Integrated Analytical Labs

Integrated Analytical Laboratories, LLC.

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Randolph, N.J. 07869

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ANALYTICAL DATA REPORT

RECEIVED
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for

Roy F. Weston, USEPA Region II START
1090 King Georges Post Rd.
Suite 201
Edison,NJ 08837-3703

Project: WASTE ANALYSIS - 4200
Lab Case Number: 10980-5418
Date Report Prepared: September 29, 1998

CLIENT SAMPLE ID	LABORATORY SAMPLE ID
MPF-01	5418-001
MPF-02	5418-002
MPF-03	5418-003
MPF-04	5418-004
MPF-05	5418-005
MPF-06	5418-006
MPF-07	5418-007
MPF-08	5418-008
MPF-09	5418-009
MPF-10	5418-010
MPF-11	5418-011
MPF-12	5418-012
MPF-13	5418-013
MPF-14	5418-014
MPF-15	5418-015
MPF-16	5418-016
MPF-19	5418-017
MPF-20	5418-018
MPF-21	5418-019

448992

All required protocols were followed during analyses. These data have been reviewed and accepted by:

Michael H. Leftin, Ph.D.
Laboratory Director

The liability of Integrated Analytical Laboratories, LLC. is limited to the actual cost of the analyses performed.

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MATRIX QUALIFIERS

A - Indicates the sample is an Aqueous matrix.

O - Indicates the sample is an Oil matrix.

S - Indicates the sample is a Soil, Sludge or Sediment matrix.

X - Indicates the sample is an Other matrix as indicated by Client Chain of Custody.

DATA QUALIFIERS

B - Indicates the analyte was found in the Blank and in the sample. It indicates possible sample contamination and warns the data user to use caution when applying the results of the analyte.

C - Common Laboratory Contaminant.

D - The surrogate was not detected due to the high Dilution of the sample

D.F. - Dilution Factor.

E - Estimated concentration, reported results are outside the calibrated range of the instrument.

J - Indicates an estimated value. The compound was detected at a value below the method detection limit but greater than zero. For GC/MS procedures, the mass spectral data meets the criteria required to identify the target compound.

MDL - Method Detection Limit.

MI - Indicates compound concentration could not be determined due to Matrix Interferences.

NA - Not Applicable.

ND - Indicates the compound was analyzed for but Not Detected at the MDL.

REPORT QUALIFIERS

All solid sample analyses were reported on a dry weight basis.

All solid sample values are corrected for original sample size and percent solids.

INTEGRATED ANALYTICAL LABORATORIES, LLC.

CONFORMANCE / NON-CONFORMANCE SUMMARY

Integrated Analytical Laboratories, LLC. received five (5) soil and fifteen (15) liquid sample(s) from Roy F. Weston, USEPA Region II START (Project: WASTE ANALYSIS - 4200) on September 14, 1998 for the analysis of:

(5) TCLP Volatiles
(5) TCLP Semivolatiles - BNA
(5) TCLP Pesticides
(5) TCLP Herbicides
(5) TCLP Metals
(16) Sulfide, Reactive
(16) Cyanide, Reactive
(1) Ignitability @ 142°F
(15) Flashpoint
(16) Corrosivity as pH

A review of the QA/QC measures for the analysis of the sample(s) contained in this report has been performed by:

Reviewed by

9/29/98
Date

INTEGRATED ANALYTICAL LABORATORIES, LLC.

LABORATORY DELIVERABLES CHECK LIST

Lab Case Number: 10980-5418

		Check If Complete
1.	Cover Page, Title Page listing Lab Certification #, facility name & address and date of report preparation.	✓
2.	Table of Contents.	✓
3.	Summary Sheets listing analytical results for all targeted and non-targeted compounds.	✓
4.	Summary Table cross-referencing field ID's vs. Lab ID's.	✓
5.	Document bound, paginated and legible.	✓
6.	Chain of Custody.	✓
7.	Methodology Summary.	✓
8.	Laboratory Chronicle and Holding Time Check.	✓
9.	Results submitted on a dry weight basis (if applicable).	✓
10.	Method Detection Limits.	✓
11.	Lab certified by NJDEP for parameters or appropriate category of parameters or a member of the USEPA CLP.	✓
12.	Non-Conformance Summary.	✓

[signature]
QC Reviewed by

9/29/98
Date

INTEGRATED ANALYTICAL LABORATORIES

GC/MS ANALYSIS CONFORMANCE/NONCONFORMANCE SUMMARY

Lab Case Number: 10980- 5418

	No	Yes
1. Chromatograms Labeled/Compounds Identified (Field Samples and Method Blanks).		✓
2. GC/MS Tuning Specifications:		
a. BFB Passed		✓
b. DFTPP Passed		NA
3. GC/MS Tuning Frequency - Performed every 24 hours for 600 series and 12 hours for 8000 series.		✓
4. GC/MS Calibration - Initial calibration performed within 30 days before sample analysis and continuing calibration performed within 24 hours before sample analysis for 600 series and 12 hours for 8000 series.		✓
5. GC/MS Calibration Requirements:		
a. Calibration Check Compounds		NA
b. System Performance Check Compounds		NA
6. Blank Contamination - If yes, list compounds and concentrations in each blank:	✓	
a. VOA Fraction		
b. B/N Fraction		
c. Acid Fraction		
7. Surrogate Recoveries Meet Criteria If not met, list those compounds and their recoveries which fall outside the acceptable range:		✓
a. VOA Fraction		
b. B/N Fraction		
c. Acid Fraction		
If not met, were the calculations checked and the results qualified as "estimated"?		NA
8. Matrix Spike/Matrix Spike Duplicate meet criteria (if not, list those compounds and their recoveries/% differences which fall outside the acceptable range)		✓
a. VOA Fraction		
b. B/N Fraction		
c. Acid Fraction		

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GC/MS ANALYSIS CONFORMANCE/NONCONFORMANCE SUMMARY

Lab Case Number: 10980- 5418

	No	Yes
9. Internal Standard Area/Retention Time Shift meet criteria		✓
10. Extraction Holding Time Met If not met, list number of days exceeded for each sample:		NA
11. Analysis Holding Time Met If not met, list number of days exceeded for each sample:		✓

Additional Comments:

Organic Manager

9-23-98
Date

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INTEGRATED ANALYTICAL LABORATORIES

METAL ANALYSIS CONFORMANCE/NONCONFORMANCE SUMMARY

Lab Case Number: 10980- 5418

	No	Yes
1. Calibration Summary Meet Criteria.		✓
2. ICP Interference Check Sample Results Summary Submitted (if applicable)/ Meet Criteria		✓
3. Serial Dilution Summary Submitted (if applicable) / Meet Criteria		✓
4. Laboratory Control Sample Summary Submitted (if applicable/Meet Criteria)		✓
5. Blank Contamination If yes, list compounds and concentrations in each blank:	✓	
6. Matrix Spike/Matrix Spike Duplicate Recoveries Meet Criteria. (If not met, list those compounds and their recoveries which fall outside the acceptable range).		✓
7. Extraction Holding Time Met. If not met, list number of days exceeded for each sample:		✓
8. Analysis Holding Time Met. If not met, list number of days exceeded for each sample:		✓

Additional Comments:

Helge Falck-Langmuir
Inorganic Manager

9/22 98
Date

INTEGRATED ANALYTICAL LABORATORIES, LLC.

SUMMARY REPORT

Client: Roy F. Weston, USEPA Region II START

Project: WASTE ANALYSIS - 4200

Lab Case No.: 10980-5418

Lab ID:	5418-001	5418-002	5418-004	5418-005	5418-006
Client ID:	MPF-01	MPF-02	MPF-04	MPF-05	MPF-06
Matrix:	Liquid	Liquid	Liquid	Liquid	Liquid
Sampled Date:	9/11/98	9/11/98	9/11/98	9/11/98	9/11/98
PARAMETER(Units)					
General Analytical					
Sulfide, Reactive (ppm)	ND	ND	ND	7.2	ND
Cyanide, Reactive (ppm)	ND	0.1	0.5	10000	0.4
Flashpoint (°F)	>158	127	>158	117	126
Corrosivity as pH (S.U.)	0.83	4.18	-0.24	11.42	2.69

Lab ID:	5418-007	5418-008	5418-009	5418-010	5418-011
Client ID:	MPF-07	MPF-08	MPF-09	MPF-10	MPF-11
Matrix:	Liquid	Liquid	Liquid	Liquid	Liquid
Sampled Date:	9/11/98	9/11/98	9/11/98	9/11/98	9/11/98
PARAMETER(Units)					
General Analytical					
Sulfide, Reactive (ppm)	ND	8	3.2	ND	ND
Cyanide, Reactive (ppm)	ND	0.4	ND	20	0.28
Flashpoint (°F)	153	>158	>158	118	>158
Corrosivity as pH (S.U.)	5.54	12.73	-0.72	2.58	3.97

Lab ID:	5418-012	5418-013	5418-014	5418-015	5418-016
Client ID:	MPF-12	MPF-13	MPF-14	MPF-15	MPF-16
Matrix:	Liquid	Liquid	Liquid	Liquid	Liquid
Sampled Date:	9/11/98	9/11/98	9/11/98	9/11/98	9/11/98
PARAMETER(Units)					
General Analytical					
Sulfide, Reactive (ppm)	ND	ND	ND	ND	ND
Cyanide, Reactive (ppm)	0.8	ND	0.26	ND	4
Flashpoint (°F)	>158	>158	>158	>158	115
Corrosivity as pH (S.U.)	13.37	8.18	6.30	-0.93	8.52

~ = Sample not analyzed for

ND = Analyzed for but Not Detected at the MDL

J = The concentration was detected at a value below the MDL

INTEGRATED ANALYTICAL LABORATORIES, LLC.

SUMMARY REPORT

Client: Roy F. Weston, USEPA Region II START
Project: WASTE ANALYSIS - 4200
Lab Case No.: 10980-5418

Lab ID:	5418-017	5418-018	5418-019	5418-020
Client ID:	MPF-19	MPF-20	MPF-21	MPF-22
Matrix:	Soil	Soil	Soil	Soil
TCLP Matrix:	Aqueous Leachate	Aqueous Leachate	Aqueous Leachate	Aqueous Leachate
Sampled Date:	9/11/98	9/11/98	9/11/98	9/11/98
PARAMETER(Units)				
TCLP Volatiles (ppm)				
Vinyl Chloride	ND	ND	ND	ND
1,1-Dichloroethene	ND	ND	ND	ND
2-Butanone(MEK)	ND	ND	ND	ND
Chloroform	ND	ND	ND	ND
Carbon Tetrachloride	ND	ND	ND	ND
1,2-Dichloroethane(EDC)	ND	ND	ND	ND
Benzene	ND	ND	ND	ND
Trichloroethene	ND	ND	ND	ND
Tetrachloroethene	ND	ND	ND	ND
Chlorobenzene	ND	ND	ND	ND
1,4-Dichlorobenzene	ND	ND	ND	ND
TCLP Semivolatiles (ppm)				
Pyridine	ND	ND	ND	ND
1,4-Dichlorobenzene	ND	ND	ND	ND
2-Methylphenol	ND	ND	ND	ND
4-Methylphenol	ND	ND	ND	ND
Hexachloroethane	ND	ND	ND	ND
Nitrobenzene	ND	ND	ND	ND
Hexachlorobutadiene	ND	ND	ND	ND
2,4,6-Trichlorophenol	ND	ND	ND	ND
2,4,5-Trichlorophenol	ND	ND	ND	ND
2,4-Dinitrotoluene	ND	ND	ND	ND
Hexachlorobenzene	ND	ND	ND	ND
Pentachlorophenol	ND	ND	ND	ND
TCLP Pesticides (ppm)				
gamma-BHC	ND	ND	ND	ND
Heptachlor	ND	ND	ND	ND
Endrin	ND	ND	ND	ND
Methoxychlor	ND	ND	ND	ND
alpha-Chlordane	ND	ND	ND	ND
gamma-Chlordane	ND	ND	ND	ND
Toxaphene	ND	ND	ND	ND

ND = Analyzed for but Not Detected at the MDL

INTEGRATED ANALYTICAL LABORATORIES, LLC.

SUMMARY REPORT

Client: Roy F. Weston, USEPA Region II START
Project: WASTE ANALYSIS - 4200
Lab Case No.: 10980-5418

Lab ID:	5418-017	5418-018	5418-019	5418-020
Client ID:	MPF-19	MPF-20	MPF-21	MPF-22
Matrix:	Soil	Soil	Soil	Soil
TCLP Matrix:	Aqueous Leachate	Aqueous Leachate	Aqueous Leachate	Aqueous Leachate
Sampled Date:	9/11/98	9/11/98	9/11/98	9/11/98
PARAMETER(Units)				
TCLP Herbicides (ppm)				
2,4-D	ND	ND	ND	ND
Silvex	ND	ND	ND	ND
TCLP Metals (ppm)				
Arsenic	ND	ND	ND	ND
Barium	ND	ND	ND	ND
Cadmium	ND	ND	0.159	ND
Chromium	1.58	5.12	4.88	5.41
Lead	ND	0.598	ND	ND
Mercury	0.00039 J	0.00338	ND	ND
Selenium	ND	ND	ND	ND
Silver	0.301	ND	ND	ND

ND = Analyzed for but Not Detected at the MDL
J = The concentration was detected at a value below the MDL

INTEGRATED ANALYTICAL LABORATORIES, LLC.

SUMMARY REPORT

Client: Roy F. Weston, USEPA Region II START
Project: WASTE ANALYSIS - 4200
Lab Case No.: 10980-5418

Lab ID:	5418-003		
Client ID:	MPF-03		
Matrix:	Soil		
TCLP Matrix:	Aqueous Leachate		
Sampled Date:	9/11/98		
PARAMETER(Units)	Conc	Q	MDL
TCLP Volatiles (ppm)			
Vinyl Chloride	ND		0.05
1,1-Dichloroethene	ND		0.05
2-Butanone(MEK)	ND		0.25
Chloroform	ND		0.05
Carbon Tetrachloride	ND		0.05
1,2-Dichloroethane(EDC)	ND		0.05
Benzene	ND		0.025
Trichloroethene	ND		0.05
Tetrachloroethene	ND		0.05
Chlorobenzene	ND		0.05
1,4-Dichlorobenzene	ND		0.05
TCLP Semivolatiles (ppm)			
Pyridine	ND		0.002
1,4-Dichlorobenzene	ND		0.002
2-Methylphenol	ND		0.002
4-Methylphenol	ND		0.002
Hexachloroethane	ND		0.002
Nitrobenzene	ND		0.002
Hexachlorobutadiene	ND		0.002
2,4,6-Trichlorophenol	ND		0.002
2,4,5-Trichlorophenol	ND		0.002
2,4-Dinitrotoluene	ND		0.002
Hexachlorobenzene	ND		0.002
Pentachlorophenol	ND		0.002
TCLP Pesticides (ppm)			
gamma-BHC	ND		0.0025
Heptachlor	ND		0.0025
Endrin	ND		0.0025
Methoxychlor	ND		0.0025
alpha-Chlordane	ND		0.0025
gamma-Chlordane	ND		0.0025
Toxaphene	ND		0.03

ND = Analyzed for but Not Detected at the MDL

INTEGRATED ANALYTICAL LABORATORIES, LLC.

SUMMARY REPORT

Client: Roy F. Weston, USEPA Region II START
Project: WASTE ANALYSIS - 4200
Lab Case No.: 10980-5418

Lab ID:	**5418-003**		
Client ID:	**MPF-03**		
Matrix:	**Soil**		
TCLP Matrix:	**Aqueous Leachate**		
Sampled Date:	**9/11/98**		
PARAMETER(Units)	Conc	Q	MDL
TCLP Herbicides (ppm)			
2,4-D	ND		0.005
Silvex	ND		0.005
TCLP Metals (ppm)			
Arsenic	ND		0.400
Barium	ND		2.00
Cadmium	ND		0.040
Chromium	0.813		0.120
Lead	ND		0.400
Mercury	0.00059		0.0005
Selenium	ND		0.400
Silver	ND		0.080
General Analytical			
Sulfide, Reactive (ppm)	ND		22
Cyanide, Reactive (ppm)	ND		1.31
Ignitability @ 142°F (Yes/No)	No		NA
Corrosivity as pH (S.U.)	6.87		±0.02

ND = Analyzed for but Not Detected at the MDL

All required protocols were followed during analyses. These data have been reviewed and accepted by:

Michael H. Leftin, Ph.D
Laboratory Director

The liability of Integrated Analytical Laboratories, LLC. is limited to the actual cost of the analyses performed.

INTEGRATED ANALYTICAL LABORATORIES

VOLATILE ORGANICS

TCLP

Client/Project: RFW/WASTE ANALYSIS

Lab ID: 5418-003
Client ID: MPF-03
Date Received: 09/14/98
Date Analyzed: 09/19/19
Data file: E1270.D

GC/MS Column: DB-624
Sample wt/vol: 0.1mL
Matrix-Units: Aqueous-mg/L (ppm)
Dilution Factor: 50
% Moisture: 100

Compound	Concentration	Q	MDL
Vinyl Chloride	ND		0.05
1,1-Dichloroethene	ND		0.05
2-Butanone(MEK)	ND		0.25
Chloroform	ND		0.05
Carbon Tetrachloride	ND		0.05
1,2-Dichloroethane(EDC)	ND		0.05
Benzene	ND		0.025
Trichloroethene	ND		0.05
Tetrachloroethene	ND		0.05
Chlorobenzene	ND		0.05
1,4-Dichlorobenzene	ND		0.05

Total Target Compounds: 0

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INTEGRATED ANALYTICAL LABORATORIES

VOLATILE ORGANICS

TCLP

Client/Project: RFW/WASTE ANALYSIS

Lab ID: 5418-017
Client ID: MPF-19
Date Received: 09/14/98
Date Analyzed: 09/19/98
Data file: E1271.D

GC/MS Column: DB-624
Sample wt/vol: 0.1mL
Matrix-Units: Aqueous-mg/L (ppm)
Dilution Factor: 50
% Moisture: 100

Compound	Concentration	Q	MDL
Vinyl Chloride	ND		0.05
1,1-Dichloroethene	ND		0.05
2-Butanone(MEK)	ND		0.25
Chloroform	ND		0.05
Carbon Tetrachloride	ND		0.05
1,2-Dichloroethane(EDC)	ND		0.05
Benzene	ND		0.025
Trichloroethene	ND		0.05
Tetrachloroethene	ND		0.05
Chlorobenzene	ND		0.05
1,4-Dichlorobenzene	ND		0.05

Total Target Compounds: 0

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INTEGRATED ANALYTICAL LABORATORIES

VOLATILE ORGANICS

TCLP

Client/Project: RFW/WASTE_ANALYSIS

Lab ID: 5418-018
Client ID: MPF-20
Date Received: 09/14/98
Date Analyzed: 09/22/98
Data file: E1347.D

GC/MS Column: DB-624
Sample wt/vol: 0.025mL
Matrix-Units: Aqueous-mg/L (ppm)
Dilution Factor: 200
% Moisture: 100

Compound	Concentration	Q	MDL
Vinyl Chloride	ND		0.2
1,1-Dichloroethene	ND		0.2
2-Butanone(MEK)	ND		1
Chloroform	ND		0.2
Carbon Tetrachloride	ND		0.2
1,2-Dichloroethane(EDC)	ND		0.2
Benzene	ND		0.1
Trichloroethene	ND		0.2
Tetrachloroethene	ND		0.2
Chlorobenzene	ND		0.2
1,4-Dichlorobenzene	ND		0.2

Total Target Compounds: 0

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INTEGRATED ANALYTICAL LABORATORIES

VOLATILE ORGANICS

TCLP

Client/Project: RFW/WASTE ANALYSIS

Lab ID: 5418-019
Client ID: MPF-21
Date Received: 09/14/98
Date Analyzed: 09/22/98
Data file: E1348.D

GC/MS Column: DB-624
Sample wt/vol: 0.1mL
Matrix-Units: Aqueous-mg/L (ppm)
Dilution Factor: 50
% Moisture: 100

Compound	Concentration	Q	MDL
Vinyl Chloride	ND		0.05
1,1-Dichloroethene	ND		0.05
2-Butanone(MEK)	ND		0.25
Chloroform	ND		0.05
Carbon Tetrachloride	ND		0.05
1,2-Dichloroethane(EDC)	ND		0.05
Benzene	ND		0.025
Trichloroethene	ND		0.05
Tetrachloroethene	ND		0.05
Chlorobenzene	ND		0.05
1,4-Dichlorobenzene	ND		0.05

Total Target Compounds: 0

INTEGRATED ANALYTICAL LABORATORIES

VOLATILE ORGANICS

TCLP

Client/Project: RFW/WASTE_ANALYSIS

Lab ID: 5418-020
Client ID: MPF-22
Date Received: 09/14/98
Date Analyzed: 09/19/98
Data file: E1274.D

GC/MS Column: DB-624
Sample wt/vol: 0.1mL
Matrix-Units: Aqueous-mg/L (ppm)
Dilution Factor: 50
% Moisture: 100

Compound	Concentration	Q	MDL
Vinyl Chloride	ND		0.05
1,1-Dichloroethene	ND		0.05
2-Butanone(MEK)	ND		0.25
Chloroform	ND		0.05
Carbon Tetrachloride	ND		0.05
1,2-Dichloroethane(EDC)	ND		0.05
Benzene	ND		0.025
Trichloroethene	ND		0.05
Tetrachloroethene	ND		0.05
Chlorobenzene	ND		0.05
1,4-Dichlorobenzene	ND		0.05

Total Target Compounds: 0

INTEGRATED ANALYTICAL LABORATORIES

TCLP SEMIVOLATILE ORGANICS

Client / Project : RFW/WASTE ANALYSIS

Lab ID: 5418-003
Client ID: MPF03
Date Received: 09/14/98
Date Extracted: 09/17/98
Date Analyzed: 09/23/98
Data File: C4267.D

GC/MS Column : DB5
Sample wt/vol : 500mL
Matrix-Units: A-mg/L (ppm)
Dil. Factor : 1
% Moisture: 100

Compound	Concentration	Q	MDL
Pyridine	ND		0.002
1,4-Dichlorobenzene	ND		0.002
2-Methylphenol	ND		0.002
4-Methylphenol	ND		0.002
Hexachloroethane	ND		0.002
Nitrobenzene	ND		0.002
Hexachlorobutadiene	ND		0.002
2,4,6-Trichlorophenol	ND		0.002
2,4,5-Trichlorophenol	ND		0.002
2,4-Dinitrotoluene	ND		0.002
Hexachlorobenzene	ND		0.002
Pentachlorophenol	ND		0.002

Total target compounds: 0

INTEGRATED ANALYTICAL LABORATORIES

TCLP SEMIVOLATILE ORGANICS

Client / Project : RFW/WASTE ANALYSIS

Lab ID: 5418-017
Client ID: MPF19
Date Received: 09/14/98
Date Extracted: 09/17/98
Date Analyzed: 09/23/98
Data File: C4268.D

GC/MS Column : DB5
Sample wt/vol : 500mL
Matrix-Units: A-mg/L (ppm)
Dil. Factor : 1
% Moisture: 100

Compound	Concentration	Q	MDL
Pyridine	ND		0.002
1,4-Dichlorobenzene	ND		0.002
2-Methylphenol	ND		0.002
4-Methylphenol	ND		0.002
Hexachloroethane	ND		0.002
Nitrobenzene	ND		0.002
Hexachlorobutadiene	ND		0.002
2,4,6-Trichlorophenol	ND		0.002
2,4,5-Trichlorophenol	ND		0.002
2,4-Dinitrotoluene	ND		0.002
Hexachlorobenzene	ND		0.002
Pentachlorophenol	ND		0.002

Total target compounds: 0

INTEGRATED ANALYTICAL LABORATORIES

TCLP SEMIVOLATILE ORGANICS

Client / Project : RFW/WASTE ANALYSIS

Lab ID: 5418-018
Client ID: MPF20
Date Received: 09/14/98
Date Extracted: 09/17/98
Date Analyzed: 09/23/98
Data File: C4269.D

GC/MS Column : DB5
Sample wt/vol : 100mL
Matrix-Units: A-mg/L (ppm)
Dil. Factor : 1
% Moisture: 100

Compound	Concentration	Q	MDL
Pyridine	ND		0.01
1,4-Dichlorobenzene	ND		0.01
2-Methylphenol	ND		0.01
4-Methylphenol	ND		0.01
Hexachloroethane	ND		0.01
Nitrobenzene	ND		0.01
Hexachlorobutadiene	ND		0.01
2,4,6-Trichlorophenol	ND		0.01
2,4,5-Trichlorophenol	ND		0.01
2,4-Dinitrotoluene	ND		0.01
Hexachlorobenzene	ND		0.01
Pentachlorophenol	ND		0.01

Total target compounds: 0

INTEGRATED ANALYTICAL LABORATORIES

TCLP SEMIVOLATILE ORGANICS

Client / Project : RFW/WASTE ANALYSIS

Lab ID: 5418-019
Client ID: MPF21
Date Received: 09/14/98
Date Extracted: 09/17/98
Date Analyzed: 09/23/98
Data File: C4270.D

GC/MS Column : DB5
Sample wt/vol : 500mL
Matrix-Units: A-mg/L (ppm)
Dil. Factor : 1
% Moisture: 100

Compound	Concentration	Q	MDL
Pyridine	ND		0.002
1,4-Dichlorobenzene	ND		0.002
2-Methylphenol	ND		0.002
4-Methylphenol	ND		0.002
Hexachloroethane	ND		0.002
Nitrobenzene	ND		0.002
Hexachlorobutadiene	ND		0.002
2,4,6-Trichlorophenol	ND		0.002
2,4,5-Trichlorophenol	ND		0.002
2,4-Dinitrotoluene	ND		0.002
Hexachlorobenzene	ND		0.002
Pentachlorophenol	ND		0.002

Total target compounds: 0

INTEGRATED ANALYTICAL LABORATORIES

TCLP SEMIVOLATILE ORGANICS

Client / Project : RFW/WASTE ANALYSIS

Lab ID: 5418-020
Client ID: MPF22
Date Received: 09/14/98
Date Extracted: 09/17/98
Date Analyzed: 09/23/98
Data File: C4271.D

GC/MS Column : DB5
Sample wt/vol : 500mL
Matrix-Units: A-mg/L (ppm)
Dil. Factor : 1
% Moisture: 100

Compound	Concentration	Q	MDL
Pyridine	ND		0.002
1,4-Dichlorobenzene	ND		0.002
2-Methylphenol	ND		0.002
4-Methylphenol	ND		0.002
Hexachloroethane	ND		0.002
Nitrobenzene	ND		0.002
Hexachlorobutadiene	ND		0.002
2,4,6-Trichlorophenol	ND		0.002
2,4,5-Trichlorophenol	ND		0.002
2,4-Dinitrotoluene	ND		0.002
Hexachlorobenzene	ND		0.002
Pentachlorophenol	ND		0.002

Total target compounds: 0

INTEGRATED ANALYTICAL LABORATORIES

TCLP PESTICIDES

Client / Project : RFW/WASTE_ANALYSIS

Lab ID: 5418-003
Client ID: MPF-03
Date Received: 09/14/98
Date Extracted: 09/17/98
Date Analyzed: 10/02/98
Data File: H6483.D

GC Column : DB5/DB1701P
Sample wt/vol : 200mL
Matrix-Units: A-mg/L (ppm)
Dil. Factor : 20
% Moisture: 100

Compound	Concentration	Q	MDL
gamma-BHC	ND		0.0025
Heptachlor	ND		0.0025
Endrin	ND		0.0025
Methoxychlor	ND		0.0025
alpha-Chlordane	ND		0.0025
gamma-Chlordane	ND		0.0025
Toxaphene	ND		0.03

INTEGRATED ANALYTICAL LABORATORIES

TCLP PESTICIDES

Client / Project : RFW/WASTE_ANALYSIS

Lab ID: 5418-017
Client ID: MPF-19
Date Received: 09/14/98
Date Extracted: 09/17/98
Date Analyzed: 10/02/98
Data File: H6484.D

GC Column : DB5/DB1701P
Sample wt/vol : 200mL
Matrix-Units: A-mg/L (ppm)
Dil. Factor : 20
% Moisture: 100

Compound	Concentration	Q	MDL
gamma-BHC	ND		0.0025
Heptachlor	ND		0.0025
Endrin	ND		0.0025
Methoxychlor	ND		0.0025
alpha-Chlordane	ND		0.0025
gamma-Chlordane	ND		0.0025
Toxaphene	ND		0.03

INTEGRATED ANALYTICAL LABORATORIES

TCLP PESTICIDES

Client / Project : RFW/WASTE_ANALYSIS

Lab ID: 5418-018
Client ID: MPF-20
Date Received: 09/14/98
Date Extracted: 09/17/98
Date Analyzed: 10/02/98
Data File: H6485.D

GC Column : DB5/DB1701P
Sample wt/vol : 200mL
Matrix-Units: A-mg/L (ppm)
Dil. Factor : 20
% Moisture: 100

Compound	Concentration	Q	MDL
gamma-BHC	ND		0.0025
Heptachlor	ND		0.0025
Endrin	ND		0.0025
Methoxychlor	ND		0.0025
alpha-Chlordane	ND		0.0025
gamma-Chlordane	ND		0.0025
Toxaphene	ND		0.03

INTEGRATED ANALYTICAL LABORATORIES

TCLP PESTICIDES

Client / Project : RFW/WASTE_ANALYSIS

Lab ID: 5418-019
Client ID: MPF-21
Date Received: 09/14/98
Date Extracted: 09/17/98
Date Analyzed: 10/02/98
Data File: H6486.D

GC Column : DB5/DB1701P
Sample wt/vol : 200mL
Matrix-Units: A-mg/L (ppm)
Dil. Factor : 20
% Moisture: 100

Compound	Concentration	Q	MDL
gamma-BHC	ND		0.0025
Heptachlor	ND		0.0025
Endrin	ND		0.0025
Methoxychlor	ND		0.0025
alpha-Chlordane	ND		0.0025
gamma-Chlordane	ND		0.0025
Toxaphene	ND		0.03

INTEGRATED ANALYTICAL LABORATORIES

TCLP PESTICIDES

Client / Project : RFW/WASTE_ANALYSIS

Lab ID: 5418-020
Client ID: MPF-22
Date Received: 09/14/98
Date Extracted: 09/17/98
Date Analyzed: 10/02/98
Data File: H6487.D

GC Column : DB5/DB1701P
Sample wt/vol : 200mL
Matrix-Units: A-mg/L (ppm)
Dil. Factor : 20
% Moisture: 100

Compound	Concentration	Q	MDL
gamma-BHC	ND		0.0025
Heptachlor	ND		0.0025
Endrin	ND		0.0025
Methoxychlor	ND		0.0025
alpha-Chlordane	ND		0.0025
gamma-Chlordane	ND		0.0025
Toxaphene	ND		0.03

INTEGRATED ANALYTICAL LABORATORIES

TCLP HERBICIDES

Client / Project : RFW/WASTE ANALYSIS

Lab ID: 5418-003
Client ID: MPF-03
Date Received: 09/14/98
Date Extracted: 09/17/98
Date Analyzed: 09/23/98
Data File: H6232.D

GC Column : DB5/DB1701P
Sample wt/vol : 200mL
Matrix-Units: A-mg/L (ppm)
Dil. Factor : 10
% Moisture: 100

Compound	Concentration	Q	MDL
2,4-D	ND		0.005
Silvex	ND		0.005

INTEGRATED ANALYTICAL LABORATORIES

TCLP HERBICIDES

Client / Project : RFW/WASTE_ANALYSIS

Lab ID: 5418-~~019~~ 017
Client ID: MPF-~~17~~ 19
Date Received: 09/14/98
Date Extracted: 09/17/98
Date Analyzed: 09/23/98
Data File: H6233.D
MTC 9/29/98

GC Column : DB5/DB1701P
Sample wt/vol : 200mL
Matrix-Units: A-mg/L (ppm)
Dil. Factor : 10
% Moisture: 100

Compound	Concentration	Q	MDL
2,4-D	ND		0.005
Silvex	ND		0.005

INTEGRATED ANALYTICAL LABORATORIES

TCLP HERBICIDES

Client / Project : RFW/WASTE ANALYSIS

Lab ID: 5418-~~020~~ 018
Client ID: MPF-~~18~~ 020
Date Received: 09/14/98
Date Extracted: 09/17/98
Date Analyzed: 09/23/98
Data File: H6234.D
MTE 9/29/98

GC Column : DB5/DB1701P
Sample wt/vol : 200mL
Matrix-Units: A-mg/L (ppm)
Dil. Factor : 10
% Moisture: 100

Compound	Concentration	Q	MDL
2,4-D	ND		0.005
Silvex	ND		0.005

INTEGRATED ANALYTICAL LABORATORIES

TCLP HERBICIDES

Client / Project : RFW/WASTE_ANALYSIS

Lab ID: 5418-~~021~~ 019
Client ID: MPF-~~19~~ 021
Date Received: 09/14/98
Date Extracted: 09/17/98
Date Analyzed: 09/23/98
Data File: H6235.D
WTC 9/29/98

GC Column : DB5/DB1701P
Sample wt/vol : 200mL
Matrix-Units: A-mg/L (ppm)
Dil. Factor : 10
% Moisture: 100

Compound	Concentration	Q	MDL
2,4-D	ND		0.005
Silvex	ND		0.005

INTEGRATED ANALYTICAL LABORATORIES

TCLP HERBICIDES

Client / Project : RFW/WASTE ANALYSIS

Lab ID: 5418-022020
Client ID: MPF-20022
Date Received: 09/14/98
Date Extracted: 09/17/98
Date Analyzed: 09/23/98
Data File: H6236.D
TCR 9/29/98

GC Column : DB5/DB1701P
Sample wt/vol : 200mL
Matrix-Units: A-mg/L (ppm)
Dil. Factor : 10
% Moisture: 100

Compound	Concentration	Q	MDL
2,4-D	ND		0.005
Silvex	ND		0.005

INTEGRATED ANALYTICAL LABORATORIES, LLC.

TCLP METALS

Client/Project: RFW/WASTE ANALYSIS

Lab ID: 5418-003
Client ID: MPF-03
Date Received: 9/14/98
Date Analyzed: 9/18 - 9/21/98
Matrix-Units: Aqueous-mg/L (ppm)
% Moisture: 100

Compound	Result	Q	DF	MDL
Arsenic	ND		1	0.400
Barium	ND		1	2.00
Cadmium	ND		1	0.040
Chromium	0.813		1	0.120
Lead	ND		1	0.400
Mercury	0.00059		1	0.0005
Selenium	ND		1	0.400
Silver	ND		1	0.080

INTEGRATED ANALYTICAL LABORATORIES, LLC.

TCLP METALS

Client/Project: RFW/WASTE ANALYSIS

Lab ID: 5418-017
Client ID: MPF-19
Date Received: 9/14/98
Date Analyzed: 9/18 - 9/21/98
Matrix-Units: Aqueous-mg/L (ppm)
% Moisture: 100

Compound	Result	Q	DF	MDL
Arsenic	ND		1	0.400
Barium	ND		1	2.00
Cadmium	ND		1	0.040
Chromium	1.58		1	0.120
Lead	ND		1	0.400
Mercury	0.00039	J	1	0.0005
Selenium	ND		1	0.400
Silver	0.301		1	0.080

INTEGRATED ANALYTICAL LABORATORIES, LLC.

TCLP METALS

Client/Project: RFW/WASTE ANALYSIS

Lab ID: 5418-018
Client ID: MPF-20
Date Received: 9/14/98
Date Analyzed: 9/18 - 9/21/98
Matrix-Units: Aqueous-mg/L (ppm)
% Moisture: 100

Compound	Result	Q	DF	MDL
Arsenic	ND		1	0.400
Barium	ND		1	2.00
Cadmium	ND		1	0.040
Chromium	5.12		1	0.120
Lead	0.598		1	0.400
Mercury	0.00338		1	0.0005
Selenium	ND		1	0.400
Silver	ND		1	0.080

INTEGRATED ANALYTICAL LABORATORIES, LLC.

TCLP METALS

Client/Project: RFW/WASTE ANALYSIS

Lab ID: 5418-019
Client ID: MPF-21
Date Received: 9/14/98
Date Analyzed: 9/18 - 9/21/98
Matrix-Units: Aqueous-mg/L (ppm)
% Moisture: 100

Compound	Result	Q	DF	MDL
Arsenic	ND		1	0.400
Barium	ND		1	2.00
Cadmium	0.159		1	0.040
Chromium	4.88		1	0.120
Lead	ND		1	0.400
Mercury	ND		1	0.0005
Selenium	ND		1	0.400
Silver	ND		1	0.080

INTEGRATED ANALYTICAL LABORATORIES, LLC.

TCLP METALS

Client/Project: RFW/WASTE ANALYSIS

Lab ID: 5418-020
Client ID: MPF-22
Date Received: 9/14/98
Date Analyzed: 9/18 - 9/21/98
Matrix-Units: Aqueous-mg/L (ppm)
% Moisture: 100

Compound	Result	Q	DF	MDL
Arsenic	ND		1	0.400
Barium	ND		1	2.00
Cadmium	ND		1	0.040
Chromium	5.41		1	0.120
Lead	ND		1	0.400
Mercury	ND		1	0.0005
Selenium	ND		1	0.400
Silver	ND		1	0.080

INTEGRATED ANALYTICAL LABORATORIES, LLC.

SULFIDE, REACTIVE

Client/Project: RFW/WASTE ANALYSIS

Date Received: 9/14/98

Lab ID	Client ID	Result	Q	DF	Matrix-Units	MDL	% Moist	Date Analyzed
5418-001	MPF-01	ND		NA	Liquid-mg/L	0.84	100	9/15/98
5418-002	MPF-02	ND		NA	Liquid-mg/L	1.68	100	9/16/98
5418-003	MPF-03	ND		NA	Soil-mg/Kg	22	13.6	9/16/98
5418-004	MPF-04	ND		NA	Liquid-mg/L	1.68	100	9/16/98
5418-005	MPF-05	7.2		NA	Liquid-mg/L	2.1	100	9/16/98
5418-006	MPF-06	ND		NA	Liquid-mg/L	1.68	100	9/16/98
5418-007	MPF-07	ND		NA	Liquid-mg/L	1.68	100	9/16/98
5418-008	MPF-08	8		NA	Liquid-mg/L	5.25	100	9/16/98
5418-009	MPF-09	3.2		NA	Liquid-mg/L	2.1	100	9/16/98
5418-010	MPF-10	ND		NA	Liquid-mg/L	1.68	100	9/16/98
5418-011	MPF-11	ND		NA	Liquid-mg/L	1.68	100	9/16/98
5418-012	MPF-12	ND		NA	Liquid-mg/L	8.4	100	9/16/98
5418-013	MPF-13	ND		NA	Liquid-mg/L	1.05	100	9/16/98
5418-014	MPF-14	ND		NA	Liquid-mg/L	1.68	100	9/16/98
5418-015	MPF-15	ND		NA	Liquid-mg/L	1.68	100	9/16/98
5418-016	MPF-16	ND		NA	Liquid-mg/L	2.1	100	9/16/98

INTEGRATED ANALYTICAL LABORATORIES, LLC.

CYANIDE, REACTIVE

Client/Project: RFW/WASTE ANALYSIS

Date Received: 9/14/98

Lab ID	Client ID	Result	Q	DF	Matrix-Units	MDL	% Moist	Date Analyzed
5418-001	MPF-01	ND		1	Liquid-mg/L	0.1	100	9/15/98
5418-002	MPF-02	0.1		1	Liquid-mg/L	0.1	100	9/16/98
5418-003	MPF-03	ND		1	Soil-mg/Kg	1.31	13.6	9/16/98
5418-004	MPF-04	0.5		1	Liquid-mg/L	0.1	100	9/16/98
5418-005	MPF-05	10000		500	Liquid-mg/L	1250	100	9/16/98
5418-006	MPF-06	0.4		1	Liquid-mg/L	0.1	100	9/16/98
5418-007	MPF-07	ND		1	Liquid-mg/L	0.1	100	9/16/98
5418-008	MPF-08	0.4		1	Liquid-mg/L	0.25	100	9/16/98
5418-009	MPF-09	ND		1	Liquid-mg/L	0.1	100	9/16/98
5418-010	MPF-10	20		5	Liquid-mg/L	6.25	100	9/17/98
5418-011	MPF-11	0.28		1	Liquid-mg/L	0.1	100	9/16/98
5418-012	MPF-12	0.8		1	Liquid-mg/L	0.5	100	9/16/98
5418-013	MPF-13	ND		1	Liquid-mg/L	0.25	100	9/17/98
5418-014	MPF-14	0.26		1	Liquid-mg/L	0.1	100	9/16/98
5418-015	MPF-15	ND		1	Liquid-mg/L	0.1	100	9/16/98
5418-016	MPF-16	4		1	Liquid-mg/L	1.25	100	9/17/98

INTEGRATED ANALYTICAL LABORATORIES, LLC.

IGNITABILITY @ 142°F

Client/Project: RFW/WASTE ANALYSIS

Date Received: 9/14/98

Lab ID	Client ID	Result	Q	DF	Matrix-Units	MDL	% Moist	Date Analyzed
5418-003	MPF-03	No		NA	Soil-Yes/No	NA	13.6	9/16/98

INTEGRATED ANALYTICAL LABORATORIES, LLC.

FLASHPOINT

Client/Project: RFW/WASTE ANALYSIS

Date Received: 9/14/98

Lab ID	Client ID	Result	Q	DF	Matrix-Units	MDL	% Moist	Date Analyzed
5418-001	MPF-01	>158		NA	Liquid-°F	±5	100	9/16/98
5418-002	MPF-02	127		NA	Liquid-°F	±5	100	9/16/98
5418-004	MPF-04	>158		NA	Liquid-°F	±5	100	9/16/98
5418-005	MPF-05	117		NA	Liquid-°F	±5	100	9/16/98
5418-006	MPF-06	126		NA	Liquid-°F	±5	100	9/16/98
5418-007	MPF-07	153		NA	Liquid-°F	±5	100	9/16/98
5418-008	MPF-08	>158		NA	Liquid-°F	±5	100	9/16/98
5418-009	MPF-09	>158		NA	Liquid-°F	±5	100	9/16/98
5418-010	MPF-10	118		NA	Liquid-°F	±5	100	9/16/98
5418-011	MPF-11	>158		NA	Liquid-°F	±5	100	9/16/98
5418-012	MPF-12	>158		NA	Liquid-°F	±5	100	9/16/98
5418-013	MPF-13	>158		NA	Liquid-°F	±5	100	9/16/98
5418-014	MPF-14	>158		NA	Liquid-°F	±5	100	9/16/98
5418-015	MPF-15	>158		NA	Liquid-°F	±5	100	9/16/98
5418-016	MPF-16	115		NA	Liquid-°F	±5	100	9/16/98

INTEGRATED ANALYTICAL LABORATORIES, LLC.

CORROSIVITY AS PH

Client/Project: RFW/WASTE ANALYSIS

Date Received: 9/14/98

Lab ID	Client ID	Result	Q	DF	Matrix-Units	MDL	% Moist	Date Analyzed
5418-001	MPF-01	0.83		NA	Liquid-S.U.	±0.02	100	9/16/98
5418-002	MPF-02	4.18		NA	Liquid-S.U.	±0.02	100	9/16/98
5418-003	MPF-03	6.87		NA	Soil-S.U.	±0.02	13.6	9/16/98
5418-004	MPF-04	-0.24		NA	Liquid-S.U.	±0.02	100	9/16/98
5418-005	MPF-05	11.42		NA	Liquid-S.U.	±0.02	100	9/16/98
5418-006	MPF-06	2.69		NA	Liquid-S.U.	±0.02	100	9/16/98
5418-007	MPF-07	5.54		NA	Liquid-S.U.	±0.02	100	9/16/98
5418-008	MPF-08	12.73		NA	Liquid-S.U.	±0.02	100	9/16/98
5418-009	MPF-09	-0.72		NA	Liquid-S.U.	±0.02	100	9/16/98
5418-010	MPF-10	2.58		NA	Liquid-S.U.	±0.02	100	9/16/98
5418-011	MPF-11	3.97		NA	Liquid-S.U.	±0.02	100	9/16/98
5418-012	MPF-12	13.37		NA	Liquid-S.U.	±0.02	100	9/16/98
5418-013	MPF-13	8.18		NA	Liquid-S.U.	±0.02	100	9/16/98
5418-014	MPF-14	6.3		NA	Liquid-S.U.	±0.02	100	9/16/98
5418-015	MPF-15	-0.93		NA	Liquid-S.U.	±0.02	100	9/16/98
5418-016	MPF-16	8.52		NA	Liquid-S.U.	±0.02	100	9/16/98

INTEGRATED ANALYTICAL LABORATORIES, LLC.

METHODOLOGY SUMMARY

TCLP Volatiles - EPA 624 (Aqueous)

Helium is purged through a 5 ml aqueous sample, contained in a purge tube at ambient temperature. The helium gas carries the volatile organic compounds onto a gas column trap where they are collected. After the purging is complete, the sorbent trap is heated and back flushed with helium to desorb the volatile organic compounds onto a gas chromatographic column. The GC/MS instrument is temperature programmed to separate the compounds along the GC column, which are then detected with a mass spectrophotometer.

TCLP Semivolatiles (BNA's) - EPA Method 625 (Aqueous)

A one (1) liter portion of aqueous sample is serially extracted with methylene chloride at a pH greater than eleven (11) and again at a pH less than two (2). The methylene chloride extracts is dried and concentrated. Prior to analysis, the extracts are combined and spiked with the internal standard. A measured amount of the sample extract is injected onto a gas chromatograph column and the analytes are detected with a mass spectrometer.

TCLP Pesticides - EPA Method 608 (Aqueous)

A measured volume of aqueous sample is extracted with methylene chloride. The extract is dried with sodium sulfate and then concentrated using a Kuderna-Danish apparatus. Polar compounds extracted with the PCB's are removed with a florisil column. The final extract is injected onto a gas chromatographic column and the analytes are detected with an electron capture detector.

TCLP Herbicides - EPA 8150 (Aqueous)

A one (1) liter volume of sample is extracted with diethyl ether. The extracted esters are hydrolyzed with potassium hydroxide. After acidification, the acids are extracted with diethyl ether and converted to their methyl esters using diazomethane as the derivatizing agent. After excess reagent is removed, the esters are determined by gas chromatography employing an electron capture detector.

Metals - EPA 200 Series (Aqueous)

A 5 ml. portion of aqueous sample is digested with nitric acid on a hot plate and evaporated to near dryness. The digestate is then refluxed with nitric acid. Dilute nitric acid is used as the final reflux acid. For graphite furnace analysis, an aliquot of the digestate is spiked with nickel nitrate matrix modifier and injected into the graphite tube. The aliquot is slowly evaporated to dryness, charred and atomized. The absorption of the electrodeless discharge lamp (EDL) radiation during atomization is proportional to the element concentration. For flame analysis, the digested sample is aspirated and atomized in a flame. The absorption of the hollow cathode lamp (HCL) radiation during atomization is directly proportional to the element concentration. For mercury analysis, a 50ml portion of sample is digested with potassium permanganate and persulfate at acidic condition in a 95°C hot water bath. The mercury is reduced by stannous chloride to the elemental state and detected by the cold vapor technique in a closes system.
The analytical procedures are derived from "EPA Methods for Chemical Analysis of Water and Waste," 200 series.

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METHODOLOGY SUMMARY

TCLP Extraction - EPA Method 1311

This method is applicable for obtaining TCLP extract for Pesticides, Herbicides, Base/Neutral Acid Extractables, and Metals. A 0.45 micron filter is used to separate the sample into solid and liquid phases. The solid phase is agitate for 24 hours, at a pH of 5, with 16 times its weight of type II water. The sample is then filtered through a 0.6 - 0.8 micron glass fiber filter, brought brought to a volume equal to 20 times the sample weight, and combined with the liquid phase originally obtained from the sample. The sample is then extracted, digested and/or analyzed as may be required.

Corrosivity as pH - EPA 150.0 (Soil)

Corrosivity is determined by placing a combination pH electrode in an agitating 10% soil or solid sample suspended in deionized water. The reading is taken directly from the standardized pH meter. A sample is considered corrosive if the pH is found to be less than or equal to 2 or greater than or equal to 12.5.

Corrosivity as pH - EPA 150.0 (Aqueous)

Corrosivity is determined by placing a combination pH electrode in an agitating 80 mls sample. The reading is taken directly from the standardized pH meter. A sample is considered corrosive if the pH is found to be less than or equal to 2, or greater than or equal to 12.5.

Cyanide, Reactive - EPA 9010 (Soil)

Hydrogen Cyanide is released from 5 g of acidified sample by distillation into an alkaline absorber-scrubber solution. The cyanide concentration in the absorbing solution is determined colorimetrically by conversion of the cyanide ions to cyanogen chloride by reaction with chloramine-T at a pH < 8. After the reaction is complete, cyanogen chloride forms a red-blue dye with the addition of a pyradine-barbituric acid reagent. Absorbance is read at 578 nm.

Cyanide, Reactive - EPA Method 7.3.3.2 (Aqueous)

Hydrogen Cyanide is released from 500 mls of acidified sample by distillation into an alkaline absorber/scrubber solution. Cyanide concentration in the absorbing solution is determined colorimetrically by conversion of the Cyanide ions to Cyanogen Chloride by reaction with Chloramine-T at a pH less than 8. After the reaction is complete, Cyanogen Chloride forms a red/blue dye upon the addition of a pyradine barbituric acid reagent. Absorbance is read at 578 nm.

Ignitability - EPA 1010 (Soil)

Approximately 5 gms of the non-aqueous sample is placed in a dish. A flame source is touched to the sample. If it ignites and burns so vigorously and persistently that it creates a hazard, the sample is considered ignitable.

INTEGRATED ANALYTICAL LABORATORIES, LLC.

METHODOLOGY SUMMARY

Flashpoint - EPA 1010 (Aqueous)

Approximately 80 mls of sample is heated at a slow constant rate. At 5°F intervals a flame is directed into the cup. The flash point is determined to be the lowest temperature at which the vapor above the sample is ignited.

Sulfide, Reactive - EPA 7.3.4.2 (Aqueous)

500 mls of the waste sample is acidified to a pH of 2 in a closed system. The Hydrogen Sulfide that is generated is swept into a scrubber containing Sodium Hydroxide. The scrubber solution is added to an excess of iodine which oxidizes the sulfide to sulfur under acidic conditions. The excess iodine is then back-titrated with sodium thiosulfate.

Sulfide, Reactive - EPA 7.3.4.2 (Soil)

Five (5) gms of the sample is acidified to a pH of 2 in a closed system. The hydrogen sulfide that is generated is swept into a scrubber containing sodium hydroxide. The scrubber solution is added to an excess of iodine which oxidizes the sulfide to sulfur under acidic conditions, the excess iodine is then backtitrated with sodium thiosulfate.

Zero Headspace Extraction - EPA 1311

This method is applicable for obtaining TCLP extract for Volatile Organic analysis. Extraction fluid containing 2.85 ml of acetic acid, 500 ml of purged distilled water, and 32.2 ml of 1N sodium hydroxide is combined with 25 g of the solid sample. This mixture is quickly transferred to a properly prepared zero headspace extracter and rotated at 30 $\pm$ 2 rpm for 18 $\pm$ 2 hours. After the completion of the aggitation, the sample is collected under pressure, in a vial, without headspace, and stored at 4°C until it is analyzed.

Toxicity Characteristic Leaching Procedure (TCLP) - EPA Method 1311

This method is applicable for obtaining a TCLP leachate for Pesticides, Herbicides, Base/Neutral Acid Extractables and Metals. Liquid samples are filtered through a 0.6 to 0.8 micron glass fiber filter and defined as the TCLP leachate. For samples containing greater than 0.5% solids, the sample is filtered into solid and liquid phases. The solid phase is agitated with an extraction fluid equal to 20 times the weight of the solid phase. The sample is agitated for 18 $\pm$ 2 hours. The leachate is then filtered through a 0.6 - 0.8 micron glass fiber filter and combined with the liquid phase originally obtained from the sample. The leachate is then extracted, digested and/or analyzed according to the analysis method.

VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK

Lab File ID: E1042.D

BFB Injection Date: 09/14/98

Inst ID: MSDE

BFB Injection Time: 17:50

m/z	Ion Abudance Criteria	%Relative Abundance			
50	8.0 - 40.0% of mass 95	29.5			
75	30.0 - 60.0% of mass 95	55.0			
95	Base peak, 100% relative abundance	100.0			
96	5.0 - 9.0% of mass 95	7.7			
173	Less than 2.0% of mass 174	1.4	(	1.7	)1
174	50.0 - 120.0% of mass 95	80.0			
175	4.0 - 9.0% of mass 174	5.1	(	6.4	)1
176	93.0 - 101.0% of mass 174	77.8	(	97.2	)1
177	5.0 - 9.0% of mass 176	4.6	(	5.9	)2

1-Value is % mass 174 2-Value is % mass 176

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

Client ID	Lab Sample ID	File ID	Date Analyzed	Time Analyzed
20-PPB	STD	E1043.D	09/14/98	18:14
5-PPB	STD	E1044.D	09/14/98	18:57
100-PPB	STD	E1045.D	09/14/98	19:21
NA	METHOD-BLK	E1046.D	09/14/98	19:46
MW-6	5133-004	E1047.D	09/14/98	20:11
0898-FB10	5033-002	E1051.D	09/14/98	21:50
HPW-03	5078-003	E1052.D	09/14/98	22:15
NA	5158-018MS	E1053.D	09/14/98	22:40
HPW-04D	5078-005	E1054.D	09/14/98	23:04
NA	5158-018MSD	E1055.D	09/14/98	23:29
NA	MS	E1057.D	09/15/98	0:19
HP-FB	5078-007	E1058.D	09/15/98	0:43
HP-TB	5078-008	E1059.D	09/15/98	1:08
113_AS_IN	5128-003	E1060.D	09/15/98	1:33
FIELD_BLANK	5131-003	E1061.D	09/15/98	1:57
TRIP_BLANK	5131-004	E1062.D	09/15/98	2:22
SW-MW2-B01	5158-016	E1063.D	09/15/98	2:47
SW-MW3-B01	5158-018	E1064.D	09/15/98	3:12
SW-TB-B01	5158-019	E1065.D	09/15/98	3:37

VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK

Lab File ID: E1224.D BFB Injection Date: 09/18/98

Inst ID: MSDE BFB Injection Time: 11:39

m/z	Ion Abudance Criteria	%Relative Abundance			
50	8.0 - 40.0% of mass 95	29.6			
75	30.0 - 60.0% of mass 95	54.7			
95	Base peak, 100% relative abundance	100.0			
96	5.0 - 9.0% of mass 95	7.0			
173	Less than 2.0% of mass 174	0.2	(	0.3	)1
174	50.0 - 120.0% of mass 95	69.8			
175	4.0 - 9.0% of mass 174	5.5	(	7.9	)1
176	93.0 - 101.0% of mass 174	68.1	(	97.5	)1
177	5.0 - 9.0% of mass 176	4.2	(	6.1	)2

1-Value is % mass 174 2-Value is % mass 176

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

Client ID	Lab Sample ID	File ID	Date Analyzed	Time Analyzed
20-PPB	STD	E1225.D	09/18/98	12:04
NA	METHOD-BLK	E1226.D	09/18/98	12:28
NA	5341-001MS	E1227.D	09/18/98	12:53
NA	5341-001MSD	E1228.D	09/18/98	13:18
AOC_14C	5303-011	E1229.D	09/18/98	13:51
MW-1	5295-001	E1230.D	09/18/98	14:16
MW-2	5295-002	E1231.D	09/18/98	14:41
MW-3	5295-003	E1232.D	09/18/98	15:05
MW-6	5295-004	E1233.D	09/18/98	15:30
MW-7	5295-005	E1234.D	09/18/98	15:55
MW-20	5305-001	E1235.D	09/18/98	16:23
MW-20D	5305-002	E1236.D	09/18/98	16:48
MW-20DD	5305-003	E1237.D	09/18/98	17:12
MW-25	5305-004	E1238.D	09/18/98	17:37
FIELD-BLANK	5305-005	E1239.D	09/18/98	18:02
TRIP-BLANK	5305-006	E1240.D	09/18/98	18:27
WC-1	5339-001	E1241.D	09/18/98	18:52
MW#2	5341-001	E1242.D	09/18/98	19:17
KO1	5425-001	E1243.D	09/18/98	19:42
SUMP	5425-003	E1244.D	09/18/98	20:06

VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK

Lab File ID: E1224.D BFB Injection Date : 09/18/98

Inst ID: MSDE BFB Injection Time: 11:39

m/z	Ion Abudance Criteria	%Relative Abundance	
50	8.0 - 40.0% of mass 95	29.6	
75	30.0 - 60.0% of mass 95	54.7	
95	Base peak, 100% relative abundance	100.0	
96	5.0 - 9.0% of mass 95	7.0	
173	Less than 2.0% of mass 174	0.2	(0.3)1
174	50.0 - 120.0% of mass 95	69.8	
175	4.0 - 9.0% of mass 174	5.5	(7.9)1
176	93.0 - 101.0% of mass 174	68.1	(97.5)1
177	5.0 - 9.0% of mass 176	4.2	(6.1)2

1-Value is % mass 174 2-Value is % mass 176

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

Client ID	Lab Sample ID	File ID	Date Analyzed	Time Analyzed
HP-V1	5356-001	E1245.D	09/18/98	20:31
HP-V4	5356-004	E1246.D	09/18/98	20:56
HP-V5	5356-005	E1247.D	09/18/98	21:21
HP-V6	5356-006	E1248.D	09/18/98	21:46
MW#5	5356-007	E1249.D	09/18/98	22:11
MW#6	5356-008	E1250.D	09/18/98	22:36
FIELD-BLANK	5356-009	E1251.D	09/18/98	23:01
TRIP-BLANK	5356-010	E1252.D	09/18/98	23:25
MW#2	5356-011	E1253.D	09/18/98	23:50
MW#3	5356-012	E1254.D	09/19/98	0:15
MW#4	5356-013	E1255.D	09/19/98	0:40
TW#1	5356-014	E1256.D	09/19/98	1:05
TW#2	5356-015	E1257.D	09/19/98	1:29
TW#3	5356-016	E1258.D	09/19/98	1:54
TW#4	5356-017	E1259.D	09/19/98	2:19
TW#5	5356-018	E1260.D	09/19/98	2:44
NA	5425-003MS	E1261.D	09/19/98	3:09
NA	5425-003MSD	E1262.D	09/19/98	3:33
GW-1	5410-001	E1263.D	09/19/98	3:58
EFFLUENT	5404-001	E1264.D	09/19/98	4:23
MID_GAC	5404-002	E1265.D	09/19/98	4:48

VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK

Lab File ID: E1224.D BFB Injection Date : 09/18/98

Inst ID: MSDE BFB Injection Time: 11:39

m/z	Ion Abudance Criteria	%Relative Abundance			
50	8.0 - 40.0% of mass 95	29.6			
75	30.0 - 60.0% of mass 95	54.7			
95	Base peak, 100% relative abundance	100.0			
96	5.0 - 9.0% of mass 95	7.0			
173	Less than 2.0% of mass 174	0.2	(	0.3	)1
174	50.0 - 120.0% of mass 95	69.8			
175	4.0 - 9.0% of mass 174	5.5	(	7.9	)1
176	93.0 - 101.0% of mass 174	68.1	(	97.5	)1
177	5.0 - 9.0% of mass 176	4.2	(	6.1	)2

1-Value is % mass 174 2-Value is % mass 176

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

Client ID	Lab Sample ID	File ID	Date Analyzed	Time Analyzed
POST_AST	5404-003	E1266.D	09/19/98	5:13
INFLUENT	5404-004	E1267.D	09/19/98	5:38
TCLP_MB	09-15-98	E1268.D	09/19/98	6:02
3601-3	5426-003	E1269.D	09/19/98	6:27
MPF-03	5418-003	E1270.D	09/19/98	6:52
MPF-19	5418-017	E1271.D	09/19/98	7:17
MPF-22	5418-020	E1274.D	09/19/98	8:31
NA	TCLPMS	E1275.D	09/19/98	8:56
TCLPMB	09-14-98	E1276.D	09/19/98	9:21
DRUMLOT_98-D	15380-001	E1277.D	09/19/98	9:46
ETGI_107	5381-001	E1278.D	09/19/98	10:11
ETGI_18	5381-002	E1279.D	09/19/98	10:36
ETGI_98	5381-003	E1280.D	09/19/98	11:01
ETGI_100	5381-004	E1281.D	09/19/98	11:26

VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK

Lab File ID: E1337.D BFB Injection Date: 09/22/98

Inst ID: MSDE BFB Injection Time: 11:50

m/z	Ion Abudance Criteria	%Relative Abundance			
50	8.0 - 40.0% of mass 95	31.5			
75	30.0 - 60.0% of mass 95	59.8			
95	Base peak, 100% relative abundance	100.0			
96	5.0 - 9.0% of mass 95	6.6			
173	Less than 2.0% of mass 174	0.0	(	0.0	)1
174	50.0 - 120.0% of mass 95	68.0			
175	4.0 - 9.0% of mass 174	5.2	(	7.7	)1
176	93.0 - 101.0% of mass 174	67.1	(	98.7	)1
177	5.0 - 9.0% of mass 176	4.2	(	6.3	)2

1-Value is % mass 174 2-Value is % mass 176

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

Client ID	Lab Sample ID	File ID	Date Analyzed	Time Analyzed
20-PPB	STD	E1338.D	09/22/98	12:16
NA	METHOD-BLK	E1339.D	09/22/98	12:41
NA	5573-003MS	E1340.D	09/22/98	13:05
NA	5573-003MSD	E1341.D	09/22/98	13:30
TW#1	5356-014	E1342.D	09/22/98	13:57
TW#2	5356-015	E1343.D	09/22/98	14:22
TW#3	5356-016	E1344.D	09/22/98	14:46
TW#4	5356-017	E1345.D	09/22/98	15:11
TW#5	5356-018	E1346.D	09/22/98	15:36
MPF-20	5418-018	E1347.D	09/22/98	16:07
MPF-21	5418-019	E1348.D	09/22/98	16:32
GW-1	5410-001	E1349.D	09/22/98	17:02
MW-25	5449-005	E1350.D	09/22/98	17:29
MW-28	5449-009	E1351.D	09/22/98	17:54
FB-2	5449-010	E1352.D	09/22/98	18:19
NA	5573-002MS	E1353.D	09/22/98	18:43
NA	5573-002MSD	E1354.D	09/22/98	19:08
MW-20	5444-001	E1355.D	09/22/98	19:33
MW-20D	5444-002	E1356.D	09/22/98	19:58
MW-25	5444-003	E1357.D	09/22/98	20:22

VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK

Lab File ID: E1337.D BFB Injection Date : 09/22/98

Inst ID: MSDE BFB Injection Time: 11:50

m/z	Ion Abudance Criteria	%Relative Abundance			
50	8.0 - 40.0% of mass 95	31.5			
75	30.0 - 60.0% of mass 95	59.8			
95	Base peak, 100% relative abundance	100.0			
96	5.0 - 9.0% of mass 95	6.6			
173	Less than 2.0% of mass 174	0.0	(	0.0	)1
174	50.0 - 120.0% of mass 95	68.0			
175	4.0 - 9.0% of mass 174	5.2	(	7.7	)1
176	93.0 - 101.0% of mass 174	67.1	(	98.7	)1
177	5.0 - 9.0% of mass 176	4.2	(	6.3	)2

1-Value is % mass 174 2-Value is % mass 176

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

Client ID	Lab Sample ID	File ID	Date Analyzed	Time Analyzed
FIELD-BLANK	5444-004	E1358.D	09/22/98	20:47
MW_#4	5356-013	E1359.D	09/22/98	21:12
MW-13	5493-002	E1360.D	09/22/98	21:37
MW-15	5493-004	E1361.D	09/22/98	22:02
SB-5WS	5466-016	E1362.D	09/22/98	22:27
SB-9WS	5466-017	E1363.D	09/22/98	22:52
A1	5523-002	E1364.D	09/22/98	23:16
413-W-MW-2	5573-002	E1365.D	09/22/98	23:41
FIELD_BLANK	5573-003	E1366.D	09/23/98	0:06
413-W-MW-1	5573-008	E1367.D	09/23/98	0:31
FIELD_BLANK	5573-009	E1368.D	09/23/98	0:55
413-NW-MW-2	5573-001	E1369.D	09/23/98	1:20
404-1-MW-1	5573-004	E1370.D	09/23/98	1:45
TRIP_BLANK	5573-005	E1371.D	09/23/98	2:10
404-1-MW-3	5573-006	E1372.D	09/23/98	2:35
404-1-MW-2	5573-007	E1373.D	09/23/98	3:00
413-NW-MW-1	5573-010	E1374.D	09/23/98	3:24
TRIP_BLANK	5573-011	E1375.D	09/23/98	3:49
B-1AQ	5577-001	E1376.D	09/23/98	4:14
B-2AQ	5577-002	E1377.D	09/23/98	4:39
B-3AQ	5577-003	E1378.D	09/23/98	5:04

VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK

Lab File ID: E1337.D BFB Injection Date : 09/22/98

Inst ID: MSDE BFB Injection Time: 11:50

m/z	Ion Abudance Criteria	%Relative Abundance			
50	8.0 - 40.0% of mass 95	31.5			
75	30.0 - 60.0% of mass 95	59.8			
95	Base peak, 100% relative abundance	100.0			
96	5.0 - 9.0% of mass 95	6.6			
173	Less than 2.0% of mass 174	0.0	(	0.0	)1
174	50.0 - 120.0% of mass 95	68.0			
175	4.0 - 9.0% of mass 174	5.2	(	7.7	)1
176	93.0 - 101.0% of mass 174	67.1	(	98.7	)1
177	5.0 - 9.0% of mass 176	4.2	(	6.3	)2

1-Value is % mass 174 2-Value is % mass 176

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

Client ID	Lab Sample ID	File ID	Date Analyzed	Time Analyzed
MW-1	5583-001	E1379.D	09/23/98	5:29
FB-1	5583-002	E1380.D	09/23/98	5:54
TB-1	5583-003	E1381.D	09/23/98	6:18
09-21-98	TCLPMB	E1382.D	09/23/98	6:43
ETGI_116	5566-001	E1383.D	09/23/98	7:08
ETGI_106	5566-002	E1384.D	09/23/98	7:33
ETGI_86	5566-003	E1385.D	09/23/98	7:57

VOLATILE METHOD BLANK SUMMARY

Lab File ID: E1226.D Instrument ID: MSDE

Date Analyzed: 09/18/98 Time Analyzed: 12:28

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

Client ID	Lab Sample ID	Date Analyzed	Time Analyzed
NA	5341-001MS	09/18/98	12:53
NA	5341-001MSD	09/18/98	13:18
AOC_14C	5303-011	09/18/98	13:51
MW-1	5295-001	09/18/98	14:16
MW-2	5295-002	09/18/98	14:41
MW-3	5295-003	09/18/98	15:05
MW-6	5295-004	09/18/98	15:30
MW-7	5295-005	09/18/98	15:55
MW-20	5305-001	09/18/98	16:23
MW-20D	5305-002	09/18/98	16:48
MW-20DD	5305-003	09/18/98	17:12
MW-25	5305-004	09/18/98	17:37
FIELD-BLANK	5305-005	09/18/98	18:02
TRIP-BLANK	5305-006	09/18/98	18:27
WC-1	5339-001	09/18/98	18:52
MW#2	5341-001	09/18/98	19:17
KO1	5425-001	09/18/98	19:42
SUMP	5425-003	09/18/98	20:06
HP-V1	5356-001	09/18/98	20:31
HP-V4	5356-004	09/18/98	20:56
HP-V5	5356-005	09/18/98	21:21
HP-V6	5356-006	09/18/98	21:46
MW#5	5356-007	09/18/98	22:11
MW#6	5356-008	09/18/98	22:36
FIELD-BLANK	5356-009	09/18/98	23:01
TRIP-BLANK	5356-010	09/18/98	23:25
MW#2	5356-011	09/18/98	23:50
MW#3	5356-012	09/19/98	0:15
MW#4	5356-013	09/19/98	0:40
TW#1	5356-014	09/19/98	1:05
TW#2	5356-015	09/19/98	1:29
TW#3	5356-016	09/19/98	1:54

VOLATILE METHOD BLANK SUMMARY

Lab File ID: E1226.D

Instrument ID: MSDE

Date Analyzed: 09/18/98

Time Analyzed: 12:28

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

Client ID	Lab Sample ID	Date Analyzed	Time Analyzed
TW#4	5356-017	09/19/98	2:19
TW#5	5356-018	09/19/98	2:44
NA	5425-003MS	09/19/98	3:09
NA	5425-003MSD	09/19/98	3:33
GW-1	5410-001	09/19/98	3:58
EFFLUENT	5404-001	09/19/98	4:23
MID_GAC	5404-002	09/19/98	4:48
POST_AST	5404-003	09/19/98	5:13
INFLUENT	5404-004	09/19/98	5:38
TCLP_MB	09-15-98	09/19/98	6:02
3601-3	5426-003	09/19/98	6:27
MPF-03	5418-003	09/19/98	6:52
MPF-19	5418-017	09/19/98	7:17
MPF-22	5418-020	09/19/98	8:31
NA	TCLPMS	09/19/98	8:56
TCLPMB	09-14-98	09/19/98	9:21
DRUMLOT_98-D1	5380-001	09/19/98	9:46
ETGI_107	5381-001	09/19/98	10:11
ETGI_18	5381-002	09/19/98	10:36
ETGI_98	5381-003	09/19/98	11:01
ETGI_100	5381-004	09/19/98	11:26

INTEGRATED ANALYTICAL LABORATORIES

VOLATILE ORGANICS

TCLP

Client/Project: NA

Lab ID: METHOD-BLK
Client ID: NA
Date Received: NA
Date Analyzed: 09/18/98
Data file: E1226.D

GC/MS Column: DB-624
Sample wt/vol: 5mL
Matrix-Units: Aqueous-mg/L (ppm)
Dilution Factor: 1
% Moisture: 100

Compound	Concentration	Q	MDL
Vinyl Chloride	ND		0.001
1,1-Dichloroethene	ND		0.001
2-Butanone(MEK)	ND		0.005
Chloroform	ND		0.001
Carbon Tetrachloride	ND		0.001
1,2-Dichloroethane(EDC)	ND		0.001
Benzene	ND		0.0005
Trichloroethene	ND		0.001
Tetrachloroethene	ND		0.001
Chlorobenzene	ND		0.001
1,4-Dichlorobenzene	ND		0.001
Naphthalene	ND		0.001

Total Target Compounds: 0

INTEGRATED ANALYTICAL LABORATORIES

VOLATILE ORGANICS

TCLP

Client/Project: NA

Lab ID: 09-15-98
Client ID: TCLP_MB
Date Received: NA
Date Analyzed: 09/19/98
Data file: E1268.D

GC/MS Column: DB-624
Sample wt/vol: 0.1mL
Matrix-Units: Aqueous-mg/L (ppm)
Dilution Factor: 50
% Moisture: 100

Compound	Concentration	Q	MDL
Vinyl Chloride	ND		0.05
1,1-Dichloroethene	ND		0.05
2-Butanone(MEK)	ND		0.25
Chloroform	ND		0.05
Carbon Tetrachloride	ND		0.05
1,2-Dichloroethane(EDC)	ND		0.05
Benzene	ND		0.025
Trichloroethene	ND		0.05
Tetrachloroethene	ND		0.05
Chlorobenzene	ND		0.05
1,4-Dichlorobenzene	ND		0.05
Naphthalene	ND		0.05

Total Target Compounds: 0

VOLATILE METHOD BLANK SUMMARY

Lab File ID: E1339.D Instrument ID: MSDE

Date Analyzed: 09/22/98 Time Analyzed: 12:41

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

Client ID	Lab Sample ID	Date Analyzed	Time Analyzed
NA	5573-003MS	09/22/98	13:05
NA	5573-003MSD	09/22/98	13:30
TW#1	5356-014	09/22/98	13:57
TW#2	5356-015	09/22/98	14:22
TW#3	5356-016	09/22/98	14:46
TW#4	5356-017	09/22/98	15:11
TW#5	5356-018	09/22/98	15:36
MPF-20	5418-018	09/22/98	16:07
MPF-21	5418-019	09/22/98	16:32
GW-1	5410-001	09/22/98	17:02
MW-25	5449-005	09/22/98	17:29
MW-28	5449-009	09/22/98	17:54
FB-2	5449-010	09/22/98	18:19
NA	5573-002MS	09/22/98	18:43
NA	5573-002MSD	09/22/98	19:08
MW-20	5444-001	09/22/98	19:33
MW-20D	5444-002	09/22/98	19:58
MW-25	5444-003	09/22/98	20:22
FIELD-BLANK	5444-004	09/22/98	20:47
MW_#4	5356-013	09/22/98	21:12
MW-13	5493-002	09/22/98	21:37
MW-15	5493-004	09/22/98	22:02
SB-5WS	5466-016	09/22/98	22:27
SB-9WS	5466-017	09/22/98	22:52
A1	5523-002	09/22/98	23:16
413-W-MW-2	5573-002	09/22/98	23:41
FIELD_BLANK	5573-003	09/23/98	0:06
413-W-MW-1	5573-008	09/23/98	0:31
FIELD_BLANK	5573-009	09/23/98	0:55
413-NW-MW-2	5573-001	09/23/98	1:20
404-1-MW-1	5573-004	09/23/98	1:45
TRIP_BLANK	5573-005	09/23/98	2:10

VOLATILE METHOD BLANK SUMMARY

Lab File ID: E1339.D Instrument ID: MSDE

Date Analyzed: 09/22/98 Time Analyzed: 12:41

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

Client ID	Lab Sample ID	Date Analyzed	Time Analyzed
404-1-MW-3	5573-006	09/23/98	2:35
404-1-MW-2	5573-007	09/23/98	3:00
413-NW-MW-1	5573-010	09/23/98	3:24
TRIP_BLANK	5573-011	09/23/98	3:49
B-1AQ	5577-001	09/23/98	4:14
B-2AQ	5577-002	09/23/98	4:39
B-3AQ	5577-003	09/23/98	5:04
MW-1	5583-001	09/23/98	5:29
FB-1	5583-002	09/23/98	5:54
TB-1	5583-003	09/23/98	6:18
09-21-98	TCLPMB	09/23/98	6:43
ETGI_116	5566-001	09/23/98	7:08
ETGI_106	5566-002	09/23/98	7:33
ETGI_86	5566-003	09/23/98	7:57

INTEGRATED ANALYTICAL LABORATORIES

VOLATILE ORGANICS

TCLP

Client/Project: NA

Lab ID: METHOD-BLK
Client ID: NA
Date Received: NA
Date Analyzed: 09/22/98
Data file: E1339.D

GC/MS Column: DB-624
Sample wt/vol: 5mL
Matrix-Units: Aqueous-mg/L (ppm)
Dilution Factor: 1
% Moisture: 100

Compound	Concentration	Q	MDL
Vinyl Chloride	ND		0.001
1,1-Dichloroethene	ND		0.001
2-Butanone(MEK)	ND		0.005
Chloroform	ND		0.001
Carbon Tetrachloride	ND		0.001
1,2-Dichloroethane(EDC)	ND		0.001
Benzene	ND		0.0005
Trichloroethene	ND		0.001
Tetrachloroethene	ND		0.001
Chlorobenzene	ND		0.001
1,4-Dichlorobenzene	ND		0.001

Total Target Compounds: 0

Response Factor Report MSD_E

Method : C:\HPCHEM\1\METHODS\EA091398.M (RTE Integrator)
Title : VOLATILE ORGANICS BY EPA METHOD 624
Last Update : Tue Sep 15 10:03:15 1998
Response via : Initial Calibration

Calibration Files
20 =E1043.D 5 =E1044.D 100 =E1045.D
= =

		Compound	20	5	100	Avg	%RSD
1)	I	Pentafluorobenzene	----------ISTD----------				
2)	T	Dichlorodifluorometha	0.898	0.580	0.818	0.765	21.60
3)	P	Chloromethane	1.109	1.125	1.116	1.117	0.71
4)	C	Vinyl Chloride	0.805	0.739	0.771	0.772	4.31
5)	T	Bromomethane	0.412	0.418	0.307	0.379	16.48
6)	T	Chloroethane	0.404	0.404	0.349	0.386	8.34
7)	T	Trichlorofluoromethan	0.468	0.350	0.419	0.412	14.43
9)	MC	1,1-Dichloroethene	0.564	0.505	0.496	0.522	7.10
0)	T	Acetone	0.296	0.433	0.248	0.326	29.46
11)	T	Carbon Disulfide	1.923	1.711	1.757	1.797	6.20
12)	T	Vinyl Acetate	0.432	0.477	0.438	0.449	5.36
3)	T	Methylene Chloride	0.612	0.637	0.569	0.606	5.63
5)	T	t-Butyl Alcohol(TBA)	0.011	0.011	0.013	0.012	11.82
16)	T	trans-1,2-Dichloroeth	0.783	0.723	0.699	0.735	5.92
7)	T	Methyl-t-Butyl Ether(	0.297	0.350	0.292	0.313	10.35
8)	P	1,1-Dichloroethane	1.422	1.347	1.379	1.383	2.71
19)	T	Diisopropyl Ether(DIP	3.195	2.778	3.277	3.083	8.68
20)	T	cis-1,2-Dichloroethen	0.788	0.690	0.734	0.737	6.63
1)	T	2,2-Dichloropropane	1.150	1.071	1.169	1.130	4.59
22)	T	2-Butanone(MEK)	0.350	0.334	0.356	0.347	3.27
23)	T	Bromochloromethane	0.373	0.373	0.365	0.370	1.18
5)	C	Chloroform	1.372	1.299	1.312	1.328	2.96
6)	T	1,1,1-Trichloroethane	1.335	1.148	1.248	1.244	7.53
27)	T	Carbon Tetrachloride	1.181	0.970	1.068	1.073	9.82
8)	T	1,1-Dichloropropene	1.044	0.823	0.914	0.927	11.96
9)	T	1,2-Dichloroethane(ED	1.301	1.300	1.264	1.288	1.66
30)	S	1,2-Dichloroethane-d4	0.940	0.891	0.885	0.906	3.35
)	I	1,4-Difluorobenzene	----------ISTD----------				
2)	M	Benzene	1.492	1.463	1.217	1.391	10.87
3)	M	Trichloroethene	0.400	0.353	0.371	0.375	6.33
)	C	1,2-Dichloropropane	0.378	0.362	0.354	0.365	3.39
)	T	Dibromomethane	0.221	0.219	0.217	0.219	1.01
7)	T	Bromodichloromethane	0.517	0.510	0.517	0.514	0.83
)	T	2-Chloroethylvinyl Et	0.196	0.152	0.222	0.190	18.72
)	T	cis-1,3-Dichloroprope	0.562	0.512	0.553	0.542	4.91
0)	T	4-Methyl-2-pentanone(	0.371	0.327	0.419	0.372	12.33
1)	S	Toluene-d8	1.180	1.148	1.167	1.165	1.36
)	MC	Toluene	0.996	0.922	0.836	0.918	8.72
5)	T	trans-1,3-Dichloropro	0.527	0.477	0.543	0.515	6.69
4)	T	1,1,2-Trichloroethane	0.248	0.253	0.232	0.245	4.51
	T	Tetrachloroethene	0.415	0.361	0.322	0.366	12.72
	T	1,3-Dichloropropane	0.522	0.512	0.448	0.494	8.12
7)	T	2-Hexanone	0.260	0.216	0.302	0.259	16.67
	T	Dibromochloromethane	0.345	0.332	0.364	0.347	4.68
	T	1,2-Dibromoethane(EDB	0.298	0.286	0.305	0.296	3.20
)	I	Chlorobenzene-d5	----------ISTD----------				
	MP	Chlorobenzene	1.419	1.404	1.201	1.341	9.10

53)	C	Ethylbenzene	0.511	0.493	0.480	0.495	3.16
54)	T	m,p-Xylene	2.459	2.173	2.017	2.217	10.10
55)	T	o-Xylene	0.947	0.889	0.722	0.853	13.70
56)	T	Styrene	0.901	0.819	0.734	0.818	10.21
57)	P	Bromoform	1.487	1.382	1.194	1.355	10.97
58)	T	Isopropylbenzene	0.238	0.217	0.271	0.242	11.08
59)	S	Bromofluorobenzene	2.352	1.878	1.992	2.074	11.92
60)	P	1,1,2,2-Tetrachloroet	0.616	0.604	0.627	0.616	1.89
61)	T	Bromobenzene	0.446	0.484	0.434	0.455	5.77
62)	T	1,2,3-Trichloropropan	0.561	0.549	0.495	0.535	6.59
63)	T	n-Propylbenzene	0.021	0.017	0.020	0.019	12.11
64)	T	2-Chlorotoluene	2.974	2.546	2.397	2.639	11.35
65)	T	1,3,5-Trimethylbenzen	2.180	2.072	1.847	2.033	8.37
66)	T	4-Chlorotoluene	2.207	1.926	1.811	1.982	10.26
67)	T	tert-Butylbenzene	2.180	2.072	1.847	2.033	8.37
68)	T	1,2,4-Trimethylbenzen	1.923	1.553	1.627	1.701	11.53
69)	T	sec-Butylbenzene	2.212	2.026	1.877	2.038	8.24
70)	T	1,3-Dichlorobenzene	2.821	2.372	2.265	2.486	11.88
71)	T	4-Isopropyltoluene	1.156	1.136	1.005	1.099	7.44
72)	T	1,4-Dichlorobenzene	2.389	2.041	1.931	2.120	11.26
73)	T	n-Butylbenzene	1.156	1.136	1.005	1.099	7.44
74)	T	1,2-Dichlorobenzene	2.152	1.816	1.777	1.915	10.76
75)	T	1,2-Dibromo-3-chlorop	1.074	1.113	0.902	1.029	10.92
76)	T	1,2,4-Trichlorobenzen	0.088	0.089	0.106	0.095	10.76
77)	T	Hexachlorobutadiene	0.638	0.536	0.597	0.590	8.66
78)	T	Naphthalene	0.355	0.325	0.326	0.335	4.98
79)	T	1,2,3-Trichlorobenzen	1.641	1.386	1.499	1.509	8.46
			0.620	0.564	0.549	0.578	6.56

(#) = Out of Range

EA091398.M Tue Sep 15 10:09:15 1998 MSD_E

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\09-18-98\E1225.D
Acq On : 18 Sep 1998 12:04
Sample : 20-PPB,STD,A,5mL,100
Misc : NA,NA,NA
MS Integration Params: LSCINT.P

Vial: 2
Operator:
Inst : MSD_E
Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\EA091398.M (RTE Integrator)
Title : VOLATILE ORGANICS BY EPA METHOD 624
Last Update : Wed Sep 16 11:17:08 1998
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 35% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	I	Pentafluorobenzene	1.000	1.000	0.0	88	0.00
2	T	Dichlorodifluoromethane	0.765	0.895	-17.0	88	0.01
3	P	Chloromethane	1.117	1.081	3.2	86	0.00
4	C	Vinyl Chloride	0.772	0.793	-2.7	87	0.00
5	T	Bromomethane	0.379	0.428	-12.9	92	-0.02
6	T	Chloroethane	0.386	0.412	-6.7	90	0.00
7	T	Trichlorofluoromethane	0.412	0.514	-24.8	97	0.00
9	MC	1,1-Dichloroethene	0.522	0.555	-6.3	87	0.00
10	T	Acetone	0.326	0.247	24.2	73	0.00
11	T	Carbon Disulfide	1.797	1.830	-1.8	84	0.00
12	T	Vinyl Acetate	0.449	0.435	3.1	89	0.00
13	T	Methylene Chloride	0.606	0.574	5.3	83	-0.01
15	T	t-Butyl Alcohol(TBA)	0.012	0.012	0.0	99	0.00
16	T	trans-1,2-Dichloroethene	0.735	0.741	-0.8	83	0.00
17	T	Methyl-t-Butyl Ether(MTBE)	0.313	0.311	0.6	92	-0.01
18	P	1,1-Dichloroethane	1.383	1.390	-0.5	86	0.00
19	T	Diisopropyl Ether(DIPE)	3.083	3.256	-5.6	90	0.00
20	T	cis-1,2-Dichloroethene	0.737	0.765	-3.8	86	0.00
21	T	2,2-Dichloropropane	1.130	1.235	-9.3	95	0.00
22	T	2-Butanone(MEK)	0.347	0.368	-6.1	93	0.00
23	T	Bromochloromethane	0.370	0.364	1.6	86	0.00
24	T	Tetrahydrofuran	0.001	0.001	0.0	95	0.02
25	C	Chloroform	1.328	1.386	-4.4	89	0.00
26	T	1,1,1-Trichloroethane	1.244	1.370	-10.1	91	0.00
27	T	Carbon Tetrachloride	1.073	1.207	-12.5	90	0.00
28	T	1,1-Dichloropropene	0.927	1.027	-10.8	87	0.00
29	T	1,2-Dichloroethane(EDC)	1.288	1.331	-3.3	90	0.00
30	S	1,2-Dichloroethane-d4	0.906	0.950	-4.9	89	0.00
31	I	1,4-Difluorobenzene	1.000	1.000	0.0	86	0.00
32	M	Benzene	1.391	1.476	-6.1	85	0.00
33	M	Trichloroethene	0.375	0.406	-8.3	87	0.00
34	C	1,2-Dichloropropane	0.365	0.378	-3.6	86	0.00
35	T	Dibromomethane	0.219	0.233	-6.4	91	0.00
37	T	Bromodichloromethane	0.514	0.537	-4.5	89	0.00
38	T	2-Chloroethylvinyl Ether	0.190	0.210	-10.5	92	0.00
39	T	cis-1,3-Dichloropropene	0.542	0.573	-5.7	88	0.00
40	T	4-Methyl-2-pentanone(MIBK)	0.372	0.414	-11.3	96	0.00
41	S	Toluene-d8	1.165	1.162	0.3	85	0.00
42	MC	Toluene	0.918	0.986	-7.4	85	0.00
43	T	trans-1,3-Dichloropropene	0.515	0.544	-5.6	89	0.00
44	T	1,1,2-Trichloroethane	0.245	0.248	-1.2	86	0.00
45	T	Tetrachloroethene	0.366	0.413	-12.8	86	0.00
46	T	1,3-Dichloropropane	0.494	0.527	-6.7	87	0.00
47	T	2-Hexanone	0.259	0.289	-11.6	96	0.00

48	T	Dibromochloromethane	0.347	0.364	-4.9	91	0.00
49	T	1,2-Dibromoethane(EDB)	0.296	0.309	-4.4	89	0.00
50	I	Chlorobenzene-d5	1.000	1.000	0.0	87	0.00
51	MP	Chlorobenzene	1.341	1.377	-2.7	85	0.00
52	T	1,1,1,2-Tetrachloroethane	0.495	0.520	-5.1	89	0.00
53	C	Ethylbenzene	2.217	2.414	-8.9	86	0.00
54	T	m,p-Xylene	0.853	0.911	-6.8	84	0.00
55	T	o-Xylene	0.818	0.892	-9.0	86	0.00
56	T	Styrene	1.355	1.446	-6.7	85	0.00
57	P	Bromoform	0.242	0.240	0.8	88	0.00
58	T	Isopropylbenzene	2.074	2.258	-8.9	84	0.00
59	S	Bromofluorobenzene	0.616	0.630	-2.3	89	0.00
60	P	1,1,2,2-Tetrachloroethane	0.455	0.463	-1.8	91	0.00
61	T	Bromobenzene	0.535	0.538	-0.6	84	0.00
62	T	1,2,3-Trichloropropane	0.019	0.020	-5.3	82	0.00
63	T	n-Propylbenzene	2.639	2.797	-6.0	82	0.00
64	T	2-Chlorotoluene	2.033	2.074	-2.0	83	0.00
65	T	1,3,5-Trimethylbenzene	1.982	2.112	-6.6	84	0.00
66	T	4-Chlorotoluene	2.033	2.074	-2.0	83	0.00
67	T	tert-Butylbenzene	1.701	1.802	-5.9	82	0.00
68	T	1,2,4-Trimethylbenzene	2.038	2.105	-3.3	83	0.00
69	T	sec-Butylbenzene	2.486	2.539	-2.1	79	0.00
70	T	1,3-Dichlorobenzene	1.099	1.070	2.6	81	-0.11
71	T	4-Isopropyltoluene	2.120	2.145	-1.2	78	0.00
72	T	1,4-Dichlorobenzene	1.099	1.088	1.0	82	0.00
73	T	n-Butylbenzene	1.915	1.908	0.4	77	0.00
74	T	1,2-Dichlorobenzene	1.029	1.031	-0.2	84	0.00
75	T	1,2-Dibromo-3-chloropropane	0.095	0.096	-1.1	94	0.00
76	T	1,2,4-Trichlorobenzene	0.590	0.592	-0.3	81	0.00
77	T	Hexachlorobutadiene	0.335	0.307	8.4	76	0.00
78	T	Naphthalene	1.509	1.570	-4.0	84	0.00
79	T	1,2,3-Trichlorobenzene	0.578	0.552	4.5	78	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0

E1043.D EA091398.M Mon Sep 21 09:23:29 1998 MSD_E

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\09-22-98\E1338.D Vial: 2
Acq On : 22 Sep 1998 12:16 Operator:
Sample : 20-PPB,STD,A,5mL,100 Inst : MSD_E
Misc : NA,NA,NA Multiplr: 1.00
MS Integration Params: LSCINT.P

Method : C:\HPCHEM\1\METHODS\EA091398.M (RTE Integrator)
Title : VOLATILE ORGANICS BY EPA METHOD 624
Last Update : Thu Sep 17 10:48:20 1998
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 35% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	I	Pentafluorobenzene	1.000	1.000	0.0	75	0.00
2	T	Dichlorodifluoromethane	0.765	0.521	31.9	43	0.00
3	P	Chloromethane	1.117	0.896	19.8	60	0.10
4	C	Vinyl Chloride	0.772	0.619	19.8	57	0.08
5	T	Bromomethane	0.379	0.394	-4.0	71	0.05
6	T	Chloroethane	0.386	0.384	0.5	71	0.01
7	T	Trichlorofluoromethane	0.412	0.433	-5.1	69	0.00
9	MC	1,1-Dichloroethene	0.522	0.522	0.0	69	0.01
10	T	Acetone	0.326	0.315	3.4	79	0.00
11	T	Carbon Disulfide	1.797	1.607	10.6	62	0.00
12	T	Vinyl Acetate	0.449	0.442	1.6	76	0.00
13	T	Methylene Chloride	0.606	0.585	3.5	71	0.00
15	T	t-Butyl Alcohol(TBA)	0.012	0.014	-16.7	95	0.00
16	T	trans-1,2-Dichloroethene	0.735	0.680	7.5	65	0.00
17	T	Methyl-t-Butyl Ether(MTBE)	0.313	0.323	-3.2	81	0.00
18	P	1,1-Dichloroethane	1.383	1.298	6.1	68	0.00
19	T	Diisopropyl Ether(DIPE)	3.083	3.066	0.6	72	0.00
20	T	cis-1,2-Dichloroethene	0.737	0.713	3.3	68	0.00
21	T	2,2-Dichloropropane	1.130	1.253	-10.9	81	0.00
22	T	2-Butanone(MEK)	0.347	0.332	4.3	71	0.00
23	T	Bromochloromethane	0.370	0.345	6.8	69	0.00
25	C	Chloroform	1.328	1.368	-3.0	74	0.00
26	T	1,1,1-Trichloroethane	1.244	1.415	-13.7	79	0.00
27	T	Carbon Tetrachloride	1.073	1.233	-14.9	78	0.00
28	T	1,1-Dichloropropene	0.927	0.963	-3.9	69	0.00
29	T	1,2-Dichloroethane(EDC)	1.288	1.419	-10.2	81	0.00
30	S	1,2-Dichloroethane-d4	0.906	1.015	-12.0	81	0.00
31	I	1,4-Difluorobenzene	1.000	1.000	0.0	69	0.00
32	M	Benzene	1.391	1.350	2.9	63	0.00
33	M	Trichloroethene	0.375	0.412	-9.9	72	0.00
34	C	1,2-Dichloropropane	0.365	0.346	5.2	64	0.00
35	T	Dibromomethane	0.219	0.230	-5.0	72	0.00
37	T	Bromodichloromethane	0.514	0.569	-10.7	77	0.00
38	T	2-Chloroethylvinyl Ether	0.190	0.206	-8.4	73	0.00
39	T	cis-1,3-Dichloropropene	0.542	0.571	-5.4	71	0.00
40	T	4-Methyl-2-pentanone(MIBK)	0.372	0.410	-10.2	77	0.00
41	S	Toluene-d8	1.165	1.146	1.6	67	0.00
42	MC	Toluene	0.918	0.937	-2.1	65	0.00
43	T	trans-1,3-Dichloropropene	0.515	0.578	-12.2	76	0.00
44	T	1,1,2-Trichloroethane	0.245	0.242	1.2	68	0.00
45	T	Tetrachloroethene	0.366	0.422	-15.3	71	0.00
46	T	1,3-Dichloropropane	0.494	0.512	-3.6	68	0.00
47	T	2-Hexanone	0.259	0.289	-11.6	77	0.00
48	T	Dibromochloromethane	0.347	0.385	-11.0	77	0.00

49	T	1,2-Dibromoethane(EDB)	0.296	0.320	-8.1	74	0.00
50	I	Chlorobenzene-d5	1.000	1.000	0.0	71	0.00
51	MP	Chlorobenzene	1.341	1.342	-0.1	67	0.00
52	T	1,1,1,2-Tetrachloroethane	0.495	0.537	-8.5	75	0.00
53	C	Ethylbenzene	2.217	2.389	-7.8	69	0.00
54	T	m,p-Xylene	0.853	0.878	-2.9	66	0.00
55	T	o-Xylene	0.818	0.867	-6.0	69	0.00
56	T	Styrene	1.355	1.425	-5.2	68	0.00
57	P	Bromoform	0.242	0.258	-6.6	77	0.00
58	T	Isopropylbenzene	2.074	2.328	-12.2	71	0.00
59	S	Bromofluorobenzene	0.616	0.654	-6.2	76	0.00
60	P	1,1,2,2-Tetrachloroethane	0.455	0.437	4.0	70	0.00
61	T	Bromobenzene	0.535	0.566	-5.8	72	0.00
62	T	1,2,3-Trichloropropane	0.019	0.024	-26.3	80	0.00
63	T	n-Propylbenzene	2.639	2.809	-6.4	67	0.00
64	T	2-Chlorotoluene	2.033	2.145	-5.5	70	0.00
65	T	1,3,5-Trimethylbenzene	1.982	2.211	-11.6	71	0.00
66	T	4-Chlorotoluene	2.033	2.145	-5.5	70	0.00
67	T	tert-Butylbenzene	1.701	1.937	-13.9	72	0.00
68	T	1,2,4-Trimethylbenzene	2.038	2.184	-7.2	70	0.00
69	T	sec-Butylbenzene	2.486	2.628	-5.7	66	0.00
70	T	1,3-Dichlorobenzene	1.099	1.103	-0.4	68	0.00
71	T	4-Isopropyltoluene	2.120	2.266	-6.9	68	0.00
72	T	1,4-Dichlorobenzene	1.099	1.103	-0.4	68	0.00
73	T	n-Butylbenzene	1.915	1.947	-1.7	65	0.00
74	T	1,2-Dichlorobenzene	1.029	1.028	0.1	68	0.00
75	T	1,2-Dibromo-3-chloropropane	0.095	0.101	-6.3	82	0.00
76	T	1,2,4-Trichlorobenzene	0.590	0.634	-7.5	71	0.00
77	T	Hexachlorobutadiene	0.335	0.340	-1.5	68	0.00
78	T	Naphthalene	1.509	1.619	-7.3	70	0.00
79	T	1,2,3-Trichlorobenzene	0.578	0.566	2.1	65	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0

E1043.D EA091398.M Tue Sep 22 13:19:28 1998 MSD_E

VOLATILE SURROGATE PERCENT RECOVERY SUMMARY

Date Analyzed: 09/18/98

Lab Sample ID	Matrix	File ID	SMC1 #	SMC2 #	SMC3 #
METHOD-BLK	AQUEOUS	E1226.D	109	97	94
5341-001MS	AQUEOUS	E1227.D	106	101	102
5341-001MSD	AQUEOUS	E1228.D	104	99	102
5303-011	AQUEOUS	E1229.D	112	96	95
5295-001	AQUEOUS	E1230.D	102	99	97
5295-002	AQUEOUS	E1231.D	103	100	98
5295-003	AQUEOUS	E1232.D	97	96	99
5295-004	AQUEOUS	E1233.D	103	96	98
5295-005	AQUEOUS	E1234.D	106	96	94
5305-001	AQUEOUS	E1235.D	108	97	93
5305-002	AQUEOUS	E1236.D	108	98	91
5305-003	AQUEOUS	E1237.D	108	97	92
5305-004	AQUEOUS	E1238.D	109	97	93
5305-005	AQUEOUS	E1239.D	115	97	94
5305-006	AQUEOUS	E1240.D	116	98	94
5339-001	AQUEOUS	E1241.D	117	100	96
5341-001	AQUEOUS	E1242.D	116	99	94
5425-001	AQUEOUS	E1243.D	120	98	94
5425-003	AQUEOUS	E1244.D	120	98	95
5356-001	AQUEOUS	E1245.D	118	99	93
5356-004	AQUEOUS	E1246.D	120	97	95
5356-005	AQUEOUS	E1247.D	124	98	93
5356-006	AQUEOUS	E1248.D	123	99	94
5356-007	AQUEOUS	E1249.D	124	100	93

	Concentration	Aqueous
SMC1 = 1,2-Dichloroethane-d4	30 ppb	93-128
SMC2 = Toluene-d8	30 ppb	96-102
SMC3 = Bromofluorobenzene	30 ppb	85-105

Column to be used to flag recovery values

VOLATILE SURROGATE PERCENT RECOVERY SUMMARY

Date Analyzed: 09/18/98

Lab Sample ID	Matrix	File ID	SMC1 #	SMC2 #	SMC3 #
5356-008	AQUEOUS	E1250.D	125	100	99
5356-009	AQUEOUS	E1251.D	125	98	95
5356-010	AQUEOUS	E1252.D	124	99	94
5356-011	AQUEOUS	E1253.D	122	98	93
5356-012	AQUEOUS	E1254.D	121	99	94
5356-013	AQUEOUS	E1255.D	125	99	93
5356-014	AQUEOUS	E1256.D	117	100	95
5356-015	AQUEOUS	E1257.D	123	98	93
5356-016	AQUEOUS	E1258.D	119	100	94
5356-017	AQUEOUS	E1259.D	121	99	93
5356-018	AQUEOUS	E1260.D	125	99	94
5425-003MS	AQUEOUS	E1261.D	114	106	106
5425-003MSD	AQUEOUS	E1262.D	110	102	105
5410-001	AQUEOUS	E1263.D	114	98	100
5404-001	AQUEOUS	E1264.D	107	97	97
5404-002	AQUEOUS	E1265.D	110	100	97
5404-003	AQUEOUS	E1266.D	113	97	94
5404-004	AQUEOUS	E1267.D	114	97	94
09-15-98	AQUEOUS	E1268.D	119	98	91
5426-003	AQUEOUS	E1269.D	119	100	90
5418-003	AQUEOUS	E1270.D	117	100	88
5418-017	AQUEOUS	E1271.D	122	100	91
5418-020	AQUEOUS	E1274.D	116	103	102

	Concentration	Aqueous
SMC1 = 1,2-Dichlorobenzene	30 ppb	93-128
SMC2 = Toluene-d8	30 ppb	96-102
SMC3 = Bromofluorobenzene	30 ppb	85-105

Column to be used to flag recovery values

VOLATILE SURROGATE PERCENT RECOVERY SUMMARY

Date Analyzed: 09/18/98

Lab Sample ID	Matrix	File ID	SMC1 #	SMC2 #	SMC3 #
TCLPMS	AQUEOUS	E1275.D	108	100	101
09-14-98	AQUEOUS	E1276.D	109	103	101
5380-001	AQUEOUS	E1277.D	107	103	104
5381-001	AQUEOUS	E1278.D	108	103	103
5381-002	AQUEOUS	E1279.D	108	103	104
5381-003	AQUEOUS	E1280.D	102	99	99
5381-004	AQUEOUS	E1281.D	102	98	99

	Concentration	Aqueous
SMC1 = 1,2-Dichlorobenzene	30 ppb	93-128
SMC2 = Toluene-d8	30 ppb	96-102
SMC3 = Bromofluorobenzene	30 ppb	85-105

Column to be used to flag recovery values

VOLATILE SURROGATE PERCENT RECOVERY SUMMARY

Date Analyzed: 09/22/98

Lab Sample ID	Matrix	File ID	SMC1 #	SMC2 #	SMC3 #
METHOD-BLK	AQUEOUS	E1339.D	110	95	100
5573-003MS	AQUEOUS	E1340.D	114	98	106
5573-003MSD	AQUEOUS	E1341.D	110	98	103
5356-014	AQUEOUS	E1342.D	103	95	100
5356-015	AQUEOUS	E1343.D	106	94	99
5356-016	AQUEOUS	E1344.D	106	95	99
5356-017	AQUEOUS	E1345.D	109	94	100
5356-018	AQUEOUS	E1346.D	109	92	101
5418-018	AQUEOUS	E1347.D	111	96	100
5418-019	AQUEOUS	E1348.D	111	96	98
5410-001	AQUEOUS	E1349.D	112	98	105
5449-005	AQUEOUS	E1350.D	112	96	105
5449-009	AQUEOUS	E1351.D	111	95	101
5449-010	AQUEOUS	E1352.D	113	94	101
5573-002MS	AQUEOUS	E1353.D	113	98	107
5573-002MSD	AQUEOUS	E1354.D	112	98	106
5444-001	AQUEOUS	E1355.D	110	95	100
5444-002	AQUEOUS	E1356.D	112	95	100
5444-003	AQUEOUS	E1357.D	113	95	99
5444-004	AQUEOUS	E1358.D	114	96	101
5356-013	AQUEOUS	E1359.D	113	95	101
5493-002	AQUEOUS	E1360.D	114	95	101
5493-004	AQUEOUS	E1361.D	116	95	100
5466-016	AQUEOUS	E1362.D	118	100	108

	Concentration	Aqueous
SMC1 = 1,2-Dichloroethane-d4	30 ppb	101-122
SMC2 = Toluene-d8	30 ppb	91-101
SMC3 = Bromofluorobenzene	30 ppb	92-112

Column to be used to flag recovery values

VOLATILE SURROGATE PERCENT RECOVERY SUMMARY

Date Analyzed: 09/22/98

Lab Sample ID	Matrix	File ID	SMC1 #	SMC2 #	SMC3 #
5466-017	AQUEOUS	E1363.D	116	97	107
5523-002	AQUEOUS	E1364.D	112	96	102
5573-002	AQUEOUS	E1365.D	114	95	102
5573-003	AQUEOUS	E1366.D	113	96	101
5573-008	AQUEOUS	E1367.D	115	96	100
5573-009	AQUEOUS	E1368.D	118	94	100
5573-001	AQUEOUS	E1369.D	118	96	101
5573-004	AQUEOUS	E1370.D	118	96	99
5573-005	AQUEOUS	E1371.D	119	95	100
5573-006	AQUEOUS	E1372.D	120	96	101
5573-007	AQUEOUS	E1373.D	119	96	100
5573-010	AQUEOUS	E1374.D	122	97	104
5573-011	AQUEOUS	E1375.D	117	96	99
5577-001	AQUEOUS	E1376.D	118	97	100
5577-002	AQUEOUS	E1377.D	120	96	103
5577-003	AQUEOUS	E1378.D	116	96	102
5583-001	AQUEOUS	E1379.D	115	98	107
5583-002	AQUEOUS	E1380.D	116	95	100
5583-003	AQUEOUS	E1381.D	119	95	101
TCLPMB	AQUEOUS	E1382.D	121	97	100
5566-001	AQUEOUS	E1383.D	120	98	100
5566-002	AQUEOUS	E1384.D	120	96	100
5566-003	AQUEOUS	E1385.D	119	97	100

	Concentration	Aqueous
SMC1 = 1,2-Dichlorobenzene	30 ppb	101-122
SMC2 = Toluene-d8	30 ppb	91-101
SMC3 = Bromofluorobenzene	30 ppb	92-112

Column to be used to flag recovery values

AQUEOUS VOLATILE MATRIX SPIKE/SPIKE DUPLICATE RECOVERY

Matrix spike Lab sample ID: MSD

Batch No.: QV2413

Compound	SPIKE ADDED (ug/L)	SAMPLE CONC. (ug/L)	MS CONC. (ug/L)	MS % REC #	QC LIMITS REC.
1,1-Dichloroethene	20.0	0.0	19.1	96	61 - 145
Benzene	20.0	0.0	21.0	105	76 - 127
Trichloroethene	20.0	0.0	21.1	106	71 - 120
Toluene	20.0	0.0	21.1	106	76 - 125
Chlorobenzene	20.0	0.0	20.2	101	75 - 130

Compound	SAMPLE CONC. (ug/L)	MSD CONC. (ug/L)	MSD % REC #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
1,1-Dichloroethene	0.0	20.2	101	5	14	61 - 145
Benzene	0.0	21.2	106	1	11	76 - 127
Trichloroethene	0.0	21.7	109	3	14	71 - 120
Toluene	0.0	21.5	108	2	13	76 - 125
Chlorobenzene	0.0	20.8	104	3	13	75 - 130

Column to be used to flag recovery and RPD values with anastrisk

* Values outside of QC limits

NC Non calculable

RPD: __0___ out of __5__ outside limits

Spike Recovery: __0___ out of __10__ outside limits

INTEGRATED ANALYTICAL LABORATORIES

TCLP VOLATILE ORGANICS MATRIX SPIKE

Lab ID: TCLPMS
Client ID: NA
Date Received: 09/14/98
Date Analyzed: 09/19/19
Data file: E1275.D
Batch No.: QV2415

GC/MS Column: DB-624
Sample wt/vol: 0.1mL
Matrix-Units: Aqueous-mg/L (ppm)
Dilution Factor: 50
% Moisture: 100

Compound	Conc. Add	Sample	MS Conc.	%Rec.
Vinyl Chloride	0.020	0.00	0.020	100
1,1-Dichloroethene	0.020	0.00	0.021	105
2-Butanone(MEK)	0.020	0.00	0.021	105
Chloroform	0.020	0.00	0.021	105
Carbon Tetrachloride	0.020	0.00	0.022	110
1,2-Dichloroethane(EDC)	0.020	0.00	0.021	105
Benzene	0.020	0.00	0.021	105
Trichloroethene	0.020	0.00	0.023	115
Tetrachloroethene	0.020	0.00	0.022	110
Chlorobenzene	0.020	0.00	0.020	100
1,4-Dichlorobenzene	0.020	0.00	0.018	90

AQUEOUS VOLATILE MATRIX SPIKE/SPIKE DUPLICATE RECOVERY

Matrix spike Lab sample ID: MSD

Batch No.: QV2422

Compound	SPIKE ADDED (ug/L)	SAMPLE CONC. (ug/L)	MS CONC. (ug/L)	MS % REC #	QC LIMITS REC.
1,1-Dichloroethene	20.0	0.0	18.7	94	61 - 145
Benzene	20.0	0.0	19.1	96	71 - 120
Trichloroethene	20.0	0.0	21.8	109	76 - 127
Toluene	20.0	0.0	20.0	100	76 - 125
Chlorobenzene	20.0	0.0	19.8	99	75 - 130

Compound	SAMPLE CONC. (ug/L)	MSD CONC. (ug/L)	#	MSD % REC	% RPD	#	QC LIMITS RPD	QC LIMITS REC.
1,1-Dichloroethene	0.0	19.2		96	2		14	61 - 145
Benzene	0.0	19.4		97	1		11	71 - 120
Trichloroethene	0.0	21.9		110	1		14	76 - 127
Toluene	0.0	20.4		102	2		13	76 - 125
Chlorobenzene	0.0	19.8		99	0		13	75 - 130

Column to be used to flag recovery and RPD values with anastrisk

* Values outside of QC limits

NC Non calculable

RPD: __0___ out of __5__ outside limits

Spike Recovery: __0___ out of __10__ outside limits

VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab File ID (Standard): E1043.D

Date Analyzed: 09/14/98

Instrument ID: MSDE

Time Analyzed: 18:14

	30UG/L	IS1 AREA #	RT #	IS2 AREA #	RT #	IS3 AREA #	RT #
	24 HOUR STD	245885	6.44	460345	7.26	358005	10.60
	UPPER LIMIT	491770	6.94	920690	7.76	716010	11.10
	LOWER LIMIT	122942.5	5.94	230172.5	6.76	179002.5	10.10
	LAB SAMPLE ID						
01	STD	271356	6.44	494977	7.26	384675	10.59
02	STD	257573	6.43	487080	7.26	372111	10.60
03	METHOD-BLK	238299	6.44	466991	7.26	363153	10.60
04	5133-004	220596	6.44	438643	7.26	344974	10.60
05	5033-002	264165	6.44	501443	7.27	389712	10.60
06	5078-003	246543	6.44	476272	7.27	374828	10.60
07	5158-018MS	282065	6.44	523117	7.26	409135	10.60
08	5078-005	234341	6.44	467807	7.26	342312	10.60
09	5158-018MSD	286034	6.44	529830	7.26	410037	10.60
11	MS	282823	6.44	520029	7.27	403025	10.60
12	5078-007	254143	6.44	456480	7.26	355226	10.60
13	5078-008	233784	6.44	425864	7.26	327617	10.60
14	5128-003	292230	6.44	526622	7.26	398183	10.60
15	5131-003	277067	6.44	507604	7.26	389294	10.60
16	5131-004	265871	6.44	486784	7.26	374905	10.60
17	5158-016	265098	6.44	489697	7.27	377625	10.60
18	5158-018	238161	6.44	448056	7.27	343475	10.60
19	5158-019	258768	6.44	482093	7.27	370846	10.60
20	5166-001	236130	6.44	466412	7.26	345114	10.60
21	5166-002	274547	6.45	510297	7.27	387545	10.60
22	5166-003	250860	6.44	476156	7.27	364225	10.60

IS1 = PENTAFLUOROBENZENE
IS2 = 1,4-DIFLUOROBENZENE
IS3 = CHLOROBENZENE-D5

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 values outside QC limits with an asterisk
* Values outside of QC limits.

VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab File ID (Standard): E1225.D

Date Analyzed: 09/18/98

Instrument ID: MSDE

Time Analyzed: 12:04

	30UG/L	IS1 AREA #	RT #	IS2 AREA #	RT #	IS3 AREA #	RT #
	24 HOUR STD	216960	6.44	396222	7.26	312472	10.60
	UPPER LIMIT	433920	6.94	792444	7.76	624944	11.10
	LOWER LIMIT	108480	5.94	198111	6.76	156236	10.10
	LAB SAMPLE ID						
01	METHOD-BLK	207018	6.44	385438	7.26	305268	10.60
02	5341-001MS	211259	6.44	382550	7.27	305668	10.60
03	5341-001MSD	216524	6.44	391610	7.26	309339	10.60
04	5303-011	212170	6.44	397125	7.26	307887	10.60
05	5295-001	214631	6.44	393516	7.26	327427	10.60
06	5295-002	221685	6.45	405178	7.27	328910	10.60
07	5295-003	247272	6.44	426392	7.27	347736	10.60
08	5295-004	231288	6.44	415542	7.26	326757	10.59
09	5295-005	220283	6.44	406517	7.27	317030	10.60
10	5305-001	206823	6.44	390995	7.26	308215	10.59
11	5305-002	207024	6.45	382355	7.27	307099	10.60
12	5305-003	199930	6.44	370384	7.26	297778	10.60
13	5305-004	198176	6.44	371756	7.26	291241	10.60
14	5305-005	185506	6.45	361793	7.27	284798	10.60
15	5305-006	182015	6.45	353044	7.27	280544	10.60
16	5339-001	180883	6.44	347894	7.27	277362	10.60
17	5341-001	174817	6.45	341622	7.27	271316	10.60
18	5425-001	170588	6.45	339966	7.27	269606	10.60
19	5425-003	168439	6.45	332825	7.27	267662	10.60
20	5356-001	169596	6.45	338716	7.27	267698	10.60
21	5356-004	165557	6.45	333426	7.27	263022	10.60
22	5356-005	160581	6.45	322690	7.27	257053	10.60

IS1 = PENTAFLUOROBENZENE
IS2 = 1,4-DIFLUOROBENZENE
IS3 = CHLOROBENZENE-D5

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 values outside QC limits with an asterisk
* Values outside of QC limits.

VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab File ID (Standard): E1225.D

Date Analyzed: 09/18/98

Instrument ID: MSDE

ime Analyzed: 12:04

	30UG/L	IS1 AREA #	RT #	IS2 AREA #	RT #	IS3 AREA #	RT #
	24 HOUR STD	216960	6.44	396222	7.26	312472	10.60
	UPPER LIMIT	433920	6.94	792444	7.76	624944	11.10
	LOWER LIMIT	108480	5.94	198111	6.76	156236	10.10
	LAB SAMPLE ID						
23	5356-006	159604	6.45	321246	7.27	257253	10.60
24	5356-007	156483	6.45	317032	7.27	255879	10.60
25	5356-008	156225	6.45	318677	7.27	256369	10.60
26	5356-009	155451	6.45	318431	7.27	252768	10.60
27	5356-010	156684	6.45	315448	7.27	254186	10.60
28	5356-011	157183	6.45	313963	7.27	255585	10.60
29	5356-012	160518	6.45	317833	7.27	254815	10.60
30	5356-013	153237	6.45	310085	7.26	250940	10.60
31	5356-014	165786	6.45	313973	7.26	250624	10.60
32	5356-015	155897	6.45	311440	7.27	250412	10.60
33	5356-016	161735	6.45	310997	7.27	251268	10.60
34	5356-017	154905	6.45	308635	7.27	249922	10.60
35	5356-018	151439	6.45	305866	7.27	244790	10.60
36	5425-003MS	172136	6.45	319852	7.27	264623	10.60
37	5425-003MSD	185607	6.44	347341	7.27	278203	10.60
38	5410-001	182448	6.44	353958	7.26	284957	10.60
39	5404-001	210652	6.45	381462	7.27	301362	10.60
40	5404-002	198765	6.44	352145	7.26	293867	10.60
41	5404-003	192532	6.45	367146	7.27	289428	10.60
42	5404-004	185704	6.45	354040	7.27	278190	10.60
43	09-15-98	174653	6.44	348592	7.26	279450	10.60
44	5426-003	172334	6.45	342883	7.27	284852	10.60

IS1 = PENTAFLUOROBENZENE
IS2 = 1,4-DIFLUOROBENZENE
IS3 = CHLOROBENZENE-D5

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 values outside QC limits with an asterisk
* Values outside of QC limits.

VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab File ID (Standard): E1225.D

Date Analyzed: 09/18/98

Instrument ID: MSDE

Ime Analyzed: 12:04

	30UG/L	IS1 AREA #	RT #	IS2 AREA #	RT #	IS3 AREA #	RT #
	24 HOUR STD	216960	6.44	396222	7.26	312472	10.60
	UPPER LIMIT	433920	6.94	792444	7.76	624944	11.10
	LOWER LIMIT	108480	5.94	198111	6.76	156236	10.10
	LAB SAMPLE ID						
45	5418-003	171082	6.44	336526	7.27	281014	10.60
46	5418-017	166331	6.44	336102	7.27	276165	10.60
48	5418-020	204515	6.45	374896	7.27	310022	10.60
49	TCLPMS	223540	6.44	401066	7.27	326343	10.60
50	09-14-98	235054	6.45	415899	7.27	340320	10.60
51	5380-001	240885	6.44	421877	7.27	343154	10.60
52	5381-001	242128	6.45	426631	7.27	347196	10.60
53	5381-002	245503	6.45	426927	7.27	351463	10.60
54	5381-003	250222	6.45	431054	7.27	353593	10.60
55	5381-004	254799	6.45	441606	7.27	358340	10.60
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IS1 = PENTAFLUOROBENZENE
IS2 = 1,4-DIFLUOROBENZENE
IS3 = CHLOROBENZENE-D5

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 values outside QC limits with an asterisk
* Values outside of QC limits.

VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab File ID (Standard): E1338.D

Date Analyzed: 09/22/98

Instrument ID: MSDE

Time Analyzed: 12:16

	30UG/L	IS1 AREA #	RT #	IS2 AREA #	RT #	IS3 AREA #	RT #
	24 HOUR STD	183673	6.44	319789	7.26	255310	10.60
	UPPER LIMIT	367346	6.94	639578	7.76	510620	11.10
	LOWER LIMIT	91836.5	5.94	159894.5	6.76	127655	10.10
	LAB SAMPLE ID						
01	METHOD-BLK	187901	6.44	322605	7.26	255168	10.59
02	5573-003MS	183586	6.44	319662	7.27	256268	10.60
03	5573-003MSD	193056	6.44	329244	7.26	266057	10.60
04	5356-014	198656	6.44	335142	7.26	266908	10.60
05	5356-015	192065	6.44	324220	7.26	258451	10.60
06	5356-016	190376	6.44	318104	7.26	251483	10.60
07	5356-017	185943	6.43	318512	7.26	248557	10.60
08	5356-018	184523	6.44	319612	7.27	249525	10.60
09	5418-018	175780	6.44	300465	7.26	240647	10.60
10	5418-019	174647	6.44	297505	7.26	243574	10.60
11	5410-001	176187	6.44	311754	7.26	257790	10.60
12	5449-005	193922	6.44	338186	7.26	265971	10.60
13	5449-009	196014	6.44	335922	7.26	266867	10.60
14	5449-010	186185	6.44	319727	7.26	253085	10.60
15	5573-002MS	186737	6.44	316842	7.26	255698	10.60
16	5573-002MSD	188069	6.45	320246	7.27	257311	10.60
17	5444-001	191013	6.45	324585	7.27	256869	10.60
18	5444-002	179715	6.45	306505	7.27	245033	10.60
19	5444-003	173392	6.44	298776	7.27	237207	10.60
20	5444-004	168083	6.44	288454	7.26	233078	10.60
21	5356-013	167686	6.45	285749	7.27	224531	10.60
22	5493-002	162178	6.45	280893	7.27	222362	10.60

IS1 = PENTAFLUOROBENZENE
IS2 = 1,4-DIFLUOROBENZENE
IS3 = CHLOROBENZENE-D5

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 values outside QC limits with an asterisk
* Values outside of QC limits.

VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab File ID (Standard): E1338.D Date Analyzed: 09/22/98

Instrument ID: MSDE ime Analyzed: 12:16

	30UG/L	IS1 AREA #	RT #	IS2 AREA #	RT #	IS3 AREA #	RT #
	24 HOUR STD	183673	6.44	319789	7.26	255310	10.60
	UPPER LIMIT	367346	6.94	639578	7.76	510620	11.10
	LOWER LIMIT	91836.5	5.94	159894.5	6.76	127655	10.10
	LAB SAMPLE ID						
23	5493-004	157193	6.44	275403	7.26	218451	10.60
24	5466-016	156441	6.44	273257	7.27	231876	10.60
25	5466-017	164997	6.45	287353	7.27	233003	10.60
26	5523-002	170212	6.45	292978	7.27	235253	10.60
27	5573-002	179139	6.45	306188	7.27	243605	10.60
28	5573-003	171377	6.45	292380	7.27	229421	10.60
29	5573-008	164072	6.44	283242	7.27	227278	10.60
30	5573-009	158984	6.44	278814	7.26	220970	10.60
31	5573-001	151972	6.44	266971	7.27	211994	10.60
32	5573-004	152401	6.44	265814	7.26	213105	10.60
33	5573-005	148943	6.45	261914	7.27	209507	10.60
34	5573-006	149609	6.44	261494	7.26	208752	10.60
35	5573-007	145545	6.44	253100	7.26	202020	10.60
36	5573-010	141279	6.45	250919	7.27	204268	10.60
37	5573-011	152269	6.44	265017	7.27	213184	10.60
38	5577-001	144900	6.45	252386	7.27	205269	10.60
39	5577-002	142009	6.44	251590	7.27	204219	10.60
40	5577-003	145104	6.44	253330	7.27	201092	10.60
41	5583-001	149940	6.45	257735	7.27	213269	10.60
42	5583-002	150316	6.45	261836	7.27	210611	10.60
43	5583-003	144679	6.44	255935	7.27	203964	10.60
44	TCLPMB	141107	6.44	250000	7.27	200999	10.60

IS1 = PENTAFLUOROBENZENE
IS2 = 1,4-DIFLUOROBENZENE
IS3 = CHLOROBENZENE-D5

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 values outside QC limits with an asterisk
* Values outside of QC limits.

VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab File ID (Standard): E1338.D

Date Analyzed: 09/22/98

Instrument ID: MSDE

ime Analyzed: 12:16

	30UG/L	IS1 AREA #	RT #	IS2 AREA #	RT #	IS3 AREA #	RT #
	24 HOUR STD	183673	6.44	319789	7.26	255310	10.60
	UPPER LIMIT	367346	6.94	639578	7.76	510620	11.10
	LOWER LIMIT	91836.5	5.94	159894.5	6.76	127655	10.10
	LAB SAMPLE ID						
45	5566-001	139887	6.44	245208	7.26	200673	10.60
46	5566-002	140924	6.44	251643	7.27	201265	10.60
47	5566-003	140500	6.45	246899	7.27	200972	10.60
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IS1 = PENTAFLUOROBENZENE
IS2 = 1,4-DIFLUOROBENZENE
IS3 = CHLOROBENZENE-D5

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 values outside QC limits with an asterisk
* Values outside of QC limits.

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\09-18-98\E1270.D Vial: 36
Acq On : 19 Sep 1998 6:52 Operator:
Sample : MPF-03,5418-003,A,0.1mL,100 Inst : MSD_E
Misc : RFW/WASTE_ANALYSIS,09/11/98,09/14/98 Multiplr: 1.00
MS Integration Params: LSCINT.P
Quant Time: Sep 21 10:10 1998 Quant Results File: EA091398.RES

Quant Method : C:\HPCHEM\1\METHODS\EA091398.M (RTE Integrator)
Title : VOLATILE ORGANICS BY EPA METHOD 624
Last Update : Thu Sep 17 10:48:20 1998
Response via : Initial Calibration
DataAcq Meth : EA091398

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Pentafluorobenzene	6.44	168	171082	30.00 UG	0.00
31) 1,4-Difluorobenzene	7.27	114	336526	30.00 UG	0.00
50) Chlorobenzene-d5	10.60	117	281014	30.00 UG	0.00
System Monitoring Compounds					
30) 1,2-Dichloroethane-d4	6.77	65	181156	35.08 UG	0.00
Spiked Amount 30.000	Range 77 - 129		Recovery = 116.93%		
41) Toluene-d8	8.93	98	393847	30.13 UG	0.00
Spiked Amount 30.000	Range 86 - 129		Recovery = 100.43%		
59) Bromofluorobenzene	12.00	95	153096	26.55 UG	0.00
Spiked Amount 30.000	Range 78 - 121		Recovery = 88.50%		

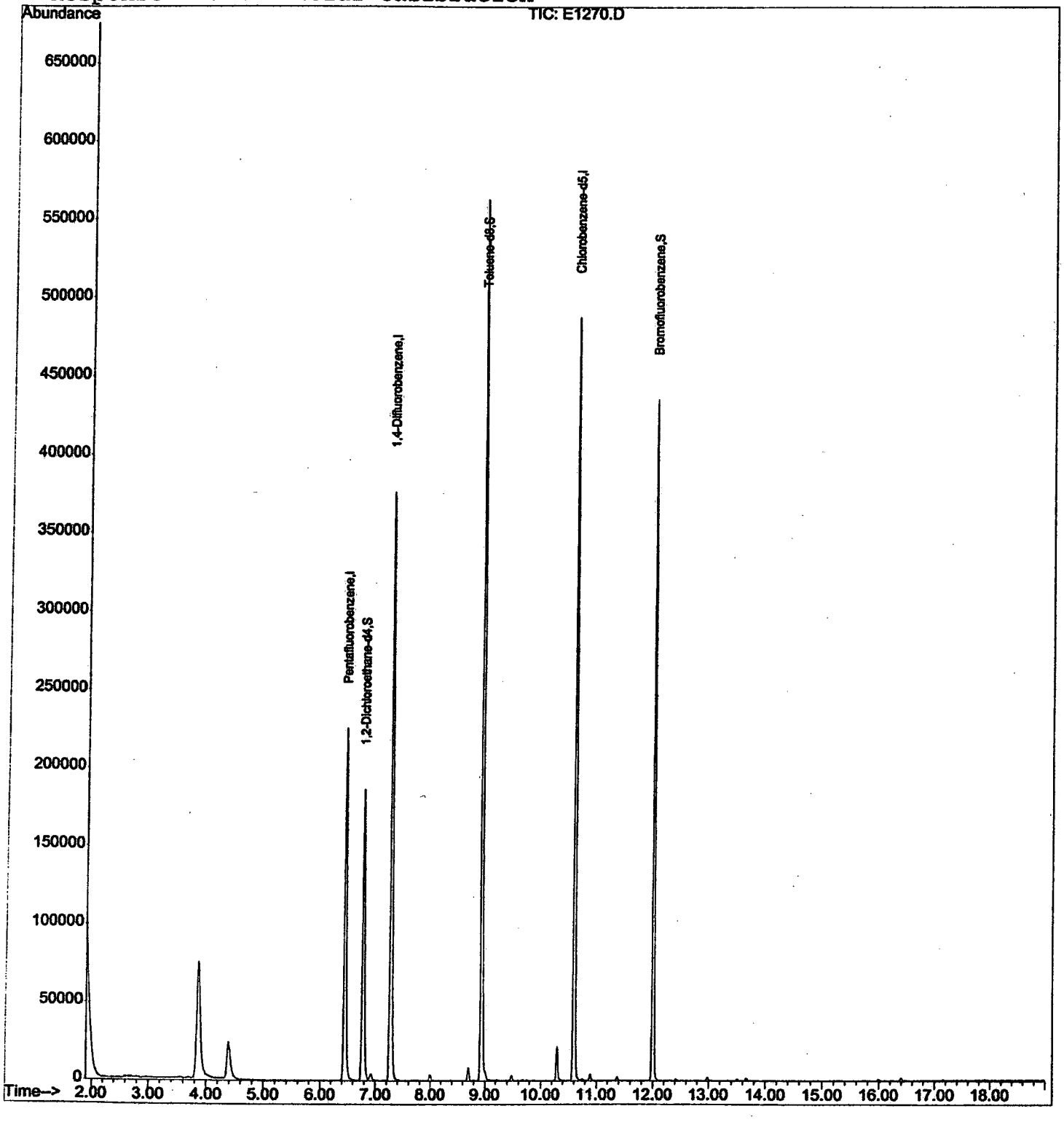
Target Compounds Qvalue

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

Quantitation Report

Data File : C:\HPCHEM\1\DATA\09-18-98\E1270.D Vial: 36
Acq On : 19 Sep 1998 6:52 Operator:
Sample : MPF-03,5418-003,A,0.1mL,100 Inst : MSD_E
Misc : RFW/WASTE_ANALYSIS,09/11/98,09/14/98 Multiplr: 1.00
MS Integration Params: LSCINT.P
Quant Time: Sep 21 10:10 1998 Quant Results File: EA091398.RES

Method : C:\HPCHEM\1\METHODS\EA091398.M (RTE Integrator)
Title : VOLATILE ORGANICS BY EPA METHOD 624
Last Update : Thu Sep 17 10:48:20 1998
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\09-18-98\E1271.D Vial: 37
Acq On : 19 Sep 1998 7:17 Operator:
Sample : MPF-19,5418-017,A,0.1mL,100 Inst : MSD_E
Misc : RFW/WASTE_ANALYSIS,09/11/98,09/14/98 Multiplr: 1.00
MS Integration Params: LSCINT.P
Quant Time: Sep 21 10:10 1998 Quant Results File: EA091398.RES

Quant Method : C:\HPCHEM\1\METHODS\EA091398.M (RTE Integrator)
Title : VOLATILE ORGANICS BY EPA METHOD 624
Last Update : Thu Sep 17 10:48:20 1998
Response via : Initial Calibration
DataAcq Meth : EA091398

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Pentafluorobenzene	6.44	168	166331	30.00 UG	0.00
31) 1,4-Difluorobenzene	7.27	114	336102	30.00 UG	0.00
50) Chlorobenzene-d5	10.60	117	276165	30.00 UG	0.00

System Monitoring Compounds

30) 1,2-Dichloroethane-d4	6.77	65	184142	36.67 UG	0.00
Spiked Amount 30.000	Range 77 - 129		Recovery = 122.23%		
41) Toluene-d8	8.93	98	390105	29.88 UG	0.00
Spiked Amount 30.000	Range 86 - 129		Recovery = 99.60%		
59) Bromofluorobenzene	12.00	95	153912	27.16 UG	0.00
Spiked Amount 30.000	Range 78 - 121		Recovery = 90.53%		

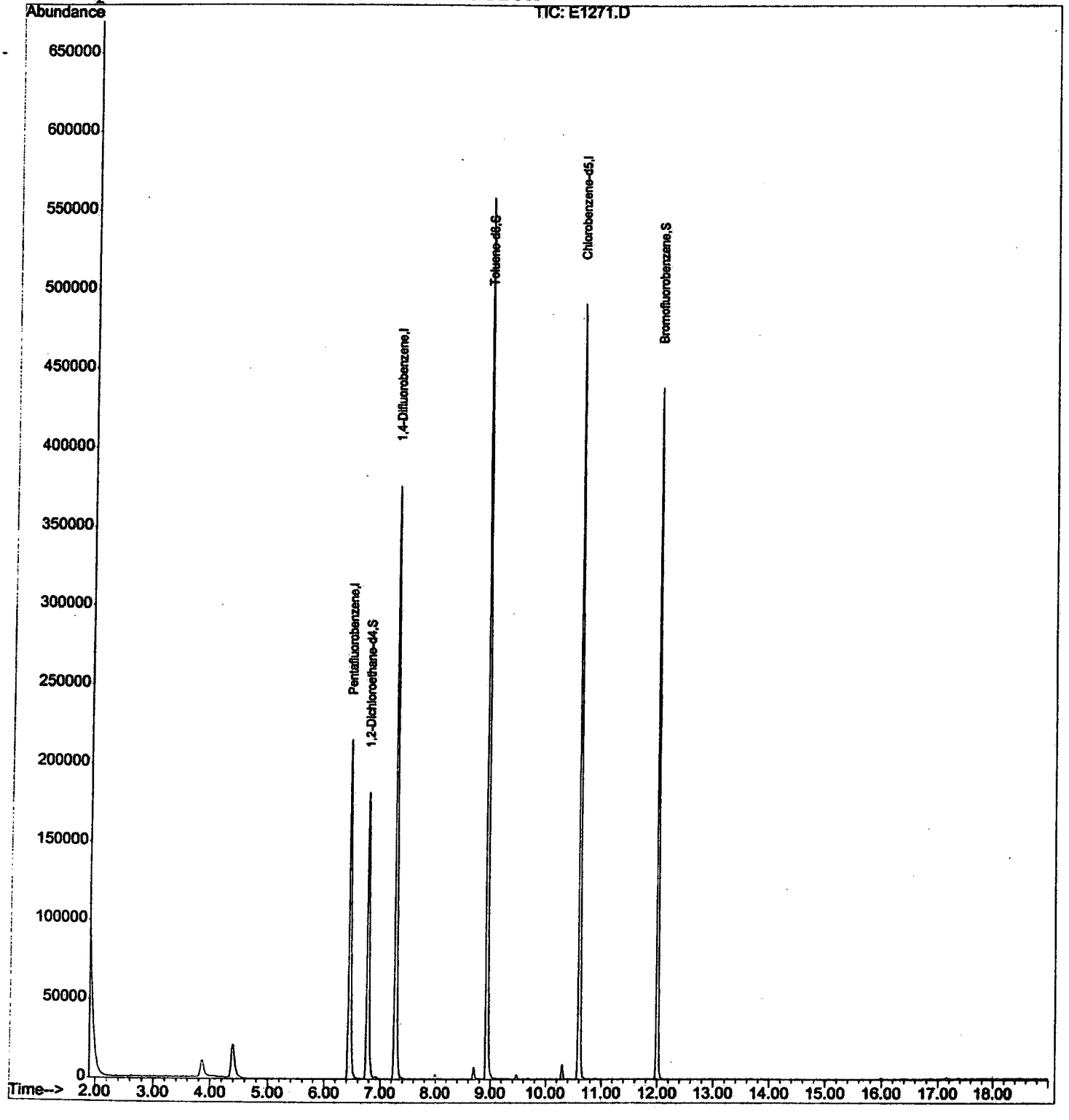
Target Compounds Qvalue

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

Quantitation Report

Data File : C:\HPCHEM\1\DATA\09-18-98\E1271.D Vial: 37
Acq On : 19 Sep 1998 7:17 Operator:
Sample : MPF-19,5418-017,A,0.1mL,100 Inst : MSD_E
Misc : RFW/WASTE_ANALYSIS,09/11/98,09/14/98 Multiplr: 1.00
MS Integration Params: LSCINT.P
Quant Time: Sep 21 10:10 1998 Quant Results File: EA091398.RES

Method : C:\HPCHEM\1\METHODS\EA091398.M (RTE Integrator)
Title : VOLATILE ORGANICS BY EPA METHOD 624
Last Update : Thu Sep 17 10:48:20 1998
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : H:\DATA\09-22-98\E1347.D Vial: 11
Acq On : 22 Sep 98 16:07 Operator:
Sample : MPF-20,5418-018,A,0.025mL,100 Inst : MSD_E
Misc : RFW/WASTE_ANALYSIS,09/11/98,09/14/98 Multiplr: 1.00
MS Integration Params: LSCINT.P
Quant Time: Sep 22 17:26 1998 Quant Results File: EA091398.RES

Quant Method : C:\HPCHEM\1\METHODS\EA091398.M (RTE Integrator)
Title : VOLATILE ORGANICS BY EPA METHOD 624
Last Update : Thu Sep 17 10:48:20 1998
Response via : Initial Calibration
DataAcq Meth : EA091398

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Pentafluorobenzene	6.44	168	175780	30.00	UG	0.00
31) 1,4-Difluorobenzene	7.26	114	300465	30.00	UG	0.00
50) Chlorobenzene-d5	10.60	117	240647	30.00	UG	0.00
System Monitoring Compounds						
30) 1,2-Dichloroethane-d4	6.77	65	177065	33.37	UG	0.00
Spiked Amount 30.000	Range 77 - 129		Recovery = 111.23%			
41) Toluene-d8	8.93	98	337270	28.90	UG	0.00
Spiked Amount 30.000	Range 86 - 129		Recovery = 96.33%			
59) Bromofluorobenzene	12.00	95	148872	30.15	UG	0.00
Spiked Amount 30.000	Range 78 - 121		Recovery = 100.50%			

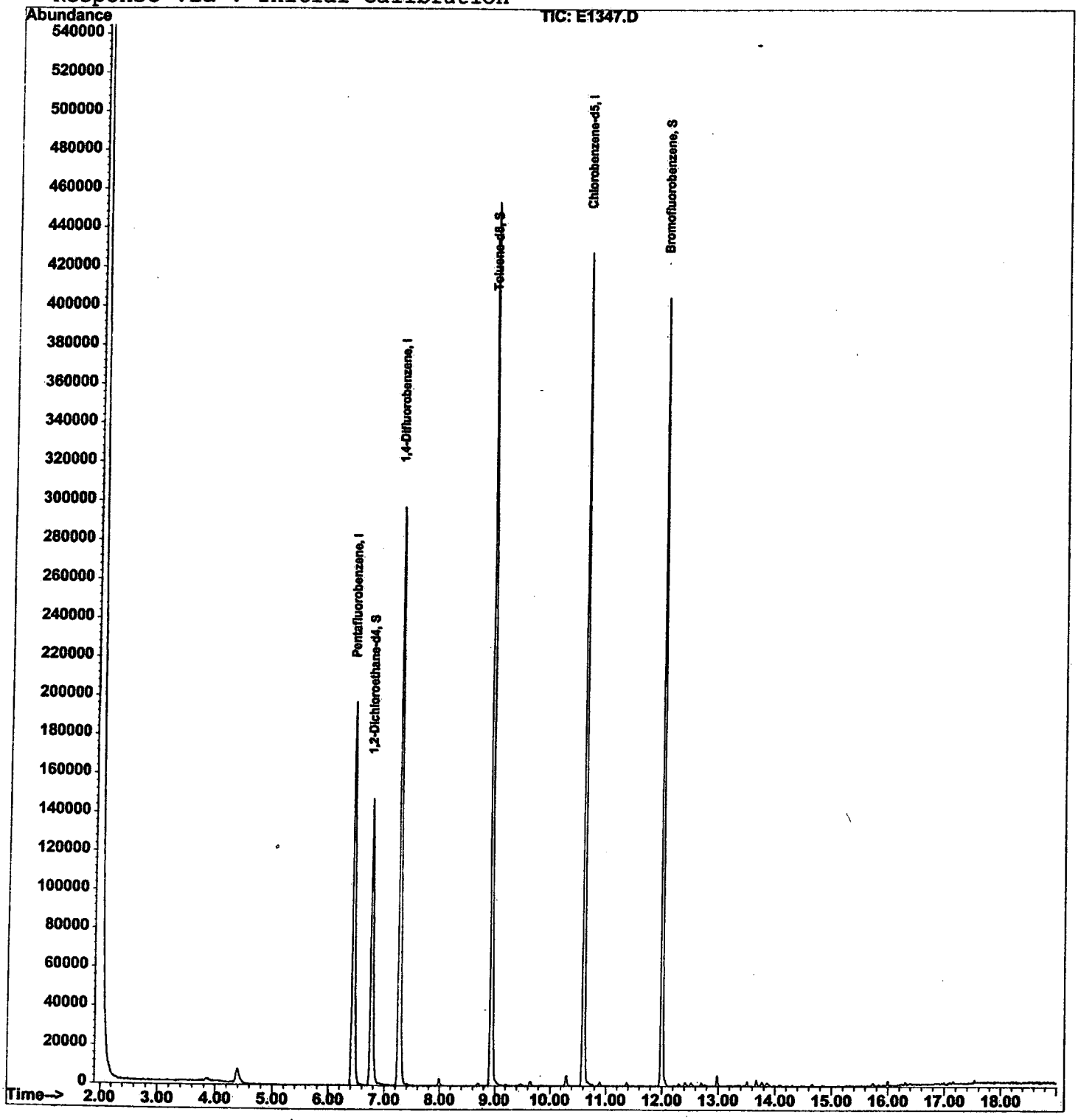
Target Compounds Qvalue

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

Quantitation Report

Data File : H:\DATA\09-22-98\E1347.D Vial: 11
Acq On : 22 Sep 98 16:07 Operator:
Sample : MPF-20,5418-018,A,0.025mL,100 Inst : MSD_E
Misc : RFW/WASTE_ANALYSIS,09/11/98,09/14/98 Multiplr: 1.00
MS Integration Params: LSCINT.P
Quant Time: Sep 22 17:26 1998 Quant Results File: EA091398.RES

Method : C:\HPCHEM\1\METHODS\EA091398.M (RTE Integrator)
Title : VOLATILE ORGANICS BY EPA METHOD 624
Last Update : Wed Sep 16 11:17:08 1998
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : H:\DATA\09-22-98\E1348.D Vial: 12
Acq On : 22 Sep 98 16:32 Operator:
Sample : MPF-21,5418-019,A,0.1mL,100 Inst : MSD_E
Misc : RFW/WASTE_ANALYSIS,09/11/98,09/14/98 Multiplr: 1.00
MS Integration Params: LSCINT.P
Quant Time: Sep 23 10:35 1998 Quant Results File: EA091398.RES

Quant Method : C:\HPCHEM\1\METHODS\EA091398.M (RTE Integrator)
Title : VOLATILE ORGANICS BY EPA METHOD 624
Last Update : Thu Sep 17 10:48:20 1998
Response via : Initial Calibration
DataAcq Meth : EA091398

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Pentafluorobenzene	6.44	168	174647	30.00 UG	0.00
31) 1,4-Difluorobenzene	7.26	114	297505	30.00 UG	0.00
50) Chlorobenzene-d5	10.60	117	243574	30.00 UG	0.00
System Monitoring Compounds					
30) 1,2-Dichloroethane-d4	6.77	65	175944	33.37 UG	0.00
Spiked Amount 30.000	Range 77 - 129		Recovery = 111.23%		
41) Toluene-d8	8.93	98	333161	28.83 UG	0.00
Spiked Amount 30.000	Range 86 - 129		Recovery = 96.10%		
59) Bromofluorobenzene	11.99	95	146303	29.27 UG	0.00
Spiked Amount 30.000	Range 78 - 121		Recovery = 97.57%		

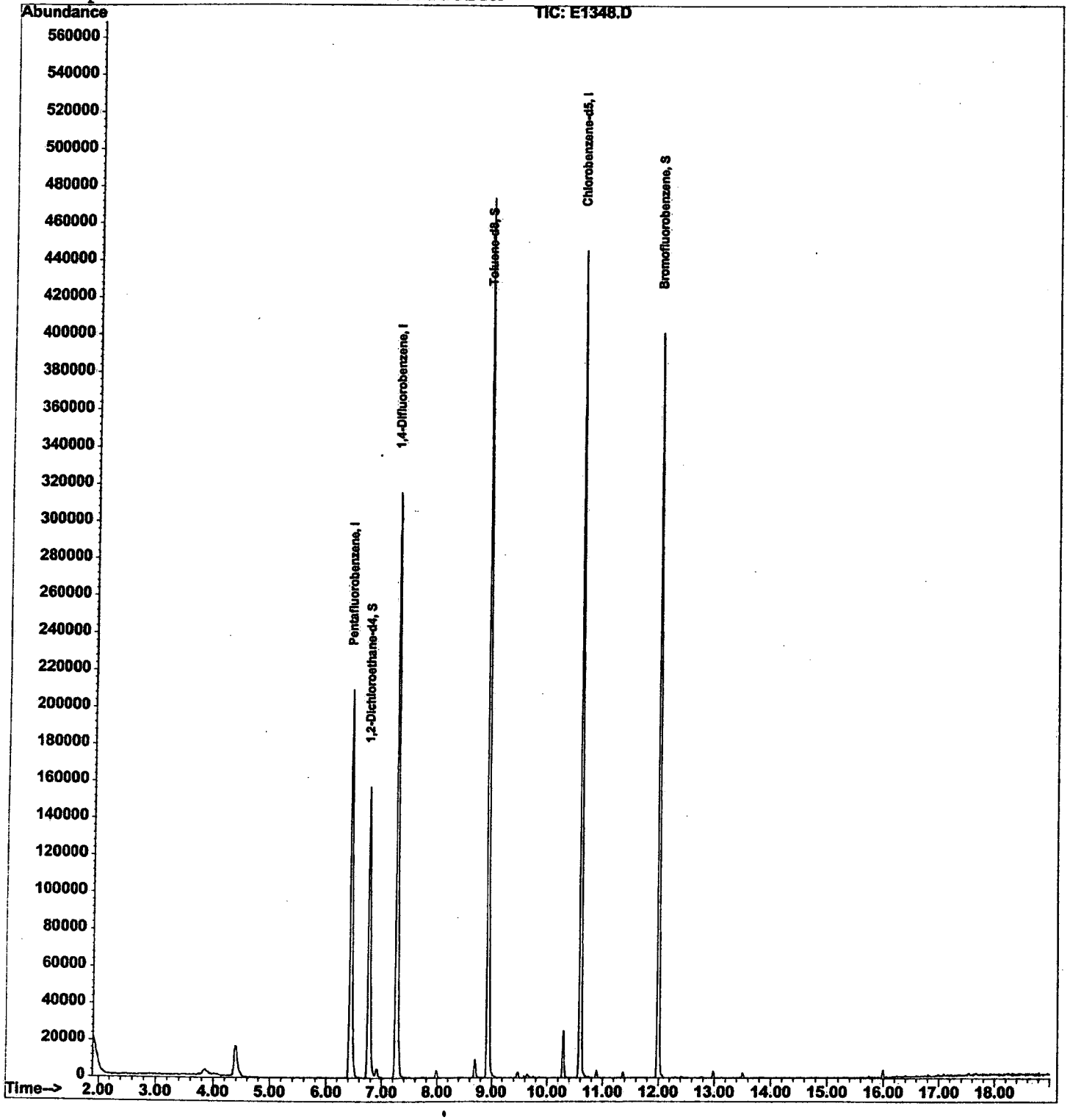
Target Compounds Qvalue

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

Quantitation Report

Data File : H:\DATA\09-22-98\E1348.D Vial: 12
Acq On : 22 Sep 98 16:32 Operator:
Sample : MPF-21,5418-019,A,0.1mL,100 Inst : MSD_E
Misc : RFW/WASTE_ANALYSIS,09/11/98,09/14/98 Multiplr: 1.00
MS Integration Params: LSCINT.P
Quant Time: Sep 23 10:35 1998 Quant Results File: EA091398.RES

Method : C:\HPCHEM\1\METHODS\EA091398.M (RTE Integrator)
Title : VOLATILE ORGANICS BY EPA METHOD 624
Last Update : Wed Sep 16 11:17:08 1998
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\09-18-98\E1274.D Vial: 40
Acq On : 19 Sep 1998 8:31 Operator:
Sample : MPF-22,5418-020,A,0.1mL,100 Inst : MSD_E
Misc : RFW/WASTE_ANALYSIS,09/11/98,09/14/98 Multiplr: 1.00
MS Integration Params: LSCINT.P
Quant Time: Sep 21 10:17 1998 Quant Results File: EA091398.RES

Quant Method : C:\HPCHEM\1\METHODS\EA091398.M (RTE Integrator)
Title : VOLATILE ORGANICS BY EPA METHOD 624
Last Update : Thu Sep 17 10:48:20 1998
Response via : Initial Calibration
DataAcq Meth : EA091398

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Pentafluorobenzene	6.45	168	204515	30.00	UG	0.00
31) 1,4-Difluorobenzene	7.27	114	374896	30.00	UG	0.00
50) Chlorobenzene-d5	10.60	117	310022	30.00	UG	0.00
System Monitoring Compounds						
30) 1,2-Dichloroethane-d4	6.78	65	215235	34.86	UG	0.00
Spiked Amount 30.000	Range 77 - 129		Recovery = 116.20%			
41) Toluene-d8	8.93	98	450491	30.94	UG	0.00
Spiked Amount 30.000	Range 86 - 129		Recovery = 103.13%			
59) Bromofluorobenzene	12.00	95	195517	30.73	UG	0.00
Spiked Amount 30.000	Range 78 - 121		Recovery = 102.43%			

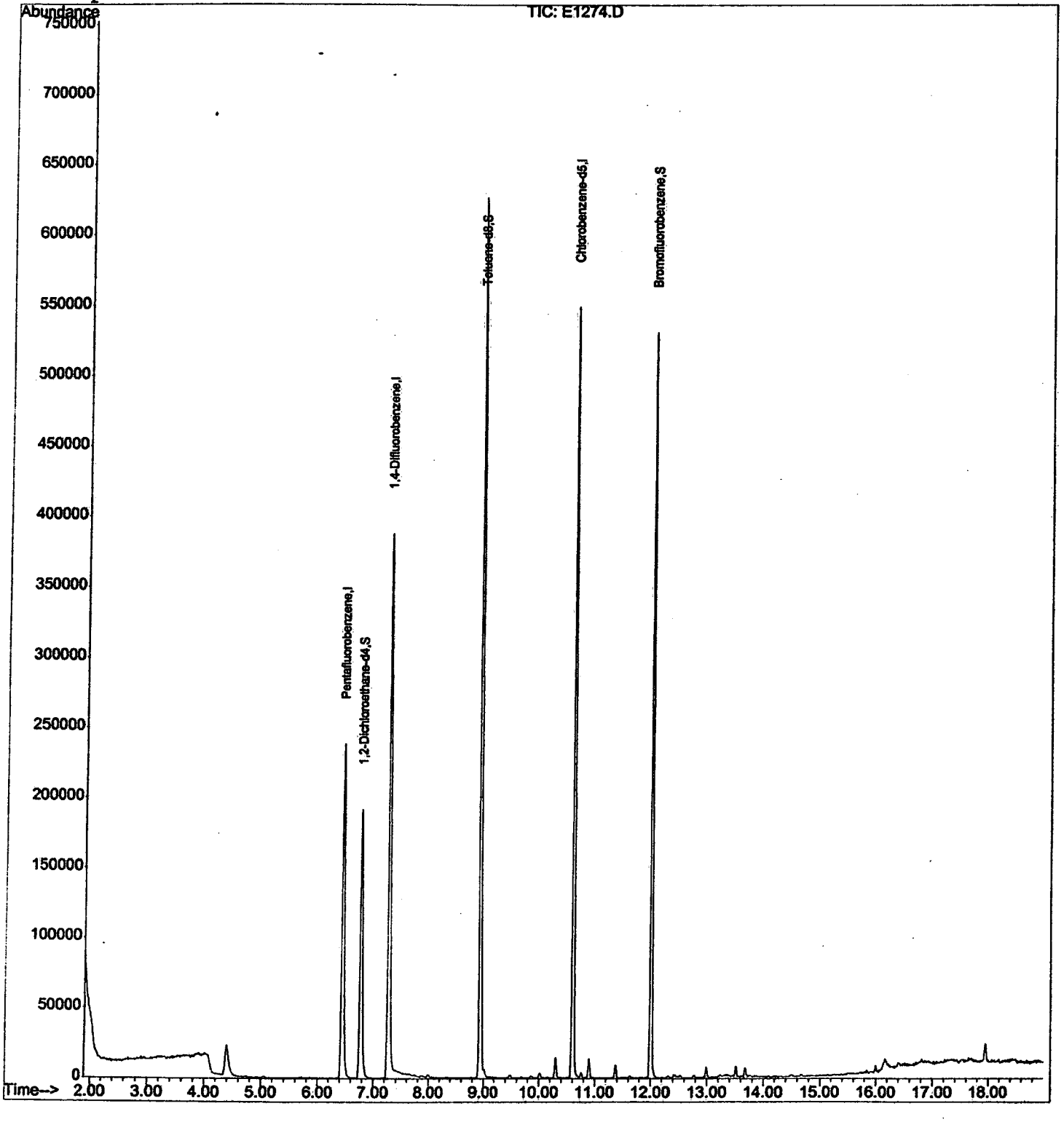
Target Compounds Qvalue

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

Quantitation Report

Data File : C:\HPCHEM\1\DATA\09-18-98\E1274.D Vial: 40
Acq On : 19 Sep 1998 8:31 Operator:
Sample : MPF-22,5418-020,A,0.1mL,100 Inst : MSD_E
Misc : RFW/WASTE_ANALYSIS,09/11/98,09/14/98 Multiplr: 1.00
MS Integration Params: LSCINT.P
Quant Time: Sep 21 10:17 1998 Quant Results File: EA091398.RES

Method : C:\HPCHEM\1\METHODS\EA091398.M (RTE Integrator)
Title : VOLATILE ORGANICS BY EPA METHOD 624
Last Update : Thu Sep 17 10:48:20 1998
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA\09-18-98\E1226.D
Acq On : 18 Sep 1998 12:28
Sample : NA,METHOD-BLK,A,5mL,100
Misc : NA,NA,NA
MS Integration Params: LSCINT.P
Quant Time: Sep 18 12:48 1998

Vial: 3
Operator:
Inst : MSD_E
Multiplr: 1.00

Quant Results File: EA091398.RES

Quant Method : C:\HPCHEM\1\METHODS\EA091398.M (RTE Integrator)
Title : VOLATILE ORGANICS BY EPA METHOD 624
Last Update : Thu Sep 17 10:48:20 1998
Response via : Initial Calibration
DataAcq Meth : EA091398

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Pentafluorobenzene	6.44	168	207018	30.00 UG	0.00
31) 1,4-Difluorobenzene	7.26	114	385438	30.00 UG	0.00
50) Chlorobenzene-d5	10.60	117	305268	30.00 UG	0.00
System Monitoring Compounds					
30) 1,2-Dichloroethane-d4	6.77	65	205210	32.84 UG	0.00
Spiked Amount 30.000	Range 77 - 129		Recovery = 109.47%		
41) Toluene-d8	8.93	98	437393	29.22 UG	0.00
Spiked Amount 30.000	Range 86 - 129		Recovery = 97.40%		
59) Bromofluorobenzene	11.99	95	177454	28.33 UG	0.00
Spiked Amount 30.000	Range 78 - 121		Recovery = 94.43%		

Target Compounds Qvalue

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

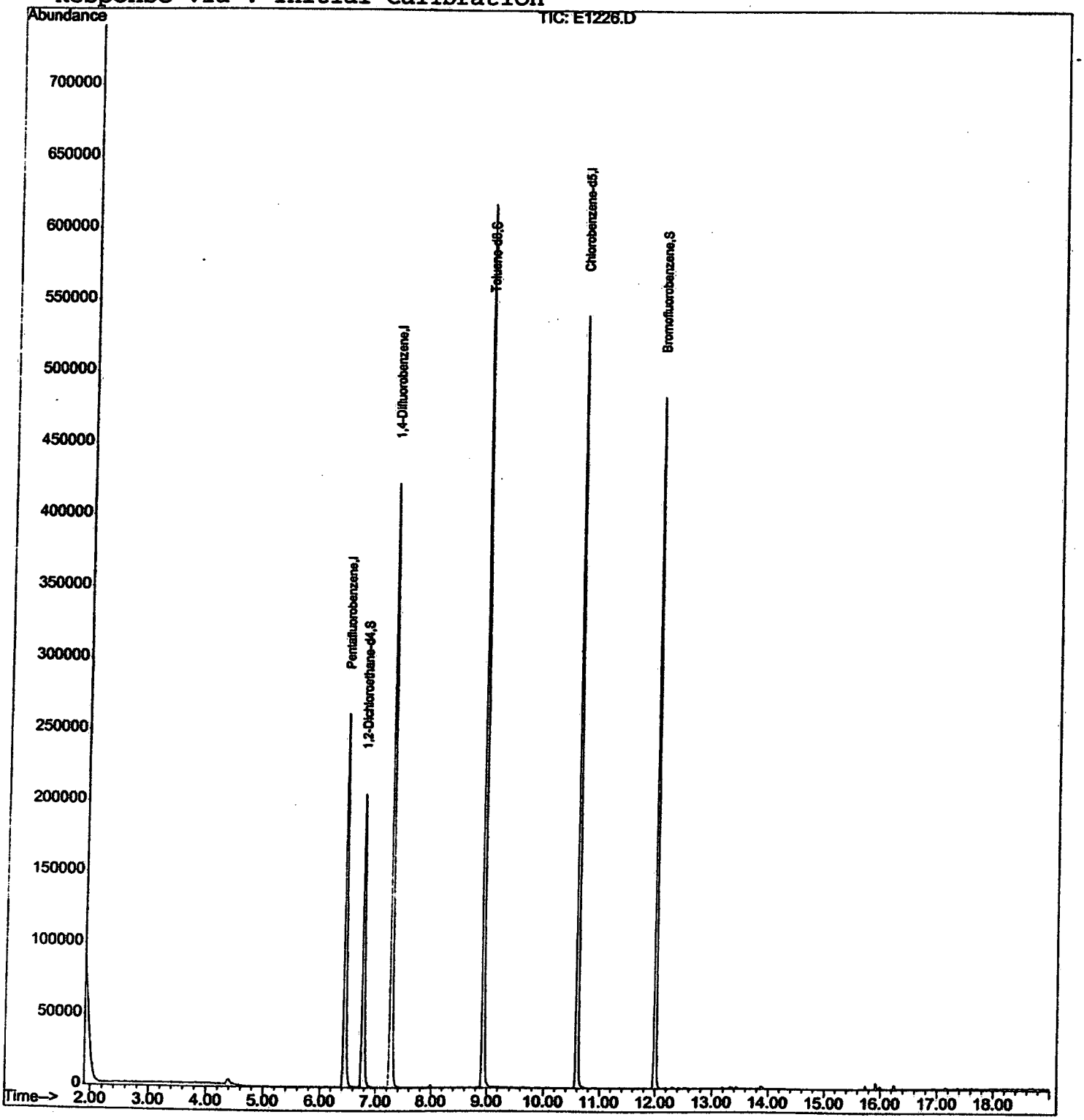
Quantitation Report

Data File : C:\HPCHEM\1\DATA\09-18-98\E1226.D
Acq On : 18 Sep 1998 12:28
Sample : NA,METHOD-BLK,A,5mL,100
Misc : NA,NA,NA
MS Integration Params: LSCINT.P
Quant Time: Sep 18 12:48 1998

Vial: 3
Operator:
Inst : MSD_E
Multiplr: 1.00

Quant Results File: EA091398.RES

Method : C:\HPCHEM\1\METHODS\EA091398.M (RTE Integrator)
Title : VOLATILE ORGANICS BY EPA METHOD 624
Last Update : Thu Sep 17 10:48:20 1998
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\09-18-98\E1268.D
Acq On : 19 Sep 1998 6:02
Sample : TCLP_MB,09-15-98,A,0.1mL,100
Misc : NA,NA,NA
MS Integration Params: LSCINT.P
Quant Time: Sep 21 10:09 1998

Vial: 34
Operator:
Inst : MSD_E
Multiplr: 1.00
Quant Results File: EA091398.RES

Quant Method : C:\HPCHEM\1\METHODS\EA091398.M (RTE Integrator)
Title : VOLATILE ORGANICS BY EPA METHOD 624
Last Update : Thu Sep 17 10:48:20 1998
Response via : Initial Calibration
DataAcq Meth : EA091398

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Pentafluorobenzene	6.44	168	174653	30.00 UG	0.00
31) 1,4-Difluorobenzene	7.26	114	348592	30.00 UG	0.00
50) Chlorobenzene-d5	10.60	117	279450	30.00 UG	0.00
System Monitoring Compounds					
30) 1,2-Dichloroethane-d4	6.77	65	187689	35.60 UG	0.00
Spiked Amount 30.000	Range 77 - 129		Recovery = 118.67%		
41) Toluene-d8	8.93	98	398477	29.43 UG	0.01
Spiked Amount 30.000	Range 86 - 129		Recovery = 98.10%		
59) Bromofluorobenzene	12.00	95	157221	27.42 UG	0.00
Spiked Amount 30.000	Range 78 - 121		Recovery = 91.40%		

Target Compounds Qvalue

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

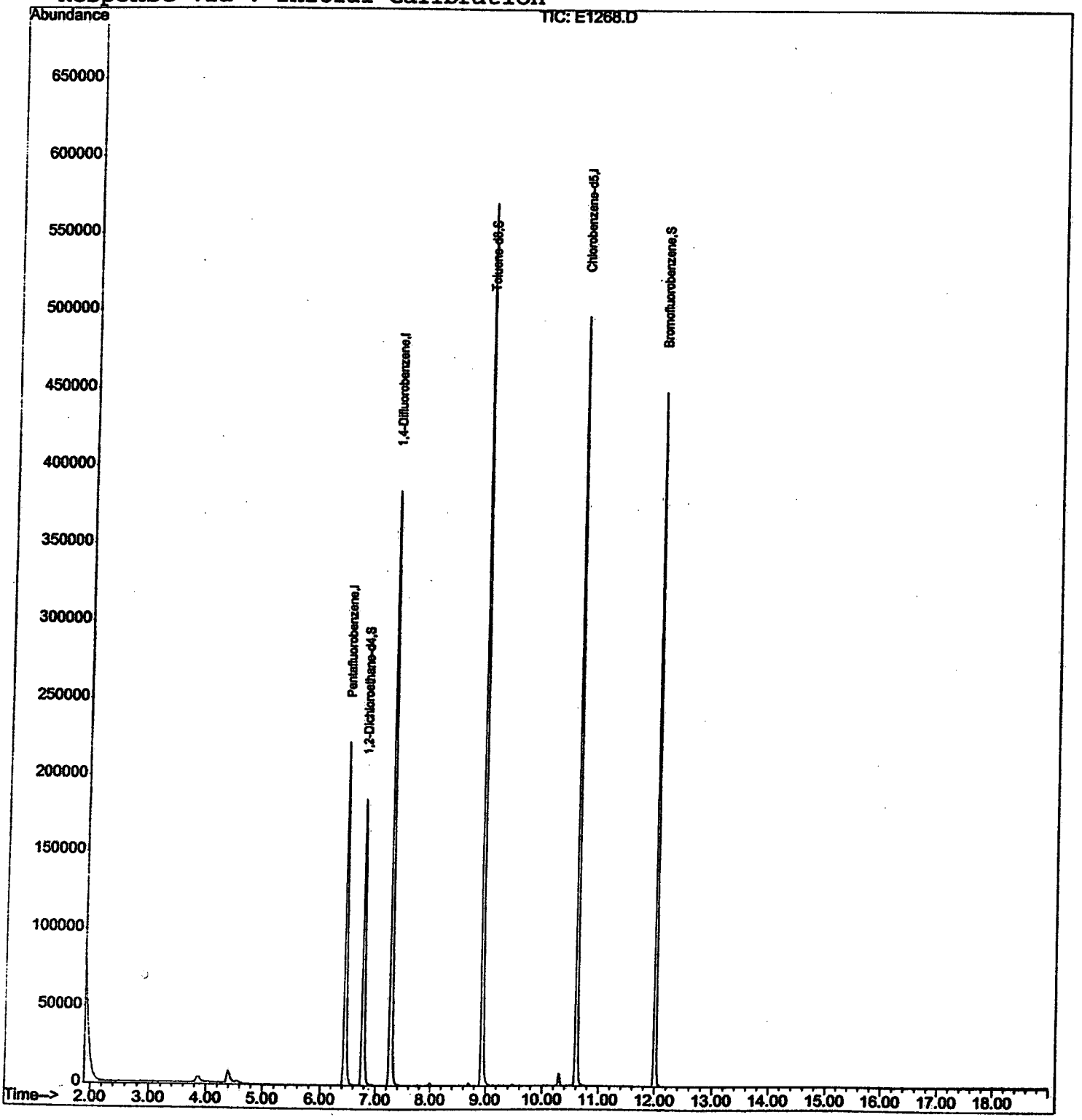
Quantitation Report

Data File : C:\HPCHEM\1\DATA\09-18-98\E1268.D
Acq On : 19 Sep 1998 6:02
Sample : TCLP_MB,09-15-98,A,0.1mL,100
Misc : NA,NA,NA
MS Integration Params: LSCINT.P
Quant Time: Sep 21 10:09 1998

Vial: 34
Operator:
Inst : MSD_E
Multiplr: 1.00

Quant Results File: EA091398.RES

Method : C:\HPCHEM\1\METHODS\EA091398.M (RTE Integrator)
Title : VOLATILE ORGANICS BY EPA METHOD 624
Last Update : Thu Sep 17 10:48:20 1998
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\09-22-98\E1339.D Vial: 3
Acq On : 22 Sep 1998 12:41 Operator:
Sample : NA,METHOD-BLK,A,5mL,100 Inst : MSD_E
Misc : NA,NA,NA Multiplr: 1.00
MS Integration Params: LSCINT.P
Quant Time: Sep 22 13:20 1998 Quant Results File: EA091398.RES

Quant Method : C:\HPCHEM\1\METHODS\EA091398.M (RTE Integrator)
Title : VOLATILE ORGANICS BY EPA METHOD 624
Last Update : Thu Sep 17 10:48:20 1998
Response via : Initial Calibration
DataAcq Meth : EA091398

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Pentafluorobenzene	6.44	168	187901	30.00 UG	0.00
31) 1,4-Difluorobenzene	7.26	114	322605	30.00 UG	0.00
50) Chlorobenzene-d5	10.59	117	255168	30.00 UG	0.00
System Monitoring Compounds					
30) 1,2-Dichloroethane-d4	6.77	65	187703	33.09 UG	0.00
Spiked Amount 30.000	Range 77 - 129		Recovery = 110.30%		
41) Toluene-d8	8.93	98	356819	28.48 UG	0.00
Spiked Amount 30.000	Range 86 - 129		Recovery = 94.93%		
59) Bromofluorobenzene	12.00	95	157000	29.98 UG	0.00
Spiked Amount 30.000	Range 78 - 121		Recovery = 99.93%		

Target Compounds Qvalue

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

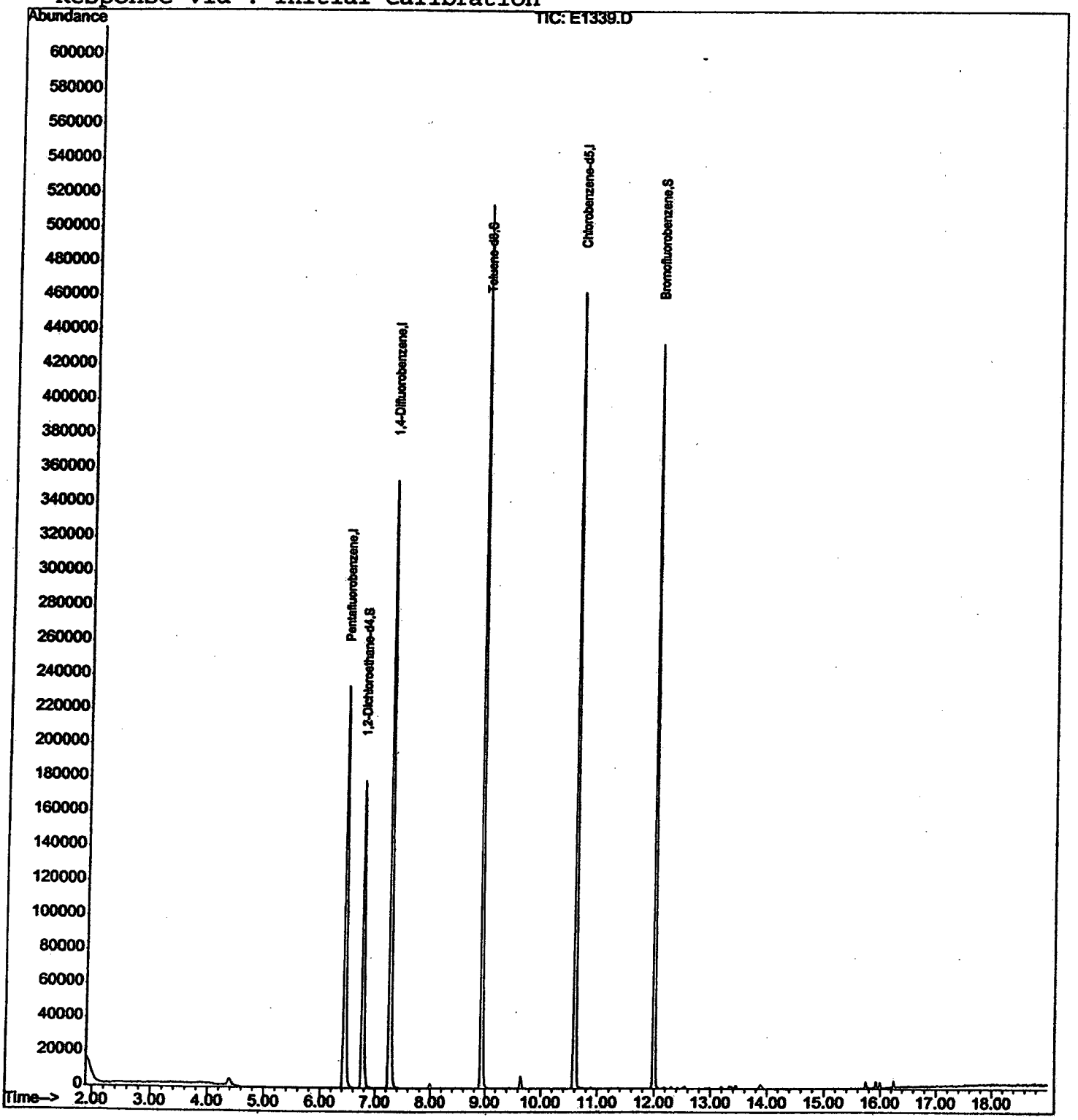
Quantitation Report

Data File : C:\HPCHEM\1\DATA\09-22-98\E1339.D
Acq On : 22 Sep 1998 12:41
Sample : NA,METHOD-BLK,A,5mL,100
Misc : NA,NA,NA
MS Integration Params: LSCINT.P
Quant Time: Sep 22 13:20 1998

Vial: 3
Operator:
Inst : MSD_E
Multiplr: 1.00

Quant Results File: EA091398.RES

Method : C:\HPCHEM\1\METHODS\EA091398.M (RTE Integrator)
Title : VOLATILE ORGANICS BY EPA METHOD 624
Last Update : Thu Sep 17 10:48:20 1998
Response via : Initial Calibration



SEMIVOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK

Lab File ID: 09-23-98\C4244.D DFTPP Injection Date : 09/23/98

Inst ID: MSDC DFTPP Injection Time: 08:05

m/z	Ion Abudance Criteria	%Relative Abundance			
51	30.0 - 60.0% of mass 198	46.7			
68	Less than 2.0% of mass 69	0.0	(	0.1	)1
69	Mass 69 relative abundance	47.0			
70	Less than 2.0% of mass 69	0.3	(	0.6	)1
127	40.0 - 60.0% of mass 198	52.0			
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	7.2			
275	10.0 - 30.0% of mass 198	29.9			
365	Greater than 1.0% of mass 198	3.1			
441	Present, but less than mass 443	10.89	(	76.9	)3
442	40.0 - 100.0% of mass 198	62.1			
443	17.0 - 23.0% of mass 442	14.2	(	22.8	)2

1-Value is % mass 69 2-Value is % mass 442 3-Value is % mass 443

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

Client ID	Lab Sample ID	File ID	Date Analyzed	Time Analyzed
.	20PPB-INJ-FOR-	C4246.D	09/23/98	09:21
.	50PPB-INJ-FOR-	C4247.D	09/23/98	09:50
.	80PPB-INJ-FOR-	C4248.D	09/23/98	10:21
.	5PPB-INJ-FOR-0	C4249.D	09/23/98	10:50
.	Method-blk	C4251.D	09/23/98	11:54
S-1/2/3-COMP.	5509-005	C4252.D	09/23/98	12:23
COMPOSITE	5510-007	C4253.D	09/23/98	12:52
.	Method-blk	C4255.D	09/23/98	01:56
.	FLUID-MS	C4256.D	09/23/98	02:26
3601-3	5426-003	C4257.D	09/23/98	02:55
1	5430-001	C4258.D	09/23/98	03:24
2	5430-002	C4259.D	09/23/98	03:53
3	5430-003	C4260.D	09/23/98	04:22
4	5430-004	C4261.D	09/23/98	04:52
5	5430-005	C4262.D	09/23/98	05:21
6	5430-006	C4263.D	09/23/98	05:50
7	5430-007	C4264.D	09/23/98	06:19
8	5430-008	C4265.D	09/23/98	06:48
9	5430-009	C4266.D	09/23/98	07:17
MPF03	5418-003	C4267.D	09/23/98	07:47
MPF19	5418-017	C4268.D	09/23/98	08:16
MPF20	5418-018	C4269.D	09/23/98	08:45
MPF21	5418-019	C4270.D	09/23/98	09:14

SEMIVOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK

Lab File ID: 09-23-98\C4244.D DFTPP Injection Date : 09/23/98

Inst ID: MSDA DFTPP Injection Time: 08:05

m/z	Ion Abudance Criteria	%Relative Abundance			
51	30.0 - 80.0% of mass 198	46.7			
68	Less than 2.0% of mass 69	0.0	(	0.1	)1
69	Mass 69 relative abundance	47.0			
70	Less than 2.0% of mass 69	0.3	(	0.6	)1
127	25.0 - 75.0% of mass 198	52.0			
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	7.2			
275	10.0 - 30.0% of mass 198	29.9			
365	Greater than 0.75% of mass 198	3.1			
441	Present, but less than mass 443	10.9	(	76.9	)3
442	40.0 - 110.0% of mass 198	62.1			
443	15.0 - 24.0% of mass 442	14.2	(	22.8	)2

1-Value is % mass 69 2-Value is % mass 442 3-Value is % mass 443

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

Client ID	Lab Sample ID	File ID	Date Analyzed	Time Analyzed
MPF22	5418-020	C4271.D	09/23/98	09:43

.28 minutes late

SEMIVOLATILE METHOD BLANK SUMMARY

Lab File ID: C4255.D Instrument ID: MSDC

Date Extracted: 09/17/98 Matrix: AQUEOUS

Date Analyzed: 09/23/98 Time Analyzed: 01:56

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

Client ID	Lab Sample ID	Date Analyzed	Time Analyzed
.	FLUID-MS	09/23/98	02:26
3601-3	5426-003	09/23/98	02:55
1	5430-001	09/23/98	03:24
2	5430-002	09/23/98	03:53
3	5430-003	09/23/98	04:22
4	5430-004	09/23/98	04:52
5	5430-005	09/23/98	05:21
6	5430-006	09/23/98	05:50
7	5430-007	09/23/98	06:19
8	5430-008	09/23/98	06:48
9	5430-009	09/23/98	07:17
MPF03	5418-003	09/23/98	07:47
MPF19	5418-017	09/23/98	08:16
MPF20	5418-018	09/23/98	08:45
MPF21	5418-019	09/23/98	09:14
MPF22	5418-020	09/23/98	09:43

INTEGRATED ANALYTICAL LABORATORIES

TCLP SEMIVOLATILE ORGANICS

Client / Project : N/A

Lab ID: Method-blk
Client ID: .
Date Received: N/A
Date Extracted: 09/17/98
Date Analyzed: 09/23/98
Data File: C4255.D

GC/MS Column : DB5
Sample wt/vol : 1000mL
Matrix-Units: A-mg/L (ppm)
Dil. Factor : 1
% Moisture: 100

Compound	Concentration	Q	MDL
Pyridine	ND		0.001
1,4-Dichlorobenzene	ND		0.001
2-Methylphenol	ND		0.001
4-Methylphenol	ND		0.001
Hexachloroethane	ND		0.001
Nitrobenzene	ND		0.001
Hexachlorobutadiene	ND		0.001
2,4,6-Trichlorophenol	ND		0.001
2,4,5-Trichlorophenol	ND		0.001
2,4-Dinitrotoluene	ND		0.001
Hexachlorobenzene	ND		0.001
Pentachlorophenol	ND		0.001

Total target compounds: 0

Response Factor Report HP5973

Method : C:\HPCHEM\1\METHODS\TCLPC128.M (RTE Integrator)
Title : BNA CALIBRATION METHOD
Last Update : Wed Sep 23 11:26:33 1998
Response via : Initial Calibration

Calibration Files
5 =C4249.D 20 =C4246.D 50 =C4247.D
80 =C4248.D =

		Compound	5	20	50	80	Avg	%RSD
1)	I	1,4-Dichlorobenzene-d	ISTD					
2)		Pyridine	1.580	1.505	1.444	1.443	1.493	4.35
3)	S	2-Fluorophenol	1.466	1.758	1.597	1.779	1.650	8.90
4)	S	Phenol-d5	1.597	1.935	1.704	1.941	1.794	9.57
5)	MC	Phenol	2.043	1.870	1.750	1.774	1.859	7.16
6)	MC	1,4-Dichlorobenzene	1.749	1.621	1.563	1.601	1.633	4.94
7)	T	2-Methylphenol	1.278	1.222	1.155	1.203	1.215	4.18
8)	T	4-Methylphenol	2.645	2.544	2.367	2.467	2.506	4.69
9)	T	Hexachloroethane	0.589	0.575	0.582	0.608	0.589	2.40
10)	I	Naphthalene-d8	ISTD					
11)	S	Nitrobenzene-d5	0.491	0.398	0.442	0.393	0.431	10.60
12)	T	Nitrobenzene	0.543	0.449	0.432	0.434	0.465	11.39
13)	TC	Hexachlorobutadiene	0.220	0.201	0.203	0.213	0.209	4.19
14)	I	Acenaphthene-d10	ISTD					
15)	TC	2,4,6-Trichlorophenol	0.341	0.348	0.372	0.406	0.367	7.97
16)	T	2,4,5-Trichlorophenol	0.392	0.389	0.397	0.424	0.400	4.04
17)	S	2-Fluorobiphenyl	1.639	1.362	1.534	1.373	1.477	9.04
18)	M	2,4-Dinitrotoluene	0.171	0.194	0.215	0.257	0.209	17.46
19)	I	Phenanthrene-d10	ISTD					
21)	S	2,4,6-Tribromophenol	0.142	0.160	0.146	0.181	0.157	11.26
22)	T	Hexachlorobenzene	0.318	0.298	0.305	0.333	0.313	4.87
23)	MC	Pentachlorophenol	0.061	0.081	0.102	0.129	0.093	31.31
24)	I	Chrysene-d12	ISTD					
25)	S	Terphenyl-d14	1.835	1.556	1.628	1.533	1.638	8.40
26)	I	Perylene-d12	ISTD					

(#) = Out of Range

TCLPC128.M Wed Sep 23 11:26:58 1998 HP5973

SEMIVOLATILE SURROGATE PERCENT RECOVERY SUMMARY

Date Analyzed: 09/23/98

Lab Sample ID	Matrix	File ID	S1	S2	S3	S4	S5	S6
Method-blk	AQUEOUS	C4251.	82	96	54	58	103	83
5509-005	AQUEOUS	C4252.	64	72	70	89	88	95
5510-007	AQUEOUS	C4253.	60	68	65	83	84	102
Method-blk	AQUEOUS	C4255.	73	83	76	95	92	109
FLUID-MS	AQUEOUS	C4256.	55	63	66	87	81	90
5426-003	AQUEOUS	C4257.	54	61	65	81	79	93
5430-001	AQUEOUS	C4258.	57	69	71	92	89	102
5430-002	AQUEOUS	C4259.	53	62	65	89	83	92
5430-003	AQUEOUS	C4260.	55	63	66	92	76	95
5430-004	AQUEOUS	C4261.	59	68	66	90	88	105
5430-005	AQUEOUS	C4262.	55	63	66	87	82	101
5430-006	AQUEOUS	C4263.	55	63	67	88	80	102
5430-007	AQUEOUS	C4264.	53	59	50	69	73	90
5430-008	AQUEOUS	C4265.	56	61	63	87	78	95
5430-009	AQUEOUS	C4266.	51	59	63	84	76	97
5418-003	AQUEOUS	C4267.	53	60	67	83	83	87
5418-017	AQUEOUS	C4268.	56	58	68	86	85	85
5418-018	AQUEOUS	C4269.	53	58	71	91	84	81
5418-019	AQUEOUS	C4270.	63	62	69	85	77	89
5418-020	AQUEOUS	C4271.	60	67	62	82	73	97

EPA CLP QC LIMITS FOR:	Soil	Aqueous
S1 (2FP) = 2-Fluorophenol	(25-121)	(43-112)
S2 (PHL) = Phenol-d5	(24-113)	(57-102)
S3 (NBZ) = Nitrobenzene-d5	(23-120)	(50-113)
S4 (FBP) = 2-Fluorobiphenyl	(30-115)	(56-113)
S5 (TBP) = 2,4,6-Tribromophenol	(19-122)	(51-143)
S6 (TPH) = Terphenyl-d14	(18-137)	(67-130)

* Column to be used to flag recovery values

FORM II SV

INTEGRATED ANALYTICAL LABORATORIES

SEMIVOLATILE ORGANICS

Client / Project : N/A

Lab ID: FLUID-MS
Client ID: .
Date Received: N/A
Date Extracted: 09/17/98
Date Analyzed: 09/23/98
Data File: C4256.D

GC/MS Column : DB5
Sample wt/vol : 1000mL
Matrix-Units: A-mg/L (ppm)
Dil. Factor : 1
% Moisture: 100

Compound	Concentration Spike Added	sample Result	Concentration MS	% Recovery
Pyridine	0.03	ND	0.018	60
Phenol	0.03	ND	0.019	63
1,4-Dichlorobenzene	0.03	ND	0.018	60
2-Methylphenol	0.03	ND	0.019	63
4-Methylphenol	0.03	ND	0.020	67
Hexachloroethane	0.03	ND	0.017	57
Nitrobenzene	0.03	ND	0.018	60
Hexachlorobutadiene	0.03	ND	0.017	57
2,4,6-Trichlorophenol	0.03	ND	0.020	67
2,4,5-Trichlorophenol	0.03	ND	0.021	70
2,4-Dinitrotoluene	0.03	ND	0.022	73
Hexachlorobenzene	0.03	ND	0.023	77
Pentachlorophenol	0.03	ND	0.030	100

SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab File ID (Standard): C4246.D

Date Analyzed: 09/23/98

Instrument ID: MSDC

Time Analyzed: 09:21

	40UG/L	IS1 AREA #	RT #	IS2 AREA #	RT #	IS3 AREA #	RT #
	24 HOUR STD	384722	6.89	1237662	8.96	522973	11.69
	UPPER LIMIT	769444	7.39	2475324	9.46	1045946	12.19
	LOWER LIMIT	192361	6.39	618831	8.46	261487	11.19
	LAB SAMPLE ID						
01	50PPB-INJ-FOR-09/	377864	6.89	1155273	8.95	462539	11.69
02	80PPB-INJ-FOR-09/	401331	6.89	1271618	8.96	514992	11.69
03	5PPB-INJ-FOR-09/2	635315	6.89	1948478	8.96	838500	11.69
04	Method-blk	439167	6.89	1425638	8.95	623471	11.69
05	5509-005	392641	6.89	1272260	8.95	553593	11.69
06	5510-007	426519	6.89	1360395	8.95	592157	11.69
07	Method-blk	436493	6.89	1402358	8.95	608483	11.69
08	FLUID-MS	423198	6.89	1367284	8.95	580831	11.69
09	5426-003	440803	6.89	1478874	8.96	683545	11.69
10	5430-001	460488	6.89	1528111	8.95	688676	11.69
11	5430-002	477164	6.89	1551453	8.95	663859	11.69
12	5430-003	392804	6.89	1191379	8.95	472045	11.69
13	5430-004	433033	6.89	1388446	8.95	597749	11.69
14	5430-005	442506	6.89	1446758	8.96	650462	11.69
15	5430-006	434687	6.89	1411457	8.95	622658	11.69
16	5430-007	349852	6.89	1325293	8.95	558761	11.69
17	5430-008	393633	6.89	1198330	8.95	495257	11.69
18	5430-009	448049	6.89	1432356	8.95	637146	11.68
19	5418-003	501230	6.89	1643746	8.95	752607	11.69
20	5418-017	412295	6.89	1278824	8.95	560682	11.68
21	5418-018	380603	6.88	1201256	8.95	496086	11.69
22	5418-019	368495	6.88	1334539	8.95	574776	11.69

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 values outside QC limits with an asterisk
* Values outside of QC limits.

FORM VIII SV-1

SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab File ID (Standard): C4246.D

Date Analyzed: 09/23/98

Instrument ID: MSDC

Time Analyzed: 09:21

	40UG/L	IS1 AREA #	RT #	IS2 AREA #	RT #	IS3 AREA #	RT #
	24 HOUR STD	384722	6.89	1237662	8.96	522973	11.69
	UPPER LIMIT	769444	7.39	2475324	9.46	1045946	12.19
	LOWER LIMIT	192361	6.39	618831	8.46	261487	11.19
	LAB SAMPLE ID						
01	5418-020	340892	6.89	1492226	8.95	670182	11.68
02							
03							
04							
05							
06							
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17							
18							
19							
20							
21							
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 values outside QC limits with an asterisk
* Values outside of QC limits.

SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab File ID (Standard): C4246.D Date Analyzed: 09/23/98

Instrument ID: MSDC Time Analyzed: 09:21

	40UG/L	IS4 AREA #	RT #	IS5 AREA #	RT #	IS6 AREA #	RT #
	24 HOUR STD	662688	13.86	322583	18.08	209010	21.95
	UPPER LIMIT	1325376	14.36	645166	18.58	418020	22.45
	LOWER LIMIT	331344	13.36	161292	17.58	104505	21.45
	LAB SAMPLE ID						
01	50PPB-INJ-FOR-09/	535310	13.86	242339	18.07	190082	21.93
02	80PPB-INJ-FOR-09/	577776	13.86	237539	18.08	179851	21.94
03	5PPB-INJ-FOR-09/2	1067318	13.86	515843	18.07	377004	21.95
04	Method-blk	771173	13.86	307527	18.07	219566	21.94
05	5509-005	689790	13.86	301055	18.07	209090	21.94
06	5510-007	734104	13.86	274552	18.07	188107	21.94
07	Method-blk	768298	13.86	298045	18.07	195075	21.94
08	FLUID-MS	682087	13.86	276748	18.07	203538	21.94
09	5426-003	865444	13.86	361687	18.07	239563	21.95
10	5430-001	822100	13.86	309116	18.07	217818	21.95
11	5430-002	765942	13.86	336007	18.07	239263	21.94
12	5430-003	558893	13.86	248297	18.07	195032	21.95
13	5430-004	722417	13.86	265456	18.07	188580	21.95
14	5430-005	805147	13.86	294477	18.07	207961	21.95
15	5430-006	787698	13.86	319968	18.07	219570	21.94
16	5430-007	693675	13.86	315571	18.07	223195	21.94
17	5430-008	622674	13.86	308239	18.07	208915	21.94
18	5430-009	803291	13.86	344982	18.07	251640	21.94
19	5418-003	885568	13.86	335974	18.07	251999	21.93
20	5418-017	718221	13.86	356029	18.07	270112	21.93
21	5418-018	577896	13.86	304980	18.07	253413	21.94
22	5418-019	717146	13.85	362989	18.06	291994	21.93

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 values outside QC limits with an asterisk
* Values outside of QC limits.

FORM VIII SV-2

SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab File ID (Standard): C4246.D

Date Analyzed: 09/23/98

Instrument ID: MSDC

Time Analyzed: 09:21

	50UG/L	IS4 AREA #	RT #	IS5 AREA #	RT #	IS6 AREA #	RT #
	24 HOUR STD	662688	13.86	322583	18.08	209010	21.95
	UPPER LIMIT	1325376	14.36	645166	18.58	418020	22.45
	LOWER LIMIT	331344	13.36	161292	17.58	104505	21.45
	LAB SAMPLE ID						
01	5418-020	776569	13.85	300025	18.06	237205	21.93
02							
03							
04							
05							
06							
07							
08							
09							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
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 values outside QC limits with an asterisk
* Values outside of QC limits.

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\MSD_C\09-23-98\C4267.D Vial: 17
Acq On : 23 Sep 98 7:47 pm Operator: JC
Sample : MPF03,5418-003,a,500mL,100,09/17/98 Inst : HP5973
Misc : RFW/WASTE ANALYSIS,09/11/98,09/14/98,1 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Sep 24 11:08 1998 Quant Results File: TCLPC128.RES

Quant Method : C:\HPCHEM\1\METHODS\TCLPC128.M (RTE Integrator)
Title : BNA CALIBRATION METHOD
Last Update : Wed Sep 23 11:26:33 1998
Response via : Initial Calibration
DataAcq Meth : TCLPC128

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	6.89	152	501230	40.00 UG	0.00
10) Naphthalene-d8	8.95	136	1643746	40.00 UG	0.00
14) Acenaphthene-d10	11.69	164	752607	40.00 UG	0.00
19) Phenanthrene-d10	13.86	188	885568	40.00 UG	0.00
24) Chrysene-d12	18.07	240	335974	40.00 UG	0.00
26) Perylene-d12	21.93	264	251999	40.00 UG	-0.01

System Monitoring Compounds

3) 2-Fluorophenol	4.91	112	1089866	52.71 UG	0.00
Spiked Amount 100.000	Range 43 - 112		Recovery = 52.71%		
4) Phenol-d5	6.22	99	1346549	59.89 UG	0.00
Spiked Amount 100.000	Range 57 - 102		Recovery = 59.89%		
11) Nitrobenzene-d5	7.76	82	591277	33.38 UG	0.00
Spiked Amount 50.000	Range 50 - 113		Recovery = 66.76%		
17) 2-Fluorobiphenyl	10.62	172	1146844	41.28 UG	0.00
Spiked Amount 50.000	Range 56 - 113		Recovery = 82.56%		
21) 2,4,6-Tribromophenol	12.84	330	289853	83.19 UG	0.00
Spiked Amount 100.000	Range 51 - 143		Recovery = 83.19%		
25) Terphenyl-d14	16.05	244	595422	43.28 UG	0.00
Spiked Amount 50.000	Range 67 - 130		Recovery = 86.56%		

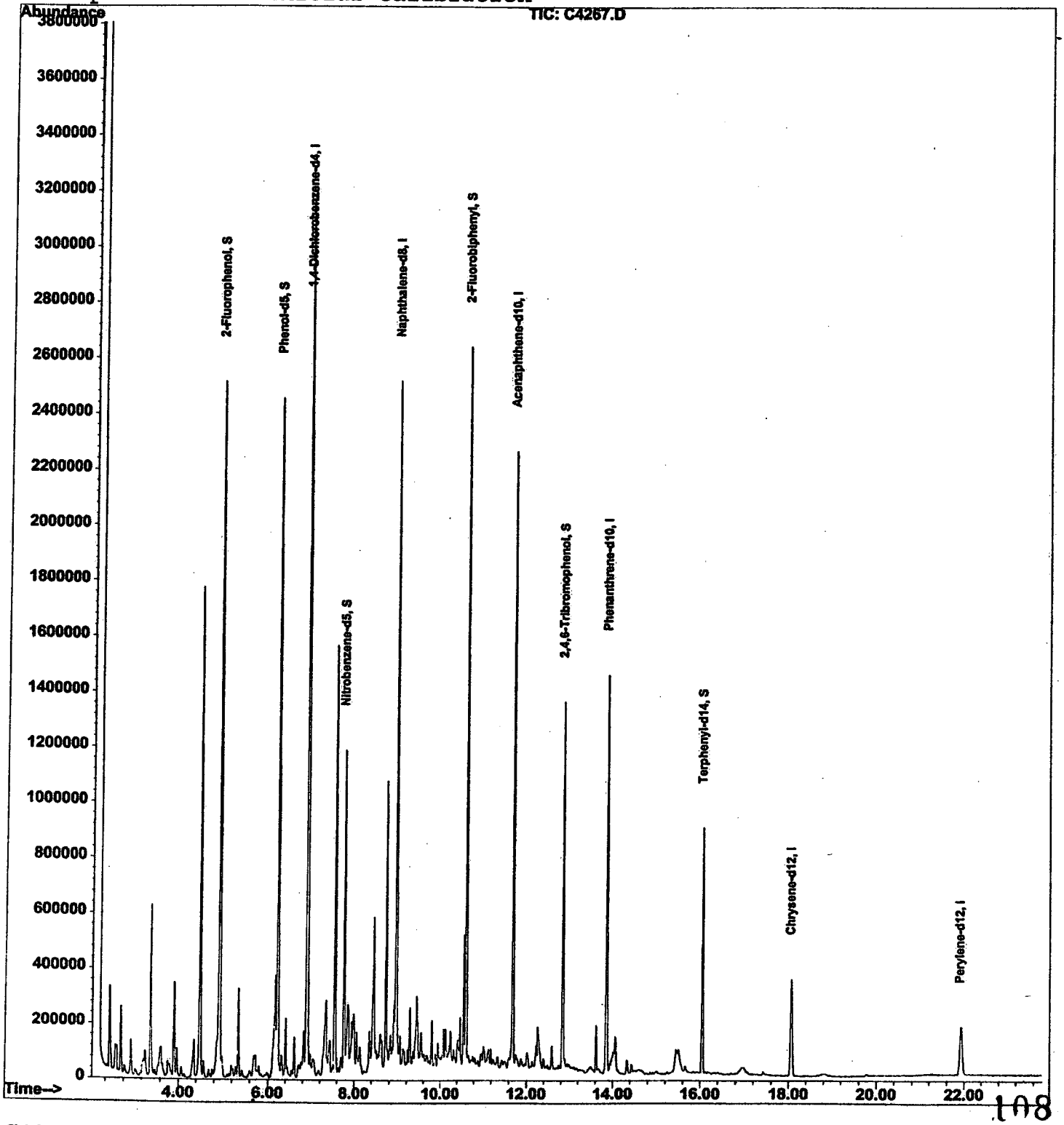
Target Compounds Qvalue

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

Quantitation Report

Data File : C:\HPCHEM\1\DATA\MSD_C\09-23-98\C4267.D Vial: 17
Acq On : 23 Sep 98 7:47 pm Operator: JC
Sample : MPF03,5418-003,a,500mL,100,09/17/98 Inst : HP5973
Misc : RFW/WASTE ANALYSIS,09/11/98,09/14/98,1 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Sep 24 11:08 1998 Quant Results File: TCLPC128.RES

Method : C:\HPCHEM\1\METHODS\TCLPC128.M (RTE Integrator)
Title : BNA CALIBRATION METHOD
Last Update : Wed Sep 23 11:26:33 1998
Response via : Initial Calibration



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Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\MSD_C\09-23-98\C4268.D Vial: 18
Acq On : 23 Sep 98 8:16 pm Operator: JC
Sample : MPF19,5418-017,a,500mL,100,09/17/98 Inst : HP5973
Misc : RFW/WASTE ANALYSIS,09/11/98,09/14/98,1 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Sep 24 11:08 1998 Quant Results File: TCLPC128.RES

Quant Method : C:\HPCHEM\1\METHODS\TCLPC128.M (RTE Integrator)
Title : BNA CALIBRATION METHOD
Last Update : Wed Sep 23 11:26:33 1998
Response via : Initial Calibration
DataAcq Meth : TCLPC128

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	6.89	152	412295	40.00 UG	0.00
10) Naphthalene-d8	8.95	136	1278824	40.00 UG	0.00
14) Acenaphthene-d10	11.68	164	560682	40.00 UG	0.00
19) Phenanthrene-d10	13.86	188	718221	40.00 UG	0.00
24) Chrysene-d12	18.07	240	356029	40.00 UG	0.00
26) Perylene-d12	21.93	264	270112	40.00 UG	-0.02
System Monitoring Compounds					
3) 2-Fluorophenol	4.91	112	944899	55.56 UG	0.00
Spiked Amount 100.000	Range 43 - 112		Recovery = 55.56%		
4) Phenol-d5	6.21	99	1073497	58.05 UG	-0.01
Spiked Amount 100.000	Range 57 - 102		Recovery = 58.05%		
11) Nitrobenzene-d5	7.76	82	466311	33.84 UG	0.00
Spiked Amount 50.000	Range 50 - 113		Recovery = 67.68%		
17) 2-Fluorobiphenyl	10.62	172	886399	42.82 UG	0.00
Spiked Amount 50.000	Range 56 - 113		Recovery = 85.64%		
21) 2,4,6-Tribromophenol	12.84	330	240232	85.02 UG	0.00
Spiked Amount 100.000	Range 51 - 143		Recovery = 85.02%		
25) Terphenyl-d14	16.05	244	620854	42.58 UG	0.00
Spiked Amount 50.000	Range 67 - 130		Recovery = 85.16%		

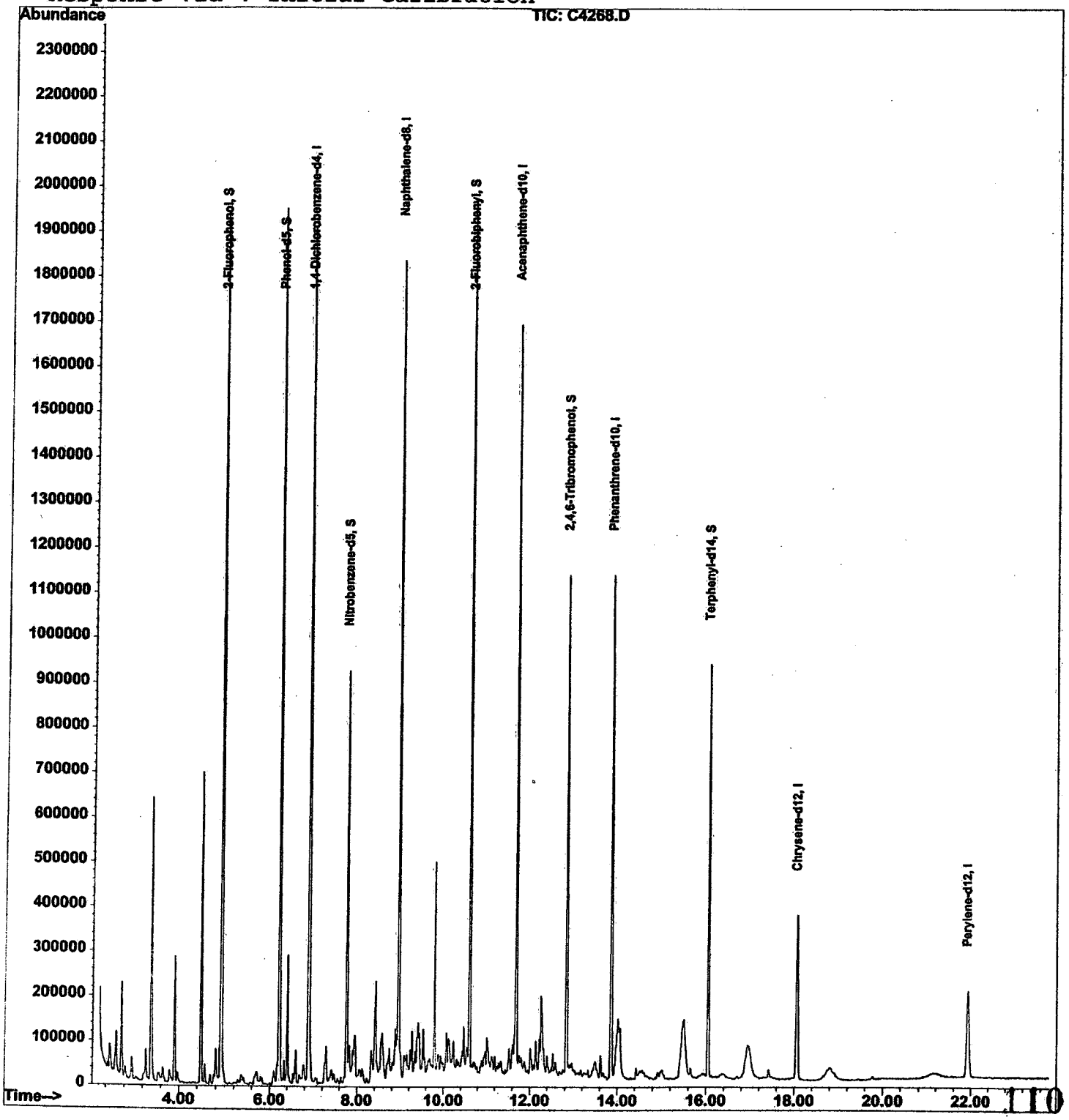
Target Compounds Qvalue

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

Quantitation Report

Data File : C:\HPCHEM\1\DATA\MSD_C\09-23-98\C4268.D Vial: 18
Acq On : 23 Sep 98 8:16 pm Operator: JC
Sample : MPF19,5418-017,a,500mL,100,09/17/98 Inst : HP5973
Misc : RFW/WASTE ANALYSIS,09/11/98,09/14/98,1 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Sep 24 11:08 1998 Quant Results File: TCLPC128.RES

Method : C:\HPCHEM\1\METHODS\TCLPC128.M (RTE Integrator)
Title : BNA CALIBRATION METHOD
Last Update : Wed Sep 23 11:26:33 1998
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\MSD_C\09-23-98\C4269.D Vial: 19
Acq On : 23 Sep 98 8:45 pm Operator: JC
Sample : MPF20,5418-018,a,100mL,100,09/17/98 Inst : HP5973
Misc : RFW/WASTE ANALYSIS,09/11/98,09/14/98,1 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Sep 24 11:17 1998 Quant Results File: TCLPC128.RES

Quant Method : C:\HPCHEM\1\METHODS\TCLPC128.M (RTE Integrator)
Title : BNA CALIBRATION METHOD
Last Update : Wed Sep 23 11:26:33 1998
Response via : Initial Calibration
DataAcq Meth : TCLPC128

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	6.88	152	380603	40.00 UG	0.00
10) Naphthalene-d8	8.95	136	1201256	40.00 UG	0.00
14) Acenaphthene-d10	11.69	164	496086	40.00 UG	0.00
19) Phenanthrene-d10	13.86	188	577896	40.00 UG	0.00
24) Chrysene-d12	18.07	240	304980	40.00 UG	0.00
26) Perylene-d12	21.94	264	253413	40.00 UG	0.00

System Monitoring Compounds

3) 2-Fluorophenol	4.91	112	837297	53.33 UG	0.00
Spiked Amount 100.000	Range 43 - 112		Recovery = 53.33%		
4) Phenol-d5	6.21	99	997562m	58.43 UG	-0.01
Spiked Amount 100.000	Range 57 - 102		Recovery = 58.43%		
11) Nitrobenzene-d5	7.76	82	460921	35.61 UG	0.00
Spiked Amount 50.000	Range 50 - 113		Recovery = 71.22%		
17) 2-Fluorobiphenyl	10.62	172	833362	45.50 UG	0.00
Spiked Amount 50.000	Range 56 - 113		Recovery = 91.00%		
21) 2,4,6-Tribromophenol	12.84	330	191105	84.05 UG	0.00
Spiked Amount 100.000	Range 51 - 143		Recovery = 84.05%		
25) Terphenyl-d14	16.05	244	505647	40.49 UG	0.00
Spiked Amount 50.000	Range 67 - 130		Recovery = 80.98%		

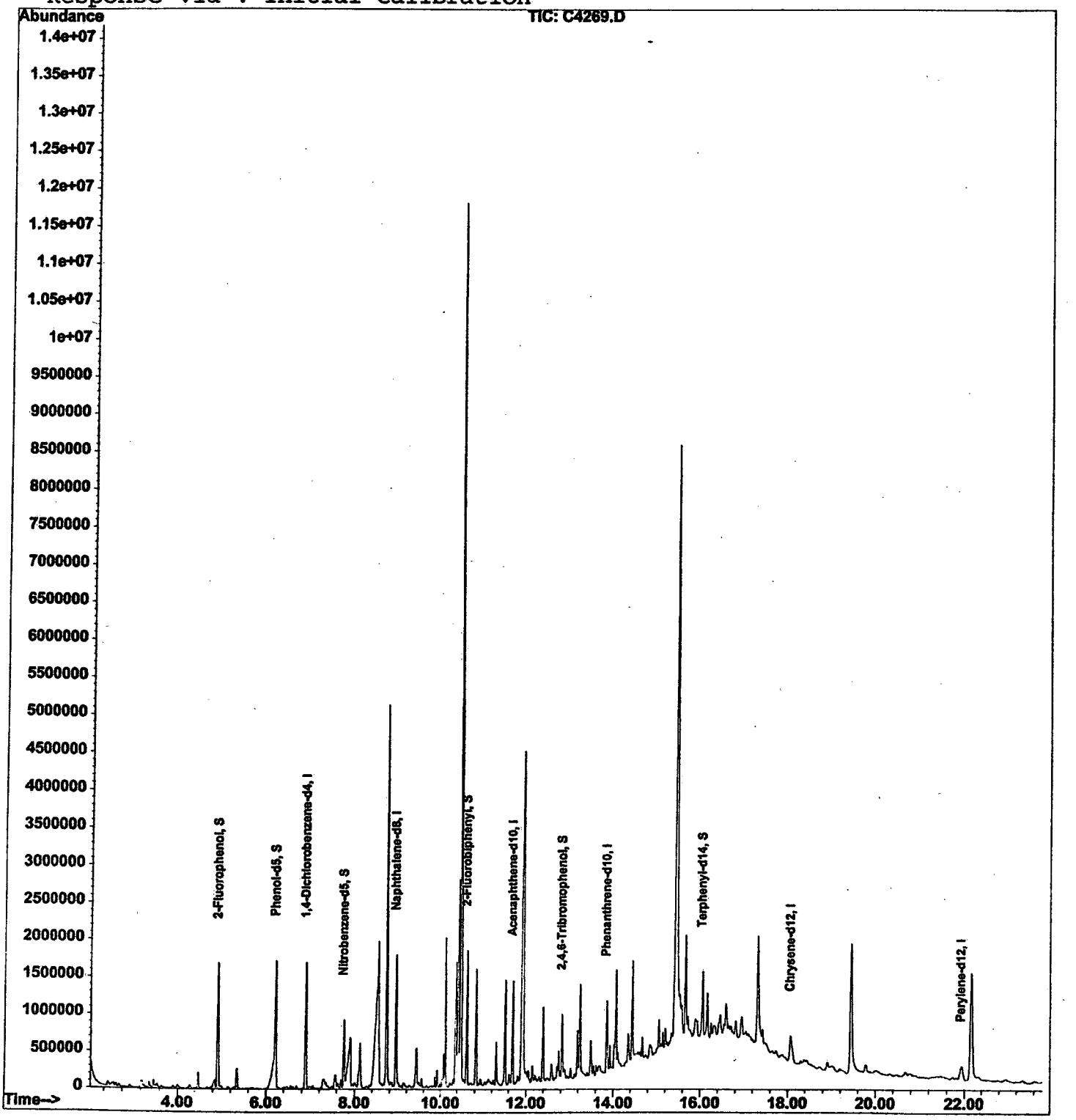
Target Compounds Qvalue

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

Quantitation Report

Data File : C:\HPCHEM\1\DATA\MSD_C\09-23-98\C4269.D Vial: 19
Acq On : 23 Sep 98 8:45 pm Operator: JC
Sample : MPF20,5418-018,a,100mL,100,09/17/98 Inst : HP5973
Misc : RFW/WASTE ANALYSIS,09/11/98,09/14/98,1 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Sep 24 11:17 1998 Quant Results File: TCLPC128.RES

Method : C:\HPCHEM\1\METHODS\TCLPC128.M (RTE Integrator)
Title : BNA CALIBRATION METHOD
Last Update : Wed Sep 23 11:26:33 1998
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\MSD_C\09-23-98\C4270.D Vial: 20
Acq On : 23 Sep 98 9:14 pm Operator: JC
Sample : MPF21,5418-019,a,500mL,100,09/17/98 Inst : HP5973
Misc : RFW/WASTE ANALYSIS,09/11/98,09/14/98,1 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Sep 24 11:09 1998 Quant Results File: TCLPC128.RES

Quant Method : C:\HPCHEM\1\METHODS\TCLPC128.M (RTE Integrator)
Title : BNA CALIBRATION METHOD
Last Update : Wed Sep 23 11:26:33 1998
Response via : Initial Calibration
DataAcq Meth : TCLPC128

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	6.88	152	368495m	40.00 UG	0.00
10) Naphthalene-d8	8.95	136	1334539	40.00 UG	0.00
14) Acenaphthene-d10	11.69	164	574776	40.00 UG	0.00
19) Phenanthrene-d10	13.85	188	717146	40.00 UG	0.00
24) Chrysene-d12	18.06	240	362989	40.00 UG	-0.01
26) Perylene-d12	21.93	264	291994	40.00 UG	-0.02

System Monitoring Compounds					
3) 2-Fluorophenol	4.91	112	951260	62.58 UG	0.00
Spiked Amount 100.000	Range 43 - 112		Recovery = 62.58%		
4) Phenol-d5	6.22	99	1018404	61.61 UG	-0.01
Spiked Amount 100.000	Range 57 - 102		Recovery = 61.61%		
11) Nitrobenzene-d5	7.76	82	494324	34.37 UG	-0.01
Spiked Amount 50.000	Range 50 - 113		Recovery = 68.74%		
17) 2-Fluorobiphenyl	10.62	172	903192	42.56 UG	-0.01
Spiked Amount 50.000	Range 56 - 113		Recovery = 85.12%		
21) 2,4,6-Tribromophenol	12.84	330	217528	77.10 UG	0.00
Spiked Amount 100.000	Range 51 - 143		Recovery = 77.10%		
25) Terphenyl-d14	16.05	244	660261	44.42 UG	-0.01
Spiked Amount 50.000	Range 67 - 130		Recovery = 88.84%		

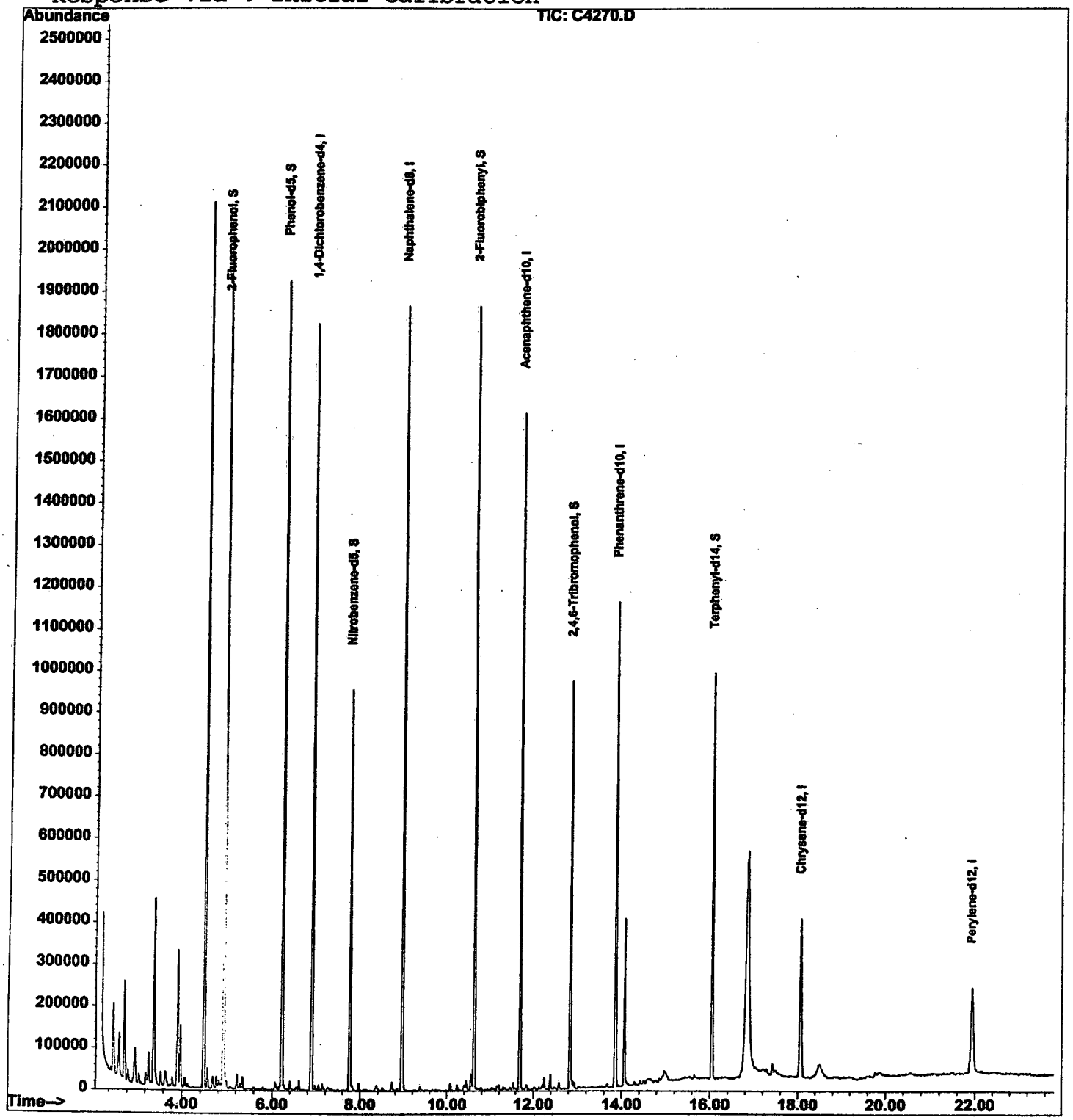
Target Compounds Qvalue

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

Quantitation Report

Data File : C:\HPCHEM\1\DATA\MSD_C\09-23-98\C4270.D Vial: 20
Acq On : 23 Sep 98 9:14 pm Operator: JC
Sample : MPF21,5418-019,a,500mL,100,09/17/98 Inst : HP5973
Misc : RFW/WASTE ANALYSIS,09/11/98,09/14/98,1 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Sep 24 11:09 1998 Quant Results File: TCLPC128.RES

Method : C:\HPCHEM\1\METHODS\TCLPC128.M (RTE Integrator)
Title : BNA CALIBRATION METHOD
Last Update : Wed Sep 23 11:26:33 1998
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\MSD_C\09-23-98\C4271.D Vial: 21
Acq On : 23 Sep 98 9:43 pm Operator: JC
Sample : MPF22,5418-020,a,500mL,100,09/17/98 Inst : HP5973
Misc : RFW/WASTE ANALYSIS,09/11/98,09/14/98,1 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Sep 24 11:10 1998 Quant Results File: TCLPC128.RES

Quant Method : C:\HPCHEM\1\METHODS\TCLPC128.M (RTE Integrator)
Title : BNA CALIBRATION METHOD
Last Update : Wed Sep 23 11:26:33 1998
Response via : Initial Calibration
DataAcq Meth : TCLPC128

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	6.89	152	340892m	40.00 UG	0.00
10) Naphthalene-d8	8.95	136	1492226	40.00 UG	0.00
14) Acenaphthene-d10	11.68	164	670182	40.00 UG	0.00
19) Phenanthrene-d10	13.85	188	776569	40.00 UG	0.00
24) Chrysene-d12	18.06	240	300025	40.00 UG	-0.01
26) Perylene-d12	21.93	264	237205	40.00 UG	-0.02

System Monitoring Compounds

3) 2-Fluorophenol	4.91	112	838494	59.63 UG	0.00
Spiked Amount 100.000	Range 43 - 112		Recovery = 59.63%		
4) Phenol-d5	6.21	99	1029915	67.36 UG	-0.01
Spiked Amount 100.000	Range 57 - 102		Recovery = 67.36%		
11) Nitrobenzene-d5	7.76	82	499032	31.03 UG	0.00
Spiked Amount 50.000	Range 50 - 113		Recovery = 62.06%		
17) 2-Fluorobiphenyl	10.62	172	1010390	40.84 UG	0.00
Spiked Amount 50.000	Range 56 - 113		Recovery = 81.68%		
21) 2,4,6-Tribromophenol	12.84	330	222191	72.72 UG	0.00
Spiked Amount 100.000	Range 51 - 143		Recovery = 72.72%		
25) Terphenyl-d14	16.05	244	593562	48.31 UG	-0.01
Spiked Amount 50.000	Range 67 - 130		Recovery = 96.62%		

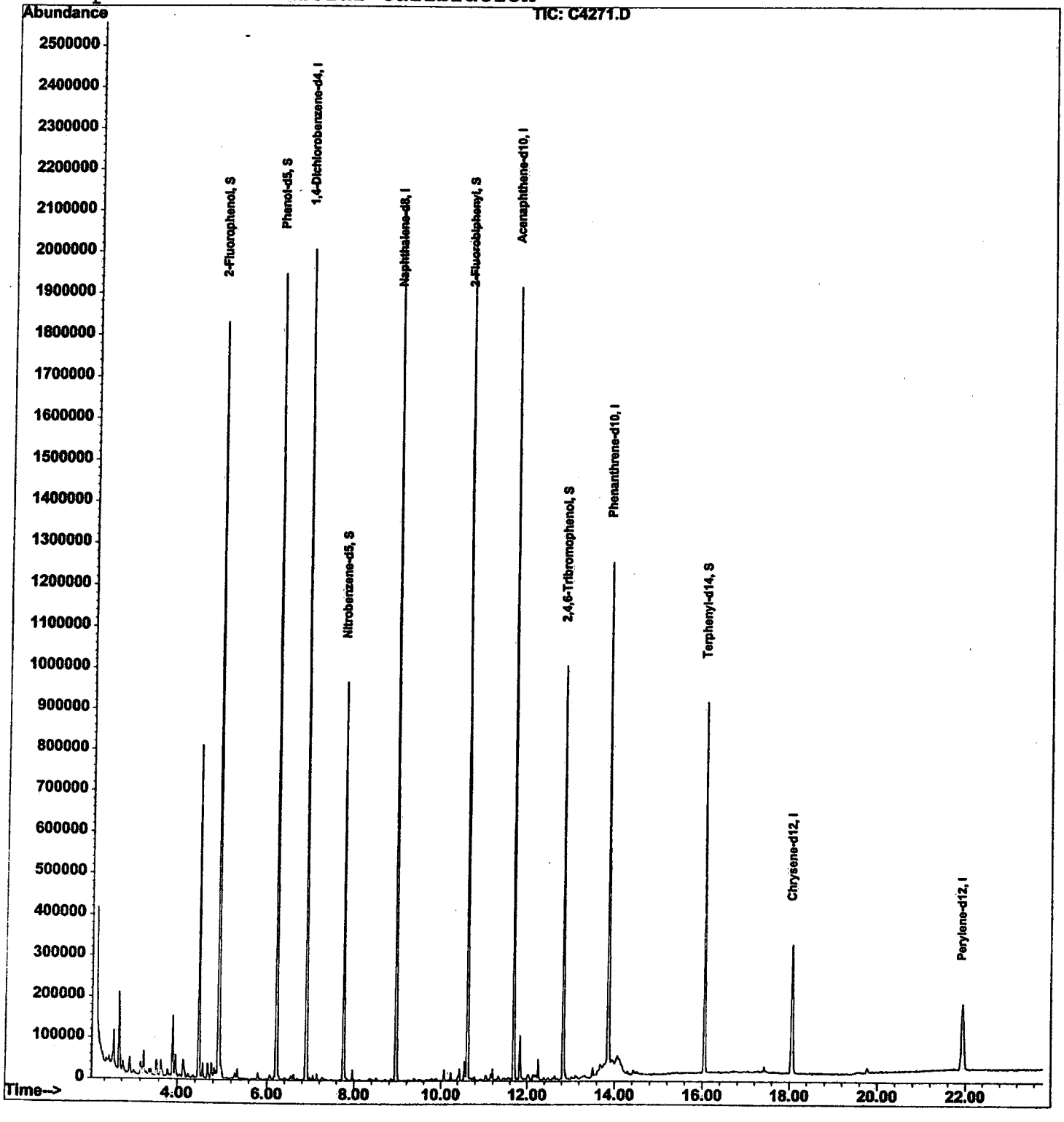
Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration
C4271.D TCLPC128.M Thu Sep 24 11:26:10 1998 MSD-A Page 1

Quantitation Report

Data File : C:\HPCHEM\1\DATA\MSD_C\09-23-98\C4271.D Vial: 21
Acq On : 23 Sep 98 9:43 pm Operator: JC
Sample : MPF22,5418-020,a,500mL,100,09/17/98 Inst : HP5973
Misc : RFW/WASTE ANALYSIS,09/11/98,09/14/98,1 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Sep 24 11:10 1998 Quant Results File: TCLPC128.RES

Method : C:\HPCHEM\1\METHODS\TCLPC128.M (RTE Integrator)
Title : BNA CALIBRATION METHOD
Last Update : Wed Sep 23 11:26:33 1998
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\MSD_C\09-23-98\C4255.D Vial: 5
Acq On : 23 Sep 98 1:56 pm Operator: JC
Sample : .,Method-blk,a,1000mL,100,09/17/98 Inst : HP5973
Misc : N/A,N/A,N/A,1 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Sep 24 11:04 1998 Quant Results File: TCLPC128.RES

Quant Method : C:\HPCHEM\1\METHODS\TCLPC128.M (RTE Integrator)
Title : BNA CALIBRATION METHOD
Last Update : Wed Sep 23 11:26:33 1998
Response via : Initial Calibration
DataAcq Meth : TCLPC128

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	6.89	152	436493	40.00 UG	0.00
10) Naphthalene-d8	8.95	136	1402358	40.00 UG	0.00
14) Acenaphthene-d10	11.69	164	608483	40.00 UG	0.00
19) Phenanthrene-d10	13.86	188	768298	40.00 UG	0.00
24) Chrysene-d12	18.07	240	298045	40.00 UG	0.00
26) Perylene-d12	21.94	264	195075	40.00 UG	-0.01

System Monitoring Compounds

3) 2-Fluorophenol	4.91	112	1305809	72.52 UG	0.00
Spiked Amount 100.000	Range 43 - 112		Recovery = 72.52%		
4) Phenol-d5	6.22	99	1633684	83.44 UG	0.00
Spiked Amount 100.000	Range 57 - 102		Recovery = 83.44%		
11) Nitrobenzene-d5	7.77	82	574118	37.99 UG	0.00
Spiked Amount 50.000	Range 50 - 113		Recovery = 75.98%		
17) 2-Fluorobiphenyl	10.63	172	1070518	47.65 UG	0.00
Spiked Amount 50.000	Range 56 - 113		Recovery = 95.30%		
21) 2,4,6-Tribromophenol	12.84	330	278572	92.16 UG	0.00
Spiked Amount 100.000	Range 51 - 143		Recovery = 92.16%		
25) Terphenyl-d14	16.05	244	663126	54.33 UG	0.00
Spiked Amount 50.000	Range 67 - 130		Recovery = 108.66%		

Target Compounds Qvalue

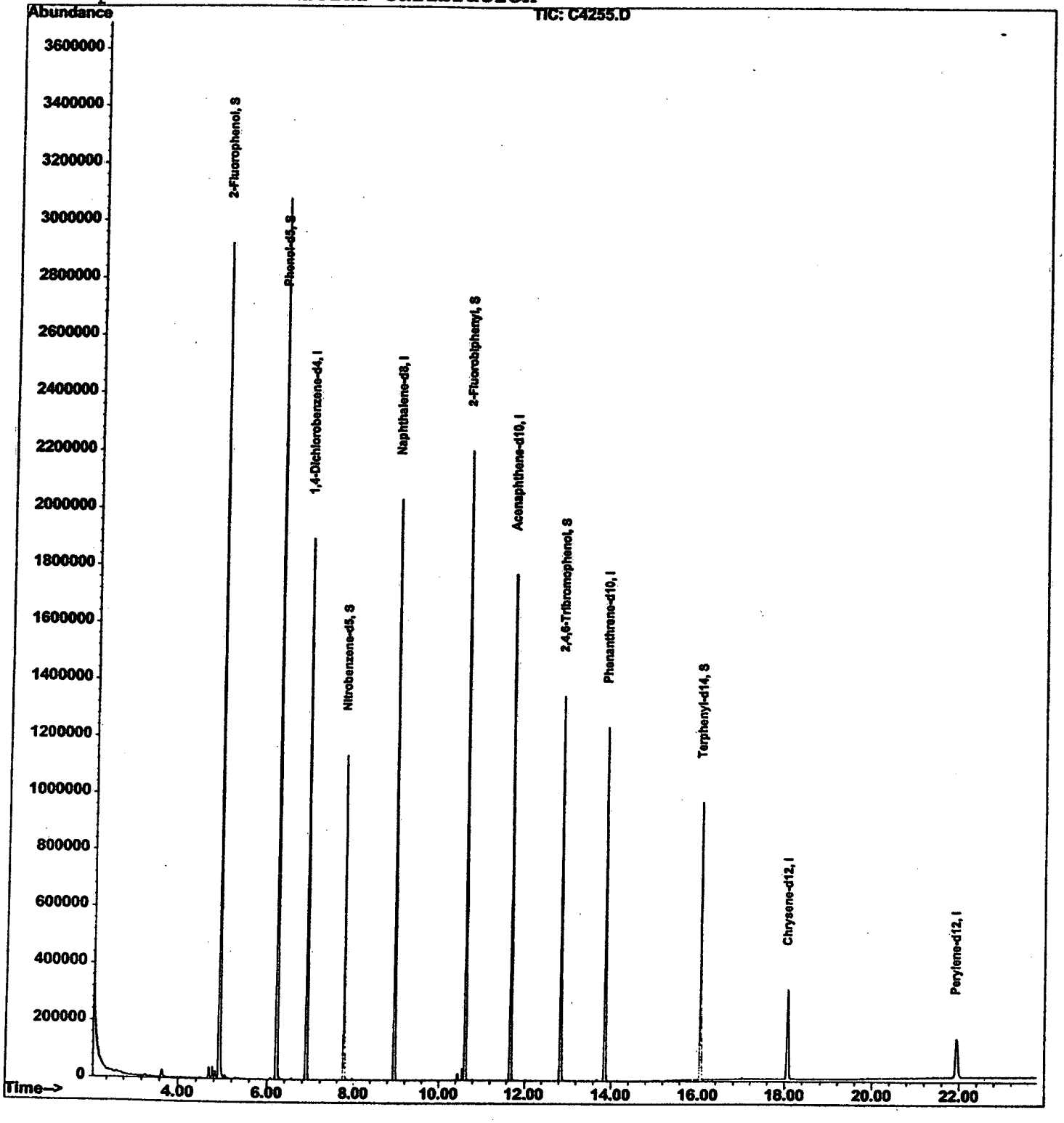
117

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

Quantitation Report

Data File : C:\HPCHEM\1\DATA\MSD_C\09-23-98\C4255.D Vial: 5
Acq On : 23 Sep 98 1:56 pm Operator: JC
Sample : .,Method-blk,a,1000mL,100,09/17/98 Inst : HP5973
Misc : N/A,N/A,N/A,1 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Sep 24 11:04 1998 Quant Results File: TCLPC128.RES

Method : C:\HPCHEM\1\METHODS\TCLPC128.M (RTE Integrator)
Title : BNA CALIBRATION METHOD
Last Update : Wed Sep 23 11:26:33 1998
Response via : Initial Calibration



PESTICIDE METHOD BLANK SUMMARY

Lab File ID:	H6471.D	**Instrument ID:**	HP 5890
Date Extracted:	09/17/98	**Matrix:**	Aqueous
Date Analyzed:	10/02/98	**Time Analyzed:**	12:43

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

Client ID	Lab Sample ID	Date Analyzed	Time Analyzed
1	5430-001	10/02/98	13:17
2	5430-002	10/02/98	13:51
3	5430-003	10/02/98	14:25
4	5430-004	10/02/98	15:00
5	5430-005	10/02/98	15:34
6	5430-006	10/02/98	16:08
7	5430-007	10/02/98	16:42
8	5430-008	10/02/98	17:16
9	5430-009	10/02/98	17:50
3601-3	5426-003	10/02/98	18:24
POND	5474-001	10/02/98	18:58
MPF-03	5418-003	10/02/98	19:33
MPF-19	5418-017	10/02/98	20:07
MPF-20	5418-018	10/02/98	20:41
MPF-21	5418-019	10/02/98	21:15
MPF-22	5418-020	10/02/98	21:49
PEST	5430-009-MS	10/02/98	22:23
PEST	5430-009-MSD	10/02/98	22:57

INTEGRATED ANALYTICAL LABORATORIES

TCLP PESTICIDES

Client / Project : NA

Lab ID: METHOD-BLK
Client ID: (5418.5430)
Date Received: NA
Date Extracted: 09/17/98
Date Analyzed: 10/02/98
Data File: H6471.D

GC Column : DB5/DB1701P
Sample wt/vol : 1000mL
Matrix-Units: A-mg/L (ppm)
Dil. Factor : 1
% Moisture: 100

Compound	Concentration	Q	MDL
gamma-BHC	ND		0.000025
Heptachlor	ND		0.000025
Endrin	ND		0.000025
Methoxychlor	ND		0.000025
alpha-Chlordane	ND		0.000025
gamma-Chlordane	ND		0.000025
Toxaphene	ND		0.0003

INTEGRATED ANALYTICAL LABORATORIES

PESTICIDES

Client / Project : NA

Lab ID: METHOD-BLK
Client ID: (5418.5430)
Date Received: NA
Date Extracted: 09/17/98
Date Analyzed: 10/02/98
Data File: H6471.D

GC Column : DB5/DB1701P
Sample wt/vol : 1000mL
Matrix-Units: A-µg/L (ppb)
Dil. Factor : 1
% Moisture: 100

Compound	Concentration	Q	MDL
alpha-BHC	ND		0.025
beta-BHC	ND		0.025
gamma-BHC	ND		0.025
delta-BHC	ND		0.025
Heptachlor	ND		0.025
Aldrin	ND		0.025
Heptachlor epoxide	ND		0.025
Endosulfan I	ND		0.025
4,4'-DDE	ND		0.025
Dieldrin	ND		0.025
Endrin	ND		0.025
Endosulfan II	ND		0.025
4,4'-DDD	ND		0.025
Endrin aldehyde	ND		0.025
Endosulfan sulfate	ND		0.025
4,4'-DDT	ND		0.025
Endrin ketone	ND		0.025
Methoxychlor	ND		0.025
alpha-Chlordane	ND		0.025
gamma-Chlordane	ND		0.025
Toxaphene	ND		0.3

PESTICIDE INITIAL CALIBRATION SUMMARY

Date Analyzed: 09/24/98

Instrument ID: HP 5890

GC Column (primar DB-5

Data File: H6260.D H6261.D H6262.D H6263.D H6264.D

Compound	RT OF STANDARDS 25	50	100	200	300	MEAN RT	RT WI NDOW FROM	TO
alpha-BHC	6.37	6.35	6.37	6.36	6.36	6.36	6.29	6.43
beta-BHC	6.99	6.97	6.99	6.98	6.98	6.98	6.91	7.05
gamma-BHC	7.17	7.15	7.17	7.15	7.16	7.16	7.09	7.23
delta-BHC	7.75	7.74	7.76	7.74	7.74	7.75	7.68	7.82
Heptachlor	9.15	9.13	9.15	9.14	9.14	9.14	9.07	9.21
Aldrin	10.17	10.15	10.17	10.16	10.17	10.16	10.09	10.23
Heptachlor epoxide	11.38	11.38	11.39	11.38	11.40	11.38	11.31	11.45
Endosulfan I	12.51	12.51	12.51	12.50	12.52	12.51	12.44	12.58
4,4'-DDE	13.35	13.35	13.35	13.34	13.37	13.35	13.28	13.42
Dieldrin	13.35	13.35	13.35	13.34	13.37	13.35	13.28	13.42
Endrin	14.02	14.03	14.02	14.01	14.04	14.02	13.95	14.09
Endosulfan II	14.31	14.32	14.31	14.31	14.33	14.32	14.25	14.39
4,4'-DDD	14.69	14.70	14.69	14.68	14.71	14.70	14.63	14.77
Endrin aldehyde	14.93	14.94	14.93	14.92	14.94	14.93	14.86	15.00
Endosulfan sulfate	15.70	15.72	15.71	15.70	15.72	15.71	15.64	15.78
4,4'-DDT	15.91	15.93	15.91	15.91	15.93	15.92	15.85	15.99
Endrin ketone	17.17	17.20	17.18	17.18	17.19	17.19	17.12	17.26
Methoxychlor	17.84	17.87	17.85	17.85	17.86	17.85	17.78	17.92
alpha-Chlordane	12.13	12.13	12.13	12.12	12.14	12.13	12.06	12.20
gamma-Chlordane	12.62	12.62	12.62	12.61	12.63	12.62	12.55	12.69

PESTICIDE INITIAL CALIBRATION SUMMARY

Date Analyzed: 09/24/98 **Instrument ID:** HP 5890

GC Column (primary): DB-5

Data File: H6260.D H6261.D H6262.D H6263.D H6264.D

Compound	CALIBRATION FACTORS 25	50	100	200	300	MEAN	%RSD
alpha-BHC	88113	81720	66318	76586	72429	77033	10.88
beta-BHC	38157	35156	29223	31379	28965	32576	12.23
gamma-BHC	75712	73058	62733	70438	66398	69668	7.44
delta-BHC	72884	68837	60266	65607	62529	66025	7.59
Heptachlor	59341	56116	47642	51079	47395	52315	10.09
Aldrin	73879	68939	59190	61890	57772	64334	10.65
Heptachlor epoxide	63688	59662	49827	51936	47730	54569	12.47
Endosulfan I	60894	56068	46967	46897	42707	50707	14.79
4,4'-DDE	128081	117118	95640	98470	91194	106101	14.86
Dieldrin	128081	117118	95640	98470	91194	106101	14.86
Endrin	54701	48962	41634	40627	36701	44525	16.20
Endosulfan II	57508	53372	45598	45005	41306	48558	13.71
4,4'-DDD	53744	49601	42760	43413	40639	46032	11.84
Endrin aldehyde	50970	43165	37750	35706	33050	40128	17.71
Endosulfan sulfate	51650	47671	39462	40121	36991	43179	14.34
4,4'-DDT	40605	38831	33253	36080	34214	36597	8.44
Endrin ketone	65075	57538	46811	45467	41743	51327	18.84
Methoxychlor	21978	19624	16021	16044	14248	17583	17.85
alpha-Chlordane	68214	65009	56506	60126	56324	61236	8.59
gamma-Chlordane	72677	66779	57389	59930	55922	62539	11.25
						Average %RSD	12.73

PESTICIDE INITIAL CALIBRATION SUMMARY

Date Analyzed: 09/24/98

Instrument ID: HP 5890
GC Column (2nd): DB-1701P

Data File: H6260.C H6261.C H6262.C H6263.C H6264.C

Compound	RT OF STANDARDS 25	50	100	200	300	MEAN RT	RT WINDOW FROM	TO
alpha-BHC	8.20	8.18	8.20	8.19	8.19	8.19	8.12	8.26
beta-BHC	11.92	11.91	11.91	11.91	11.92	11.91	11.84	11.98
gamma-BHC	9.43	9.41	9.43	9.42	9.43	9.42	9.35	9.49
delta-BHC	12.61	12.61	12.61	12.60	12.62	12.61	12.54	12.68
Heptachlor	9.98	9.97	9.98	9.97	9.98	9.98	9.91	10.05
Aldrin	10.79	10.78	10.79	10.78	10.79	10.79	10.72	10.86
Heptachlor epoxide	13.11	13.12	13.11	13.10	13.13	13.11	13.04	13.18
Endosulfan I	13.94	13.95	13.94	13.93	13.95	13.94	13.87	14.01
4,4'-DDE	14.41	14.42	14.41	14.40	14.43	14.41	14.34	14.48
Dieldrin	15.16	15.18	15.17	15.16	15.18	15.17	15.10	15.24
Endrin	15.83	15.85	15.83	15.82	15.84	15.83	15.76	15.90
Endosulfan II	17.48	17.51	17.49	17.49	17.50	17.49	17.42	17.56
4,4'-DDD	17.34	17.36	17.34	17.34	17.35	17.35	17.28	17.42
Endrin aldehyde	18.88	18.90	18.89	18.90	18.90	18.89	18.82	18.96
Endosulfan sulfate	19.96	19.97	19.96	19.98	19.97	19.97	19.90	20.04
4,4'-DDT	17.86	17.88	17.86	17.87	17.87	17.87	17.80	17.94
Endrin ketone	21.17	21.19	21.17	21.19	21.18	21.18	21.11	21.25
Methoxychlor	20.02	20.04	20.03	20.04	20.03	20.03	19.96	20.10
alpha-Chlordane	13.94	13.95	13.94	13.93	13.95	13.94	13.87	14.01
gamma-Chlordane	14.16	14.17	14.16	14.15	14.17	14.16	14.09	14.23

PESTICIDE INITIAL CALIBRATION SUMMARY

Date Analyzed: 09/24/98

Instrument ID: HP 5890
GC Column (2nd): DB-1701P

Data File: H6260.C H6261.C H6262.C H6263.C H6264.C

Compound	CALIBRATION FACTORS 25	50	100	200	300	MEAN	%RSD
alpha-BHC	68741	72186	64138	73376	70007	69690	5.16
beta-BHC	32711	30715	27090	29378	27487	29476	7.89
gamma-BHC	67805	68445	59615	67050	64399	65463	5.52
delta-BHC	56323	58503	52642	60447	57907	57164	5.12
Heptachlor	64630	63785	55586	61389	58147	60707	6.28
Aldrin	65804	65339	57067	63418	59981	62322	5.98
Heptachlor epoxide	59030	57355	49415	55049	51129	54395	7.48
Endosulfan I	55800	54471	46904	51090	47574	51168	7.78
4,4'-DDE	61556	60551	52274	57839	54320	57308	6.93
Dieldrin	53186	53463	47176	54321	51904	52010	5.46
Endrin	45298	44599	41007	45412	42673	43798	4.36
Endosulfan II	48480	47544	42759	47995	45279	46411	5.13
4,4'-DDD	35355	36253	31612	37317	35210	35150	6.11
Endrin aldehyde	33179	34847	31634	36974	36453	34617	6.45
Endosulfan sulfate	37774	37698	33437	38319	36218	36689	5.39
4,4'-DDT	34051	34750	32557	38913	37191	35493	7.16
Endrin ketone	44041	43479	37597	42178	39477	41354	6.63
Methoxychlor	21962	21219	18259	22192	20554	20837	7.58
alpha-Chlordane	55800	54471	46904	51090	47574	51168	7.78
gamma-Chlordane	61337	60369	52411	58348	54926	57478	6.52
						Average %RSD	6.34

PESTICIDE CALIBRATION VERIFICATION SUMMARY

Date/Time Analyzed: 2 Oct 98 **Instrument ID:** HP 5890

Data File: H6470.D **GC Column (primary):** DB-5

Compound	RT	RT WINDOW FROM	RT WINDOW TO	Avg CF	CC CF	%D
alpha-BHC	6.35	6.28	6.42	77033	73697	4.33
beta-BHC	6.97	6.90	7.04	32576	30311	6.95
gamma-BHC	7.15	7.08	7.22	69668	64274	7.74
delta-BHC	7.73	7.66	7.80	66025	65547	0.72
Heptachlor	9.13	9.06	9.20	52315	38109	27.15
Aldrin	10.16	10.09	10.23	64334	65856	2.37
Heptachlor epoxide	11.38	11.31	11.45	54569	51884	4.92
Endosulfan I	12.52	12.45	12.59	50707	51170	0.91
4,4'-DDE	13.36	13.29	13.43	106101	99506	6.22
Dieldrin	13.36	13.29	13.43	106101	99506	6.22
Endrin	14.03	13.96	14.10	44525	39842	10.52
Endosulfan II	14.32	14.25	14.39	48558	50533	4.07
4,4'-DDD	14.70	14.63	14.77	46032	36314	21.11
Endrin aldehyde	14.94	14.87	15.01	40128	40273	0.36
Endosulfan sulfate	15.72	15.65	15.79	43179	41438	4.03
4,4'-DDT	15.93	15.86	16.00	36597	30453	16.79
Endrin ketone	17.19	17.12	17.26	51327	44438	13.42
Methoxychlor	17.86	17.79	17.93	17583	13131	25.32
alpha-Chlordane	12.13	12.06	12.20	61236	62645	2.30
gamma-Chlordane	12.63	12.56	12.70	62539	64035	2.39
					Average %D	8.39

PESTICIDE CALIBRATION VERIFICATION SUMMARY

Date/Time Analyzed: 2 Oct 98 **Instrument ID:** HP 5890

Data File: H6470.C **GC Column (2nd):** DB-1701P

Compound	RT	RT WI NDOW FROM	RT WI NDOW TO	Avg CF	CC CF	%D
alpha-BHC	8.16	8.09	8.23	69690	78074	12.03
beta-BHC	11.89	11.82	11.96	29476	32941	11.75
gamma-BHC	9.39	9.32	9.46	65463	72190	10.28
delta-BHC	12.59	12.52	12.66	57164	67628	18.30
Heptachlor	9.95	9.88	10.02	60707	66770	9.99
Aldrin	10.76	10.69	10.83	62322	68486	9.89
Heptachlor epoxide	13.09	13.02	13.16	54395	58990	8.45
Endosulfan I	13.92	13.85	13.99	51168	57363	12.11
4,4'-DDE	14.39	14.32	14.46	57308	65317	13.98
Dieldrin	15.15	15.08	15.22	52010	57663	10.87
Endrin	15.81	15.74	15.88	43798	51630	17.88
Endosulfan II	17.46	17.39	17.53	46411	53784	15.89
4,4'-DDD	17.32	17.25	17.39	35150	36163	2.88
Endrin aldehyde	18.85	18.78	18.92	34617	42140	21.73
Endosulfan sulfate	19.92	19.85	19.99	36689	41663	13.56
4,4'-DDT	17.83	17.76	17.90	35493	44498	25.37
Endrin ketone	21.14	21.07	21.21	41354	47783	15.54
Methoxychlor	19.99	19.92	20.06	20837	23882	14.61
alpha-Chlordane	13.92	13.85	13.99	51168	57363	12.11
gamma-Chlordane	14.14	14.07	14.21	57478	65455	13.88
					Average %D	13.55

PESTICIDE CALIBRATION VERIFICATION SUMMARY

Date/Time Analyzed: 2 Oct 98 **Instrument ID:** HP 5890

Data File: H6490.D **GC Column (primary):** DB-5

Compound	RT	RT WINDOW FROM	RT WINDOW TO	Avg CF	CC CF	%D
alpha-BHC	6.36	6.29	6.43	77033	75463	2.04
beta-BHC	6.99	6.92	7.06	32576	21443	34.17
gamma-BHC	7.16	7.09	7.23	69668	73321	5.24
delta-BHC	7.75	7.68	7.82	66025	69401	5.11
Heptachlor	9.14	9.07	9.21	52315	50154	4.13
Aldrin	10.15	10.08	10.22	64334	67910	5.56
Heptachlor epoxide	11.37	11.30	11.44	54569	59461	8.97
Endosulfan I	12.50	12.43	12.57	50707	55131	8.73
4,4'-DDE	13.34	13.27	13.41	106101	116580	9.88
Dieldrin	13.34	13.27	13.41	106101	116580	9.88
Endrin	14.01	13.94	14.08	44525	44710	0.42
Endosulfan II	14.30	14.23	14.37	48558	53508	10.19
4,4'-DDD	14.68	14.61	14.75	46032	48773	5.96
Endrin aldehyde	14.92	14.85	14.99	40128	44215	10.18
Endosulfan sulfate	15.69	15.62	15.76	43179	47703	10.48
4,4'-DDT	15.90	15.83	15.97	36597	39844	8.87
Endrin ketone	17.16	17.09	17.23	51327	56181	9.46
Methoxychlor	17.83	17.76	17.90	17583	18095	2.91
alpha-Chlordane	12.12	12.05	12.19	61236	76503	24.93
gamma-Chlordane	12.61	12.54	12.68	62539	76923	23.00
					Average %D	10.00

PESTICIDE CALIBRATION VERIFICATION SUMMARY

Date/Time Analyzed: 2 Oct 98 **Instrument ID:** HP 5890

Data File: H6490.C **GC Column (2nd):** DB-1701P

Compound	RT	RT WI NDOW FROM	TO	Avg CF	CC CF	%D
alpha-BHC	8.17	8.10	8.24	69690	75789	8.75
beta-BHC	11.88	11.81	11.95	29476	26245	10.96
gamma-BHC	9.39	9.32	9.46	65463	73223	11.85
delta-BHC	12.57	12.50	12.64	57164	66340	16.05
Heptachlor	9.94	9.87	10.01	60707	66477	9.50
Aldrin	10.75	10.68	10.82	62322	67311	8.01
Heptachlor epoxide	13.07	13.00	13.14	54395	61844	13.69
Endosulfan I	13.89	13.82	13.96	51168	58065	13.48
4,4'-DDE	14.37	14.30	14.44	57308	73992	29.11
Dieldrin	15.12	15.05	15.19	52010	60892	17.08
Endrin	15.78	15.71	15.85	43798	48727	11.25
Endosulfan II	17.44	17.37	17.51	46411	50874	9.62
4,4'-DDD	17.29	17.22	17.36	35150	43028	22.41
Endrin aldehyde	18.83	18.76	18.90	34617	34595	0.06
Endosulfan sulfate	19.90	19.83	19.97	36689	41936	14.30
4,4'-DDT	17.81	17.74	17.88	35493	44659	25.83
Endrin ketone	21.12	21.05	21.19	41354	50781	22.80
Methoxychlor	19.97	19.90	20.04	20837	23629	13.40
alpha-Chlordane	13.89	13.82	13.96	51168	58753	14.82
gamma-Chlordane	14.11	14.04	14.18	57478	72035	25.33
					Average %D	14.92

PESTICIDE SURROGATE PERCENT RECOVERY SUMMARY

Date Analyzed: 10/02/98

Client ID	Lab Sample ID	Matrix	TCMX 1 % rec	#	DCB 1 % rec	#	TCMX 2 % rec	#	DCB 2 % rec	#
(5418.5430)	METHOD-BLK	Aqueous	67		69					
1	5430-001	Aqueous	84		89					
2	5430-002	Aqueous	72		77					
3	5430-003	Aqueous	81		110					
4	5430-004	Aqueous	81		94					
5	5430-005	Aqueous	81		96					
6	5430-006	Aqueous	98		114					
7	5430-007	Aqueous	97		111					
8	5430-008	Aqueous	104		114					
9	5430-009	Aqueous	98		111					
3601-3	5426-003	Aqueous	91		96					
POND	5474-001	Aqueous	79		84					
MPF-03	5418-003	Aqueous	39	*	43					
MPF-19	5418-017	Aqueous	39	*	44					
MPF-20	5418-018	Aqueous	40	*	44					
MPF-21	5418-019	Aqueous	38	*	41					
MPF-22	5418-020	Aqueous	44	*	50					
PEST	5430-009-MS	Aqueous	68		60					
PEST	5430-009-MSD	Aqueous	71		60					

Advisory CLP QC Limits	Soil	Aqueous	Concentration
TCMX = Tetrachloro-m-xylene	60 - 150	60 - 150	100 ppb
DCB = Decachlorobiphenyl	20 - 150	24 - 154	100 ppb

Column to be used to flag recovery values
* Values outside of QC limits
D Surrogate diluted out
M Matrix interference

AQUEOUS PESTICIDE MATRIX SPIKE/SPIKE DUPLICATE RECOVERY

Matrix spike Lab sample ID: 5430-009-MSD

Compound	SPIKE ADDED (ug/l)	SAMPLE CONC. (ug/l)	MS CONC. (ug/l)	MS % REC #	QC LIMITS REC.
gamma-BHC	100	0.00	112	112	80 - 120
Heptachlor	100	0.00	104	104	80 - 120
Aldrin	100	0.00	114	114	80 - 120
Dieldrin	100	0.00	118	118	80 - 120
Endrin	100	0.00	112	112	80 - 120
4,4'-DDT	100	0.00	118	118	80 - 120

Compound	SPIKE ADDED (ug/l)	MSD CONC. (ug/l)	#	MSD % REC	% RPD	#	QC LIMITS RPD	QC LIMITS REC.
gamma-BHC	100	117		117	4		15	80 - 120
Heptachlor	100	111		111	7		20	80 - 120
Aldrin	100	119		119	4		22	80 - 120
Dieldrin	100	239		120	2		18	80 - 120
Endrin	100	119		119	6		21	80 - 120
4,4'-DDT	100	120		120	2		27	80 - 120

Column to be used to flag recovery and RPD values with anastrisk

* Values outside of QC limits

NC Non calculable

RPD: __0___ out of __6__ outside limits

Spike Recovery: __0___ out of __12__ outside limits

PESTICIDE RETENTION TIME SHIFT SUMMARY

Instrument ID: HP 5890 **Column:** DB-5/DB-1701P

Column (Primary/Confirmation):): Primary

Mean Surrogate RT from initial calibration

TCMX: 5.49 **DCB:** 23.38

Client ID	Lab Sample ID	Date Analyzed	Time Analyzed	TCMX RT	#	DCB RT	#
(5418.5430)	METHOD-BLK	10/02/98	12:43	5.49		23.38	
1	5430-001	10/02/98	13:17	5.49		23.40	
2	5430-002	10/02/98	13:51	5.48		23.38	
3	5430-003	10/02/98	14:25	5.49		23.39	
4	5430-004	10/02/98	15:00	5.49		23.38	
5	5430-005	10/02/98	15:34	5.49		23.37	
6	5430-006	10/02/98	16:08	5.49		23.39	
7	5430-007	10/02/98	16:42	5.48		23.38	
8	5430-008	10/02/98	17:16	5.50		23.37	
9	5430-009	10/02/98	17:50	5.48		23.40	
3601-3	5426-003	10/02/98	18:24	5.48		23.38	
POND	5474-001	10/02/98	18:58	5.49		23.37	
MPF-03	5418-003	10/02/98	19:33	5.48		23.39	
MPF-19	5418-017	10/02/98	20:07	5.48		23.38	
MPF-20	5418-018	10/02/98	20:41	5.49		23.39	
MPF-21	5418-019	10/02/98	21:15	5.48		23.38	
MPF-22	5418-020	10/02/98	21:49	5.50		23.37	
PEST	5430-009-MS	10/02/98	22:23	5.48		23.40	
PEST	5430-009-MSD	10/02/98	22:57	5.48		23.38	

Advisory CLP QC Limits

TCMX = **Tetrachloro-m-xylene** (± 0.05 Minutes)

DCB = **Decachlorobiphenyl** (± 0.10 Minutes)

Column to be used to flag recovery values
* Values outside of QC limits
D Surrogate diluted out
M Matrix interference

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\10-02-98\H6483.D\ECD1B.CH Vial: 16
Signal #2 : C:\HPCHEM\1\DATA\10-02-98\H6483.D\ECD2A.CH
Acq On : 2 Oct 98 7:33 pm Operator:
Sample : MPF-03,5418-003,A,200mL,,100,09/17/98 Inst : H-ECD
Misc : RFW/WASTE_ANALYSIS,09/11/98,09/14/98,20 Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Oct 6 10:30 1998 Quant Results File: HPT0924.RES

Quant Method : C:\HPCHEM\1\METHODS\HPT0924.M (Chemstation Integrator)
Title :
Last Update : Fri Sep 25 09:14:31 1998
Response via : Initial Calibration
DataAcq Meth : HPT0924.M

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

Compound	RT#1	RT#2	Resp#1	Resp#2	ng#1	ng#2
System Monitoring Compounds						
1) S TCMX	5.48	5.66	843627	730352	1.969	2.056
Spiked Amount 100.000			Recovery =		1.97%	2.06%
2) S DBC	23.39	24.13	778093	914755	2.169	2.535
Spiked Amount 100.000			Recovery =		2.17%	2.54%
Target Compounds						
Sum Toxaphene			0	0	N.D.	N.D.
Average Toxaphene					0.000	0.000
Sum Aroclor-1016			0	0	N.D.	N.D.
Average Aroclor-1016					0.000	0.000
Sum Aroclor-1221			0	0	N.D.	N.D.
Average Aroclor-1221					0.000	0.000
Sum Aroclor-1232			0	0	N.D.	N.D.
Average Aroclor-1232					0.000	0.000
Sum Aroclor-1242			0	0	N.D.	N.D.
Average Aroclor-1242					0.000	0.000
Sum Aroclor-1248			0	0	N.D.	N.D.
Average Aroclor-1248					0.000	0.000
Sum Aroclor-1254			0	0	N.D.	N.D.
Average Aroclor-1254					0.000	0.000
Sum Aroclor-1260			0	0	N.D.	N.D.
Average Aroclor-1260					0.000	0.000

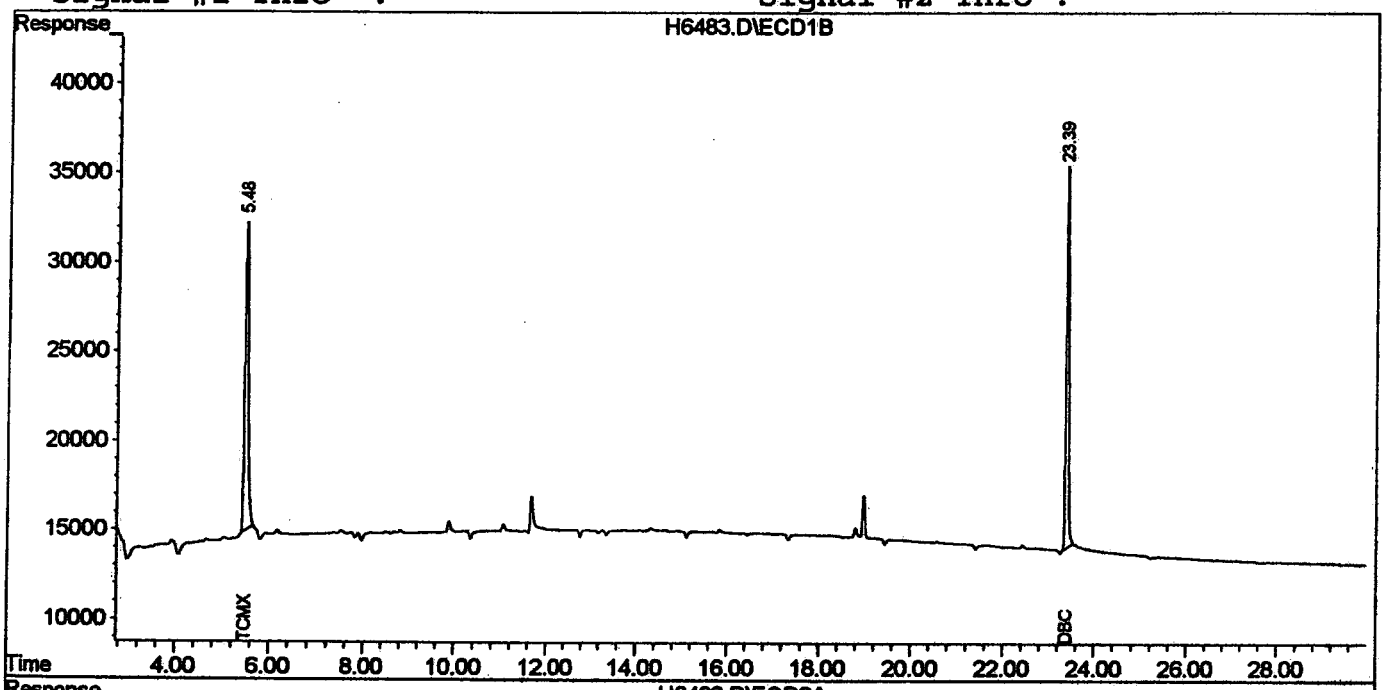
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

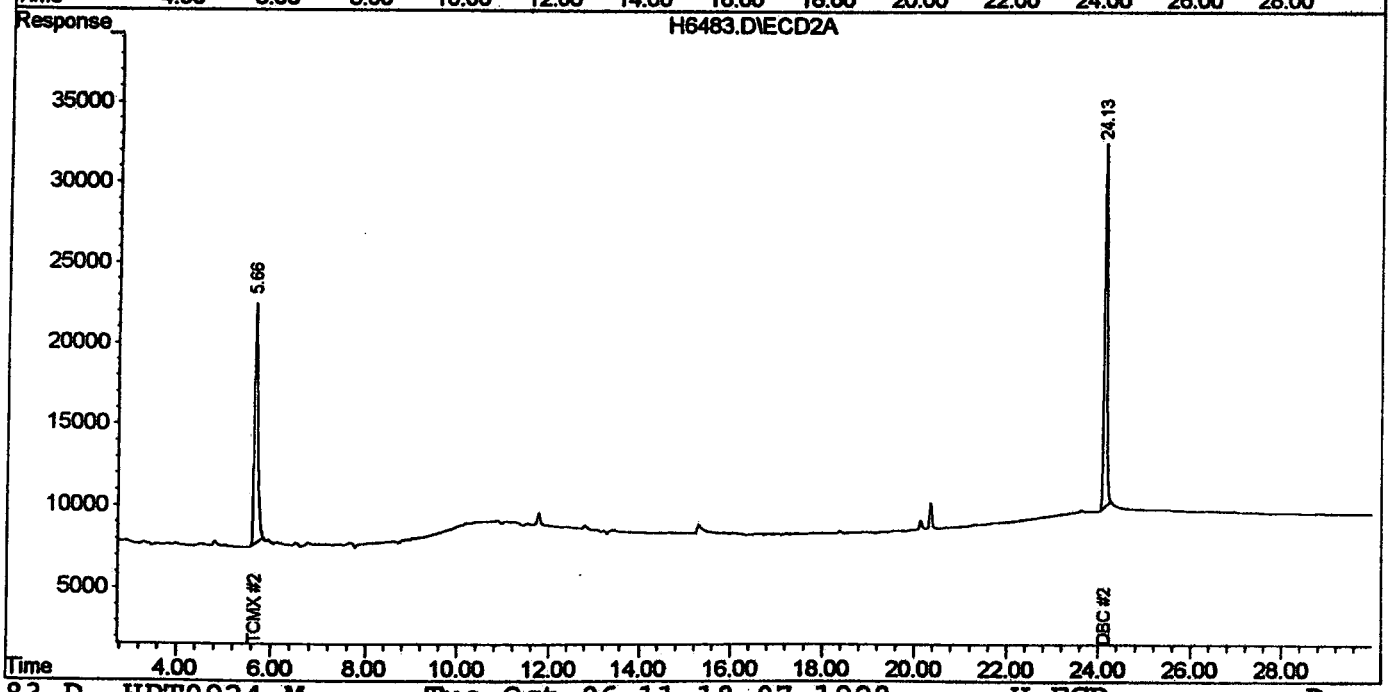
Quantitation Report

Signal #1 : C:\HPCHEM\1\DATA\10-02-98\H6483.D\ECD1B.CH Vial: 16
Signal #2 : C:\HPCHEM\1\DATA\10-02-98\H6483.D\ECD2A.CH
Acq On : 2 Oct 98 7:33 pm Operator:
Sample : MPF-03,5418-003,A,200mL,,100,09/17/98 Inst : H-ECD
Misc : RFW/WASTE_ANALYSIS,09/11/98,09/14/98,20 Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Oct 6 10:30 1998 Quant Results File: HPT0924.RES

Quant Method : C:\HPCHEM\1\METHODS\HPT0924.M (Chemstation Integrator)
Title :
Last Update : Fri Sep 25 09:14:31 1998
Response via : Multiple Level Calibration
DataAcq Meth : HPT0924.M

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :





Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\10-02-98\H6484.D\ECD1B.CH Vial: 17
Signal #2 : C:\HPCHEM\1\DATA\10-02-98\H6484.D\ECD2A.CH
Acq On : 2 Oct 98 8:07 pm Operator:
Sample : MPF-19,5418-017,A,200mL,,100,09/17/98 Inst : H-ECD
Misc : RFW/WASTE_ANALYSIS,09/11/98,09/14/98,20 Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Oct 2 20:37 1998 Quant Results File: HPT0924.RES

Quant Method : C:\HPCHEM\1\METHODS\HPT0924.M (Chemstation Integrator)
Title :
Last Update : Fri Sep 25 09:14:31 1998
Response via : Initial Calibration
DataAcq Meth : HPT0924.M

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

Compound	RT#1	RT#2	Resp#1	Resp#2	ng#1	ng#2
System Monitoring Compounds						
1) S TCMX	5.48	5.66	839634	721079	1.959	2.030
Spiked Amount 100.000			Recovery =		1.96%	2.03%
2) S DBC	23.38	24.12	785725	928741	2.190	2.574
Spiked Amount 100.000			Recovery =		2.19%	2.57%
Target Compounds						
Sum Toxaphene			0	0	N.D.	N.D.
Average Toxaphene					0.000	0.000
Sum Aroclor-1016			0	0	N.D.	N.D.
Average Aroclor-1016					0.000	0.000
Sum Aroclor-1221			0	0	N.D.	N.D.
Average Aroclor-1221					0.000	0.000
Sum Aroclor-1232			0	0	N.D.	N.D.
Average Aroclor-1232					0.000	0.000
Sum Aroclor-1242			0	0	N.D.	N.D.
Average Aroclor-1242					0.000	0.000
Sum Aroclor-1248			0	0	N.D.	N.D.
Average Aroclor-1248					0.000	0.000
Sum Aroclor-1254			0	0	N.D.	N.D.
Average Aroclor-1254					0.000	0.000
Sum Aroclor-1260			0	0	N.D.	N.D.
Average Aroclor-1260					0.000	0.000

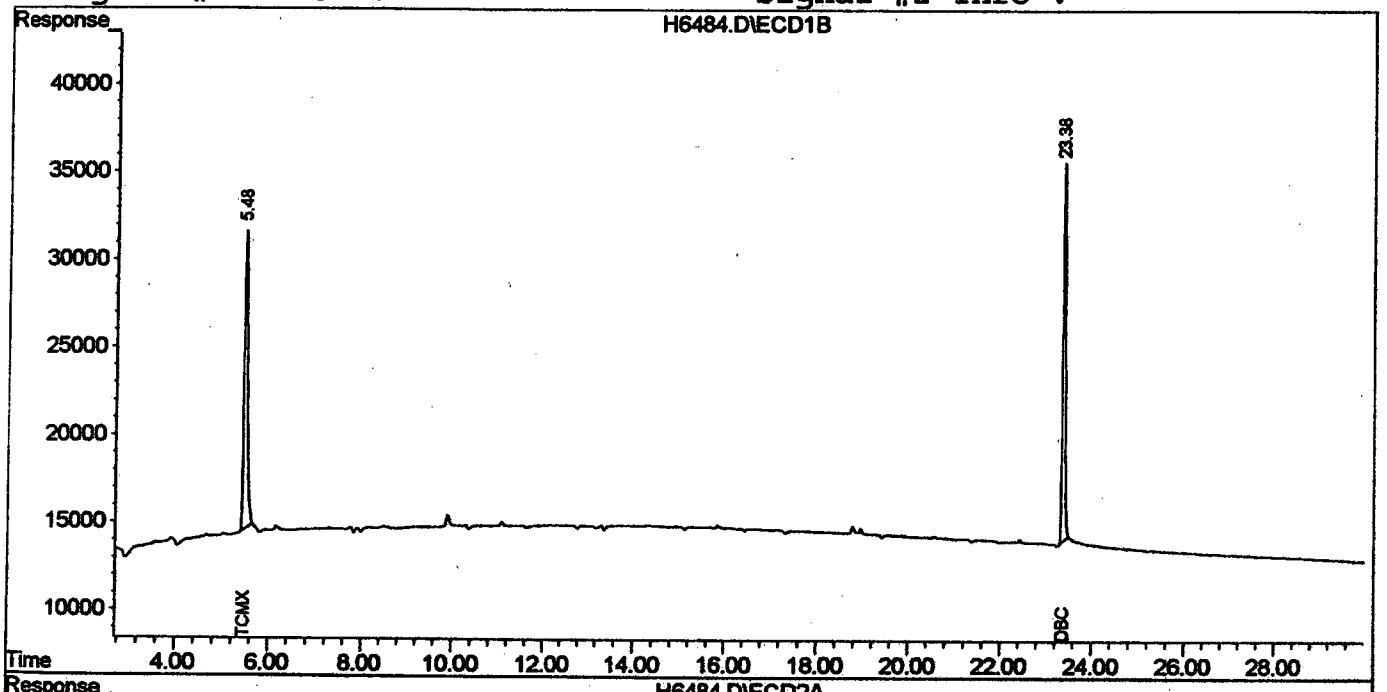
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

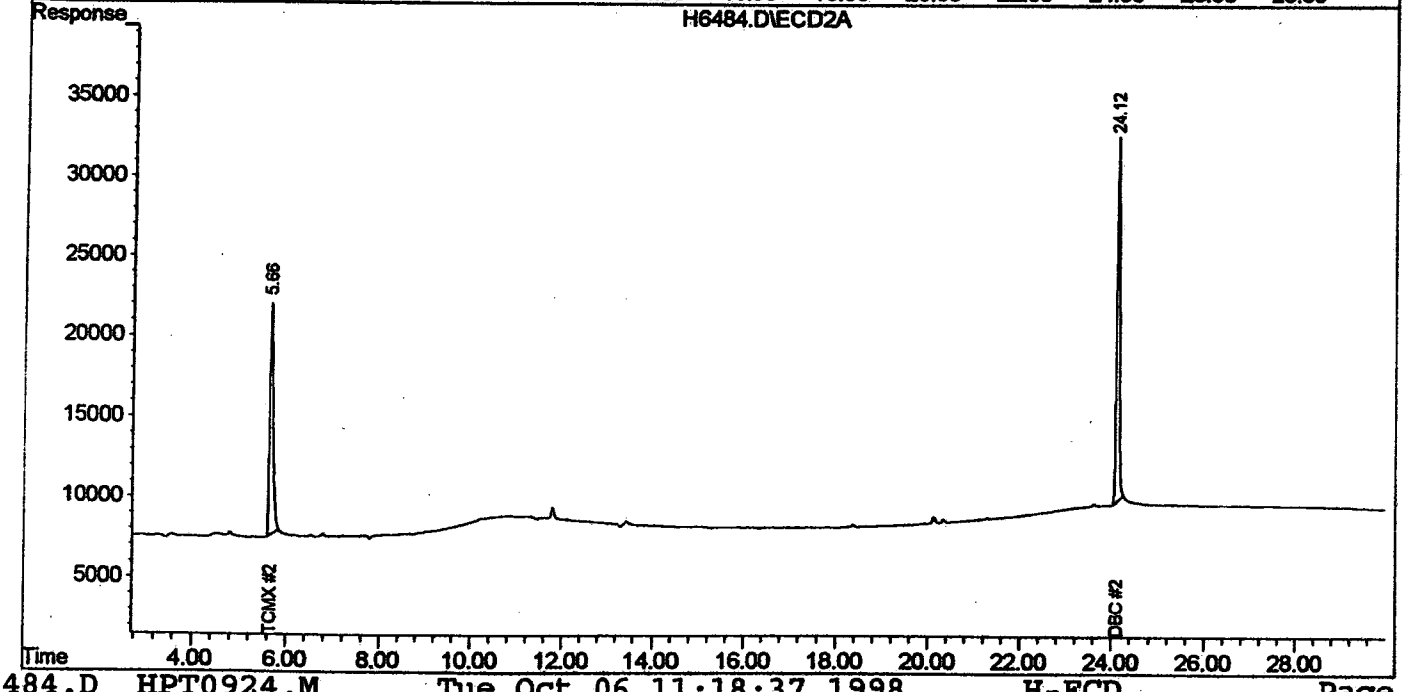
Quantitation Report

Signal #1 : C:\HPCHEM\1\DATA\10-02-98\H6484.D\ECD1B.CH Vial: 17
Signal #2 : C:\HPCHEM\1\DATA\10-02-98\H6484.D\ECD2A.CH
Acq On : 2 Oct 98 8:07 pm Operator:
Sample : MPF-19,5418-017,A,200mL,,100,09/17/98 Inst : H-ECD
Misc : RFW/WASTE_ANALYSIS,09/11/98,09/14/98,20 Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Oct 2 20:37 1998 Quant Results File: HPT0924.RES

Quant Method : C:\HPCHEM\1\METHODS\HPT0924.M (Chemstation Integrator)
Title :
Last Update : Fri Sep 25 09:14:31 1998
Response via : Multiple Level Calibration
DataAcq Meth : HPT0924.M

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :





Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\10-02-98\H6485.D\ECD1B.CH Vial: 18
Signal #2 : C:\HPCHEM\1\DATA\10-02-98\H6485.D\ECD2A.CH
Acq On : 2 Oct 98 8:41 pm Operator:
Sample : MPF-20,5418-018,A,200mL,,100,09/17/98 Inst : H-ECD
Misc : RFW/WASTE_ANALYSIS,09/11/98,09/14/98,20 Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Oct 2 21:11 1998 Quant Results File: HPT0924.RES

Quant Method : C:\HPCHEM\1\METHODS\HPT0924.M (Chemstation Integrator)
Title :
Last Update : Fri Sep 25 09:14:31 1998
Response via : Initial Calibration
DataAcq Meth : HPT0924.M

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

Compound	RT#1	RT#2	Resp#1	Resp#2	ng#1	ng#2
System Monitoring Compounds						
1) S TCMX	5.49	5.67	857583	759508	2.001	2.138
Spiked Amount 100.000			Recovery =		2.00%	2.14%
2) S DBC	23.39	24.14	794514	995726	2.215	2.759
Spiked Amount 100.000			Recovery =		2.22%	2.76%
Target Compounds						
Sum Toxaphene			0	0	N.D.	N.D.
Average Toxaphene					0.000	0.000
Sum Aroclor-1016			0	0	N.D.	N.D.
Average Aroclor-1016					0.000	0.000
Sum Aroclor-1221			0	0	N.D.	N.D.
Average Aroclor-1221					0.000	0.000
Sum Aroclor-1232			0	0	N.D.	N.D.
Average Aroclor-1232					0.000	0.000
Sum Aroclor-1242			0	0	N.D.	N.D.
Average Aroclor-1242					0.000	0.000
Sum Aroclor-1248			0	0	N.D.	N.D.
Average Aroclor-1248					0.000	0.000
Sum Aroclor-1254			0	0	N.D.	N.D.
Average Aroclor-1254					0.000	0.000
Sum Aroclor-1260			0	0	N.D.	N.D.
Average Aroclor-1260					0.000	0.000

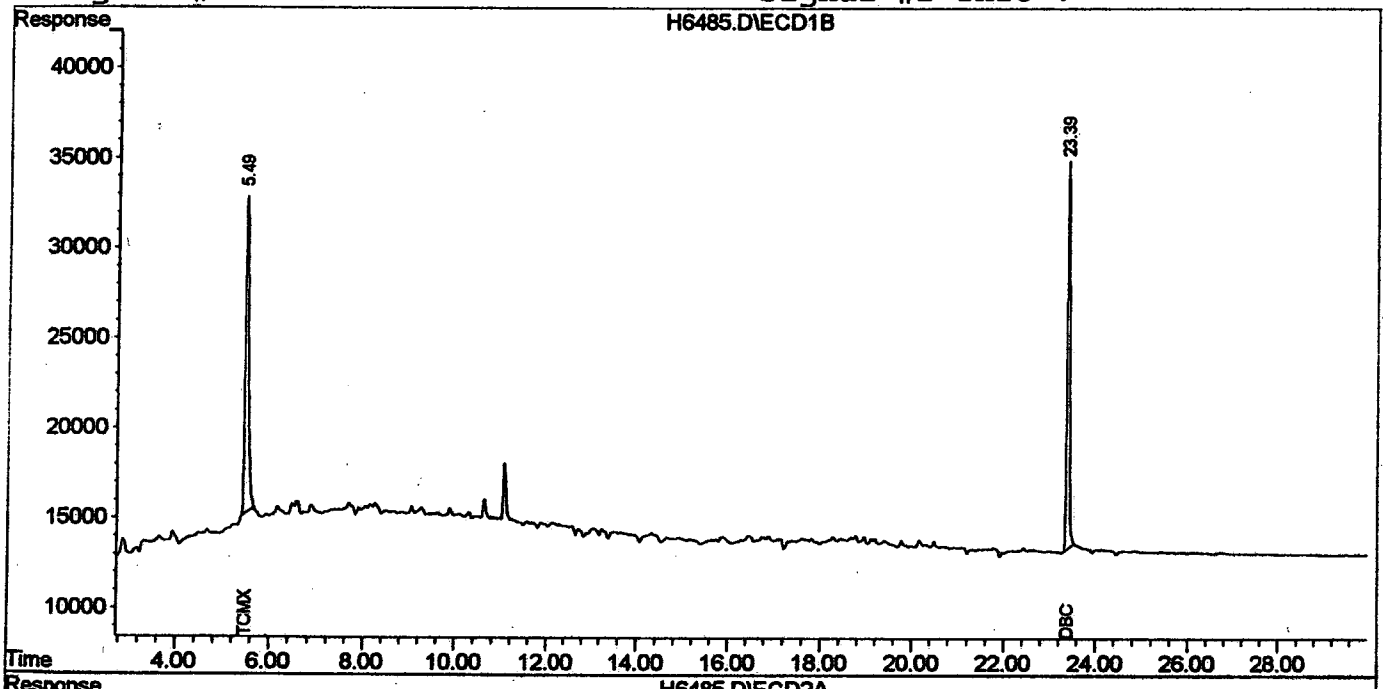
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

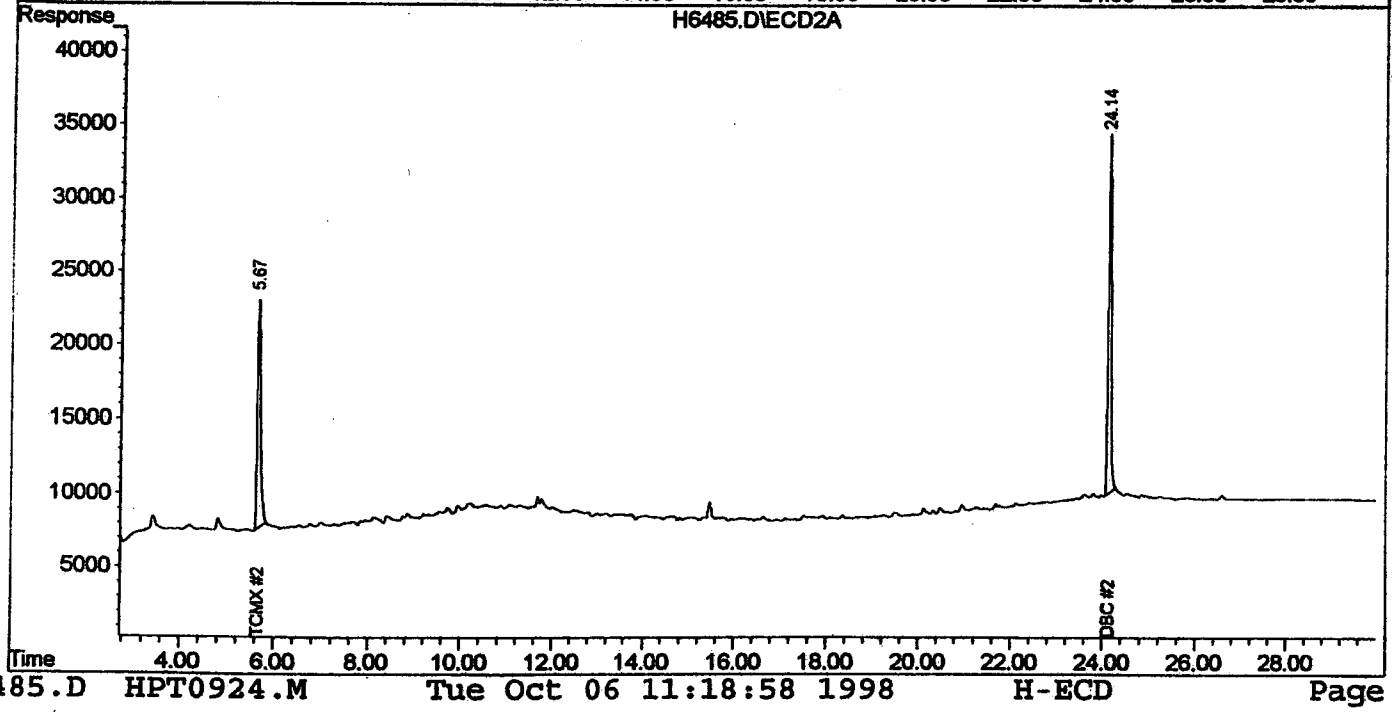
Quantitation Report

Signal #1 : C:\HPCHEM\1\DATA\10-02-98\H6485.D\ECD1B.CH Vial: 18
Signal #2 : C:\HPCHEM\1\DATA\10-02-98\H6485.D\ECD2A.CH
Acq On : 2 Oct 98 8:41 pm Operator:
Sample : MPF-20,5418-018,A,200mL,,100,09/17/98 Inst : H-ECD
Misc : RFW/WASTE_ANALYSIS,09/11/98,09/14/98,20 Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Oct 2 21:11 1998 Quant Results File: HPT0924.RES

Quant Method : C:\HPCHEM\1\METHODS\HPT0924.M (Chemstation Integrator)
Title :
Last Update : Fri Sep 25 09:14:31 1998
Response via : Multiple Level Calibration
DataAcq Meth.: HPT0924.M

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :





Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\10-02-98\H6486.D\ECD1B.CH Vial: 19
Signal #2 : C:\HPCHEM\1\DATA\10-02-98\H6486.D\ECD2A.CH
Acq On : 2 Oct 98 9:15 pm Operator:
Sample : MPF-21,5418-019,A,200mL,,100,09/17/98 Inst : H-ECD
Misc : RFW/WASTE_ANALYSIS,09/11/98,09/14/98,20 Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Oct 2 21:45 1998 Quant Results File: HPT0924.RES

Quant Method : C:\HPCHEM\1\METHODS\HPT0924.M (Chemstation Integrator)
Title :
Last Update : Fri Sep 25 09:14:31 1998
Response via : Initial Calibration
DataAcq Meth : HPT0924.M

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

Compound	RT#1	RT#2	Resp#1	Resp#2	ng#1	ng#2
System Monitoring Compounds						
1) S TCMX	5.48	5.66	806700	683389	1.882	1.924
Spiked Amount 100.000			Recovery =		1.88%	1.92%
2) S DBC	23.38	24.12	728971	861680	2.032	2.388
Spiked Amount 100.000			Recovery =		2.03%	2.39%
Target Compounds						
Sum Toxaphene			0	0	N.D.	N.D.
Average Toxaphene					0.000	0.000
Sum Aroclor-1016			0	0	N.D.	N.D.
Average Aroclor-1016					0.000	0.000
Sum Aroclor-1221			0	0	N.D.	N.D.
Average Aroclor-1221					0.000	0.000
Sum Aroclor-1232			0	0	N.D.	N.D.
Average Aroclor-1232					0.000	0.000
Sum Aroclor-1242			0	0	N.D.	N.D.
Average Aroclor-1242					0.000	0.000
Sum Aroclor-1248			0	0	N.D.	N.D.
Average Aroclor-1248					0.000	0.000
Sum Aroclor-1254			0	0	N.D.	N.D.
Average Aroclor-1254					0.000	0.000
Sum Aroclor-1260			0	0	N.D.	N.D.
Average Aroclor-1260					0.000	0.000

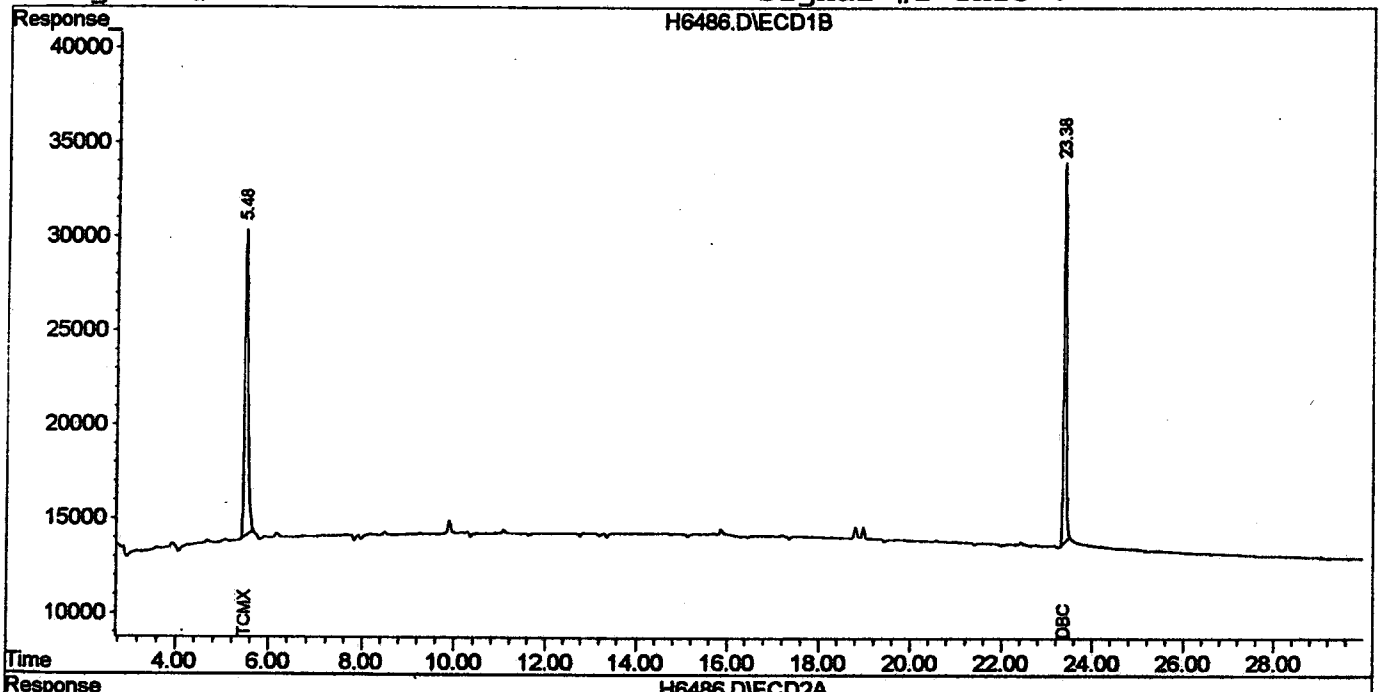
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

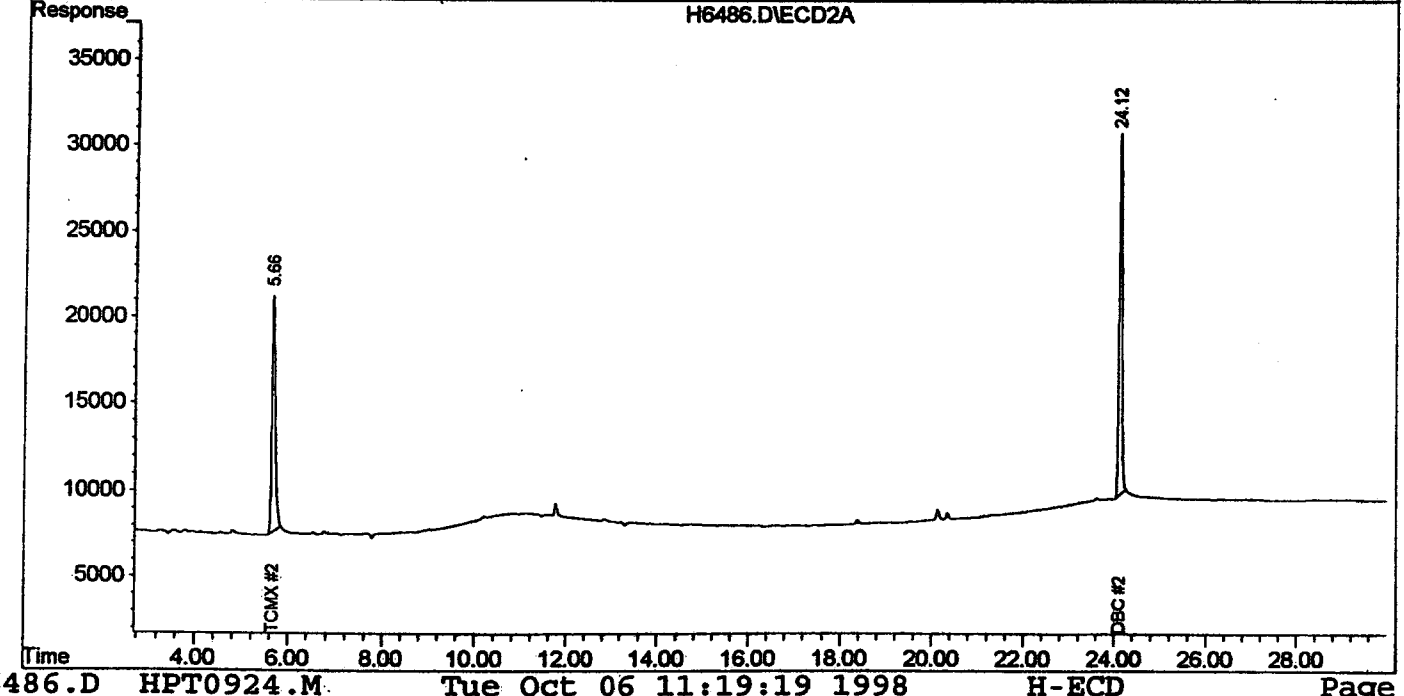
Quantitation Report

Signal #1 : C:\HPCHEM\1\DATA\10-02-98\H6486.D\ECD1B.CH Vial: 19
Signal #2 : C:\HPCHEM\1\DATA\10-02-98\H6486.D\ECD2A.CH
Acq On : 2 Oct 98 9:15 pm Operator:
Sample : MPF-21,5418-019,A,200mL,,100,09/17/98 Inst : H-ECD
Misc : RFW/WASTE_ANALYSIS,09/11/98,09/14/98,20 Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Oct 2 21:45 1998 Quant Results File: HPT0924.RES

Quant Method : C:\HPCHEM\1\METHODS\HPT0924.M (Chemstation Integrator)
Title :
Last Update : Fri Sep 25 09:14:31 1998
Response via : Multiple Level Calibration
DataAcq Meth : HPT0924.M

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :





Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\10-02-98\H6487.D\ECD1B.CH Vial: 20
Signal #2 : C:\HPCHEM\1\DATA\10-02-98\H6487.D\ECD2A.CH
Acq On : 2 Oct 98 9:49 pm Operator:
Sample : MPF-22,5418-020,A,200mL,,100,09/17/98 Inst : H-ECD
Misc : RFW/WASTE_ANALYSIS,09/11/98,09/14/98,20 Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Oct 6 10:31 1998 Quant Results File: HPT0924.RES

Quant Method : C:\HPCHEM\1\METHODS\HPT0924.M (Chemstation Integrator)
Title :
Last Update : Fri Sep 25 09:14:31 1998
Response via : Initial Calibration
DataAcq Meth : HPT0924.M

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

Compound	RT#1	RT#2	Resp#1	Resp#2	ng#1	ng#2
System Monitoring Compounds						
1) S TCMX	5.50	5.68	940431	791595	2.194	2.228
Spiked Amount 100.000			Recovery =		2.19%	2.23%
2) S DBC	23.37	24.11	888046	1045530	2.476	2.897
Spiked Amount 100.000			Recovery =		2.48%	2.90%
Target Compounds						
Sum Toxaphene			0	0	N.D.	N.D.
Average Toxaphene					0.000	0.000
Sum Aroclor-1016			0	0	N.D.	N.D.
Average Aroclor-1016					0.000	0.000
Sum Aroclor-1221			0	0	N.D.	N.D.
Average Aroclor-1221					0.000	0.000
Sum Aroclor-1232			0	0	N.D.	N.D.
Average Aroclor-1232					0.000	0.000
Sum Aroclor-1242			0	0	N.D.	N.D.
Average Aroclor-1242					0.000	0.000
Sum Aroclor-1248			0	0	N.D.	N.D.
Average Aroclor-1248					0.000	0.000
Sum Aroclor-1254			0	0	N.D.	N.D.
Average Aroclor-1254					0.000	0.000
Sum Aroclor-1260			0	0	N.D.	N.D.
Average Aroclor-1260					0.000	0.000

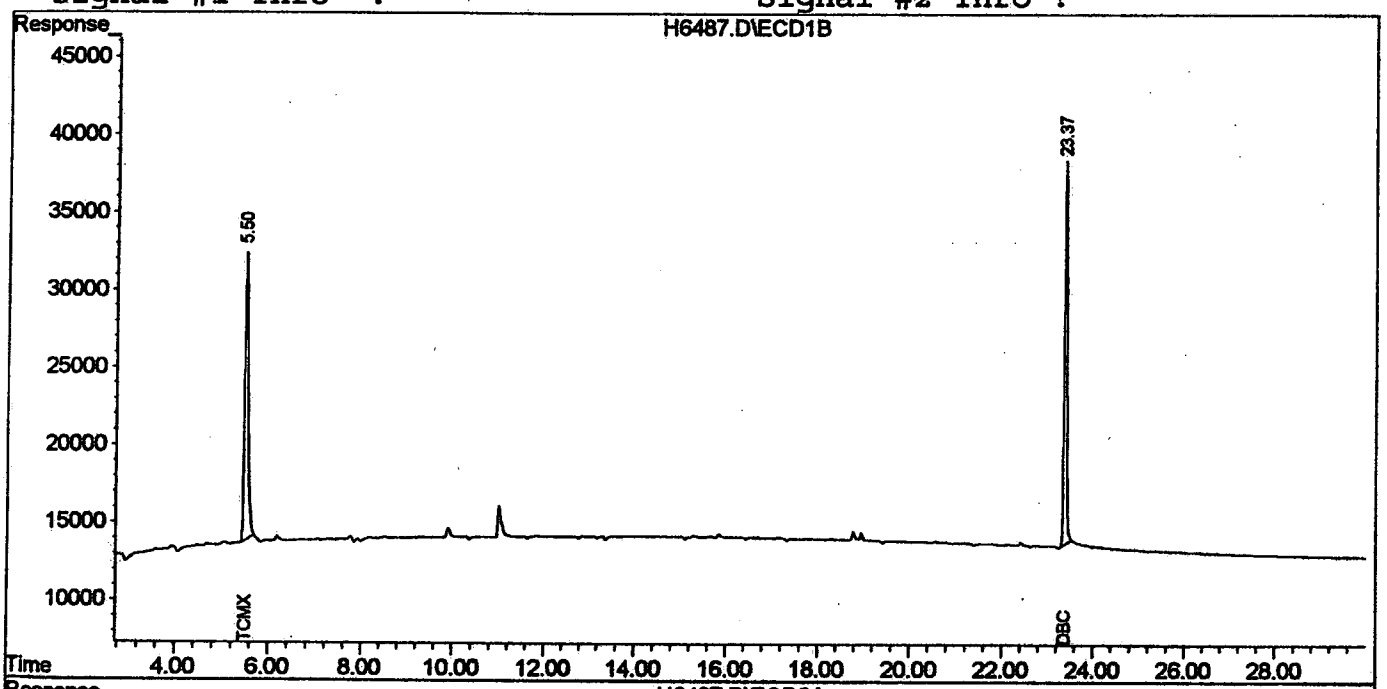
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

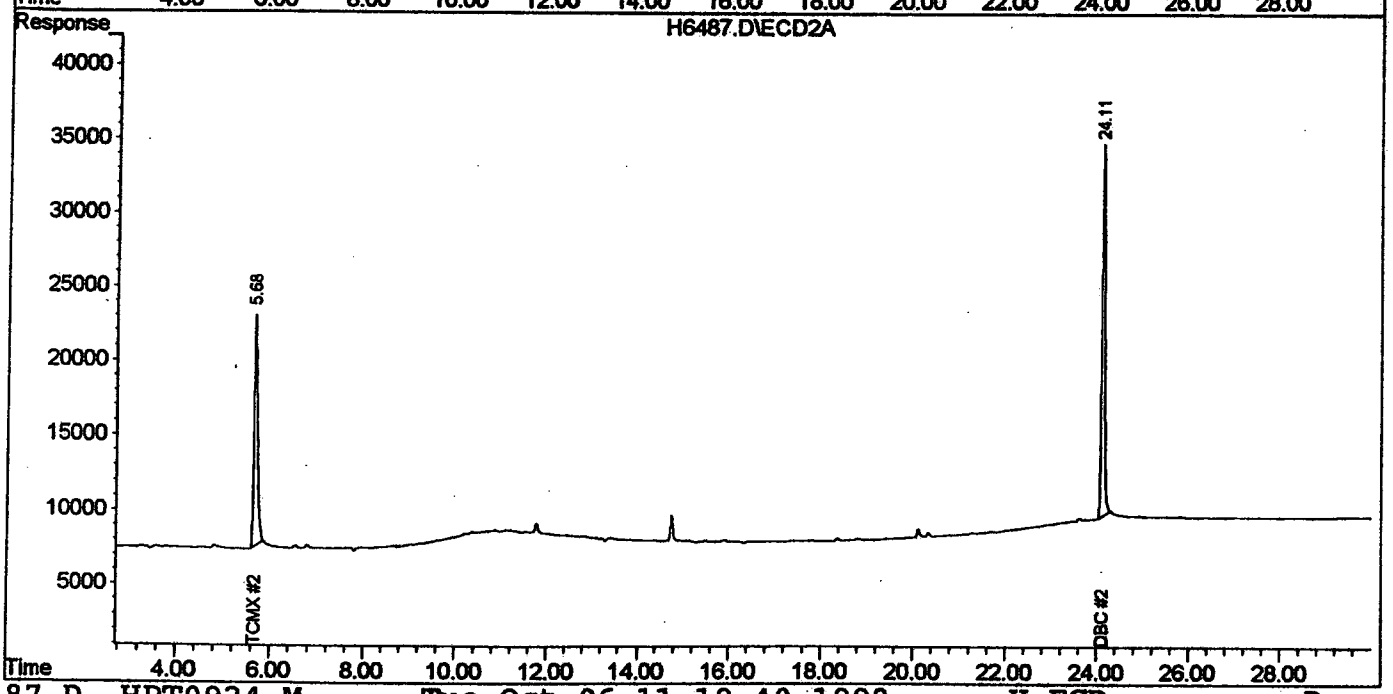
Quantitation Report

Signal #1 : C:\HPCHEM\1\DATA\10-02-98\H6487.D\ECD1B.CH Vial: 20
Signal #2 : C:\HPCHEM\1\DATA\10-02-98\H6487.D\ECD2A.CH
Acq On : 2 Oct 98 9:49 pm Operator:
Sample : MPF-22,5418-020,A,200mL,,100,09/17/98 Inst : H-ECD
Misc : RFW/WASTE_ANALYSIS,09/11/98,09/14/98,20 Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Oct 6 10:31 1998 Quant Results File: HPT0924.RES

Quant Method : C:\HPCHEM\1\METHODS\HPT0924.M (Chemstation Integrator)
Title :
Last Update : Fri Sep 25 09:14:31 1998
Response via : Multiple Level Calibration
DataAcq Meth : HPT0924.M

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :





Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\10-02-98\H6471.D\ECD1B.CH Vial: 4
Signal #2 : C:\HPCHEM\1\DATA\10-02-98\H6471.D\ECD2A.CH
Acq On : 2 Oct 98 12:43 pm Operator:
Sample : (5418.5430),METHOD-BLK,A,1000mL,,100,09/ Inst : H-ECD
Misc : NA,NA,NA,1 Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Oct 6 10:26 1998 Quant Results File: HPT0924.RES

Quant Method : C:\HPCHEM\1\METHODS\HPT0924.M (Chemstation Integrator)
Title :
Last Update : Fri Sep 25 09:14:31 1998
Response via : Initial Calibration
DataAcq. Meth : HPT0924.M

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

Compound	RT#1	RT#2	Resp#1	Resp#2	ng#1	ng#2
System Monitoring Compounds						
1) S TCMX	5.49	5.67	28899899	25482781	67.437	71.739
Spiked Amount 100.000			Recovery	=	67.44%	71.74%
2) S DBC	23.38	24.11	24581589	28453545	68.526	78.850
Spiked Amount 100.000			Recovery	=	68.53%	78.85%
Target Compounds						
Sum Toxaphene			0	0	N.D.	N.D.
Average Toxaphene					0.000	0.000
Sum Aroclor-1016			0	0	N.D.	N.D.
Average Aroclor-1016					0.000	0.000
Sum Aroclor-1221			0	0	N.D.	N.D.
Average Aroclor-1221					0.000	0.000
Sum Aroclor-1232			0	0	N.D.	N.D.
Average Aroclor-1232					0.000	0.000
Sum Aroclor-1242			0	0	N.D.	N.D.
Average Aroclor-1242					0.000	0.000
Sum Aroclor-1248			0	0	N.D.	N.D.
Average Aroclor-1248					0.000	0.000
Sum Aroclor-1254			0	0	N.D.	N.D.
Average Aroclor-1254					0.000	0.000
Sum Aroclor-1260			0	0	N.D.	N.D.
Average Aroclor-1260					0.000	0.000

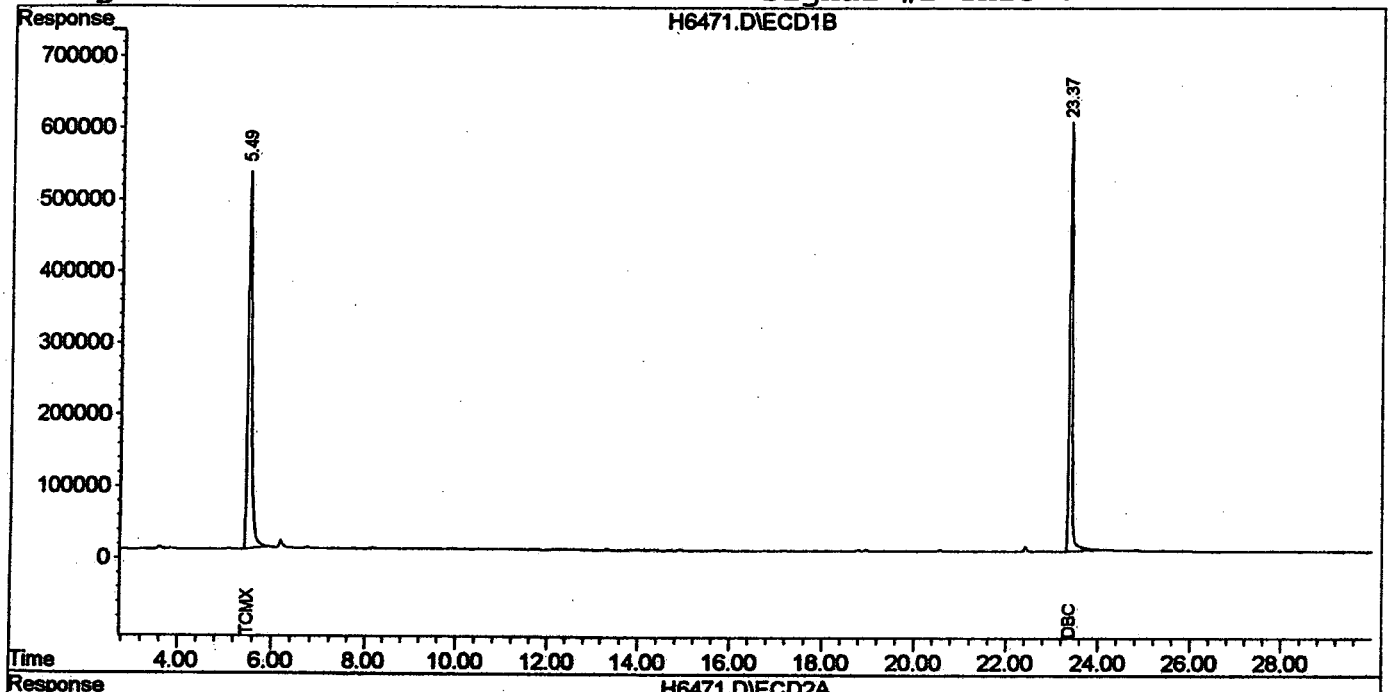
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

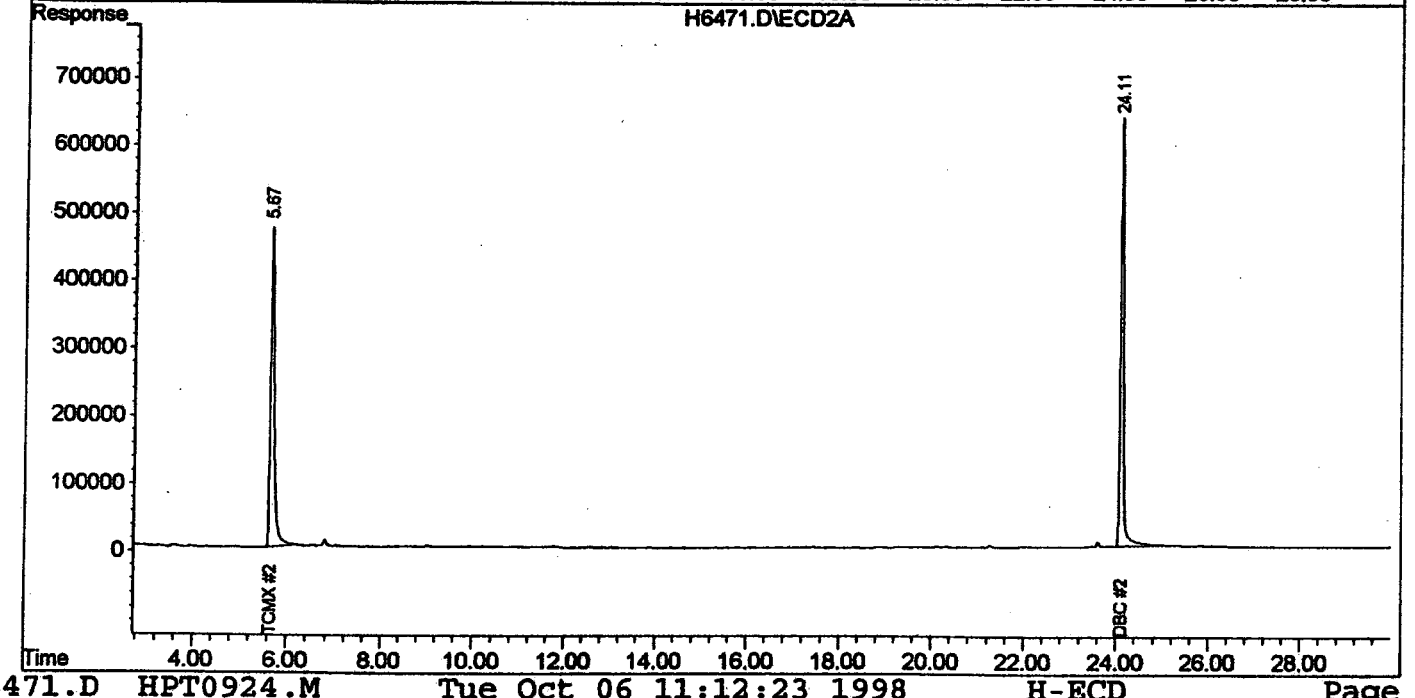
Quantitation Report

Signal #1 : C:\HPCHEM\1\DATA\10-02-98\H6471.D\ECD1B.CH Vial: 4
Signal #2 : C:\HPCHEM\1\DATA\10-02-98\H6471.D\ECD2A.CH
Acq On : 2 Oct 98 12:43 pm Operator:
Sample : (5418.5430),METHOD-BLK,A,1000mL,,100,09/ Inst : H-ECD
Misc : NA,NA,NA,1 Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Oct 6 10:26 1998 Quant Results File: HPT0924.RES

Quant Method : C:\HPCHEM\1\METHODS\HPT0924.M (Chemstation Integrator)
Title :
Last Update : Fri Sep 25 09:14:31 1998
Response via : Multiple Level Calibration
DataAcq Meth : HPT0924.M

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :





Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\10-02-98\H6470.D\ECD1B.CH Vial: 3
Signal #2 : C:\HPCHEM\1\DATA\10-02-98\H6470.D\ECD2A.CH
Acq On : 2 Oct 98 12:09 pm Operator:
Sample : PEST-IAS_1138,100_PPB Inst : H-ECD
Misc : NA,NA,NA,100 Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Oct 6 11:16 1998 Quant Results File: HPT0924.RES

Quant Method : C:\HPCHEM\1\METHODS\HPT0924.M (Chemstation Integrator)
Title :
Last Update : Fri Sep 25 09:14:31 1998
Response via : Initial Calibration
DataAcq Meth : HPT0924.M

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

	Compound	RT#1	RT#2	Resp#1	Resp#2	ng#1	ng#2
	System Monitoring Compounds						
1) S	TCMX	5.48	5.66	44626194	37657945	104.134	106.014
Spiked Amount	100.000			Recovery	=	104.13%	106.01%
2) S	DBC	23.39	24.13	34859179	40745592	97.177	112.914
Spiked Amount	100.000			Recovery	=	97.18%	112.91%
	Target Compounds						
3) T	alpha-BHC	6.35	8.16	7369667	7807380	95.669	112.031
4) T	beta-BHC	6.97	11.89	3031126	3294077	93.048	111.753
5) T	gamma-BHC	7.15	9.39	6427409	7219007	92.258	110.276
6) T	delta-BHC	7.73	12.59	6554671	6762787	99.276	118.305
7) T	Heptachlor	9.13	9.95	3810944	6677003	72.846	109.986 #
8) T	Aldrin	10.16	10.76	6585640	6848617	102.366	109.891
9) T	Heptachlor epoxi	11.38	13.09	5188449	5899025	95.081	108.447
10) T	Endosulfan I	12.52	13.92	5116965	5736270	100.913	112.107
11) T	4,4'-DDE	13.36	14.39	9950576	6531724	187.569	113.975 #
12) T	Dieldrin	13.36	15.15	9950576	5766307	187.569	110.869 #
13) T	Endrin	14.03	15.81	3984167	5163006	89.481	117.882 #
14) T	Endosulfan II	14.32	17.46	5053308	5378425	104.068	115.886
15) T	4,4'-DDD	14.70	17.32	3631423	3616342	78.890	102.884 #
16) T	Endrin aldehyde	14.94	18.85	4027334	4213997	100.362	121.731
17) T	Endosulfan sulfa	15.72	19.92	4143846	4166342	95.969	113.557m
18) T	4,4'-DDT	15.93	17.83	3045347	4449759	83.214	125.372 #
19) T	Endrin ketone	17.19	21.14	4443793	4778255	86.578	115.544 #
20) T	Methoxychlor	17.86	19.99	1313057	2388160	74.678	114.611 #
21) T	alpha-Chlordane	12.13	13.92	6264540	5736270	102.302	112.107
22) T	gamma-Chlordane	12.63	14.14	6403506	6545503	102.392	113.878
Sum	Toxaphene			0	0	N.D.	N.D.
Average	Toxaphene					0.000	0.000
Sum	Aroclor-1016			0	0	N.D.	N.D.
Average	Aroclor-1016					0.000	0.000
Sum	Aroclor-1221			0	0	N.D.	N.D.
Average	Aroclor-1221					0.000	0.000

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\10-02-98\H6470.D\ECD1B.CH Vial: 3
Signal #2 : C:\HPCHEM\1\DATA\10-02-98\H6470.D\ECD2A.CH
Acq On : 2 Oct 98 12:09 pm Operator:
Sample : PEST-IAS_1138,100_PPB Inst : H-ECD
Misc : NA,NA,NA,100 Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Oct 6 11:16 1998 Quant Results File: HPT0924.RES

Quant Method : C:\HPCHEM\1\METHODS\HPT0924.M (Chemstation Integrator)
Title :
Last Update : Fri Sep 25 09:14:31 1998
Response via : Initial Calibration
DataAcq Meth : HPT0924.M

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

Compound	RT#1	RT#2	Resp#1	Resp#2	ng#1	ng#2
Sum Aroclor-1232			0	0	N.D.	N.D.
Average Aroclor-1232					0.000	0.000
Sum Aroclor-1242			0	0	N.D.	N.D.
Average Aroclor-1242					0.000	0.000
Sum Aroclor-1248			0	0	N.D.	N.D.
Average Aroclor-1248					0.000	0.000
Sum Aroclor-1254			0	0	N.D.	N.D.
Average Aroclor-1254					0.000	0.000
Sum Aroclor-1260			0	0	N.D.	N.D.
Average Aroclor-1260					0.000	0.000

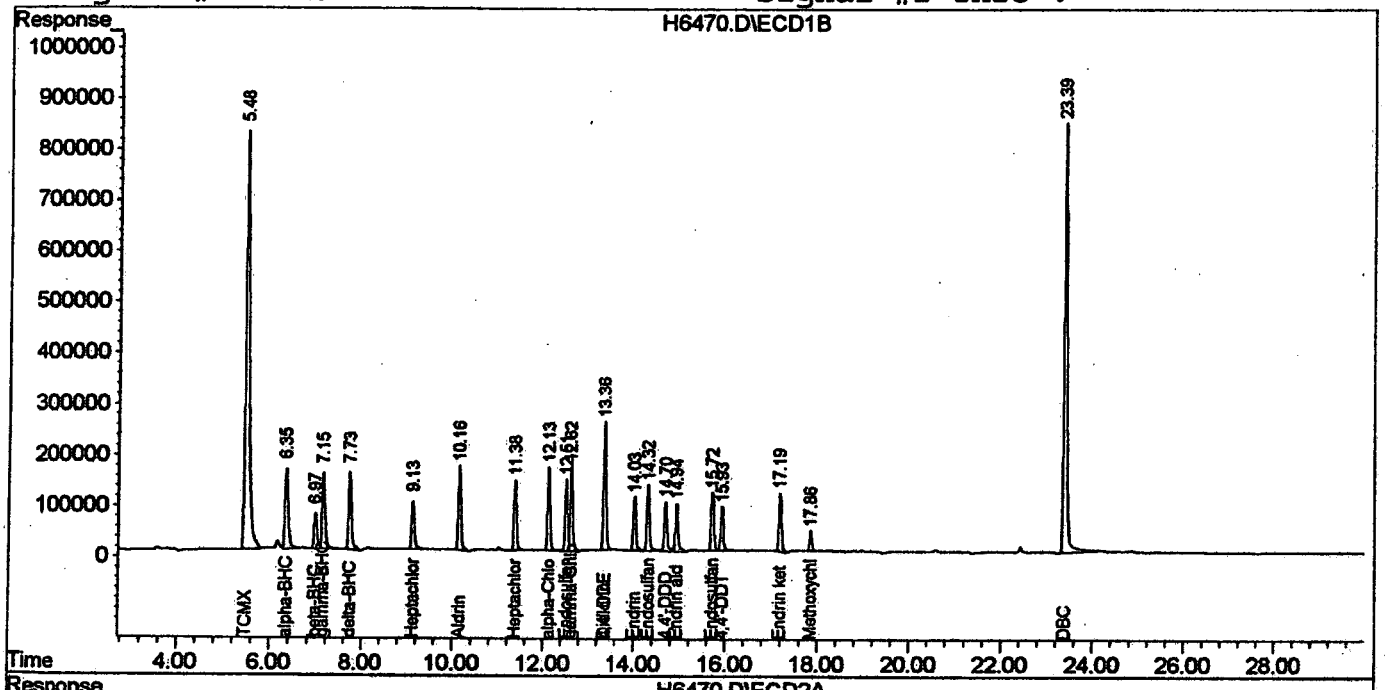
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

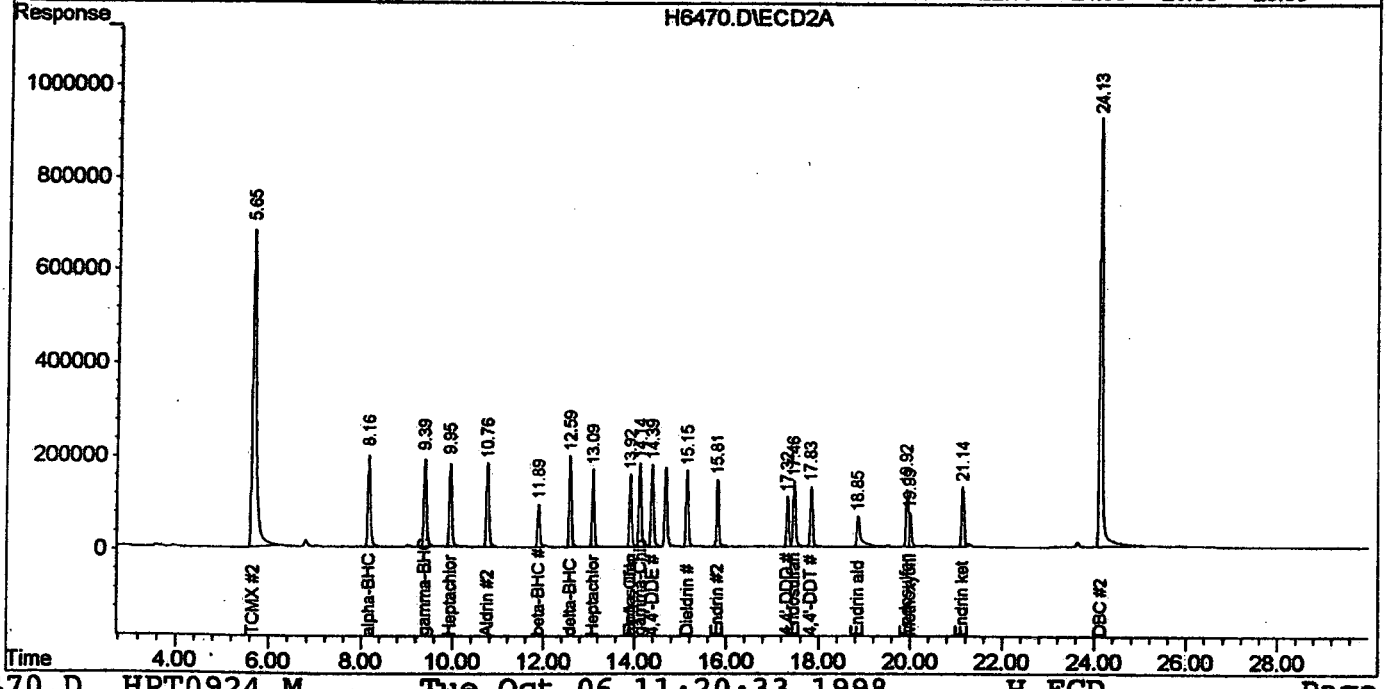
Quantitation Report

Signal #1 : C:\HPCHEM\1\DATA\10-02-98\H6470.D\ECD1B.CH Vial: 3
Signal #2 : C:\HPCHEM\1\DATA\10-02-98\H6470.D\ECD2A.CH
Acq On : 2 Oct 98 12:09 pm Operator:
Sample : PEST-IAS_1138,100_PPB Inst : H-ECD
Misc : NA,NA,NA,100 Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Oct 6 11:16 1998 Quant Results File: HPT0924.RES

Quant Method : C:\HPCHEM\1\METHODS\HPT0924.M (Chemstation Integrator)
Title :
Last Update : Fri Sep 25 09:14:31 1998
Response via : Multiple Level Calibration
DataAcq Meth : HPT0924.M

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :





Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\10-02-98\H6490.D\ECD1B.CH Vial: 23
Signal #2 : C:\HPCHEM\1\DATA\10-02-98\H6490.D\ECD2A.CH
Acq On : 2 Oct 98 11:31 pm Operator:
Sample : PEST-IAS1138,100_PPB Inst : H-ECD
Misc : NA,NA,NA,1 Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Oct 5 14:07 1998 Quant Results File: HPT0924.RES

Quant Method : C:\HPCHEM\1\METHODS\HPT0924.M (Chemstation Integrator)
Title :
Last Update : Fri Sep 25 09:14:31 1998
Response via : Initial Calibration
DataAcq Meth : HPT0924.M

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

Compound	RT#1	RT#2	Resp#1	Resp#2	ng#1	ng#2
System Monitoring Compounds						
1) S TCMX	5.50	5.67	29580178	26555107	69.024	74.758
Spiked Amount 100.000			Recovery =		69.02%	74.76%
2) S DBC	23.37	24.12	21528682	24867332	60.016	68.912
Spiked Amount 100.000			Recovery =		60.02%	68.91%
Target Compounds						
3) T alpha-BHC	6.36	8.17	7546350	7578861	97.962	108.752m
4) T beta-BHC	6.99	11.88	2144329	2624525	65.825	89.039m#
5) T gamma-BHC	7.16	9.39	7332114	7322259	105.244	111.854m
6) T delta-BHC	7.75	12.57	6940053	6634005	105.113	116.052m
7) T Heptachlor	9.14	9.94	5015398	6647713	95.870	109.504m
8) T Aldrin	10.15	10.75	6791039	6731123	105.559	108.005m
9) T Heptachlor epoxi	11.37	13.07	5946097	6184407	108.966	113.693m
10) T Endosulfan I	12.50	13.89	5513096	5806536	108.725	113.480m
11) T 4,4'-DDE	13.34	14.37	11658006	7399216	219.754	129.113m#
12) T Dieldrin	13.34	15.12	11658006	6089202	219.754	117.077m#
13) T Endrin	14.01	15.78	4471008	4872650	100.416	111.253m
14) T Endosulfan II	14.30	17.44	5350798	5087437	110.195	109.616m
15) T 4,4'-DDD	14.68	17.29	4877282	4302812	105.955	122.414m
16) T Endrin aldehyde	14.92	18.83	4421481	3459533	110.184	99.937m
17) T Endosulfan sulfa	15.69	19.90	4770272	4193640	110.477	114.301m
18) T 4,4'-DDT	15.90	17.81	3984363	4465922	108.872	125.827m
19) T Endrin ketone	17.16	21.12	5618122	5078128	109.458	122.796m
20) T Methoxychlor	17.83	19.97	1809458	2362913	102.910	113.399m
21) T alpha-Chlordane	12.12	13.89	7650262	5875284	124.931	114.824m
22) T gamma-Chlordane	12.61	14.11	7692254	7203504	122.999	125.326m
Sum Toxaphene			0	0	N.D.	N.D.
Average Toxaphene					0.000	0.000
Sum Aroclor-1016			0	0	N.D.	N.D.
Average Aroclor-1016					0.000	0.000
Sum Aroclor-1221			0	0	N.D.	N.D.
Average Aroclor-1221					0.000	0.000

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\10-02-98\H6490.D\ECD1B.CH Vial: 23
Signal #2 : C:\HPCHEM\1\DATA\10-02-98\H6490.D\ECD2A.CH
Acq On : 2 Oct 98 11:31 pm Operator:
Sample : PEST-IAS1138,100_PPB Inst : H-ECD
Misc : NA,NA,NA,1 Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Oct 5 14:07 1998 Quant Results File: HPT0924.RES

Quant Method : C:\HPCHEM\1\METHODS\HPT0924.M (Chemstation Integrator)
Title :
Last Update : Fri Sep 25 09:14:31 1998
Response via : Initial Calibration
DataAcq Meth : HPT0924.M

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

Compound	RT#1	RT#2	Resp#1	Resp#2	ng#1	ng#2
Sum Aroclor-1232			0	0	N.D.	N.D.
Average Aroclor-1232					0.000	0.000
Sum Aroclor-1242			0	0	N.D.	N.D.
Average Aroclor-1242					0.000	0.000
Sum Aroclor-1248			0	0	N.D.	N.D.
Average Aroclor-1248					0.000	0.000
Sum Aroclor-1254			0	0	N.D.	N.D.
Average Aroclor-1254					0.000	0.000
Sum Aroclor-1260			0	0	N.D.	N.D.
Average Aroclor-1260					0.000	0.000

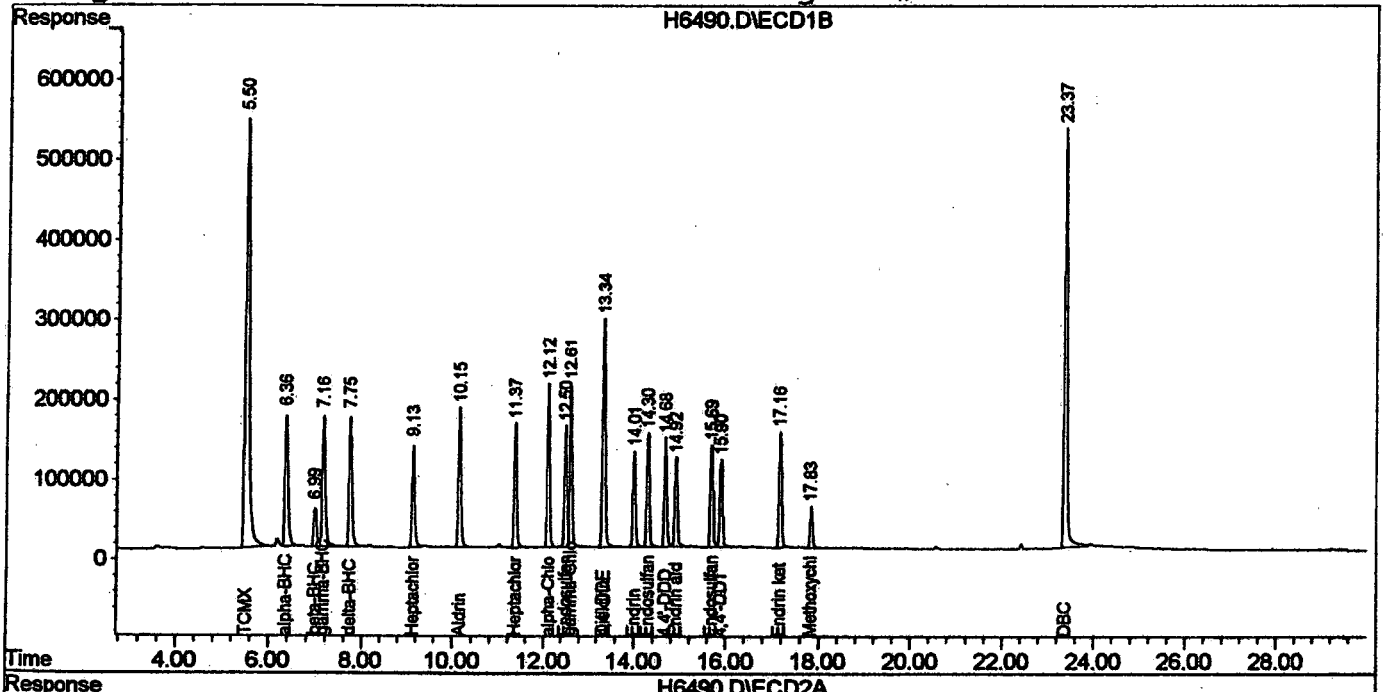
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

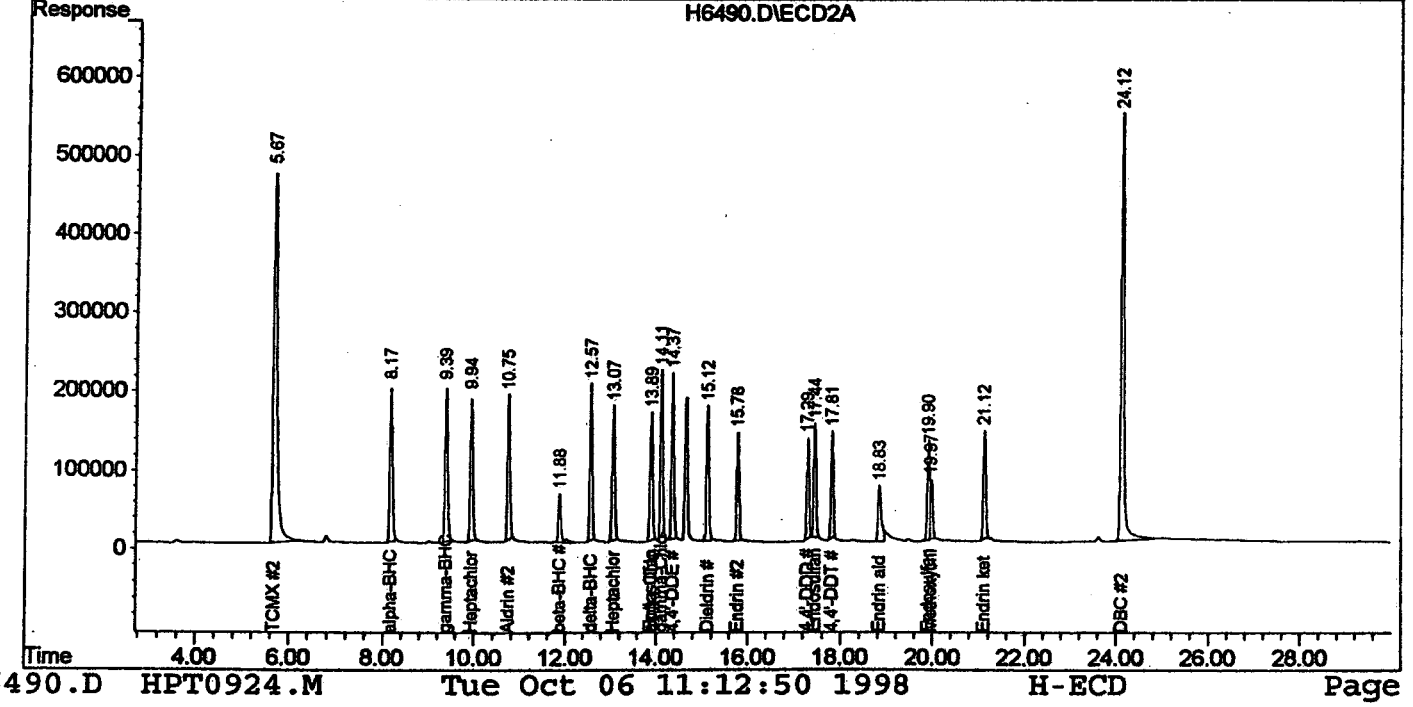
Quantitation Report

Signal #1 : C:\HPCHEM\1\DATA\10-02-98\H6490.D\ECD1B.CH Vial: 23
Signal #2 : C:\HPCHEM\1\DATA\10-02-98\H6490.D\ECD2A.CH
Acq On : 2 Oct 98 11:31 pm Operator:
Sample : PEST-IAS1138,100_PPB Inst : H-ECD
Misc : NA,NA,NA,1 Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Oct 5 14:07 1998 Quant Results File: HPT0924.RES

Quant Method : C:\HPCHEM\1\METHODS\HPT0924.M (Chemstation Integrator)
Title :
Last Update : Fri Sep 25 09:14:31 1998
Response via : Multiple Level Calibration
DataAcq Meth : HPT0924.M

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :





HERBICIDE METHOD BLANK SUMMARY

Lab File ID:	H6231.D	**Instrument ID:**	HP-5890H
Date Extracted:	09/17/98	**Matrix:**	Aqueous
Date Analyzed:	09/23/98	**Time Analyzed:**	17:18

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

Client ID	Lab Sample ID	Date Analyzed	Time Analyzed
MPF-03	5418-003	09/23/98	17:36
MPF-~~17~~ 19	5418-~~019~~ 017	09/23/98	17:55
MPF-~~18~~ 20	5418-~~020~~ 018	09/23/98	18:13
MPF-~~19~~ 21	5418-~~021~~ 019	09/23/98	18:31
MPF-~~20~~ 22	5418-~~022~~ 020	09/23/98	18:50
3601-3	5426-003	09/23/98	19:08
1	5430-001	09/23/98	19:27
2	5430-002	09/23/98	19:45
3	5430-003	09/23/98	20:03
4	5430-004	09/23/98	20:22
5	5430-005	09/23/98	20:40
6	5430-006	09/23/98	20:59
7	5430-007	09/23/98	21:17
8	5430-008	09/23/98	21:35
9	5430-009	09/23/98	21:54
POND	5457-001	09/23/98	22:12
MS	HBW0917MS	09/23/98	23:08
MS	HBW0917MSD	09/23/98	23:26

mtc 10/6/98

INTEGRATED ANALYTICAL LABORATORIES

TCLP HERBICIDES

Client / Project : NA

Lab ID: METHOD-BLK
Client ID: (5418.5457)
Date Received: NA
Date Extracted: 09/17/98
Date Analyzed: 09/23/98
Data File: H6231.D

GC Column : DB5/DB1701P
Sample wt/vol : 1000mL
Matrix-Units: A-mg/L (ppm)
Dil. Factor : 1
% Moisture: 100

Compound	Concentration	Q	MDL
2,4-D	ND		0.0001
Silvex	ND		0.0001

HERBICIDE INITIAL CALIBRATION

Date Analyzed: 09/23/98 **Instrument ID:** HP 5890h

Data File: H6229.D H6228.D H6230.D **GC Column (primary)** DB-5

Compound	RT OF STANDARDS Low	MID	HIGH	MEAN RT	RT WINDOW FROM	TO
Dicamba	4.73	4.72	4.72	4.72	4.65	4.79
Dichloroprop	5.71	5.69	5.69	5.70	5.63	5.77
2,4-D	6.24	6.22	6.22	6.23	6.16	6.30
Silvex	7.39	7.37	7.38	7.38	7.31	7.45
2,4,5-T	8.14	8.13	8.14	8.14	8.07	8.21
2,4-DB	8.88	8.87	8.88	8.88	8.81	8.95
Dinoseb	8.88	8.87	8.88	8.88	8.81	8.95

HERBICIDE INITIAL CALIBRATION

Date Analyzed: 09/23/98 **Instrument ID:** HP 5890h

Data File: H6229.D H6228.D H6230.D **GC Column (1st)** DB-5

Compound	CALIBRATION FACTORS Low	MID	HIGH	MEAN	%RSD
Dicamba	44608	41803	52160	46191	11.60
Dichloroprop	12370	12307	13077	12585	3.40
2,4-D	13636	15615	13891	14381	7.49
Silvex	65831	66446	87362	73213	16.74
2,4,5-T	59541	62647	80714	67634	16.90
2,4-DB	10906	12529	11905	11780	6.95
Dinoseb	10906	12529	11905	11780	6.95

HERBICIDE SURROGATE PERCENT RECOVERY SUMMARY

Date Analyzed: 09/23/98

Client ID	Lab Sample ID	Matrix	DCPA 1 % rec	#	DCPA 2 % rec	#
(5418.5457)	METHOD-BLK	Aqueous	95			
MPF-03	5418-003	Aqueous	84 ✓			
MPF-~~17~~ 19	5418-~~019~~ 017	Aqueous	55 ✓			
MPF-~~18~~ 20	5418-~~020~~ 018	Aqueous	32 ✓			
MPF-~~19~~ 21	5418-~~021~~ 019	Aqueous	51 ✓			
MPF-~~20~~ 22	5418-~~022~~ 020	Aqueous	136 ✓			
3601-3	5426-003	Aqueous	51			
1	5430-001	Aqueous	91			
2	5430-002	Aqueous	96			
3	5430-003	Aqueous	93			
4	5430-004	Aqueous	149			
5	5430-005	Aqueous	127			
6	5430-006	Aqueous	134			
7	5430-007	Aqueous	122			
8	5430-008	Aqueous	118			
9	5430-009	Aqueous	146			
POND	5457-001	Aqueous	103			
MS	HBW0917MS	Aqueous	101			
MS	HBW0917MSD	Aqueous	107			

MC 10/6/98

Advisory CLP QC Limits	Soil	Aqueous	Concentration
DCPA = 2,4-Dichlorophenylacetic acid	10 - 150	10 - 150	100 ppb

Column to be used to flag recovery values
* Values outside of QC limits
D Surrogate diluted out
M Matrix interference

HERBICIDE SURROGATE PERCENT RECOVERY SUMMARY

Date Analyzed: 09/23/98

Client ID	Lab Sample ID	Matrix	DCPA 1 % rec	#	DCPA 2 % rec	#
(5509.5510)	METHOD-BLK	Aqueous	56			
S-1/2/3_COMP.	5509-005	Aqueous	103			
COMPOSITE	5510-007	Aqueous	91			
(5460)	METHOD-BLK	Soil	121			
SED	5460-001	Soil	130			

Advisory CLP QC Limits	Soil	Aqueous	Concentration
DCPA = 2,4-Dichlorophenylacetic acid	10 - 150	10 - 150	100 ppb

Column to be used to flag recovery values
* Values outside of QC limits
D Surrogate diluted out
M Matrix interference

AQUEOUS HERBICIDE MATRIX SPIKE/SPIKE DUPLICATE RECOVERY

Matrix spike Lab sample ID: HBW0917MSD

Compound	SPIKE ADDED (ug/L)	SAMPLE CONC. (ug/L)	MS CONC. (ug/L)	MS % REC #	QC LIMITS REC.
2,4-D	300	0.00	161	54	20 - 142
Silvex	300	0.00	112	37	26 - 130

Compound	SPIKE ADDED (ug/L)	MSD CONC. (ug/L)	#	MSD % REC	% RPD #	QC LIMITS RPD	QC LIMITS REC.
2,4-D	300	153		51	6	15	20 - 142
Silvex	300	104		35	6	20	26 - 131

Column to be used to flag recovery and RPD values with anastrisk

* Values outside of QC limits

NC Non calculable

RPD: __0__ out of __2__ outside limits

Spike Recovery: __0__ out of __4__ outside limits

HERBICIDE RETENTION TIME SHIFT SUMMARY

Instrument ID: HP-5890H **Column:** DB-5/DB-1701P

Column (Primary/Confirmation):): Primary

Mean Surrogate RT from initial calibration

DCPA 4.47

Client ID	Lab Sample ID	Date Analyzed	Time Analyzed	DBC RT	#
(5418.5457)	METHOD-BLK	09/23/98	17:18	4.47	
MPF-03	5418-003	09/23/98	17:36	4.48	
MPF-~~17~~ 019	5418-~~019~~ 017	09/23/98	17:55	4.48	
MPF-~~18~~ 020	5418-~~020~~ 018	09/23/98	18:13	4.43	
MPF-~~19~~ 021	5418-~~021~~ 019	09/23/98	18:31	4.49	
MPF-~~20~~ 22	5418-~~022~~ 020	09/23/98	18:50	4.48	
3601-3	5426-003	09/23/98	19:08	4.47	
1	5430-001	09/23/98	19:27	4.48	
2	5430-002	09/23/98	19:45	4.49	
3	5430-003	09/23/98	20:03	4.48	
4	5430-004	09/23/98	20:22	4.48	
5	5430-005	09/23/98	20:40	4.49	
6	5430-006	09/23/98	20:59	4.49	
7	5430-007	09/23/98	21:17	4.48	
8	5430-008	09/23/98	21:35	4.48	
9	5430-009	09/23/98	21:54	4.49	
POND	5457-001	09/23/98	22:12	4.48	
MS	HBW0917MS	09/23/98	23:08	4.49	
MS	HBW0917MSD	09/23/98	23:26	4.48	

WTR 10/6/98

Advisory CLP QC Limits

DCPA = 2,4-Dichlorophenylacetic acid (± 0.05 Minutes)

Column to be used to flag recovery values
* Values outside of QC limits
D Surrogate diluted out
M Matrix interference

HERBICIDE RETENTION TIME SHIFT SUMMARY

Instrument ID: HP-5890H **Column:** DB-5/DB-1701P

Column (Primary/Confirmation):): Primary

Mean Surrogate RT from initial calibration

DCPA 4.47

Client ID	Lab Sample ID	Date Analyzed	Time Analyzed	DBC RT	#
(5509.5510)	METHOD-BLK	09/23/98	23:44	4.51	
S-1/2/3_COMP.	5509-005	09/24/98	12:03	4.48	
COMPOSITE	5510-007	09/24/98	12:21	4.49	
(5460)	METHOD-BLK	09/24/98	12:39	4.48	
SED	5460-001	09/24/98	12:58	4.48	

Advisory CLP QC Limits

DCPA = 2,4-Dichlorophenylacetic acid (± 0.05 Minutes)

Column to be used to flag recovery values
* Values outside of QC limits
D Surrogate diluted out
M Matrix interference

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\09-23-98\H6232.D\ECD1A.CH Vial: 5
Signal #2 : C:\HPCHEM\1\DATA\09-23-98\H6232.D\ECD2B.CH
Acq On : 23 Sep 98 5:36 pm Operator:
Sample : MPF-03,5418-003,A,200mL,,100,09/17/98 Inst : H-ECD
Misc : RFW/WASTE_ANALYSIS,09/11/98,09/14/98,10 Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Sep 24 11:11 1998 Quant Results File: HHEB0923.RES

Quant Method : C:\HPCHEM\1\METHODS\HHEB0923.M (Chemstation Integrator)
Title :
Last Update : Fri Aug 14 13:05:37 1998
Response via : Initial Calibration
DataAcq Meth : HHEB0923.M

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

Compound	RT#1	RT#2	Resp#1	Resp#2	ng#1	ng#2
System Monitoring Compounds						
1) S Surrogate	4.48	3.83	2038408	2164528	8.373	9.288
Spiked Amount 100.000			Recovery	=	8.37%	9.29%
Target Compounds						

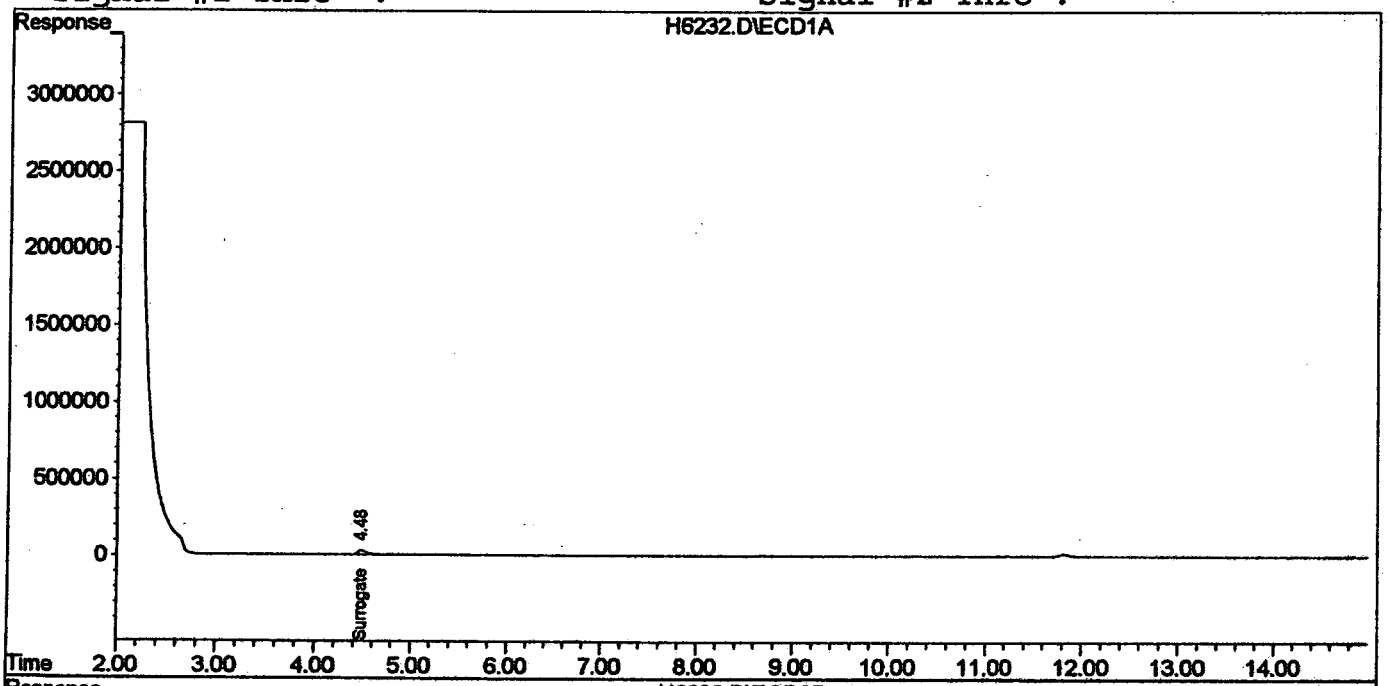
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

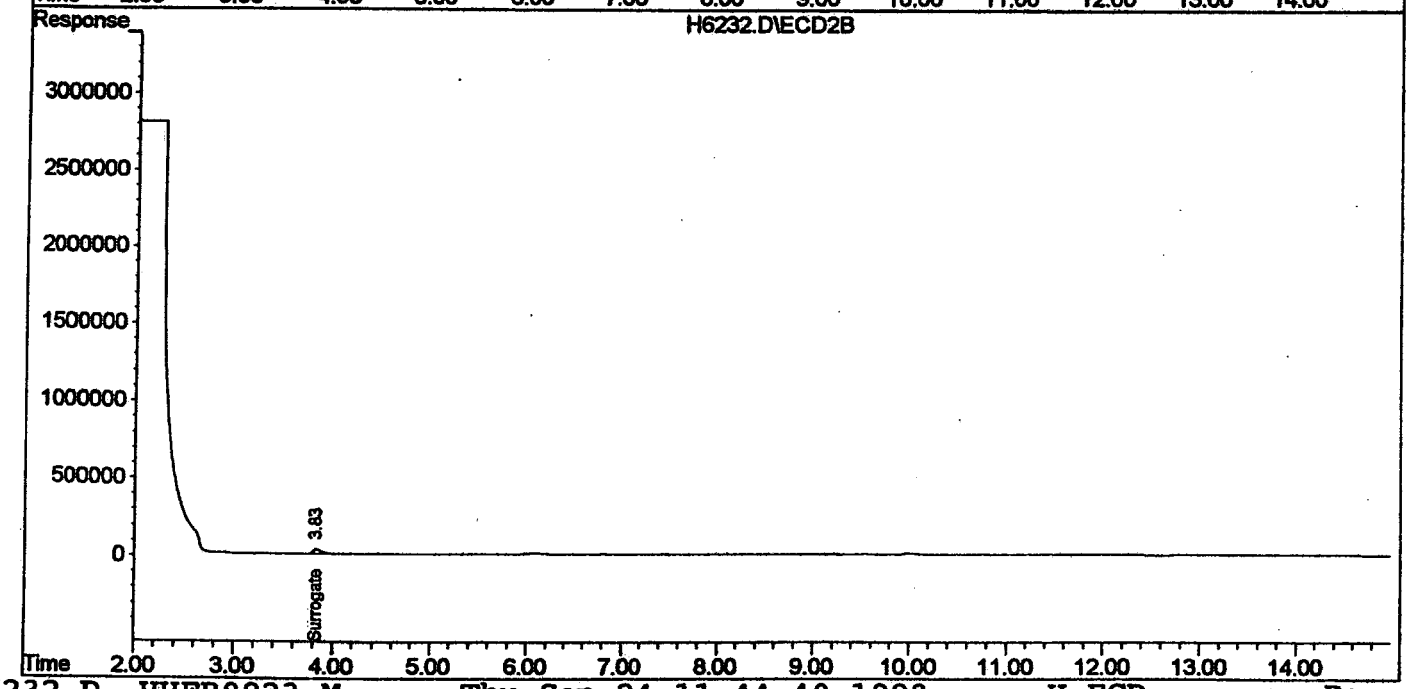
Quantitation Report

Signal #1 : C:\HPCHEM\1\DATA\09-23-98\H6232.D\ECD1A.CH Vial: 5
Signal #2 : C:\HPCHEM\1\DATA\09-23-98\H6232.D\ECD2B.CH
Acq On : 23 Sep 98 5:36 pm Operator:
Sample : MPF-03,5418-003,A,200mL,,100,09/17/98 Inst : H-ECD
Misc : RFW/WASTE_ANALYSIS,09/11/98,09/14/98,10 Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Sep 24 11:11 1998 Quant Results File: HHEB0923.RES

Quant Method : C:\HPCHEM\1\METHODS\HHEB0923.M (Chemstation Integrator)
Title :
Last Update : Fri Aug 14 13:05:37 1998
Response via : Multiple Level Calibration
DataAcq Meth : HHEB0923.M

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :





Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\09-23-98\H6233.D\ECD1A.CH Vial: 6
Signal #2 : C:\HPCHEM\1\DATA\09-23-98\H6233.D\ECD2B.CH
Acq On : 23 Sep 98 5:55 pm Operator:
Sample : MPF-~~17~~,5418-~~019~~,A,200mL,,100,09/17/98 Inst : H-ECD
Misc : RFW/WASTE_ANALYSIS,09/11/98,09/14/98,10 Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Sep 24 11:12 1998 Quant Results File: HHEB0923.RES
MPF-19, 5418-017 MR 10/6/98
Quant Method : C:\HPCHEM\1\METHODS\HHEB0923.M (Chemstation Integrator)
Title :
Last Update : Fri Aug 14 13:05:37 1998
Response via : Initial Calibration
DataAcq Meth : HHEB0923.M

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

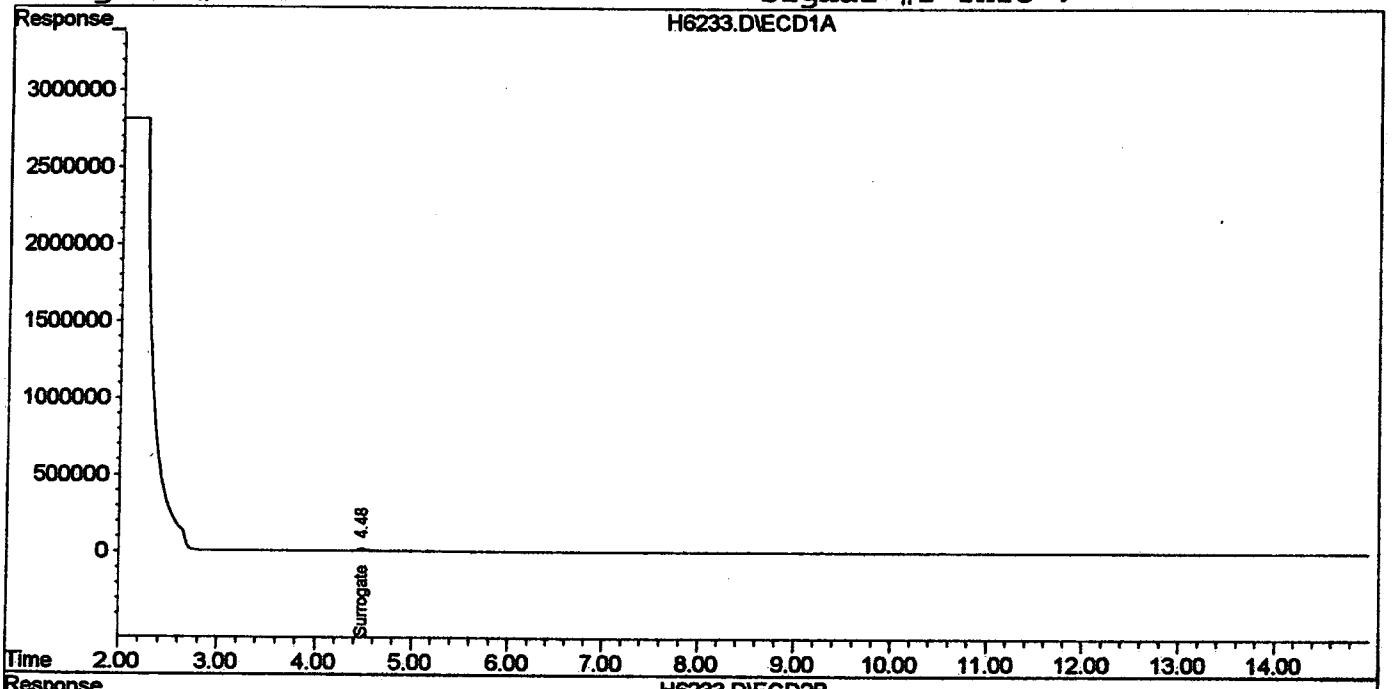
Compound	RT#1	RT#2	Resp#1	Resp#2	ng#1	ng#2
System Monitoring Compounds						
1) S Surrogate	4.48	3.83	1349058	1563125	5.542	6.707
Spiked Amount 100.000			Recovery	=	5.54%	6.71%
Target Compounds						

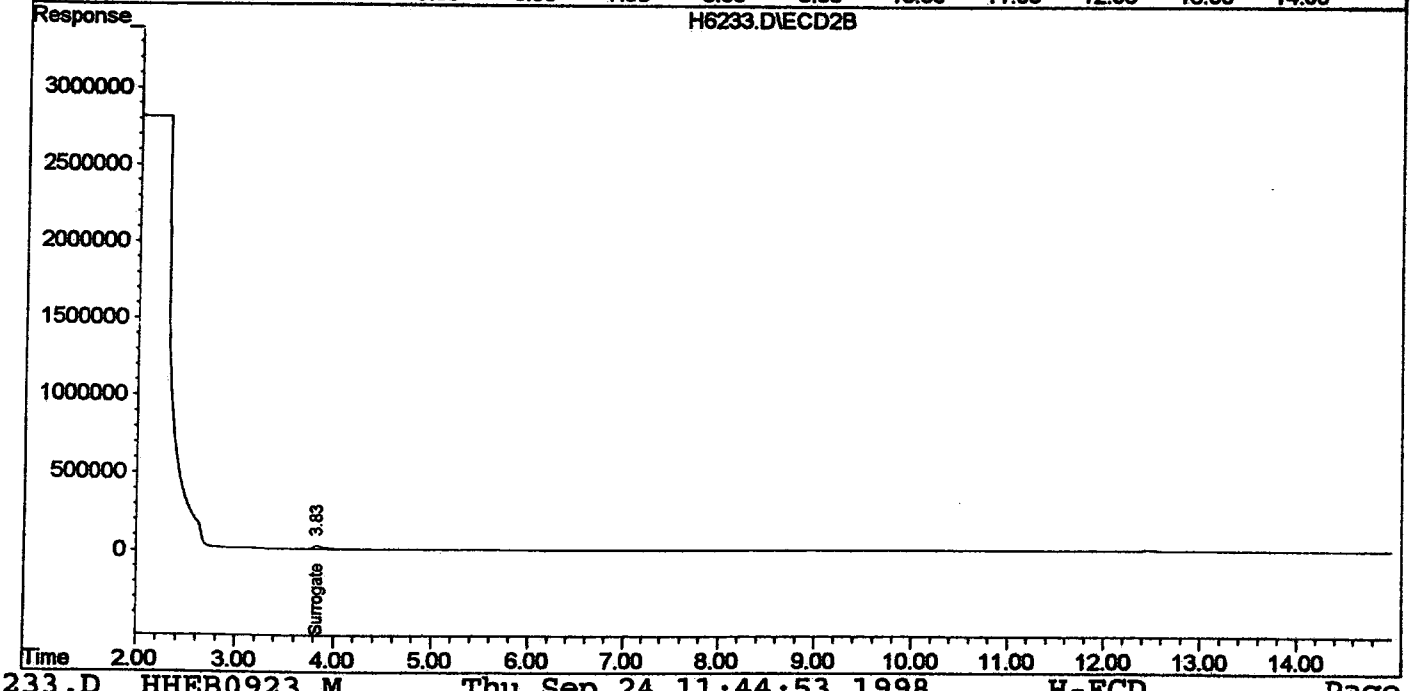
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report

Signal #1 : C:\HPCHEM\1\DATA\09-23-98\H6233.D\ECD1A.CH Vial: 6
Signal #2 : C:\HPCHEM\1\DATA\09-23-98\H6233.D\ECD2B.CH
Acq On : 23 Sep 98 5:55 pm Operator:
Sample : ~~MPF-17,5418-019,A~~,200mL,,100,09/17/98 Inst : H-ECD
Misc : RFW/WASTE_ANALYSIS,09/11/98,09/14/98,10 Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Sep 24 11:12 1998 Quant Results File: HHEB0923.RES
MPF-019, 5418-017 mte 10/6/98
Quant Method : C:\HPCHEM\1\METHODS\HHEB0923.M (Chemstation Integrator)
Title :
Last Update : Fri Aug 14 13:05:37 1998
Response via : Multiple Level Calibration
DataAcq Meth : HHEB0923.M

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :





Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\09-23-98\H6234.D\ECD1A.CH Vial: 7
Signal #2 : C:\HPCHEM\1\DATA\09-23-98\H6234.D\ECD2B.CH
Acq On : 23 Sep 98 6:13 pm Operator:
Sample : ~~MPF-18~~,5418-020,A,200mL,,100,09/17/98 Inst : H-ECD
Misc : RFW/WASTE_ANALYSIS,09/11/98,09/14/98,10 Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Sep 24 11:27 1998 Quant Results File: HHEB0923.RES
MPF-020 5418-018 MTC 10/6/98
Quant Method : C:\HPCHEM\1\METHODS\HHEB0923.M (Chemstation Integrator)
Title :
Last Update : Fri Aug 14 13:05:37 1998
Response via : Initial Calibration
DataAcq Meth : HHEB0923.M

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

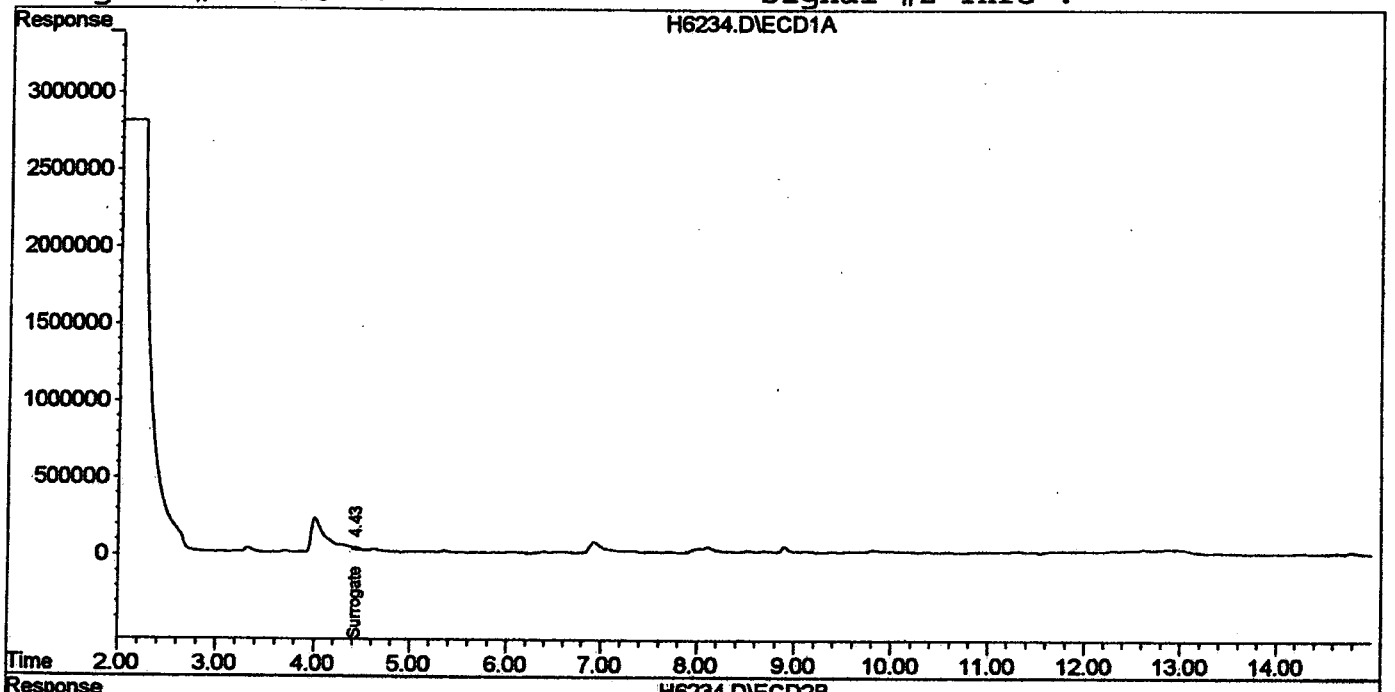
Compound	RT#1	RT#2	Resp#1	Resp#2	ng#1	ng#2
System Monitoring Compounds						
1) S Surrogate	4.43	3.88	768650	458418	3.157m	1.967m#
Spiked Amount 100.000			Recovery	=	3.16%	1.97%
Target Compounds						

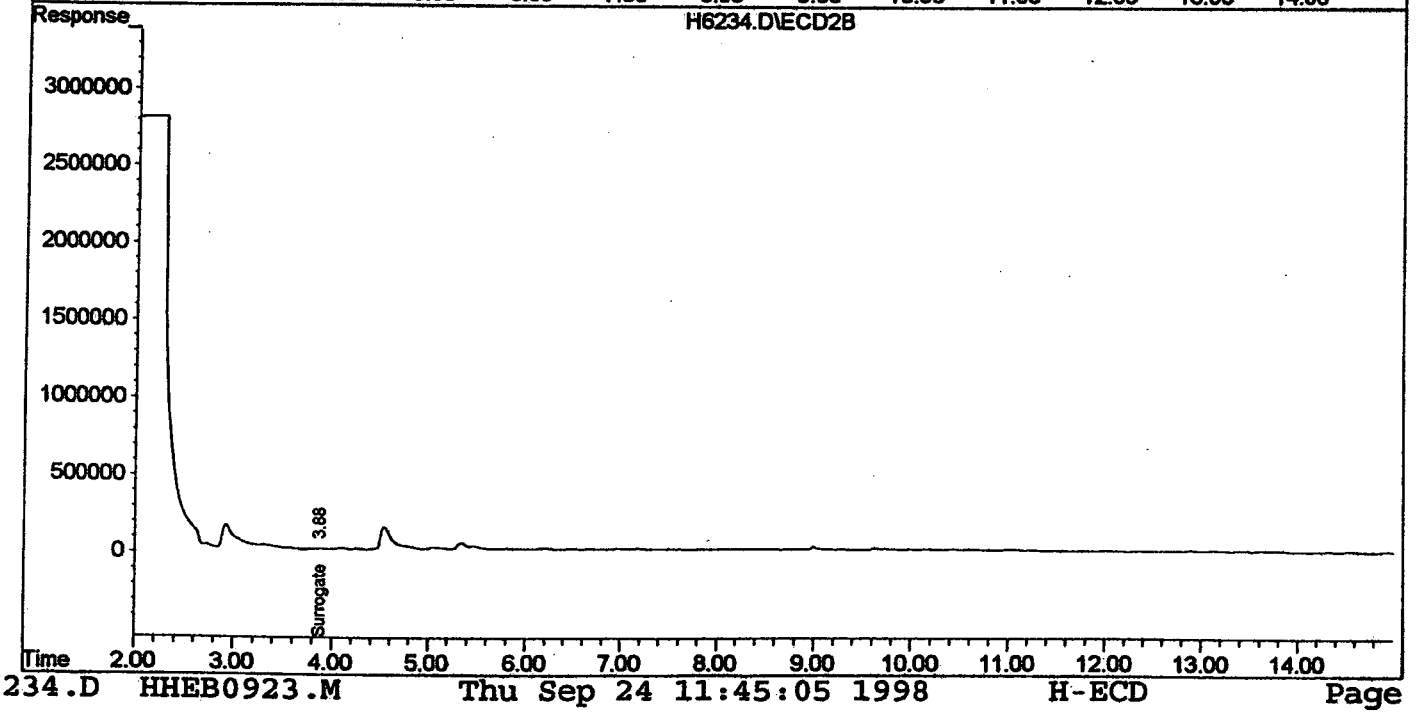
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report

Signal #1 : C:\HPCHEM\1\DATA\09-23-98\H6234.D\ECD1A.CH Vial: 7
Signal #2 : C:\HPCHEM\1\DATA\09-23-98\H6234.D\ECD2B.CH
Acq On : 23 Sep 98 6:13 pm Operator:
Sample : MPF-18,5418-020,A,200mL,,100,09/17/98 Inst : H-ECD
Misc : RFW/WASTE_ANALYSIS,09/11/98,09/14/98,10 Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Sep 24 11:27 1998 Quant Results File: HHEB0923.RES
MPF-020, 5418-018 MTC 10/6/98
Quant Method : C:\HPCHEM\1\METHODS\HHEB0923.M (Chemstation Integrator)
Title :
Last Update : Fri Aug 14 13:05:37 1998
Response via : Multiple Level Calibration
DataAcq Meth : HHEB0923.M

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :





Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\09-23-98\H6235.D\ECD1A.CH Vial: 8
Signal #2 : C:\HPCHEM\1\DATA\09-23-98\H6235.D\ECD2B.CH
Acq On : 23 Sep 98 6:31 pm Operator:
Sample : ~~MPF-19,5418-021,~~A,200mL,,100,09/17/98 Inst : H-ECD
Misc : RFW/WASTE_ANALYSIS,09/11/98,09/14/98,10 Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Sep 24 11:28 1998 Quant Results File: HHEB0923.RES
MPF-21, 5418-019 MTC 10/6/98
Quant Method : C:\HPCHEM\1\METHODS\HHEB0923.M (Chemstation Integrator)
Title :
Last Update : Fri Aug 14 13:05:37 1998
Response via : Initial Calibration
DataAcq Meth : HHEB0923.M

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

Compound	RT#1	RT#2	Resp#1	Resp#2	ng#1	ng#2
System Monitoring Compounds						
1) S Surrogate	4.49	3.84	1244952	1421318	5.114	6.099m
Spiked Amount 100.000			Recovery	=	5.11%	6.10%

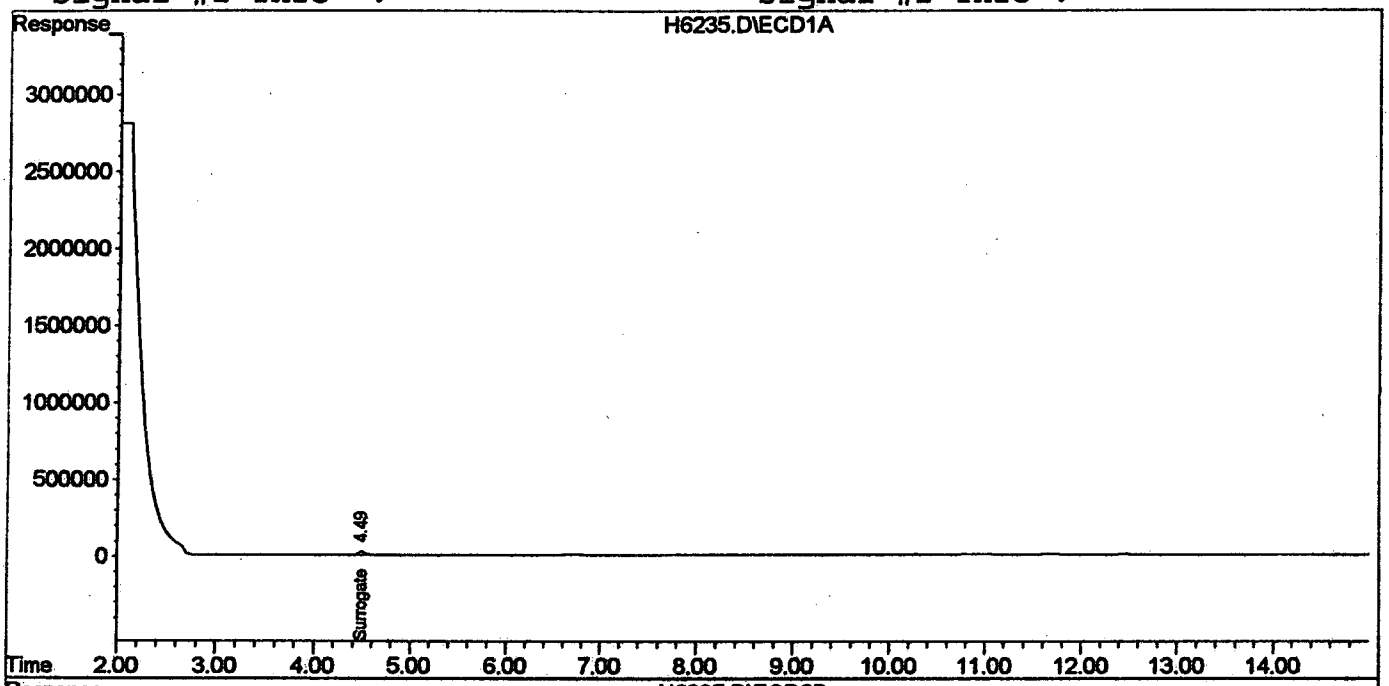
Target Compounds

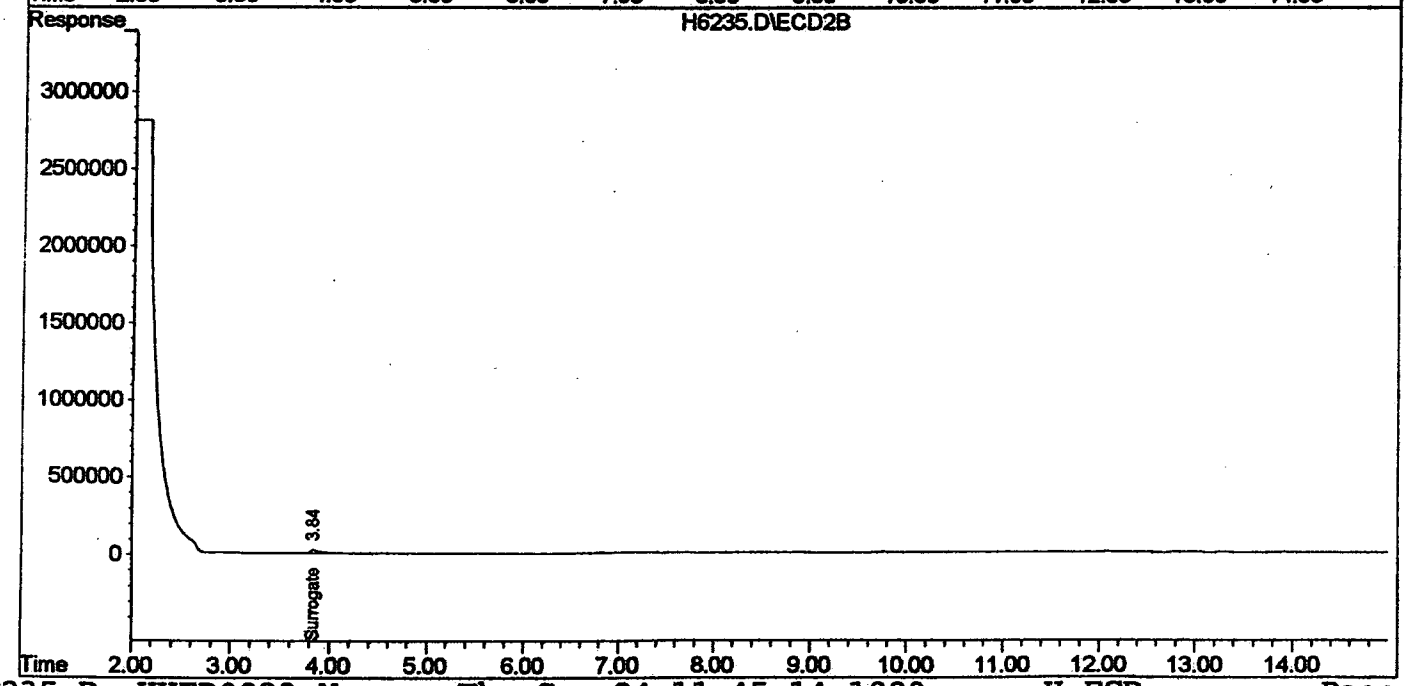
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report

Signal #1 : C:\HPCHEM\1\DATA\09-23-98\H6235.D\ECD1A.CH Vial: 8
Signal #2 : C:\HPCHEM\1\DATA\09-23-98\H6235.D\ECD2B.CH
Acq On : 23 Sep 98 6:31 pm Operator:
Sample : ~~MPF-19,5418-021~~,A,200mL,,100,09/17/98 Inst : H-ECD
Misc : RFW/WASTE_ANALYSIS,09/11/98,09/14/98,10 Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Sep 24 11:28 1998 Quant Results File: HHEB0923.RES
MPF-21, 5418-019 [illegible] 10/6/98
Quant Method : C:\HPCHEM\1\METHODS\HHEB0923.M (Chemstation Integrator)
Title :
Last Update : Fri Aug 14 13:05:37 1998
Response via : Multiple Level Calibration
DataAcq Meth : HHEB0923.M

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :





Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\09-23-98\H6236.D\ECD1A.CH Vial: 9
Signal #2 : C:\HPCHEM\1\DATA\09-23-98\H6236.D\ECD2B.CH
Acq On : 23 Sep 98 6:50 pm Operator:
Sample : ~~MPF-20,5418-022,~~A,200mL,,100,09/17/98 Inst : H-ECD
Misc : RFW/WASTE_ANALYSIS,09/11/98,09/14/98,10 Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Sep 24 11:28 1998 Quant Results File: HHEB0923.RES
MPF-22, 5418-020 [illegible] 10/6/98
Quant Method : C:\HPCHEM\1\METHODS\HHEB0923.M (Chemstation Integrator)
Title :
Last Update : Fri Aug 14 13:05:37 1998
Response via : Initial Calibration
DataAcq Meth : HHEB0923.M

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

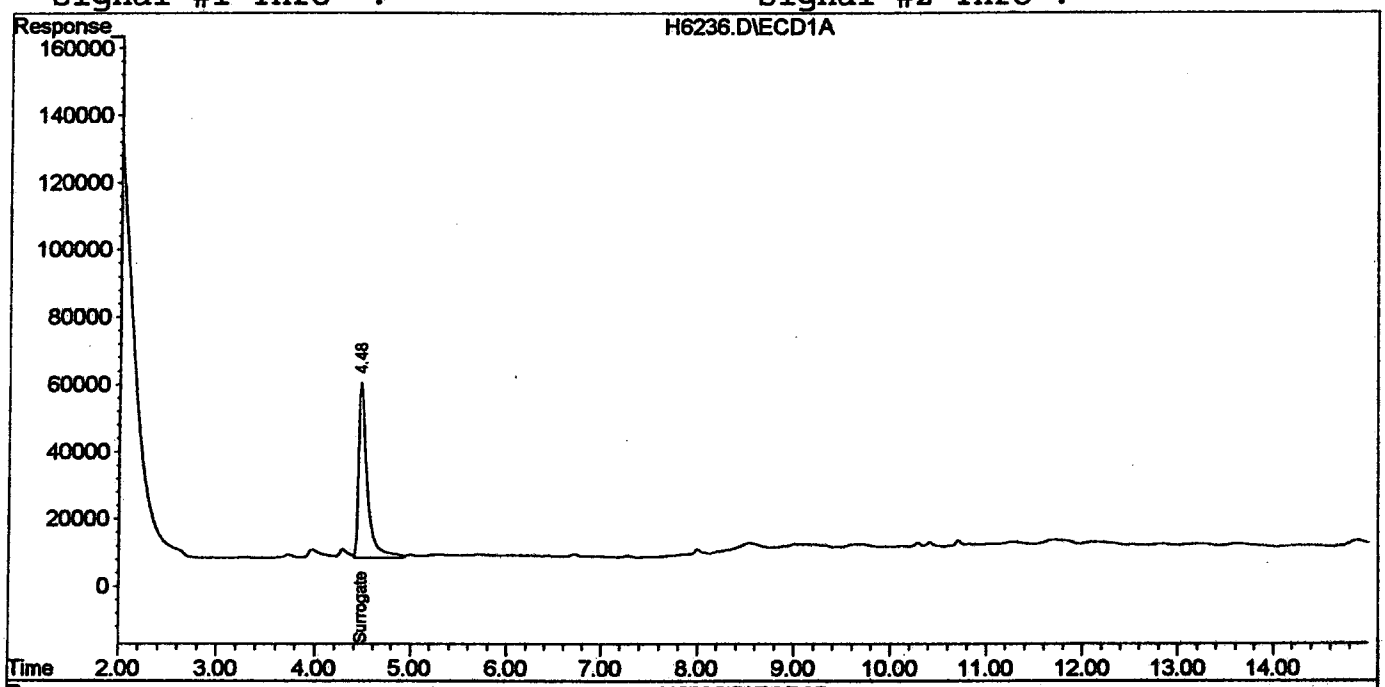
Compound	RT#1	RT#2	Resp#1	Resp#2	ng#1	ng#2
System Monitoring Compounds						
1) S Surrogate	4.48	3.83	3302287	3793100	13.565	16.276
Spiked Amount 100.000			Recovery	=	13.57%	16.28%
Target Compounds						

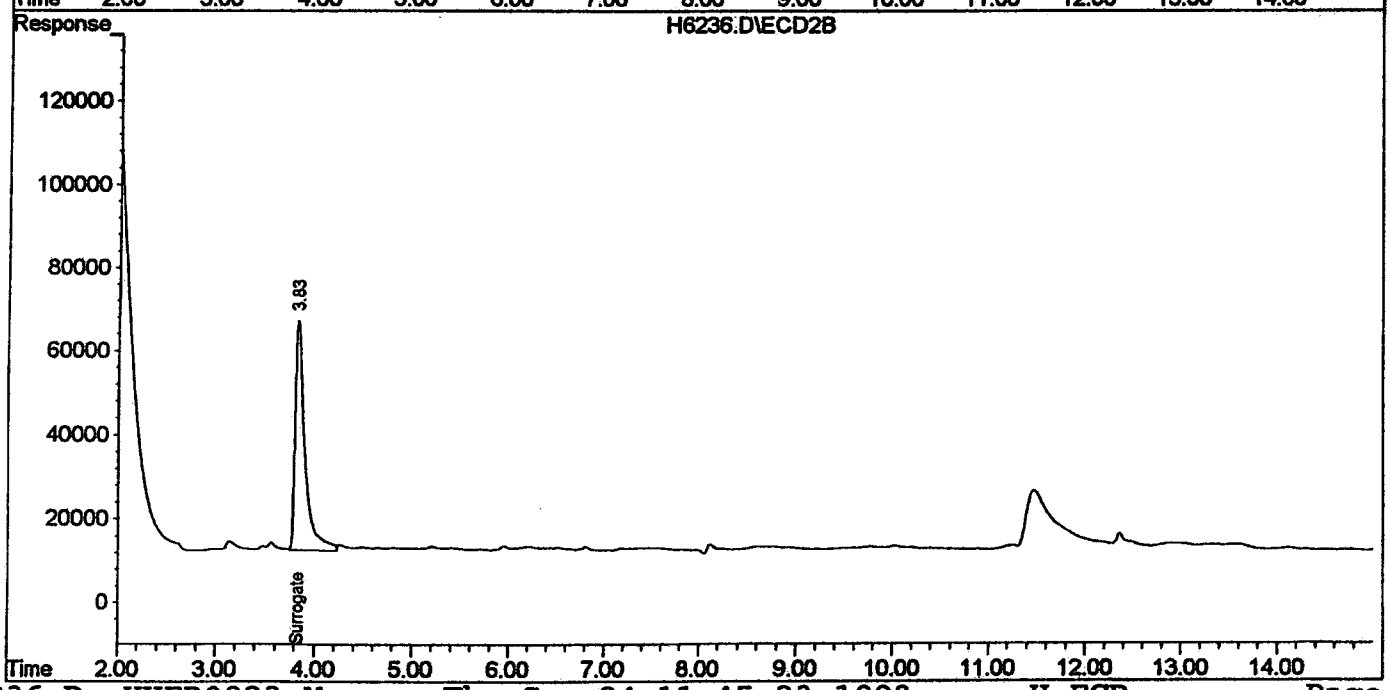
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report

Signal #1 : C:\HPCHEM\1\DATA\09-23-98\H6236.D\ECD1A.CH Vial: 9
Signal #2 : C:\HPCHEM\1\DATA\09-23-98\H6236.D\ECD2B.CH
Acq On : 23 Sep 98 6:50 pm Operator:
Sample : ~~MPF-20,5418-022,~~A,200mL,,100,09/17/98 Inst : H-ECD
Misc : RFW/WASTE_ANALYSIS,09/11/98,09/14/98,10 Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Sep 24 11:28 1998 Quant Results File: HHEB0923.RES
MPF-22, 5418-020 mtc 10/6/98
Quant Method : C:\HPCHEM\1\METHODS\HHEB0923.M (Chemstation Integrator)
Title :
Last Update : Fri Aug 14 13:05:37 1998
Response via : Multiple Level Calibration
DataAcq Meth : HHEB0923.M

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :





Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\09-23-98\H6231.D\ECD1A.CH Vial: 4
Signal #2 : C:\HPCHEM\1\DATA\09-23-98\H6231.D\ECD2B.CH
Acq On : 23 Sep 98 5:18 pm Operator:
Sample : (5418.5457),METHOD-BLK,A,1000mL,,100,09/ Inst : H-ECD
Misc : NA,NA,NA,1 Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Sep 24 10:44 1998 Quant Results File: HHEB0923.RES

Quant Method : C:\HPCHEM\1\METHODS\HHEB0923.M (Chemstation Integrator)
Title :
Last Update : Fri Aug 14 13:05:37 1998
Response via : Initial Calibration
DataAcq. Meth : HHEB0923.M

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

Compound	RT#1	RT#2	Resp#1	Resp#2	ng#1	ng#2
System Monitoring Compounds						
1) S Surrogate	4.47	3.82	23131743	22223144	95.020m	95.356m
Spiked Amount 100.000			Recovery	=	95.02%	95.36%
Target Compounds						

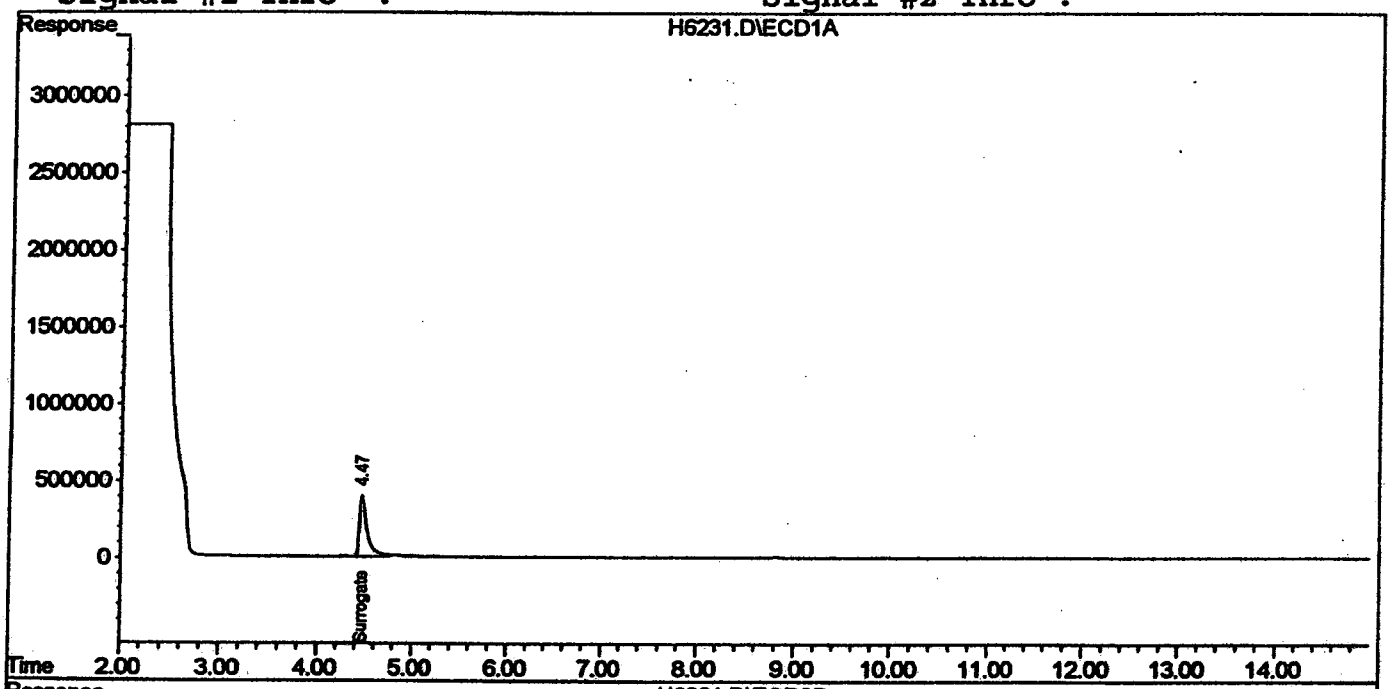
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

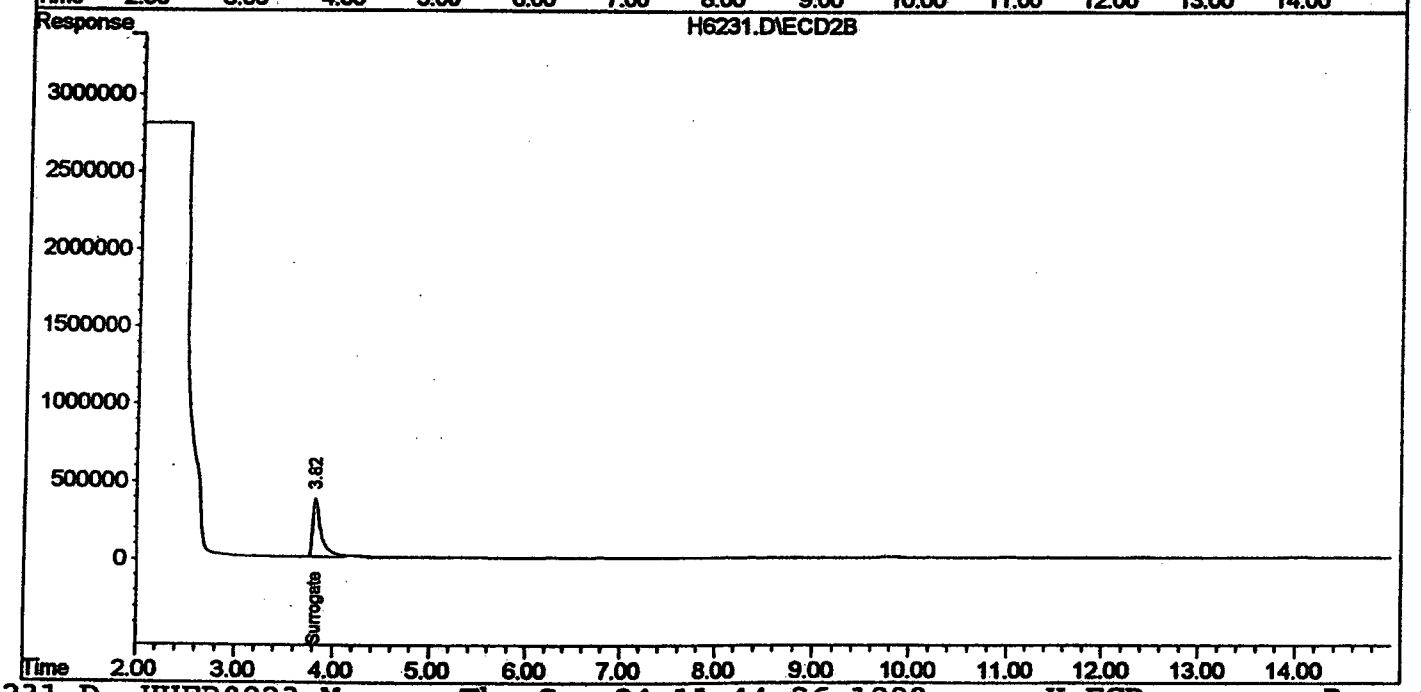
Quantitation Report

Signal #1 : C:\HPCHEM\1\DATA\09-23-98\H6231.D\ECD1A.CH Vial: 4
Signal #2 : C:\HPCHEM\1\DATA\09-23-98\H6231.D\ECD2B.CH
Acq On : 23 Sep 98 5:18 pm Operator:
Sample : (5418.5457),METHOD-BLK,A,1000mL,,100,09/ Inst : H-ECD
Misc : NA,NA,NA,1 Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Sep 24 10:44 1998 Quant Results File: HHEB0923.RES

Quant Method : C:\HPCHEM\1\METHODS\HHEB0923.M (Chemstation Integrator)
Title :
Last Update : Fri Aug 14 13:05:37 1998
Response via : Multiple Level Calibration
DataAcq Meth : HHEB0923.M

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :





Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\09-23-98\H6228.D\ECD1A.CH Vial: 1
Signal #2 : C:\HPCHEM\1\DATA\09-23-98\H6228.D\ECD2B.CH
Acq On : 23 Sep 98 4:09 pm Operator:
Sample : HERB,IAS867,200_PPB Inst : H-ECD
Misc : NA,NA,NA,1 Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Sep 25 11:45 1998 Quant Results File: HHEB0923.RES

Quant Method : C:\HPCHEM\1\METHODS\HHEB0923.M (Chemstation Integrator)
Title :
Last Update : Fri Aug 14 13:05:37 1998
Response via : Initial Calibration
DataAcq Meth : HHEB0904.M

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

		Compound	RT#1	RT#2	Resp#1	Resp#2	ng#1	ng#2
System Monitoring Compounds								
Target Compounds								
2)	T	Dicamba	4.72	3.95	8360643	7606660	181.003	177.491
3)	T	Dichloroprop	5.69	4.66	2461396	2499010	195.588	197.784
4)	T	2,4-D	6.22	4.84	3123022	3375081	217.166	197.781
5)	T	Silvex	7.37	6.10	13289298	12082157	181.515	176.208
6)	T	2,4,5-T	8.13	6.41	12529333	12580616	185.253	188.315
7)	T	2,4-DB	8.87	7.20	2505848	1041707	212.721	172.607
8)	T	Dinoseb	9.96	7.28	9159660	10060267	176.514	182.402

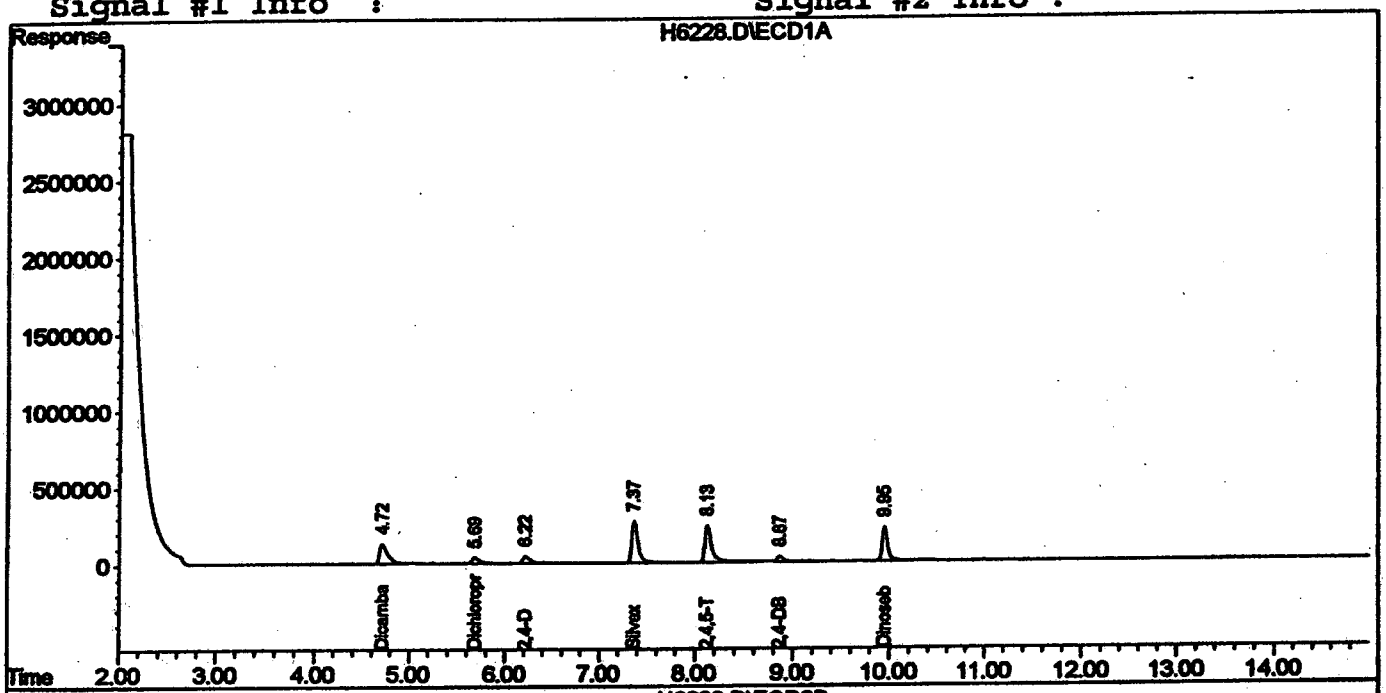
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

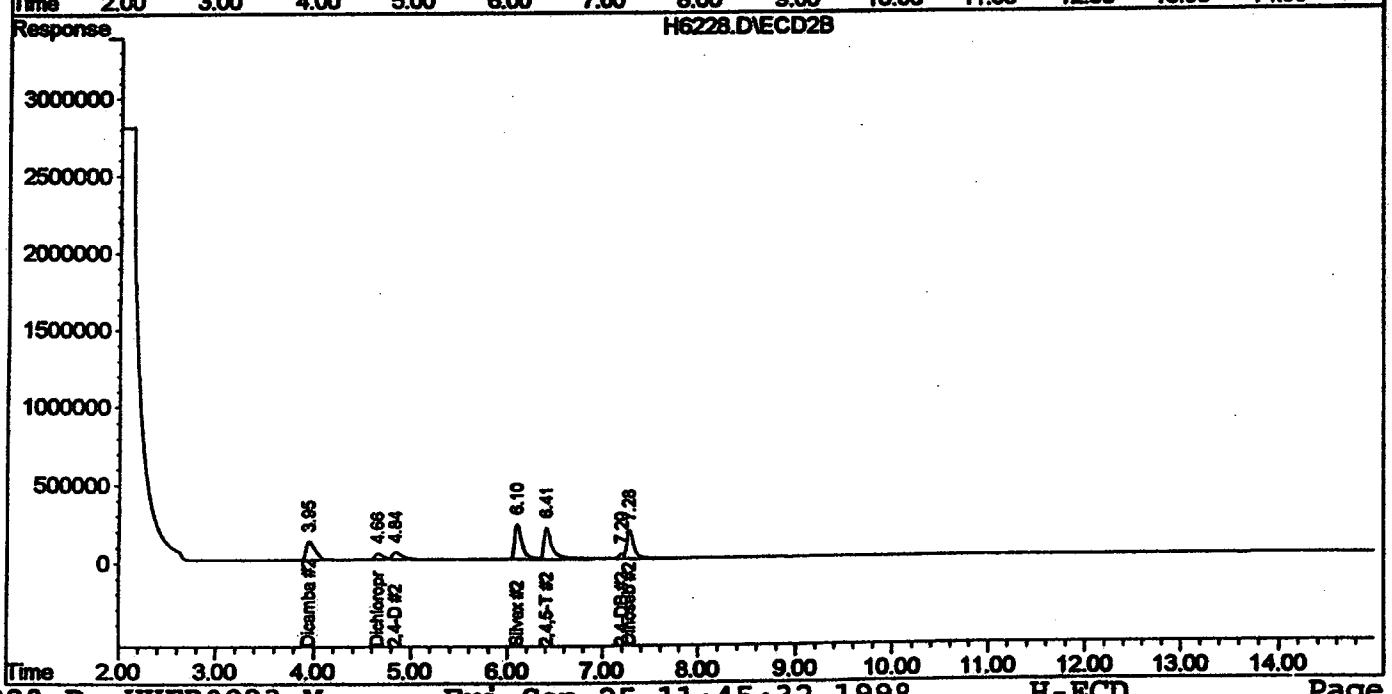
Quantitation Report

Signal #1 : C:\HPCHEM\1\DATA\09-23-98\H6228.D\ECD1A.CH Vial: 1
Signal #2 : C:\HPCHEM\1\DATA\09-23-98\H6228.D\ECD2B.CH
Acq On : 23 Sep 98 4:09 pm Operator:
Sample : HERB,IAS867,200_PPB Inst : H-ECD
Misc : NA,NA,NA,1 Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Sep 25 11:45 1998 Quant Results File: HHEB0923.RES

Quant Method : C:\HPCHEM\1\METHODS\HHEB0923.M (Chemstation Integrator)
Title :
Last Update : Fri Aug 14 13:05:37 1998
Response via : Multiple Level Calibration
DataAcq Meth : HHEB0904.M

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :





INTEGRATED ANALYTICAL LABORATORIES

METALS QUALITY CONTROL

BLANK RESULTS SUMMARY

Lab Case Number: 10980- 5418, 5423, 5426, 5430, 5442, 5443, 5444, 5484, 5485
5501, 5504, 5509, 5510

Matrix: Aqueous Concentraion/Units: ppb (μg/L)

ANALYTE	INITIAL CALIBRATION	CONTINUING CALIBRATION		INST. MDL	REAGENT BLANK	MDL	IDL
		1	2				
Arsenic	ND	ND	ND	100	ND	400	
Barium	ND	ND	ND	500	ND	2000	
Cadmium	ND	ND	ND	10.0	ND	40.0	
Chromium	ND	ND	ND	30.0	ND	120	
Copper	ND	ND	ND	20.0	ND	80.0	
Iron	ND	ND	ND	50.0	ND	200	
Lead	ND	ND	ND	100	ND	400	
Manganese	ND	ND	ND	5.00	ND	20.0	
Mercury	ND	ND	ND	0.250	ND	0.500	
Nickel	ND	ND	ND	30.0	ND	120	
Selenium	ND	ND	ND	100	ND	400	
Silver	ND	ND	ND	20.0	ND	80.0	
Zinc	ND	ND	ND	10.0	ND	40.0	

This QC Blank applies to the following samples:

5418-003;017~020, 5423-001, 5426-003, 5430-001~009
5442-001, 5443-001, 5444-001~004, 5484-001
5485-001, 5501-001, 5504-001, 5509-005, 5510-007

INTEGRATED ANALYTICAL LABORATORIES

METALS QUALITY CONTROL

INITIAL & CONTINUING CALIBRATION VERIFICATION

Lab Case Number: 10980- 5418, 5423, 5426, 5430, 5442, 5443, 5444, 5484, 5485
5501, 5504, 5509, 5510

Concentration/Units: ppb (μg/L)

ANALYTE	INITIAL CALIBRATION			CONTINUING CALIBRATION					MDL	IDL
	TRUE	FOUND	%R (1)	TRUE	FOUND	%R (1)	FOUND	%R (1)		
Arsenic	1000	969	96.9	1000	1080	108	1070	107	100	
Barium	10000	9550	95.5	10000	9110	91.1	9000	90.0	500	
Cadmium	250	245	98.0	250	270	108	235	94.0	10.0	
Chromium	500	508	102	500	518	104	522	104	30.0	
Copper	1250	1210	96.8	1250	1210	96.8	1240	99.2	20.0	
Iron	5000	4620	92.4	5000	4810	96.2	5460	109	50.0	
Lead	1250	1260	101	1250	1370	110	1210	96.8	100	
Manganese	1000	919	91.9	1000	932	93.2	984	98.4	5.00	
Mercury	5.00	4.95	99.0	5.00	4.81	96.2	4.70	94.0	0.250	
Nickel	2000	1840	92.0	2000	1830	91.5	1860	93.0	30.0	
Selenium	1250	1280	102	1250	1240	99.2	1370	110	100	
Silver	500	469	93.8	500	476	95.2	487	97.4	20.0	
Zinc	1000	966	96.6	1000	1010	101	995	99.5	10.0	

(1) Control Limits: Mercury 80-120, Other Metals 90-110

INTEGRATED ANALYTICAL LABORATORIES

METALS QUALITY CONTROL

ICP ICSAB RESULTS SUMMARY

Lab Case Number: 10980- 5418, 5423, 5426, 5430, 5442, 5443, 5444, 5484, 5485
5501, 5504, 5509, 5510

Matrix: Aqueous Concentration/Units: ppm (mg/L)

ANALYTE	TRUE		INITIAL FOUND			FINAL FOUND		
	SOL A	SOL B	SOL A	SOL B	%R	SOL A	SOL B	%R
Aluminum	500	500	451	457	91.4	480	483	96.6
Arsenic		5.00		5.44	109		5.12	102
Barium		1.000		0.895	89.5		0.874	87.4
Cadmium		2.00		1.99	99.5		1.91	95.5
Calcium	500	500	463	464	92.8	473	474	94.8
Chromium		1.000		0.982	98.2		0.994	99.4
Copper		1.000		0.957	95.7		0.988	98.8
Iron	200	200	187	192	96.0	205	206	103
Lead		2.00		2.07	104		1.88	94.0
Magnesium	500	500	470	477	95.4	473	475	95.0
Manganese		1.000		0.871	87.1		0.911	91.1
Nickel		2.00		1.71	85.5		1.82	91.0
Selenium		5.00		5.15	103		5.43	109
Silver		2.00		1.86	93.0		1.89	94.5
Zinc		2.00		1.91	95.5		1.97	98.5

Control Limits: 80-120

METALS QUALITY CONTROL

SPIKE SAMPLE RECOVERY

Lab Case Number: 10980- 5418, 5423, 5426, 5430, 5442, 5443, 5444, 5484, 5485
5501, 5504, 5509, 5510

Matrix: Aqueous Concentration/Units: ppb (μg/L)

ANALYTE	SSR1	SR1	%R1	SA1	SSR2	SR2	%R2	SA2	CONTROL LIMIT %R
Arsenic	4080	ND	102	4000	1040	ND	104	1000	75-125
Barium	11400	ND	95.0	12000					75-125
Cadmium	2000	ND	100	2000	490	ND	98.0	500	75-125
Chromium	4780	813	99.2	4000	1020	ND	102	1000	75-125
Copper	5600	1800	95.0	4000	1030	ND	103	1000	75-125
Iron	40600	ND	102	40000					75-125
Lead	8610	ND	108	8000	1970	ND	98.5	2000	75-125
Manganese	22400	3040	96.8	20000					75-125
Mercury	9.72	0.590	91.3	10.0	9.68	ND	96.8	10.0	75-125
Nickel	243000	255000	NC	4000	1040	ND	104	1000	75-125
Selenium	2030	ND	102	2000	492	ND	98.4	500	75-125
Silver	3610	ND	90.3	4000	928	ND	92.8	1000	75-125
Zinc	7150	3320	95.8	4000	1080	51.0	103	1000	75-125

SSR = Spike Sample Result
SA = Spike Added

SR = Sample Result
%R = Percent Recovery

NC = Non-calculable % R; Sample concentration > 4 x Spike Concentration.

QC Sample 1 5418-003

QC Sample 1 for following samples:
5418-003;017-020, 5423-001, 5426-003, 5430-001-009
5442-001, 5443-001, 5444-001-004, 5484-001
5485-001, 5501-001, 5504-001, 5509-005, 5510-007

QC Sample 2 5484-001

QC Sample 2 for following samples:
5418-003;017-020, 5423-001, 5426-003, 5430-001-009
5442-001, 5443-001, 5444-001-004, 5484-001
5485-001, 5501-001, 5504-001, 5509-005, 5510-007

INTEGRATED ANALYTICAL LABORATORIES

METALS QUALITY CONTROL

DUPLICATE SAMPLE RECOVERY

Lab Case Number: 10980- 5418, 5423, 5426, 5430, 5442, 5443, 5444, 5484, 5485
5501, 5504, 5509, 5510

Matrix: Aqueous Concentration/Units: ppb (μg/L)

ANALYTE	CONTROL LIMIT 1	S1	D1	RPD1	CONTROL LIMIT 2	S2	D2	RPD2
Arsenic	NA	ND	ND	NC	NA	ND	ND	NC
Barium	NA	ND	ND	NC				
Cadmium	NA	ND	ND	NC	NA	ND	ND	NC
Chromium	20	813	805	0.989	NA	ND	ND	NC
Copper	20	1800	1790	0.557	NA	ND	ND	NC
Iron	NA	ND	ND	NC				
Lead	NA	ND	ND	NC	NA	ND	ND	NC
Manganese	20	3040	2960	2.67				
Mercury	20	0.590	0.670	12.7	NA	ND	ND	NC
Nickel	20	255000	252000	1.18	NA	ND	ND	NC
Selenium	NA	ND	ND	NC	NA	ND	ND	NC
Silver	NA	ND	ND	NC	NA	ND	ND	NC
Zinc	20	3320	3300	0.604	20	51.0	51.0	0

S1 = Sample 1
D1 = Duplicate 1

S2 = Sample 2
D2 = Duplicate 2

NA = Not Applicable
NC = Non-calculable RPD due to result (s) less than the detection limit.

QC Sample 1 5418-003

QC Sample 1 for following samples:
5418-003;017~020, 5423-001, 5426-003, 5430-001~009
5442-001, 5443-001, 5444-001~004, 5484-001
5485-001, 5501-001, 5504-001, 5509-005, 5510-007

QC Sample 2 5484-001

QC Sample 2 for following samples:
5418-003;017~020, 5423-001, 5426-003, 5430-001~009
5442-001, 5443-001, 5444-001~004, 5484-001
5485-001, 5501-001, 5504-001, 5509-005, 5510-007

METALS QUALITY CONTROL

LABORATORY CONTROL SAMPLE

Lab Case Number: 10980- 5418, 5423, 5426, 5430, 5442, 5443, 5444, 5484, 5485
5501, 5504, 5509, 5510

ANALYTE	AQUEOUS (ug/L)			SOLID (mg/kg)			
	TRUE	FOUND	%R(1)	TRUE	FOUND	LIMITS	%R(2)
Arsenic	4000	3900	97.5				
Barium	12000	11300	94.2				
Cadmium	2000	2070	104				
Chromium	4000	4070	102				
Copper	4000	4040	101				
Iron	40000	41800	105				
Lead	8000	8510	106				
Manganese	20000	20000	100				
Mercury	5	4.88	97.6				
Nickel	4000	3700	92.5				
Selenium	2000	1880	94.0				
Silver	4000	3980	99.5				
Zinc	4000	4140	104				

(1) Control Limits = 90-110%
(2)Manufacture's Recomended Limits

Aqueous LCS Source: MV Laboratories

Solid LCS Source: Environmental Resource Associates; PriorityPollutnT/CLP Inorganics Soils

METALS QUALITY CONTROL

SERIAL DILUTIONS & POST SPIKES

Lab Case Number: 10980- 5418, 5423, 5426, 5430, 5442, 5443, 5444, 5484, 5485
5501, 5504, 5509, 5510

Matrix: Aqueous Concentration/Units: ppb (µg/L)

ANALYTE	SERIAL DILUTION		%	POST SPIKE		%
	SR	SDR	Difference	SPR	SA	Recovery
Arsenic	ND			3990	4000	99.8
Barium	ND			11500	12000	95.8
Cadmium	ND			2000	2000	100
Chromium	813	837	2.91			
Copper	1800	1770	1.68			
Iron	ND			40600	40000	102
Lead	ND			8720	8000	109
Manganese	3040	2920	4.03			
Mercury	0.590			10.1	10.0	95.1
Nickel	255000	245000	4.00			
Selenium	ND			2000	2000	100
Silver	ND			3580	4000	89.5
Zinc	3320	3260	1.82			

SR = Sample Result
SDR = Sample Dilution Result

SPR = Sample Post Spike Result
SA = Spike Added

Control Limits: (+) or (-) 10% Difference or 85 - 115% Recovery

QC Sample : 5418-003

QC Sample for following samples:
5418-003;017-020, 5423-001, 5426-003, 5430-001-009
5442-001, 5443-001, 5444-001-004, 5484-001
5485-001, 5501-001, 5504-001, 5509-005, 5510-007

INTEGRATED ANALYTICAL LABORATORIES

GENERAL CHEMISTRY QUALITY CONTROL
METHOD BLANK RESULTS SUMMARY

Lab Case No.: 5418

Matrix: (✓) Aqueous (✓) Soil (✓) Other _____

ANALYTE	LAB ID	UNITS	RESULT	MDL
pH	NA	NA	NA	NA
Ig	NA	NA	NA	NA
FP	NA	NA	NA	NA

(NA) = Not Applicable
(ND) = None Detected

INTEGRATED ANALYTICAL LABORATORIES

GENERAL CHEMISTRY QUALITY CONTROL
SPIKE SAMPLE RESULTS SUMMARY

Lab Case No.: 5418
Matrix: (✓) Aqueous (✓) Soil (✓) Other _____
Concentration Units: ( ) mg/Kg ( ) mg/L

ANALYTE	QC SAMPLES	SSR	SR	% R	SA	CONTROL LIMIT % R
pH	NA	NA	NA	NA	NA	NA
18	~~5176-002~~ NA	NA	NA	NA	NA	NA
FP	p. Xylene	27.0	NA	NA	NA	27 ± 0.8

(SSR) = SPIKE SAMPLE RESULT
(SA) = SPIKE ADDED
(SR) = SAMPLE RESULT
(%R) = PERCENT RECOVERY

(NC) = Non-Calculable %R: Sample Concentration > 4 x Spike concentration.

Comments: _____

INTEGRATED ANALYTICAL LABORATORIES

GENERAL CHEMISTRY QUALITY CONTROL
DUPLICATE SAMPLE RESULTS SUMMARY

Lab Case No.: 5418

Matrix: (✓) Aqueous (✓) Soil (✓) Other _____

Concentration Units: ( ) mg/Kg ( ) mg/L

ANALYTE	QC SAMPLES	CONTROL LIMIT	SAMPLE	DUPLICATE	RPD
pH (A)	5418-01	20	0.83	0.81	2.4
Ig	5176-002	NA	ND	ND	NC
FP	5418-01	NA	>158	>158	NC
pH (A)	5418-10	20	2.58	2.56	0.8
pH (S)	5176-002	20	6.33	6.35	0.3

(NA) = Not Applicable

(NC) = Non-Calculable RPD due to result(s) less than detection limit.

Comments: _____

INTEGRATED ANALYTICAL LABORATORIES

General Chemistry Quality Control

Method Blank Results Summary

Cyanide

Blank ID	Matrix-Unit	Blank Result	MDL
B-0916AQCS	A-mg/L	0.00	0.05

The above blank result applies to the follow samples 10980-

5418-011
5418-012
5418-014
5418-015
9999-001

INTEGRATED ANALYTICAL LABORATORIES

General Chemistry Quality Control

Method Blank Results Summary

Cyanide

Blank ID	Matrix-Unit	Blank Result	MDL
B-0916	A-mg/L	ND	0.05

The above blank result applies to the follow samples 10980-

5418-005 9999-001

INTEGRATED ANALYTICAL LABORATORIES

General Chemistry Quality Control

Method Blank Results Summary

Cyanide

Blank ID	Matrix-Unit	Blank Result	MDL
B-0917	A-mg/L	ND	0.05

The above blank result applies to the follow samples 10980-

5418-010 5418-016

INTEGRATED ANALYTICAL LABORATORIES

General Chemistry Quality Control

Method Blank Results Summary

Cyanide

Blank ID	Matrix-Unit	Blank Result	MDL
B-0916	A-mg/L	ND	0.05

The above blank result applies to the follow samples 10980-

5426-003 5418-003

INTEGRATED ANALYTICAL LABORATORIES

General Chemistry Quality Control

Method Blank Results Summary

Cyanide

Blank ID	Matrix-Unit	Blank Result	MDL
B-0915	A-mg/L	ND	0.05

The above blank result applies to the follow samples 10980-

5429-001	5429-003
5429-002	5418-001

INTEGRATED ANALYTICAL LABORATORIES

General Chemistry Quality Control

Method Blank Results Summary

Cyanide

Blank ID	Matrix-Unit	Blank Result	MDL
B-0916	A-mg/L	ND	0.05

The above blank result applies to the follow samples 10980-

5418-002	5418-007
5418-004	5418-008
5418-006	5418-009

INTEGRATED ANALYTICAL LABORATORIES

General Chemistry Quality Control

Spike Sample Results Summary

Cyanide

QC Sample	Spiked Result	Sample Result	% Recovery	Spike Added	Matrix-Units	Control Limit
5430-005SQC	6.76	ND	125.0 %	5.41	S-mg/kg	75%-125%

NC - Non-Calcuable, Sample Result > 4x Spike Added.

The above spike result applies to the following samples 10980-

5430-005	5430-009
B-0917	5430-004
5430-007	5426-003
5430-008	5418-003

INTEGRATED ANALYTICAL LABORATORIES

General Chemistry Quality Control

Spike Sample Results Summary

Cyanide

QC Sample	Spiked Result	Sample Result	% Recovery	Spike Added	Matrix-Units	Control Limit
5328-001AQC	0.24	ND	120.0 %	0.20	A-mg/L	75%-125%

NC - Non-Calcuable, Sample Result > 4x Spike Added.

The above spike result applies to the following samples 10980-

5328-001	5429-002
5319-001	5429-003
5324-001	5418-001
5351-001	B-0916
B-0914	5418-002
B-0914	5418-004
B-0914	5418-006
5361-001T	5418-007
5361-001A	5418-008
B-0914	5418-009
5411-001	B-0916
B-0915	5418-005
5429-001	B-0916

INTEGRATED ANALYTICAL LABORATORIES

General Chemistry Quality Control

Spike Sample Results Summary

Cyanide

QC Sample	Spiked Result	Sample Result	% Recovery	Spike Added	Matrix-Units	Control Limit
B-0916AQC	0.2	ND	100.0 %	0.20	A-mg/L	75%-125%

NC - Non-Calcuable, Sample Result > 4x Spike Added.

The above spike result applies to the following samples 10980-

5418-011	5418-010
5418-012	5418-016
5418-014	B-0917
5418-015	5418-013
9999-001	B-0916
B-0917	

INTEGRATED ANALYTICAL LABORATORIES

General Chemistry Quality Control

Duplicate Sample Results Summary

Cyanide

QC Sample	Sample Result	Duplicate Result	Matrix-Units	RPD	Control Limit
B-0916AQC	ND	ND	A-mg/L	NC	20.0

The above duplicate results applies to the following samples 10980-

5418-011	5418-010
5418-012	5418-016
5418-014	B-0917
5418-015	5418-013
9999-001	B-0916
B-0917	

INTEGRATED ANALYTICAL LABORATORIES

General Chemistry Quality Control

Duplicate Sample Results Summary

Cyanide

QC Sample	Sample Result	Duplicate Result	Matrix-Units	RPD	Control Limit
5430-005SQC	ND	ND	S-mg/kg	NC	20.0

The above duplicate results applies to the following samples 10980-

5430-005	5430-009
B-0917	5430-004
5430-007	5426-003
5430-008	5418-003

INTEGRATED ANALYTICAL LABORATORIES

General Chemistry Quality Control

Duplicate Sample Results Summary

Cyanide

QC Sample	Sample Result	Duplicate Result	Matrix-Units	RPD	Control Limit
5328-001AQC	ND	ND	A-mg/L	NC	20.0

The above duplicate results applies to the following samples 10980-

5328-001	5429-002
5319-001	5429-003
5324-001	5418-001
5351-001	B-0916
B-0914	5418-002
B-0914	5418-004
B-0914	5418-006
5361-001T	5418-007
5361-001A	5418-008
B-0914	5418-009
5411-001	B-0916
B-0915	5418-005
5429-001	B-0916

INTEGRATED ANALYTICAL LABORATORIES

General Chemistry Quality Control

Method Blank Results Summary

Sulfide

Blank ID	Matrix-Unit	Blank Result	MDL
B-0915AQCS	A-mg/L	15.0	0.84

The above blank result applies to the follow samples 10980-

5418-001

INTEGRATED ANALYTICAL LABORATORIES

General Chemistry Quality Control

Method Blank Results Summary

Sulfide

Blank ID	Matrix-Unit	Blank Result	MDL
B-0916	A-mg/L	ND	0.84

The above blank result applies to the follow samples 10980-

5426-003 5418-003

INTEGRATED ANALYTICAL LABORATORIES

General Chemistry Quality Control

Method Blank Results Summary

Sulfide

Blank ID	Matrix-Unit	Blank Result	MDL
B-0916	A-mg/L	ND	0.84

The above blank result applies to the follow samples 10980-

5418-002
5418-004
5418-005
5418-006
5418-007
5418-008
5418-009

INTEGRATED ANALYTICAL LABORATORIES

General Chemistry Quality Control

Method Blank Results Summary

Sulfide

Blank ID	Matrix-Unit	Blank Result	MDL
B-0916	A-mg/L	ND	0.84

The above blank result applies to the follow samples 10980-

5418-010	5418-014
5418-011	5418-015
5418-012	5418-016
5418-013	9999-001

INTEGRATED ANALYTICAL LABORATORIES

General Chemistry Quality Control

Spike Sample Results Summary

Sulfide

QC Sample	Spiked Result	Sample Result	% Recovery	Spike Added	Matrix-Units	Control Limit
5423-001SQC	556	ND	122.3 %	454.65	S-mg/kg	75%-125%

NC - Non-Calcuable, Sample Result > 4x Spike Added.

The above spike result applies to the following samples 10980-

5423-001	5430-004
5426-003	5430-005
5418-003	5430-006
5430-001	5430-007
5430-002	5430-008
5430-003	5430-009

INTEGRATED ANALYTICAL LABORATORIES

General Chemistry Quality Control

Spike Sample Results Summary

Sulfide

QC Sample	Spiked Result	Sample Result	% Recovery	Spike Added	Matrix-Units	Control Limit
B-0915AQC	14.7	ND	105.9 %	13.88	A-mg/L	75%-125%

NC - Non-Calcuable, Sample Result > 4x Spike Added.

The above spike result applies to the following samples 10980-

5418-001	5418-010
B-0916	5418-011
5418-002	5418-012
5418-004	5418-013
5418-005	5418-014
5418-006	5418-015
5418-007	5418-016
5418-008	B-0916
5418-009	B-0917
B-0916	B-0917

INTEGRATED ANALYTICAL LABORATORIES

General Chemistry Quality Control

Duplicate Sample Results Summary

Sulfide

QC Sample	Sample Result	Duplicate Result	Matrix-Units	RPD	Control Limit
B-0915AQC	ND	ND	A-mg/L	NC	20.0

The above duplicate results applies to the following samples 10980-

5418-001	5418-010
B-0916	5418-011
5418-002	5418-012
5418-004	5418-013
5418-005	5418-014
5418-006	5418-015
5418-007	5418-016
5418-008	B-0916
5418-009	B-0917
B-0916	B-0917

INTEGRATED ANALYTICAL LABORATORIES

General Chemistry Quality Control

Duplicate Sample Results Summary

Sulfide

QC Sample	Sample Result	Duplicate Result	Matrix-Units	RPD	Control Limit
5423-001SQC	ND	ND	S-mg/kg	NC	20.0

The above duplicate results applies to the following samples 10980-

5423-001	5430-004
5426-003	5430-005
5418-003	5430-006
5430-001	5430-007
5430-002	5430-008
5430-003	5430-009

RFP No.: 4200

PO No.: 96717

CHAIN OF CUSTODY RECORD

WESTON
MANAGERS DESIGNERS/CONSULTANTS

SUPERFUND TECHNICAL ASSESSMENT AND RESPONSE TEAM
EPA CONTRACT 68-W5-0019
Phone: 908-225-6116 Fax: 908-225-7037

Matrix Box No.	Preservative Box No.
1. Surface Water	1. HCl
2. Ground Water	2. HN03
3. Leachate	3. Na2SO4
4. Rinsate	4. H2SO4
5. Soil/Sediment	5. Other (Specify)
6. Oil	6. Ice Only
7. Waste	N. Not Preserved
8. Other (Specify)	* See Comments

Send verbal and written results to: Roy F. Weston, Inc., USEPA Region II START
Suite 201, 1090 King Georges Post Road, Edison, New Jersey 08837-3703
Attention: Smita Sumbaly, START Analytical Coordinator

5418

Sample Number	Sample Collection MM/DD/YY/Time	Sample Matrix (Enter box #)	Conc. Low-L Med-M High-H	Sample Type Comp-C Grab-G	Sample Preserv. (Enter box #)	RAS ANALYSIS VOA	BNA	PEST	PCBs	TAL	CN	RCRA ANALYSIS KIN	COR	REAC	OTHER	
MPF-01	9-11-98-1030	7	M/H	G								✓	✓	✓	RCRA	01
MPF-02	9-11-98-1040	7	M/H	G								✓	✓	✓	RCRA	2
MPF-03	9-11-98-1045	7	M/H	G								✓	✓	✓	FULL TCLP / RCRA	3
MPF-04	9-11-98-1050	7	M/H	G								✓	✓	✓	RCRA	4
MPF-05	9-11-98-1100	7	M/H	G								✓	✓	✓	RCRA	5
MPF-06	9-11-98-1100	7	M/H	G								✓	✓	✓	RCRA	6
MPF-07	9-11-98-1110	7	M/H	G								✓	✓	✓	RCRA	7
MPF-08	9-11-98-1115	7	M/H	G								✓	✓	✓	RCRA	8
MPF-09	9-11-98-1120	7	M/H	G								✓	✓	✓	RCRA	9
MPF-10	9-11-98-1125	7	M/H	G								✓	✓	✓	RCRA	10
MPF-11	9-11-98-1130	7	M/H	G								✓	✓	✓	RCRA	11

Comments:
SAMPLES TO BE ANALYZED FOR RCRA CHARACTERISTICS AND FULL TCLP WHERE NOTED (7A)

Person Assuming Responsibility for Sample:	Time	Date (MM/DD/YY)
Patrick A. Austin	1930	9-11-98

Sample Number	Relinquished By:	Time	Date	Received By:	Reason for Change of Custody
All	[signature]	1600	9-14	DIANE MINISAVAGE [signature]	Transport to lab.
All	[signature]	1642	9/14/98	[signature]	analysis

Sample Number	Relinquished By:	Time	Date	Received By:	Reason for Change of Custody

Roy F. Weston, Inc.
FEDERAL PROGRAMS DIVISION
In Association with Resource Applications, Inc., R.E. Sarriera Associates, PRC Environmental Management, C.C. Johnson & Malhotra, P.C., and GRB Environmental Services, Inc.

w/ custody seal. ede

RFP No.: 4200

PO No.: 96717

CHAIN OF CUSTODY RECORD

WESTON. MANAGERS DESIGNERS/CONSULTANTS

SUPERFUND TECHNICAL ASSESSMENT AND RESPONSE TEAM
EPA CONTRACT 68-W5-0019
Phone: 908-225-6116 Fax: 908-225-7037

Matrix Box No.:	Preservative Box No.:
1. Surface Water	1. HCl
2. Ground Water	2. HNO3
3. Leachate	3. Na2SO4
4. Rinsate	4. H2SO4
5. Soil/Sediment	5. Other (Specify)
6. Oil	6. Ice Only
7. Waste	N. Not Preserved
8. Other (Specify)	* See Comments

Send verbal and written results to: Roy F. Weston, Inc., USEPA Region II START
Suite 201, 1090 King Georges Post Road, Edison, New Jersey 08837-3703
Attention: Smita Sumbaiy, START Analytical Coordinator

5418

Sample Number	Sample Collection MM/DD/YY/Time	Sample Matrix (Enter box #)	Conc. Low-L Med-M High-H	Sample Type Comp-C Grab-G	Sample Preserv. (Enter box #)	RAS ANALYSIS VOA	BNA	PEST	PCBs	TAL	CN	RCRA ANALYSIS IGN	COR	REAC	OTHER	
MPF-12	9-11-98	7	M/H	G								✓	✓	✓	RCRA 5418	12
MPF-13	9-11-98	7	M/H	G								✓	✓	✓	RCRA	13
MPF-14	9-11-98	7	M/H	G								✓	✓	✓	RCRA	14
MPF-15	9-11-98	7	M/H	G								✓	✓	✓	RCRA	15
MPF-16	9-11-98	7	M/H	G								✓	✓	✓	RCRA	16
~~MPF-18~~																
MPF-19	9-11-98	7	M/H	G								✓	✓	✓	FULL TCLP	17
MPF-20	9-11-98	7	M/H	G								✓	✓	✓	FULL TCLP	18
MPF-21	9-11-98	7	M/H	G								✓	✓	✓	FULL TCLP	19
MPF-22	9-11-98	7	M/H	G								✓	✓	✓	FULL TCLP	20

Comments: SAMPLES TO BE ANALYZED FOR RCRA CHARACTERISTICS AND FULL TCLP WHERE NOTED.

Person Assuming Responsibility for Sample:	Time	Date (MM/DD/YY)
Patrick A. Austin	1730	9-11-98

Sample Number	Relinquished By:	Time	Date	Received By:	Reason for Change of Custody
All		1600	9-14		Transport to lab.
All		1642	9/14/98	Paul Cannata	ANALYSIS

Roy F. Weston, Inc.
FEDERAL PROGRAMS DIVISION
In Association with Resource Applications, Inc., R.E. Serriera Associates, PRC Environmental Management, C.C. Johnson & Malhotra, P.C., and GRB Environmental Services, Inc.

ATTACHMENT A

SITE REFERENCE: 4200 SITE ID # TDD # 02-98-09-00xx QA-1
SAMPLING DATE: September 11, 1998 DATE FOR LAB RECEIPT OF SAMPLES: September 11, 1998
CONTRACT NO: START CONTRACT NO. 68-W5-0019 EXPECTED TURNAROUND: 2 weeks verbal; 3 weeks written

No. of Samples	Matrix	Analytical Parameter	Method [1]	Minimum Detection Limit
20 M/H-Conc.	Liquid	RCRA - Ignitability	SW-846 Method No. 1020	
20 M/H-Conc.	Liquid	RCRA - Corrosivity	SW-846 Method No. 9040	
20 M/H-Conc.	Liquid	RCRA - Reactivity	SW-846 Method Nos: Section 7.3; 9010/9030	
20	Liquid	RCP metals		

[1] Written results must follow a standard USEPA CLP-Format deliverable.

[2] The specified method calls for matrix spike and/or matrix spike duplicate analyses. Samples will be designated in the field for MS/MSD analyses and include collection of extra sample volume for spike analyses. If duplicate spike results are poor, or insufficient volume is collected in the field, the laboratory shall perform an additional blank spike QC analysis. If not charging for the MS/MSD or blank spike QC analyses, indicate so in the Unit Cost and Analysis Cost columns.

[3] The laboratory is responsible for the cost of method required sample re-analyses and/or dilutions.

* Holding time: BNA/Pest/PCBs - 7 days from date of collection to date of extraction; VOA -10 days; CN - 14 days

Laboratory: IAL LABORATORIES

Address: 273 FRANKLIN RD

City: RANDOLPH State NJ Zip Code: 07869

Phone: (973) 361 4252 FAX: 973 989 5288

Lab Contact: EVA SPAHR / DENISE KELLER

Sampling Receiving Hours (Monday through Friday): _____ Weekends: _____

WESTON
MANAGERS DESIGNERS/CONSULTANTS
Roy F. Weston, Inc.
Federal Programs Division
Suite 201
1090 King Georges Post Road
Edison, New Jersey 08837-3703
908-225-6116 • Fax 908-225-7037

SUPERFUND TECHNICAL ASSESSMENT AND RESPONSE TEAM
EPA CONTRACT 68-W5-0019

Laboratory Name: IAL LAB

Attention: EVA SPAHR

Date: 9-14-98

P.O. #: 96717

This letter requests that your laboratory return all sample coolers to the above address within 14 calendar days following receipt of the shipment. As per the terms and conditions established in the Letter Regarding Request for Bid, all shipping and freight costs for the return of the coolers are the contract laboratory's responsibility.

When returning the coolers, please send it to the attention of the Project Manager's name as printed below.

Roy F. Weston, Inc., greatly appreciates your cooperation in this matter. If you have any questions, please contact us at 732-225-6116.

Sincerely,

ROY F. WESTON, INC.

Project Manager

cc: Smita Sumbaly

Precautionary Measures Against Hidden Hazards in Laboratory Samples

Notice to Laboratory Personnel

Background

Under the authority of Section 104 of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA or Superfund) of 1980, Section 311 of the Clean Water Act, and Subtitle I of the Resource Conservation and Recovery Act (RCRA), EPA has been delegated the responsibility to undertake response actions with respect to the release or potential release of oil, petroleum, or hazardous substances that pose a substantial threat to human health or welfare, or the environment. In addition, EPA provides technical assistance to help mitigate endangerment of the public health, welfare or environment during other emergencies and natural disasters.

EPA's successful implementation of these emergency response action responsibilities requires that technical support capabilities be provided in the form of a contracted Superfund Technical Assessment and Response Team (START) for each EPA Region. The WESTON START Contract 68-W5-0019 provides support to EPA Region II.

Hazard Communication

The samples which accompany this notice have been shipped to your laboratory for analysis in accordance with applicable D.O.T. or IATA Regulations and were collected by the WESTON START and were tentatively designated by the field response team as either environmental or hazardous material samples.

In general, ***Environmental Samples*** are collected from streams, farm ponds, small lakes, wells, and off-site soils that are not reasonably expected to be contaminated with hazardous materials. Samples of on-site soils or water, and materials collected from drums, bulk storage tanks, obviously contaminated ponds, impoundments, lagoons, pools, and leachates from hazardous waste sites are considered ***Hazardous Samples***. Samples which are obtained from a known radioactive material contamination site or which demonstrate beta or gamma activity greater than three times average background as scanned with a Geiger-Mueller radiation survey meter are considered ***Radioactive Samples***.

The samples which accompany this notice have been tentatively classified by the field response team as:

____ Environmental ✓ Hazardous ____ Comb. (Envir.& Haz.) ____ Radioactive

The field team which collected the samples used the following Level(s) of personal protection as designated by EPA and OSHA conventions to provide protection against possible radiological or chemical exposure:

____ Level A ✓ Level B ____ Level C ____ Level D

This information is intended for use as a guide for the safe handling of these laboratory samples in accordance with EPA and OSHA regulations. The sample classification(s) and Levels of personal protection used by the WESTON START are not represented to be, nor are they adequate or applicable in all situations, nor are they intended to serve as substitutes for professional/personal judgement.

This form was prepared by: Pat. Austin Date 9/14/98

Analytical Services TDD No. _____ Date __/__/__

WESTON Office: Region II START, Edison, NJ Phone: 732-225-6116 FAX: 732-225-7037

Laboratory Name: IAL Laboratories

/Hazcom for Laboratory Personnel/ To be attached to each Chain-of-Custody Form

CHAIN OF CUSTODY

Case No.: 10980-5418 P.O. #: 96717
Project : WASTE ANALYSIS - 4200
Client/Project: RFW/WASTE ANALYSIS

Client Address:
Roy F. Weston, USEPA Region II STRBY
1090 King Georges Post Rd.
Suite 201
Edison, NJ 08837-3703

Billing Address:
Roy F. Weston, USEPA Region II START
1090 King Georges Po
Suite 201
Edison, NJ 08837-3703

Date Received: 09/14/98
Time Received: 16:42
Report Format: Reduced

Verbal Due: Sep 28
Report Due: Oct 5

# of Containers	1	1	1	1	1	1
IAL ID #	5418-001	5418-002	5418-003	5418-004	5418-005	5418-006
Client ID #	MPF-01	MPF-02	MPF-03	MPF-04	MPF-05	MPF-06
Matrix	Liquid	Liquid	Soil	Liquid	Liquid	Liquid
Sample Date	09/11/98	09/11/98	09/11/98	09/11/98	09/11/98	09/11/98
Sample Time	10:30	10:40	10:45	10:50	:	11:00
VO, TCLP			√			
Pest, TCLP			√			
Herb, TCLP			√			
BNA, TCLP			√			
TCLP Extraction			√			
ZHE			√			
TCLP Metals			√			
Sulfide, React.	√	√	√	√	√	√
Cyanide, React.	√	√	√	√	√	√
Ignite/FP	√	√	√	√	√	√
pH/Corrosivity	√	√	√	√	√	√

Comments: NOTE 1: ALL SAMPLES ARE WASTE SAMPLES. AS PER COC, MEDIUM TO HIGH CONCENTRATIONS EXPECTED.

CHAIN OF CUSTODY

Case No.: 10980-5418 P.O. #: 96717
Project : WASTE ANALYSIS - 4200
Client/Project: RFW/WASTE ANALYSIS

Client Address:
Roy F. Weston, USEPA Region II STRBT
1090 King Georges Post Rd.
Suite 201
Edison, NJ 08837-3703

Billing Address:
Roy F. Weston, USEPA Region II START
1090 King Georges Po
Suite 201
Edison, NJ 08837-3703

Date Received: 09/14/98
Time Received: 16:42
Report Format: Reduced

Verbal Due: Sep 28
Report Due: Oct 5

# of Containers	1	1	1	1	1	1
IAL ID #	5418-007	5418-008	5418-009	5418-010	5418-011	5418-012
Client ID #	MPF-07	MPF-08	MPF-09	MPF-10	MPF-11	MPF-12
Matrix	Liquid	Liquid	Liquid	Liquid	Liquid	Liquid
Sample Date	09/11/98	09/11/98	09/11/98	09/11/98	09/11/98	09/11/98
Sample Time	11:10	11:15	11:20	11:25	11:30	:
Sulfide, React.	√	√	√	√	√	√
Cyanide, React.	√	√	√	√	√	√
Ignite/FP	√	√	√	√	√	√
pH/Corrosivity	√	√	√	√	√	√

Comments: NOTE 1: ALL SAMPLES ARE WASTE SAMPLES. AS PER COC, MEDIUM TO HIGH CONCENTRATIONS EXPECTED.

CHAIN OF CUSTODY

Case No.: 10980-5418 P.O. #: 96717
Project : WASTE ANALYSIS - 4200
Client/Project: RFW/WASTE ANALYSIS

Client Address:
Roy F. Weston, USEPA Region II STRAT
1090 King Georges Post Rd.
Suite 201
Edison, NJ 08837-3703

Billing Address:
Roy F. Weston, USEPA Region II START
1090 King Georges Po
Suite 201
Edison, NJ 08837-3703

Date Received: 09/14/98
Time Received: 16:42
Report Format: Reduced

Verbal Due: Sep 28
Report Due: Oct 5

# of Containers	1	1	1	1	1	1
IAL ID #	5418-013	5418-014	5418-015	5418-016	5418-017	5418-018
Client ID #	MPF-13	MPF-14	MPF-15	MPF-16	MPF-19	MPF-20
Matrix	Liquid	Liquid	Liquid	Liquid	Soil	Soil
Sample Date	09/11/98	09/11/98	09/11/98	09/11/98	09/11/98	09/11/98
Sample Time	:	:	:	:	:	:
VO, TCLP					√	√
Pest, TCLP					√	√
Herb, TCLP					√	√
BNA, TCLP					√	√
TCLP Extraction					√	√
ZHE					√	√
TCLP Metals					√	√
Sulfide, React.	√	√	√	√		
Cyanide, React.	√	√	√	√		
Ignite/FP	√	√	√	√		
pH/Corrosivity	√	√	√	√		

Comments: NOTE 1: ALL SAMPLES ARE WASTE SAMPLES. AS PER COC, MEDIUM TO HIGH CONCENTRATIONS EXPECTED.

CHAIN OF CUSTODY

Case No.: 10980-5418 P.O. #: 96717
Project : WASTE ANALYSIS - 4200
Client/Project: RFW/WASTE ANALYSIS

Client Address:
Roy F. Weston, USEPA Region II START
1090 King Georges Post Rd.
Suite 201
Edison, NJ 08837-3703

Billing Address:
Roy F. Weston, USEPA Region II START
1090 King Georges Po
Suite 201
Edison, NJ 08837-3703

Date Received: 09/14/98
Time Received: 16:42
Report Format: Reduced

Verbal Due: Sep 28
Report Due: Oct 5

# of Containers	1	1
IAL ID #	5418-019	5418-020
Client ID #	MPF-21	MPF-22
Matrix	Soil	Soil
Sample Date	09/11/98	09/11/98
Sample Time	:	:
VO, TCLP	√	√
Pest, TCLP	√	√
Herb, TCLP	√	√
BNA, TCLP	√	√
TCLP Extraction	√	√
ZHE	√	√
TCLP Metals	√	√

Comments: NOTE 1: ALL SAMPLES ARE WASTE SAMPLES. AS PER COC, MEDIUM TO HIGH CONCENTRATIONS EXPECTED.

Integrated Analytical Laboratories, Inc. 1/3

Laboratory Custody Chronicle

Case No : 10980-5418 Date sampled from: 09/11/98 to: / /
Client : Roy F. Weston, USEPA Date Received : 09/14/98
Project : WASTE ANALYSIS - 4200

Custody Seal — Present/Absent; Intact/Not Intact
Chain of Custody — Present/Absent
Sample Tags — Present/Absent; Listed/Not Listed on C.O.C
Shipping Bill — Present/Absent No. _____
Cooler Conditions — 4°C Temp
Sample(s) Conditions _____

	GC/MS V		EXTRACT DATE	EXTRACT TIME	EXTRACT INITIAL	ANALYSIS DATE	ANALYSIS TIME	ANALYSIS INITIAL
VO, TCLP	5418-003	S				9/14	8:15	[illegible]
	5418-017	S						
	5418-018	S						
	5418-019	S						
	5418-020	S						
	GC EX							
Pest, TCLP	5418-003	S	9/17/98	8:00-10:00	MJ	10.2.98	12:00	BR
	5418-017	S						
	5418-018	S						
	5418-019	S						
	5418-020	S						
Herb, TCLP	5418-003	S	9/17/98	1:00-4:00	MJ	9.23.98		
	5418-017	S						
	5418-018	S						
	5418-019	S						
	5418-020	S						
	GC/MS X							
BNA, TCLP	5418-003	S	9/17	9:00-4:00	DL	9/23-24		JC
	5418-017	S						
	5418-018	S						
	5418-019	S						
	5418-020	S						
	EXTRACT							
TCLP Extraction	5418-003	S	9-14-98	3:00	ST			
	5418-017	S						
	5418-018	S						
	5418-019	S						
	5418-020	S						
ZHE	5418-003	S						
	5418-017	S						
	5418-018	S						
	5418-019	S						
	5418-020	S						
	METALS							
TCLP Metals	5418-003	S	9/18/98	17:00	[illegible]	9/18	14:00	[illegible]

Integrated Analytical Laboratories, Inc. 2/3

Laboratory Custody Chronicle

Case No : 10980-5418 Date sampled from: 09/11/98 to: / /
Client : Roy F. Weston, USEPA Date Received : 09/14/98
Project : WASTE ANALYSIS - 4200

Custody Seal	Present/Absent
	Intact/Not Intact
Chain of Custody	Present/Absent
Sample Tags	Present/Absent
	Listed/Not Listed on C.O.C
Shipping Bill	Present/Absent No.
Cooler Conditions	4°C Temp
Sample(s) Conditions	

	METALS		EXTRACT DATE	EXTRACT TIME	EXTRACT INITIAL	ANALYSIS DATE	ANALYSIS TIME	ANALYSIS INITIAL
TCLP Metals	5418-017	S	9/18	7 S	[illegible]	9/18	1400	[illegible]
	5418-018	S						
	5418-019	S						
	5418-020	S						
	WETCHEM							
Sulfide, React.	5418-001	Z	9/15/98	1120 - 120	EDC	9/15/98	130 - 200	EDC
	5418-002	Z	9/16/98	900 - 1100		9/16/98	1120 - 1200	
	5418-003	S						
	5418-004	Z						
	5418-005	Z		~~9/16 1230~~				
	5418-006	Z						
	5418-007	Z						
	5418-008	Z						
	5418-009	Z						
	5418-010	Z	9/16/98	1230 - 230		9/16/98	1230 - 230	
	5418-011	Z						
	5418-012	Z						
	5418-013	Z						
	5418-014	Z						
	5418-015	Z						
	5418-016	Z						
Cyanide, React.	5418-001	Z	9/15/98	1120 - 120	EDC	9/15/98	130 - 200	EDC
	5418-002	Z	9/16/98	900 - 1100		9/16/98	1120 - 1200	
	5418-003	S						
	5418-004	Z						
	5418-005	Z		9/16 1230 - 230				
	5418-006	Z						
	5418-007	Z						
	5418-008	Z						
	5418-009	Z						
	5418-010	Z	9/16/98	1230 - 230		9/16/98		
	5418-011	Z						
	5418-012	Z						
	5418-013	Z						
	5418-014	Z						
	5418-015	Z						
	5418-016	Z						

Integrated Analytical Laboratories, Inc. 3/3

Laboratory Custody Chronicle

Case No : 10980-5418 Date sampled from: 09/11/98 to: / /
Client : Roy F. Weston, USEPA Date Received : 09/14/98
Project : WASTE ANALYSIS - 4200

Custody Seal Present/Absent
Intact/Not Intact
Chain of Custody Present/Absent
Sample Tags Present/Absent
Listed/Not Listed on C.O.C
Shipping Bill Present/Absent No.
Cooler Conditions 4C Temp
Sample(s) Conditions

	WETCHEM		EXTRACT			ANALYSIS		
			DATE	TIME	INITIAL	DATE	TIME	INITIAL
Ignite/FP	5418-001	Z	9/16	9:00	SC			
	5418-002	Z						
	5418-003	S						
	5418-004	Z						
	5418-005	Z						
	5418-006	Z						
	5418-007	Z						
	5418-008	Z						
	5418-009	Z						
	5418-010	Z						
	5418-011	Z						
	5418-012	Z						
	5418-013	Z						
	5418-014	Z						
	5418-015	Z						
	5418-016	Z						
pH/Corrosivity	5418-001	Z						
	5418-002	Z						
	5418-003	S						
	5418-004	Z						
	5418-005	Z						
	5418-006	Z						
	5418-007	Z						
	5418-008	Z						
	5418-009	Z						
	5418-010	Z						
	5418-011	Z						
	5418-012	Z						
	5418-013	Z						
	5418-014	Z						
	5418-015	Z						
	5418-016	Z						

REVIEW & APPROVAL: R Ramsay
REMARKS :