0050

Slope Sensitivity 50 Until 999.90 Minutes

Serial Dilutions: 10.000 5.000 2.000 1.430 1.000

Target Name	Ret. Time	Max Amount	Std #
TCMX	1.750	5.0000e+01	0
&1221	1.958	1.0000e+03	0
&1221	2.075	1.0000e+03	0
&1221	2.117	1.0000e+03	0
&1254	3.778	1.0000e+03	0
&1254	3.972	1.0000e+03	0
&1254	4.463	1.0000e+03	0
&1254	4.722	1.0000e+03	0
&1254	4.863	1.0000e+03	0
&1254	5.253	1.0000e+03	0
DCB	8.512	5.0000e+01	0

RESPONSE FACTOR REPORT File sys:clm/crv/U1242121196 25-Jul-97 14:58

TARGETS

Target Name	Dilution	Response Factor Unit Concentration/Microvolt*Seconds
1242	10.000	2.3032e-03
1242	5.000	2.3332e-03
1242	2.000	2.2606e-03
1242	1.430	1.5100e-03
1242	1.000	2.2176e-03
%1242	AVERAGE	2.1369e-03
%1242	%RSD	1.6679e+01 17% ✓

Calibration File sys:clm/crv/U1242121196

Fixed Retention Time Window: 5.00 Seconds
Variable Retention Time Window: 0.0050

Slope Sensitivity 50 Until 999.90 Minutes

Serial Dilutions: 10.000 5.000 2.000 1.430 1.000

Target Name	Ret. Time	Max Amount	Std #
%1242	2.175	1.0000e+03	0
%1242	2.483	1.0000e+03	0
%1242	2.903	1.0000e+03	0
%1242	3.225	1.0000e+03	0
%1242	3.467	1.0000e+03	0
%1242	3.567	1.0000e+03	0

RESPONSE FACTOR REPORT File sys:clm/crv/U1248121196 12-Dec-96 10:02

1248 0.1 ppm 5.143-17

data 11-Dec-96 13:30

TARGETS date 12-Dec-96 10:04

calib file sys:clm/crv/U1248

Target Name	Dilution	Response Factor
Calibration File sys:clm/crv/U1248	Unit	Concentration/Microvolt*Seconds
TCMX	10.000	4.7250e-04
TCMX	5.000	4.1790e-04
TCMX	2.000	2.7021e-04
TCMX	1.430	3.1484e-04
TCMX	1.000	2.7358e-04
TCMX	AVERAGE	3.4981e-04
TCMX	%RSD	2.5989e+01

SEE U1660

1248	10.000	3.9695e-03
1248	5.000	4.0195e-03
1248	2.000	4.2389e-03
1248	1.430	3.1776e-03
1248	1.000	3.1039e-03
&1248	AVERAGE	3.7019e-03
&1248	%RSD	1.4123e+01 14% ok

Calibration File sys:clm/crv/U1248121196

Fixed Retention Time Window: 5.00 Seconds

Variable Retention Time Window: 0.0050

Slope Sensitivity 50 Until 999.90 Minutes

Serial Dilutions: 10.000 5.000 2.000 1.430 1.000

Target Name	Ret. Time	Max Amount	Std #
TCMX	1.750	5.0000e+01	0
&1248	2.425	1.0000e+03	0
&1248	2.813	1.0000e+03	0
&1248	2.942	1.0000e+03	0
&1248	3.050	1.0000e+03	0
&1248	3.138	1.0000e+03	0
&1248	3.783	1.0000e+03	0
&1248	4.028	1.0000e+03	0
DCB	8.512	5.0000e+01	0

000379

RESPONSE FACTOR REPORT File sys:clm/rsp/UI660121096C01 11-Dec-96 14:56

1650 0.3 ppm GC-145-7 1701/ECB GAS FRONT BI RDI/REE

TARGETS

Target Name	File Number	Response Factor or Relative Response Factor	Rf	1/0
TCMX	974	4.6023e-03		
TCMX	Average	4.6023e-03	4.2813 e04	70x
DCB	974	7.7654e-03		
DCB	Average	7.7654e-03	8.8605	120x
1016	974	3.8926e-03		
1016	Average	3.8926e-03	3.7308	40x
1260	974	4.1310e-03	66364	37 HIGH
1260	Average	4.1310e-03	51229	J not

Ar 1260 not in sample

Calibration File sys:clm/crv/UI660121096

Fixed Retention Time Window: 5.00 Seconds

Variable Retention Time Window: 0.0050

Slope Sensitivity 50 Until 999.90 Minutes

Serial Dilutions: 10.000 5.000 2.000 1.430 1.000

Target Name	Ret. Time	Max. Amount	Std #
TCMX	1.750	5.0000e+02	0
&1016	2.428	1.0000e+03	0
&1016	2.822	1.0000e+03	0
&1016	2.953	1.0000e+03	0
&1016	3.050	1.0000e+03	0
&1016	3.153	1.0000e+03	0
&1016	3.388	1.0000e+03	0
&1016	3.487	1.0000e+03	0
&1260	4.622	1.0000e+03	0
&1260	4.863	1.0000e+03	0
&1260	5.250	1.0000e+03	0
&1260	5.653	1.0000e+03	0
&1260	6.012	1.0000e+03	0
&1260	6.525	1.0000e+03	0
DCB	8.700	5.0000e+02	0

RESPONSE FACTOR REPORT File sys:clm/rsp/U215412059602 11-Dec-96 14:58

11-Dec-96 14:00

TARGETS data 11-Dec-96

File sys:clm/U21

Target Name	File Number	Response Factor or Relative Response Factor
1221	975	1.2219e-02
1221	Average	1.2219e-02 1.0281e02
1254	975	2.6345e-03
1254	Average	2.6345e-03 2.5070e03

1.0

19 H8A B44
J not
5 OK

Calibration File sys:clm/crv/U2154120596

Fixed Retention Time Window: 5.00 Seconds
Variable Retention Time Window: 0.0050

Arizui not present in Sample

Slope Sensitivity 50 Until 999.90 Minutes

Serial Dilutions: 10.000 5.000 2.000 1.430 1.000

Target Name	Ret. Time	Max Amount	Std #
TCMX	1.750	5.0000e+01	0
&1221	1.958	1.0000e+03	0
&1221	2.075	1.0000e+03	0
&1221	2.117	1.0000e+03	0
&1254	3.778	1.0000e+03	0
&1254	3.972	1.0000e+03	0
&1254	4.463	1.0000e+03	0
&1254	4.722	1.0000e+03	0
&1254	4.863	1.0000e+03	0
&1254	5.253	1.0000e+03	0
DCB	8.512	5.0000e+01	0

**BLANK SUMMARY
PESTICIDE/AROCOR FRACTION**

1. Blank qualification guidelines:

- a) If a compound is found in the blank but not in the sample, no action is taken.
- b) Any compound detected in the sample, which was also detected in the associated blank, must be qualified by elevating the limit of detection or adjusting the limit of detection to the sample result, when the sample concentration is less than five (5) times the blank concentration.
- c) The reviewer should take note that the blank analysis may not involve the same weights, volume or dilution factors as associated samples. These factors must be taken into consideration when applying the 5X and 10X criteria.
- d) In addition, the reviewer must review the, rinseate blanks and field blanks (if they were submitted with the data package) and all associated samples. Apply the same data validation guidelines used in assessing the method blanks.
- e) Qualification/Action codes:

CRQL - The sample result is less than the CRQL and less than five times (5X) the blank value. Reject the sample result, cross out the "B" flag, and report the CRQL.

U - The sample result is greater than the CRQL and less than five times (5X) the blank value. Cross out the "B" flag and qualify the sample result with a "U".

greater
No Action - The sample result is greater than the CRQL and than five times (5X) the blank value.

HES195.1

☒ Method ☐ Instrument ☐ Rinseate ☐ Field ☐ Sulfur

File ID: 3I/05843

~~No Contamination~~

HE5195.1

☐ Method ☐ Instrument ☒ Rinseate ☐ Field ☐ Sulfur

File ID: SI/00604

associated
samples

No Contamination (PEBS only)

HESI95.1

☐ Method ☐ Instrument ☒ Rinseate ☐ Field ☐ Sulfur

File ID: 5I/01052

samples

No Contamination (PCBs only)

WATER PESTICIDE SURROGATE RECOVERY

Lab Name: Antech Ltd. Contract: _____

Lab Code: ANTECH Case No.: 96-5653 SAS No.: _____ SDG No.: 5653

GC Column(1): RTX-1701 ID: 0.53 (mm) GC Column(2): _____ ID: _____ (mm)

	EPA SAMPLE NO.	TCX 1 %REC	#	TCX 2 %REC	#	DCB 1 %REC	#	DCB 2 %REC	#	OTHER (1)	OTHER (2)	TOT OUT
01	WT2-1196	45	*			77						1
02	MBLANK	149				125						0
03												
04												
05												
06												
07												
08												
09												
10												
11												
12												
13												
14												
15												
16												
17												
18												
19												
20												
21												
22												
23												
24												
25												
26												
27												
28												
29												
30												

ADVISORY
QC LIMITS

TCX = Tetrachloro-m-xylene
DCB = Decachlorobiphenyl

(30-150)
(30-150)

- # Column to be used to flag recovery values
* Values outside of contract required QC limits
D Surrogate diluted out

2F

WATER PESTICIDE SURROGATE RECOVERY

Lab Name: Antech Ltd.

Contract: _____

Lab Code: Antech Case No.: 96-5653SAS No.: _____ SDG No.: 5653GC Column(1) RTX-1701 ID 0.53 (mm)

	EPA SAMPLE NO.	TCX 1 %REC #	DCB 1 %REC #	TOT OUT
01	WT2-1196	88	170*	1
02	MBLANK	38	43	0
03				
04				
05				
06				
07				
08				
09				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				
23				
24				
25				
26				
27				
28				
29				
30				

J Not

ADVISORY
QC LIMITS

TCX = Tetrachloro-m-xylene

(30-150)

DCB = Decachlorobiphenyl

(30-150)

Column to be used to flag recovery values

* Values outside of contract required QC limits

D Surrogate diluted out

Sample ID: None Duplicate Sample ID:

Units: $\mu\text{g/L}$ $\mu\text{g/Kg}$ [illegible]

Soil RPDs < 35% RPD

Comments: _____

SAMPLE RESULT VERIFICATION
PESTICIDE/AROCLOR FRACTION

1. Were the sample results reported within the calibration range? ☒ Yes ☐ No
2. Were the percent moisture reported? Yes ☐ No ☒ NR
3. Were the data reported on a dry weight basis? Yes ☐ No ☒ NR
4. Did the GC chromatogram exhibit interferences, off scale peaks or elevated baseline? Yes ☐ No ☒
5. Did the data contain elevated detection limits that could not be accounted for? Yes ☐ No ☒
6. Were any computational or transcription errors found? Yes ☐ No ☒

Specific Comments: _____

no positive results

PCBs appear to be analyzed on separate date and
instrument than single component pesticides. PCBs results
are reported from the 12/12/96 analysis.

No Calibration for Toxaphene R in all samples
No Calibration for 1232 R in all samples

Reviewer: Erica K. FrederickDate: 6/30/97

DATA DELIVERABLES (DQO Level IV or D)
INORGANICS - PART I

Site Name: Dunkirk

Client: Antech Ltd.

Location: ESC

Lab: Antech Ltd.

Analytical Fraction: TAL + w/c

Reviewer: Karin Sappington

Date(s): 6/30/97

-
- A. Control Chart results of the method blank : Yes No ☒ NR
spikes run with each batch of samples :
processed :
- B. CLP Form 1s with associated sample results : ☒ Yes No NR
and CLP flagging system. All percent :
moistures for soils and discussion of :
sample type :
- C. CLP Form 2s with initial and continuing : ☒ Yes No NR
calibration standards (part 1 only) :
- D. CLP Form 3s with prep and method blanks : ☒ Yes No NR
- E. CLP Form 4s with interference check : ☒ Yes No NR
sample data :
- F. CLP Form 5s with Matrix spike recovery and : ☒ Yes No NR
the postdigestion spike recovery for :
ICP Metals. Only done if predigest :
spike recovery exceeds limits :
- G. CLP Form 6s with Duplicate data results : ☒ Yes No NR
- H. CLP Form 7s with LCS data results : ☒ Yes No NR
- I. CLP Form 8s with GFAA standard addition : Yes No ☒ NR
data
- J. CLP Form 9s with Serial Dilution data : ☒ Yes No NR
results

DATA DELIVERABLES (DOO Level IV or D)
INORGANICS - PART II

K.	CLP Form 10s with Instrument Detection Data	: ☒ Yes	No	NR
L.	CLP Forms 11 and 12 with Quarterly Verification of Instrument Parameters	: ☒ Yes	No	NR
M.	CLP Form 13s with Preparation Log data	: ☒ Yes	No	NR
N.	CLP Form 14s with Run Log data	: ☒ Yes	No	NR

HEARTLAND ESI Form A

DATA DELIVERABLE REQUIREMENTS

A.	Permanently Bound	Yes	☒ No	NR
B.	Paginated	☒ Yes	No	NR
C.	Table of Contents	Yes	☒ No	NR
D.	Digestion Records(internal C-O-C)	☒ Yes	No	☒ NR 15/30/97
E.	Chain-Of-Custody (external)	☒ Yes	No	NR
F.	Case Narrative			
1.	Sample list with Client and Lab IDs cross-referenced (copy attached)	☒ Yes	No	NR
2.	All Protocol deviations and QC problems noted	☒ Yes	No	NR
3.	Comments: _____			
G.	Uninitialed Strikeovers	Yes	☒ No	NR
H.	Legible Photocopies	☒ Yes	No	NR
I.	Consistent Dates	☒ Yes	No	NR
J.	Preparation Logs	☒ Yes	No	NR
K.	Instrument Run Logs	☒ Yes	No	NR
L.	Other Deviations or Comments: _____			

HEARTLAND ESI Form 8

HOLDING TIMES FOR METALS

1. Was the holding time exceeded on any of the Metal Fractions

ICP/GFAA/FAA - Holding time of 6 months VTSR
 Mercury - Holding time of 28 days VTSR
 Cyanide - Holding time of 14 days VTSR

☒ Yes

☐ No

2. If yes, complete the following form for all samples that exceeding holding times.

Fraction: nitrate

Sample ID : Matrix : VTSR : Date of Analysis : DA : QC
 Decision

<u>all</u>	:	<u>h2o</u>	:	<u>11/25/96</u>	:	<u>12/3/96</u>	:	<u>6</u>	:	<u>USJ</u>
:	:	:	:	:	:	:	:	:	:	:
:	:	:	:	:	:	:	:	:	:	:
:	:	:	:	:	:	:	:	:	:	:
:	:	:	:	:	:	:	:	:	:	:
:	:	:	:	:	:	:	:	:	:	:
:	:	:	:	:	:	:	:	:	:	:
:	:	:	:	:	:	:	:	:	:	:

Note: DA = The number of days holding time to analysis is exceeded.

S = Non-aqueous
 A = Aqueous
 X = Air

QA Decision: Results > IDL - J - estimated

Results < IDL - R - rejected

HEARTLAND ESI Form C-1

INSTRUMENT CALIBRATION AND INITIAL CALIBRATION
VERIFICATION (ICV)

Associated Samples all

1. a. Was the ICP instrument properly standardized? ☒ Yes No
If no, explain and list action. _____

b. Was the furnace instrument properly standardized? If no, were the required standards analyzed immediately after the instrument calibration and results within 95-105% recovery? Yes No
If no, explain and list action. n/a

c. Were the instruments for the analyses of Cyanide and Mercury properly standardized? ☒ Yes No
If no, explain and list action. _____

2. Was the ICV analyzed immediately after the system(s) were calibrated? ☒ Yes No
If no, explain and list action. _____

3. Was the ICV analyzed for every analyte? ☒ Yes No
If no, explain and list action. _____

4. Do all ICV analytes meet the QC requirements for % recovery? ☒ Yes No
If no, list affected analytes, their % recovery, and action for which:

a. % recovery is between 75-89% (CN, 70-84% or HG, 65-79%)

HEARTLAND ESI Form C-2

b. % recovery is between 111-125% (CN, 116-130% or HG. 121-135%) _____

c. % recovery is less than 75% or greater than 125% (CN, <70 or >130%, Hg <65 or >135) _____

5. a. Show calculation for the % recovery of one ICV analyte by ICP. Cr Lab value 97.69.

$$\frac{976.02}{1000.0} \times 100 = 97.69\%$$

b. Show calculation for the % recovery of one ICV analyte by furnace AA. Lab value na

c. Show calculation for the ICV % recovery of Mercury. Lab Value 96.69

$$\frac{4.83}{5.0} \times 100 = 96.69\%$$

d. Show calculation for the ^{CCV}ICV % recovery of Cyanide. ~~85.79~~

Lab value ~~102.89~~ 97.69

$$\frac{0.122}{0.125} \times 100 = 97.6\%$$
~~$$\frac{0.257}{0.30} \times 100 = 85.79\%$$~~

6/30/97

6. Specific comments: _____

HEARTLAND ESI Form D-1

CONTINUING CALIBRATION VERIFICATION (CCV)

Associated Samples all

1. a. Was the CCV performed every two hours or at the 10% frequency? ☒ Yes ☐ No
If no, list action. _____

b. Was the CCV performed at the beginning and end of the sample analysis? ☒ Yes ☐ No
If no, list action. _____

2. Were the CCV standards analyzed for all analytes? ☒ Yes ☐ No
If no, list affected analytes, their associated samples and action. _____

3. Was the same concentration used for CCV throughout the analyses? ☒ Yes ☐ No
If no, list affected analytes, their associated samples and action. _____

4. Do all CCV analytes meet the QC requirements for % recovery? Yes ☒ No ☐
If no, list affected analytes, their associated samples and action for which: _____

a. % recovery is between 75-89% (CN, 70-84% or Hg, 65-79%)
Ca (86.3%) - qualify all results as est, J & U.S.

b. % recovery is between 111-125% (CN, 116-130% or Hg, 121-135%) _____

c. % recovery is less than 75% or greater than 125% (CN, <70 or >130%; Hg, <65 or >135%) _____

HEARTLAND ESI Form D-2

5. a. Show calculation for the % recovery of one CCV analyte analyzed by ICP. Lab value 97.2%

Sb
$$\frac{97.18}{100.0} \times 100 = 97.2\%$$

- b. Show calculation for the % recovery of one CCV analyte analyzed by furnace AA. Lab value n/a

- c. Show calculation for the % recovery of one CCV analyte analyzed for Mercury. Lab value 90.4%

$$\frac{4.52}{5.0} \times 100 = 90.4\%$$

- d. Show calculation for the % recovery of one ^{ICV}CCV analyte for Cyanide. Lab value 102.8%

$$\frac{0.257}{0.25} \times 100 = 102.8\%$$

6. Specific comments: _____
- _____
- _____
- _____

HEARTLAND ESI Form F

INITIAL & CONTINUING CALIBRATION BLANK

Associated Samples all

1. Were the initial calibration blanks analyzed for all analytes and run after the initial calibration verification? ☒ Yes ☐ No
If no, list affected analytes and action.

2. Was the absolute value for all analytes in the initial calibration blank below the CRDL? ☒ Yes ☐ No
If no, list affected analytes and reject them.

3. Were the continuing calibration blanks analyzed for all analytes and run after the continuing calibration verification? ☒ Yes ☐ No
If no, list affected analytes, associated samples and action.

4. Was the frequency for the continuing calibration blanks correct? ☒ Yes ☐ No
If no, list affected analytes, associated samples and action.

5. Was the absolute value of all analytes for the continuing calibration blank below the CRDL? Yes ☒ No
If no, list affected analytes, associated samples and reject them.

16
6/30 Se (0.4) - quality a pos. results < 5 times
not until as est. 5.00
CRDL (5.0)

HEARTLAND ESI Form G

PREPARATION BLANK SUMMARY

Sample Matrix:
Units:

Soil
mg/kg

Water
ug/l

Air
ug/m3

Preparation Blank ID PBW

1. Did the frequency of the preparation blank analysis meet method requirements?
If no, explain and note action.

☒ Yes ☐ No

Analyte	: Conc	: < CRDL	: Comments/Action
	:	:	:
	:	:	:
	:	:	:
	:	:	:
	:	:	:
	:	:	:
	:	:	:
	:	:	:
	:	:	:
	:	:	:
	:	:	:
	:	:	:
	:	:	:
	:	:	:
	:	:	:
	:	:	:
	:	:	:
	:	:	:
	:	:	:
	:	:	:

Associated Samples

CRDL Codes: Yes < CRDL
No > CRDL

HEARTLAND ESI Form H

ICP INTERFERENCE CHECK SAMPLE

Associated Samples all

1. Was an ICP interference check sample performed ☒ Yes ☐ No
at the correct frequency?
If no, note any deviations and action. _____
2. a. Were the interferences for solution A ☒ Yes ☐ No
reported?
If no, note deviations _____
b. Were the analytes and interferences for ☒ Yes ☐ No
solution AB reported?
If no, note deviations _____
3. Were the concentrations of Al, Ca, Fe and Mg ☐ Yes ☒ No
in associated samples found to be significantly less than
(i.e., < 50%) their respective concentrations in solution A?
If yes, no action is required.
4. Did all required analytes in solution AB meet ☒ Yes ☐ No
the QC limit of 80-120%?
If no,
 - a. List any analytes and their % recovery which are greater than or equal
to 30% but less than 80% and action. _____
 - b. List any analytes and their % recovery which are greater
than 120% and action. _____
 - c. List any analytes and their % recovery which are less than
30% and action. _____
5. Show the calculation for % recovery for one analyte in solution AB.

$$\text{Ni} \quad \frac{93.5}{1000} \times 100 = 9.35\% \quad \text{lab value } 95.4\%$$

HEARTLAND ESI Form I-1

SAMPLE SPIKE ANALYSIS

Sample Spike Analysis performed on sample 131196, 151196 & 151796

Matrix: Soil Water Air
Units: mg/kg ug/l ug/m3
% Solids /

Associated Samples All

1. Was the sample spike analysis performed at the Yes No
correct frequency?
If no, note deviations and action. _____

2. Was the sample spike analysis performed on a Yes No
field sample?
If no, reject all associated samples.

3. a. Were two analytical methods used to obtain Yes No
reported values for one analyte?
If yes, list analytes _____

b. Was sample spike analysis performed using Yes No
both methods for that analyte?
If no, reject affected sample(s) which did not have spike
analysis performed. _____

4. Was sample analysis performed at the proper Yes No
concentration?
If no, list analytes and quality. _____

5. Did the % recovery for all analytes meet the Yes No
criteria of 75-125%?
If no, list only those analytes which % recovery are out and whose sample
result (SR) is less than 4 times the sample added (SA). List % recovery in
parenthesis next to the analyte out and action. All (146.94%) - analytical pass
no. disc. results as est 5 Ag 11.19% - analytical pass
total results as est 5 or 5.

HEARTLAND ESI Form 1-2

6. Were outliers for % recovery flagged with the "N" qualifier? (Yes) No

If no, list analytes not flagged. _____

7. a. Show calculation for % recovery for one analyte analyzed by ICP. Zn

Lab value 104.24%

$$\frac{1062.8765 - 20.638}{1000.00} \times 100 = 104.24\%$$

- b. Show calculation for % recovery for one analyte analyzed by furnace AA.

Lab value n/a

- c. Show calculation for % recovery for Mercury.

Lab value 80.54%

$$\frac{0.8054 - 0}{1.00} \times 100 = 80.54\%$$

- d. Show calculation for % recovery for Cyanide.

Lab value NR

HEARTLAND ESI Form K-1

DUPLICATE ANALYSIS

Duplicate Analysis performed on sample 131196, 151196 + 151796

Matrix: Soil Water Air
Units: mg/kg ug/l ug/m3
% Solids:

Associated Samples all

1. Were duplicate analyses performed at the correct frequency? ☒ Yes No
If no, note deviations and action. _____
2. Was duplicate analysis performed on a field sample? ☒ Yes No
If no, reject all associated samples.
3. Were two analytical methods used to obtain reported values for one analyte? Yes ☒ No
If yes,
a. List analytes _____
b. Were duplicate analysis performed using both methods for that analyte? Yes No
If no, reject affected samples which did not have duplicate analysis performed. _____
4. Is the laboratory using the correct control limit (i.e. $\pm$ CRDL or 20% for water and $\pm$ CRDL or 35% for soils criteria) to judge duplicate RPD results? ☒ Yes No
If no, note deviations. _____

HEARTLAND ESI Form K-2

5. Do all analytes meet these QC control limits? Yes ☒ No ☐
 If no, list the analytes outside the limits and qualify these analytes. MO(T+D), dis Ca, Mg, Mn + Na - qualify, all
QD results as est. J.
6. Were outliers correctly flagged with the *** qualifier? ☒ Yes ☐ No
 If no, list those analytes not correctly flagged. _____
7. a. Show calculation for RPD for one analyte analyzed by ICP. Cd Lab value 21.99

$$\frac{11.4119 - 9.1613}{(11.4119 + 9.1613)/2} \times 100 = 21.99 \text{ C.L.} = 5.0$$
- b. Show calculation for RPD for one analyte analyzed by furnace AA. Lab value n/a
- c. Show calculation for RPD for Mercury. Lab value NR
Results are "U"
- d. Show calculation for RPD for Cyanide. Lab value NR

HEARTLAND ESI Form L

LABORATORY CONTROL SAMPLE

Matrix: Soil Water Air
 Units: mg/kg ug/l ug/m3

Associated Samples All

1. Was the laboratory control sample performed at the correct frequency? Yes No
 If no, give action. _____

2. Do all analytes meet the QC limits of 80-120% (except Silver, Antimony, Mercury and Cyanide for aqueous samples) or within the control limits established by EPA for soils? Yes No
 If no, list analytes, their recovery and action. _____

3. a. Show the calculation for % recovery for at least one analyte by ICP. ✓

$$\frac{441.25}{500.0} \times 100 = \frac{\text{Lab value } 88.2\%}{88.2\%}$$

b. Show the calculation for % recovery for at least one analyte analyzed by furnace AA.

Lab value na

c. Show the calculation for % recovery of Mercury (soil only).

Lab value /

HEARTLAND ESI Form N

SAMPLE RESULT VERIFICATION

Associated Samples

all

1. Were all samples reported within the calibration range? ☒ Yes No

If no, list affected samples and action. _____

2. Was the % solids analysis performed for all nonaqueous samples? Yes No

If no, list affected samples and action. na

3. Show calculation for % solids for one sample.

Lab value na

4. Was the raw data free of any anomalies? ☒ Yes No

If no, list affected samples and action. _____

5. Was the data package free of any computational or transcriptional errors? ☒ Yes No

If no, list affected samples and action. _____

6. Verify that nonaqueous samples were reported on a dry weight basis by recalculating the results for one analyte in a sample.

Lab value na

HEARTLAND ESI Form 0

ICP SERIAL DILUTION

Serial Dilution performed on Sample 4-1196, 721196 & 141196
Dilution Factor 5

Matrix: Soil mg/kg Water ug/l Air ug/m3
Units:

Associated Samples all

1. Was a serial dilution performed at the correct frequency? ☒ Yes ☐ No
If no, give action.

2. Was a field sample used for serial dilution? ☒ Yes ☐ No
If no, give action.

3. For all analytes greater than fifty times the IDL, was a serial dilution performed? ☒ Yes ☐ No
If no, list analytes and reject them.

4. a. For all analytes greater than ten times the IDL, did the the serial dilution analysis meet the QC limit of 10% D? Yes ☒ No
If no, list those analytes outside the limits and qualify them.
Pb Fe Mn - qualify all pos diss. results as est. 5

b. Show a calculation for % D for one analyte analyzed by ICP.

Fe

Lab Value 13.0%

$$\frac{647.49 - 503.40}{647.49}$$

$$\times 100 = 13.0\%$$

HEARTLAND ESI Form P

QUARTERLY VERIFICATION OF INSTRUMENT PARAMETERS

1. Was the IDL analyzed and reported quarterly (every three calendar months) for each element on Form X. ☒ Yes No
If no, explain and list action. _____
2. Was the IDL below the CRDL for each element? ☒ Yes No
If no, explain and list action. _____
3. Was the ICP interelement correction factor analyzed and reported for each element on Form 11 and 12. ☒ Yes No
If no, explain and list action. _____
4. Was the linear range analyzed and reported annually and quarterly respectively for each element on Form 11 and 12. ☒ Yes No
If no, explain and list action. _____