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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION III
CENTRAL REGIONAL LABORATORY
839 BESTGATE ROAD
ANNAPOLIS, MARYLAND 21401
(301) 266-9180

DATE : April 26, 1989

SUBJECT: Organic Data Validation for the Eastern Diversified Metals Site
Case 10824

FROM : Theresa A. Simpson *TAS*
Region III Acting ESAT DPO (3ES23)

TO : Suzanne Billings
Regional Project Manager (3HW12)

THRU : Patricia J. Krantz *PJ*
Chief, QA Section (3ES23)

Attached is the organic data review for the Eastern Diversified Metals Site (Case 10824) completed by the Region III Environmental Services Assistance Team (ESAT) contractor under the direction of Region III ESD.

If you have any questions regarding this review, please call me.

Attachment

cc: Mark diFelicianantonio, CDM
Virginia Nicholas, GCL
Elaine Spiewak (3HW10) (w/o attachments)
TID File: 03890225 Task 1499

AR301985

Task #: 1499

DATA VALIDATION EVALUATION CHECKLIST

Case/SAS Number: 10824 Site Name: Eastern Diversified Metals
 Assignment #: 03890225 Revision Number: 0 Analysis Type: Full organics
 Reviewer: Ellis Contractor: ESAT SOW #: 81
 Information request date: _____ Information received date: _____
 Date submitted to EPA: 4/5/89
 EPA DPO: Terry Simpson (Acting) Number of hours spent
 EPA RPM: Suzanne Billings on review: _____
 cc: _____ Number of
 samples: 8

CRITERIA	YES	NO	COMMENTS
Format according to Region III protocol	_____	_____	_____
Clarity of report	_____	_____	_____
Qualifiers applied correctly	_____	_____	_____
Consistency between narrative, data summary form(s), and DPO report	_____	_____	_____
Error-free transcription	_____	_____	_____

EFFICIENCY OF CONTRACTOR	YES	NO	COMMENTS
Approval recommended for current submission	_____	_____	_____
Time spent on review is reasonable	_____	_____	_____

ESD OVERSIGHT

DATES	AFC/DPO	MONITOR/ EVALUATOR	ESAT
Received at EPA	_____	_____	_____
Oversight assigned	_____	_____	_____
Oversight rec'd by TM	_____	_____	_____
Oversight complete	_____	_____	_____
Feedback given	_____	_____	_____
Mailed to RPM	_____	_____	_____

AR301986

Attachment(s), check if applicable: cover memo _____ phone log _____ comments _____

cc: Patricia J. Krantz

revised 08/88



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION III
CENTRAL REGIONAL LABORATORY
839 BESTGATE ROAD
ANNAPOLIS, MARYLAND 21401
(301) 266-9180

DATE :

SUBJECT: Region III CLP Data QA Review

FROM : Patricia J. Krantz (3ES23)
Chief, Quality Assurance, Region III

TO : Carla Dempsey (OS-230)
QAO, AOB

Attached is a Region III CLP Data Review done by Weston reviewers under the ESAT contract:

Case No.: 10824

Sitename: Eastern Diversified Metals

Laboratory: Kittman Ebasco

Reviewer: Albert T. Ellis

Attachment

cc: EPA Site RPM

Gareth Pearson, EMSL-LV

Regional DFO: Charles Sands

Region III

AR301987

Task #: 1499

ESAT DATA VALIDATION EVALUATION CHECKLIST

Case/SAS Number: 10824 Site Name: Eastern Diversified Metals
TID #: 03890235 Analysis Type: full organics

Technical Quality _____

- | | | |
|-----------------|------------------------|---------------------|
| (1) WHO _____ | INFO. REQ. DATE _____ | REASONABLE |
| WHY _____ | INFO. REC'D DATE _____ | REQUEST (Y/N) _____ |
| phone log _____ | | |
| (2) WHO _____ | INFO. REQ. DATE _____ | REASONABLE |
| WHY _____ | INFO. REC'D DATE _____ | REQUEST (Y/N) _____ |
| phone log _____ | | |
| (3) WHO _____ | INFO. REQ. DATE _____ | REASONABLE |
| WHY _____ | INFO. REC'D DATE _____ | REQUEST (Y/N) _____ |
| phone log _____ | | |
| (4) WHO _____ | INFO. REQ. DATE _____ | REASONABLE |
| WHY _____ | INFO. REC'D DATE _____ | REQUEST (Y/N) _____ |
| phone log _____ | | |

TASK MONITOR
SIGNATURE _____

DATE _____

TOTAL INFO. DELAY DAYS _____

TOTAL OVERSIGHT DELAY DAYS _____

DAYS LATE _____

ACTUAL t.a.t. _____

Compliance with Schedule _____

Estimated
hours for
review: _____

Actual hours
spent on
review: _____

Compliance with Budget _____

Management
(optional) _____

OPTIONAL COMMENTS RELATING TO SCORES:

AR301988

SECTION CHIEF

SIGNATURE _____

DATE _____



ESAT PROJECT
SUITE 300
2568 RIVA ROAD
ANNAPOLIS, MD 21401

DATE: April 4, 1989

SUBJECT: Organic Data Validation for Case 10824
Site: Eastern Diversified

FROM: Albert T. Ellis
Senior Organic Data Reviewer

TO: Terry Simpson
Acting ESAT Deputy Project Officer

THRU: *WJ* Charles Matkovich *for*
ESAT Team Manager

Overview

Case 10824 consisted of four (4) water samples and three (3) soil samples for semi-volatile and pesticide/PCB analyses. Also included in this case was one (1) trip blank which was analyzed for volatile organic compounds only, one (1) equipment blank and two (2) laboratory field duplicate pairs. All samples were analyzed as a Contract Laboratory Program (CLP) Routine Analytical Service (RAS).

Summary

All samples were successfully analyzed for all target compounds. All instrument and method sensitivities were according to the Contract Laboratory Program (CLP) Routine Analytical Service (RAS) protocol.

Minor Problems

- o Several compounds failed precision criteria for the initial and continuing calibrations. Positive results are qualified "J" and detection limits are qualified "UJ" for the affected samples. (See Table I of Appendix F).
- o The volatile analysis of sample CY775 (trip blank) exhibited internal standard area counts less than fifty percent (<50%) of the daily calibration standard. All quantitation limits in this sample are qualified "UJ". (See Support Documentation in Appendix F).

AR301989

NOTES

- o The maximum concentration of the common contaminant found in the method blank is listed below. (See method blank Form Is in Appendix F).

<u>Compound</u>	<u>Concentration</u>
methylene chloride	2 J ug/L

- o The reported tentatively identified compounds (TICs) of Appendix D have been reviewed and corrected during data validation. TICs that were present in both the samples and the method blanks have been removed from the Form Is of Appendix D.
- o The field duplicate pair of water samples did not yield data that was usable for comparison but the field duplicate pair of soil samples did. The results are listed in the following table.

<u>Compound</u>	<u>Concentration (ug/Kg)</u>		<u>RPD</u>
	<u>CY778</u>	<u>CY779</u>	
bis(2-ethylhexyl)phthalate	110000J	90000J	20
di-n-octylphthalate	7400J	6900J	7
aroclor-1248	780	340	79

RPD= Relative Percent Difference

All data for Case 10824 were reviewed in accordance with the Functional Guidelines for Evaluating Organic Analyses with Modifications for Use Within Region III. The text of this report addresses only those problems affecting usability.

Attachments

- 1) Appendix A - Glossary of Data Qualifier Codes
- 2) Appendix B - Data Summary. These include:
 - (a) All positive results for target compounds with qualifier flags where applicable;
 - (b) All unusable detection limits (qualified "R").
- 3) Appendix C - Results as Reported by the Laboratory for all Target Compounds.
- 4) Appendix D - Reviewed and Corrected Tentatively Identified Compounds
- 5) Appendix E - DPO Report for Contractual Compliance
- 6) Appendix F - Support Documentation

AR301990

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Appendix A
Glossary of Data Qualifier Codes

AR301991

GLOSSARY OF DATA QUALIFIER CODES (ORGANIC)

CODES RELATING TO IDENTIFICATION

(confidence concerning presence or absence of compounds):

- U = Not detected. The associated number indicates approximate sample concentration necessary to be detected.
- (NO CODE) = Confirmed identification.
- B = Not detected substantially above the level reported in laboratory or field blanks.
- R = Unreliable result. Analyte may or may not be present in the sample. Supporting data necessary to confirm result.
- N = Tentative identification. Consider present. Special methods may be needed to confirm its presence or absence in future sampling efforts.

CODES RELATED TO QUANTITATION

(can be used for both positive results and sample quantitation limits):

- J = Analyte present. Reported value may not be accurate or precise.
- K = Analyte present. Reported value may be biased high. Actual value is expected to be lower.
- L = Analyte present. Reported value may be biased low. Actual value is expected to be higher.
- UJ = Not detected, quantitation limit may be inaccurate or imprecise.
- UL = Not detected, quantitation limit is probably higher.

OTHER CODES

- Q = No analytical result.

AR301992

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Appendix B
Data Summary Forms

AR301993

DATA SUMMARY FORM: VOLATILES

Site Name: EASTERN DIVERSIFIED METALS

WATER SAMPLES

(ug/L)

Case #: 10824 Sampling Date(s): 11/8/88

To calculate sample quantitation limit:
(CRQL * Dilution Factor)

CRQL	COMPOUND	Sample No.		Dilution Factor	Location										
		CY- 775													
		1.00													
		Trip													
		Blank													
												</			

CRQL = Contract Required Detection Limit

*Action Level Exists

SEE NARRATIVE FOR CODE DEFINITIONS

revised 12/88

AR301994

DATA SUMMARY FORM: VOLATILES

2

Site Name: EASTERN DIVERSIFIED METALS

WATER SAMPLES

(ug/L)

Case #: 10824 Sampling Date(s): 11/8/88

To calculate sample quantitation limit:
(CRQL * Dilution Factor)

CRQL	COMPOUND	Sample No. Dilution Factor Location	CY-775									
			1.00									
		Trip										
		Blank										
5	*1,2-Dichloropropane		MS									
5	Cis-1,3-Dichloropropene											
5	Trichloroethene											
5	Dibromochloromethane											
5	1,1,2-Trichloroethane											
5	*Benzene											
5	Trans-1,3-Dichloropropene											
5	Bromoform											
10	4-Methyl-2-pentanone											
10	2-Hexanone											
5	*Tetrachloroethene											
5	1,1,2,2-Tetrachloroethane											
5	*Toluene											
5	*Chlorobenzene											
5	*Ethylbenzene											
5	*Styrene											
5	*Total Xylenes											

CRDL = Contract Required Detection Limit

*Action Level Exists

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AR301995

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DATA SUMMARY FORM: B N A S

Site Name: EASTERN DIVERSIFIED METALS

WATER SAMPLES

(ug/L)

Case #: 10824 Sampling Date(s): 11/8/88

To calculate sample quantitation limit:
(CRDL * Dilution Factor)

CRDL	Sample No. Dilution Factor Location	CY-776	CY-777	CY-780	CY-781				
		1.00	1.00	1.00	1.00				
		SW-2	SW-15	EQUIPMENT BUILDING	SW-4				
10	N-Nitrosodiphenylamine								
10	4-Bromophenylphenylether								
10	*Hexachlorobenzene								
50	*Pentachlorophenol								
10	Phenanthrene								
10	Anthracene								
10	Di-n-butylphthalate								
10	Fluoranthene								
10	Pyrene								
10	Butylbenzylphthalate								
20	3,3-Dichlorobenzidine								
10	Benzo(e)anthracene								
10	Chrysene								
10	bis(2-Ethylhexyl)phthalate								
10	Di-n-octylphthalate								
10	Benzo(b)fluoranthene	UJ	UJ	UJ	UJ				
10	Benzo(k)fluoranthene	UJ	UJ	UJ	UJ				
10	Benzo(a)pyrene								
10	Indeno(1,2,3-cd)pyrene								
10	Dibenz(a,h)anthracene								
10	Benzo(a)fluoranthene								

CRDL = Contract Required Detection Limit

*Action Level Exists

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revised 12/88

01998

DATA SUMMARY FORM: PESTICIDES AND PCB'S

Site Name: *EASTERN DIVERSIFIED METALS*

WATER SAMPLES
(ug/L)

Case #: 10824 Sampling Date(s): 11/3/06

**To calculate sample quantitation limit:
(CRQL = Dilution Factor)**

Sample No. Dilution Factor Location		CY-776 1.00	CY-777 1.00	CY-780 1.00	CY-781 1.00				
COMPOUND		SW-2	SW-15	EQUIPMENT BLANK	SW-4				
0.05	alpha-BHC								
0.05	beta-BHC								
0.05	delta-BHC								
0.05	*Gamma-BHC (Lindane)								
0.05	*Heptachlor								
0.05	Aldrin								
0.05	Heptachlor Epoxide								
0.05	Endosulfan I								
0.10	Dieldrin								
0.10	4,4'-DDE								
0.10	*Endrin								
0.10	Endosulfan II								
0.10	4,4'-DDD								
0.10	Endosulfan Sulfate								
0.10	4,4'-DDT								
0.5	*Methoxychlor								
0.10	Endrin ketone								
0.5	*Alpha-Chlordane								
0.5	*Gamma-Chlordane								
1.0	*Toxaphene								
0.5	*Aroclor-1016								
0.5	*Aroclor-1221								
0.5	*Aroclor-1232								
0.5	*Aroclor-1242								
0.5	*Aroclor-1248								
1.0	*Aroclor-1254								
1.0	*Aroclor-1260								

CRDL = Contract Required Detection Limit

***Action Level Exists**

SEE NARRATIVE FOR CODE DEFINITIONS
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DATA SUMMARY FORM: B N A S

SOIL SAMPLES
(ug/Kg)

To calculate sample quantitation limit:
(CRQL * Dilution Factor) / ((100 - % moisture)/100)

Site Name: EASTERN DIVERSIFIED METALS
Case #: 10824 Sampling Date(s): 11/8/88

CRQL	COMPOUND	Sample No.				Dilution Factor				% Moisture				Location			
		CY-778	CY-779	CY-782		20	14	4		17	560-16	560-2					
330	Hexachlorobutadiene																
330	4-Chloro-3-methylphenol																
330	2-Methylnaphthalene																
330	Hexachlorocyclopentadiene																
330	2,4,6-Trichlorophenol																
1600	2,4,5-Trichlorophenol																
330	2-Chloronaphthalene																
1600	2-Nitroaniline																
330	Dimethylphthalate																
330	Acenaphthylene																
330	2,6-Dinitrotoluene																
1600	3-Nitroaniline																
330	Acenaphthene																
1600	2,4-Dinitrophenol																
1600	4-Nitrophenol																
330	Dibenzofuran																
330	2,4-Dinitrotoluene																
330	Diethylphthalate																
330	4-Chlorophenyl-phenylether																
330	Fluorene																
1600	4-Nitroaniline																
1600	4,6-Dinitro-2-methylphenol																

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CRQL = 8 Contract Required Quantitation Limit

Site Name: EASTERN DIVERSIFIED METALS

Case #:	Sampling	Date(s):
10824		11/8/88

SOIL SAMPLES
(ug/Kg)

To calculate sample quantitation limit:

$$(\text{CROL} \times \text{Dilution Factor}) / ((100 - \% \text{ moisture})/100)$$

Sample No.					
Dilution Factor					
% Moisture					
Location					
CROL	COMPOUND	CY-778	CY-779	CY-782	
330	N-Nitrosodiphenylamine				
330	4-Bromophenyl-phenylether				
330	Hexachlorobenzene				
1600	Pentachlorophenol				
330	Phenanthrene				
330	Anthracene				
330	Dl-n-butylphthalate				
330	Fluoranthene				
330	Pyrene				
330	Butybenzylphthalate				
1600	3,3-Dichlorobenzidine				
330	Benzo(a)anthracene				
330	Chrysene				
330	bis(2-Ethylhexyl)phthalate	110000	90000	16000	
330	Dl-n-octylphthalate	7400	6900	7600	
330	Benzo(b)fluoranthene	UJ	UJ	UJ	
330	Benzo(k)fluoranthene	UJ	UJ	UJ	
330	Benzo(e)pyrene				
330	Indeno(1,2,3-cd)pyrene				
330	Dibenz(a,h)anthracene				
330	Benzofluoranthenes				

CRQL = Contract Required Quantitation Limit

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Site Name:

EASTERN DIVERSIFIED METALS

SOIL SAMPLES
(ug/Kg)

Case #:

Sampling	Date(s):	<u>11/8/88</u>
-----------------	-----------------	----------------

Date(s):

88/13/11

To calculate sample quantitation limit:
 $(CRQL \times \text{Dilution Factor}) / (100 - \%$

[illegible]

CRO1 = Contract Required Quantitation Limit

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Appendix C

Form Is

As Reported by the Laboratory
for all Target Compounds

AR302004

Organics Analysis Data Sheet (Page 1)

Sample Number

LY-775

HRAT # 6785

Trip
Blank

Laboratory Name Hittman Ebasco Assoc. Inc.

Case No. 10824

Lab Sample ID No. 2CX0916

QC Report No. N/A

Sample Matrix Water

Contract No. 108-01-7280

Data Release Authorized By: [Signature]

Date Sample Received: 11/09/88

Volatile Compounds

Concentration: Low Medium (Circle One)

Date Extracted/Prepared 11/12/88

Date Analyzed: 11/12/88

Conc/Dil Factor: 1 pH 7

Percent Moisture (Not Decanted) NA

CAS Number		ug/l or ug/Kg (Circle One)
74-87-3	Chloromethane	10U
74-83-9	Bromomethane	10U
75-01-4	Vinyl Chloride	10U
75-00-3	Chloroethane	10U
75-09-2	Methylene Chloride	5U
67-64-1	Acetone	10U
75-15-0	Carbon Disulfide	5U
75-35-4	1, 1-Dichloroethene	5U
75-34-3	1, 1-Dichloroethane	5U
156-60-5	Trans-1, 2-Dichloroethene	5U
67-66-3	Chloroform	5U
107-06-2	1, 2-Dichloroethane	5U
78-93-3	2-Butanone	10U
71-55-6	1, 1, 1-Trichloroethane	5U
56-23-5	Carbon Tetrachloride	5U
108-05-4	Vinyl Acetate	10U
75-27-4	Bromodichloromethane	5U

CAS Number		ug/l or ug/Kg (Circle One)
78-87-5	1, 2-Dichloropropane	5U
10061-02-6	Trans-1, 3-Dichloropropene	5U
79-01-6	Trichloroethene	5U
124-48-1	Dibromochloromethane	5U
79-00-5	1, 1, 2-Trichloroethane	5U
71-43-2	Benzene	5U
10061-01-5	cis-1, 3-Dichloropropene	5U
110-75-8	2-Chloroethylvinylether	5U
75-25-2	Bromoform	5U
108-10-1	4-Methyl-2-Pentanone	10U
591-78-6	2-Hexanone	10U
127-18-4	Tetrachloroethene	5U
79-34-5	1, 1, 2, 2-Tetrachloroethane	5U
108-88-3	Toluene	5U
108-90-7	Chlorobenzene	5U
100-41-4	Ethylbenzene	5U
100-42-5	Styrene	5U
	Total Xylenes	5U

Data Reporting Qualifiers

For reporting results to EPA the following results qualifiers are used
Additional flags or footnotes explaining results are encouraged. However, the
definition of each flag must be explicit.

Value If the result is a value greater than or equal to the detection limit report the value

U Indicates compound was analyzed for but not detected. Report the minimum detection limit for the sample with the U (e.g. 10U) based on necessary concentration/dilution action. (This is not necessarily the instrument detection limit.) The footnote should read: U Compound was analyzed for but not detected. The number is the minimum attainable detection limit for the sample.

J Indicates an estimated value. This flag is used either when estimating a concentration for tentatively identified compounds where a 1:1 response is assumed or when the mass spectral data indicates the presence of a compound that meets the identification criteria but the result is less than the specified detection limit but greater than zero (e.g. 10U). If limit of detection is 10 ug/l and a concentration of 3 ug/l is calculated, report as 3J.

C This flag applies to pesticide parameters where the identification has been confirmed by GC-MS. Single component pesticides ≥ 10 ng/l in the final extract should be confirmed by GC-MS.

B This flag is used when the analyte is found in the blank as well as a sample. It indicates possible probable blank contamination and warns the data user to take appropriate action.

Other Other specific flags and footnotes may be required to properly define the results. If used, they must be fully described and such description attached to the data summary report.

AR302005

360002

Laboratory Name Hittman Ebasco Assoc. Inc.Case No. 10924

Sample Number

CX 776

SW

-2

Organics Analysis Data Sheet

(Page 2)

7/3/23

HFAZ #6786

Semivolatile Compounds

Concentration: Low Medium (Circle One)Date Extracted/Prepared: 1/11/98Date Analyzed: 12/19/88Conc./Dil Factor: 1.00Percent Moisture (Decanted): 111AGPC Cleanup ☐ Yes ☒ NoSeparatory Funnel Extraction ☒ YesContinuous Liquid - Liquid Extraction ☐ YesCAS
Numberug/l or ug/Kg
(Circle One)

108-95-2	Phenol	10	U
111-44-4	bis(2-Chloroethyl)Ether	10	U
95-57-8	2-Chlorophenol	10	U
541-73-1	1,3-Dichlorobenzene	10	U
106-46-7	1,4-Dichlorobenzene	10	U
100-51-6	Benzyl Alcohol	10	U
95-50-1	1,2-Dichlorobenzene	10	U
95-48-7	2-Methylphenol	10	U
39638-32-9	bis(2-chloroisopropyl)Ether	10	U
106-44-5	4-Methylphenol	10	U
621-64-7	N-Nitroso-Di-n-Propylamine	10	U
67-72-1	Hexachloroethane	10	U
98-95-3	Nitrobenzene	10	U
78-59-1	Isophorone	10	U
88-75-5	2-Nitrophenol	10	U
105-67-9	2,4-Dimethylphenol	10	U
65-85-0	Benzoic Acid	50	U
111-91-1	bis(2-Chloroethoxy)Methane	10	U
120-83-2	2,4-Dichlorophenol	10	U
120-82-1	1,2,4-Trichlorobenzene	10	U
91-20-3	Naphthalene	10	U
106-47-8	4-Chloroaniline	10	U
87-68-3	Hexachlorobutadiene	10	U
59-50-7	4-Chloro-3-Methylphenol	10	U
91-57-6	2-Methylnaphthalene	10	U
77-47-4	Hexachlorocyclopentadiene	10	U
88-06-2	2,4,6-Trichlorophenol	10	U
95-95-4	2,4,5-Trichlorophenol	50	U
91-58-7	2-Chloronaphthalene	10	U
88-74-4	2-Nitroaniline	50	U
131-11-3	Dimethyl Phthalate	10	U
208-96-8	Acenaphthylene	10	U
95-09-2	3-Nitroaniline	50	U

CAS
Numberug/l or ug/Kg
(Circle One)

83-32-9	Acenaphthene	10	U
51-28-5	2,4-Dinitrophenol	50	U
100-02-7	4-Nitrophenol	50	U
132-64-9	Dibenzofuran	10	U
121-14-2	2,4-Dinitrotoluene	10	U
606-20-2	2,6-Dinitrotoluene	10	U
84-66-2	Diethylphthalate	10	U
7005-72-3	4-Chlorophenyl-phenylether	10	U
86-73-7	Fluorene	10	U
100-01-6	4-Nitroaniline	50	U
534-52-1	4,6-Dinitro-2-Methylphenol	50	U
86-30-6	N-Nitrosodiphenylamine (1)	10	U
101-55-3	4-Bromophenyl-phenylether	10	U
118-74-1	Hexachlorobenzene	10	U
87-86-5	Pentachlorophenol	50	U
85-01-8	Phenanthrene	10	U
120-12-7	Anthracene	10	U
84-74-2	Di-n-Butylphthalate	10	U
206-44-0	Fluoranthene	10	U
129-00-0	Pyrene	10	U
85-68-7	Butylbenzylphthalate	10	U
91-94-1	3,3'-Dichlorobenzidine	20	U
56-55-3	Benzo(a)Anthracene	10	U
117-81-7	bis(2-Ethylhexyl)Phthalate	10	U
218-01-9	Chrysene	10	U
117-84-0	Di-n-Octyl Phthalate	10	U
205-99-2	Benzo(b)Fluoranthene	10	U
207-08-9	Benzo(k)Fluoranthene	10	U
50-32-8	Benzo(a)Pyrene	10	U
193-39-5	Indeno(1,2,3-cd)Pyrene	10	U
53-70-3	Dibenz(a,h)Anthracene	10	U
191-24-2	Benzo(g,h,i)Perylene	10	U

(1) Cannot be separated from diphenylamine

AR302006

Laboratory Name Hittman Ebasco Associates Inc.Case No 10824, 10835Sample Number
CY776(SW-2)Organics Analysis Data Sheet
(Page 3)Concentration Low Medium (Circle One)

Pesticide/PCBs

GPC Cleanup Yes X NoDate Extracted/Prepared 11/14/88Separatory Funnel Extraction X YesDate Analyzed 12/8/88Continuous Liquid-Liquid Extraction YesConc/Dil Factor 1.00

Percent Moisture (decanted) _____

CAS
Numberug/L or ug/Kg
(Circle One)

319-84-67	Alpha-BHC	0.05 U
319-85-7	Beta-BHC	0.05 U
319-86-8	Delta-BHC	0.05 U
58-89-9	Gamma-BHC(Lindane)	0.05 U
76-44-8	Heptachlor	0.05 U
309-00-2	Aldrin	0.05 U
1024-57-3	Heptachlor Epoxide	0.05 U
959-98-8	Endosulfan I	0.05 U
60-57-1	Dieldrin	0.1 U
72-55-9	4'4'-DDE	0.1 U
72-20-8	Endrin	0.1 U
33213-65-9	Endosulfan II	0.1 U
72-54-8	4'4'-DDD	0.1 U
1031-07-8	Endosulfan Sulfate	0.1 U
50-29-3	4'4'-DDT	0.1 U
72-43-5	Methoxychlor	0.5 U
53494-70-5	Endrin Ketone	0.1 U
57-74-9	Chlordane	0.5 U
8001-35-2	Toxaphene	1.0 U
12674-11-2	Aroclor - 1016	0.5 U
11104-28-2	Aroclor - 1221	0.5 U
11141-16-5	Aroclor - 1232	0.5 U
53469-21-9	Aroclor - 1242	0.5 U
12672-29-6	Aroclor - 1248	0.5 U
11097-69-1	Aroclor - 1254	1.0 U
11096-82-5	Aroclor - 1260	1.0 U

Vi = Volume of extract injected (ul)

Vs = Volume of water extracted (ml)

Ws = Weight of sample extracted (g)

Vt = Volume of total extract (ul)

AR302007

Vs 1000.00 or Ws _____ Vt 10000.00 Vi _____ 1.00 _____

C289

Laboratory Name Hittman Ebasco Assoc. Inc.Case No 1824

Sample Number

CY 777

SW-
15Organics Analysis Data Sheet
(Page 2)HEAT # 6787
7BL234

Semivolatile Compounds

Concentration: Low Medium (Circle One)Date Extracted/Prepared: 11/14/98Date Analyzed: 12/19/98Conc./Dil Factor: 1.00Percent Moisture (Decanted) N/AGPC Cleanup ☐ Yes ☒ NoSeparatory Funnel Extraction ☒ YesContinuous Liquid - Liquid Extraction ☐ Yes

CAS Number		ug/l or ug/Kg (Circle One)
108-95-2	Phenol	10 U
111-44-4	bis(2-Chloroethyl)Ether	10 U
95-57-8	2-Chlorophenol	10 U
541-73-1	1,3-Dichlorobenzene	10 U
106-46-7	1,4-Dichlorobenzene	10 U
100-51-6	Benzyl Alcohol	10 U
95-50-1	1,2-Dichlorobenzene	10 U
95-48-7	2-Methylphenol	10 U
39638-32-9	bis(2-chloroisopropyl)Ether	10 U
106-44-5	4-Methylphenol	10 U
621-64-7	N-Nitroso-Di-n-Propylamine	10 U
67-72-1	Hexachloroethane	10 U
98-95-3	Nitrobenzene	10 U
78-59-1	Isophorone	10 U
88-75-5	2-Nitrophenol	10 U
105-67-9	2,4-Dimethylphenol	10 U
65-85-0	Benzoic Acid	50 U
111-91-1	bis(2-Chloroethoxy)Methane	10 U
120-83-2	2,4-Dichlorophenol	10 U
120-82-1	1,2,4-Trichlorobenzene	10 U
91-20-3	Naphthalene	10 U
106-47-8	4-Chloroaniline	10 U
87-68-3	Hexachlorobutadiene	10 U
59-50-7	4-Chloro-3-Methylphenol	10 U
91-57-6	2-Methylnaphthalene	10 U
77-47-4	Hexachlorocyclopentadiene	10 U
88-06-2	2,4,6-Trichlorophenol	10 U
95-95-4	2,4,5-Trichlorophenol	50 U
91-58-7	2-Chloronaphthalene	10 U
88-74-4	2-Nitroaniline	50 U
131-11-3	Dimethyl Phthalate	10 U
208-96-8	Acenaphthylene	10 U
99-09-2	3-Nitroaniline	50 U

CAS Number		ug/l or ug/Kg (Circle One)
83-32-9	Acenaphthene	10 U
51-28-5	2,4-Dinitrophenol	50 U
100-02-7	4-Nitrophenol	50 U
132-64-9	Dibenzofuran	10 U
121-14-2	2,4-Dinitrotoluene	10 U
606-20-2	2,6-Dinitrotoluene	10 U
84-66-2	Diethylphthalate	10 U
7005-72-3	4-Chlorophenyl-phenylether	10 U
86-73-7	Fluorene	10 U
100-01-6	4-Nitroaniline	50 U
534-52-1	4,6-Dinitro-2-Methylphenol	50 U
86-30-6	N-Nitrosodiphenylamine (1)	10 U
101-55-3	4-Bromophenyl-phenylether	10 U
118-74-1	Hexachlorobenzene	10 U
87-86-5	Pentachlorophenol	50 U
85-01-8	Phenanthrene	10 U
120-12-7	Anthracene	10 U
84-74-2	Di-n-Butylphthalate	10 U
206-44-0	Fluoranthene	10 U
129-00-0	Pyrene	10 U
85-68-7	Butylbenzylphthalate	10 U
91-94-1	3,3'-Dichlorobenzidine	10 U
56-55-3	Benzofluoranthene	10 U
117-81-7	bis(2-Ethylhexyl)Phthalate	10 U
218-01-9	Chrysene	10 U
117-84-0	Di-n-Octyl Phthalate	10 U
205-99-2	Benzo(b)fluoranthene	10 U
207-08-9	Benzo(k)fluoranthene	10 U
50-32-8	Benzo(a)pyrene	10 U
193-39-5	Indeno(1,2,3-cd)pyrene	10 U
53-70-3	Dibenz(a,h)anthracene	10 U
191-24-2	Benzo(g,h,i)perylene	10 U

(1)-Cannot be separated from diphenylamine

Laboratory Name Hittman Ebasco Associates Inc.
Case No 10824,10835

Sample Number
CY777(SW-15)

Organics Analysis Data Sheet
(Page 3)

Concentration Low Medium (Circle One)

Pesticide/PCBs

GPC Cleanup Yes X No

Date Extracted/Prepared 11/14/88

Separatory Funnel Extraction X Yes

Date Analyzed 12/8/88

Continuous Liquid-Liquid Extraction Yes

Conc/Dil Factor 1.00

Percent Moisture (decanted)

CAS
Number

ug/L or ug/Kg
(Circle One)

319-84-67	Alpha-BHC	0.05 U
319-85-7	Beta-BHC	0.05 U
319-86-8	Delta-BHC	0.05 U
58-89-9	Gamma-BHC(Lindane)	0.05 U
76-44-8	Heptachlor	0.05 U
309-00-2	Aldrin	0.05 U
1024-57-3	Heptachlor Epoxide	0.05 U
959-98-8	Endosulfan I	0.05 U
60-57-1	Dieldrin	0.1 U
72-55-9	4'4'-DDE	0.1 U
72-20-8	Endrin	0.1 U
33213-65-9	Endosulfan II	0.1 U
72-54-8	4'4'-DDD	0.1 U
1031-07-8	Endosulfan Sulfate	0.1 U
50-29-3	4'4'-DDT	0.1 U
72-43-5	Methoxychlor	0.5 U
53494-70-5	Endrin Ketone	0.1 U
57-74-9	Chlordane	0.5 U
8001-35-2	Toxaphene	1.0 U
12674-11-2	Aroclor - 1016	0.5 U
11104-28-2	Aroclor - 1221	0.5 U
11141-16-5	Aroclor - 1232	0.5 U
53469-21-9	Aroclor - 1242	0.5 U
12672-29-6	Aroclor - 1248	0.5 U
11097-69-1	Aroclor - 1254	1.0 U
11096-82-5	Aroclor - 1260	1.0 U

Vi = Volume of extract injected (ul)

Vs = Volume of water extracted (ml)

Ws = Weight of sample extracted (g)

Vt = Volume of total extract (ul)

Vs 1000.00 or Ws Vt 10000.00 Vi

AR302009
1.00

Handwritten signature/initials

Laboratory Name Hittman Ebasco Assoc. Inc.Case No: 10924Equip.
Blank

Sample Number

CY 730

HRT #6788

732235

Organics Analysis Data Sheet
(Page 2)

Semivolatile Compounds

Concentration: Low Medium (Circle One)Date Extracted/Prepared: 11/14/88Date Analyzed: 12/19/88Conc/Dil Factor: 1.0Percent Moisture (Decanted) N/AGPC Cleanup ☐ Yes ☒ NoSeparatory Funnel Extraction ☒ YesContinuous Liquid - Liquid Extraction ☐ YesCAS
Numberug/l or ug/Kg
(Circle One)

108-95-2	Phenol	10	U
111-44-4	bis(2-Chloroethyl)Ether	10	U
95-57-8	2-Chlorophenol	10	U
541-73-1	1,3-Dichlorobenzene	10	U
106-46-7	1,4-Dichlorobenzene	10	U
100-51-6	Benzyl Alcohol	10	U
95-50-1	1,2-Dichlorobenzene	10	U
95-48-7	2-Methylphenol	10	U
39538-32-9	bis(2-chloroisopropyl)Ether	10	U
106-44-5	4-Methylphenol	10	U
621-64-7	N-Nitroso-Di-n-Propylamine	10	U
67-72-1	Hexachloroethane	10	U
98-95-3	Nitrobenzene	10	U
78-59-1	Isophorone	10	U
88-75-5	2-Nitrophenol	10	U
105-67-9	2,4-Dimethylphenol	10	U
65-85-0	Benzoic Acid	50	U
111-91-1	bis(2-Chloroethoxy)Methane	10	U
120-83-2	2,4-Dichlorophenol	10	U
120-82-1	1,2,4-Trichlorobenzene	10	U
91-20-3	Naphthalene	10	U
106-47-8	4-Chloroaniline	10	U
87-68-3	Hexachlorobutadiene	10	U
59-50-7	4-Chloro-3-Methylphenol	10	U
91-57-6	2-Methylnaphthalene	10	U
77-47-4	Hexachlorocyclopentadiene	10	U
58-06-2	2,4,6-Trichlorophenol	10	U
95-95-4	2,4,5-Trichlorophenol	50	U
91-58-7	2-Chloronaphthalene	10	U
88-74-4	2-Nitroaniline	50	U
131-11-3	Dimethyl Phthalate	10	U
208-96-8	Acenaphthylene	10	U
99-09-2	3-Nitroaniline	50	U

CAS
Numberug/l or ug/Kg
(Circle One)

83-32-9	Acenaphthene	10	U
51-28-5	2,4-Dinitrophenol	50	U
100-02-7	4-Nitrophenol	50	U
132-84-9	Dibenzofuran	10	U
121-14-2	2,4-Dinitrotoluene	10	U
606-20-2	2,6-Dinitrotoluene	10	U
84-66-2	Diethylphthalate	10	U
7005-72-3	4-Chlorophenyl-phenylether	10	U
86-73-7	Fluorene	10	U
100-01-6	4-Nitroaniline	50	U
534-52-1	4,6-Dinitro-2-Methylphenol	50	U
86-30-6	N-Nitrosodiphenylamine (1)	10	U
101-55-3	4-Bromophenyl-phenylether	10	U
118-74-1	Hexachlorobenzene	10	U
87-86-5	Pentachlorophenol	50	U
85-01-8	Phenanthrene	10	U
120-12-7	Anthracene	10	U
84-74-2	Di-n-Butylphthalate	10	U
206-44-0	Fluoranthene	10	U
129-00-0	Pyrene	10	U
85-68-7	Butylbenzylphthalate	10	U
91-94-1	3,3'-Dichlorobenzidine	10	U
56-55-3	Benz[a]Anthracene	10	U
117-81-7	bis(2-Ethylhexyl)Phthalate	10	U
218-01-9	Chrysene	10	U
117-84-0	Di-n-Octyl Phthalate	10	U
205-99-2	Benzo[b]Fluoranthene	10	U
207-08-9	Benzo[k]Fluoranthene	10	U
50-32-8	Benzo[a]Pyrene	10	U
193-39-5	Indeno[1,2,3-cd]Pyrene	10	U
53-70-3	Dibenz[a,h]Anthracene	10	U
191-24-2	Benzo[g,h,i]Perylene	10	U

(1) Cannot be separated from diphenylamine

Laboratory Name Hittman Ebasco Associates Inc.
Case No 10824,10835

Sample Number
CY780/Equip.
Blank

Organics Analysis Data Sheet
(Page 3)

Concentration Low Medium (Circle One)

Pesticide/PCBs

GPC Cleanup Yes X No

Date Extracted/Prepared 11/14/88

Separatory Funnel Extraction X Yes

Date Analyzed 12/8/88

Continuous Liquid-Liquid Extraction -- Yes --

Conc/Dil Factor 1.00

Percent Moisture (decanted)

CAS
Number

ug/L or ug/Kg
(Circle One)

319-84-67	Alpha-BHC	0.05 U
319-85-7	Beta-BHC	0.05 U
319-86-8	Delta-BHC	0.05 U
58-89-9	Gamma-BHC(Lindane)	0.05 U
76-44-8	Heptachlor	0.05 U
309-00-2	Aldrin	0.05 U
1024-57-3	Heptachlor Epoxide	0.05 U
959-98-8	Endosulfan I	0.05 U
60-57-1	Dieldrin	0.1 U
72-55-9	4'4'-DDE	0.1 U
72-20-8	Endrin	0.1 U
33213-65-9	Endosulfan II	0.1 U
72-54-8	4'4'-DDD	0.1 U
1031-07-8	Endosulfan Sulfate	0.1 U
50-29-3	4'4'-DDT	0.1 U
72-43-5	Methoxychlor	0.5 U
53494-70-5	Endrin Ketone	0.1 U
57-74-9	Chlordane	0.5 U
8001-35-2	Toxaphene	1.0 U
12674-11-2	Aroclor - 1016	0.5 U
11104-28-2	Aroclor - 1221	0.5 U
11141-16-5	Aroclor - 1232	0.5 U
53469-21-9	Aroclor - 1242	0.5 U
12672-29-6	Aroclor - 1248	0.5 U
11097-69-1	Aroclor - 1254	1.0 U
11096-82-5	Aroclor - 1260	1.0 U

Vi = Volume of extract injected (ul)

Vs = Volume of water extracted (ml)

Ws = Weight of sample extracted (g)

Vt = Volume of total extract (ul)

Vs 1000.00 or Ws Vt 10000.00 Vi

AR302011
1.00

CRZ

Laboratory Name Hittman Ebasco Assoc. Inc.Case No 10524

Sample Number

CY 781 (SW-4)

Organics Analysis Data Sheet
(Page 2)HAPs # 6789
73236

Semivolatile Compounds

Concentration: Low Medium (Circle One)Date Extracted/Prepared: 11/14/88Date Analyzed: 12/19/88Conc./Dil Factor: 1.00Percent Moisture (Decanted) N/AGPC Cleanup ☐ Yes ☒ NoSeparatory Funnel Extraction ☒ YesContinuous Liquid - Liquid Extraction ☐ Yes

CAS Number		ug/l or ug/Kg (Circle One)
108-95-2	Phenol	10 U
111-44-4	bis(2-Chloroethyl)Ether	10 U
95-57-3	2-Chlorophenol	10 U
541-73-1	1,3-Dichlorobenzene	10 U
106-46-7	1,4-Dichlorobenzene	10 U
100-51-6	Benzyl Alcohol	10 U
95-50-1	1,2-Dichlorobenzene	10 U
95-48-7	2-Methylphenol	10 U
39638-32-9	bis(2-chloroisopropyl)Ether	10 U
106-44-5	4-Methylphenol	10 U
621-64-7	N-Nitroso-Di-n-Propylamine	10 U
67-72-1	Hexachloroethane	10 U
98-95-3	Nitrobenzene	10 U
78-59-1	Isophorone	10 U
88-75-5	2-Nitrophenol	10 U
105-67-9	2,4-Dimethylphenol	10 U
65-85-0	Benzoic Acid	50 U
111-91-1	bis(2-Chloroethoxy)Methane	10 U
120-83-2	2,4-Dichlorophenol	10 U
120-82-1	1,2,4-Trichlorobenzene	10 U
91-20-3	Naphthalene	10 U
106-47-8	4-Chloroaniline	10 U
87-68-3	Hexachlorobutadiene	10 U
59-50-7	4-Chloro-3-Methylphenol	10 U
91-57-6	2-Methylnaphthalene	10 U
77-47-4	Hexachlorocyclopentadiene	10 U
88-06-2	2,4,6-Trichlorophenol	10 U
95-95-4	2,4,5-Trichlorophenol	50 U
91-58-7	2-Chloronaphthalene	10 U
88-74-4	2-Nitroaniline	50 U
131-11-3	Dimethyl Phthalate	10 U
208-96-8	Acenaphthylene	10 U
99-09-2	3-Nitroaniline	50 U

CAS Number		ug/l or ug/Kg (Circle One)
83-32-9	Acenaphthene	10 U
51-28-5	2,4-Dinitrophenol	50 U
100-02-7	4-Nitrophenol	50 U
132-64-9	Dibenzofuran	10 U
121-14-2	2,4-Dinitrotoluene	10 U
606-20-2	2,6-Dinitrotoluene	10 U
84-66-2	Diethylphthalate	10 U
7005-72-3	4-Chlorophenyl-phenylmer	10 U
86-73-7	Fluorene	10 U
100-01-6	4-Nitroaniline	50 U
534-52-1	4,6-Dinitro-2-Methylphenol	50 U
86-30-6	N-Nitrosodiphenylamine (1)	10 U
101-55-3	4-Bromophenyl-phenylether	10 U
118-74-1	Hexachlorobenzene	10 U
87-86-5	Pentachlorophenol	50 U
85-01-8	Phenanthrene	10 U
120-12-7	Anthracene	10 U
84-74-2	Di-n-Butylphthalate	10 U
206-44-0	Fluoranthene	10 U
129-00-0	Pyrene	10 U
85-68-7	Butylbenzylphthalate	10 U
91-94-1	3,3'-Dichlorobenzidine	20 U
56-55-3	Benzofluoranthene	10 U
117-81-7	bis(2-Ethylhexyl)Phthalate	10 U
218-01-9	Chrysene	10 U
117-84-0	Di-n-Octyl Phthalate	10 U
205-99-2	Benzofluoranthene	10 U
207-08-9	Benzofluoranthene	10 U
50-32-8	Benzofluoranthene	10 U
193-39-5	Indeno(1,2,3-cd)Pyrene	10 U
53-70-3	Dibenzofluoranthene	10 U
191-24-2	Benzofluoranthene	10 U

AR302012

(1)-Cannot be separated from diphenylamine

Laboratory Name Hittman Ebasco Associates Inc.
Case No 10824,10835

Sample Number
CY781 (SW-4)

Organics Analysis Data Sheet
(Page 3)

Concentration Low Medium (Circle One)

Pesticide/PCBs

GPC Cleanup Yes X No

Date Extracted/Prepared 11/14/88

Separatory Funnel Extraction X Yes

Date Analyzed 12/8/88

Continuous Liquid-Liquid Extraction Yes

Conc/Dil Factor 1.00

Percent Moisture (decanted)

CAS
Number

ug/L or ug/Kg
(Circle One)

319-84-67	Alpha-BHC	0.05 U
319-85-7	Beta-BHC	0.05 U
319-86-8	Delta-BHC	0.05 U
58-89-9	Gamma-BHC(Lindane)	0.05 U
76-44-8	Heptachlor	0.05 U
309-00-2	Aldrin	0.05 U
1024-57-3	Heptachlor Epoxide	0.05 U
959-98-8	Endosulfan I	0.05 U
60-57-1	Dieldrin	0.1 U
72-55-9	4'4'-DDE	0.1 U
72-20-8	Endrin	0.1 U
33213-65-9	Endosulfan II	0.1 U
72-54-8	4'4'-DDD	0.1 U
1031-07-8	Endosulfan Sulfate	0.1 U
50-29-3	4'4'-DDT	0.1 U
72-43-5	Methoxychlor	0.5 U
53494-70-5	Endrin Ketone	0.1 U
57-74-9	Chlordane	0.5 U
8001-35-2	Toxaphene	1.0 U
12674-11-2	Aroclor - 1016	0.5 U
11104-28-2	Aroclor - 1221	0.5 U
11141-16-5	Aroclor - 1232	0.5 U
53469-21-9	Aroclor - 1242	0.5 U
12672-29-6	Aroclor - 1248	0.5 U
11097-69-1	Aroclor - 1254	1.0 U
11096-82-5	Aroclor - 1260	1.0 U

Vi = Volume of extract injected (ul)

Vs = Volume of water extracted (ml)

Ws = Weight of sample extracted (g)

Vt = Volume of total extract (ul)

Vs 1000.00 or Ws Vt 10000.00 Vi

AR302013
1.00

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Laboratory Name Hittman Ebasco Assoc. Inc.Case No: 10824

Sample Number

04-778

SED

-4

Organics Analysis Data Sheet

(Page 2)

HRAD #6790

7/8/256

Semivolatile Compounds

Concentration: Low Medium (Circle One)Date Extracted/Prepared: 11/14/88Date Analyzed: 12/20/88Conc./Dil Factor: 20Percent Moisture (Decanted): 17GPC Cleanup ☐ Yes ☒ NoSeparatory Funnel Extraction ☒ YesContinuous Liquid - Liquid Extraction ☐ Yes

CAS Number		ug/l or ug/Kg (Circle One)
108-95-2	Phenol	8200U
111-44-4	bis(2-Chloroethyl)Ether	8200U
95-57-8	2-Chlorophenol	8200U
541-73-1	1,3-Dichlorobenzene	8200U
106-46-7	1,4-Dichlorobenzene	8200U
100-51-6	Benzyl Alcohol	8200U
95-50-1	1,2-Dichlorobenzene	8200U
95-48-7	2-Methylphenol	8200U
39638-32-9	bis(2-chloroisopropyl)Ether	8200U
106-44-5	4-Methylphenol	8200U
621-64-7	N-Nitroso-Di-n-Propylamine	8200U
67-72-1	Hexachloroethane	8200U
98-95-3	Nitrobenzene	8200U
78-59-1	Isophorone	8200U
88-75-5	2-Nitrophenol	8200U
105-67-9	2,4-Dimethylphenol	8200U
65-85-0	Benzoic Acid	41000U
111-91-1	bis(2-Chloroethoxy)Methane	8200U
120-83-2	2,4-Dichlorophenol	8200U
120-82-1	1,2,4-Trichlorobenzene	8200U
91-20-3	Naphthalene	8200U
106-47-8	4-Chloroaniline	8200U
87-68-3	Hexachlorobutadiene	8200U
59-50-7	4-Chloro-3-Methylphenol	8200U
91-57-6	2-Methylnaphthalene	8200U
77-47-4	Hexachlorocyclopentadiene	8200U
88-06-2	2,4,5-Trichlorophenol	8200U
95-95-4	2,4,5-Trichlorophenol	41000U
91-58-7	2-Chloronaphthalene	8200U
88-74-4	2-Nitroaniline	41000U
131-11-3	Dimethyl Phthalate	8200U
208-96-8	Acenaphthylene	8200U
95-09-2	3-Nitroaniline	41000U

CAS Number		ug/l or ug/Kg (Circle One)
83-32-9	Acenaphthene	8200U
51-28-5	2,4-Dinitrophenol	41000U
100-02-7	4-Nitrophenol	41000U
132-64-9	Dibenzofuran	8200U
121-14-2	2,4-Dinitrotoluene	8200U
606-20-2	2,6-Dinitrotoluene	8200U
84-86-2	Diethylphthalate	8200U
7005-72-3	4-Chlorophenyl-phenylether	8200U
86-73-7	Fluorene	8200U
100-01-6	4-Nitroaniline	41000U
534-52-1	4,6-Dinitro-2-Methylphenol	41000U
86-30-6	N-Nitrosodiphenylamine (1)	8200U
101-55-3	4-Bromophenyl-phenylether	8200U
118-74-1	Hexachlorobenzene	8200U
87-86-5	Pentachlorophenol	41000U
85-01-8	Phenanthrene	8200U
120-12-7	Anthracene	8200U
84-74-2	Di-n-Butylphthalate	8200U
206-44-0	Fluoranthene	8200U
129-00-0	Pyrene	8200U
85-68-7	Butylbenzylphthalate	8200U
91-94-1	3,3'-Dichlorobenzidine	8200U
56-55-3	Benzofluoranthene	8200U
117-81-7	bis(2-Ethylhexyl)Phthalate	110000U
218-01-9	Chrysene	8200U
117-84-0	Di-n-Octyl Phthalate	7400U
205-99-2	Benzobifluoranthene	8200U
207-08-9	Benzokifluoranthene	8200U
50-32-8	Benzofluoranthene	8200U
193-39-5	Indeno(1,2,3-cd)Pyrene	8200U
53-70-3	Dibenz(a,h)Anthracene	8200U
191-24-2	Benzofluoranthene	8200U

(1)-Cannot be separated from diphenylamine

Laboratory Name Hittman Ebasco Associates Inc.
Case No 10824,10835

Sample Number
CY778 (SED)
-4

Organics Analysis Data Sheet
(Page 3)

Concentration Low Medium (Circle One)

Pesticide/PCBs

GPC Cleanup Yes X No

Date Extracted/Prepared 11/14/88

Separatory Funnel Extraction Yes

Date Analyzed 12/8/88

Continuous Liquid-Liquid Extraction Yes

Conc/Dil Factor 1.00

Percent Moisture (decanted) 17

CAS
Number

ug/L or ug/Kg
(Circle One)

319-84-67	Alpha-BHC	9.4 U
319-85-7	Beta-BHC	9.4 U
319-86-8	Delta-BHC	9.4 U
58-89-9	Gamma-BHC(Lindane)	9.4 U
76-44-8	Heptachlor	9.4 U
309-00-2	Aldrin	9.4 U
1024-57-3	Heptachlor Epoxide	9.4 U
959-98-8	Endosulfan I	9.4 U
60-57-1	Dieldrin	19 U
72-55-9	4'-4'-DDE	19 U
72-20-8	Endrin	19 U
33213-65-9	Endosulfan II	19 U
72-54-8	4'-4'-DDD	19 U
1031-07-8	Endosulfan Sulfate	19 U
50-29-3	4'-4'-DDT	19 U
72-43-5	Methoxychlor	94 U
53494-70-5	Endrin Ketone	19 U
57-74-9	Chlordane	94 U
8001-35-2	Toxaphene	190 U
12674-11-2	Aroclor - 1016	94 U
11104-28-2	Aroclor - 1221	94 U
11141-16-5	Aroclor - 1232	94 U
53469-21-9	Aroclor - 1242	94 U
12672-29-6	Aroclor - 1248	780
11097-69-1	Aroclor - 1254	190 U
11096-82-5	Aroclor - 1260	190 U

Vi = Volume of extract injected (ul)
Vs = Volume of water extracted (ml)
Ws = Weight of sample extracted (g)
Vt = Volume of total extract (ul)

Vs _____ or Ws 30.81 Vt 2000.00 Vi _____

1.00

AR302015

2229

Laboratory Name Hittman Ebasco Assoc. Inc.Case No 10824

Sample Number

CY-779(SED
-16)

Organics Analysis Data Sheet

(Page 2)

HEA #6791
7136253

Semivolatile Compounds

Concentration: Low Medium (Circle One)Date Extracted/Prepared: 11/17/88Date Analyzed: 12/23/88Conc/Dil Factor: 20Percent Moisture (Decanted): 14GPC Cleanup ☐ Yes ☒ NoSeparatory Funnel Extraction ☒ YesContinuous Liquid - Liquid Extraction ☐ Yes

CAS Number		ug/l or ug/Kg (Circle One)
108-95-2	Phenol	8000U
111-44-4	bis(2-Chloroethyl)Ether	8000U
95-57-8	2-Chlorophenol	8000U
541-73-1	1,3-Dichlorobenzene	8000U
106-46-7	1,4-Dichlorobenzene	8000U
100-51-6	Benzyl Alcohol	8000U
95-50-1	1,2-Dichlorobenzene	8000U
95-48-7	2-Methylphenol	8000U
39638-32-9	bis(2-chloroisopropyl)Ether	8000U
106-44-5	4-Methylphenol	8000U
621-64-7	N-Nitroso-Di-n-Propylamine	8000U
67-72-1	Hexachloroethane	8000U
98-95-3	Nitrobenzene	8000U
78-59-1	Isophorone	8000U
88-75-5	2-Nitrophenol	8000U
105-67-9	2,4-Dimethylphenol	8000U
65-85-0	Benzoic Acid	70000U
111-91-1	bis(2-Chloroethoxy)Methane	8000U
120-83-2	2,4-Dichlorophenol	8000U
120-82-1	1,2,4-Trichlorobenzene	8000U
91-20-3	Naphthalene	8000U
106-47-8	4-Chloroaniline	8000U
87-68-3	Hexachlorobutadiene	8000U
59-50-7	4-Chloro-3-Methylphenol	8000U
91-57-6	2-Methylnaphthalene	8000U
77-47-4	Hexachlorocyclopentadiene	8000U
88-06-2	2,4,6-Trichlorophenol	8000U
95-95-4	2,4,5-Trichlorophenol	40000U
91-58-7	2-Chloronaphthalene	8000U
88-74-4	2-Nitroaniline	40000U
131-11-3	Dimethyl Phthalate	8000U
208-96-8	Acenaphthylene	8000U
99-09-2	3-Nitroaniline	40000U

CAS Number		ug/l or ug/Kg (Circle One)
83-32-9	Acenaphthene	8000U
51-28-5	2,4-Dinitrophenol	40000U
100-02-7	4-Nitrophenol	40000U
132-64-9	Dibenzofuran	8000U
121-14-2	2,4-Dinitrotoluene	8000U
606-20-2	2,6-Dinitrotoluene	8000U
84-86-2	Diethylphthalate	8000U
7005-72-3	4-Chlorophenyl-phenylether	8000U
86-73-7	Fluorene	8000U
100-01-6	4-Nitroaniline	70000U
534-52-1	4,6-Dinitro-2-Methylphenol	40000U
86-30-6	N-Nitrosodiphenylamine (1)	8000U
101-55-3	4-Bromophenyl-phenylether	8000U
118-74-1	Hexachlorobenzene	8000U
87-86-5	Pentachlorophenol	70000U
85-01-8	Phenanthrene	8000U
120-12-7	Anthracene	8000U
84-74-2	Di-n-Butylphthalate	8000U
206-44-0	Fluoranthene	8000U
129-00-0	Pyrene	8000U
85-68-7	Butylbenzylphthalate	8000U
91-94-1	3,3'-Dichlorobenzidine	16000U
56-55-3	Benzo(a)Anthracene	8000U
117-81-7	bis(2-Ethylhexyl)Phthalate	9000U
218-01-9	Chrysene	8000U
117-84-0	Di-n-Octyl Phthalate	6900U
205-99-2	Benzo(b)Fluoranthene	8000U
207-08-9	Benzo(k)Fluoranthene	8000U
50-32-8	Benzo(a)Pyrene	8000U
193-39-5	Indeno(1,2,3-cd)Pyrene	8000U
53-70-3	Dibenz(a,h)Anthracene	8000U
191-24-2	Benzo(g,h,i)Perylene	8000U

(1)-Cannot be separated from diphenylamine

303070

Laboratory Name Hittman Ebasco Associates Inc.
Case No 10824, 10835

Sample Number
CY779 SED
-16

Organics Analysis Data Sheet
(Page 3)

Concentration Low Medium (Circle One)

Pesticide/PCBs

GPC Cleanup Yes X No

Date Extracted/Prepared 11/14/88

Separatory Funnel Extraction Yes

Date Analyzed 12/8/88

Continuous Liquid-Liquid Extraction Yes

Conc/Dil Factor 1.00

Percent Moisture (decanted) 14

CAS
Number

ug/L or ug/Kg
(Circle One)

319-84-67	Alpha-BHC	9.2 U
319-85-7	Beta-BHC	9.2 U
319-86-8	Delta-BHC	9.2 U
58-89-9	Gamma-BHC(Lindane)	9.2 U
76-44-8	Heptachlor	9.2 U
309-00-2	Aldrin	9.2 U
1024-57-3	Heptachlor Epoxide	9.2 U
959-98-8	Endosulfan I	9.2 U
60-57-1	Dieldrin	18 U
72-55-9	4'4'-DDE	18 U
72-20-8	Endrin	18 U
33213-65-9	Endosulfan II	18 U
72-54-8	4'4'-DDD	18 U
1031-07-8	Endosulfan Sulfate	18 U
50-29-3	4'4'-DDT	18 U
72-43-5	Methoxychlor	29 U
53494-70-5	Endrin Ketone	18 U
57-74-9	Chlordane	92 U
8001-35-2	Toxaphene	180 U
12674-11-2	Aroclor - 1016	92 U
11104-28-2	Aroclor - 1221	92 U
11141-16-5	Aroclor - 1232	92 U
53469-21-9	Aroclor - 1242	92 U
12672-29-6	Aroclor - 1248	340
11097-69-1	Aroclor - 1254	180 U
11096-82-5	Aroclor - 1260	180 U

Vi = Volume of extract injected (ul)
Vs = Volume of water extracted (ml)
Ws = Weight of sample extracted (g)
Vt = Volume of total extract (ul)

Vs 30.23 or Ws 2000.00 Vt 1.00 Vi 1.00

AR302017

Laboratory Name Hittman Ebasco Assoc. Inc.Case No. 10824

Sample Number

CY-782(5ED
-2)Organics Analysis Data Sheet
(Page 2)HEAD #6792
7/5/255

Semivolatile Compounds

Concentration: Low Medium (Circle One)Date Extracted/Prepared: 11/14/88Date Analyzed: 12/20/88Conc./Dil Factor: 4Percent Moisture (Decanted) 10GPC Cleanup ☐ Yes ☒ NoSeparatory Funnel Extraction ☒ YesContinuous Liquid - Liquid Extraction ☐ Yes

CAS Number		ug/l or ug/Kg (Circle One)
108-95-2	Phenol	1500U
111-44-4	bis(2-Chloroethyl)Ether	1500U
95-57-8	2-Chlorophenol	1500U
541-73-1	1,3-Dichlorobenzene	1500U
106-46-7	1,4-Dichlorobenzene	1500U
100-51-6	Benzyl Alcohol	1500U
95-50-1	1,2-Dichlorobenzene	1500U
95-48-7	2-Methylphenol	1500U
39638-32-9	bis(2-chloroisopropyl)Ether	1500U
106-44-5	4-Methylphenol	1500U
621-64-7	N-Nitroso-Di-n-Propylamine	1500U
67-72-1	Hexachloroethane	1500U
98-95-3	Nitrobenzene	1500U
78-59-1	Isophorone	1500U
88-75-5	2-Nitrophenol	1500U
105-67-9	2,4-Dimethylphenol	1500U
65-85-0	Benzoic Acid	7700U
111-91-1	bis(2-Chloroethoxy)Methane	1500U
120-83-2	2,4-Dichlorophenol	1500U
120-82-1	1,2,4-Trichlorobenzene	1500U
91-20-3	Naphthalene	1500U
106-47-8	4-Chloroaniline	1500U
87-68-3	Hexachlorobutadiene	1500U
59-50-7	4-Chloro-3-Methylphenol	1500U
91-57-6	2-Methylnaphthalene	1500U
77-47-4	Hexachlorocyclopentadiene	1500U
88-06-2	2,4,6-Trichlorophenol	1500U
95-95-4	2,4,5-Trichlorophenol	7700U
91-58-7	2-Chloronaphthalene	1500U
88-74-4	2-Nitroaniline	7700U
131-11-3	Dimethyl Phthalate	1500U
208-96-8	Acenaphthylene	1500U
99-09-2	3-Nitroaniline	7700U

CAS Number		ug/l or ug/Kg (Circle One)
83-32-9	Acenaphthene	1500U
51-28-5	2,4-Dinitrophenol	7700U
100-02-7	4-Nitrophenol	7700U
132-64-9	Dibenzofuran	1500U
121-14-2	2,4-Dinitrotoluene	1500U
606-20-2	2,6-Dinitrotoluene	1500U
84-66-2	Diethylphthalate	1500U
7005-72-3	4-Chlorophenyl-phenylether	1500U
86-73-7	Fluorene	1500U
100-01-6	4-Nitroaniline	7700U
534-52-1	4,6-Dinitro-2-Methylphenol	7700U
85-30-6	N-Nitrosodiphenylamine (1)	1500U
101-55-3	4-Bromophenyl-phenylether	1500U
118-74-1	Hexachlorobenzene	1500U
87-86-5	Pentachlorophenol	7700U
85-01-8	Phenanthrene	1500U
120-12-7	Anthracene	1500U
84-74-2	Di-n-Butylphthalate	1500U
206-44-0	Fluoranthene	1500U
129-00-0	Pyrene	1500U
85-68-7	Butylbenzylphthalate	1500U
91-94-1	3,3'-Dichlorobenzidine	3100U
56-55-3	Benz(a)Anthracene	1500U
117-81-7	bis(2-Ethylhexyl)Phthalate	16000U
218-01-9	Chrysene	1500U
117-84-0	Di-n-Octyl Phthalate	7600U
205-99-2	Benz(b)Fluoranthene	1500U
207-08-9	Benz(k)Fluoranthene	1500U
50-32-8	Benz(a)Pyrene	1500U
193-39-5	Indeno(1,2,3-cd)Pyrene	1500U
53-70-3	Dibenz(a,h)Anthracene	1500U
191-24-2	Benz(g,h,i)Perylene	1500U

(1)-Cannot be separated from diphenylamine

Laboratory Name Hittman Ebasco Associates Inc.
Case No 10824, 10835

Sample Number
CY782 (5ED-2)

Organics Analysis Data Sheet
(Page 3)

Concentration Low Medium (Circle One)

Pesticide/PCBs

GPC Cleanup Yes X No

Date Extracted/Prepared 11/14/88

Separatory Funnel Extraction Yes

Date Analyzed 12/8/88

Continuous Liquid-Liquid Extraction Yes

Conc/Dil Factor 1.00

Percent Moisture (decanted) 11

CAS Number		ug/L or ug/Kg (Circle One)
319-84-67	Alpha-BHC	8.8 U
319-85-7	Beta-BHC	8.8 U
319-86-8	Delta-BHC	8.8 U
58-89-9	Gamma-BHC(Lindane)	8.8 U
76-44-8	Heptachlor	8.8 U
309-00-2	Aldrin	8.8 U
1024-57-3	Heptachlor Epoxide	8.8 U
959-98-8	Endosulfan I	8.8 U
60-57-1	Dieldrin	18 U
72-55-9	4'4'-DDE	18 U
72-20-8	Endrin	18 U
33213-65-9	Endosulfan II	18 U
72-54-8	4'4'-DDD	18 U
1031-07-8	Endosulfan Sulfate	18 U
50-29-3	4'4'-DDT	18 U
72-43-5	Methoxychlor	88 U
53494-70-5	Endrin Ketone	18 U
57-74-9	Chlordane	88 U
8001-35-2	Toxaphene	180 U
12674-11-2	Aroclor - 1016	88 U
11104-28-2	Aroclor - 1221	88 U
11141-16-5	Aroclor - 1232	88 U
53469-21-9	Aroclor - 1242	88 U
12672-29-6	Aroclor - 1248	140
11097-69-1	Aroclor - 1254	180 U
11096-82-5	Aroclor - 1260	180 U

Vi = Volume of extract injected (ul)

Vs = Volume of water extracted (ml)

Ws = Weight of sample extracted (g)

Vt = Volume of total extract (ul)

Vs or Ws 30.42 Vt 2000.00 Vi

AR302019

WESTON

Appendix D

Reviewed and Corrected
Tentatively Identified Compound Lists

AR302020

Laboratory Name
Case No 10824

Organics Analysis Data Sheet
(Page 4)

CY-775
HFAI # 6785
7CK096

Tentatively Identified Compounds

CAS Number	Compound Name	Fraction	RT or SCm Number	Estimated Concentration (ug/l or ug/kg)
1.	UNKNOWN	VOA	23	1605
2.	UNKNOWN	VOA	27	205
3.	UNKNOWN	VOA	114	105
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AR302021

Laboratory Name Hittman Ebasco Assoc. Inc.

Case No

10824Organics Analysis Data Sheet
(Page 4)

Sample Number

CY 776HEAT # 67867BL233

Tentatively Identified Compounds

CAS Number	Compound Name	Fraction	RT or Scan Number	Estimated Concentration (ug/l or ug/kg)
1.	UNKNOWN	BNA	379	5 J
2.	UNKNOWN	BNA	863	16 J
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3060AR302022

7/85

Laboratory Name Hittman Ebasco Assoc. Inc.

Case No 10-824

Organics Analysis Data Sheet
(Page 4)

Sample Number

CY777

HEAL #6787

7/5/234

Tentatively Identified Compounds

CAS Number	Compound Name	Fraction	RT or Scan Number	Estimated Concentration (ug/l or ug/kg)
1.	UNKNOWN	BNA	239	5 J
2.	UNKNOWN	BNA	963	11 J
3.	UNKNOWN	BNA	1163	4 J
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AR302023

360018

7/85

Laboratory Name Hittman Ebasco Assoc. Inc.

Case No 10424

Sample Number

CY 780

Organics Analysis Data Sheet
(Page 4)

HRP # 6788
7/12/85

Tentatively Identified Compounds

CAS Number	Compound Name	Fraction	RT or Scan Number	Estimated Concentration (ug/l or ug/kg)
1.	NO COMPOUNDS FOUND			
2.				
3.				
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AR302024

303026

Laboratory Name Hittman Ebasco Assoc. Inc.Case No 10824

Sample Number

CY 181Organics Analysis Data Sheet
(Page 4)HRAL #67597/15/236

Tentatively Identified Compounds

CAS Number	Compound Name	Fraction	RT or Scan Number	Estimated Concentration (ug/l or ug/kg)
1. 946305	Phenoxy methyl benzene	BNA	1030.	.16 J
2.				
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AR302025

300031

Laboratory Name Hittman Ebasco Assoc. Inc.
Case No 10884

Organics Analysis Data Sheet
(Page 4)

Sample Number
NY-778 (1:20)
HFAI #6790 (1:20)
7134256

Tentatively Identified Compounds

CAS Number	Compound Name	Fraction	RT or Scan Number	Estimated Concentration (ug/l or ug/kg)
1.	UNKNOWN	BNA	967	13000J
2.	UNKNOWN	BNA	1136	6200J
3.	UNKNOWN	BNA	1143	4000J
4.	UNKNOWN	BNA	1147	3800J
5.	UNKNOWN	BNA	1168	19000J
6.	UNKNOWN	BNA	1177	13000J
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AR302026

Laboratory Name Hittman Ebasco Assoc. Inc.

Case No

10824

Sample Number

CY-779Organics Analysis Data Sheet
(Page 4)HEAT #6791
786253

Tentatively Identified Compounds

CAS Number	Compound Name	Fraction	RT or Scan Number	Estimated Concentration (ug/l or ug/kg)
1.	UNKNOWN	BNA	968	190000
2.	UNKNOWN	BNA	1032	140000
3.	UNKNOWN	BNA	1046	110000
4.	UNKNOWN	BNA	1135	57000
5.	UNKNOWN	BNA	1147	34000
6.	UNKNOWN	BNA	1168	30000
7.	UNKNOWN	BNA	1178	93000
8.		BNA		
9.		BNA		
10.		BNA		
11.				
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AR302027
800071

Laboratory Name Hittman Ebasco Assoc. Inc.
Case No 10824

Organics Analysis Data Sheet
(Page 4)

Sample Number
CY-782 (1:4)
HRAI # 6792 (1:4)
766255

Tentatively Identified Compounds

CAS Number	Compound Name	Fraction	RT or Scan Number	Estimated Concentration (ug/l or ug/kg)
1.	UNKNOWN	BNA	967	14000J
2.	Phosphoric acid, tri-		1113.89	
3.	(methylphenyl) ether	BNA	1080	1300J
4.	UNKNOWN	BNA	1167	26000J
5.	UNKNOWN	BNA	1238	2900J
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350J

3000002028

7/85

WESTON

Appendix E

DPO Report for Contractual Compliance

AR302029

WESTON**ORGANIC DATA VALIDATION SUMMARY**

Date Review Completed: April 2, 1989
 Case No.: 10824
 Site Name: Eastern Diversified
 Sample Nos.: CY775 through CY782

Contract Lab.: Hittman-Ebasco
 Contract No.: 68-01-7280
 Lab DPO: Chuck Sands
 Reviewer: Albert T. Ellis
 From: Region III/ESAT
 Phone: (301) 266-9887

MATRIX	CONCENTRATION			MATRIX RELATED COMMENTS
	low	med	high	
soil/solid	3			
aqueous	5			
other				

VOLATILES	OK	FYI	Action	COMMENT
GC/MS tuning--BFB	X			
Initial Calibration	X			
Continuing Calibration		X		See Note 1
Surrogate Recovery	X			
Matrix Spikes	X			
Reagent Blanks		X		See Note 4
Holding Times	X			

SEMI-VOLATILES	OK	FYI	Action	COMMENT
GC/MS tuning--DFTPP	X			
Initial Calibration		X		See Note 2
Continuing Calibration		X		See note 1
Surrogate Recovery			X	See Note 3
Matrix Spikes		X		See Note 5
Reagent Blanks	X			
Holding Times	X			

PESTICIDES	OK	FYI	Action	COMMENT
Instrument Performance	X			
Initial Calibration	X			
Continuing Calibration			X	See Note 6
Surrogate Recovery		X		See Note 7
Matrix Spikes		X		See Note 8
Reagent Blanks	X			
Holding Times	X			

OVERALL CASE	OK	FYI	Action	
Compound Identification	X			
Data Completeness			X	See Notes 9 & 10

REVIEWER'S COMMENTS:**AR302030****DOCUMENTATION ATTACHED (see following pages)**



Organic Data Validation Summary

- Note 1 - The %D for several compounds in the continuing calibration standards exceeded 25%. (See Support Documentation and Table I in Appendix F).
- Note 2 - The %RSD exceeded 30% in the initial calibration for several compounds. (See Form VIs in Appendix F).
- Note 3 - The % recovery for two (2) of the water semivolatile method blank surrogates exceeded the contract specified QC limits. The recovery of 2-fluorophenol was less than ten percent (10%). Neither the method blank nor the associated samples were re-extracted. (See Form II in Appendix F).
- Note 4 - The maximum concentration of the following common laboratory contaminant was found in the method blank.

<u>Compound</u>	<u>Concentration</u>
methylene chloride	2 J ug/L

- Note 5 - The % recoveries for three (3) out of twenty-two (22) soil and three (3) out of twenty-two (22) water matrix spike compounds exceeded the contract specified QC limits. 4-Chloro-3-methylphenol was not found to be present in the MSD. (See Form IIIs in Appendix F).
- Note 6 - The individual A and B standard mixes had %Ds greater than the contract required limits. (See Appendix F).
- Note 7 - Only the method blanks had pesticide surrogate recoveries which were within the contract specified QC limits.
- Note 8 - The % recoveries for one (1) out of twelve (12) water pesticide matrix spike compounds exceeded the contract specified QC limits. (See Form IIIs in Appendix F).
- Note 9 - The internal standard areas for the volatile analysis of sample CY775 was less than fifty percent (<50%) of the internal standard areas in the corresponding daily calibration standard. (See Support Documentation in Appendix F).
- Note 10- Several forms were not correctly completed by the laboratory prior to submission of the data package. (See Support Documentation and Telephone Log in Appendix F).

48302031

WESTON

Appendix F
Support Documentation

AR302032

Table 1

Compounds and Associated Samples Affected
by Calibration Uncertainty

Volatiles CY775 CY776 CY777 CY778 CY779 CY780 CY781 CY782

Vinyl Acetate C

Semi-Volatiles

Benzoic Acid	C	C	C	C	C	C	C	C
2,4-Dinitrophenol	C	C	C	C	C	C	C	C
2,6-Dinitrotoluene	C	C	C	C	C	C	C	C
Diethylphthalate	C	C	C	C	C	C	C	C
4-Nitroaniline	C	C	C	C	C	C	C	C
4,6-Dinitro-2-methylphenol	C	C	C	C	C	C	C	C
Benzo(b)fluoranthene	C	C	C	C	C	C	C	C
Benzo(k)fluoranthene	C	C	C	C	C	C	C	C

C = XD exceeded 25% in the continuing calibration. Positive results are qualified "N" and quantitation limits are qualified "UJ".

AR302033

In Reference to Case No(s):

10824

Contract Laboratory Program
REGIONAL/LABORATORY COMMUNICATION SYSTEM

Telephone Record Log

Date of Call:

2/20/89

Laboratory Name:

Hittman-Thorco

Lab Contact:

Steve Funk

Region:

TII

Regional Contact:

Albert Ellis (ESAP)

Call Initiated By:

☒

Laboratory

☒

Region

In reference to data for the following sample number(s):

SDG # C4775

Summary of Questions/Issues Discussed:

1. Form U - Date is incorrect for injection of
C4787 ms + C4782 ms

2. Case # - one missing form Form VII for
BNA

3. Case #s and Instrument IDs missing from Form VI

4. Case #, Contractor No. and instrument ID missing
from UOA Form VI and Form VII

Summary of Resolution:

Lab will investigate and resubmit

Signature

Albert F. Ellis

Date

AR302034

3/20/89

Distribution: (1) Lab Copy, (2) Region Copy, (3) SMO Copy

WATER MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Case No. 10824 Contractor Hettman Ebasco Assoc., Inc. Contract No. 68-01-7280

FRACTION	COMPOUND	CONC. SPIKE ADDED (ug/L)	SAMPLE RESULT	CONC. MS	% REC	CONC. MSD	% REC	RPD	QC LIMITS RPD RECOVERY
VOA SMO SAMPLE NO.	1,1-Dichloroethene								14 81.145
	Trichloroethene								14 71.120
	Chlorobenzene								13 75.130
	Toluene								13 76.125
	Benzene								11 76.127
B/N SMO SAMPLE NO.	1,2,4-Trichlorobenzene								28 39.08
	Acenaphthene								31 46.118
	2,4 Dinitrotoluene								38 24.90
	Pyrene								31 26.127
	N-Nitroso-DI-n-Propylamine								38 41.110
ACID SMO SAMPLE NO.	1,4-Dichlorobenzene								28 36.97
	Pentachlorophenol								50 9.103
	Phenol								42 12.89
	2-Chlorophenol								40 27.123
	4-Chloro-3-Methylphenol								42 23.97
PEST SMO SAMPLE NO. <u>10781</u>	4-Nitrophenol								50 10.80
	Lindane	0.4	0	0.45	112	0.41	102	9	15 56.123
	Heptachlor	0.4	0	0.41	102	0.36	90	12	20 40.131
	Aldrin	0.4	0	0.44	110	0.40	100	10	22 40.120
	Dieldrin	1.0	0	1.05	105	0.99	99	6	18 52.126
	Endrin	1.0	0	1.07	107	0.95	95	12	21 56.121
	4,4'-DDT	1.0	0	1.52	152*	1.16	116	17	27 38.127

* ASTERISKED VALUES ARE OUTSIDE QC LIMITS.

RPD: VOA: out of : outside QC limits
 B/N: out of : outside QC limits
 ACID: out of : outside QC limits
 PEST: out of : outside QC limits

RECOVERY: VOA: out of : outside QC limits
 B/N: out of : outside QC limits
 ACID: out of : outside QC limits
 PEST: out of : outside QC limits

Comments: 3 5

SOIL MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

6000002

Case No. 10824

Contractor Hittman Phasco Assoc., Inc.

Contract No. 68-01-7280

Low Level + Medium Level —

FRACTION	COMPOUND	CONC. SPIKE ADDED (ug/Kg)	SAMPLE RESULT	CONC. MS	% REC	CONC. MSD	% REC	RPD	OC LIMITS RPD RECOVERY
VOA SMO SAMPLE NO.	1,1-Dichloroethene								22 50-172
	Trichloroethene								24 62-137
	Chlorobenzene								21 60-133
	Toluene								21 59-139
B/N SMO SAMPLE NO. <u>04-782</u>	Benzene			1100	42/54				21 60-142
	1,2,4-Trichlorobenzene	2000	0	3800	56	1200	62	10	23 38-107
	Acenaphthene	2000	0	1900	98	2100	108	10	19 31-137
	2,4 Dinitrotoluene	2000	0	1800	92	1800	98	0	47 28-89
	Pyrene	2000	0	1800	92	1900	98	0	36 35-142
	N-Nitrosodi-n-Propylamine	2000	0	3500	138*	2500	128*	0	38 41-126
	1,4-Dichlorobenzene	2000	0	1300	68	1200	62	0	27 28-104
	Pentachlorophenol	3900	0	2200	56	2100	54	4	47 17-109
	Phenol	3900	0	3800	98	3800	98	0	35 26-90
	2-Chlorophenol	3900	0	3700	95	4100	105*	10	50 25-102
ACID SMO SAMPLE NO. <u>04-782</u>	4-Chloro-3-Methylphenol	3900	0	1600	41	1800	46	12	33 26-103
	4-Nitrophenol	3900	0	1200	30	1200	30	0	50 11-114
	Lindane								50 46-127
	Heptachlor								31 35-130
	Aldrin								43 34-132
	Dieldrin								38 31-134
	Endrin								45 42-139
	4,4'-DDT								50 23-134
PEST SMO SAMPLE NO.									

*ASTERISKED VALUES ARE OUTSIDE OC LIMITS.

RPD: VOA: 0 out of —: outside OC limits
 B/N: 0 out of 6: outside OC limits
 ACID: 0 out of 5: outside OC limits
 PEST: 0 out of —: outside OC limits

RECOVERY:

VOA: — out of —: outside OC limits
 B/N: 2 out of 12: outside OC limits
 ACID: 1 out of 10: outside OC limits
 PEST: — out of —: outside OC limits

Comments: Volutedated from sample analyzed at

Full strength

FORM III

7/85

WATER MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Case No. 10824 Contractor Hittman Ebasco Assoc., Inc. Contract No. 68-01-7280

FRACTION	COMPOUND	CONC. SPIKE ADDED (ug/L)	SAMPLE RESULT	CONC. MS	% REC	CONC. MSD	% REC	RPD	QC LIMITS
VOA SMO SAMPLE NO.	1,1-Dichloroethene								14 81-145
	Trichloroethene								14 71-120
	Chlorobenzene								13 75-130
	Toluene								13 78-125
	Benzene								11 78-127
B/N SMO SAMPLE NO.	1,2,4-Trichlorobenzene	50	0	30	60	29	58	3	28 39-98
	Acenaphthene	50	0	38	76	38	76	0	31 48-118
	2,4-Dinitrotoluene	50	0	23	46	23	46	1	38 24-96
	Pyrene	50	0	36	72	33	66	1	31 26-127
	N-Nitroso-DI-n-Propylamine	50	0	57	114	35	116	2	38 41-116
	1,4-Dichlorobenzene	50	0	40	80	35	70	1	28 38-97
	Pentachlorophenol	100	0	38	38	30	30	2	50 9-103
	Phenol	100	0	46	46	33	33	2	42 12-89
	2-Chlorophenol	100	0	117	117	84	84	3	40 27-123
	4-Chloro-3-Methylphenol	100	0	42	42	5	5	18	42 23-97
	4-Nitrophenol	100	0	42	42	5	5	18	50 10-80
PEST SMO SAMPLE NO.	Lindane								15 58-123
	Heptachlor								20 40-131
	Aldrin								22 40-120
	Dieldrin								18 52-128
	Endrin								21 56-121
	4,4'-DDT								27 38-127

* Asterisked values are outside QC limits.

RPD: 2037
 VOA: out of 6 outside QC limits
 B/N: out of 4 outside QC limits
 ACID: out of 4 outside QC limits
 PEST: out of 4 outside QC limits

RECOVERY:
 VOA: out of 13 outside QC limits
 B/N: out of 13 outside QC limits
 ACID: out of 13 outside QC limits
 PEST: out of 13 outside QC limits

Comments:

WATER SURROGATE PLANT RECOVERY SUMMARY

Case No. 10824 Contract Laboratory Hittman Ebasco Assoc., Inc. Contract No. 68-01-7280

[illegible]

* VALUES ARE OUTSIDE OF CONTRACT REQUIRED QC LIMITS

** ADVISORY LIMITS ONLY

Volatiles: _____ out of _____ ; outside of QC limits

Semi-Volatiles: _____ out of _____ ; outside of QC limits

Pesticides: 6 out of 7 ; outside of QC limits

Comments:

4-Bromofluorobenzene (BFH)

Instrument ID Date / Time 11/11/88 6:44

Lab ID DCKU75:12 Data Release Authorized By: J. J. [Signature]

m/z	ION ABUNDANCE CRITERIA	%RELATIVE ABUNDANCE
50	15.0 - 40.0% of the base peak	16.57 OK
75	30.0 - 60.0% of the base peak	43.03 OK
95	Base peak, 100% relative abundance	100.00 OK
96	5.0 - 9.0% of the base peak	7.57 OK
173	less than 1.0% of base peak	.60 OK
174	greater than 50.0% of the base peak	73.67 OK
175	5.0 - 9.0% of mass 174	5.59 OK (7.591) #1
176	between 95.0 and 101.0% of mass 174	72.68 OK (99.94) #1
177	5.0 - 9.0% of mass 175	4.97 OK (6.823) #2

THIS PERFORMANCE TUNE APPLIES TO THE
FOLLOWING SAMPLES, BLANKS AND STANDARDS

#1 - Value in parenthesis is % mass $1/4$.
#2 - Value in parenthesis is % mass $1/6$.

[illegible]

~~AR302040.~~

253918

4-Bromofluorobenzene (BFB)

Contract No. 68-01-7280

Lab ID :CKC96::L2

Data Release Authorized By:

m/z	ION ABUNDANCE CRITERIA	RELATIVE ABUNDANCE
50	15.0 - 40.0% of the base peak	18.61 OK
75	30.0 - 60.0% of the base peak	47.32 OK
95	Base peak, 100% relative abundance	100.00 OK
96	5.0 - 9.0% of the base peak	3.65 OK
173	less than 1.0% of base peak	0.00 OK
174	greater than 50.0% of the base peak	82.26 OK
175	5.0 - 9.0% of mass 174	5.32 OK (7.079) #1
176	between 95.0 and 101.0% of mass 174	90.11 OK (97.39) #1
177	5.0 - 9.0% of mass 176	5.61 OK (6.397) #2

#1 - Value in parenthesis is % mass 174.
#2 - Value in parenthesis is % mass 176.

[illegible]

AR302041

DATA TUNING AND MASS CALIBRATION

Decafluorotriphenylphosphine (DMTPP)

Case No. 10027

Contractor ALLIANCE-LEADS

Contract No. 66-01-7260

Instrument IDS.....

Date / Time 12/19/88 12:10

Lab ID 10027000

Data release authorized by:

[Signature]

m/z	ION ABUNDANCE CRITERIA	RELATIVE ABUNDANCE
51	50.0 - 50.00 of mass 135	50.59 UK
55	less than 2.00 of mass 55	.55 UK (1.7229) #1
59	mass 59 relative abundance	75.50
70	less than 2.00 of mass 59	0.00 UK (0.000) #1
127	50.0 - 50.00 of mass 135	99.57 UK
137	less than 1.00 of mass 135	0.00 UK
139	base peak, 100% relative abundance	100.00 UK
155	5.0 - 5.00 of mass 155	5.50 UK
170	10.0 - 10.00 of mass 170	15.91 UK
185	greater than 1.000 of mass 185	5.57 UK
191	greater, but less than mass 193	15.05 UK
193	greater than 10.00 of mass 193	57.50 UK
195	17.0 - 15.00 of mass 195	20.01 UK (20.55) #2

THIS EXPERIMENTAL TUNE APPLIES TO THE

following criteria, sample and standards.

#1 - Value in parenthesis is $\pm$ mass 65.

#2 - Value in parenthesis is $\pm$ mass 192.

Criteria ID	Criteria	Date of Analysis	Time of Analysis
100-100	100-100	12/19/88	12:10
100-100, 100-100	100-100	12/19/88	12:10
100-100, 100-100	100-100	12/19/88	15:59
100-100, 100-100	100-100	12/19/88	15:45
100-100, 100-100	100-100	12/19/88	16:50
100-100, 100-100	100-100	12/19/88	17:15
100-100, 100-100	100-100	12/19/88	18:00
100-100, 100-100	100-100	12/19/88	18:52
100-100, 100-100	100-100	12/19/88	19:01
100-100, 100-100	100-100	12/19/88	20:43
100-100, 100-100	100-100	12/19/88	21:35
100-100, 100-100	100-100	12/19/88	22:28
100-100, 100-100	100-100	12/19/88	23:19
100-100, 100-100	100-100	12/19/88	00:11
100-100, 100-100	100-100	12/19/88	01:05

AR302042

200016

INITIAL CALIBRATION DATA
Volatile HSL Compounds

Case No.:
Contractor: MILITARY-ESASCO
Contractor No.:

Region: U

Instrument ID:
Calibration Date: 981111 14:45

Minimum RF for SPCC is 0.300
(0.25 for Bromoform)

Maximum XRSO for CCC is 30%

Laboratory ID :	>CK077	>CK076	>CK078	>CK079	>CK080			CCC *
Compound	RF20	RF50	RF100	RF150	RF200	RF	XRSO	SPCC **
Chloromethane	.8750	.8938	.6719	.6696	.6365	.7494	16.58	**
Bromomethane	1.7062	1.5391	1.2534	1.4805	1.4781	1.4914	10.88	
Vinyl Chloride	1.4742	1.4198	1.1605	1.2127	1.3208	1.3176	10.09	*
Chloroethane	-	.8713	.7274	.6941	.7249	.7544	10.52	
Methylene Chloride	2.8146	1.9802	1.5231	1.4772	1.4669	1.8521	31.25	
Acetone	1.5564	1.5262	1.3355	1.4098	1.3342	1.4524	9.52	
Carbon Disulfide	33.4050	35.3340	29.9820	30.0860	29.5560	31.6730	8.09	
1,1-Dichloroethene	1.3001	1.3416	1.1609	1.1086	1.1556	1.2134	8.35	*
1,1-Dichloroethane	2.4481	2.5007	2.1911	2.2196	2.1271	2.2973	7.23	**
Trans-1,2-Dichloroethene	1.4018	1.4979	1.2571	1.2490	1.1884	1.3188	9.64	
Chloroform	.3139	.3342	.3055	.2982	.2972	.3098	4.90	*
1,2-Dichloroethane	1.7164	1.7841	1.6667	1.7043	1.6234	1.6990	3.52	
2-Butanone	.1305	.1354	.1342	.1553	.1392	.1389	6.94	
1,1,1-Trichloroethane	.7718	.8141	.7808	.7804	.7653	.7825	2.41	
Carbon Tetrachloride	.7765	.8221	.8110	.8022	.7903	.8004	2.21	
Vinyl Acetate	3.7771	3.8260	2.4075	.9444	.7499	2.3410	63.19	
Bromodichloromethane	.7952	.8464	.8401	.8798	.8393	.8402	3.58	
1,2-Dichloropropane	.3815	.3786	.3691	.3832	.3624	.3750	2.37	*
Trans-1,3-Dichloropropene	1.6344	1.8011	1.7985	1.8845	1.8258	1.7889	5.20	
Trichloroethene	.4828	.4995	.5235	.5451	.5446	.5191	5.31	
Dibromochloromethane	.6408	.6757	.7487	.8174	.7722	.7310	9.83	
1,1,2-Trichloroethane	.3281	.3296	.3369	.3536	.3225	.3341	3.60	
Benzene	.8519	.8564	.8065	.8115	.7729	.8198	4.23	
cis-1,3-Dichloropropene	.3967	.4431	.4627	.4756	.4570	.4470	6.81	
2-Chloroethylvinylether	.3815	.3786	.3691	.3832	.3624	.3750	2.37	
Bromoform	.3452	.4025	.4870	.5419	.5135	.4580	17.86	**
4-Methyl-2-Pentanone	2.1763	1.9829	2.2070	2.2504	2.1577	2.1549	4.75	
2-Hexanone	1.4149	1.2811	1.5040	1.5598	1.4687	1.4457	7.33	
Tetrachloroethene	.5992	.5828	.5814	.5415	.5465	.5703	4.39	
1,1,2,2-Tetrachloroethane	.5709	.5340	.5454	.5190	.4772	.5293	6.57	**
Toluene	.6857	.6971	.6666	.6401	.6428	.6664	3.80	*
Chlorobenzene	1.1305	1.0735	1.0654	1.0403	1.0477	1.0715	3.32	**
Ethylbenzene	.4812	.5103	.4915	.4806	.4805	.4888	2.63	*
Styrene	11.3030	11.4680	11.3000	10.9160	10.6620	11.1300	2.97	
Total Xylenes	.7496	.7580	.7407	.7079	.6797	.7272	4.49	

RF - Response Factor (subscript is the amount of ug/L)

CCC - Calibration Check Compounds (*)

AR302043

RF - Average Response Factor

SPCC - System Performance Check Compounds (* *)

XRSO - Percent Relative Standard Deviation

CONTINUING CALIBRATION CHECK
Volatile HSL Compounds

Case No.: Region: U
Contractor: HILLMAN-CHASID
Contractor No.:
Instrument ID:

Calibration Date: 881111 14:46
Time: 881112 08:05
Laboratory ID: JK087:07
Initial Calib Date:

Minimum RF for SPCC is 0.300
(0.25 for Bromoform)

Maximum XD for CCC is 25%

Compound	RF	RF50	XD	CCC	SPCC
Chloromethane	.7494	.9284	23.88		**
Bromomethane	1.4914	1.4898	.11		
Vinyl Chloride	1.3176	1.3174	.02	*	
Chloroethane	.7544	.7843	3.96		
Methylene Chloride	1.9524	1.6730	9.68		
Acetone	1.4524	1.4661	.94		
Carbon Disulfide	31.6730	32.6480	3.08		
1,1-Dichloroethene	1.2134	1.2212	.64	*	
1,1-Dichloroethane	2.2973	2.3218	1.07		**
Trans-1,2-Dichloroethene	1.3188	1.2452	5.58		
Chloroform	.3098	.3286	6.08	*	
1,2-Dichloroethane	1.6990	1.6264	4.27		
2-Butanone	.1389	.1673	20.45		
1,1,1-Trichloroethane	.7825	.8449	7.97		
Carbon Tetrachloride	.8004	.8479	5.94		
Vinyl Acetate	2.3410	4.3781	87.07		
Bromodichloromethane	.8402	.8828	5.07		
1,2-Dichloropropane	.3750	.3908	4.21	*	
Trans-1,3-Dichloropropene	1.7889	1.9111	6.83		
Trichloroethene	.5191	.5074	2.25		
Dibromochloromethane	.7310	.7277	.45		
1,1,2-Trichloroethane	.3341	.3558	6.49		
Benzene	.8199	.8640	5.40		
cis-1,3-Dichloropropene	.4470	.4806	7.52		
2-Chloroethylvinylether	.3750	.3908	4.21		
Bromoform	.4580	.4396	4.01		**
4-Methyl-2-Pentanone	2.1549	2.3072	7.07		
2-Hexanone	1.4457	1.4759	2.09		
Tetrachloroethene	.5703	.5657	.81		
1,1,2,2-Tetrachloroethane	.5293	.5925	11.93		**
Toluene	.6664	.7656	1.48	*	
Chlorobenzene	1.0715	1.0419	2.76		**
Ethylbenzene	.4888	.4773	2.35	*	
Styrene	11.1300	10.3850	6.69		
Total Xylenes	.7272	.6933	4.66		

C4775
C4775ms
C4775msd

AR302044

RF50 - Response Factor from daily standard file
at 50 ug/l

RF - Average Response Factor from Initial Calibration Form VI

XD - Percent Difference
CCC - Calibration Check Compounds (*)
SPCC - System Performance Check Compounds (**)

QUANT REPORT

Operator ID: NGUYEN Quant Rev: 6 Quant Time: 881112 08:47
 Output File: ^CK087::L2 Injected at: 881112 08:05
 Data File: >CK087::L2 Dilution Factor: 1.00000
 Name: VOA STANDARD-50ug/L
 Misc: GC/MS:C,TN,5ul IS-17,5ul SS-16,10ul VOA-34/5mls P&T

ID File: VOAID6::D0
 Title: HSL VOLATILES
 Last Calibration: 881111 14:46

	Compound	Q	ion	Scan#	Area	Conc	Units	q
11	*Bromochloromethane	128.0		249	3630	50.00	ng/mL	100
21	Chloromethane	50.0		57	3370	61.94	ng/mL	89
31	Bromomethane	94.0		92	5408	49.95	ng/mL	99
41	Vinyl Chloride	62.0		112	4782	49.99	ng/mL	90
51	Chloroethane	64.0		137	2847	51.98	ng/mL	98
61	Methylene Chloride	84.0		182	6073	45.16	ng/mL	95
71	Acetone	43.0		194	5322	50.47	ng/mL	97
101	Trichlorofluoromethane	101.0		224	12152	48.26	ng/mL	95
111	Carbon Disulfide	76.0		213	118511	51.54	ng/mL	100
121	1,1-Dichloroethene	96.0		238	4433	50.32	ng/mL	95
131	1,1-Dichloroethane	63.0		266	8428	50.53	ng/mL	93
141	Trans-1,2-Dichloroethene	96.0		280	4520	47.21	ng/mL	88
151	Chloroform	83.0		265	1193	53.04	ng/mL	91
161	1,2-Dichloroethane	62.0		308	5904	47.87	ng/mL	98
171	1,2-DICHLOROETHANE-d4 (SURR)	65.0		306	5446	48.16	ng/mL	100
181	*1,4-Difluorobenzene	114.0		463	11996	50.00	ng/mL	98
191	2-Butanone	72.0		305	2007	60.21	ng/mL	100
201	1,1,1-Trichloroethane	97.0		336	10135	53.99	ng/mL	100
211	Carbon Tetrachloride	117.0		344	10172	52.97	ng/mL	97
221	Vinyl Acetate	43.0		345	52520	93.51	ng/mL	100
231	Bromodichloromethane	83.0		355	10590	52.54	ng/mL	99
241	1,2-Dichloropropane	63.0		383	4688	52.11	ng/mL	96
251	Trans-1,3-Dichloropropene	75.0		389	8941	20.83	ng/mL	95
261	Trichloroethene	130.0		399	6087	48.88	ng/mL	78
271	Dibromochloromethane	129.0		415	8730	49.78	ng/mL	97
281	1,1,2-Trichloroethane	97.0		416	4268	53.24	ng/mL	92
291	Benzene	78.0		409	10365	52.70	ng/mL	100
301	cis-1,3-Dichloropropene	75.0		416	3517	32.79	ng/mL	100
311	2-Chloroethylvinylether	63.0		383	4688	52.11	ng/mL	94
321	Bromoform	173.0		472	5274	47.99	ng/mL	98
331	*Chlorobenzene-d5	117.0		568	10568	50.00	ng/mL	92
341	4-Methyl-2-Pentanone	43.0		480	24382	53.53	ng/mL	86
351	2-Hexanone	43.0		512	15597	51.04	ng/mL	89
361	Tetrachloroethene	164.0		519	5978	49.59	ng/mL	98
371	1,1,2,2-Tetrachloroethane	83.0		520	6261	55.97	ng/mL	100
381	Toluene	92.0		546	6938	49.86	ng/mL	98
391	Chlorobenzene	112.0		571	11011	48.82	ng/mL	100
401	Ethylbenzene	106.0		614	5044	48.82	ng/mL	95
411	Styrene	104.0		700	109750	46.65	ng/mL	94
421	Total Xylenes	106.0		705	732736	47.55	ng/mL	92
431	o + p-Xylene	106.0		727	87132	96.60	ng/mL	92
441	BROMOFLUOROBENZENE (SURR)	95.0		669	12449	46.67	ng/mL	73
451	TOLUENE-D8 (SURR)	98.0		542	13221	48.38	ng/mL	99

* Compound is ISTD

QUANT REPORT

Operator ID: NGUYEN Quant Rev: 6 Quant Time: 881112 18:57
 Output File: ^CK096::L2 Injected at: 881112 18:15
 Data File: >CK096::L2 Dilution Factor: 1.00000
 Name: CY-775, EAI#6785
 Misc: GC/MS C,TN,EPA-7003,5uL IS-17,SS-16/5mL P&T

ID File: VOAIDS::D0
 Title: HSL VOLATILES
 Last Calibration: 881112 09:15

Compound	Q	ion	Scan#	Area	Conc	Units	q
1) *Bromochloromethane	128.0	251	1598	50.00	ng/mL	100	
17) 1,2-DICHLOROETHANE-d4 (SURR)	65.0	306	2628	54.81	ng/mL	100	
18) *1,4-Difluorobenzene	114.0	463	5229	50.00	ng/mL	97	
33) *Chlorobenzene-d5	117.0	568	4208	50.00	ng/mL	100	
44) BROMOFLUOROBENZENE (SURR)	95.0	669	5260	53.06	ng/mL	60	
45) TOLUENE-D8 (SURR)	98.0	542	5427	51.54	ng/mL	99	

* Compound is ISTD

AR302046

PESTICIDE EVALUATION STANDARDS SUMMARY
(PAGE 1)

CASE NO. 10824,976
CONTRACT NO. 68-01-7280
ANALYSIS DATE 12/15/88

REGION III

LABORATORY: HITTMAN EBASCO ASSOCIATES INC.
GC COLUMN: 1.5%SP2250/1.95%SP2401
INST. ID G

EVALUATION CHECK FOR LINEARITY

LABORATORY ID	P1503	P1504	P1505	
PESTICIDE	CALIBRATION FACTOR EVAL MIX A	CALIBRATION FACTOR EVAL MIX B	CALIBRATION FACTOR EVAL MIX C	% RSD (<=10%)
ALDRIN	433900	418950	400850	4
ENDRIN	32900	34950	34525	3
4'4'-DDT(1)	42000	48075	55750	14
DIBUTYL CHLORENDATE	53760	50520	53280	3

EVALUATION CHECK FOR 4'4'-DDT/ENDRIN BREAKDOWN
(PERCENT BREAKDOWN EXPRESSED AS TOTAL DEGRADATION)

	LABORATORY ID	TIME OF ANALYSIS	ENDRIN	4'4'-DDT	COMBINED (2)
EVAL MIX B 72 HOUR					
EVAL MIX B	P1504	11:19	0	20	
EVAL MIX B	P1504	23:37	0	13	
EVAL MIX B	P1504	20:22	0	10	
EVAL MIX B			ERR	ERR	
EVAL MIX B			ERR	ERR	
EVAL MIX B			ERR	ERR	
EVAL MIX B			ERR	ERR	

(1) SEE EXHIBIT E SECTION 7.5.4

(2) SEE EXHIBIT E SECTION 7.3.1.2.2.1

FORM VIII

AR302047

6329-

PESTICIDE/PCS STANDARDS SUMMARY

page 6

Case No. 10824, 10835
Tract No. 68-01-7280Laboratory Hittman Ebasco Associates Inc.
GC Column 3% SP2100

GC Instrument ID G

DATE OF ANALYSIS	12/7/88	DATE OF ANALYSIS	12/8/88
TIME OF ANALYSIS	17:54-18:24	TIME OF ANALYSIS	21:24
LABORATORY IDA,3 P1497,1498		LABORATORY ID	IND8 P1498

COMPOUND	RT	RETENTION TIME WINDOW	CALIBRATION FACTOR	CONF. OR QUANT.	RT	CALIBRATION FACTOR	CONF. OR QUANT.	PERCENT DIFF.**
alpha-BHC	2.11	2.09 - 2.13	1059600.00	QUANT.	2.12	1069700.00	QUANT.	-1
beta-BHC	2.25	2.23 - 2.27	677000.00	QUANT.	2.26	722500.00	QUANT.	-7
delta-BHC	2.54	2.51 - 2.56	682700.00	QUANT.	2.55	653200.00	QUANT.	4
gamma-BHC	2.47	2.45 - 2.50	946700.00	QUANT.	0.00	0.00	QUANT.	NA
Heptachlor	3.93	3.89 - 3.97	729500.00	QUANT.	0.00	0.00	QUANT.	NA
Aldrin	4.85	4.80 - 4.89	494700.00	QUANT.	0.00	0.00	QUANT.	NA
Heptachlor Epoxide	5.87	5.81 - 5.93	483900.00	QUANT.	0.00	0.00	QUANT.	NA
Endosulfan I	7.27	7.20 - 7.34	364400.00	QUANT.	0.00	0.00	QUANT.	NA
Dieldrin	8.43	8.35 - 8.52	305900.00	QUANT.	0.00	0.00	QUANT.	NA
4'-DDE	8.32	8.24 - 8.40	265200.00	QUANT.	8.34	300700.00	QUANT.	-13
Endrin	9.38	9.29 - 9.47	219000.00	QUANT.	9.41	227700.00	QUANT.	-4
Endosulfan II	9.57	9.48 - 9.67	270650.00	QUANT.	0.00	0.00	QUANT.	NA
4'-DDD	10.41	10.31 - 10.51	186100.00	QUANT.	10.46	215300.00	QUANT.	-16
Endosulfan Sulfate	12.18	12.05 - 12.30	85575.00	QUANT.	12.21	80050.00	QUANT.	6
4'-DDT	13.58	13.44 - 13.71	113050.00	QUANT.	0.00	0.00	QUANT.	NA
Methoxychlor	19.66	19.46 - 19.86	56450.00	QUANT.	19.72	55325.00	QUANT.	2
Endrin Ketone	15.58	15.42 - 15.73	162550.00	QUANT.	0.00	0.00	QUANT.	NA
Tech. Chlordane	0.00	0.00 - 0.00	ERR	QUANT.	0.00	ERR	QUANT.	NA
alpha-Chlordane*	7.36	7.29 - 7.43	411900.00	QUANT.	7.39	457300.00	QUANT.	-11
gamma-Chlordane*	6.67	6.60 - 6.73	450800.00	QUANT.	6.69	497000.00	QUANT.	-10
Toxaphene	0.00	0.00 - 0.00	ERR	QUANT.	0.00	ERR	QUANT.	NA
Aroclor - 1016	0.00	0.00 - 0.00	ERR	QUANT.	0.00	ERR	QUANT.	NA
Aroclor - 1221	0.00	0.00 - 0.00	ERR	QUANT.	0.00	ERR	QUANT.	NA
Aroclor - 1232	0.00	0.00 - 0.00	ERR	QUANT.	0.00	ERR	QUANT.	NA
Aroclor - 1242	0.00	0.00 - 0.00	ERR	QUANT.	0.00	ERR	QUANT.	NA
Aroclor - 1248	0.00	0.00 - 0.00	ERR	QUANT.	0.00	ERR	QUANT.	NA
Aroclor - 1254	0.00	0.00 - 0.00	ERR	QUANT.	0.00	ERR	QUANT.	NA
Aroclor - 1260	0.00	0.00 - 0.00	ERR	QUANT.	0.00	ERR	QUANT.	NA

*SEE EXHIBIT E, PART 7

**CONF. = CONFIRMATION (<20% DIFFERENCE)

QUANT. = QUANTITATION (<15% DIFFERENCE)

NA = ANALYTE NOT IN STANDARD

FORM IX

AR302048

CS

PESTICIDE/PCB STANDARDS SUMMARY

page 2

Spec No. 10824, 10835

Laboratory Hittman Ebasco Associates Inc.

Fact No. 68-01-7280

GC Column 1.5%SP2250/1.95%SP2401

GC Instrument ID G

DATE OF ANALYSIS 12/5/88					DATE OF ANALYSIS 12/7/88				
TIME OF ANALYSIS 19:00.19:37					TIME OF ANALYSIS 12:11				
LABORATORY IDA, S P1497,8					LABORATORY ID INDS P1498				
COMPOUND	RT	RETENTION TIME WINDOW	CALIBRATION FACTOR	CONF. OR QUANT.	RT	CALIBRATION FACTOR	CONF. OR QUANT.	PERCENT DIFF.**	
alpha-BHC	2.33	2.31 - 2.36	1690700.00	CONF.	2.34	2041900.00	CONF.	-21	
beta-BHC	3.26	3.23 - 3.29	679000.00	CONF.	3.27	737300.00	CONF.	-9	
delta-BHC	3.78	3.75 - 3.82	924100.00	CONF.	3.79	1112900.00	CONF.	-20	
gamma-BHC	2.91	2.88 - 2.94	1456500.00	CONF.	0.00	0.00	CONF.	NA	
Heptachlor	3.54	3.51 - 3.58	1179900.00	CONF.	0.00	0.00	CONF.	NA	
Aldrin	4.25	4.21 - 4.29	947700.00	CONF.	0.00	0.00	CONF.	NA	
Heptachlor Epoxide	6.26	6.20 - 6.33	680600.00	CONF.	0.00	0.00	CONF.	NA	
Endosulfan I	7.84	7.77 - 7.92	495100.00	CONF.	0.00	0.00	CONF.	NA	
Dieldrin	9.53	9.43 - 9.62	409600.00	CONF.	0.00	0.00	CONF.	NA	
4'-DDE	8.81	8.73 - 8.90	398400.00	CONF.	8.84	449200.00	CONF.	-13	
Endrin	11.47	11.35 - 11.58	40500.00	CONF.	11.49	60800.00	CONF.	-50	
Endosulfan II	13.88	13.74 - 14.01	258800.00	CONF.	0.00	0.00	CONF.	NA	
4'-DDD	13.32	13.18 - 13.45	212200.00	CONF.	13.36	249400.00	CONF.	-18	
Endosulfan Sulfate	21.76	21.54 - 21.97	105700.00	CONF.	21.80	134150.00	CONF.	-27	
4'-DDT	15.99	15.83 - 16.15	136350.00	CONF.	0.00	0.00	CONF.	NA	
Methoxychlor	29.82	29.52 - 30.12	33150.00	CONF.	29.86	2950.00	CONF.	91	
Endrin Ketone	29.28	28.99 - 29.57	132250.00	CONF.	0.00	0.00	CONF.	NA	
Tech. Chlordane	0.00	0.00 - 0.00	ERR	CONF.	0.00	ERR	CONF.	NA	
alpha-Chlordane*	7.50	7.42 - 7.57	564800.00	CONF.	7.52	645700.00	CONF.	-14	
gamma-Chlordane*	6.88	6.81 - 6.95	610000.00	CONF.	6.90	705800.00	CONF.	-16	
Toxaphene	0.00	0.00 - 0.00	ERR	CONF.	0.00	ERR	CONF.	NA	
Aroclor - 1016	0.00	0.00 - 0.00	ERR	CONF.	0.00	ERR	CONF.	NA	
Aroclor - 1221	0.00	0.00 - 0.00	ERR	CONF.	0.00	ERR	CONF.	NA	
Aroclor - 1232	0.00	0.00 - 0.00	ERR	CONF.	0.00	ERR	CONF.	NA	
Aroclor - 1242	0.00	0.00 - 0.00	ERR	CONF.	0.00	ERR	CONF.	NA	
Aroclor - 1248	0.00	0.00 - 0.00	ERR	CONF.	0.00	ERR	CONF.	NA	
Aroclor - 1254	0.00	0.00 - 0.00	ERR	CONF.	0.00	ERR	CONF.	NA	
Aroclor - 1260	0.00	0.00 - 0.00	ERR	CONF.	0.00	ERR	CONF.	NA	

*SEE EXHIBIT E, PART 7

**CONF. = CONFIRMATION (20% DIFFERENCE)

QUANT. = QUANTITATION (15% DIFFERENCE)

NA = ANALYTE NOT IN STANDARD

FORM IX

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PESTICIDE/PCB STANDARDS SUMMARY

page 4

 Sample No. 10824, 10976
 Contract No. 68-01-7280

 Laboratory Hittman Ebasco Associates Inc.
 GC Column 1.5%SP2250/1.95%SP2401 GC Instrument ID G

DATE OF ANALYSIS 12/15/88					DATE OF ANALYSIS 12/16/88				
TIME OF ANALYSIS 12:41-16:37					TIME OF ANALYSIS 22:24				
LABORATORY ID P1497, 98, 1500					LABORATORY ID P1498				
COMPOUND	RT	RETENTION TIME WINDOW	CALIBRATION FACTOR	CONF. OR QUANT.	RT	CALIBRATION FACTOR	CONF. OR QUANT.	PERCENT DIFF.**	
alpha-BHC	2.51	2.46 - 2.56	719900.00	QUANT.	2.47	776400.00	QUANT.	-8	
beta-BHC	3.51	3.44 - 3.58	288000.00	QUANT.	3.45	302600.00	QUANT.	-5	
delta-BHC	4.01	3.93 - 4.09	345900.00	QUANT.	4.01	409800.00	QUANT.	-18	
gamma-BHC	3.13	3.07 - 3.19	635000.00	QUANT.	0.00	0.00	QUANT.	NA	
Heptachlor	3.81	3.73 - 3.89	500500.00	QUANT.	0.00	0.00	QUANT.	NA	
Aldrin	4.58	4.49 - 4.67	429200.00	QUANT.	0.00	0.00	QUANT.	NA	
Heptachlor Epoxide	6.74	6.61 - 6.87	313500.00	QUANT.	0.00	0.00	QUANT.	NA	
Endosulfan I	8.43	8.26 - 8.60	229100.00	QUANT.	0.00	0.00	QUANT.	NA	
Dieldrin	10.24	10.04 - 10.44	191300.00	QUANT.	0.00	0.00	QUANT.	NA	
4'4'-DDE	9.50	9.31 - 9.69	188100.00	QUANT.	9.35	198500.00	QUANT.	-6	
Endrin	12.37	12.12 - 12.62	33000.00	QUANT.	12.15	41900.00	QUANT.	-27	
Endosulfan II	14.87	14.57 - 15.17	127750.00	QUANT.	0.00	0.00	QUANT.	NA	
4'4'-DDD	14.37	14.08 - 14.66	96400.00	QUANT.	14.11	104300.00	QUANT.	-8	
Endosulfan Sulfate	23.43	22.96 - 23.90	50300.00	QUANT.	23.00	61250.00	QUANT.	-22	
4'4'-DDT	17.18	16.84 - 17.52	48750.00	QUANT.	0.00	0.00	QUANT.	NA	
Methoxychlor	32.17	31.53 - 32.81	12725.00	QUANT.	31.55	14075.00	QUANT.	-11	
Endrin Ketone	31.44	30.81 - 32.07	57350.00	QUANT.	0.00	0.00	QUANT.	NA	
Tech. Chlordane	0.00	0.00 - 0.00	ERR	QUANT.	0.00	ERR	QUANT.	NA	
alpha-Chlordane*	8.08	7.92 - 8.24	248500.00	QUANT.	7.96	264200.00	QUANT.	-6	
gamma-Chlordane*	7.42	7.27 - 7.57	271800.00	QUANT.	7.31	287600.00	QUANT.	-6	
Toxaphene	0.00	0.00 - 0.00	ERR	QUANT.	0.00	ERR	QUANT.	NA	
Aroclor - 1016	0.00	0.00 - 0.00	ERR	QUANT.	0.00	ERR	QUANT.	NA	
Aroclor - 1221	0.00	0.00 - 0.00	ERR	QUANT.	0.00	ERR	QUANT.	NA	
Aroclor - 1232	0.00	0.00 - 0.00	ERR	QUANT.	0.00	ERR	QUANT.	NA	
Aroclor - 1242	0.00	0.00 - 0.00	ERR	QUANT.	0.00	ERR	QUANT.	NA	
Aroclor - 1248	3.74	3.66 - 3.81	65624.00	QUANT.	0.00	0.00	QUANT.	NA	
Aroclor - 1254	0.00	0.00 - 0.00	ERR	QUANT.	0.00	ERR	QUANT.	NA	
Aroclor - 1260	0.00	0.00 - 0.00	ERR	QUANT.	0.00	ERR	QUANT.	NA	

*SEE EXHIBIT E, PART 7

**CONF. =CONFIRMATION (<20% DIFFERENCE)

QUANT. =QUANTITATION (<15% DIFFERENCE)

NA = ANALYTE NOT IN STANDARD

FORM IX

AR302050

GP

Organics Analysis Data Sheet (Page 1)

Sample Number

NOA BLANK

HEAT # NOA BLANK

Laboratory Name Hittman Ebasco Assoc. Inc.
Lab Sample ID No. 7 CROSS
Sample Matrix Water
Data Release Authorized By: A. Hume

Case No. 10824
QC Report No. N/A
Contract No. 65-01-7250
Date Sample Received: NA

Volatile Compounds

Concentration: Low Medium (Circle One)

Date Extracted/Prepared 11/12/88

Date Analyzed: 11/12/88

Conc/Dil Factor: 1 pH 7

Percent Moisture. (Not Decanted) NA

CAS Number		ug/l or ug/Kg (Circle One)
74-87-3	Chloromethane	10 U
74-83-9	Bromomethane	10 U
75-01-4	Vinyl Chloride	10 U
75-00-3	Chloroethane	10 U
75-09-2	Methylene Chloride	25
67-64-1	Acetone	10 U
75-15-0	Carbon Disulfide	5U
75-35-4	1, 1-Dichloroethene	5U
75-34-3	1, 1-Dichloroethane	5U
156-60-5	Trans-1, 2-Dichloroethene	5U
67-66-3	Chloroform	5U
107-06-2	1, 2-Dichloroethane	5U
78-93-3	2-Butanone	10 U
71-55-6	1, 1, 1-Trichloroethane	5U
56-23-5	Carbon Tetrachloride	5U
108-05-4	Vinyl Acetate	10 U
75-27-4	Bromodichloromethane	5U

CAS Number		ug/l or ug/Kg (Circle One)
78-87-5	1, 2-Dichloropropane	5U
10061-02-6	Trans-1, 3-Dichloropropene	5U
79-01-6	Trichloroethene	5U
124-48-1	Dibromochloromethane	5U
79-00-5	1, 1, 2-Trichloroethane	5U
71-43-2	Benzene	5U
10061-01-5	cis-1, 3-Dichloropropene	5U
110-75-8	2-Chloroethylvinylether	5U
75-25-2	Bromoform	5U
108-10-1	4-Methyl-2-Pentanone	10 U
591-78-6	2-Hexanone	10 U
127-18-4	Tetrachloroethene	5U
79-34-5	1, 1, 2, 2-Tetrachloroethane	5U
108-88-3	Toluene	5U
108-90-7	Chlorobenzene	5U
100-41-4	Ethylbenzene	5U
100-42-5	Styrene	5U
	Total Xylenes	5U

Data Reporting Qualifiers

For reporting results to EPA, the following results qualifiers are used. Additional flags or footnotes explaining results are encouraged. However, the definition of each flag must be explicit.

- V** If the result is a value greater than or equal to the detection limit report the value.
- U** Indicates compound was analyzed for but not detected. Report the minimum detection limit for the sample with the U (e.g., 10U) based on necessary concentration/dilution action. (This is not necessarily the instrument detection limit.) The footnote should read: U. Compound was analyzed for but not detected. The number is the minimum attainable detection limit for the sample.
- J** Indicates an estimated value. This flag is used either when estimating a concentration for tentatively identified compounds where a 1:1 response is assumed or when the mass spectral data indicated the presence of a compound that meets the identification criteria but the result is less than the specified detection limit but greater than zero (e.g., 10U). If limit of detection is 10 ug/l and a concentration of 3 ug/l is calculated, report as 3J.

- C** This flag applies to pesticide parameters where the identification has been confirmed by GC/MS. Single component pesticides ≥ 10 ug/l in the final extract should be confirmed by GC/MS.
- B** This flag is used when the analyte is found in the blank as well as a sample. It indicates possible probable blank contamination and warns the data user to take appropriate action.
- Other** Other specific flags and footnotes may be required to properly define the results. If used, they must be fully described and such description attached to the data summary report.

11/30/2051

Laboratory Name Hittman Ebasco Assoc. Inc.

Case No

10824

Sample Number

VOA BLANK

Organics Analysis Data Sheet

(Page 4)

HEAT #VOA BLANK
7CK088

Tentatively Identified Compounds

CAS Number	Compound Name	Fraction	RT or Scan Number	Estimated Concentration (ug/l or ug/kg)
1.	UNKNOWN	VOA	22	785
2.	UNKNOWN	VOA	26	215
3.	87 methoxy dichlorobenzene	VOA	114	240
4.	UNKNOWN	VOA	128	55
5.				
6.				
7.				
8.				
9.				
10.				
11.				
12.				
13.				
14.				
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16.				
17.				
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20.				
21.				
22.				
23.				
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25.				
26.				
27.				
28.				
29.				
30.				

AR302052

Laboratory Name Hittman Ebasco Assoc. Inc.Case No: 10924

Sample Number

Blank 1114A7/8/230Organics Analysis Data Sheet
(Page 2)

Semivolatile Compounds

Concentration: Low Medium (Circle One)Date Extracted/Prepared: 11/14/88Date Analyzed: 12/19/88Conc./Dil Factor: 1.00Percent Moisture (Decanted) N/AGPC Cleanup ☐ Yes ☒ NoSeparatory Funnel Extraction ☒ YesContinuous Liquid - Liquid Extraction ☐ Yes

CAS Number		ug/l or ug/Kg (Circle One)
108-95-2	Phenol	10 U
111-44-4	bis(2-Chloroethyl)Ether	10 U
95-57-8	2-Chlorophenol	10 U
541-73-1	1,3-Dichlorobenzene	10 U
106-46-7	1,4-Dichlorobenzene	10 U
100-51-6	Benzyl Alcohol	10 U
95-50-1	1,2-Dichlorobenzene	10 U
95-48-7	2-Methylphenol	10 U
39638-32-9	bis(2-chloroisopropyl)Ether	10 U
106-44-5	4-Methylphenol	10 U
621-64-7	N-Nitroso-Di-n-Propylamine	10 U
67-72-1	Hexachloroethane	10 U
98-95-3	Nitrobenzene	10 U
73-59-1	Isophorone	10 U
88-75-5	2-Nitrophenol	10 U
105-67-9	2,4-Dimethylphenol	10 U
65-85-0	Benzoic Acid	50 U
111-91-1	bis(2-Chloroethoxy)Methane	10 U
120-83-2	2,4-Dichlorophenol	10 U
120-82-1	1,2,4-Trichlorobenzene	10 U
91-20-3	Naphthalene	10 U
106-47-8	4-Chloroaniline	10 U
87-68-3	Hexachlorobutadiene	10 U
59-50-7	4-Chloro-3-Methylphenol	10 U
91-57-6	2-Methylnaphthalene	10 U
77-47-4	Hexachlorocyclopentadiene	10 U
88-06-2	2,4,6-Trichlorophenol	10 U
95-95-4	2,4,5-Trichlorophenol	50 U
91-58-7	2-Chloronaphthalene	10 U
88-74-4	2-Nitroaniline	50 U
131-11-3	Dimethyl Phthalate	10 U
208-96-8	Acenaphthylene	10 U
95-09-2	3-Nitroaniline	50 U

CAS Number		ug/l or ug/Kg (Circle One)
83-32-9	Acenaphthene	10 U
51-28-5	2,4-Dinitrophenol	50 U
100-02-7	4-Nitrophenol	50 U
132-64-9	Dibenzofuran	10 U
121-14-2	2,4-Dinitrotoluene	10 U
606-20-2	2,6-Dinitrotoluene	10 U
84-66-2	Diethylphthalate	10 U
7005-72-3	4-Chlorophenyl-phenylether	10 U
86-73-7	Fluorene	10 U
100-01-6	4-Nitroaniline	50 U
534-52-1	4,6-Dinitro-2-Methylphenol	50 U
86-30-6	N-Nitrosodiphenylamine (1)	10 U
101-55-3	4-Bromophenyl-phenylether	10 U
118-74-1	Hexachlorobenzene	10 U
87-86-5	Pentachlorophenol	50 U
85-01-8	Phenanthrene	10 U
120-12-7	Anthracene	10 U
84-74-2	Di-n-Butylphthalate	10 U
206-44-0	Fluoranthene	10 U
129-00-0	Pyrene	10 U
85-68-7	Butylbenzylphthalate	10 U
91-94-1	3,3'-Dichlorobenzidine	20 U
56-55-3	Benzofluoranthene	10 U
117-81-7	bis(2-Ethylhexyl)Phthalate	10 U
218-01-9	Chrysene	10 U
117-84-0	Di-n-Octyl Phthalate	10 U
205-99-2	Benzo(b)Fluoranthene	10 U
207-08-9	Benzo(k)Fluoranthene	10 U
50-32-8	Benzo(a)Pyrene	10 U
193-39-5	Indeno(1,2,3-cd)Pyrene	10 U
53-70-3	Dibenz(a,h)Anthracene	10 U
191-24-2	Benzo(g,h,i)Perylene	10 U

AR302059

(1) Cannot be separated from diphenylamine

Laboratory Name Hittman Ebasco Assoc. Inc.

No. 10824

Organics Analysis Data Sheet
(Page 4)

Sample Number

Blank 1114A

7/13/85

Tentatively Identified Compounds

CAS Number	Compound Name	Fraction	RT or Scan Number	Estimated Concentration (ug/l or ug/kg)
	NO COMPOUNDS FOUND			
1				
2				
3				
4				
5				
6				
7				
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AR302054

7/85

Laboratory Name Hittman Ebasco Assoc. Inc.Case No. 10824

Sample Number

BLANK 1014076L239Organics Analysis Data Sheet
(Page 2)

Semivolatile Compounds

Concentration: Low Medium (Circle One)Date Extracted/Prepared: 11/14/88Date Analyzed: 12/19/88Conc./Dil Factor: 1Percent Moisture (Decanted) 0GPC Cleanup ☐ Yes ☒ NoSeparatory Funnel Extraction ☒ YesContinuous Liquid - Liquid Extraction ☐ Yes

CAS Number		ug/l or ug/Kg (Circle One)
108-95-2	Phenol	350 U
111-44-4	bis(2-Chloroethyl)Ether	350 U
95-57-8	2-Chlorophenol	350 U
541-73-1	1,3-Dichlorobenzene	350 U
106-46-7	1,4-Dichlorobenzene	350 U
100-51-6	Benzyl Alcohol	350 U
95-50-1	1,2-Dichlorobenzene	350 U
95-48-7	2-Methylphenol	350 U
39638-32-9	bis(2-chloroisopropyl)Ether	350 U
106-44-5	4-Methylphenol	350 U
621-64-7	N-Nitroso-Di-n-Propylamine	350 U
67-72-1	Hexachloroethane	350 U
98-95-3	Nitrobenzene	350 U
78-59-1	Isophorone	350 U
88-75-5	2-Nitrophenol	350 U
105-67-9	2,4-Dimethylphenol	350 U
65-85-0	Benzoic Acid	1800 U
111-91-1	bis(2-Chloroethoxy)Methane	350 U
120-83-2	2,4-Dichlorophenol	350 U
120-82-1	1,2,4-Trichlorobenzene	350 U
91-20-3	Naphthalene	350 U
106-47-8	4-Chloroaniline	350 U
87-68-3	Hexachlorobutadiene	350 U
59-50-7	4-Chloro-3-Methylphenol	350 U
91-57-6	2-Methylnaphthalene	350 U
77-47-4	Hexachlorocyclopentadiene	350 U
88-06-2	2,4,6-Trichlorophenol	350 U
95-95-4	2,4,5-Trichlorophenol	1800 U
91-58-7	2-Chloronaphthalene	350 U
88-74-4	2-Nitroaniline	1800 U
131-11-3	Dimethyl Phthalate	350 U
208-95-8	Acenaphthylene	350 U
95-09-2	3-Nitroaniline	1800 U

CAS Number		ug/l or ug/Kg (Circle One)
83-32-9	Acenaphthene	350 U
51-28-5	2,4-Dinitrophenol	1800 U
100-02-7	4-Nitrophenol	1800 U
132-64-9	Dibenzofuran	350 U
121-14-2	2,4-Dinitrotoluene	350 U
606-20-2	2,6-Dinitrotoluene	350 U
84-66-2	Diethylphthalate	350 U
7005-72-3	4-Chlorophenyl-phenylether	350 U
86-73-7	Fluorene	350 U
100-01-6	4-Nitroaniline	1800 U
534-52-1	4,6-Dinitro-2-Methylphenol	1800 U
85-30-6	N-Nitrosodiphenylamine (1)	350 U
101-55-3	4-Bromophenyl-phenylether	350 U
118-74-1	Hexachlorobenzene	350 U
87-86-5	Pentachlorophenol	1800 U
85-01-8	Phenanthrene	350 U
120-12-7	Anthracene	350 U
84-74-2	Di-n-Butylphthalate	350 U
206-44-0	Fluoranthene	350 U
129-00-0	Pyrene	350 U
85-68-7	Butylbenzylphthalate	350 U
91-94-1	3,3'-Dichlorobenzidine	700 U
56-55-3	Benz(a)Anthracene	350 U
117-81-7	bis(2-Ethylhexyl)Phthalate	350 U
218-01-9	Chrysene	350 U
117-84-0	Di-n-Octyl Phthalate	350 U
205-99-2	Benz(b)Fluoranthene	350 U
207-08-9	Benz(k)Fluoranthene	350 U
50-32-8	Benz(a)Pyrene	350 U
193-39-5	Indeno(1,2,3-cd)Pyrene	350 U
53-70-3	Dibenz(a,h)Anthracene	350 U
191-24-2	Benz(g,h,i)Perylene	350 U

(1)-Cannot be separated from diphenylamine

Organics Analysis Data Sheet
(Page 4)

Tentatively Identified Compounds

CAS Number	Compound Name	Fraction	RT or Scan Number	Estimated Concentration (ug/l or ug/kg)
1.	UNKNOWN	BNA	50	320J
2.	UNKNOWN	BNA	57	180J
3.	UNKNOWN	BNA	90	250J
4.	UNKNOWN	BNA	146	560J
5.	UNKNOWN	BNA	971	7600J
6.				
7.				
8.				
9.				
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AR302056

Laboratory Name Hittman Ebasco Associates Inc.
Case No 10824,10835

Sample Number
BLANK11148

Organics Analysis Data Sheet
(Page 3)

Concentration Low Medium (Circle One)

Pesticide/PCBs

GPC Cleanup Yes X No

Date Extracted/Prepared 11/14/88

Separatory Funnel Extraction X Yes

Date Analyzed 12/8/88

Continuous Liquid-Liquid Extraction Yes

Conc/Dil Factor 1.00

Percent Moisture (decanted)

CAS
Number

ug/L or ug/Kg
(Circle One)

319-84-67	Alpha-BHC	0.05 U
319-85-7	Beta-BHC	0.05 U
319-86-8	Delta-BHC	0.05 U
58-89-9	Gamma-BHC(Lindane)	0.05 U
76-44-8	Heptachlor	0.05 U
309-00-2	Aldrin	0.05 U
1024-57-3	Heptachlor Epoxide	0.05 U
959-98-8	Endosulfan I	0.05 U
60-57-1	Dieldrin	0.1 U
72-55-9	4'4'-DDE	0.1 U
72-20-8	Endrin	0.1 U
33213-65-9	Endosulfan II	0.1 U
72-54-8	4'4'-DDD	0.1 U
1031-07-8	Endosulfan Sulfate	0.1 U
50-29-3	4'4'-DDT	0.1 U
72-43-5	Methoxychlor	0.5 U
53494-70-5	Endrin Ketone	0.1 U
57-74-9	Chlordane	0.5 U
8001-35-2	Toxaphene	1.0 U
12674-11-2	Aroclor - 1016	0.5 U
11104-28-2	Aroclor - 1221	0.5 U
11141-16-5	Aroclor - 1232	0.5 U
53469-21-9	Aroclor - 1242	0.5 U
12672-29-6	Aroclor - 1248	0.5 U
11097-69-1	Aroclor - 1254	1.0 U
11096-82-5	Aroclor - 1260	1.0 U

Vi = Volume of extract injected (ul)

Vs = Volume of water extracted (ml)

Ws = Weight of sample extracted (g)

Vt = Volume of total extract (ul)

Vs 1000.00 or Ws Vt 10000.00 VI

AR302057

Form 1 800316

Handwritten signature/initials

Laboratory Name Hittman Ebasco Associates Inc.
Case No 10824,10835

Sample Number
BLANK1114C

Organics Analysis Data Sheet
(Page 3)

Concentration: Low Medium (Circle One)

Pesticide/PCBs

GPC Cleanup Yes X No

Date Extracted/Prepared 1/14/88

Separatory Funnel Extraction Yes

Date Analyzed 12/7/88

Continuous Liquid-Liquid Extraction Yes

Conc/Dil Factor 1.00

Percent Moisture (decanted) 0

CAS
Number

ug/L or ug/Kg
(Circle One)

319-84-67	Alpha-BHC	8.0 U
319-85-7	Beta-BHC	8.0 U
319-86-8	Delta-BHC	8.0 U
58-89-9	Gamma-BHC(Lindane)	8.0 U
76-44-8	Heptachlor	8.0 U
309-00-2	Aldrin	8.0 U
1024-57-3	Heptachlor Epoxide	8.0 U
959-98-8	Endosulfan I	8.0 U
60-57-1	Dieldrin	16 U
72-55-9	4'4'-DDE	16 U
72-20-8	Endrin	16 U
33213-65-9	Endosulfan II	16 U
72-54-8	4'4'-DDD	16 U
1031-07-8	Endosulfan Sulfate	16 U
50-29-3	4'4'-DDT	16 U
72-43-5	Methoxychlor	80 U
53494-70-5	Endrin Ketone	16 U
57-74-9	Chlordane	80 U
8001-35-2	Toxaphene	160 U
12674-11-2	Aroclor - 1016	80 U
11104-28-2	Aroclor - 1221	80 U
11141-16-5	Aroclor - 1232	80 U
53469-21-9	Aroclor - 1242	80 U
12672-29-6	Aroclor - 1248	80 U
11097-69-1	Aroclor - 1254	160 U
11096-82-5	Aroclor - 1260	160 U

Vi = Volume of extract injected (ul)

Vs = Volume of water extracted (ml)

Ws = Weight of sample extracted (g)

Vt = Volume of total extract (ul)

Vs 30.00 or Ws 2000.00 Vt 1.00 Vi 1.00

AR302058

527

Initial Calibration Data
HSL Compounds

Case No: 10824 Instrument ID: B
Contractor: HEMI Calibration Date: 12/19/88
Contract No: 68-01-7280

Minimum RF for SPC is .05 Maximum % RSD for CXC is 30%

Laboratory ID: >8L221 >8L220 >8L222 >8L223 >8L224

Compound RF 20.00 50.00 80.00 120.00 160.00 KRT RF % RSD CXC SPC

N-Nitroso-Di-Ethylamine	.02792	.04772	.04243	.02888	.05478	.938	.04035	29.140		
Phenol	2.26200	2.53791	2.07343	1.59770	2.59367	.971	2.21294	18.230	*	
Aniline	2.33105	2.51132	2.23980	1.75265	2.50618	.938	2.26820	13.701		
bis-(2-Chloroethyl)Ether	1.79609	2.10742	1.73226	1.59104	2.02284	.961	1.84993	11.466		
2-Chlorophenol	1.69712	1.68626	1.52702	1.41247	1.66277	.965	1.59703	7.745		
1,3-Dichlorobenzene	1.61735	1.58689	1.52172	1.46219	1.45196	.989	1.52802	4.810		
1,4-Dichlorobenzene	1.65250	1.62703	1.55615	1.52631	1.49838	1.004	1.57223	4.190	*	
Benzyl Alcohol	.83485	1.16907	1.02996	.60817	1.19909	1.063	.96823	25.554		
1,2-Dichlorobenzene	1.64527	1.68618	1.38984	1.33594	1.49615	1.050	1.51068	10.162		
2-Methylphenol	1.26810	1.44198	1.27690	1.02252	1.54307	1.114	1.31052	15.129		
bis-(2-chloroisopropyl)Ether	3.22598	3.47742	2.97369	2.80951	3.17156	1.101	3.13163	8.122		
4-Methylphenol	1.38078	1.50784	1.28599	.89888	1.51687	1.155	1.31807	19.201		
N-Nitroso-Di-n-Propylamine	1.44410	1.82767	1.53011	1.20236	1.66771	1.139	1.53439	15.360	**	
Hexachloroethane	.84856	.92276	.76768	.77929	.83282	1.127	.83022	7.477		
2-FLUOROPHENOL (SURK)	1.22498	1.41211	1.22019	1.12764	1.44804	.718	1.28659	10.663		
PHENOL-5 (SURK)	1.61685	1.84362	1.54132	1.26110	1.82780	.968	1.61814	14.760		
Nitrobenzene	.76937	.74890	.65065	.64752	.72043	.869	.70737	7.915		
Isophorane	1.17190	1.25538	1.08044	.84277	1.24642	.921	1.11938	15.175		
2-Nitrophenol	.26435	.28328	.26785	.17968	.29086	.933	.25620	17.347	*	
2,4-Dimethylphenol	.39586	.41581	.34155	.26417	.39617	.964	.36271	16.993		
Benzoic Acid	.18908	.27143	.24355	.06299	.29870	1.012	.21315	43.738		
bis-(2-Chloroethoxy)Methane	.67182	.69320	.59187	.45291	.63451	.976	.60886	15.656		
2,4-Dichlorophenol	.37743	.38241	.33781	.23267	.38612	.988	.34329	18.876		
1,2,4-Trichlorobenzene	.40011	.37809	.33832	.34399	.35530	.995	.36316	7.067		
Naphthalene	1.20512	1.18533	.97176	.94901	1.13587	1.004	1.08942	11.087		
4-Chloroaniline	.56131	.57373	.50010	.24405	.64043	1.031	.50392	30.477		
Hexachlorobutadiene	.22797	.23381	.19730	.22241	.20715	1.049	.21773	6.944	*	
4-Chloro-3-Methylphenol	.46579	.51102	.42191	.20329	.49403	1.147	.41921	29.895	*	
2-Methylnaphthalene	1.19972	1.21075	.93356	.66164	1.07291	1.146	1.01572	22.412		
NITROBENZENE-d5 (SURK)	.49408	.50525	.43180	.42536	.47312	.866	.46592	7.739		

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

KRT - Average Relative Retention Time (RT Std/RT lstd)

RF - Average Response Factor

%RSD - Percent Relative Standard Deviation

CXC - Calibration Check Compounds (*) SPC - System Performance Check Compounds (**)

AR302059

Initial Calibration Data
HSL Compounds

Case No: 10824 Instrument ID: B
Contractor: HEMI Calibration Date: 12/19/88
Contract No: 68-01-7280

Minimum RF for SPC is .05 Maximum % RSD for CCC is 30%

Compound	Laboratory ID: >8L221 >8L222 >8L223 >8L224					KRT	RF	% RSD	CCC	SPCC
	20.00	50.00	80.00	120.00	160.00					
Hexachlorocyclopentadiene	.21855	.23136	.28137	.22128	.27523	.881	.24558	12.347		**
2,4,6-Trichlorophenol	.43656	.36928	.37210	.34035	.42168	.897	.38799	10.282	*	
2,4,5-Trichlorophenol	.40370	.35522	.35569	.30281	.36380	.904	.35614	10.044		
2-Chloronaphthalene	1.20996	1.08845	1.06910	1.35888	1.08921	.915	1.16312	10.565		
2-Nitroaniline	.69163	.62745	.67724	.33787	.69370	1.006	.60558	75.105		
Dimethyl Phthalate	1.67058	1.54458	1.49656	1.04091	1.55809	.981	1.46215	16.685		
Acenaphthylene	1.85662	1.78474	1.71364	1.63212	1.67689	.976	1.73480	5.095		
3-Nitroaniline	.36482	.42395	.40042	.18841	.42214	1.006	.35995	27.450		
Acenaphthene	1.29889	1.07025	.96201	1.09221	1.08979	1.005	1.10263	11.072	*	
2,4-Dinitrophenol	.03828	.14536	.17950	.00449	.25509	1.020	.12454	82.518		**
4-Nitrophenol	.78299	.72488	.67448	.59045	.71067	1.079	.63669	11.382		**
Dibenzofuran	1.91999	1.74662	1.52307	1.47381	1.74676	1.029	1.68205	10.865		
2,4-Dinitrotoluene	.32839	.40403	.38263	.19963	.40905	1.043	.34475	75.297		
2,6-Dinitrotoluene	.39985	.44473	.38680	.25054	.14162	.986	.32471	38.629		
Diethylphthalate	1.77633	1.77534	1.50453	1.07860	.49892	1.088	1.37675	40.963		
4-Chlorophenyl-phenylether	.73289	.61665	.55002	.49522	.58146	1.087	.59525	14.942		
Fluorene	1.46978	1.34848	1.13022	.94602	1.27629	1.080	1.23416	16.416		
4-Nitroaniline	.36435	.55406	.47578	.17983	.10438	1.096	.33568	56.900		
2-FLUOROBIPHENYL (SUXX)	1.25828	1.04891	1.00531	1.40287	1.09051	.908	1.16118	14.264		
2,4,6-TRICHLOROPHENOL (SUXX)	.23770	.23476	.22202	.13868	.21954	1.119	.21054	19.441		
4,6-Dinitro-2-Methylphenol	.08333	.14073	.15275	.04151	.14588	.908	.11284	43.010		
N-Nitrosodiphenylamine	.52114	.52105	.43473	.51213	.28192	.912	.45419	22.659	*	
1,2-Diphenyl Hydrazine	1.43750	1.40890	1.14831	1.43156	1.15962	.914	1.31718	11.345		
4-Bromophenyl-phenylether	.23751	.22665	.22617	.25313	.21707	.953	.23211	5.947		
Hexachlorobenzene	.34370	.33867	.26138	.35140	.29273	.965	.31757	12.243		
Pentachlorophenol	.19468	.21523	.17579	.22941	.12417	.990	.18786	21.824	*	
Phenanthrene	1.14720	1.15322	1.05233	1.04730	1.18214	1.003	1.11644	5.577		
Anthracene	1.08146	1.15443	.95888	1.04670	.97261	1.008	1.04282	7.722		
Di-n-Butylphthalate	1.67926	1.81207	1.47658	1.46362	1.58778	1.094	1.60506	9.002		
Fluoranthene	1.17582	1.33730	.88971	1.08444	1.21825	1.146	1.14110	14.668	*	

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

KRT - Average Relative Retention Time (RT Std/RT Istd)

RF - Average Response Factor

%RSD - Percent Relative Standard Deviation

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

AR302060

Initial Calibration Data
HSL Compounds

Case No: 10824
Contractor: HEMI
Contract No: 6H-U1-7280

Instrument ID: B
Calibration Date: 12/19/88

Minimum RF for SPC is .05 Maximum % RSD for CXC is 30%

Compound	Laboratory ID: >BL221 >BL220 >BL222 >BL223 >BL224					KRT	RF	% RSD	CXC	SPCC
	RF	RF	RF	RF	RF					
	20.00	50.00	80.00	120.00	160.00					
Benzidine	.36572	.02030	.02044	.05100	.03257	.752	.09821	153.376		
Pyrene	1.48947	1.77794	1.28073	1.24372	1.70114	.887	1.49860	16.055		
Butylbenzylphthalate	1.07126	1.06439	.90306	.76442	1.68500	.963	1.09763	32.077		
3,3'-Dichlorobenzidine	.51500	.41283	.36019	.18617	.56295	1.003	.40743	36.192		
Benzo(a)Anthracene	1.43797	1.41237	1.17047	.95125	2.42542	.999	1.47949	38.168		
bis(2-Ethylhexyl)Phthalate	1.55224	1.54031	1.18474	1.05540	2.25373	1.023	1.51729	30.702		
Chrysene	1.26527	1.05984	.89976	.84894	1.05367	1.002	1.02540	15.918		
TERPHENYL-d14 (SUXX)	.84855	.92577	.74406	.66212	1.48876	.910	.93385	34.910		
Di-n-Octyl Phthalate	3.04923	3.35712	2.71619	2.85156	4.02778	.960	3.20037	16.297	*	
Benzo(b)Fluoranthene	1.49071	1.62467	1.61828	1.52528	2.40305	.974	1.73240	21.899		
Benzo(k)Fluoranthene	1.63069	1.53508	.98471	1.06937	2.40378	.976	1.52473	77.148		
Benzo(a)Pyrene	1.43040	1.44598	1.07884	1.09805	1.35573	.996	1.28180	14.035	*	
Indeno(1,2,3-cd)Pyrene	1.38258	1.17273	.82111	.92110	1.11256	1.078	1.08202	20.325		
Dibenz(a,h)Anthracene	1.15898	.87316	.62375	.67134	.85504	1.080	.83645	25.235		
Benzo(g,h,i)Perylene	1.33442	.82009	.59196	.74204	.85492	1.098	.86869	32.154		

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

KRT - Average Relative Retention Time (RT Std/RT lstd)

RF - Average Response Factor

%RSD - Percent Relative Standard Deviation

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

AR302061

Continuing Calibration Check
HSL Compounds

Case No: Calibration Date: 12/19/88
Contractor: H&H Time: 12:48
Contract No: 6K-01-778U Laboratory ID: >8L229
Instrument ID: B Initial Calibration Date: 12/19/88

Minimum RF for SPCX is .05 Maximum % Diff for CCC is 30%

Compound	RF	RF	%Diff	CCC	SPCX
N-Nitroso-Di-Ethylamine	.04035	.05613	39.11		
Phenol	2.21294	2.30069	3.97	*	
Aniline	2.26820	2.63949	16.37		
bis(-2-Chloroethyl)Ether	1.84993	1.94006	4.87		
2-Chlorophenol	1.59703	1.57327	1.49		
1,3-Dichlorobenzene	1.52802	1.65950	8.60		
1,4-Dichlorobenzene	1.57223	1.59601	1.51	*	
Benzyl Alcohol	.96823	1.07622	11.15		
1,2-Dichlorobenzene	1.51068	1.55503	2.94		
2-Methylphenol	1.31052	1.34494	2.63		
bis(2-chloroisopropyl)Ether	3.13163	3.50970	12.07		
4-Methylphenol	1.31807	1.44217	9.41		
N-Nitroso-Di-n-Propylamine	1.53439	1.77165	15.46	**	
Hexachloroethane	.83022	.86553	4.25		
2-FLUOROPHENOL (SUXX)	1.28659	1.33027	3.40		
PHENOL-5 (SUXX)	1.61814	1.81522	12.18		
Nitrobenzene	.70737	.80286	13.50		
Isophorone	1.11938	1.15591	3.26		
2-Nitrophenol	.25620	.27421	7.03	*	
2,4-Dimethylphenol	.36271	.35731	1.49		
Benzoic Acid	.21315	.35731	67.63		
bis(-2-Chloroethoxy)Methane	.60886	.60456	.71		
2,4-Dichlorophenol	.34329	.36434	6.13		
1,2,4-Trichlorobenzene	.36316	.35974	.94		
Naphthalene	1.08942	1.18268	8.56		
4-Chloroaniline	.50392	.52880	14.86		
Hexachlorobutadiene	.21773	.16490	24.26	*	
4-Chloro-3-Methylphenol	.41921	.49605	18.33	*	
2-Methylnaphthalene	1.01572	1.10756	9.04		
NITROBENZENE-d5 (SUXX)	.46592	.50615	8.63		
Hexachlorocyclopentadiene	.24558	.28877	17.59	**	
2,4,6-Trichlorophenol	.38799	.41093	5.91	*	

Blank 1114A
C4776
C4777
C4780
C4781
C4781ms
C4781msD
Blank 1114C
C4778
C4779
C4782
C4782ms
C4782msD

RF - Response Factor from daily standard file at 50.000 ng/L

RF - Average Response Factor from Initial Calibration Form UI

%Diff - % Difference from original average or curve

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

AR302062

Continuing Calibration Check
HSL Compounds

Case No: Calibration Date: 12/19/88
Contractor: HEHL Time: 12:48
Contract No: 68-01-7280 Laboratory ID: >BL229
Instrument ID: B Initial Calibration Date: 12/19/88

Minimum RF for SPCC is .05 Maximum % Diff for CCC is 30%

Compound	RF	RF	%Diff	CCC	SPCC
2,4,5-Trichlorophenol	.35614	.36583	2.72		
2-Chloronaphthalene	1.16312	1.12507	3.27		
2-Nitroaniline	.60558	.65306	7.84		
Dimethyl Phthalate	1.46215	1.60578	9.82		
Acenaphthylene	1.73480	1.81810	4.80		
3-Nitroaniline	.35995	.39720	10.35		
Acenaphthene	1.10263	1.10594	.30	*	
2,4-Dinitrophenol	.12454	.20734	66.48		**
4-Nitrophenol	.68669	.68326	.50		**
Dibenzofuran	1.68205	1.74583	3.79		
4-Dinitrotoluene	.34475	.42220	22.47		
2,6-Dinitrotoluene	.32471	.42549	31.04		
Diethylphthalate	1.32675	1.73090	30.46		
4-Chlorophenyl-phenylether	.59525	.63937	7.41		
Fluorene	1.23416	1.35617	9.89		
4-Nitroaniline	.33568	.47644	41.93		
2-FLUOROPHENYL (SURK)	1.16118	1.17027	.78		
2,4,6-TRIBROMOPHENOL (SURK)	.21054	.24405	15.91		
4,6-Dinitro-2-Methylphenol	.11284	.18494	63.89		
N-Nitrosodiphenylamine	.45419	.52075	14.65	*	
1,2-Diphenyl Hydrazine	1.31718	1.39942	6.24		
4-Bromophenyl-phenylether	.23211	.23614	1.74		
Hexachlorobenzene	.31757	.29675	6.56		
Pentachlorophenol	.18786	.18072	3.80	*	
Phenanthrene	1.11644	1.08729	2.61		
Anthracene	1.04282	1.13126	8.44		
Di-n-Butylphthalate	1.60506	1.61911	.88		
Fluoranthene	1.14110	1.13565	.48	*	
Benzidine	.09821	.02479	74.76		
Pyrene	1.49860	1.78056	18.81		
Butylbenzylphthalate	1.09763	1.08613	1.05		
3,3'-Dichlorobenzidine	.40743	.35691	12.40		

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

RF - Average Response Factor from Initial Calibration Form U1

%Diff - % Difference from original average or curve

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

AR302063

Continuing Calibration Check
HSL Compounds

Case No: Calibration Date: 12/19/88

Contractor: HEHL Time: 12:48

Contract No: RH-01-7280 Laboratory ID: 08L229

Instrument ID: 8 Initial Calibration Date: 12/19/88

Minimum RF for SPCC is .05

Maximum % Diff for CCC is 30%

Compound	RF	RF	%Diff	CCC	SPCC
Benzo(a)Anthracene	1.47949	1.32422	10.50		
bis(2-Ethylhexyl)Phthalate	1.51729	1.49881	1.22		
Chrysene	1.02540	1.07625	4.96		
TRIPHENYL-d14 (SUXX)	.93385	.96827	3.63		
Di-n-Octyl Phthalate	3.20037	3.65242	14.12	*	
Benzo(b)Fluoranthene	1.73240	2.30723	33.18		
Benzo(k)Fluoranthene	1.52473	1.07003	29.82		
Benzo(a)Pyrene	1.28180	1.50523	17.43	*	
Indeno(1,2,3-cd)Pyrene	1.08202	1.27203	17.56		
Dibenzo(a,h)Anthracene	.83645	1.00354	19.94		
Benzo(g,h,i)Perylene	.86869	.90083	3.70		

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

RF - Average Response Factor from Initial Calibration Form 01

%Diff - % Difference from original average or curve

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

AR302064

Continuing Calibration Check
HSL Compounds

Case No: Calibration Date: 12/20/88
Contractor: HEMI Time: 08:49
Contract No: 68-01-7280 Laboratory ID: >BL246
Instrument ID: 8 Initial Calibration Date: 12/19/88

Minimum RF for SPCC is .05 Maximum % Diff for CCC is 30%

Compound	RF	RF	%Diff	CCC	SPCC
N-Nitroso-Di-Ethylamine	.04035	.04512	11.82		
Phenol	2.21294	2.28550	3.28	*	
Aniline	2.26820	2.14958	5.23		
bis-(2-Chloroethyl)Ether	1.84993	1.56575	15.36		
2-Chlorophenol	1.59703	1.50676	5.65		
1,3-Dichlorobenzene	1.52882	1.54987	1.41		
1,4-Dichlorobenzene	1.57223	1.57363	.09	*	
Benzyl Alcohol	.96823	.83390	13.87		
1,2-Dichlorobenzene	1.51068	1.39724	7.51		
2-Methylphenol	1.31052	1.12391	14.24		
2-(2-chloroisopropyl)Ether	3.13163	2.96339	5.37		
4-Methylphenol	1.31807	1.30096	1.30		
N-Nitroso-Di-n-Propylamine	1.53439	1.48528	3.20	**	
Hexachloroethane	.83022	.76492	7.86		
2-FLUOROPHENOL (SUKK)	1.28659	1.14175	11.26		
PHENOL-5 (SUKK)	1.61814	1.51425	6.47		
Nitrobenzene	.70737	.66869	5.47		
Isonitrobenzene	1.11938	1.04313	6.81		
2-Nitrophenol	.25620	.24603	3.97	*	
2,4-Dimethylphenol	.36271	.31646	12.75		
Benzoic Acid	.21315	.19216	9.85		
bis-(2-Chloroethoxy)Methane	.60086	.52379	13.97		
2,4-Dichlorophenol	.34329	.32877	4.23		
1,2,4-Trichlorobenzene	.36316	.34290	5.58		
Naphthalene	1.08942	1.03399	5.09		
4-Chloroaniline	.50392	.48445	3.87		
Hexachlorobutadiene	.21773	.19531	10.29	*	
4-Chloro-3-Methylphenol	.41921	.39372	6.08	*	
2-Methylnaphthalene	1.01572	.92629	8.80		
NITROBENZENE-d5 (SUKK)	.46592	.45451	2.45		
Hexachlorocyclopentadiene	.24558	.36753	49.66	**	
2,4,6-Trichlorophenol	.38799	.46692	20.34	*	

RF - Response Factor from daily standard file at 50.000 ng/l.

- Average Response Factor from Initial Calibration Form UI

%Diff - % Difference from original average or curve

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

AR302065

Continuing Calibration Check
HSL Compounds

Case No: Calibration Date: 12/20/88
Contractor: HEAL Time: 08:49
Contract No: 68-01-7280 Laboratory ID: >BL246
Instrument ID: 8 Initial Calibration Date: 12/19/88

Minimum RF for SPOC is .05 Maximum % Diff for CCC is 30%

Compound	RF	RF	%Diff	CCC SPOC
2,4,5-Trichlorophenol	.35614	.41499	16.52	
2-Chloronaphthalene	1.16312	1.41813	21.92	
2-Nitroaniline	.60558	.52714	12.95	
Dimethyl Phthalate	1.46215	1.33153	8.94	
Acenaphthylene	1.73480	1.79234	3.32	
3-Nitroaniline	.35995	.29741	17.37	
Acenaphthene	1.10263	1.19591	8.46 *	
2,4-Dinitrophenol	.12454	.17968	44.27 **	
4-Nitrophenol	.68669	.73213	6.62 **	
Dibenzofuran	1.68205	1.80803	7.49	
2,4-Dinitrotoluene	.34475	.33738	2.14	
2,6-Dinitrotoluene	.32471	.31516	2.94	
Diethylphthalate	1.32675	1.31579	.83	
4-Chlorophenyl-phenylether	.59525	.51491	13.50	
Fluorene	1.23416	1.17297	4.96	
4-Nitroaniline	.33568	.34408	2.50	
2-FLUOROBIPHENYL (SURK)	1.16118	1.31297	13.07	
2,4,6-TRIBROMOPHENOL (SURK)	.21054	.19715	6.36	
4,6-Dinitro-2-Methylphenol	.11284	.17408	54.27	
N-Nitrosodiphenylamine	.45419	.52059	14.62 *	
1,2-Diphenyl Hydrazine	1.31718	1.51458	14.99	
4-Bromophenyl-phenylether	.23211	.24476	5.45	
Hexachlorobenzene	.31757	.28565	10.05	
Pentachlorophenol	.18786	.17558	6.54 *	
Phenanthrene	1.11644	1.19411	6.96	
Anthracene	1.04282	1.06984	2.59	
Di-n-Butylphthalate	1.60506	1.37953	14.05	
Fluoranthene	1.14110	.93022	18.48 *	
Benizidine	.09821	.03291	66.49	
Pyrene	1.49860	1.96513	31.13	
Butylbenzylphthalate	1.09763	.95709	12.80	
3,3'-Dichlorobenzidine	.40743	.36678	10.17	

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

RF - Average Response Factor from Initial Calibration Form U1

%Diff - % Difference from original average or curve

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

AR302066

Continuing Calibration Check
HSL Compounds

Case No: Calibration Date: 12/20/88
Contractor: HEAL Time: 08:49
Contract No: 68-01-7280 Laboratory ID: >BL246
Instrument ID: 8 Initial Calibration Date: 12/19/88

Minimum RF for SPCC is .05 Maximum % Diff for CCC is 30%

Compound	RF	RF	%Diff	CCC SPCC
Benzo(a)Anthracene	1.47949	1.36125	7.99	
bis(2-Ethylhexyl)Phthalate	1.51729	1.36092	10.31	
Chrysene	1.02540	1.17617	14.70	
TERPHENYL-d14 (SUXX)	.93385	.96743	3.60	
Di-n-Octyl Phthalate	3.20037	3.77147	17.84	*
Benzo(b)Fluoranthene	1.73240	1.72010	.71	
Benzo(k)Fluoranthene	1.52473	2.07945	36.38	
Benzo(a)Pyrene	1.28180	1.49030	16.27	*
Indeno(1,2,3-cd)Pyrene	1.08202	.92022	14.95	
Dibenzo(a,h)Anthracene	.83645	.71724	14.25	
Benzo(g,h,i)Perylene	.86869	.71188	18.05	

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

- Average Response Factor from Initial Calibration Form UI

%Diff - % Difference from original average or curve

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

AR302067

GC/MS TUNING AND MASS CHARACTERIZATION

Decafurorotriphenylphosphine (MPP)

Case No. 70027

Contractor HILLMAN-LENSOU

Contract No. 68-01-7260

Instrument ID3.....

Date / Time 12/20/86 8:17

Lab ID 101155-100

Lab Release Authorized By: JA Hew

m/z	ION ABUNDANCE CRITERION	RELATIVE ABUNDANCE
51	50.0 - 60.0% of mass 100	56.25 UK
66	less than 2.0% of mass 69	0.00 UK (0.00) 61
69	mass 69 relative abundance	75.39
70	less than 2.0% of mass 69	.98 UK (0.57) 61
107	40.0 - 60.0% of mass 100	49.01 UK
137	less than 1.0% of mass 100	0.00 UK
100	base peak, 100% relative abundance	100.00 UK
101	0.0 - 0.0% of mass 100	4.25 UK
103	10.0 - 20.0% of mass 100	15.62 UK
105	greater than 1.0% of mass 100	2.91 UK
147	present, but less than mass 100	12.19 UK
192	greater than 50.0% of mass 100	39.25 UK
193	10.0 - 20.0% of mass 192	18.98 UK (20.19) 62

This peak pattern does not appear to be
a common compound. Check the standards.

61 - Value in parenthesis is a mass 69.
62 - value in parenthesis is a mass 192.

CONTRACT NO.	LAB ID	DATE OF ANALYSIS	TIME OF ANALYSIS
70027	101155-100	12/20/86	8:17
70027	101155-100	12/20/86	8:49
70027	101155-100	12/20/86	14:47
70027	101155-100	12/20/86	16:43
70027	101155-100	12/20/86	17:07
70027	101155-100	12/20/86	17:51
70027	101155-100	12/20/86	18:35

AR302068