160424

Sanget Area 2

[redacted] TCLP Metals

Total SVOCs

TCLP SVOCs

PCBs

Huntingdon

Huntingdon Engineering & Environmental, Inc.

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REPORT OF: CHEMICAL ANALYSES

PROJECT: T05-9405-804, 94V

DATE: June 20, 1994

REPORTED TO: ECOLOGY & ENVIRONMENT INC
Attn: MARY JANE RIPP
111 W JACKSON BLVD
CHICAGO IL 60604

LABORATORY NO: 4416-94-5039
HPN: 5039

INTRODUCTION

This report presents the results of the analyses of three samples received on May 31, 1994, from a representative of Ecology & Environment, Inc. The scope of our services was limited to the parameters listed in the attached tables.

METHODOLOGY

Analyses are performed according to Huntingdon Standard Operating Procedures. The procedures are based on the references stated in the analytical results tables.

RESULTS

The results are listed in the attached tables.

DISCUSSION

According to EPA Method 8270 the Chrysene-d12 and Perylene-d12 internal standard (IS) recoveries were outside acceptable limits for samples 25147, 25147MS, 25147MSD, 25160MS, 25160MSD, 25161, 25162, 25152, and 25154. The 1,4-Dichlorobenzene-d4 and Napthalene-d8 IS also did not pass acceptance criteria for sample 25160. These samples were reinjected and the IS results noted were similar for all samples except 25160. Upon reanalysis the Chrysene-d12 and Perylene-d12 internal standards exhibited similar recoveries to sample 25160MS and 25160MSD. The reinjected results confirm that the cause of the low IS recoveries is suppression due to matrix interferences.

Samples 25160 and 25160MSD appear to have been switched prior to analysis of semivolatiles. The spiked sample can be distinguished from the non-spiked sample due to the presence of the 11 spiked compounds.

The PCB and Total Semivolatile samples were extracted using 5 grams of sample. The samples were then filtered through a 0.45 micron filter and placed on the GPC. The samples caused the prep-scale UV detector on the GPC to completely plug. The samples were reextracted using 1 gram, filtered and placed on the GPC with similar results.

In order for the samples to pass through the GPC a 1:10 dilution of the 1 gram extraction was necessary. The 1:10 dilution was done on an extract that had been previously spiked with the surrogate compounds. Therefore the surrogate values were ten times lower in solution and thus more prone to be affected by matrix interferences.

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The PCB Method Blank was run twice. In both analyses and on both columns there is a large non-PCB peak that interferes with the TCMX surrogate. This interferance does not appear in the LCS or any other samples. The probable cause of this interfering peak is contamination during preparation or concentration of the extract.

Recoveries of the PCB matrix spike and matrix spike duplicate samples could not be calculated due to the large sample dilution factor.

The TCLP Metals samples were originally run on 6/14/94. The Initial Calibration Verification (ICV) did not pass acceptance criteria for silver. Silver was reanalyzed on 6/15/94. The interferance check sample was not analyzed on 6/15/94.

A limited amount of sample was available from the TCLP leach and subsequently a matrix spike duplicate could not be performed for the RCRA metals. A sample will be releached and the MS and MSD will be analyzed. A revised report containing this information will be issued.

REMARKS

The samples were collected on May 27, 1994. If samples are not consumed in the analysis, they are held for two months from the date of sample receipt and then disposed, unless written instructions to the contrary are received.

HUNTINGDON ENGINEERING & ENVIRONMENTAL, INC.

Terry Uecker
Project Manager

Jon Berdahl
Laboratory Manager

TU/JB/jd

Huntingdon

TCLP METAL RESULTS

(All values are in $\mu g/L$ which is equivalent to parts-per-billion)

Client ID:	QD1	QD2	QD3			
TCT ID:	25160	25161	25162			
Parameter				POL	Test Date	Test Method
Arsenic	ND	ND	ND	100	6/14/94	200.7
Barium	320	440	390	10	6/14/94	200.7
Cadmium	ND	ND	ND	10	6/14/94	200.7
Chromium	ND	ND	ND	10	6/14/94	200.7
Lead	ND	ND	ND	50	6/14/94	200.7
Mercury	ND	ND	ND	0.40	6/16/94	7470
Selenium	ND	ND	ND	100	6/14/94	200.7
Silver	ND	ND	ND	10	6/15/94	200.7

ND = Not Detected

PQL = Practical Quantitation Limit

Reference: Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, March 1983.

EPA Test Methods for Evaluating Solid Wastes, SW-846, November 1986, 3rd Edition.

Federal Register, Volume 55, Number 126, June 1990, 40CFR, Method 1311.

LABORATORY NO: 4416-94-5039

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TCLP METAL RESULTS

Client ID: QD3

TCT ID: 25162 MS

Parameter		PQL	Test Date	Test Method
Arsenic	99% Rec	100	6/14/94	200.7
Barium	88% Rec	10	6/14/94	200.7
Cadmium	85% Rec	10	6/14/94	200.7
Chromium	89% Rec	10	6/14/94	200.7
Lead	93% Rec	50	6/14/94	200.7
Mercury	92% Rec	0.40	6/16/94	7470
Selenium	109% Rec	100	6/14/94	200.7
Silver	95% Rec	10	6/15/94	200.7

ND = Not Detected

PQL = Practical Quantitation Limit

Reference: Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, March 1983.

EPA Test Methods for Evaluating Solid Wastes, SW-846, November 1986, 3rd Edition.

Federal Register, Volume 55, Number 126, June 1990, 40CFR, Method 1311.

LABORATORY NO: 4416-94-5039

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TCLP METAL RESULTS

Client ID: QD3

TCT ID: 25162 MSD

Parameter		PQL	Test Date	Test Method
Mercury	9.5% RPD	0.40	6/16/94	7470

ND = Not Detected

PQL = Practical Quantitation Limit

RPD = Relative Percent Difference

Reference: EPA Test Methods for Evaluating Solid Wastes, SW-846, November 1986, 3rd Edition.

Federal Register, Volume 55, Number 126, June 1990, 40CFR, Method 1311.

LABORATORY NO: 4416-94-5039

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TCLP METAL RESULTS

(All values are in $\mu g/L$ which is equivalent to parts-per-billion)

Client ID:	ICV	ICB	ICSAB			
TCT ID:						
Parameter				POL	Test Date	Test Method
Arsenic	98% Rec	ND	95% Rec	100	6/14/94	6010
Barium	101% Rec	ND	92% Rec	10	6/14/94	6010
Cadmium	101% Rec	ND	88% Rec	10	6/14/94	6010
Chromium	101% Rec	ND	90% Rec	10	6/14/94	6010
Lead	101% Rec	ND	102% Rec	50	6/14/94	6010
Mercury	105% Rec	ND	NA	0.40	6/16/94	7470
Selenium	99% Rec	ND	98% Rec	100	6/14/94	6010
Silver	103% Rec	ND	---[1]	10	6/15/94	6010

[1]ICSAB not run for silver

PQL = Practical Quantitation Limit
NA = Not Applicable
ND = Not Detected

Note: Serial dilution relative percent difference cannot be calculated. Compounds of interest are below reportable levels.

Reference: Federal Register, Volume 55, Number 126, June 1990, 40CFR, Method 1311.

EPA Test Methods for Evaluating Solid Waste, SW-846, November 1986, 3rd Edition.

LABORATORY NO: 4416-94-5039

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TCLP METAL RESULTS

(All values are in $\mu g/L$ which is equivalent to parts-per-billion)

Client ID:	CCV	CCB	PBW			
TCT ID:						
Parameter				PQL	Test Date	Test Method
Arsenic	99% Rec	ND	ND	100	6/14/94	6010
Barium	102% Rec	ND	ND	10	6/14/94	6010
Cadmium	100% Rec	ND	ND	10	6/14/94	6010
Chromium	100% Rec	ND	ND	10	6/14/94	6010
Lead	99% Rec	ND	ND	50	6/14/94	6010
Mercury	110% Rec	ND	---	0.40	6/16/94	7470
Selenium	101% Rec	ND	ND	100	6/14/94	6010
Silver	99% Rec	ND	ND	10	6/15/94	6010

PQL = Practical Quantitation Limit
NA = Not Applicable
ND = Not Detected

Note: Serial dilution relative percent difference cannot be calculated. Compounds of interest are below reportable levels.

Reference: Federal Register, Volume 55, Number 126, June 1990, 40CFR, Method 1311.

EPA Test Methods for Evaluating Solid Waste, SW-846, November 1986, 3rd Edition.

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TCLP METAL RESULTS

(All values are in $\mu g/L$ which is equivalent to parts-per-billion)

Client ID:	LCW	CCV	CCB			
TCT ID:						
Parameter				PQL	Test Date	Test Method
Arsenic	95% Rec	98	ND	100	6/14/94	6010
Barium	98% Rec	100	ND	10	6/14/94	6010
Cadmium	98% Rec	100	ND	10	6/14/94	6010
Chromium	100% Rec	100	ND	10	6/14/94	6010
Lead	97% Rec	99	ND	50	6/14/94	6010
Mercury	---	---	---	0.40	6/16/94	7470
Selenium	97% Rec	100	ND	100	6/14/94	6010
Silver	100% Rec	98	ND	10	6/15/94	6010

PQL = Practical Quantitation Limit
NA = Not Applicable
ND = Not Detected

Note: ICP was calibrated with a blank and one standard at 10 ppm. Mercury was calibrated with a blank and four standards at 0.05, 0.10, 0.30, and 0.50 μg.

Reference: Federal Register, Volume 55, Number 126, June 1990, 40CFR, Method 1311.

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LABORATORY NO: 4416-94-5039

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TCLP METAL RESULTS

(All values are in $\mu g/L$ which is equivalent to parts-per-billion)

Client ID:	LCW	CCV	CCB			
TCT ID:						
Parameter				PQL	Test Date	Test Method
Arsenic	95% Rec	98	ND	100	6/14/94	6010
Barium	98% Rec	100	ND	10	6/14/94	6010
Cadmium	98% Rec	100	ND	10	6/14/94	6010
Chromium	100% Rec	100	ND	10	6/14/94	6010
Lead	97% Rec	99	ND	50	6/14/94	6010
Mercury	---	---	---	0.40	6/16/94	7470
Selenium	97% Rec	100	ND	100	6/14/94	6010
Silver	100% Rec	98	ND	10	6/15/94	6010

PQL = Practical Quantitation Limit
NA = Not Applicable
ND = Not Detected

Note: ICP was calibrated with a blank and one standard at 10 ppm. Mercury was calibrated with a blank and four standards at 0.05, 0.10, 0.30, and 0.50 μg.

Reference: Federal Register, Volume 55, Number 126, June 1990, 40CFR, Method 1311.

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TCLP METAL RESULTS

(All values are in μg/L which is equivalent to parts-per-billion)

Client ID:	ICSAB	CCV	CCB			
TCT ID:						
Parameter				PQL	Test Date	Test Method
Arsenic	97% Rec	99% Rec	ND	100	6/14/94	6010
Barium	92% Rec	101% Rec	ND	10	6/14/94	6010
Cadmium	90% Rec	101% Rec	ND	10	6/14/94	6010
Chromium	92% Rec	102% Rec	ND	10	6/14/94	6010
Lead	105% Rec	101% Rec	ND	50	6/14/94	6010
Mercury	---	---	---	0.40	6/16/94	7470
Selenium	94% Rec	101% Rec	ND	100	6/14/94	6010
Silver	---[1]	---	---	10	6/15/94	6010

[1]ICSAB not run for silver

PQL = Practical Quantitation Limit
NA = Not Applicable
ND = Not Detected

Note: ICP was calibrated with a blank and one standard at 10 ppm. Mercury was calibrated with a blank and four standards at 0.05, 0.10, 0.30, and 0.50 μg.

Reference: Federal Register, Volume 55, Number 126, June 1990, 40CFR, Method 1311.

EPA Test Methods for Evaluating Solid Waste, SW-846, November 1986, 3rd Edition.

LABORATORY NO: 4416-94-5039

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POLYCHLORINATED BIPHENYL RESULTS
EPA METHOD 8080

(All values are in $\mu g/Kg$ which is equal to parts-per-billion)

Client ID: **Blank**

TCT ID:

Parameter:		**PQL**
PCB 1016	ND	17
PCB 1221	ND	17
PCB 1232	ND	17
PCB 1242	ND	17
PCB 1248	ND	17
PCB 1254	ND	17
PCB 1260	ND	17
% Surrogate #1 Recovery:	---%[1]	
% Surrogate #2 Recovery:	45%	

Date Extracted: 6/9/94

Date Analyzed: 6/14/94

[1]Low surrogate recovery due to interfering non-PCB peak.

All results are reported on a dry weight basis.

PQL = Practical Quantitation Limit
ND = Not Detected
Surrogate #1 = TCMX (2,4,5,6-tetrachloro-m-xylene)
Surrogate #2 = DCB (decachlorobiphenyl)

Reference: EPA Test Methods for Evaluating Solid Waste, SW-846, November 1986, 3rd Edition.

LABORATORY NO: 4416-94-5039

Huntingdon

POLYCHLORINATED BIPHENYL RESULTS
EPA METHOD 8080

(All values are in μg/Kg which is equal to parts-per-billion)

Client ID: QD1

TCT ID: 25160

Parameter:		**PQL**
PCB 1016	ND	11,000,000
PCB 1221	ND	11,000,000
PCB 1232	ND	11,000,000
PCB 1242	ND	11,000,000
PCB 1248	ND	11,000,000
PCB 1254	ND	11,000,000
PCB 1260	180,000,000[2]	11,000,000
% Surrogate #1 Recovery:	---%[1]	
% Surrogate #2 Recovery:	---%[1]	

Date Extracted: 6/9/94

Date Analyzed: 6/14/94

[1]Low surrogate (diluted out)
[2]Reported value not confirmed within 25% RPD

All results are reported on a dry weight basis.

PQL = Practical Quantitation Limit
ND = Not Detected
Surrogate #1 = TCMX (2,4,5,6-tetrachloro-m-xylene)
Surrogate #2 = DCB (decachlorobiphenyl)

Reference: EPA Test Methods for Evaluating Solid Waste, SW-846, November 1986, 3rd Edition.

LABORATORY NO: 4416-94-5039

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POLYCHLORINATED BIPHENYL RESULTS
EPA METHOD 8080

(All values are in μg/Kg which is equal to parts-per-billion)

Client ID:	**QD2**	
TCT ID:	25161	
Parameter:		**POL**
PCB 1016	ND	21,000,000
PCB 1221	ND	21,000,000
PCB 1232	ND	21,000,000
PCB 1242	ND	21,000,000
PCB 1248	ND	21,000,000
PCB 1254	ND	21,000,000
PCB 1260	260,000,000	21,000,000
% Surrogate #1 Recovery:	---%[1]	
% Surrogate #2 Recovery:	---%[1]	
Date Extracted:	6/9/94	
Date Analyzed:	6/14/94	

[1]Low surrogate (diluted out)

All results are reported on a dry weight basis.

PQL = Practical Quantitation Limit
ND = Not Detected
Surrogate #1 = TCMX (2,4,5,6-tetrachloro-m-xylene)
Surrogate #2 = DCB (decachlorobiphenyl)

Reference: EPA Test Methods for Evaluating Solid Waste, SW-846, November 1986, 3rd Edition.

LABORATORY NO: 4416-94-5039

Huntingdon

POLYCHLORINATED BIPHENYL RESULTS
EPA METHOD 8080

(All values are in μg/Kg which is equal to parts-per-billion)

Client ID: QD3

TCT ID: 25162

Parameter:		**PQL**
PCB 1016	ND	23,000,000
PCB 1221	ND	23,000,000
PCB 1232	ND	23,000,000
PCB 1242	ND	23,000,000
PCB 1248	ND	23,000,000
PCB 1254	ND	23,000,000
PCB 1260	230,000,000[2]	23,000,000
% Surrogate #1 Recovery:	---%[1]	
% Surrogate #2 Recovery:	---%[1]	

Date Extracted: 6/9/94

Date Analyzed: 6/14/94

[1]Low surrogate (diluted out)
[2]Reported value not confirmed

All results are reported on a dry weight basis.

PQL = Practical Quantitation Limit
ND = Not Detected
Surrogate #1 = TCMX (2,4,5,6-tetrachloro-m-xylene)
Surrogate #2 = DCB (decachlorobiphenyl)

Reference: EPA Test Methods for Evaluating Solid Waste, SW-846, November 1986, 3rd Edition.

LABORATORY NO: 4416-94-5039

Huntingdon

ORGANOCHLORINE PESTICIDE/PCB RESULTS
EPA METHOD 8080

(All values are in µg/kg which is equal to parts-per-billion)

Client ID:	**CCAL Ch. 25**	**CCAL Ch. 26**	
TCT ID:			
Compounds:			**PQL**
Aldrin	94%	97%	0.83
alpha-BHC	103%	113%	0.83
beta-BHC	90%	105%	0.83
delta-BHC	92%	102%	0.83
gamma-BHC (Lindane)	105%	107%	0.83
4,4'-DDD	100%	126%	1.7
4,4'-DDE	92%	112%	1.7
4,4'-DDT	109%	119%	1.7
Dieldrin	106%	110%	1.7
alpha-Endosulfan	95%	110%	0.83
beta-Endosulfan	100%	105%	1.7
Endosulfan Sulfate	106%	97%	1.7
Endrin	126%	122%	1.7
Endrin Aldehyde	90%	101%	1.7
Heptachlor	102%	105%	0.83
Heptachlor Epoxide	94%	96%	0.83
4,4'-Methoxychlor	101%	101%	8.3
gamma-Chlordane	96%	105%	17
alpha-Chlordane	90%	102%	17
PCB 1260	62%	70%	17
% Surrogate #1 Recovery:	112%	112%	
% Surrogate #2 Recovery:	84%	105%	
Date Extracted:			
Date Analyzed:	6/13/94	6/13/94	

PQL = Practical Quantitation Limit
ND = Not Detected

Surrogate #1 = TCMX (2,4,5,6-tetrachloro-m-xylene)
Surrogate #2 = DCB (decachlorobiphenyl)

Reference: EPA Test Methods for Evaluating Solid Waste, SW-846, November 1986, 3rd Edition.

LABORATORY NO: 4416-94-5039

Huntingdon

POLYCHLORINATED BIPHENYL RESULTS
EPA METHOD 8080

Client ID: CCAL

TCT ID:

Parameter:

PCB 1260	103% Recovery
% Surrogate #1 Recovery:	99% Recovery
% Surrogate #2 Recovery:	98% Recovery

Date Analyzed: 6/14/94

PQL = Practical Quantitation Limit
ND = Not Detected
Surrogate #1 = TCMX (2,4,5,6-tetrachloro-m-xylene)
Surrogate #2 = DCB (decachlorobiphenyl)

Reference: EPA Test Methods for Evaluating Solid Waste, SW-846, November 1986, 3rd Edition.

LABORATORY NO: 4416-94-5039

QUALITY CONTROL LIMITS

Parameter/Matrix	Control Limit
Chlorinated Pesticides/PCBs - EPA 8080	
Surrogates: TCMX	33-129
Spikes:	
Lindane	49-151
Heptachlor	39-141
Aldrin	43-133
Deieldrin	51-141
Endrin	61-133
4,4'-DDT	13-169
Arochlor 1254	61-127

LABORATORY NO: 4416-94-5039

3C

LEACH SEMIVOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Matrix Spiked: QD1

HPN:	HSN:	QD1	QD1 MS	QD1 MSD
INST: VGTRIO2C	Filename:	4157K16	4160K13	4160K14
	Date Extracted:	06/05/94	06/08/94	06/08/94
	Date Analyzed:	06/06/94	06/09/94	06/09/94

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC #	QC. LIMITS REC.
Pyridine	330	0	170	52	35-130
1,4-Dichlorobenzene	330	0	160	48	36- 97
o-Cresol	330	0	240	73	27-123
m- and/or p-Cresol	650	0	440	68	35-130
Hexachloroethane	330	0	140	42	35-130
Nitrobenzene	330	0	270	82	35-130
Hexachloro-1,3-butadien	330	0	150	45	35-130
2,4,6-Trichlorophenol	330	0	300	91	35-130
2,4,5-Trichlorophenol	330	0	300	91	35-130
2,4-Dinitrotoluene	330	0	310	94	24- 96
Hexachlorobenzene	330	0	290	88	35-130
Pentachlorophenol	330	0	580	176 *	9 -103

(Continued)

3C

LEACH SEMIVOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY (Continued)

Matrix Spiked: QD1

HPN:	HSN:	QD1	QD1 MS	QD1 MSD
INST: VGTRIO2C	Filename:	4157K16	4160K13	4160K14
	Date Extracted:	06/05/94	06/08/94	06/08/94
	Date Analyzed:	06/06/94	06/09/94	06/09/94

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
Pyridine	330	170	52	1	35	35-130
1,4-Dichlorobenzene	330	170	52	7	28	36- 97
o-Cresol	330	240	73	0	40	27-123
m- and/or p-Cresol	650	430	66	3	35	35-130
Hexachloroethane	330	160	48	12	35	35-130
Nitrobenzene	330	280	85	4	35	35-130
Hexachloro-1,3-butadien	330	160	48	5	35	35-130
2,4,6-Trichlorophenol	330	290	88	3	35	35-130
2,4,5-Trichlorophenol	330	320	97	6	35	35-130
2,4-Dinitrotoluene	330	310	94	0	38	24- 96
Hexachlorobenzene	330	310	94	7	35	35-130
Pentachlorophenol	330	740	224 *	24	50	9 -103

Column to be used to flag recovery and RPD values with an asterisk
* Values outside of QC limits

RPD: 0 out of 12 outside limits
Spike Recovery: 2 out of 24 outside limits

COMMENTS:

EPA METHOD 8270
TCLP SEMIVOLATILE ORGANIC COMPOUND RESULTS

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Client ID:	BLANK	Lab ID (HSN):	BLANK
Matrix:	LEACH	Filename:	4160K08
Date Sampled:		Sample Size:	200 mL
Date Received:		Extract Vol.:	1000 uL
Date Extracted:	06/08/94	Dil. Factor:	1
Date Analyzed:	06/09/94		
Date Leached:			

Compounds:	ug/L (PPB)	EQL
Pyridine	50 U	50
1,4-Dichlorobenzene	50 U	50
o-Cresol	50 U	50
m- and/or p-Cresol	50 U	50
Hexachloroethane	50 U	50
Nitrobenzene	50 U	50
Hexachloro-1,3-butadiene	50 U	50
2,4,6-Trichlorophenol	50 U	50
2,4,5-Trichlorophenol	130 U	130
2,4-Dinitrotoluene	50 U	50
Hexachlorobenzene	50 U	50
Pentachlorophenol	130 U	130

Surrogate Recovery		QC LIMITS
2-Fluorophenol	59%	21-110%
Phenol-d5	36%	10-110%
2-Chlorophenol-d4	88%	33-110%
1,2-Dichlorobenzene-d4	54%	16-110%
Nitrobenzene-d5	84%	35-114%
2-Fluorobiphenyl	69%	43-116%
2,4,6-Tribromophenol	74%	10-123%
Terphenyl-d14	101%	33-141%

TCLP = Toxicity Characteristic Leaching Procedure
EQL = Estimated Quantitation Limit (lower calibration limit)
U = Undetected at the given EQL
J = Detected below the EQL (estimated value)
E = Exceeds the upper calibration limit (estimated value)
B = Also detected in the associated Blank

Reference: "EPA Test Methods for Evaluating Solid Waste", SW-846, November 1986, 3rd Edition.

HPN:

EPA METHOD 8270
TCLP SEMIVOLATILE ORGANIC COMPOUND RESULTS

Huntingdon

Client ID:	LAB SPIKE	Lab ID (HSN):	LAB SPIKE
Matrix:	LEACH	Filename:	4160K11
Date Sampled:		Sample Size:	200 mL
Date Received:		Extract Vol.:	1000 uL
Date Extracted:	06/08/94	Dil. Factor:	1
Date Analyzed:	06/09/94		
Date Leached:			

Compounds:	ug/L (PPB)	EQL
Pyridine	180	50
1,4-Dichlorobenzene	160	50
o-Cresol	250	50
m- and/or p-Cresol	460	50
Hexachloroethane	140	50
Nitrobenzene	300	50
Hexachloro-1,3-butadiene	160	50
2,4,6-Trichlorophenol	270	50
2,4,5-Trichlorophenol	270	130
2,4-Dinitrotoluene	270	50
Hexachlorobenzene	320	50
Pentachlorophenol	460 E	130

Surrogate Recovery		QC LIMITS
2-Fluorophenol	55%	21-110%
Phenol-d5	36%	10-110%
2-Chlorophenol-d4	84%	33-110%
1,2-Dichlorobenzene-d4	55%	16-110%
Nitrobenzene-d5	85%	35-114%
2-Fluorobiphenyl	59%	43-116%
2,4,6-Tribromophenol	86%	10-123%
Terphenyl-d14	102%	33-141%

TCLP = Toxicity Characteristic Leaching Procedure
EQL = Estimated Quantitation Limit (lower calibration limit)
U = Undetected at the given EQL
J = Detected below the EQL (estimated value)
E = Exceeds the upper calibration limit (estimated value)
B = Also detected in the associated Blank

Reference: "EPA Test Methods for Evaluating Solid Waste", SW-846, November 1986, 3rd Edition.

HPN:

EPA METHOD 8270

Huntingdon

TCLP SEMIVOLATILE ORGANIC COMPOUND RESULTS

Client ID:	QD1 MS	Lab ID (HSN):	QD1 MS
Matrix:	LEACH	Filename:	4160K13
Date Sampled:	05/27/94	Sample Size:	200 mL
Date Received:	05/31/94	Extract Vol.:	1000 uL
Date Extracted:	06/08/94	Dil. Factor:	1
Date Analyzed:	06/09/94		
Date Leached:	06/02/94		

Compounds:	ug/L (PPB)	EQL
Pyridine	170	50
1,4-Dichlorobenzene	160	50
o-Cresol	240	50
m- and/or p-Cresol	440	50
Hexachloroethane	140	50
Nitrobenzene	270	50
Hexachloro-1,3-butadiene	150	50
2,4,6-Trichlorophenol	300	50
2,4,5-Trichlorophenol	300	130
2,4-Dinitrotoluene	310	50
Hexachlorobenzene	290	50
Pentachlorophenol	580 E	130

Surrogate Recovery		QC LIMITS
2-Fluorophenol	50%	21-110%
Phenol-d5	33%	10-110%
2-Chlorophenol-d4	82%	33-110%
1,2-Dichlorobenzene-d4	51%	16-110%
Nitrobenzene-d5	82%	35-114%
2-Fluorobiphenyl	65%	43-116%
2,4,6-Tribromophenol	113%E	10-123%
Terphenyl-d14	100%	33-141%

TCLP = Toxicity Characteristic Leaching Procedure
EQL = Estimated Quantitation Limit (lower calibration limit)
U = Undetected at the given EQL
J = Detected below the EQL (estimated value)
E = Exceeds the upper calibration limit (estimated value)
B = Also detected in the associated Blank

Reference: "EPA Test Methods for Evaluating Solid Waste", SW-846, November 1986, 3rd Edition.

HPN:

EPA METHOD 8270

Huntingdon

TCLP SEMIVOLATILE ORGANIC COMPOUND RESULTS

Client ID:	QD1 MSD	Lab ID (HSN):	QD1 MSD
Matrix:	LEACH	Filename:	4160K14
Date Sampled:	05/27/94	Sample Size:	200 mL
Date Received:	05/31/94	Extract Vol.:	1000 uL
Date Extracted:	06/08/94	Dil. Factor:	1
Date Analyzed:	06/09/94		
Date Leached:	06/02/94		

Compounds:	ug/L (PPB)	EQL
Pyridine	170	50
1,4-Dichlorobenzene	170	50
o-Cresol	240	50
m- and/or p-Cresol	430	50
Hexachloroethane	160	50
Nitrobenzene	280	50
Hexachloro-1,3-butadiene	160	50
2,4,6-Trichlorophenol	290	50
2,4,5-Trichlorophenol	320	130
2,4-Dinitrotoluene	310	50
Hexachlorobenzene	310	50
Pentachlorophenol	740 E	130

Surrogate Recovery		QC LIMITS
2-Fluorophenol	50%	21-110%
Phenol-d5	33%	10-110%
2-Chlorophenol-d4	79%	33-110%
1,2-Dichlorobenzene-d4	53%	16-110%
Nitrobenzene-d5	79%	35-114%
2-Fluorobiphenyl	61%	43-116%
2,4,6-Tribromophenol	114%E	10-123%
Terphenyl-d14	111%	33-141%

TCLP = Toxicity Characteristic Leaching Procedure
EQL = Estimated Quantitation Limit (lower calibration limit)
U = Undetected at the given EQL
J = Detected below the EQL (estimated value)
E = Exceeds the upper calibration limit (estimated value)
B = Also detected in the associated Blank

Reference: "EPA Test Methods for Evaluating Solid Waste", SW-846, November 1986, 3rd Edition.

HPN:

EPA METHOD 8270
TCLP SEMIVOLATILE ORGANIC COMPOUND RESULTS

Huntingdon

Client ID:	BLANK	Lab ID (HSN):	BLANK
Matrix:	LEACH	Filename:	4157K10
Date Sampled:		Sample Size:	200 mL
Date Received:		Extract Vol.:	1000 uL
Date Extracted:	06/05/94	Dil. Factor:	1
Date Analyzed:	06/06/94		
Date Leached:			

Compounds:	ug/L (PPB)	EQL
Pyridine	50 U	50
1,4-Dichlorobenzene	50 U	50
o-Cresol	50 U	50
m- and/or p-Cresol	50 U	50
Hexachloroethane	50 U	50
Nitrobenzene	50 U	50
Hexachloro-1,3-butadiene	50 U	50
2,4,6-Trichlorophenol	50 U	50
2,4,5-Trichlorophenol	130 U	130
2,4-Dinitrotoluene	50 U	50
Hexachlorobenzene	50 U	50
Pentachlorophenol	130 U	130

Surrogate Recovery		QC LIMITS
2-Fluorophenol	54%	21-110%
Phenol-d5	33%	10-110%
2-Chlorophenol-d4	83%	33-110%
Nitrobenzene-d5	96%	35-114%
2-Fluorobiphenyl	69%	43-116%
2,4,6-Tribromophenol	82%	10-123%
Terphenyl-d14	109%	33-141%

TCLP = Toxicity Characteristic Leaching Procedure
EQL = Estimated Quantitation Limit (lower calibration limit)
U = Undetected at the given EQL
J = Detected below the EQL (estimated value)
E = Exceeds the upper calibration limit (estimated value)
B = Also detected in the associated Blank

Reference: "EPA Test Methods for Evaluating Solid Waste", SW-846, November 1986, 3rd Edition.

HPN:

EPA METHOD 8270
TCLP SEMIVOLATILE ORGANIC COMPOUND RESULTS

Huntingdon

Client ID:	LCS	Lab ID (HSN):	LCS
Matrix:	LEACH	Filename:	4157K13
Date Sampled:		Sample Size:	200 mL
Date Received:		Extract Vol.:	1000 uL
Date Extracted:	06/05/94	Dil. Factor:	1
Date Analyzed:	06/06/94		
Date Leached:			

Compounds:	ug/L (PPB)	EQL
Pyridine	190	50
1,4-Dichlorobenzene	170	50
o-Cresol	230	50
m- and/or p-Cresol	430	50
Hexachloroethane	140	50
Nitrobenzene	290	50
Hexachloro-1,3-butadiene	160	50
2,4,6-Trichlorophenol	290	50
2,4,5-Trichlorophenol	300	130
2,4-Dinitrotoluene	290	50
Hexachlorobenzene	300	50
Pentachlorophenol	370	130

Surrogate Recovery		QC LIMITS
2-Fluorophenol	46%	21-110%
Phenol-d5	32%	10-110%
2-Chlorophenol-d4	75%	33-110%
Nitrobenzene-d5	80%	35-114%
2-Fluorobiphenyl	70%	43-116%
2,4,6-Tribromophenol	94%	10-123%
Terphenyl-d14	107%	33-141%

TCLP = Toxicity Characteristic Leaching Procedure
EQL = Estimated Quantitation Limit (lower calibration limit)
U = Undetected at the given EQL
J = Detected below the EQL (estimated value)
E = Exceeds the upper calibration limit (estimated value)
B = Also detected in the associated Blank

Reference: "EPA Test Methods for Evaluating Solid Waste", SW-846, November 1986, 3rd Edition.

HPN:

EPA METHOD 8270
TCLP SEMIVOLATILE ORGANIC COMPOUND RESULTS

Huntingdon

Client ID:	LCSD	Lab ID (HSN):	LCSD
Matrix:	LEACH	Filename:	4157K14
Date Sampled:		Sample Size:	200 mL
Date Received:		Extract Vol.:	1000 uL
Date Extracted:	06/05/94	Dil. Factor:	1
Date Analyzed:	06/06/94		
Date Leached:			

Compounds:	ug/L (PPB)	EQL
Pyridine	190	50
1,4-Dichlorobenzene	190	50
o-Cresol	250	50
m- and/or p-Cresol	450	50
Hexachloroethane	160	50
Nitrobenzene	310	50
Hexachloro-1,3-butadiene	180	50
2,4,6-Trichlorophenol	300	50
2,4,5-Trichlorophenol	300	130
2,4-Dinitrotoluene	300	50
Hexachlorobenzene	310	50
Pentachlorophenol	350	130

Surrogate Recovery		QC LIMITS
2-Fluorophenol	51%	21-110%
Phenol-d5	34%	10-110%
2-Chlorophenol-d4	75%	33-110%
Nitrobenzene-d5	89%	35-114%
2-Fluorobiphenyl	69%	43-116%
2,4,6-Tribromophenol	93%	10-123%
Terphenyl-d14	114%	33-141%

TCLP = Toxicity Characteristic Leaching Procedure
EQL = Estimated Quantitation Limit (lower calibration limit)
U = Undetected at the given EQL
J = Detected below the EQL (estimated value)
E = Exceeds the upper calibration limit (estimated value)
B = Also detected in the associated Blank

Reference: "EPA Test Methods for Evaluating Solid Waste", SW-846, November 1986, 3rd Edition.

HPN:

EPA METHOD 8270

Huntingdon

TCLP SEMIVOLATILE ORGANIC COMPOUND RESULTS

Client ID:	QD1	Lab ID (HSN):	QD1
Matrix:	LEACH	Filename:	4157K16
Date Sampled:	05/27/94	Sample Size:	200 mL
Date Received:	05/31/94	Extract Vol.:	1000 uL
Date Extracted:	06/05/94	Dil. Factor:	1
Date Analyzed:	06/06/94		
Date Leached:	06/02/94		

Compounds:	ug/L (PPB)	EQL
Pyridine	50 U	50
1,4-Dichlorobenzene	50 U	50
o-Cresol	50 U	50
m- and/or p-Cresol	50 U	50
Hexachloroethane	50 U	50
Nitrobenzene	50 U	50
Hexachloro-1,3-butadiene	50 U	50
2,4,6-Trichlorophenol	50 U	50
2,4,5-Trichlorophenol	130 U	130
2,4-Dinitrotoluene	50 U	50
Hexachlorobenzene	50 U	50
Pentachlorophenol	130 U	130

Surrogate Recovery		QC LIMITS
2-Fluorophenol	45%	21-110%
Phenol-d5	30%	10-110%
2-Chlorophenol-d4	72%	33-110%
Nitrobenzene-d5	86%	35-114%
2-Fluorobiphenyl	74%	43-116%
2,4,6-Tribromophenol	88%	10-123%
Terphenyl-d14	101%	33-141%

TCLP = Toxicity Characteristic Leaching Procedure
EQL = Estimated Quantitation Limit (lower calibration limit)
U = Undetected at the given EQL
J = Detected below the EQL (estimated value)
E = Exceeds the upper calibration limit (estimated value)
B = Also detected in the associated Blank
Y = Associated internal standard failed method criteria

Reference: "EPA Test Methods for Evaluating Solid Waste", SW-846, November 1986, 3rd Edition.

HPN:

EPA METHOD 8270

Huntingdon

TCLP SEMIVOLATILE ORGANIC COMPOUND RESULTS

Client ID:	QD2	Lab ID (HSN):	QD2
Matrix:	LEACH	Filename:	4157K17
Date Sampled:	05/27/94	Sample Size:	200 mL
Date Received:	05/31/94	Extract Vol.:	1000 uL
Date Extracted:	06/05/94	Dil. Factor:	1
Date Analyzed:	06/06/94		
Date Leached:	06/02/94		

Compounds:	ug/L (PPB)	EQL
Pyridine	50 U	50
1,4-Dichlorobenzene	50 U	50
o-Cresol	50 U	50
m- and/or p-Cresol	50 U	50
Hexachloroethane	50 U	50
Nitrobenzene	50 U	50
Hexachloro-1,3-butadiene	50 U	50
2,4,6-Trichlorophenol	6.3 J	50
2,4,5-Trichlorophenol	130 U	130
2,4-Dinitrotoluene	50 U	50
Hexachlorobenzene	50 U	50
Pentachlorophenol	16 J	130

Surrogate Recovery		QC LIMITS
2-Fluorophenol	52%	21-110%
Phenol-d5	36%	10-110%
2-Chlorophenol-d4	79%	33-110%
Nitrobenzene-d5	92%	35-114%
2-Fluorobiphenyl	74%	43-116%
2,4,6-Tribromophenol	103%	10-123%
Terphenyl-d14	130%	33-141%

TCLP = Toxicity Characteristic Leaching Procedure
EQL = Estimated Quantitation Limit (lower calibration limit)
U = Undetected at the given EQL
J = Detected below the EQL (estimated value)
E = Exceeds the upper calibration limit (estimated value)
B = Also detected in the associated Blank
Y = Associated internal standard failed method criteria

Reference: "EPA Test Methods for Evaluating Solid Waste", SW-846, November 1986, 3rd Edition.

HPN:

EPA METHOD 8270

Huntingdon

TCLP SEMIVOLATILE ORGANIC COMPOUND RESULTS

Client ID:	QD3	Lab ID (HSN):	QD3
Matrix:	LEACH	Filename:	4157K18
Date Sampled:	05/27/94	Sample Size:	200 mL
Date Received:	05/31/94	Extract Vol.:	1000 uL
Date Extracted:	06/05/94	Dil. Factor:	1
Date Analyzed:	06/06/94		
Date Leached:	06/02/94		

Compounds:	ug/L (PPB)	EQL
Pyridine	50 U	50
1,4-Dichlorobenzene	50 U	50
o-Cresol	50 U	50
m- and/or p-Cresol	50 U	50
Hexachloroethane	50 U	50
Nitrobenzene	50 U	50
Hexachloro-1,3-butadiene	50 U	50
2,4,6-Trichlorophenol	50 U	50
2,4,5-Trichlorophenol	130 U	130
2,4-Dinitrotoluene	50 U	50
Hexachlorobenzene	50 U	50
Pentachlorophenol	130 U	130

Surrogate Recovery		QC LIMITS
2-Fluorophenol	52%	21-110%
Phenol-d5	36%	10-110%
2-Chlorophenol-d4	75%	33-110%
Nitrobenzene-d5	90%	35-114%
2-Fluorobiphenyl	71%	43-116%
2,4,6-Tribromophenol	101%	10-123%
Terphenyl-d14	138%	33-141%

TCLP = Toxicity Characteristic Leaching Procedure
EQL = Estimated Quantitation Limit (lower calibration limit)
U = Undetected at the given EQL
J = Detected below the EQL (estimated value)
E = Exceeds the upper calibration limit (estimated value)
B = Also detected in the associated Blank
Y = Associated internal standard failed method criteria

Reference: "EPA Test Methods for Evaluating Solid Waste", SW-846, November 1986, 3rd Edition.

HPN:

EPA METHOD 8270
TCL SEMIVOLATILE ORGANIC COMPOUND RESULTS

Huntingdon

Client ID:	LAB. BLANK	Lab ID (HSN):	
Matrix:	SOIL	Filename:	4164P05
Date Sampled:		Sample Size:	30 grams
Date Received:		Extract Vol.:	500 uL
Date Extracted:	06/10/94	Dil. Factor:	1
Date Analyzed:	06/13/94	GPC Factor:	2
		% Moisture:	0

Compounds:	ug/Kg (PPB)	EQL
Phenol	330 U	330
bis(2-Chloroethyl)ether	330 U	330
2-Chlorophenol	330 U	330
1,3-Dichlorobenzene	330 U	330
1,4-Dichlorobenzene	330 U	330
1,2-Dichlorobenzene	330 U	330
2-Methylphenol	330 U	330
2,2'-oxybis(1-Chloropropane)	330 U	330
4-Methylphenol	330 U	330
N-Nitroso-di-n-propylamine	330 U	330
Hexachloroethane	330 U	330
Nitrobenzene	330 U	330
Isophorone	330 U	330
2-Nitrophenol	330 U	330
2,4-Dimethylphenol	330 U	330
bis(2-Chloroethoxy)methane	330 U	330
2,4-Dichlorophenol	330 U	330
1,2,4-Trichlorobenzene	330 U	330
Naphthalene	330 U	330
4-Chloroaniline	330 U	330
Hexachlorobutadiene	330 U	330
4-Chloro-3-methylphenol	330 U	330
2-Methylnaphthalene	330 U	330
Hexachlorocyclopentadiene	330 U	330
2,4,6-Trichlorophenol	330 U	330
2,4,5-Trichlorophenol	830 U	830
2-Chloronaphthalene	330 U	330
2-Nitroaniline	830 U	830
Dimethylphthalate	330 U	330
Acenaphthylene	330 U	330
2,6-Dinitrotoluene	330 U	330
3-Nitroaniline	830 U	830
Acenaphthene	330 U	330
2,4-Dinitrophenol	830 U	830
4-Nitrophenol	830 U	830
Dibenzofuran	330 U	330
2,4-Dinitrotoluene	330 U	330
Diethylphthalate	330 U	330
4-Chlorophenyl-phenylether	330 U	330
Fluorene	330 U	330
4-Nitroaniline	830 U	830
4,6-Dinitro-2-methylphenol	830 U	830

(continued)

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EPA METHOD 8270
TCL SEMIVOLATILE ORGANIC COMPOUND RESULTS

Huntingdon

Client ID: LAB. BLANK Lab ID (HSN):
Matrix: SOIL Filename: 4164P05

Compounds:	ug/Kg (PPB)	EQL
N-Nitrosodiphenylamine	330 U	330
4-Bromophenyl-phenylether	330 U	330
Hexachlorobenzene	330 U	330
Pentachlorophenol	830 U	830
Phenanthrene	330 U	330
Anthracene	330 U	330
Carbazole	330 U	330
Di-n-butylphthalate	330 U	330
Fluoranthene	330 U	330
Pyrene	330 U	330
Butylbenzylphthalate	330 U	330
3,3'-Dichlorobenzidine	330 U	330
Benz(a)anthracene	330 U	330
Chrysene	330 U	330
bis(2-Ethylhexyl)phthalate	330 U	330
Di-n-octylphthalate	330 U	330
Benzo(b)fluoranthene	330 U	330
Benzo(k)fluoranthene	330 U	330
Benzo(a)pyrene	330 U	330
Indeno(1,2,3-cd)pyrene	330 U	330
Dibenz(a,h)anthracene	330 U	330
Benzo(g,h,i)perylene	330 U	330

Surrogate Recovery		QC LIMITS
2-Fluorophenol	80%	25-121%
Phenol-d5	80%	24-113%
2-Chlorophenol-d4	80%	20-130%
1,2-Dichlorobenzene-d4	77%	20-130%
Nitrobenzene-d5	74%	23-120%
2-Fluorobiphenyl	77%	30-115%
2,4,6-Tribromophenol	80%	19-122%
Terphenyl-d14	91%	18-137%

TCL = Target Coumpound List EPA Contract Laboratory Program (OLM01)
EQL = Estimated Quantitation Limit (lower calibration limit)
U = Undetected at the given EQL
J = Detected below the EQL (estimated value)
E = Exceeds the upper calibration limit (estimated value)
B = Also detected in the associated Blank

Note: All results are reported on a dry weight basis.
Reference: "EPA Test Methods for Evaluating Solid Waste", SW-846, November 1986, 3rd Edition.

HPN:

EPA METHOD 8270
TCL SEMIVOLATILE ORGANIC COMPOUND RESULTS

Huntingdon

Client ID:	QD1	Lab ID (HSN):	25160MSD RI
Matrix:	SOIL	Filename:	4164P09
Date Sampled:	05/27/94	Sample Size:	1 grams
Date Received:	05/31/94	Extract Vol.:	500 uL
Date Extracted:	06/09/94	Dil. Factor:	10
Date Analyzed:	06/13/94	GPC Factor:	2
		% Moisture:	6.4

Compounds:	ug/Kg (PPB)		EQL
Phenol	69000	JD	110000
bis(2-Chloroethyl)ether	110000	UD	110000
2-Chlorophenol	67000	JD	110000
1,3-Dichlorobenzene	110000	UD	110000
1,4-Dichlorobenzene	49000	JD	110000
1,2-Dichlorobenzene	110000	UD	110000
2-Methylphenol	110000	UD	110000
2,2'-oxybis(1-Chloropropane)	110000	UD	110000
4-Methylphenol	110000	UD	110000
N-Nitroso-di-n-propylamine	42000	JD	110000
Hexachloroethane	110000	UD	110000
Nitrobenzene	110000	UD	110000
Isophorone	110000	UD	110000
2-Nitrophenol	110000	UD	110000
2,4-Dimethylphenol	110000	UD	110000
bis(2-Chloroethoxy)methane	110000	UD	110000
2,4-Dichlorophenol	110000	UD	110000
1,2,4-Trichlorobenzene	51000	JD	110000
Naphthalene	110000	UD	110000
4-Chloroaniline	110000	UD	110000
Hexachlorobutadiene	110000	UD	110000
4-Chloro-3-methylphenol	67000	JD	110000
2-Methylnaphthalene	110000	UD	110000
Hexachlorocyclopentadiene	110000	UD	110000
2,4,6-Trichlorophenol	110000	UD	110000
2,4,5-Trichlorophenol	270000	UD	270000
2-Chloronaphthalene	110000	UD	110000
2-Nitroaniline	270000	UD	270000
Dimethylphthalate	110000	UD	110000
Acenaphthylene	110000	UD	110000
2,6-Dinitrotoluene	110000	UD	110000
3-Nitroaniline	270000	UD	270000
Acenaphthene	44000	JD	110000
2,4-Dinitrophenol	270000	UD	270000
4-Nitrophenol	24000	JD	270000
Dibenzofuran	110000	UD	110000
2,4-Dinitrotoluene	40000	JD	110000
Diethylphthalate	110000	UD	110000
4-Chlorophenyl-phenylether	110000	UD	110000
Fluorene	110000	UD	110000
4-Nitroaniline	270000	UD	270000
4,6-Dinitro-2-methylphenol	270000	UD	270000

(continued)

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EPA METHOD 8270
TCL SEMIVOLATILE ORGANIC COMPOUND RESULTS

Huntingdon

Client ID: QD1 Lab ID (HSN): 25160MSD RI
Matrix: SOIL Filename: 4164P09

Compounds:	ug/Kg (PPB)			EQL
N-Nitrosodiphenylamine	110000	UD		110000
4-Bromophenyl-phenylether	110000	UD		110000
Hexachlorobenzene	110000	UD		110000
Pentachlorophenol	20000	JD		270000
Phenanthrene	110000	UD		110000
Anthracene	110000	UD		110000
Carbazole	110000	UD		110000
Di-n-butylphthalate	110000	UD		110000
Fluoranthene	110000	UD		110000
Pyrene	87000	JD	Y	110000
Butylbenzylphthalate	110000	UD	Y	110000
3,3'-Dichlorobenzidine	110000	UD	Y	110000
Benz(a)anthracene	110000	UD	Y	110000
Chrysene	110000	UD	Y	110000
bis(2-Ethylhexyl)phthalate	110000	UD	Y	110000
Di-n-octylphthalate	110000	UD	Y	110000
Benzo(b)fluoranthene	110000	UD	Y	110000
Benzo(k)fluoranthene	110000	UD	Y	110000
Benzo(a)pyrene	110000	UD	Y	110000
Indeno(1,2,3-cd)pyrene	110000	UD	Y	110000
Dibenz(a,h)anthracene	110000	UD	Y	110000
Benzo(g,h,i)perylene	110000	UD	Y	110000

Surrogate Recovery				QC LIMITS
2-Fluorophenol	70%	JD		25-121%
Phenol-d5	89%	JD		24-113%
2-Chlorophenol-d4	85%	JD		20-130%
1,2-Dichlorobenzene-d4	91%	JD		20-130%
Nitrobenzene-d5	87%	JD		23-120%
2-Fluorobiphenyl	111%	JD		30-115%
2,4,6-Tribromophenol	50%	JD		19-122%
Terphenyl-d14	161%	JD	Y	18-137%

TCL = Target Coumpound List EPA Contract Laboratory Program (OLM01)
EQL = Estimated Quantitation Limit (lower calibration limit)
U = Undetected at the given EQL
J = Detected below the EQL (estimated value)
E = Exceeds the upper calibration limit (estimated value)
B = Also detected in the associated Blank
D = Analysis at a secondary Dilution factor
Y = Associated internal standard failed method criteria
Note: All results are reported on a dry weight basis.
Reference: "EPA Test Methods for Evaluating Solid Waste", SW-846, November 1986, 3rd Edition.

HPN: 5039

EPA METHOD 8270
TCL SEMIVOLATILE ORGANIC COMPOUND RESULTS

Huntingdon

Client ID:	QD1	Lab ID (HSN):	25160RI
Matrix:	SOIL	Filename:	4164P10
Date Sampled:	05/27/94	Sample Size:	1 grams
Date Received:	05/31/94	Extract Vol.:	500 uL
Date Extracted:	06/09/94	Dil. Factor:	10
Date Analyzed:	06/13/94	GPC Factor:	2
		% Moisture:	6.4

Compounds:	ug/Kg (PPB)		EQL
Phenol	110000	UD	110000
bis(2-Chloroethyl)ether	110000	UD	110000
2-Chlorophenol	110000	UD	110000
1,3-Dichlorobenzene	110000	UD	110000
1,4-Dichlorobenzene	110000	UD	110000
1,2-Dichlorobenzene	110000	UD	110000
2-Methylphenol	110000	UD	110000
2,2'-oxybis(1-Chloropropane)	110000	UD	110000
4-Methylphenol	110000	UD	110000
N-Nitroso-di-n-propylamine	110000	UD	110000
Hexachloroethane	110000	UD	110000
Nitrobenzene	110000	UD	110000
Isophorone	110000	UD	110000
2-Nitrophenol	110000	UD	110000
2,4-Dimethylphenol	110000	UD	110000
bis(2-Chloroethoxy)methane	110000	UD	110000
2,4-Dichlorophenol	110000	UD	110000
1,2,4-Trichlorobenzene	110000	UD	110000
Naphthalene	110000	UD	110000
4-Chloroaniline	110000	UD	110000
Hexachlorobutadiene	110000	UD	110000
4-Chloro-3-methylphenol	110000	UD	110000
2-Methylnaphthalene	110000	UD	110000
Hexachlorocyclopentadiene	110000	UD	110000
2,4,6-Trichlorophenol	110000	UD	110000
2,4,5-Trichlorophenol	270000	UD	270000
2-Chloronaphthalene	110000	UD	110000
2-Nitroaniline	270000	UD	270000
Dimethylphthalate	110000	UD	110000
Acenaphthylene	110000	UD	110000
2,6-Dinitrotoluene	110000	UD	110000
3-Nitroaniline	270000	UD	270000
Acenaphthene	110000	UD	110000
2,4-Dinitrophenol	270000	UD	270000
4-Nitrophenol	270000	UD	270000
Dibenzofuran	110000	UD	110000
2,4-Dinitrotoluene	110000	UD	110000
Diethylphthalate	110000	UD	110000
4-Chlorophenyl-phenylether	110000	UD	110000
Fluorene	110000	UD	110000
4-Nitroaniline	270000	UD	270000
4,6-Dinitro-2-methylphenol	270000	UD	270000

(continued)

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EPA METHOD 8270
TCL SEMIVOLATILE ORGANIC COMPOUND RESULTS

Huntingdon

Client ID: QD1 Lab ID (HSN): 25160RI
Matrix: SOIL Filename: 4164P10

Compounds:	ug/Kg (PPB)			EQL
N-Nitrosodiphenylamine	110000	UD		110000
4-Bromophenyl-phenylether	110000	UD		110000
Hexachlorobenzene	110000	UD		110000
Pentachlorophenol	270000	UD		270000
Phenanthrene	110000	UD		110000
Anthracene	110000	UD		110000
Carbazole	110000	UD		110000
Di-n-butylphthalate	110000	UD		110000
Fluoranthene	110000	UD		110000
Pyrene	110000	UD	Y	110000
Butylbenzylphthalate	110000	UD	Y	110000
3,3'-Dichlorobenzidine	110000	UD	Y	110000
Benz(a)anthracene	110000	UD	Y	110000
Chrysene	110000	UD	Y	110000
bis(2-Ethylhexyl)phthalate	110000	UD	Y	110000
Di-n-octylphthalate	110000	UD	Y	110000
Benzo(b)fluoranthene	110000	UD	Y	110000
Benzo(k)fluoranthene	110000	UD	Y	110000
Benzo(a)pyrene	110000	UD	Y	110000
Indeno(1,2,3-cd)pyrene	110000	UD	Y	110000
Dibenz(a,h)anthracene	110000	UD	Y	110000
Benzo(g,h,i)perylene	110000	UD	Y	110000

Surrogate Recovery			QC LIMITS
2-Fluorophenol	41%JD		25-121%
Phenol-d5	63%JD		24-113%
2-Chlorophenol-d4	59%JD		20-130%
1,2-Dichlorobenzene-d4	68%JD		20-130%
Nitrobenzene-d5	72%JD		23-120%
2-Fluorobiphenyl	101%JD		30-115%
2,4,6-Tribromophenol	25%JD		19-122%
Terphenyl-d14	142%JD	Y	18-137%

TCL = Target Coumpound List EPA Contract Laboratory Program (OLM01)
EQL = Estimated Quantitation Limit (lower calibration limit)
U = Undetected at the given EQL
J = Detected below the EQL (estimated value)
E = Exceeds the upper calibration limit (estimated value)
B = Also detected in the associated Blank
D = Analysis at a secondary Dilution factor
Y = Associated internal standard failed method criteria
Note: All results are reported on a dry weight basis.
Reference: "EPA Test Methods for Evaluating Solid Waste", SW-846, November 1986, 3rd Edition.

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EPA METHOD 8270
TCL SEMIVOLATILE ORGANIC COMPOUND RESULTS

Huntingdon

Client ID:	QD2	Lab ID (HSN):	25161RI
Matrix:	SOIL	Filename:	4164P11
Date Sampled:	05/27/94	Sample Size:	1 grams
Date Received:	05/31/94	Extract Vol.:	500 uL
Date Extracted:	06/09/94	Dil. Factor:	10
Date Analyzed:	06/13/94	GPC Factor:	2
		% Moisture:	4.2

Compounds:	ug/Kg (PPB)		EQL
Phenol	100000	UD	100000
bis(2-Chloroethyl)ether	100000	UD	100000
2-Chlorophenol	100000	UD	100000
1,3-Dichlorobenzene	100000	UD	100000
1,4-Dichlorobenzene	100000	UD	100000
1,2-Dichlorobenzene	100000	UD	100000
2-Methylphenol	100000	UD	100000
2,2'-oxybis(1-Chloropropane)	100000	UD	100000
4-Methylphenol	100000	UD	100000
N-Nitroso-di-n-propylamine	100000	UD	100000
Hexachloroethane	100000	UD	100000
Nitrobenzene	100000	UD	100000
Isophorone	100000	UD	100000
2-Nitrophenol	100000	UD	100000
2,4-Dimethylphenol	100000	UD	100000
bis(2-Chloroethoxy)methane	100000	UD	100000
2,4-Dichlorophenol	100000	UD	100000
1,2,4-Trichlorobenzene	100000	UD	100000
Naphthalene	100000	UD	100000
4-Chloroaniline	100000	UD	100000
Hexachlorobutadiene	100000	UD	100000
4-Chloro-3-methylphenol	100000	UD	100000
2-Methylnaphthalene	100000	UD	100000
Hexachlorocyclopentadiene	100000	UD	100000
2,4,6-Trichlorophenol	100000	UD	100000
2,4,5-Trichlorophenol	260000	UD	260000
2-Chloronaphthalene	100000	UD	100000
2-Nitroaniline	260000	UD	260000
Dimethylphthalate	100000	UD	100000
Acenaphthylene	100000	UD	100000
2,6-Dinitrotoluene	100000	UD	100000
3-Nitroaniline	260000	UD	260000
Acenaphthene	100000	UD	100000
2,4-Dinitrophenol	260000	UD	260000
4-Nitrophenol	260000	UD	260000
Dibenzofuran	100000	UD	100000
2,4-Dinitrotoluene	100000	UD	100000
Diethylphthalate	100000	UD	100000
4-Chlorophenyl-phenylether	100000	UD	100000
Fluorene	100000	UD	100000
4-Nitroaniline	260000	UD	260000
4,6-Dinitro-2-methylphenol	260000	UD	260000

(continued)

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EPA METHOD 8270
TCL SEMIVOLATILE ORGANIC COMPOUND RESULTS

Huntingdon

Client ID: QD2 Lab ID (HSN): 25161RI
Matrix: SOIL Filename: 4164P11

Compounds:	ug/Kg (PPB)	EQL
N-Nitrosodiphenylamine	100000 UD	100000
4-Bromophenyl-phenylether	100000 UD	100000
Hexachlorobenzene	100000 UD	100000
Pentachlorophenol	260000 UD	260000
Phenanthrene	100000 UD	100000
Anthracene	100000 UD	100000
Carbazole	100000 UD	100000
Di-n-butylphthalate	100000 UD	100000
Fluoranthene	100000 UD	100000
Pyrene	100000 UD Y	100000
Butylbenzylphthalate	100000 UD Y	100000
3,3'-Dichlorobenzidine	100000 UD Y	100000
Benz(a)anthracene	100000 UD Y	100000
Chrysene	100000 UD Y	100000
bis(2-Ethylhexyl)phthalate	100000 UD Y	100000
Di-n-octylphthalate	100000 UD Y	100000
Benzo(b)fluoranthene	100000 UD Y	100000
Benzo(k)fluoranthene	100000 UD Y	100000
Benzo(a)pyrene	100000 UD Y	100000
Indeno(1,2,3-cd)pyrene	100000 UD Y	100000
Dibenz(a,h)anthracene	100000 UD Y	100000
Benzo(g,h,i)perylene	100000 UD Y	100000

Surrogate Recovery		QC LIMITS
2-Fluorophenol	63%JD	25-121%
Phenol-d5	70%JD	24-113%
2-Chlorophenol-d4	69%JD	20-130%
1,2-Dichlorobenzene-d4	69%JD	20-130%
Nitrobenzene-d5	80%JD	23-120%
2-Fluorobiphenyl	103%JD	30-115%
2,4,6-Tribromophenol	79%JD	19-122%
Terphenyl-d14	154%JD Y	18-137%

TCL = Target Coumpound List EPA Contract Laboratory Program (OLM01)
EQL = Estimated Quantitation Limit (lower calibration limit)
U = Undetected at the given EQL
J = Detected below the EQL (estimated value)
E = Exceeds the upper calibration limit (estimated value)
B = Also detected in the associated Blank
D = Analysis at a secondary Dilution factor
Y = Associated internal standard failed method criteria
Note: All results are reported on a dry weight basis.
Reference: "EPA Test Methods for Evaluating Solid Waste", SW-846, November 1986, 3rd Edition.

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EPA METHOD 8270
TCL SEMIVOLATILE ORGANIC COMPOUND RESULTS

Huntingdon

Client ID:	QD3	Lab ID (HSN):	25162RI
Matrix:	SOIL	Filename:	4164P12
Date Sampled:	05/27/94	Sample Size:	1 grams
Date Received:	05/31/94	Extract Vol.:	500 uL
Date Extracted:	06/09/94	Dil. Factor:	10
Date Analyzed:	06/13/94	GPC Factor:	2
		% Moisture:	10.7

Compounds:	ug/Kg (PPB)		EQL
Phenol	110000	UD	110000
bis(2-Chloroethyl)ether	110000	UD	110000
2-Chlorophenol	110000	UD	110000
1,3-Dichlorobenzene	110000	UD	110000
1,4-Dichlorobenzene	110000	UD	110000
1,2-Dichlorobenzene	110000	UD	110000
2-Methylphenol	110000	UD	110000
2,2'-oxybis(1-Chloropropane)	110000	UD	110000
4-Methylphenol	110000	UD	110000
N-Nitroso-di-n-propylamine	110000	UD	110000
Hexachloroethane	110000	UD	110000
Nitrobenzene	110000	UD	110000
Isophorone	110000	UD	110000
2-Nitrophenol	110000	UD	110000
2,4-Dimethylphenol	110000	UD	110000
bis(2-Chloroethoxy)methane	110000	UD	110000
2,4-Dichlorophenol	110000	UD	110000
1,2,4-Trichlorobenzene	110000	UD	110000
Naphthalene	110000	UD	110000
4-Chloroaniline	110000	UD	110000
Hexachlorobutadiene	110000	UD	110000
4-Chloro-3-methylphenol	110000	UD	110000
2-Methylnaphthalene	110000	UD	110000
Hexachlorocyclopentadiene	110000	UD	110000
2,4,6-Trichlorophenol	110000	UD	110000
2,4,5-Trichlorophenol	280000	UD	280000
2-Chloronaphthalene	110000	UD	110000
2-Nitroaniline	280000	UD	280000
Dimethylphthalate	110000	UD	110000
Acenaphthylene	110000	UD	110000
2,6-Dinitrotoluene	110000	UD	110000
3-Nitroaniline	280000	UD	280000
Acenaphthene	110000	UD	110000
2,4-Dinitrophenol	280000	UD	280000
4-Nitrophenol	280000	UD	280000
Dibenzofuran	110000	UD	110000
2,4-Dinitrotoluene	110000	UD	110000
Diethylphthalate	110000	UD	110000
4-Chlorophenyl-phenylether	110000	UD	110000
Fluorene	110000	UD	110000
4-Nitroaniline	280000	UD	280000
4,6-Dinitro-2-methylphenol	280000	UD	280000

(continued)

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EPA METHOD 8270
TCL SEMIVOLATILE ORGANIC COMPOUND RESULTS

Huntingdon

Client ID: QD3 Lab ID (HSN): 25162RI
Matrix: SOIL Filename: 4164P12

Compounds:	ug/Kg (PPB)			EQL
N-Nitrosodiphenylamine	110000	UD		110000
4-Bromophenyl-phenylether	110000	UD		110000
Hexachlorobenzene	110000	UD		110000
Pentachlorophenol	280000	UD		280000
Phenanthrene	110000	UD		110000
Anthracene	110000	UD		110000
Carbazole	110000	UD		110000
Di-n-butylphthalate	110000	UD		110000
Fluoranthene	110000	UD		110000
Pyrene	110000	UD	Y	110000
Butylbenzylphthalate	110000	UD	Y	110000
3,3'-Dichlorobenzidine	110000	UD	Y	110000
Benz(a)anthracene	110000	UD	Y	110000
Chrysene	110000	UD	Y	110000
bis(2-Ethylhexyl)phthalate	110000	UD	Y	110000
Di-n-octylphthalate	110000	UD	Y	110000
Benzo(b)fluoranthene	110000	UD	Y	110000
Benzo(k)fluoranthene	110000	UD	Y	110000
Benzo(a)pyrene	110000	UD	Y	110000
Indeno(1,2,3-cd)pyrene	110000	UD	Y	110000
Dibenz(a,h)anthracene	110000	UD	Y	110000
Benzo(g,h,i)perylene	110000	UD	Y	110000

Surrogate Recovery				QC LIMITS
2-Fluorophenol	43%	JD		25-121%
Phenol-d5	74%	JD		24-113%
2-Chlorophenol-d4	61%	JD		20-130%
1,2-Dichlorobenzene-d4	76%	JD		20-130%
Nitrobenzene-d5	81%	JD		23-120%
2-Fluorobiphenyl	103%	JD		30-115%
2,4,6-Tribromophenol	21%	JD		19-122%
Terphenyl-d14	158%	JD	Y	18-137%

TCL = Target Coumpound List EPA Contract Laboratory Program (OLM01)
EQL = Estimated Quantitation Limit (lower calibration limit)
U = Undetected at the given EQL
J = Detected below the EQL (estimated value)
E = Exceeds the upper calibration limit (estimated value)
B = Also detected in the associated Blank
D = Analysis at a secondary Dilution factor
Y = Associated internal standard failed method criteria
Note: All results are reported on a dry weight basis.
Reference: "EPA Test Methods for Evaluating Solid Waste", SW-846, November 1986, 3rd Edition.

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3C

Huntingdon

SOIL SEMIVOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Matrix Spiked: QD1

HPN: 5039	HSN:	25160	25160MS	25160MSD
INST: VGTRIO1A	Filename:	4163P11	4163P10	4163P09
	Date Extracted:	06/09/94	06/09/94	06/09/94
	Date Analyzed:	06/13/94	06/13/94	06/13/94

COMPOUND	SPIKE ADDED (ug/Kg)	SAMPLE CONCENTRATION (ug/Kg)	MS CONCENTRATION (ug/Kg)	MS % REC #	QC. LIMITS REC.
Phenol	80000	0	68000	85	26- 90
2-Chlorophenol	80000	0	68000	85	25-102
1,4-Dichlorobenzene	53000	0	45000	85	28-104
N-Nitroso-di-n-prop.(1)	53000	0	43000	81	41-126
1,2,4-Trichlorobenzene	53000	0	50000	94	38-107
4-Chloro-3-methylphenol	80000	0	68000	85	26-103
Acenaphthene	53000	0	42000	79	31-137
4-Nitrophenol	80000	0	45000	56	11-114
2,4-Dinitrotoluene	53000	0	41000	77	28- 89
Pentachlorophenol	80000	0	41000	51	17-109
Pyrene	53000	0	89000	168 *	35-142

COMPOUND	SPIKE ADDED (ug/Kg)	MSD CONCENTRATION (ug/Kg)	MSD % REC #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
Phenol	80000	71000	89	5	35	26- 90
2-Chlorophenol	80000	67000	84	1	50	25-102
1,4-Dichlorobenzene	53000	49000	92	8	27	28-104
N-Nitroso-di-n-prop.(1)	53000	45000	85	5	38	41-126
1,2,4-Trichlorobenzene	53000	52000	98	4	23	38-107
4-Chloro-3-methylphenol	80000	69000	86	1	33	26-103
Acenaphthene	53000	43000	81	2	19	31-137
4-Nitrophenol	80000	27000	34	49	50	11-114
2,4-Dinitrotoluene	53000	41000	77	0	47	28- 89
Pentachlorophenol	80000	27000	34	40	47	17-109
Pyrene	53000	90000	170 *	1	36	35-142

(1) N-Nitroso-di-n-propylamine

Column to be used to flag recovery and RPD values with an asterisk
* Values outside of QC limits

RPD: 0 out of 11 outside limits
Spike Recovery: 2 out of 22 outside limits

COMMENTS: Elevated pyrene recovery due to failing internal standard.

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EPA METHOD 8270
TCL SEMIVOLATILE ORGANIC COMPOUND RESULTS

Huntingdon

Client ID:	QD1	Lab ID (HSN):	25160
Matrix:	SOIL	Filename:	4163P11
Date Sampled:	05/27/94	Sample Size:	1 grams
Date Received:	05/31/94	Extract Vol.:	500 uL
Date Extracted:	06/09/94	Dil. Factor:	10
Date Analyzed:	06/13/94	GPC Factor:	2
		% Moisture:	6.4

Compounds:	ug/Kg (PPB)			EQL
Phenol	110000	UD	Y	110000
bis(2-Chloroethyl)ether	110000	UD	Y	110000
2-Chlorophenol	110000	UD	Y	110000
1,3-Dichlorobenzene	110000	UD	Y	110000
1,4-Dichlorobenzene	110000	UD	Y	110000
1,2-Dichlorobenzene	110000	UD	Y	110000
2-Methylphenol	110000	UD	Y	110000
2,2'-oxybis(1-Chloropropane)	110000	UD	Y	110000
4-Methylphenol	110000	UD	Y	110000
N-Nitroso-di-n-propylamine	110000	UD	Y	110000
Hexachloroethane	110000	UD	Y	110000
Nitrobenzene	110000	UD	Y	110000
Isophorone	110000	UD	Y	110000
2-Nitrophenol	110000	UD	Y	110000
2,4-Dimethylphenol	110000	UD	Y	110000
bis(2-Chloroethoxy)methane	110000	UD	Y	110000
2,4-Dichlorophenol	110000	UD	Y	110000
1,2,4-Trichlorobenzene	110000	UD	Y	110000
Naphthalene	110000	UD	Y	110000
4-Chloroaniline	110000	UD	Y	110000
Hexachlorobutadiene	110000	UD	Y	110000
4-Chloro-3-methylphenol	110000	UD	Y	110000
2-Methylnaphthalene	110000	UD	Y	110000
Hexachlorocyclopentadiene	110000	UD		110000
2,4,6-Trichlorophenol	110000	UD		110000
2,4,5-Trichlorophenol	270000	UD		270000
2-Chloronaphthalene	110000	UD		110000
2-Nitroaniline	270000	UD		270000
Dimethylphthalate	110000	UD		110000
Acenaphthylene	110000	UD		110000
2,6-Dinitrotoluene	110000	UD		110000
3-Nitroaniline	270000	UD		270000
Acenaphthene	110000	UD		110000
2,4-Dinitrophenol	270000	UD		270000
4-Nitrophenol	270000	UD		270000
Dibenzofuran	110000	UD		110000
2,4-Dinitrotoluene	110000	UD		110000
Diethylphthalate	110000	UD		110000
4-Chlorophenyl-phenylether	110000	UD		110000
Fluorene	110000	UD		110000
4-Nitroaniline	270000	UD		270000
4,6-Dinitro-2-methylphenol	270000	UD		270000

(continued)

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EPA METHOD 8270
TCL SEMIVOLATILE ORGANIC COMPOUND RESULTS

Huntingdon

Client ID: QD1 Lab ID (HSN): 25160
Matrix: SOIL Filename: 4163P11

Compounds:	ug/Kg (PPB)	EQL
N-Nitrosodiphenylamine	110000 UD	110000
4-Bromophenyl-phenylether	110000 UD	110000
Hexachlorobenzene	110000 UD	110000
Pentachlorophenol	270000 UD	270000
Phenanthrene	110000 UD	110000
Anthracene	110000 UD	110000
Carbazole	110000 UD	110000
Di-n-butylphthalate	110000 UD	110000
Fluoranthene	110000 UD	110000
Pyrene	110000 UD	110000
Butylbenzylphthalate	110000 UD	110000
3,3'-Dichlorobenzidine	110000 UD	110000
Benz(a)anthracene	110000 UD	110000
Chrysene	110000 UD	110000
bis(2-Ethylhexyl)phthalate	110000 UD	110000
Di-n-octylphthalate	110000 UD	110000
Benzo(b)fluoranthene	110000 UD	110000
Benzo(k)fluoranthene	110000 UD	110000
Benzo(a)pyrene	110000 UD	110000
Indeno(1,2,3-cd)pyrene	110000 UD	110000
Dibenz(a,h)anthracene	110000 UD	110000
Benzo(g,h,i)perylene	110000 UD	110000

Surrogate Recovery		QC LIMITS
2-Fluorophenol	43%JD	Y 25-121%
Phenol-d5	73%JD	Y 24-113%
2-Chlorophenol-d4	61%JD	Y 20-130%
1,2-Dichlorobenzene-d4	69%JD	Y 20-130%
Nitrobenzene-d5	85%JD	Y 23-120%
2-Fluorobiphenyl	107%JD	30-115%
2,4,6-Tribromophenol	29%JD	19-122%
Terphenyl-d14	96%JD	18-137%

TCL = Target Coumpound List EPA Contract Laboratory Program (OLM01)
EQL = Estimated Quantitation Limit (lower calibration limit)
U = Undetected at the given EQL
J = Detected below the EQL (estimated value)
E = Exceeds the upper calibration limit (estimated value)
B = Also detected in the associated Blank
D = Analysis at a secondary Dilution factor
Y = Associated internal standard failed method criteria
Note: All results are reported on a dry weight basis.
Reference: "EPA Test Methods for Evaluating Solid Waste", SW-846, November 1986, 3rd Edition.

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EPA METHOD 8270

Huntingdon

TCL SEMIVOLATILE ORGANIC COMPOUND RESULTS

Client ID:	QD1	Lab ID (HSN):	25160MS
Matrix:	SOIL	Filename:	4163P10
Date Sampled:	05/27/94	Sample Size:	1 grams
Date Received:	05/31/94	Extract Vol.:	500 uL
Date Extracted:	06/09/94	Dil. Factor:	10
Date Analyzed:	06/13/94	GPC Factor:	2
		% Moisture:	6.4

Compounds:	ug/Kg (PPB)		EQL
Phenol	68000	JD	110000
bis(2-Chloroethyl)ether	110000	UD	110000
2-Chlorophenol	68000	JD	110000
1,3-Dichlorobenzene	110000	UD	110000
1,4-Dichlorobenzene	45000	JD	110000
1,2-Dichlorobenzene	110000	UD	110000
2-Methylphenol	110000	UD	110000
2,2'-oxybis(1-Chloropropane)	110000	UD	110000
4-Methylphenol	110000	UD	110000
N-Nitroso-di-n-propylamine	43000	JD	110000
Hexachloroethane	110000	UD	110000
Nitrobenzene	110000	UD	110000
Isophorone	110000	UD	110000
2-Nitrophenol	110000	UD	110000
2,4-Dimethylphenol	110000	UD	110000
bis(2-Chloroethoxy)methane	110000	UD	110000
2,4-Dichlorophenol	110000	UD	110000
1,2,4-Trichlorobenzene	50000	JD	110000
Naphthalene	110000	UD	110000
4-Chloroaniline	110000	UD	110000
Hexachlorobutadiene	110000	UD	110000
4-Chloro-3-methylphenol	68000	JD	110000
2-Methylnaphthalene	110000	UD	110000
Hexachlorocyclopentadiene	110000	UD	110000
2,4,6-Trichlorophenol	110000	UD	110000
2,4,5-Trichlorophenol	270000	UD	270000
2-Chloronaphthalene	110000	UD	110000
2-Nitroaniline	270000	UD	270000
Dimethylphthalate	110000	UD	110000
Acenaphthylene	110000	UD	110000
2,6-Dinitrotoluene	110000	UD	110000
3-Nitroaniline	270000	UD	270000
Acenaphthene	42000	JD	110000
2,4-Dinitrophenol	270000	UD	270000
4-Nitrophenol	45000	JD	270000
Dibenzofuran	110000	UD	110000
2,4-Dinitrotoluene	41000	JD	110000
Diethylphthalate	110000	UD	110000
4-Chlorophenyl-phenylether	110000	UD	110000
Fluorene	110000	UD	110000
4-Nitroaniline	270000	UD	270000
4,6-Dinitro-2-methylphenol	270000	UD	270000

(continued)

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EPA METHOD 8270
TCL SEMIVOLATILE ORGANIC COMPOUND RESULTS

Huntingdon

Client ID: QD1 Lab ID (HSN): 25160MS
Matrix: SOIL Filename: 4163P10

Compounds:	ug/Kg (PPB)			EQL
N-Nitrosodiphenylamine	110000	UD		110000
4-Bromophenyl-phenylether	110000	UD		110000
Hexachlorobenzene	110000	UD		110000
Pentachlorophenol	41000	JD		270000
Phenanthrene	110000	UD		110000
Anthracene	110000	UD		110000
Carbazole	110000	UD		110000
Di-n-butylphthalate	110000	UD		110000
Fluoranthene	110000	UD		110000
Pyrene	89000	JD	Y	110000
Butylbenzylphthalate	110000	UD	Y	110000
3,3'-Dichlorobenzidine	110000	UD	Y	110000
Benz(a)anthracene	110000	UD	Y	110000
Chrysene	110000	UD	Y	110000
bis(2-Ethylhexyl)phthalate	110000	UD	Y	110000
Di-n-octylphthalate	110000	UD	Y	110000
Benzo(b)fluoranthene	110000	UD	Y	110000
Benzo(k)fluoranthene	110000	UD	Y	110000
Benzo(a)pyrene	110000	UD	Y	110000
Indeno(1,2,3-cd)pyrene	110000	UD	Y	110000
Dibenz(a,h)anthracene	110000	UD	Y	110000
Benzo(g,h,i)perylene	110000	UD	Y	110000

Surrogate Recovery			QC LIMITS
2-Fluorophenol	78%JD		25-121%
Phenol-d5	91%JD		24-113%
2-Chlorophenol-d4	87%JD		20-130%
1,2-Dichlorobenzene-d4	87%JD		20-130%
Nitrobenzene-d5	87%JD		23-120%
2-Fluorobiphenyl	112%JD		30-115%
2,4,6-Tribromophenol	60%JD		19-122%
Terphenyl-d14	169%JD	Y	18-137%

TCL = Target Coumpound List EPA Contract Laboratory Program (OLM01)
EQL = Estimated Quantitation Limit (lower calibration limit)
U = Undetected at the given EQL
J = Detected below the EQL (estimated value)
E = Exceeds the upper calibration limit (estimated value)
B = Also detected in the associated Blank
D = Analysis at a secondary Dilution factor
Y = Associated internal standard failed method criteria
Note: All results are reported on a dry weight basis.
Reference: "EPA Test Methods for Evaluating Solid Waste", SW-846, November 1986, 3rd Edition.

HPN: 5039

EPA METHOD 8270

Huntingdon

TCL SEMIVOLATILE ORGANIC COMPOUND RESULTS

Client ID:	QD1	Lab ID (HSN):	25160MSD
Matrix:	SOIL	Filename:	4163P09
Date Sampled:	05/27/94	Sample Size:	1 grams
Date Received:	05/31/94	Extract Vol.:	500 uL
Date Extracted:	06/09/94	Dil. Factor:	10
Date Analyzed:	06/13/94	GPC Factor:	2
		% Moisture:	6.4

Compounds:	ug/Kg (PPB)		EQL
Phenol	71000	JD	110000
bis(2-Chloroethyl)ether	110000	UD	110000
2-Chlorophenol	67000	JD	110000
1,3-Dichlorobenzene	110000	UD	110000
1,4-Dichlorobenzene	49000	JD	110000
1,2-Dichlorobenzene	110000	UD	110000
2-Methylphenol	110000	UD	110000
2,2'-oxybis(1-Chloropropane)	110000	UD	110000
4-Methylphenol	110000	UD	110000
N-Nitroso-di-n-propylamine	45000	JD	110000
Hexachloroethane	110000	UD	110000
Nitrobenzene	110000	UD	110000
Isophorone	110000	UD	110000
2-Nitrophenol	110000	UD	110000
2,4-Dimethylphenol	110000	UD	110000
bis(2-Chloroethoxy)methane	110000	UD	110000
2,4-Dichlorophenol	110000	UD	110000
1,2,4-Trichlorobenzene	52000	JD	110000
Naphthalene	110000	UD	110000
4-Chloroaniline	110000	UD	110000
Hexachlorobutadiene	110000	UD	110000
4-Chloro-3-methylphenol	69000	JD	110000
2-Methylnaphthalene	110000	UD	110000
Hexachlorocyclopentadiene	110000	UD	110000
2,4,6-Trichlorophenol	110000	UD	110000
2,4,5-Trichlorophenol	270000	UD	270000
2-Chloronaphthalene	110000	UD	110000
2-Nitroaniline	270000	UD	270000
Dimethylphthalate	110000	UD	110000
Acenaphthylene	110000	UD	110000
2,6-Dinitrotoluene	110000	UD	110000
3-Nitroaniline	270000	UD	270000
Acenaphthene	43000	JD	110000
2,4-Dinitrophenol	270000	UD	270000
4-Nitrophenol	27000	JD	270000
Dibenzofuran	110000	UD	110000
2,4-Dinitrotoluene	41000	JD	110000
Diethylphthalate	110000	UD	110000
4-Chlorophenyl-phenylether	110000	UD	110000
Fluorene	110000	UD	110000
4-Nitroaniline	270000	UD	270000
4,6-Dinitro-2-methylphenol	270000	UD	270000

(continued)

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EPA METHOD 8270
TCL SEMIVOLATILE ORGANIC COMPOUND RESULTS

Huntingdon

Client ID: QD1 Lab ID (HSN): 25160MSD
Matrix: SOIL Filename: 4163P09

Compounds:	ug/Kg (PPB)			EQL
N-Nitrosodiphenylamine	110000	UD		110000
4-Bromophenyl-phenylether	110000	UD		110000
Hexachlorobenzene	110000	UD		110000
Pentachlorophenol	27000	JD		270000
Phenanthrene	110000	UD		110000
Anthracene	110000	UD		110000
Carbazole	110000	UD		110000
Di-n-butylphthalate	110000	UD		110000
Fluoranthene	110000	UD		110000
Pyrene	90000	JD	Y	110000
Butylbenzylphthalate	110000	UD	Y	110000
3,3'-Dichlorobenzidine	110000	UD	Y	110000
Benz(a)anthracene	110000	UD	Y	110000
Chrysene	110000	UD	Y	110000
bis(2-Ethylhexyl)phthalate	110000	UD	Y	110000
Di-n-octylphthalate	110000	UD	Y	110000
Benzo(b)fluoranthene	110000	UD	Y	110000
Benzo(k)fluoranthene	110000	UD	Y	110000
Benzo(a)pyrene	110000	UD	Y	110000
Indeno(1,2,3-cd)pyrene	110000	UD	Y	110000
Dibenz(a,h)anthracene	110000	UD	Y	110000
Benzo(g,h,i)perylene	110000	UD	Y	110000

Surrogate Recovery				QC LIMITS
2-Fluorophenol	71%	JD		25-121%
Phenol-d5	93%	JD		24-113%
2-Chlorophenol-d4	87%	JD		20-130%
1,2-Dichlorobenzene-d4	95%	JD		20-130%
Nitrobenzene-d5	90%	JD		23-120%
2-Fluorobiphenyl	114%	JD		30-115%
2,4,6-Tribromophenol	46%	JD		19-122%
Terphenyl-d14	177%	JD	Y	18-137%

TCL = Target Coumpound List EPA Contract Laboratory Program (OLM01)
EQL = Estimated Quantitation Limit (lower calibration limit)
U = Undetected at the given EQL
J = Detected below the EQL (estimated value)
E = Exceeds the upper calibration limit (estimated value)
B = Also detected in the associated Blank
D = Analysis at a secondary Dilution factor
Y = Associated internal standard failed method criteria
Note: All results are reported on a dry weight basis.
Reference: "EPA Test Methods for Evaluating Solid Waste", SW-846, November 1986, 3rd Edition.

HPN: 5039

EPA METHOD 8270

TCL SEMIVOLATILE ORGANIC COMPOUND RESULTS

Huntingdon

Client ID:	QD2	Lab ID (HSN):	25161
Matrix:	SOIL	Filename:	4163P12
Date Sampled:	05/27/94	Sample Size:	1 grams
Date Received:	05/31/94	Extract Vol.:	500 uL
Date Extracted:	06/09/94	Dil. Factor:	10
Date Analyzed:	06/13/94	GPC Factor:	2
		% Moisture:	4.2

Compounds:	ug/Kg (PPB)		EQL
Phenol	100000	UD	100000
bis(2-Chloroethyl)ether	100000	UD	100000
2-Chlorophenol	100000	UD	100000
1,3-Dichlorobenzene	100000	UD	100000
1,4-Dichlorobenzene	100000	UD	100000
1,2-Dichlorobenzene	100000	UD	100000
2-Methylphenol	100000	UD	100000
2,2'-oxybis(1-Chloropropane)	100000	UD	100000
4-Methylphenol	100000	UD	100000
N-Nitroso-di-n-propylamine	100000	UD	100000
Hexachloroethane	100000	UD	100000
Nitrobenzene	100000	UD	100000
Isophorone	100000	UD	100000
2-Nitrophenol	100000	UD	100000
2,4-Dimethylphenol	100000	UD	100000
bis(2-Chloroethoxy)methane	100000	UD	100000
2,4-Dichlorophenol	100000	UD	100000
1,2,4-Trichlorobenzene	100000	UD	100000
Naphthalene	100000	UD	100000
4-Chloroaniline	100000	UD	100000
Hexachlorobutadiene	100000	UD	100000
4-Chloro-3-methylphenol	100000	UD	100000
2-Methylnaphthalene	100000	UD	100000
Hexachlorocyclopentadiene	100000	UD	100000
2,4,6-Trichlorophenol	100000	UD	100000
2,4,5-Trichlorophenol	260000	UD	260000
2-Chloronaphthalene	100000	UD	100000
2-Nitroaniline	260000	UD	260000
Dimethylphthalate	100000	UD	100000
Acenaphthylene	100000	UD	100000
2,6-Dinitrotoluene	100000	UD	100000
3-Nitroaniline	260000	UD	260000
Acenaphthene	100000	UD	100000
2,4-Dinitrophenol	260000	UD	260000
4-Nitrophenol	260000	UD	260000
Dibenzofuran	100000	UD	100000
2,4-Dinitrotoluene	100000	UD	100000
Diethylphthalate	100000	UD	100000
4-Chlorophenyl-phenylether	100000	UD	100000
Fluorene	100000	UD	100000
4-Nitroaniline	260000	UD	260000
4,6-Dinitro-2-methylphenol	260000	UD	260000

(continued)

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EPA METHOD 8270 **Huntingdon**
TCL SEMIVOLATILE ORGANIC COMPOUND RESULTS

Client ID: QD2 Lab ID (HSN): 25161
Matrix: SOIL Filename: 4163P12

Compounds:	ug/Kg (PPB)			EQL
N-Nitrosodiphenylamine	100000	UD		100000
4-Bromophenyl-phenylether	100000	UD		100000
Hexachlorobenzene	100000	UD		100000
Pentachlorophenol	260000	UD		260000
Phenanthrene	100000	UD		100000
Anthracene	100000	UD		100000
Carbazole	100000	UD		100000
Di-n-butylphthalate	100000	UD		100000
Fluoranthene	100000	UD		100000
Pyrene	100000	UD	Y	100000
Butylbenzylphthalate	100000	UD	Y	100000
3,3'-Dichlorobenzidine	100000	UD	Y	100000
Benz(a)anthracene	100000	UD	Y	100000
Chrysene	100000	UD	Y	100000
bis(2-Ethylhexyl)phthalate	100000	UD	Y	100000
Di-n-octylphthalate	100000	UD	Y	100000
Benzo(b)fluoranthene	100000	UD	Y	100000
Benzo(k)fluoranthene	100000	UD	Y	100000
Benzo(a)pyrene	100000	UD	Y	100000
Indeno(1,2,3-cd)pyrene	100000	UD	Y	100000
Dibenz(a,h)anthracene	100000	UD	Y	100000
Benzo(g,h,i)perylene	100000	UD	Y	100000

Surrogate Recovery			QC LIMITS
2-Fluorophenol	62%JD		25-121%
Phenol-d5	72%JD		24-113%
2-Chlorophenol-d4	69%JD		20-130%
1,2-Dichlorobenzene-d4	70%JD		20-130%
Nitrobenzene-d5	82%JD		23-120%
2-Fluorobiphenyl	106%JD		30-115%
2,4,6-Tribromophenol	69%JD		19-122%
Terphenyl-d14	178%JD	Y	18-137%

TCL = Target Coumpound List EPA Contract Laboratory Program (OLM01)
EQL = Estimated Quantitation Limit (lower calibration limit)
U = Undetected at the given EQL
J = Detected below the EQL (estimated value)
E = Exceeds the upper calibration limit (estimated value)
B = Also detected in the associated Blank
D = Analysis at a secondary Dilution factor
Y = Associated internal standard failed method criteria
Note: All results are reported on a dry weight basis.
Reference: "EPA Test Methods for Evaluating Solid Waste", SW-846, November 1986, 3rd Edition.

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EPA METHOD 8270
TCL SEMIVOLATILE ORGANIC COMPOUND RESULTS

Huntingdon

Client ID:	QD3	Lab ID (HSN):	25162
Matrix:	SOIL	Filename:	4163P13
Date Sampled:	05/27/94	Sample Size:	1 grams
Date Received:	05/31/94	Extract Vol.:	500 uL
Date Extracted:	06/09/94	Dil. Factor:	10
Date Analyzed:	06/13/94	GPC Factor:	2
		% Moisture:	10.7

Compounds:	ug/Kg (PPB)		EQL
Phenol	110000	UD	110000
bis(2-Chloroethyl)ether	110000	UD	110000
2-Chlorophenol	110000	UD	110000
1,3-Dichlorobenzene	110000	UD	110000
1,4-Dichlorobenzene	110000	UD	110000
1,2-Dichlorobenzene	110000	UD	110000
2-Methylphenol	110000	UD	110000
2,2'-oxybis(1-Chloropropane)	110000	UD	110000
4-Methylphenol	110000	UD	110000
N-Nitroso-di-n-propylamine	110000	UD	110000
Hexachloroethane	110000	UD	110000
Nitrobenzene	110000	UD	110000
Isophorone	110000	UD	110000
2-Nitrophenol	110000	UD	110000
2,4-Dimethylphenol	110000	UD	110000
bis(2-Chloroethoxy)methane	110000	UD	110000
2,4-Dichlorophenol	110000	UD	110000
1,2,4-Trichlorobenzene	110000	UD	110000
Naphthalene	110000	UD	110000
4-Chloroaniline	110000	UD	110000
Hexachlorobutadiene	110000	UD	110000
4-Chloro-3-methylphenol	110000	UD	110000
2-Methylnaphthalene	110000	UD	110000
Hexachlorocyclopentadiene	110000	UD	110000
2,4,6-Trichlorophenol	110000	UD	110000
2,4,5-Trichlorophenol	280000	UD	280000
2-Chloronaphthalene	110000	UD	110000
2-Nitroaniline	280000	UD	280000
Dimethylphthalate	110000	UD	110000
Acenaphthylene	110000	UD	110000
2,6-Dinitrotoluene	110000	UD	110000
3-Nitroaniline	280000	UD	280000
Acenaphthene	110000	UD	110000
2,4-Dinitrophenol	280000	UD	280000
4-Nitrophenol	280000	UD	280000
Dibenzofuran	110000	UD	110000
2,4-Dinitrotoluene	110000	UD	110000
Diethylphthalate	110000	UD	110000
4-Chlorophenyl-phenylether	110000	UD	110000
Fluorene	110000	UD	110000
4-Nitroaniline	280000	UD	280000
4,6-Dinitro-2-methylphenol	280000	UD	280000

(continued)

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EPA METHOD 8270 **Huntingdon**
TCL SEMIVOLATILE ORGANIC COMPOUND RESULTS

Client ID: QD3 Lab ID (HSN): 25162
Matrix: SOIL Filename: 4163P13

Compounds:	ug/Kg (PPB)			EQL
N-Nitrosodiphenylamine	110000	UD		110000
4-Bromophenyl-phenylether	110000	UD		110000
Hexachlorobenzene	110000	UD		110000
Pentachlorophenol	280000	UD		280000
Phenanthrene	110000	UD		110000
Anthracene	110000	UD		110000
Carbazole	110000	UD		110000
Di-n-butylphthalate	110000	UD		110000
Fluoranthene	110000	UD		110000
Pyrene	110000	UD	Y	110000
Butylbenzylphthalate	110000	UD	Y	110000
3,3'-Dichlorobenzidine	110000	UD	Y	110000
Benz(a)anthracene	110000	UD	Y	110000
Chrysene	110000	UD	Y	110000
bis(2-Ethylhexyl)phthalate	110000	UD	Y	110000
Di-n-octylphthalate	110000	UD	Y	110000
Benzo(b)fluoranthene	110000	UD	Y	110000
Benzo(k)fluoranthene	110000	UD	Y	110000
Benzo(a)pyrene	110000	UD	Y	110000
Indeno(1,2,3-cd)pyrene	110000	UD	Y	110000
Dibenz(a,h)anthracene	110000	UD	Y	110000
Benzo(g,h,i)perylene	110000	UD	Y	110000

Surrogate Recovery			QC LIMITS
2-Fluorophenol	42%JD		25-121%
Phenol-d5	78%JD		24-113%
2-Chlorophenol-d4	59%JD		20-130%
1,2-Dichlorobenzene-d4	76%JD		20-130%
Nitrobenzene-d5	86%JD		23-120%
2-Fluorobiphenyl	110%JD		30-115%
2,4,6-Tribromophenol	17%JD		19-122%
Terphenyl-d14	169%JD	Y	18-137%

TCL = Target Coumpound List EPA Contract Laboratory Program (OLM01)
EQL = Estimated Quantitation Limit (lower calibration limit)
U = Undetected at the given EQL
J = Detected below the EQL (estimated value)
E = Exceeds the upper calibration limit (estimated value)
B = Also detected in the associated Blank
D = Analysis at a secondary Dilution factor
Y = Associated internal standard failed method criteria
Note: All results are reported on a dry weight basis.
Reference: "EPA Test Methods for Evaluating Solid Waste", SW-846, November 1986, 3rd Edition.

HPN: 5039

EPA METHOD 8270
TCL SEMIVOLATILE ORGANIC COMPOUND RESULTS

Huntingdon

Client ID:	LAB. BLANK	Lab ID (HSN):	LAB. BLANK
Matrix:	SOIL	Filename:	4166P04
Date Sampled:		Sample Size:	30 grams
Date Received:		Extract Vol.:	1000 uL
Date Extracted:	06/08/94	Dil. Factor:	1
Date Analyzed:	06/15/94		
		% Moisture:	0

Compounds:	ug/Kg (PPB)	EQL
Phenol	330 U	330
bis(2-Chloroethyl)ether	330 U	330
2-Chlorophenol	330 U	330
1,3-Dichlorobenzene	330 U	330
1,4-Dichlorobenzene	330 U	330
1,2-Dichlorobenzene	330 U	330
2-Methylphenol	330 U	330
2,2'-oxybis(1-Chloropropane)	330 U	330
4-Methylphenol	330 U	330
N-Nitroso-di-n-propylamine	330 U	330
Hexachloroethane	330 U	330
Nitrobenzene	330 U	330
Isophorone	330 U	330
2-Nitrophenol	330 U	330
2,4-Dimethylphenol	330 U	330
bis(2-Chloroethoxy)methane	330 U	330
2,4-Dichlorophenol	330 U	330
1,2,4-Trichlorobenzene	330 U	330
Naphthalene	330 U	330
4-Chloroaniline	330 U	330
Hexachlorobutadiene	330 U	330
4-Chloro-3-methylphenol	330 U	330
2-Methylnaphthalene	330 U	330
Hexachlorocyclopentadiene	330 U	330
2,4,6-Trichlorophenol	330 U	330
2,4,5-Trichlorophenol	830 U	830
2-Chloronaphthalene	330 U	330
2-Nitroaniline	830 U	830
Dimethylphthalate	330 U	330
Acenaphthylene	330 U	330
2,6-Dinitrotoluene	330 U	330
3-Nitroaniline	830 U	830
Acenaphthene	330 U	330
2,4-Dinitrophenol	830 U	830
4-Nitrophenol	57 JB	830
Dibenzofuran	330 U	330
2,4-Dinitrotoluene	330 U	330
Diethylphthalate	330 U	330
4-Chlorophenyl-phenylether	330 U	330
Fluorene	330 U	330
4-Nitroaniline	830 U	830
4,6-Dinitro-2-methylphenol	830 U	830

(continued)

HPN:

EPA METHOD 8270
TCL SEMIVOLATILE ORGANIC COMPOUND RESULTS

Huntingdon

Client ID: LAB. BLANK Lab ID (HSN): LAB. BLANK
Matrix: SOIL Filename: 4166P04

Compounds:	ug/Kg (PPB)	EQL
N-Nitrosodiphenylamine	330 U	330
4-Bromophenyl-phenylether	330 U	330
Hexachlorobenzene	330 U	330
Pentachlorophenol	830 U	830
Phenanthrene	330 U	330
Anthracene	330 U	330
Carbazole	330 U	330
Di-n-butylphthalate	330 U	330
Fluoranthene	330 U	330
Pyrene	330 U	330
Butylbenzylphthalate	330 U	330
3,3'-Dichlorobenzidine	330 U	330
Benz(a)anthracene	330 U	330
Chrysene	330 U	330
bis(2-Ethylhexyl)phthalate	330 U	330
Di-n-octylphthalate	330 U	330
Benzo(b)fluoranthene	330 U	330
Benzo(k)fluoranthene	330 U	330
Benzo(a)pyrene	330 U	330
Indeno(1,2,3-cd)pyrene	330 U	330
Dibenz(a,h)anthracene	330 U	330
Benzo(g,h,i)perylene	330 U	330

Surrogate Recovery		QC LIMITS
2-Fluorophenol	87%	25-121%
Phenol-d5	85%	24-113%
2-Chlorophenol-d4	80%	20-130%
1,2-Dichlorobenzene-d4	74%	20-130%
Nitrobenzene-d5	82%	23-120%
2-Fluorobiphenyl	75%	30-115%
2,4,6-Tribromophenol	84%	19-122%
Terphenyl-d14	90%	18-137%

TCL = Target Coumpound List EPA Contract Laboratory Program (OLM01)
EQL = Estimated Quantitation Limit (lower calibration limit)
U = Undetected at the given EQL
J = Detected below the EQL (estimated value)
E = Exceeds the upper calibration limit (estimated value)
B = Also detected in the associated Blank

Note: All results are reported on a dry weight basis.
Reference: "EPA Test Methods for Evaluating Solid Waste", SW-846, November 1986, 3rd Edition.

HPN:

EPA METHOD 8270
TCL SEMIVOLATILE ORGANIC COMPOUND RESULTS

Huntingdon

Client ID:	LCS-1	Lab ID (HSN):	LCS-1
Matrix:	SOIL	Filename:	4166P05
Date Sampled:		Sample Size:	30 grams
Date Received:		Extract Vol.:	1000 uL
Date Extracted:	06/08/94	Dil. Factor:	1
Date Analyzed:	06/15/94		
		% Moisture:	0

Compounds:	ug/Kg (PPB)		EQL
Phenol	2000		330
bis(2-Chloroethyl)ether	330	U	330
2-Chlorophenol	2000		330
1,3-Dichlorobenzene	330	U	330
1,4-Dichlorobenzene	1200		330
1,2-Dichlorobenzene	330	U	330
2-Methylphenol	330	U	330
2,2'-oxybis(1-Chloropropane)	330	U	330
4-Methylphenol	330	U	330
N-Nitroso-di-n-propylamine	1100		330
Hexachloroethane	330	U	330
Nitrobenzene	330	U	330
Isophorone	330	U	330
2-Nitrophenol	330	U	330
2,4-Dimethylphenol	330	U	330
bis(2-Chloroethoxy)methane	330	U	330
2,4-Dichlorophenol	330	U	330
1,2,4-Trichlorobenzene	1300		330
Naphthalene	330	U	330
4-Chloroaniline	330	U	330
Hexachlorobutadiene	330	U	330
4-Chloro-3-methylphenol	2100		330
2-Methylnaphthalene	330	U	330
Hexachlorocyclopentadiene	330	U	330
2,4,6-Trichlorophenol	330	U	330
2,4,5-Trichlorophenol	830	U	830
2-Chloronaphthalene	330	U	330
2-Nitroaniline	830	U	830
Dimethylphthalate	330	U	330
Acenaphthylene	330	U	330
2,6-Dinitrotoluene	330	U	330
3-Nitroaniline	830	U	830
Acenaphthene	1200		330
2,4-Dinitrophenol	830	U	830
4-Nitrophenol	2200	B	830
Dibenzofuran	330	U	330
2,4-Dinitrotoluene	1400		330
Diethylphthalate	330	U	330
4-Chlorophenyl-phenylether	330	U	330
Fluorene	330	U	330
4-Nitroaniline	830	U	830
4,6-Dinitro-2-methylphenol	830	U	830

(continued)

HPN:

EPA METHOD 8270
TCL SEMIVOLATILE ORGANIC COMPOUND RESULTS

Huntingdon

Client ID: LCS-1 Lab ID (HSN): LCS-1
Matrix: SOIL Filename: 4166P05

Compounds:	ug/Kg (PPB)	EQL
N-Nitrosodiphenylamine	330 U	330
4-Bromophenyl-phenylether	330 U	330
Hexachlorobenzene	330 U	330
Pentachlorophenol	2300	830
Phenanthrene	330 U	330
Anthracene	330 U	330
Carbazole	330 U	330
Di-n-butylphthalate	330 U	330
Fluoranthene	330 U	330
Pyrene	1400	330
Butylbenzylphthalate	330 U	330
3,3'-Dichlorobenzidine	330 U	330
Benz(a)anthracene	330 U	330
Chrysene	330 U	330
bis(2-Ethylhexyl)phthalate	850	330
Di-n-octylphthalate	330 U	330
Benzo(b)fluoranthene	330 U	330
Benzo(k)fluoranthene	330 U	330
Benzo(a)pyrene	330 U	330
Indeno(1,2,3-cd)pyrene	330 U	330
Dibenz(a,h)anthracene	330 U	330
Benzo(g,h,i)perylene	330 U	330

Surrogate Recovery		QC LIMITS
2-Fluorophenol	91%	25-121%
Phenol-d5	88%	24-113%
2-Chlorophenol-d4	86%	20-130%
1,2-Dichlorobenzene-d4	75%	20-130%
Nitrobenzene-d5	81%	23-120%
2-Fluorobiphenyl	78%	30-115%
2,4,6-Tribromophenol	90%	19-122%
Terphenyl-d14	97%	18-137%

TCL = Target Coumpound List EPA Contract Laboratory Program (OLM01)
EQL = Estimated Quantitation Limit (lower calibration limit)
U = Undetected at the given EQL
J = Detected below the EQL (estimated value)
E = Exceeds the upper calibration limit (estimated value)
B = Also detected in the associated Blank

Note: All results are reported on a dry weight basis.
Reference: "EPA Test Methods for Evaluating Solid Waste", SW-846, November 1986, 3rd Edition.

HPN:

ENVIRONMENTAL PROTECTION AGENCY
Office of Enforcement

2080

REGION 5
77 West Jackson Boulevard
Chicago, Illinois 60604

CHAIN OF CUSTODY RECORD

PROJ. NO.: 94V
PROJECT NAME: T05-9405-804
Activity Code:
SAMPLERS: (Print Name and Sign) Steven J. Skare

HM# 5059

STA. NO.	DATE	TIME	COMP.	GRAB	STATION LOCATION	NO. OF CONTAINERS	Total RCRA Metals	TCLP RCRA Metals	PCBs/Pesticides	Dioxin (Full scan)	Total SVOCs (long list)	TCLP SVOCs	Total VOCs (long list)	TCLP VOCs	HSN# TAG NUMBERS
QD1	5/27/94	1550		X	Quicky Beach/Site Q	2-8oz	✓	✓		✓	✓				25160
QD2	5/27/94	1555		X	Quicky Beach/Site Q	2-8oz		✓	✓	✓	✓				25161
QD3	5/27/94	1600		X	Quicky Beach/Site Q	2-8oz		✓	✓	✓	✓				25162

Verbal: 2 week turnaround
Hardcopy: 3 week turnaround
QA Level II Data Package

Send Results to:
Mary Jane Ripp
Ecology & Environment, Inc.
111 W. Jackson Blvd.
Chicago, IL 60604
Tel. No. (312) 663-9415
Fax No. (312) 663-1090

Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Steven J. Skare	5/27/94 1900	A Wooden 5-31-94 1200
Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature) / Date / Time

Ship To: Twin City Testing Corporation
737 Pelham Blvd.
St. Paul, MN 55114

ATTN: Terry Ueckar

Airbill Number
Federal Express Airbill No. 2867526270

Chain of Custody Seal Numbers
C-O-C Nos.- 170777 & 170776

Distribution: White - Accompanies Shipment; Pink - Coordinator Field Files; Yellow - Laboratory File

RIEDEL ENVIRONMENTAL SERVICES, INC.

ERCS REGION V

QA/QC DATA REVIEW

TO:	Sam Borries, OSC, USEPA Region V
FROM:	Mark Douglas, T+D Coordinator
THRU:	Dan Wilson, QA/QC Manager
PROJECT:	Sauget Landfill Site Q
JOB NO.	8165
REFERENCE:	Project # CH950411 Sample# 9504110001 + 9504110002
METHODS:	1311/6010, 8240, 8270, 7470

The following two tier review is based on information outlined in OSWER Directive 9360.4-01 (April 1990), Data Validation Procedures. The document is intended for guidance in assessing and substantiating data for various users.

I. METALLIC INORGANIC PARAMETERS

A. Holding Times:
Collected 2-24-95, extracted 3-01-95
Analyzed 3-2 + 6-95 (mercury 3-6-95)

Acceptable / No Action / Action

B. Initial and Continuing Calibration:
~~None given~~ DJW 8/3/95
ICV %R = 90.7 through 100%
CCV %R = 83.6 through 105.6
ICB and CCB Run ok

Acceptable / No Action / Action

C. Method Blank:
Extraction Blank was run
LCS % Rec
See IEA 8-1-95 letter, 1st item

Acceptable / No Action / Action

D. ICS Sample Provided:
ICP provided with % RPD <20 %±

YES / NO

E. MS/MSD/Surrogates:
MS & MSD were in range accept
for Silver was 22

Acceptable / No Action / Action

-J

II. GC/MS ANALYSIS: BNAs SVOCs VOCs PESTICIDES PCBs (circle one)

Internal Standard Acceptable

A. Holding Times:
Collected 2-24-95 Extracted 2-27-95
Analyzed 2-28-95

Acceptable
No Action
Action

B. Instrument Performance:
BFB ion abundance Criteria OK
Appropriate expanded ion abundance OK

Acceptable
No Action
Action

C. Initial and Continuing Calibration:
No Average response factors equal 0
All RRF @ least 0.05%
% RSD for ICC, only 2-Chloroethyl Vinyl Ether >30% RSD (43.808)
% D for CCC = 2 > 25% (Acetone, 2-Chloroethy Vinyl ether

Acceptable
No Action
Action

D. Method Blanks:
run & undetectable

Acceptable
No Action
Action

E. MS/MSD/Surrogates:
MS/MSD/Surrogates verein range
accept Carbon Tetrachloride and
2-Butanone

Acceptable
No Action
Action

F. Compound Identification:
RRT of reported compounds within 0.06 RRT
unite of Standard RRT

Acceptable
No Action
Action

G. Compound Quantitation and Detection Limits:
Reported values adjusted correctly

Acceptable
No Action
Action

III. INORGANIC PARAMETERS (ie. pH, TOC, etc.)

II. GC/MS ANALYSIS: BNAs SVOCs VOCs PESTICIDES PCBs (circle one)

A. Holding Times:
Collected 2-24-95, extracted 2/28/95, GC 2-28-95, Date analyzed 3-3-95

Acceptable / No Action / Action

B. Instrument Performance: GC/MS Tuning
- DFTPP Run OK
- DFTPP Ion abundance criteria met
- Appropriate expanded ion abundance criteria met

Acceptable / No Action / Action

C. Initial and Continuing Calibration:
- No compound with an average response Factor = to 0
- Only Benzidine did not have a RRF of 0.05, it was 0.02011
- ICV = only one compound >30% and it was @ 30.65%
- CCV = % D ≤ 25% on all but 14 of 77 and 10 ≥ 30%

Acceptable / No Action / Action

D. Method Blanks:
Did not meet 80% min. Surrogate recovery For 2,4,6-Tribromophenol, yet labs reported QC limits were met

Acceptable / No Action / Action

E. MS/MSD/Surrogates:
- Surrogates Recovery = 6 run for 6 EPA Sample w/o's only one below 80% @ 67%
- MS/MSD % Rec = 13 of 26 out of 80-120%. However labs QA limits are met

Acceptable / No Action / Action

F. Compound Identification:
RRT of reported compounds within 0.06 RRT of Standard RRT

Acceptable / No Action / Action

G. Compound Quantitation and Detection Limits:
Reported values, both positive/negative have been correctly adjusted

Acceptable / No Action / Action

III. INORGANIC PARAMETERS (ie. pH, TOC, etc.)

II. GC/MS ANALYSIS: BNAs SVOCs VOCs PESTICIDES PCBs (circle one)

Herbicides

A. Holding Times:
Sampled 2-24-95, Received 2/27/95, Prep date 2/27/95, analyzed 2-21-95

Acceptable
~~No Action~~
Action

B. Instrument Performance: DJW 8/4/95
~~% RSD of the calibration Factors For aldrin, endrin, DBC, DDT within lab QA limits~~ DDT RT OK and adequate resolution between peaks
RAW DATA RT windows OK
Raw Data % breakdown ok

Acceptable
~~No Action~~
Action
DJW 8/4/95

C. Initial and Continuing Calibration:
% RSD of the calibration Factor For aldrin, DBC, DDT with lab QA limits, DDT RT OK, and adequate resolution between peaks, Raw data RT windows OK
RAW DATA % ~~breakdow~~ RT window OK

Acceptable
No Action
Action

D. Method Blanks:
Run NO Compounds @ or above MDL

Acceptable
No Action
Action

E. MS/MSD/Surrogates:
- Pesticides did not meet >80% recovery due to matrix effects. However, did meet advisory limits
- Herbicides = Poor recoveeres due to matrix effects

Acceptable
~~No Action~~
Action

F. Compound Identification:
Positive ID have GC/MS confirmation or dissimilar column analysis (GC/MS Confirmation)

Acceptable
No Action
Action

G. Compound Quantitation and Detection Limits:
Reported values (positive/negative DJW/non-detect) appear to have been correctly adjusted

Acceptable
No Action
Action

III. INORGANIC PARAMETERS (ie. pH, TOC, etc.)

IV. OVERALL ASSESSMENT OF THE DATA

BASED UPON THE INFORMATION PROVIDED, THE DATA IS CONSIDERED **ACCEPTABLE** / **NOT ACCEPTABLE** FOR USE AS REPORTED.

COMMENTS:

We have been working with this particular lab unit or the IEA system regarding the type of packages we need.

Since the sample date is so old and we now have worked with the lab to produce the quality and quantity that our client expects. we will accept this data.

Reviewer

T + D Coordinator

Title

6-16-95

Date

Reviewer

QA Manager

Title

8-4-95

Date

SMITH
ENVIRONMENTAL TECHNOLOGIES CORPORATION

Riedel Environmental Services

July 17,1995

IEA, An Aquarian Company
Attn: Thomas Bauer
126 West Center Court
Schaumburg, IL 60195

Re: QA/QC Package Review for USEPA Superfund Project Sauget Landfill-Site Q, IEA Sample I.D. 950411001 and 002

Dear Mr. Bauer:

We have completed a two level QA/QC Package Review pertaining to the data generated from samples submitted to your laboratory on February 7,1995 and which were analyzed for the following parameters.

TCLP Volitales
TCLP BNA's
TCLP Pesticides
TCLP Herbicides
PCB's

As a result of this review process, the following concerns have surfaced and we wish your response to these items be submitted on or before August 4,1995 to:

Riedel Environmental Services, Inc.
Attn: Dan Wilson
18207 Edison Avenue
Chesterfield, MO 63005

1. Please sign the attached Riedel Case Narrative and return the original copy.
2. Please provide all ICV and CCV's for metals.
3. Please document the laboratories explaination to support contamination being found in the extraction blank, namely barium at 0.52 and detection limit being 0.05.
4. Please provide documentation that the BFB ion abundance criteria has been met for each instrument used for VOA GC/MS Tuming Criteria(m/z vs ion abundance criteria).
5. Please explain the low MS/MSD % recovery for silver being at 73 and 72%.
6. Please provide data that the appropriate expanded ion abundance criteria has been met for each instrument used (m/z vs ion abundance criteria).
7. For the VOA's, please provide documentation for the ICV and CCV as follows:
   a. Do any compounds have an average response factor equal to zero?
   b. Do all VOA compounds have %RRF of at least 0.05?

SMITH

c. Do all VOA compounds have %RSD of less than or equal to 30% for initial calibration verification?

d. Do all VOA compounds have %RSD of less than or equal to 25% for CCV.

8. For the VOA's, please provide lab data documentation that a method bland was run and its reported levels.

9. Please document that all Retention Times and internal standards (IS) areas are accepatable for the VOA's.

10. For VOA compound identification, please verify through lab data:

a. RRT of reported compounds is within 0.06 RRT units of the standard RRT.

b. Ions present in the standard mass spectrum at relative intensity >10% are also present in the sample mass spectrum.

c. Ions present in sample, but not in the standard are accounted for .

d. Relative intensities of the ions specified in a-c, agree within 20% between the sample and the standard spectra.

11. For BNA's, please document why the method blank did not meet 80% min. surrogate recovery for 2,4,6-Tribromophenol.

12. Why were the BNA's by GC instead of GC/MS analysis.

13. The EPA QA Protcol called for , uses GC/MS Tuning Criteria for instrument performance. Please provide DFTRP data as outlined in requested EPA QA protocol.

14. Please provide ICV and CCV data for BNA's.

15. Please provide lab data supporting MS/MSD's outside of 80-120%.

16. Please verify that compound Identification for BNA's was determined as it relates to the EPA Protocol requested.

17. Please provide laboratory documentation and summary sheets, as defined in the EPA "QA/QC for removal Activities-EPA/540/G-90/004 April 1990" document, for pesticides, herbicides and PCB's. If this cannot be provided please document why.

The basis for our review process was founded on the data contained in the current EPA/540/G-90/004 April, 1990 USEPA document which is known as QA/QC Guidance for Removal Activities Sampling QA/QC Plan and Data Validation Procedures (Interim Final) and a QA/QC Level II Data Package was initially requested as outlined in the aforementioned document.

The goal of our company is two fold as it relates to this specific request: 1) to document to our client that they are being supplied with data that is defendable from both a scientific and regulatory perspective, and 2) to continue a professional and lasting relationship between IEA, An Aquarian Company and Riedel Environmental Services, Inc.

SMITH

If you have any questions or concerns regarding our
Wilson at (314) 532-7660 or by fax at (314) 536-16

Sincerely,

RIEDEL ENVIRONMENTAL SERVICES, INC.

Daniel J. Wilson

Daniel J. Wilson, CPS
Region V QA Manager

cc:Mark Douglas

I-8165Q01

IEA
An Aquarion Company

126 West Center Court
Schaumburg, Illinois 60195

Phone 708·705·0740
Fax 708·705·1567

August 1, 1995

Riedel Environmental Services, Inc.
Attn: Daniel J. Wilson, CPS
18207 Edison Ave.
Chesterfield, MO 63005

Dear Daniel,

This letter is in response to your letter dated July 17 concerning the QA/QC data for our project 950411. Enclosed you will find the additional QC data you requested for metals', BNA, and VOA.

The extraction blank contamination is due to the type of filters that were being used for the filtering of the extract. These filters are composed of Barium Zinc Oxide and when the samples are filtered through them can produce contamination. There was no corrective action taken for these samples, because the client requested to determine if these samples were over TCLP regulatory levels. The contamination produced by the filters does not exceed these set limits. The laboratory has recently switched to a Barium/Zinc free type of filtering paper.

The low recovery obtained for silver is not uncommon. Due to the nature of the element silver, it is very common to see low levels produced during the digestion procedure. Silver also has a tendency to precipitate out in the presence of excess chlorides, which may be eliminated with a post digestion spike.

For the VOAs' ICV and CCV the spiking compounds were all within the QC limits. There were not any target compounds found in the samples therefore question 10 does not apply.

The BNA method blank for the surrogate 2,4,6-Tribromophenol did not meet 80% min but did meet the listed QC limits of 10-123%. The blank spike recoveries for this surrogate did meet the 80% min. recovery.

The samples for TCLP BNA's were analyzed by GC/MS 8270A.

For TCLP Pesticide the second continuing calibration QC limits for RPDs' were not all met. The samples displayed excessive matrix interference's but no positive hits were detected in the samples. The MS/MSD and blank spike RPDs' were within QC limits.

On the continuing calibration on 3/3/95 the QC limits for the CCC compound Hexachlorobutadiene were not met. No target compounds were detected and the QC limits on the blank spike were good.

Again, thank you for this opportunity to supply the additional information to you as this meets our goal of continual improvement. If you have any questions, please feel free to call me.

Sincerely,

Linda Webb Gray
QA Manager

✓ marks made by DJW 8/4/95

IEA
An Aquarion Company

Disposal Analysis

CASE NARRATIVE

REQUIREMENTS FOR ANY QA/QC LEVEL

Please Note: If a CLP Package or the USEPA QA/QC Reporting Package known as "Quality Assurance/Quality Control - Guidance for Removal Activities" is requested all QA/QC reporting documentation required in those documents takes precedence over these requirements.

- **General Requirements/Information** (Required for all QA/QC Levels)

1. Date sampled 02-24-95 Date received 02-27-95

2. Number of samples received 2-1 Liter jars containing soil

3. Sample description Soil

4. Sample preparation date BNA-02-28-95; GC-02-27-95; VOA-02-27-95; Metals-03-01-95
   Date extracted (if applicable) BNA-02-28-95; GC-02-28-95

5. Date analyzed BNA- 03-03-95; GC-03-02-95; VOA-02-28-95; Metals-03-02-95, 03-06-95(Mercury)
   Time analyzed BNA- 17:45, 16:00; GC- N/A; VOA- 18:36, 19:12
   Analyst BNA-J. Ruth; GC-A. Komsky; VOA-T. McGowen; Metals-E. Quintana, D. O' Connell

6. Did Riedel indicate a specific method? Yes X No __

   a. If Yes, what was that method? BNA- TCLP 8270; GC- none specified; VOA-TCLP 1311; Metals- 6010, 7470

7. Did Riedel specify additional QA/QC requirement beyond the minimum and mandatory items? Yes X No __ If yes, please specify. 80 - 120% recovery for surrogates and spikes, 20 %RSD of duplicates.

   a. What QA/QC level was requested? II Used by lab? II

   b. If lab used a different QA/QC level than requested by Riedel, an explanation must be supplied by lab.

- **QC Remarks** (Required as relates to QA/QC level requested)

1. Were holding times met? Yes X No __ If No, why?

2. Test Methods

   a. Parameters TCLP BNA, TCLP Pesticides, TCLP Herbicides, TCLP Volatiles, RCRA Metals
   b. *Approved* Methods BNA-8270; GC-8080,8150; VOA- 1311; Metals 6010, 7470
   c. Was a cleanup method requested *for Semi-Volatile Organic Analyses*?

      1. Yes __ No X
      2. If No, what method was used and why? N/A

3. If Yes, identify method used? _____

3. Were peak resolutions *(i.e. Chromatograms)* requested? Yes ____ No _X_ If Yes, please comment.

_____

4. Initial calibration (% Relative Standard Deviation) See Attached _____

5. Has continuing calibration (% difference) been requested? If yes, indicate % difference. See Attached _____

_____

6. Were all Matrix Spikes/Matrix Spike duplicates < 20% RSD? Yes _X_ No ___

   a. If Yes, indicate I.D. No. and %. See attached _____
   b. If No, indicate I.D. No. and %, plus why the < 20% RSD was not obtained. See Attached. _____

   _____

7. Were surrogates run *for Organic Analyses*? Yes _X_ No ___

   a. If Yes, indicate type and recovery (Min. Recovery is 80%). See Attached _____

   _____

   b. If not, indicate why not. _____

   _____

   c. If min. recovery was not obtained, indicate why not? _____

   _____

8. Please provide the following as applicable.

   a. Minimum Detection Limits: N/A _____
   b. Estimated Quantitation Limits: See Attached _____
   c. Dilution Factor: See Attached _____

9. Were *any other annomalies encountered during the analysis*? Yes ___ No _X_

   a. If Yes, type: _____
   b. If Yes, why were they observed? _____

   _____

10. Was this laboratory work performed under either "Minimum and Mandatory Contractual Terms for Analytical Laboratories not on the Pre-Approved Midwest/Great Lakes Region Acceptance List" or a "Master Subcontract" with your laboratory, specifically for ERCS Region V? Yes X No__

   a. If yes, IEA, Inc. - IL _____ states that the USEPA document known as "Quality Assurance/Quality Control Guidance for Removal Activities, Sampling QA/QC Plan and Data Validation Procedures Interim Final EPA/540/G-90/004 April 1990" was utilized as guidance in the review and validation of all data for this project.

11. **WARNING!! NO DATA SHALL BE RELEASED** verbally, written, or otherwise to any authorized representative of Riedel Environmental Services, Inc. or their client that does not meet or exceed the QA/QC levels established in any written or verbal RFP for this project, or the requirements for any and all SW 846 Methods or EPA Methods utilized for this project.

Any incorrect data that is released to any authorized Riedel Environmental Services, Inc. representative or their client that causes improper site related work or disposal decisions to be made by Riedel Environmental Services, Inc. or their client, will cause IEA to be completely liable for all costs associated with those decisions.

12. Reporting

a. Contact Person Name: Jim Dowse Phone No. (708) 705-0740

b. Reporting Party:

Signature: _____

Printed Name: Jim Dowse

This Minimum and Mandatory Requirements for any QA/QC level must be completed and returned to the following within three (3) working days of data submittal to Riedel Project Manager.

Please submit as indicated below:

Yes	No	
X		Original to Riedel Project Manager at:

Ken Braig
Riedel Env. Services
18207 Edison Avenue
Chesterfield, MO 63005

	X	Copy to St. Louis District Office:

Riedel Environmental Services, Inc.
Attn: Daniel J. Wilson
18207 Edison Avenue
Chesterfield, MO 63005
Phone:(314) 532-7660
Fax:(314) 536-1655

X		Copy to Chicago District Office:

Riedel Environmental Services, Inc.
***Non-ERCS Projects: ___ Tony Price ___ Bruce Mack**
***ERCS Projects: X Mark Douglas ___ Todd Ritsema**
500 Eastern Avenue
Bensonville, IL 60106
Phone:(708) 238-1818
Fax:(708) 238-1838

	X	Copy to Detroit District Office:

Riedel Environmental Services, Inc.
Attn: Charlie Klumb
28340 Goddard Road
Romulus, MI 48174
Phone:(313) 946-8640
Fax:(313) 946-8676

IEA
An Aquarion Company

PROJECT NARRATIVE

IEA PROJECT #CH950411

GC (pesticides):

On sample SAU-02 analyzed for pesticides, the surrogate TCMX did not meet minimum recovery of 80% due to matrix effects. The recovery did meet advisory limits reported.

GC (herbicides):

Due to matrix effects recoveries for surrogate and matrix spikes were poor.

BNA:

The method blank did not meet 80% minimum surrogate recovery for 2,4,6-Tribromophenol, yet reported QC limits were met.

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IEA
An Aquarion Company

CASE NARRATIVE

REQUIREMENTS FOR ANY QA/QC LEVEL

Please Note: If a CLP Package or the USEPA QA/QC Reporting Package known as "Quality Assurance/Quality Control - Guidance for Removal Activities" is requested all QA/QC reporting documentation required in those documents takes precedence over these requirements.

- **General Requirements/Information** (Required for all QA/QC Levels)

1. Date sampled 02-24-95 Date received 02-27-95

2. Number of samples received 2-1 Liter jars containing soil

3. Sample description Soil

4. Sample preparation date BNA-02-28-95; GC-02-27-95; VOA-02-27-95; Metals-03-01-95
   Date extracted (if applicable) BNA-02-28-95; GC-02-28-95

5. Date analyzed BNA- 03-03-95; GC-03-02-95; VOA-02-28-95; Metals-03-02-95, 03-06-95(Mercury)
   Time analyzed BNA- 17:45, 16:00; GC- N/A; VOA- 18:36, 19:12
   Analyst BNA-J. Ruth; GC-A. Komsky; VOA-T. McGowen; Metals-E. Quintana, D. O' Connell

6. Did Riedel indicate a specific method? Yes X No __

   a. If Yes, what was that method? BNA- TCLP 8270; GC- none specified; VOA-TCLP 1311; Metals- 6010, 7470

7. Did Riedel specify additional QA/QC requirement beyond the minimum and mandatory items? Yes X No __ If yes, please specify. 80 - 120% recovery for surrogates and spikes, 20 %RSD of duplicates.

   a. What QA/QC level was requested? II Used by lab? II

   b. If lab used a different QA/QC level than requested by Riedel, an explanation must be supplied by lab.

- **QC Remarks** (Required as relates to QA/QC level requested)

1. Were holding times met? Yes X No __ If No, why?

2. Test Methods

   a. Parameters TCLP BNA, TCLP Pesticides, TCLP Herbicides, TCLP Volatiles, RCRA Metals
   b. *Approved* Methods BNA-8270; GC-8080,8150; VOA- 1311; Metals 6010, 7470
   c. Was a cleanup method requested *for Semi-Volatile Organic Analyses*?

      1. Yes __ No X
      2. If No, what method was used and why? N/A

3. If Yes, identify method used? _____

3. Were peak resolutions *(i.e. Chromatograms)* requested? Yes ____ No _X_ If Yes, please comment.
_____

4. Initial calibration (% Relative Standard Deviation) See Attached

5. Has continuing calibration (% difference) been requested? If yes, indicate % difference. See Attached
_____

6. Were all Matrix Spikes/Matrix Spike duplicates < 20% RSD? Yes _X_ No ___

   a. If Yes, indicate I.D. No. and %. See attached
   b. If No, indicate I.D. No. and %, plus why the < 20% RSD was not obtained. See Attached.
   _____

7. Were surrogates run *for Organic Analyses*? Yes _X_ No ___

   a. If Yes, indicate type and recovery (Min. Recovery is 80%). See Attached
   _____
   b. If not, indicate why not. _____
   _____
   c. If min. recovery was not obtained, indicate why not? _____
   _____

8. Please provide the following as applicable.

   a. Minimum Detection Limits: N/A
   b. Estimated Quantitation Limits: See Attached
   c. Dilution Factor: See Attached

9. Were *any other annomalies encountered during the analysis*? Yes ___ No _X_

   a. If Yes, type: _____
   b. If Yes, why were they observed? _____
   _____

10. Was this laboratory work performed under either "Minimum and Mandatory Contractual Terms for Analytical Laboratories not on the Pre-Approved Midwest/Great Lakes Region Acceptance List" or a "Master Subcontract" with your laboratory, specifically for ERCS Region V? Yes X No__

   a. If yes, IEA, Inc. - IL states that the USEPA document known as "Quality Assurance/Quality Control Guidance for Removal Activities, Sampling QA/QC Plan and Data Validation Procedures Interim Final EPA/540/G-90/004 April 1990" was utilized as guidance in the review and validation of all data for this project.

11. **WARNING!! NO DATA SHALL BE RELEASED** verbally, written, or otherwise to any authorized representative of Riedel Environmental Services, Inc. or their client that does not meet or exceed the QA/QC levels established in any written or verbal RFP for this project, or the requirements for any and all SW 846 Methods or EPA Methods utilized for this project.

Any incorrect data that is released to any authorized Riedel Environmental Services, Inc. representative or their client that causes improper site related work or disposal decisions to be made by Riedel Environmental Services, Inc. or their client, will cause IEA to be completely liable for all costs associated with those decisions.

12. Reporting

a. Contact Person Name: Jim Dowse Phone No. (708) 705-0740

b. Reporting Party:

Signature: Jim Dowse

Printed Name: Jim Dowse

This Minimum and Mandatory Requirements for any QA/QC level must be completed and returned to the following within three (3) working days of data submittal to Riedel Project Manager.

Please submit as indicated below:

Yes	No	
X		Original to Riedel Project Manager at:

Ken Braig
Riedel Env. Services
18207 Edison Avenue
Chesterfield, MO 63005

	X	Copy to St. Louis District Office:

Riedel Environmental Services, Inc.
Attn: Daniel J. Wilson
18207 Edison Avenue
Chesterfield, MO 63005
Phone:(314) 532-7660
Fax:(314) 536-1655

X		Copy to Chicago District Office:

Riedel Environmental Services, Inc.
***Non-ERCS Projects: __ Tony Price __ Bruce Mack**
***ERCS Projects: X Mark Douglas __ Todd Ritsema**
500 Eastern Avenue
Bensonville, IL 60106
Phone:(708) 238-1818
Fax:(708) 238-1838

	X	Copy to Detroit District Office:

Riedel Environmental Services, Inc.
Attn: Charlie Klumb
28340 Goddard Road
Romulus, MI 48174
Phone:(313) 946-8640
Fax:(313) 946-8676

CONTINUATION SHEET
RIEDEL ENVIRONMENTAL SERVICES, INC.
CHAIN OF CUSTODY RECORD
18207 EDISON AVENUE
CHESTERFIELD, MO 63005
(314) 532-7660

Document Number from Page 1 _____

Page 1 of 1

Project Name: Sauget Landfill
Project Number: 8165

Lab: IEA

Results To: Ken Craig

Telephone # 314-277-8551 Fax # 314-536-1655

Special Instructions:
Special Detection Limits: NA
Analyze Each Phase of Sample NA
Analyze _____ Phase of Sample _____
Analyze Sample As Is, Dry Weight, Wet Weight _____

Lab ID #	Sample ID#	Sample Location	Matrix	Collection Date Time	Preservative	Full TCLP 5day turnaround								Notes/Special Request
	SAU-01	NA	Soil	2-24-95	none	X								Handle with caution: contains P.C.B.'s
	SAU-02	NA	Soil	2-24-95	none	X								

Relinquished By: (Signature)	Date	Time AM/PM	Relinquished By: (Signature)	Date	Time AM/PM
[signature]	2-24-95	3:00	[signature]	2-27-95	10:00 AM
Relinquished By: (Signature)	Date	Time AM/PM	Relinquished By: (Signature)	Date	Time AM/PM
Relinquished By: (Signature)	Date	Time AM/PM	Relinquished By: (Signature)	Date	Time AM/PM

Pink Copy = Client Yellow Copy = Manager White Copy = Lab

CONTINUATION SHEET
RIEDEL ENVIRONMENTAL SERVICES, INC.
CHAIN OF CUSTODY RECORD
18207 EDISON AVENUE
CHESTERFIELD, MO 63005
(314) 532-7660

Document Number from Page 1 _____

Project Name: Sauget Landfill
Project Number: 8165

Lab: IEA

Results To: Ken Braig

Telephone # 314-277-8151 Fax # 314-536-1655

Special Instructions:
Special Detection Limits: NA
Analyze Each Phase of Sample NA
Analyze _____ Phase of Sample _____
Analyze Sample As Is, Dry Weight, Wet Weight _____

Lab ID #	Sample ID#	Sample Location	Matrix	Collection Date Time	Test Methods: Preservative	Full TCLP 5day turnaround								Notes/Special Request
	SAU-01	NA	Soil	2-24-95	none	X								Handle with caution: contains P.C.B's
	SAU-02	NA	Soil	2-24-95	none	X								

Relinquished By: (Signature)	Date	Time AM/PM	Relinquished By: (Signature)	Date	Time AM/PM
[signature]	2-24-95	3:00	[signature]	2-27-95	10:00 AM
Relinquished By: (Signature)	Date	Time AM/PM	Relinquished By: (Signature)	Date	Time AM/PM
Relinquished By: (Signature)	Date	Time AM/PM	Relinquished By: (Signature)	Date	Time AM/PM

Pink Copy = Client Yellow Copy = Manager White Copy = Lab

IEA
An Aquarion Company

126 West Center Court
Schaumburg, Illinois 60195

Phone 708·705·0740
Fax 708·705·1567

MR. KEN BRAIG
RIEDEL
18207 EDISON AVENUE
CHESTERFIELD
MO 63005

March 09, 1995

Dear Mr. Braig

Please find enclosed the analytical results of the samples received at our laboratory on February 27, 1995. This report contains sections addressing the following information at a minimum:

- sample summary
- analytical methodology
- state certifications
- definitions
- analytical results
- chain-of-custody (if applicable)

IEA Project#	CH950411	Client Project#	8165
		Purchase Order#	32873
IEA Quote#		Site Name	

Copies of this analytical report and supporting data are maintained in our files for three years; samples are retained for two weeks unless special arrangements have been made. Unless specifically indicated, all analytical testing was performed at this laboratory location and no portion of the testing was subcontracted.

We appreciate your selection of our services and welcome any questions or suggestions you may have relative to this report. Please contact your customer service representative at 705-0740 for any additional information. Thank you for utilizing our services, we hope you will consider us for your future analytical needs.

I have reviewed and approved the enclosed data for final release.

Sincerely,

Jim Dowse for

Thomas M. Bauer
Laboratory Manager
IEA-Illinois Laboratory

IEA
An Aquarion Company

SAMPLE SUMMARY

CLIENT SAMPLE ID	IEA SAMPLE ID
SAU-01	950411001
SAU-02	950411002

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An Aquarion Company

PROJECT NARRATIVE

IEA PROJECT #CH950411

GC (pesticides):

On sample SAU-02 analyzed for pesticides, the surrogate TCMX did not meet minimum recovery of 80% due to matrix effects. The recovery did meet advisory limits reported.

GC (herbicides):

Due to matrix effects recoveries for surrogate and matrix spikes were poor.

BNA:

The method blank did not meet 80% minimum surrogate recovery for 2,4,6-Tribromophenol, yet reported QC limits were met.

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IEA
An Aquarion Company

Client: Riedel
IEA Job#: CH950411
Project #: 8165
Matrix: Leachate
Method: 8240/1311

TCLP Analysis
Volatile Organic Compounds
(mg/L)

EPA Waste #	Analyte / Lab ID						Reg. Limit	PQL
	Dilution Factor (DF)	1	1	1				
	Method Blank	VO022895	VO022895	VO022895				
	Client ID	Method Blank	SAU-01	SAU-02				
	Lab ID	VO022895	950411001	950411002				
D018	Benzene	U	U	U			0.5	0.05
D019	Carbon Tetrachloride	U	U	U			0.5	0.05
D021	Chlorobenzene	U	U	U			100.0	0.05
D022	Chloroform	U	U	U			6.0	0.05
D028	1,2-Dichloroethane	U	U	U			0.5	0.05
D029	1,1-Dichloroethene	U	U	U			0.7	0.05
D035	Methyl Ethyl Ketone	U	U	U			200.0	0.10
D039	Tetrachloroethene	U	U	U			0.7	0.05
D040	Trichloroethene	U	U	U			0.5	0.05
D043	Vinyl Chloride	U	U	U			0.2	0.10
	Date Sampled	---	2/24/95	2/24/95				
	Date Leached	---	2/27/95	2/27/95				
	Date Analyzed	2/28/95	2/28/95	2/28/95				

PQL = Practical Quantitation Limit
To obtain sample-specific quantitation limit, multiply the PQL by the Dilution Factor.

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IEA
An Aquarion Company

CLIENT: Riedel Environmental
CLIENT PROJECT ID: 8165
CLIENT SAMPLE ID: SAU-01

IEA PROJECT ID: CH950411
IEA SAMPLE ID: 950411001

TCLP ANALYTICAL RESULTS

EPA WASTE #	CONTAMINANT DATE LEACHED: 02/27/95 DATE EXTRACTED: 02/28/95	DATE ANALYZED	REG LIMIT (mg/L)	DETECTION LIMIT (mg/L)	AMOUNT DETECTED (mg/L)
	SEMIVOLATILE ORGANICS				
D023	o-Cresol	03/03/95	200.0	0.02	<0.02
DO24	m+p-Cresol	03/03/95	200.0	0.02	<0.02
D026	Cresols	03/03/95	200.0	0.02	<0.02
D027	1,4-Dichlorobenzene	03/03/95	7.5	0.02	<0.02
D030	2,4-Dinitrotoluene	03/03/95	0.13	0.02	<0.02
D032	Hexachlorobenzene	03/03/95	0.13	0.02	<0.02
D033	Hexachloro-1,3-Butadiene	03/03/95	0.5	0.02	<0.02
D034	Hexachloroethane	03/03/95	3.0	0.02	<0.02
D036	Nitrobenzene	03/03/95	2.0	0.02	<0.02
D037	Pentachlorophenol	03/03/95	100.0	0.1	<0.1
D038	Pyridine	03/03/95	5.0	0.02	<0.02
D041	2,4,5-Trichlorophenol	03/03/95	400.0	0.1	<0.1
D042	2,4,6-Trichlorophenol	03/03/95	2.0	0.02	<0.02

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IEA
An Aquarion Company

CLIENT: Riedel Environmental
CLIENT PROJECT ID: 8165
CLIENT SAMPLE ID: SAU-02

IEA PROJECT ID: CH950411
IEA SAMPLE ID: 950411002

TCLP ANALYTICAL RESULTS

EPA WASTE #	CONTAMINANT DATE LEACHED: 02/27/95 DATE EXTRACTED: 02/28/95	DATE ANALYZED	REG LIMIT (mg/L)	DETECTION LIMIT (mg/L)	AMOUNT DETECTED (mg/L)
	SEMIVOLATILE ORGANICS				
D023	o-Cresol	03/03/95	200.0	0.02	<0.02
DO24	m+p-Cresol	03/03/95	200.0	0.02	<0.02
D026	Cresols	03/03/95	200.0	0.02	<0.02
D027	1,4-Dichlorobenzene	03/03/95	7.5	0.02	<0.02
D030	2,4-Dinitrotoluene	03/03/95	0.13	0.02	<0.02
D032	Hexachlorobenzene	03/03/95	0.13	0.02	<0.02
D033	Hexachloro-1,3-Butadiene	03/03/95	0.5	0.02	<0.02
D034	Hexachloroethane	03/03/95	3.0	0.02	<0.02
D036	Nitrobenzene	03/03/95	2.0	0.02	<0.02
D037	Pentachlorophenol	03/03/95	100.0	0.1	0.21
D038	Pyridine	03/03/95	5.0	0.02	<0.02
D041	2,4,5-Trichlorophenol	03/03/95	400.0	0.1	<0.1
D042	2,4,6-Trichlorophenol	03/03/95	2.0	0.02	<0.02

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IEA
An Aquarion Company

CLIENT: Riedel Environmental
CLIENT PROJECT ID: 8165
CLIENT SAMPLE ID: Method Blank

IEA PROJECT ID: CH950411
IEA SAMPLE ID: SW0228

TCLP ANALYTICAL RESULTS

EPA WASTE #	CONTAMINANT DATE LEACHED: -- DATE EXTRACTED: 02/28/95	DATE ANALYZED	REG LIMIT (mg/L)	DETECTION LIMIT (mg/L)	AMOUNT DETECTED (mg/L)
	SEMIVOLATILE ORGANICS				
D023	o-Cresol	03/06/95	200.0	0.02	<0.02
DO24	m+p-Cresol	03/06/95	200.0	0.02	<0.02
D026	Cresols	03/06/95	200.0	0.02	<0.02
D027	1,4-Dichlorobenzene	03/06/95	7.5	0.02	<0.02
D030	2,4-Dinitrotoluene	03/06/95	0.13	0.02	<0.02
D032	Hexachlorobenzene	03/06/95	0.13	0.02	<0.02
D033	Hexachloro-1,3-Butadiene	03/06/95	0.5	0.02	<0.02
D034	Hexachloroethane	03/06/95	3.0	0.02	<0.02
D036	Nitrobenzene	03/06/95	2.0	0.02	<0.02
D037	Pentachlorophenol	03/06/95	100.0	0.1	<0.1
D038	Pyridine	03/06/95	5.0	0.02	<0.02
D041	2,4,5-Trichlorophenol	03/06/95	400.0	0.1	<0.1
D042	2,4,6-Trichlorophenol	03/06/95	2.0	0.02	<0.02

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IEA
An Aquarion Company

CLIENT: Riedel Environmental
CLIENT PROJECT ID: 8165
CLIENT SAMPLE ID: SAU-01

IEA PROJECT ID: CH950411
IEA SAMPLE ID: 950411001

TCLP ANALYTICAL RESULTS

EPA WASTE #	CONTAMINANT DATE LEACHED: 02/27/95 DATE EXTRACTED: 02/28/95	DATE ANALYZED	REG LIMIT (mg/L)	DETECTION LIMIT (mg/L)	AMOUNT DETECTED (mg/L)
	PESTICIDES				
D020	Chlordane	03/02/95	0.03	0.002	<0.002
D012	Endrin	03/02/95	0.02	0.0004	<0.0004
D031	Heptachlor (and epoxide)	03/02/95	0.008	0.0002	<0.0002
D013	Lindane	03/02/95	0.4	0.0002	<0.0002
D014	Methoxychlor	03/02/95	10.0	0.002	<0.002
D015	Toxaphene	03/02/95	0.5	0.004	<0.004

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IEA
An Aquarion Company

CLIENT: Riedel Environmental
CLIENT PROJECT ID: 8165
CLIENT SAMPLE ID: SAU-02

IEA PROJECT ID: CH950411
IEA SAMPLE ID: 950411002

TCLP ANALYTICAL RESULTS

EPA WASTE #	CONTAMINANT DATE LEACHED: 02/27/95 DATE EXTRACTED: 02/28/95	DATE ANALYZED	REG LIMIT (mg/L)	DETECTION LIMIT (mg/L)	AMOUNT DETECTED (mg/L)
	PESTICIDES				
D020	Chlordane	03/02/95	0.03	0.002	<0.002
D012	Endrin	03/02/95	0.02	0.0004	<0.0004
D031	Heptachlor (and epoxide)	03/02/95	0.008	0.0002	<0.0002
D013	Lindane	03/02/95	0.4	0.0002	<0.0002
D014	Methoxychlor	03/02/95	10.0	0.002	<0.002
D015	Toxaphene	03/02/95	0.5	0.004	<0.004

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IEA
An Aquarion Company

CLIENT: Riedel Environmental
CLIENT PROJECT ID: 8165
CLIENT SAMPLE ID: Method Blank

IEA PROJECT ID: CH950411
IEA SAMPLE ID: PW0228

TCLP ANALYTICAL RESULTS

EPA WASTE #	CONTAMINANT DATE LEACHED: -- DATE EXTRACTED: 02/28/95	DATE ANALYZED	REG LIMIT (mg/L)	DETECTION LIMIT (mg/L)	AMOUNT DETECTED (mg/L)
	PESTICIDES				
D020	Chlordane	03/02/95	0.03	0.002	<0.002
D012	Endrin	03/02/95	0.02	0.0004	<0.0004
D031	Heptachlor (and epoxide)	03/02/95	0.008	0.0002	<0.0002
D013	Lindane	03/02/95	0.4	0.0002	<0.0002
D014	Methoxychlor	03/02/95	10.0	0.002	<0.002
D015	Toxaphene	03/02/95	0.5	0.004	<0.004

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IEA
An Aquarion Company

CLIENT: Riedel Environmental
CLIENT PROJECT ID: 8165
CLIENT SAMPLE ID: SAU-01

IEA PROJECT ID: CH950411
IEA SAMPLE ID: 950411001

TCLP ANALYTICAL RESULTS

EPA WASTE #	CONTAMINANT DATE LEACHED: 02/27/95 DATE EXTRACTED: 03/01/95	DATE ANALYZED	REG LIMIT (mg/L)	DETECTION LIMIT (mg/L)	AMOUNT DETECTED (mg/L)
	HERBICIDES				
D016	2,4-D	03/02/95	10.0	0.2	<0.2
D017	2,4,5-TP (Silvex)	03/02/95	1.0	0.02	<0.02

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IEA
An Aquarion Company

CLIENT: Riedel Environmental
CLIENT PROJECT ID: 8165
CLIENT SAMPLE ID: SAU-02

IEA PROJECT ID: CH950411
IEA SAMPLE ID: 950411002

TCLP ANALYTICAL RESULTS

EPA WASTE #	CONTAMINANT DATE LEACHED: 02/27/95 DATE EXTRACTED: 03/01/95	DATE ANALYZED	REG LIMIT (mg/L)	DETECTION LIMIT (mg/L)	AMOUNT DETECTED (mg/L)
	HERBICIDES				
D016	2,4-D	03/02/95	10.0	0.2	<0.2
D017	2,4,5-TP (Silvex)	03/02/95	1.0	0.02	<0.02

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IEA
An Aquarion Company

CLIENT: Riedel Environmental
CLIENT PROJECT ID: 8165
CLIENT SAMPLE ID: Method Blank

IEA PROJECT ID: CH950411
IEA SAMPLE ID: HW0301

TCLP ANALYTICAL RESULTS

EPA WASTE #	CONTAMINANT DATE LEACHED: – DATE EXTRACTED: 03/01/95	DATE ANALYZED	REG LIMIT (mg/L)	DETECTION LIMIT (mg/L)	AMOUNT DETECTED (mg/L)
	HERBICIDES				
D016	2,4-D	03/02/95	10.0	0.2	<0.2
D017	2,4,5-TP (Silvex)	03/02/95	1.0	0.02	<0.02

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IEA
An Aquarion Company

Client: Riedel
IEA Job#: CH950411
Project #: 8165

Matrix: Leachate
Date Leached: 02/27/95
Date Extracted: 03/01/95

TCLP ANALYTICAL RESULTS

mg / L

Client ID	SAU-01	SAU-02				Detection Limit/ Regulatory Limit	Date Analyzed
Lab ID Analyte – Method	950411 001	950411 002	Extraction Blank				
Arsenic – 6010	<0.1	<0.1	<0.1			0.1 / 5.0	03/02/95
Barium – 6010	0.90	1.0	0.52			0.05 / 100.0	03/02/95
Cadmium – 6010	<0.005	<0.005	<0.005			0.005 / 1.0	03/02/95
Chromium – 6010	<0.01	<0.01	<0.01			0.01 / 5.0	03/02/95
Lead – 6010	<0.05	<0.05	<0.05			0.05 / 5.0	03/02/95
Mercury – 7470	<0.0002	<0.0002	<0.0002			0.0002 / 0.2	03/07/95
Selenium – 6010	<0.1	<0.1	<0.1			0.1 / 1.0	03/02/95
Silver – 6010	<0.01	<0.01	<0.01			0.01 / 5.0	03/02/95

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2B

WATER ~~SOIL~~ VOLATILE SURROGATE RECOVERY

Lab Name: IEA - Illinois Contract:

Lab code: IEAIL Case No.: CH950411 SAS No.: SDG No.:

Level:(low/med) LOW

	EPA SAMPLE NO.	S1 (DCE)#	S2 (TOL)#	S3 (BFB)#	S4 ( )#	TOT OUT
01	VBLK001	100	98	92		0
02	SAU-01	109	102	92		0
03	SAU-02	114	104	92		0
04	SAU-02 MS	100	98	98		0
05	SAU-02 MD	102	94	94		0
06						
07						
08						
09						
10						
11						
12						
13						
14						
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17						
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25						
26						
27						
28						
29						
30						

		QC LIMITS
S1 (DCE)	= 1,2-Dichloroethane-d4	(70-121)
S2 (TOL)	= Toluene-d8	(81-117)
S3 (BFB)	= Bromofluorobenzene	(74-121)

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

page __ of __.

3A

WATER VOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: Contract:

Lab code: Case No.: SAS No.: CH950411 SDG No.:

Matrix Spike - EPA Sample No.: SAU-02

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC #	QC LIMITS REC.
Benzene	50	0	45	90	75-125
Carbon Tetrachloride	50	0	39	78	75-125
Chlorobenzene	50	0	46	92	75-125
Chloroform	50	0	45	90	75-125
1,2-Dichloroethane	50	0	47	94	75-125
1,1-Dichloroethene	50	0	40	80	75-125
2-Butanone	100	0	80	80	75-125
Tetrachloroethene	50	0	45	90	75-125
Trichloroethene	50	0	44	88	75-125
Vinyl Chloride	50	0	55	110	75-125

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
Benzene	50	45	90	0	25	75-125
Carbon Tetrachloride	50	37	75	5	25	75-125
Chlorobenzene	50	43	86	7	25	75-125
Chloroform	50	45	90	0	25	75-125
1,2-Dichloroethane	50	47	94	0	25	75-125
1,1-Dichloroethene	50	42	84	5	25	75-125
2-Butanone	100	78	78	3	25	75-125
Tetrachloroethene	50	43	86	5	25	75-125
Trichloroethene	50	43	86	2	25	75-125
Vinyl Chloride	50	54	108	2	25	75-125

column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

RPD: 0 out of 10 outside limits

Spike Recovery: 0 out of 20 outside limits

COMMENTS: _____

_____

2C
WATER SEMIVOLATILE SURROGATE RECOVERY

Lab Name: IEA, INC - ILLINOIS Contract:

Lab code: IEAIL Case No.: CH950411SAS No.: SDG No.:

	EPA SAMPLE NO.	S1 (NBZ)#	S2 (FBP)#	S3 (TPH)#	S4 (PHL)#	S5 (2FP)#	S6 (TBP)#	S7 ( )#	TOT OUT
01	SBLK	85	86	92	90	89	67		0
02	BLK SPK	87	87	117	93	88	89		0
03	SAU-01	85	90	115	96 *	89	94		1
04	SAU-01MS	92	88	113	98 *	91	103		1
05	SAU-01MSD	86	90	108	90	84	98		0
06	SAU-02	93	91	117	96 *	88	92		1
07									
08									
09									
10									
11									
12									
13									
14									
15									
16									
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22									
23									
24									
25									
26									
27									
28									
29									
30									

QC LIMITS

S1 (NBZ) = Nitrobenzene-d5 (surr)(35-114)
S2 (FBP) = 2-Fluorobiphenyl (surr(43-116)
S3 (TPH) = Terphenyl-d14 (surr) (33-141)
S4 (PHL) = Phenol-d5 (surr) (10- 94)
S5 (2FP) = 2-Fluorophenol (surr) (21-100)
S6 (TBP) = 2,4,6-Tribromophenol ((10-123)

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

page __ of __.

3D

WATER SEMIVOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: IEA, INC - ILLINOIS Contract:

Lab code: IEAIL Case No.: SAS No.: SDG No.:

Matrix Spike - EPA Sample No.: SAU-01

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONC. (ug/L)	MS CONC. (ug/L)	MS % REC.
o-Cresol	500	0	610	123
m+p Cresol	1000	0	840	84
Cresols	1500	0	1500	97
1,4-Dichlorobenzene	500	0	400	79
2,4-Dinitrotoluene	500	0	410	83
Hexachlorobenzene	500	0	150	30
Hexachloro-1,3-butadiene	500	0	380	76
Hexachloroethane	500	0	380	75
Nitrobenzene	500	0	520	104
Pentachlorophenol	500	0	750	150
Pyridine	500	0	350	71
2,4,5-Trichlorophenol	500	0	460	93
2,4,6-Trichlorophenol	500	0	470	93

COMPOUND	SPIKE ADDED (ug/L)	MSD CONC. (ug/L)	MSD % REC.	% RPD
o-Cresol	500	600	121	2
m+p-Cresol	1000	810	81	4
Cresols	1500	1400	94	3
1,4-Dichlorobenzene	500	370	74	7
2,4-Dinitrotoluene	500	410	83	0
Hexachlorobenzene	500	160	32	6
Hexachloro-1,3-Butadiene	500	360	73	4
Hexachloroethane	500	340	64	8
Nitrobenzene	500	530	107	3
Pentachlorophenol	500	770	154	3
Pyridine	500	360	71	0
2,4,5-Trichlorophenol	500	480	95	2
2,4,6-Trichlorophenol	500	490	98	5

3D

WATER SEMIVOLATILE QC CHECK SAMPLE RECOVERY

Lab Name: IEA, INC - ILLINOIS Contract:

Lab code: IEAIL Case No.: SAS No.: SDG No.:

Matrix Spike - EPA Sample No.: SW0228

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONC. (ug/L)	MS CONC. (ug/L)	MS % REC.
o-Cresol	500	0	620	124
m+p Cresol	1000	0	870	87
Cresols	1500	0	1500	99
1,4-Dichlorobenzene	500	0	430	86
2,4-Dinitrotoluene	500	0	360	73
Hexachlorobenzene	500	0	180	37
Hexachloro-1,3-butadiene	500	0	430	85
Hexachloroethane	500	0	420	85
Nitrobenzene	500	0	580	115
Pentachlorophenol	500	0	580	115
Pyridine	500	0	350	70
2,4,5-Trichlorophenol	500	0	450	90
2,4,6-Trichlorophenol	500	0	470	94

2F

WATER PESTICIDE SURROGATE RECOVERY

Lab Name: IEA, INC - ILLINOIS Contract:

Lab code: IEAIL Case No.: CH950411 SAS No.: SDG No.:

GC Column(1): DB-608 ID: 0.53 (mm) GC Column(2): ID: (mm)

	EPA SAMPLE NO.	TCX 1 %REC #	TCX 2 %REC #	DCB 1 %REC #	DCB 2 %REC #	OTHER (1)	OTHER (2)	TOT OUT
1	METHOD BLK	88		84				0
2	SAU-01	92		104				0
3	SAU-02	68		103				0
4	SAU-01 MS	81		107				0
5	SAU-01 MSD	83		103				0
6								
7								
8								
9								
10								
11								
12								
13								
14								
15								
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29								
30								

	ADVISORY QC LIMITS
TCX = Tetrachloro-m-xylene	(30-150)
DCB = Decachlorobiphenyl	(30-150)

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

FORM II PEST-1 3/90

TCLP LEACHATE PESTICIDE
MATRIX SPIKE/ MATRIX SPIKE DUPLICATE
ug/L

IEA Job #: CH950411

Matrix Spike – EPA Sample#: SAU-01

COMPOUND	Spike Added	Sample Concentration	Matrix/Spike Concentration	Matrix/Spike % Recovery
gamma – BHC (Lindane)	2	0	2.2	108
Heptachlor	2	0	1.8	89
Heptachlor Epoxide	2	0	2.2	109
Methoxychlor	2	0	2.3	113
Endrin	2	0	2.1	106

COMPOUND	Spike Added	Matrix Spike Dup. Concentration	Matrix Spike Dup. %Recovery	% RPD
gamma – BHC (Lindane)	2	2	102	6
Heptachlor	2	1.5	77	15
Heptachlor Epoxide	2	2	100	9
Methoxychlor	2	2.1	107	5
Endrin	2	1.9	96	10

%REC: 0 OUT OF 10 OUTSIDE LIMITS

%RPD: 0 OUT OF 5 OUTSIDE LIMITS

WATER ORGANOCHLORINE HERBICIDE SURROGATE RECOVERY

Lab Name: IEA IL Contract: _____

Lab Code: IEAIL Case No.: CH950411 SAS No.: _____ SDG No.: _____

	EG&G SAMPLE NO.	S1 ~~(DCA)#~~	OTHER 2,4-DB
01	METHOD BLK		128
02	BLK SPIKE		130
03	SAU-01		24
04	SAU-02		17 *
05	SAU-01 MS		21 *
06	SAU-01 MSD		24
07			
08			
09			
10			
11			
12			
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ADVISORY QC LIMITS (24-154)

S1 (DCA) = Dicamba

Column to be used to flag recovery values

* Values outside of contract required QC limits

D Surrogates diluted out

WATER ORGANOCHLORINE HERBICIDE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: IEA IL Contract: _____

Lab Code: IEAIL Case No.: CH950411 SAS No.: _____ SDG No.: _____

Matrix Spike Sample No.: SAU-01

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC #	QC LIMITS REC.
2,4-D	125	0	80	64	45-115
2,4,5-TP (Silvex)	125	0	56	45 *	51-121

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
2,4-D	125	85	68	6	20	45-115
2,4,5-TP (Silvex)	125	55	44 *	2	20	51-121

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

RDP: 0 out of 2 outside limits
Spike Recovery: 2 out of 4 outside limits

COMMENTS: Poor recoveries Are Due to Matrix Effect

WATER ORGANOCHLORINE HERBICIDE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: IEA IL Contract: _____

Lab Code: IEAIL Case No.: CHA0411 SAS No.: _____ SDG No.: _____

Matrix Spike Sample No.: METHOD BLK
HW0301-BS

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC #	QC LIMITS REC.
2,4-D	125	0	163	130	45-115
2,4,5-TP (Silvex)	125	0	105	84	51-121

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
2,4-D					20	45-115
2,4,5-TP (Silvex)					20	51-121

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

RDP: — out of — outside limits
Spike Recovery: 0 out of 1 outside limits

COMMENTS: _____

ICP QUALITY CONTROL DATA

							Associated Samples:					
Analyst	EQ						950411(001-002)					
Sample	950411002											
Wt/Vol	100/100											
Prp.Bat.	1319											
Units	MG/L											
Element	Date	Matrix Spike				Matrix Spike Duplicate						TCLP Blk
	Analyzed	Org.Smp	Spk.Smp	Amt.Spkd	%REC	Spk.Smp	Amt.Spkd	%REC			%RPD	Result
Barium	3/2/95	1.019	10.570	10.000	96	10.520	10.000	95			0.5	0.516
Cadmium	3/2/95	<0.005	0.978	1.000	98	0.969	1.000	97			0.9	<0.005
Chromium	3/2/95	<0.01	4.610	5.000	92	4.568	5.000	91			0.9	<0.010
Copper												
Lead	3/2/95	<0.05	4.659	5.000	93	4.578	5.000	92			1.8	<0.050
Nickel												
Silver	3/2/95	<0.01	3.660	5.000	73	3.585	5.000	72			2.1	<0.010
Arsenic	3/2/95	<0.1	4.630	5.000	93	4.603	5.000	92			0.6	<0.100
Selenium	3/2/95	<0.1	1.007	1.000	101	1.019	1.000	102			1.2	<0.100
Zinc												
Serial Dil Smp #					Post SpK.	Sample #:			Prep Blk		LCS (mg/L)	
		Sample	Dilution	% RPD	Org.Smp.	Amt. Spk	Result	%REC	mg/L	Org	Known	%REC
Barium	3/2/95	1.019	1.225	18.4					<0.050	1.943	2.000	97
Cadmium	3/2/95	<0.005	0.023	NC					<0.005	0.054	0.050	107
Chromium	3/2/95	<0.01	<0.01	NC					<0.010	0.174	0.200	87
Copper												
Lead	3/2/95	<0.05	0.072	NC					<0.050	0.450	0.500	90
Nickel												
Silver	3/2/95	<0.01	0.101	NC					<0.010	0.046	0.050	92
Arsenic	3/2/95	<0.1	0.259	NC					<0.100	1.756	2.000	88
Selenium	3/2/95	<0.1	<0.1	0.0					<0.100	1.782	2.000	89
Zinc												

CVAA Quality Control Data											
Date	3-10-95										
Analyst	DOC							Associated Samples:			
Sample	950411001							950411001			
Wt/Vol	100/100							950426(001-004)			
Units	MG/L										
Element	Matrix Spike				Matrix Spike Duplicate						TCLP Blk
	Org.Smp	Spk.Smp	Amt.Spkd	%REC	Spk.Smp	Amt.Spkd	%REC			%RPD	Result (mg/L)
Mercury	<0.0002	0.0021	0.0020	103	0.0021	0.0020	104			1.0	<0.0002
											Prep Blank
											Result (mg/L)
Mercury											<0.0002

RIEDEL ENVIRONMENTAL SERVICES INC.

Midwest Great Lakes Region
St. Louis District
18207 Edison Ave.
Chesterfield, Missouri 63005-1003
(314) 532-7662
FAX (314) 536-1555

ERCS ZONE 4A _____ REGION 5 X

MASTER SUBCONTRACT AGREEMENT

Number: Job #: 8165 Subcontract #: 2600-3

Laboratory Subcontractor: IEA, An Aquarian Company

Address: 1216 West Center Ct.
Schaumburg, IL 60195

Purchase Order Number: 32873

- **Items To Be Completed on Site Specific Project**

1. Subcontract Agreement Number: 2600-3
2. Delivery Order Number: 5001-05-3165
3. ERCS Site: 8165-Sauget Landfill
4. Purpose of Cleanup: To remove drums and contaminated soil as needed.
5. Schedule: Actual site related operations begin on 2-21-95 and must be completed by 7-31-95.

- **Site Specific "Attachment C Additions"**

No Additions: X yes See "Attachment C Additions Page": ~~X~~

- **Site Specific "Attachment D Additions"**

No Additions: X yes See "Attachment D Addition Page": ~~X~~

1. Project ceiling limit: $10,000
2. Analytical results must be delivered within 5 working days of receipt of the samples.
3. QA/QC package shall be provided within 20 working days after receipt of the samples.
4. Invoices clearly marked Job No. 8165 and shall be sent to:
   Project Manager: Ken Broig
   Riedel Environmental Services, Inc.
   Address: 18207 Edison Avenue
   Chesterfield, MO 63005
5. Attachment E, F, G, and Notice to Subcontractors completed:
   N/A _____ Copies of Attachment E ✓ F ✓ G ✓ needs to be completed as indicated.
   "Notice to Subcontractors" ✓ provided.
   All forms provided to laboratory ✓ yes — no

- **Site Specific Contractual Terms or Penalties**

None: X See "Attachment C Additions Page": _____

Chicago District:
500 Eastern Avenue
Bensenville, Illinois 60106
(708) 238-1818

24-Hour Hotline (800) 334-0004
A Subsidiary of Riedel Environmental Technologies Inc.

Detroit District:
28340 Goddard Road
Romulus, Michigan 48174
(313) 946-8640

RIEDEL ENVIRONMENTAL SERVICES INC.

Midwest Great Lakes Region
St. Louis District
18207 Edison Ave.
Chesterfield, Missouri 63005-1123
(314) 532-7662
FAX (314) 536-1555

ERCS ZONE 4A _____ REGION 5 X

MASTER SUBCONTRACT AGREEMENT

Number: Job #: 8165 Subcontract #: 2600-3

Laboratory Subcontractor: IEA, An Aquarian Company

Address: 1216 West Center Ct.
Schaumburg, IL 60195

Purchase Order Number: 32873

- **Items To Be Completed on Site Specific Project**

1. Subcontract Agreement Number: 2600-3
2. Delivery Order Number: 5001-05-365
3. ERCS Site: 8165-Sauget Landfill
4. Purpose of Cleanup: To remove drums and contaminated soil as needed.
5. Schedule: Actual site related operations begin on 2-21-95 and must be completed by 7-31-95.

- **Site Specific "Attachment C Additions"**

No Additions: X yes See "Attachment C Additions Page": ~~X~~

- **Site Specific "Attachment D Additions"**

No Additions: X yes See "Attachment D Addition Page": ~~X~~

1. Project ceiling limit: $10,000
2. Analytical results must be delivered within 5 working days of receipt of the samples.
3. QA/QC package shall be provided within 20 working days after receipt of the samples.
4. Invoices clearly marked Job No. 8165 and shall be sent to:
   Project Manager: Ken Braig
   Riedel Environmental Services, Inc.
   Address: 18207 Edison Avenue
   Chesterfield MO 63005
5. Attachment E, F, G, and Notice to Subcontractors completed:
   N/A _____ Copies of Attachment E ✓ F ✓ G ✓ needs to be completed as indicated.
   "Notice to Subcontractors" ✓ provided.

All forms provided to laboratory ✓ yes — no

- **Site Specific Contractual Terms or Penalties**

None: X See "Attachment C Additions Page": _____

Rev. 03
September 28, 1994

FIELD PURCHASE ORDER

WE ARE AN EQUAL OPPORTUNITY EMPLOYER — MHF
"Imagineering a better world"

THIS ORDER NO. MUST APPEAR ON ALL INVOICES, B/L'S, PACKAGES, ETC.

DATE: 2-24-95

Riedel

OUR ORDER NO. 8165 JOB NUMBER 32873

VENDOR: IEA Lab
126 West Center Ct.
Schaumburg, IL 60195

SHIP TO: Riedel Environmental
18207 Edison Ave
Chesterfield, MO
63005

VENDOR CONTACT	DATE REQUIRED	REQUISITION NUMBER	REQUISITIONER
NAME Eric Harland PHONE 800-721-2442	2-24-95	N/A	M. Allen

TERMS	SHIP VIA	FREIGHT TERMS		F.O.B. POINT
	fed-ex	PREPAY & BILL / COLLECT		SHIPPING POINT
		FREIGHT INCLUDED / WILL CALL		DESTINATION

ITEM	QUAN.	UNIT	DESCRIPTION	UNIT PRICE	EXTENSION	COST CODE
	2	ea.	Full TCLP (5-day turnaround)	975.00	1950.00	
			Master Subcontract #2600-3			
			Not to exceed $2000.00			

JOB NO.	8165	JOB NAME	Sauget Landfill	TOTAL		TAXABLE YES ☒ NO ☐

APPROVED BY Donald Thomas
FULL NAME — NO INITIALS
DATE 2-24-95

THIS ORDER IS PLACED SUBJECT TO TERMS AND CONDITIONS ON FACE AND REVERSE SIDE.

INVOICE THE FOLLOWING COMPANY
Riedel Environmental
18207 Edison Ave.
Chesterfield MO 63005
BY: Nicole Allen

RET 003 (1-88)

ORIGINAL

INITIAL AND CONTINUING CALIBRATION

INITIAL/CONTINUING CALIBRATION VERIFICATION SHEET
(MG/L)

Associated Samples: 950411001-002
Analysis Date: 03/02/95; Mercury 03/10/95

	Silver		Arsenic		Barium		Cadmium		Chromium		Lead		Selenium		Mercury	
	True Value		True Value		True Value		True Value		True Value		True Value		True Value		True Value	
	0.5000	% R	5.0000	% R	5.0000	% R	5.0000	% R	5.0000	% R	5.0000	% R	5.0000	% R	0.0025	% R
ICV	0.48986	98.0	4.53327	90.7	4.99844	100.0	4.73638	94.7	4.71736	94.3	4.64042	92.8	4.60469	92.1	0.0024	96.0
CCV	0.51013	102.0	4.77444	95.5	5.28095	105.6	5.00074	100.0	5.16293	103.3	4.87822	97.6	4.87029	97.4	0.0021	83.6
CCV	0.49564	99.1	4.915	98.3	4.96623	99.3	5.02064	100.4	5.01976	100.4	5.00834	100.2	5.0247	100.5	0.0024	95.6
CCV	0.49803	99.6	4.59311	91.9	5.03063	100.6	4.77997	95.6	4.72534	94.5	4.6476	93.0	4.74366	94.9	0.0024	95.6
CCV	0.50036	100.1	4.97322	99.5	5.04984	101.0	5.0883	101.8	5.07375	101.5	5.03711	100.7	5.00926	100.2		
CCV	0.48869	97.7	4.4727	89.5	4.99319	99.9	4.79497	95.9	4.723	94.5	4.63802	92.8	4.53983	90.8		
CCV	0.49406	98.8	4.6197	92.4	5.05459	101.1	4.84494	96.9	4.78779	95.8	4.73175	94.6	4.66646	93.3		
CCV	0.49494	99.0	4.82804	96.6	4.98092	99.6	5.03667	100.7	4.99863	100.0	4.95544	99.1	4.91043	98.2		
CCV	0.49704	99.4	4.94567	98.9	5.01906	100.4	5.06982	101.4	5.05638	101.1	4.99865	100.0	4.96602	99.3		
CCV	0.49305	98.6	4.7915	95.8	4.9671	99.3	5.03347	100.7	4.98595	99.7	4.8857	97.7	4.92587	98.5		
CCV	0.4995	99.9	4.85063	97.0	5.05545	101.1	5.06734	101.3	5.0329	100.7	5.00345	100.1	4.84249	96.8		
CCV	0.50825	101.7	4.95608	99.1	5.14484	102.9	5.16746	103.3	5.16344	103.3	5.08028	101.6	5.04632	100.9		
CCV	0.50882	101.8	5.00835	100.2	5.15166	103.0	5.16293	103.3	5.14935	103.0	5.0755	101.5	5.03706	100.7		

INITIAL/CONTINUING CALIBRATION BLANK SHEET
(MG/L)

Associated Samples: 950411001-002

Analysis Date: 03/02/95; Mercury 03/10/95

	Silver	Arsenic	Barium	Cadmium	Chromium	Lead	Selenium	Mercury
	True Value	True Value	True Value	True Value	True Value	True Value	True Value	True Value
	0.0100	0.1000	0.0500	0.0050	0.0100	0.0500	0.1000	0.0002
ICB	0.00061	0.05447	0.00244	0.00457	-0.00657	-0.00478	-0.01544	<0.0002
CCB	0.00304	0.04603	0	0.00124	-0.00422	-0.00961	-0.00926	<0.0002
CCB	0.00672	0.02075	0.00139	0.00152	-0.00657	0.00241	-0.01235	<0.0002
CCB	0.00857	0.02769	0.00227	0.0082	-0.00516	-0.0096	-0.08029	<0.0002
CCB	0.0049	0.04665	0.00209	0.00298	-0.00281	-0.01203	-0.00617	
CCB	0.00367	0.02145	0.00279	0.00155	-0.00281	0.00481	-0.04323	
CCB	0.00306	0.04975	0.00034	-0.00215	-0.00234	-0.00962	-0.07411	
CCB	0.00121	0.01226	0.00034	0.00331	-0.0061	-0.00481	-0.01235	
CCB	0.00368	0.03364	0.00087	0.00307	-0.00328	-0.01443	-0.0247	
CCB	-0.00063	-0.0038	0.00087	0.00179	-0.00657	0.00721	-0.01852	
CCB	0.00183	0.00924	0.00069	0.00163	-0.00516	0.00722	-0.07411	
CCB	0.00365	0.03681	0	0.00303	-0.00422	-0.02164	-0.07411	
CCB	0.00306	0.04517	0.00034	0.00125	-0.00422	0	-0.00926	

IEA
An Aquarion Company

Surrogates

2C
WATER SEMIVOLATILE SURROGATE RECOVERY

Lab Name: IEA, INC - ILLINOIS Contract:

Lab code: IEAIL Case No.: CH950411SAS No.: SDG No.:

	EPA SAMPLE NO.	S1 (NBZ)#	S2 (FBP)#	S3 (TPH)#	S4 (PHL)#	S5 (2FP)#	S6 (TBP)#	S7 ( )#	TOT OUT
01	SBLK	85	86	92	90	89	67		0
02	BLK SPK	87	87	117	93	88	89		0
03	SAU-01	85	90	115	96 *	89	94		1
04	SAU-01MS	92	88	113	98 *	91	103		1
05	SAU-01MSD	86	90	108	90	84	98		0
06	SAU-02	93	91	117	96 *	88	92		1
07									
08									
09									
10									
11									
12									
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14									
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25									
26									
27									
28									
29									
30									

QC LIMITS

S1 (NBZ) = Nitrobenzene-d5 (surr)(35-114)
S2 (FBP) = 2-Fluorobiphenyl (surr(43-116)
S3 (TPH) = Terphenyl-d14 (surr) (33-141)
S4 (PHL) = Phenol-d5 (surr) (10- 94)
S5 (2FP) = 2-Fluorophenol (surr) (21-100)
S6 (TBP) = 2,4,6-Tribromophenol ((10-123)

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

IEA
An Aquarion Company

MS/MSD

printed on recycled paper

3D

WATER SEMIVOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: IEA, INC - ILLINOIS Contract:

Lab code: IEAIL Case No.: SAS No.: SDG No.:

Matrix Spike - EPA Sample No.: SAU-01

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONC. (ug/L)	MS CONC. (ug/L)	MS % REC.
o-Cresol	500	0	610	123
m+p Cresol	1000	0	840	84
Cresols	1500	0	1500	97
1,4-Dichlorobenzene	500	0	400	79
2,4-Dinitrotoluene	500	0	410	83
Hexachlorobenzene	500	0	150	30
Hexachloro-1,3-butadiene	500	0	380	76
Hexachloroethane	500	0	380	75
Nitrobenzene	500	0	520	104
Pentachlorophenol	500	0	750	150
Pyridine	500	0	350	71
2,4,5-Trichlorophenol	500	0	460	93
2,4,6-Trichlorophenol	500	0	470	93

COMPOUND	SPIKE ADDED (ug/L)	MSD CONC. (ug/L)	MSD % REC.	% RPD
o-Cresol	500	600	121	2
m+p-Cresol	1000	810	81	4
Cresols	1500	1400	94	3
1,4-Dichlorobenzene	500	370	74	7
2,4-Dinitrotoluene	500	410	83	0
Hexachlorobenzene	500	160	32	6
Hexachloro-1,3-Butadiene	500	360	73	4
Hexachloroethane	500	340	69	8
Nitrobenzene	500	530	107	3
Pentachlorophenol	500	770	154	3
Pyridine	500	360	71	0
2,4,5-Trichlorophenol	500	480	95	2
2,4,6-Trichlorophenol	500	490	98	5

3D

WATER SEMIVOLATILE QC CHECK SAMPLE RECOVERY

Lab Name: IEA, INC - ILLINOIS Contract:

Lab code: IEAIL Case No.: SAS No.: SDG No.:

Matrix Spike - EPA Sample No.: SW0228

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONC. (ug/L)	MS CONC. (ug/L)	MS % REC.
o-Cresol	500	0	620	124
m+p Cresol	1000	0	870	87
Cresols	1500	0	1500	99
1,4-Dichlorobenzene	500	0	430	86
2,4-Dinitrotoluene	500	0	360	73
Hexachlorobenzene	500	0	180	37
Hexachloro-1,3-butadiene	500	0	430	85
Hexachloroethane	500	0	420	85
Nitrobenzene	500	0	580	115
Pentachlorophenol	500	0	580	115
Pyridine	500	0	350	70
2,4,5-Trichlorophenol	500	0	450	90
2,4,6-Trichlorophenol	500	0	470	94

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Method Blank Summary

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4B
SEMIVOLATILE METHOD BLANK SUMMARY

Lab Name: IEA, INC - ILLINOIS Contract:

Lab code: IEAIL Case No.: CH950411SAS No.: SDG No.:

Lab File ID: >M7300 Lab Sample ID: SW0228

Date Extracted: Extraction:(Sepf/Cont/Sonc) CONT

Date Analyzed: 03/06/95 Time Analyzed: 16:15

Matrix: (soil/water) WATER Level:(low/med) LOW

Instrument ID: MMSD

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
1	BLK SPIKE	SW0228BS	>M7294	03/03/95
2	SAU-02	950411002	>M7295	03/03/95
3	SAU-01	950411001	>M7296	03/03/95
4	SAU-01MS	950411001MS	>M7297	03/03/95
5	SAU-01MSD	950411001MSD	>M7298	03/03/95
7				
8				
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COMMENTS: _____

_____

FORM IV SV 1/87 Rev.

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5B

SEMIVOLATILE ORGANIC GC/MS TUNING AND MASS CALIBRATION - DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: IEA, INC - ILLINOIS Contract:

Lab code: IEAIL Case No.: SAS No.: SDG No.:

Lab File ID: >MD878 DFTPP Injection Date: 2/15/95

Instrument ID: MMSD DFTPP Injection Time: 19:22

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	30.0 - 60.0% of mass 198	52.6
68	Less than 2.0% of mass 69	0.0 (0.0)1
69	Mass 69 relative abundance	65.6
70	Less then 2.0% of mass 69	.2 (.4)1
127	40.0 - 60.0% of mass 198	41.5
197	Less than 1.0% of mass 198	.5
198	Base Peak, 100% relative abundance	100.0
199	5.0 - 9.0% mass 198	6.8
275	10.0 - 30.0% of mass 198	20.9
365	Greater than 1.00% of mass 198	2.6
441	Present, but less than mass 443	13.8
442	Greater than 40.0% of mass 198	98.4
443	17.0 - 23.0% of mass 442	17.7 (18.0)2

1-Value is % of mass 69 2-Value is % of mass 442

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	SSTD050	WS0420B	>M7184	02/15/95	19:40
02	SSTD160	WS0423B	>M7185	02/15/95	20:33
03	SSTD120	WS0422B	>M7186	02/15/95	21:25
04	SSTD120	WS0421B	>M7187	02/15/95	22:18
05	SSTD020	WS0419B	>M7188	02/15/95	23:10
06					
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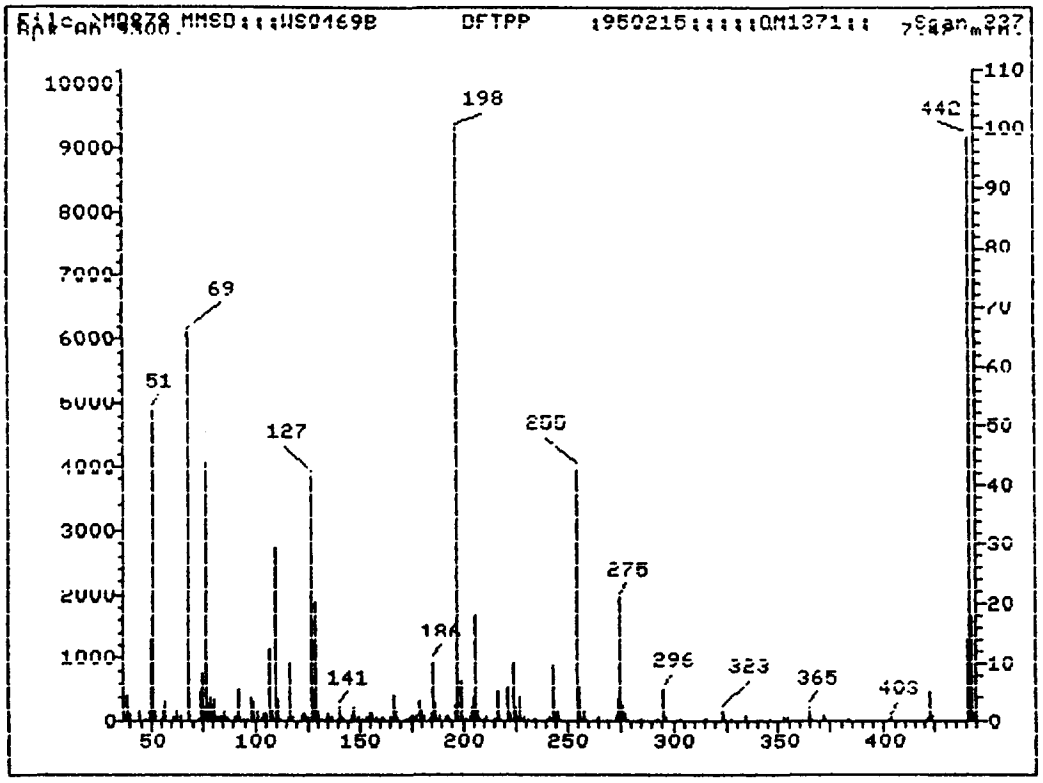

MS data file header from : >MD878::D4

Sample: MMSD:::WS0469B Operator: GC SUPER GRP. 2/15/95 19:22
Misc : DFTPP :950215:::::QM1371:: BTL# 1
Sys. #: 1 MS model: 70 SW/HW rev.: LF ALS # : 1 Equip ID: MMSD
Method file: DFTPP Tuning file: MDFTPP No. of extra records: 2
Source temp.: N/A Analyzer temp.: N/A Transfer line temp. : 0

Chromatographic temperatures :	150.	225.	0.	0.	0.
Chromatographic times, min. :	1.0	10.0	0.0	0.0	0.0
Chromatographic rate, deg/min:	10.0	0.0	0.0	.2	0.0

>MD878 MMSD:::WS0469B DFTPP :950215:::::QM1371::
237 NRM

File: >MD878 Scan #: 237 Retn. time: 7.42

m/z	Int.	m/z	Int.	m/z	Int.	m/z	Int.	m/z	Int.
37.0	.5	97.9	4.3	154.0	.6	199.0	6.8	275.1	20.9
38.0	.9	98.9	3.6	155.0	1.4	200.0	.4	276.0	2.8
39.0	4.4	100.9	2.0	155.9	1.3	201.5	.5	277.0	1.6
40.1	1.5	102.9	.8	157.1	.5	203.0	.7	277.9	.3
41.1	.2	103.9	1.4	157.9	.6	204.0	2.5	284.0	.2
44.1	1.9	105.1	1.3	158.8	.3	205.0	4.2	285.0	.4
44.7	.3	106.9	12.4	160.0	.5	206.0	18.1	293.1	.3
45.7	.2	107.9	2.0	161.0	.9	207.0	2.3	296.0	5.4
47.1	.4	109.1	.6	161.8	.3	208.0	.5	297.0	.7
49.1	2.1	109.9	29.6	163.1	.2	210.1	.3	303.0	.5
50.1	14.2	110.9	3.9	164.9	.8	211.0	.8	313.3	.2
51.1	52.6	111.9	.5	165.9	.7	215.0	.3	313.9	.2
52.1	2.2	112.9	.2	167.0	4.3	216.1	.4	315.0	.5
53.1	.2	113.6	.1	167.9	1.8	217.0	5.0	316.1	.6
54.9	.3	115.9	.8	169.0	.3	218.0	.5	323.1	1.9
55.9	1.8	116.9	9.9	170.1	.2	221.0	6.2	324.1	.5
57.1	3.6	118.0	.7	170.5	.2	223.0	1.3	327.0	.5
61.1	.7	122.0	1.2	171.4	.1	224.0	10.0	328.1	.2
62.1	.7	123.0	1.4	172.0	.4	225.0	2.4	332.1	.1
63.1	2.0	124.0	.7	173.0	.3	226.0	.3	334.1	1.2
65.1	1.1	125.0	.6	174.0	.8	227.0	4.2	341.0	.2
68.9	65.6	127.0	41.5	175.0	1.2	228.0	.5	345.9	.5
69.9	.2	128.0	3.6	176.1	.5	229.0	.9	352.0	.6
72.9	.4	129.0	20.3	177.0	1.0	231.0	.3	353.0	.4
73.9	5.3	130.0	1.7	178.1	.2	234.0	.3	354.2	.7
75.1	8.1	131.0	.5	179.0	3.3	235.0	.3	365.0	2.6
76.1	2.3	132.1	.3	180.0	1.8	237.0	.2	366.0	.3
77.1	43.6	132.8	.2	181.0	1.0	241.0	.3	372.0	1.1
78.1	3.0	134.1	.4	181.9	.2	242.0	.6	373.0	.3
79.1	4.1	135.0	1.5	183.9	.3	243.1	.6	383.0	.3
79.9	2.9	136.1	.6	185.1	1.5	244.0	9.4	402.0	.5
81.1	3.8	137.0	.8	186.0	10.3	245.0	1.3	403.0	.7
81.9	.8	140.0	.4	187.0	3.0	246.0	1.8	404.0	.2
82.9	.8	141.0	2.5	187.9	.3	246.8	.3	421.0	.5
83.9	.9	142.1	.9	189.0	.9	249.0	.2	422.2	.7
85.1	.8	143.0	.5	192.0	.8	255.0	42.7	423.0	5.3
85.9	1.6	143.9	.1	193.0	1.0	256.0	6.1	424.0	1.0
87.1	.7	145.5	.1	193.9	.3	257.0	.5	425.0	.1
87.9	.3	146.0	.4	194.5	.1	258.0	2.2	441.1	13.8
91.1	.9	146.9	1.0	196.0	2.9	259.0	.3	442.1	98.4
92.1	.9	147.9	2.4	196.8	.5	265.0	.9	443.1	17.7
92.9	5.3	148.9	.6	197.0	.5	273.0	1.3	444.1	1.6
94.1	.4	151.2	.6	198.0	100.0	274.0	3.7	445.1	.2
96.1	.4	153.0	.6						

5B

SEMIVOLATILE ORGANIC GC/MS TUNING AND MASS CALIBRATION - DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: IEA, INC - ILLINOIS Contract:

Lab code: IEAIL Case No.: CH950411SAS No.: SDG No.:

Lab File ID: >MD887 DFTPP Injection Date: 3/03/95

Instrument ID: MMSD DFTPP Injection Time: 13:02

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	30.0 - 60.0% of mass 198	51.6
68	Less than 2.0% of mass 69	1.0 (1.3)1
69	Mass 69 relative abundance	72.0
70	Less then 2.0% of mass 69	.7 (1.0)1
127	40.0 - 60.0% of mass 198	45.9
197	Less than 1.0% of mass 198	0.0
198	Base Peak, 100% relative abundance	100.0
199	5.0 - 9.0% mass 198	5.9
275	10.0 - 30.0% of mass 198	24.2
365	Greater than 1.00% of mass 198	2.8
441	Present, but less than mass 443	12.5
442	Greater than 40.0% of mass 198	99.9
443	17.0 - 23.0% of mass 442	18.2 (18.2)2

1-Value is % of mass 69 2-Value is % of mass 442

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	SSTD050	WS0420B	>M7292	03/03/95	13:22
02	SBLK	SW0228	>M7293	03/03/95	15:07
03	BLK SPIKE	SW0228BS	>M7294	03/03/95	16:00
04	SAU-02	950411002	>M7295	03/03/95	16:52
05	SAU-01	950411001	>M7296	03/03/95	17:45
06	SAU-01MS	950411001MS	>M7297	03/03/95	18:37
07	SAU-01MSD	950411001MSD	>M7298	03/03/95	19:29
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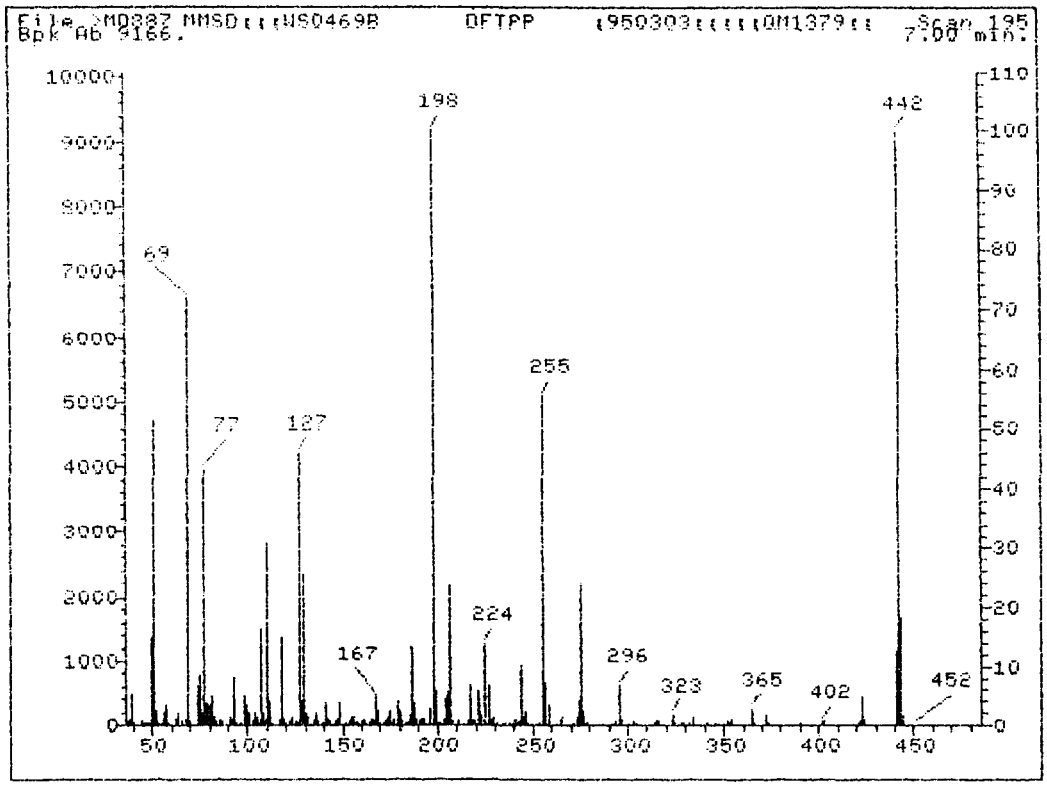

MS data file header from : >MD887::D4

Sample: MMSD;;;WS0469B Operator: GC SUPER GRP. 3/03/95 13:02
Misc : DFTPP ;950303;;;;;QM1379;; BTL# 1
Sys. #: 1 MS model: 70 SW/HW rev.: LF ALS # : 1 Equip ID: MMSD
Method file: DFTPP Tuning file: MDFTPP No. of extra records: 2
Source temp.: N/A Analyzer temp.: N/A Transfer line temp. : 0

Chromatographic temperatures :	150.	225.	0.	0.	0.
Chromatographic times, min. :	1.0	10.0	0.0	0.0	0.0
Chromatographic rate, deg/min:	10.0	0.0	0.0	.2	0.0

>MD887 MMSD;;;WS0469B DFTPP ;950303;;;;;QM1379;;
195 NRM

File: >MD887 Scan #: 195 Retn. time: 7.00

m/z	Int.	m/z	Int.	m/z	Int.	m/z	Int.	m/z	Int.
36.1	.6	98.1	5.1	157.0	.4	210.0	.2	285.2	.3
36.9	.7	99.1	3.5	157.3	.4	210.9	.9	286.1	.2
38.2	1.2	100.1	.8	158.0	.6	211.1	.9	287.9	.2
39.1	5.4	101.0	2.3	160.0	.9	212.0	.2	290.9	.2
40.1	.5	102.4	.3	161.0	1.2	215.0	.3	292.1	.1
44.1	.8	103.1	.7	162.0	.3	216.0	.7	293.1	.6
45.7	.4	104.1	2.1	164.0	.3	217.1	6.8	296.1	6.7
46.8	.4	105.1	1.5	164.4	.2	218.0	.8	297.1	1.2
48.0	.3	106.0	.5	165.1	1.1	219.0	.8	303.3	.8
48.7	.3	106.2	.5	166.5	.9	221.1	5.7	304.3	.4
49.1	.4	107.1	16.4	167.0	4.7	223.0	1.6	314.2	.6
50.1	14.8	108.1	2.2	168.0	2.3	224.1	13.9	315.0	.7
51.1	51.6	109.0	.9	169.1	.4	225.1	2.9	316.2	.7
52.0	2.5	110.1	30.8	172.1	.5	226.3	.3	321.8	.1
52.8	.5	111.1	4.2	173.0	.9	227.0	7.0	323.3	1.8
54.7	.3	112.1	.5	174.1	1.3	228.0	1.0	324.2	.4
56.1	2.0	116.1	1.2	175.0	2.5	229.0	1.4	327.0	.5
57.0	3.5	117.0	14.8	176.0	.4	231.1	.5	328.2	.3
58.2	.6	118.2	1.0	176.1	.4	234.0	.4	332.0	.4
62.2	1.2	119.3	.4	177.0	1.1	235.3	.5	334.2	1.6
63.1	2.1	121.5	.3	179.1	4.3	236.0	.2	340.1	.2
63.8	.8	122.1	.9	180.2	2.3	237.0	.6	341.1	.3
65.1	.9	123.1	1.6	181.2	.8	239.1	.3	346.1	.6
67.9	1.0	125.1	.9	182.0	.2	241.0	.9	352.2	.9
69.1	72.0	125.9	.5	182.2	.2	242.1	.5	353.2	.6
70.1	.7	127.1	46.0	183.0	.5	243.1	.7	354.2	1.0
70.9	.1	128.1	4.0	183.4	.3	244.1	10.3	356.1	.2
74.1	6.7	129.1	25.9	184.1	.4	245.0	1.4	365.1	2.8
75.1	8.5	130.0	2.1	185.1	1.8	246.0	2.5	366.0	.5
76.1	2.0	131.1	1.3	186.1	13.3	247.0	.3	371.2	.3
77.1	43.1	133.0	.2	187.1	3.7	248.1	.2	372.2	1.8
78.1	3.9	134.0	.8	188.2	.4	250.9	.2	373.1	.4
79.1	3.5	135.1	2.0	189.1	.9	251.6	.2	390.2	.3
80.1	3.5	136.1	.6	191.2	.6	253.0	.3	402.2	.6
81.1	5.2	140.1	.3	192.0	1.2	253.4	.3	403.2	.6
82.1	1.5	141.1	3.7	193.2	1.0	255.0	55.5	404.2	.2
83.1	.7	142.0	1.1	194.0	.2	256.0	7.1	421.2	.5
83.9	.3	143.0	.7	196.1	2.8	258.1	3.5	422.3	.8
85.3	.5	146.0	.6	198.1	100.0	259.1	.6	423.2	4.9
86.1	1.2	147.0	1.1	199.0	5.9	265.1	1.5	424.3	1.1
86.9	.7	148.0	3.7	200.2	.5	271.1	.4	429.4	.1
91.1	1.5	148.9	.3	200.9	.3	273.2	1.5	438.4	.1
92.1	1.2	151.1	.3	203.0	1.0	274.1	4.3	441.2	12.5
93.1	8.1	151.4	.3	204.1	4.4	275.1	24.2	442.2	99.9
93.9	.3	153.0	.7	205.1	5.8	276.1	4.2	443.2	18.2
95.1	.2	154.0	.7	206.1	23.9	277.1	2.4	444.2	1.7
95.9	.4	155.0	1.5	207.1	2.8	278.2	.3	451.9	.2
97.1	.2	156.1	1.4	208.0	.9	279.1	.3	486.0	.1

5B

SEMIVOLATILE ORGANIC GC/MS TUNING AND MASS CALIBRATION - DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: IEA, INC - ILLINOIS Contract:

Lab code: IEAIL Case No.: CH950411SAS No.: SDG No.:

Lab File ID: >MD889 DFTPP Injection Date: 3/06/95

Instrument ID: MMSD DFTPP Injection Time: 15:05

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	30.0 - 60.0% of mass 198	57.3
68	Less than 2.0% of mass 69	0.0 (0.0)1
69	Mass 69 relative abundance	68.4
70	Less then 2.0% of mass 69	.3 (.5)1
127	40.0 - 60.0% of mass 198	47.4
197	Less than 1.0% of mass 198	0.0
198	Base Peak, 100% relative abundance	100.0
199	5.0 - 9.0% mass 198	6.7
275	10.0 - 30.0% of mass 198	26.5
365	Greater than 1.00% of mass 198	3.8
441	Present, but less than mass 443	13.8
442	Greater than 40.0% of mass 198	92.9
443	17.0 - 23.0% of mass 442	18.5 (20.0)2

1-Value is % of mass 69 2-Value is % of mass 442

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	SSTD050	WS0420B	>M7299	03/06/95	15:23
02	SBLK	SW0228	>M7300	03/06/95	16:15
03					
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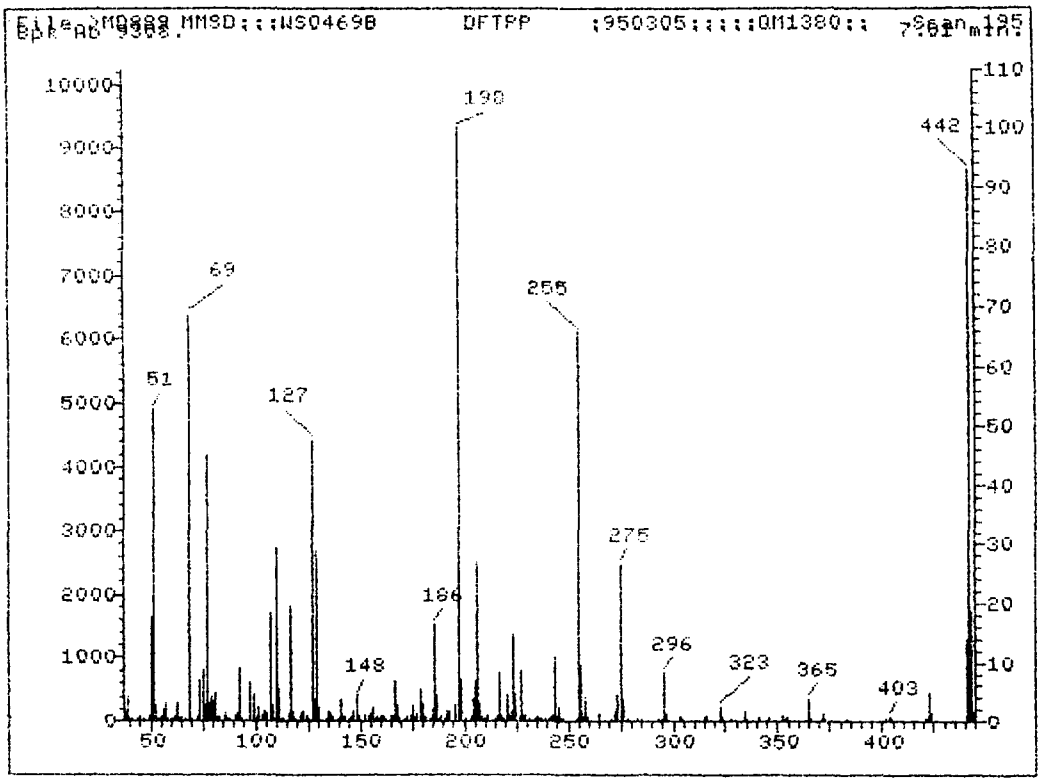

MS data file header from : >MD889::D4

Sample: MMSD;;;WS0469B Operator: GC SUPER GRP. 3/06/95 15:05
Misc : DFTPP ;950305;;;;;QM1380;; BTL# 1
Sys. #: 1 MS model: 70 SW/HW rev.: LF ALS # : 1 Equip ID: MMSD
Method file: DFTPP Tuning file: MDFTPP No. of extra records: 2
Source temp.: N/A Analyzer temp.: N/A Transfer line temp. : 0

Chromatographic temperatures :	150.	225.	0.	0.	0.
Chromatographic times, min. :	1.0	10.0	0.0	0.0	0.0
Chromatographic rate, deg/min:	10.0	0.0	0.0	.2	0.0

>MD889 MMSD;;;WS0469B DFTPP ;950305;;;;;QM1380;;
195 NRM

File: >MD889 Scan #: 195 Retn. time: 7.01

m/z	Int.	m/z	Int.	m/z	Int.	m/z	Int.	m/z	Int.
37.1	.5	93.9	.5	155.0	1.6	209.0	.4	281.9	.1
38.0	1.3	97.1	.2	156.1	2.4	210.0	.4	283.0	.4
39.1	4.2	97.9	6.6	156.9	.4	211.0	1.0	284.0	.2
40.1	.6	99.1	4.3	157.8	.8	211.8	.2	285.0	.5
41.0	.5	100.1	.4	159.1	.3	214.9	.3	290.0	.1
43.4	.4	100.9	2.4	160.0	1.1	216.0	.9	293.0	.4
44.1	.7	102.9	1.0	161.0	1.3	217.0	8.2	295.0	.3
46.2	.3	104.1	1.8	161.8	.4	218.0	1.1	296.0	8.3
46.9	.4	104.9	1.4	162.0	.3	219.0	.5	297.0	1.5
47.8	.2	105.6	.4	165.0	1.1	219.9	.1	303.0	1.2
48.9	1.0	106.9	18.2	166.0	.9	221.0	4.4	304.0	.5
49.2	1.0	107.9	2.8	167.0	6.8	222.0	1.1	309.0	.2
50.0	17.6	108.9	.5	168.0	2.8	222.9	1.6	310.0	.2
51.1	52.8	109.9	29.2	169.0	.7	224.0	14.4	314.0	.2
52.1	2.7	110.9	5.6	169.7	.2	225.0	4.6	315.0	.9
52.7	.2	112.1	.6	170.8	.2	226.0	.4	316.0	.8
53.1	.3	112.6	.3	171.9	.5	227.0	8.4	323.0	2.6
53.9	.2	115.3	.1	172.9	.8	228.0	.9	324.0	.6
54.2	.3	115.9	1.4	174.0	1.1	229.0	1.2	327.0	.6
54.5	.3	116.9	19.4	175.0	2.7	229.9	.2	331.8	.2
55.1	.6	117.9	1.8	176.0	.7	231.0	.5	333.0	.2
56.0	2.0	118.9	.3	177.0	1.3	232.7	.2	334.0	1.8
57.0	3.1	120.6	.2	177.7	.5	233.9	.5	335.1	.3
58.1	.5	120.9	.2	178.9	5.5	235.0	.7	341.0	.6
60.3	.3	121.9	1.5	179.9	3.2	235.9	.3	346.0	.7
60.9	.5	122.9	1.8	181.0	1.0	236.9	.3	347.0	.1
62.0	1.2	123.9	1.0	183.3	.2	238.9	.4	352.0	1.1
63.0	3.1	124.9	.8	184.0	.3	241.0	.6	353.1	.6
63.9	.6	125.4	.5	185.0	2.2	242.0	.9	354.0	.9
65.1	.7	126.9	47.4	186.0	16.5	243.0	1.1	365.0	3.8
66.8	.3	127.9	3.8	187.0	4.3	244.0	11.0	365.9	.4
68.9	68.4	129.0	28.9	188.0	.4	245.1	1.0	366.1	.4
69.9	.3	130.0	2.4	189.0	1.2	246.0	2.4	370.5	.1
72.9	.6	133.9	.6	189.9	.2	246.9	.6	372.0	1.4
73.9	7.0	135.0	1.8	191.0	.3	247.8	.3	373.0	.5
75.0	8.6	136.0	1.3	192.0	1.7	253.4	.2	382.9	.5
75.9	2.6	137.0	.7	193.0	1.7	254.0	.5	402.0	.6
77.0	44.9	140.1	.4	195.0	.2	255.0	65.6	403.0	.9
78.1	3.1	141.0	3.8	195.3	.2	256.0	9.6	404.0	.3
79.1	4.3	142.0	.9	196.0	2.7	257.0	.8	421.0	.5
80.1	3.4	142.9	.9	198.0	100.0	258.0	4.1	422.0	.5
81.1	4.9	144.0	.2	199.0	6.7	258.9	.6	423.0	4.9
81.9	.9	144.9	.4	200.0	.5	265.0	1.3	424.0	1.4
82.9	.7	146.0	.7	201.0	.1	270.9	.3	438.3	.2
85.9	1.4	147.0	1.8	201.5	.2	273.0	1.9	440.3	.1
87.1	.6	148.0	4.4	203.0	.8	274.0	4.6	441.0	13.8
88.1	.5	149.0	1.1	204.0	3.8	275.0	26.5	442.0	92.9
89.9	.1	150.0	.2	205.0	6.9	276.0	3.8	443.1	18.5
91.1	1.1	152.0	.2	206.0	26.7	276.9	3.0	444.1	1.6
92.1	1.4	152.8	1.2	207.0	3.1	278.0	.4	445.1	.2
92.9	[illegible]	153.9	.9	208.0	.9	279.0	.2		

IEA
An Aquarion Company

Initial Calibration

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Initial Calibration Data
HSL Compounds

Case No: Instrument ID: MMSD

Contractor: IEA Labs Illinois Calibration Date: 02/16/95

Contract No:

Minimum RF for SPCC is 0.0500 Maximum % RSD for CCC is 30.0%

Laboratory ID:	AM7188	AM7184	AM7187	AM7186	AM7185				
	RF	RF	RF	RF	RF				
Compound	20.00	50.00	80.00	120.00	160.00	$\overline{RF}$	% RSD	CCC	SPCC
N-Nitrosodimethylamine	.83479	.88552	.94870	.82819	.87052	.87754	5.558		
Pyridine	1.04603	1.06494	1.14142	1.04184	1.22877	1.10460	7.269		
2-Fluorophenol (surr)	1.15087	1.12571	1.21757	1.06219	1.09512	1.11949	5.094		
Aniline	1.94123	1.89347	2.00027	1.78073	1.81921	1.88698	4.7[illegible]		
Phenol-d5 (surr)	1.67620	1.67243	1.75855	1.52689	1.52688	1.62819	7.994		
Phenol	1.52155	1.63658	1.67789	1.46122	1.55340	1.52612	9.058	*	
bis(2-Chloroethyl)ether	1.34992	1.35529	1.42095	1.22833	1.28057	1.32101	5.594		
2-Chlorophenol	1.20764	1.14487	1.22099	1.05649	1.08115	1.14263	6.376		
1,3-Dichlorobenzene	1.44518	1.37516	1.49680	1.29744	1.32652	1.38818	5.949		
1,4-Dichlorobenzene	1.50852	1.41673	1.52341	1.32611	1.32399	1.41975	6.735	*	
1,2-Dichlorobenzene	1.41029	1.34799	1.44257	1.26060	1.26975	1.34620	5.049		
Benzyl Alcohol	.73844	.75596	.79510	.71269	.74032	.74850	4.051		
2-Methylphenol	1.08512	1.10495	1.13702	1.02376	1.05956	1.07810	4.518		
bis(2-chloroisopropyl)ether	.34362	.35388	.35678	.31894	.33561	.34136	4.649		
Hexachloroethane	.67076	.68994	.72855	.64163	.64621	.67542	5.261		
4-Methylphenol	1.46847	1.48528	1.54075	1.38977	1.40435	1.45762	4.272		
N-Nitroso-Di-n-propylamine	1.08863	1.13904	1.13612	1.04028	1.06603	1.09202	4.131		**
Nitrobenzene-d5 (surr)	.37637	.40559	.42297	.38768	.40405	.39933	4.465		
Nitrobenzene	.41400	.42374	.44229	.40211	.41070	.41857	3.669		
Isophorone	.83602	.84265	.84443	.78790	.81682	.82556	2.874		
2-Nitrophenol	.14438	.15764	.17592	.15973	.16234	.16140	7.465	*	
2,4-Dimethylphenol	.36565	.36249	.38118	.35125	.35966	.36405	3.014		
bis(2-Chloroethoxy)methane	.49569	.49460	.49524	.45511	.42551	.47323	6.725		
2,4-Dichlorophenol	.28327	.27901	.29306	.26655	.27339	.27906	3.594	*	
Benzoic acid	.14496	.21079	.24028	.24275	.26000	.21976	20.658		
1,2,4-Trichlorobenzene	.35927	.33576	.36057	.32505	.32750	.34163	5.026		
Naphthalene	1.05571	1.00586	1.03242	.95189	.94301	.99378	5.484		
4-Chloroaniline	.38358	.35127	.29766	.21240	.18014	.28501	30.656		
Hexachlorobutadiene	.21629	.19257	.21064	.18940	.18822	.19943	6.554	*	
4-Chloro-3-methylphenol	.31738	.32429	.32695	.29836	.30046	.31331	4.186	*	
2-Methylnaphthalene	.87815	.85843	.85966	.76954	.76179	.82551	6.694		
Hexachlorocyclopentadiene	.26746	.29162	.38885	.37976	.40017	.34557	17.748		**

RF - Response Factor (Subscript is amount in ng)

$\overline{RF}$ - Average Response Factor

%RSD - Percent Relative Standard Deviation

CCC - Calibration Check Compounds (*) SPCC - System Performance Check Compounds (**)

Initial Calibration Data
HSL Compounds

Case No: _____ Instrument ID: MM59

Contractor: IEA Labs Illinois Calibration Date: 02/16/95

Contract No: _____

Minimum RF for SPCC is 0.0500 Maximum % RSD for CCC is 30.0%

Laboratory ID:	>M7188	>M7184	>M7187	>M7186	>M7185				
	RF	RF	RF	RF	RF				
Compound	20.00	50.00	80.00	120.00	160.00	$\overline{RF}$	% RSD	CCC	SPCC
2,4,6-Trichlorophenol	.36110	.36839	.38441	.35733	.37669	.36958	3.006	*	
2,4,5-Trichlorophenol	.36925	.35048	.38198	.33209	.33183	.35310	5.315		
2-Fluorobiphenyl (surr)	1.27929	1.17185	1.23855	1.09337	1.11092	1.17864	5.792		
2-Chloronaphthalene	1.11050	1.03911	1.11992	1.00515	1.04022	1.06280	4.668		
2-Nitroaniline	.32625	.37539	.40755	.36830	.37923	.37135	7.958		
Acenaphthylene	1.91215	1.77699	1.90350	1.62949	1.69677	1.78178	7.102		
Dimethylphthalate	1.31435	1.25409	1.29988	1.17449	1.15941	1.23864	5.577		
2,6-Dinitrotoluene	.22295	.24172	.26887	.23658	.24532	.24345	6.807		
Acenaphthene	1.15009	1.08796	1.12782	.97539	1.00292	1.06884	7.175	*	
3-Nitroaniline	.36634	.37581	.36238	.31005	.29534	.34219	10.755		
2,4-Dinitrophenol	.04105	.07404	.07879	.08005	.09795	.07438	27.864		**
Dibenzofuran	1.54686	1.52214	1.54827	1.36494	1.43456	1.47735	5.845		
2,4-Dinitrotoluene	.29901	.31542	.35017	.31481	.33609	.32121	7.292		
4-Nitrophenol	.15954	.20956	.21594	.19929	.21625	.19890	11.574		**
Fluorene	1.24213	1.18235	1.16961	1.02662	1.05141	1.13462	8.085		
Diethylphthalate	1.48220	1.36592	1.38169	1.23720	1.28583	1.35057	6.983		
4-Nitroaniline	.20169	.20306	.19347	.20426	.21794	.20594	3.671		
2,4,6-Tribromophenol (surr)	.22822	.21167	.24747	.22099	.22715	.22710	5.787		
4,6-Dinitro-2-methylphenol	.05914	.08331	.09851	.09227	.10509	.08776	20.312		
4-Chlorophenyl-phenylether	.46128	.43079	.45969	.40322	.46008	.43101	6.831		
N-Nitrosodiphenylamine (1)	.58578	.56143	.57205	.50476	.44849	.53450	10.685	*	
1,2-Diphenylhydrazine	1.29376	1.30392	1.33813	1.19301	1.23383	1.27353	4.611		
4-Bromophenyl-phenylether	.26025	.24678	.27086	.24008	.23361	.25032	6.048		
Hexachlorobenzene	.38939	.34944	.37713	.33579	.33556	.35746	6.880		
Pentachlorophenol	.13602	.15974	.17443	.17192	.17221	.16286	9.871	*	
Phenanthrene	1.22363	1.12513	1.15277	1.06748	1.06089	1.13398	6.441		
Anthracene	1.20367	1.08622	1.16529	1.06283	1.03425	1.11045	6.425		
Carbazole	.99953	.87643	.91465	.83666	.85633	.89672	7.171		(Conc=40.0,100.0,160.0,240.0,320.
Di-n-butylphthalate	1.60632	1.45019	1.46718	1.33467	1.34362	1.44040	7.675		
Fluoranthene	1.14212	1.04742	1.08929	.99233	1.07018	1.06827	5.149	*	
Benzidine	.01899	.02114	.02170	.01932	.01941	.02011	6.063		
Pyrene	1.55963	1.47690	1.44388	1.29211	1.30751	1.41601	8.07[illegible]		

RF - Response Factor (Subscript is amount in ngs)

$\overline{RF}$ - Average Response Factor

%RSD - Percent Relative Standard Deviation

CCC - Calibration Check Compounds (*) SPCC - System Performance Check Compounds (**)

Initial Calibration Data
HSL Compounds

Case No: ---------- Instrument ID: MMSD ----------

Contractor: IEA Labs Illinois ---------- Calibration Date: 02/16/95 ----------

Contract No: ----------

Minimum $\overline{RF}$ for SPCC is 0.0500 Maximum % RSD for CCC is 30.0.

Laboratory ID:	>M7188	>M7184	>M7187	>M7186	>M7185				
	RF	RF	RF	RF	RF				
Compound	20.00	50.00	80.00	120.00	160.00	$\overline{RF}$	% RSD	CCC	SPCC
Terphenyl-d14 (surr)	1.02164	.95298	.96285	.84257	.86091	.92819	8.003		
Butylbenzylphthalate	.71761	.71361	.73665	.68638	.72443	.71574	2.598		
3,3'-Dichlorobenzidine	.37905	.32599	.33409	.28285	.24515	.31743	16.338		
Benzo(a)anthracene	1.21622	1.22027	1.27094	1.16895	1.15737	1.20675	3.766		
Chrysene	1.14527	1.07097	1.14679	1.01049	.99721	1.07405	6.624		
bis(2-Ethylhexyl)phthalate	.93378	.96412	.99637	.92617	.96402	.95689	2.978		
Di-n-octylphthalate	1.40099	1.56644	1.68606	1.56909	1.74813	1.59414	8.349	*	
Benzo(b)fluoranthene	1.21278	1.16924	1.25862	1.14803	1.19116	1.19597	3.558		
Benzo(k)fluoranthene	1.08642	.99110	1.17404	1.01396	1.02799	1.05870	6.939		
Benzo(a)pyrene	1.01001	1.04565	1.13681	1.00624	1.02597	1.04493	5.136	*	
Indeno[1,2,3-cd]pyrene	.79627	.82783	.91819	.83347	.89514	.85418	5.927		
Dibenz(a,h)anthracene	.78099	.80410	.88845	.78839	.82007	.81640	5.266		
Benzo(g,h,i)perylene	.80950	.79328	.88129	.78647	.81446	.81740	4.566		

RF - Response Factor (Subscript is amount in ngs)

$\overline{RF}$ - Average Response Factor

%RSD - Percent Relative Standard Deviation

CCC - Calibration Check Compounds (*) SPCC - System Performance Check Compounds (**)

QUANT REPORT

Operator ID: GC Quant Rev: 7 Quant Time: 950215 21:18
Output File: ^M7185::Q2 Injected at: 950215 20:33
Data File: >M7185::D4 Dilution Factor: 1.00000
Name: MMSD;;;SSTD160 Instrument ID: MMSD
Misc: WS0423B ; ;950215; ; ; ;QM1371; ; BTL# 2

ID File: IDMBNA::QT
Title: BNA ORGANIC STANDARDS; IEA LABORATORIES 11/13/89
Last Calibration: 950201 19:23 Last Qcal Time: 950215 19:40

	Compound	R.T.	Q ion	Area	Conc	Units	q
1)	*1,4-Dichlorobenzene-d4 (istd)	10.71	152.0	40642	40.00	ngs	98
2)	N-Nitrosodimethylamine	2.79	74.0	141519	157.29	ngs	80
3)	Pyridine	2.71	79.0	199758	184.61	ngs	99
4)	2-Fluorophenol (surr)	6.32	112.0	178032	155.65	ngs	90
5)	Aniline	9.72	93.0	295745	153.72	ngs	90
6)	Phenol-d5 (surr)	10.11	99.0	248221M	146.07	ngs	86
7)	Phenol	10.15	94.0	216768	130.36	ngs	100
8)	bis(2-Chloroethyl)ether	10.17	93.0	208179	151.18	ngs	98
9)	2-Chlorophenol	10.06	127.9	175760	151.09	ngs	98
10)	1,3-Dichlorobenzene	10.53	146.0	215617	154.32	ngs	96
11)	1,4-Dichlorobenzene	10.78	146.0	215238	149.53	ngs	97
12)	1,2-Dichlorobenzene	11.51	146.0	206423	150.71	ngs	98
13)	Benzyl Alcohol	11.74	108.0	120353	156.69	ngs	86
14)	2-Methylphenol	12.52	108.0	169019	150.55	ngs	93
15)	bis(2-chloroisopropyl)ether	12.42	121.0	54235M	150.84	ngs	96
16)	Hexachloroethane	12.75	117.0	105053	149.86	ngs	98
17)	4-Methylphenol	13.24	107.0	228302	151.28	ngs	91
18)	N-Nitroso-Di-n-propylamine	13.12	70.0	171677M	148.34	ngs	86
19)	*Naphthalene-d8 (istd)	16.27	136.0	145313	40.00	ngs	94
20)	Nitrobenzene-d5 (surr)	13.32	82.0	234852	159.39	ngs	87
21)	Nitrobenzene	13.40	77.0	238723	155.08	ngs	81
22)	Isophorone	14.52	82.0	474780	155.10	ngs	94
23)	2-Nitrophenol	14.79	139.0	98430	171.88	ngs	97
24)	2,4-Dimethylphenol	15.53	107.0	209052	158.75	ngs	89
25)	bis(2-Chloroethoxy)methane	15.91	93.0	247331	137.65	ngs	98
26)	2,4-Dichlorophenol	15.96	162.0	158911	156.78	ngs	90
27)	Benzoic acid	16.89	105.0	151124M	197.35	ngs	94
28)	1,2,4-Trichlorobenzene	16.18	180.0	190361	156.06	ngs	90
29)	Naphthalene	16.39	128.0	548126	150.00	ngs	96
30)	4-Chloroaniline	17.02	127.0	104706M	82.05	ngs	96
31)	Hexachlorobutadiene	17.44	224.8	109406	156.39	ngs	90
32)	4-Chloro-3-methylphenol	19.65	107.0	174641	148.24	ngs	88
33)	2-Methylnaphthalene	19.63	142.0	442792	141.99	ngs	90
34)	*Acenaphthene-d10 (istd)	23.35	164.0	77696	40.00	ngs	96
35)	Hexachlorocyclopentadiene	20.64	236.8	124365M	219.55	ngs	94
36)	2,4,6-Trichlorophenol	21.05	196.0	117070	163.61	ngs	90
37)	2,4,5-Trichlorophenol	21.16	196.0	103126	151.48	ngs	94
38)	2-Fluorobiphenyl (surr)	21.36	172.0	345255	151.78	ngs	97
39)	2-Chloronaphthalene	21.49	162.0	323283	176.19	ngs	98
40)	2-Nitroaniline	22.17	65.0	117860	161.64	ngs	97
41)	Acenaphthylene	22.86	152.0	524220	151.88	ngs	99
42)	Dimethylphthalate	23.04	163.0	360326	147.92	ngs	93
43)	2,6-Dinitrotoluene	23.18	165.0	76241	162.38	ngs	93

Operator ID: GC Quant Rev: 7 Quant Time: 950215 21:18
Output File: ^M7185::Q2 Injected at: 950215 20:33
Data File: >M7185::D4 Dilution Factor: 1.00000
Name: MMSD;;;SSTD160 Instrument ID: MMSD
Misc: WS0423B ; ;950215; ; ; ;QM1371; ; BTL# 2

ID File: IDMBNA::QT
Title: BNA ORGANIC STANDARDS; IEA LABORATORIES 11/13/89
Last Calibration: 950201 19:23 Last Qcal Time: 950215 19:40

	Compound	R.T.	Q ion	Area	Conc	Units	q
44)	Acenaphthene	23.46	153.0	311692	147.49	ngs	94
45)	3-Nitroaniline	23.52	65.0	91786	125.40	ngs	83
46)	2,4-Dinitrophenol	23.81	184.0	30440	211.65	ngs	92
47)	Dibenzofuran	23.96	168.0	436516	147.64	ngs	85
48)	2,4-Dinitrotoluene	24.30	165.0	104625	170.77	ngs	93
49)	4-Nitrophenol	24.26	139.0	67201	168.31	ngs	97
50)	Fluorene	24.95	166.0	326761	142.28	ngs	100
51)	Diethylphthalate	25.16	149.0	399616	150.62	ngs	96
52)	4-Nitroaniline	25.35	138.0	67731	171.72	ngs	84
53)	2,4,6-Tribromophenol (surr)	25.70	329.8	70595	171.70	ngs	88
54)	*Phenanthrene-d10 (istd)	27.42	188.0	98465	40.00	ngs	98
55)	4,6-Dinitro-2-methylphenol	25.44	198.0	41390M	200.63	ngs	86
56)	4-Chlorophenyl-phenylether	25.10	204.0	157577	148.60	ngs	98
57)	N-Nitrosodiphenylamine (1)	25.51	169.0	176642	127.81	ngs	92
58)	1,2-Diphenylhydrazine	25.53	77.0	485955M	151.40	ngs	97
59)	4-Bromophenyl-phenylether	26.39	250.0	92011	151.46	ngs	95
60)	Hexachlorobenzene	26.68	283.8	132165	153.64	ngs	89
61)	Pentachlorophenol	27.21	265.9	67827M	172.49	ngs	96
62)	Phenanthrene	27.51	178.0	417841	150.86	ngs	98
63)	Anthracene	27.62	178.0	407350	152.34	ngs	93
64)	Carbazole	28.17	167.0	674551	312.66	ngs	97
65)	Di-n-butylphthalate	29.42	149.0	529199	148.24	ngs	97
66)	Fluoranthene	30.56	202.0	421501	163.48	ngs	96
67)	*Chrysene-d12 (istd)	34.18	240.0	82486	40.00	ngs	94
68)	Benzidine	27.14	184.0	6405	146.90	ngs	87
69)	Pyrene	31.10	202.0	431406	141.65	ngs	97
70)	Terphenyl-d14 (surr)	31.68	244.0	284051	144.54	ngs	99
71)	Butylbenzylphthalate	33.13	149.0	239022	162.43	ngs	89
72)	3,3'-Dichlorobenzidine	34.22	252.0	80885M	120.32	ngs	100
73)	Benzo(a)anthracene	34.14	228.0	381867	151.75	ngs	89
74)	Chrysene	34.25	228.0	329024	148.98	ngs	85
75)	bis(2-Ethylhexyl)phthalate	34.71	149.0	318074	159.98	ngs	79
76)	*Perylene-d12 (istd)	37.47	264.0	73083	40.00	ngs	98
77)	Di-n-octylphthalate	36.17	149.0	511034	178.56	ngs	97
78)	Benzo(b)fluoranthene	36.69	252.0	348213	163.00	ngs	78
79)	Benzo(k)fluoranthene	36.75	252.0	300513M	165.95	ngs	76
80)	Benzo(a)pyrene	37.36	252.0	299924	156.99	ngs	97
81)	Indeno[1,2,3-cd]pyrene	39.98	276.0	261678	173.01	ngs	98
82)	Dibenz(a,h)anthracene	40.07	278.0	239734	163.18	ngs	100
83)	Benzo(g,h,i)perylene	40.69	276.0	238093	164.27	ngs	100

* Compound is ISTD

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5A

VOLATILE ORGANIC GC/MS TUNING AND MASS CALIBRATION - BROMOFLUOROBENZENE (BFB)

Lab Name: IEA ILLINOIS Contract:

Lab code: IEA-IL Case No.: SAS No.: SDG No.:

Lab File ID: >0B875 BFB Injection Date: 2/22/95

Instrument ID: OMSD BFB Injection Time: 11:19

Matrix: (water) Level: (low) Column: (cap)

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	25.2
75	30.0 - 60.0% of mass 95	56.2
95	Base Peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	7.6
173	Less than 2.0% of mass 174	0.0 (0.0)1
174	Greater than 50% of mass 95	72.2
175	5.0 - 9.0% of mass 174	6.3 (8.8)1
176	95.0 - 101.0% of mass 174	69.1 (95.6)1
177	5.0 - 9.0% of mass 176	4.4 (6.3)2

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

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	VSTD010	CAL1	>01032	02/22/95	11:40
02	VSTD020	CAL2	>01033	02/22/95	12:17
03	VSTD050	CAL3	>01034	02/22/95	12:53
04	VSTD100	CAL4	>01035	02/22/95	13:29
05	VSTD200	CAL5	>01036	02/22/95	14:06
06					
07					
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					

GC/MS PERFORMANCE STANDARD

Bromofluorobenzene (BFB)

m/z	Ion Abundance Criteria	% Relative Abundance Base Peak	% Relative Abundance Appropriate Peak	Status
50	15-40% of mass 95	25.20	25.20	Ok
75	30-60% of mass 95	56.21	56.21	Ok
95	Base peak, 100% relative abundance	100.00	100.00	Ok
96	5-9% of mass 95	7.56	7.56	Ok
173	Less than 2% of mass 174	.82	1.14	Ok
174	50-100% of mass 95	72.24	72.24	Ok
175	5-9% of mass 174	6.34	8.78	Ok
176	95-101% of mass 174	69.05	95.59	Ok
177	5-9% of mass 176	4.37	6.33	Ok

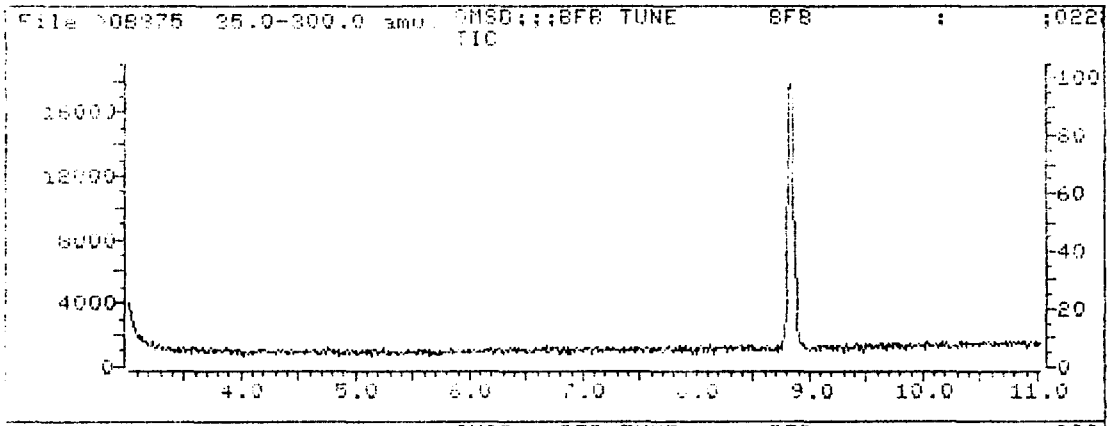
Injection Date: 02/22/95
Injection Time: 11:19
Data File: >OB875
Scan: 500

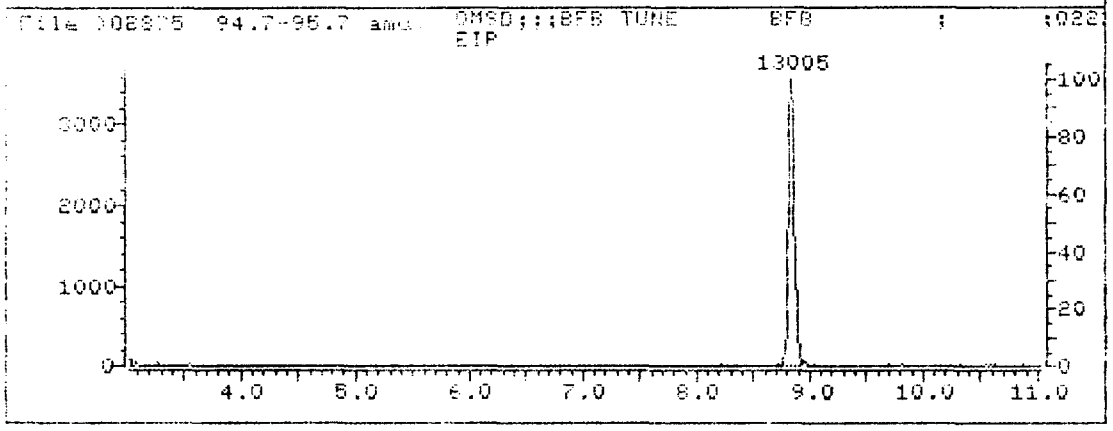
>08875 0MSD;;;BFB TUNE BFB ; ;022295; ; ;;;QO

94.7| 95.7 ETP
Upslope: .20 Area Reject: 5.00 % Max Peaks: 1 Bunching: 1
Dnslope: 0.00 Results File VDTR62 Sorted by Time/Area TNT

Peak #	R.T. min.	first scan	max scan	last scan	peak height	raw area	corr. area	corr. % max.	% of total
1	8.83	492	499	507	3571	13005	13005	100.00	100.000

Sum of corrected areas: 13005.



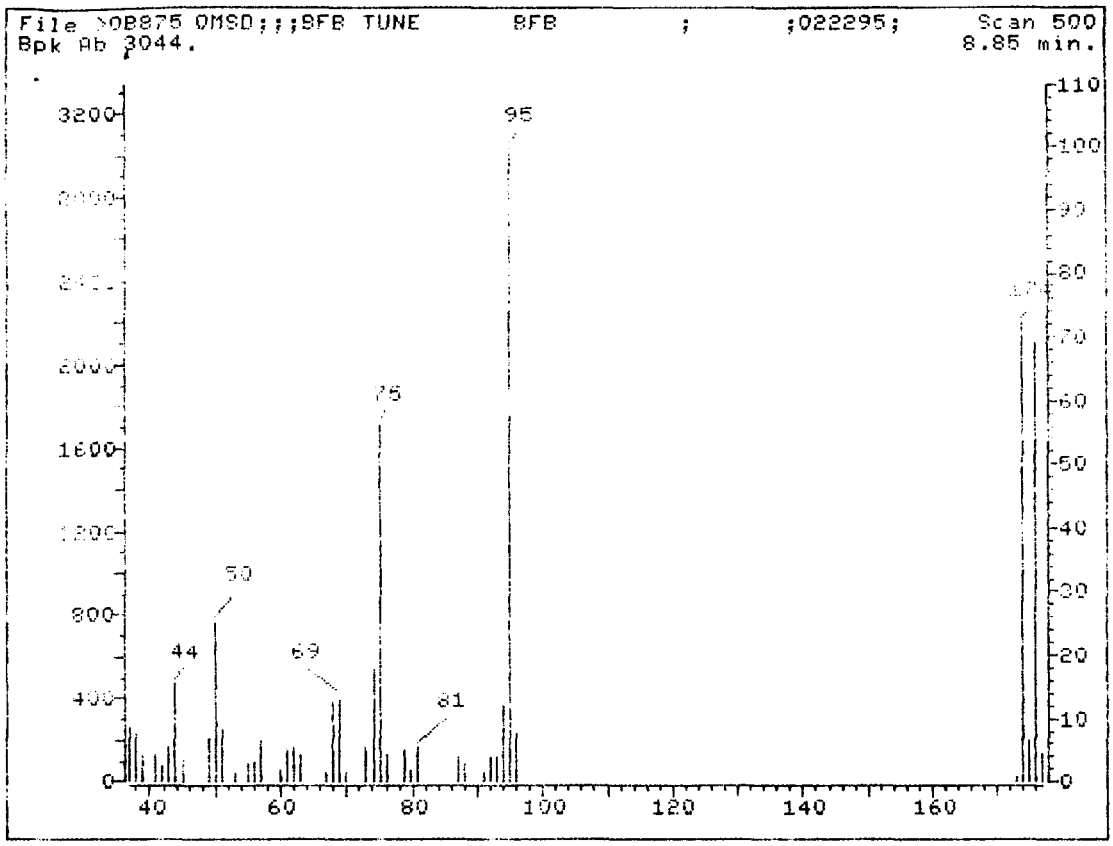


>OB875 OMSD;;;BFB TUNE BFB ; ;022295; ; ;;;QO

500 NRM

File: >OB875 Scan #: 500 Retn. time: 8.85

m/z	Int.	m/z	Int.	m/z	Int.	m/z	Int.	m/z	Int.
36.9	8.7	49.9	25.2	63.1	4.1	78.9	5.0	94.0	11.9
37.9	7.5	50.9	8.0	66.9	1.4	79.9	1.9	95.0	100.0
38.9	4.0	52.9	1.3	67.9	12.7	80.9	5.4	96.0	7.6
40.9	4.1	54.9	2.8	68.9	13.3	86.9	3.9	172.9	.8
41.9	2.3	55.9	3.2	69.9	1.5	88.0	2.7	174.0	72.2
42.9	5.5	56.9	6.6	72.9	5.6	91.0	1.5	175.0	6.3
43.9	15.5	59.9	1.9	74.1	17.5	92.0	3.8	176.0	69.1
45.1	3.6	60.9	5.3	75.1	56.2	92.9	3.9	177.0	4.4
48.9	6.7	61.9	5.5	76.1	4.1				



MS data file header from : >OB875

Sample: OMSD;;;BFB TUNE Operator: TOM SUPER GRP. 2/22/95 11:19
Misc : BFB ; ;022295; ; ;;;QO1551 ;;1 UL TN
Sys. #: 2 MS model: 70 SW/HW rev.: TA ALS # : 0
Method file: OBFBCK Tuning file: OBFBMT No. of extra records: 2
Source temp.: 0 Analyzer temp.: 230 Transfer line temp. : 0

Chromatographic temperatures :	100.	180.	0.	0.	0.
Chromatographic times, min. :	1.0	4.0	0.0	0.0	0.0
Chromatographic rate, deg/min:	10.0	0.0	0.0	.5	0.0

5A

VOLATILE ORGANIC GC/MS TUNING AND MASS CALIBRATION - BROMOFLUOROBENZENE (BFB)

Lab Name: IEA ILLINOIS Contract:

Lab code: IEA-IL Case No.: CH950411 SAS No.: SDG No.:

Lab File ID: >0B881 BFB Injection Date: 2/28/95

Instrument ID: OMSD BFB Injection Time: 12:10

Matrix: (water) Level: (low) Column: (cap)

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	23.9
75	30.0 - 60.0% of mass 95	55.5
95	Base Peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	5.8
173	Less than 2.0% of mass 174	0.0 (0.0)1
174	Greater than 50% of mass 95	65.4
175	5.0 - 9.0% of mass 174	5.3 (8.1)1
176	95.0 - 101.0% of mass 174	62.4 (95.6)1
177	5.0 - 9.0% of mass 176	3.8 (6.1)2

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

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	VSTD050	CALCHECK	>01103	02/28/95	12:33
02	METHODBLANK	VBLK022895	>01104	02/28/95	13:10
03	SAU-01	950411001	>01113	02/28/95	18:36
04	SAU-02	950411002	>01114	02/28/95	19:12
05	SAU-02MS	950411002MS	>01115	02/28/95	19:48
06	SAU-02MD	950411002MD	>01116	02/28/95	20:26
07	ZHEBLANK	QZ0261	>01117	02/28/95	21:03
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					

page __ of __.

GC/MS PERFORMANCE STANDARD

Bromofluorobenzene (BFB)

m/z	Ion Abundance Criteria	% Relative Abundance Base Peak	% Relative Abundance Appropriate Peak	Status
50	15-40% of mass 95	23.95	23.95	Ok
75	30-60% of mass 95	55.48	55.48	Ok
95	Base peak, 100% relative abundance	100.00	100.00	Ok
96	5-9% of mass 95	5.85	5.85	Ok
173	Less than 2% of mass 174	0.00	0.00	Ok
174	50-100% of mass 95	65.35	65.35	Ok
175	5-9% of mass 174	5.28	8.08	Ok
176	95-101% of mass 174	62.41	95.51	Ok
177	5-9% of mass 176	3.79	6.07	Ok

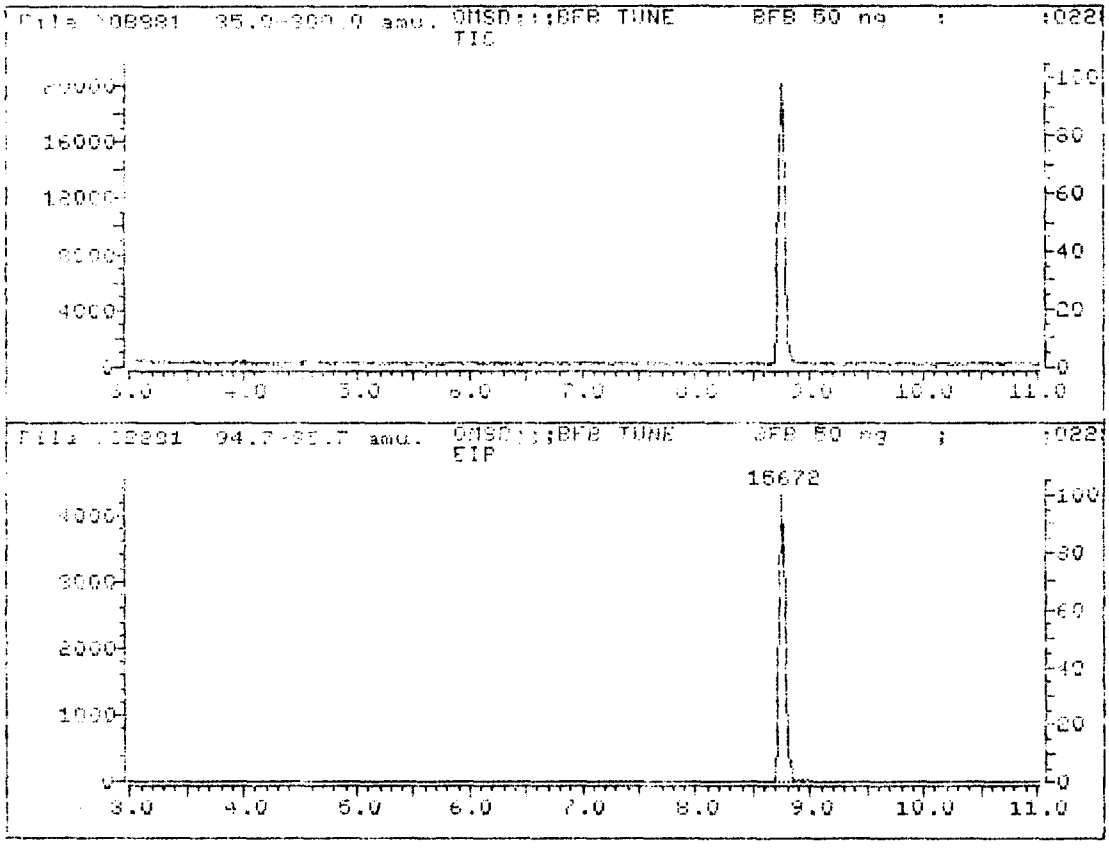
Injection Date: 02/28/95
Injection Time: 12:10
Data File: >OB881
Scan: 494

>OB881 OMSD;;;BFB TUNE BFB 50 ng ; ;022895; ; ;;;QO

94.7| 95.7 EIP
Upslope: .20 Area Reject: 5.00 % Max Peaks: 1 Bunching: 1
Dnslope: 0.00 Results File TN8088 Sorted by Time/Area INT

Peak #	R.T. min.	first scan	max scan	last scan	peak height	raw area	corr. area	corr. % max.	% of total
1	8.75	489	495	504	4317	15672	15672	100.00	100.000

Sum of corrected areas: 15672.

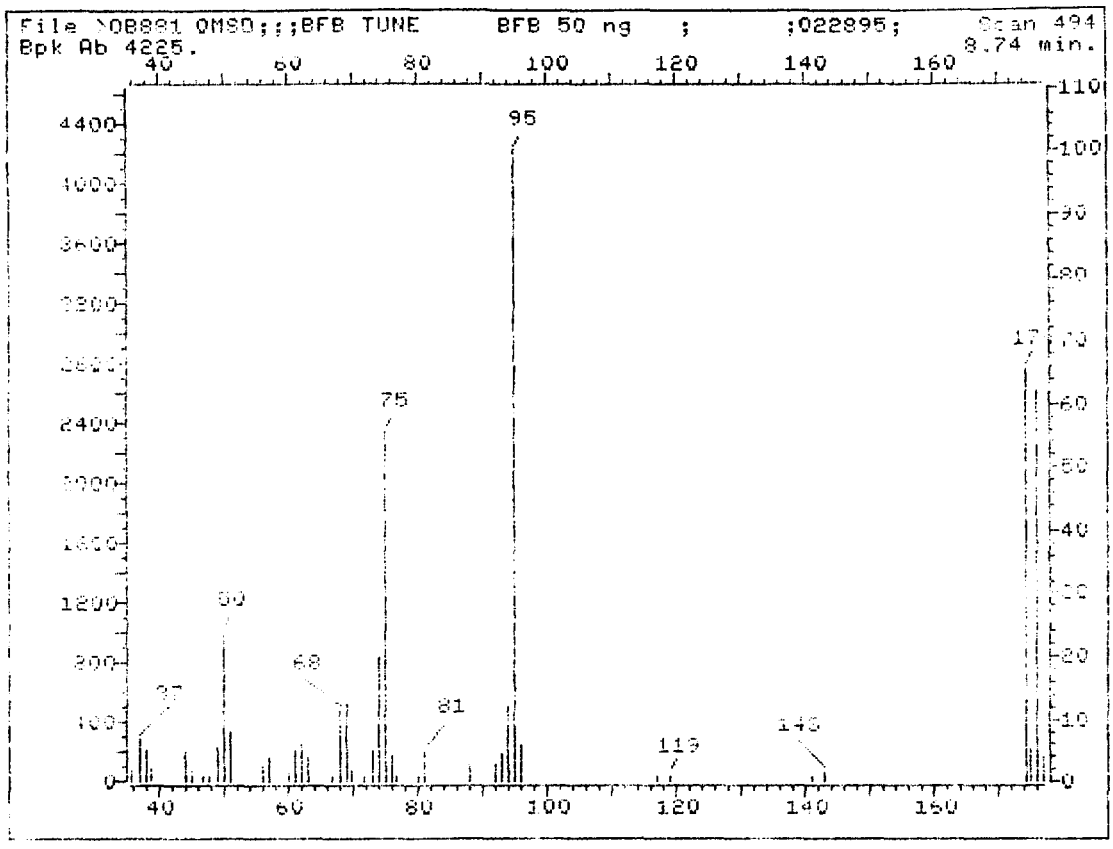


>OB881 0MSD;;;BFB TUNE BFB 50 ng ; ;022895; ; ;;;QO

494 NRM

File: >OB881 Scan #: 494 Retn. time: 8.74

m/z	Int.	m/z	Int.	m/z	Int.	m/z	Int.	m/z	Int.
35.8	1.7	49.9	24.0	67.9	11.4	79.9	1.3	116.9	.7
36.9	6.7	50.9	7.8	69.1	12.7	80.9	4.7	118.9	.9
38.1	5.3	55.9	2.4	69.9	1.6	88.0	2.7	141.0	.9
38.8	2.3	57.1	3.8	71.9	.7	91.9	2.6	142.9	1.6
43.9	5.0	59.9	1.4	73.1	5.0	93.0	4.6	174.0	65.3
45.1	1.7	60.9	5.8	74.1	19.7	94.0	12.0	175.0	5.3
46.8	1.0	61.9	6.6	75.1	55.5	95.0	100.0	176.0	62.4
47.8	.7	62.9	3.8	75.9	4.3	96.0	5.8	177.0	3.8
48.9	5.6	66.9	.7	76.8	.9				



MS data file header from : >OB881

Sample: OMSD;;;BFB TUNE Operator: OMSD SUPER GRP. 2/28/95 12:10
Misc : BFB 50 ng ; ;022895; ; ;;;QO1555 ;;1 UL IN
Sys. #: 2 MS model: 70 SW/HW rev.: IA ALS # : 0
Method file: OBFBCK Tuning file: OBFBMT No. of extra records: 2
Source temp.: 0 Analyzer temp.: 230 Transfer line temp. : 0

Chromatographic temperatures :	100.	180.	0.	0.	0.
Chromatographic times, min. :	1.0	4.0	0.0	0.0	0.0
Chromatographic rate, deg/min:	10.0	0.0	0.0	.5	0.0

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Initial Calibration

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Initial Calibration Data
HSL Compounds

Case No: Instrument ID: OMSD

Contractor: IEA Labs Illinois Calibration Date: 02/22/95

Contract No:

Minimum $\overline{RF}$ for SPCC is 0.300 Maximum % RSD for CCC is 30%

Laboratory ID:	>01032	>01033	>01034	>01035	>01036				
Compound	RF 10.00	RF 20.00	RF 50.00	RF 100.00	RF 200.00	$\overline{RF}$	% RSD	CCC	SPCC
Dichlorodifluoromethane	1.37159	1.41248	1.43383	1.52605	1.51923	1.45263	4.664		
Chloromethane	.54185	.59827	.54968	.60250	.59233	.57692	4.993		**
Vinyl Chloride	.64404	.62630	.60557	.64807	.65176	.63515	3.024	*	
Bromomethane	1.21045	1.27855	1.27805	1.22946	1.22902	1.24511	2.511		
Chloroethane	.26135	.41658	.40664	.43082	.40248	.38357	18.039		
Trichlorofluoromethane	3.18579	3.30617	3.26146	3.32968	3.25519	3.26766	1.692		
1,1,2-Trichlorotrifluoroethane	2.21655	2.22306	2.16681	2.30653	2.23302	2.22919	2.252		
Acrolein	.04962	.05996	.04657	.05411	.04425	.05090	12.307		(Conc=20.0,40.0,100.0,200.0,400.0
1,1-Dichloroethene	1.24042	1.21833	1.10642	1.12764	1.05324	1.14921	6.825	*	
Acetone	.40676	.33171	.26734	.32355	.27995	.32186	17.043		
Carbon Disulfide	3.00403	3.07802	2.96617	3.08002	2.94019	3.01369	2.118		
Methylene Chloride	1.39173	1.29231	1.13319	1.15131	1.12210	1.21813	9.760		
Acrylonitrile	.29672	.24164	.22805	.21232	.21377	.23850	14.533		
trans-1,2-Dichloroethene	1.39467	1.40651	1.31349	1.35045	1.30451	1.35393	3.408		
1,2-Dichloroethene (total)	1.52068	1.47776	1.37425	1.41203	1.34844	1.42663	5.022		(Conc=20.0,40.0,100.0,200.0,400.0
MTBE	.37041	.30679	.23223	.25619	.21671	.27646	22.650		
N-Hexane	1.36864	1.08337	.83469	.95431	.91943	1.03209	20.185		
1,1-Dichloroethane	2.25585	2.25991	2.28469	2.41805	2.28004	2.29971	2.927		**
Vinyl Acetate	2.26862	1.75716	2.22270	1.85647	2.28257	2.07750	12.061		
cis-1,2-Dichloroethene	1.49194	1.44726	1.40353	1.45885	1.37582	1.43548	3.202		
2-Butanone	.46178	.46953	.39465	.50965	.42825	.45277	9.612		
Chloroform	1.26013	1.32225	1.26548	1.19926	1.24196	1.25782	3.532	*	
1,1,1-Trichloroethane	1.04032	1.06702	.99442	.96126	1.01287	1.01518	4.020		
Carbon Tetrachloride	1.20156	1.22141	1.17030	1.16050	1.17615	1.18599	2.103		
1,2-Dichloroethane-d4	.62487	.63861	.60193	.58561	.61061	.61233	3.340		
1,2-Dichloroethane	.80110	.79437	.79360	.78611	.83180	.80139	2.222		
Benzene	.84434	.87905	.86307	.83551	.85625	.85564	1.970		
Trichloroethene	.72482	.72684	.67001	.67692	.69994	.69970	3.759		
1,2-Dichloropropane	.38991	.42305	.41963	.40558	.43279	.41419	4.036	*	
Bromodichloromethane	1.44776	1.48944	1.36325	1.32790	1.38563	1.40280	4.647		
2-Chloroethyl Vinyl Ether	.04171	.22863	.22683	.23694	.21555	.18993	43.808		
trans-1,3-Dichloropropene	.69105	.73351	.70524	.67836	.74329	.71029	3.883		(Conc=9.2,18.4,46.0,92.0,184.0)

RF - Response Factor (Subscript is amount in ug/kg)

$\overline{RF}$ - Average Response Factor

%RSD - Percent Relative Standard Deviation

CCC - Calibration Check Compounds (*) SPCC - System Performance Check Compounds (**)

HSL Compounds

Case No: Instrument ID: OMSD

Contractor: TEA Labs Illinois Calibration Date: 02/22/95

Contract No:

Minimum $\overline{RF}$ for SPCC is 0.300 Maximum % RSD for CCC is 30%

Laboratory ID:	>01032	>01033	>01034	>01035	>01036					
	RF	RF	RF	RF	RF					
Compound	10.00	20.00	50.00	100.00	200.00	$\overline{RF}$	% RSD	CCC	SPCC	
4-Methyl-2-Pentanone	.23139	.23998	.19966	.19355	.21722	.21636	9.197			
Toluene-d8	.89134	.92898	.92532	.88252	.96081	.92779	4.540			
Toluene	1.02636	1.04551	.98501	.91688	.98777	.99231	4.976	*		
cis-1,3-Dichloropropene	.63527	.63663	.61210	.58827	.64512	.62368	3.697			(Conc=10.0,21.2,53.0,106.0,212.0)
1,1,2-Trichloroethane	.67741	.63977	.63994	.61841	.60160	.63443	4.197			
Tetrachloroethene	1.01147	1.09117	1.07165	1.01997	.98408	1.03566	4.283			
2-Hexanone	.28763	.29469	.25928	.25478	.26565	.27241	6.508			
Dibromochloromethane	1.75542	1.80829	1.83676	1.79940	1.79760	1.79949	1.623			
Chlorobenzene	1.07772	1.11881	1.09725	1.12125	1.11179	1.10437	1.698		**	
Ethylbenzene	1.47773	1.51572	1.47428	1.46314	1.43054	1.47228	2.079	*		
m & p-Xylene	.48097	.48557	.48965	.45681	.46360	.47532	3.017			(Conc=20.0,40.0,100.0,200.0,400.0
o-Xylene	.44044	.45943	.46230	.45861	.44150	.45246	2.339			
Xylene (total)	.46718	.47656	.47730	.45698	.45614	.46683	2.184			(Conc=30.0,60.0,150.0,300.0,600.0
Styrene	.81824	.81353	.83359	.81173	.77559	.81053	2.633			
Bromoform	1.36133	1.39768	1.40315	1.40061	1.37762	1.38808	1.299		**	
Bromofluorobenzene	.82141	.85020	.86925	.84398	.82479	.84192	2.326			
1,1,2,2-Tetrachloroethane	1.04809	.99554	.98655	.90845	.90984	.96969	6.194		**	
1,3-Dichlorobenzene	1.38313	1.36893	1.39250	1.39005	1.34686	1.37629	1.369			
1,4-Dichlorobenzene	1.26926	1.28812	1.28841	1.26162	1.24626	1.27073	1.418			
1,2-Dichlorobenzene	1.26791	1.29068	1.33202	1.29742	1.25429	1.28747	2.393			

RF - Response Factor (Subscript is amount in ug/kg)

$\overline{RF}$ - Average Response Factor

%RSD - Percent Relative Standard Deviation

CCC - Calibration Check Compounds (*) SPCC - System Performance Check Compounds (**)

QUANT REPORT

Operator ID: OMSD Quant Rev: 6 Quant Time: 950222 12:12
Output File: ^O1032::QF Injected at: 950222 11:40
Data File: >O1032::D6 Dilution Factor: 1.00000
Name: OMSD;;;CAL CHECK 10
Misc: VSTD010 ; ;022295;LLW; 1 ;;;QO1551;;; 5ml

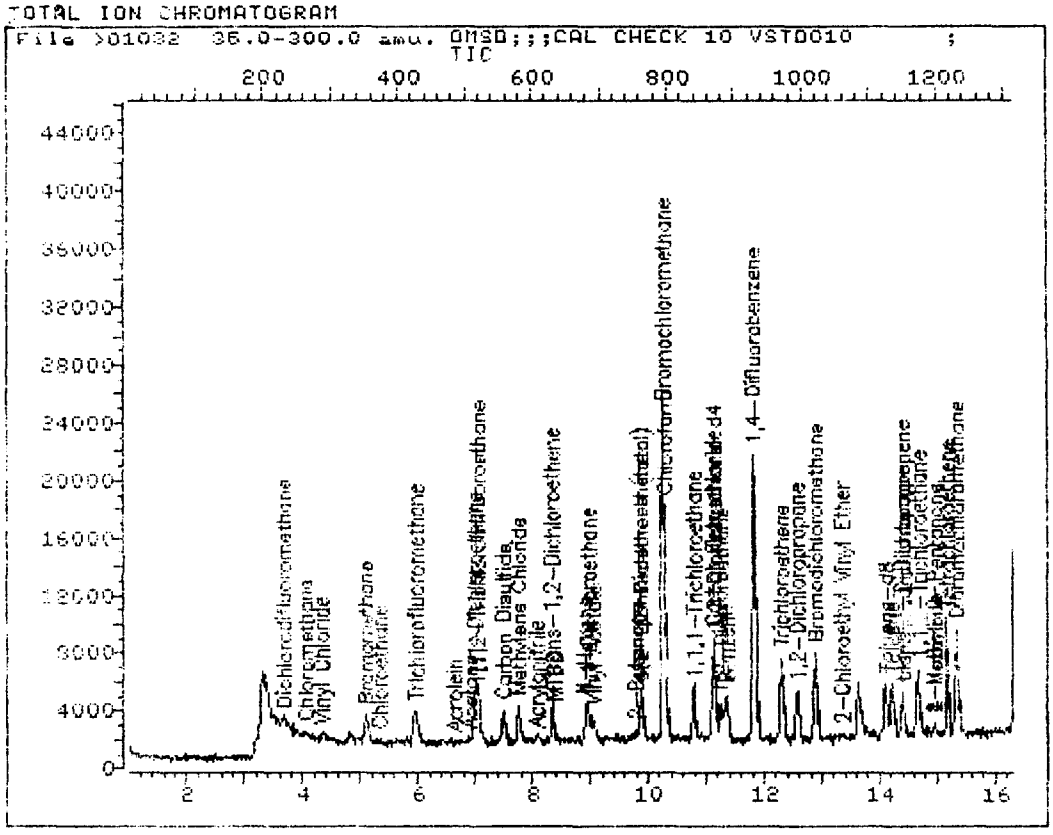
ID File: IDOVOW::QF
Title: VOLATILE ORGANICS-O-WATER;IEAIL; 12-21-88; 50M; .53mmid; 3um
Last Calibration: 950215 16:31

	Compound	R.T.	Q ion	Area	Conc	Units	q
1)	*Bromochloromethane	10.26	128.0	10178	50.00	ug/L	98
2)	Dichlorodifluoromethane	3.68	85.0	2792	12.33	ug/L	100
3)	Chloromethane	4.05	50.0	1103	8.15	ug/L	82
4)	Vinyl Chloride	4.32	62.0	1311	9.29	ug/L	99
5)	Bromomethane	5.09	94.0	2464	9.75	ug/L	96
6)	Chloroethane	5.32	64.0	532M	5.35	ug/L	
7)	Trichlorofluoromethane	5.97	101.0	6485	14.41	ug/L	92
8)	1,1,2-Trichlorotrifluoroethane	7.05	101.0	4512	11.10	ug/L	86
9)	Acrolein	6.63	56.0	202M	35.19	ug/L	
10)	1,1-Dichloroethene	6.99	96.0	2525	14.08	ug/L	95
11)	Acetone	6.90	43.0	828M	21.19	ug/L	
12)	Carbon Disulfide	7.50	76.0	6115	14.35	ug/L	99
13)	Methylene Chloride	7.76	84.0	2833	14.05	ug/L	97
14)	Acrylonitrile	8.07	53.0	604	14.49	ug/L	86
15)	trans-1,2-Dichloroethene	8.34	96.0	2839	12.82	ug/L	89
16)	1,2-Dichloroethene (total)	9.88	96.0	6191M	26.73	ug/L	79
17)	MTBE	8.37	73.0	754M	6.56	ug/L	
18)	N-Hexane	8.91	57.0	2786	16.60	ug/L	99
19)	1,1-Dichloroethane	8.97	63.0	4592	10.96	ug/L	95
20)	Vinyl Acetate	9.05	43.0	4618	15.65	ug/L	97
21)	cis-1,2-Dichloroethene	9.88	96.0	3037	12.58	ug/L	79
22)	2-Butanone	9.79	43.0	940M	13.76	ug/L	
23)	*1,4-Difluorobenzene	11.81	114.0	29366	50.00	ug/L	92
24)	Chloroform	10.28	83.0	7401	14.62	ug/L	96
25)	1,1,1-Trichloroethane	10.79	97.0	6110M	18.47	ug/L	
26)	Carbon Tetrachloride	11.12	117.0	7057	19.87	ug/L	97
27)	1,2-Dichloroethane-d4	11.14	65.0	3670	15.48	ug/L	98
28)	1,2-Dichloroethane	11.25	62.0	4705	16.36	ug/L	91
29)	Benzene	11.33	78.0	4959	11.10	ug/L	99
30)	Trichloroethene	12.29	95.0	4257	14.25	ug/L	98
31)	1,2-Dichloropropane	12.56	63.0	2290	9.95	ug/L	99
32)	Bromodichloromethane	12.89	83.0	8503	16.93	ug/L	89
33)	2-Chloroethyl Vinyl Ether	13.34	63.0	245M	1.95	ug/L	
34)	trans-1,3-Dichloropropene	14.39	75.0	3734	13.53	ug/L	88
35)	4-Methyl-2-Pentanone	14.95	43.0	1359	14.91	ug/L	79
36)	Toluene-d8	14.11	98.0	5235	11.41	ug/L	99
37)	Toluene	14.22	91.0	6028	13.06	ug/L	98
38)	cis-1,3-Dichloropropene	14.39	75.0	3734	15.59	ug/L	87
39)	*Chlorobenzene-d5	16.33	117.0	23624	50.00	ug/L	99
40)	1,1,2-Trichloroethane	14.67	97.0	3177	12.80	ug/L	97
41)	Tetrachloroethene	15.16	166.0	4779	12.67	ug/L	96
42)	2-Hexanone	14.95	43.0	1359	13.73	ug/L	72
43)	Dibromochloromethane	15.34	129.0	8294	15.22	ug/L	96

	Compound	R.T.	Q ion	Area	Conc	Units	q
44)	Chlorobenzene	16.38	112.0	5092	11.00	ug/L	96
45)	Ethylbenzene	16.55	91.0	6982	12.27	ug/L	97
46)	m & p-Xylene	16.72	106.0	4545	23.00	ug/L	91
47)	o-Xylene	17.37	106.0	2081	11.22	ug/L	92
48)	Xylene (total)	16.72	106.0	6622M	34.29	ug/L	91
49)	Styrene	17.36	104.0	3866	11.61	ug/L	97
50)	Bromoform	17.65	172.9	6432	17.45	ug/L	98
51)	Bromofluorobenzene	18.19	174.0	3881	13.04	ug/L	81
52)	1,1,2,2-Tetrachloroethane	18.21	83.0	4952	12.05	ug/L	85
53)	1,3-Dichlorobenzene	20.09	146.0	6535	12.74	ug/L	93
54)	1,4-Dichlorobenzene	20.24	146.0	5997	12.73	ug/L	98
55)	1,2-Dichlorobenzene	20.98	146.0	5967	12.24	ug/L	92

* Compound is ISTD

TOTAL ION CHROMATOGRAM



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Misc: VSTD010 ; ;022295;LLW; 1 ;;;QO1551;;; 5ml

Id File: IDOVOW::QF
Title: VOLATILE ORGANICS-O-WATER;IEAIL; 12-21-88; 50M; .53mmid; 3um
Last Calibration: 950215 16:31

Operator ID: OMSD
Quant Time: 950222 12:12
Injected at: 950222 11:40

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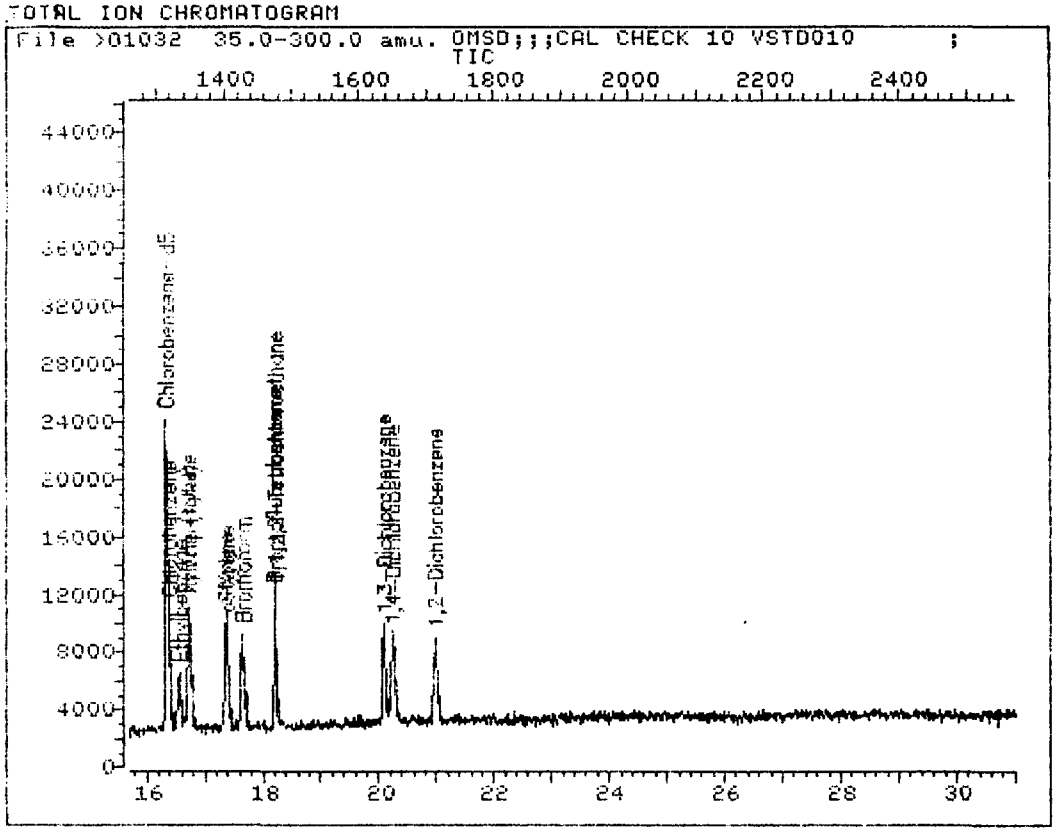
TOTAL ION CHROMATOGRAM



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Name: OMSD;;;CAL CHECK 10
Misc: VSTD010 ; ;022295;LLW; 1 ;;;QO1551;;; 5ml

Id File: IDOVOW::QF
Title: VOLATILE ORGANICS-O-WATER;IEAIL; 12-21-88; 50M; .53mmid; 3um
Last Calibration: 950215 16:31

Operator ID: OMSD
Quant Time: 950222 12:12
Injected at: 950222 11:40

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QUANT REPORT

Operator ID: OMSD Quant Rev: 6 Quant Time: 950222 12:49
Output File: ^O1033::QF Injected at: 950222 12:17
Data File: >O1033::D6 Dilution Factor: 1.00000
Name: OMSD;;;CAL CHECK 20
Misc: VSTD020 ; ;022295;LLW; 1 ;;;QO1551;;; 5ml

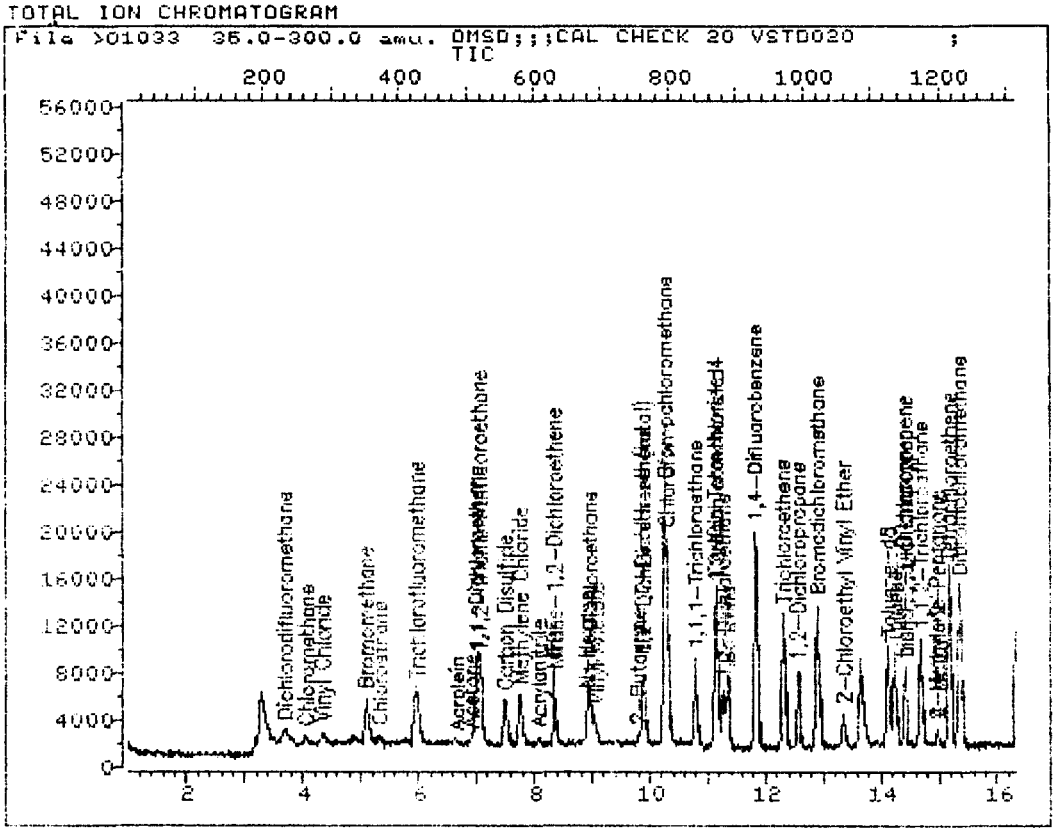
ID File: IDOVOW::QF
Title: VOLATILE ORGANICS-O-WATER;IEAIL; 12-21-88; 50M; .53mmid; 3um
Last Calibration: 950215 16:31

	Compound	R.T.	Q ion	Area	Conc	Units	q
1)	*Bromochloromethane	10.25	128.0	9632	50.00	ug/L	94
2)	Dichlorodifluoromethane	3.68	85.0	5442	25.39	ug/L	100
3)	Chloromethane	4.04	50.0	2305	18.00	ug/L	86
4)	Vinyl Chloride	4.32	62.0	2413	18.07	ug/L	93
5)	Bromomethane	5.07	94.0	4926	20.60	ug/L	95
6)	Chloroethane	5.32	64.0	1605	17.06	ug/L	89
7)	Trichlorofluoromethane	5.96	101.0	12738	29.91	ug/L	98
8)	1,1,2-Trichlorotrifluoroethane	7.04	101.0	8565	22.27	ug/L	97
9)	Acrolein	6.66	56.0	462M	85.06	ug/L	
10)	1,1-Dichloroethene	6.98	96.0	4694	27.66	ug/L	93
11)	Acetone	6.89	43.0	1278	34.56	ug/L	88
12)	Carbon Disulfide	7.49	76.0	11859	29.41	ug/L	98
13)	Methylene Chloride	7.75	84.0	4979	26.09	ug/L	97
14)	Acrylonitrile	8.07	53.0	931	23.59	ug/L	91
15)	trans-1,2-Dichloroethene	8.34	96.0	5419	25.86	ug/L	89
16)	1,2-Dichloroethene (total)	9.88	96.0	11387M	51.95	ug/L	87
17)	MTBE	8.35	73.0	1182M	10.86	ug/L	
18)	N-Hexane	8.90	57.0	4174	26.28	ug/L	91
19)	1,1-Dichloroethane	8.96	63.0	8707	21.97	ug/L	90
20)	Vinyl Acetate	9.05	43.0	6770	24.25	ug/L	93
21)	cis-1,2-Dichloroethene	9.88	96.0	5576	24.42	ug/L	87
22)	2-Butanone	9.78	43.0	1809	27.97	ug/L	99
23)	*1,4-Difluorobenzene	11.82	114.0	27544	50.00	ug/L	98
24)	Chloroform	10.29	83.0	14568	30.69	ug/L	98
25)	1,1,1-Trichloroethane	10.78	97.0	11756	37.89	ug/L	84
26)	Carbon Tetrachloride	11.13	117.0	13457	40.40	ug/L	95
27)	1,2-Dichloroethane-d4	11.14	65.0	7036	31.65	ug/L	99
28)	1,2-Dichloroethane	11.26	62.0	8752	32.44	ug/L	94
29)	Benzene	11.33	78.0	9685	23.10	ug/L	99
30)	Trichloroethene	12.29	95.0	8008	28.58	ug/L	97
31)	1,2-Dichloropropane	12.55	63.0	4661	21.58	ug/L	93
32)	Bromodichloromethane	12.89	83.0	16410	34.83	ug/L	95
33)	2-Chloroethyl Vinyl Ether	13.34	63.0	2519	21.38	ug/L	94
34)	trans-1,3-Dichloropropene	14.39	75.0	7435	28.72	ug/L	87
35)	4-Methyl-2-Pentanone	14.96	43.0	2644	30.93	ug/L	92
36)	Toluene-d8	14.11	98.0	10786	25.06	ug/L	96
37)	Toluene	14.22	91.0	11519	26.61	ug/L	94
38)	cis-1,3-Dichloropropene	14.39	75.0	7435	33.09	ug/L	87
39)	*Chlorobenzene-d5	16.33	117.0	22430	50.00	ug/L	95
40)	1,1,2-Trichloroethane	14.68	97.0	5740	24.36	ug/L	86
41)	Tetrachloroethene	15.17	166.0	9790	27.33	ug/L	96
42)	2-Hexanone	14.96	43.0	2644	28.14	ug/L	88
43)	Dibromochloromethane	15.34	129.0	16224	31.37	ug/L	99

	Compound	R.T.	Q ion	Area	Conc	Units	q
44)	Chlorobenzene	16.38	112.0	10038	22.85	ug/L	88
45)	Ethylbenzene	16.55	91.0	13599	25.17	ug/L	95
46)	m & p-Xylene	16.72	106.0	8713	46.45	ug/L	89
47)	o-Xylene	17.37	106.0	4122	23.42	ug/L	91
48)	Xylene (total)	16.72	106.0	12827M	69.95	ug/L	89
49)	Styrene	17.37	104.0	7299	23.08	ug/L	99
50)	Bromoform	17.65	172.9	12540	35.84	ug/L	98
51)	Bromofluorobenzene	18.20	174.0	7628	26.99	ug/L	77
52)	1,1,2,2-Tetrachloroethane	18.21	83.0	8932	22.90	ug/L	98
53)	1,3-Dichlorobenzene	20.10	146.0	12282	25.23	ug/L	97
54)	1,4-Dichlorobenzene	20.27	146.0	11557	25.84	ug/L	98
55)	1,2-Dichlorobenzene	20.98	146.0	11580	25.01	ug/L	98

* Compound is ISTD

TOTAL ION CHROMATOGRAM



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Name: OMSD;;;CAL CHECK 20
Misc: VSTD020 ; ;022295;LLW; 1 ;;;QO1551;;; 5ml

Id File: IDOVOW::QF
Title: VOLATILE ORGANICS-O-WATER;IEAIL; 12-21-88; 50M; .53mmid; 3um
Last Calibration: 950215 16:31

Operator ID: OMSD
Quant Time: 950222 12:49
Injected at: 950222 12:17

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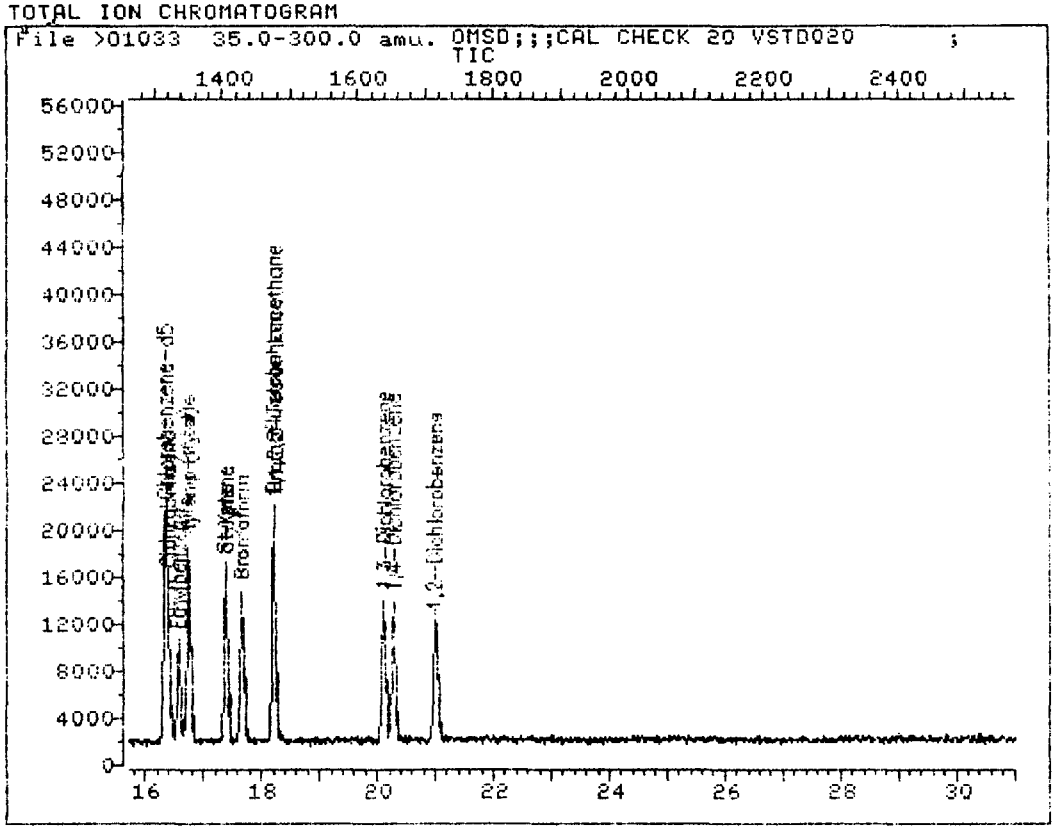
TOTAL ION CHROMATOGRAM



Data File: >01033::D6 Quant Output File: ^01033::QF
Name: OMSD;;;CAL CHECK 20
Misc: VSTD020 ; ;022295;LLW; 1 ;;;QO1551;;; 5ml

Id File: IDOVOW::QF
Title: VOLATILE ORGANICS-O-WATER;IEAIL; 12-21-88; 50M; .53mmid; 3um
Last Calibration: 950215 16:31

Operator ID: OMSD
Quant Time: 950222 12:49
Injected at: 950222 12:17

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QUANT REPORT

Operator ID: OMSD Quant Rev: 6 Quant Time: 950222 13:25
Output File: ^O1034::QF Injected at: 950222 12:53
Data File: >O1034::D6 Dilution Factor: 1.00000
Name: OMSD;;;CAL CHECK 50
Misc: VSTD050 ; ;022295;LLW; 1 ;;;QO1551;;; 5ml

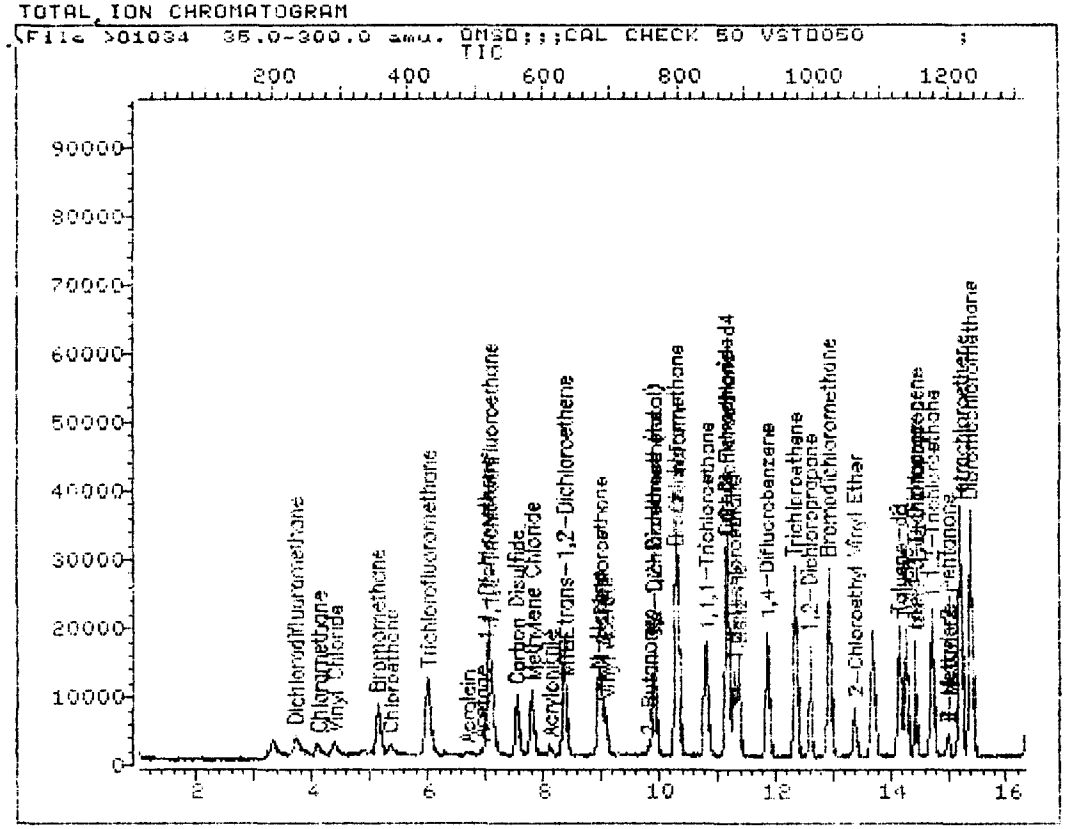
ID File: IDOVOW::QF
Title: VOLATILE ORGANICS-O-WATER;IEAIL; 12-21-88; 50M; .53mmid; 3um
Last Calibration: 950215 16:31

	Compound	R.T.	Q ion	Area	Conc	Units	q
1)	*Bromochloromethane	10.29	128.0	9340	50.00	ug/L	99
2)	Dichlorodifluoromethane	3.70	85.0	13392	64.43	ug/L	100
3)	Chloromethane	4.10	50.0	5134	41.33	ug/L	86
4)	Vinyl Chloride	4.38	62.0	5656	43.68	ug/L	95
5)	Bromomethane	5.12	94.0	11937	51.47	ug/L	96
6)	Chloroethane	5.35	64.0	3798	41.62	ug/L	95
7)	Trichlorofluoromethane	6.00	101.0	30462	73.77	ug/L	95
8)	1,1,2-Trichlorotrifluoroethane	7.08	101.0	20238	54.26	ug/L	95
9)	Acrolein	6.68	56.0	870M	165.18	ug/L	
10)	1,1-Dichloroethene	7.02	96.0	10334	62.79	ug/L	96
11)	Acetone	6.92	43.0	2497M	69.63	ug/L	93
12)	Carbon Disulfide	7.53	76.0	27704	70.84	ug/L	94
13)	Methylene Chloride	7.81	84.0	10584	57.19	ug/L	99
14)	Acrylonitrile	8.11	53.0	2130	55.67	ug/L	95
15)	trans-1,2-Dichloroethene	8.37	96.0	12268	60.36	ug/L	96
16)	1,2-Dichloroethene (total)	9.91	96.0	25671M	120.77	ug/L	93
17)	MTBE	8.39	73.0	2169	20.56	ug/L	79
18)	N-Hexane	8.94	57.0	7796	50.62	ug/L	95
19)	1,1-Dichloroethane	8.99	63.0	21339	55.52	ug/L	93
20)	Vinyl Acetate	9.08	43.0	20760	76.68	ug/L	98
21)	cis-1,2-Dichloroethene	9.91	96.0	13109	59.19	ug/L	93
22)	2-Butanone	9.82	43.0	3686	58.78	ug/L	99
23)	*1,4-Difluorobenzene	11.85	114.0	27422	50.00	ug/L	93
24)	Chloroform	10.31	83.0	34702	73.43	ug/L	99
25)	1,1,1-Trichloroethane	10.81	97.0	27269	88.29	ug/L	87
26)	Carbon Tetrachloride	11.15	117.0	32092	96.77	ug/L	96
27)	1,2-Dichloroethane-d4	11.17	65.0	16506	74.58	ug/L	94
28)	1,2-Dichloroethane	11.29	62.0	21762	81.02	ug/L	91
29)	Benzene	11.37	78.0	23667	56.71	ug/L	96
30)	Trichloroethene	12.33	95.0	18373	65.86	ug/L	96
31)	1,2-Dichloropropane	12.58	63.0	11507	53.52	ug/L	99
32)	Bromodichloromethane	12.91	83.0	37383	79.70	ug/L	97
33)	2-Chloroethyl Vinyl Ether	13.38	63.0	6220	53.03	ug/L	91
34)	trans-1,3-Dichloropropene	14.43	75.0	17792	69.04	ug/L	90
35)	4-Methyl-2-Pentanone	14.98	43.0	5475	64.32	ug/L	97
36)	Toluene-d8	14.15	98.0	25374	59.22	ug/L	97
37)	Toluene	14.25	91.0	27011	62.67	ug/L	99
38)	cis-1,3-Dichloropropene	14.43	75.0	17792	79.54	ug/L	90
39)	*Chlorobenzene-d5	16.37	117.0	21116	50.00	ug/L	96
40)	1,1,2-Trichloroethane	14.71	97.0	13513	60.91	ug/L	97
41)	Tetrachloroethene	15.21	166.0	22629	67.11	ug/L	91
42)	2-Hexanone	14.98	43.0	5475	61.90	ug/L	95
43)	Dibromochloromethane	15.37	129.0	38785	79.65	ug/L	96

	Compound	R.T.	Q ion	Area	Conc	Units	q
44)	Chlorobenzene	16.41	112.0	23064	55.76	ug/L	98
45)	Ethylbenzene	16.58	91.0	31131	61.21	ug/L	97
46)	m & p-Xylene	16.75	106.0	20679	117.10	ug/L	84
47)	o-Xylene	17.39	106.0	9762	58.91	ug/L	87
48)	Xylene (total)	16.75	106.0	30236M	175.15	ug/L	84
49)	Styrene	17.38	104.0	17602	59.12	ug/L	99
50)	Bromoform	17.67	172.9	29629	89.94	ug/L	93
51)	Bromofluorobenzene	18.22	174.0	18355	68.98	ug/L	79
52)	1,1,2,2-Tetrachloroethane	18.24	83.0	20832	56.74	ug/L	99
53)	1,3-Dichlorobenzene	20.12	146.0	29404	64.15	ug/L	93
54)	1,4-Dichlorobenzene	20.28	146.0	27206	64.62	ug/L	97
55)	1,2-Dichlorobenzene	21.00	146.0	28127	64.53	ug/L	92

* Compound is ISTD

TOTAL ION CHROMATOGRAM



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Misc: VSTD050 ; ;022295;LLW; 1 ;;;QO1551;;; 5ml

Id File: IDOVOW::QF
Title: VOLATILE ORGANICS-O-WATER;IEAIL; 12-21-88; 50M; .53mmid; 3um
Last Calibration: 950215 16:31

Operator ID: OMSD
Quant Time: 950222 13:25
Injected at: 950222 12:53

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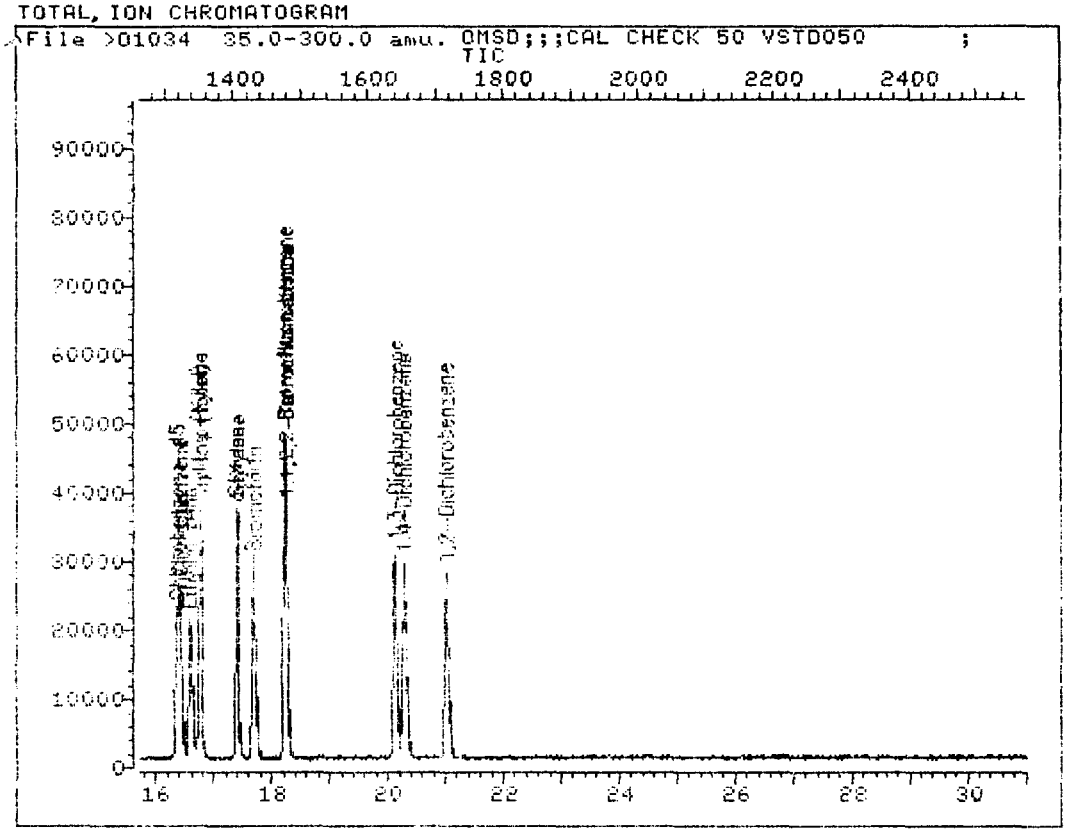
TOTAL, ION CHROMATOGRAM



Data File: >O1034::D6 Quant Output File: ^O1034::QF
Name: OMSD;;;CAL CHECK 50
Misc: VSTD050 ; ;022295;LLW; 1 ;;;QO1551;;; 5ml

Id File: IDOVOW::QF
Title: VOLATILE ORGANICS-O-WATER;IEAIL; 12-21-88; 50M; .53mmid; 3um
Last Calibration: 950215 16:31

Operator ID: OMSD
Quant Time: 950222 13:25
Injected at: 950222 12:53

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QUANT REPORT

Operator ID: OMSD Quant Rev: 6 Quant Time: 950222 14:01
Output File: ^O1035::QF Injected at: 950222 13:29
Data File: >O1035::D6 Dilution Factor: 1.00000
Name: OMSD;;;CAL CHECK 100
Misc: VSTD100 ; ;022295;LLW; 1 ;;;QO1551;;; 5ml

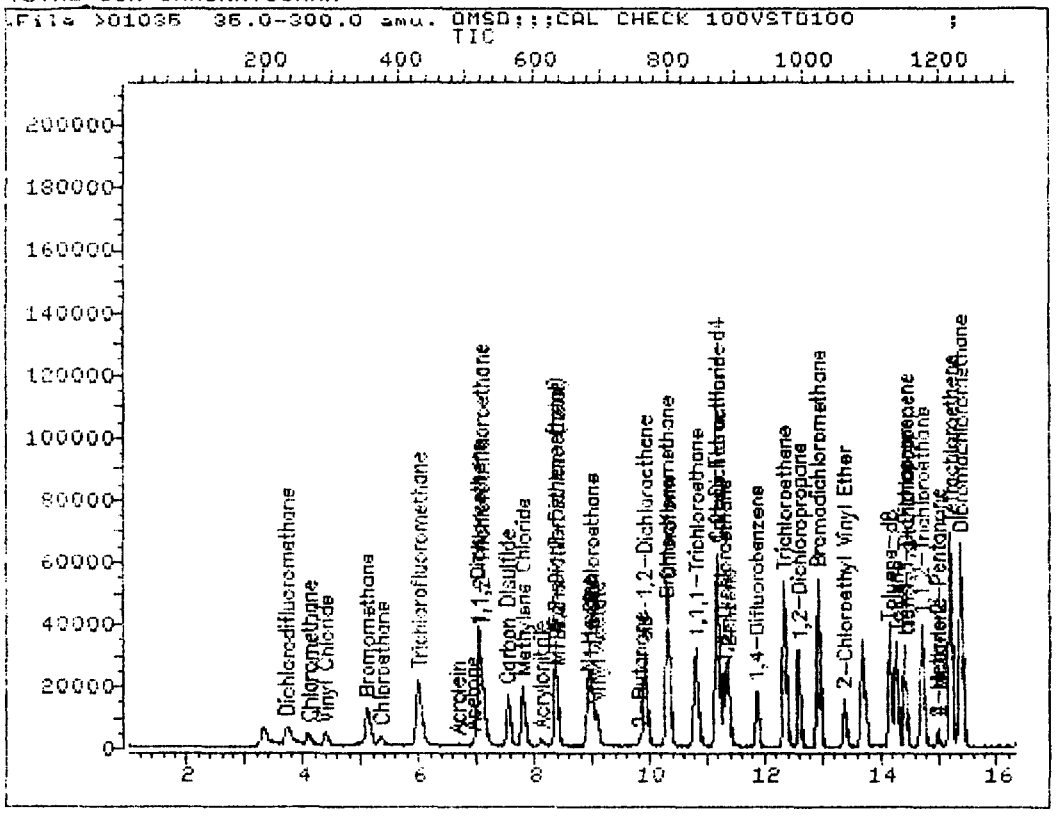
ID File: IDOVOW::QF
Title: VOLATILE ORGANICS-O-WATER;IEAIL; 12-21-88; 50M; .53mmid; 3um
Last Calibration: 950215 16:31

	Compound	R.T.	Q ion	Area	Conc	Units	q
1)	*Bromochloromethane	10.29	128.0	8810	50.00	ug/L	94
2)	Dichlorodifluoromethane	3.71	85.0	26889	137.14	ug/L	100
3)	Chloromethane	4.10	50.0	10616	90.61	ug/L	87
4)	Vinyl Chloride	4.38	62.0	11419	93.48	ug/L	98
5)	Bromomethane	5.09	94.0	21663	99.03	ug/L	92
6)	Chloroethane	5.35	64.0	7591	88.20	ug/L	94
7)	Trichlorofluoromethane	6.00	101.0	58669	150.63	ug/L	97
8)	1,1,2-Trichlorotrifluoroethane	7.07	101.0	40641	115.52	ug/L	95
9)	Acrolein	6.66	56.0	1907	383.85	ug/L	79
10)	1,1-Dichloroethene	7.03	96.0	19869	127.99	ug/L	97
11)	Acetone	6.92	43.0	5701	168.54	ug/L	83
12)	Carbon Disulfide	7.53	76.0	54270	147.12	ug/L	92
13)	Methylene Chloride	7.81	84.0	20286	116.20	ug/L	98
14)	Acrylonitrile	8.11	53.0	3741	103.66	ug/L	94
15)	trans-1,2-Dichloroethene	8.37	96.0	23795	124.12	ug/L	95
16)	1,2-Dichloroethene (total)	8.37	96.0	49760M	248.18	ug/L	92
17)	MTBE	8.39	73.0	4514	45.36	ug/L	84
18)	N-Hexane	8.94	57.0	16815	115.75	ug/L	95
19)	1,1-Dichloroethane	8.99	63.0	42606	117.53	ug/L	95
20)	Vinyl Acetate	9.08	43.0	32711	128.09	ug/L	97
21)	cis-1,2-Dichloroethene	9.91	96.0	25705	123.05	ug/L	92
22)	2-Butanone	9.83	43.0	8980	151.82	ug/L	96
23)	*1,4-Difluorobenzene	11.85	114.0	26859	50.00	ug/L	95
24)	Chloroform	10.32	83.0	64422	139.17	ug/L	97
25)	1,1,1-Trichloroethane	10.81	97.0	51637	170.68	ug/L	83
26)	Carbon Tetrachloride	11.17	117.0	62340	191.91	ug/L	96
27)	1,2-Dichloroethane-d4	11.17	65.0	31458	145.12	ug/L	94
28)	1,2-Dichloroethane	11.29	62.0	42228	160.51	ug/L	93
29)	Benzene	11.37	78.0	44882	109.79	ug/L	97
30)	Trichloroethene	12.34	95.0	36363	133.08	ug/L	98
31)	1,2-Dichloropropane	12.59	63.0	21787	103.47	ug/L	97
32)	Bromodichloromethane	12.92	83.0	71332	155.27	ug/L	99
33)	2-Chloroethyl Vinyl Ether	13.38	63.0	12728	110.78	ug/L	96
34)	trans-1,3-Dichloropropene	14.43	75.0	33525	132.81	ug/L	90
35)	4-Methyl-2-Pentanone	14.99	43.0	10397	124.71	ug/L	93
36)	Toluene-d8	14.15	98.0	47407	112.96	ug/L	98
37)	Toluene	14.26	91.0	49253	116.66	ug/L	97
38)	cis-1,3-Dichloropropene	14.43	75.0	33525	153.02	ug/L	95
39)	*Chlorobenzene-d5	16.36	117.0	20404	50.00	ug/L	98
40)	1,1,2-Trichloroethane	14.71	97.0	25236	117.72	ug/L	98
41)	Tetrachloroethene	15.21	166.0	41621	127.74	ug/L	95
42)	2-Hexanone	14.99	43.0	10397	121.65	ug/L	98
43)	Dibromochloromethane	15.38	129.0	73430	156.06	ug/L	99

	Compound	R.T.	Q ion	Area	Conc	Units	q
44)	Chlorobenzene	16.42	112.0	45756	114.48	ug/L	99
45)	Ethylbenzene	16.59	91.0	59708	121.50	ug/L	96
46)	m & p-Xylene	16.75	106.0	37283	218.48	ug/L	91
47)	o-Xylene	17.39	106.0	18715	116.88	ug/L	94
48)	Xylene (total)	16.75	106.0	55945M	335.38	ug/L	91
49)	Styrene	17.39	104.0	33125	115.13	ug/L	95
50)	Bromoform	17.68	172.9	57156	179.56	ug/L	97
51)	Bromofluorobenzene	18.22	174.0	34441	133.95	ug/L	84
52)	1,1,2,2-Tetrachloroethane	18.24	83.0	37072	104.49	ug/L	94
53)	1,3-Dichlorobenzene	20.12	146.0	56725	128.08	ug/L	98
54)	1,4-Dichlorobenzene	20.29	146.0	51484	126.56	ug/L	92
55)	1,2-Dichlorobenzene	21.01	146.0	52945	125.71	ug/L	99

* Compound is ISTD

TOTAL ION CHROMATOGRAM



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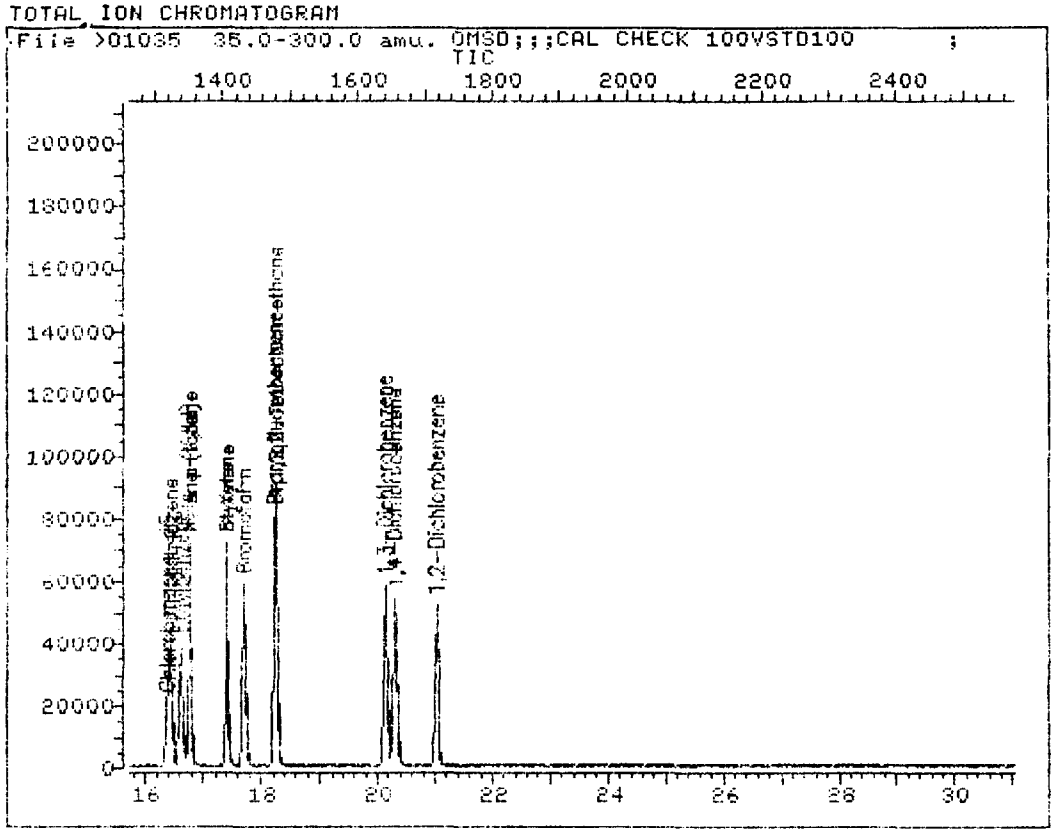
Name: OMSD;;;CAL CHECK 100
Misc: VSTD100 ; ;022295;LLW; 1 ;;;QO1551;;; 5ml

Id File: IDOVOW::QF
Title: VOLATILE ORGANICS-O-WATER;IEAIL; 12-21-88; 50M; .53mmid; 3um
Last Calibration: 950215 16:31

Operator ID: OMSD
Quant Time: 950222 14:01
Injected at: 950222 13:29

TIC page 1 of 2

TOTAL ION CHROMATOGRAM



Data File: >O1035::D6 Quant Output File: ^O1035::QF
Name: OMSD;;;CAL CHECK 100
Misc: VSTD100 ; ;022295;LLW; 1 ;;;QO1551;;; 5ml

Id File: IDOVOW::QF
Title: VOLATILE ORGANICS-O-WATER;IEAIL; 12-21-88; 50M; .53mmid; 3um
Last Calibration: 950215 16:31

Operator ID: OMSD
Quant Time: 950222 14:01
Injected at: 950222 13:29

TIC page 2 of 2

QUANT REPORT

Operator ID: OMSD Quant Rev: 6 Quant Time: 950222 14:38
Output File: ^O1036::QF Injected at: 950222 14:06
Data File: >O1036::D6 Dilution Factor: 1.00000
Name: OMSD;;;CAL CHECK 200
Misc: VSTD200 ; ;022295;LLW; 1 ;;;QO1551;;; 5ml

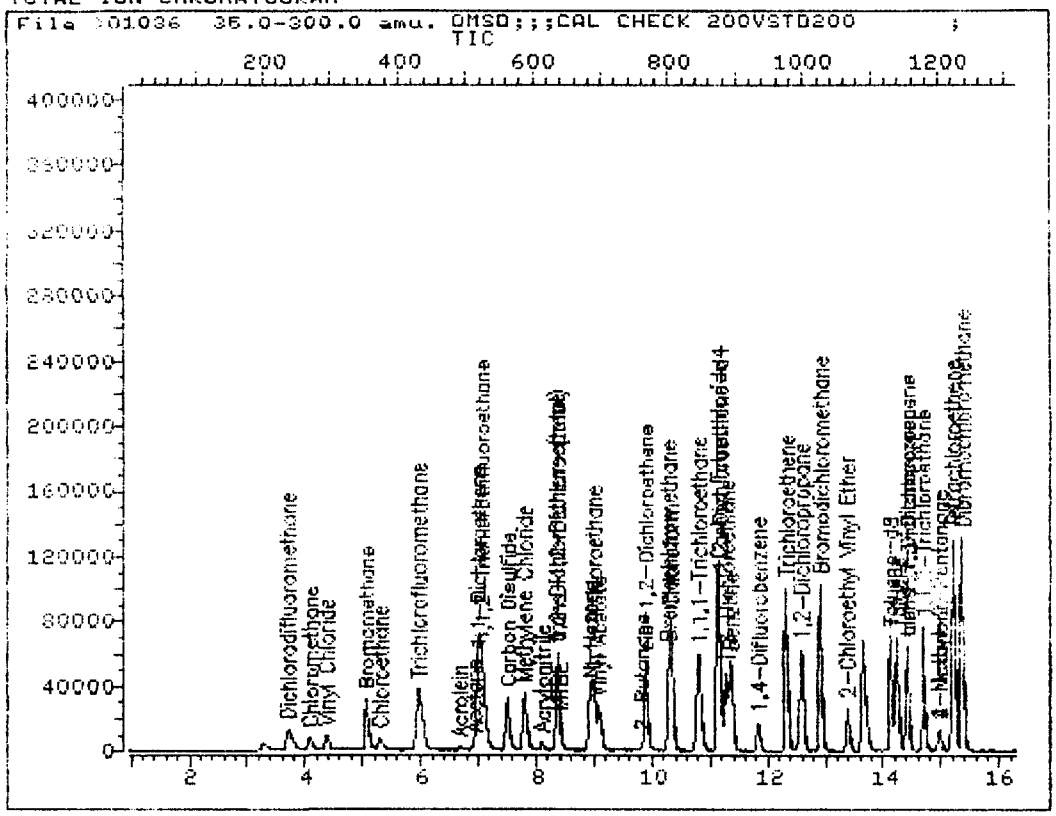
ID File: IDOVOW::QF
Title: VOLATILE ORGANICS-O-WATER;IEAIL; 12-21-88; 50M; .53mmid; 3um
Last Calibration: 950215 16:31

	Compound	R.T.	Q ion	Area	Conc	Units	q
1)	*Bromochloromethane	10.27	128.0	8673	50.00	ug/L	90
2)	Dichlorodifluoromethane	3.69	85.0	52705	273.05	ug/L	100
3)	Chloromethane	4.08	50.0	20549	178.17	ug/L	84
4)	Vinyl Chloride	4.36	62.0	22611	188.03	ug/L	96
5)	Bromomethane	5.06	94.0	42637	197.99	ug/L	98
6)	Chloroethane	5.29	64.0	13963	164.79	ug/L	93
7)	Trichlorofluoromethane	5.96	101.0	112929	294.53	ug/L	98
8)	1,1,2-Trichlorotrifluoroethane	7.06	101.0	77468	223.68	ug/L	96
9)	Acrolein	6.67	56.0	3070	627.71	ug/L	97
10)	1,1-Dichloroethene	6.99	96.0	36539	239.08	ug/L	93
11)	Acetone	6.92	43.0	9712M	291.65	ug/L	93
12)	Carbon Disulfide	7.51	76.0	102001	280.89	ug/L	92
13)	Methylene Chloride	7.79	84.0	38928	226.51	ug/L	97
14)	Acrylonitrile	8.09	53.0	7416	208.73	ug/L	99
15)	trans-1,2-Dichloroethene	8.35	96.0	45256	239.80	ug/L	91
16)	1,2-Dichloroethene (total)	8.35	96.0	93560M	474.01	ug/L	84
17)	MTBE	8.39	73.0	7518	76.74	ug/L	99
18)	N-Hexane	8.92	57.0	31897	223.04	ug/L	91
19)	1,1-Dichloroethane	8.98	63.0	79099	221.64	ug/L	98
20)	Vinyl Acetate	9.07	43.0	79187	314.98	ug/L	96
21)	cis-1,2-Dichloroethene	9.89	96.0	47730	232.10	ug/L	84
22)	2-Butanone	9.82	43.0	14857	255.14	ug/L	98
23)	*1,4-Difluorobenzene	11.84	114.0	24933	50.00	ug/L	95
24)	Chloroform	10.31	83.0	123863	288.25	ug/L	96
25)	1,1,1-Trichloroethane	10.80	97.0	101016M	359.70	ug/L	
26)	Carbon Tetrachloride	11.14	117.0	117300	389.00	ug/L	95
27)	1,2-Dichloroethane-d4	11.16	65.0	60897	302.62	ug/L	96
28)	1,2-Dichloroethane	11.28	62.0	82957	339.67	ug/L	89
29)	Benzene	11.35	78.0	85396	225.04	ug/L	99
30)	Trichloroethene	12.31	95.0	69806	275.20	ug/L	98
31)	1,2-Dichloropropane	12.57	63.0	43163	220.81	ug/L	98
32)	Bromodichloromethane	12.91	83.0	138192	324.04	ug/L	97
33)	2-Chloroethyl Vinyl Ether	13.36	63.0	21497	201.56	ug/L	93
34)	trans-1,3-Dichloropropene	14.41	75.0	68199	291.05	ug/L	88
35)	4-Methyl-2-Pentanone	14.96	43.0	21664	279.93	ug/L	90
36)	Toluene-d8	14.12	98.0	95824	245.96	ug/L	94
37)	Toluene	14.24	91.0	98512	251.37	ug/L	95
38)	cis-1,3-Dichloropropene	14.41	75.0	68199	335.34	ug/L	98
39)	*Chlorobenzene-d5	16.35	117.0	20388	50.00	ug/L	96
40)	1,1,2-Trichloroethane	14.68	97.0	49062	229.04	ug/L	97
41)	Tetrachloroethene	15.18	166.0	80254	246.50	ug/L	95
42)	2-Hexanone	14.96	43.0	21664	253.67	ug/L	97
43)	Dibromochloromethane	15.36	129.0	146598	311.80	ug/L	98

	Compound	R.T.	Q ion	Area	Conc	Units	q
44)	Chlorobenzene	16.40	112.0	90669	227.02	ug/L	99
45)	Ethylbenzene	16.57	91.0	116663	237.59	ug/L	98
46)	m & p-Xylene	16.74	106.0	75615	443.46	ug/L	93
47)	o-Xylene	17.38	106.0	36005	225.03	ug/L	96
48)	Xylene (total)	16.74	106.0	111597M	669.53	ug/L	93
49)	Styrene	17.38	104.0	63251	220.02	ug/L	96
50)	Bromoform	17.67	172.9	112348	353.22	ug/L	96
51)	Bromofluorobenzene	18.21	174.0	67263	261.81	ug/L	79
52)	1,1,2,2-Tetrachloroethane	18.23	83.0	74199	209.30	ug/L	92
53)	1,3-Dichlorobenzene	20.12	146.0	109839	248.20	ug/L	96
54)	1,4-Dichlorobenzene	20.27	146.0	101635	250.03	ug/L	95
55)	1,2-Dichlorobenzene	21.01	146.0	102290	243.06	ug/L	92

* Compound is ISTD

TOTAL ION CHROMATOGRAM

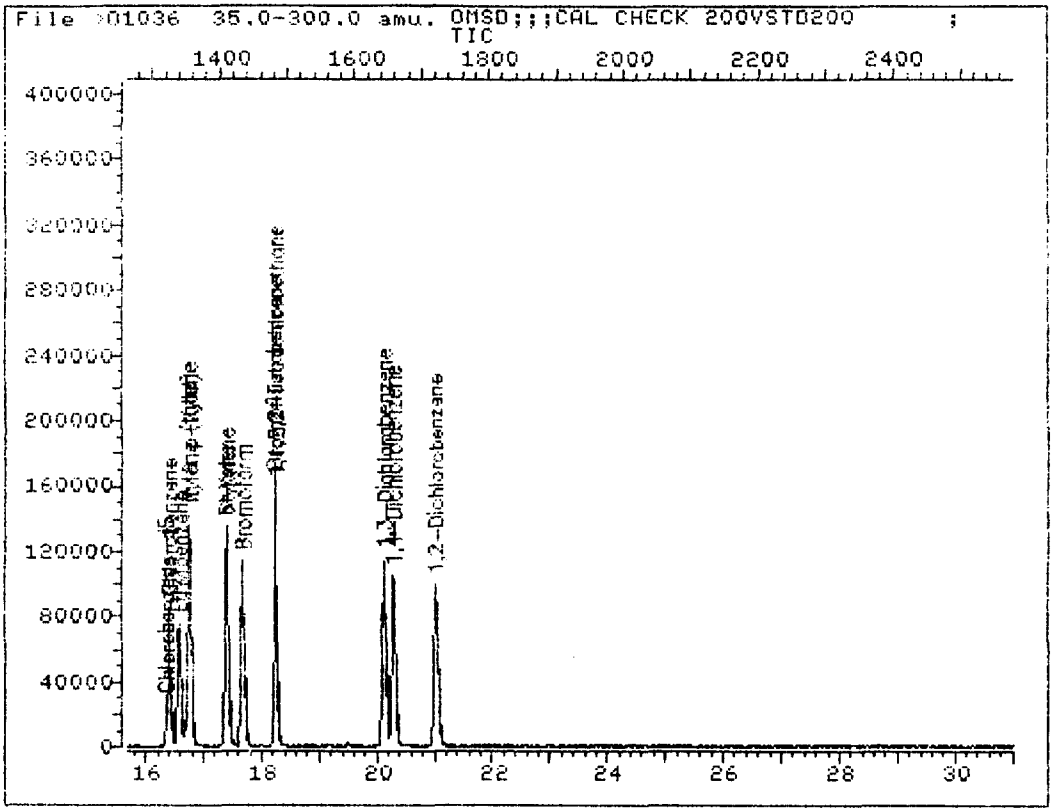


Data File: >O1036::D6 Quant Output File: ^O1036::QF
Name: OMSD;;;CAL CHECK 200
Misc: VSTD200 ; ;022295;LLW; 1 ;;;QO1551;;; 5ml

Id File: IDOVOW::QF
Title: VOLATILE ORGANICS-O-WATER;IEAIL; 12-21-88; 50M; .53mmid; 3um
Last Calibration: 950215 16:31

Operator ID: OMSD
Quant Time: 950222 14:38
Injected at: 950222 14:06

TOTAL ION CHROMATOGRAM



Data File: >O1036::D6 Quant Output File: ^O1036::QF
Name: OMSD;;;CAL CHECK 200
Misc: VSTD200 ; ;022295;LLW; 1 ;;;QO1551;;; 5ml

Id File: IDOVOW::QF
Title: VOLATILE ORGANICS-O-WATER;IEAIL; 12-21-88; 50M; .53mmid; 3um
Last Calibration: 950215 16:31

Operator ID: OMSD
Quant Time: 950222 14:38
Injected at: 950222 14:06

TIC page 2 of 2

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Continuing Calibration

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Continuing Calibration Check
HSL Compounds

Case No: Calibration Date: 02/28/95

Contractor: IEA Labs Illinois Time: 12:33

Contract No: Laboratory ID: >01103

Instrument ID: OMSD Initial Calibration Date: 02/22/95

Minimum $\overline{RF}$ for SPCC is 0.300 Maximum % Diff for CCC is 25%

Compound	$\overline{RF}$	RF	%Diff	CCC	SPCC	
Dichlorodifluoromethane	1.45263	1.42028	2.23			
Chloromethane	.57692	.54699	5.19		**	
Vinyl Chloride	.63515	.56778	10.61	*		
Bromomethane	1.24511	1.11509	10.44			
Chloroethane	.38357	.41499	8.19			
Trichlorofluoromethane	3.26766	3.28369	.49			
1,1,2-Trichlorotrifluoroethane	2.22919	2.19255	1.64			
Acrolein	.05090	.03964	22.12			(Conc=100.00)
1,1-Dichloroethene	1.14921	1.04015	9.49	*		
Acetone	.32186	.22441	30.28			
Carbon Disulfide	3.01369	2.65513	11.90			
Methylene Chloride	1.21813	1.05399	13.47			
Acrylonitrile	.23850	.17121	28.21			
trans-1,2-Dichloroethene	1.35393	1.17279	13.38			
1,2-Dichloroethene (total)	1.42663	1.22595	14.07			(Conc=100.00)
MTBE	.27646	.22346	19.17			
N-Hexane	1.03209	.79646	22.83			
1,1-Dichloroethane	2.29971	2.17943	5.23		**	
Vinyl Acetate	2.07750	2.08529	.37			
cis-1,2-Dichloroethene	1.43548	1.27990	10.84			
2-Butanone	.45277	.35507	21.58			
Chloroform	1.25782	1.21586	3.34	*		
1,1,1-Trichloroethane	1.01518	1.00924	.59			
Carbon Tetrachloride	1.18599	1.19019	.35			
1,2-Dichloroethane-d4	.61233	.64180	4.81			
1,2-Dichloroethane	.80139	.82542	3.00			
Benzene	.85564	.81155	5.15			
Trichloroethene	.69970	.63604	9.10			
1,2-Dichloropropane	.41419	.39254	5.23	*		
Bromodichloromethane	1.40280	1.34927	3.82			
2-Chloroethyl Vinyl Ether	.18993	.12036	36.63			
trans-1,3-Dichloropropene	.71029	.67114	5.51			(Conc=46.00)

RF - Response Factor from daily standard file at 50.00 ug/kg

$\overline{RF}$ - Average Response Factor from Initial Calibration Form VI

%Diff - % Difference from original average or curve

CCC - Calibration Check Compounds (*) SPCC - System Performance Check Compounds (**)

Continuing Calibration Check
HSL Compounds

Case No: | Calibration Date: 02/28/95

Contractor: IEA Labs Illinois | Time: 12:33

Contract No: | Laboratory ID: 101103

Instrument ID: GMSD | Initial Calibration Date: 02/22/95

Minimum $\overline{RF}$ for SPCC is 0.300 | Maximum % Diff for CCC is 25%

Compound	$\overline{RF}$	RF	%Diff	CCC	SPCC	
4-Methyl-2-Pentanone	.21634	.17552	18.88			
Toluene-d8	.92779	.82413	11.14			
Toluene	.99731	.91304	7.99	*		
cis-1,3-Dichloropropene	.62509	.58250	6.60			(Conc=53.00)
1,1,2-Trichloroethane	.63443	.54675	13.82			
Tetrachloroethene	1.03566	.93241	9.97			
2-Hexanone	.27241	.22218	18.44			
Dibromochloromethane	1.79949	1.54168	14.33			
Chlorobenzene	1.10437	.99560	9.85		**	
Ethylbenzene	1.47228	1.39310	5.38	*		
m & p-Xylene	.47532	.43199	9.12			(Conc=100.00)
o-Xylene	.45246	.40445	10.61			
Xylene (total)	.46693	.42364	9.25			(Conc=150.00)
Styrene	.81053	.71505	11.78			
Bromoform	1.38806	1.18527	14.61		**	
Bromofluorobenzene	.84192	.73398	12.82			
1,1,2,2-Tetrachloroethane	.96969	.90169	7.01		**	
1,3-Dichlorobenzene	1.37629	1.20759	12.62			
1,4-Dichlorobenzene	1.27073	1.12380	11.56			
1,2-Dichlorobenzene	1.28747	1.12889	12.32			

RF - Response Factor from daily standard file at 50.00 ug/kg

$\overline{RF}$ - Average Response Factor from Initial Calibration Form VI

%Diff - Difference from original average or curve

CCC - Calibration Check Compounds (*) SPCC - System Performance Check Compounds (**)

QUANT REPORT

Operator ID: OMSD Quant Rev: 6 Quant Time: 950228 13:05
Output File: ^01103::QF Injected at: 950228 12:33
Data File: >01103::D3 Dilution Factor: 1.00000
Name: OMSD;;;CAL CHECK 50
Misc: VSTD050 ; ;022895;LLW; 1 ;;;Q01555;;; 5ml

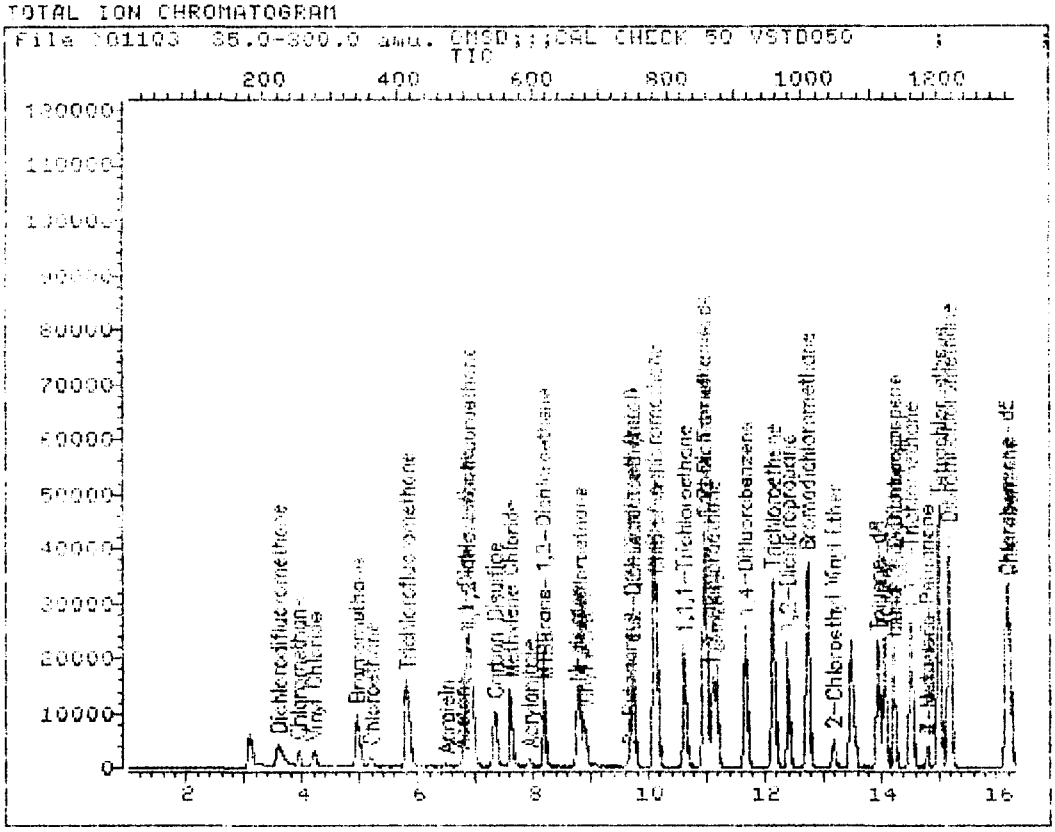
ID File: IDOVOW::QF
Title: VOLATILE ORGANICS-O-WATER;IEATL; 12 21-88; 50M; .53mmid; 3um
Last Calibration: 950227 19:26

	Compound	R.T.	Q ion	Area	Conc	Units	q
1)	*Bromochloromethane	10.09	128.0	12651	50.00	ug/L	92
2)	Dichlorodifluoromethane	3.59	85.0	17968	53.57	ug/L	100
3)	Chloromethane	3.91	50.0	6920	52.10	ug/L	88
4)	Vinyl Chloride	4.19	62.0	7183	49.10	ug/L	98
5)	Bromomethane	4.94	94.0	14107	51.09	ug/L	93
6)	Chloroethane	5.18	64.0	5250	53.09	ug/L	90
7)	Trichlorofluoromethane	5.81	101.0	41542	52.18	ug/L	97
8)	1,1,2-Trichlorotrifluoroethane	6.87	101.0	27738	52.21	ug/L	90
9)	Acrolein	6.49	56.0	1003	136.61	ug/L	91
10)	1,1-Dichloroethene	6.83	96.0	13159	51.49	ug/L	92
11)	Acetone	6.74	43.0	2839	48.36	ug/L	93
12)	Carbon Disulfide	7.33	76.0	33590	51.52	ug/L	93
13)	Methylene Chloride	7.61	84.0	13334	51.98	ug/L	87
14)	Acrylonitrile	7.93	53.0	2166	43.87	ug/L	96
15)	trans-1,2-Dichloroethene	8.18	96.0	14837	49.72	ug/L	94
16)	1,2-Dichloroethene (total)	9.72	96.0	31019M	102.64	ug/L	94
17)	MTBE	8.20	73.0	2827	54.99	ug/L	93
18)	N-Hexane	8.75	57.0	10076	48.99	ug/L	94
19)	1,1-Dichloroethane	8.81	63.0	27572	51.50	ug/L	98
20)	Vinyl Acetate	8.90	43.0	26381	46.98	ug/L	96
21)	cis-1,2-Dichloroethene	9.72	96.0	16192	52.96	ug/L	99
22)	2-Butanone	9.66	43.0	4492	53.49	ug/L	99
23)	*1,4-Difluorobenzene	11.66	114.0	36259	50.00	ug/L	91
24)	Chloroform	10.14	83.0	44086	54.17	ug/L	96
25)	1,1,1-Trichloroethane	10.61	97.0	36594M	54.04	ug/L	
26)	Carbon Tetrachloride	10.96	117.0	43155	54.91	ug/L	97
27)	1,2-Dichloroethane-d4	10.96	65.0	23271	51.93	ug/L	92
28)	1,2-Dichloroethane	11.09	62.0	29929	52.73	ug/L	92
29)	Benzene	11.16	78.0	29426	54.07	ug/L	99
30)	Trichloroethene	12.13	95.0	23062	53.81	ug/L	95
31)	1,2-Dichloropropane	12.39	63.0	14233	51.62	ug/L	91
32)	Bromodichloromethane	12.73	83.0	48923	55.17	ug/L	98
33)	2-Chloroethyl Vinyl Ether	13.18	63.0	4364	33.46	ug/L	89
34)	trans-1,3-Dichloropropene	14.23	75.0	22388	50.86	ug/L	92
35)	4-Methyl-2-Pentanone	14.79	43.0	6364	52.81	ug/L	96
36)	Toluene-d8	13.94	98.0	29893	51.86	ug/L	99
37)	Toluene	14.05	91.0	33106	53.98	ug/L	93
38)	cis-1,3-Dichloropropene	14.23	75.0	22388	58.60	ug/L	96
39)	*Chlorobenzene-d5	16.16	117.0	28644	50.00	ug/L	94
40)	1,1,2-Trichloroethane	14.51	97.0	15661	49.67	ug/L	89
41)	Tetrachloroethene	15.00	166.0	26708	50.37	ug/L	92
42)	2-Hexanone	14.79	43.0	6364	51.07	ug/L	92
43)	Dibromochloromethane	15.17	129.0	44160	49.67	ug/L	99

	Compound	R.T.	Q ion	Area	Conc	Units	q
44)	Chlorobenzene	16.21	112.0	28518	51.13	ug/L	97
45)	Ethylbenzene	16.39	91.0	39904	52.57	ug/L	98
46)	m & p-Xylene	16.54	106.0	24747	102.27	ug/L	94
47)	o-Xylene	17.19	106.0	11585	50.86	ug/L	90
48)	Xylene (total)	16.54	106.0	36404M	154.55	ug/L	94
49)	Styrene	17.18	104.0	20482	49.18	ug/L	93
50)	Bromoform	17.48	172.9	33951	52.85	ug/L	92
51)	Bromofluorobenzene	18.02	174.0	21024	51.17	ug/L	75
52)	1,1,2,2-Tetrachloroethane	18.04	83.0	25828	54.56	ug/L	87
53)	1,3-Dichlorobenzene	19.91	146.0	34447	50.38	ug/L	96
54)	1,4-Dichlorobenzene	20.06	146.0	32190	49.31	ug/L	93
55)	1,2-Dichlorobenzene	20.76	146.0	32336	49.74	ug/L	99

* Compound is ISTD

TOTAL ION CHROMATOGRAM



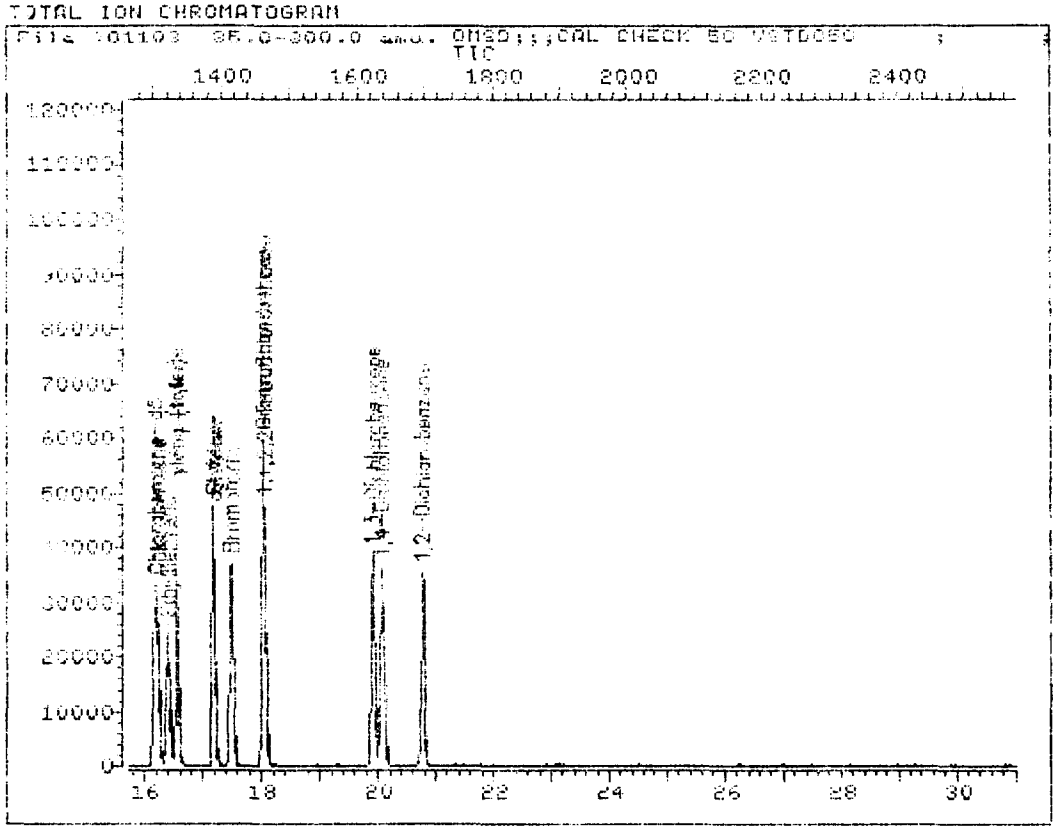
Data File: >01103::D3 Quant Output File: ^01103::QF
Name: OMSD;;;CAL CHECK 50
Misc: VSTD050 ; ;022895;LLW; 1 ;;;QO1555;;; 5ml

Id File: IDOVOW::QF
Title: VOLATILE ORGANICS-O-WATER;TEATL; 12-21-88; 50M; .53mmid; 3um
Last Calibration: 950227 19:26

Operator ID: OMSD
Quant Time: 950228 13:05
Injected at: 950228 12:33

TIC page 1 of 2

TOTAL ION CHROMATOGRAM



Data File: >01103::D3 Quant Output File: ^01103::QF
Name: OMSD;;;CAL CHECK 50
Misc: VSTD050 ; ;022895;LLW; 1 ;;;QO1555;;; 5ml

Id File: TDOVOW::QF
Title: VOLATILE ORGANICS-O-WATER;TEATL; 12-21-88; 50M; .53mmid; 3um
Last Calibration: 950227 19:26

Operator ID: OMSD
Quant Time: 950228 13:05
Injected at: 950228 12:33

TIC page 2 of 2

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Internal Standards

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8A

VOLATILE INTERNAL STANDARD AREA SUMMARY

Lab Name: IEA ILLINOIS Contract:

Lab code: IEA-IL Case No.: CH950411 SAS No.: SDG No.:

Lab File ID (Standard): >01103 Date Analyzed: 02/28/95

Instrument ID: OMSD Time Analyzed: 12:33

Matrix: (water) Level: (low) Column: (cap)

		IS1(BCM) AREA #	RT	IS2(DFB) AREA #	RT	IS3(CHL) AREA #	RT
	12 HOUR STD	12651	10.09	36259	11.66	28644	16.16
	UPPER LIMIT	25302	10.59	72518	12.16	57288	16.66
	LOWER LIMIT	6326	9.59	18129	11.16	14322	15.66
	EPA SAMPLE NO.						
1	METHODBLANK	12379	10.10	35757	11.65	27570	16.16
2	SAU-01	12846	10.12	34743	11.70	27922	16.20
3	SAU-02	12237	10.15	34026	11.71	27927	16.20
4	SAU-02MS	12889	10.13	36445	11.69	28031	16.20
5	SAU-02MD	12530	10.13	36894	11.69	28595	16.20
6	ZHEBLANK	12263	10.13	33816	11.69	26782	16.21
7							
8							
9							
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12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							

IS1 (BCM) = Bromochloromethane
IS2 (DFB) = 1,4-Difluorobenzene
IS3 (CHL) = Chlorobenzene-d5

UPPER LIMIT = + 100% of internal standard area.
LOWER LIMIT = - 50% of internal standard area.

Column used to flag internal standard area values with an asterisk

page __ of __.

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Surrogates

2 I

WATER ORGANOCHLORINE HERBICIDE SURROGATE RECOVERY

Lab Name: IEA IL Contract: _____

Lab Code: IEAIL Case No.: CH950411 SAS No.: _____ SDG No.: _____

	EG&G SAMPLE NO.	S1 ~~(DCA)#~~	OTHER 2,4-DB
01	METHOD BLK		128
02	BLK SPIKE		130
03	SAU-01		24
04	SAU-02		17 *
05	SAU-01 MS		21 *
06	SAU-01 MSD		24
07			
08			
09			
10			
11			
12			
13			
14			
15			
16			
17			
18			
19			
20			
21			
22			
23			
24			
25			
26			
27			
28			
29			
30			

ADVISORY QC LIMITS (24-154)

S1 (DCA) = Dicamba

Column to be used to flag recovery values

* Values outside of contract required QC limits

D Surrogates diluted out

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MS/MSD

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3 I

WATER ORGANOCHLORINE HERBICIDE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: IEA IL Contract: _____

Lab Code: IEAIL Case No.: CH950411 SAS No.: _____ SDG No.: _____

Matrix Spike Sample No.: SAU-01

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC #	QC LIMITS REC.
2,4-D	125	0	80	64	45-115
2,4,5-TP (Silvex)	125	0	56	45 *	51-121

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
2,4-D	125	85	68	6	20	45-115
2,4,5-TP (Silvex)	125	55	44 *	2	20	51-121

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

RDP: 0 out of 2 outside limits
Spike Recovery: 2 out of 4 outside limits

COMMENTS: Poor recoveries Are Due to Matrix EFFECT

3 I

WATER ORGANOCHLORINE HERBICIDE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: IEA IL Contract: _____

Lab Code: IEAIL Case No.: CH45411 SAS No.: _____ SDG No.: _____

Matrix Spike Sample No.: METHOD BLK
HW0301-BS

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC #	QC LIMITS REC.
2,4-D	125	0	163	130	45-115
2,4,5-TP (Silvex)	125	0	105	84	51-121

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
2,4-D					20	45-115
2,4,5-TP (Silvex)					20	51-121

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

RDP: — out of — outside limits
Spike Recovery: 0 out of 1 outside limits

COMMENTS: _____

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Method Blank Summary

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4 E

ORGANOCHLORINE HERBICIDE METHOD BLANK SUMMARY

Lab Name: IEA Inc. Contract: _____

Lab Code: IEA-IL Case No.: CH950411 SAS No.: _____ SDG No.: _____

Lab Sample ID: HW0301 Lab File ID: >PA871

Matrix:(soil/water) water Level:(low/med) Low

Date Extracted: 3-1-95 Extraction: (OCHerb) Sep.

Date Analyzed (1): 3-2-95 Date Analyzed (2): _____

Time Analyzed (1): 12:33 Time Analyzed (2): _____

Instrument ID (1): PA Instrument ID (2): _____

GC Column ID (1): RTX-1701 GC Column ID (2): _____

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

	SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED 1	DATE ANALYZED 2
1	SA U-01	950411001	3-2-95	
2	SA U-02	950411002	3-2-95	
3	QC Blk. spike	BS-HW0301	3-2-95	
4	SA U-01	950411001 MS	3-2-95	
5	SA U-01	950411001 MSD	3-2-95	
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				
23				
24				
25				
26				

COMMENTS: _____

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Initial Calibration

printed on recycled paper

IEA
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Sample Data

printed on recycled paper

Title: HERBICIDE ANALYSIS,RTx-1701,0.53MMID,30M,1-29-92,IEA-IL
Calibrated: 950302 11:31

Compound	Files: >PA854 RF .250	>PA855 RF .500	>PA856 RF 1.00	>PA857 RF 1.50	>PA858 RF 2.00	$\overline{RF}$	% RSD	
Dicamba	5420848	5008724	4437158	4136401	4094919	4619610	12.508	
Dalapon	1652222	1494579	1488799	1263415	1072406	1394284	16.286	(Conc=6.25,12.5,25.0,37.5,50.0)
Dichloroprop	1258499	1146491	1020675	955122.	947852.	1065728	12.575	(Conc=2.50,5.00,10.0,15.0,20.0)
2,4-D	1373835	1267364	1177355	1105915	1056679	1196230	10.623	(Conc=2.50,5.00,10.0,15.0,20.0)
2,4,5-TP (Silvex)	8608996	7898738	7034312	6574217	6434609	7310174	12.645	
2,4,5-T	8344080	7564360	6694234	6245732	6099967	6989675	13.567	
Dinoseb	3885764	3613644	3478000	2902744	2434772	3262985	17.954	(Conc=1.25,2.50,5.00,7.50,10.0)
2,4-DB	882609.	798184.	712991.	668844.	653505.	743227.	12.931	(Conc=2.50,5.00,10.0,15.0,20.0)
MCPP	5539.88	5182.96	4817.57	4589.84	4778.50	4981.75	7.603	(Conc=250.0,500.0,1000.0,1500.0,2000.0)
MCPA	3873.44	3624.00	3354.43	3212.34	3333.67	3479.58	7.663	(Conc=250.0,500.0,1000.0,1500.0,2000.0)

RF - Response Factor (Subscript is amount in ngs)

$\overline{RF}$ - Average Response Factor

%RSD - Percent Relative Standard Deviation

8D

ORGANOCHLORINE HERBICIDE | ANALYTICAL SEQUENCE

Lab Name: IEA Inc. Contract: _____

Lab Code: IEA-IL Case No.: _____ SAS No.: _____ SDG No.: _____

GC Column: RTX-1701 ID: 0.53 (mm) Init. Calib. Date(s): 3-1-95- 3-2-95

Instrument ID: PA

THE ANALYTICAL SEQUENCE OF PERFORMANCE EVALUATION MIXTURES, BLANKS, SAMPLES, AND STANDARDS IS GIVEN BELOW:

MEAN SURROGATE RT FROM INITIAL CALIBRATION

2,4-DB : 25.17

	EPA SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED	TIME ANALYZED	RT #
01	Inst. Blk.	Hexane	3-2-95	05:26	—
02	WS08385	Herb L1	3-2-95	06:04	25.17
03	WS08405	Herb L2	3-2-95	06:42	25.17
04	WS08655	Herb L3	3-2-95	07:21	25.17
05	WS08425	Herb L4	3-2-95	07:59	25.17
06	WS08435	Herb L5	3-2-95	08:38	25.17
07	Inst. Blk.	Hexane	3-20-95	09:16	—
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
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32					

	QC LIMITS (± 0.05 MINUTES)
2,4-DB	

Column used to flag retention time values with an asterisk.
* Values outside of QC limits.

QUANT REPORT

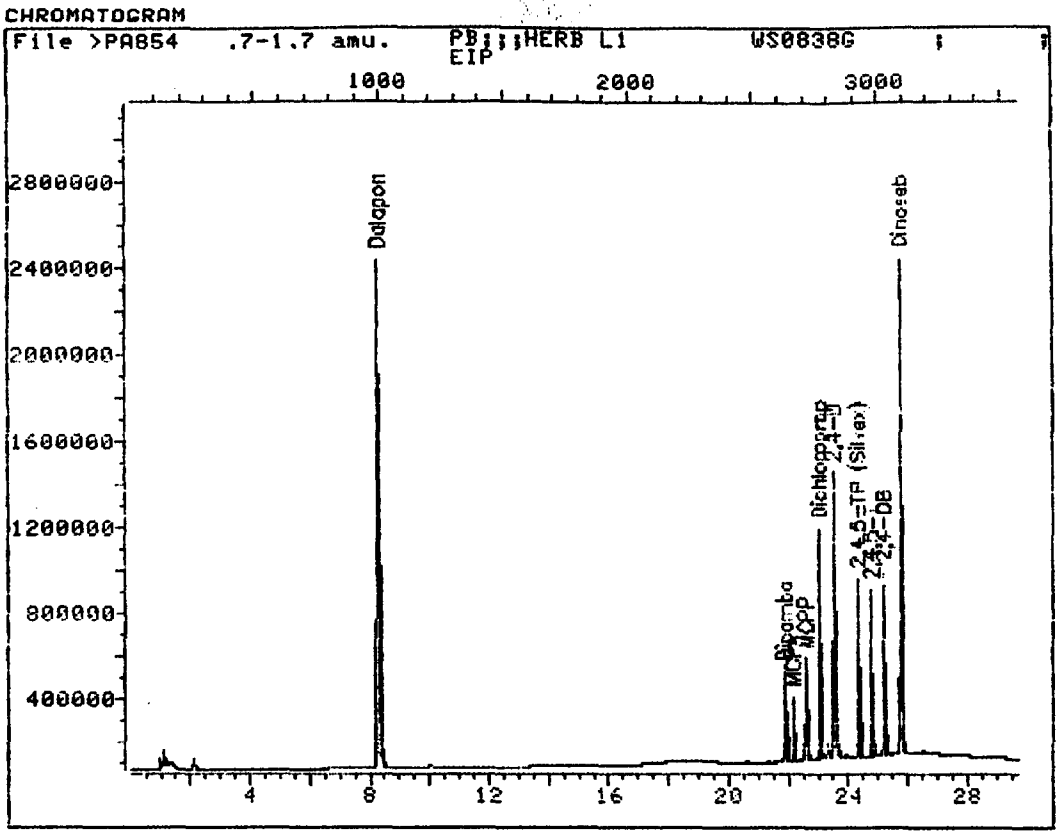
Operator ID: GC
Quant Rev: 7
Quant Time: 950302 11:07
Output File: ^PA854::Q2
Injected at: 950302 06:04
Data File: >PA854::D3
Dilution Factor: 1.00000
Name: PB;;;HERB L1
Instrument ID: PA
Misc: WS0838G ; ;030195; ;1 ; ;;QP0496 ;1 ;

ID File: ID8HPA::QT
Title: HERBICIDE ANALYSIS,RTx-1701, 0.53MMID,30M,10-19-94,IEA-IL
Last Calibration: 950117 15:01
Last Qcal Time: <none>

	Compound	R.T.	Scan#	Area	Conc	Units	q
1)	#Dicamba	21.85	2622	1355212	.275	NGS	100
2)	#Dalapon	8.25	990	10326384M	6.17	NGS	100
3)	#Dichloroprop	23.02	2762	3146247	2.56	NGS	100
4)	#2,4-D	23.49	2819	3434589M	2.09	NGS	100
5)	#2,4,5-TP (Silvex)	24.32	2918	2152249	.271	NGS	100
6)	#2,4,5-T	24.77	2972	2086020	.299	NGS	100
7)	#Dinoseb	25.76	3091	4857205M	1.42	NGS	100
8)	#2,4-DB	25.17	3021	2206523	3.06	NGS	100
9)	#MCPA	22.13	2656	968360	248.50	NGS	100
10)	#MCPP	22.56	2707	1384969	237.71	NGS	100

Compound uses ESTD

CHROMATOGRAM



Data File: >PA854::D3 Quant Output File: ^PA854::Q2
Name: PB;;;HERB L1 Instrument ID: PA
Misc: WS0838G : :030195: :1 : ::QP0496 :1 :

Id File: IDBHPA::QT
Title: HERBICIDE ANALYSIS,RTx-1701, 0.53MMID,30M,10-19-94,TFA-TI
Last Calibration: 950117 15:01 Last Qcal Time: <none>

Operator ID: GC
Quant Time : 950302 11:07
Injected at: 950302 06:04

QUANT REPORT

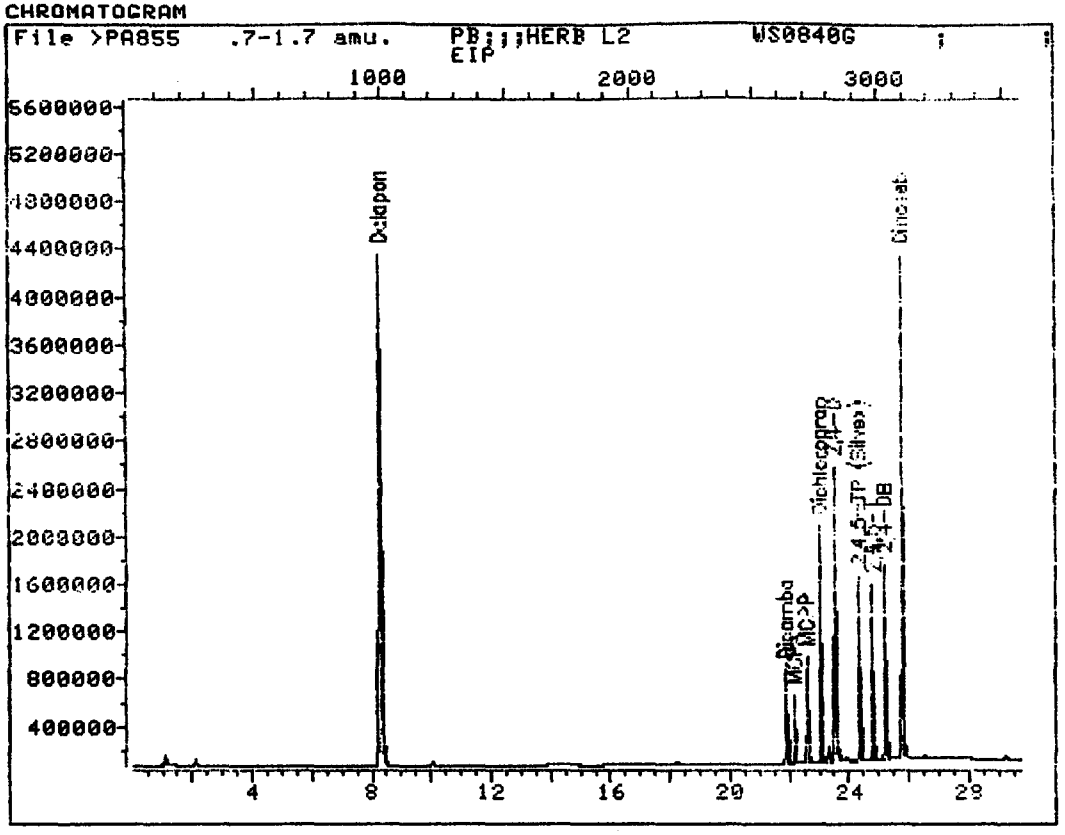
Operator ID: GC
Quant Rev: 7
Quant Time: 950302 11:09
Output File: ^PA855::Q2
Injected at: 950302 06:42
Data File: >PA855::D3
Dilution Factor: 1.00000
Name: PB;;;HERB L2
Instrument ID: PA
Misc: WS0840G ; ;030195; ;1 ; ;;QP0496 ;1 ;

ID File: ID8HPA::QT
Title: HERBICIDE ANALYSIS,RTx-1701, 0.53MMID,30M,10-19-94,ICA-IL
Last Calibration: 950117 15:01
Last Qcal Time: <none>

	Compound	R.T.	Scan#	Area	Conc	Units	q
1)	#Dicamba	21.85	2622	2504362	.508	NGS	100
2)	#Dalapon	8.26	991	18682240M	11.16	NGS	100
3)	#Dichloroprop	23.02	2762	5732458	4.67	NGS	100
4)	#2,4-D	23.49	2819	6336822M	3.86	NGS	100
5)	#2,4,5-TP (Silvex)	24.32	2918	3949369	.497	NGS	100
6)	#2,4,5-T	24.77	2972	3782180	.541	NGS	100
7)	#Dinoseb	25.76	3091	9034112M	2.64	NGS	100
8)	#2,4-DB	25.17	3021	3990921	5.54	NGS	100
9)	#MCPA	22.13	2656	1812002	464.99	NGS	100
10)	#MCPP	22.57	2708	2591481	444.80	NGS	100

Compound uses ESTD

CHROMATOGRAM



Data File: >PA855::D3 Quant Output File: ^PA855::Q2
Name: PB;;;HERB L2 Instrument ID: PA
Misc: WS0840G : :030195: :1 : ::QP0496 :1 :

Id File: TDAHPA::QT
Title: HERBICIDE ANALYSIS,RTx-1701, 0.53MMID,30M,10-19-94,TFA-TI
Last Calibration: 950117 15:01 Last Qcal Time: <none>

Operator ID: GC
Quant Time : 950302 11:09
Injected at: 950302 06:42

QUANT REPORT

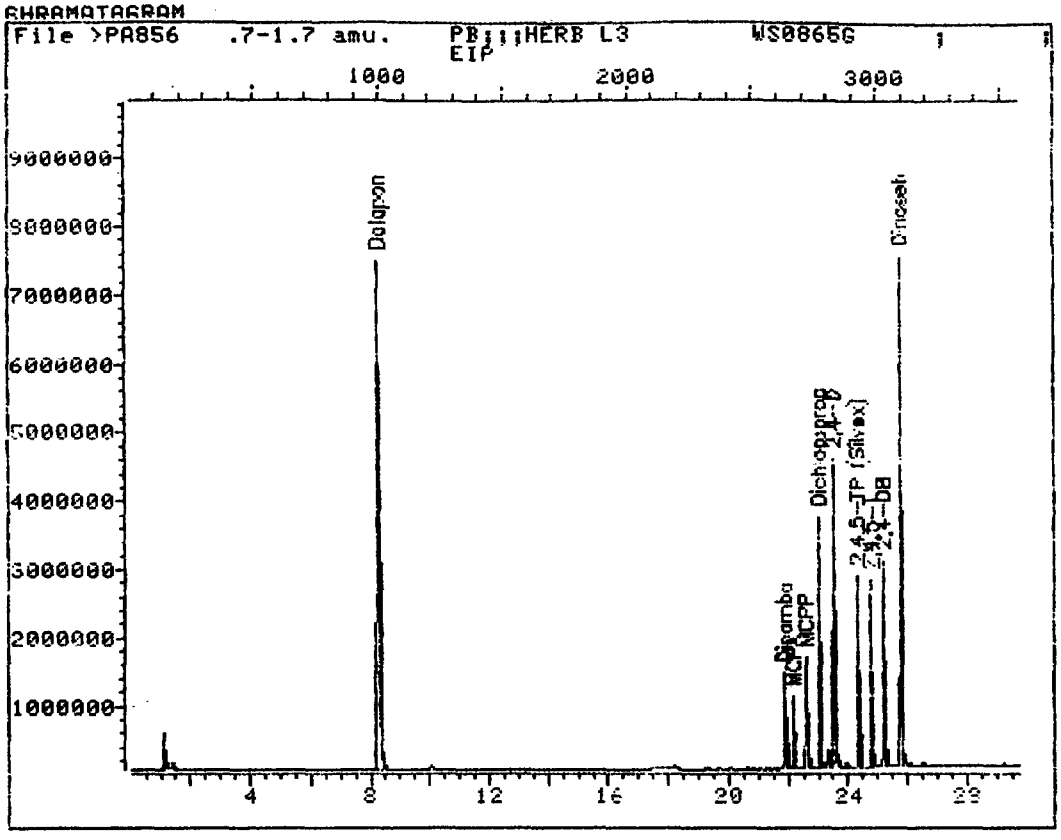
Operator ID: GC Quant Rev: 7 Quant Time: 950302 11:10
Output File: ^PA856::Q2 Injected at: 950302 07:21
Data File: >PA856::D3 Dilution Factor: 1.00000
Name: PB;;;HCRB L3 Instrument ID: PA
Misc: WS0865G ; ;030195; ;1 ; ;;QP0496 ;1 ;

ID File: ID8HPA::QT
Title: HERBICIDE ANALYSIS,RTx-1701, 0.53MMID,30M,10-19-94,IEA-IL
Last Calibration: 950117 15:01 Last Qcal Time: <none>

	Compound	R.T.	Scan#	Area	Conc	Units	q
1)	#Dicamba	21.85	2622	4437158	.901	NGS	100
2)	#Dalapon	8.25	990	37219968	22.22	NGS	100
3)	#Dichloroprop	23.02	2762	10206754	8.32	NGS	100
4)	#2,4-D	23.49	2819	11773552	7.17	NGS	100
5)	#2,4,5-TP (Silvex)	24.32	2918	7034312	.885	NGS	100
6)	#2,4,5-T	24.77	2972	6694234	.958	NGS	100
7)	#Dinoseb	25.76	3091	17390004	5.08	NGS	100
8)	#2,4-DB	25.17	3021	7129910	9.90	NGS	100
9)	#MCPA	22.14	2657	3354428	860.80	NGS	100
10)	#MCPP	22.58	2709	4817570	826.88	NGS	100

Compound uses ESTD

CHROMATOGRAM



Data File: >PA856::D3 Quant Output File: ^PA856::Q2
Name: PB:::HERB L3 Instrument ID: PA
Misc: WS0865G : :030195: :1 : ::QP0496 :1 :

Id File: IDBHPA::QT
Title: HERBICIDE ANALYSIS,RTx-1701, 0.53MMID,30M,10-19-94,TFA-TI
Last Calibration: 950117 15:01 Last Qcal Time: <none>

Operator ID: GC
Quant Time : 950302 11:10
Injected at: 950302 07:21

QUANT REPORT

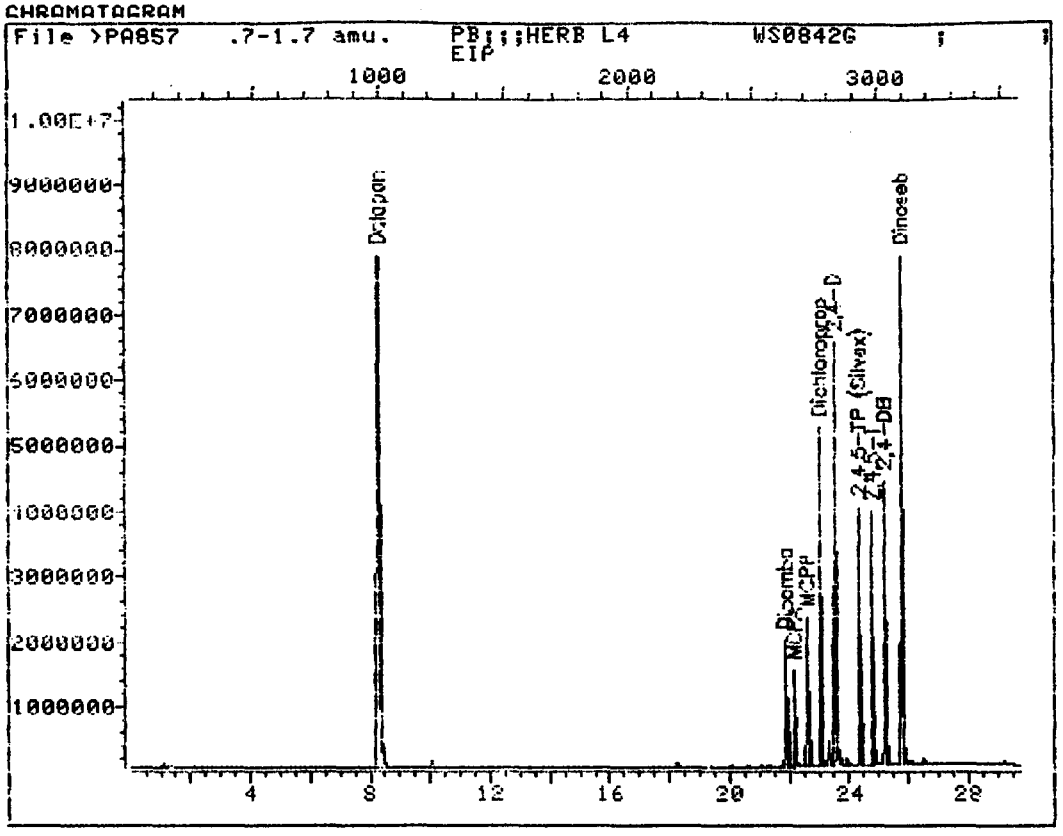
Operator ID: GC
Quant Rev: 7
Quant Time: 950302 11:10
Output File: ^PA857::Q2
Injected at: 950302 07:59
Data File: >PA857::D3
Dilution Factor: 1.00000
Name: PB;;;HERB L4
Instrument ID: PA
Misc: WS0842G ; ;030195; ;1 ; ;;QP0496 ;1 ;

ID File: ID8HPA::QT
Title: HERBICIDE ANALYSIS,RTx-1701, 0.53MMID,30M,10-19-94,IEA-IL
Last Calibration: 950117 15:01
Last Qual Time: <none>

	Compound	R.T.	Scan#	Area	Conc	Units	q
1)	#Dicamba	21.85	2622	6204603	1.26	NGS	100
2)	#Dalapon	8.25	990	47378080	28.29	NGS	100
3)	#Dichloroprop	23.02	2762	14326834	11.67	NGS	100
4)	#2,4-D	23.49	2819	16588722	10.10	NGS	100
5)	#2,4,5-TP (Silvex)	24.32	2918	9861326	1.24	NGS	100
6)	#2,4,5-T	24.77	2972	9368598	1.34	NGS	100
7)	#Dinoseb	25.76	3091	21770584	6.36	NGS	100
8)	#2,4 DB	25.17	3021	10032664	13.94	NGS	100
9)	#MCPA	22.15	2658	4818505	1236.50	NGS	100
10)	#MCPP	22.58	2710	6884765	1181.68	NGS	100

Compound uses ESTD

CHROMATOGRAM



Data File: >PA857::D3 Quant Output File: ^PA857::Q7
Name: PB;;;HERB L4 Instrument ID: PA
Misc: WS0842G ; :030195: :1 ; ::QP0496 :1 ;

Id File: ID8HPA::QT
Title: HERBICIDE ANALYSIS,RTx-1701, 0.53MMID,30M,10-19-94,TFA-TI
Last Calibration: 950117 15:01 Last Qcal Time: <none>

Operator ID: GC
Quant Time : 950302 11:10
Injected at: 950302 07:59

QUANT REPORT

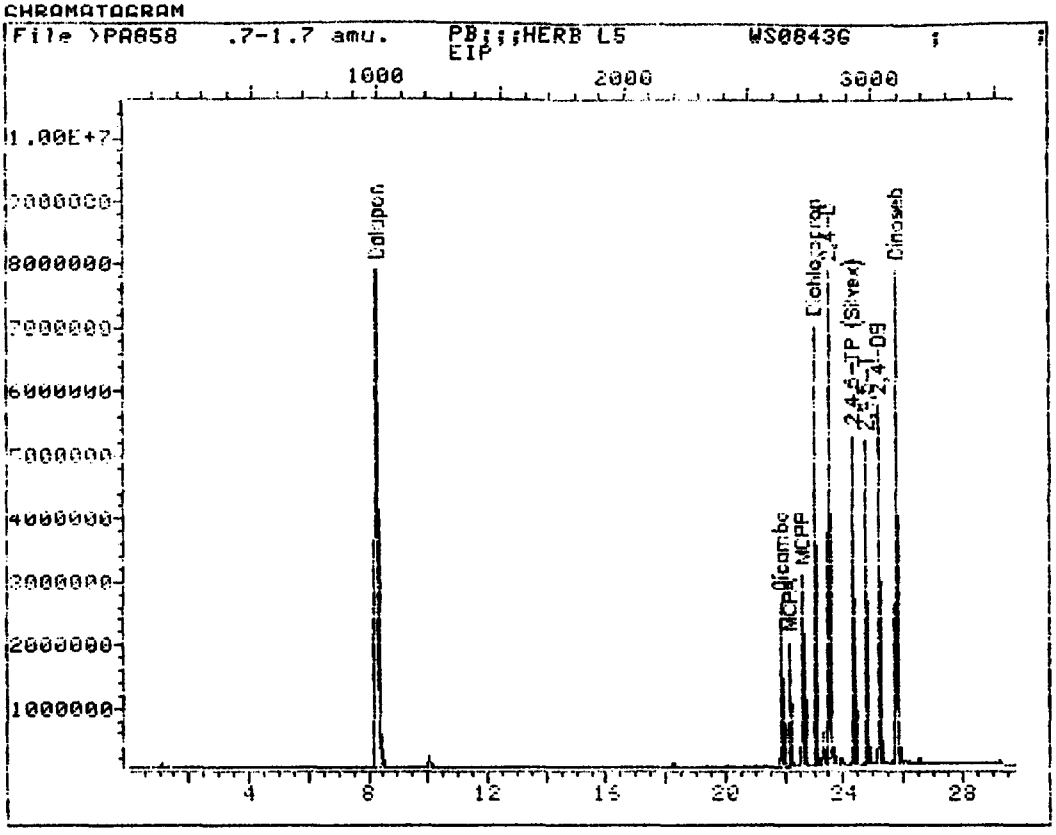
Operator ID: GC Quant Rev: 7 Quant Time: 950302 11:11
Output File: ^PA858::Q2 Injected at: 950302 08:30
Data File: >PA858::D3 Dilution Factor: 1.00000
Name: PB;;;HCRB L5 Instrument ID: PA
Misc: WS08436 ; ;030195; ;1 ; ;;QP0496 ;1 ;

ID File: ID8HPA::QT
Title: HERBICIDE ANALYSIS,RTx-1701, 0.53MMID,30M,10 19 94,IEA IL
Last Calibration: 950117 15:01 Last Qcal Time: <none>

Compound	R.T.	Scan#	Area	Conc	Units	q
1) #Dicamba	21.85	2622	8109839	1.66	NGS	100
2) #Dalapon	8.27	993	53620296	32.02	NGS	100
3) #Dichloroprop	23.02	2762	18957036	15.45	NGS	100
4) #2,4-D	23.49	2819	21133584	12.87	NGS	100
5) #2,4,5-TP (Silvex)	24.32	2918	12869218	1.62	NGS	100
6) #2,4,5-T	24.77	2972	12199934	1.75	NGS	100
7) #Dinoseb	25.77	3092	24347716	7.11	NGS	100
8) #2,4-DB	25.17	3021	13070094	18.15	NGS	100
9) #MCPA	22.16	2659	6667335	1710.94	NGS	100
10) #MCPP	22.59	2711	9556998	1640.34	NGS	100

Compound uses ESTD

CHROMATOGRAM



Data File: >PA858::D3 Quant Output File: ^PA858::Q2
Name: PB;;;HERB L5 Instrument ID: PA
Misc: WS0843G ; :030195: :1 : ::QP0496 :1 :

Id File: IDBHPA::QT
Title: HERBICIDE ANALYSIS,RTx-1701, 0.53MMID,30M,10-19-94,TFA-TI
Last Calibration: 950117 15:01 Last Qcal Time: <none>

Operator ID: GC
Quant Time : 950302 11:11
Injected at: 950302 08:38

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Continuing Calibration

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Calibration Check Report

Title: HERBICIDE ANALYSIS,RTx-1701,0.53MMID,30M,1-29-92,IEA-IL
Calibrated: 950302 11:31

Check Standard Data File: >PA870
Injection Time: 950302 16:54

Compound	$\overline{RF}$	RF	%Diff	Calib Meth	
Dicamba	4619610	4715834	2.08	Average	
Dalapon	1394284	1578883	13.24	Average	(Conc=25.00)
Dichloroprop	1065728	1070368	.44	Average	(Conc=10.00)
2,4-D	1196230	1234314	3.18	Average	(Conc=10.00)
2,4,5-TP (Silvex)	7310174	7263564	.64	Average	
2,4,5-T	6989675	6780716	2.99	Average	
Dinoseb	3262985	3652979	11.95	Average	(Conc=5.00)
2,4-DB	743227.	738078.	.69	Average	(Conc=10.00)
MCPP	4981.75	5073.19	1.84	Average	(Conc=1000.00)
MCPA	3479.58	3525.33	1.32	Average	(Conc=1000.00)

RF - Response Factor from daily standard file at 1.00 ngs

$\overline{RF}$ - Average Response Factor from Initial Calibration

%Diff - % Difference from original average or curve

Calibration Check Report

Title: HERBICIDE ANALYSIS,RTx-1701,0.53MMID,30M,1-29-92,IEA-IL
Calibrated: 950302 11:31

Check Standard Data File: >PA878
Injection Time: 950302 22:03

Compound	$\overline{RF}$	RF	%Diff	Calib Meth	
Dicamba	4619610	4555815	1.38	Average	
Dalapon	1394284	1531791	9.86	Average	(Conc=25.00)
Dichloroprop	1065728	1037211	2.68	Average	(Conc=10.00)
2,4-D	1196230	1190721	.46	Average	(Conc=10.00)
2,4,5-TP (Silvex)	7310174	7142874	2.29	Average	
2,4,5-T	6989675	6717282	3.90	Average	
Dinoseb	3262985	3345631	2.53	Average	(Conc=5.00)
2,4-DB	743227.	731995.	1.51	Average	(Conc=10.00)
MCPP	4981.75	4864.29	2.36	Average	(Conc=1000.00)
MCPA	3479.58	3370.96	3.12	Average	(Conc=1000.00)

RF - Response Factor from daily standard file at 1.00 ngs

$\overline{RF}$ - Average Response Factor from Initial Calibration

%Diff - % Difference from original average or curve

QUANT REPORT

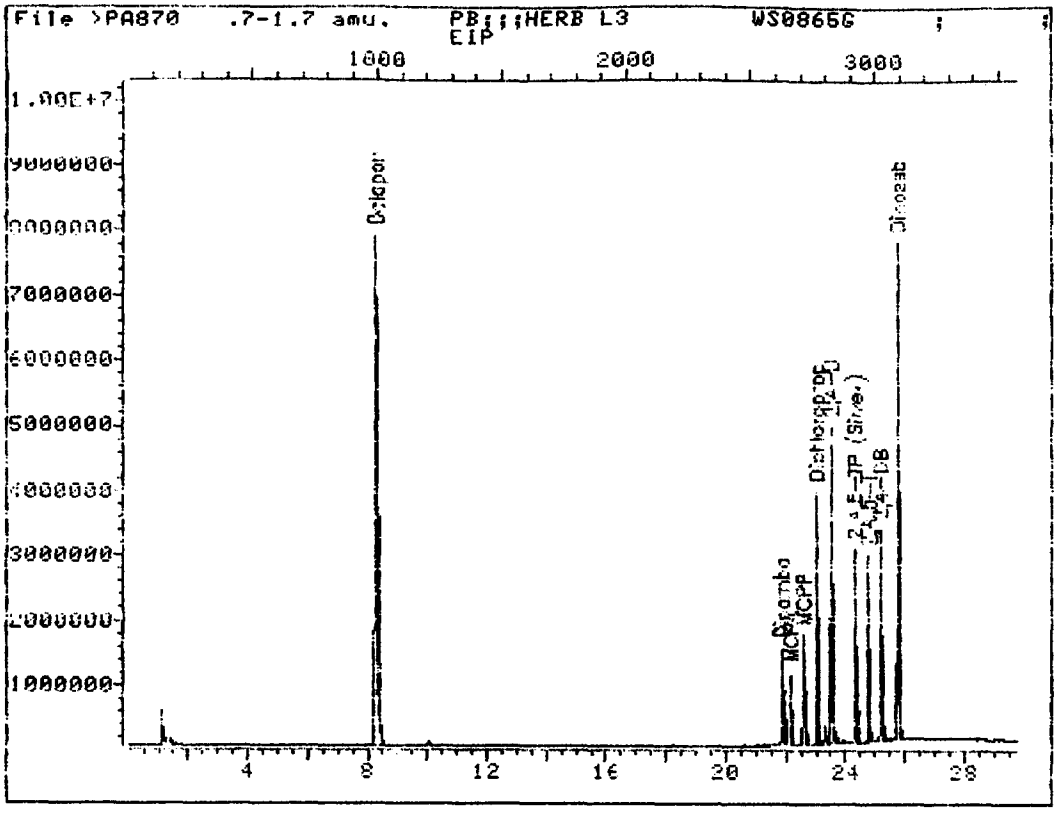
Operator ID: GC Quant Rev: 7 Quant Time: 950302 17:28
Output File: ^PA870::Q2 Injected at: 950302 16:54
Data File: >PA870::D3 Dilution Factor: 1.00000
Name: PR:::HERB 13 Instrument ID: PA
Misc: WS0865G : :030195: :1 : ::QP0496 :1 :

ID File: IDRHPA::QT
Title: HERBICIDE ANALYSIS,RTx-1701, 0.53MMID,30M,10-19-94,TFA-TI
Last Calibration: 950302 11:33 Last Qcal Time: <none>

	Compound	R.T.	Scan#	Area	Conc	Units	q
1)	#Dicamba	21.85	2622	4715834	1.02	NGS	100
2)	#Dalapon	8.26	991	39472080	28.31	NGS	100
3)	#Dichloroprop	23.07	2762	10703684	10.04	NGS	100
4)	#2,4-D	23.49	2819	12343138	10.32	NGS	100
5)	#2,4,5-TP (Silvex)	24.32	2918	7263564	.994	NGS	100
6)	#2,4,5-T	24.77	2972	6780716	.970	NGS	100
7)	#Dinoseb	25.76	3091	18264896	5.60	NGS	100
8)	#2,4-DB	25.17	3021	7380786	9.93	NGS	100
9)	#MCPA	22.15	2658	3525335	1013.15	NGS	100
10)	#MCPP	22.58	2709	5073194	1018.36	NGS	100

Compound uses ESTD

CHROMATOGRAM



Data File: >PA870::D3 Quant Output File: ^PA870::Q2
Name: PB;;;HERB L3 Instrument ID: PA
Misc: WS0865G ; ;030195; ;1 ; ;;QP0496 ;1 ;

Id File: ID8HPA::QT
Title: HERBICIDE ANALYSIS,RTx-1701, 0.53MMID,30M,10-19-94,IEA-IL
Last Calibration: 950302 11:33 Last Qual Time: <none>

Operator ID: GC
Quant Time : 950302 17:28
Injected at: 950302 16:54

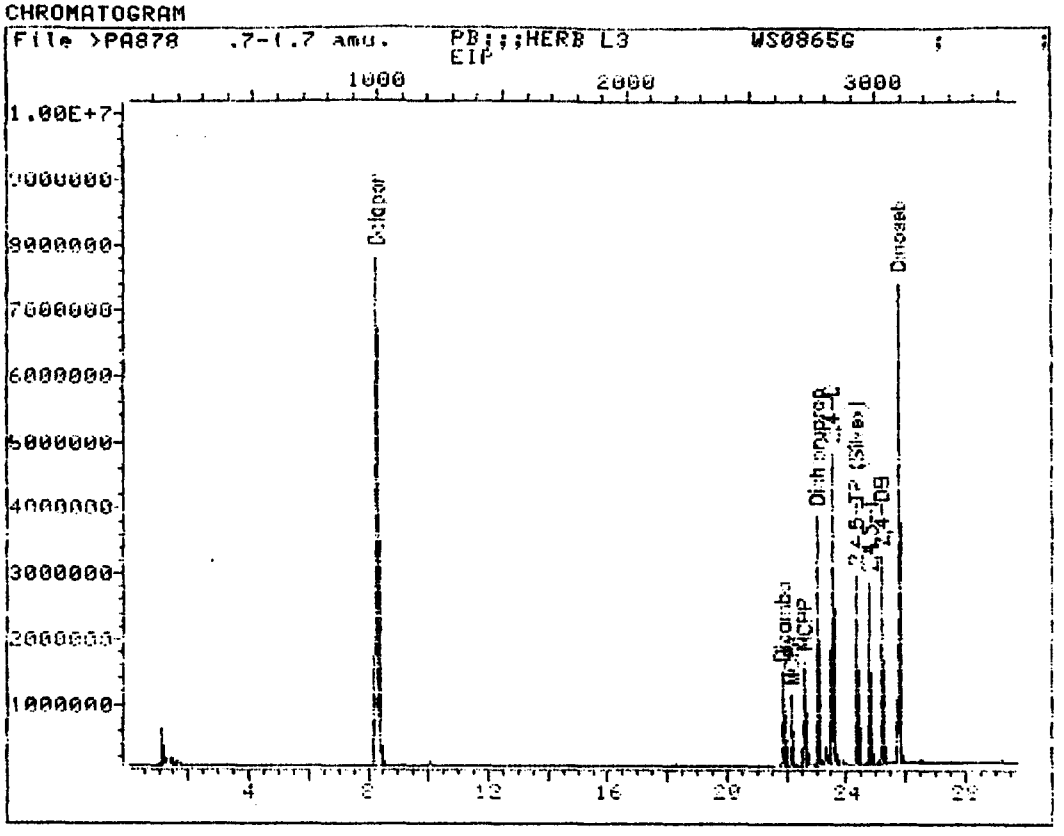
Operator ID: GC Quant Rev: 7 Quant Time: 950302 22:35
Output File: ^PA878::Q7 Injected at: 950302 22:03
Data File: >PA878::D3 Dilution Factor: 1.00000
Name: PR:::HERB 13 Instrument ID: PA
Misc: WS0865G : :030195: :1 : ::QP0496 :1 :

ID File: IDRHPA::QT
Title: HERBICIDE ANALYSIS,RTx-1701, 0.53MMID,30M,10-19-94,TEA-TI
Last Calibration: 950302 11:33 Last Qcal Time: <none>

	Compound	R.T.	Scan#	Area	Conc	Units	q
1)	#Dicamba	21.85	2622	4555815	.986	NGS	100
2)	#Dalapon	8.26	991	38294768	22.47	NGS	100
3)	#Dichloroprop	23.02	2762	10322114	9.73	NGS	100
4)	#2,4-D	23.49	2819	11907208	9.95	NGS	100
5)	#2,4,5-TP (Silvex)	24.32	2918	7142874	.977	NGS	100
6)	#2,4,5-T	24.77	2972	6717282	.961	NGS	100
7)	#Dinoseb	25.26	3091	16728156	5.13	NGS	100
8)	#2,4-DB	25.12	3021	7319952	9.85	NGS	100
9)	#MCPA	22.15	2658	3370942	968.79	NGS	100
10)	#MCPP	22.58	2709	4864290	976.42	NGS	100

Compound uses ESTD

CHROMATOGRAM



Data File: >PA878::03 Quant Output File: ^PA878::Q2
Name: PB;;;HERB L3 Instrument ID: PA
Misc: WS0865G ; ;030195; ;1 ; ;;QP0496 ;1 ;

Id File: ID8HPA::QT
Title: HERBICIDE ANALYSIS,RTx-1701, 0.53MMID,30M,10-19 94,ICA-IL
Last Calibration: 950302 11:33 Last Qual Time: <none>

Operator ID: GC
Quant Time : 950302 22:35
Injected at: 950302 22:03

8D

ORGANOCHLORINE HERBICIDE ANALYTICAL SEQUENCE

Lab Name: IEA INC. Contract: _____

Lab Code: IEA-IL Case No.: CH950411 SAS No.: _____ SDG No.: _____

GC Column: RTX-1701 ID: 0.53 (mm) Init. Calib. Date(s): 3-1-95 — 3-2-95

Instrument ID: PA

THE ANALYTICAL SEQUENCE OF PERFORMANCE EVALUATION MIXTURES, BLANKS, SAMPLES, AND STANDARDS IS GIVEN BELOW:

MEAN SURROGATE RT FROM INITIAL CALIBRATION
2,4-DB : 25.17

	EPA SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED	TIME ANALYZED	RT #
01	Inst. Blk.	Hexane	3-2-95	16:15	—
02	WS08655	Herb L3	3-2-95	16:54	25.17
03	meth. Blk.	HW0301	3-2-95	17:33	25.17
04	QC Blk. spk.	HW0301-BS	3-2-95	18:12	25.17
05	SA U-01	950411001	3-2-95	18:50	25.22
06	SA U-02	950411002	3-2-95	19:29	25.17
07	SA U-01	950411001 MS	3-2-95	20:08	25.18
08	SA U-01	950411001 MSD	3-2-95	20:47	25.22
09	Inst. Blk.	Hexane	3-2-95	21:25	—
10	WS08655	Herb L3	3-2-95	22:03	25.17
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
31					
32					

	QC LIMITS (± 0.05 MINUTES)
2,4-DB	

Column used to flag retention time values with an asterisk.
* Values outside of QC limits.

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Sample Data

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QUANT REPORT

Operator ID: GC Quant Rev: 7 Quant Time: 950302 19:30
Output File: ^PA873::Q2 Injected at: 950302 18:50
Data File: >PA873::D3 Dilution Factor: 1.00000
Name: PR:::SA H-01 Instrument ID: PR
Misc: 950411001 :030195:030195:11W :1 :SFP ::QP0496 :5 : 100ML

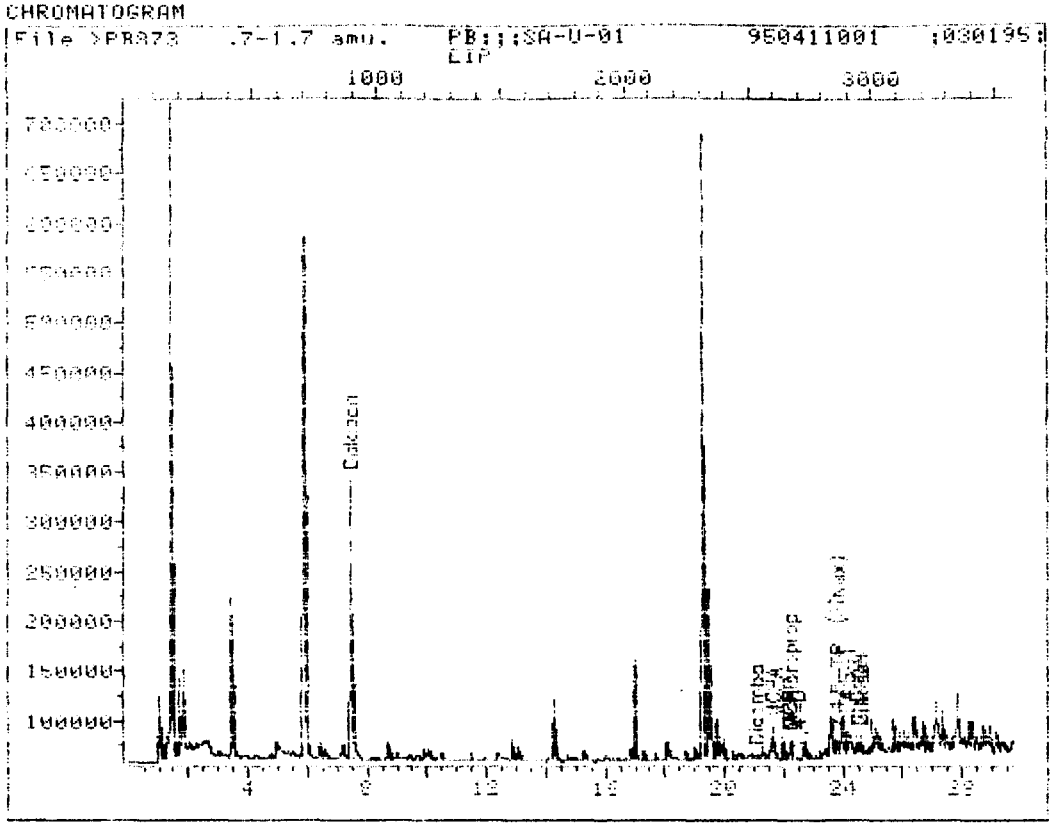
Lib File: TDRHPA::QT
Title: HERBICIDE ANALYSIS,RT=1701, 0.53MMID,30M,10-19-94,IFA-TI
Last Calibration: 950302 11:33 Last Qual Time: <none>

	Compound	R.T.	Scan#	Area	Conc	Units	q
1)	#Dicamba	21.86	2423	28207	.00611	NGS	100
2)	#Dalapon	8.34	1001	8099	.00581	NGS	100
3)	#Dichlorprop	23.01	2761	26574	.0749	NGS	100
4)	#2,4-D	23.42	2811	40795	.0508	NGS	100
5)	#2,4,5-TP (Silvex)	24.37	2924	317547	.0434	NGS	100
6)	#2,4,5-T	24.72	2967	71749	.0102	NGS	100
7)	#Dinoseb	25.63	3075	757189	.232	NGS	100
8)	#2,4-DB	25.22	3026	361896	.487	NGS 24	100
9)	#MCPA	22.10	2652	304594	82.54	NGS	100
10)	#MCPP	22.75	2730	66413	13.33	NGS	100

Compound uses ESTD

3/3/95

CHROMATOGRAM



Data File: >PB873::D5 Quant Output File: >PB873::Q2
Name: PB;;;SA-U-01 Instrument ID: PB
Misc: 950411001 ;030195;030195;LLW ;1 ;SEP ;;QP0496 ;5 ; 100ML

Id File: IDOHPB::QT
Title: HERBICIDE ANALYSIS,DB 5, 0.53MMID,30M,1 29 92,IEA-IL
Last Calibration: 950302 11:14 Last Qcal Time: <none>

Operator ID: GC
Quant Time : 950302 19:31
Injected at: 950302 18:50

QUANT REPORT

Operator ID: GC Quant Rev: 7 Quant Time: 950302 20:03
Output File: >FA874::Q2 Injected at: 950302 19:29
Data File: >PA874::D3 Dilution Factor: 1.00000
Name: PA:::SA 8-02 Instrument ID: PA
Misc: 950411002 :030195:030195:LLW :1 :SFP ::QP0496 :5 : 100ML

ID File: IDSHPA::QT
Title: HERBICIDE ANALYSIS,RTx-1701, 0.53MMID,30M,10-19-94,IFA-II
Last Calibration: 950302 11:33 Last Qcal Time: <none>

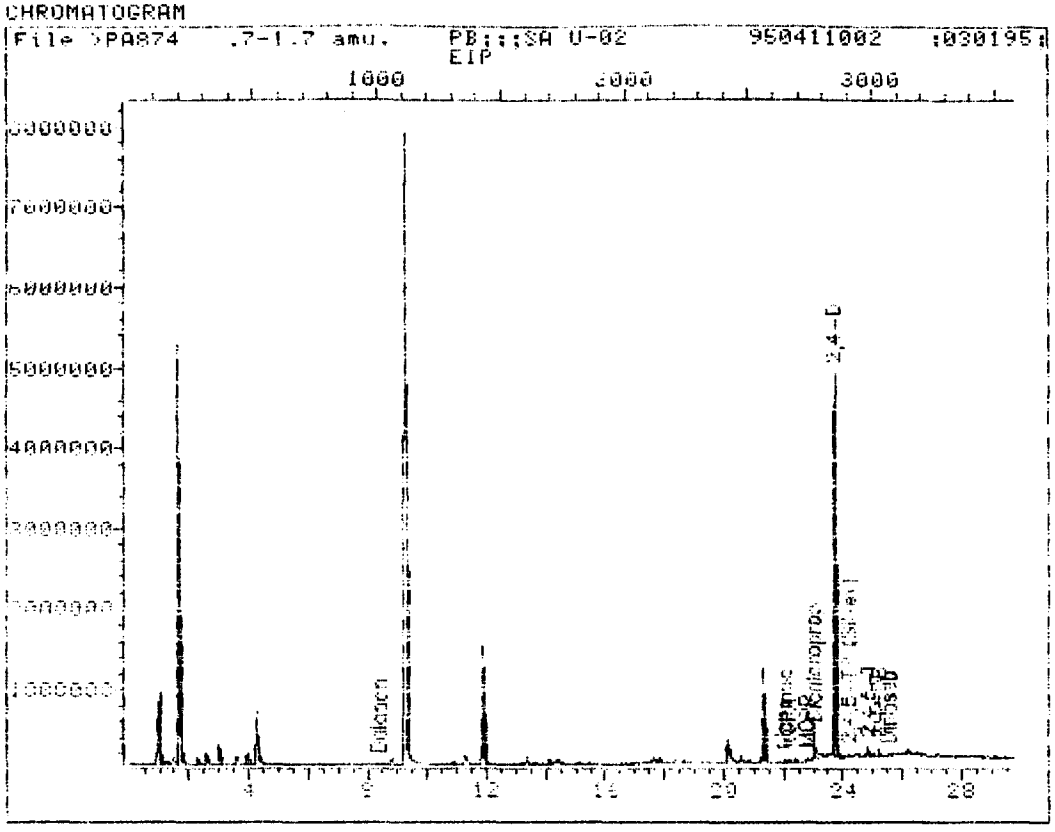
	Compound	R.T.	Scan#	Area	Conc	Units		%
1)	#Dicamba	22.00	2040	52124	.0113	NGS		100
2)	#Dalapon	8.34	1001	8213	.00589	NGS		100
3)	#Dichloroprop	22.97	2756	2293820	2.43	NGS		100
4)	#2,4-D	23.67	2841	12362964	10.33	NGS		100
5)	#2,4,5-TP (Silvex)	24.17	2901	441029	.0431	NGS		100
6)	#2,4,5-T	24.83	2979	400865	.0574	NGS		100
7)	#Dinoseb	25.49	3059	22335	.0222	NGS		100
8)	#2,4-DB	25.17	3021	248802	.335	NGS	17%	100
9)	#MCPA	21.09	2451	31439	9.04	NGS		100
10)	#MCPP	22.76	2731	208840	41.92	NGS		100

Compound uses ESTD

17%

3/3/95

CHROMATOGRAM



Data File: >PA874;;D2 Quant Output File: PA874;;Q2
Name: PB;;;SA U-02 Instrument ID: PA
Misc: 950411002 ;030195;030195;LLW ;1 ;SEP ;;QT0496 ;5 ; 100ML

Id File: IDBHPA;;QT
Title: HERBICIDE ANALYSIS,RTx 1701, 0.25MMID,30M,10 17 94,ICA IL
Last Calibration: 950302 11:33 Last Qcal Time: <none>

Operator ID: GC
Quant Time : 950302 20:03
Injected at: 950302 19:29

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QC Summary

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QUANT REPORT

Operator ID: GC Quant Rev: 7 Quant Time: 950302 18:07
Output File: ^PA871::Q2 Injected at: 950302 17:33
Data File: >PA871::D3 Dilution Factor: 1.00000
Name: PR:::METH. BLK. Instrument ID: PA
Misc: HW0301 :030195:030195:11W :1 :SEP ::QP0496 :5 : 100ML

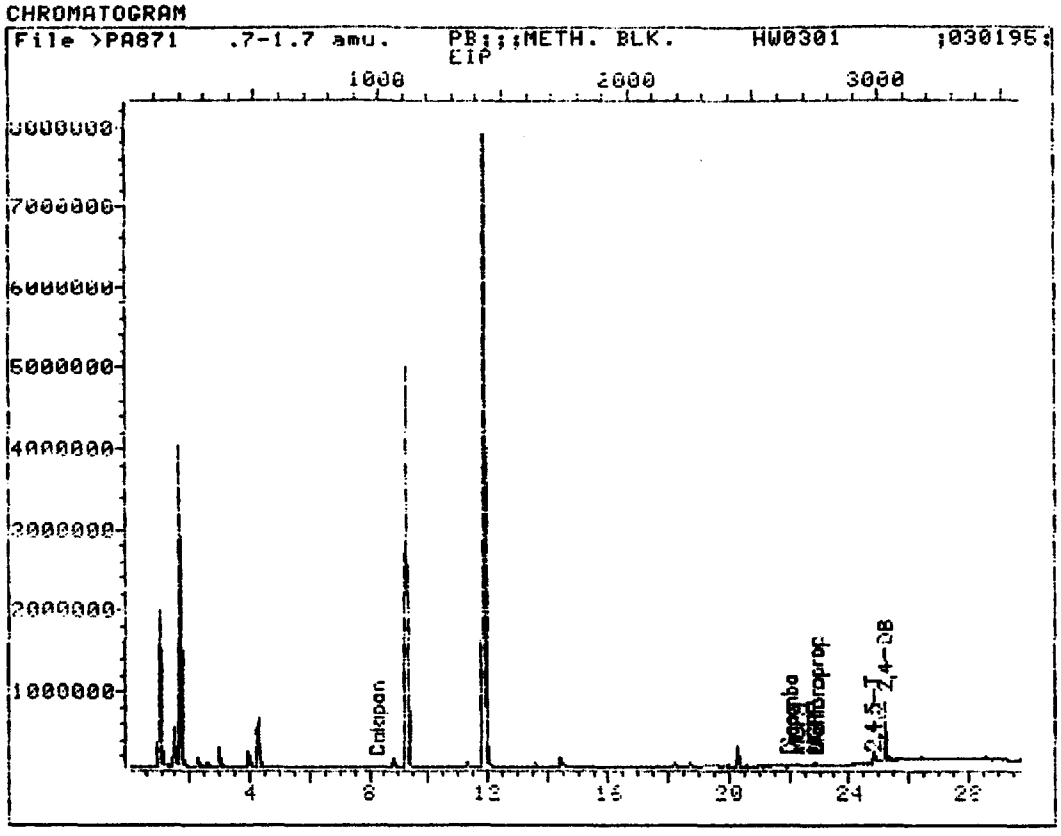
ID File: IDBHPA::QT
Title: HERBICIDE ANALYSIS,RTx-1701, 0.53MMID,30M,10-19-94,TFA-TI
Last Calibration: 950302 11:33 Last Qcal Time: <none>

	Compound	R.T.	Scan#	Area	Conc	Units	q
1)	#Dicamba	21.99	2639	16792	.00363	NGS	100
2)	#Dalapon	8.23	987	27619	.0198	NGS	100
3)	#Dichloroprop	22.88	2746	27081	.0254	NGS	100
6)	#2,4,5-T	24.78	2973	545413	.0780	NGS	100
8)	#2,4-DB	25.17	3021	1912664	2.57	NGS 128%	100
9)	#MCPA	22.22	2666	47948	12.34	NGS	100
10)	#MCPP	22.80	2736	68910	13.83	NGS	100

Compound uses ESTD

3/3/95

CHROMATOGRAM



Data File: >PA871::D3 Quant Output File: ^PA871::Q2
Name: PB;;;METH. BLK. Instrument ID: PA
Misc: HW0301 ;030195;030195;LLW ;1 ;SEP ;;QP0496 ;5 ; 100ML

Id File: IDGHPA::QT
Title: HERBICIDE ANALYSIS,RTx-1701, 0.53MMID,30M,10-19-94,ICA-IL
Last Calibration: 950302 11:33 Last Qcal Time: <none>

Operator ID: GC
Quant Time : 950302 16:07
Injected at: 950302 17:33

QUANT REPORT

Operator ID: GC Quant Rev: 7 Quant Time: 950302 20:42
Output File: ^PA875::Q2 Injected at: 950302 20:08
Data File: >PA875::D3 Dilution Factor: 1.00000
Name: PB:::SA H-01 Instrument ID: PA
Misc: 950411001MS :030195:030195:LLW :1 :SFP ::QP0496 :5 : 100ML

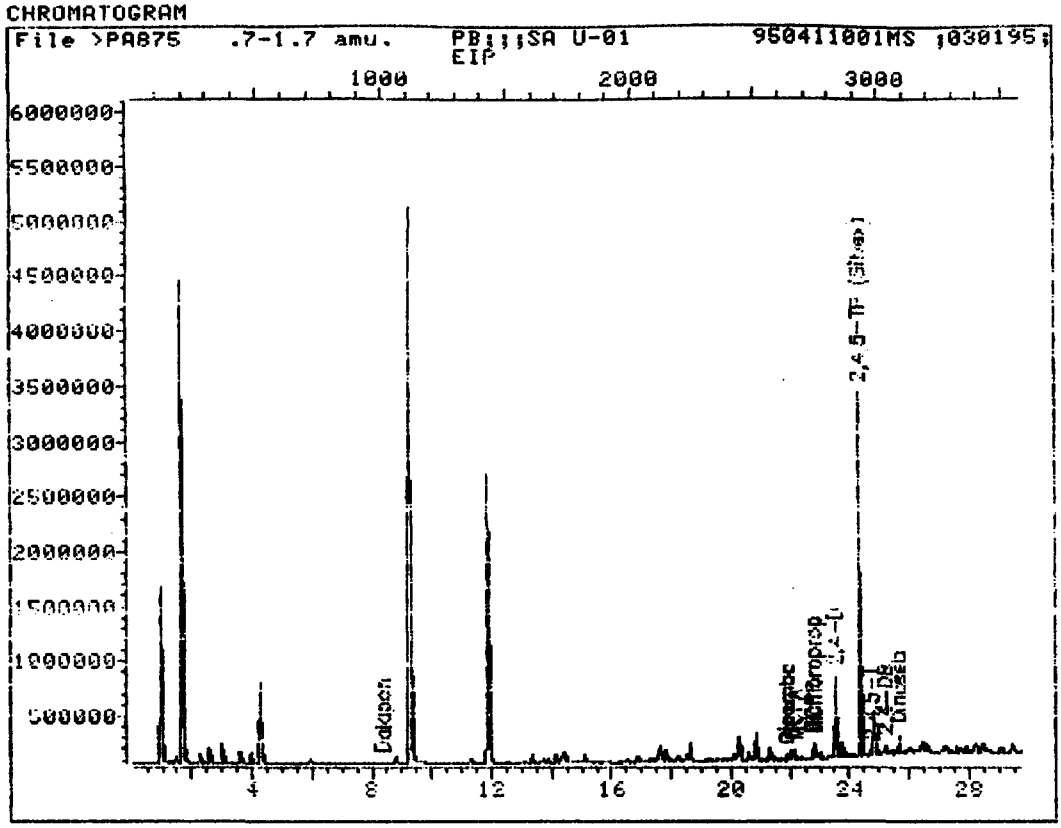
ID File: TDRHPA::QT
Title: HERBICIDE ANALYSIS,RTx-1701, 0.53MMID,30M,10-19-94,TFA-TI
Last Calibration: 950302 11:33 Last Qcal Time: <none>

	Compound	R.T.	Scan#	Area	Conc	Units	Q
1)	#Dicamba	21.86	2623	134933	.0292	NGS	100
2)	#Dalapon	8.33	1000	9487	.00680	NGS	100
3)	#Dichloroprop	22.75	2730	654275	.614	NGS	100
4)	#2,4-D	23.49	2819	1901847	1.59	NGS 64%	100
5)	#2,4,5-TP (Silvex)	24.32	2918	8189428	1.12	NGS 45%	100
6)	#2,4,5-T	24.72	2967	33715	.00482	NGS	100
7)	#Dinoseb	25.63	3075	493058	.151	NGS	100
8)	#2,4-DB	25.18	3022	314412	.423	NGS 21%	100
9)	#MCPA	22.10	2652	159196	45.75	NGS	100
10)	#MCPP	22.75	2730	654275	131.33	NGS	100

Compound uses ESTD

3/3/95

CHROMATOGRAM



Data File: >PA875::03 Quant Output File: ^PA875::Q2
Name: PB;;;SA U 01 Instrument ID: PA
Misc: 950411001MS ;030195;030195;LLW ;1 ;SCP ;;QP0496 ;5 ; 100ML

Id File: ID8HPA::QT
Title: HERBICIDE ANALYSIS,RTx-1701, 0.53MMID,30M,10-19-94,IEA-IL
Last Calibration: 950302 11:33 Last Qcal Time: <none>

Operator ID: GC
Quant Time : 950302 20:42
Injected at: 950302 20:08

Operator ID: GC Quant Rev: 7 Quant Time: 950302 21:20
Output File: ^PA876::Q2 Injected at: 950302 20:47
Data File: >PA876::D3 Dilution Factor: 1.00000
Name: PB:::SO U-01 Instrument ID: PA
Misc: 950411001MSD:030195:030195:LLW :1 :SFP ::QP0496 :5 : 100ML

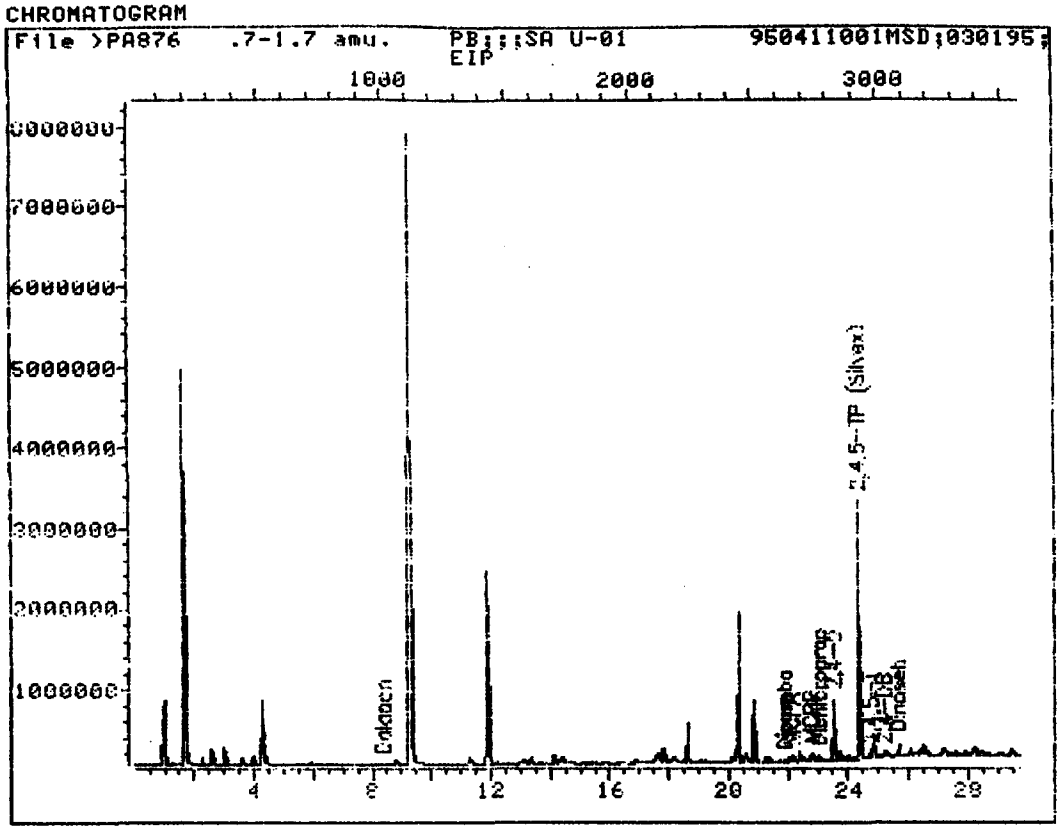
ID File: ID8HPA::QT
Title: HERBICIDE ANALYSIS,RTx-1701, 0.53MMID,30M,10-19-94,TFA-TI
Last Calibration: 950302 11:33 Last Qcal Time: <none>

	Compound	R.T.	Scan#	Area	Conc	Units	q	
1)	#Dicamba	21.86	2623	13857	.00300	NGS		100
2)	#Dalapon	8.34	1001	8707	.00624	NGS		100
3)	#Dichlorprop	23.01	2761	166972	.157	NGS		100
4)	#2,4-D	23.49	2819	2020553	1.69	NGS	68%	100
5)	#2,4,5-TP (Silvex)	24.32	2918	8126020	1.11	NGS	44%	100
6)	#2,4,5-T	24.72	2967	25618	.00367	NGS		100
7)	#Dinoseb	25.63	3075	499618	.153	NGS		100
8)	#2,4-DB	25.22	3026	352276M	.474	NGS	24%	100
9)	#MCPA	22.10	2652	174701	50.21	NGS		100
10)	#MCPP	22.76	2731	507432	101.86	NGS		100

Compound uses ESTD

3/3/95

CHROMATOGRAM



Data File: >PA876::D3 Quant Output File: ^PA876::Q2
Name: PB;;;SA U 01 Instrument ID: PA
Misc: 950411001MSD;030195;030195;LLW ;1 ;SEP ;;QP0496 ;5 ; 100ML

Id File: ID8HPA::QT
Title: HERBICIDE ANALYSIS,RTx-1701, 0.53MMID,30M,10-12-94,IEA-IL
Last Calibration: 950302 11:33 Last Qcal Time: <none>

Operator ID: GC
Quant Time : 950302 21:20
Injected at: 950302 20:47

QUANT REPORT

Operator ID: GC Quant Rev: 7 Quant Time: 950307 18:46
Output File: ^PA872::Q2 Injected at: 950307 18:12
Data File: >PA872::D3 Dilution Factor: 1.00000
Name: PB:::QC BLK. SPK. Instrument ID: PA
Misc: HW0301-BS :030195:030195:11W :1 :SFP ::QP0496 :5 : 100ML

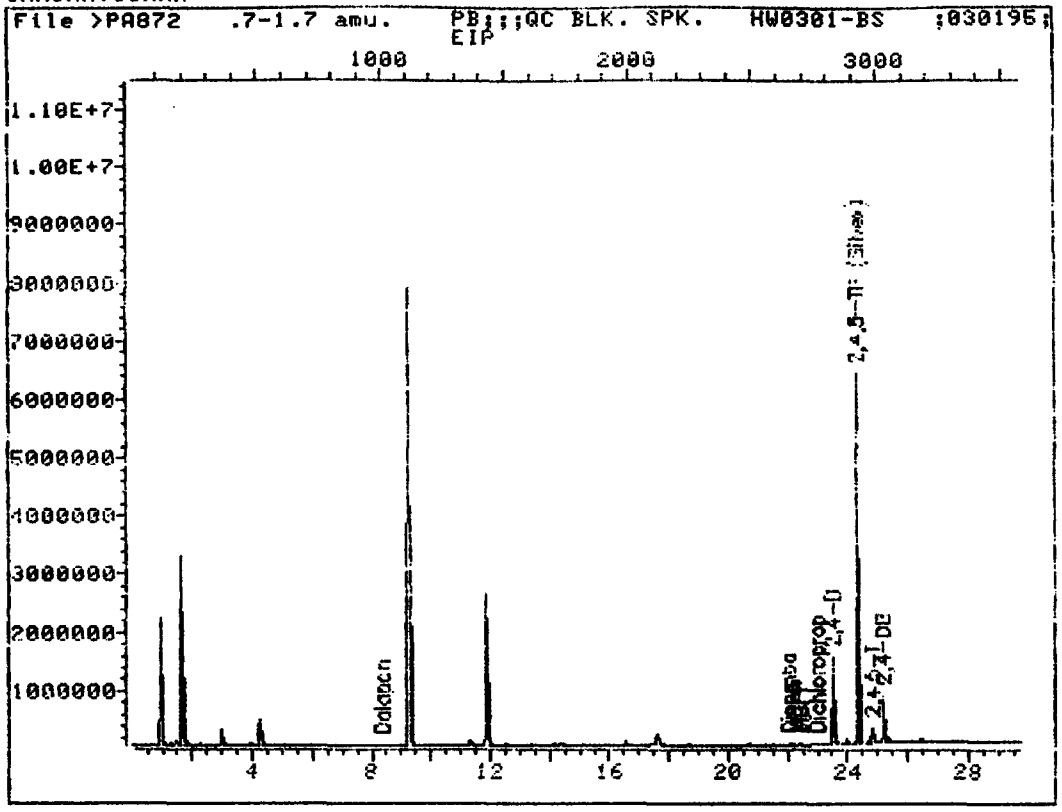
ID File: TD8HPA::QT
Title: HERBICIDE ANALYSIS,RTx-1701, 0.53MMID,30M,10-19-94,TFA-TI
Last Calibration: 950307 11:33 Last Qcal Time: <none>

	Compound	R.T.	Scan#	Area	Conc	Units	q
1)	#Dicamba	22.00	2640	34298	.00742	NGS	100
2)	#Dalapon	8.34	1001	11379	.00816	NGS	100
3)	#Dichloroprop	22.97	2757	18944	.0178	NGS	100
4)	#2,4-D	23.49	2819	3916638	3.77	NGS 130%	100
5)	#2,4,5-TP (Silvex)	24.32	2918	15383078	2.10	NGS 84%	100
6)	#2,4,5-T	24.83	2979	838859	.120	NGS	100
8)	#2,4-DB	25.17	3021	1951642	2.63	NGS 130%	100
9)	#MCPA	22.21	2665	50451	14.50	NGS	100
10)	#MCPP	22.38	2686	76668	15.39	NGS	100

Compound uses ESTD

3/3/95

CHROMATOGRAM



Data File: >PA872::D3 Quant Output File: ^PA872::Q2
Name: PB;;;QC BLK. SPK. Instrument ID: PA
Misc: HW0301-BS ;030195;030195;LLW ;1 ;SEP ;;QP0496 ;5 ; 100ML

Id File: ID8HPA::QT
Title: HERBICIDE ANALYSIS,RTx-1701, 0.53MMID,30M,10 19 94,ICA-IL
Last Calibration: 950302 11:33 Last Qcal Time: <none>

Operator ID: GC
Quant Time : 950302 18:46
Injected at: 950302 18:12

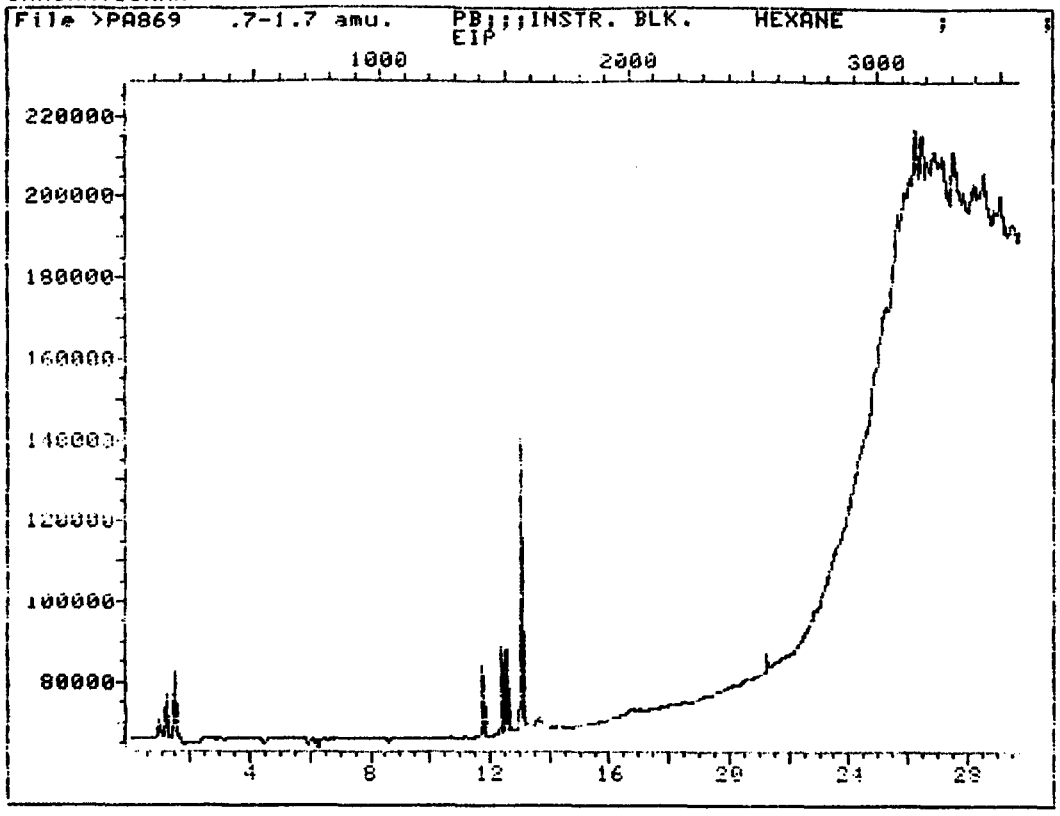
QUANT REPORT

Operator ID: GC Quant Rev: 7 Quant Time: 950302 16:48
Output File: ^PA869::Q2 Injected at: 950302 16:15
Data File: >PA869::D3 Dilution Factor: 1.00000
Name: PR:::INSTR. BLK. Instrument ID: PA
Misc: HEXANE : :030195: :1 : ::QP0496 :1 :

ID File: IDRHPA::QT
Title: HERBICIDE ANALYSIS,RTx-1701, 0.53MMID,30M,10-19-94,TFA-TI
Last Calibration: 950302 11:33 Last Qcal Time: <none>

Compound	R.T.	Scan#	Area	Conc	Units	q

CHROMATOGRAM



Data File: >PA869::D3 Quant Output File: ^PA869::Q2
Name: PB;;;INSTR. BLK. Instrument ID: PA
Misc: HEXANE ; ;050195; ;1 ; ;;QP0496 ;1 ;

Id File: ID8HPA::QT
Title: HERBICIDE ANALYSIS,RTx-1701, 0.53MMID,30M,10 19 94,IEA-IL
Last Calibration: 950302 11:33 Last Qual Time: <none>

Operator ID: GC
Quant Time : 950302 16:40
Injected at: 950302 16:15

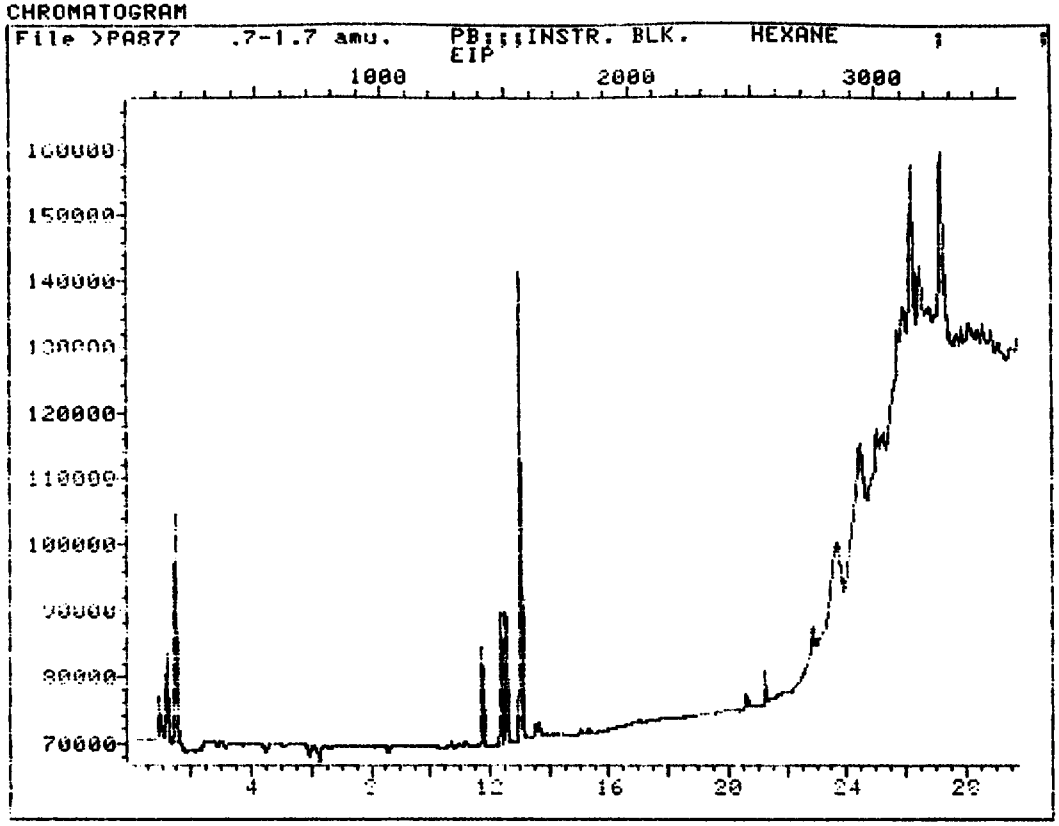
QUANT REPORT

Operator ID: GC Quant Rev: 7 Quant Time: 950307 21:57
Output File: ^PA877::Q2 Injected at: 950307 21:25
Data File: >PA877::D3 Dilution Factor: 1.00000
Name: PB:::INSTR. BLK. Instrument ID: PA
Misc: HEXANE : :030195: :1 : ::QP0496 :1 :

ID File: ID8HPA::QT
Title: HERBICIDE ANALYSIS,RTx-1701, 0.53MMID,30M,10-19-94,TFA-TI
Last Calibration: 950307 11:33 Last Qcal Time: <none>

Compound	R.T.	Scan#	Area	Conc	Units	q

CHROMATOGRAM



Data File: >PA877::D3 Quant Output File: ^PA877::Q2
Name: PB;;;INSTR. BLK. Instrument ID: PA
Misc: HEXANE ; ;030195; ;1 ; ;;QP0496 ;1 ;

Id File: ID8HPA::QT
Title: HERBICIDE ANALYSIS,RTx-1701, 0.53MMID,30M,10-19-94,IEA-IL
Last Calibration: 950302 11:33 Last Qual Time: <none>

Operator ID: GC
Quant Time : 950302 21:57
Injected at: 950302 21:25

QUANT REPORT

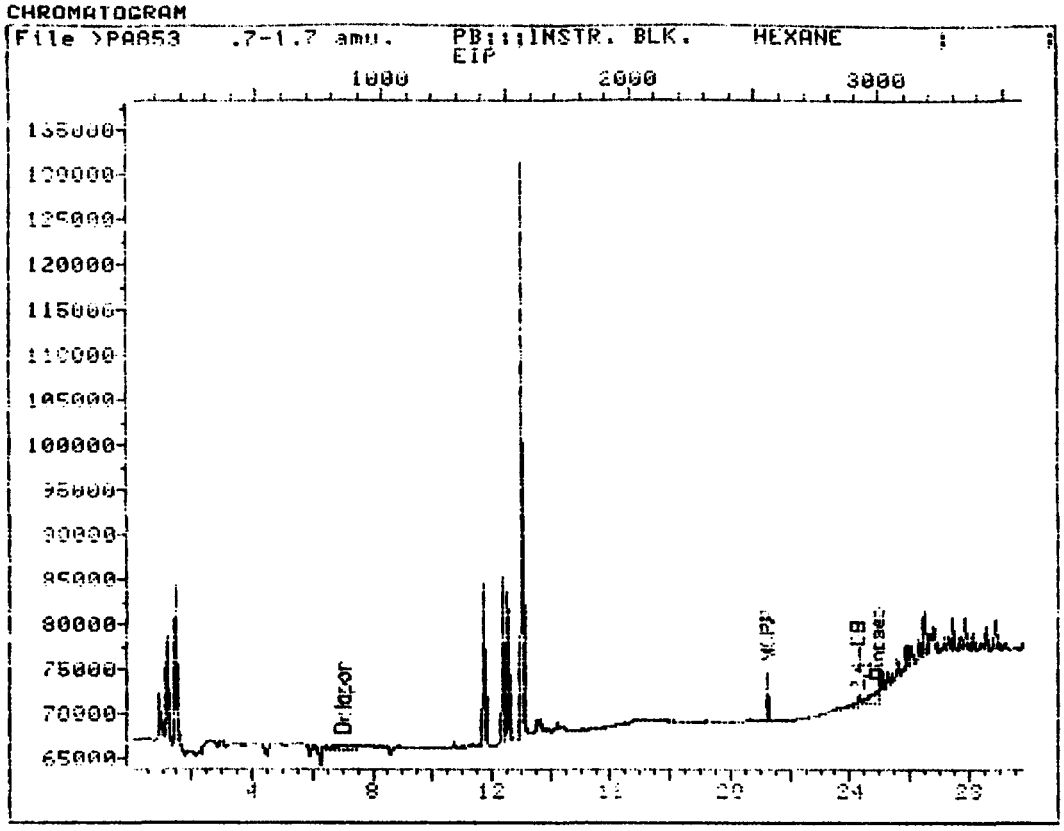
Operator ID: GC Quant Rev: 7 Quant Time: 950302 05:58
Output File: ^PA853::Q2 Injected at: 950302 05:26
Data File: >PA853::D3 Dilution Factor: 1.00000
Name: PB;;;INSTR. BLK. Instrument ID: PA
Misc: HEXANE ; ;030195; ;1 ; ;;QP0496 ;1 ;

ID File: ID8HPA::QT
Title: HERBICIDE ANALYSIS,RTx-1701, 0.53MMID,30M,10-19-94,IEA-IL
Last Calibration: 950117 15:01 Last Qcal Time: <none>

	Compound	R.T.	Scan#	Area	Conc	Units	q
2)	#Dalapon	6.97	836	32575	.0195	NGS	100
7)	#Dinoseb	24.88	2986	29612	.00865	NGS	100
8)	#2,4-DB	24.25	2910	10795	.0150	NGS	100
9)	#MCPA	21.21	2545	21263	5.46	NGS	100
10)	#MCPP	21.21	2545	25227	4.33	NGS	100

Compound uses ESTD

CHROMATOGRAM



Data File: >PA853::D3 Quant Output File: ^PA853::Q2
Name: PB;;;INSTR. BLK. Instrument ID: PA
Misc: HEXANE ; ;030195; ;1 ; ;;QP0496 ;1 ;

Id File: ID8HPA::QT
Title: HERBICIDE ANALYSIS,RTx-1701, 0.53MMID,30M,10-19-94,IEA-TL
Last Calibration: 950117 15:01 Last Qcal Time: <none>

Operator ID: GC
Quant Time : 950302 05:58
Injected at: 950302 05:26

QUANT REPORT

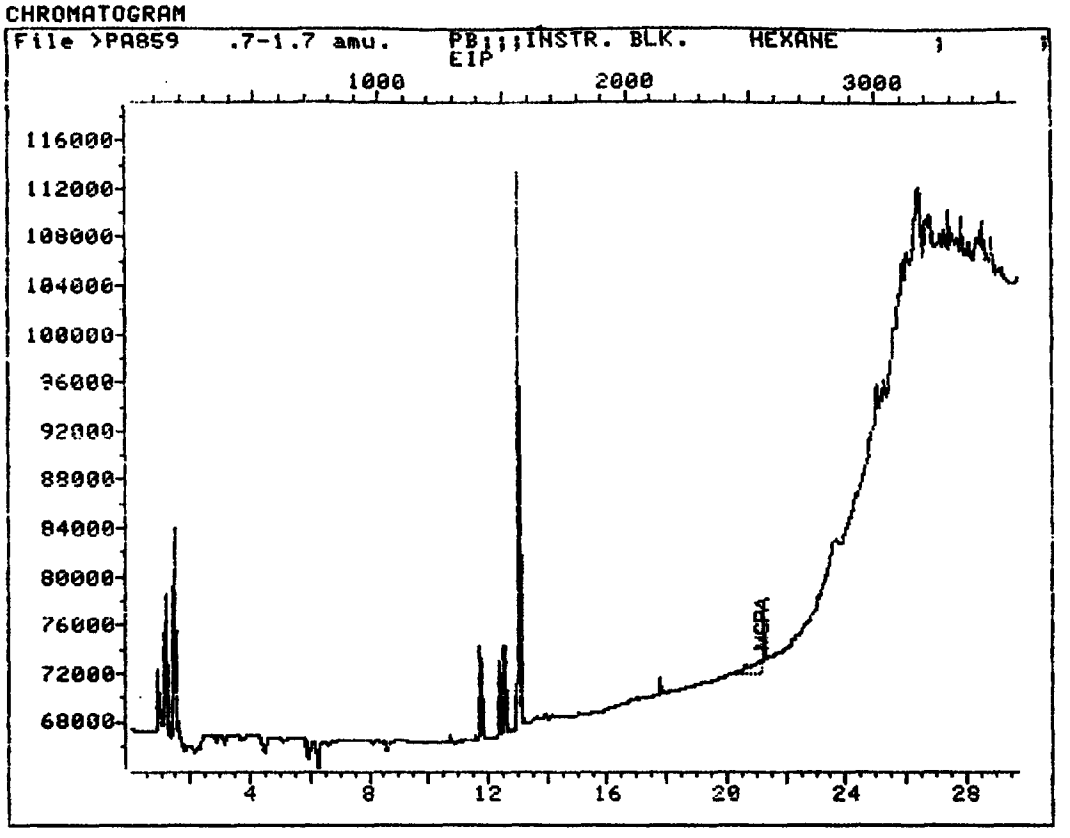
Operator ID: GC Quant Rev: 7 Quant Time: 950302 09:50
Output File: ^PA859::Q2 Injected at: 950302 09:16
Data File: >PA859::D3 Dilution Factor: 1.00000
Name: PR:::INSTR. BLK. Instrument ID: PA
Misc: HEXANE : :030195: :1 : ::QP0496 :1 :

ID File: TD8HPA::QT
Title: HERBICIDE ANALYSIS,RTx-1701, 0.53MMID,30M,10-19-94,TFA-TI
Last Calibration: 950117 15:01 Last Qcal Time: <none>

	Compound	R.T.	Scan#	Area	Conc	Units	q
9)	#MCPA	21.15	2538	31416	8.06	NGS	100

Compound uses ESTD

CHROMATOGRAM



Data File: >PA859::D3 Quant Output File: ^PA859::Q2
Name: PB;;;INSTR. BLK. Instrument ID: PA
Misc: HEXANE ; ;030195; ;1 ; ;;QP0496 ;1 ;

Id File: ID8HPA::QT
Title: HERBICIDE ANALYSIS,RTx-1701, 0.53MMID,30M,10-19-94,IEA-IL
Last Calibration: 950117 15:01 Last Qcal Time: <none>

Operator ID: GC
Quant Time : 950302 09:50
Injected at: 950302 09:16

IEA
An Aquarion Company

Surrogates

2F

WATER PESTICIDE SURROGATE RECOVERY

Lab Name: IEA, INC - ILLINOIS Contract:

Lab code: IEA IL Case No.: CH950411 SAS No.: SDG No.:

GC Column(1): DB-608 ID: 0.53 (mm) GC Column(2): ID: (mm)

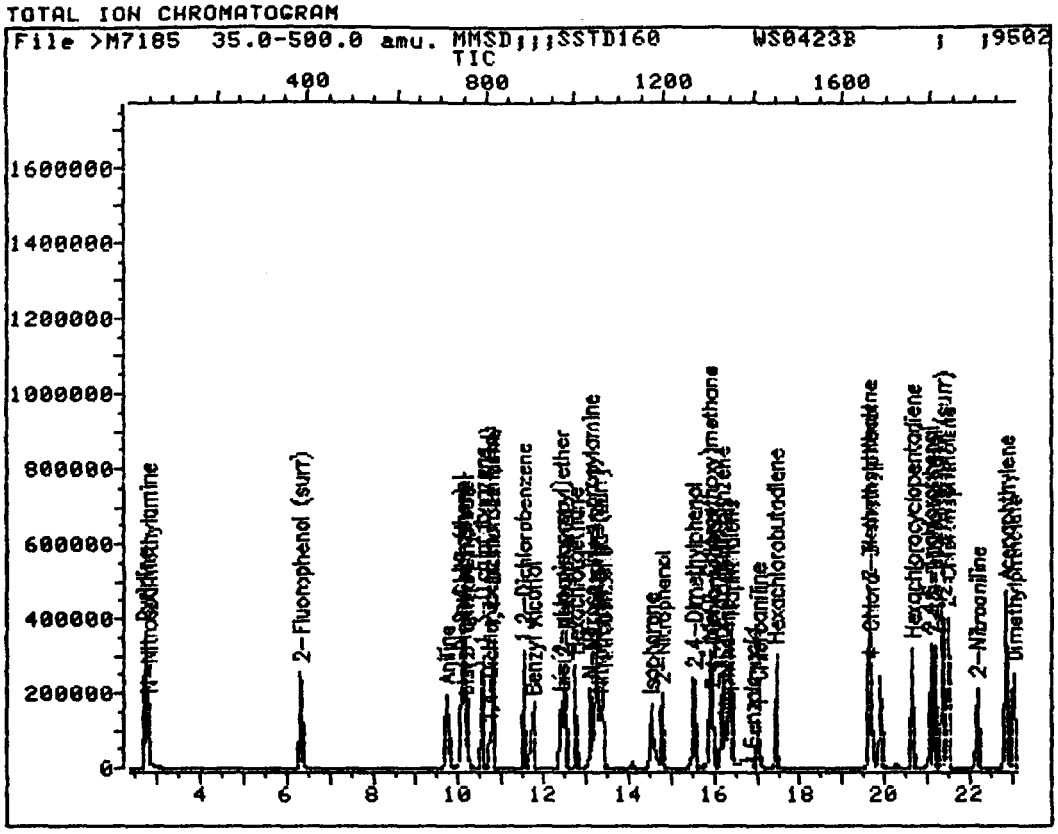
	EPA SAMPLE NO.	TCX 1 %REC #	TCX 2 %REC #	DCB 1 %REC #	DCB 2 %REC #	OTHER (1)	OTHER (2)	TOT OUT
1	METHOD BLK	88		84				0
2	SAU-01	92		104				0
3	SAU-02	68		103				0
4	SAU-01 MS	81		107				0
5	SAU-01 MSD	83		103				0
6	BLK SPIKE	69		82				0
7								
8								
9								
10								
11								
12								
13								
14								
15								
16								
17								
18								
19								
20								
21								
22								
23								
24								
25								
26								
27								
28								
29								
30								

	ADVISORY QC LIMITS
TCX = Tetrachloro-m-xylene	(30-150)
DCB = Decachlorobiphenyl	(30-150)

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

FORM II PEST-1 3/90

TOTAL ION CHROMATOGRAM

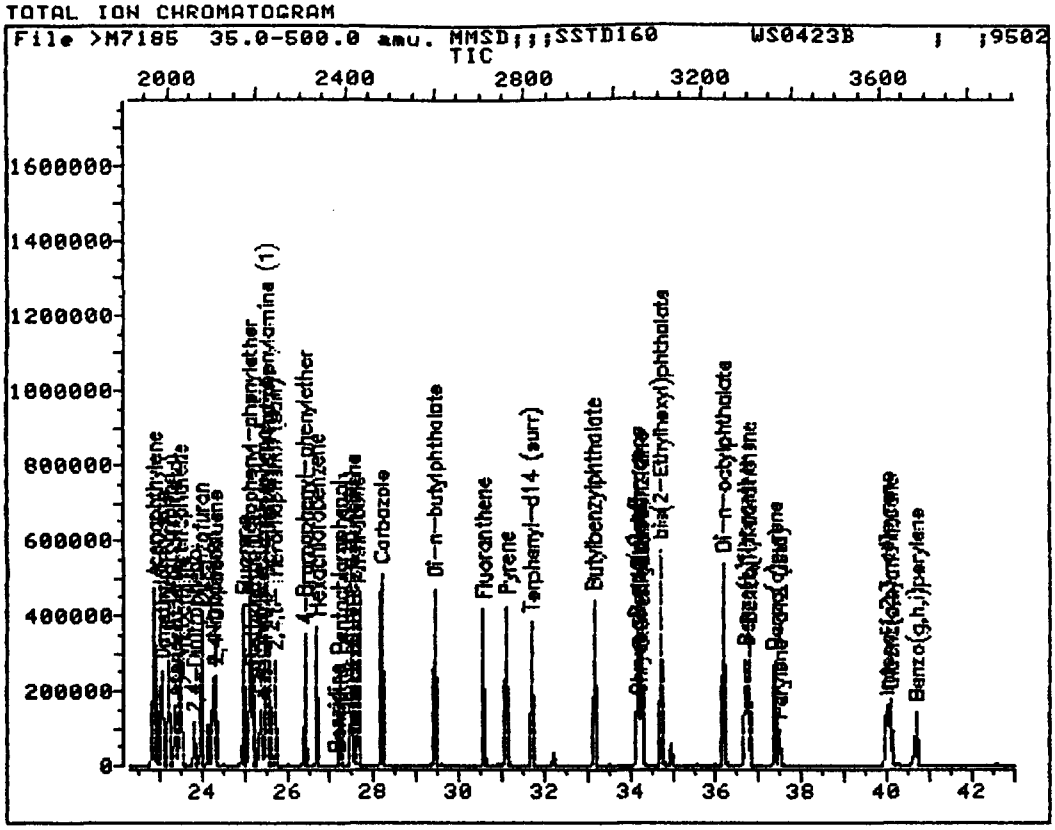


Data File: >M7185::D4 Quant Output File: ^M7185::Q2
Name: MMSD;;;SSTD160 Instrument ID: MMSD
Misc: WS0423B ; ;950215; ; ; ;QM1371; ; BTL# 2

Id File: IDMBNA::QT
Title: BNA ORGANIC STANDARDS; IEA LABORATORIES 11/13/89
Last Calibration: 950201 19:23 Last Qcal Time: 950215 19:40

Operator ID: GC
Quant Time : 950215 21:18
Injected at: 950215 20:33

TOTAL ION CHROMATOGRAM



Data File: >M7185::D4 Quant Output File: ^M7185::Q2
Name: MMSD;;;SSTD160 Instrument ID: MMSD
Misc: WS0423B ; ;950215; ; ; ;QM1371; ; BTL# 2

Id File: IDMBNA::QT
Title: BNA ORGANIC STANDARDS; IEA LABORATORIES 11/13/89
Last Calibration: 950201 19:23 Last Qcal Time: 950215 19:40

Operator ID: GC
Quant Time : 950215 21:18
Injected at: 950215 20:33

QUANT REPORT

Operator ID: GC Quant Rev: 7 Quant Time: 950215 22:10
Output File: ^M7186::Q2 Injected at: 950215 21:25
Data File: >M7186::D4 Dilution Factor: 1.00000
Name: MMSD;;;SSTD120 Instrument ID: MMSD
Misc: WS0422B ; ;950215; ; ; ;QM1371; ; BTL# 3

ID File: IDMBNA::QT
Title: BNA ORGANIC STANDARDS; IEA LABORATORIES 11/13/89
Last Calibration: 950201 19:23 Last Qcal Time: 950215 19:40

	Compound	R.T.	Q ion	Area	Conc	Units	q
1)	*1,4-Dichlorobenzene-d4 (istd)	10.68	152.0	39346	40.00	ngs	99
2)	N-Nitrosodimethylamine	2.76	74.0	97758	112.23	ngs	78
3)	Pyridine	2.69	79.0	122977	117.40	ngs	96
4)	2-Fluorophenol (surr)	6.30	112.0	125379	113.23	ngs	93
5)	Aniline	9.69	93.0	210194	112.85	ngs	87
6)	Phenol-d5 (surr)	10.06	99.0	180231	109.56	ngs	85
7)	Phenol	10.11	94.0	172479	107.14	ngs	100
8)	bis(2-Chloroethyl)ether	10.13	93.0	144990	108.76	ngs	99
9)	2-Chlorophenol	10.02	127.9	124942	110.95	ngs	97
10)	1,3-Dichlorobenzene	10.50	146.0	153147	113.22	ngs	98
11)	1,4-Dichlorobenzene	10.75	146.0	156531	112.32	ngs	99
12)	1,2-Dichlorobenzene	11.49	146.0	148799	112.22	ngs	98
13)	Benzyl Alcohol	11.70	108.0	84124	113.13	ngs	85
14)	2-Methylphenol	12.48	108.0	120842	111.18	ngs	95
15)	bis(2-chloroisopropyl)ether	12.39	121.0	37645M	108.15	ngs	94
16)	Hexachloroethane	12.73	117.0	75737	111.60	ngs	99
17)	4-Methylphenol	13.19	107.0	164046	112.28	ngs	96
18)	N-Nitroso-Di-n-propylamine	13.06	70.0	122792	109.60	ngs	87
19)	*Naphthalene-d8 (istd)	16.25	136.0	142767	40.00	ngs	96
20)	Nitrobenzene-d5 (surr)	13.27	82.0	166042	114.70	ngs	88
21)	Nitrobenzene	13.35	77.0	172222	113.87	ngs	81
22)	Isophorone	14.48	82.0	337457	112.20	ngs	96
23)	2-Nitrophenol	14.76	139.0	68413	121.59	ngs	98
24)	2,4-Dimethylphenol	15.48	107.0	150439	116.28	ngs	89
25)	bis(2-Chloroethoxy)methane	15.86	93.0	194923	110.42	ngs	99
26)	2,4-Dichlorophenol	15.91	162.0	114165	114.64	ngs	92
27)	Benzoic acid	16.73	105.0	103971M	138.19	ngs	
28)	1,2,4-Trichlorobenzene	16.15	180.0	139219	116.17	ngs	92
29)	Naphthalene	16.34	128.0	399130	111.18	ngs	96
30)	4-Chloroaniline	17.00	127.0	90973	72.56	ngs	97
31)	Hexachlorobutadiene	17.40	224.8	81119	118.02	ngs	87
32)	4-Chloro-3-methylphenol	19.62	107.0	127788	110.41	ngs	85
33)	2-Methylnaphthalene	19.59	142.0	329594	107.57	ngs	95
34)	*Acenaphthene-d10 (istd)	23.33	164.0	80192	40.00	ngs	97
35)	Hexachlorocyclopentadiene	20.61	236.8	91360M	156.27	ngs	94
36)	2,4,6-Trichlorophenol	21.02	196.0	85966	116.40	ngs	92
37)	2,4,5-Trichlorophenol	21.12	196.0	79894	113.70	ngs	95
38)	2-Fluorobiphenyl (surr)	21.33	172.0	263038	112.04	ngs	96
39)	2-Chloronaphthalene	21.46	162.0	241814	127.68	ngs	96
40)	2-Nitroaniline	22.13	65.0	88605	117.73	ngs	98
41)	Acenaphthylene	22.83	152.0	392017	110.04	ngs	99
42)	Dimethylphthalate	23.02	163.0	282553	112.38	ngs	93
43)	2,6-Dinitrotoluene	23.15	165.0	57349	118.34	ngs	95

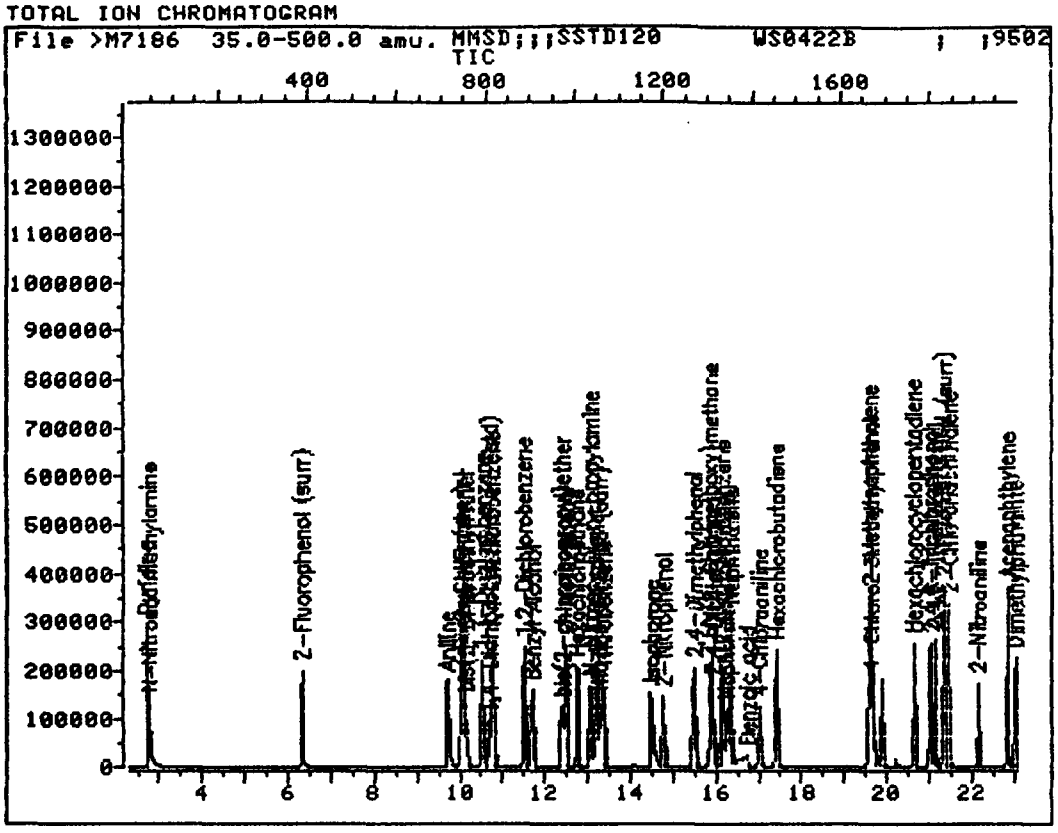
Operator ID: GC Quant Rev: 7 Quant Time: 950215 22:10
Output File: ^M7186::Q2 Injected at: 950215 21:25
Data File: >M7186::D4 Dilution Factor: 1.00000
Name: MMSD;;;SSTD120 Instrument ID: MMSD
Misc: WS0422B ; ;950215; ; ; ;QM1371; ; BTL# 3

ID File: IDMBNA::QT
Title: BNA ORGANIC STANDARDS; IEA LABORATORIES 11/13/89
Last Calibration: 950201 19:23 Last Qcal Time: 950215 19:40

	Compound	R.T.	Q ion	Area	Conc	Units	q
44)	Acenaphthene	23.43	153.0	234656	107.58	ngs	91
45)	3-Nitroaniline	23.49	65.0	74591M	98.74	ngs	79
46)	2,4-Dinitrophenol	23.78	184.0	19257	129.73	ngs	85
47)	Dibenzofuran	23.93	168.0	328371	107.61	ngs	86
48)	2,4-Dinitrotoluene	24.26	165.0	75736	119.77	ngs	91
49)	4-Nitrophenol	24.22	139.0	47934	116.32	ngs	95
50)	Fluorene	24.93	166.0	246979	104.19	ngs	100
51)	Diethylphthalate	25.14	149.0	297641	108.69	ngs	97
52)	4-Nitroaniline	25.31	138.0	49139	120.71	ngs	91
53)	2,4,6-Tribromophenol (surr)	25.66	329.8	53166	125.28	ngs	83
54)	*Phenanthrene-d10 (istd)	27.40	188.0	97717	40.00	ngs	97
55)	4,6-Dinitro-2-methylphenol	25.38	198.0	27048	132.12	ngs	91
56)	4-Chlorophenyl-phenylether	25.08	204.0	118205	112.32	ngs	99
57)	N-Nitrosodiphenylamine (1)	25.48	169.0	147970M	107.89	ngs	97
58)	1,2-Diphenylhydrazine	25.50	77.0	349733	109.79	ngs	99
59)	4-Bromophenyl-phenylether	26.37	250.0	70380	116.74	ngs	97
60)	Hexachlorobenzene	26.64	283.8	98438	115.31	ngs	95
61)	Pentachlorophenol	27.17	265.9	50398	129.15	ngs	96
62)	Phenanthrene	27.48	178.0	312934	113.85	ngs	98
63)	Anthracene	27.59	178.0	311570	117.42	ngs	92
64)	Carbazole	28.13	167.0	490533	229.11	ngs	99
65)	Di-n-butylphthalate	29.40	149.0	391259	110.44	ngs	96
66)	Fluoranthene	30.52	202.0	290902	113.69	ngs	99
67)	*Chrysene-d12 (istd)	34.14	240.0	78019	40.00	ngs	94
68)	Benzidine	27.12	184.0	4522	109.65	ngs	90
69)	Pyrene	31.06	202.0	302427	104.99	ngs	97
70)	Terphenyl-d14 (surr)	31.65	244.0	197210	106.10	ngs	99
71)	Butylbenzylphthalate	33.10	149.0	160651	115.42	ngs	88
72)	3,3'-Dichlorobenzidine	34.20	252.0	66202M	104.12	ngs	100
73)	Benzo(a)anthracene	34.11	228.0	273601	114.95	ngs	88
74)	Chrysene	34.22	228.0	236513	113.22	ngs	84
75)	bis(2-Ethylhexyl)phthalate	34.69	149.0	216776	115.28	ngs	81
76)	*Perylene-d12 (istd)	37.44	264.0	73389	40.00	ngs	95
77)	Di-n-octylphthalate	36.14	149.0	345462	120.20	ngs	97
78)	Benzo(b)fluoranthene	36.66	252.0	252758	117.82	ngs	75
79)	Benzo(k)fluoranthene	36.71	252.0	223240M	122.77	ngs	76
80)	Benzo(a)pyrene	37.34	252.0	221540	115.48	ngs	97
81)	Indeno[1,2,3-cd]pyrene	39.96	276.0	183502	120.82	ngs	97
82)	Dibenz(a,h)anthracene	40.03	278.0	173578	117.66	ngs	100
83)	Benzo(g,h,i)perylene	40.65	276.0	173596	119.27	ngs	100

* Compound is ISTD

TOTAL ION CHROMATOGRAM

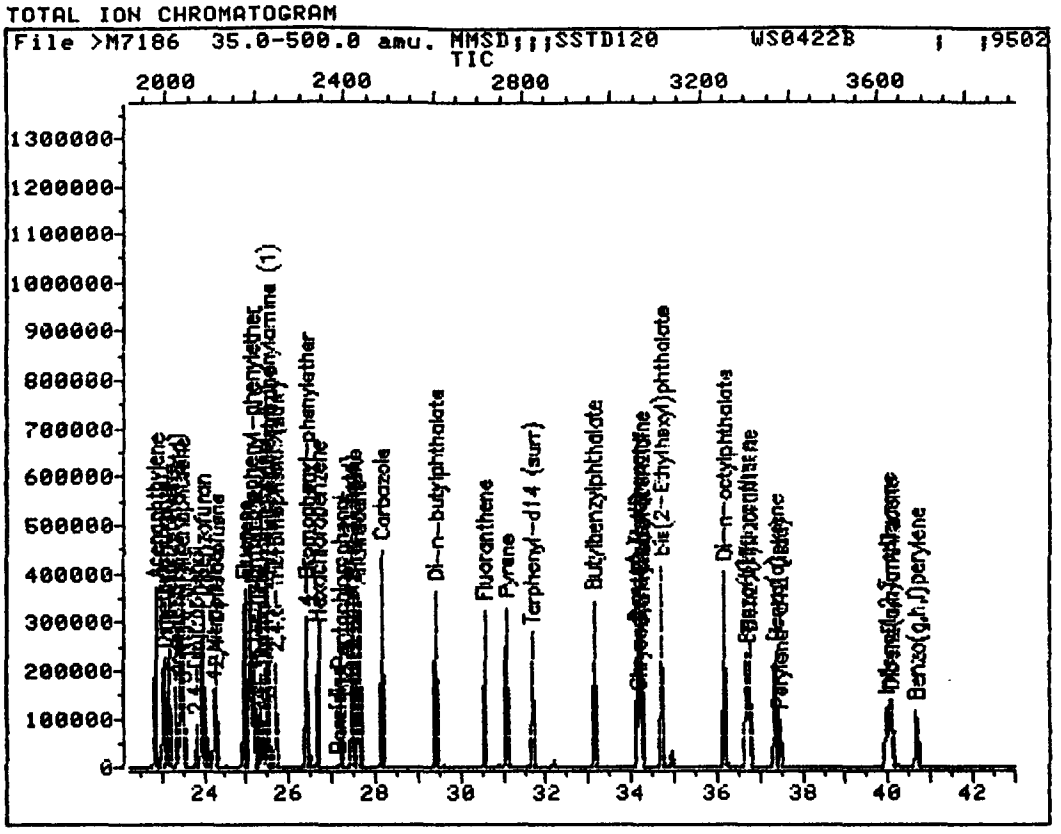


Data File: >M7186::D4 Quant Output File: ^M7186::Q2
Name: MMSD;;;SSTD120 Instrument ID: MMSD
Misc: WS0422B ; ;950215; ; ; ;QM1371; ; BTL# 3

Id File: IDMBNA::QT
Title: BNA ORGANIC STANDARDS; IEA LABORATORIES 11/13/89
Last Calibration: 950201 19:23 Last Qcal Time: 950215 19:40

Operator ID: GC
Quant Time : 950215 22:10
Injected at: 950215 21:25

TOTAL ION CHROMATOGRAM



Data File: >M7186::D4 Quant Output File: ^M7186::Q2
Name: MMSD;;;SSTD120 Instrument ID: MMSD
Misc: WS0422B ; ;950215; ; ; ;QM1371; ; BTL# 3

Id File: IDMBNA::QT
Title: BNA ORGANIC STANDARDS; IEA LABORATORIES 11/13/89
Last Calibration: 950201 19:23 Last Qcal Time: 950215 19:40

Operator ID: GC
Quant Time : 950215 22:10
Injected at: 950215 21:25

QUANT REPORT

Operator ID: GC Quant Rev: 7 Quant Time: 950215 23:02
Output File: ^M7187::Q2 Injected at: 950215 22:18
Data File: >M7187::D4 Dilution Factor: 1.00000
Name: MMSD;;;SSTD080 Instrument ID: MMSD
Misc: WS0421B ; ;950215; ; ; ;QM1371; ; BTL# 4

ID File: IDMBNA::QT
Title: BNA ORGANIC STANDARDS; IEA LABORATORIES 11/13/89
Last Calibration: 950201 19:23 Last Qcal Time: 950215 19:40

	Compound	R.T.	Q ion	Area	Conc	Units	q
1)	*1,4-Dichlorobenzene-d4 (istd)	10.67	152.0	38936	40.00	ngs	99
2)	N-Nitrosodimethylamine	2.76	74.0	73877	85.71	ngs	81
3)	Pyridine	2.69	79.0	88885	85.75	ngs	99
4)	2-Fluorophenol (surr)	6.27	112.0	94503	86.24	ngs	94
5)	Aniline	9.68	93.0	155765	84.51	ngs	87
6)	Phenol-d5 (surr)	10.02	99.0	135384	83.16	ngs	89
7)	Phenol	10.08	94.0	130661	82.02	ngs	100
8)	bis(2-Chloroethyl)ether	10.11	93.0	110652	83.88	ngs	97
9)	2-Chlorophenol	10.01	127.9	95081	85.32	ngs	98
10)	1,3-Dichlorobenzene	10.49	146.0	116559	87.08	ngs	96
11)	1,4-Dichlorobenzene	10.74	146.0	118631	86.02	ngs	98
12)	1,2-Dichlorobenzene	11.48	146.0	112320	85.60	ngs	96
13)	Benzyl Alcohol	11.68	108.0	61916	84.14	ngs	82
14)	2-Methylphenol	12.46	108.0	88542	82.32	ngs	99
15)	bis(2-chloroisopropyl)ether	12.38	121.0	27783M	80.66	ngs	99
16)	Hexachloroethane	12.72	117.0	56734	84.48	ngs	98
17)	4-Methylphenol	13.17	107.0	119942	82.96	ngs	89
18)	N-Nitroso-Di-n-propylamine	13.03	70.0	88472	79.80	ngs	88
19)	*Naphthalene-d8 (istd)	16.23	136.0	142613	40.00	ngs	95
20)	Nitrobenzene-d5 (surr)	13.25	82.0	120641	83.43	ngs	90
21)	Nitrobenzene	13.33	77.0	126152	83.50	ngs	79
22)	Isophorone	14.44	82.0	240852	80.17	ngs	95
23)	2-Nitrophenol	14.75	139.0	50178	89.28	ngs	99
24)	2,4-Dimethylphenol	15.45	107.0	108722	84.12	ngs	92
25)	bis(2-Chloroethoxy)methane	15.83	93.0	141256	80.10	ngs	97
26)	2,4-Dichlorophenol	15.89	162.0	83589	84.03	ngs	93
27)	Benzoic acid	16.58	105.0	68535M	91.19	ngs	92
28)	1,2,4-Trichlorobenzene	16.14	180.0	102845	85.91	ngs	93
29)	Naphthalene	16.33	128.0	294473	82.11	ngs	96
30)	4-Chloroaniline	16.98	127.0	84899	67.79	ngs	96
31)	Hexachlorobutadiene	17.40	224.8	60081	87.51	ngs	89
32)	4-Chloro-3-methylphenol	19.61	107.0	92998	80.44	ngs	86
33)	2-Methylnaphthalene	19.58	142.0	245198	80.12	ngs	92
34)	*Acenaphthene-d10 (istd)	23.32	164.0	78406	40.00	ngs	95
35)	Hexachlorocyclopentadiene	20.60	236.8	60973M	106.67	ngs	92
36)	2,4,6-Trichlorophenol	21.00	196.0	60280	83.48	ngs	89
37)	2,4,5-Trichlorophenol	21.10	196.0	59883	87.17	ngs	95
38)	2-Fluorobiphenyl (surr)	21.31	172.0	194220	84.61	ngs	94
39)	2-Chloronaphthalene	21.44	162.0	175476	94.77	ngs	99
40)	2-Nitroaniline	22.12	65.0	63909	86.85	ngs	94
41)	Acenaphthylene	22.82	152.0	298492	85.70	ngs	99
42)	Dimethylphthalate	23.01	163.0	202426	82.35	ngs	93
43)	2,6-Dinitrotoluene	23.13	165.0	42162	88.98	ngs	93

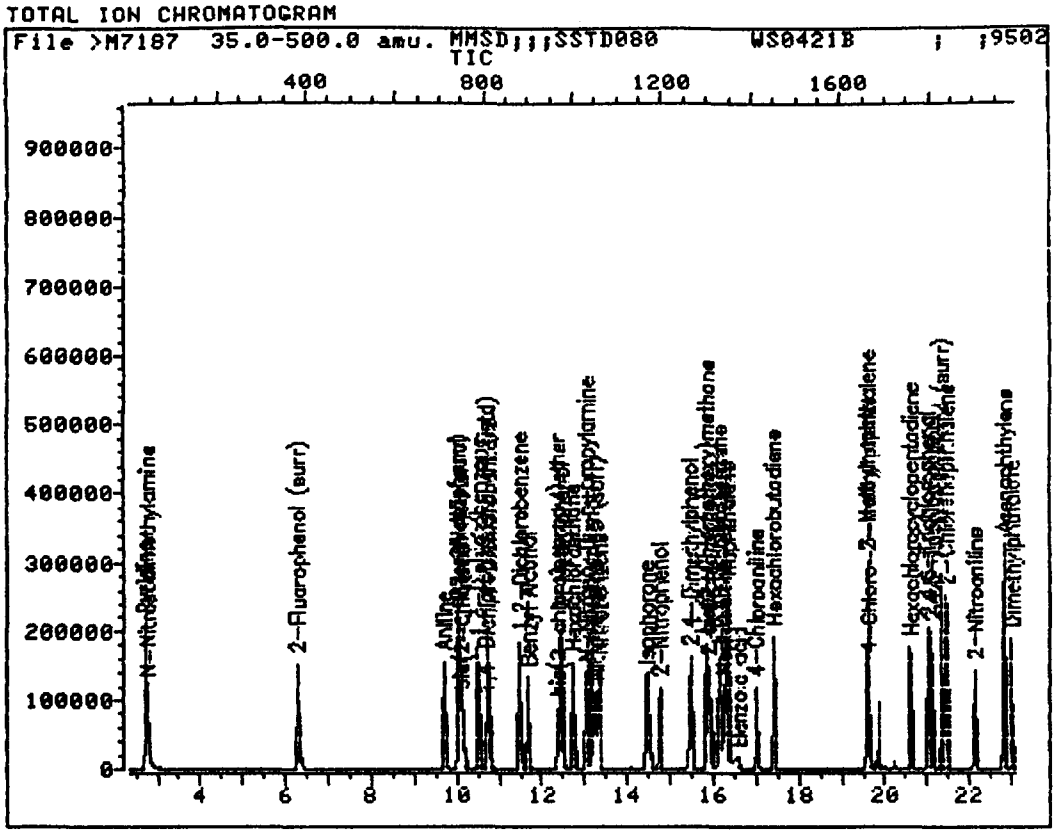
Operator ID: GC Quant Rev: 7 Quant Time: 950215 23:02
Output File: ^M7187::Q2 Injected at: 950215 22:18
Data File: >M7187::D4 Dilution Factor: 1.00000
Name: MMSD;;;SSTD080 Instrument ID: MMSD
Misc: WS0421B ; ;950215; ; ; ;QM1371; ; BTL# 4

ID File: IDMBNA::QT
Title: BNA ORGANIC STANDARDS; IEA LABORATORIES 11/13/89
Last Calibration: 950201 19:23 Last Qcal Time: 950215 19:40

	Compound	R.T.	Q ion	Area	Conc	Units	q
44)	Acenaphthene	23.43	153.0	176855	82.93	ngs	90
45)	3-Nitroaniline	23.48	65.0	56826	76.94	ngs	78
46)	2,4-Dinitrophenol	23.76	184.0	12356	85.13	ngs	91
47)	Dibenzofuran	23.92	168.0	242787	81.37	ngs	86
48)	2,4-Dinitrotoluene	24.25	165.0	54911	88.81	ngs	93
49)	4-Nitrophenol	24.19	139.0	33548	83.26	ngs	94
50)	Fluorene	24.92	166.0	183409	79.14	ngs	100
51)	Diethylphthalate	25.13	149.0	216665	80.92	ngs	96
52)	4-Nitroaniline	25.28	138.0	31122	78.19	ngs	85
53)	2,4,6-Tribromophenol (surr)	25.65	329.8	38806	93.53	ngs	85
54)	*Phenanthrene-d10 (istd)	27.40	188.0	98165	40.00	ngs	99
55)	4,6-Dinitro-2-methylphenol	25.36	198.0	19341	94.04	ngs	95
56)	4-Chlorophenyl-phenylether	25.07	204.0	90250	85.37	ngs	99
57)	N-Nitrosodiphenylamine (1)	25.46	169.0	112310	81.51	ngs	90
58)	1,2-Diphenylhydrazine	25.50	77.0	262715	82.10	ngs	98
59)	4-Bromophenyl-phenylether	26.36	250.0	53177	87.80	ngs	95
60)	Hexachlorobenzene	26.63	283.8	74041	86.34	ngs	93
61)	Pentachlorophenol	27.17	265.9	34246M	87.36	ngs	98
62)	Phenanthrene	27.46	178.0	234177	84.81	ngs	98
63)	Anthracene	27.58	178.0	228782	85.82	ngs	93
64)	Carbazole	28.12	167.0	359146	166.98	ngs	95
65)	Di-n-butylphthalate	29.39	149.0	288051	80.94	ngs	97
66)	Fluoranthene	30.52	202.0	213860	83.20	ngs	98
67)	*Chrysene-d12 (istd)	34.14	240.0	75503	40.00	ngs	95
68)	Benzidine	27.12	184.0	3277	82.11	ngs	88
69)	Pyrene	31.05	202.0	218035	78.21	ngs	96
70)	Terphenyl-d14 (surr)	31.64	244.0	145396	80.83	ngs	99
71)	Butylbenzylphthalate	33.10	149.0	111239	82.58	ngs	87
72)	3,3'-Dichlorobenzidine	34.19	252.0	50450	81.99	ngs	100
73)	Benzo(a)anthracene	34.10	228.0	191920	83.32	ngs	85
74)	Chrysene	34.21	228.0	173097	85.63	ngs	83
75)	bis(2-Ethylhexyl)phthalate	34.68	149.0	150458	82.68	ngs	79
76)	*Perylene-d12 (istd)	37.43	264.0	74216	40.00	ngs	95
77)	Di-n-octylphthalate	36.13	149.0	250265	86.11	ngs	98
78)	Benzo(b)fluoranthene	36.64	252.0	186820	86.12	ngs	75
79)	Benzo(k)fluoranthene	36.70	252.0	174265M	94.77	ngs	76
80)	Benzo(a)pyrene	37.33	252.0	168739	86.97	ngs	97
81)	Indeno[1,2,3-cd]pyrene	39.94	276.0	136289	88.73	ngs	98
82)	Dibenz(a,h)anthracene	40.03	278.0	131874	88.39	ngs	100
83)	Benzo(g,h,i)perylene	40.63	276.0	130811	88.88	ngs	100

* Compound is ISTD

TOTAL ION CHROMATOGRAM

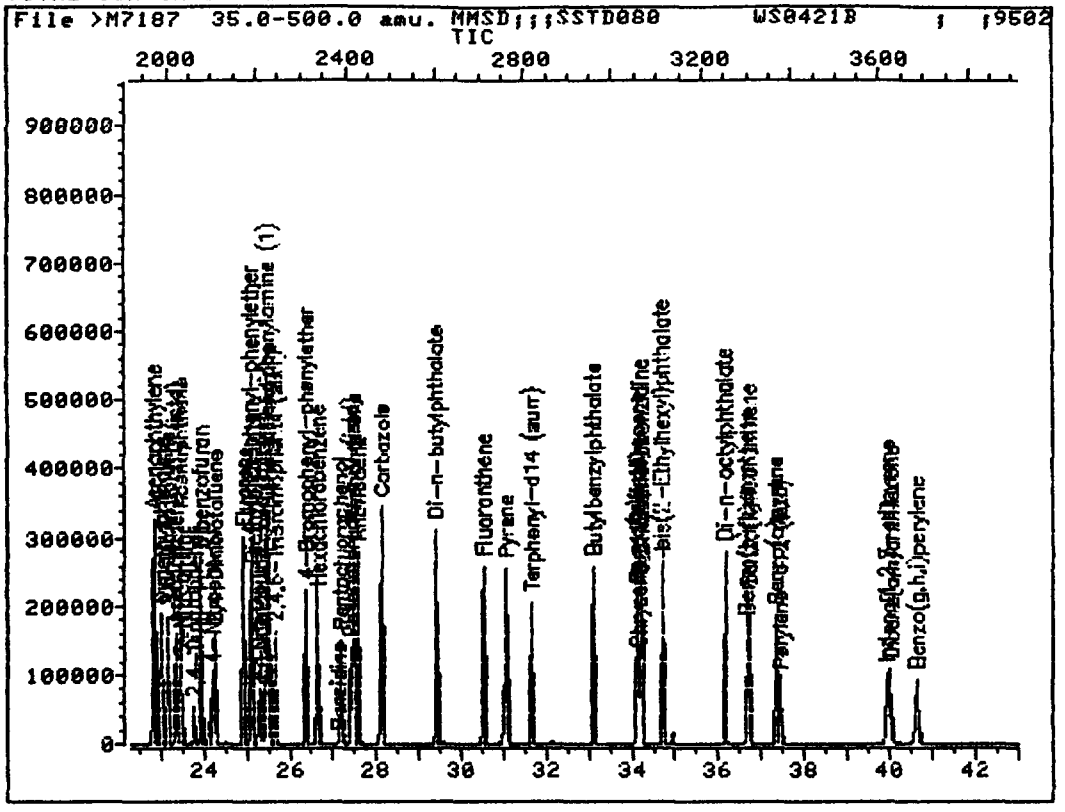


Data File: >M7187::D4 Quant Output File: ^M7187::Q2
Name: MMSD;;;SSTD080 Instrument ID: MMSD
Misc: WS0421B ; ;950215; ; ; ;QM1371; ; BTL# 4

Id File: IDMBNA::QT
Title: BNA ORGANIC STANDARDS; IEA LABORATORIES 11/13/89
Last Calibration: 950201 19:23 Last Qcal Time: 950215 19:40

Operator ID: GC
Quant Time : 950215 23:02
Injected at: 950215 22:18

TOTAL ION CHROMATOGRAM



Data File: >M7187::D4 Quant Output File: ^M7187::Q2
Name: MMSD;;;SSTD080 Instrument ID: MMSD
Misc: WS0421B ; ;950215; ; ; ;QM1371; ; BTL# 4

Id File: IDMBNA::QT
Title: BNA ORGANIC STANDARDS; IEA LABORATORIES 11/13/89
Last Calibration: 950201 19:23 Last Qcal Time: 950215 19:40

Operator ID: GC
Quant Time : 950215 23:02
Injected at: 950215 22:18

QUANT REPORT

Operator ID: GC Quant Rev: 7 Quant Time: 950215 20:24
Output File: ^M7184::Q2 Injected at: 950215 19:40
Data File: >M7184::D4 Dilution Factor: 1.00000
Name: MMSD;;;SSTD050 Instrument ID: MMSD
Misc: WS0420B ; ;950215; ; ; ;QM1371; ; BTL# 1

ID File: IDMBNA::QT
Title: BNA ORGANIC STANDARDS; IEA LABORATORIES 11/13/89
Last Calibration: 950201 19:23 Last Qcal Time: 950210 15:00

	Compound	R.T.	Q ion	Area	Conc	Units	q
1)	*1,4-Dichlorobenzene-d4 (istd)	10.68	152.0	39783	40.00	ngs	99
2)	N-Nitrosodimethylamine	2.75	74.0	44036	52.10	ngs	84
3)	Pyridine	2.69	79.0	52958M	46.81	ngs	93
4)	2-Fluorophenol (surr)	6.26	112.0	55980	51.89	ngs	90
5)	Aniline	9.67	93.0	94160	54.58	ngs	83
6)	Phenol-d5 (surr)	10.01	99.0	83168	53.87	ngs	88
7)	Phenol	10.05	94.0	81385	55.67	ngs	100
8)	bis(2-Chloroethyl)ether	10.11	93.0	67397	49.67	ngs	98
9)	2-Chlorophenol	10.01	127.9	56933	52.10	ngs	98
10)	1,3-Dichlorobenzene	10.49	146.0	68385	51.14	ngs	98
11)	1,4-Dichlorobenzene	10.73	146.0	70452	51.48	ngs	97
12)	1,2-Dichlorobenzene	11.48	146.0	67034	51.18	ngs	98
13)	Benzyl Alcohol	11.66	108.0	37593	54.74	ngs	85
14)	2-Methylphenol	12.45	108.0	54947	54.21	ngs	90
15)	bis(2-chloroisopropyl)ether	12.39	121.0	17598M	66.74	ngs	97
16)	Hexachloroethane	12.73	117.0	34310	51.14	ngs	98
17)	4-Methylphenol	13.15	107.0	73861	53.43	ngs	93
18)	N-Nitroso-Di-n-propylamine	13.01	70.0	56643	51.31	ngs	88
19)	*Naphthalene-d8 (istd)	16.24	136.0	145945	40.00	ngs	92
20)	Nitrobenzene-d5 (surr)	13.24	82.0	73992	48.46	ngs	88
21)	Nitrobenzene	13.32	77.0	77304	49.50	ngs	83
22)	Isophorone	14.44	82.0	153725	50.82	ngs	96
23)	2-Nitrophenol	14.75	139.0	28758	42.79	ngs	95
24)	2,4-Dimethylphenol	15.45	107.0	66130	50.63	ngs	92
25)	bis(2-Chloroethoxy)methane	15.82	93.0	90230	52.62	ngs	97
26)	2,4-Dichlorophenol	15.89	162.0	50901	51.10	ngs	92
27)	Benzoic acid	16.45	105.0	38455M	55.36	ngs	
28)	1,2,4-Trichlorobenzene	16.15	180.0	61253	48.53	ngs	88
29)	Naphthalene	16.32	128.0	183501	52.68	ngs	95
30)	4-Chloroaniline	17.00	127.0	64083	66.10	ngs	97
31)	Hexachlorobutadiene	17.41	224.8	35131	44.33	ngs	90
32)	4-Chloro-3-methylphenol	19.62	107.0	59160	57.06	ngs	88
33)	2-Methylnaphthalene	19.59	142.0	156604	55.40	ngs	97
34)	*Acenaphthene-d10 (istd)	23.34	164.0	84987	40.00	ngs	98
35)	Hexachlorocyclopentadiene	20.62	236.8	30980	42.70	ngs	95
36)	2,4,6-Trichlorophenol	21.01	196.0	39135	50.35	ngs	97
37)	2,4,5-Trichlorophenol	21.11	196.0	37233	48.55	ngs	94
38)	2-Fluorobiphenyl (surr)	21.32	172.0	124405	48.27	ngs	97
39)	2-Chloronaphthalene	21.45	162.0	110389	54.04	ngs	98
40)	2-Nitroaniline	22.12	65.0	39879	48.66	ngs	96
41)	Acenaphthylene	22.83	152.0	188776	52.20	ngs	99
42)	Dimethylphthalate	23.02	163.0	133227	47.29	ngs	93
43)	2,6-Dinitrotoluene	23.14	165.0	25679	40.91	ngs	92

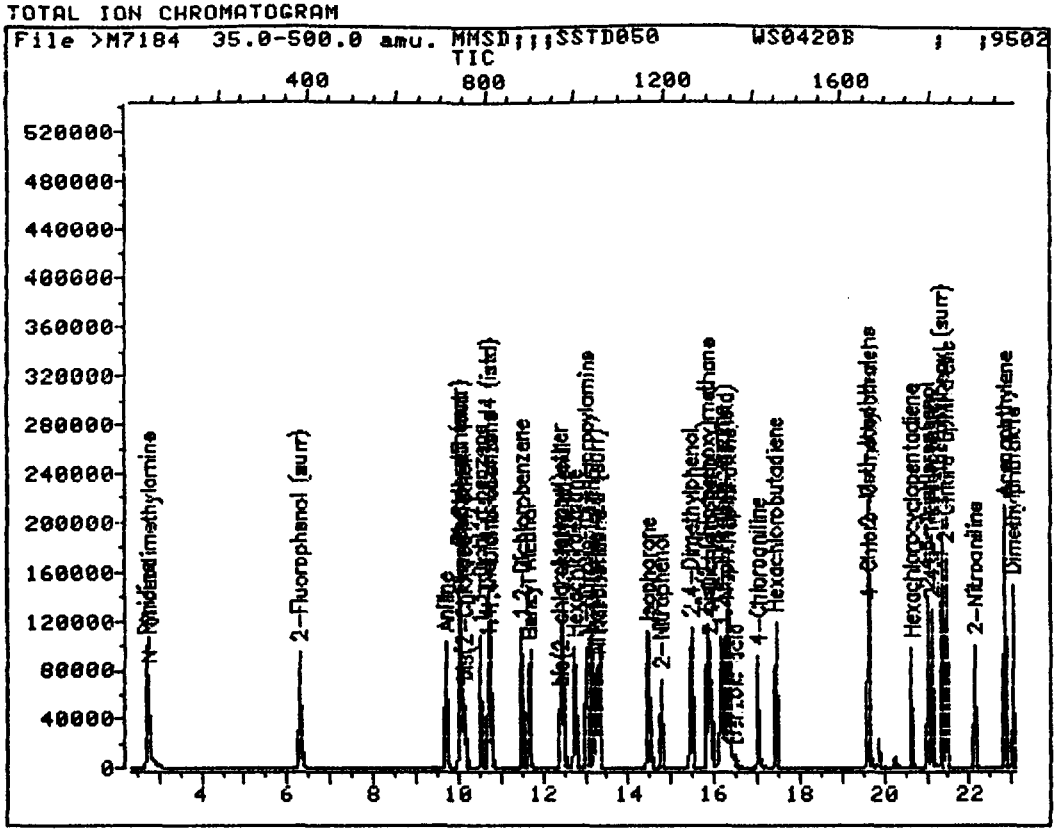
Operator ID: GC Quant Rev: 7 Quant Time: 950215 20:24
Output File: ^M7184::Q2 Injected at: 950215 19:40
Data File: >M7184::D4 Dilution Factor: 1.00000
Name: MMSD;;;SSTD050 Instrument ID: MMSD
Misc: WS0420B ; ;950215; ; ; ;QM1371; ; BTL# 1

ID File: IDMBNA::QT
Title: BNA ORGANIC STANDARDS; IEA LABORATORIES 11/13/89
Last Calibration: 950201 19:23 Last Qcal Time: 950210 15:00

	Compound	R.T.	Q ion	Area	Conc	Units	q
44)	Acenaphthene	23.44	153.0	115578	52.31	ngs	94
45)	3-Nitroaniline	23.48	65.0	40030	67.79	ngs	86
46)	2,4-Dinitrophenol	23.77	184.0	7866	36.18	ngs	81
47)	Dibenzofuran	23.93	168.0	161703	53.92	ngs	85
48)	2,4-Dinitrotoluene	24.25	165.0	33508	42.42	ngs	92
49)	4-Nitrophenol	24.20	139.0	21837	60.71	ngs	98
50)	Fluorene	24.93	166.0	125605	55.87	ngs	100
51)	Diethylphthalate	25.13	149.0	145107	48.06	ngs	96
52)	4-Nitroaniline	25.28	138.0	21572	63.61	ngs	91
53)	2,4,6-Tribromophenol (surr)	25.66	329.8	22487	43.06	ngs	81
54)	*Phenanthrene-d10 (istd)	27.42	188.0	111869	40.00	ngs	99
55)	4,6-Dinitro-2-methylphenol	25.37	198.0	11719	30.71	ngs	87
56)	4-Chlorophenyl-phenylether	25.08	204.0	60240	46.56	ngs	97
57)	N-Nitrosodiphenylamine (1)	25.46	169.0	78508	52.17	ngs	94
58)	1,2-Diphenylhydrazine	25.51	77.0	182335	50.32	ngs	99
59)	4-Bromophenyl-phenylether	26.38	250.0	34509	44.92	ngs	91
60)	Hexachlorobenzene	26.65	283.8	48865	42.03	ngs	92
61)	Pentachlorophenol	27.18	265.9	22337	46.67	ngs	96
62)	Phenanthrene	27.48	178.0	157334	50.87	ngs	98
63)	Anthracene	27.60	178.0	151893	50.14	ngs	93
64)	Carbazole	28.13	167.0	245112	56.64	ngs	99
65)	Di-n-butylphthalate	29.41	149.0	202789	46.92	ngs	97
66)	Fluoranthene	30.53	202.0	146467	51.99	ngs	97
67)	*Chrysene-d12 (istd)	34.16	240.0	80441	40.00	ngs	95
68)	Benzidine	27.14	184.0	2126	38.71	ngs	88
69)	Pyrene	31.07	202.0	148504	42.81	ngs	97
70)	Terphenyl-d14 (surr)	31.66	244.0	95823	40.65	ngs	99
71)	Butylbenzylphthalate	33.12	149.0	71754	40.29	ngs	85
72)	3,3'-Dichlorobenzidine	34.21	252.0	32779	73.90	ngs	100
73)	Benzo(a)anthracene	34.11	228.0	122700	52.66	ngs	88
74)	Chrysene	34.22	228.0	107687	52.35	ngs	85
75)	bis(2-Ethylhexyl)phthalate	34.70	149.0	96943	42.52	ngs	78
76)	*Perylene-d12 (istd)	37.46	264.0	81612	40.00	ngs	97
77)	Di-n-octylphthalate	36.15	149.0	159800	38.18	ngs	99
78)	Benzo(b)fluoranthene	36.65	252.0	119280	46.74	ngs	74
79)	Benzo(k)fluoranthene	36.71	252.0	101107M	42.53	ngs	74
80)	Benzo(a)pyrene	37.34	252.0	106672	52.66	ngs	97
81)	Indeno[1,2,3-cd]pyrene	39.95	276.0	84451M	61.53	ngs	96
82)	Dibenz(a,h)anthracene	40.03	278.0	82030	62.94	ngs	100
83)	Benzo(g,h,i)perylene	40.65	276.0	80926	61.32	ngs	100

* Compound is ISTD

TOTAL ION CHROMATOGRAM

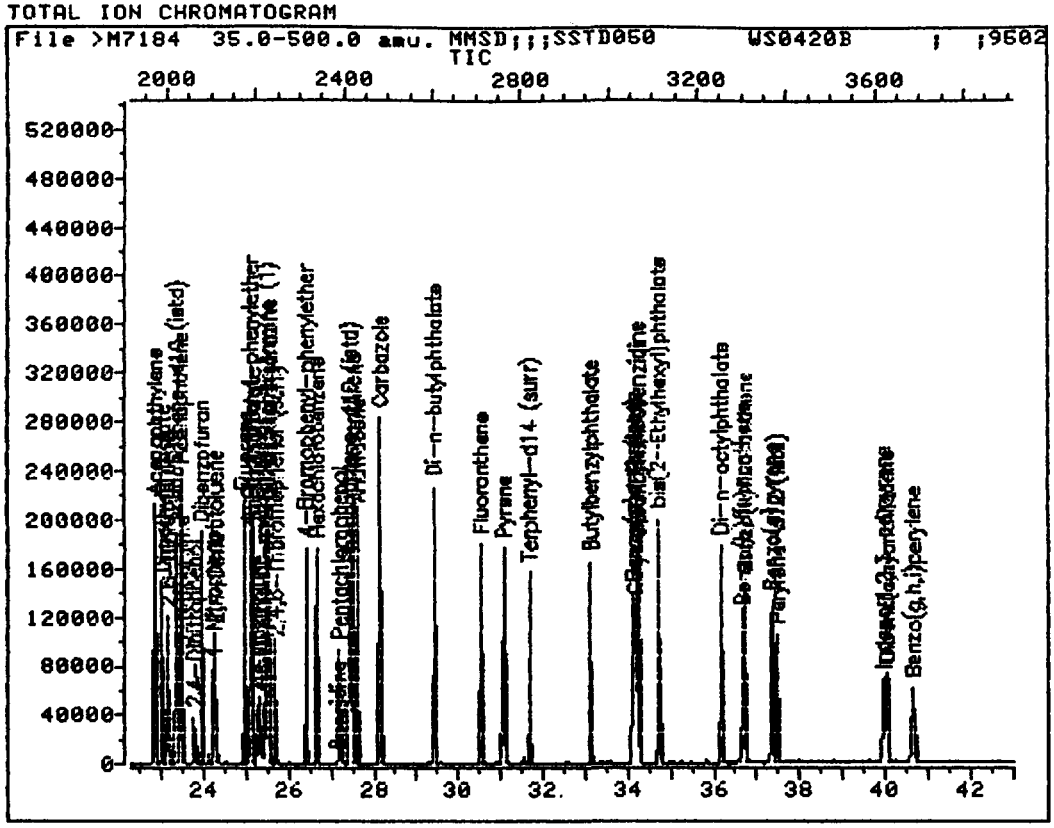


Data File: >M7184::D4 Quant Output File: ^M7184::Q2
Name: MMSD;;;SSTD050 Instrument ID: MMSD
Misc: WS0420B ; ;950215; ; ; ;QM1371; ; BTL# 1

Id File: IDMBNA::QT
Title: BNA ORGANIC STANDARDS; IEA LABORATORIES 11/13/89
Last Calibration: 950201 19:23 Last Qcal Time: 950210 15:00

Operator ID: GC
Quant Time : 950215 20:24
Injected at: 950215 19:40

TOTAL ION CHROMATOGRAM



Data File: >M7184::D4 Quant Output File: ^M7184::Q2
Name: MMSD;;;SSTD050 Instrument ID: MMSD
Misc: WS0420B ; ;950215; ; ; ;QM1371; ; BTL# 1

Id File: IDMBNA::QT
Title: BNA ORGANIC STANDARDS; IEA LABORATORIES 11/13/89
Last Calibration: 950201 19:23 Last Qcal Time: 950210 15:00

Operator ID: GC
Quant Time : 950215 20:24
Injected at: 950215 19:40

QUANT REPORT

Operator ID: GC Quant Rev: 7 Quant Time: 950215 23:54
Output File: ^M7188::Q2 Injected at: 950215 23:10
Data File: >M7188::D4 Dilution Factor: 1.00000
Name: MMSD;;;SSTD020 Instrument ID: MMSD
Misc: WS0419B ; ;950215; ; ; ;QM1371; ; BTL# 5

ID File: IDMBNA::QT
Title: BNA ORGANIC STANDARDS; IEA LABORATORIES 11/13/89
Last Calibration: 950201 19:23 Last Qcal Time: 950215 19:40

	Compound	R.T.	Q ion	Area	Conc	Units	q
1)	*1,4-Dichlorobenzene-d4 (istd)	10.66	152.0	43798	40.00	ngs	98
2)	N-Nitrosodimethylamine	2.76	74.0	18281	18.85	ngs	77
3)	Pyridine	2.70	79.0	22907	19.64	ngs	94
4)	2-Fluorophenol (surr)	6.26	112.0	25203	20.45	ngs	96
5)	Aniline	9.66	93.0	42511	20.50	ngs	87
6)	Phenol-d5 (surr)	9.97	99.0	36707	20.04	ngs	84
7)	Phenol	10.01	94.0	33320	18.59	ngs	100
8)	bis(2-Chloroethyl)ether	10.09	93.0	29562	19.92	ngs	95
9)	2-Chlorophenol	10.00	127.9	26446	21.10	ngs	95
10)	1,3-Dichlorobenzene	10.48	146.0	31648	21.02	ngs	97
11)	1,4-Dichlorobenzene	10.73	146.0	33035	21.30	ngs	99
12)	1,2-Dichlorobenzene	11.47	146.0	30884	20.92	ngs	98
13)	Benzyl Alcohol	11.63	108.0	16171	19.54	ngs	84
14)	2-Methylphenol	12.42	108.0	23763	19.64	ngs	96
15)	bis(2-chloroisopropyl)ether	12.36	121.0	7525M	19.42	ngs	98
16)	Hexachloroethane	12.72	117.0	14689	19.44	ngs	98
17)	4-Methylphenol	13.11	107.0	32158	19.77	ngs	96
18)	N-Nitroso-Di-n-propylamine	12.96	70.0	23840	19.11	ngs	88
19)	*Naphthalene-d8 (istd)	16.21	136.0	157363	40.00	ngs	94
20)	Nitrobenzene-d5 (surr)	13.21	82.0	29613	18.56	ngs	86
21)	Nitrobenzene	13.28	77.0	32574	19.54	ngs	85
22)	Isophorone	14.40	82.0	65779	19.84	ngs	96
23)	2-Nitrophenol	14.72	139.0	11360	18.32	ngs	99
24)	2,4-Dimethylphenol	15.40	107.0	28770	20.17	ngs	92
25)	bis(2-Chloroethoxy)methane	15.79	93.0	39002	20.04	ngs	94
26)	2,4-Dichlorophenol	15.85	162.0	22288	20.30	ngs	91
27)	Benzoic acid	16.18	105.0	11406	13.75	ngs	64
28)	1,2,4-Trichlorobenzene	16.12	180.0	28268	21.40	ngs	92
29)	Naphthalene	16.29	128.0	83065	20.99	ngs	96
30)	4-Chloroaniline	16.96	127.0	30181M	21.84	ngs	97
31)	Hexachlorobutadiene	17.38	224.8	17018	22.46	ngs	89
32)	4-Chloro-3-methylphenol	19.59	107.0	24972	19.57	ngs	88
33)	2-Methylnaphthalene	19.56	142.0	69094	20.46	ngs	98
34)	*Acenaphthene-d10 (istd)	23.32	164.0	91499	40.00	ngs	98
35)	Hexachlorocyclopentadiene	20.60	236.8	12236	18.34	ngs	94
36)	2,4,6-Trichlorophenol	20.97	196.0	16520	19.60	ngs	93
37)	2,4,5-Trichlorophenol	21.08	196.0	16892	21.07	ngs	94
38)	2-Fluorobiphenyl (surr)	21.28	172.0	58527	21.85	ngs	96
39)	2-Chloronaphthalene	21.42	162.0	50805	23.51	ngs	99
40)	2-Nitroaniline	22.08	65.0	14926	17.38	ngs	92
41)	Acenaphthylene	22.80	152.0	87480	21.52	ngs	98
42)	Dimethylphthalate	22.98	163.0	60130	20.96	ngs	93
43)	2,6-Dinitrotoluene	23.09	165.0	10200	18.45	ngs	92

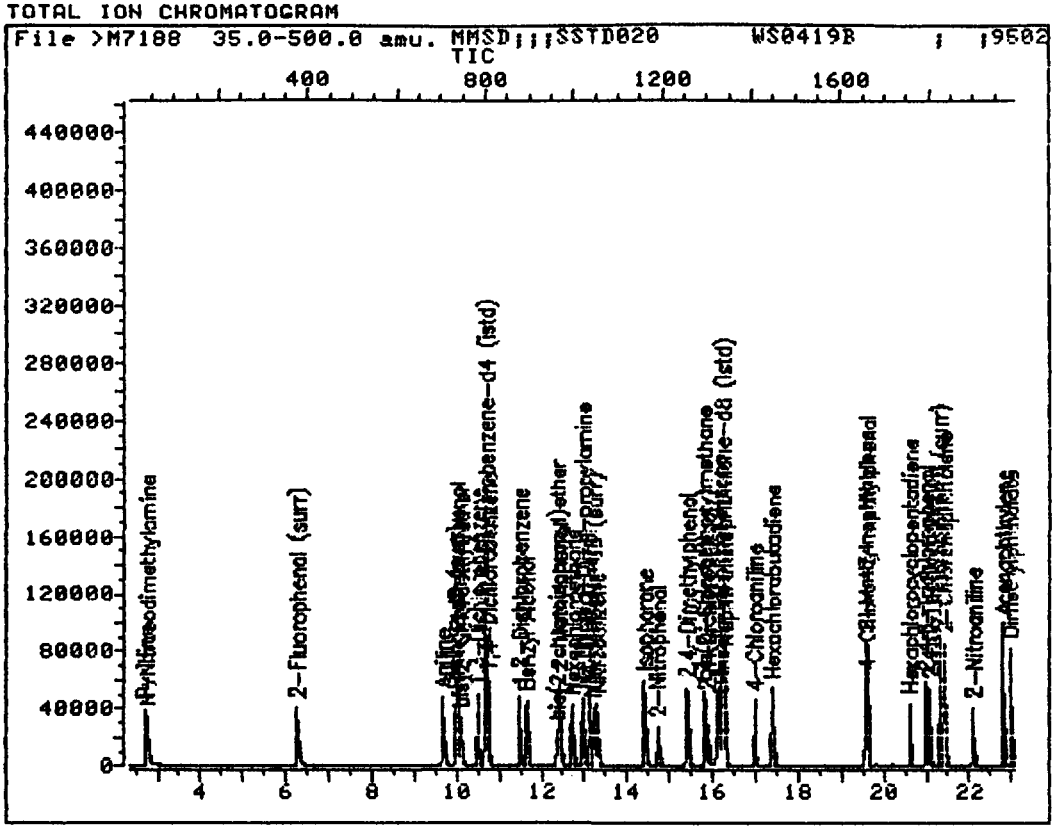
Operator ID: GC Quant Rev: 7 Quant Time: 950215 23:54
Output File: ^M7188::Q2 Injected at: 950215 23:10
Data File: >M7188::D4 Dilution Factor: 1.00000
Name: MMSD;;;SSTD020 Instrument ID: MMSD
Misc: WS0419B ; ;950215; ; ; ;QM1371; ; BTL# 5

ID File: IDMBNA::QT
Title: BNA ORGANIC STANDARDS; IEA LABORATORIES 11/13/89
Last Calibration: 950201 19:23 Last Qcal Time: 950215 19:40

	Compound	R.T.	Q ion	Area	Conc	Units	q
44)	Acenaphthene	23.40	153.0	52616	21.14	ngs	94
45)	3-Nitroaniline	23.45	65.0	16760	19.44	ngs	81
46)	2,4-Dinitrophenol	23.73	184.0	1878M	11.09	ngs	92
47)	Dibenzofuran	23.90	168.0	70768	20.32	ngs	86
48)	2,4-Dinitrotoluene	24.22	165.0	13222	18.33	ngs	91
49)	4-Nitrophenol	24.16	139.0	7299M	15.52	ngs	99
50)	Fluorene	24.89	166.0	56827	21.01	ngs	100
51)	Diethylphthalate	25.09	149.0	67810	21.70	ngs	97
52)	4-Nitroaniline	25.21	138.0	9218	19.85	ngs	88
53)	2,4,6-Tribromophenol (surr)	25.63	329.8	10441	21.56	ngs	82
54)	*Phenanthrene-d10 (istd)	27.40	188.0	120500	40.00	ngs	99
55)	4,6-Dinitro-2-methylphenol	25.32	198.0	3563M	14.11	ngs	96
56)	4-Chlorophenyl-phenylether	25.05	204.0	27792	21.42	ngs	94
57)	N-Nitrosodiphenylamine (1)	25.43	169.0	35293	20.87	ngs	97
58)	1,2-Diphenylhydrazine	25.46	77.0	78250	19.92	ngs	99
59)	4-Bromophenyl-phenylether	26.35	250.0	15680	21.09	ngs	94
60)	Hexachlorobenzene	26.62	283.8	23461	22.29	ngs	90
61)	Pentachlorophenol	27.15	265.9	8195M	17.03	ngs	96
62)	Phenanthrene	27.45	178.0	73724	21.75	ngs	96
63)	Anthracene	27.56	178.0	72521	22.16	ngs	92
64)	Carbazole	28.09	167.0	120443	45.62	ngs	96
65)	Di-n-butylphthalate	29.38	149.0	96781	22.15	ngs	96
66)	Fluoranthene	30.50	202.0	68813	21.81	ngs	96
67)	*Chrysene-d12 (istd)	34.13	240.0	91191	40.00	ngs	94
68)	Benzidine	27.12	184.0	866M	17.97	ngs	
69)	Pyrene	31.03	202.0	71112	21.12	ngs	97
70)	Terphenyl-d14 (surr)	31.64	244.0	46582	21.44	ngs	99
71)	Butylbenzylphthalate	33.08	149.0	32720	20.11	ngs	94
72)	3,3'-Dichlorobenzidine	34.18	252.0	17283	23.26	ngs	100
73)	Benzo(a)anthracene	34.09	228.0	55454	19.93	ngs	91
74)	Chrysene	34.18	228.0	52219	21.39	ngs	82
75)	bis(2-Ethylhexyl)phthalate	34.67	149.0	42576	19.37	ngs	83
76)	*Perylene-d12 (istd)	37.43	264.0	91451	40.00	ngs	97
77)	Di-n-octylphthalate	36.13	149.0	64061	17.89	ngs	95
78)	Benzo(b)fluoranthene	36.62	252.0	55455	20.74	ngs	77
79)	Benzo(k)fluoranthene	36.68	252.0	49677M	21.92	ngs	76
80)	Benzo(a)pyrene	37.30	252.0	46183	19.32	ngs	94
81)	Indeno[1,2,3-cd]pyrene	39.91	276.0	36410	19.24	ngs	99
82)	Dibenz(a,h)anthracene	39.99	278.0	35711	19.43	ngs	100
83)	Benzo(g,h,i)perylene	40.59	276.0	37015	20.41	ngs	100

* Compound is ISTD

TOTAL ION CHROMATOGRAM

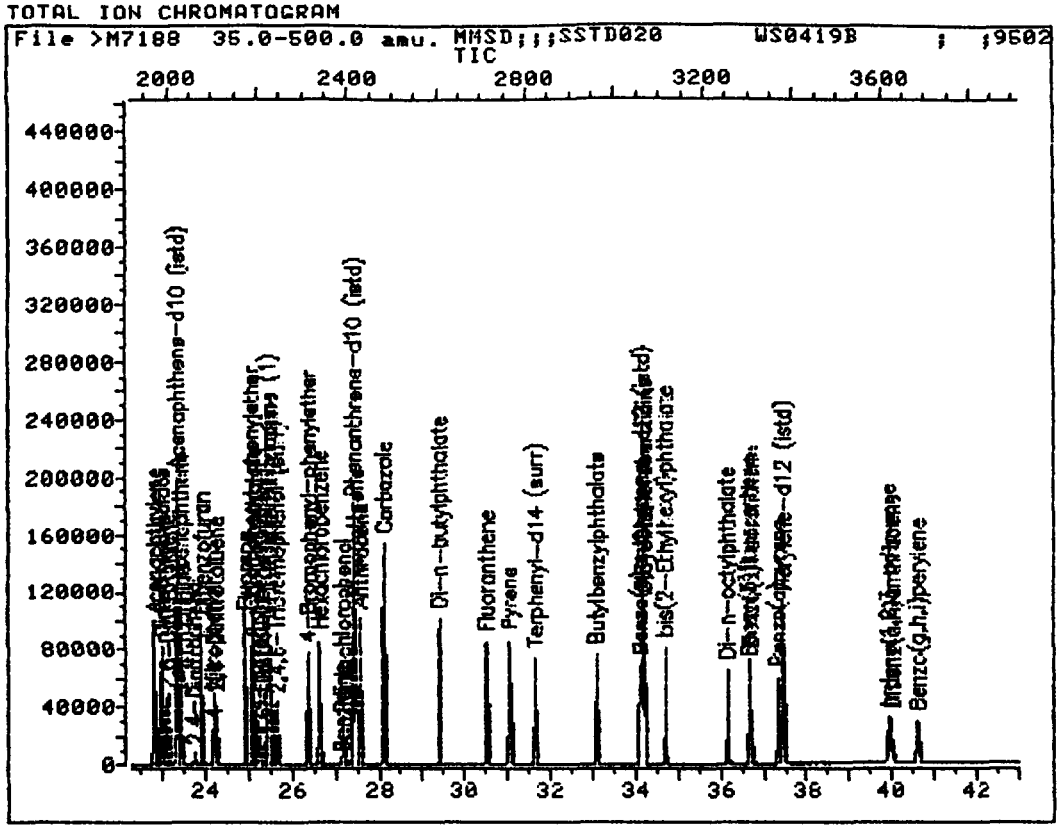


Data File: >M7188::D4 Quant Output File: ^M7188::Q2
Name: MMSD;;;SSTD020 Instrument ID: MMSD
Misc: WS0419B ; ;950215; ; ; ;QM1371; ; BTL# 5

Id File: IDMBNA::QT
Title: BNA ORGANIC STANDARDS; IEA LABORATORIES 11/13/89
Last Calibration: 950201 19:23 Last Qcal Time: 950215 19:40

Operator ID: GC
Quant Time : 950215 23:54
Injected at: 950215 23:10

TOTAL ION CHROMATOGRAM



Data File: >M7188::D4 Quant Output File: ^M7188::Q2
Name: MMSD;;;SSTD020 Instrument ID: MMSD
Misc: WS0419B ; ;950215; ; ; ;QM1371; ; BTL# 5

Id File: IDMBNA::QT
Title: BNA ORGANIC STANDARDS; IEA LABORATORIES 11/13/89
Last Calibration: 950201 19:23 Last Qcal Time: 950215 19:40

Operator ID: GC
Quant Time : 950215 23:54
Injected at: 950215 23:10

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Continuing Calibration

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Continuing Calibration Check
HSL Compounds

Case No: Calibration Date: 03/03/95

Contractor: IEA Labs Illinois Time: 13:22

Contract No: Laboratory ID: >M7292

Instrument ID: MMSD Initial Calibration Date: 02/16/95

Minimum $\overline{RF}$ for SPCC is 0.0500 Maximum % Diff for CCC is %

Compound	$\overline{RF}$	RF	%Diff	CCC	SPCC
N-Nitrosodimethylamine	.87354	.88935	1.81		
Pyridine	1.10460	1.42406	28.92		
2-Fluorophenol (surr)	1.12949	1.21721	7.77		
Aniline	1.88698	1.48612	21.24		
Phenol-d5 (surr)	1.62819	1.45673	10.53		
Phenol	1.52612	1.42217	6.81	*	
bis(2-Chloroethyl)ether	1.32701	1.30362	1.76		
2-Chlorophenol	1.14263	1.18112	3.37		
1,3-Dichlorobenzene	1.38818	1.41371	1.84		
1,4-Dichlorobenzene	1.41975	1.46653	3.30	*	
1,2-Dichlorobenzene	1.34620	1.34178	.33		
Benzyl Alcohol	.74850	.60207	19.56		
2-Methylphenol	1.07810	.74734	30.68		
bis(2-chloroisopropyl)ether	.34136	.33841	.86		
Hexachloroethane	.67542	.69769	3.30		
4-Methylphenol	1.45762	1.25486	13.91		
N-Nitroso-Di-n-propylamine	1.09202	.83598	23.45		**
Nitrobenzene-d5 (surr)	.39933	.39204	1.82		
Nitrobenzene	.41857	.53303	27.35		
Isophorone	.82556	.73103	11.45		
2-Nitrophenol	.16140	.14156	12.29	*	
2,4-Dimethylphenol	.36405	.34022	6.55		
bis(2-Chloroethoxy)methane	.47323	.46118	2.55		
2,4-Dichlorophenol	.27906	.27708	.71	*	
Benzoic acid	.21976	.12041	45.21		
1,2,4-Trichlorobenzene	.34163	.35010	2.48		
Naphthalene	.99378	.94426	4.98		
4-Chloroaniline	.28501	.23703	16.83		
Hexachlorobutadiene	.19943	.25549	28.11	*	
4-Chloro-3-methylphenol	.31331	.26738	14.66	*	
2-Methylnaphthalene	.82551	.55469	32.81		
Hexachlorocyclopentadiene	.34557	.35273	2.07		**

RF - Response Factor from daily standard file at 50.00 ngs

$\overline{RF}$ - Average Response Factor from Initial Calibration Form VI

%Diff - % Difference from original average or curve

CCC - Calibration Check Compounds (*) SPCC - System Performance Check Compounds (**)

Continuing Calibration Check
HSL Compounds

Case No: Calibration Date: 03/03/95

Contractor: IEA Labs Illinois Time: 13:22

Contract No: Laboratory ID: >M7292

Instrument ID: MMSD Initial Calibration Date: 02/16/95

Minimum $\overline{RF}$ for SPCC is 0.0500 Maximum % Diff for CCC is %

Compound	$\overline{RF}$	RF	%Diff	CCC	SPCC	
2,4,6-Trichlorophenol	.36958	.37628	1.81	*		
2,4,5-Trichlorophenol	.35310	.38797	9.88			
2-Fluorobiphenyl (surr)	1.17864	1.29740	10.08			
2-Chloronaphthalene	1.06280	1.02758	3.31			
2-Nitroaniline	.37135	.24319	34.51			
Acenaphthylene	1.78178	1.70837	4.12			
Dimethylphthalate	1.23864	1.29791	4.79			
2,6-Dinitrotoluene	.24345	.25608	5.19			
Acenaphthene	1.06884	1.08379	1.40	*		
3-Nitroaniline	.34219	.14599	57.34			
2,4-Dinitrophenol	.07438	.04620	37.88		**	
Dibenzofuran	1.47735	1.46807	.63			
2,4-Dinitrotoluene	.32121	.30527	4.96			
4-Nitrophenol	.19890	.12338	37.97		**	
Fluorene	1.13442	1.14171	.64			
Diethylphthalate	1.35057	1.39526	3.31			
4-Nitroaniline	.20504	.09372	54.29			
2,4,6-Tribromophenol (surr)	.22710	.27935	23.00			
4,6-Dinitro-2-methylphenol	.08776	.08303	5.40			
4-Chlorophenyl-phenylether	.43101	.47053	9.17			
N-Nitrosodiphenylamine (1)	.53450	.52705	1.39	*		
1,2-Diphenylhydrazine	1.27353	1.05721	16.99			
4-Bromophenyl-phenylether	.25032	.28500	13.86			
Hexachlorobenzene	.35746	.42877	19.95			
Pentachlorophenol	.16286	.12259	24.73	*		
Phenanthrene	1.13398	1.14448	.93			
Anthracene	1.11045	1.03228	7.04			
Carbazole	.89672	.66359	26.00			(Conc=100.00)
Di-n-butylphthalate	1.44040	1.41434	1.81			
Fluoranthene	1.06827	.97985	8.28	*		
Benzidine	.02011	.02252	11.96			
Pyrene	1.41601	1.63353	15.36			

RF - Response Factor from daily standard file at 50.00 ngs

$\overline{RF}$ - Average Response Factor from Initial Calibration Form VI

%Diff - % Difference from original average or curve

CCC - Calibration Check Compounds (*) SPCC - System Performance Check Compounds (**)

Continuing Calibration Check
HSL Compounds

Case No: Calibration Date: 03/03/95

Contractor: IEA Labs Illinois Time: 13:22

Contract No: Laboratory ID: >M7292

Instrument ID: MMSD Initial Calibration Date: 02/16/95

Minimum $\overline{RF}$ for SPCC is 0.0500 Maximum % Diff for CCC is %

Compound	$\overline{RF}$	RF	%Diff	CCC	SPCC
Terphenyl-d14 (surr)	.92819	1.07269	15.57		
Butylbenzylphthalate	.71574	.57793	19.25		
3,3'-Dichlorobenzidine	.31343	.14478	53.81		
Benzo(a)anthracene	1.20675	1.11173	7.87		
Chrysene	1.07405	1.02426	4.63		
bis(2-Ethylhexyl)phthalate	.95689	.74838	21.79		
Di-n-octylphthalate	1.59414	1.03313	35.19	*	
Benzo(b)fluoranthene	1.19597	1.07255	10.32		
Benzo(k)fluoranthene	1.05870	1.05678	.18		
Benzo(a)pyrene	1.04493	.95673	8.44	*	
Indeno(1,2,3-cd)pyrene	.85418	.91038	6.58		
Dibenz(a,h)anthracene	.81640	.82291	.80		
Benzo(g,h,i)perylene	.81740	.85454	4.54		

OK for TCLP 3/3/95

RF - Response Factor from daily standard file at 50.00 ngs

$\overline{RF}$ - Average Response Factor from Initial Calibration Form VI

%Diff - % Difference from original average or curve

CCC - Calibration Check Compounds (*) SPCC - System Performance Check Compounds (**)

QUANT REPORT

Operator ID: GC Quant Rev: 7 Quant Time: 950303 14:06
Output File: ^M7292::Q2 Injected at: 950303 13:22
Data File: >M7292::D4 Dilution Factor: 1.00000
Name: MMSD;;;SSTD050 Instrument ID: MMSD
Misc: WS0420B ; ;950303; ; ; ;QM1379; ; BTL# 1

ID File: IDMBNA::QT
Title: BNA ORGANIC STANDARDS; IEA LABORATORIES 11/13/89
Last Calibration: 950216 11:54 Last Qcal Time: 950224 15:38

	Compound	R.T.	Q ion	Area	Conc	Units	q
1)	*1,4-Dichlorobenzene-d4 (istd)	10.01	152.0	58279	40.00	ngs	98
2)	N-Nitrosodimethylamine	2.44	74.0	64788	57.99	ngs	73
3)	Pyridine	2.36	79.0	103741M	690.05	ngs	79
4)	2-Fluorophenol (surr)	5.76	112.0	88672	54.17	ngs	91
5)	Aniline	9.04	93.0	108762	44.73	ngs	95
6)	Phenol-d5 (surr)	9.51	99.0	106121	47.22	ngs	85
7)	Phenol	9.55	94.0	103603	47.95	ngs	100
8)	bis(2-Chloroethyl)ether	9.46	93.0	94967	51.43	ngs	99
9)	2-Chlorophenol	9.41	127.9	86043	50.47	ngs	95
10)	1,3-Dichlorobenzene	9.82	146.0	102987	51.61	ngs	98
11)	1,4-Dichlorobenzene	10.07	146.0	106835	51.71	ngs	96
12)	1,2-Dichlorobenzene	10.80	146.0	97747	50.40	ngs	97
13)	Benzyl Alcohol	11.04	108.0	43860	42.93	ngs	88
14)	2-Methylphenol	11.91	108.0	54443M	40.27	ngs	93
15)	bis(2-chloroisopropyl)ether	11.72	121.0	24653M	60.40	ngs	99
16)	Hexachloroethane	12.04	117.0	50826	49.19	ngs	93
17)	4-Methylphenol	12.61	107.0	91415	46.75	ngs	98
18)	N-Nitroso-Di-n-propylamine	12.37	70.0	60900	42.04	ngs	94
19)	*Naphthalene-d8 (istd)	15.52	136.0	185367	40.00	ngs	97
20)	Nitrobenzene-d5 (surr)	12.56	82.0	90840	47.79	ngs	86
21)	Nitrobenzene	12.64	77.0	123508	71.64	ngs	85
22)	Isophorone	13.76	82.0	169386	45.92	ngs	97
23)	2-Nitrophenol	14.05	139.0	32801	38.52	ngs	89
24)	2,4-Dimethylphenol	14.87	107.0	78831	47.03	ngs	93
25)	bis(2-Chloroethoxy)methane	15.17	93.0	106859	48.67	ngs	99
26)	2,4-Dichlorophenol	15.29	162.0	64203	49.29	ngs	89
27)	Benzoic acid	15.98	105.0	27901M	31.42	ngs	
28)	1,2,4-Trichlorobenzene	15.43	180.0	81122	50.26	ngs	91
29)	Naphthalene	15.61	128.0	218794	48.16	ngs	97
30)	4-Chloroaniline	16.34	127.0	54922M	42.47	ngs	98
31)	Hexachlorobutadiene	16.69	224.8	59200	62.40	ngs	88
32)	4-Chloro-3-methylphenol	19.09	107.0	61955	44.88	ngs	90
33)	2-Methylnaphthalene	18.87	142.0	128526	46.66	ngs	97
34)	*Acenaphthene-d10 (istd)	22.80	164.0	94458	40.00	ngs	96
35)	Hexachlorocyclopentadiene	19.99	236.8	41648	51.93	ngs	93
36)	2,4,6-Trichlorophenol	20.45	196.0	44428	51.32	ngs	96
37)	2,4,5-Trichlorophenol	20.64	196.0	45809	55.53	ngs	97
38)	2-Fluorobiphenyl (surr)	20.75	172.0	153187	53.62	ngs	95
39)	2-Chloronaphthalene	20.85	162.0	121329	54.23	ngs	96
40)	2-Nitroaniline	21.60	65.0	28714M	36.23	ngs	95
41)	Acenaphthylene	22.28	152.0	201711	49.02	ngs	97
42)	Dimethylphthalate	22.51	163.0	153248	49.90	ngs	93
43)	2,6-Dinitrotoluene	22.63	165.0	30736	45.73	ngs	93

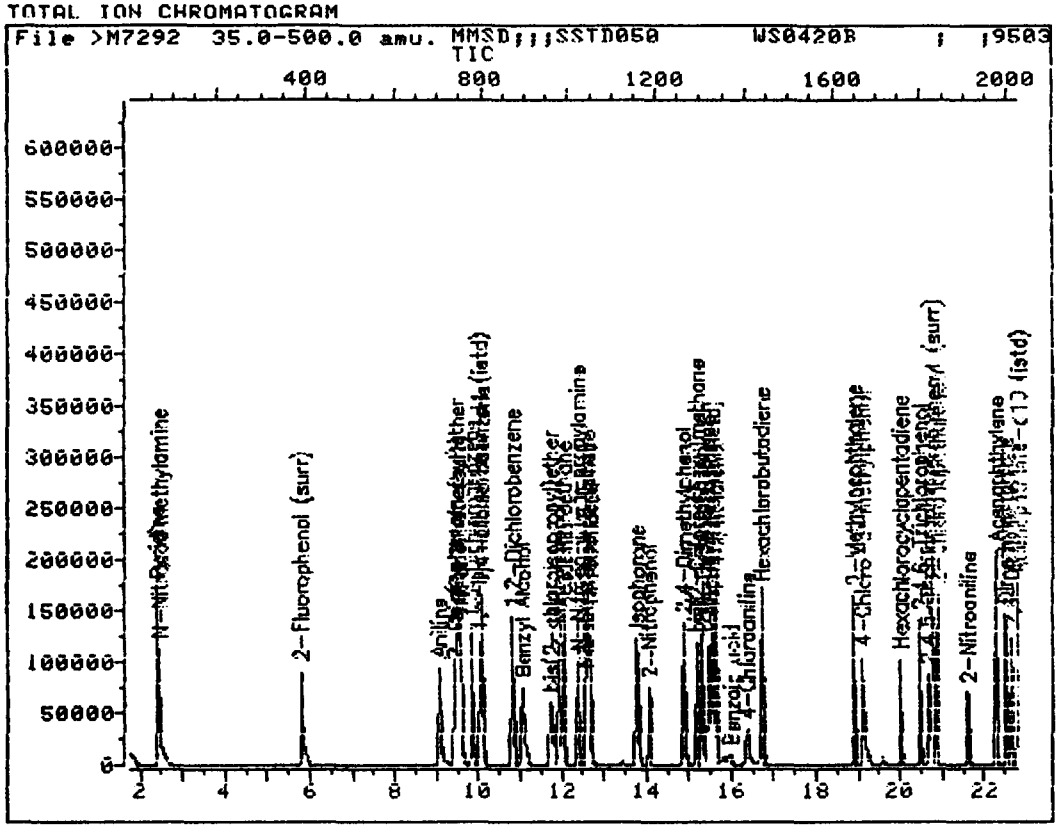
Operator ID: GC Quant Rev: 7 Quant Time: 950303 14:06
Output File: ^M7292::Q2 Injected at: 950303 13:22
Data File: >M7292::D4 Dilution Factor: 1.00000
Name: MMSD;;;SSTD050 Instrument ID: MMSD
Misc: WS0420B ; ;950303; ; ; ;QM1379; ; BTL# 1

ID File: IDMBNA::QT
Title: BNA ORGANIC STANDARDS; IEA LABORATORIES 11/13/89
Last Calibration: 950216 11:54 Last Qcal Time: 950224 15:38

	Compound	R.T.	Q ion	Area	Conc	Units	q
44)	Acenaphthene	22.90	153.0	127966	50.24	ngs	94
45)	3-Nitroaniline	22.99	65.0	17237M	25.38	ngs	86
46)	2,4-Dinitrophenol	23.27	184.0	5455M	29.76	ngs	90
47)	Dibenzofuran	23.40	168.0	173339	50.88	ngs	77
48)	2,4-Dinitrotoluene	23.76	165.0	36044	40.91	ngs	93
49)	4-Nitrophenol	23.90	139.0	14568	41.61	ngs	79
50)	Fluorene	24.42	166.0	134805	50.44	ngs	100
51)	Diethylphthalate	24.66	149.0	164742	49.15	ngs	94
52)	4-Nitroaniline	24.80	138.0	11066M	34.12	ngs	
53)	2,4,6-Tribromophenol (surr)	25.17	329.8	32983	62.74	ngs	83
54)	*Phenanthrene-d10 (istd)	26.91	188.0	119925	40.00	ngs	98
55)	4,6-Dinitro-2-methylphenol	24.87	198.0	12446	36.70	ngs	94
56)	4-Chlorophenyl-phenylether	24.58	204.0	70536	52.91	ngs	98
57)	N-Nitrosodiphenylamine (1)	24.98	169.0	79008	51.69	ngs	96
58)	1,2-Diphenylhydrazine	25.00	77.0	158483	42.40	ngs	83
59)	4-Bromophenyl-phenylether	25.88	250.0	42723	56.00	ngs	98
60)	Hexachlorobenzene	26.14	283.8	64275	58.99	ngs	94
61)	Pentachlorophenol	26.71	265.9	18377	52.99	ngs	91
62)	Phenanthrene	26.97	178.0	171564	49.77	ngs	98
63)	Anthracene	27.08	178.0	154746	47.44	ngs	93
64)	Carbazole	27.64	167.0	198954	86.25	ngs	96
65)	Di-n-butylphthalate	28.93	149.0	212019	44.48	ngs	97
66)	Fluoranthene	30.00	202.0	146885	48.89	ngs	97
67)	*Chrysene-d12 (istd)	33.61	240.0	74141	40.00	ngs	90
68)	Benzidine	26.61	184.0	2087M	45.57	ngs	
69)	Pyrene	30.53	202.0	151389	48.11	ngs	96
70)	Terphenyl-d14 (surr)	31.14	244.0	99413	47.08	ngs	96
71)	Butylbenzylphthalate	32.61	149.0	53560	32.55	ngs	92
72)	3,3'-Dichlorobenzidine	33.69	252.0	13418M	26.03	ngs	100
73)	Benzo(a)anthracene	33.57	228.0	103031	46.39	ngs	90
74)	Chrysene	33.67	228.0	94925	48.22	ngs	84
75)	bis(2-Ethylhexyl)phthalate	34.21	149.0	69357	31.57	ngs	79
76)	*Perylene-d12 (istd)	36.89	264.0	72533	40.00	ngs	97
77)	Di-n-octylphthalate	35.65	149.0	93670M	28.56	ngs	99
78)	Benzo(b)fluoranthene	36.10	252.0	97244	48.34	ngs	81
79)	Benzo(k)fluoranthene	36.15	252.0	95814M	55.98	ngs	75
80)	Benzo(a)pyrene	36.76	252.0	86743	48.93	ngs	95
81)	Indeno[1,2,3-cd]pyrene	39.17	276.0	82541	50.63	ngs	99
82)	Dibenz(a,h)anthracene	39.25	278.0	74610	51.24	ngs	100
83)	Benzo(g,h,i)perylene	39.77	276.0	77478	49.53	ngs	100

* Compound is ISTD

TOTAL ION CHROMATOGRAM

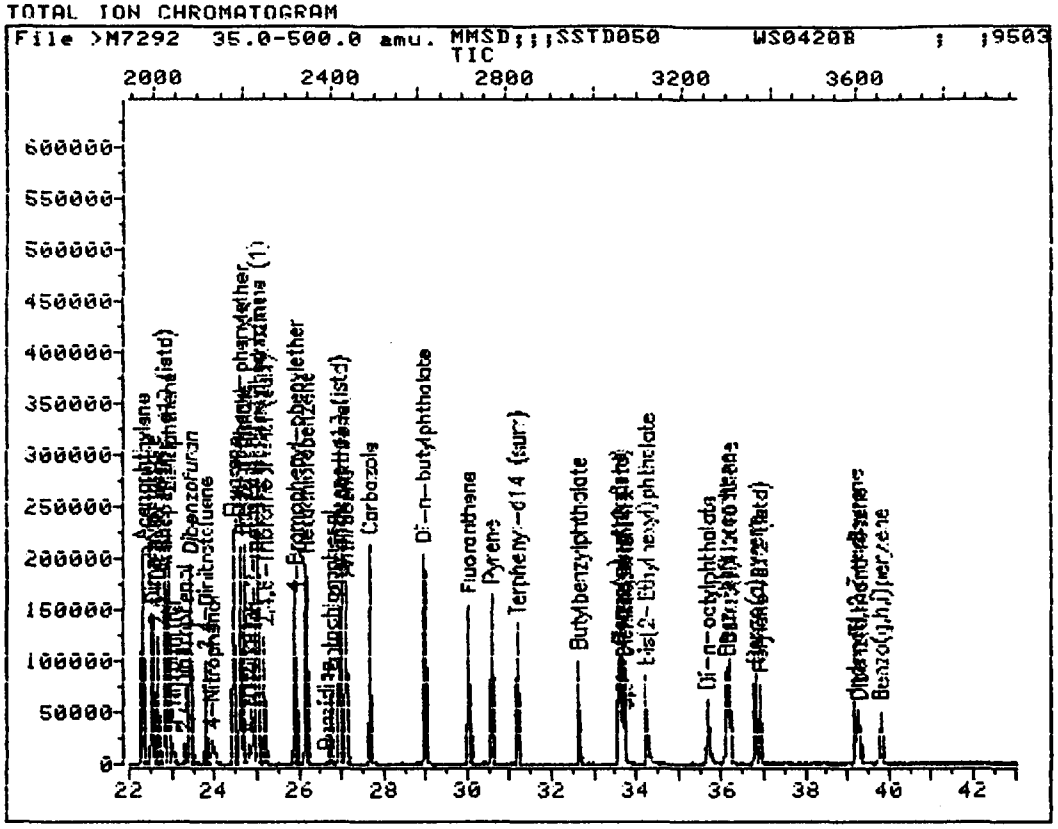


Data File: >M7292::D4 Quant Output File: ^M7292::Q2
Name: MMSD;;;SSTD050 Instrument ID: MMSD
Misc: WS0420B ; ;950303; ; ; ;QM1379; ; BTL# 1

Id File: IDMBNA::QT
Title: BNA ORGANIC STANDARDS; IEA LABORATORIES 11/13/89
Last Calibration: 950216 11:54 Last Qcal Time: 950224 15:38

Operator ID: GC
Quant Time : 950303 14:06
Injected at: 950303 13:22

TOTAL ION CHROMATOGRAM



Data File: >M7292::D4 Quant Output File: ^M7292::Q2
Name: MMSD;;;SSTD050 Instrument ID: MMSD
Misc: WS0420B ; ;950303; ; ; ;QM1379; ; BTL# 1

Id File: IDMBNA::QT
Title: BNA ORGANIC STANDARDS; IEA LABORATORIES 11/13/89
Last Calibration: 950216 11:54 Last Qcal Time: 950224 15:38

Operator ID: GC
Quant Time : 950303 14:06
Injected at: 950303 13:22

Continuing Calibration Check
HSL Compounds

Case No: | Calibration Date: 03/06/95

Contractor: ICA Labs Illinois | Time: 15:23

Contract No: | Laboratory ID: XM7299

Instrument ID: MMSD | Initial Calibration Date: 02/16/95

Minimum $\overline{RF}$ for SPCC is 0.0500 Maximum % Diff for CCC is %

Compound	$\overline{RF}$	RF	%Diff	CCC	SPCC
N-Nitrosodimethylamine	.87354	.73306	16.08		
Pyridine	1.10460	.94351	14.58		
2-Fluorophenol (surr)	1.12949	1.07649	4.69		
Aniline	1.88698	1.30806	30.68		
Phenol-d5 (surr)	1.62819	1.37053	15.82		
Phenol	1.52612	1.28200	16.00	*	
bis(2-Chloroethyl)ether	1.32701	1.15879	12.68		
2-Chlorophenol	1.14263	1.12870	1.22		
1,3-Dichlorobenzene	1.38818	1.37193	1.17		
1,4-Dichlorobenzene	1.41975	1.44285	1.63	*	
1,2-Dichlorobenzene	1.34620	1.27949	4.96		
Benzyl Alcohol	.74850	.60103	19.70		
2-Methylphenol	1.07810	.74894	30.53		
bis(2-chloroisopropyl)ether	.34136	.26212	23.21		
Hexachloroethane	.67542	.70149	3.86		
4-Methylphenol	1.45762	1.27677	12.41		
N-Nitroso-Di-n-propylamine	1.09202	.78473	28.14		**
Nitrobenzene-d5 (surr)	.39933	.39867	.16		
Nitrobenzene	.41857	.54102	29.25		
Isophorone	.82556	.70745	14.31		
2-Nitrophenol	.16140	.15029	6.88	*	
2,4-Dimethylphenol	.36405	.34518	5.18		
bis(2-Chloroethoxy)methane	.47323	.41502	12.30		
2,4-Dichlorophenol	.27906	.28759	3.06	*	
Benzoic acid	.21976	.12175	44.60		
1,2,4-Trichlorobenzene	.34163	.37081	8.54		
Naphthalene	.99378	.96767	2.63		
4-Chloroaniline	.28501	.23608	17.17		
Hexachlorobutadiene	.19943	.23715	18.92	*	
4-Chloro-3-methylphenol	.31331	.27048	13.67	*	
2-Methylnaphthalene	.82551	.56229	31.89		
Hexachlorocyclopentadiene	.34557	.33497	3.06		**

RF - Response Factor from daily standard file at 50.00 ngs

$\overline{RF}$ - Average Response Factor from Initial Calibration Form VI

%Diff - % Difference from original average or curve

CCC - Calibration Check Compounds (*) SPCC - System Performance Check Compounds (**)

Continuing Calibration Check
HSL Compounds

Case No: | Calibration Date: 03/06/95

Contractor: ICA Labs Illinois | Time: 15:23

Contract No: | Laboratory ID: XM7299

Instrument ID: MMSD | Initial Calibration Date: 02/16/95

Minimum $\overline{RF}$ for SPCC is 0.0500 Maximum % Diff for CCC is %

Compound	$\overline{RF}$	RF	%Diff	CCC	SPCC	
2,4,6-Trichlorophenol	.36958	.36284	1.82	*		
2,4,5-Trichlorophenol	.35310	.36518	3.42			
2-Fluorobiphenyl (surr)	1.17864	1.19782	1.63			
2-Chloronaphthalene	1.06280	1.02241	3.80			
2-Nitroaniline	.37135	.24655	33.61			
Acenaphthylene	1.78178	1.64475	7.69			
Dimethylphthalate	1.23864	1.28901	4.07			
2,6-Dinitrotoluene	.24345	.26811	10.13			
Acenaphthene	1.06884	1.08302	1.33	*		
3-Nitroaniline	.34219	.22612	33.92			
2,4-Dinitrophenol	.07438	.07865	5.75		**	
Dibenzofuran	1.47735	1.51537	2.57			
2,4-Dinitrotoluene	.32121	.36918	14.93			
4-Nitrophenol	.19890	.15224	23.46		**	
Fluorene	1.13442	1.21719	7.30			
Diethylphthalate	1.35057	1.50156	11.18			
4-Nitroaniline	.20504	.10656	48.03			
2,4,6-Tribromophenol (surr)	.22710	.31208	37.42			
4,6-Dinitro-2-methylphenol	.08776	.11109	26.59			
4-Chlorophenyl-phenylether	.43101	.42836	.62			
N-Nitrosodiphenylamine (1)	.53450	.51827	3.04	*		
1,2-Diphenylhydrazine	1.27353	1.04974	17.57			
4-Bromophenyl-phenylether	.25032	.27948	11.65			
Hexachlorobenzene	.35746	.42260	18.22			
Pentachlorophenol	.16286	.14502	10.96	*		
Phenanthrene	1.13398	1.11043	2.08			
Anthracene	1.11045	1.03974	6.37			
Carbazole	.89672	.67873	24.31			(Conc=100.00)
Di-n-butylphthalate	1.44040	1.36033	5.56			
Fluoranthene	1.06827	.97352	8.87	*		
Benzidine	.02011	.02692	33.85			
Pyrene	1.41601	1.96480	38.76			

RF - Response Factor from daily standard file at 50.00 ngs

$\overline{RF}$ - Average Response Factor from Initial Calibration Form VI

%Diff - % Difference from original average or curve

CCC - Calibration Check Compounds (*) SPCC - System Performance Check Compounds (**)

Continuing Calibration Check
HSL Compounds

Case No: Calibration Date: 03/06/95

Contractor: IEA Labs Illinois Time: 15:23

Contract No: Laboratory ID: XM7299

Instrument ID: MMSD Initial Calibration Date: 02/16/95

Minimum $\overline{RF}$ for SPCC is 0.0500 Maximum % Diff for CCC is %

Compound	$\overline{RF}$	RF	%Diff	CCC	SPCC
Terphenyl-d14 (surr)	.92819	1.34576	44.99		
Butylbenzylphthalate	.71574	.62419	12.79		
3,3'-Dichlorobenzidine	.31343	.20381	34.97		
Benzo(a)anthracene	1.20675	1.25986	4.40		
Chrysene	1.07405	1.13960	6.10		
bis(2-Ethylhexyl)phthalate	.95689	.78326	18.15		
Di-n-octylphthalate	1.59414	.92005	42.29	*	
Benzo(b)fluoranthene	1.19597	1.15030	3.82		
Benzo(k)fluoranthene	1.05870	.99574	5.95		
Benzo(a)pyrene	1.04493	.99607	4.68	*	
Indeno[1,2,3-cd]pyrene	.85418	.87033	1.89		
Dibenz(a,h)anthracene	.81640	.83496	2.27		
Benzo(g,h,i)perylene	.81740	.87006	6.44		

RF - Response Factor from daily standard file at 50.00 ngs

$\overline{RF}$ - Average Response Factor from Initial Calibration Form VI

%Diff - % Difference from original average or curve

CCC - Calibration Check Compounds (*) SPCC - System Performance Check Compounds (**)

QUANT REPORT

Operator ID: GC Quant Rev: 7 Quant Time: 950306 16:08
Output File: ^M7299::Q2 Injected at: 950306 15:23
Data File: >M7299::D4 Dilution Factor: 1.00000
Name: MMSD;;;SSTD050 Instrument ID: MMSD
Misc: WS0420B ; ;950306; ; ; ;QM1380; ; BTL# 1

ID File: IDMBNA::QT
Title: BNA ORGANIC STANDARDS; IEA LABORATORIES 11/13/89
Last Calibration: 950216 11:54 Last Qcal Time: 950303 13:22

	Compound	R.T.	Q ion	Area	Conc	Units	q
1)	*1,4-Dichlorobenzene-d4 (istd)	10.06	152.0	58365	40.00	ngs	96
2)	N-Nitrosodimethylamine	2.49	74.0	53481	41.21	ngs	85
3)	Pyridine	2.42	79.0	68835	33.13	ngs	87
4)	2-Fluorophenol (surr)	5.82	112.0	78537	44.22	ngs	86
5)	Aniline	9.10	93.0	95431	44.01	ngs	93
6)	Phenol-d5 (surr)	9.55	99.0	99989	47.04	ngs	86
7)	Phenol	9.60	94.0	93530	45.07	ngs	100
8)	bis(2-Chloroethyl)ether	9.52	93.0	84541	44.45	ngs	98
9)	2-Chlorophenol	9.47	127.9	82346	47.78	ngs	99
10)	1,3-Dichlorobenzene	9.87	146.0	100091	48.52	ngs	95
11)	1,4-Dichlorobenzene	10.12	146.0	105265	49.19	ngs	98
12)	1,2-Dichlorobenzene	10.85	146.0	93347	47.68	ngs	98
13)	Benzyl Alcohol	11.11	108.0	43849	49.91	ngs	87
14)	2-Methylphenol	11.95	108.0	54640	50.11	ngs	94
15)	bis(2-chloroisopropyl)ether	11.76	121.0	19123	38.73	ngs	98
16)	Hexachloroethane	12.08	117.0	51178	50.27	ngs	91
17)	4-Methylphenol	12.66	107.0	93148	50.87	ngs	93
18)	N-Nitroso-Di-n-propylamine	12.44	70.0	57251	46.93	ngs	93
19)	*Naphthalene-d8 (istd)	15.58	136.0	193454	40.00	ngs	98
20)	Nitrobenzene-d5 (surr)	12.62	82.0	96406	50.85	ngs	88
21)	Nitrobenzene	12.70	77.0	130828	50.75	ngs	92
22)	Isophorone	13.83	82.0	171073	48.39	ngs	98
23)	2-Nitrophenol	14.11	139.0	36343	53.08	ngs	81
24)	2,4-Dimethylphenol	14.92	107.0	83470	50.73	ngs	86
25)	bis(2-Chloroethoxy)methane	15.22	93.0	100359	45.00	ngs	96
26)	2,4-Dichlorophenol	15.35	162.0	69545	51.90	ngs	93
27)	Benzoic acid	16.18	105.0	29441M	50.55	ngs	
28)	1,2,4-Trichlorobenzene	15.48	180.0	89669	52.96	ngs	93
29)	Naphthalene	15.66	128.0	233999	51.24	ngs	97
30)	4-Chloroaniline	16.36	127.0	57088	49.80	ngs	96
31)	Hexachlorobutadiene	16.74	224.8	57348	46.41	ngs	88
32)	4-Chloro-3-methylphenol	19.12	107.0	65406	50.58	ngs	84
33)	2-Methylnaphthalene	18.92	142.0	135971	50.69	ngs	93
34)	*Acenaphthene-d10 (istd)	22.83	164.0	107361	40.00	ngs	97
35)	Hexachlorocyclopentadiene	20.03	236.8	44954	47.48	ngs	91
36)	2,4,6-Trichlorophenol	20.48	196.0	48694	48.21	ngs	92
37)	2,4,5-Trichlorophenol	20.65	196.0	49008	47.06	ngs	98
38)	2-Fluorobiphenyl (surr)	20.79	172.0	160749	46.16	ngs	95
39)	2-Chloronaphthalene	20.90	162.0	137209	54.72	ngs	96
40)	2-Nitroaniline	21.64	65.0	33087	50.69	ngs	88
41)	Acenaphthylene	22.31	152.0	220727	48.14	ngs	97
42)	Dimethylphthalate	22.54	163.0	172987	49.66	ngs	93
43)	2,6-Dinitrotoluene	22.67	165.0	35981	52.35	ngs	92

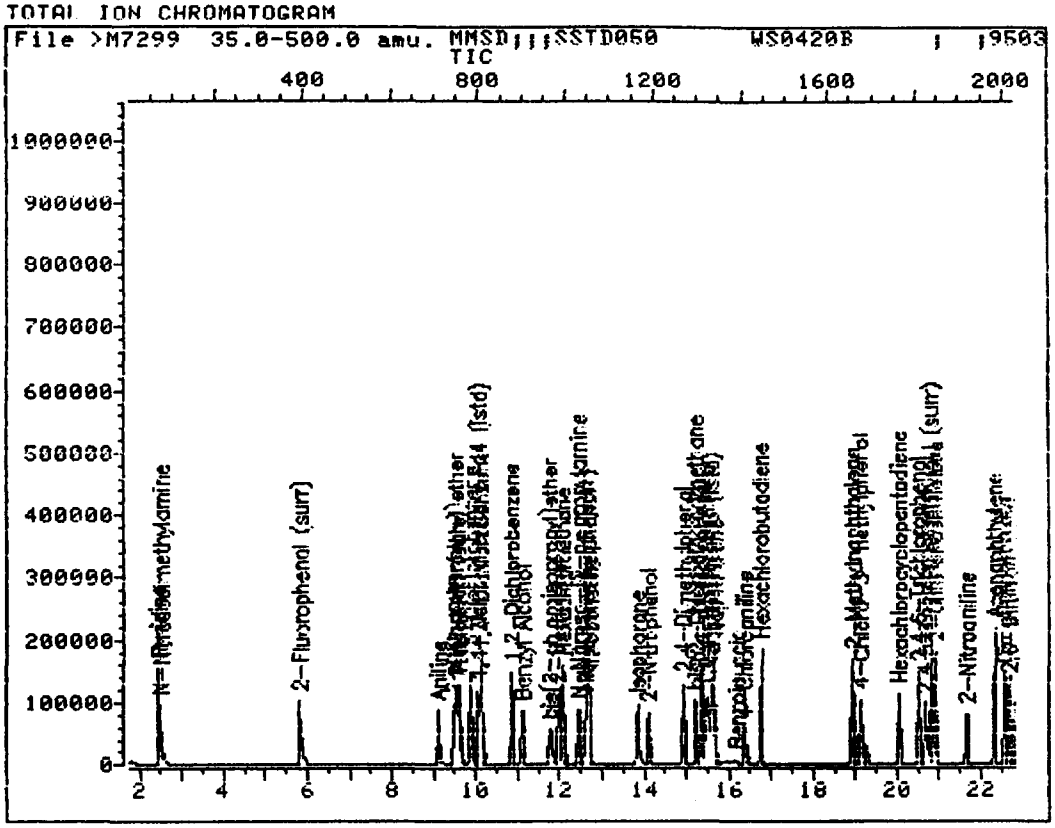
Operator ID: GC Quant Rev: 7 Quant Time: 950306 16:08
Output File: ^M7299::Q2 Injected at: 950306 15:23
Data File: >M7299::D4 Dilution Factor: 1.00000
Name: MMSD;;;SSTD050 Instrument ID: MMSD
Misc: WS0420B ; ;950306; ; ; ;QM1380; ; BTL# 1

ID File: IDMBNA::QT
Title: BNA ORGANIC STANDARDS; IEA LABORATORIES 11/13/89
Last Calibration: 950216 11:54 Last Qcal Time: 950303 13:22

	Compound	R.T.	Q ion	Area	Conc	Units	q
44)	Acenaphthene	22.94	153.0	145342	49.96	ngs	92
45)	3-Nitroaniline	23.02	65.0	30345M	77.44	ngs	86
46)	2,4-Dinitrophenol	23.30	184.0	10555	85.12	ngs	78
47)	Dibenzofuran	23.45	168.0	203364	51.61	ngs	72
48)	2,4-Dinitrotoluene	23.79	165.0	49544	60.47	ngs	88
49)	4-Nitrophenol	23.91	139.0	20431	61.70	ngs	62
50)	Fluorene	24.45	166.0	163349	53.31	ngs	100
51)	Diethylphthalate	24.70	149.0	201511	53.81	ngs	95
52)	4-Nitroaniline	24.84	138.0	14300M	56.85	ngs	
53)	2,4,6-Tribromophenol (surr)	25.20	329.8	41881	55.86	ngs	84
54)	*Phenanthrene-d10 (istd)	26.94	188.0	155112	40.00	ngs	97
55)	4,6-Dinitro-2-methylphenol	24.92	198.0	21540	66.90	ngs	99
56)	4-Chlorophenyl-phenylether	24.61	204.0	83054	45.52	ngs	99
57)	N-Nitrosodiphenylamine (1)	25.02	169.0	100487	49.17	ngs	98
58)	1,2-Diphenylhydrazine	25.03	77.0	203534	49.65	ngs	82
59)	4-Bromophenyl-phenylether	25.91	250.0	54189	49.03	ngs	98
60)	Hexachlorobenzene	26.17	283.8	81938	49.28	ngs	88
61)	Pentachlorophenol	26.74	265.9	28117	59.15	ngs	97
62)	Phenanthrene	27.00	178.0	215301	48.51	ngs	96
63)	Anthracene	27.12	178.0	201595	50.36	ngs	95
64)	Carbazole	27.67	167.0	263196	102.28	ngs	95
65)	Di-n-butylphthalate	28.96	149.0	263755	48.09	ngs	97
66)	Fluoranthene	30.04	202.0	188755	49.68	ngs	97
67)	*Chrysene-d12 (istd)	33.65	240.0	77855	40.00	ngs	94
68)	Benzidine	26.65	184.0	2620	59.78	ngs	92
69)	Pyrene	30.56	202.0	191212	60.14	ngs	94
70)	Terphenyl-d14 (surr)	31.18	244.0	130968	62.73	ngs	98
71)	Butylbenzylphthalate	32.64	149.0	60745	54.00	ngs	96
72)	3,3'-Dichlorobenzidine	33.71	252.0	19835	70.39	ngs	100
73)	Benzo(a)anthracene	33.59	228.0	122608	56.66	ngs	89
74)	Chrysene	33.71	228.0	110904	55.63	ngs	76
75)	bis(2-Ethylhexyl)phthalate	34.23	149.0	76226	52.33	ngs	78
76)	*Perylene-d12 (istd)	36.92	264.0	79547	40.00	ngs	94
77)	Di-n-octylphthalate	35.68	149.0	91484M	44.53	ngs	99
78)	Benzo(b)fluoranthene	36.12	252.0	114379	53.62	ngs	77
79)	Benzo(k)fluoranthene	36.19	252.0	99010M	47.11	ngs	79
80)	Benzo(a)pyrene	36.80	252.0	99043	52.06	ngs	95
81)	Indeno[1,2,3-cd]pyrene	39.20	276.0	86540	47.80	ngs	92
82)	Dibenz(a,h)anthracene	39.29	278.0	83023	50.73	ngs	100
83)	Benzo(g,h,i)perylene	39.82	276.0	86513	50.91	ngs	100

* Compound is ISTD

TOTAL ION CHROMATOGRAM

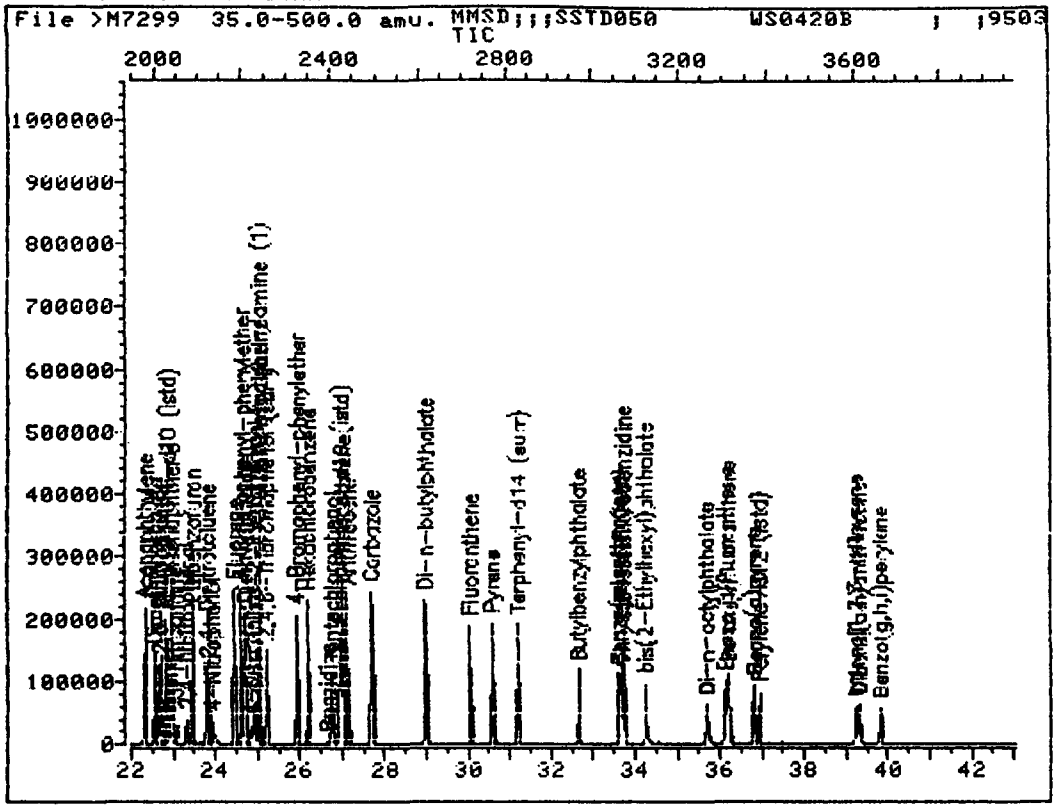


Data File: >M7299::D4 Quant Output File: ^M7299::Q2
Name: MMSD;;;SSTD050 Instrument ID: MMSD
Misc: WS0420B ; ;950306; ; ; ;QM1380; ; BTL# 1

Id File: IDMBNA::QT
Title: BNA ORGANIC STANDARDS; IEA LABORATORIES 11/13/89
Last Calibration: 950216 11:54 Last Qcal Time: 950303 13:22

Operator ID: GC
Quant Time : 950306 16:08
Injected at: 950306 15:23

TOTAL ION CHROMATOGRAM



Data File: >M7299::D4 Quant Output File: ^M7299::Q2
Name: MMSD;;;SSTD050 Instrument ID: MMSD
Misc: WS0420B ; ;950306; ; ; ;QM1380; ; BTL# 1

Id File: IDMBNA::QT
Title: BNA ORGANIC STANDARDS; IEA LABORATORIES 11/13/89
Last Calibration: 950216 11:54 Last Qcal Time: 950303 13:22

Operator ID: GC
Quant Time : 950306 16:08
Injected at: 950306 15:23

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Internal Standards

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8B

SEMIVOLATILE INTERNAL STANDARD AREA SUMMARY

Lab Name: IEA, INC - ILLINOIS Contract:

Lab code: IEAIL Case No.: CH950441SAS No.: SDG No.:

Lab File ID (Standard): >M7292 Date Analyzed: 03/03/95

Instrument ID: MMSD Time Analyzed: 13:22

		IS1(DCB) AREA #	RT	IS2(NAP) AREA #	RT	IS3(ACE) AREA #	RT
	12 HOUR STD	58279	10.01	185367	15.52	94458	22.80
	UPPER LIMIT	116558	10.51	370734	16.02	188916	23.30
	LOWER LIMIT	29139	9.51	92683	15.02	47229	22.30
	EPA SAMPLE NO.						
1	SBLK	62353	10.01	182720	15.52	0 *	0.00
2	BLK SPIKE	66647	10.02	214235	15.52	118137	22.81
3	SAU-02	67079	10.03	205197	15.52	114510	22.80
4	SAU-01	71047	10.04	231935	15.52	128452	22.81
5	SAU-01MS	94357	10.09	311922	15.55	174805	22.83
6	SAU-01MSD	76352	10.04	243491	15.52	134776	22.80
7							
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21							
22							

IS1 (DCB) = 1,4-Dichlorobenzene-d4 (istd) UPPER LIMIT = + 100%
IS2 (NAP) = Naphthalene-d8 (istd) of internal standard area.
IS3 (ACE) = Acenaphthene-d10 (istd) LOWER LIMIT = - 50%
of internal standard area.

Column used to flag internal standard area values with an asterisk

page __ of __.

8C

SEMIVOLATILE INTERNAL STANDARD AREA SUMMARY

Lab Name: IEA, INC - ILLINOIS Contract:

Lab code: IEAIL Case No.: CH950411SAS No.: SDG No.:

Lab File ID (Standard): >M7292 Date Analyzed: 03/03/95

Instrument ID: MMSD Time Analyzed: 13:22

		IS4(PHN) AREA #	RT	IS5(CHR) AREA #	RT	IS6(PER) AREA #	RT
	12 HOUR STD	119925	26.91	74141	33.61	72533	36.89
	UPPER LIMIT	239850	27.41	148282	34.11	145066	37.39
	LOWER LIMIT	59963	26.41	37070	33.11	36266	36.39
	EPA SAMPLE NO.						
1	SBLK	0 *	0.00	0 *	0.00	0 *	0.00
2	BLK SPIKE	130821	26.91	77325	33.60	71322	36.89
3	SAU-02	130059	26.90	79082	33.60	70582	36.88
4	SAU-01	147233	26.90	92621	33.60	91176	36.89
5	SAU-01MS	211046	26.94	134394	33.62	123373	36.91
6	SAU-01MSD	158847	26.91	102982	33.60	92552	36.88
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21							
22							

IS4 (PHN) = Phenanthrene-d10 (istd)
IS5 (CHR) = Chrysene-d12 (istd)
IS6 (PER) = Perylene-d12 (istd)

UPPER LIMIT = + 100% of internal standard area.
LOWER LIMIT = - 50% of internal standard area.

Column used to flag internal standard area values with an asterisk

page ___ of ___.

8B

SEMIVOLATILE INTERNAL STANDARD AREA SUMMARY

Lab Name: IEA, INC - ILLINOIS Contract:

Lab code: IEAIL Case No.: CH950441SAS No.: SDG No.:

Lab File ID (Standard): >M7299 Date Analyzed: 03/06/95

Instrument ID: MMSD Time Analyzed: 15:23

		IS1(DCB) AREA #	RT	IS2(NAP) AREA #	RT	IS3(ACE) AREA #	RT
	12 HOUR STD	58365	10.06	193454	15.58	107361	22.83
	UPPER LIMIT	116730	10.56	386908	16.08	214722	23.33
	LOWER LIMIT	29183	9.56	96727	15.08	53680	22.33
	EPA SAMPLE NO.						
1	SBLK	73144	10.07	226983	15.56	126703	22.84
2							
3							
4							
5							
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16							
17							
18							
19							
20							
21							
22							

IS1 (DCB) = 1,4-Dichlorobenzene-d4 (istd) UPPER LIMIT = + 100%
IS2 (NAP) = Naphthalene-d8 (istd) of internal standard area.
IS3 (ACE) = Acenaphthene-d10 (istd) LOWER LIMIT = - 50%
of internal standard area.

Column used to flag internal standard area values with an asterisk

page ___ of ___.

8C
SEMIVOLATILE INTERNAL STANDARD AREA SUMMARY

Lab Name: IEA, INC - ILLINOIS Contract:

Lab code: IEAIL Case No.: CH950441SAS No.: SDG No.:

Lab File ID (Standard): >M7299 Date Analyzed: 03/06/95

Instrument ID: MMSD Time Analyzed: 15:23

	IS4(PHN) AREA #	RT	IS5(CHR) AREA #	RT	IS6(PER) AREA #	RT
12 HOUR STD	155112	26.94	77855	33.65	79547	36.92
UPPER LIMIT	310224	27.44	155710	34.15	159094	37.42
LOWER LIMIT	77556	26.44	38928	33.15	39774	36.42
EPA SAMPLE NO.						
1 SBLK	157821	26.93	86571	33.64	75588	36.92
2						
3						
4						
5						
6						
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18						
19						
20						
21						
22						

IS4 (PHN) = Phenanthrene-d10 (istd)
IS5 (CHR) = Chrysene-d12 (istd)
IS6 (PER) = Perylene-d12 (istd)

UPPER LIMIT = + 100%
of internal standard area.
LOWER LIMIT = - 50%
of internal standard area.

Column used to flag internal standard area values with an asterisk

page __ of __.

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Sample Data

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QUANT REPORT

Operator ID: OMSD Quant Rev: 6 Quant Time: 950228 19:08
Output File: ^O1113::QF Injected at: 950228 18:36
Data File: >O1113::D3 Dilution Factor: 1.00000
Name: OMSD;;; SAU-01
Misc: 950411001 ;022495;022895;LLW; 10 ;;;QO1555;;;500UL

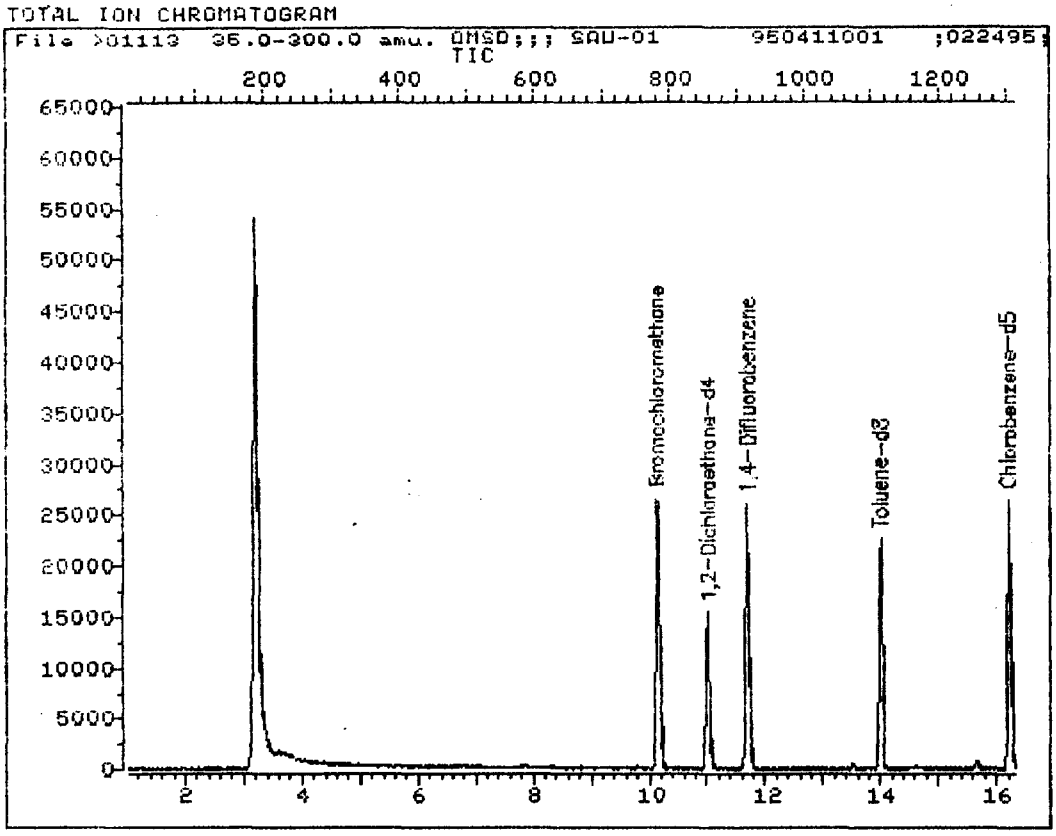
ID File: IDOVOW::QF
Title: VOLATILE ORGANICS-O-WATER;IEAIL; 12-21-88; 50M; .53mmid; 3um
Last Calibration: 950228 13:30

	Compound	R.T.	Q ion	Area	Conc	Units	q
1)	*Bromochloromethane	10.12	128.0	12846	50.00	ug/L	93
23)	*1,4-Difluorobenzene	11.70	114.0	34743	50.00	ug/L	95
27)	*1,2-Dichloroethane-d4	11.01	65.0	24327	54.55	ug/L	97
36)	*Toluene-d8	13.99	98.0	29296	51.14	ug/L	94
39)	*Chlorobenzene-d5	16.20	117.0	27922	50.00	ug/L	98
51)	*Bromofluorobenzene	18.05	174.0	19001	46.36	ug/L	85

* Compound is ISTD

QC-OK
MC 3-1-95

TOTAL ION CHROMATOGRAM



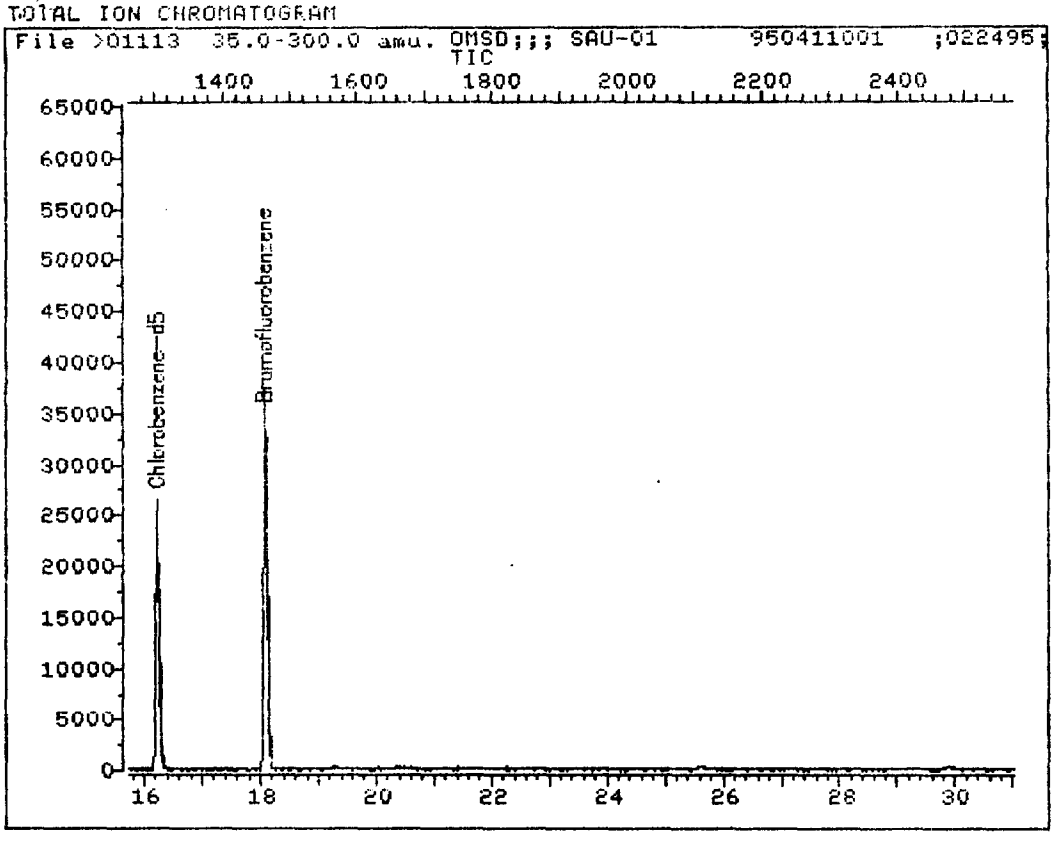
Data File: >O1113::D3 Quant Output File: ^O1113::QF
Name: OMSD;;; SAU-01
Misc: 950411001 ;022495;022895;LLW; 10 ;;;QO1555;;;500UL

Id File: IDOVOW::QF
Title: VOLATILE ORGANICS-O-WATER;IEAIL; 12-21-88; 50M; .53mmid; 3um
Last Calibration: 950228 13:30

Operator ID: OMSD
Quant Time: 950228 19:08
Injected at: 950228 18:36

TIC page 1 of 2

TOTAL ION CHROMATOGRAM



Data File: >O1113::D3 Quant Output File: ^O1113::QF
Name: OMSD;;; SAU-01
Misc: 950411001 ;022495;022895;LLW; 10 ;;;QO1555;;;500UL

Id File: IDOVOW::QF
Title: VOLATILE ORGANICS-O-WATER;IEAIL; 12-21-88; 50M; .53mmid; 3um
Last Calibration: 950228 13:30

Operator ID: OMSD
Quant Time: 950228 19:08
Injected at: 950228 18:36

TIC page 2 of 2

QUANT REPORT

Operator ID: OMSD Quant Rev: 6 Quant Time: 950228 19:44
Output File: ^O1114::QF Injected at: 950228 19:12
Data File: >O1114::D3 Dilution Factor: 1.00000
Name: OMSD;;; SAU-02
Misc: 950411002 ;022495;022895;LLW; 10 ;;;QO1555;;;500UL

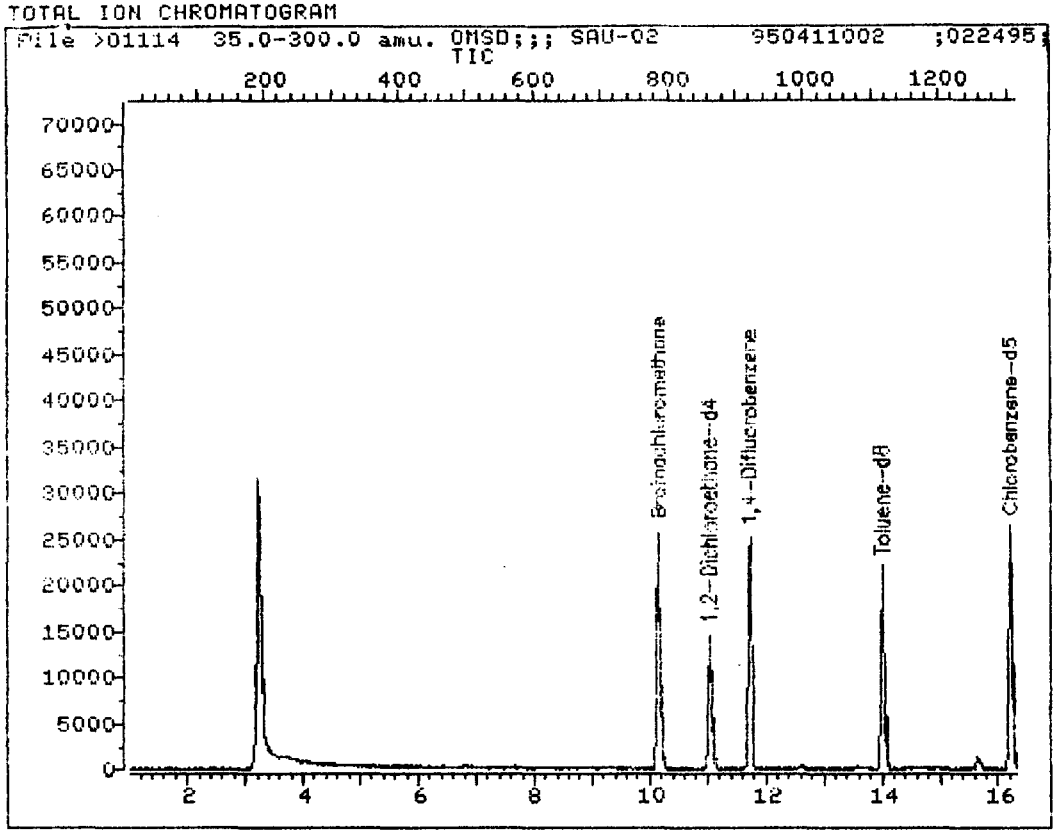
ID File: IDOVOW::QF
Title: VOLATILE ORGANICS-O-WATER;IEAIL; 12-21-88; 50M; .53mmid; 3um
Last Calibration: 950228 13:30

	Compound	R.T.	Q ion	Area	Conc	Units	q
1)	*Bromochloromethane	10.15	128.0	12237	50.00	ug/L	92
23)	*1,4-Difluorobenzene	11.71	114.0	34026	50.00	ug/L	91
27)	X1,2-Dichloroethane-d4	11.02	65.0	24841	56.88	ug/L	96
36)	XToluene-d8	13.98	98.0	29403	52.41	ug/L	94
39)	*Chlorobenzene-d5	16.20	117.0	27927	50.00	ug/L	92
51)	XBromofluorobenzene	18.06	174.0	18958	46.24	ug/L	80

* Compound is ISTD

QC-OK
MC 3-1-95

TOTAL ION CHROMATOGRAM



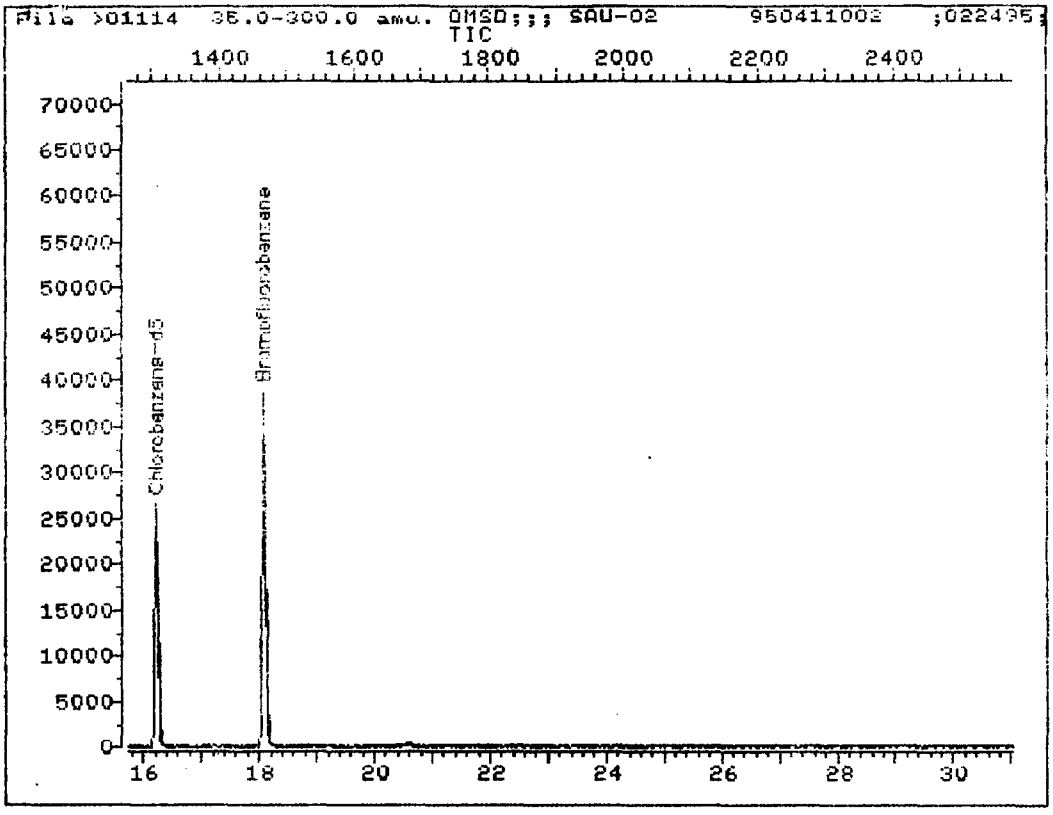
Data File: >O1114::D3 Quant Output File: ^O1114::QF
Name: OMSD;;; SAU-02
Misc: 950411002 ;022495;022895;LLW; 10 ;;;QO1555;;;500UL

Id File: IDOVOW::QF
Title: VOLATILE ORGANICS-O-WATER;IEAIL; 12-21-88; 50M; .53mmid; 3um
Last Calibration: 950228 13:30

Operator ID: OMSD
Quant Time: 950228 19:44
Injected at: 950228 19:12

TIC page 1 of 2

TOTAL ION CHROMATOGRAM



Data File: >01114::D3 Quant Output File: ^01114::QF
Name: OMSD;;; SAU-02
Misc: 950411002 ;022495;022895;LLW; 10 ;;;QO1555;;;500UL

Id File: TDOVOW::QF
Title: VOLATILE ORGANICS-O-WATER;IEAIL; 12-21-88; 50M; .53mmid; 3um
Last Calibration: 950228 13:30

Operator ID: OMSD
Quant Time: 950228 19:44
Injected at: 950228 19:12

TIC page 2 of 2

QUANT REPORT

Operator ID: OMSD Quant Rev: 6 Quant Time: 950228 21:35
Output File: ^O1117::QF Injected at: 950228 21:03
Data File: >O1117::D3 Dilution Factor: 1.00000
Name: OMSD;;; TCLP BLANK
Misc: QZ0261 ; ;022895;LLW; 10 ;;;QO1555;;;500UL

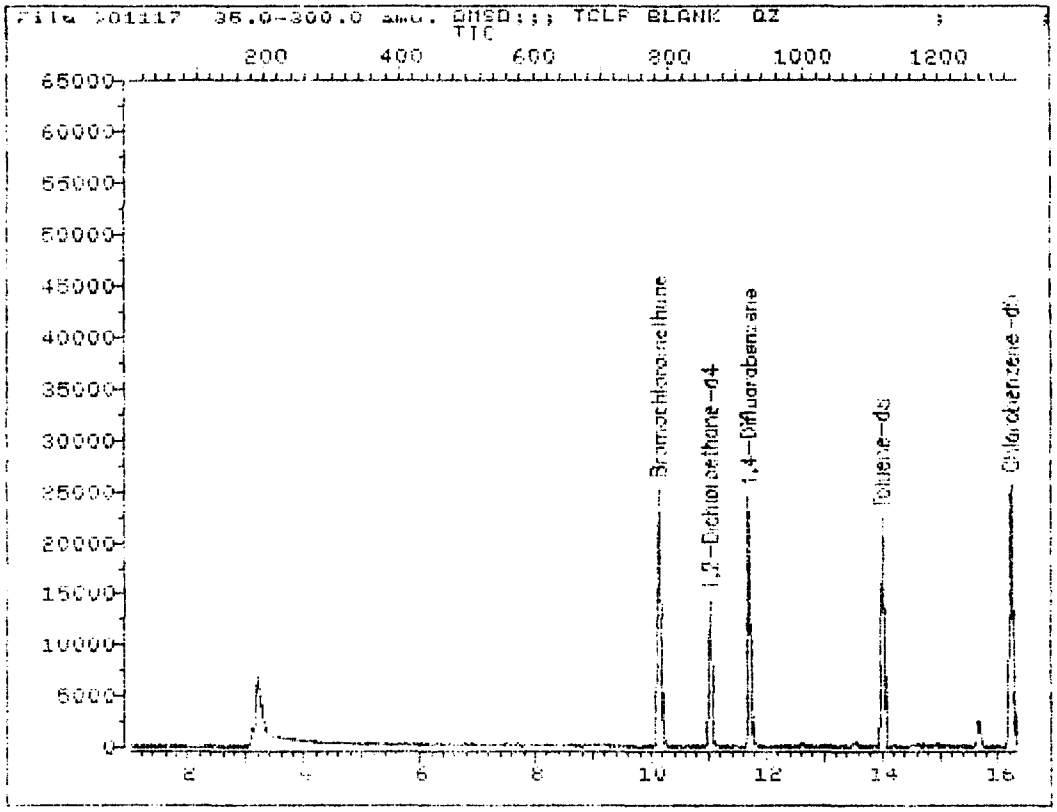
ID File: IDOVOW::QF
Title: VOLATILE ORGANICS O WATER;TEATL; 12 21 88; 50M; .53mmid; 3um
Last Calibration: 950228 13:30

	Compound	R.T.	Q ion	Area	Conc	Units	q
1)	*Bromochloromethane	10.13	128.0	12263	50.00	ug/L	96
23)	*1,4 Difluorobenzene	11.69	114.0	33816	50.00	ug/L	98
27)	*1,2 Dichloroethane-d4	11.02	65.0	23314	53.71	ug/L	88
36)	*Toluene-d8	13.99	98.0	27875	49.99	ug/L	93
39)	*Chlorobenzene-d5	16.21	117.0	26782	50.00	ug/L	93
51)	*Bromofluorobenzene	18.07	174.0	18040	45.89	ug/L	82

* Compound is ISTD

QC-OK
ME 3-1-95

TOTAL ION CHROMATOGRAM



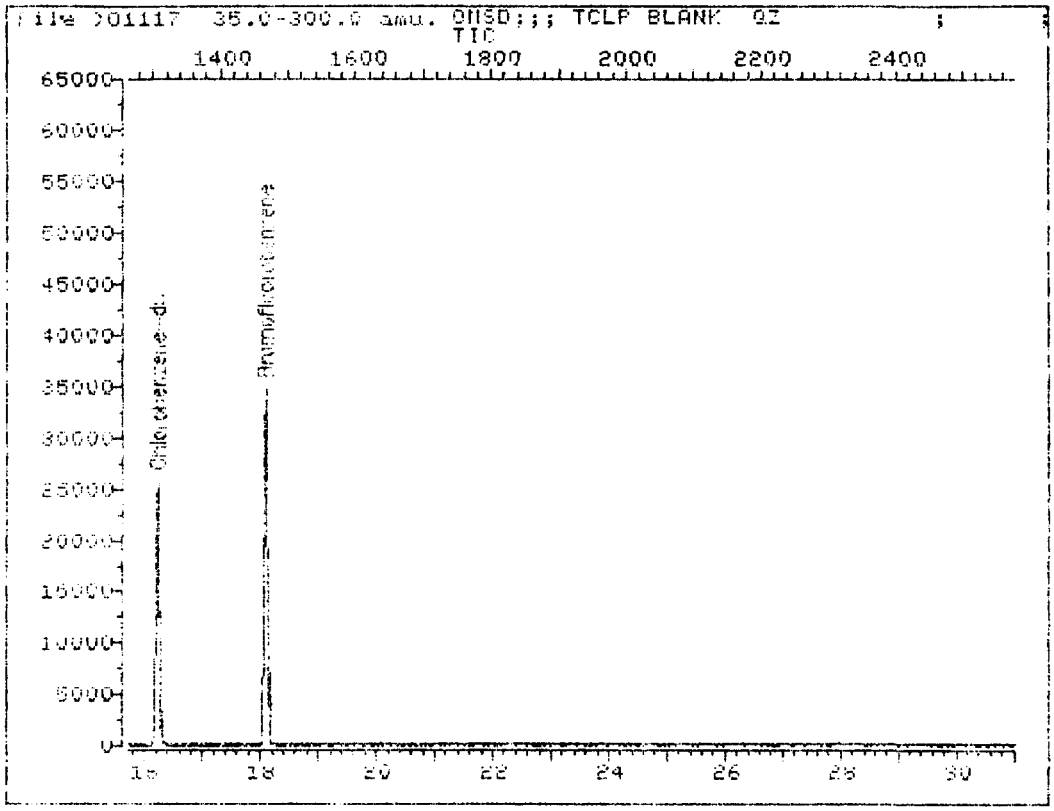
Data File: >01117::D3 Quant Output File: >01117::QF
Name: OMSD;;; TCLP BLANK
Misc: QZ ; ;022895;LLW; 10 ;;;Q01555;;;500UL

Id File: IDOVOW::QF
Title: VOLATILE ORGANICS-O-WATER;IEATL; 12-21-88; 50M; .53mmid; 3um
Last Calibration: 950228 13:30

Operator ID: OMSD
Quant Time: 950228 21:35
Injected at: 950228 21:03

TIC page 1 of 2

TOTAL ION CHROMATOGRAM



Data File: >01117::D3 Quant Output File: ^01117::QF
Name: OMSD;;; TCLP BLANK
Misc: QZ ; ;022895;LLW; 10 ;;;Q01555;;;500UL

Id File: TDOVOW::QF
Title: VOLATILE ORGANICS-O-WATER;TEAIL; 12-21-88; 50M; .53mmid; 3um
Last Calibration: 950228 13:30

Operator ID: OMSD
Quant Time: 950228 21:35
Injected at: 950228 21:03

TIC page 2 of 2

IEA
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Surrogates

2A
WATER VOLATILE SURROGATE RECOVERY

Lab Name: IEA ILLINOIS Contract:

Lab code: IEA-IL Case No.: CH950411 SAS No.: SDG No.:

	EPA SAMPLE NO.	S1 (DCE)#	S2 (TOL)#	S3 (BFB)#	S4 ( )#	TOT OUT
01	METHODBLANK	100	98	93		0
02	SAU-01	109	102	93		0
03	SAU-02	114	105	92		0
04	SAU-02MS	100	97	98		0
05	SAU-02MD	101	94	94		0
06	ZHEBLANK	107	100	92		0
07						
08						
09						
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30						

		QC LIMITS
S1 (DCE)	= 1,2-Dichloroethane-d4	(76-114)
S2 (TOL)	= Toluene-d8	(88-110)
S3 (BFB)	= Bromofluorobenzene	(86-115)

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

IEA
An Aquarion Company

MS/MSD

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3A

WATER VOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: Contract:

Lab code: Case No.: SAS No.: CH950411 SDG No.:

Matrix Spike - EPA Sample No.: SAU-02

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC #	QC LIMITS REC.
Benzene	50	0	45	90	75-125
Carbon Tetrachloride	50	0	39	78	75-125
Chlorobenzene	50	0	46	92	75-125
Chloroform	50	0	45	90	75-125
1,2-Dichloroethane	50	0	47	94	75-125
1,1-Dichloroethene	50	0	40	80	75-125
2-Butanone	100	0	80	80	75-125
Tetrachloroethene	50	0	45	90	75-125
Trichloroethene	50	0	44	88	75-125
Vinyl Chloride	50	0	55	110	75-125

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
Benzene	50	45	90	0	25	75-125
Carbon Tetrachloride	50	37	75	5	25	75-125
Chlorobenzene	50	43	86	7	25	75-125
Chloroform	50	45	90	0	25	75-125
1,2-Dichloroethane	50	47	94	0	25	75-125
1,1-Dichloroethene	50	42	84	5	25	75-125
2-Butanone	100	78	78	3	25	75-125
Tetrachloroethene	50	43	86	5	25	75-125
Trichloroethene	50	43	86	2	25	75-125
Vinyl Chloride	50	54	108	2	25	75-125

column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

RPD: 0 out of 10 outside limits

Spike Recovery: 0 out of 20 outside limits

COMMENTS: _____

QUANT REPORT

Operator ID: OMSD Quant Rev: 6 Quant Time: 950228 20:20
Output File: ^O1115::QF Injected at: 950228 19:48
Data File: >O1115::D3 Dilution Factor: 1.00000
Name: OMSD;;; SAU 02 MS
Misc: 950411002MS ;022495;022895;LLW; 10 ;;;QO1555;;;500UL

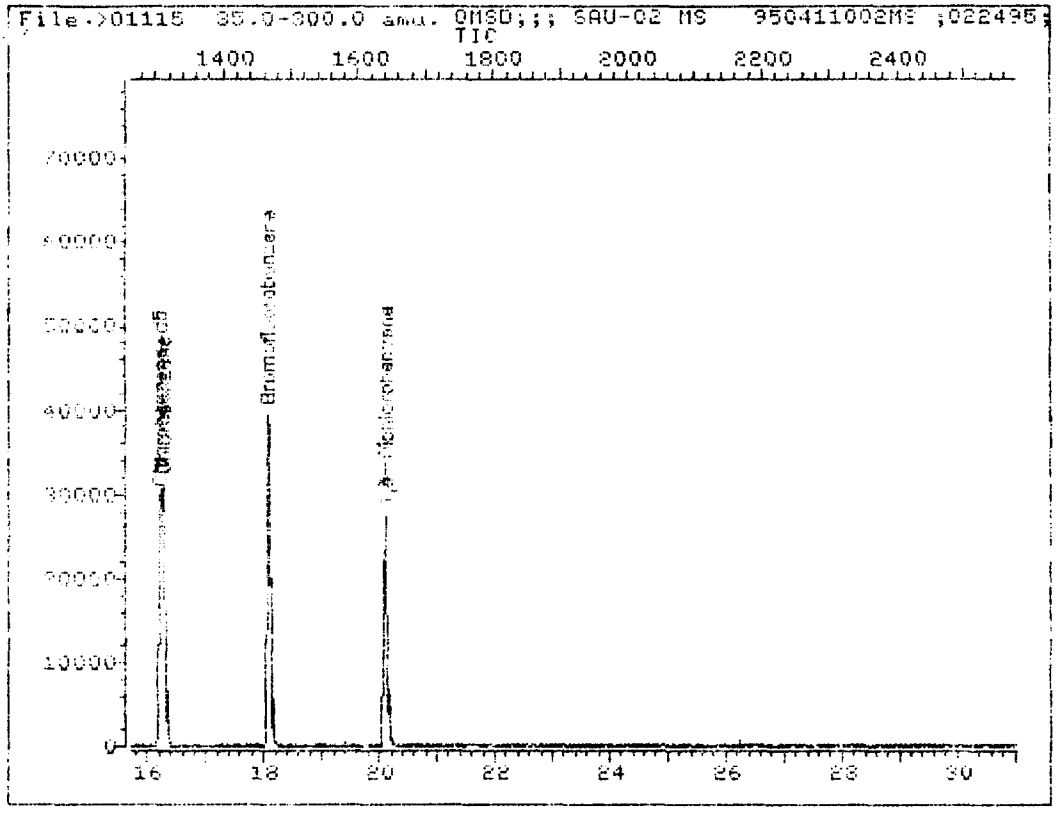
ID File: IDOVOW::QF
Title: VOLATILE ORGANICS-O WATER;IEATL; 12 21 88; 50M; .53mmid; 3um
Last Calibration: 950228 13:30

	Compound	R.T.	Q ion	Area	Conc	Units	q
1)	*Bromochloromethane	10.13	128.0	12889	50.00	ug/L	97
4)	Vinyl Chloride	4.22	62.0	7990	54.59	ug/L	97
10)	1,1-Dichloroethene	6.86	96.0	10855	40.48	ug/L	89
22)	2-Butanone	9.68	43.0	7353	80.33	ug/L	99
23)	*1,4-Difluorobenzene	11.69	114.0	36445	50.00	ug/L	97
24)	Chloroform	10.17	83.0	40041	45.18	ug/L	96
26)	Carbon Tetrachloride	11.01	117.0	33961	39.15	ug/L	95
27)	X 1,2-Dichloroethane-d4	11.02	65.0	23390	50.00	ug/L	91
28)	1,2-Dichloroethane	11.13	62.0	28199	46.87	ug/L	92
29)	Benzene	11.20	78.0	26872	45.43	ug/L	98
30)	Trichloroethene	12.17	95.0	20205	43.58	ug/L	96
36)	X Toluene-d8	13.99	98.0	29244	48.66	ug/L	97
39)	*Chlorobenzene-d5	16.20	117.0	28031	50.00	ug/L	92
41)	Tetrachloroethene	15.04	166.0	23425	44.81	ug/L	95
44)	Chlorobenzene	16.25	112.0	25753	46.14	ug/L	94
51)	XBromofluorobenzene	18.06	174.0	20096	48.84	ug/L	82
53)	1,3-Dichlorobenzene	20.10	146.0	23144	34.33	ug/L	95
54)	1,4-Dichlorobenzene	20.10	146.0	23144	36.74	ug/L	95

* Compound is ISTD

QC-OK
ME 3-1-95

TOTAL ION CHROMATOGRAM



Data File: >01115::D3 Quant Output File: ^01115::QF
Name: OMSD;;; SAU-02 MS
Misc: 950411002MS ;022495;022895;LLW; 10 ;;;Q01555;;;500UL

Id File: TDOVOW::QF
Title: VOLATILE ORGANICS-O-WATER;TEATL; 12-21-88; 50M; .53mmid; 3um
Last Calibration: 950228 13:30

Operator ID: OMSD
Quant Time: 950228 20:20
Injected at: 950228 19:48

TIC page 2 of 2

QUANT REPORT

Operator ID: OMSD Quant Rev: 6 Quant Time: 950228 20:58
Output File: ^O1116::QF Injected at: 950228 20:26
Data File: >O1116::D3 Dilution Factor: 1.00000
Name: OMSD;;; SAU 02 MSD
Misc: 950411002MSD;022495;022895;LLW; 10 ;;;QO1555;;;500UL

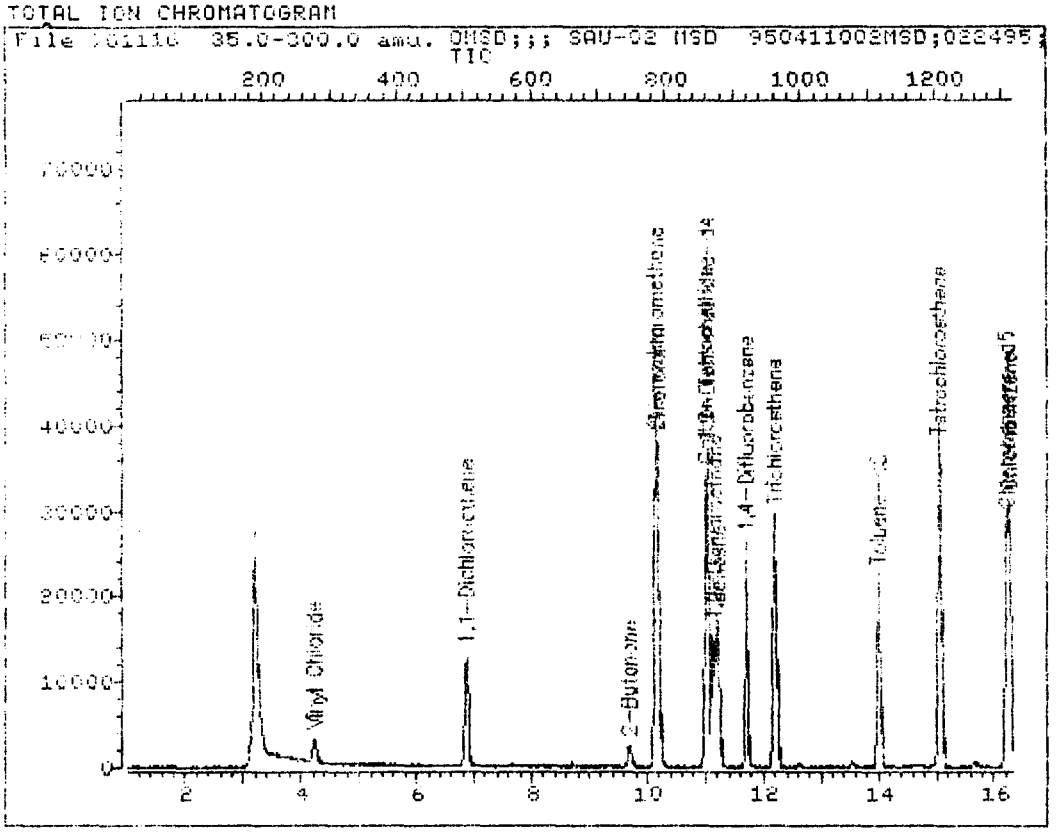
ID File: IDOVOW::QF
Title: VOLATILE ORGANICS O WATER;IEATL; 12-21-88; 50M; .53mmid; 3um
Last Calibration: 950228 13:30

	Compound	R.T.	Q ion	Area	Conc	Units		q
1)	*Bromochloromethane	10.13	128.0	12530	50.00	ug/L		96
4)	Vinyl Chloride	4.21	62.0	7634	53.65	ug/L		88
10)	1,1-Dichloroethene	6.85	96.0	10897	41.80	ug/L		91
22)	2-Butanone	9.68	43.0	6945	78.05	ug/L		94
23)	*1,4-Difluorobenzene	11.69	114.0	36894	50.00	ug/L		99
24)	Chloroform	10.17	83.0	39970	44.55	ug/L		97
26)	Carbon Tetrachloride	10.99	117.0	32844 ~~32702~~	~~37.24~~	ug/L	37.40	94
27)	X1,2-Dichloroethane-d4	11.02	65.0	23992	50.66	ug/L		97
28)	1,2-Dichloroethane	11.13	62.0	28704	47.13	ug/L		91
29)	Benzene	11.20	78.0	27161	45.36	ug/L		96
30)	Trichloroethene	12.18	95.0	20239	43.12	ug/L		94
36)	XToluene-d8	13.99	98.0	28727	47.22	ug/L		99
39)	*Chlorobenzene-d5	16.20	117.0	28595	50.00	ug/L		95
41)	Tetrachloroethene	15.04	166.0	22944	43.03	ug/L		95
44)	Chlorobenzene	16.25	112.0	24754	43.48	ug/L		96
51)	XBromofluorobenzene	18.07	174.0	19753	47.06	ug/L		79
53)	1,3-Dichlorobenzene	20.10	146.0	22569	32.82	ug/L		98
54)	1,4-Dichlorobenzene	20.10	146.0	22569	35.12	ug/L		98

* Compound is ISTD

QC-OK
ME 3-1-95

TOTAL ION CHROMATOGRAM



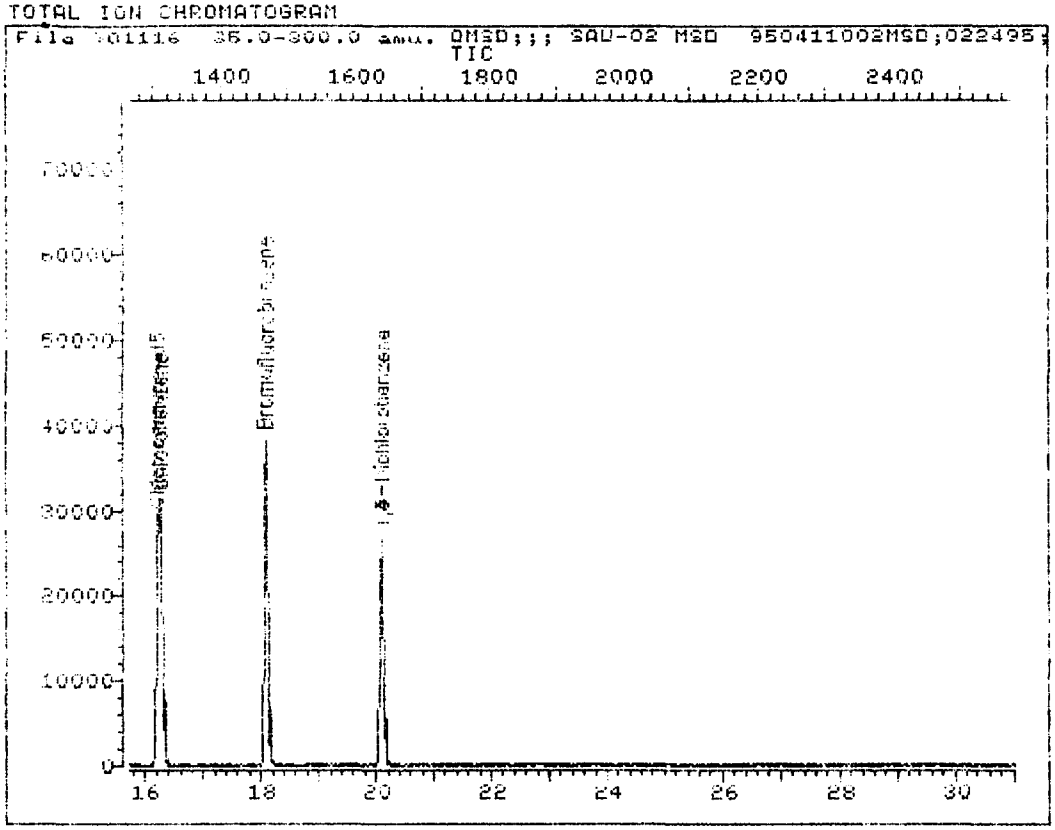
Data File: >01116::D3 Quant Output File: ^01116::QF
Name: OMSD;;; SAU 02 MSD
Misc: 950411002MSD;022495;022895;LLW; 10 ;;;QO1555;;;500UL

Id File: IDOVOW::QF
Title: VOLATILE ORGANICS-O WATER;TEATL; 12-21-88; 50M; .53mmid; 3um
Last Calibration: 950228 13:30

Operator ID: OMSD
Quant Time: 950228 20:58
Injected at: 950228 20:26

TIC page 1 of 2

TOTAL ION CHROMATOGRAM



Data File: >01116::D3 Quant Output File: ^01116::QF
Name: OMSD;;; SAU-02 MSD
Misc: 950411002MSD;022495;022895;LLW; 10 ;;;Q01555;;;500UL

Id File: TDOVOW::QF
Title: VOLATILE ORGANICS-O-WATER;TEATL; 12-21-88; 50M; .53mmid; 3um
Last Calibration: 950228 13:30

Operator ID: OMSD
Quant Time: 950228 20:58
Injected at: 950228 20:26

TIC page 2 of 2

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Method Blank Summary

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4A
VOLATILE METHOD BLANK SUMMARY

EPA SAMPLE NO.

METHODBLANK

Lab Name: IEA ILLINOIS Contract:

Lab code: IEA-IL Case No.: CH950411 SAS No.: SDG No.:

Lab File ID: >01104 Lab Sample ID: VBLK022895

Date Analyzed: 02/28/95 Time Analyzed: 13:10

GC Column: DB624 ID: 0.53 (mm) Heated Purge: (N)

Instrument ID: OMSD

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
1	SAU-01	950411001	>01113	18:36
2	SAU-02	950411002	>01114	19:12
3	SAU-02MS	950411002MS	>01115	19:48
4	SAU-02MD	950411002MD	>01116	20:26
5	ZHEBLANK	QZ0261	>01117	21:03
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COMMENTS: _____

page __ of __.

QUANT REPORT

Operator ID: OMSD Quant Rev: 6 Quant Time: 950228 13:42
Output File: ^O1104::QF Injected at: 950228 13:10
Data File: >O1104::D3 Dilution Factor: 1.00000
Name: OMSD;;;METHOD BLANK
Misc: VS022895 ; ;022895;LLW; 1 ;;;Q01555;;; 5ml

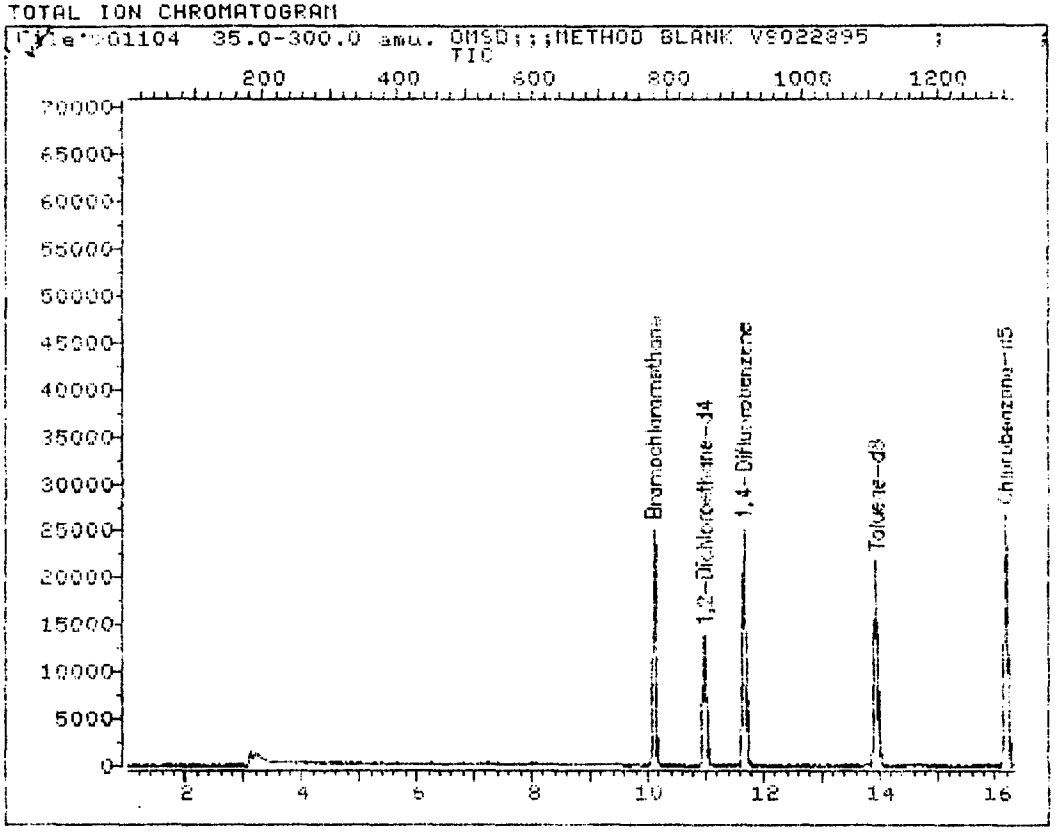
ID File: IDOVOW::QF
Title: VOLATILE ORGANICS-O-WATER;IEATL; 12-21-88; 50M; .53mmid; 3um
Last Calibration: 950228 13:30

	Compound	R.T.	Q ion	Area	Conc	Units	q
1)	*Bromochloromethane	10.10	128.0	12379	50.00	ug/L	94
23)	*1,4-Difluorobenzene	11.65	114.0	35757	50.00	ug/L	96
27)	X1,2-Dichloroethane-d4	10.98	65.0	22870	49.83	ug/L	95
36)	XToluene-d8	13.94	98.0	28813	48.87	ug/L	95
39)	*Chlorobenzene-d5	16.16	117.0	27570	50.00	ug/L	96
51)	XBromofluorobenzene	18.01	174.0	18723	46.26	ug/L	81

* Compound is ISTD

QC-OK -95
ME 3-1

TOTAL ION CHROMATOGRAM



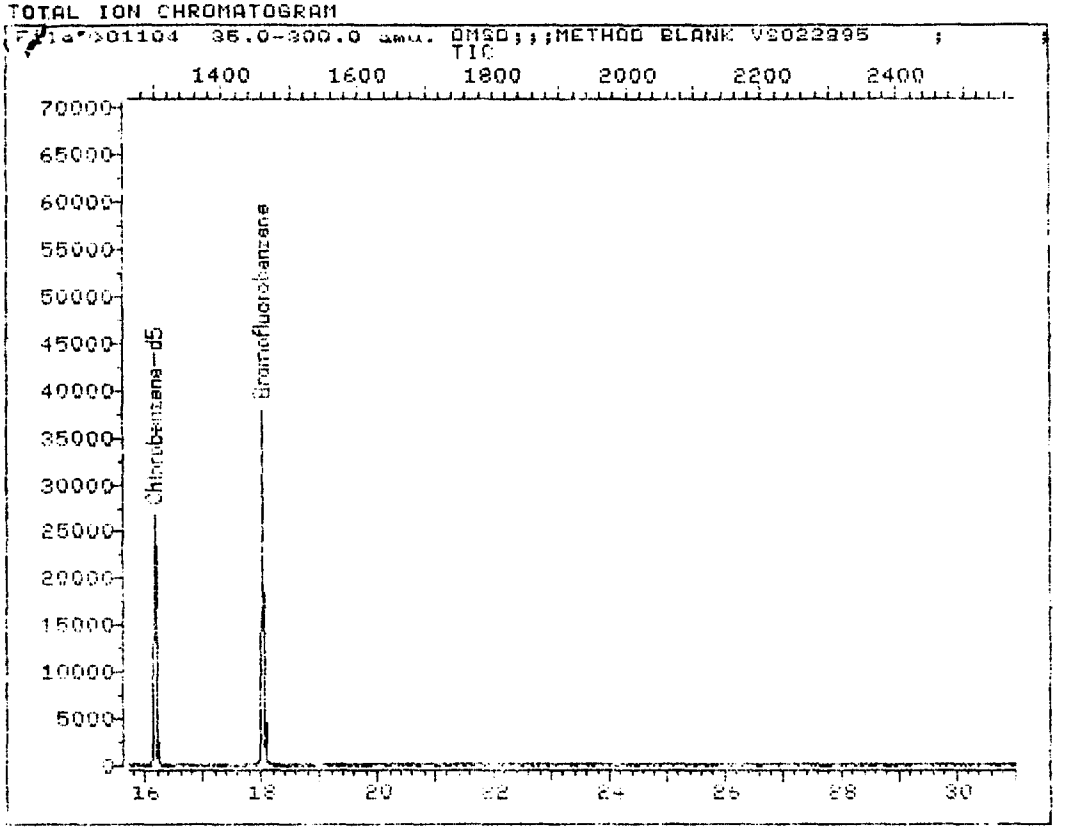
Data File: >01104::D3 Quant Output File: ^01104::QF
Name: OMSD;;;METHOD BLANK
Misc: VS022895 ; ;022895;LLW; 1 ;;;QO1555;;; 5ml

Id File: IDOVOW::QF
Title: VOLATILE ORGANICS-O-WATER;TEAIL; 12-21-88; 50M; .53mmid; 3um
Last Calibration: 950228 13:30

Operator ID: OMSD
Quant Time: 950228 13:42
Injected at: 950228 13:10

TIC page 1 of 2

TOTAL ION CHROMATOGRAM



Data File: >01104::D3 Quant Output File: ^01104::QF
Name: OMSD;;;METHOD BLANK
Misc: VS022895 ; ;022895;LLW; 1 ;;;Q01555;;; 5ml

Id File: TDOVOW::QF
Title: VOLATILE ORGANICS-O-WATER;TEATL; 12-21-88; 50M; .53mmid; 3um
Last Calibration: 950228 13:30

Operator ID: OMSD
Quant Time: 950228 13:42
Injected at: 950228 13:10

TIC page 2 of 2

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TCLP LEACHATE PESTICIDE
MATRIX SPIKE/ MATRIX SPIKE DUPLICATE
ug/L

IEA Job #: CH950411

Matrix Spike – EPA Sample#: SAU-01

COMPOUND	Spike Added	Sample Concentration	Matrix/Spike Concentration	Matrix/Spike % Recovery
gamma – BHC (Lindane)	2	0	2.2	108
Heptachlor	2	0	1.8	89
Heptachlor Epoxide	2	0	2.2	109
Methoxychlor	2	0	2.3	113
Endrin	2	0	2.1	106

COMPOUND	Spike Added	Matrix Spike Dup. Concentration	Matrix Spike Dup. %Recovery	% RPD
gamma – BHC (Lindane)	2	2	102	6
Heptachlor	2	1.5	77	15
Heptachlor Epoxide	2	2	100	9
Methoxychlor	2	2.1	107	5
Endrin	2	1.9	96	10

%REC: 0 OUT OF 10 OUTSIDE LIMITS

%RPD: 0 OUT OF 5 OUTSIDE LIMITS

3E

WATER PESTICIDE QC CHECK SAMPLE RECOVERY

Lab Name: IEA, INC - ILLINOIS Contract:

Lab code: IEAIL Case No.: CH950411 SAS No.: SDG No.:

Matrix Spike - EPA Sample No.: Blank Spike PW0228 Level:(low/med) LOW

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC #	QC LIMITS REC.
gamma-BHC (Lindane)	0.5	0	0.53	106	56-123
Heptachlor	0.5	0	0.4	79	40-131
Aldrin	0.5	0	0.36	72	40-120
Dieldrin	0.5	0	0.47	93	52-126
Endrin	0.5	0	0.5	100	56-121
4,4'-DDT	0.5	0	0.57	114	38-127

column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

Spike Recovery: 0 out of 6 outside limits

COMMENTS:

FORM III PEST-2

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Method Blank Summary

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PESTICIDE METHOD BLANK SUMMARY

Method Blank

Lab Name: IEA, INC - ILLINOIS Contract:

Lab code: IEAIL Case No.: SAS No.: SDG No.:

Lab Sample ID: PW0228 Lab File ID: >QB523

Matrix:(soil/water) water Extraction:(Sepf/Cont/Sonc) sepf

Sulfur Cleanup (Y/N) N Date Extracted: 02/28/95

Date Analyzed (1): 03/02/95 Date Analyzed (2):

Time Analyzed (1): 16:35 Time Analyzed (2):

Instrument ID (1): Q Instrument ID (2):

GC Column: DB-608 ID: 0.53 GC column: ID:

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

	EPA SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED 1	DATE ANALYZED 2
1	SAU-01	50411001	03/2/95	
2	SAU-02	50411002	03/2/95	
3	SAU-01 MS	50411001 MS	03/2/95	
4	SAU-01 MSD	50411001 MSD	03/2/95	
5	BLK Spike	PW0228-BS	03/2/95	
6				
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30				

COMMENTS:

FORM IV PEST

IEA
An Aquarion Company

Initial Calibration

printed on recycled paper

Calibration Report

Title: Pesticide Analysis,IEA-Illinois 3/4/91 Inst.O SPB-608 30m
Calibrated: 950214 11:07

Compound	Files: >QB442 RF .00500	>QB445 RF .0100	>QB447 RF .0200	>QB449 RF .0400	>QB450 RF .0800	$\overline{RF}$	% RSD	
Tetrachlorometaxylene	1610400	1787200	1975600	1654000	1977050	1800850	9.602	
alpha-BHC	1519000	1700800	1914600	1766300	2376288	1859238	17.468	
gama-BHC	1576400	1732400	1950850	1782550	2376663	1883773	16.256	
beta-BHC	1194400	1290800	1306550	1274400	1197000	1252630	4.248	
delta-BHC	1410400	1540400	1628750	1750100	1909875	1647905	11.649	
Heptachlor	2179800	2394400	2475000	2054800	2544137	2329627	8.832	
Aldrin	2978400	2239600	2258950	2229475	2176913	2376667	14.211	
Heptachlor epoxide	2229400	2293380	2319000	2256075	2127837	2245123	3.296	
gamma-Chlordane	2523800	2594400	2570800	2471600	2313175	2494595	4.483	
alpha-Clordane	2379400	2376300	2471200	2417100	2278563	2384512	2.958	
Endosulfan I	2172000	2376380	2494150	2119875	2617538	2355973	8.942	
4,4-DDE	1463100	1664600	1696275	1803887	1857881	1697149	8.988	(Conc=.0100,.0200,.0400,.0800,.160)
Dieldrin	1765600	1970800	2160900	1912850	2575063	2076882	15.044	(Conc=.0100,.0200,.0400,.0800,.160)
Endrin	1497680	1705750	1862100	1594287	2120400	1756028	13.934	(Conc=.0100,.0200,.0400,.0800,.160)
4,4-DDD	1105200	1232150	1383500	1281613	1787875	1358068	19.167	(Conc=.0100,.0200,.0400,.0800,.160)
Endosulfan II	2043200	2208950	2239675	2176487	2037912	2141245	4.419	(Conc=.0100,.0200,.0400,.0800,.160)
4,4-DDT	1004900	1185350	1405100	1226938	1556431	1275744	16.602	(Conc=.0100,.0200,.0400,.0800,.160)
Endrin Aldehyde	1741200	1852200	1716700	1719887	1573394	1720677	5.770	(Conc=.0100,.0200,.0400,.0800,.160)
Endosulfan Sulfate	1874200	2002600	1993175	1953600	1805850	1925885	4.364	(Conc=.0100,.0200,.0400,.0800,.160)
Methoxychlor	742240.	911640.	969520.	779652.	895230.	859657.	11.070	(Conc=.0500,.100,.200,.400,.800)
Endrin Ketone	1785900	2072350	2163200	2219137	2120725	2072263	8.154	(Conc=.0100,.0200,.0400,.0800,.160)
Decachlorobiphenyl	3327200	3572350	3573775	2804163	2985337	3252565	10.689	(Conc=.0100,.0200,.0400,.0800,.160)

RF - Response Factor (Subscript is amount in ngs)

$\overline{RF}$ - Average Response Factor

%RSD - Percent Relative Standard Deviation

QUANT REPORT

Operator ID: GC Quant Rev: 7 Quant Time: 950214 15:10
Output File: ^QB433::Q2 Injected at: 950213 12:00
Data File: >QB433::D3 Dilution Factor: 1.00000
Name: PB;;;P.E.M. Instrument ID: QB
Misc: WS0850G ; ;020995; ;1 ; ;;QQ0322; ;

ID File: TDQ608::QT
Title: Pesticide Analysis,TEA-Illinois 3/4/91 Inst.Q SPB-608 30m
Last Calibration: 950214 11:14 Last Qcal Time: <none>

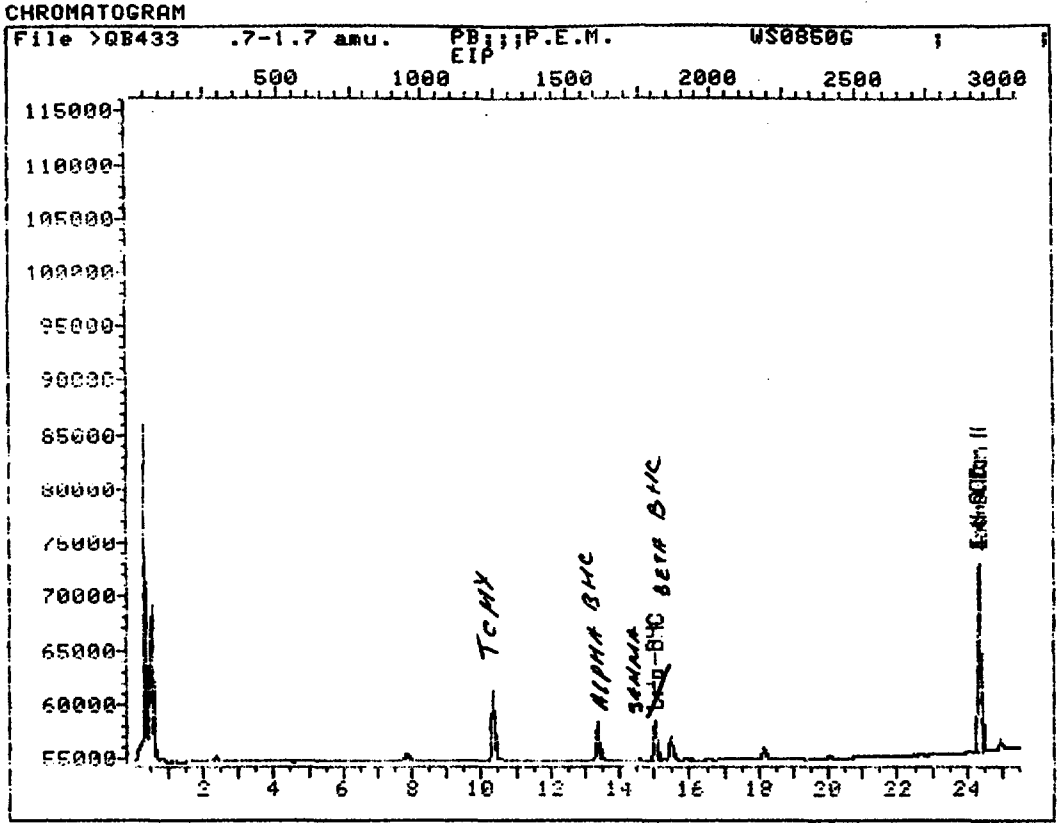
	Compound	R.T.	Scan#	Area	Conc	Units		q R1
1)	#Tetrachlorometaxylene	10.30	1236	40916	.0227	ngs	114%	100
2)	#alpha-BHC	13.33	1599	20268	.0109	ngs	109%	100
3)	#gama-BHC	15.01	1801	20736	.0110	ngs	110%	100.
4)	#beta-BHC	15.42	1851	13008	.0104	ngs	104%	100.
7)	#Aldrin	18.13	2176	6463	.00272	ngs		100
14)	#Endrin	24.33	2920	97200	.0554	ngs	111%	100
15)	#4,4-DDD	24.90	2988	7628	.00562	ngs		100
16)	#Endosulfan II	24.90	2988	7628	.00356	ngs		100
17)	#4,4-DDT	26.08	3130	157207	.123	ngs	125%	100
18)	#Endrin Aldehyde	26.08	3130	157207	.0914	ngs		100
20)	#Methoxychlor	29.43	3532	243244	.283	ngs	113%	100
22)	#Decachlorobiphenyl	37.45	4494	71991	.0221	ngs	110%	100

Compound uses ESTD

DDT BD = 5.6%
END BD < 1%

2/16/95

CHROMATOGRAM



Data File: >QB433::D3 Quant Output File: ^QB433::Q2
Name: PB;;;P.E.M. Instrument ID: QB
Misc: WS0850G ; ;020995; ;1 ; ;;QQ0322; ;

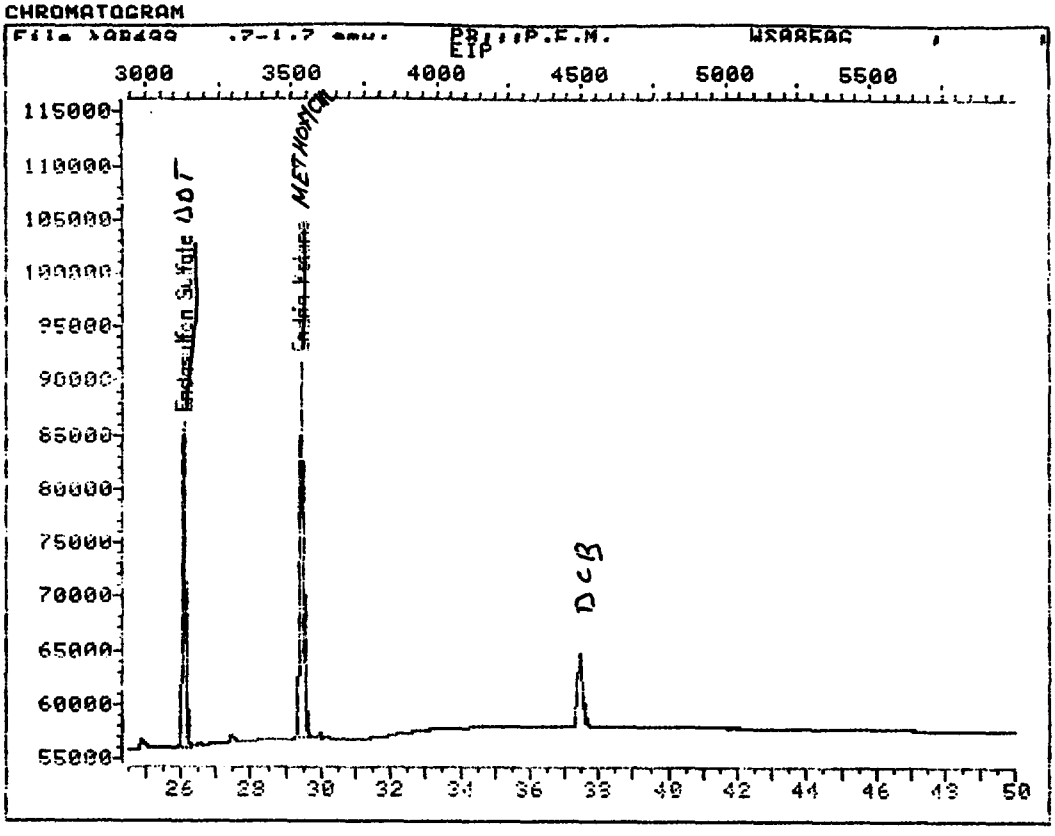
Id File: IDQ608::QT
Title: Pesticide Analysis,IEA-Illinois 3/4/91 Inst.Q SPB-608 30m
Last Calibration: 950131 12:15 Last Qcal Time: <none>

Operator ID: GC
Quant Time : 950213 12:52
Injected at: 950213 12:00

Page 1 of 2

2/16/95

CHROMATOGRAM



Data File: >QB433::D3 Quant Output File: ^QB433::Q2
Name: PB;;;P.E.M. Instrument ID: QB
Misc: WS0850G ; ;020995; ;1 ; ;;QQ0322; ;

Id File: TDQ608::QT
Title: Pesticide Analysis,IEA-Illinois 3/4/91 Inst.Q SPB-608 30m
Last Calibration: 950131 12:15 Last Qcal Time: <none>

Operator ID: GC
Quant Time : 950213 12:52
Injected at: 950213 12:00

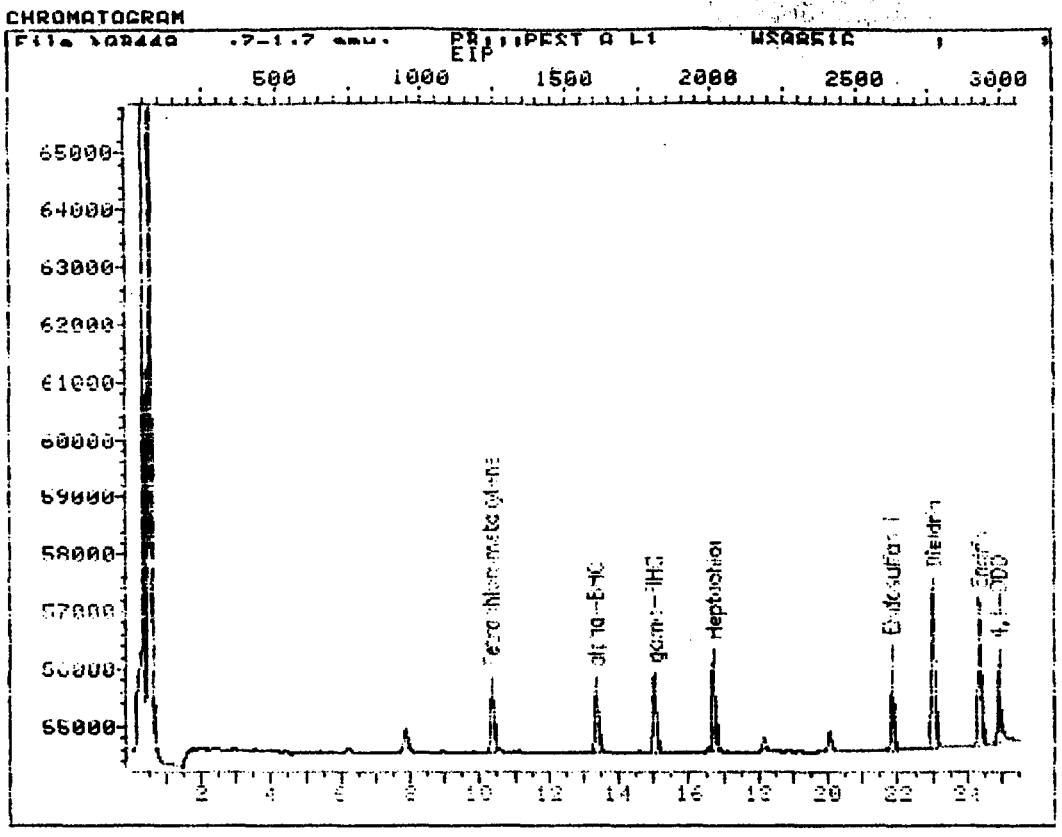
2/16/95

Operator ID: GC Quant Rev: 7 Quant Time: 950214 10:19
Output File: ^QB442::Q2 Injected at: 950213 20:24
Data File: >QB442::D3 Dilution Factor: 1.00000
Name: PB;;;PEST A L1 Instrument ID: QB
Misc: WS0851G ; ;020995; ;1 ; ;;QQ0322; ;

ID File: IDQ608::QT
Title: Pesticide Analysis,IEA-Illinois 3/4/91 Inst.Q SPB-608 30m
Last Calibration: 950131 12:15 Last Qcal Time: <none>

	Compound	R.T.	Scan#	Area	Conc	Units	q
1)	#Tetrachlorometaxylene	10.30	1236	8052	.00526	ngs	100
2)	#alpha-BHC	13.32	1598	7595	.00393	ngs	100
3)	#gama-BHC	15.00	1800	7882M	.00392	ngs	
6)	#Heptachlor	16.70	2004	10899	.00475	ngs	100
11)	#Endosulfan 1	21.80	2616	10860	.00451	ngs	100
13)	#Dieldrin	23.00	2760	17656	.00776	ngs	100
14)	#Endrin	24.33	2919	14976	.00760	ngs	100
15)	#4,4-DDD	24.88	2985	11052	.00712	ngs	100
17)	#4,4-DDT	26.08	3129	10049M	.00762	ngs	100
20)	#Methoxychlor	29.42	3531	37112	.0399	ngs	100
22)	#Decachlorobiphenyl	37.43	4492	33272	.0110	ngs	100

Compound uses ESTD

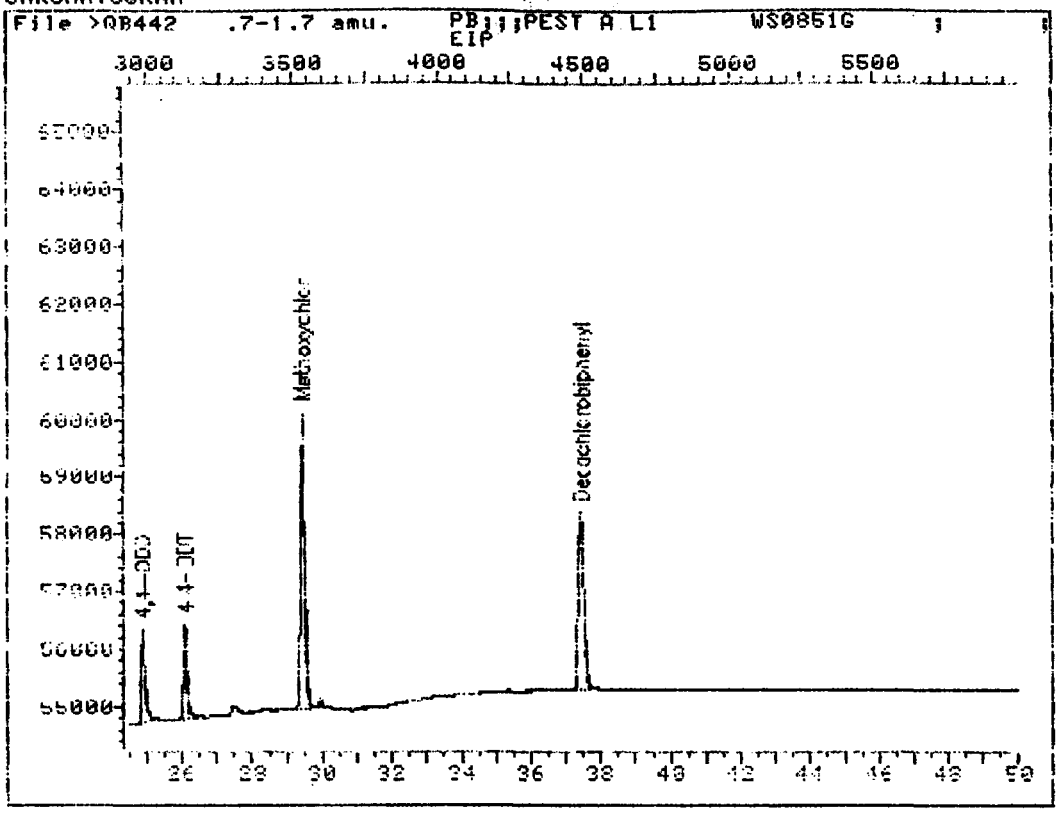


Data File: >QB442::D3 Quant Output File: ^QB442::Q2
Name: PB;;;PEST A L1 Instrument ID: QB
Misc: WS0851G ; ;020995; ;1 ; ;;QQ0322; ;

Id File: IDQ608::QT
Title: Pesticide Analysis,IEA-Illinois 3/4/91 Inst.Q SPB-608 30m
Last Calibration: 950131 12:15 Last Qcal Time: <none>

Operator ID: GC
Quant Time : 950214 10:19
Injected at: 950213 20:24

CHROMATOGRAM



Data File: >QB442::D3 Quant Output File: ^QB442::Q2
Name: PB;;;PEST A L1 Instrument ID: QB
Misc: WS0851G ; ;020995; ;1 ; ;;QQ0322; ;

Id File: TDQ608::QT
Title: Pesticide Analysis,IEA-Illinois 3/4/91 Inst.Q SPB-608 30m
Last Calibration: 950131 12:15 Last Qcal Time: <none>

Operator ID: GC
Quant Time : 950214 10:19
Injected at: 950213 20:24

QUANT REPORT

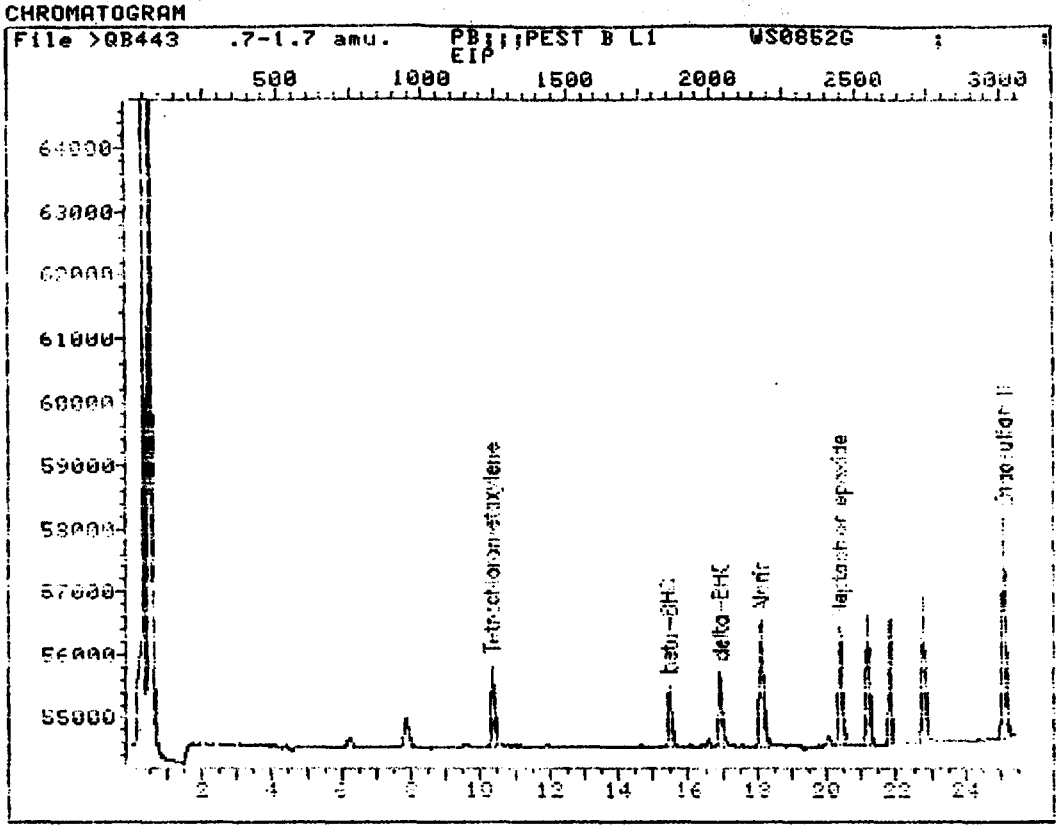
Operator ID: GC Quant Rev: 7 Quant Time: 950214 10:18
Output File: ^QB443::Q2 Injected at: 950213 21:19
Data File: >QB443::D3 Dilution Factor: 1.00000
Name: PB;;;PEST B L1 Instrument ID: QB
Misc: WS0852G ; ;020995; ;1 ; ;;QQ0322; ;

ID File: IDQ608::QT
Title: Pesticide Analysis,IEA-Illinois 3/4/91 Inst.Q SPB-608 30m
Last Calibration: 950131 12:15 Last Qcal Time: <none>

	Compound	R.T.	Scan#	Area	Conc	Units	q
1)	#Tetrachlorometaxylene	10.30	1236	8008	.00523	ngs	100
4)	#beta-BHC	15.42	1850	5972	.00477	ngs	100
5)	#delta-BHC	16.91	2029	7052	.00412	ngs	100
7)	#Aldrin	18.09	2171	14892	.00693	ngs	100
8)	#Heptachlor epoxide	20.35	2442	11147	.00499	ngs	100
9)	#gamma-Chlordane	21.15	2538	12615	.00531	ngs	100
10)	#alpha-Clordane	21.77	2612	11897	.00504	ngs	100
12)	#4,4-DDE	22.72	2726	14631	.00826	ngs	100
16)	#Endosulfan II	25.07	3008	20432	.00919	ngs	100
18)	#Endrin Aldehyde	26.23	3148	17412	.00990	ngs	100
19)	#Endosulfan Sulfate	26.88	3225	18742	.00919	ngs	100
21)	#Endrin Ketone	29.93	3592	17859	.00807	ngs	100
22)	#Decachlorobiphenyl	37.43	4492	34980	.0116	ngs	100

Compound uses ESTD

CHROMATOGRAM

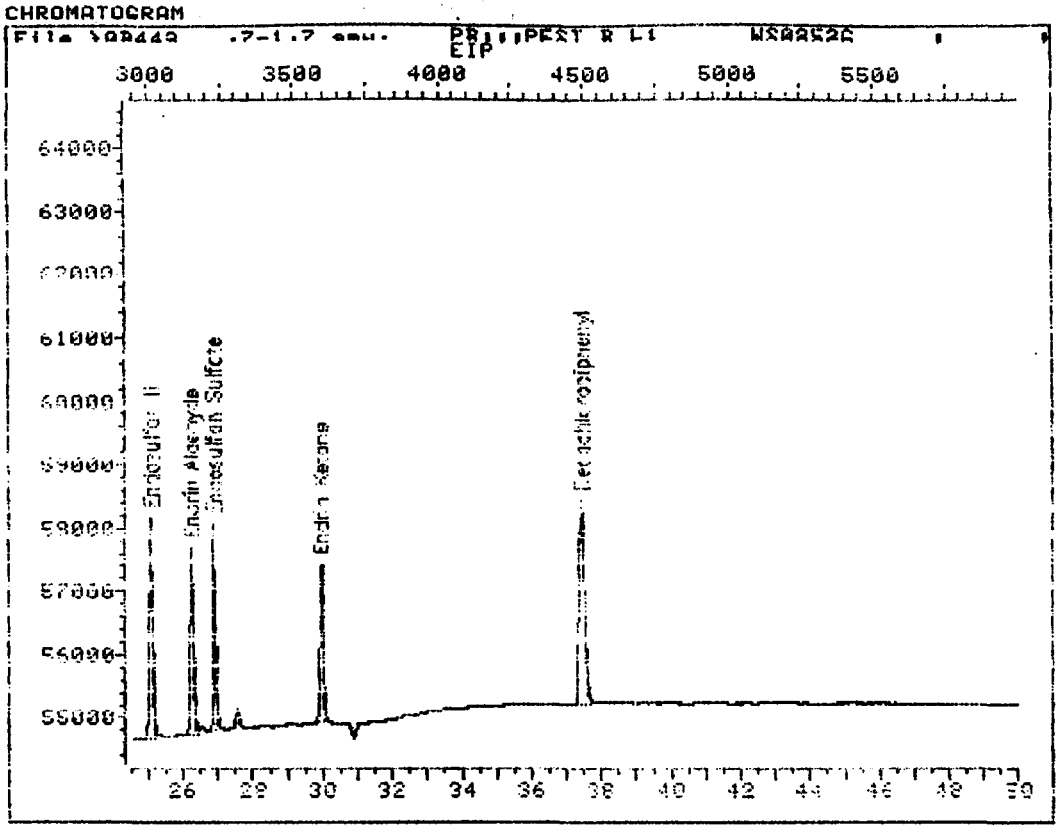


Data File: >QB443::D3 Quant Output File: ^QB443::Q2
Name: PB;;;PEST B L1 Instrument ID: QB
Misc: WS0852G ; ;020995; ;1 ; ;;QQ0322; ;

Id File: IDQ608::QT
Title: Pesticide Analysis,IEA-Illinois 3/4/91 Inst.Q SPB-608 30m
Last Calibration: 950131 12:15 Last Qcal Time: <none>

Operator ID: GC
Quant Time : 950214 10:18
Injected at: 950213 21:19

CHROMATOGRAM



Data File: >QB443::D3 Quant Output File: ^QB443::Q2
Name: PB;;;PEST B L1 Instrument ID: QB
Misc: WS0852G ; ;020995; ;1 ; ;;QQ0322; ;

Id File: TDQ608::QT
Title: Pesticide Analysis,IEA-Illinois 3/4/91 Inst.Q SPB-608 30m
Last Calibration: 950131 12:15 Last Qcal Time: <none>

Operator ID: GC
Quant Time : 950214 10:18
Injected at: 950213 21:19

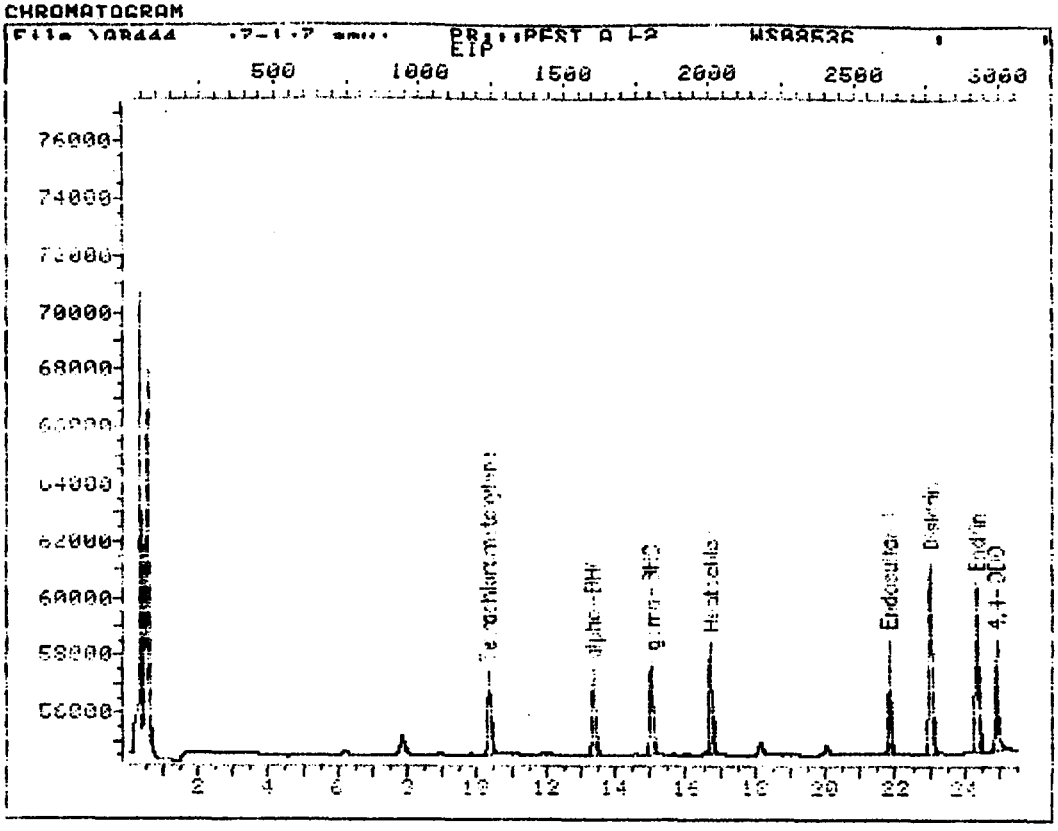
Operator ID: GC Quant Rev: 7 Quant Time: 950214 10:17
Output File: ^QB444::Q2 Injected at: 950213 22:15
Data File: >QB444::D3 Dilution Factor: 1.00000
Name: PB;;;PEST A L2 Instrument ID: QB
Misc: WS0853G ; ;020995; ;1 ; ;;QQ0322; ;

ID File: IDQ608::QT
Title: Pesticide Analysis,IEA-Illinois 3/4/91 Inst.Q SPB-608 30m
Last Calibration: 950131 12:15 Last Qcal Time: <none>

	Compound	R.T.	Scan#	Area	Conc	Units	q
1)	#Tetrachlorometaxylene	10.30	1236	17872	.0117	ngs	100
2)	#alpha-BHC	13.32	1598	17000	.00880	ngs	100
3)	#gama-BHC	15.01	1801	17324M	.00861	ngs	
6)	#Heptachlor	16.71	2005	23944	.0104	ngs	100
10)	#alpha-Clordane	21.81	2617	23763	.0101	ngs	100
11)	#Endosulfan I	21.81	2617	23763	.00986	ngs	100
13)	#Dieldrin	23.00	2760	39400	.0173	ngs	100
14)	#Endrin	24.33	2919	34115	.0173	ngs	100
15)	#4,4-DDD	24.88	2985	24643	.0159	ngs	100
17)	#4,4-DDT	26.08	3129	23707	.0180	ngs	100
20)	#Methoxychlor	29.42	3531	91164	.0980	ngs	100
22)	#Decachlorobiphenyl	37.43	4492	71447	.0236	ngs	100

Compound uses ESTD

CHROMATOGRAM

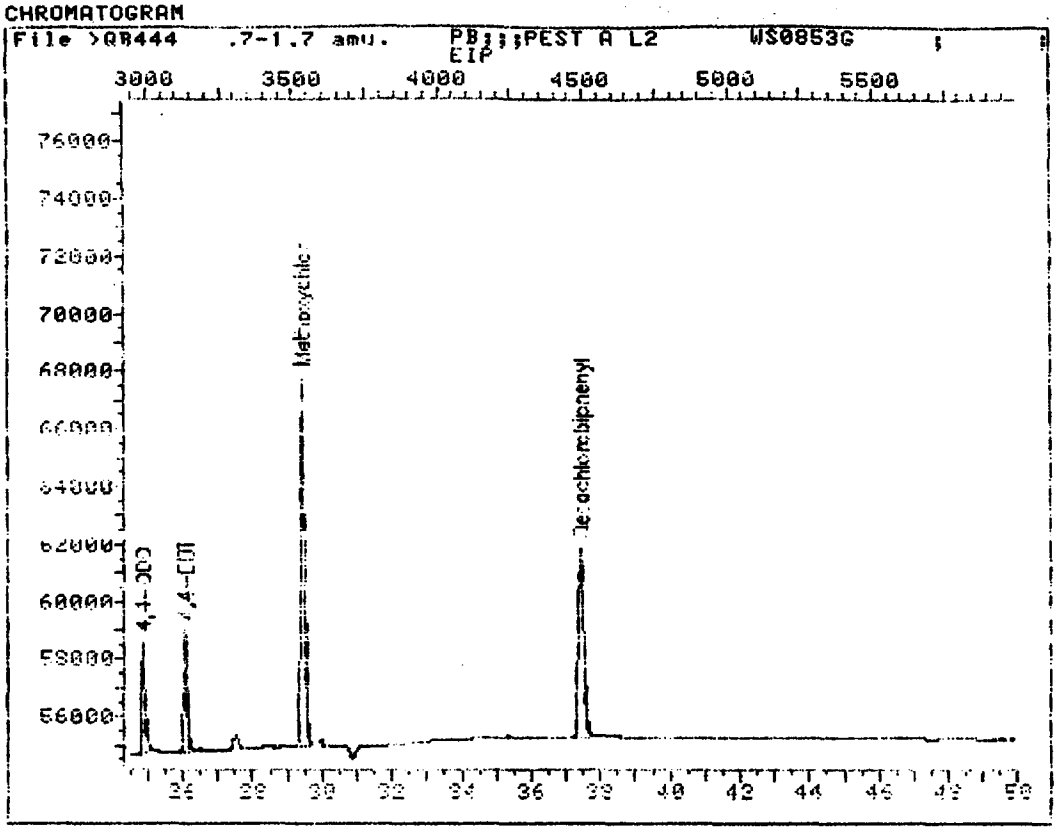


Data File: >QB444::D3 Quant Output File: ^QB444::Q2
Name: PB;;;PEST A L2 Instrument ID: QB
Misc: WS0853G ; ;020995; ;1 ; ;;QQ0322; ;

Id File: IDQ608::QT
Title: Pesticide Analysis,IEA-Illinois 3/4/91 Inst.Q SPB-608 30m
Last Calibration: 950131 12:15 Last Qcal Time: <none>

Operator ID: GC
Quant Time : 950214 10:17
Injected at: 950213 22:15

CHROMATOGRAM



Data File: >QB444::D3 Quant Output File: ^QB444::Q2
Name: PB;;;PEST A L2 Instrument ID: QB
Misc: WS0853G ; ;020995; ;1 ; ;;QQ0322; ;

Id File: IDQ608::QT
Title: Pesticide Analysis,IEA-Illinois 3/4/91 Inst.Q SPB-608 30m
Last Calibration: 950131 12:15 Last Qcal Time: <none>

Operator ID: GC
Quant Time : 950214 10:17
Injected at: 950213 22:15

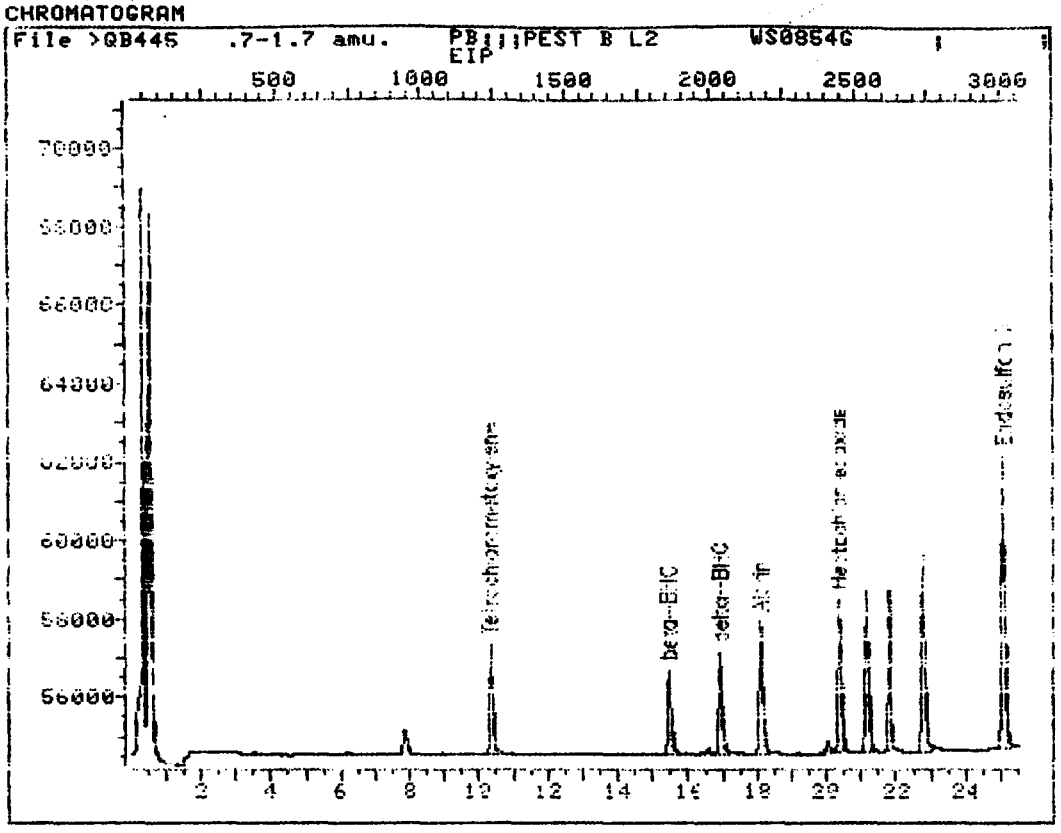
Operator ID: GC Quant Rev: 7 Quant Time: 950214 10:16
Output File: ^QB445::Q2 Injected at: 950213 23:10
Data File: >QB445::D3 Dilution Factor: 1.00000
Name: PB;;;PEST B L2 Instrument ID: QB
Misc: WS0854G ; ;020995; ;1 ; ;;QQ0322; ;

ID File: IDQ608::QT
Title: Pesticide Analysis,IEA-Illinois 3/4/91 Inst.Q SPB-608 30m
Last Calibration: 950131 12:15 Last Qcal Time: <none>

	Compound	R.T.	Scan#	Area	Conc	Units	q
1)	#Tetrachlorometaxylene	10.30	1236	17380	.0114	ngs	100
4)	#beta-BHC	15.42	1850	12908	.0103	ngs	100
5)	#delta-BHC	16.91	2029	15404	.00900	ngs	100
7)	#Aldrin	18.08	2169	22396	.0104	ngs	100
8)	#Heptachlor epoxide	20.35	2442	22933	.0103	ngs	100
9)	#gamma-Chlordane	21.15	2538	25944	.0109	ngs	100
10)	#alpha-Clordane	21.77	2612	24177	.0102	ngs	100
12)	#4,4-DDE	22.72	2726	33292	.0188	ngs	100
16)	#Endosulfan II	25.06	3007	44179	.0199	ngs	100
18)	#Endrin Aldehyde	26.23	3148	37044	.0211	ngs	100
19)	#Endosulfan Sulfate	26.88	3225	40052	.0196	ngs	100
21)	#Endrin Ketone	29.92	3591	41447	.0187	ngs	100
22)	#Decachlorobiphenyl	37.43	4492	71724	.0237	ngs	100

Compound uses ESTD

CHROMATOGRAM

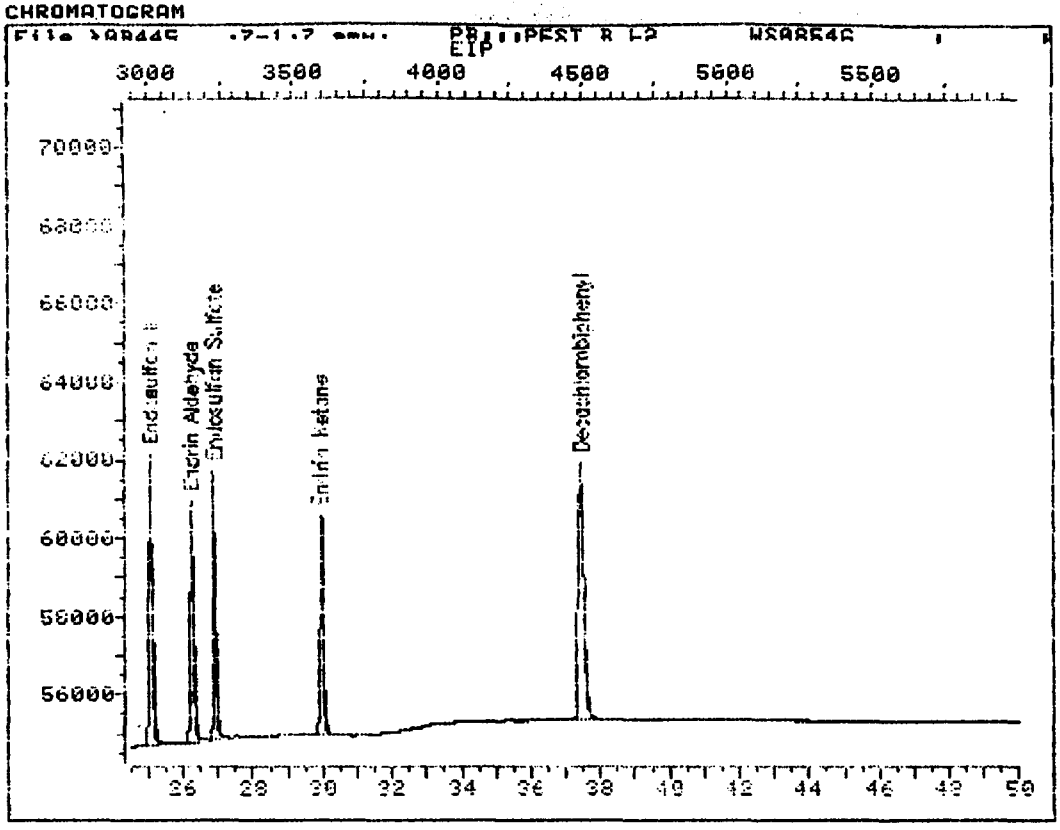


Data File: >QB445::D3 Quant Output File: ^QB445::Q2
Name: PB;;;PEST B L2 Instrument ID: QB
Misc: WS0854G ; ;020995; ;1 ; ;;QQ0322; ;

Id File: IDQ608::QT
Title: Pesticide Analysis,IEA-Illinois 3/4/91 Inst.Q SPB-608 30m
Last Calibration: 950131 12:15 Last Qcal Time: <none>

Operator ID: GC
Quant Time : 950214 10:16
Injected at: 950213 23:10

CHROMATOGRAM



Data File: >QB445::D3 Quant Output File: ^QB445::Q2
Name: PB;;;PEST B L2 Instrument ID: QB
Misc: WS0854G ; ;020995; ;1 ; ;;QQ0322; ;

Id File: IDQ608::QT
Title: Pesticide Analysis,IEA-Illinois 3/4/91 Inst.Q SPB-608 30m
Last Calibration: 950131 12:15 Last Qcal Time: <none>

Operator ID: GC
Quant Time : 950214 10:16
Injected at: 950213 23:10

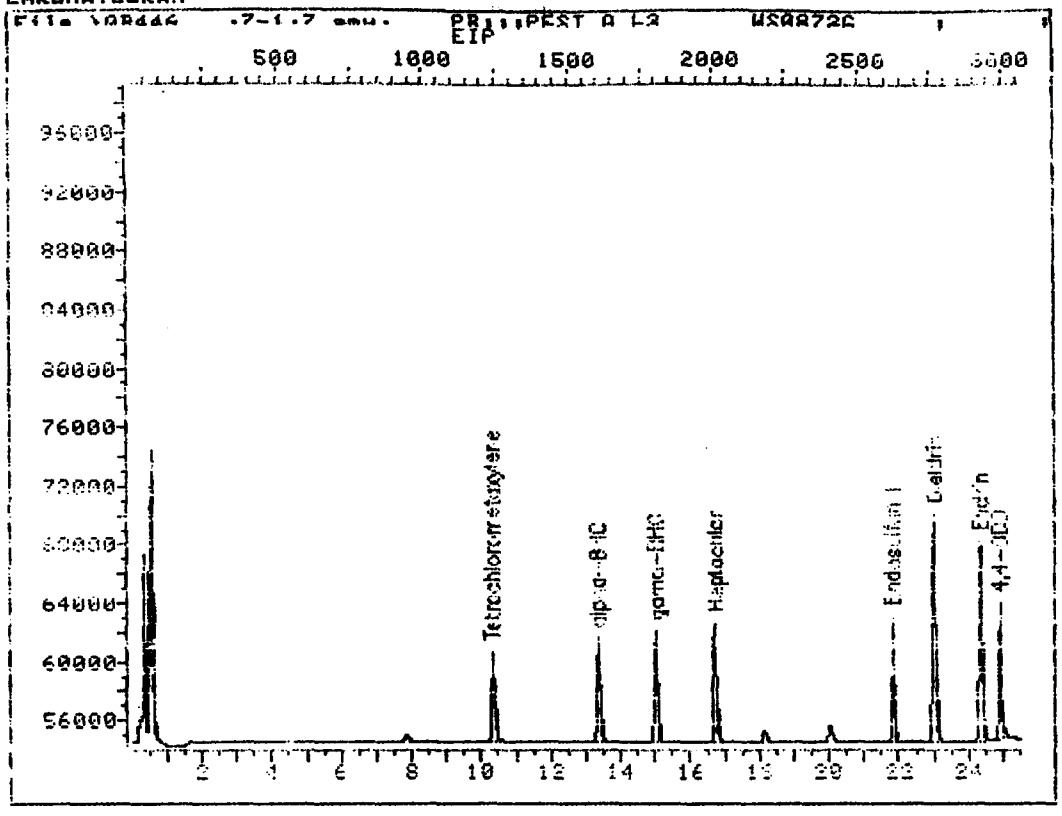
Operator ID: GC Quant Rev: 7 Quant Time: 950214 10:16
Output File: ^QB446::Q2 Injected at: 950214 00:06
Data File: >QB446::D3 Dilution Factor: 1.00000
Name: PB;;;PEST A L3 Instrument ID: QB
Misc: WS0872G ; ;020995; ;1 ; ;;QQ0322; ;

ID File: IDQ608::QT
Title: Pesticide Analysis,IEA-Illinois 3/4/91 Inst.Q SPB-608 30m
Last Calibration: 950131 12:15 Last Qcal Time: <none>

	Compound	R.T.	Scan#	Area	Conc	Units	q
1)	#Tetrachlorometaxylene	10.30	1236	39512	.0258	ngs	100
2)	#alpha-BHC	13.32	1598	38292	.0198	ngs	100
3)	#gama-BHC	15.01	1801	39017M	.0194	ngs	
6)	#Heptachlor	16.71	2005	49500	.0216	ngs	100
11)	#Endosulfan I	21.81	2617	49883	.0207	ngs	100
13)	#Dieldrin	23.00	2760	86436	.0380	ngs	100
14)	#Endrin	24.33	2919	74484	.0378	ngs	100
15)	#4,4-DDD	24.88	2985	55340	.0356	ngs	100
17)	#4,4-DDT	26.08	3129	56204	.0426	ngs	100
20)	#Methoxychlor	29.42	3531	193904	.209	ngs	100
22)	#Decachlorobiphenyl	37.43	4492	142951	.0473	ngs	100

Compound uses ESTD

CHROMATOGRAM

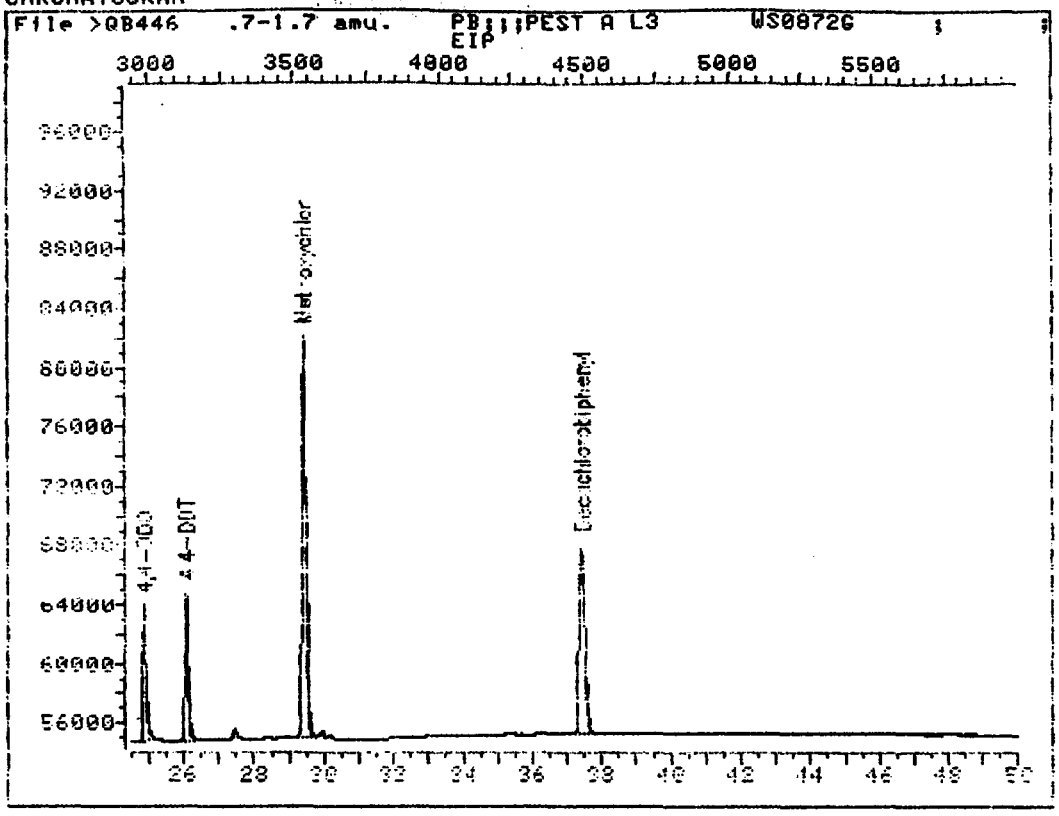


Data File: >QB446::D3 Quant Output File: ^QB446::Q2
Name: PB;;;PEST A L3 Instrument ID: QB
Misc: WS0872G ; ;020995; ;1 ; ;;QQ0322; ;

Id File: IDQ608::QT
Title: Pesticide Analysis,IEA-Illinois 3/4/91 Inst.Q SPB-608 30m
Last Calibration: 950131 12:15 Last Qcal Time: <none>

Operator ID: GC
Quant Time : 950214 10:16
Injected at: 950214 00:06

CHROMATOGRAM



Data File: >QB446::D3 Quant Output File: ^QB446::Q2
Name: PB;;;PEST A L3 Instrument ID: QB
Misc: WS0872G ; ;020995; ;1 ; ;;QQ0322; ;

Id File: IDQ608::QT
Title: Pesticide Analysis,IEA-Illinois 3/4/91 Inst.Q SPB-608 30m
Last Calibration: 950131 12:15 Last Qcal Time: <none>

Operator ID: GC
Quant Time : 950214 10:16
Injected at: 950214 00:06

QUANT REPORT

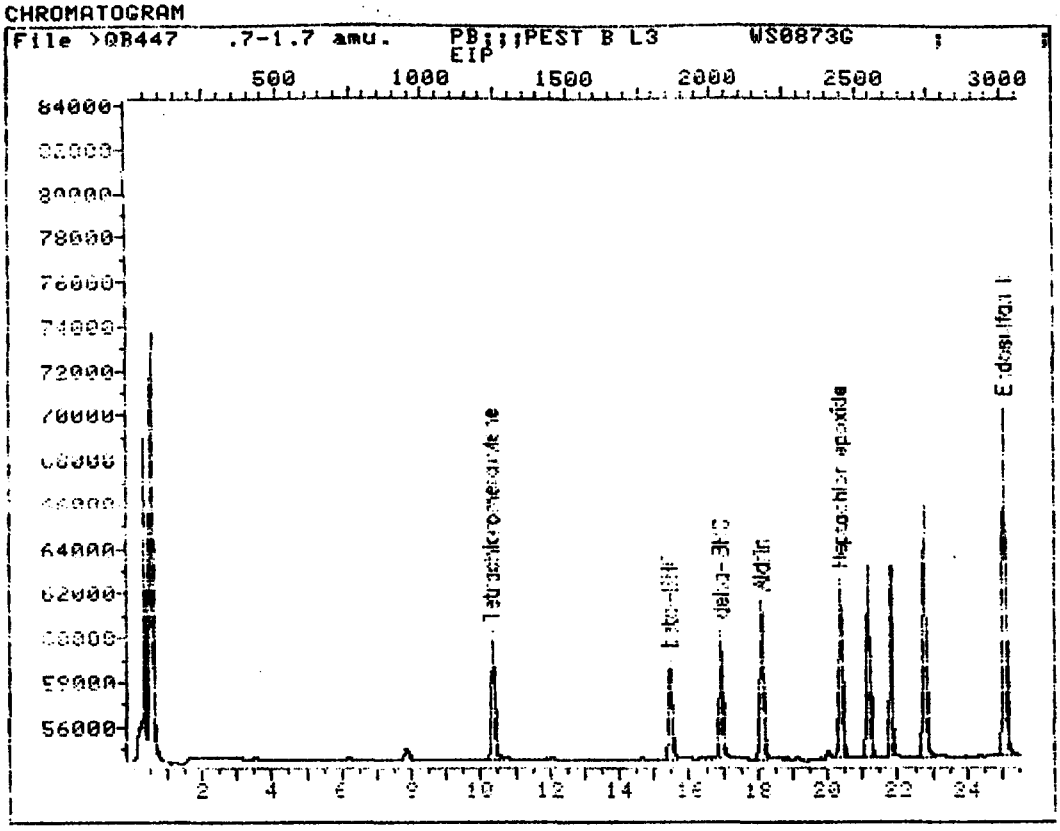
Operator ID: GC Quant Rev: 7 Quant Time: 950214 10:15
Output File: ^QB447::Q2 Injected at: 950214 01:02
Data File: >QB447::D3 Dilution Factor: 1.00000
Name: PB;;;PEST B L3 Instrument ID: QB
Misc: WS0873G ; ;020995; ;1 ; ;;QQ0322; ;

ID File: IDQ608::QT
Title: Pesticide Analysis,TEA-Illinois 3/4/91 Inst.Q SPB-608 30m
Last Calibration: 950131 12:15 Last Qcal Time: <none>

	Compound	R.T.	Scan#	Area	Conc	Units	q
1)	#Tetrachlorometaxylene	10.30	1236	36800	.0241	ngs	100
4)	#beta-BHC	15.42	1850	26131	.0209	ngs	100
5)	#delta-BHC	16.90	2028	32575	.0190	ngs	100
7)	#Aldrin	18.08	2169	45179	.0210	ngs	100
8)	#Heptachlor epoxide	20.34	2441	46380	.0207	ngs	100
9)	#gamma-Chlordane	21.15	2538	51416	.0217	ngs	100
10)	#alpha-Clordane	21.77	2612	49424	.0209	ngs	100
12)	#4,4-DDE	22.72	2726	67851	.0383	ngs	100
16)	#Endosulfan II	25.06	3007	89587	.0403	ngs	100
18)	#Endrin Aldehyde	26.22	3147	68668	.0390	ngs	100
19)	#Endosulfan Sulfate	26.87	3224	79727	.0391	ngs	100
21)	#Endrin Ketone	29.92	3591	86528	.0391	ngs	100
22)	#Decachlorobiphenyl	37.43	4491	135923	.0450	ngs	100

Compound uses ESTD

CHROMATOGRAM

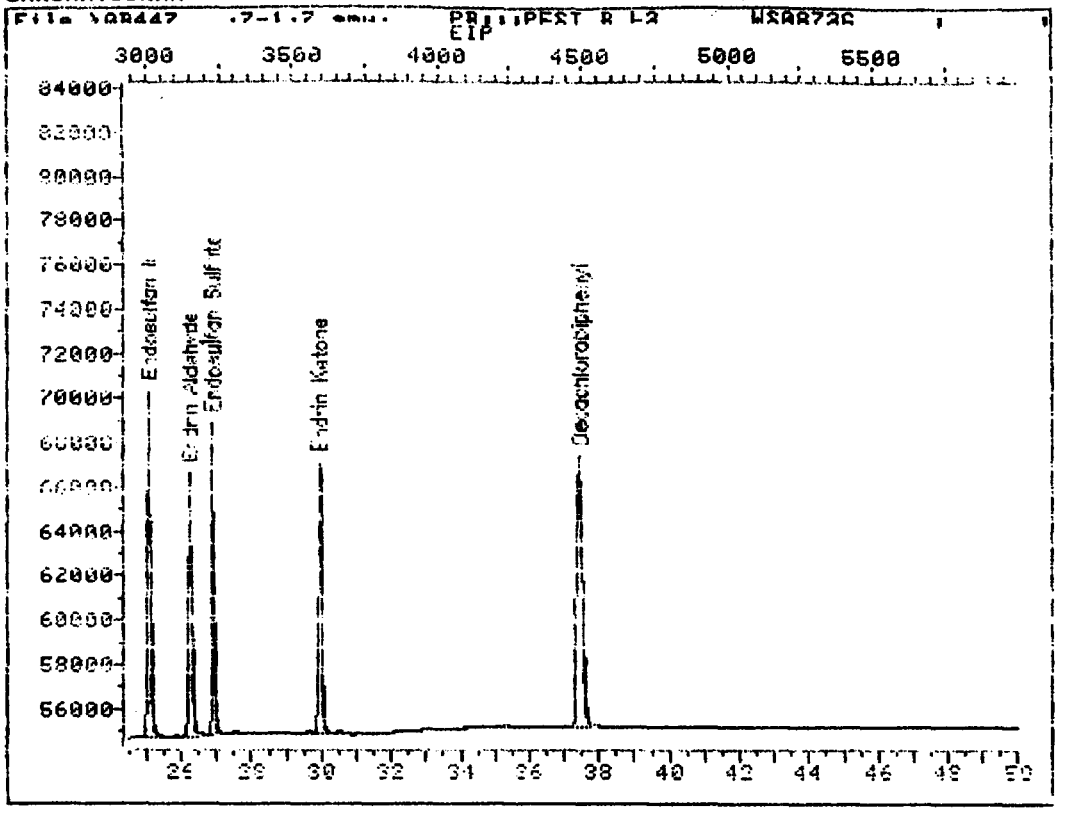


Data File: >QB447::D3 Quant Output File: ^QB447::Q2
Name: PB;;;PEST B L3 Instrument ID: QB
Misc: WS0873G ; ;020995; ;1 ; ;;QQ0322; ;

Id File: IDQ608::QT
Title: Pesticide Analysis,IEA-Illinois 3/4/91 Inst.Q SPB-608 30m
Last Calibration: 950131 12:15 Last Qcal Time: <none>

Operator ID: GC
Quant Time : 950214 10:15
Injected at: 950214 01:02

CHROMATOGRAM



Data File: >QB447::D3 Quant Output File: ^QB447::Q2
Name: PB;;;PEST B L3 Instrument ID: QB
Misc: WS0873G ; ;020995; ;1 ; ;;QQ0322; ;

Id File: IDQ608::QT
Title: Pesticide Analysis,IEA-Illinois 3/4/91 Inst.Q SPB-608 30m
Last Calibration: 950131 12:15 Last Qcal Time: <none>

Operator ID: GC
Quant Time : 950214 10:15
Injected at: 950214 01:02

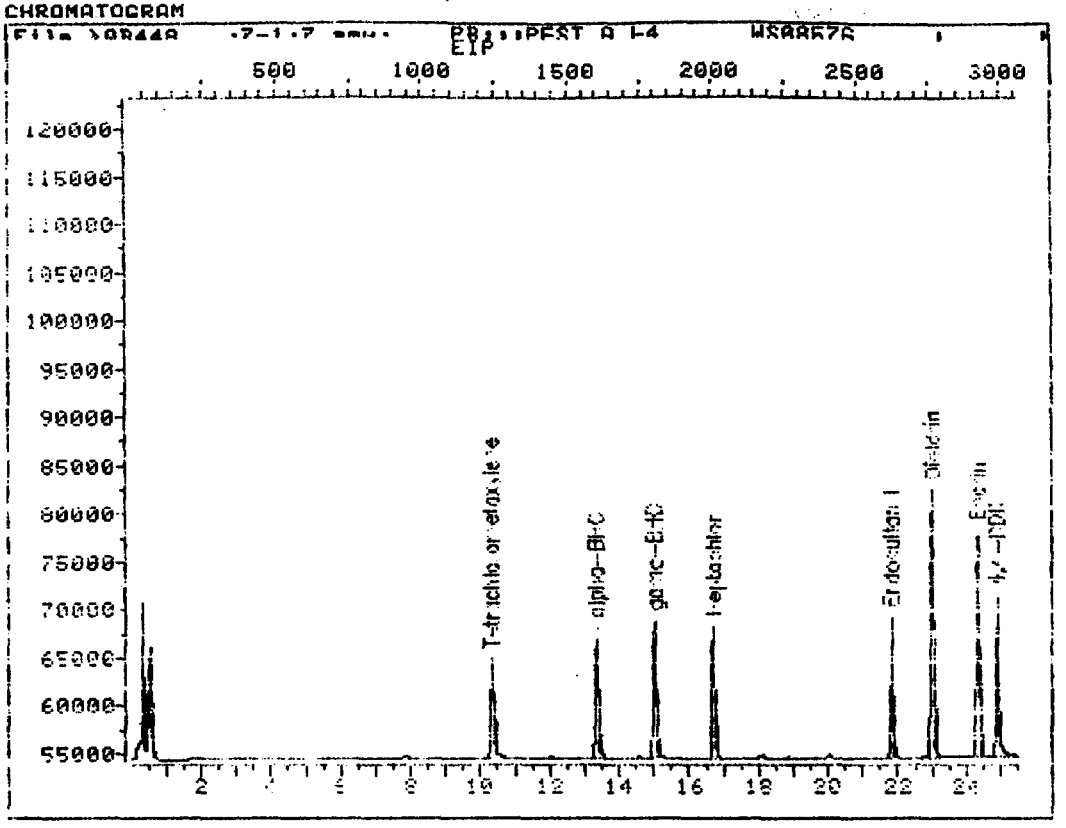
Operator ID: GC Quant Rev: 7 Quant Time: 950214 10:14
Output File: ^QB448::Q2 Injected at: 950214 01:58
Data File: >QB448::D3 Dilution Factor: 1.00000
Name: PB;;;PEST A L4 Instrument ID: QB
Misc: WS0857G ; ;020995; ;1 ; ;;QQ0322; ;

ID File: IDQ608::QT
Title: Pesticide Analysis,IEA-Illinois 3/4/91 Inst.Q SPB-608 30m
Last Calibration: 950131 12:15 Last Qcal Time: <none>

	Compound	R.T.	Scan#	Area	Conc	Units	q
1)	#Tetrachlorometaxylene	10.30	1236	66160	.0432	ngs	100
2)	#alpha-BHC	13.32	1598	70652	.0366	ngs	100
3)	#gama-BHC	15.00	1800	71302M	.0354	ngs	100
6)	#Heptachlor	16.70	2004	82192	.0358	ngs	100
11)	#Endosulfan 1	21.81	2617	84795	.0352	ngs	100
13)	#Dieldrin	23.00	2760	153028	.0673	ngs	100
14)	#Endrin	24.33	2919	127543	.0647	ngs	100
15)	#4,4-DDD	24.88	2985	102529	.0660	ngs	100
17)	#4,4-DDT	26.08	3129	98155	.0744	ngs	100
20)	#Methoxychlor	29.42	3530	311861	.335	ngs	100
22)	#Decachlorobiphenyl	37.43	4491	224333	.0742	ngs	100

Compound uses ESTD

CHROMATOGRAM

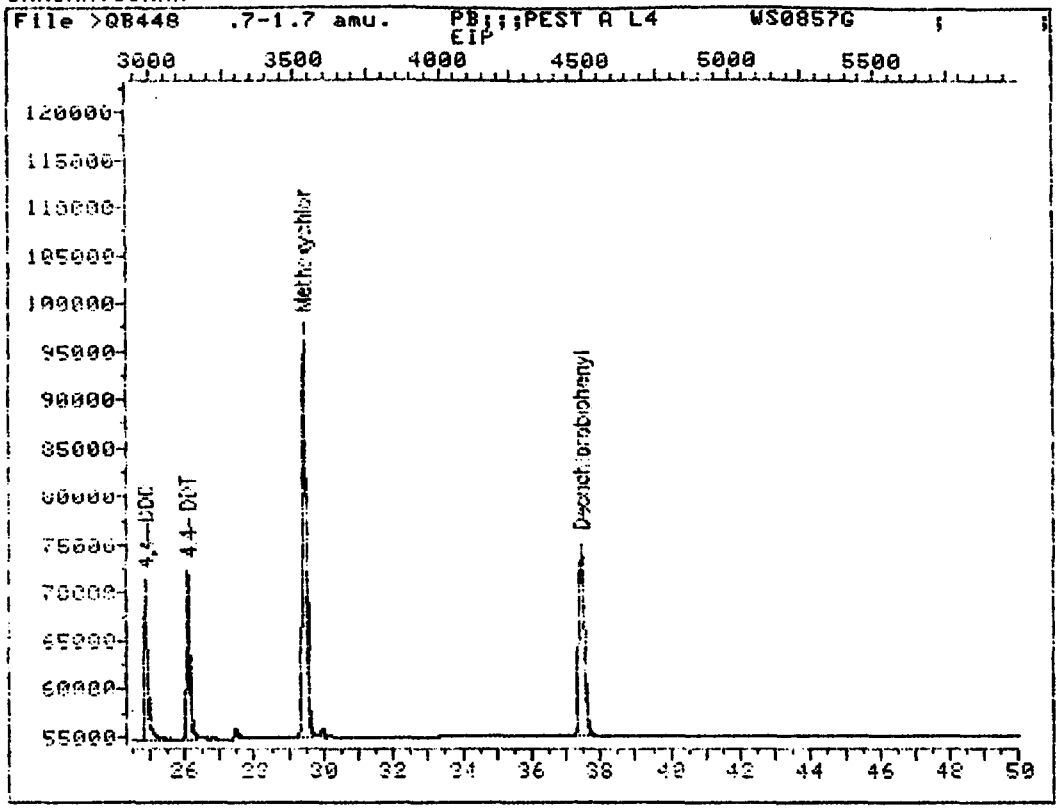


Data File: >QB448::D3 Quant Output File: ^QB448::Q2
Name: PB;;;PEST A L4 Instrument ID: QB
Misc: WS0857G ; ;020995; ;1 ; ;;QQ0322; ;

Td File: TDQ608::QT
Title: Pesticide Analysis,IEA-Illinois 3/4/91 Inst.Q SPB-608 30m
Last Calibration: 950131 12:15 Last Qcal Time: <none>

Operator ID: GC
Quant Time : 950214 10:14
Injected at: 950214 01:58

CHROMATOGRAM



Data File: >QB448::D3 Quant Output File: ^QB448::Q2
Name: PB;;;PEST A L4 Instrument ID: QB
Misc: WS0857G ; ;020995; ;1 ; ;;QQ0322; ;

Id File: IDQ608::QT
Title: Pesticide Analysis,IEA-Illinois 3/4/91 Inst.Q SPB-608 30m
Last Calibration: 950131 12:15 Last Qcal Time: <none>

Operator ID: GC
Quant Time : 950214 10:14
Injected at: 950214 01:58

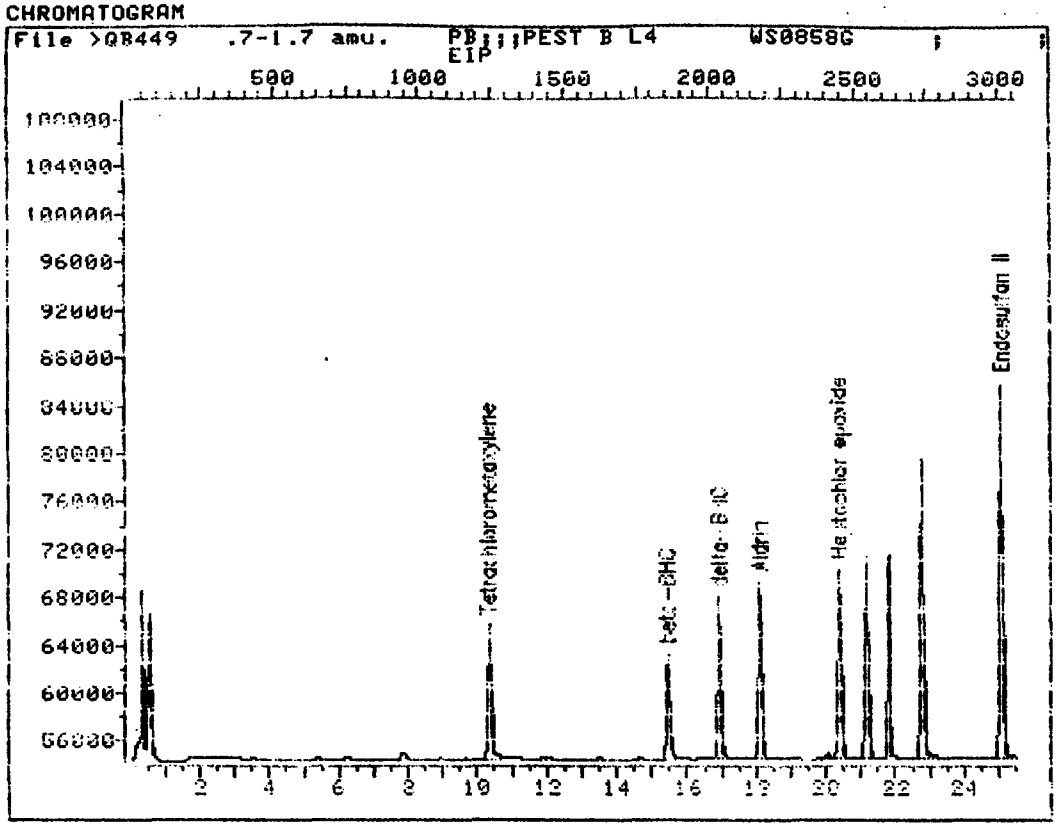
Operator ID: GC Quant Rev: 7 Quant Time: 950214 10:12
Output File: ^QB449::Q2 Injected at: 950214 02:53
Data File: >QB449::D3 Dilution Factor: 1.00000
Name: PB;;;PEST B L4 Instrument ID: QB
Misc: WS0858G ; ;020995; ;1 ; ;;QQ0322; ;

ID File: IDQ608::QT
Title: Pesticide Analysis,IEA-Illinois 3/4/91 Inst.Q SPB-608 30m
Last Calibration: 950131 12:15 Last Qcal Time: <none>

	Compound	R.T.	Scan#	Area	Conc	Units	q
1)	#Tetrachlorometaxylene	10.30	1236	70348	.0460	ngs	100
4)	#beta-BHC	15.42	1850	50976	.0407	ngs	100
5)	#delta-BHC	16.91	2029	70004	.0409	ngs	100
7)	#Aldrin	18.08	2169	89179	.0415	ngs	100
8)	#Heptachlor epoxide	20.35	2442	90243	.0404	ngs	100
9)	#gamma-Chlordane	21.15	2538	98864	.0416	ngs	100
10)	#alpha-Clordane	21.77	2612	96684	.0409	ngs	100
12)	#4,4-DDE	22.72	2726	144311	.0814	ngs	100
16)	#Endosulfan II	25.06	3007	174119	.0783	ngs	100
18)	#Endrin Aldehyde	26.22	3147	137591	.0782	ngs	100
19)	#Endosulfan Sulfate	26.87	3224	156288	.0767	ngs	100
21)	#Endrin Ketone	29.92	3591	177531	.0802	ngs	100
22)	#Decachlorobiphenyl	37.43	4491	247568	.0819	ngs	100

Compound uses ESTD

CHROMATOGRAM

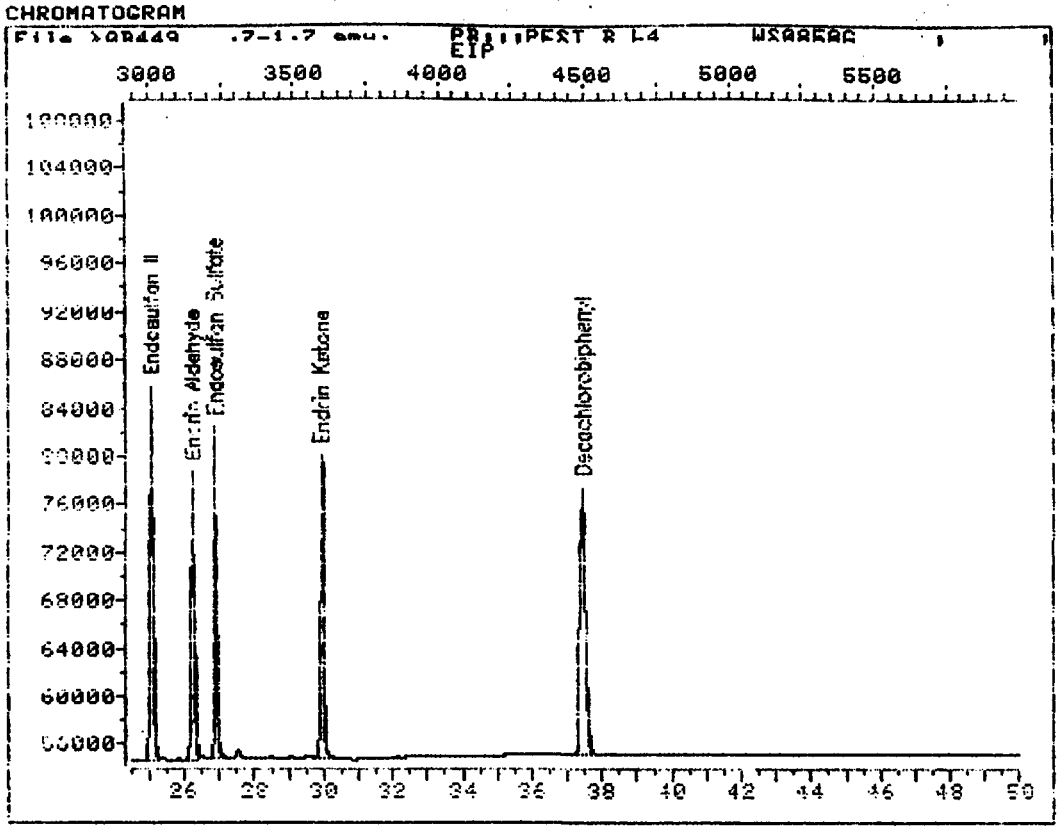


Data File: >QB449::D3 Quant Output File: ^QB449::Q2
Name: PB;;;PEST B L4 Instrument ID: QB
Misc: WS0858G ; ;020995; ;1 ; ;;QQ0322; ;

Id File: IDQ608::QT
Title: Pesticide Analysis,IEA-Illinois 3/4/91 Inst.Q SPB-608 30m
Last Calibration: 950131 12:15 Last Qcal Time: <none>

Operator ID: GC
Quant Time : 950214 10:12
Injected at: 950214 02:53

CHROMATOGRAM



Data File: >QB449::D3 Quant Output File: ^QB449::Q2
Name: PB;;;PEST B L4 Instrument ID: QB
Misc: WS0858G ; ;020995; ;1 ; ;;QQ0322; ;

Id File: IDQ608::QT
Title: Pesticide Analysis,IEA-Illinois 3/4/91 Inst.Q SPB-608 30m
Last Calibration: 950131 12:15 Last Qcal Time: <none>

Operator ID: GC
Quant Time : 950214 10:12
Injected at: 950214 02:53

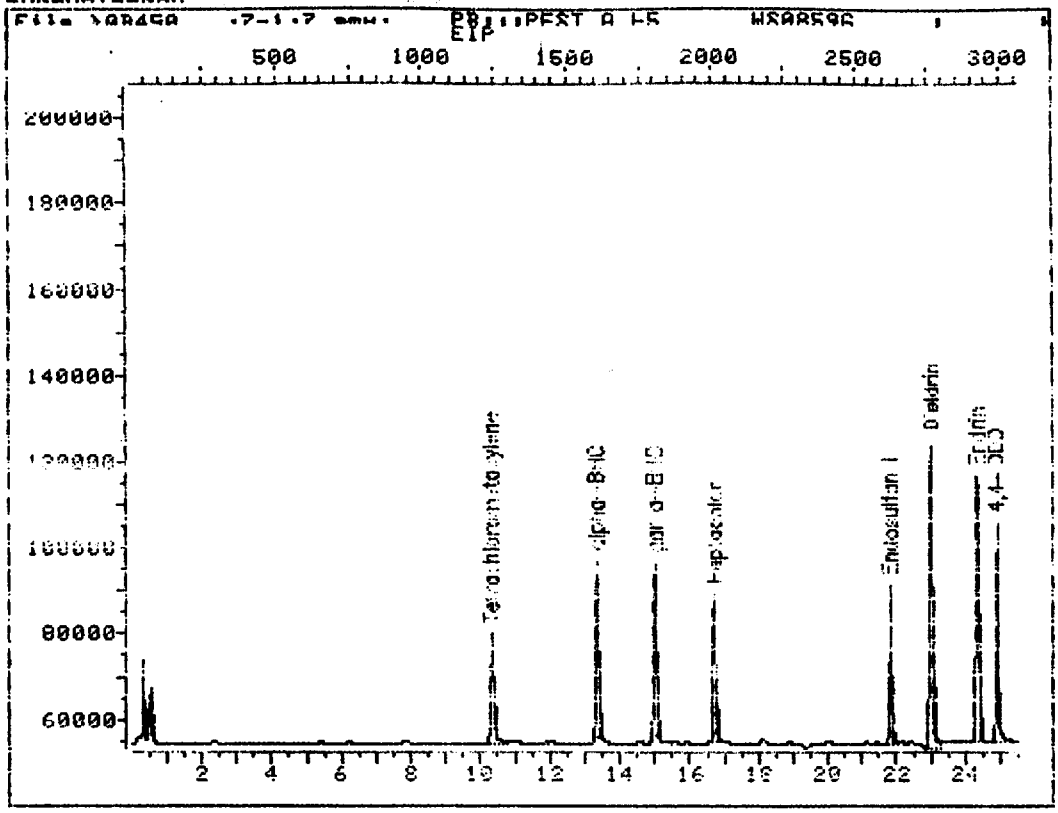
Operator ID: GC Quant Rev: 7 Quant Time: 950214 10:11
Output File: ^QB450::Q2 Injected at: 950214 03:49
Data File: >QB450::D3 Dilution Factor: 1.00000
Name: PB;;;PEST A L5 Instrument ID: QB
Misc: WS0859G ; ;020995; ;1 ; ;;QQ0322; ;

ID File: IDQ608::QT
Title: Pesticide Analysis,IEA-Illinois 3/4/91 Inst.Q SPB-608 30m
Last Calibration: 950131 12:15 Last Qcal Time: <none>

	Compound	R.T.	Scan#	Area	Conc	Units	q
1)	#Tetrachlorometaxylene	10.29	1235	158164	.103	ngs	100
2)	#alpha-BHC	13.32	1598	190103M	.0985	ngs	100
3)	#gama-BHC	15.00	1800	190133M	.0945	ngs	100
6)	#Heptachlor	16.70	2004	203531	.0887	ngs	100
11)	#Endosulfan I	21.80	2616	209403	.0869	ngs	100
13)	#Dieldrin	23.00	2760	412010	.181	ngs	100
14)	#Endrin	24.33	2919	339264	.172	ngs	100
15)	#4,4-DDD	24.87	2984	286060	.184	ngs	100
17)	#4,4-DDT	26.07	3128	249029M	.189	ngs	100
20)	#Methoxychlor	29.42	3530	716184	.770	ngs	100
22)	#Decachlorobiphenyl	37.43	4491	477654	.158	ngs	100

Compound uses ESTD

CHROMATOGRAM

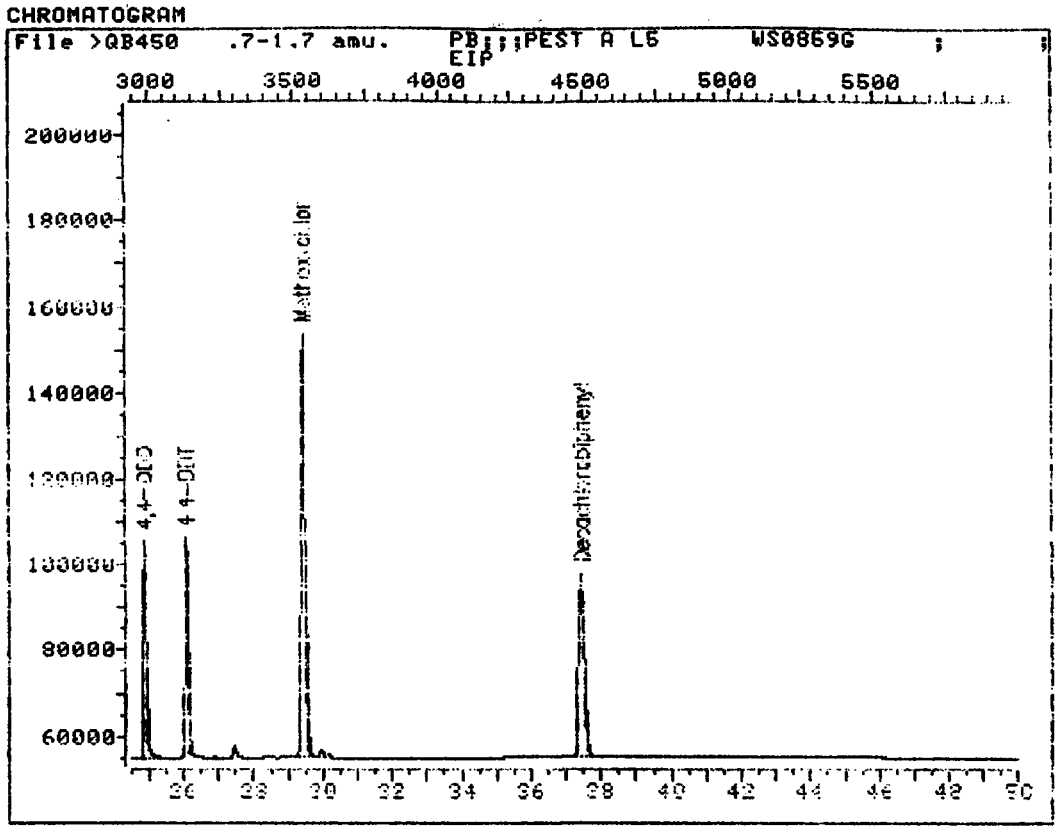


Data File: >QB450::D3 Quant Output File: ^QB450::Q2
Name: PB;;;PEST A L5 Instrument ID: QB
Misc: WS0859G ; ;020995; ;1 ; ;;QQ0322; ;

Id File: IDQ608::QT
Title: Pesticide Analysis,IEA-Illinois 3/4/91 Inst.Q SPB-608 30m
Last Calibration: 950131 12:15 Last Qcal Time: <none>

Operator ID: GC
Quant Time : 950214 10:11
Injected at: 950214 03:49

CHROMATOGRAM



Data File: >QB450::D3 Quant Output File: ^QB450::Q2
Name: PB;;;PEST A L5 Instrument ID: QB
Misc: WS0859G ; ;020995; ;1 ; ;;QQ0322; ;

Td File: TDQ608::QT
Title: Pesticide Analysis,IEA-Illinois 3/4/91 Inst.Q SPB-608 30m
Last Calibration: 950131 12:15 Last Qcal Time: <none>

Operator ID: GC
Quant Time : 950214 10:11
Injected at: 950214 03:49

QUANT REPORT

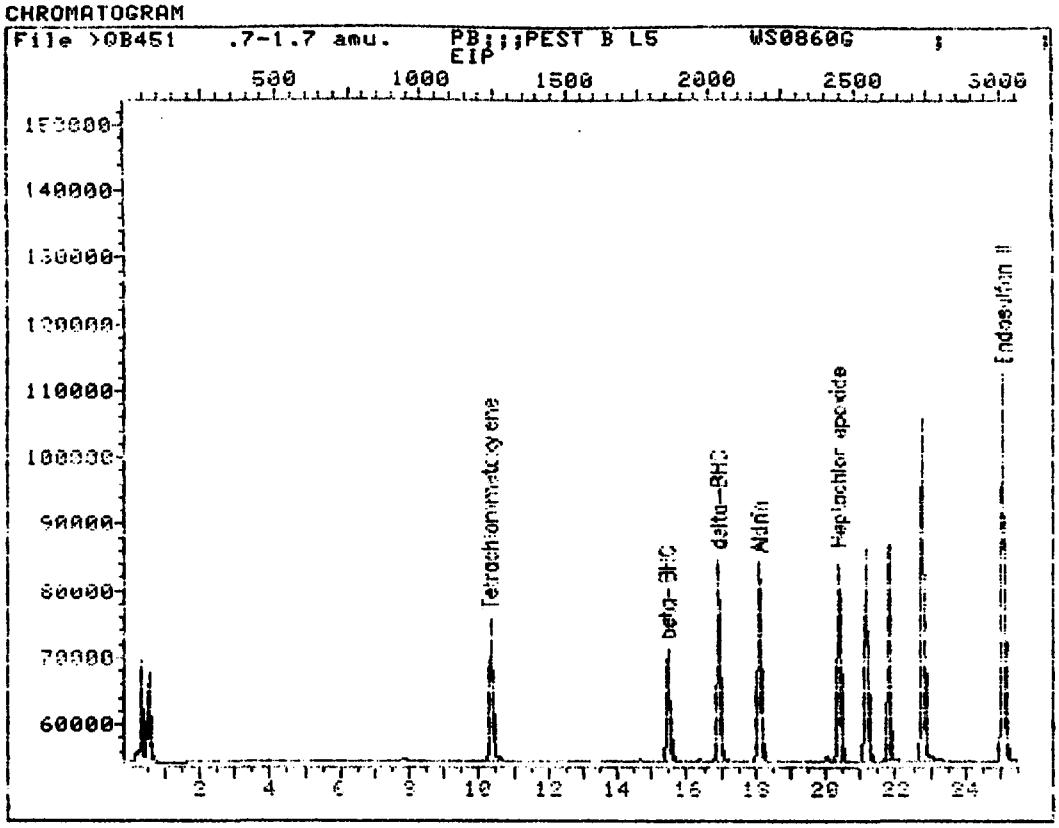
Operator ID: GC Quant Rev: 7 Quant Time: 950214 10:10
Output File: ^QB451::Q2 Injected at: 950214 04:45
Data File: >QB451::D3 Dilution Factor: 1.00000
Name: PB;;;PEST B L5 Instrument ID: QB
Misc: WS0860G ; ;020995; ;1 ; ;;QQ0322; ;

ID File: IDQ608::QT
Title: Pesticide Analysis,IEA-Illinois 3/4/91 Inst.Q SPB-608 30m
Last Calibration: 950131 12:15 Last Qcal Time: <none>

	Compound	R.T.	Scan#	Area	Conc	Units	q
1)	#Tetrachlorometaxylene	10.30	1236	131991	.0863	ngs	100
4)	#beta-BHC	15.42	1850	95760	.0765	ngs	100
5)	#delta-BHC	16.90	2028	152790	.0893	ngs	100
7)	#Aldrin	18.08	2169	174153	.0810	ngs	100
8)	#Heptachlor epoxide	20.34	2441	170227	.0761	ngs	100
9)	#gamma-Chlordane	21.14	2537	185054	.0780	ngs	100
10)	#alpha-Clordane	21.77	2612	182285	.0771	ngs	100
12)	#4,4-DDE	22.72	2726	297261	.168	ngs	100
16)	#Endosulfan II	25.06	3007	326066	.147	ngs	100
18)	#Endrin Aldehyde	26.22	3147	251743	.143	ngs	100
19)	#Endosulfan Sulfate	26.87	3224	288936	.142	ngs	100
21)	#Endrin Ketone	29.92	3590	339316	.153	ngs	100
22)	#Decachlorobiphenyl	37.43	4491	425408	.141	ngs	100

Compound uses ESTD

CHROMATOGRAM

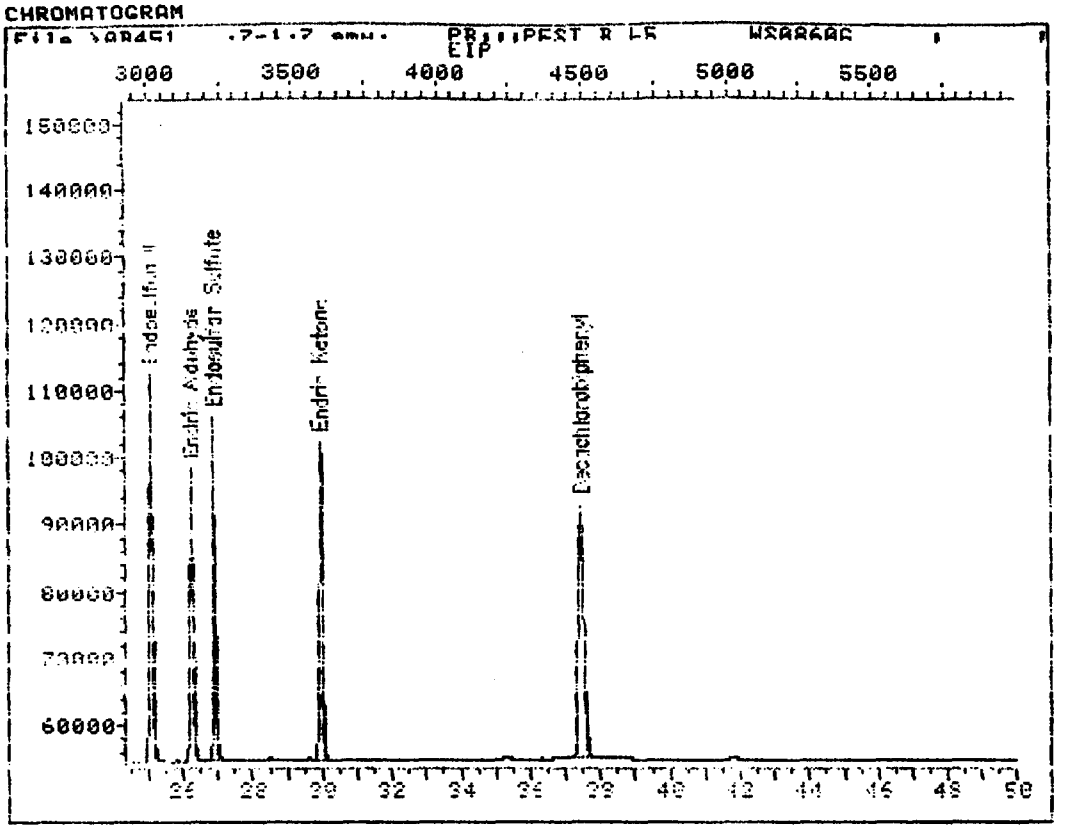


Data File: >QB451::D3 Quant Output File: ^QB451::Q2
Name: PB;;;PEST B L5 Instrument ID: QB
Misc: WS0860G ; ;020995; ;1 ; ;;QQ0322; ;

Id File: IDQ608::QT
Title: Pesticide Analysis,IEA-Illinois 3/4/91 Inst.Q SPB-608 30m
Last Calibration: 950131 12:15 Last Qcal Time: <none>

Operator ID: GC
Quant Time : 950214 10:10
Injected at: 950214 04:45

CHROMATOGRAM



Data File: >QB451::D3 Quant Output File: ^QB451::Q2
Name: PB;;;PEST B L5 Instrument ID: QB
Misc: WS0860G ; ;020995; ;1 ; ;;QQ0322; ;

Id File: IDQ608::QT
Title: Pesticide Analysis,IEA-Illinois 3/4/91 Inst.Q SPB-608 30m
Last Calibration: 950131 12:15 Last Qcal Time: <none>

Operator ID: GC
Quant Time : 950214 10:10
Injected at: 950214 04:45

8D
PESTICIDE ANALYTICAL SEQUENCE

Lab Name: IEA IL Contract: _____

Lab Code: IEAIL Case No.: _____ SAS No.: _____ SDG No.: _____

GC Column: DB-608 ID: 0.53 (mm) Init. Calib. Date(s): 2/13/95 - 2/14/95

Instrument ID: Q

THE ANALYTICAL SEQUENCE OF PERFORMANCE EVALUATION MIXTURES, BLANKS, SAMPLES, AND STANDARDS IS GIVEN BELOW:

MEAN SURROGATE RT FROM INITIAL CALIBRATION
TCX: 10.30 DCB: 37.43

	EPA SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED	TIME ANALYZED	TCX RT #	DCB RT #
01	PEM	WS08506	2/13/95	12:00	10.30	37.45
02	RCM	WS0887G	2/13/95	12:55	10.31	37.45
03	Aroclor 1016/1260 L1	WS0826G	2/13/95	13:51	10.31	37.44
04	Aroclor 1221 L1	WS0801G	2/13/95	14:47	10.30	37.43
05	Aroclor 1232 L1	WS0806G	2/13/95	15:43	10.30	37.44
06	Aroclor 1242 L1	WS0811G	2/13/95	16:39	10.30	37.43
07	Aroclor 1248 L1	WS0816G	2/13/95	17:35	10.30	37.43
08	Aroclor 1254 L1	WS0821G	2/13/95	18:32	10.30	37.43
09	TOXAPHENE	WS0877G	2/13/95	19:28	10.30	37.43
10	PEST A L1	WS0851G	2/13/95	20:24	10.30	37.43
11	PEST B L1	WS0852G	2/13/95	21:19	10.30	37.43
12	PEST A L2	WS0853G	2/13/95	22:15	10.30	37.43
13	PEST B L2	WS0854G	2/13/95	23:10	10.30	37.43
14	PEST A L3	WS0872G	2/14/95	00:06	10.30	37.43
15	PEST B L3	WS0873G	2/14/95	01:02	10.30	37.43
16	PEST A L4	WS0857G	2/14/95	01:58	10.30	37.43
17	PEST B L4	WS0858G	2/14/95	02:53	10.30	37.43
18	PEST A L5	WS0859G	2/14/95	03:49	10.29	37.43
19	PEST B L5	WS0860G	2/14/95	04:45	10.30	37.43
20						
21						
22						
23						
24						
25						
26						
27						
28						
29						
30						
31						
32						

QC LIMITS
TCX = Tetrachloro-m-xylene (± 0.05 MINUTES)
DCB = Decachlorobiphenyl (± 0.10 MINUTES)

Column used to flag retention time values with an asterisk.
* Values outside of QC limits.

IEA
An Aquarion Company

Continuing Calibration

printed on recycled paper

Calibration Check Report

Title: Pesticide Analysis,IEA-Illinois 3/4/91 Inst.Q SPB-608 30m
Calibrated: 950214 11:07

Check Standard Data File: >Q8518
Injection Time: 950302 11:50

Compound	$\overline{RF}$	RF	%Diff	Calib Meth	
Tetrachlorometaxylene	1800850	1790350	.58	Average	
alpha-BHC	1855238	1734750	6.49	Average	
gama-BHC	1883773	1851800	1.70	Average	
beta-BHC	1252630	1195750	4.54	Average	
delta-BHC	1647905	1449000	12.07	Average	
Heptachlor	2329627	2324150	.24	Average	
Aldrin	2376667	2272150	4.40	Average	
Heptachlor epoxide	2245123	2198000	2.10	Average	
gamma-Chlordane	2494595	2428400	2.65	Average	
alpha-Clordane	2384512	2343150	1.73	Average	
Endosulfan I	2355973	2405750	2.11	Average	
4,4-DDE	1697149	1670900	1.55	Average	(Conc=.0400)
Dieldrin	2076882	2088075	.54	Average	(Conc=.0400)
Endrin	1756028	1789475	1.90	Average	(Conc=.0400)
4,4-DDD	1358068	1356400	.12	Average	(Conc=.0400)
Endosulfan II	2141245	2040700	4.70	Average	(Conc=.0400)
4,4-DDT	1275744	1466575	14.96	Average	(Conc=.0400)
Endrin Aldehyde	1720677	1469000	14.63	Average	(Conc=.0400)
Endosulfan Sulfate	1925885	1844325	4.23	Average	(Conc=.0400)
Methoxychlor	859657.	911115.	5.99	Average	(Conc=.200)
Endrin Ketone	2072263	1935500	6.60	Average	(Conc=.0400)
Decachlorobiphenyl	3252565	3527025	8.46	Average	(Conc=.0400)

RF - Response Factor from daily standard file at .0200 ngs

$\overline{RF}$ - Average Response Factor from Initial Calibration

%Diff - % Difference from original average or curve

Calibration Check Report

Title: Pesticide Analysis,IEA-Illinois 3/4/91 Inst.Q SPB-608 30m
Calibrated: 950214 11:07

Check Standard Data File: >Q8527
Injection Time: 950302 20:20

Compound	$\overline{RF}$	RF	%Diff	Calib Meth	
Tetrachlorometaxylene	1800850	1877950	4.28	Average	
alpha-BHC	1855238	1883350	1.52	Average	
gama-BHC	1883773	2002350	6.29	Average	
beta-BHC	1252630	1078800	13.88	Average	
delta-BHC	1647905	1327000	19.47	Average	
Heptachlor	2329627	2463750	5.76	Average	
Aldrin	2376667	2000350	15.83	Average	
Heptachlor epoxide	2245123	1957250	12.82	Average	
gamma-Chlordane	2494595	2167200	13.12	Average	
alpha-Clordane	2384512	2089600	12.37	Average	
Endosulfan I	2355973	2521400	7.02	Average	
4,4-DDE	1697149	1465675	13.64	Average	(Conc=.0400)
Dieldrin	2076882	2227075	7.23	Average	(Conc=.0400)
Endrin	1756028	1951175	11.11	Average	(Conc=.0400)
4,4-DDD	1358068	1460875	7.57	Average	(Conc=.0400)
Endosulfan II	2141245	1850775	13.57	Average	(Conc=.0400)
4,4-DDT	1275744	1429600	12.06	Average	(Conc=.0400)
Endrin Aldehyde	1720677	1363500	20.76	Average	(Conc=.0400)
Endosulfan Sulfate	1925885	1672600	13.15	Average	(Conc=.0400)
Methoxychlor	859657.	992775.	15.49	Average	(Conc=.200)
Endrin Ketone	2072263	1754600	15.33	Average	(Conc=.0400)
Decachlorobiphenyl	3252565	3659800	12.52	Average	(Conc=.0400)

RF - Response Factor from daily standard file at .0200 ngs

$\overline{RF}$ - Average Response Factor from Initial Calibration

%Diff - % Difference from original average or curve

QUANT REPORT

Operator ID: GC
Output File: ^QR516::Q2
Data File: >QR516::D3
Name: PR:::P.F.M.
Misc: WS0889G : :030295: :1 :

Quant Rev: 7
Quant Time: 950302 10:55
Injected at: 950302 09:58
Dilution Factor: 1.00000
Instrument ID: QR
::QQ0375: :

ID File: IDQ608::QT
Title: Pesticide Analysis,IFA-Illinois 3/4/91 Inst.Q SPB-608 30m
Last Calibration: 950214 11:14
Last Qcal Time: <none>

	Compound	R.T.	Scan#	Area	Conc	Units	q	RP
1)	#Tetrachlorometaxylene	10.28	1234	33679	.0187	ngs	100	
2)	#alpha-BHC	13.30	1596	15492	.00835	ngs	100	
3)	#gama-BHC	14.98	1798	16267	.00864	ngs	100	
4)	#beta-BHC	15.40	1848	9987	.00797	ngs	100	
14)	#Endrin	24.31	2917	77436	.0441	ngs 88%	100	12
15)	#4,4-DDD	24.87	2984	6174	.00455	ngs	100	
16)	#Endosulfan II	24.87	2984	6338	.00296	ngs	100	
17)	#4,4-DDT	26.05	3126	135799	.106	ngs 106%	100	6
18)	#Endrin Aldehyde	26.05	3126	135799	.0789	ngs	100	
20)	#Methoxychlor	29.39	3527	194375	.226	ngs	100	
22)	#Decachlorobiphenyl	37.39	4487	71852	.0221	ngs	100	

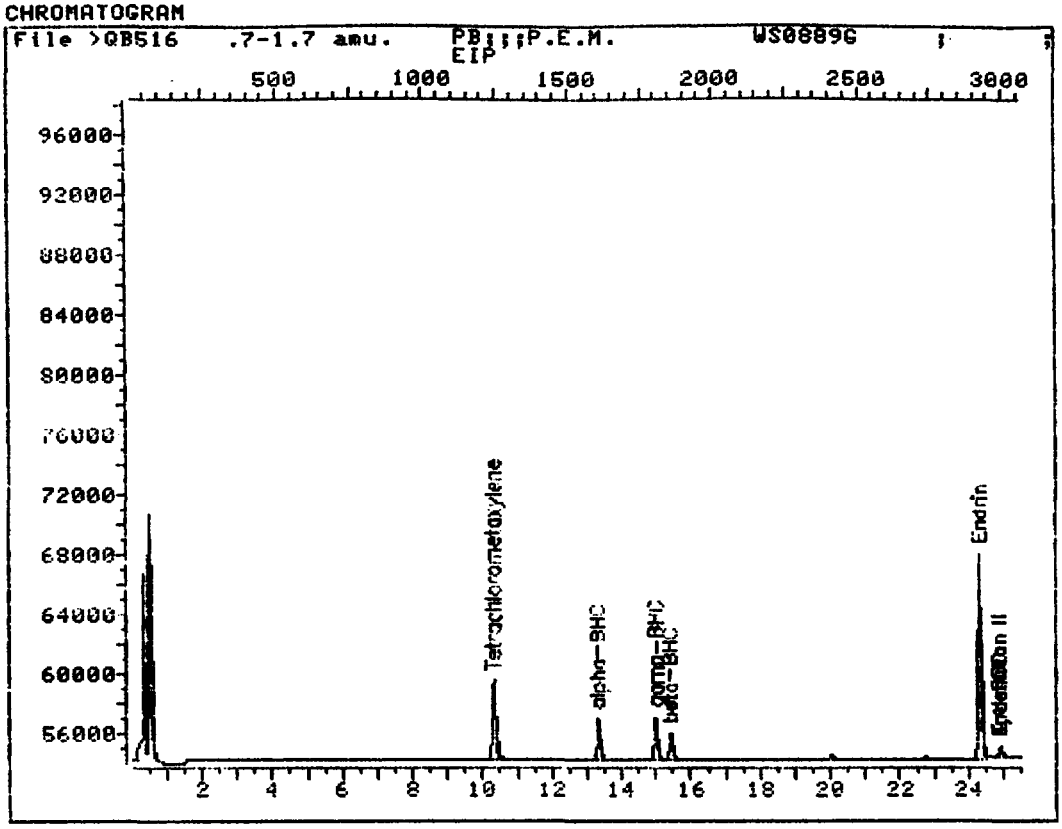
Compound uses ESTD

ENDR BD ≤ 1%

DDT BD = 4.5%

3/3/95

CHROMATOGRAM

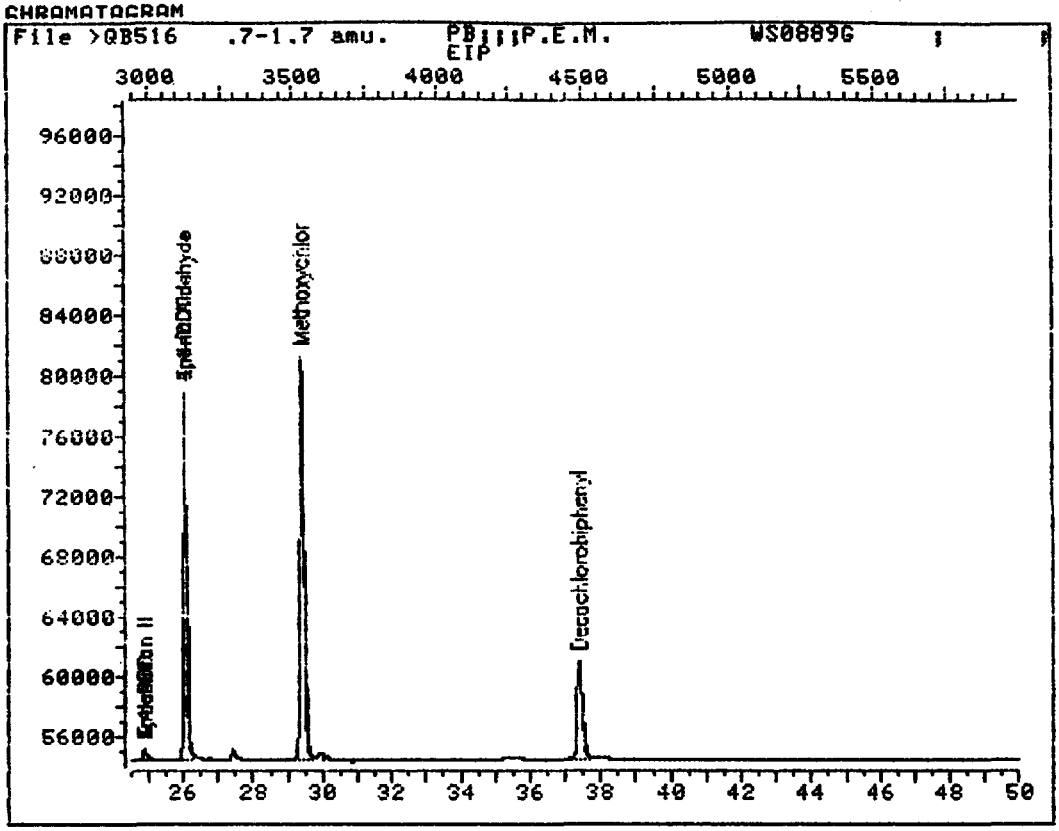


Data File: >QB516::D3 Quant Output File: ^QB516::Q2
Name: PB;;;P.E.M. Instrument ID: QB
Misc: WS0889G ; ;030295; ;1 ; ;;QQ0325; ;

Id File: IDQ608::QT
Title: Pesticide Analysis,ICA-Illinois 3/4/91 Inst.Q SPB-608 30m
Last Calibration: 950214 11:14 Last Qcal Time: <none>

Operator ID: GC
Quant Time : 950302 10:55
Injected at: 950302 09:58

CHROMATOGRAM



Data File: >QB516::D3 Quant Output File: ^QB516::Q2
Name: PB:::P.E.M. Instrument ID: QB
Misc: WS0889G : :030295: :1 : ::QQ0325: :

Id File: IDQ608::QT
Title: Pesticide Analysis,IEA-Illinois 3/4/91 Inst.Q SPB-608 30m
Last Calibration: 950214 11:14 Last Qcal Time: <none>

Operator ID: GC
Quant Time : 950302 10:55
Injected at: 950302 09:58

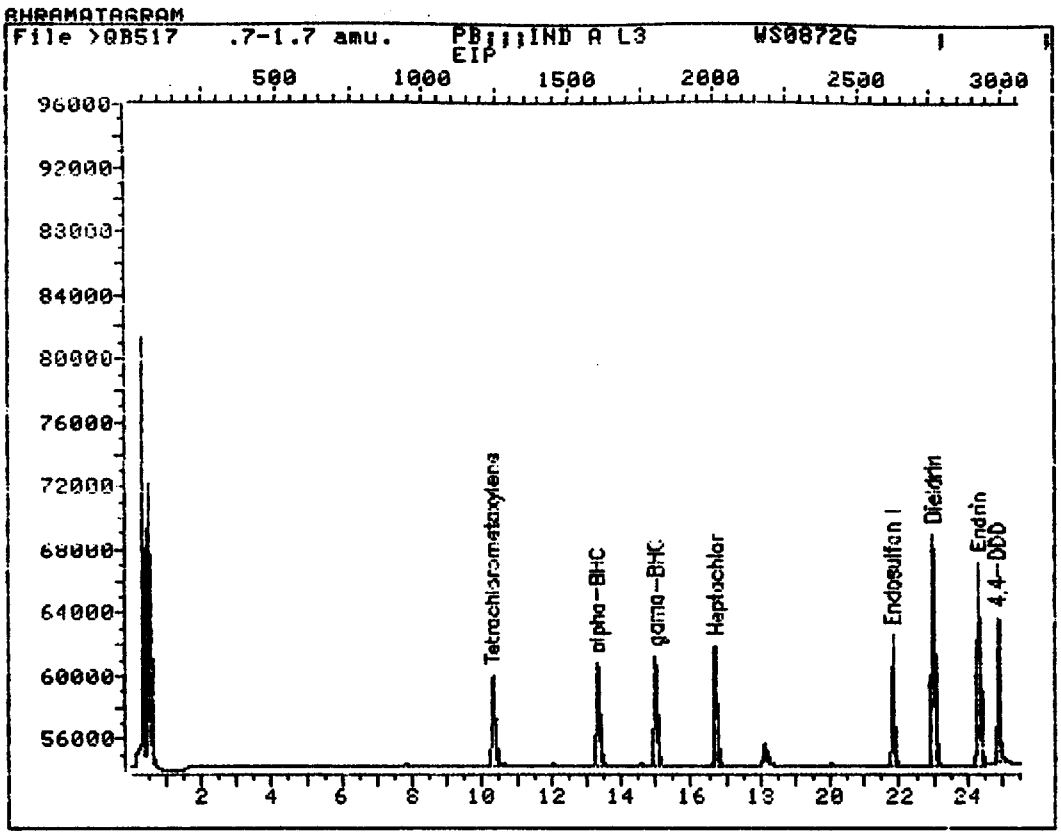
QUANT REPORT

Operator ID: GC Quant Rev: 7 Quant Time: 950302 11:47
Output File: ^QB517::Q2 Injected at: 950302 10:54
Data File: >QB517::D3 Dilution Factor: 1.00000
Name: PB;;;IND A L3 Instrument ID: QB
Misc: WS0872G ; ;030295; ;1 ; ;;QQ0325; ;

ID File: IDQ608::QT
Title: Pesticide Analysis,IEA-Illinois 3/4/91 Inst.Q SPB-608 30m
Last Calibration: 950214 11:14 Last Qcal Time: <none>

	Compound	R.T.	Scan#	Area	Conc	Units	q
1)	#Tetrachlorometaxylene	10.27	1233	35807	.0199	ngs	100
2)	#alpha-BHC	13.30	1596	34695	.0187	ngs	100
3)	#gama-BHC	14.98	1798	37036	.0197	ngs	100
6)	#Heptachlor	16.68	2002	46483	.0200	ngs	100
11)	#Endosulfan I	21.78	2614	48115	.0204	ngs	100
13)	#Dieldrin	22.97	2757	83523	.0402	ngs	100
14)	#Endrin	24.31	2917	71579	.0408	ngs	100
15)	#4,4-DDD	24.85	2982	54256	.0400	ngs	100
17)	#4,4-DDT	26.05	3126	58663	.0460	ngs	100
20)	#Methoxychlor	29.39	3527	182223	.212	ngs	100
22)	#Decachlorobiphenyl	37.38	4486	141113	.0434	ngs	100

Compound uses ESTD



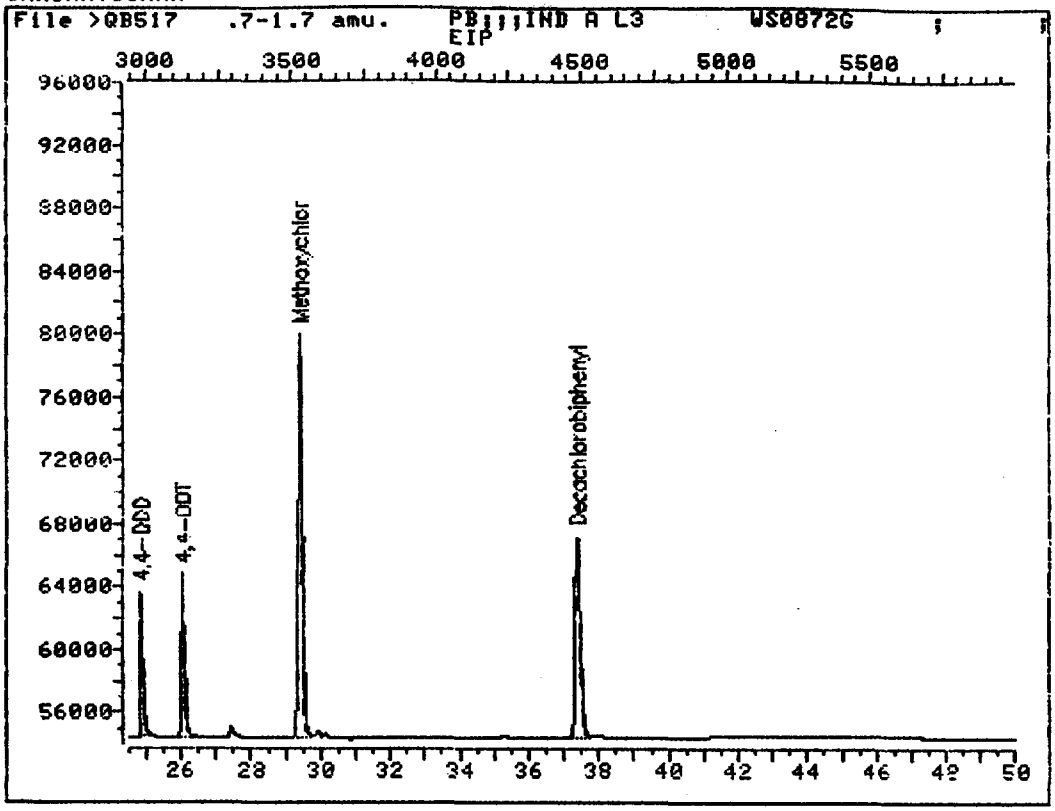
Data File: >QB517::D3 Quant Output File: ^QB517::Q2
Name: PB;;;IND A L3 Instrument ID: QB
Misc: WS0872G : :030295: :1 : ::QQ0325: :

Id File: IDQ60B::QT
Title: Pesticide Analysis,TFA-Illinois 3/4/91 Inst.Q SPB-60B 30m
Last Calibration: 950214 11:14 Last Qcal Time: <none>

Operator ID: GC
Quant Time : 950302 11:47
Injected at: 950302 10:54

Page 1 of 2

CHROMATOGRAM



Data File: >QB517::D3 Quant Output File: ^QB517::Q2
Name: PB;;;IND A L3 Instrument ID: QB
Misc: WS0872G ; ;030295; ;1 ; ;;QQ0325; ;

Id File: IDQ608::QT
Title: Pesticide Analysis,IEA-Illinois 3/4/91 Inst.Q SPB-608 30m
Last Calibration: 950214 11:14 Last Qcal Time: <none>

Operator ID: GC
Quant Time : 950302 11:47
Injected at: 950302 10:54

QUANT REPORT

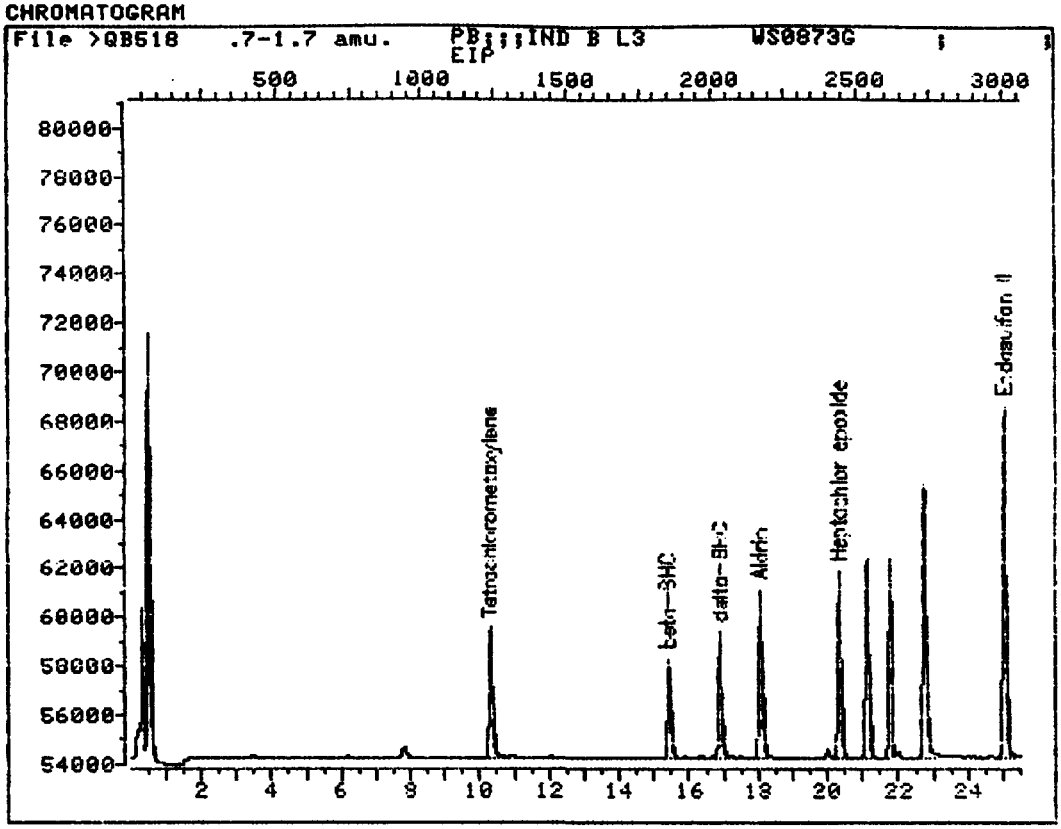
Operator ID: GC Quant Rev: 7 Quant Time: 950302 12:43
Output File: ^QB518::Q2 Injected at: 950302 11:50
Data File: >QB518::D3 Dilution Factor: 1.00000
Name: PB:::IND B I 3 Instrument ID: QB
Misc: WS0873G : :030295: :1 : ::QQ0325: :

ID File: IDQ608::QT
Title: Pesticide Analysis,IEA-Illinois 3/4/91 Inst.Q SPB-608 30m
Last Calibration: 950714 11:14 Last Qcal Time: <none>

	Compound	R.T.	Scan#	Area	Conc	Units	q
1)	#Tetrachlorometaxylene	10.27	1233	33187	.0184	ngs	100
4)	#beta-BHC	15.39	1847	23915	.0191	ngs	100
5)	#delta-BHC	16.88	2026	28980	.0176	ngs	100
7)	#Aldrin	18.05	2166	45443	.0191	ngs	100
8)	#Heptachlor epoxide	20.33	2439	43960	.0196	ngs	100
9)	#gamma-Chlordane	21.13	2535	48568	.0195	ngs	100
10)	#alpha-Chlordane	21.74	2609	46863	.0197	ngs	100
12)	#4,4-DDE	22.69	2723	66836	.0394	ngs	100
16)	#Endosulfan II	25.03	3004	81628	.0381	ngs	100
18)	#Endrin Aldehyde	26.21	3145	58760	.0341	ngs	100
19)	#Endosulfan Sulfate	26.85	3222	73773	.0383	ngs	100
21)	#Endrin Ketone	29.89	3587	77420	.0374	ngs	100
22)	#Decachlorobiphenyl	37.38	4486	132044	.0406	ngs	100

Compound uses ESTD

CHROMATOGRAM

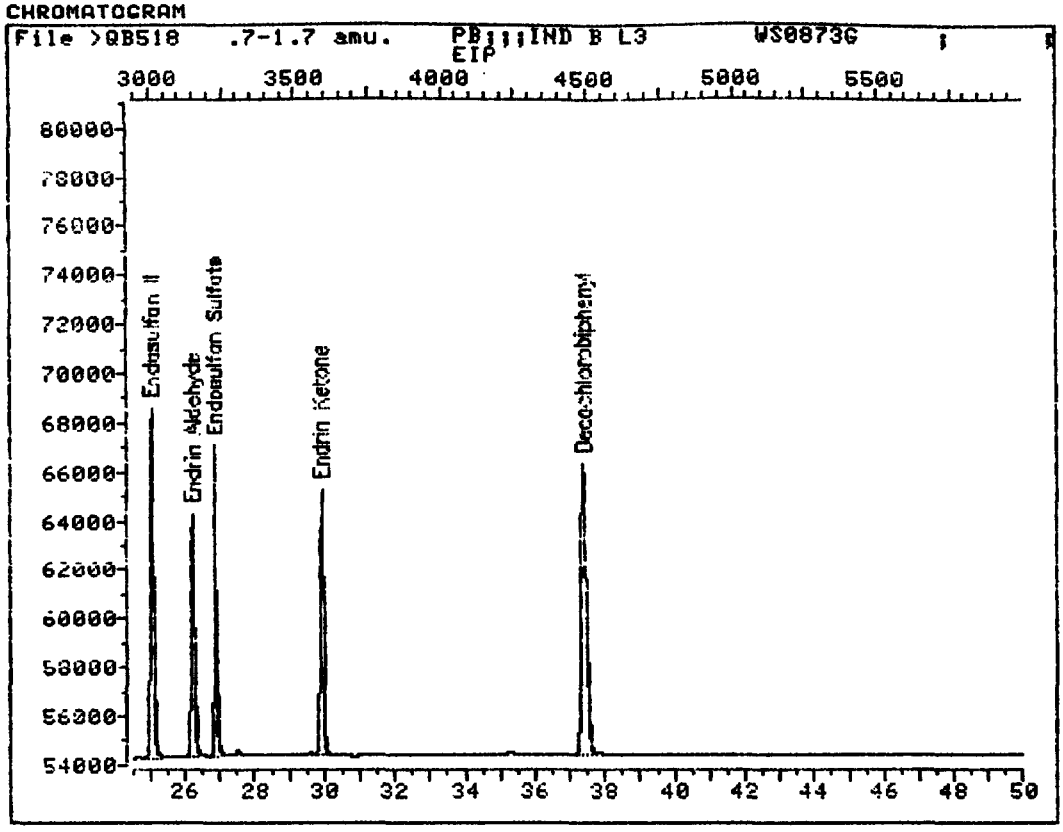


Data File: >QB518::D3 Quant Output File: ^QB518::Q2
Name: PB;;;IND B L3 Instrument ID: QB
Misc: WS0873G ; ;030295; ;1 ; ;;QQ0325; ;

Id File: IDQ608::QT
Title: Pesticide Analysis,ICA-Illinois 3/4/91 Inst.Q SPB-608 30m
Last Calibration: 950214 11:14 Last Qcal Time: <none>

Operator ID: GC
Quant Time : 950302 12:43
Injected at: 950302 11:50

CHROMATOGRAM



Data File: >QB518::D3 Quant Output File: ^QB51A::Q2
Name: PR:::IND B L3 Instrument ID: QB
Misc: WS0873G : :030295: :1 : ::QQ0325: :

Id File: IDQ608::QT
Title: Pesticide Analysis,IEA-Illinois 3/4/91 Inst.Q SPB-608 30m
Last Calibration: 950714 11:14 Last Qcal Time: <none>

Operator ID: GC
Quant Time : 950302 12:43
Injected at: 950302 11:50

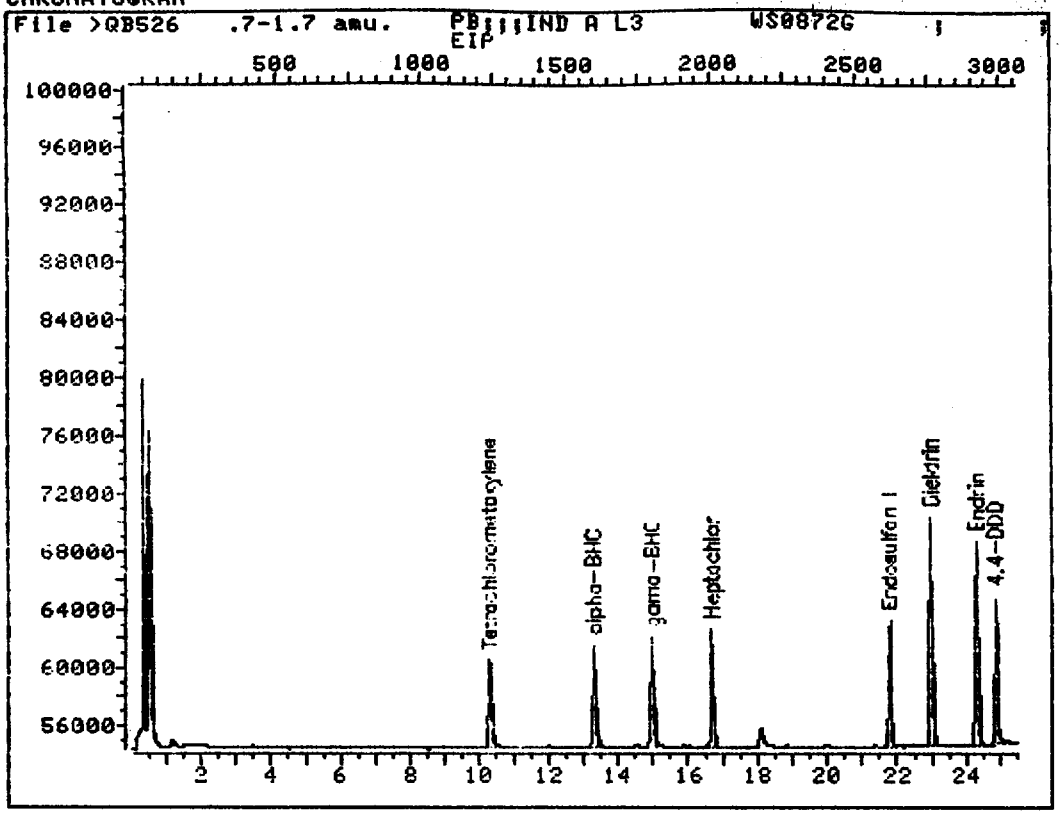
Operator ID: GC Quant Rev: 7 Quant Time: 950302 20:17
Output File: ^QB526::Q7 Injected at: 950302 19:24
Data File: >QB526::D3 Dilution Factor: 1.00000
Name: PB:::IND A 13 Instrument ID: QB
Misc: WS0872G : :030295: :1 : ::QQ0325: :

ID File: IDQ608::QT
Title: Pesticide Analysis,IEA-Illinois 3/4/91 Inst.Q SPB-608 30m
Last Calibration: 950214 11:14 Last Qcal Time: <none>

	Compound	R.T.	Scan#	Area	Conc	Units	q
1)	#Tetrachlorometaxylene	10.77	1232	37559	.0209	ngs	100
2)	#alpha-BHC	13.28	1594	37667	.0203	ngs	100
3)	#gama-BHC	14.98	1797	40047	.0213	ngs	100
6)	#Heptachlor	16.67	2000	49775	.0212	ngs	100
11)	#Endosulfan I	21.77	2612	50428	.0214	ngs	100
13)	#Dieldrin	22.96	2755	89083	.0479	ngs	100
14)	#Endrin	24.29	2915	78047	.0444	ngs	100
15)	#4,4-DDD	24.83	2980	58435	.0430	ngs	100
17)	#4,4-DDT	26.04	3125	57184M	.0448	ngs	100
20)	#Methoxychlor	29.38	3525	198555	.231	ngs	100
22)	#Decachlorobiphenyl	37.36	4483	146392	.0450	ngs	100

Compound uses ESTD

CHROMATOGRAM

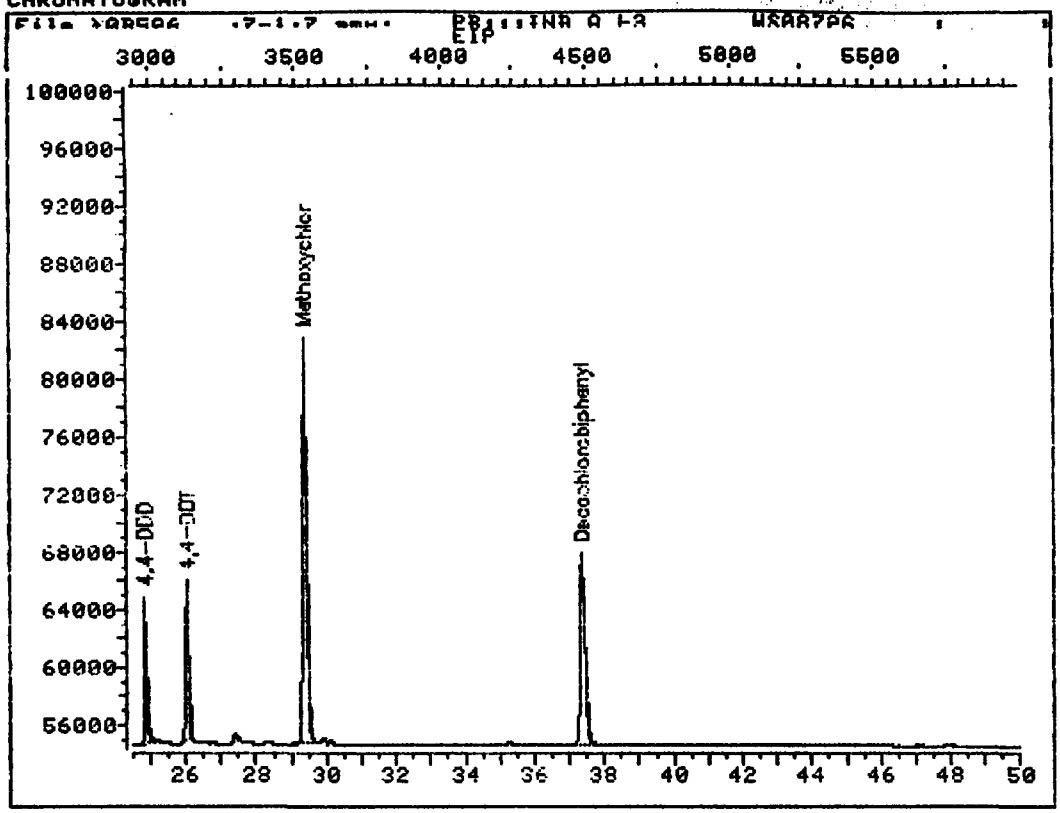


Data File: >QB526::03 Quant Output File: ^QB526::Q2
Name: PB;;;IND A L3 Instrument ID: QB
Misc: WS0872G ; ;030295; ;1 ; ;;QQ0325; ;

Id File: IDQ608::QT
Title: Pesticide Analysis,ICA-Illinois 3/4/91 Inst.Q SPB-608 30m
Last Calibration: 950214 11:14 Last Qcal Time: <none>

Operator ID: GC
Quant Time : 950302 20:17
Injected at: 950302 19:24

CHROMATOGRAM



Data File: >QB526::D3 Quant Output File: ^QB526::Q2
Name: PB:::TND A L3 Instrument ID: QB
Misc: WS0B77G : :030795: :1 : ::QQ0375: :

Id File: IDQ608::QT
Title: Pesticide Analysis,IFA-Illinois 3/4/91 Inst.Q SPB-608 30m
Last Calibration: 950214 11:14 Last Qcal Time: <none>

Operator ID: GC
Quant Time : 950302 20:17
Injected at: 950302 19:24

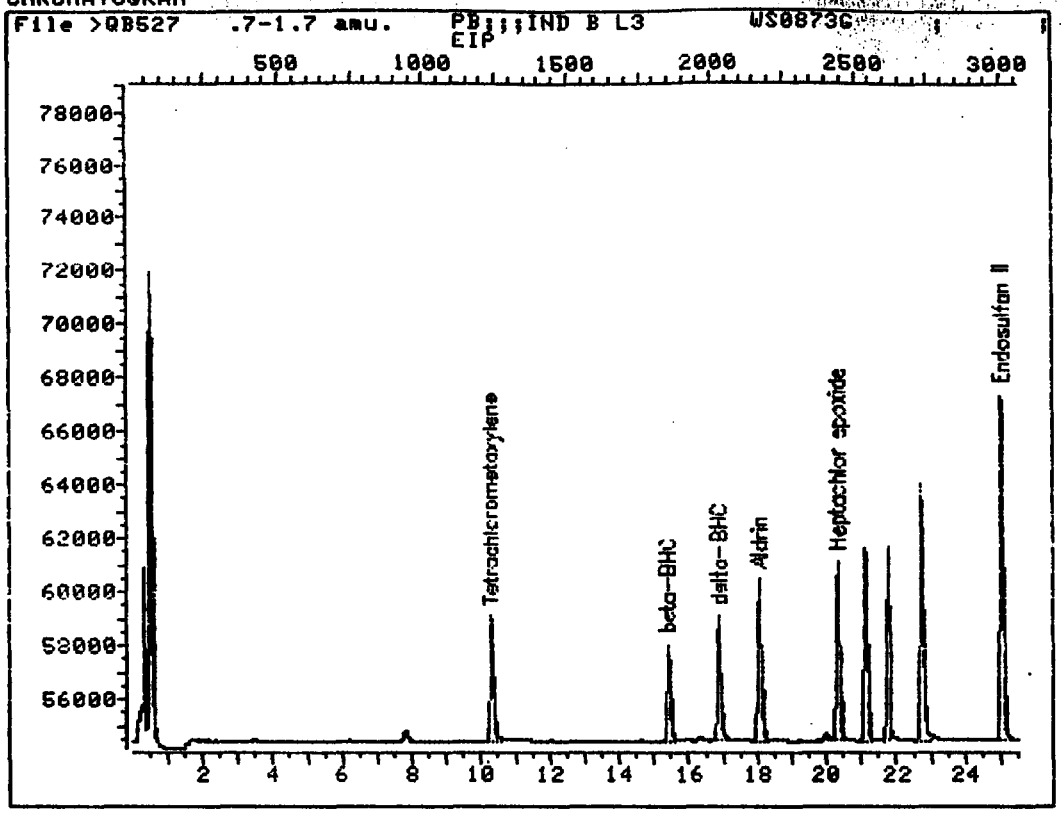
Operator ID: GC Quant Rev: 7 Quant Time: 950302 21:12
Output File: ^QB527::Q2 Injected at: 950302 20:20
Data File: >QB527::D3 Dilution Factor: 1.00000
Name: PR:::IND R I 3 Instrument ID: QB
Misc: WS0873G : :030295: :1 : ::QQ0325: :

ID File: IDQ60B::QT
Title: Pesticide Analysis,IEA-Illinois 3/4/91 Inst.Q SPB-608 30m
Last Calibration: 950214 11:14 Last Qcal Time: <none>

	Compound	R.T.	Scan#	Area	Conc	Units	q
1)	#Tetrachlorometaxylene	10.27	1232	29987	.0167	ngs	100
4)	#beta-BHC	15.38	1846	21576	.0172	ngs	100
5)	#delta-BHC	16.88	2025	26540	.0161	ngs	100
7)	#Aldrin	18.05	2166	40007	.0168	ngs	100
8)	#Heptachlor epoxide	20.32	2438	39145	.0174	ngs	100
9)	#gamma-Chlordane	21.12	2534	43344	.0174	ngs	100
10)	#alpha-Clordane	21.73	2608	41792	.0175	ngs	100
12)	#4,4-DDE	22.68	2722	58627	.0345	ngs	100
16)	#Endosulfan II	25.03	3003	74031	.0346	ngs	100
18)	#Endrin Aldehyde	26.20	3144	54540	.0317	ngs	100
19)	#Endosulfan Sulfate	26.84	3221	66904	.0347	ngs	100
21)	#Endrin Ketone	29.88	3585	70184	.0339	ngs	100
22)	#Decachlorobiphenyl	37.36	4483	119144	.0366	ngs	100

Compound uses ESTD

CHROMATOGRAM

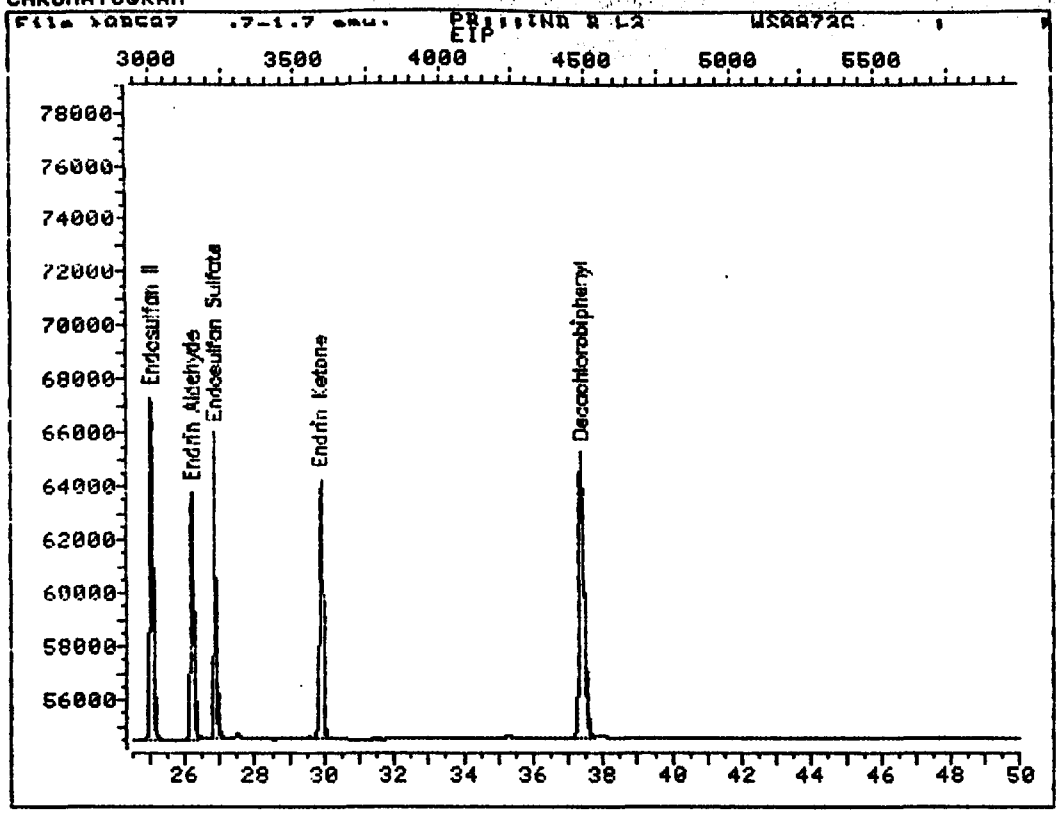


Data File: >QB527::D3 Quant Output File: ^QB527::Q2
Name: PB;;;IND B L3 Instrument ID: QB
Misc: WS0873G ; ;030295; ;1 ; ;;QQ0325; ;

Id File: IDQ608::QT
Title: Pesticide Analysis,IEA-Illinois 3/4/91 Inst.Q SPB-608 30m
Last Calibration: 950214 11:14 Last Qcal Time: <none>

Operator ID: GC
Quant Time : 950302 21:12
Injected at: 950302 20:20

CHROMATOGRAM



Data File: >QR527::D3 Quant Output File: ^QR527::Q2
Name: PR:::IND B L3 Instrument ID: QR
Misc: WS0873G : :030295: :1 : ::QQ0325: :

Id File: IDQ608::QT
Title: Pesticide Analysis,IEA-Illinois 3/4/91 Inst.Q SPB-608 30m
Last Calibration: 950214 11:14 Last Qcal Time: <none>

Operator ID: GC
Quant Time : 950302 21:12
Injected at: 950302 20:20

8D
PESTICIDE ANALYTICAL SEQUENCE

Lab Name: IEA, IL Contract: _____

Lab Code: IEAIL Case No.: CH950411 SAS No.: _____ SDG No.: _____

GC Column: DB-608 ID: 0.53 (mm) Init. Calib. Date(s): 2/13/95 – 2/14/95

Instrument ID: D

THE ANALYTICAL SEQUENCE OF PERFORMANCE EVALUATION MIXTURES, BLANKS, SAMPLES, AND STANDARDS IS GIVEN BELOW:

MEAN SURROGATE RT FROM INITIAL CALIBRATION
TCX: 10.30 DCB: 37.43

	EPA SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED	TIME ANALYZED	TCX RT #	DCB RT #
01	INSTR BLK	TCMX/DCB	03/02/95	09:02	10.28	37.39
02	P.E.M.	WS0839G	03/02/95	09:58	10.28	37.39
03	IND A L3	WS0872G	03/02/95	10:54	10.27	37.38
04	IND B L3	WS0873G	03/02/95	11:50	10.27	37.38
05	SAU-01	S0411001	03/02/95	12:46	10.27	37.37
06	SAU-02	S0411002	03/02/95	13:44	10.27	37.36
07	SAU-01 MS	S0411001MS	03/02/95	14:41	10.26	37.36
08	SAU-01 MSD	S0411002MSD	03/02/95	15:38	10.26	37.35
09	Method BLK	PW0228	03/02/95	16:35	10.26	37.36
10	BLK SPIKE	PW0228-BS	03/02/95	17:31	10.26	37.36
11	INSTR. BLK	TCMX/DCB	03/02/95	18:2	10.26	37.36
12	IND A L3	WS0872G	03/02/95	19:24	10.27	37.36
13	IND B L3	WS0873G	03/02/95	20:20	10.27	37.36
14						
15						
16						
17						
18						
19						
20						
21						
22						
23						
24						
25						
26						
27						
28						
29						
30						
31						
32						

QC LIMITS
TCX = Tetrachloro-m-xylene (± 0.05 MINUTES)
DCB = Decachlorobiphenyl (± 0.10 MINUTES)

Column used to flag retention time values with an asterisk.
* Values outside of QC limits.

IEA
An Aquarion Company

Sample Data

printed on recycled paper

QUANT REPORT

Operator ID: GC Quant Rev: 7 Quant Time: 950302 13:43
Output File: ^QB519::Q2 Injected at: 950302 12:46
Data File: >QB519::D3 Dilution Factor: 1.00000
Name: PB:::SAU-01 Instrument ID: QB
Misc: 50411001 : :072895:LLW :1 :SFPF::QQ0325:10: 250ml

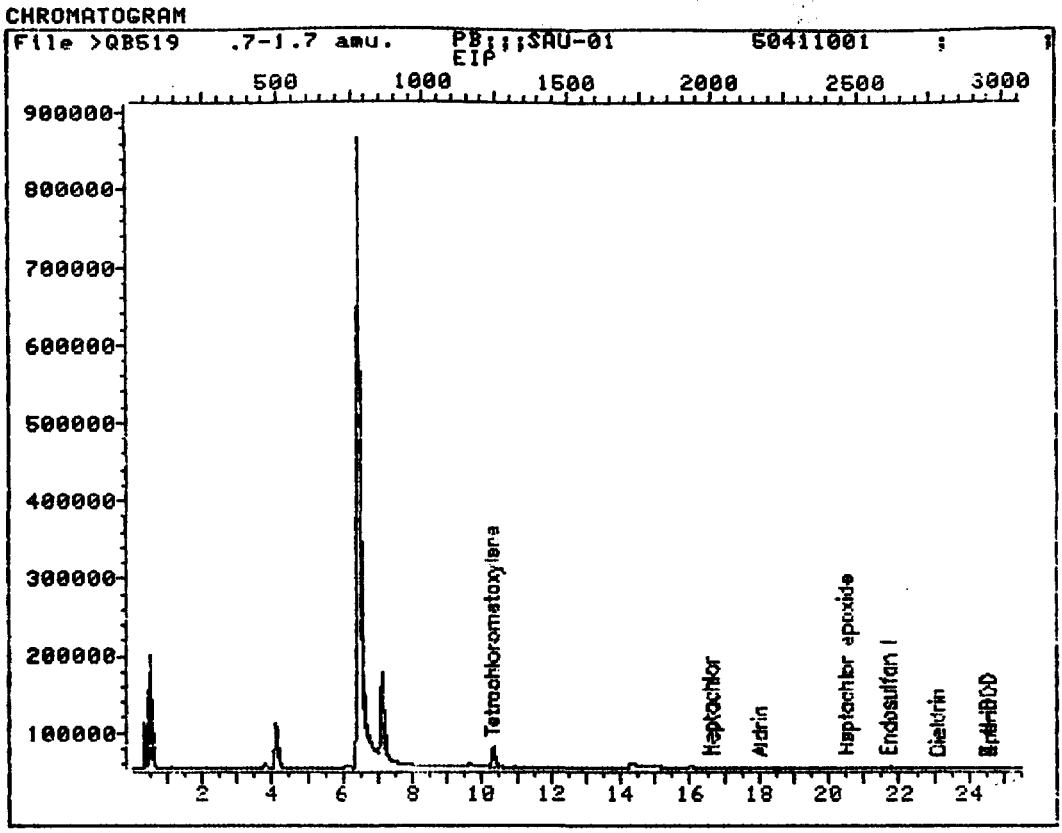
ID File: IDQ608::QT
Title: Pesticide Analysis,IFA-Illinois 3/4/91 Inst.Q SPB-608 30m
Last Calibration: 950214 11:14 Last Qcal Time: <none>

	Compound	R.T.	Scan#	Area	Conc	Units		q
1)	#Tetrachlorometaxylene	10.27	1733	154300	.0857	ngs	92%	100
6)	#Heptachlor	16.59	1991	5884	.00253	ngs		100
7)	#Aldrin	17.99	2159	1768	.000744	ngs		100
8)	#Heptachlor epoxide	20.47	2456	4225	.00188	ngs		100
9)	#gamma-Chlordane	21.33	2560	1652	.000662	ngs		100
10)	#alpha-Clordane	21.68	2602	11052	.00463	ngs		100
11)	#Endosulfan I	21.68	2602	11052	.00469	ngs		100
12)	#4,4-DDE	22.84	2741	1600	.000943	ngs		100
13)	#Dieldrin	23.08	2769	1510	.000727	ngs		100
14)	#Endrin	24.53	2944	1604	.000913	ngs		100
15)	#4,4-DDD	24.53	2944	2644	.00195	ngs		100
17)	#4,4-DDT	26.09	3131	5438	.00426	ngs		100
18)	#Endrin Aldehyde	26.09	3131	5438	.00316	ngs		100
19)	#Endosulfan Sulfate	26.56	3187	4512	.00234	ngs		100
21)	#Endrin Ketone	30.25	3630	11315	.00546	ngs		100
22)	#Decachlorobiphenyl	37.37	4484	169821	.0522	ngs	104%	100

Compound uses ESTD

3/3/95

CHROMATOGRAM

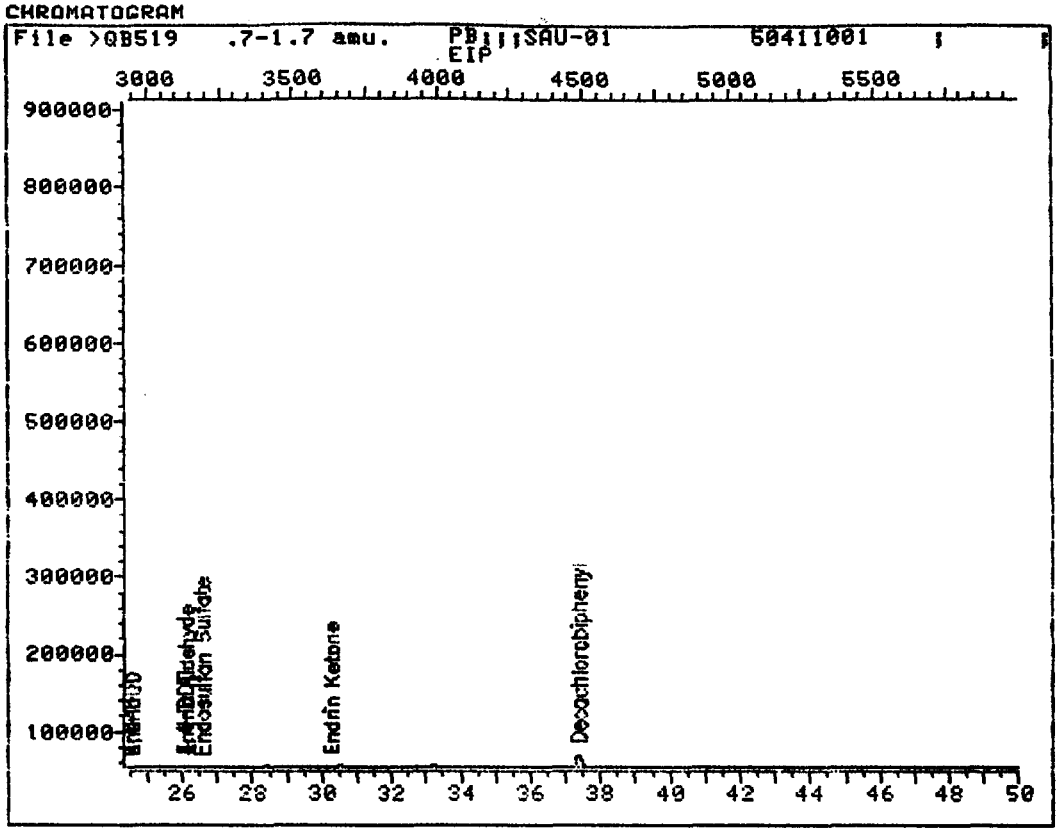


Data File: >QB519::D3 Quant Output File: ^QB519::Q2
Name: PB;;;SAU-01 Instrument ID: QB
Misc: 50411001 ; ;022895;LLW ;1 ;SCPT;;QQ0325;10; 250ml

Id File: IDQ608::QT
Title: Pesticide Analysis,IEA-Illinois 3/4/91 Inst.Q SPB-608 30m
Last Calibration: 950214 11:14 Last Qcal Time: <none>

Operator ID: GC
Quant Time : 950302 13:43
Injected at: 950302 12:46

CHROMATOGRAM



Data File: >QB519::D3 Quant Output File: ^QB519::Q2
Name: PB:::SAU-01 Instrument ID: QB
Misc: 50411001 : :072895:IIW :1 :SFPF::QQ0325:10: 250ml

Id File: IDQ608::QT
Title: Pesticide Analysis,TFA-Illinois 3/4/91 Inst.Q SPB-608 30m
Last Calibration: 950214 11:14 Last Qcal Time: <none>

Operator ID: GC
Quant Time : 950302 13:43
Injected at: 950302 12:46

Operator ID: GC Quant Rev: 7 Quant Time: 950302 14:39
Output File: ^QB520::Q2 Injected at: 950302 13:44
Data File: >QB520::D3 Dilution Factor: 1.00000
Name: PB;;;SAU-02 Instrument ID: QB
Misc: 50411002 ; ;022895;LLW ;1 ;SEPF;;QQ0325;10; 250ml

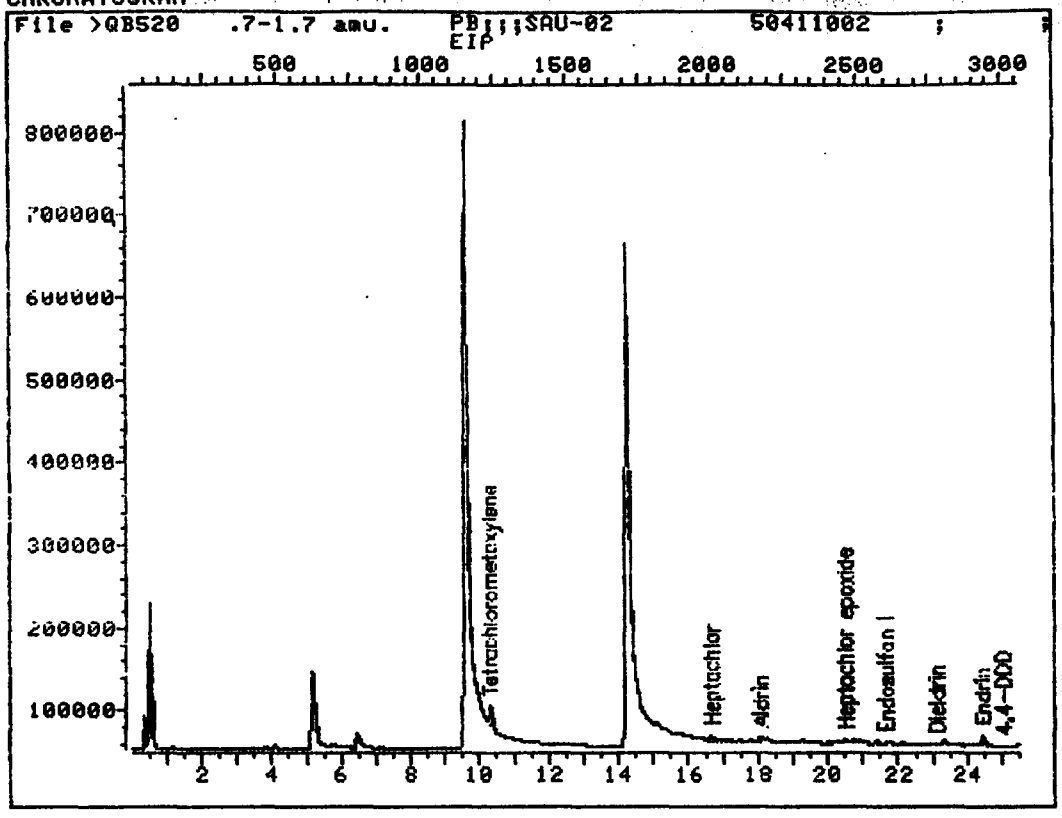
ID File: IDQ608::QT
Title: Pesticide Analysis,IEA-Illinois 3/4/91 Inst.Q SPB-608 30m
Last Calibration: 950214 11:14 Last Qcal Time: <none>

	Compound	R.T.	Scan#	Area	Conc	Units	q
1)	#Tetrachlorometaxylene	10.27	1232	114179M	.0634	ngs 68%	
6)	#Heptachlor	16.65	1998	83071	.0357	ngs	100
7)	#Aldrin	18.05	2166	35995	.0151	ngs	100
8)	#Heptachlor epoxide	20.48	2458	11037	.00492	ngs	100
9)	#gamma-Chlordane	21.36	2563	18821	.00754	ngs	100
10)	#alpha-Clordane	21.63	2596	2331	.000978	ngs	100
11)	#Endosulfan I	21.63	2596	2331	.000989	ngs	100
12)	#4,4-DDE	22.60	2712	8485	.00500	ngs	100
13)	#Dieldrin	23.09	2771	5764	.00278	ngs	100
14)	#Endrin	24.43	2932	67402	.0384	ngs RT	100
15)	#4,4-DDD	25.03	3003	1219	.000898	ngs	100
17)	#4,4-DDT	26.10	3132	4253	.00333	ngs	100
18)	#Endrin Aldehyde	26.10	3132	3816	.00222	ngs	100
19)	#Endosulfan Sulfate	26.47	3177	4005	.00208	ngs	100
22)	#Decachlorobiphenyl	37.36	4483	167776	.0516	ngs 103%	100

Compound uses ESTD

3/3/95

CHROMATOGRAM

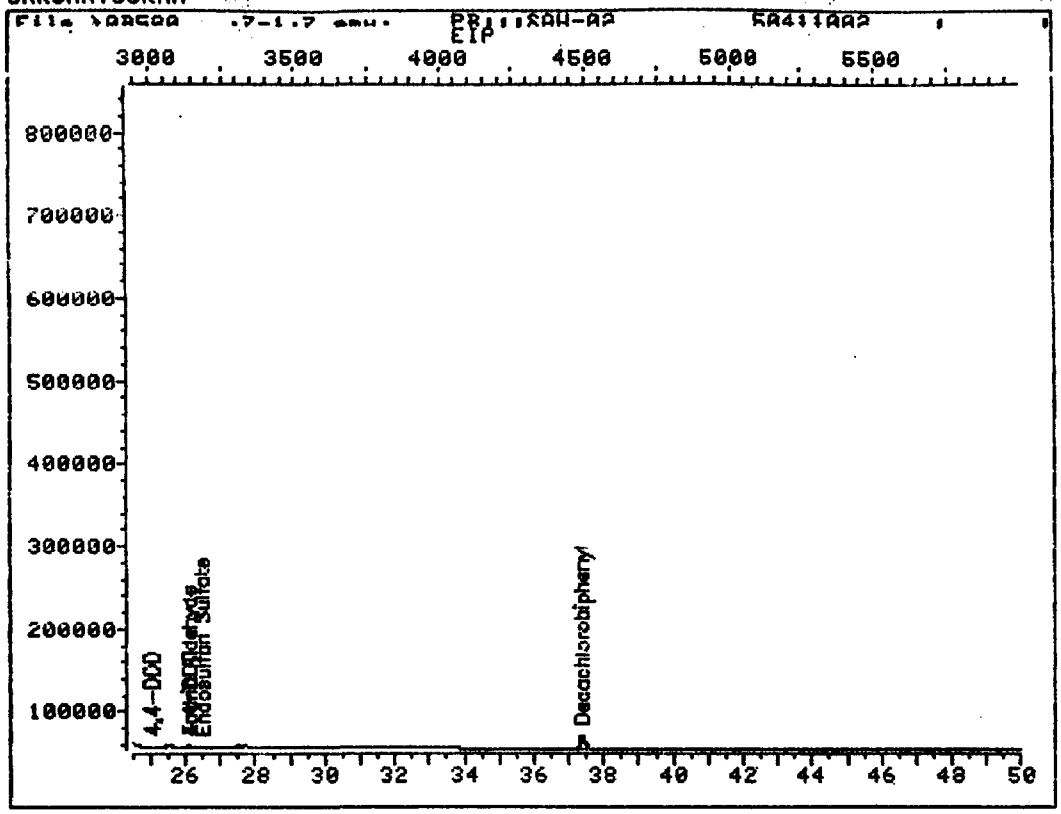


Data File: >QB520::D3 Quant Output File: ^QB520::Q2
Name: PB;;;SAU-02 Instrument ID: QB
Misc: 50411002 ; ;022895;LLW ;1 ;SEPF;;QQ0325;10; 250ml

Id File: IDQ608::QT
Title: Pesticide Analysis,IEA-Illinois 3/4/91 Inst.Q SPB-608 30m
Last Calibration: 950214 11:14 Last Qcal Time: <none>

Operator ID: GC
Quant Time : 950302 14:39
Injected at: 950302 13:44

CHROMATOGRAM



Data File: >QB520::D3 Quant Output File: ^QB520::Q2
Name: PB;;;SAU-02 Instrument ID: QB
Misc: 50411002 ; ;022895;LLW ;1 ;SEPF;;QQ0325;10; 250ml

Id File: IDQ608::QT
Title: Pesticide Analysis,IEA-Illinois 3/4/91 Inst.Q SPB-608 30m
Last Calibration: 950214 11:14 Last Qcal Time: <none>

Operator ID: GC
Quant Time : 950302 14:39
Injected at: 950302 13:44

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QC Summary

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QUANT REPORT

Operator ID: GC Quant Rev: 7 Quant Time: 950302 17:29
Output File: ^QB523::Q2 Injected at: 950302 16:35
Data File: >QB523::D3 Dilution Factor: 1.00000
Name: PB;;;METHOD BLK Instrument ID: QB
Misc: PS0228 W AK 3/03/95 ; ;022895;LLW ;1 ;SFPF;;QQ0325;10; 250ml

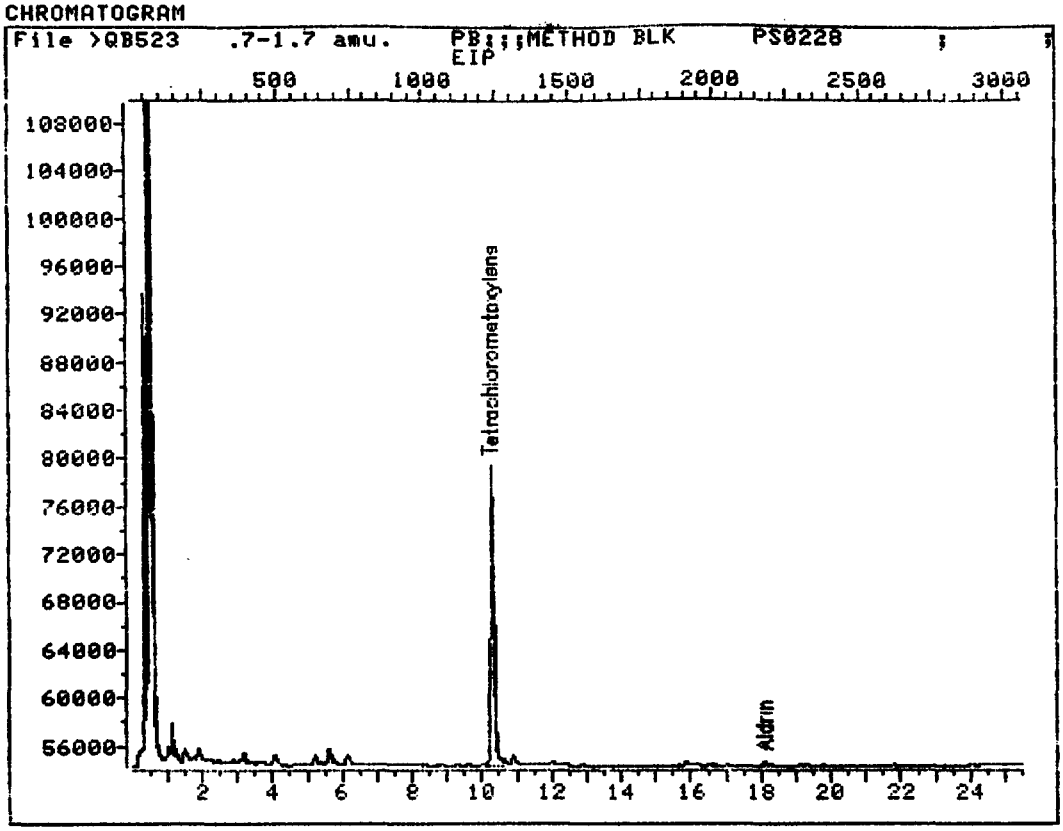
ID File: IDQ608::QT
Title: Pesticide Analysis,IFA-Illinois 3/4/91 Inst.Q SPB-608 30m
Last Calibration: 950214 11:14 Last Qcal Time: <none>

	Compound	R.T.	Scan#	Area	Conc	Units	q
1)	#Tetrachlorometaxylene	10.26	1231	148320	.0824	ngs 88%	100
7)	#Aldrin	18.08	2170	2308	.000971	ngs	100
17)	#4,4-DDT	26.46	3175	3392	.00266	ngs	100
18)	#Endrin Aldehyde	26.46	3175	3392	.00197	ngs	100
22)	#Decachlorobiphenyl	37.36	4483	136034	.0418	ngs 84%	100

Compound uses ESTD

[signature] 3/3/95

CHROMATOGRAM

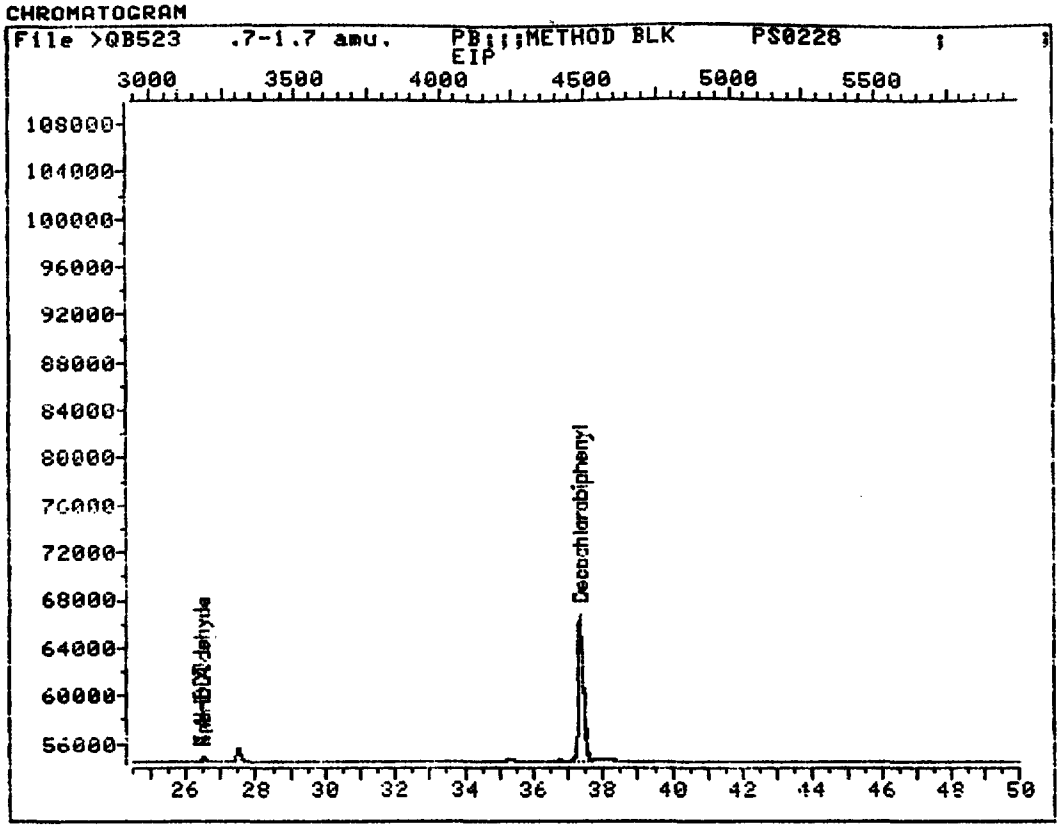


Data File: >QB523::03 Quant Output File: ^QB523::Q2
Name: PB;;;METHOD BLK Instrument ID: QB
Misc: PS0228 ; ;022895;LLW ;1 ;SCPT;;QQ0325;10; 250ml

Id File: IDQ608::QT
Title: Pesticide Analysis,IEA-Illinois 3/4/91 Inst.Q SPB-608 30m
Last Calibration: 950214 11:14 Last Qcal Time: <none>

Operator ID: GC
Quant Time : 950302 17:29
Injected at: 950302 16:35

CHROMATOGRAM



Data File: >QB523::D3 Quant Output File: ^QB523::Q2
Name: PB;;;METHOD BLK Instrument ID: QB
Misc: PS0228 W 3/3/95 : :022895:11W :1 :SFPF::QQ0325:10: 250ml

Id File: IDQ60B::QT
Title: Pesticide Analysis,TFA-Illinois 3/4/91 Inst.Q SPB-60B 30m
Last Calibration: 950214 11:14 Last Qcal Time: <none>

Operator ID: GC
Quant Time : 950302 17:29
Injected at: 950302 16:35

Operator ID: GC Quant Rev: 7 Quant Time: 950302 15:34
Output File: ^QB521::Q2 Injected at: 950302 14:41
Data File: >QB521::D3 Dilution Factor: 1.00000
Name: PB;;;SAU-01 Instrument ID: QB
Misc: 50411001 MS ; ;022895;LLW ;1 ;SEPF;;QQ0325;10; 250ml

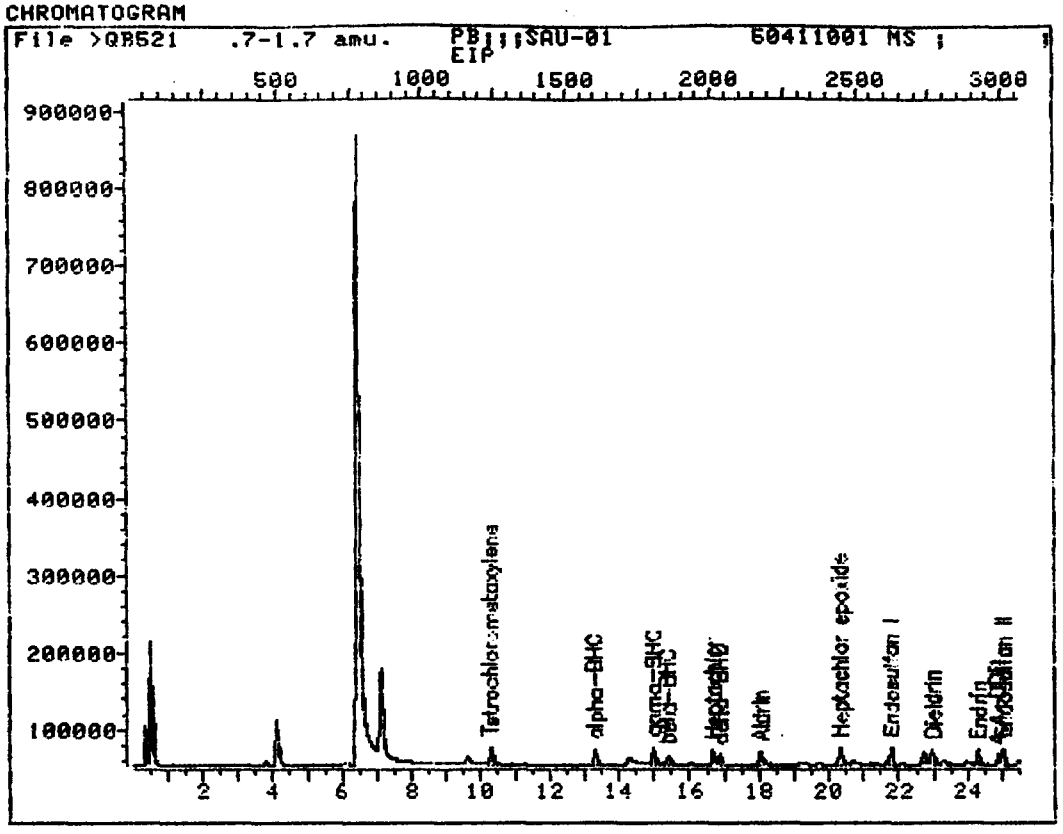
ID File: IDQ608::QT
Title: Pesticide Analysis,IEA-Illinois 3/4/91 Inst.Q SPB-608 30m
Last Calibration: 950214 11:14 Last Qcal Time: <none>

	Compound	R.T.	Scan#	Area	Conc	Units	q
1)	#Tetrachlorometaxylene	10.26	1231	135784	.0754	ngs 81%	100
2)	#alpha-BHC	13.28	1594	93792	.0506	ngs	100
3)	#gama-BHC	14.97	1796	101779M	.0540	ngs 108%	100
4)	#beta-BHC	15.38	1845	60507	.0483	ngs	100
5)	#delta-BHC	16.87	2024	50867	.0309	ngs	100
6)	#Heptachlor	16.67	2000	103814	.0446	ngs 89%	100
7)	#Aldrin	18.03	2164	127296	.0536	ngs	100
8)	#Heptachlor epoxide	20.31	2437	122433M	.0545	ngs 109%	100
9)	#gamma-Chlordane	21.33	2559	14175	.00568	ngs	100
10)	#alpha-Clordane	21.77	2612	169927	.0713	ngs	100
11)	#Endosulfan I	21.77	2612	169927	.0721	ngs	100
12)	#4,4-DDE	22.67	2721	87174	.0514	ngs	100
13)	#Dieldrin	22.96	2755	92929	.0447	ngs	100
14)	#Endrin	24.28	2914	93185	.0531	ngs 106	100
15)	#4,4-DDD	24.83	2980	55926	.0412	ngs	100
16)	#Endosulfan II	25.02	3002	101198	.0473	ngs	100
17)	#4,4-DDT	26.04	3125	60811	.0477	ngs	100
18)	#Endrin Aldehyde	26.19	3143	49995	.0291	ngs	100
19)	#Endosulfan Sulfate	26.83	3220	88372	.0459	ngs	100
20)	#Methoxychlor	29.38	3525	48706M	.0567	ngs 113%	100
21)	#Endrin Ketone	29.88	3585	106376	.0513	ngs	100
22)	#Decachlorobiphenyl	37.36	4483	174416	.0536	ngs 107%	100

Compound uses ESTD

3/3/95

CHROMATOGRAM

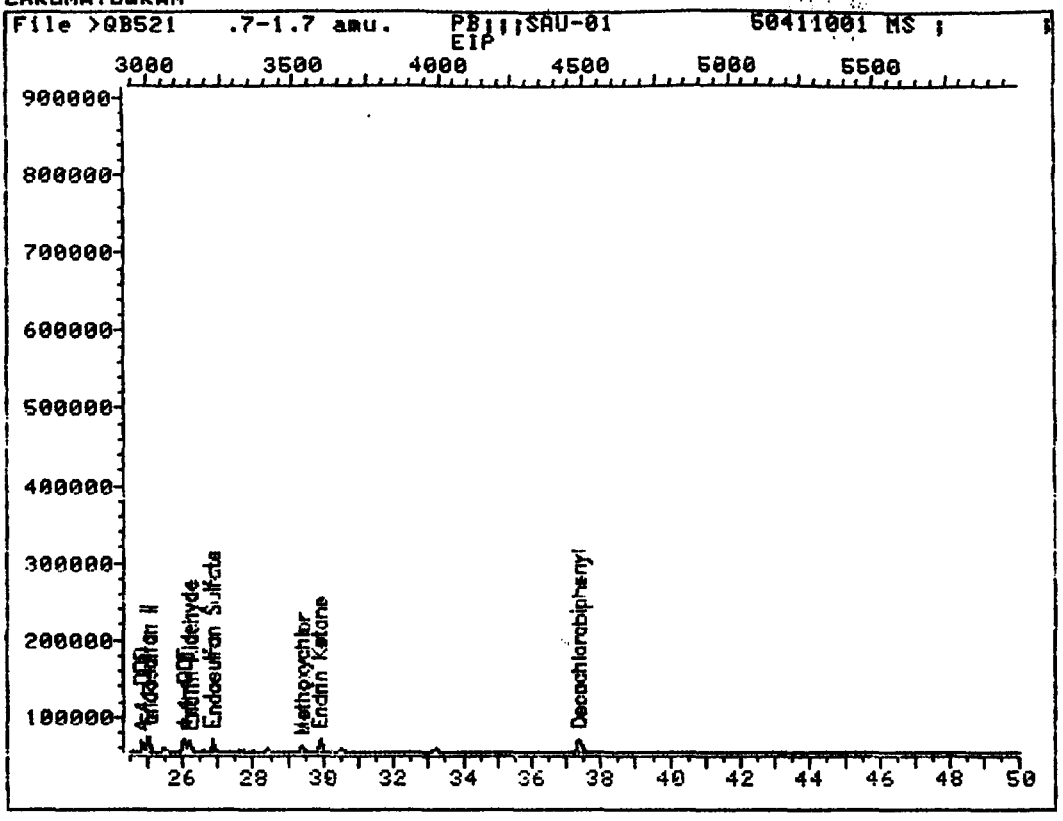


Data File: >QB521::D3 Quant Output File: ^QB521::Q2
Name: PB;;;SAU-01 Instrument ID: QB
Misc: 50411001 MS ; ;022895;LLW ;1 ;SEPF;;QQ0325;10; 250ml

Id File: IDQ608::QT
Title: Pesticide Analysis,IEA-Illinois 3/4/91 Inst.Q SPB-608 30m
Last Calibration: 950214 11:14 Last Qcal Time: <none>

Operator ID: GC
Quant Time : 950302 15:34
Injected at: 950302 14:41

CHROMATOGRAM



Data File: >QB521::D3 Quant Output File: ^QB521::Q2
Name: PB:::SAU-01 Instrument ID: QB
Misc: 50411001 MS : :022895:IIW :1 :SFPF::QQ0325:10: 250ml

Id File: IDQ60B::QT
Title: Pesticide Analysis,TFA-Illinois 3/4/91 Inst.Q SPB-60B 30m
Last Calibration: 950214 11:14 Last Qcal Time: <none>

Operator ID: GC
Quant Time : 950302 15:34
Injected at: 950302 14:41

QUANT REPORT

Operator ID: GC
Quant Rev: 7
Quant Time: 950302 16:33
Output File: ^QB522::Q2
Injected at: 950302 15:38
Data File: >QB522::D3
Dilution Factor: 1.00000
Name: PB;;;SAU-01
Instrument ID: QB
Misc: 50411001 MSD; ;022895;LLW ;1 ;SEPF;;QQ0325;10; 250ml

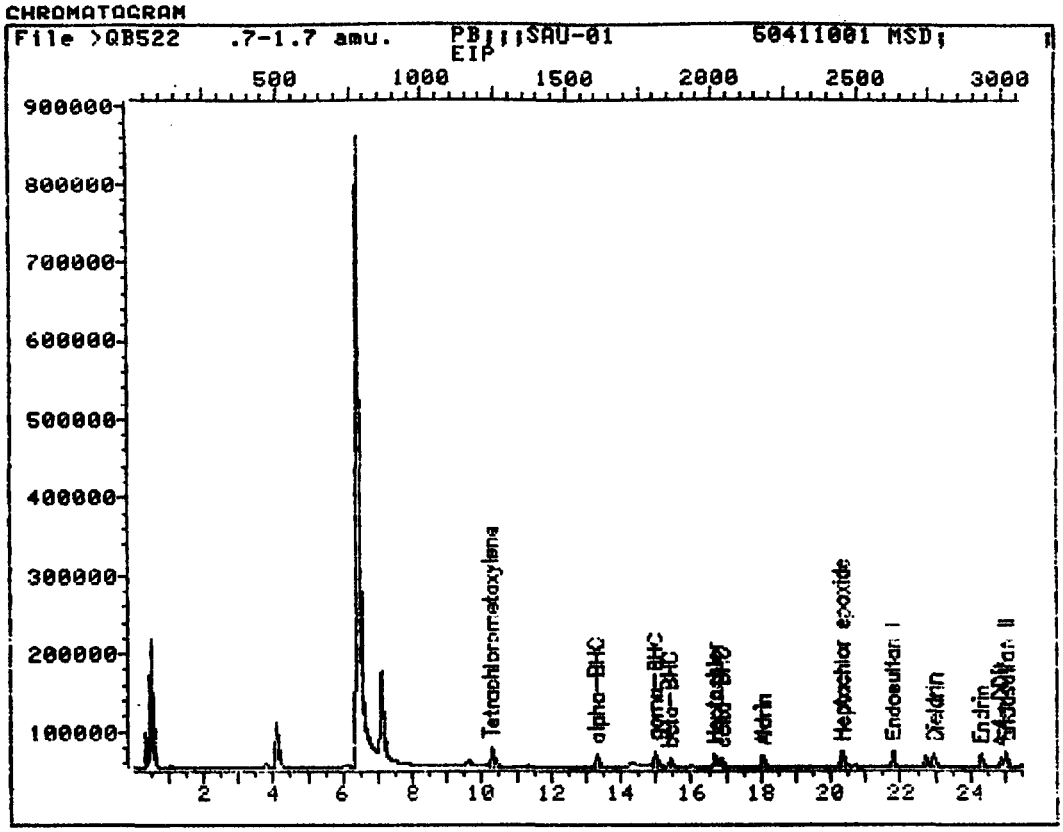
ID File: IDQ608::QT
Title: Pesticide Analysis,IEA-Illinois 3/4/91 Inst.Q SPB-608 30m
Last Calibration: 950214 11:14
Last Qcal Time: <none>

	Compound	R.T.	Scan#	Area	Conc	Units		q
1)	#Tetrachlorometaxylene	10.26	1231	139366	.0774	ngs	83%	100
2)	#alpha-BHC	13.28	1594	83436	.0450	ngs		100
3)	#gama-BHC	14.97	1796	95815M	.0509	ngs	102%	100
4)	#beta-BHC	15.38	1846	54168	.0432	ngs		100
5)	#delta-BHC	16.87	2024	45063	.0273	ngs		100
6)	#Heptachlor	16.67	2000	89168	.0383	ngs	77%	100
7)	#Aldrin	18.04	2165	87796	.0369	ngs		100
8)	#Heptachlor epoxide	20.31	2437	112043	.0499	ngs	100%	100
9)	#gamma-Chlordane	21.33	2559	2420	.000970	ngs		100
10)	#alpha-Clordane	21.77	2612	116712	.0489	ngs		100
11)	#Endosulfan I	21.77	2612	116712	.0495	ngs		100
12)	#4,4-DDE	22.67	2721	83843	.0494	ngs		100
13)	#Dieldrin	22.96	2755	90377	.0435	ngs		100
14)	#Endrin	24.28	2914	84487	.0481	ngs	96%	100
15)	#4,4-DDD	24.83	2980	48184	.0355	ngs		100
16)	#Endosulfan II	25.02	3002	90992	.0425	ngs		100
17)	#4,4-DDT	26.03	3124	52984	.0415	ngs		100
18)	#Endrin Aldehyde	26.19	3143	49616	.0288	ngs		100
19)	#Endosulfan Sulfate	26.83	3220	79948	.0415	ngs		100
20)	#Methoxychlor	29.38	3525	46133M	.0537	ngs	107%	100
21)	#Endrin Ketone	29.87	3584	96555	.0466	ngs		100
22)	#Decachlorobiphenyl	37.35	4482	167464	.0515	ngs	103%	100

Compound uses ESTD

3/3/95

CHROMATOGRAM



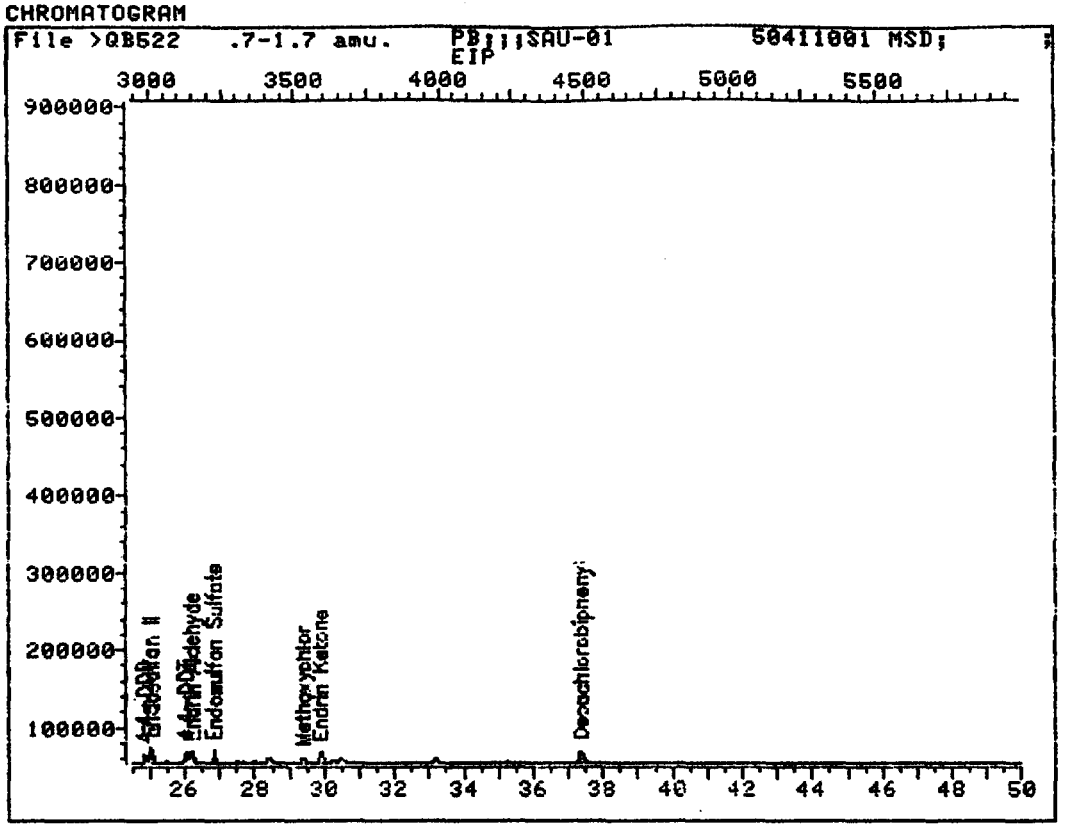
Data File: >QB522::D3 Quant Output File: ^QB522::Q2
Name: PB:::SAU-01 Instrument ID: QB
Misc: 50411001 MSD: :072895:IIW :1 :SFPF::QQ0325:10: 250ml

Id File: TDQ608::QT
Title: Pesticide Analysis,IEA-Illinois 3/4/91 Inst.Q SPB-608 30m
Last Calibration: 950214 11:14 Last Qcal Time: <none>

Operator ID: GC
Quant Time : 950302 16:33
Injected at: 950302 15:38

Page 1 of 2

CHROMATOGRAM



Data File: >QB522::D3 Quant Output File: ^QB522::Q2
Name: PB;;;SAU-01 Instrument ID: QB
Misc: 50411001 MSD; ;022395;LLW ;1 ;SEPT;;QQ0325;10; 250ml

Id File: IDQ608::QT
Title: Pesticide Analysis,IEA-Illinois 3/4/91 Inst.Q SPB-608 30m
Last Calibration: 950214 11:14 Last Qcal Time: <none>

Operator ID: GC
Quant Time : 950302 16:33
Injected at: 950302 15:38

QUANT REPORT

Operator ID: GC Quant Rev: 7 Quant Time: 950302 18:25
Output File: ^QB524::Q2 Injected at: 950302 17:31
Data File: >QB524::D3 Dilution Factor: 1.00000
Name: PB:::BLK SPIKE Instrument ID: QB
Misc: P~~S~~0228-BS ; ;022895;LLW ;1 ;SFPF;;QQ0325;10; 250ml

W AK 03/03/95

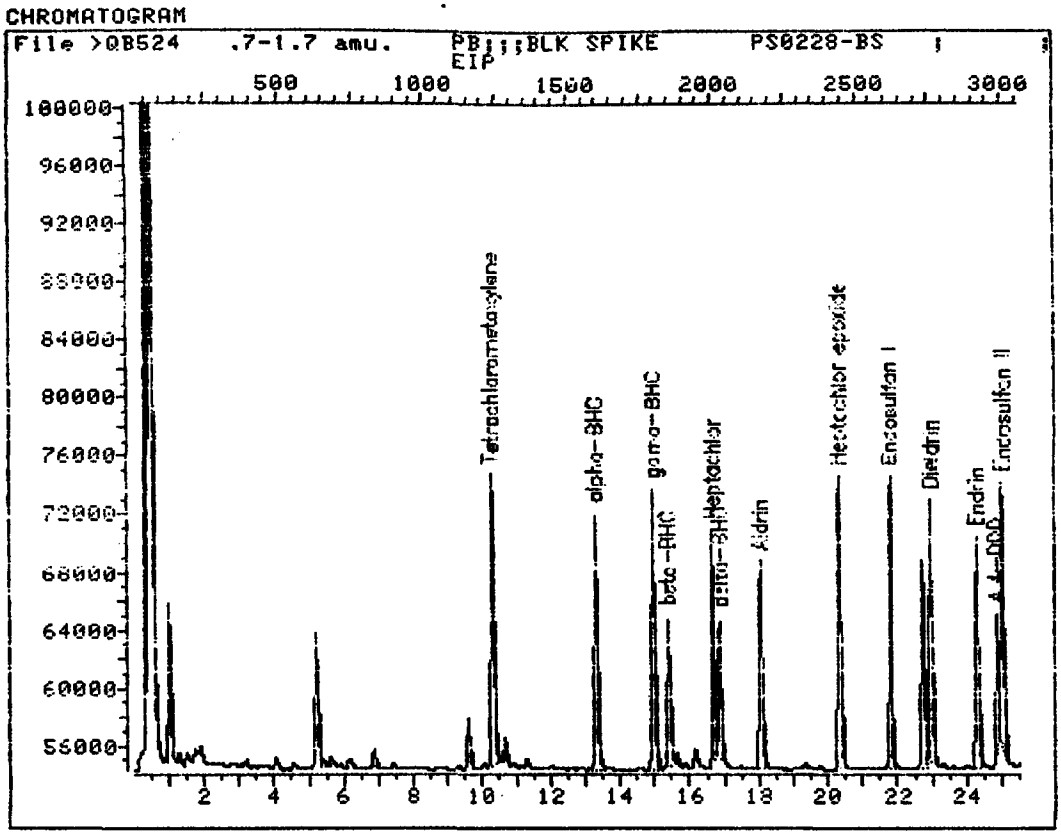
ID File: IDQ608::QT
Title: Pesticide Analysis,IEA-Illinois 3/4/91 Inst.Q SPB-608 30m
Last Calibration: 950214 11:14 Last Qcal Time: <none>

	Compound	R.T.	Scan#	Area	Conc	Units	q
1)	#Tetrachlorometaxylene	10.26	1231	115567	.0642	ngs 69%	100
2)	#alpha-BHC	13.28	1594	89159	.0481	ngs	100
3)	#gama-BHC	14.97	1796	99560	.0529	ngs 106%	100
4)	#beta-BHC	15.38	1846	57520	.0459	ngs	100
5)	#delta-BHC	16.87	2024	45214	.0274	ngs	100
6)	#Heptachlor	16.67	2000	91969	.0395	ngs 79%	100
7)	#Aldrin	18.04	2165	85592	.0360	ngs 72%	100
8)	#Heptachlor epoxide	20.31	2437	115684	.0515	ngs 103%	100
10)	#alpha-Clordane	21.77	2612	117424	.0492	ngs 98%	100
11)	#Endosulfan I	21.77	2612	117424	.0498	ngs 100%	100
12)	#4,4-DDE	22.68	2722	82192	.0484	ngs	100
13)	#Dieldrin	22.96	2755	96795	.0466	ngs 93%	100
14)	#Endrin	24.28	2914	87595	.0499	ngs 100%	100
15)	#4,4-DDD	24.83	2980	46653	.0344	ngs	100
16)	#Endosulfan II	25.03	3003	95389	.0445	ngs	100
17)	#4,4-DDT	26.04	3125	72567	.0569	ngs 113%	100
18)	#Endrin Aldehyde	26.19	3143	62293	.0362	ngs	100
19)	#Endosulfan Sulfate	26.83	3220	89156	.0463	ngs	100
20)	#Methoxychlor	29.38	3525	50336	.0586	ngs 117%	100
21)	#Endrin Ketone	29.88	3585	102923	.0497	ngs	100
22)	#Decachlorobiphenyl	37.36	4483	132620	.0408	ngs 82%	100

Compound uses ESTD

[signature] 3/3/95

CHROMATOGRAM

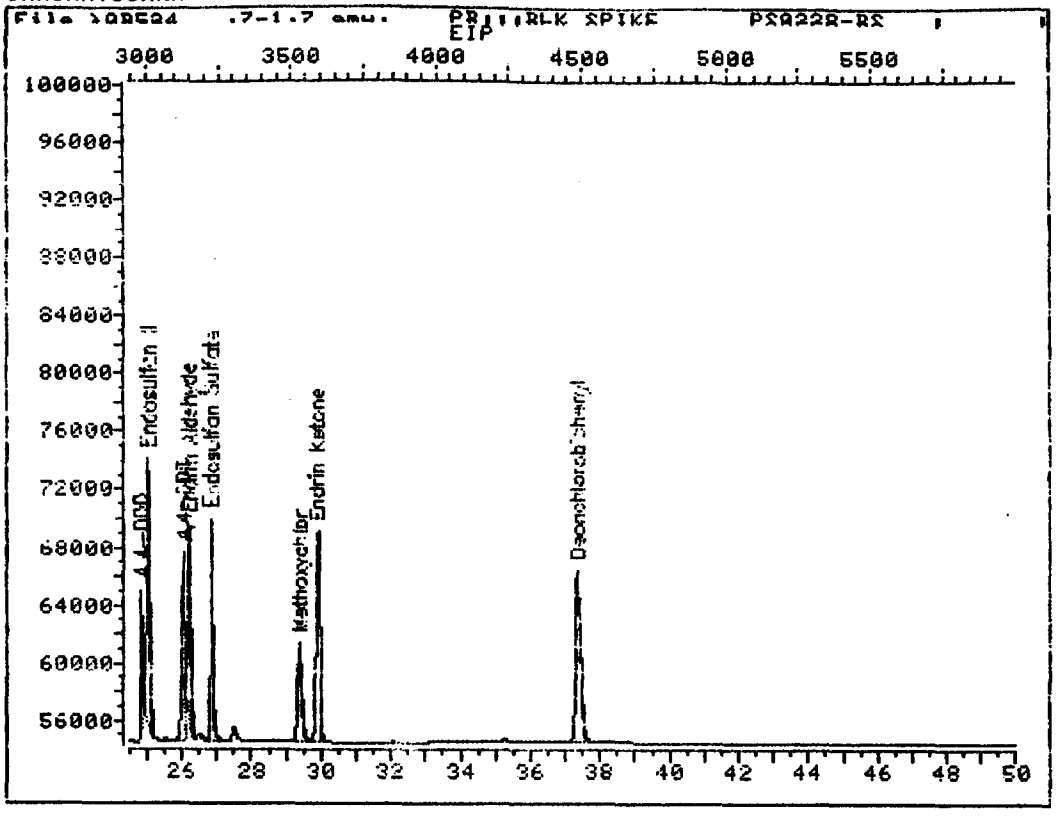


Data File: >QB524::D3 Quant Output File: ^QB524::Q2
Name: PB;;;BLK SPIKE Instrument ID: QB
Misc: PS0228-BS ; ;022895;LLW ;1 ;SEPF;;QQ0325;10; 250ml

Id File: IDQ608::QT
Title: Pesticide Analysis,IEA-Illinois 3/4/91 Inst.Q SPB-608 30m
Last Calibration: 950214 11:14 Last Qcal Time: <none>

Operator ID: GC
Quant Time : 950302 18:25
Injected at: 950302 17:31

CHROMATOGRAM



Data File: >QR524::D3 Quant Output File: ^QR524::Q2
Name: PR::RLK SPIKE Instrument ID: QR
Misc: PSQ22R-RS : :022895:11W :1 :SFPF::QQ0325:10: 250ml

Id File: IDQ60R::QT
Title: Pesticide Analysis,IEA-Illinois 3/4/91 Inst.Q SPB-60R 30m
Last Calibration: 950214 11:14 Last Qcal Time: <none>

Operator ID: GC
Quant Time : 950302 18:25
Injected at: 950302 17:31

QUANT REPORT

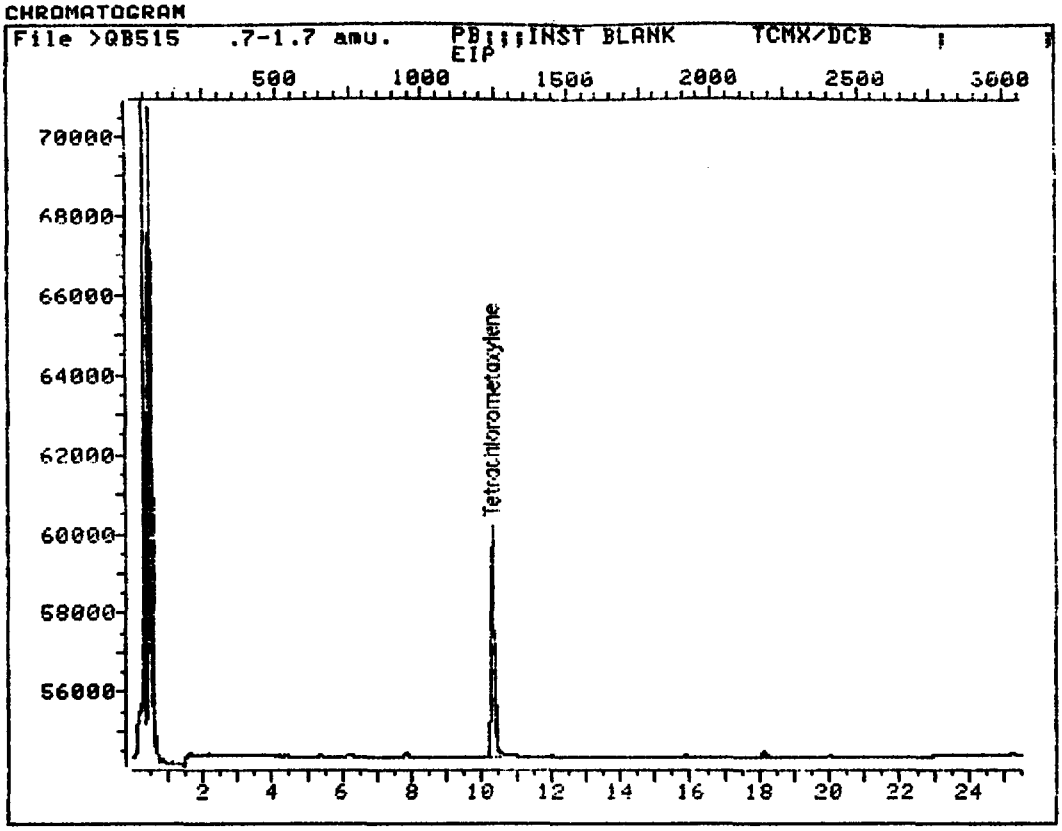
Operator ID: GC Quant Rev: 7 Quant Time: 950302 09:55
Output File: ^QB515::Q2 Injected at: 950302 09:02
Data File: >QB515::D3 Dilution Factor: 1.00000
Name: MB;;;INST BLANK Instrument ID: QB
Misc: TCMX/DCB ; ;030295; ;1 ; ;;QQ0325; ;

ID File: IDQ608::QT
Title: Pesticide Analysis,ICA-Illinois 3/4/91 Inst.Q SPB-608 30m
Last Calibration: 950214 11:14 Last Qcal Time: <none>

Compound	R.T.	Scan#	Area	Conc	Units	q
1) #Tetrachlorometaxylene	10.28	1234	35023	.0194	ngs	100
Z2) #Decachlorobiphenyl	37.39	4487	76459	.0235	ngs	100

Compound uses ESTD

CHROMATOGRAM

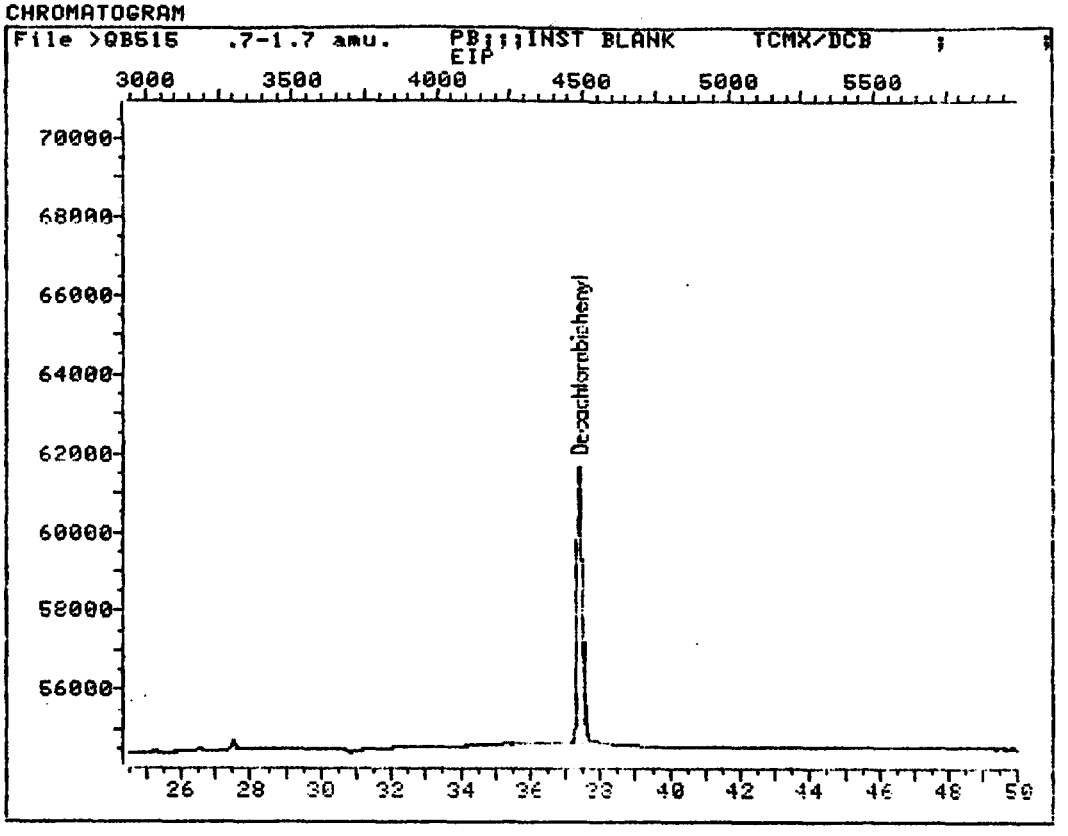


Data File: >QB515::D3 Quant Output File: ^QB515::Q2
Name: PB:::INST BLANK Instrument ID: QB
Misc: TCMX/DCB : :030295: :1 : ::QQ0325: :

Id File: IDQ608::QT
Title: Pesticide Analysis,TFA-Illinois 3/4/91 Inst.Q SPR-608 30m
Last Calibration: 950214 11:14 Last Qcal Time: <none>

Operator ID: GC
Quant Time : 950307 09:55
Injected at: 950307 09:07

CHROMATOGRAM



Data File: >QB515::D3 Quant Output File: ^QB515::Q2
Name: PB;;;INST BLANK Instrument ID: QB
Misc: TCMX/DCB ; ;030295; ;1 ; ;;QQ0325; ;

Id File: IDQ608::QT
Title: Pesticide Analysis,ICA-Illinois 3/4/91 Inst.Q SPB-608 30m
Last Calibration: 950214 11:14 Last Qcal Time: <none>

Operator ID: GC
Quant Time : 950302 09:55
Injected at: 950302 09:02

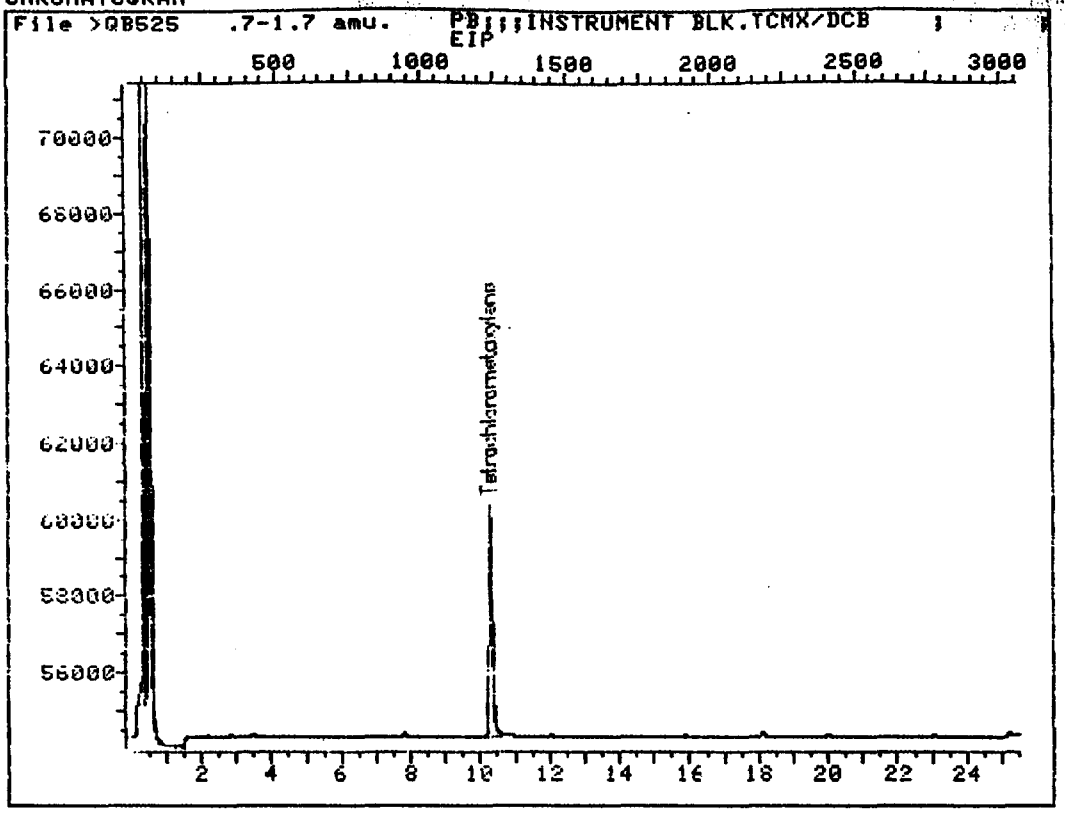
Operator ID: GC Quant Rev: 7 Quant Time: 950302 19:21
Output File: ^QR525::Q2 Injected at: 950302 18:28
Data File: >QR525::D3 Dilution Factor: 1.00000
Name: PR:::INSTRUMENT BLK. Instrument ID: QR
Misc: TCMX/DCB : :030295: :1 : ::QQ0325: :

ID File: TDQ608::QT
Title: Pesticide Analysis,TFA-Illinois 3/4/91 Inst.Q SPB-608 30m
Last Calibration: 950214 11:14 Last Qcal Time: <none>

	Compound	R.T.	Scan#	Area	Conc	Units	q
1)	#Tetrachlorometaxylene	10.26	1231	38143	.0212	ngs	100
22)	#Decachlorobiphenyl	37.36	4483	81156	.0250	ngs	100

Compound uses ESTD

CHROMATOGRAM

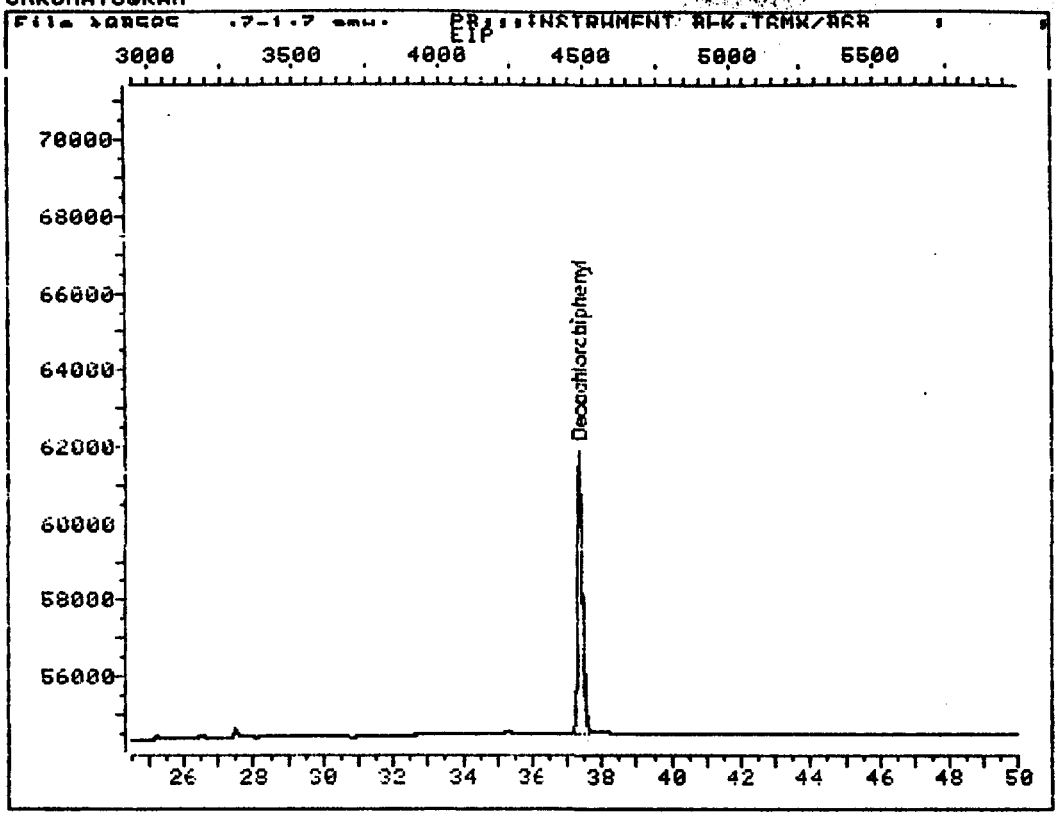


Data File: >QB525::D3 Quant Output File: ^QB525::Q2
Name: PB;;;INSTRUMENT BLK. Instrument ID: QB
Misc: TCMX/DCB ; ;030295; ;1 ; ;;QQ0325; ;

Id File: IDQ608::QT
Title: Pesticide Analysis,ICA-Illinois 3/4/91 Inst.Q SPB-608 30m
Last Calibration: 950214 11:14 Last Qcal Time: <none>

Operator ID: GC
Quant Time : 950302 19:21
Injected at: 950302 18:28

CHROMATOGRAM



Data File: >QR525::D3 Quant Output File: ^QR525::Q2
Name: PR:::INSTRUMENT BLK. Instrument ID: QR
Misc: TCMX/DCB : :030295: :1 : ::QQ0325: :

Id File: TDQ60R::QT
Title: Pesticide Analysis,TFA-Illinois 3/4/91 Inst.Q SPB-60R 30m
Last Calibration: 950214 11:14 Last Qcal Time: <none>

Operator ID: GC
Quant Time : 950302 19:21
Injected at: 950302 18:28

QUANT REPORT

Operator ID: GC Quant Rev: 7 Quant Time: 950303 18:29
Output File: ^M7296::Q2 Injected at: 950303 17:45
Data File: >M7296::D4 Dilution Factor: 1.00000
Name: MMSD;;;SAU-01 Instrument ID: MMSD
Misc: 950411001 ; ;950228;LLW;1 ;CONT;QM1379;2;400ml BTL# 5

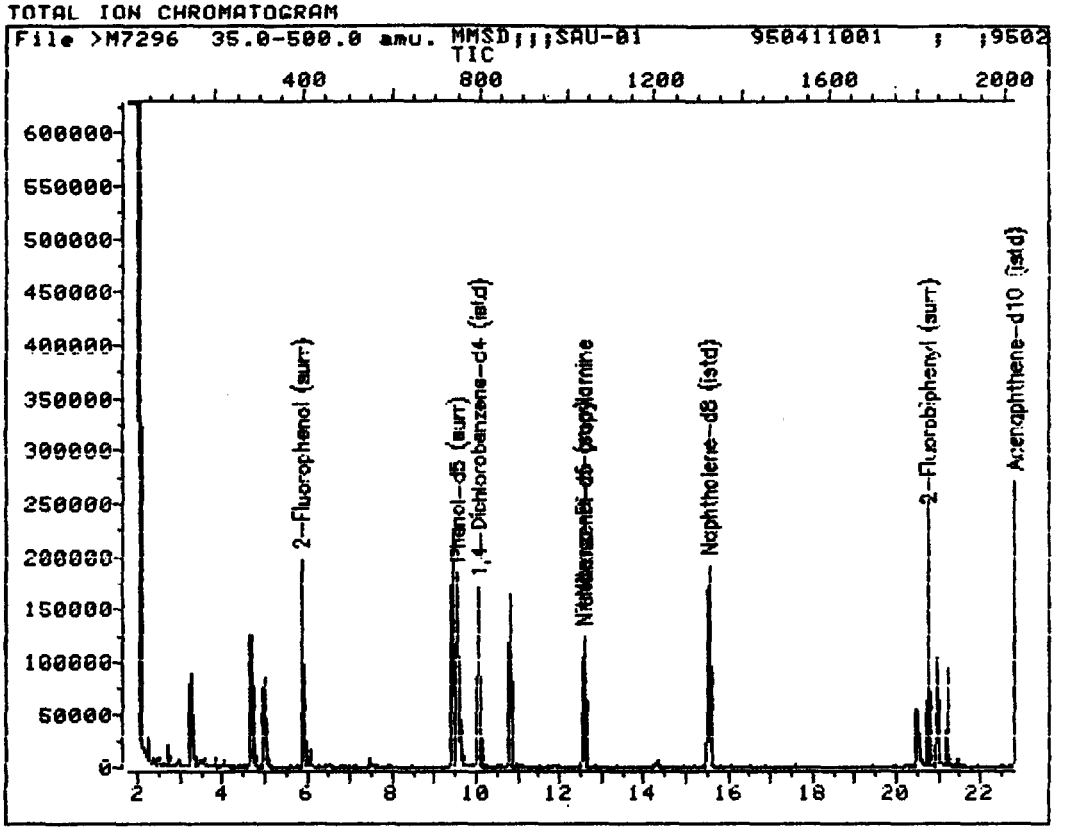
ID File: IDMBNA::QT
Title: BNA ORGANIC STANDARDS; IEA LABORATORIES 11/13/89
Last Calibration: 950216 11:54 Last Qcal Time: 950303 13:22

	Compound	R.T.	Q ion	Area	Conc	Units	q
1)	*1,4-Dichlorobenzene-d4 (istd)	10.04	152.0	71047	40.00	ngs	99
4)	2-Fluorophenol (surr)	5.85	112.0	143977	66.60	ngs	93
6)	Phenol-d5 (surr)	9.53	99.0	187123	72.32	ngs	85
18)	~~N-Nitroso-Di-n-propylamine~~	~~12.56~~	~~70.0~~	~~15661~~	~~10.55~~	ngs	62
19)	*Naphthalene-d8 (istd)	15.52	136.0	231935	40.00	ngs	98
20)	Nitrobenzene-d5 (surr)	12.56	82.0	96604	42.50	ngs	88
34)	*Acenaphthene-d10 (istd)	22.81	164.0	128452	40.00	ngs	94
38)	2-Fluorobiphenyl (surr)	20.74	172.0	186552	44.78	ngs	96
51)	Diethylphthalate	24.63	149.0	2170	.484	ngs	98
53)	2,4,6-Tribromophenol (surr)	25.17	329.8	63454	70.74	ngs	88
54)	*Phenanthrene-d10 (istd)	26.90	188.0	147233	40.00	ngs	98
67)	*Chrysene-d12 (istd)	33.60	240.0	92621	40.00	ngs	96
70)	Terphenyl-d14 (surr)	31.15	244.0	143378	57.72	ngs	98
75)	bis(2-Ethylhexyl)phthalate	34.20	149.0	10133	5.85	ngs	77
76)	*Perylene-d12 (istd)	36.89	264.0	91176	40.00	ngs	96

* Compound is ISTD

3/6/95

TOTAL ION CHROMATOGRAM

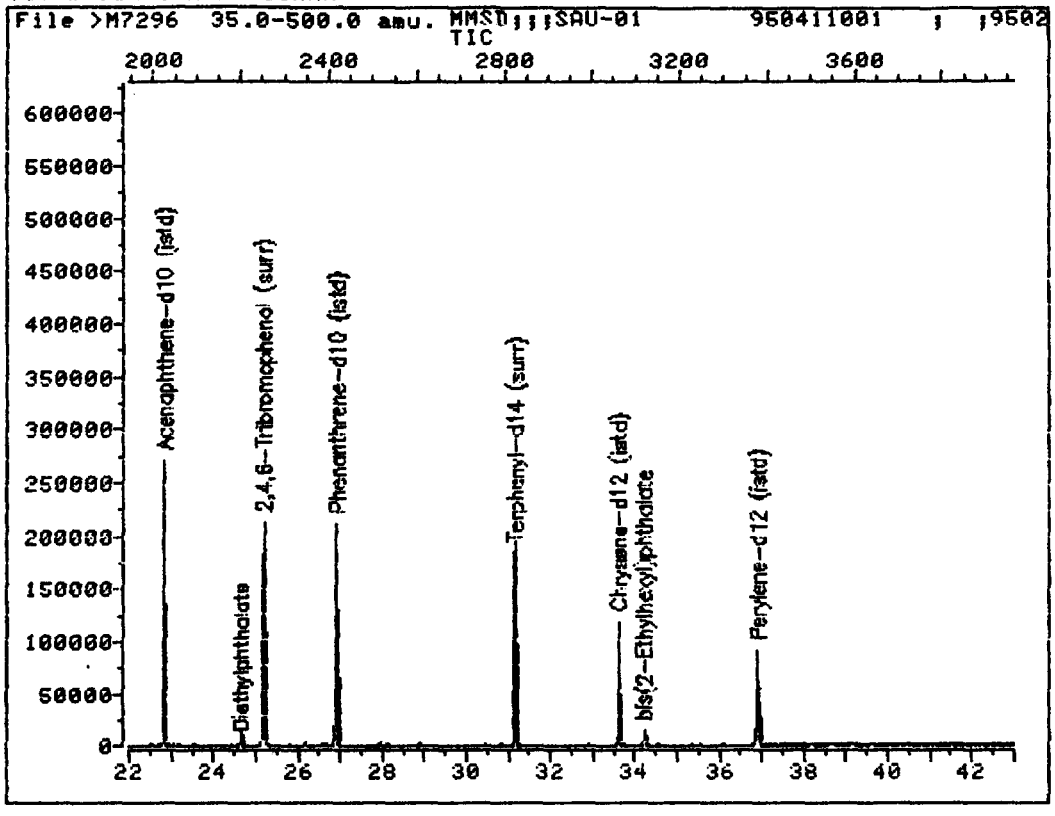


Data File: >M7296::D4 Quant Output File: ^M7296::Q2
Name: MMSD;;;SAU-01 Instrument ID: MMSD
Misc: 950411001 ; ;950228;LLW;1 ;CONT;QM1379;2;400ml BTL# 5

Id File: IDMBNA::QT
Title: BNA ORGANIC STANDARDS; IEA LABORATORIES 11/13/89
Last Calibration: 950216 11:54 Last Qcal Time: 950303 13:22

Operator ID: GC
Quant Time : 950303 18:29
Injected at: 950303 17:45

TOTAL ION CHROMATOGRAM

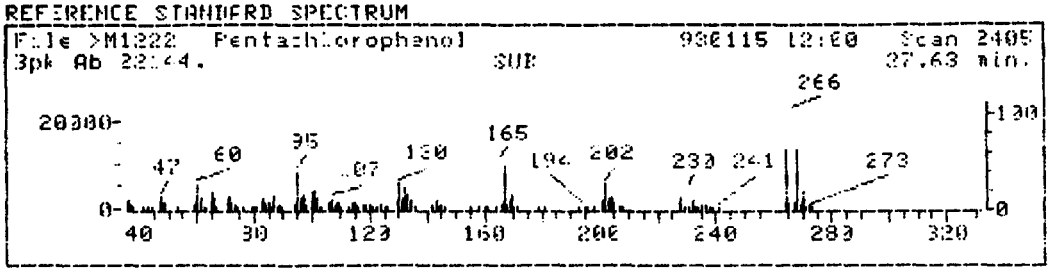


Data File: >M7296::D4 Quant Output File: ^M7296::Q2
Name: MMSD;;;SAU-01 Instrument ID: MMSD
Misc: 950411001 ; ;950228;LLW;1 ;CONT;QM1379;2;400ml BTL# 5

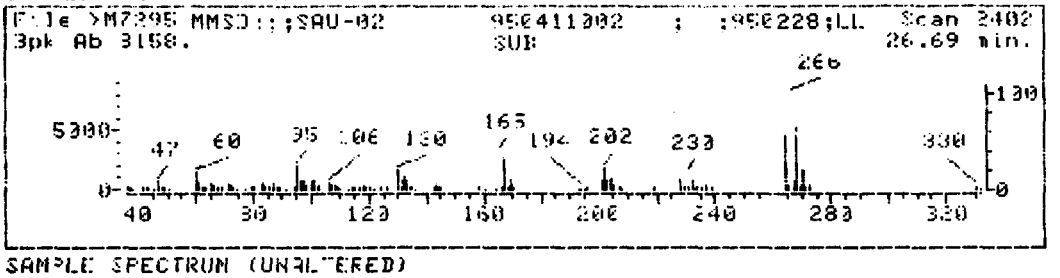
Id File: IDMBNA::QT
Title: BNA ORGANIC STANDARDS; IEA LABORATORIES 11/13/89
Last Calibration: 950216 11:54 Last Qcal Time: 950303 13:22

Operator ID: GC
Quant Time : 950303 18:29
Injected at: 950303 17:45

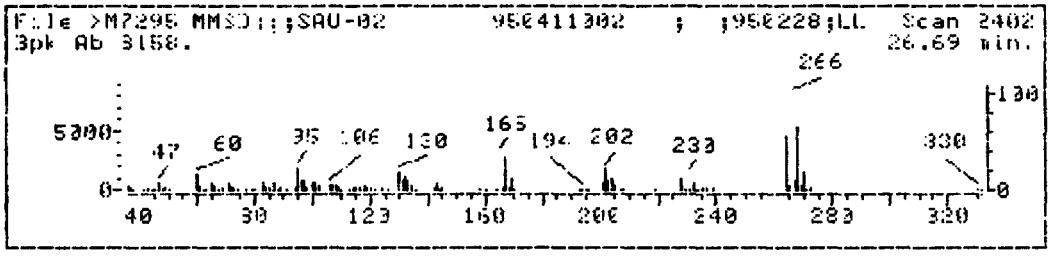
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



SAMPLE SPECTRUM (UNALTERED)



Data File: >M7295::D4 Quant Output File: ^M7295::Q2
Name: MMSD;;;SAU-02 Instrument ID: MMSD
Misc: 950411002 ; ;950228;LLW;1 ;CONT;QM1379;2;400ml BTL# 4
Quant Time: 950303 17:37 Quant ID File: IDMBNA::QT
Injected at: 950303 16:52 Last Calibration: 950216 11:54
Last Qcal Time: 950303 13:22

Compound No : 61
Compound Name : Pentachlorophenol
Scan Number : 2402
Retention Time: 26.69 min.
Quant Ion : 265.9
Area : 16995
Concentration : 42.64 ngs
q-value : 93

QUANT REPORT

Operator ID: GC Quant Rev: 7 Quant Time: 950303 17:37
Output File: ^M7295::Q2 Injected at: 950303 16:52
Data File: >M7295::D4 Dilution Factor: 1.00000
Name: MMSD;;;SAU-02 Instrument ID: MMSD
Misc: 950411002 ; ;950228;LLW;1 ;CONT;QM1379;2;400ml BTL# 4

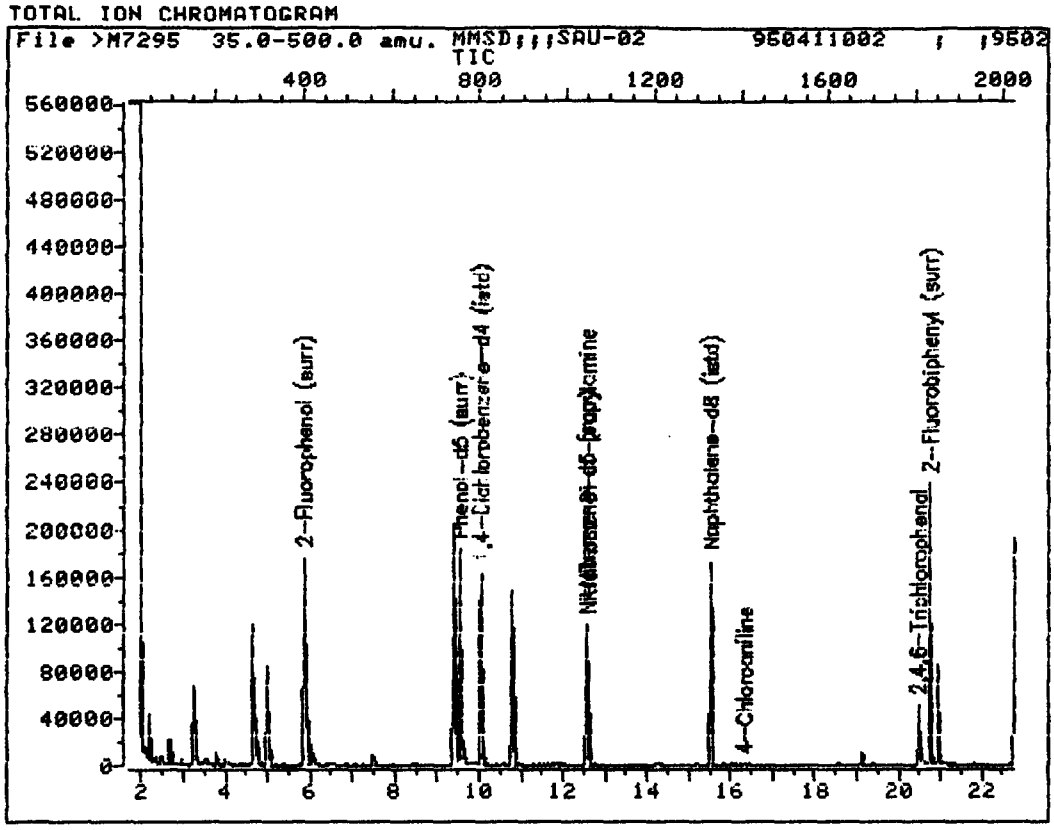
ID File: IDMBNA::QT
Title: BNA ORGANIC STANDARDS; IEA LABORATURIES 11/13/89
Last Calibration: 950216 11:54 Last Qcal Time: 950303 13:22

	Compound	R.T.	Q ion	Area	Conc	Units	q
1)	*1,4-Dichlorobenzene-d4 (istd)	10.03	152.0	67079	40.00	ngs	99
4)	2-Fluorophenol (surr)	5.84	112.0	134196	65.74	ngs	95
6)	Phenol-d5 (surr)	9.53	99.0	176392	72.21	ngs	86
18)	~~N-Nitroso-Di-n-propylamine~~	~~12.56~~	~~70.0~~	~~14697~~	~~10.48~~	ngs	61
19)	*Naphthalene-d8 (istd)	15.52	136.0	205197	40.00	ngs	96
20)	Nitrobenzene-d5 (surr)	12.56	82.0	93936	46.71	ngs	87
30)	4-Chloroaniline	16.32	127.0	1131	.930	ngs	82
34)	*Acenaphthene-d10 (istd)	22.80	164.0	114510	40.00	ngs	96
36)	2,4,6-Trichlorophenol	20.46	196.0	3032	2.81	ngs	92
37)	2,4,5-Trichlorophenol	20.46	196.0	3032	2.73	ngs	95
38)	2-Fluorobiphenyl (surr)	20.74	172.0	169530	45.64	ngs	97
50)	Fluorene	24.03	166.0	6761	2.07	ngs	100
53)	2,4,6-Tribromophenol (surr)	25.16	329.8	55097	68.90	ngs	85
54)	*Phenanthrene-d10 (istd)	26.90	188.0	130059	40.00	ngs	97
61)	Pentachlorophenol	26.69	265.9	16995	42.64	ngs	93
67)	*Chrysene-d12 (istd)	33.60	240.0	79082	40.00	ngs	91
70)	Terphenyl-d14 (surr)	31.15	244.0	124481	58.70	ngs	99
76)	*Perylene-d12 (istd)	36.88	264.0	70582	40.00	ngs	97

* Compound is ISTD

3/6/95

TOTAL ION CHROMATOGRAM

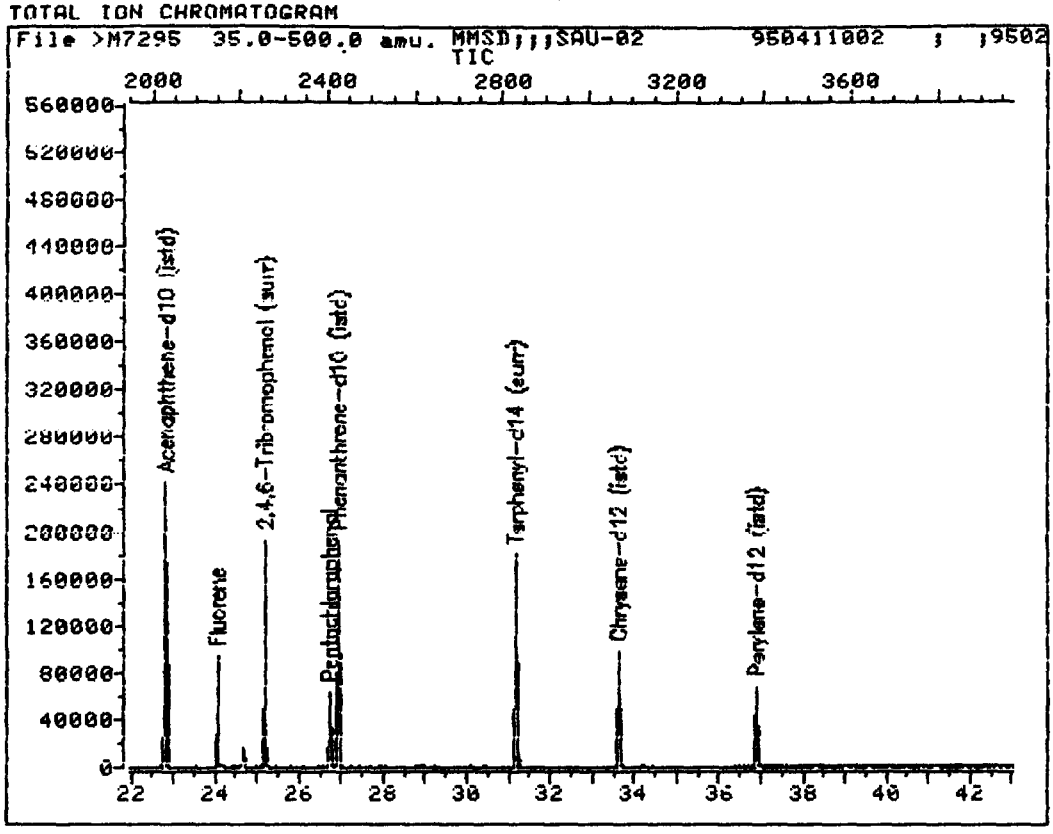


Data File: >M7295::D4 Quant Output File: ^M7295::Q2
Name: MMSD;;;SAU-02 Instrument ID: MMSD
Misc: 950411002 ; ;950228;LLW;1 ;CONT;QM1379;2;400ml BTL# 4

Id File: IDMBNA::QT
Title: BNA ORGANIC STANDARDS; IEA LABORATORIES 11/13/89
Last Calibration: 950216 11:54 Last Qcal Time: 950303 13:22

Operator ID: GC
Quant Time : 950303 17:37
Injected at: 950303 16:52

TOTAL ION CHROMATOGRAM



Data File: >M7295::D4 Quant Output File: ^M7295::Q2
Name: MMSD;;;SAU-02 Instrument ID: MMSD
Misc: 950411002 ; ;950228;LLW;1 ;CONT;QM1379;2;400ml BTL# 4

Id File: IDMBNA::QT
Title: BNA ORGANIC STANDARDS; IEA LABORATORIES 11/13/89
Last Calibration: 950216 11:54 Last Qcal Time: 950303 13:22

Operator ID: GC
Quant Time : 950303 17:37
Injected at: 950303 16:52

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QC Summary

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QUANT REPORT

Operator ID: GC Quant Rev: 7 Quant Time: 950306 17:10
Output File: ^M7300::Q2 Injected at: 950306 16:15
Data File: >M7300::D4 Dilution Factor: 1.00000
Name: MMSD;;;METHOD BLANK Instrument ID: MMSD
Misc: SW0228 ; ;950228;LLW;1 ;CONT;QM1380;2;400ml BTL# 2

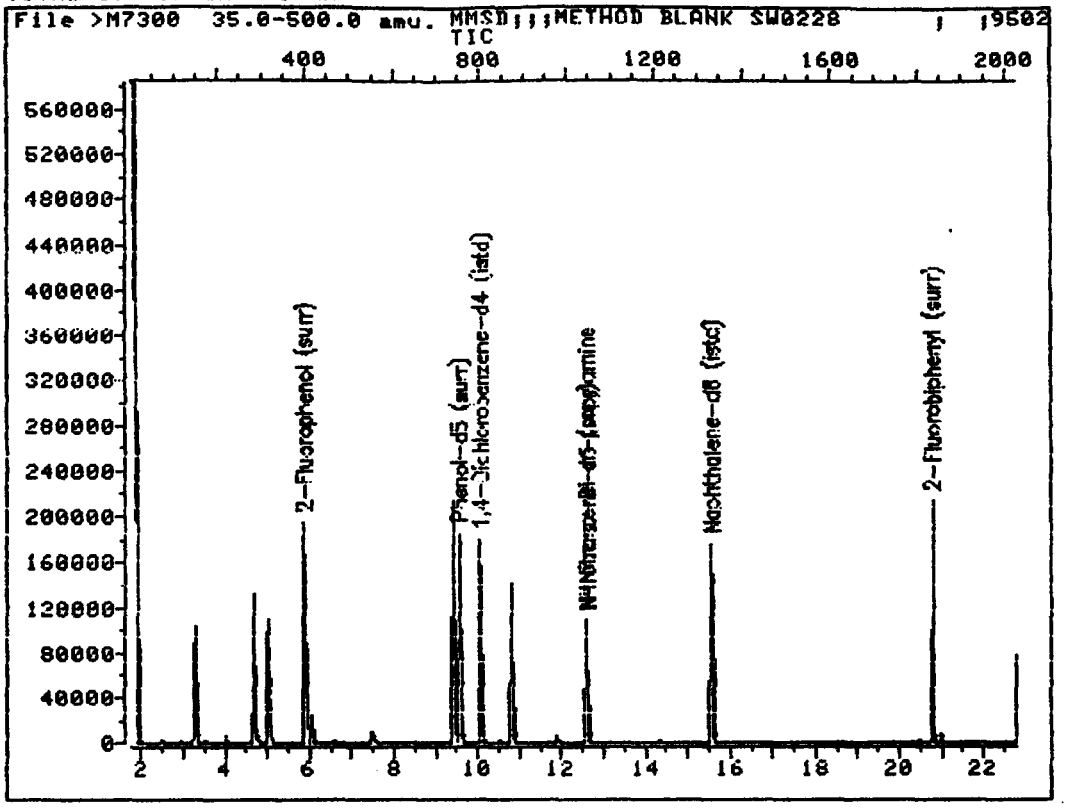
ID File: IDMBNA::QT
Title: BNA ORGANIC STANDARDS; IEA LABORATORIES 11/13/89
Last Calibration: 950216 11:54 Last Qcal Time: 950306 15:23

	Compound	R.T.	Q ion	Area	Conc	Units	q
1)	*1,4-Dichlorobenzene-d4 (istd)	10.07	152.0	73144	40.00	ngs	99
4)	2-Fluorophenol (surr)	5.86	112.0	131041	66.57	ngs	90
6)	Phenol-d5 (surr)	9.56	99.0	169002	67.43	ngs	87
18)	~~N-Nitroso-Di-n-propylamine~~	~~12.59~~	~~70.0~~	~~15087~~	~~18.46~~	ngs	60
19)	*Naphthalene-d8 (istd)	15.56	136.0	226983	40.00	ngs	98
20)	Nitrobenzene-d5 (surr)	12.60	82.0	96576	42.69	ngs	85
34)	*Acenaphthene-d10 (istd)	22.84	164.0	126703	40.00	ngs	99
38)	2-Fluorobiphenyl (surr)	20.77	172.0	162659	42.87	ngs	95
53)	2,4,6-Tribromophenol (surr)	25.19	329.8	49513	50.09	ngs	84
54)	*Phenanthrene-d10 (istd)	26.93	188.0	157821	40.00	ngs	98
67)	*Chrysene-d12 (istd)	33.64	240.0	86571	40.00	ngs	95
70)	Terphenyl-d14 (surr)	31.18	244.0	134056	46.03	ngs	97
76)	*Perylene-d12 (istd)	36.92	264.0	75588	40.00	ngs	92

* Compound is ISTD

3/7/95

TOTAL ION CHROMATOGRAM

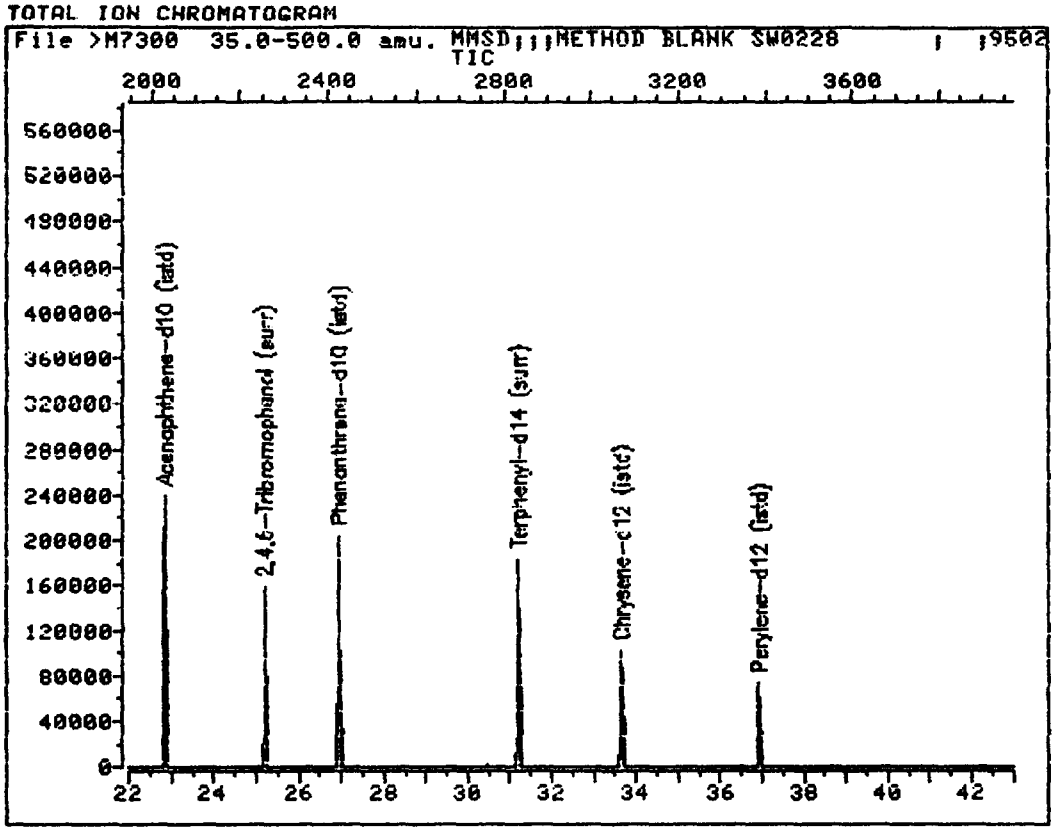


Data File: >M7300::D4 Quant Output File: ^M7300::Q2
Name: MMSD;;;METHOD BLANK Instrument ID: MMSD
Misc: SW0228 ; ;950228;LLW;1 ;CONT;QM1380;2;400ml BTL# 2

Id File: IDMBNA::QT
Title: BNA ORGANIC STANDARDS; IEA LABORATORIES 11/13/89
Last Calibration: 950216 11:54 Last Qcal Time: 950306 15:23

Operator ID: GC
Quant Time : 950306 17:10
Injected at: 950306 16:15

TOTAL ION CHROMATOGRAM



Data File: >M7300::D4 Quant Output File: ^M7300::Q2
Name: MMSD;;;METHOD BLANK Instrument ID: MMSD
Misc: SW0228 ; ;950228;LLW;1 ;CONT;QM1380;2;400ml BTL# 2

Id File: IDMBNA::QT
Title: BNA ORGANIC STANDARDS; IEA LABORATORIES 11/13/89
Last Calibration: 950216 11:54 Last Qcal Time: 950306 15:23

Operator ID: GC
Quant Time : 950306 17:10
Injected at: 950306 16:15

QUANT REPORT

Operator ID: GC Quant Rev: 7 Quant Time: 950303 19:21
Output File: ^M7297::Q2 Injected at: 950303 18:37
Data File: >M7297::D4 Dilution Factor: 1.00000
Name: MMSD;;;SAU-01 MS Instrument ID: MMSD
Misc: 950411001MS ; ;950228;LLW;1 ;CONT;QM1379;2;400ml BTL# 6

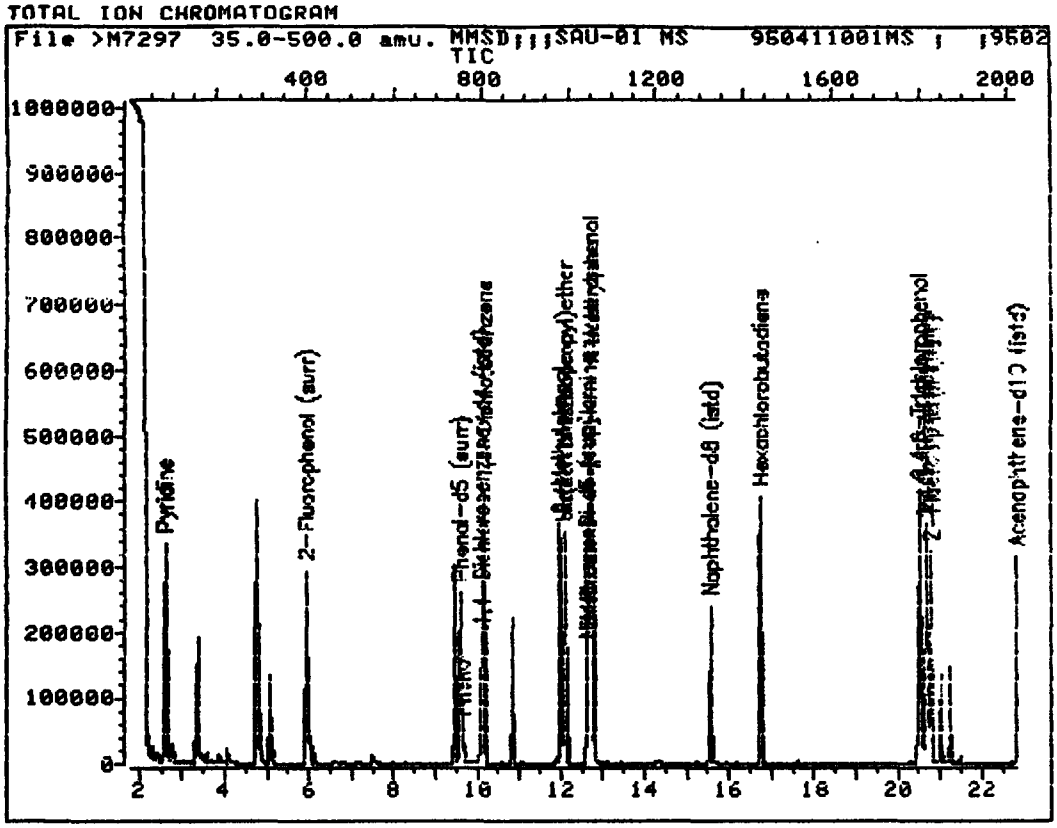
ID File: IDMBNA::QT
Title: BNA ORGANIC STANDARDS; TEA LABORATORIES 11/13/89
Last Calibration: 950216 11:54 Last Qcal Time: 950303 13:22

	Compound	R.T.	Q ion	Area	Conc	Units	q
1)	*1,4-Dichlorobenzene-d4 (istd)	10.09	152.0	94357	40.00	ngs	98
3)	Pyridine	2.59	79.0	238548	71.01	ngs	95
4)	2-Fluorophenol (surr)	5.93	112.0	195811	68.20	ngs	95
6)	Phenol-d5 (surr)	9.59	99.0	252233	73.40	ngs	82
7)	Phenol	9.62	94.0	1047	.312	ngs	100
10)	1,3-Dichlorobenzene	10.16	146.0	273763	82.09	ngs	96
11)	1,4-Dichlorobenzene	10.16	146.0	273763	79.14	ngs	99
14)	2-Methylphenol	11.98	108.0	216537	122.83	ngs	92
15)	bis(2-chloroisopropyl)ether	12.09	121.0	37729	47.26	ngs	60
16)	Hexachloroethane	12.09	117.0	123699	75.16	ngs	96
17)	4-Methylphenol	12.72	107.0	497171	167.96	ngs	96
18)	N-Nitroso-Di-n-propylamine	12.63	70.0	23121	11.72	ngs	62
19)	*Naphthalene-d8 (istd)	15.55	136.0	311922	40.00	ngs	97
20)	Nitrobenzene-d5 (surr)	12.63	82.0	139932	45.77	ngs	89
21)	Nitrobenzene	12.72	77.0	434124	104.44	ngs	66
31)	Hexachlorobutadiene	16.74	224.8	151112	75.85	ngs	89
34)	*Acenaphthene-d10 (istd)	22.83	164.0	174805	40.00	ngs	97
36)	2,4,6-Trichlorophenol	20.49	196.0	152958	93.02	ngs	91
37)	2,4,5-Trichlorophenol	20.66	196.0	156958	92.57	ngs	96
38)	2-Fluorobiphenyl (surr)	20.79	172.0	248933	43.91	ngs	90
39)	2-Chloronaphthalene	20.67	162.0	6154	1.51	ngs	63
48)	2,4-Dinitrotoluene	23.80	165.0	110438	82.78	ngs	83
51)	Diethylphthalate	24.65	149.0	1685	.276	ngs	90
53)	2,4,6-Tribromophenol (surr)	25.19	329.8	94079	77.07	ngs	84
54)	*Phenanthrene-d10 (istd)	26.94	188.0	211046	40.00	ngs	97
60)	Hexachlorobenzene	26.15	283.8	67565	29.87	ngs	91
61)	Pentachlorophenol	26.74	265.9	96841	149.72	ngs	97
67)	*Chrysene-d12 (istd)	33.62	240.0	134394	40.00	ngs	93
70)	Terphenyl-d14 (surr)	31.18	244.0	203884	56.57	ngs	98
75)	bis(2-Ethylhexyl)phthalate	34.23	149.0	1940	.772	ngs	99
76)	*Perylene-d12 (istd)	36.91	264.0	123373	40.00	ngs	96

* Compound is ISTD

3/7/95

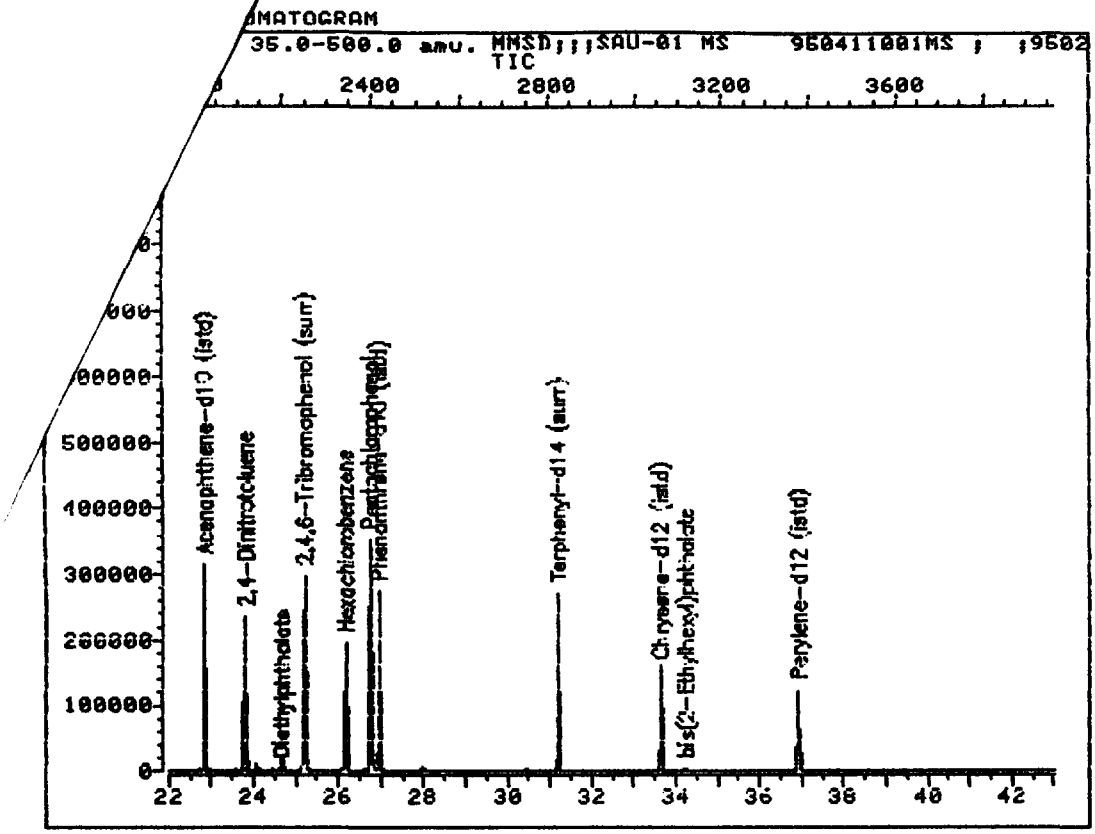
TOTAL ION CHROMATOGRAM



Data File: >M7297::D4 Quant Output File: ^M7297::Q2
Name: MMSD;;;SAU-01 MS Instrument ID: MMSD
Misc: 950411001MS ; ;950228;LLW;1 ;CONT;QM1379;2;400ml BTL# 6

Id File: IDMBNA::QT
Title: BNA ORGANIC STANDARDS; IEA LABORATORIES 11/13/89
Last Calibration: 950216 11:54 Last Qcal Time: 950303 13:22

Operator ID: GC
Quant Time : 950303 19:21
Injected at: 950303 18:37



Data File: >M/297::D4 Quant Output File: ^M/297::Q2
Name: MMSD;;;SAU-01 MS Instrument ID: MMSD
Misc: 950411001MS ; ;950228;LLW;1 ;CONT;QM1379;2;400ml BTL# 6

Id File: IDMBNA::QT
Title: BNA ORGANIC STANDARDS; IEA LABORATORIES 11/13/89
Last Calibration: 950216 11:54 Last Qcal Time: 950303 13:22

Operator ID: GC
Quant Time : 950303 19:21
Injected at: 950303 18:37

QUANT REPORT

Operator ID: GC Quant Rev: 7 Quant Time: 950303 20:13
Output File: ^M7298::Q2 Injected at: 950303 19:29
Data File: >M7298::D4 Dilution Factor: 1.00000
Name: MMSD;;;SAU-01 MSD Instrument ID: MMSD
Misc: 950411001MSD; ;950228;LLW;1 ;CONT;QM1379;2;400ml BTL# 7

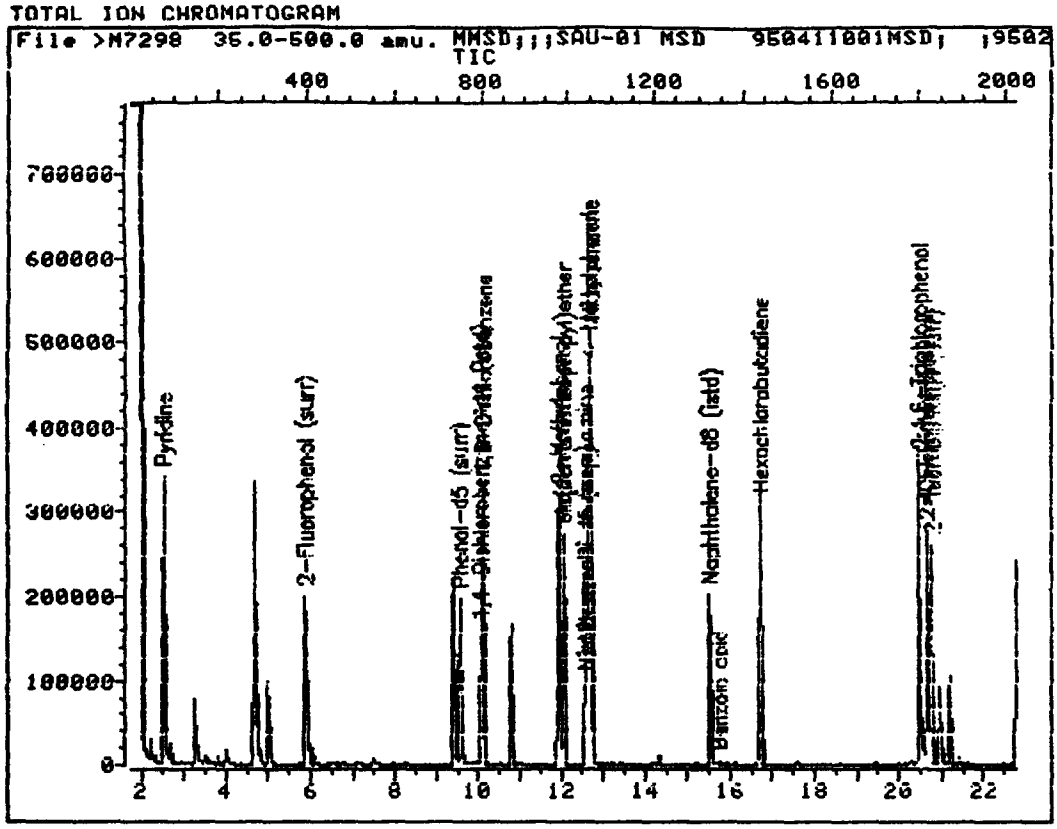
ID File: IDMBNA::QT
Title: BNA ORGANIC STANDARDS; IEA LABORATORIES 11/13/89
Last Calibration: 950216 11:54 Last Qcal Time: 950303 13:22

	Compound	R.T.	Q ion	Area	Conc	Units	q
1)	*1,4-Dichlorobenzene-d4 (istd)	10.04	152.0	76352	40.00	ngs	99
3)	Pyridine	2.50	79.0	194377	71.51	ngs	96
4)	2-Fluorophenol (surr)	5.86	112.0	145966	62.82	ngs	92
6)	Phenol-d5 (surr)	9.54	99.0	187952	67.59	ngs	86
10)	1,3-Dichlorobenzene	10.11	146.0	207159	76.77	ngs	98
11)	1,4-Dichlorobenzene	10.11	146.0	207159	74.00	ngs	99
14)	2-Methylphenol	11.94	108.0	172549	120.96	ngs	91
15)	bis(2-chloroisopropyl)ether	12.06	121.0	28294	43.80	ngs	61
16)	Hexachloroethane	12.06	117.0	91660	68.83	ngs	97
17)	4-Methylphenol	12.66	107.0	388747	162.30	ngs	96
18)	N-Nitroso-Di-n-propylamine	12.58	70.0	16681	10.45	ngs	63
19)	*Naphthalene-d8 (istd)	15.52	136.0	243491	40.00	ngs	96
20)	Nitrobenzene-d5 (surr)	12.58	82.0	102344	42.88	ngs	90
21)	Nitrobenzene	12.68	77.0	346215	106.70	ngs	69
27)	Benzoic acid	15.72	105.0	3696	5.04	ngs	63
31)	Hexachlorobutadiene	16.71	224.8	113481	72.97	ngs	89
34)	*Acenaphthene-d10 (istd)	22.80	164.0	134776	40.00	ngs	96
36)	2,4,6-Trichlorophenol	20.46	196.0	124424	98.14	ngs	91
37)	2,4,5-Trichlorophenol	20.63	196.0	124778	95.45	ngs	97
38)	2-Fluorobiphenyl (surr)	20.75	172.0	196352	44.92	ngs	96
39)	2-Chloronaphthalene	20.63	162.0	4765	1.51	ngs	61
48)	2,4-Dinitrotoluene	23.76	165.0	85796	83.41	ngs	86
51)	Diethylphthalate	24.61	149.0	1413	.301	ngs	96
53)	2,4,6-Tribromophenol (surr)	25.16	329.8	69402	73.74	ngs	77
54)	*Phenanthrene-d10 (istd)	26.91	188.0	158847	40.00	ngs	98
60)	Hexachlorobenzene	26.12	283.8	55159	32.39	ngs	87
61)	Pentachlorophenol	26.70	265.9	74818	153.69	ngs	94
67)	*Chrysene-d12 (istd)	33.60	240.0	102982	40.00	ngs	90
70)	Terphenyl-d14 (surr)	31.15	244.0	148561	53.79	ngs	97
75)	bis(2-Ethylhexyl)phthalate	34.20	149.0	7684	3.99	ngs	91
76)	*Perylene-d12 (istd)	36.88	264.0	92552	40.00	ngs	97

* Compound is ISTD

3/7/95

TOTAL ION CHROMATOGRAM

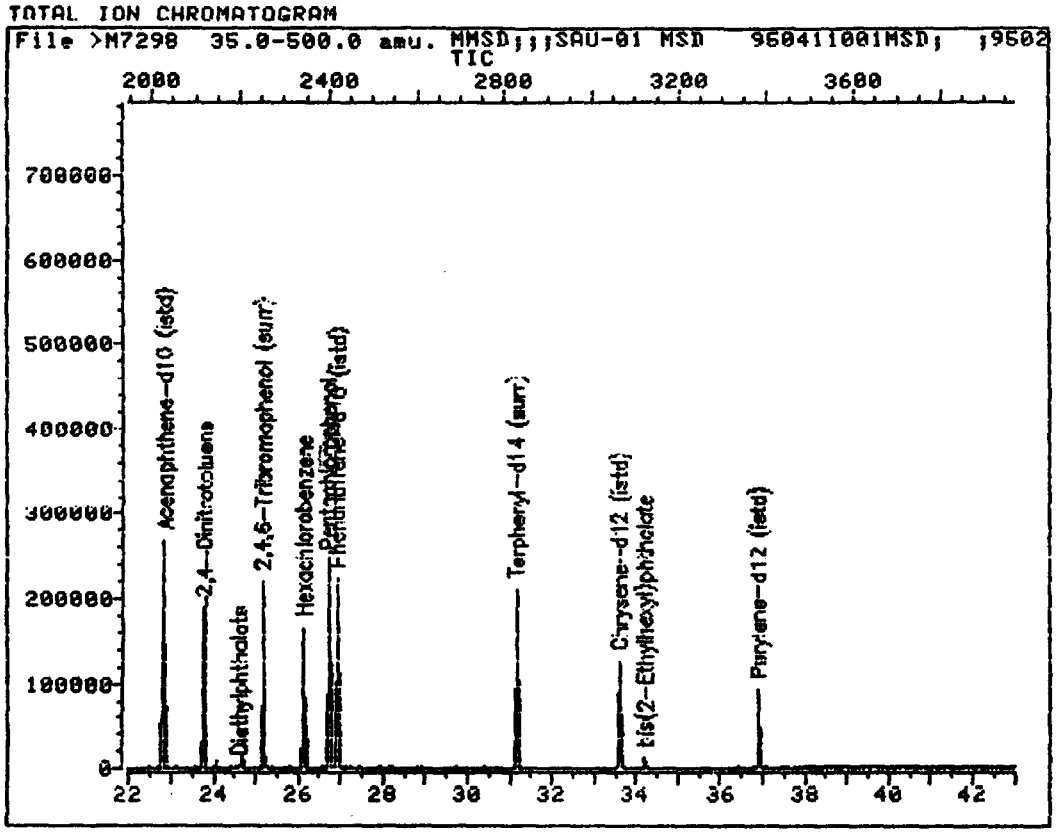


Data File: >M7298::D4 Quant Output File: ^M7298::Q2
Name: MMSD;;;SAU-01 MSD Instrument ID: MMSD
Misc: 950411001MSD; ;950228;LLW;1 ;CONT;QM1379;2;400ml BTL# 7

Id File: IDMBNA::QT
Title: BNA ORGANIC STANDARDS; IEA LABORATORIES 11/13/89
Last Calibration: 950216 11:54 Last Qcal Time: 950303 13:22

Operator ID: GC
Quant Time : 950303 20:13
Injected at: 950303 19:29

TOTAL ION CHROMATOGRAM



Data File: >M7298::D4 Quant Output File: ^M7298::Q2
Name: MMSD;;;SAU-01 MSD Instrument ID: MMSD
Misc: 950411001MSD; ;950228;LLW;1 ;CONT;QM1379;2;400ml BTL# 7

Id File: IDMBNA::QT
Title: BNA ORGANIC STANDARDS; IEA LABORATORIES 11/13/89
Last Calibration: 950216 11:54 Last Qcal Time: 950303 13:22

Operator ID: GC
Quant Time : 950303 20:13
Injected at: 950303 19:29