SPECIAL STUDY REPORT
FOR
U.S. SCRAP
CHICAGO, ILLINOIS
U.S. EPA ID: ILD980679484
SS ID: ILZ8
TDD: F05-8611-193
PAN: FIL0102VA

VOLUME 5 OF 6

US EPA RECORDS CENTER REGION 5
407261

OCTOBER 10, 1990

ecology and environment, inc.
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International Specialists in the Environment

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Appendix

I ANALYTICAL RESULTS OF FIT-COLLECTED SAMPLES 1987-1988 (Cont.)

APPENDIX I

ANALYTICAL RESULTS OF FIT-COLLECTED SAMPLES
1987-1988 (Cont.)

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International Specialists in the Environment

CRL Receipt Date 2/10/88 FIT Receipt Date 4/20/88 Review Completed 5/5/88

TO: Jeff Carman
FROM: Loretta Guzdziol
SUBJECT: US Scrap XS18 - XS25
PAN: IL0102 (1 hour (2yr. Test pit. 6

Sample Description

Organics (VOA, ABN, Pest/P(Organics Cyanide)

8 Low Soil l
____ Low Water ter
____ Drinking Wate ng Water
____ Other

Project Data Status ____ Completed!!

✓ Incomplete, awaiting 1 sample HI org from Nanco -

FIT Data Review Findings:
Chlordane + a PCB was detected in several samples
Many PAH's found in all samples.
Numerous hits of halogenated hydrocarbons and aromatics in every sample.
Common Lab Contaminants are also reported.

all values should be J'd due to several QC problems

Check Data Sheets for Transcription Errors

____ Compounds were detected in sample(s); see enclosed sheet.

Book No. 7 Page No. ____ Date Sampled 12/8/87

US Scrap 8736

COMPOUND	ES							
SAMPLE	428	429	430	431	432	433	434	435
chloromethane								
bromomethane								
vinyl chloride								
chloroethane								
methylene chloride	11[illegible]000 J	7600000	1400000 J	3000000		79000 J	64000 J	59000 J
acetone								
carbon disulfide								
1,1-dichloroethene								
1,1-dichloroethane								
TOTAL → ~~trans~~-1,2,-dichloroethene							80000 J	56000 J
chloroform								
1,2-dichloroethane								
2-butanone				52000000	2700000 J			
1,1,1-trichloroethane		1800000 J		1200000			39000 J	75000 J
carbon tetrachloride								
vinyl acetate								
bromodichloromethane								
1,1,2,2-tetrachloroethane								
1,2-dichloropropane								
trans-1,3-dichloropropene								
trichloroethene	5[illegible]000 J	3100000	1300000 J	3900000		1300000 J	43000 J	38000 J
dibromochloromethane								
1,1,2-trichloroethane								
benzene				720000 J		370000	1800000 J	260000
cis-1,3-dichloropropene								
2-chloroethylvinylether								
bromoform								
2-hexanone	11000000 J	28000000 J	13000000 J	41000000 J			1600000 J	2400000 J
4-methyl-2-pentanone				11000000 J				
tetrachloroethene		8900000 J						
toluene	19[illegible]000	15000000	6700000	20000000	5700000	1000000	12000000	1500000
chlorobenzene								
ethylbenzene	7[illegible]000000 J	4600000	2100000 J	6700000	340000 J	420000	770000	670000
styrene								
total xylenes	31[illegible]000	22000000	11[illegible]000	33000000	1600000	750000	4000000	3[illegible]000
OLD → N-nitrosodimethylamine								
phenol	59000	200000	70000	110000		6700 J		
aniline								
OLD → bis(2-chloroethyl)ether								
2-chlorophenol								
1,3-dichlorobenzene								
1,4-dichlorobenzene								
benzyl alcohol								
1,2-dichlorobenzene	19000 J	37000 J	14000 J	17000 J				
2-methylphenol	14000 J	62000	24000 J	29000 J				
bis(2-chloroisopropyl)ether								
4-methylphenol	30000 J	110000	47000	61000				
N-nitroso-di-n-propylamine								
hexachloroethane								
nitrobenzene								
isophrone	210000	610000	120000	240000				
2-nitrophenol								
2,4-dimethylphenol	12000 J	53000	26000 J	31000 J				
benzoic acid								
bis(2-chloroethoxy)methane								
2,4-dichlorophenol								
1,2,4-trichlorobenzene								
napthalene	120000	410000	260000	270000	10000 J	85000	120000	63000
4-chloroaniline								
hexachlorobutadiene								
4-chloro-3-methylphenol								
2-methylnapthalene	47000	200000	160000	110000	4100 J	34000 J	29000 J	25000 J
hexachlorocyclopentadiene								
2,4,6-trichlorophenol								
2,4,5-trichlorophenol								
2-chloronaphthalene								
2-nitroaniline								
dimethyl phthalate		20000	13000 J	24000 J				
acenapthylene								
3-nitroaniline								
acenaphthene	4700 J	13000 J	3500 J	6200 J	9600 J		7300 J	7100 J
2,4-dinitrophenol								
? ~~2,4~~ 4-nitrophenol								
dibenzofuran		10000 J			5100 J			4100 J
2,4-dinitrotoluene								
2,6-dinitrotoluene								
diethylphthalate		5300 J						
4-chlorophenyl-phenylether								
fluorene	5400 J	13000 J	6100 J	7600 J	10000 J		4100 J	7800 J
4-nitroaniline								
4,6-dinitro-2-methylphenol								
N-nitrosodiphenylamine		20000 J	7460 J	4800 J	6300 J	4700 J	6300 J	
4-bromophenyl-phenylether								
hexachlorobenzene								

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STATE _____ SITE _____ TDD _____ PAGE 1 OF 2, SET 1 _____

COMPOUND	SAMPLE	DETECTION LIMITS	ES 428	429	430	431	432	433	434	435
pentachlorophenol					7800 J					
phenanthrene			21000 J	71000	31000 J	37000 J	73000	27000 J	55000	63000
anthracene				17000 J	7000 J	9000 J	19000 J	6000 J	13000 J	15000 J
di-n-butylphthalate			22000 J	78000	37000 J	44000 J	5000 J		33000 J	
fluoranthene			16000 J	52000	21000 J	27000 J	85000	35000 J	65000	64000
benzidine										
pyrene			16000 J	43000 J	22000 J	27000 J	83000	30000 J	67000	87000
butylbenzylphthalate			12000 J							
3,3'-dichlorobenzidine										
benzo(a)anthracene				21000 J	9100 J	11000 J	39000 J	16000 J	31000 J	37000 J
bis(2-ethylhexyl)phthalate			150,000	540000	410000 E	330,000				
chrysene				23000 J	9500 J	11000 J	41000 J	15000 J	32000 J	38000 J
di-n-octylphthalate				53000	22000 J	33000 J				12000 J
benzo(b&k)fluoranthene				[illegible]	[illegible]	[illegible]	59000	22000 J	27000 J	32000 J
benzo(a)pyrene				[illegible] J	7400 J	8900 J	37000 J	12000 J	30000 J	34000 J
indeno(1,2,3-cd)pyrene				[illegible] J			15000 J		14000 J	15000 J
dibenzo(a,h)anthracene										
benzo(g,h,i)perylene				7500 J			16000 J		16000 J	17000 J
alpha-BHC										
beta-BHC										
delta-BHC										
gamma-BHC(lindane)										
heptachlor										
aldrin										
heptachlor epoxide										
endosulfan I										
dieldrin										
4,4'-DDE										
endrin										
endosulfan II										
4,4'-DDD										
endrin aldehyde										
endosulfan sulfate										
4,4'-DDT										
methoxychlor										
endrin ketone										
* chlordane α/18			10000 J / 8700 J	89000 J / 76000 J		8600 J / 7700 J		13,000 J / 1300 J	14000 J / 2800 J	38000 J / 3800 J
toxaphene										
Aroclor-1016										
Aroclor-1221										
Aroclor-1232										
Aroclor-1242										
Aroclor-1248										
Aroclor-1254										
* Aroclor-1260			30000 J	390000	320000	88000				
[illegible]										
aluminum										
antimony										
arsenic										
barium										
beryllium										
cadmium										
calcium										
chromium										
cobalt										
copper										
iron										
lead										
magnesium										
manganese										
mercury										
nickel										
potassium										
selenium										
silver										
sodium										
thallium										
tin										
vanadium										
zinc										
cyanide CHECK IF ANALYZED ( )										
TENTATIVELY IDENTIFIED ORGANICS										

OLD

OLD

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STATE _____ SITE _____ TDD _____

5/4/88

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION V

DATE: ~~4-7-88~~ 4/20/88

SUBJECT: Review of Region V CLP Data
Received for Review on 2-10-88

FROM. Curtis Ross, Director (5SCRL)
Central Regional Laboratory ~~Kevin B Bolger for~~ Patrick J. Chuilla for

TO. Data User: FIT

We have reviewed the data for the following case(s). 8TFA05WUZ8

SITE NAME: U. S. Scrap (IL) SMO Case No. 8736

EPA Data Set No. SF 4827 No. of Samples: 8 D.U./Activity Numbers Y905/C721Z8

CRL No. 88FC10S49 - S56

SMO Traffic No. ES428 - 435

CLP Laboratory: Weston Analytics (CA) Hrs. Required for Review: 12

Following are our findings:

Eight soil samples were received, ES 428 to ES 431 were found caked during shipment and the remainder were in good condition. Volatiles were analyzed at medium concentration and semivolatiles and pesticides were run at low concentration.

Field blank and duplicate are not accounted.

Perry W. Yamanaki
ESAT/Weston
3/29/88

( ) Data are acceptable for use.
(X) Data are acceptable for use with qualifications referenced above. See Data Qualifier sheets and Calibration Outlier forms for flags and additional comments.
( ) Data are preliminary - pending verification by Contractor Laboratory. See Case Summary above.
( ) Data are unacceptable.

cc: Carla Dempsey, CLP Quality Assurance Officer, Analytical Operations Branch
James Petty, Chief Quality Assurance Research, EMSL, Las Vegas

DATA QUALIFIERS

Contractor: WESCA

Case 8736

Below is a summary of the out-of-control audits and the possible effect on the data for this case:

1. Sample Holding Times:

The volatile fraction of all the samples in this case exceeded the 14 day holding time by one day from sampling date to analysis date, therefore, all volatile compounds in each sample fraction should be flagged "J" for positive results and "UJ" for negative results. all VOA ⇓ J

For the semivolatile and pesticide fractions, the 7 day 40 CFR 136 holding time for extraction was exceeded. Positive results for each sample should be estimated and flagged "J", negative results should be flagged "UJ." SV+ pest hold ⇓ J

2. GC/MS Tuning and GC Performance:

BFB and DFTPP ion abundance criteria for VOA and SVOA, respectively, were met.

On GC Performance (Pest/PCB) RT of DDT was within the 12 min range and the RT windows in pack column 225 & 240. Also, DDT/Endrin breakdown was <20% for Evaluation Std Mix B for the same column. RT of DBC with respect to Evaluation Std Mix A were within the advised %D (±3%) range, however, associated samples ES 428 to 435 were diluted out. Also ES 428 and 428 MS/MSD were diluted out. In the OV-1 column, Std Mix A, B & C, IS A & B and the Aroclors were within the advised %D, but the associated samples ES 428, 428 MS/MSD, 429 to 435 were diluted out.

3. Calibration:

Initial and continuing calibration of volatiles and semivolatiles were evaluated and outliers detected were recorded in the Outlier Forms and flagged positive results as

Reviewed by: Jerry N. Yamauchi (JY)

Phone: (312) 353-2960

Date: 3/29/88

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DATA QUALIFIERS

Contractor: NESCA

Case 8736

Below is a summary of the out-of-control audits and the possible effect on the data for this case:

estimated J and negative results as estimated unusable (R).

Initial calibration of pesticide's linearity check were within the 10% RSD.

In the continuing calibration of pesticide, endosulfan sulfate and endrin ketone were above the advised %D for ICB on column 226024.01, the quantitation column. For the CV-1 quantitation column injected with ICA gave compounds γ-BHC, heptachlor, aldrin, heptachlor epoxide, endosulfan I and DDT above the advised %D level; injected with ICB (1/15/88: 0124) gave delta BHC high %D and at time 12.50, α-BHC, β-BHC, delta BHC, aldrin, DDE, endrin, DDE, endosulfan sulfate, endrin ketone, α-Chlordane and γ-Chlordane were high in %D. All associated positive quantitative results are flagged as estimated (J) for the above outliers.

4. Blanks:

Acetone was detected in the medium level soil VBlk. In the associated sample's volatile fraction, acetone was detected in all the samples. They were flagged "U" in accord with the quantitation limit rule.

The low level soil SBlk and PBlk were clean.

5. Surrogate Recoveries:

Volatile surrogate recoveries met RC limits. Semivolatile and pesticide surrogates were completely diluted out except for the SBlk and PBlk. There were no mention of reextraction and/or reanalysis in the lab narrative. Furthermore, lab narrative claims pesticide surrogate met QC limits. Thus, the associated

Reviewed by: Gerry N. Yamaneki

Phone: (312) 353-2960

Date: 3/30/88

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DATA QUALIFIERS

Contractor: WESCA

Case 8736

Below is a summary of the out-of-control audits and the possible effect on the data for this case:

Samples ES 428 to 435 and ES 432 MS/MSD should be flagged R (unusable) ~~and recommend reanalysis~~ for negative results and J (estimated) for positive results.

KBBolger 4-7-88

6 MS/MSD:

Volatile spike of the medium level soil, ES 432, met QC requirement of MS/MSD % Rec and of % RPD. Semivolatiles of the low level soil, ES 428, indicated zero MS/MSD % Rec. and zero % RPD except for acenaphthene and pyrene which were high in MS % Rec. and in % RPD and the latter compound was high in MS/MSD % Rec and in % RPD. The associate target compounds are, therefore, considered estimated "J" FOR POSITIVE RESULTS AND "UJ" FOR NEGATIVE RESULTS.

All pesticide spike resulted in zero MS/MSD % Rec. and % RPD, the associated HSL compounds are considered estimated "J." KSBolger 4-7-8

7. Field Duplicate: NA

8. Internal Std Performance:

Volatile internal std area met the RT range of ±30 sec and the upper and lower limit area.

Semivolatile internal std area for ES428 was low in PRY and the RT was higher than the range in DCB, NPT, ANT, PAN, CRY and PRY, and for ES428MS in CRY and PRY. For the internal std area, positive results are estimated "J" for that sample fraction and the negative results of the quantitation limit's as estimated "UJ" for that sample fraction. The higher RT did not affect the peaks, thus the chromatograms are wholly acceptable for that sample fraction.

Reviewed by: Jerry N. Yamauchi (JY)

Phone: (312) 353-2960

Date: 3/29/88

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DATA QUALIFIERS

Contractor: WESCA

Case 8736

Below is a summary of the out-of-control audits and the possible effect on the data for this case:

9. Compound ID:

Sample to standard mass spectra's ions presence and agreement in relative intensity of ions were acceptable for volatiles and semivolatile.

Pesticides, α-Chlordane, γ-Chlordane and Aroclor-1260, RT were within the RT window in quantitation and confirmation columns.

10. Compound Quantitation and Reported Detection Limits: NA

11. Systems Performance:

RIC baseline shifts were acceptable.

12. Case Data Assessment:

The data in this case are usable based on calibration, blanks, and reference standard results. However, as outlined in the above narrative, there were several problems which may affect the whole data. The problems found were calibration outliers, holding time infractions, diluting out sample DBC and semivolatiles of pesticide surrogate spike; zero recovery of MS/MSD %Rec. and of %RPD and internal std area and RT range were off from standard range for the semivolatiles.

Reviewed by: Jerry N. Gamanski (JN)

Phone: (312) 353-2760

Date: 3/30/88

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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION V

DATE: 4/20/88

SUBJECT: DATA FROM WESTON ANALYTICS OF CALIFORMA

FROM: PATRICK J. CHURILLA, ORGANIC DATA REVIEW CO-ORDINATOR

TO: ALL DATA USERS

THE PROGRAM THAT WESTON USES TO PREPARE THE DATA SUMMARY FORMS HAS A GLITCH WHICH OCCASIONALLY PUTS AN "X" QUALIFIER ON THE DATA. THIS X HAS NO MEANING AND SHOULD BE IGNORED.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY REGION V
CALIBRATION OUTLIERS
VOLATILE HSL COMPOUNDS

CASE/SAS # 8736 CONTRACTOR NESCA

Instrument # 1050	Init. Cal.			Cont. Cal.			Cont. Cal.			Cont. Cal.			Cont. Cal.		
DATE/TIME:	12/16/87			12/23/87 804											
	RF	%RSD	*	RF	%D	*	RF	%D	*	RF	%D	*	RF	%D	*
Chloromethane															
Bromomethane															
Vinyl Chloride															
Chloroethane															
Methylene Chloride															
Acetone															
Carbon Disulfide	5.21			6.70	28	J									
1,1-Dichloroethane															
1,1-Dichloroethene															
Trans-1,2-Dichloroethene															
Chloroform															
2-Butanone	.04	27.0	R	.03	22	R									
1,2-Dichloroethane															
1,1,1-Trichloroethane															
Carbon Tetrachloride	.58			.41	28	J									
Vinyl Acetate	.08		U	.04	44	R									
Bromodichloromethane															
1,2-Dichloropropane															
Trans-1,3-Dichloropropene															
Trichloroethene															
Dibromochloromethane															
1,1,2-Trichloroethane															
Benzene															
cis-1,3-Dichloropropene															
2-Chloroethylvinylether															
Bromoform															
4-Methyl-2-Pentanone	.19			.14	27	J									
2-Hexanone	.17	58.6	J	.12	28	J									
Tetrachloroethene															
1,1,2,2-Tetrachloroethane															
Toluene															
Chlorobenzene															
Ethylbenzene															
Styrene															
m-Xylene															
o/p-Xylene															

AFFECTED SAMPLES:

VBlk 1223
ES 437
ES 432 MS
ES 432 MSD
ES 433-435
ES 429
ES 430
ES 431
ES 428

Reviewer's Initials/Date: Z.H. 2/26/88

* These flags should be applied to the analytes on the sample data sheets.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY REGION V
CALIBRATION OUTLIERS
SEMIVOLATILE HSL COMPOUNDS
(Page 1)

CASE/SAS # 8736 CONTRACTOR WESCA

Instrument # 4500	Init. Cal.			Cont. Cal.			Cont. Cal.			Cont. Cal.			Cont. Cal.		
DATE/TIME:	1/25/88			1/26/88 8:49											
	RF	%RSD	*	RF	%D	*	RF	%D	*	RF	%D	*	RF	%D	*
Phenol															
bis(-2-Chloroethyl)Ether															
2-Chlorophenol															
1,3-Dichlorobenzene															
1,4-Dichlorobenzene															
Benzyl Alcohol															
1,2-Dichlorobenzene															
2-Methylphenol															
bis(2-chloroisopropyl)Ether	2.08			2.82	36.0	J									
4-Methylphenol															
N-Nitroso-Di-n-Propylamine															
Hexachloroethane															
Nitrobenzene															
Isophorone															
2-Nitrophenol															
2,4-Dimethylphenol															
Benzoic Acid	.19			.11	44.4	J									
bis(2-Chloroethoxy)Methane															
2,4-Dichlorophenol															
1,2,4-Trichlorobenzene															
Naphthalene															
4-Chloroaniline															
Hexachlorobutadiene															
4-Chloro-3-Methylphenol															
2-Methylnaphthalene															
Hexachlorocyclopentadiene															
2,4,6-Trichlorophenol															
2,4,5-Trichlorophenol															
2-Chloronaphthalene															
2-Nitroaniline															
Dimethyl Phthalate															
Acenaphthylene															
3-Nitroaniline															
Acenaphthene															
2,4-Dinitrophenol	.18			.05	53.7	J									
4-Nitrophenol	.11			.08	26.4	J									
Dibenzofuran															

AFFECTED SAMPLES:

IB Blk	ES 433
ES428	ES 434
ES428 MS	ES 435
ES428MSD	
ES 429	
ES 430	
ES 431	
ES 432	

Reviewer Initials/Date: TCH 2/26/88

* These flags should be applied to the analytes on the sample data sheets.

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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY REGION V
CALIBRATION OUTLIERS
SEMIVOLATILE HSL COMPOUNDS
Page 2

CASE/SAS # 8736 CONTRACTOR NESCA

Instrument # 4560	Init. Cal.			Cont. Cal.			Cont. Cal.			Cont. Cal.			Cont. Cal.		
DATE/TIME:	1/25/88			1/26/88 843											
	RF	%RSD	*	RF	%D	*	RF	%D	*	RF	%D	*	RF	%D	*
2,4-Dinitrotoluene															
2,6-Dinitrotoluene															
Diethylphthalate															
4-Chlorophenyl-phenylether															
Fluorene															
4-Nitroaniline															
4,6-Dinitro-2-Methylphenol	.16		-	.12	27.2	J									
N-Nitrosodiphenylamine															
4-Bromophenyl-phenylether															
Hexachlorobenzene															
Pentachlorophenol															
Phenanthrene															
Anthracene															
Di-n-Butylphthalate	1.15			1.50	30.4	J									
Fluoranthene															
Pyrene	1.25			1.76	40.8	J									
Butylbenzylphthalate															
Benzo(a)Anthracene															
bis(2-Ethylhexyl)Phthalate															
Chrysene															
Di-n-Octyl Phthalate															
Benzo(b)Fluoranthene															
Benzo(k)Fluoranthene															
Benzo(a)Pyrene															
Indeno(1,2,3-cd)Pyrene															
Dibenz(a,h)Anthracene															
Benzo(g,h,i) Perylene															

SEE PAGE 1 FOR AFFECTED SAMPLES.

* These flags should be applied to the analytes on the sample data sheets.

Reviewer's Initials/Date: T.G. 2/26/88

8/87

Case: 8736

Contractor: WESCA

TENTATIVELY IDENTIFIED COMPOUNDS
MATCH ASSESSMENT

NOTE: Reviewer should note directly on Organic Analysis Data Sheet (OADS) those matches that in his opinion (based on contract criteria) are unreasonable.

CRITERIA

(1) Relative intensities of major ions (>10%) reference spectrum should be present in the sample spectrum.

(2) Relative intensities of major ions in sample spectrum should agree to within ± 20% of reference spectrum intensities.

(3) Molecular ions present in reference spectrum should be present in sample spectrum.

(4) Ions present in sample spectrum, but not in reference spectrum should be reviewed for possible background contamination or presence of coeluting interferences.

(5) Ions present in reference spectrum, but not in the sample spectrum should be reviewed for possible subtraction from the sample spectrum because of background contamination or coeluting interferences.

(6) If, in the reviewer's opinion, no valid identification can be made the compound should be labelled as "unknown" and the initials and date of the reviewer placed on the OADS.

[redacted] ORGANICS/INORGANICS [redacted] DUE DATE: 2/23/88

PETC-UM-4827 DEC [redacted] THIS FORM IS TO BE USED FOR SAMPLES SENT TO CONTRACT ONLY

CASE NUMBER/SAS No. 8736 SITE NAME US Scrap 28 LABORATORY WESCA/Chem DATE SHIPPED 12/16/87

SUPERFUND DU NUMBER 4905 EPA RPM or OSC (S.M.S.)/(CES) CERCLIS NUMBER ILD980679484 PAGE 1 OF 1

ACTIVITY NUMBER C92100

CRL LOG NUMBER	ORGANIC TRAFFIC REPORT NUMBER or SAS Packing List No.	INORGANIC TRAFFIC REPORT NUMBER	WATER OR LIQUIDS: ACID BASE NEUTRAL CPDS ORGANIC SCAN UG L TOX17574	VOLATILE ORGANIC ANALYSIS ORGANIC SCAN UG/L TOX17564	WATER POLYCHLORINATED BIPHENYLS UG L PES 17144	WATER CHLORINATED PESTICIDES UG L PES17134	TOTAL METALS IN WATER UG L MET111	WATER CYANIDE UG/L MIN74919	NITRATE NITRITE MG L MIN7284	AMMONIA MG L MIN7294	RESIDUE FILTERABLE TDS MG L MIN7362	RESIDUE NON-FILT TSS MG L MIN7372			SEDIMENTS or SOILS: ACID BASE NEUTRAL CPDS ORGANIC SCAN MG KG TOX215722	VOLATILE ORGANIC ANALYSIS ORGANIC SCAN MG KG TOX215622	SEDIMENTS POLYCHLORINATED BIPHENYLS MG/KG PES211422	SEDIMENT CHLORINATED PESTICIDES MG/KG 211322	TOTAL METALS MG/KG MET413	CYANIDE MG/KG MIN44930	EP TOXICITY METALS MG/KG	AMMONIA MG/KG MIN42925				
8FC10S49	ES428	MEQ460													✓	✓	✓	✓	✓	✓						
8FC10S50	ES429	MEQ461													✓	✓	✓	✓	✓	✓						
8FC10S51	ES430	MEQ462													✓	✓	✓	✓	✓	✓						
8FC10S52	ES431	MEQ463													✓	✓	✓	✓	✓	✓						
8FC10S53	ES432	MEQ464													✓	✓	✓	✓	✓	✓						
8FC10S54	ES433	MEQ465													✓	✓	✓	✓	✓	✓						
8FC10S55	ES434	MES022													✓	✓	✓	✓	✓	✓						
6FC10S56	ES435	MES023													✓	✓	✓	✓	✓	✓						

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WESTON ANALYTICS - WESCA
ORGANIC CASE NARRATIVE
LABORATORY BATCH NUMBERS: 87-12-S047
CASE #: 8736
SAMPLE #'s: ES428, ES429, ES430, ES431, ES432, ES433, ES434, ES435
SDG #: ES428
CONTRACT #: 68-01-7413

I. GENERAL

1. Chronology

a) Sampling..... 12/08/87 thru 12/10/87
b) Sample receipt..... 12/17/87
c) Sample extraction..... 12/22/87
d) Volatiles analysis..... 12/23/87
e) E/N/A analysis..... 01/25/88, 01/26/88,
f) Pesticide/PCB analysis.. 01/14/88

2. WESTON uses Finnigan's Form Master program to generate all forms and to prepare the diskette.

II. VOLATILES

1. GC/MS VOA chromatogram peaks are labeled with the following designations:

IS1 - Bromochloromethane
IS2 - 1,4-Difluorobenzene
IS3 - Chlorobenzene-d_5

SS1 - 1,2-Dichloroethane
SS2 - Toluene-d_8
SS3 - Bromofluorobenzene

2. One data file of the initial 5 point calibration was corrupted in the system (150 ppb std). Therefore, we were not able to generate Forms VI and VII by Formaster. Also, Form V for the initial calibration was unable to be generated. Similar forms were submitted in this package.

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3. Most of these samples were analyzed with a dilution factor greater than 25,000. In order to check the purge and trap efficiency, surrogates and matrix spikes were added to samples before they were purged. Therefore, the recoveries of surrogates and matrix spikes shown on Form II and Form III do not reflect the efficiency of methanol extraction.

4. There was one hydrocarbon peak eluted at about 340 scan on most of the chromatograms. This was believed to be a contaminant from the methanol.

III. B/N/A'S

1. GC/MS BNA chromatogram peaks are labeled with the following designations:

IS1 - 1,4-Dichlorobenzene-d_4
IS2 - Naphthalene-d_8
IS3 - Acenapthene-d_8
IS4 - Phenanthrene-d_{10}
IS5 - Chrysene-d_{12}
IS6 - Perylene-d_{12}

SS1 - Phenol-d_5
SS2 - 2-Fluorobiphenyl
SS3 - Nitrobenzene-d_5
SS4 - 2-Fluorophenol
SS5 - 2,4,6-Tribromophenol
SS6 - Terphenyl-d_{14}

2. All surrogates and matrix spikes were diluted out.

3. One internal standard area was outside the QC criteria.

V. PESTICIDES/PCB'S

1. Form X - Sample #ES428 retention time of AR1260 on confirmation column, is out of retention time window by .01 minutes. Confirmation was based on pattern recognition.

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2. Form X - Sample #ES430 retention time of AR1260 on confirmation column is out of retention time window by .45 minutes. Confirmation was based on pattern recognition.

3. Soil surrogate recoveries were all within QC limits.

4. Form III - No recoveries on matrix spike or matrix spike duplicates because sample was analyzed diluted.

5. Form VIII - 100% values are diluted samples.

6. The % D for Endo. Sulfate in IND B analyzed 01/14/88 at 11:24 exceeded the 15% criteria for quantitation due to matrix effect from samples analyzed prior to this standard.

7. The % D for the OV-1 column decreased during the analytical run for no identifiable reason.

"Release of the data contained in this hardcopy data package and in the computer-readable data submitted on floppy diskette has been authorized by the Laboratory Manager or his designee, as verified by the following signature."

Reviewed and approved Shu-Teh Pan
Shu Teh Pan
Senior Scientist

2E

SOIL VOLATILE SURROGATE RECOVERY

Lab Name: EE WESTON,INC Contract: 68-01-7413

Lab Code: WESCA Case No.: 8736 SAS No.: _____ SDG No.: ES-428

Level:(low/med) MED

	EPA SAMPLE NO.	S1 (TOL)#	S2 (BFB)#	S3 (DCE)#	OTHER	TOT OUT
01	ES428	102	94	127		0
02	ES429	103	92	103		0
03	ES430	110	100	104		0
04	ES431	127	91	102		0
05	ES432	100	96	98		0
06	ES432DMB	101	95	103		0
07	ES432DMS2	102	93	104		0
08	ES433	121	94	103		0
09	ES434	130	95	107		0
10	ES435	120	93	102		0
11	VBLK	99	99	103		0

QC LIMITS

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

Column to be used to flag recovery values

* Values outside of contract required QC limits

D Surrogates diluted out

FORM II VOA-2 1/87 Rev.

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2D
SOIL SEMIVOLATILE SURROGATE RECOVERY

Lab Name: RF WESTON,INC Contract: 68-01-7413

Lab Code: WESCA Case No.: 8736 SAS No.: _____ SDG No.: ES-428

Level: (low/med) LOW

	EPA SAMPLE NO.	S1 (NBZ) #	S2 (FBP) #	S3 (TPH) #	S4 (PHL) #	S5 (2FP) #	S6 (TBP) #	OTHER	TOT OUT
01	BBLK	70	71	103	65	73	69		0
02	ES428	D	D	D	D	D	D		0
03	ES428MS	D	D	D	D	D	D		0
04	ES428MSD	D	D	D	D	D	D		0
05	ES429	D	D	D	D	D	D		0
06	ES430	D	D	D	D	D	D		0
07	ES431	D	D	D	D	D	D		0
08	ES432	D	D	D	D	D	D		0
09	ES433	D	D	D	D	D	D		0
10	ES434	D	D	D	D	D	D		0
11	ES435	D	D	D	D	D	D		0

		QC LIMITS
S1 (NBZ)	= Nitrobenzene-d5	(23-120
S2 (FBP)	= 2-Fluorobiphenyl	(30-115)
S3 (TPH)	= Terphenyl	(18-137)
S4 (PHL)	= Phenol-d5	(24-113)
S5 (2FP)	= 2-Fluorophenol	(25-121)
S6 (TBP)	= 2,4,6-Tribromophenol	(19-122)

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

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FORM II SV-2

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1/87 Rev.

2F

SOIL PESTICIDE SURROGATE RECOVERY

Lab Name: RF WESTON, INC. Contract: 68-01-7413

Lab Code: WESCA Case No.: 8736 SAS No.: _____ SDG No.: ES-428

Level: (low/med) LOW

	EPA SAMPLE NO.	S1 (DBC)	#	OTHER
01	ES-428	0	D	0
02	ES-429	0	D	0
03	ES-430	0	D	0
04	ES-431	0	D	0
05	ES-432	0	D	0
06	ES-433	0	D	0
07	ES-434	0	D	0
08	ES-435	0	D	0
09	ES-428MS	0	D	0
10	ES-428MSD	0	D	0
11	PBLK	69		0

ADVISORY QC LIMITS

S1 (DBC) = Dibutlychlorendate (20-150)

Column to be used to flag recovery values

* Values outside of contract required QC limits

D Surrogates diluted out

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1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

VBLK

b Name: RF WESTON.INC Contract: 68-01-7413

ab Code: WESCA Case No.: 8738 SAS No.: _____ SDG No.: ES-428

atrix: (soil/water) SOIL Lab Sample ID: VBLK

mple wt/vol: _____ (g/mL) G Lab File ID: 1223VBLANK

evel: (low/med) MED Date Received: _____

oisture: not dec. ____ Date Analyzed: 12/23/87

lumn (pack/cap) PACK Dilution Factor: 1.00

ber TICs found: 0 CONCENTRATION UNITS: (ug/L or ug/kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

1-

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VBLK

Lab Name: RF WESTON, INC Contract: 68-01-7413

Lab Code: WESCA Case No.: 8736 SAS No.: _____ SDG No.: ES-426

Matrix: (soil/water) SOIL Lab Sample ID: VBLK

Sample wt/vol: _____ (g/mL) G Lab File ID: 1223VBLANK

Level: (low/med) MED Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 12/23/87

Column: (pack/cap) PACK Dilution Factor: 1.00

CONCENTRATION UNITS: (ug/L or ug/kg) UG/KG

CAS NO.	COMPOUND	(ug/L or ug/kg) UG/KG	Q
74-87-3	Chloromethane	1000	U
74-83-9	Bromomethane	1000	U
75-01-4	Vinyl Chloride	1000	U
75-00-3	Chloroethane	1000	U
75-09-2	Methylene Chloride	500	U
67-64-1	Acetone	11	U
75-15-0	Carbon Disulfide	500	U
75-35-4	1,1-Dichloroethene	500	U
75-34-3	1,1-Dichloroethane	500	U
540-59-0	1,2-Dichloroethene (total)	500	U
67-66-3	Chloroform	500	U
107-06-2	1,2-Dichloroethane	500	U
78-93-3	2-Butanone	1000	U
71-55-6	1,1,1-Trichloroethane	500	U
56-23-5	Carbon Tetrachloride	500	U
108-05-4	Vinyl Acetate	1000	U
75-27-4	Bromodichloromethane	500	U
78-87-5	1,2-Dichloropropane	500	U
10061-01-5	cis-1,3-Dichloropropene	500	U
79-01-6	Trichloroethene	500	U
124-48-1	Dibromochloromethane	500	U
79-00-5	1,1,2-Trichloroethane	500	U
71-43-2	Benzene	500	U
10061-02-6	Trans-1,3-Dichloropropene	500	U
75-25-2	Bromoform	500	U
108-10-1	4-Methyl-2-Pentanone	1000	U
591-78-6	2-Hexanone	1000	U
127-18-4	Tetrachloroethene	500	U
79-34-5	1,1,2,2-Tetrachloroethane	1000	U
108-88-3	Toluene	500	U
108-90-7	Chlorobenzene	500	U
100-41-4	Ethylbenzene	500	U
100-42-5	Styrene	500	U
1330-20-7	Total Xylenes	500	U

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3B

SOIL VOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: RF WESTON,INC Contract: 68-01-7413

Lab Code: WESCA Case No.: 8736 SAS No.: _____ SDG No.: ES-428

Matrix Spike - EPA Sample No.: ES432 Level:(low/med) MED

COMPOUND	SPIKE ADDED (ug/kg)	SAMPLE CONCENTRATION (ug/kg)	MS CONCENTRATION (ug/kg)	MS % REC #	QC LIMITS REC
1,1-Dichloroethene	6570000	0	6240000	95	59-172
Trichloroethene	6570000	0	6110000	93	62-137
Benzene	6570000	0	6570000	100	66-142
Toluene	6570000	5720000	11500000	88	59-139
Chlorobenzene	6570000	0	6810000	104	60-133

COMPOUND	SPIKE ADDED (ug/kg)	MSD CONCENTRATION (ug/kg)	MSD % REC #	% RPD #	QC LIMITS RPD	REC.
1,1-Dichloroethene	6570000	5740000	87	8	22	59-172
Trichloroethene	6570000	5700000	87	7	24	62-137
Benzene	6570000	6150000	94	6	21	66-142
Toluene	6570000	10200000	79	11	21	59-139
Chlorobenzene	6570000	6500000	99	4	21	60-133

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

Values outside of QC limits

RPD: 0 out of 5 outside limits
Spike Recovery: 0 out of 10 outside limits

COMMENTS: 8712S047-14/ EPA 8736 ES432 5MICL OF DIL.
1050 GCS

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3D

SOIL SEMIVOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

b Name: EF WESTON,INC Contract: 68-01-7413

ab Code: WESCA Case No.: 8736 SAS No.: _____ SDG No.: ES-428

trix Spike - EPA Sample No.: ES428 Level:(low/med) LOW

COMPOUND	SPIKE ADDED (ug/Kg)	SAMPLE CONCENTRATION (ug/Kg)	MS CONCENTRATION (ug/Kg)	MS % REC #	QC LIMITS REC.
Phenol	4620	0	0	0 *	26- 90
2-Chlorophenol	4620	0	0	0 *	25-102
1,4-Dichlorobenzene	2310	0	0	0 *	28 104
N-Nitroso-di-n-prop.(1)	2310	0	0	0 *	41 126
1,2,4-Trichlorobenzene	2310	0	0	0 *	38 107
4-Chloro-3-methylphenol	4620	0	0	0 *	26 103
Acenaphthene	2310	4710	0	-204 *	31-137
4-Nitrophenol	4620	0	0	0 *	11-114
2,4-Dinitrotoluene	2310	0	0	0 *	28- 89
Pentachlorophenol	4620	0	0	0 *	17-109
Pyrene	2310	15830	13900	-212 *	35-142

COMPOUND	SPIKE ADDED (ug/Kg)	MSD CONCENTRATION (ug/Kg)	MSD % REC #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
Phenol	4620	0	0 *	0	33	26- 90
2-Chlorophenol	4620	0	0 *	0	50	25-102
1,4-Dichlorobenzene	2310	0	0 *	0	27	28 104
N-Nitroso-di-n-prop.(1)	2310	0	0 *	0	38	41 126
1,2,4-Trichlorobenzene	2310	0	0 *	0	23	38 107
4-Chloro-3-methylphenol	4620	0	0 *	0	33	26 103
Acenaphthene	2310	7430	118	747 *	19	31-137
4-Nitrophenol	4620	0	0 *	0	50	11-114
2,4-Dinitrotoluene	2310	0	0 *	0	47	28- 89
Pentachlorophenol	4620	0	0 *	0	47	17-109
Pyrene	2310	20200	191 *	3720 *	36	35-142

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

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

RPD: 2 out of 11 outside limits
Spike Recovery: 21 out of 22 outside limits

COMMENTS: 0012S047-01 EPA-8736 ES428
BN, 30G=>10ML, 1:100 DILUTION

3F

SOIL PESTICIDE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: RF WESTON,INC. Contract: 68-01-7413

Lab Code: WESCA Case No.: 8736 SAS No.: _____ SDG No.: ES-428

Matrix Spike - EPA Sample No.: ES-428 Level:(low/med) LOW

COMPOUND	SPIKE ADDED (ug/kg)	SAMPLE CONCENTRATION (ug/kg)	MS CONCENTRATION (ug/kg)	MS % REC #	QC LIMITS REC.
Lindane	27.9	0	0	0 *	46-127
Heptachlor	27.9	0	0	0 *	35-130
Aldrin	27.9	0	0	0 *	34-132
Dieldrin	69.7	0	0	0 *	31-134
Endrin	69.7	0	0	0 *	42-139
4,4'-DDT	69.7	0	0	0 *	23-134

COMPOUND	SPIKE ADDED (ug/kg)	MSD CONCENTRATION (ug/kg)	MSD % REC #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
Lindane	27.9	0	0 *	0	50	46-127
Heptachlor	27.9	0	0 *	0	31	35-130
Aldrin	27.9	0	0 *	0	43	34-132
Dieldrin	69.7	0	0 *	0	38	31-134
Endrin	69.7	0	0 *	0	45	42-139
4,4'-DDT	69.7	0	0 *	0	50	23-134

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

Values outside of QC limits

RPD: 0 out of 6 outside limits
Spike Recovery: 12 out of 12 outside limits

COMMENTS:

4A

VOLATILE METHOD BLANK SUMMARY

Lab Name: RF WESTON, INC Contract: 68-01-7413

Lab Code: WESCA Case No.: 8736 SAS No.: _____ SDG No.: ES-428

Lab File ID: 1227VBLANK Lab Sample ID: VBLK

Date Analyzed: 12/27/87 Time Analyzed: 0849

Matrix: (soil/water) SOIL Level: (low/med) MED

Instrument ID: 4522

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
01	ES428	8712347-02	1227V816	1907
02	ES429	8712347-05	1227V817	1929
03	ES430	8712347-08	1227V818	1749
04	ES431	8712347-11	[illegible]	[illegible]
05	ES432	8712347-14	[illegible]	1150
06	ES433	[illegible]	[illegible]	[illegible]
07	ES434DUP	[illegible]	[illegible]	[illegible]
08	ES435	[illegible]	[illegible]	1755
09	ES436	8712347-20	[illegible]	1821
10	ES437	8712347-23	[illegible]	1457

COMMENTS: WATER BLANK
1050 BCE

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SEMIVOLATILE METHOD BLANK SUMMARY

Lab Name: RF WESTON,INC Contract: 68-01-7413

Lab Code: WESCA Case No.: 8736 SAS No.: _____ SDG No.: ES-428

Lab File ID: 0125AN01 Lab Sample ID: BBLK

Date Extracted: 12/22/87 Extraction:(SepF/Cont/Sonc) SONC

Date Analyzed: 01/25/88 Time Analyzed: 1520

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

Instrument ID: 4500

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
01	ES428	8712547-01	0125AN02	01/25/88
02	ES428MS	8712547-01MS	0125AN04	01/25/88
03	ES428MSD	8712547-01MSD	0125AN05	01/25/88
04	ES429	8712547-03	0125AN06	01/25/88
05	ES430	8712547-07	0125AN07	01/25/88
06	ES431	8712547-10	0125AN08	01/25/88
07	ES432	8712547-11	0125AN09	01/25/88
08	ES433	8712547-15	0126AN01	01/26/88
09	ES434	8712547-19	0126AN02	01/26/88
10	ES435	8712547-22	0126AN03	01/26/88

COMMENTS: LAB BLANK (S) 12/22/87
SM. 306=:2ML

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FORM IV SV

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1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BBLK

Lab Name: RF WESTON,INC Contract: 68-01-7413

Lab Code: WESCA Case No.: 8736 SAS No.: _____ SDG No.: ES-428

Matrix: (soil/water) SOIL Lab Sample ID: BBLK

Sample wt/vol: 30.0 (g/mL) G Lab File ID: 0125AN01

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. ____ dec. ____ Date Extracted: 12/22/87

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 01/25/88

GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) UG/KG	Q
108-95-2	Phenol	330	U
111-44-4	bis(2-Chloroethyl)Ether	330	U
95-57-8	2-Chlorophenol	330	U
541-73-1	1,3-Dichlorobenzene	330	U
106-46-7	1,4-Dichlorobenzene	330	U
100-51-6	Benzyl Alcohol	330	U
95-50-1	1,2-Dichlorobenzene	330	U
95-48-7	2-Methylphenol	330	U
108-60-1	bis(2-Chloroisopropyl)ether	330	U
106-44-5	4-Methylphenol	330	U
621-64-7	N-Nitroso-Di-n-Propylamine	330	U
67-72-1	Hexachloroethane	330	U
98-95-3	Nitrobenzene	330	U
78-59-1	Isophorone	330	U
88-75-5	2-Nitrophenol	330	U
105-67-9	2,4-Dimethylphenol	330	U
65-85-0	Benzoic Acid	1600	U
111-91-1	bis(2-Chloroethoxy)Methane	330	U
120-83-2	2,4-Dichlorophenol	330	U
120-82-1	1,2,4-Trichlorobenzene	330	U
91-20-3	Naphthalene	330	U
106-47-8	4-Chloroaniline	330	U
87-68-3	Hexachlorobutadiene	330	U
59-50-7	4-Chloro-3-Methylphenol	330	U
91-57-6	2-Methylnaphthalene	330	U
77-47-4	Hexachlorocyclopentadiene	330	U
88-06-2	2,4,6-Trichlorophenol	330	U
95-95-4	2,4,5-Trichlorophenol	1600	U
91-58-7	2-Chloronaphthalene	330	U
88-74-4	2-Nitroaniline	1600	U
131-11-3	Dimethylphthalate	330	U
208-96-8	Acenaphthylene	330	U
606-20-2	2,6-Dinitrotoluene	330	U

4C

PESTICIDE METHOD BLANK SUMMARY

Lab Name: RF WESTON,INC. Contract: 68-01-7413

Lab Code: WESCA Case No.: 8736 SAS No.: _____ SDG No.: ES-428

Lab Sample ID: PBLK-871222 Lab File ID: _____

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

Date Extracted: 12/22/87 Extraction:(SepF/Cont/Sonc) SONC

Date Analyzed (1): 01/14/88 Date Analyzed (2): _____

Time Analyzed (1): 1016 Time Analyzed (2): _____

Instrument ID (1): GC4 Instrument ID (2): _____

GC Column ID (1): 22502401 GC Column ID (2): _____

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

	EPA SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED 1	DATE ANALYZED 2
01	ES-428	8712-S047-001	01/14/88	01/16/88
02	ES-429	8712-S047-004	01/14/88	01/16/88
03	ES-430	8712-S047-007	01/14/88	01/16/88
04	ES-431	8712-S047-010	01/14/88	01/16/88
05	ES-432	8712-S047-013	01/14/88	
06	ES-433	8712-S047-016	01/14/88	01/16/88
07	ES-434	8712-S047-019	01/14/88	01/16/88
08	ES-435	8712-S047-022	01/14/88	01/16/88
09	ES-428MS	8712-S047-001	01/14/88	01/16/88
10	ES-428MSD	8712-S047-001	01/14/88	01/16/88

COMMENTS:

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1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BBLK

Lab Name: RF WESTON, INC Contract: 68-01-7413

Lab Code: WESCA Case No.: 8736 SAS No.: _____ SDG No.: ES-428

Matrix: (soil/water) SOIL Lab Sample ID: BBLK

Sample wt/vol: 30.0 (g/mL) G Lab File ID: 0125AN01

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. ____ dec. ____ Date Extracted: 12/22/87

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 01/25/88

GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) UG/KG	Q
99-09-2	3-Nitroaniline	1600	U
83-32-9	Acenaphthene	330	U
51-28-5	2,4-Dinitrophenol	1600	U
100-02-7	4-Nitrophenol	1600	U
132-64-9	Dibenzofuran	330	U
121-14-2	2,4-Dinitrotoluene	330	U
84-66-2	Diethylphthalate	330	U
7005-72-3	4-Chlorophenyl-phenylether	330	U
86-73-7	Fluorene	330	U
100-01-6	4-Nitroaniline	1600	U
534-52-1	4,6-Dinitro-2-Methylphenol	1600	U
86-30-6	N-Nitrosodiphenylamine (1)	330	U
101-55-3	4-Bromophenyl-phenylether	330	U
118-74-1	Hexachlorobenzene	330	U
87-86-5	Pentachlorophenol	1600	U
85-01-8	Phenanthrene	330	U
120-12-7	Anthracene	330	U
84-74-2	Di-n-Butylphthalate	330	U
206-44-0	Fluoranthene	330	U
129-00-0	Pyrene	330	U
85-68-7	Butylbenzylphthalate	330	U
91-94-1	3,3'-Dichlorobenzidine	660	U
56-55-3	Benzo(a)Anthracene	330	U
218-01-9	Chrysene	330	U
117-81-7	bis(2-Ethylhexyl)Phthalate	330	U
117-84-0	Di-n-Octylphthalate	330	U
205-99-2	Benzo(b)Fluoranthene	330	U
207-08-9	Benzo(k)Fluoranthene	330	U
50-32-8	Benzo(a)Pyrene	330	U
193-39-5	Indeno(1,2,3-cd)Pyrene	330	U
53-70-3	Dibenz(a,h)Anthracene	330	U
191-24-2	Benzo(g,h,i)Perylene	330	U

(1) - Cannot be separated from Diphenylamine

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

BBLK

Lab Name: RF WESTON,INC Contract: 68-01-7413

Lab Code: WESCA Case No.: 8736 SAS No.: _____ SDG No.: ES-426

Matrix: (soil/water) SOIL Lab Sample ID: BBLK

Sample wt/vol: 30.0 (g/mL) G Lab File ID: 0125AN01

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. ____ dec. ____ Date Extracted: 12/22/87

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 01/25/88

GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 1.00

Number TICs found: 1

CONCENTRATION UNITS:
(ug/L or ug/kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	6.85	200	JX

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

PBLK

Lab Name: RF WESTON,INC. Contract: 68-01-7413

Lab Code: WESCA Case No.: 8736 SAS No.: _____ SDG No.: ES-428

Matrix: (soil/water) SOIL Lab Sample ID: PBLK-871222

Sample wt/vol: 30.0 (g/mL) G Lab File ID: _____

Level: (low/med) LOW Date Received: 12/17/87

% Moisture: not dec. ____ dec. ____ Date Extracted: 12/22/87

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 01/14/88

GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
319-84-6	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
5103-71-9	alpha-Chlordane	80	U
5103-74-2	gamma-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

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

ES428

Name: RF WESTON, INC Contract: 68-01-7412

Code: WESCA Case No.: 8736 SAS No.: _____ SDG No.: ES-428

Matrix: (soil/water) SOIL Lab Sample ID: 811947-02

Sample wt/vol: _____ (g/ml) G Lab File ID: 12173516

Level: (low/med) MED Date Received: 12/17/87

Moisture: not dec. 28 Date Analyzed: 12/21/87

Dilution Factor: (psi) 2,000,000

Concentration Units (ug/L or ug/kg) UG/KG

FEB 03 1988

CAS NO.	COMPOUND	CONCENTRATION	Q
74-87-3	Chloromethane	2000000	U
74-83-9	Bromomethane	2000000	U
75-01-4	Vinyl Chloride	2000000	U
75-00-3	Chloroethane	2000000	U
75-09-2	Methylene Chloride	[illegible]	U
67-64-1	Acetone	[illegible]	U
75-15-0	Carbon Disulfide	[illegible]	
75-35-4	1,1-Dichloroethene	[illegible]	
75-34-3	1,1-Dichloroethane	[illegible]	
540-59-0	1,2-Dichloroethene (total)	1400000	U
67-66-3	Chloroform	1400000	U
107-06-2	1,2-Dichloroethane	1400000	U
78-93-3	2-Butanone	2600000	U
71-55-6	1,1,1-Trichloroethane	1400000	U
56-23-5	Carbon Tetrachloride	1400000	U
108-05-4	Vinyl Acetate	[illegible]	
75-27-4	Bromodichloromethane	1400000	U
78-87-5	1,2-Dichloropropane	1400000	U
10061-01-5	cis-1,3-Dichloropropene	1400000	U
79-01-6	Trichloroethene	5000000	J
124-48-1	Dibromochloromethane	1400000	U
79-00-5	1,1,2-Trichloroethane	1400000	U
71-43-2	Benzene	1400000	U
10061-02-6	Trans-1,3-Dichloropropene	1400000	U
75-25-2	Bromoform	1400000	U
108-10-1	4-Methyl-2-Pentanone	2800000	U
591-78-6	2-Hexanone	11000000	J
127-18-4	Tetrachloroethene	1400000	U
79-34-5	1,1,2,2-Tetrachloroethane	2800000	U
108-88-3	Toluene	19000000	
108-90-7	Chlorobenzene	1400000	U
100-41-4	Ethylbenzene	7000000	J
100-42-5	Styrene	1400000	U
1330-20-7	Total Xylenes	31000000	

J.G. 3/30/88

Quantitative limits of aromatics are estimated J

J.G. 2/29/88

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ecology and environment

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

ES428

Name: RF WESTON, INC Contract: 68-01-7413

Lab Code: WESCA Case No.: 8736 SAS No.: _____ SDG No.: ES-428

Matrix: (soil/water) SOIL Lab Sample ID: 8712S47-02

Sample wt/vol: _____ (g/mL) G Lab File ID: 12D2V816

Level: (low/med) MED Date Received: 12/17/87

% Moisture: not dec. 23 Date Analyzed: 12/23/87

Column (packed/cap) PACK Dilution Factor: 2,000,000

Number TICs found: 0 CONCENTRATION UNITS: (ug/L or ug/kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

ES428

Lab Name: RF WESTON, INC Contract: 68-01-7413

Lab Code: WESCA Case No.: 6736 SAS No.: _____ SDG No.: ES-428

Matrix: (soil/water) SOIL Lab Sample ID: 8712S47-01

Sample wt/vol: 30.0 (g/mL) G Lab File ID: 0125AN02

Level: (low/med) LOW Date Received: 12/17/87

% Moisture: not dec. 28 dec. ____ Date Extracted: 12/22/87

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 01/25/88 FEB - 3

GPC Cleanup: (Y/N) N pH: 7.1 Dilution Factor: ~~[illegible]~~ 100 U

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	59000	
111-44-4	bis(2-Chloroethyl)Ether	46000	U
95-57-8	2-Chlorophenol	46000	U
541-73-1	1,3-Dichlorobenzene	46000	U
106-46-7	1,4-Dichlorobenzene	46000	U
100-51-6	Benzyl Alcohol	46000	U
95-50-1	1,2-Dichlorobenzene	9300	J
95-48-7	2-Methylphenol	14000	J
108-60-1	bis(2-Chloroisopropyl)ether	46000	U
106-44-5	4-Methylphenol	30000	J
621-64-7	N-Nitroso-Di-n-Propylamine	46000	U
67-72-1	Hexachloroethane	46000	U
98-95-3	Nitrobenzene	46000	U
78-59-1	Isophorone	210000	
88-75-5	2-Nitrophenol	46000	U
105-67-9	2,4-Dimethylphenol	12000	J
65-85-0	Benzoic Acid	220000	U
111-91-1	bis(2-Chloroethoxy)Methane	46000	U
120-83-2	2,4-Dichlorophenol	46000	U
120-82-1	1,2,4-Trichlorobenzene	46000	U
91-20-3	Naphthalene	120000	
106-47-8	4-Chloroaniline	46000	U
87-68-3	Hexachlorobutadiene	46000	U
59-50-7	4-Chloro-3-Methylphenol	46000	U
91-57-6	2-Methylnaphthalene	47000	
77-47-4	Hexachlorocyclopentadiene	46000	U
88-06-2	2,4,6-Trichlorophenol	46000	U
95-95-4	2,4,5-Trichlorophenol	220000	U
91-58-7	2-Chloronaphthalene	46000	U
88-74-4	2-Nitroaniline	220000	U
131-11-3	Dimethylphthalate	46000	U
208-96-8	Acenaphthylene	46000	U
606-20-2	2,6-Dinitrotoluene	46000	U

Quantitation limit of aromatics are estimated J
[illegible] 2/29/88

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

ES428

Lab Name: RF WESTON, INC Contract: 68-01-7413

Lab Code: WESCA Case No.: 8736 SAS No.: _____ SDG No.: ES-428

Matrix: (soil/water) SOIL Lab Sample ID: 6712547-01

Sample wt/vol: 30.0 (g/mL) G Lab File ID: 0125AN02

Level: (low/med) LOW Date Received: 12/17/87

% Moisture: not dec. 28 dec. _____ Date Extracted: 12/22/87

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 01/25/88

GPC Cleanup: (Y/N) N pH: 7.1 Dilution Factor: ~~0.3130~~ 100

CONCENTRATION UNITS: (ug/L or ug/kg) UG/KG

CAS NO.	COMPOUND		C
99-09-2	3-Nitroaniline	330000	U
83-32-9	Acenaphthene	4700	J
51-28-5	2,4-Dinitrophenol	330000	U
100-02-7	4-Nitrophenol	330000	U
132-64-9	Dibenzofuran	46000	U
121-14-2	2,4-Dinitrotoluene	46000	U
84-66-2	Diethylphthalate	46000	U
7005-72-3	4-Chlorophenyl-phenylether	46000	U
86-73-7	Fluorene	5400	J
100-01-6	4-Nitroaniline	330000	U
534-52-1	4,6-Dinitro-2-Methylphenol	330000	U
86-30-6	N-Nitrosodiphenylamine (1)	46000	U
101-55-3	4-Bromophenyl-phenylether	46000	U
118-74-1	Hexachlorobenzene	46000	U
87-86-5	Pentachlorophenol	230000	U
85-01-8	Phenanthrene	27000	J
120-12-7	Anthracene	46000	U
84-74-2	Di-n-Butylphthalate	22000	J
206-44-0	Fluoranthene	16000	J
129-00-0	Pyrene	16000	J
85-68-7	Butylbenzylphthalate	12000	J
91-94-1	3,3'-Dichlorobenzidine	93000	U
56-55-3	Benzo(a)Anthracene	46000	U
218-01-9	Chrysene	46000	U
117-81-7	Bis(2-Ethylhexyl)Phthalate	150000	
117-84-0	Di-n-Octylphthalate	46000	U
205-99-2	Benzo(b)Fluoranthene	46000	U
207-08-9	Benzo(k)Fluoranthene	46000	U
50-32-8	Benzo(a)Pyrene	46000	U
193-39-5	Indeno(1,2,3-cd)Pyrene	46000	U
53-70-3	Dibenz(a,h)Anthracene	46000	U
191-24-2	Benzo(g,h,i)Perylene	46000	U

(1) - Cannot be separated from Diphenylamine

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ecology and environment

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

ES428

Lab Name: RF WESTON, INC Contract: 68-01-7413

Lab Code: WESCA Case No.: 8736 SAS No.: _____ SDG No.: ES-429

Matrix: (soil/water) SOIL Lab Sample ID: 8712847-01

Sample wt/vol: 30.0 (g/mL) G Lab File ID: 0125AN02

Level: (low/med) LOW Date Received: 12/17/87

% Moisture: not dec. 25 dec. ____ Date Extracted: 12/22/87

Extraction: (SepF/Cont Sonc) SONC Date Analyzed: 01/25/88 FEB - 3 1988

GPC Cleanup: (Y/N) N pH: 7.1 Dilution Factor: 100

CONCENTRATION UNITS:
(ug/L or ug/kg) UG/KG

Water TICs Found: 20

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	
1.	XYLENE	6.92	600000	JX
2.	UNKNOWN	7.05	340000	JX
3.	UNKNOWN SUBSTITUTED BENZENE	8.30	270000	JX
4.	UNKNOWN	8.95	480000	JX
5.	UNKNOWN	9.72	110000	JX
6.	UNKNOWN SUBSTITUTED BENZENE	10.04	170000	JX
7.	UNKNOWN SUBSTITUTED BENZENE	10.15	350000	JX
8.	UNKNOWN SUBSTITUTED BENZENE	10.57	200000	JX
9.	UNKNOWN SUBSTITUTED BENZENE	10.69	230000	JX
10.	UNKNOWN HYDROCARBON	10.82	300000	JX
11.	UNKNOWN SUBSTITUTED BENZENE	11.25	64000	JX
12.	UNKNOWN	11.70	46000	JX
13.	UNKNOWN	11.92	92000	JX
14.	UNKNOWN	15.57	60000	JX
15.	UNKNOWN	16.97	50000	JX
16.	UNKNOWN	23.19	110000	JX
17.	UNKNOWN	23.30	110000	JX
18.	UNKNOWN	23.87	87000	JX
19.	UNKNOWN	24.55	310000	JX
20.	UNKNOWN	9.40	96000	JX

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VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

ES429

Name: RF WESTON, INC Contract: 68-01-7413

Lab Code: WESCA Case No.: 8736 SAS No.: _____ SDG No.: ES-428

Matrix: (soil/water) SOIL Lab Sample ID: 8712947-05

Sample wt/vol: _____ (g/mL) G Lab File ID: 1223V813

Level: (low/med) MED Date Received: 12/17/87

Moisture: not dec. 35 Date Analyzed: 12/23/87

Column: (pack/cap) PACK Dilution Factor: ~~[illegible]~~ 400,000

FEB 03 1988

CONCENTRATION UNITS: (ug/L or ug/kg) UG/KG

CAS NO.	COMPOUND		
74-87-3	Chloromethane	6100000	U
74-83-9	Bromomethane	[illegible]	U
75-21-4	Vinyl Chloride	[illegible]	U
75-00-3	Chloroethane	[illegible]	U
[illegible]	[illegible]	[illegible]	
[illegible]	[illegible]	[illegible]	
[illegible]	[illegible]	[illegible]	
[illegible]	[illegible]	[illegible]	
75-35-4	1,1-Dichloroethene	[illegible]	
75-37-3	1,1-Dichloroethane	3100000	U
540-59-0	1,2-Dichloroethene (total)	3100000	
67-66-3	Chloroform	3100000	U
[illegible]	1,2-Dichloroethane	[illegible]	
[illegible]	2-Butanone	[illegible]	
[illegible]	[illegible]	[illegible]	
[illegible]	[illegible]	[illegible]	
[illegible]	[illegible]	[illegible]	
75-27-4	Bromodichloromethane	3100000	
78-87-5	1,2-Dichloropropane	3100000	
10061-01-5	cis-1,3-Dichloropropene	3100000	U
79-01-6	Trichloroethene	3100000	
124-48-1	Dibromochloromethane	3100000	U
79-00-5	1,1,2-Trichloroethane	3100000	U
71-43-2	Benzene	3100000	U
10061-02-6	Trans-1,3-Dichloropropene	3100000	U
75-25-2	Bromoform	3100000	U
108-10-1	4-Methyl-2-Pentanone	[illegible]	U
591-78-6	2-Hexanone	[illegible]	J
127-18-4	Tetrachloroethene	[illegible]	J
79-34-5	1,1,2,2-Tetrachloroethane	6200000	U
108-88-3	Toluene	15000000	
108-90-7	Chlorobenzene	3100000	L
100-41-4	Ethylbenzene	4600000	
100-42-5	Styrene	3100000	U
1330-20-7	Total Xylenes	22000000	

T.Y. ~~[illegible]~~ 3/29/88

Quantitation limits of acetone are estimated J
T.Y. 2/29/88

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1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

ES429

Lab Name: RF WESTON, INC Contract: 68-01-7413

Lab Code: WESCA Case No.: 8736 SAS No.: _____ SDG No.: ES-429

Matrix: (soil/water) SOIL Lab Sample ID: 6712847-05

Sample wt/vol: _____ (g/mL) G Lab File ID: 12120813

Level: (low/med) MED Date Received: 12/17/87

% Moisture: not dec. 25 Date Analyzed: 12/27/87

GC Column (packed/cap) CAP Dilution Factor: 400,000

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

Number TICs found: 0

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

ES429

a Name: RF WESTON.INC Contract: 68-01-7413

Code: WESCA Case No.: 6736 SAS No.: _____ SDG No.: ES-429

atrix: (soil/water) SOIL Lab Sample ID: 8712547-04

ple wt/vol: 30.0 (g/mL) G Lab File ID: 0125AN06

vel: (low/med) LOW Date Received: 12/17/87

oisture: not dec. 35 dec. ____ Date Extracted: 12/22/87

raction: (SepF/Cont/Sonc) SONC Date Analyzed: 01/25/88 - 2 1987

PC Cleanup: (Y/N) N pH: 6.9 Dilution Factor: 100 ~~0.0100~~

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) UG/KG	Q
108-95-2	Phenol	200000	
111-44-4	bis(2-Chloroethyl)Ether	51000	U
95-57-8	2-Chlorophenol	51000	U
541-73-1	1,3-Dichlorobenzene	51000	U
106-46-7	1,4-Dichlorobenzene	51000	U
100-51-6	Benzyl Alcohol	51000	U
95-50-1	1,2-Dichlorobenzene	37000	J
95-48-7	2-Methylphenol	62000	
108-60-1	bis(2-Chloroisopropyl)ether	51000	U
106-44-5	4-Methylphenol	110000	
621-64-7	N-Nitroso-Di-n-Propylamine	51000	U
67-72-1	Hexachloroethane	51000	U
98-95-3	Nitrobenzene	51000	U
78-59-1	Isophorone	610000	
88-75-5	2-Nitrophenol	51000	U
105-67-9	2,4-Dimethylphenol	53000	
65-85-0	Benzoic Acid	250000	J
111-91-1	bis(2-Chloroethoxy)Methane	51000	U
120-83-2	2,4-Dichlorophenol	51000	U
120-82-1	1,2,4-Trichlorobenzene	51000	U
91-20-3	Naphthalene	410000	
106-47-8	4-Chloroaniline	51000	U
87-68-3	Hexachlorobutadiene	51000	U
59-50-7	4-Chloro-3-Methylphenol	51000	U
91-57-6	2-Methylnaphthalene	200000	
77-47-4	Hexachlorocyclopentadiene	51000	U
88-06-2	2,4,6-Trichlorophenol	51000	U
95-95-4	2,4,5-Trichlorophenol	250000	U
91-58-7	2-Chloronaphthalene	51000	U
88-74-4	2-Nitroaniline	250000	U
131-11-3	Dimethylphthalate	80000	
208-96-8	Acenaphthylene	51000	U
606-20-2	2,6-Dinitrotoluene	51000	U

Quantitation limits are estimated
Y.N 2/29/88

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1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

ES429

a Name: RF WESTON,INC Contract: 68-01-7413

Code: WESCA Case No.: 6736 SAS No.: _____ SDG No.: ES-428

atrix: (soil/water) SOIL Lab Sample ID: 8712S47-04

ple wt/vol: 30.0 (g/mL) G Lab File ID: 0125AN06

vel: (low/med) LOW Date Received: 12/17/87

oisture: not dec. 35 dec. ____ Date Extracted: 12/22/87

raction: (Sep F/Cont/Sonc) SONC Date Analyzed: 01/25/88

FEB - 3 '88

PC Cleanup: (Y/N) N pH: 6.9 Dilution Factor: 100

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) UG/KG	Q
99-09-2	3-Nitroaniline	250000	U
83-32-9	Acenaphthene	17000	J
51-28-5	2,4-Dinitrophenol	250000	U
100-02-7	4-Nitrophenol	250000	U
132-64-9	Dibenzofuran	16000	J
121-14-2	2,4-Dinitrotoluene	51000	U
84-66-2	Diethylphthalate	5700	J
7005-72-3	4-Chlorophenyl-phenylether	51000	U
86-73-7	Fluorene	13000	J
100-01-6	4-Nitroaniline	250000	U
534-52-1	4,6-Dinitro-2-Methylphenol	250000	U
86-30-6	N-Nitrosodiphenylamine (1)	28000	J
101-55-3	4-Bromophenyl-phenylether	51000	U
118-74-1	Hexachlorobenzene	51000	U
87-86-5	Pentachlorophenol	250000	U
85-01-8	Phenanthrene	71000	
120-12-7	Anthracene	17000	J
84-74-2	Di-n-Butylphthalate	78000	
206-44-0	Fluoranthene	52000	
129-00-0	Pyrene	48000	J
85-68-7	Butylbenzylphthalate	51000	U
91-94-1	3,3'-Dichlorobenzidine	100000	U
56-55-3	Benzo(a)Anthracene	21000	J
218-01-9	Chrysene	23000	J
117-81-7	bis(2-Ethylhexyl)Phthalate	590000	
117-84-0	Di-n-Octylphthalate	53000	
205-99-2	Benzo(b)Fluoranthene	30000	J
207-08-9	Benzo(k)Fluoranthene	16000	J
50-32-8	Benzo(a)Pyrene	19000	J
193-39-5	Indeno(1,2,3-cd)Pyrene	6900	J
53-70-3	Dibenz(a,h)Anthracene	51000	U
191-24-2	Benzo(g,h,i)Perylene	7500	J

(1) - Cannot be separated from Diphenylamine

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ecology and environment

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

ES429

Lab Name: RF WESTON, INC Contract: 68-01-7413

Lab Code: WESCA Case No.: 8736 SAS No.: _____ SDG No.: ES-428

Matrix: (soil/water) SOIL Lab Sample ID: 8712S47-04

Sample wt/vol: 30.0 (g/mL) G Lab File ID: 0125AN06

Level: (low/med) LOW Date Received: 12/17/87

% Moisture: not dec. 35 dec. _____ Date Extracted: 12/22/87

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 01/25/88 FEB - 3 1988

GPC Cleanup: (Y/N) N pH: 6.9 Dilution Factor: 100

Number TICs found: 20 CONCENTRATION UNITS: (ug/L or ug/kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
	UNKNOWN SUBSTITUTED BENZENE	7.95	660000	JX
	UNKNOWN	8.52	1200000	JX
	UNKNOWN SUBSTITUTED BENZENE	9.09	590000	JX
	UNKNOWN SUBSTITUTED BENZENE	9.55	450000	JX
	UNKNOWN	9.67	880000	JX
	UNKNOWN SUBSTITUTED BENZENE	10.10	500000	JX
	UNKNOWN SUBSTITUTED BENZENE	10.22	550000	JX
	UNKNOWN	10.37	600000	JX
	UNKNOWN	10.87	720000	JX
	UNKNOWN	11.45	520000	JX
	UNKNOWN	21.45	370000	JX
	UNKNOWN	22.97	2900000	JX
	UNKNOWN	23.04	400000	JX
	UNKNOWN	23.70	430000	JX
	UNKNOWN	24.14	610000	JX
	UNKNOWN	24.30	3000000	JX
	UNKNOWN	24.35	490000	JX
	UNKNOWN	25.14	500000	JX
	UNKNOWN	26.02	340000	JX
	UNKNOWN SUBSTITUTED BENZENE	10.79	340000	JX

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

ES420

Lab Name: RF WESTON, INC Contract: 68-01-7412

Lab Code: WESCA Case No.: 8736 SAS No.: _____ SDG No.: ES-420

Matrix: (soil/water) SOIL Lab Sample ID: 871284-08

Sample wt/vol: _____ (g/mL) G Lab File ID: 122WS.4

Level: (low/med) MED Date Received: 12/17/87

% Moisture: not dec. 28 Date Analyzed: 1/22/87

Volume: (ml) 5ML Dilution Factor: ~~[illegible]~~ 400,000

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/kg) UG/KG	Q
74-87-3	Chloromethane	5000000	U
74-83-9	Bromomethane	5000000	U
75-01-4	Vinyl Chloride	5000000	U
75-00-3	Chloroethane	5000000	U
[illegible]	[illegible]	[illegible]	U
[illegible]	[illegible]	[illegible]	U
[illegible]	[illegible]	[illegible]	
75-09-2	Methylene Chloride	[illegible]	U
75-35-4	1,1-Dichloroethene	[illegible]	U
75-34-3	1,1-Dichloroethane	2500000	U
540-59-0	1,2-Dichloroethene (total)	2500000	U
67-66-3	Chloroform	2500000	U
[illegible]	1,2-Dichloroethane	[illegible]	U
[illegible]	2-Butanone	[illegible]	U
[illegible]	[illegible]	[illegible]	U
[illegible]	[illegible]	[illegible]	U
[illegible]	[illegible]	[illegible]	U
71-55-6	1,1,1-Trichloroethane	2500000	U
56-23-5	Carbon Tetrachloride	[illegible]	U
108-05-4	Vinyl Acetate	[illegible]	U
75-27-4	Bromodichloromethane	2500000	U
78-87-5	1,2-Dichloropropane	2500000	U
10061-01-5	cis-1,3-Dichloropropene	2500000	U
79-01-6	Trichloroethene	1300000	J
124-48-1	Dibromochloromethane	2500000	U
79-00-5	1,1,2-Trichloroethane	2500000	U
71-43-2	Benzene	2500000	U
10061-02-6	trans-1,3-Dichloropropene	[illegible]	U
75-25-2	Bromoform	[illegible]	U
108-10-1	4-Methyl-2-Pentanone	[illegible]	U
591-78-6	2-Hexanone	1-[illegible]	J
127-18-4	Tetrachloroethene	2500000	U
79-34-5	1,1,2,2-Tetrachloroethane	5600000	U
108-88-3	Toluene	6700000	
108-90-7	Chlorobenzene	2500000	U
100-41-4	Ethylbenzene	2100000	J
100-42-5	Styrene	2500000	U
1330-20-7	Total Xylenes	11000000	

Quantitation limits generally are estimated
Jrg. 2/29/88

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Fcn 03 1988

Y.H. 2/26/88 3/24/88

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

ES430

Lab Name: FF WESTON, INC Contract: 68-01-7413

Lab Code: WESCA Case No.: 8736 SAS No.: _____ SDG No.: ES-42E

Matrix: (soil/water) SOIL Lab Sample ID: [illegible]

Sample wt/vol: _____ (g/mL) G Lab File ID: [illegible]

Level: (low/med) MED Date Received: 12/17/87

% Moisture: not dec. 25 Date Analyzed: 12/23/87

[illegible] Dilution Factor: 400,000

FEB 03 1988

Number TIC Found: [illegible]

CONCENTRATION UNITS:
(ug/L or ug/kg) UG/KG

[illegible]	[illegible]	COMPOUND NAME	[illegible]	E[illegible]	[illegible]

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

ES430

Lab Name: RF WESTON, INC Contract: 68-01-7413

Code: WESCA Case No.: 8736 SAS No.: _____ SDG No.: ES-428

Matrix: (soil/water) SOIL Lab Sample ID: 8712947-07

Sample wt/vol: 30.0 (g/mL) G Lab File ID: 0125AN07

Level: (low/med) LOW Date Received: 12/17/87

Moisture: not dec. 23 dec. ____ Date Extracted: 12/22/87

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 01/25/88

GPC Cleanup: (Y/N) N pH: 6.5 Dilution Factor: 100

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

CAS NO.	COMPOUND		Q
108-95-2	Phenol	26000	
111-44-4	bis(2-Chloroethyl)Ether	[illegible]	U
95-57-8	2-Chlorophenol	46000	U
541-73-1	1,3-Dichlorobenzene	46000	U
106-46-7	1,4-Dichlorobenzene	46000	U
100-51-6	Benzyl Alcohol	46000	U
95-50-1	1,2-Dichlorobenzene	14000	J
95-48-7	2-Methylphenol	24000	J
108-60-1	bis(2-Chloroisopropyl)ether	46000	U
106-44-5	4-Methylphenol	47000	
621-64-7	N-Nitroso-Di-n-Propylamine	46000	U
67-72-1	Hexachloroethane	46000	U
98-95-3	Nitrobenzene	46000	U
78-59-1	Isophorone	130000	
88-75-5	2-Nitrophenol	46000	U
105-67-9	2,4-Dimethylphenol	26000	J
65-85-0	Benzoic Acid	220000	U
111-91-1	bis(2-Chloroethoxy)Methane	46000	U
120-83-2	2,4-Dichlorophenol	46000	U
120-82-1	1,2,4-Trichlorobenzene	46000	U
91-20-3	Naphthalene	260000	
106-47-8	4-Chloroaniline	46000	U
87-68-3	Hexachlorobutadiene	46000	U
59-50-7	4-Chloro-3-Methylphenol	46000	U
91-57-6	2-Methylnaphthalene	130000	
77-47-4	Hexachlorocyclopentadiene	46000	U
88-06-2	2,4,6-Trichlorophenol	46000	U
95-95-4	2,4,5-Trichlorophenol	220000	U
91-58-7	2-Chloronaphthalene	46000	U
88-74-4	2-Nitroaniline	220000	U
131-11-3	Dimethylphthalate	13000	J
208-96-8	Acenaphthylene	46000	U
606-20-2	2,6-Dinitrotoluene	46000	U

Quantitation limits are estimated J.

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1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

ES430

Lab Name: RF WESTON, INC Contract: 68-01-7413

Lab Code: WESCA Case No.: 8736 SAS No.: _____ SDG No.: ES-428

Matrix: (soil/water) SOIL Lab Sample ID: 871IS47-07

Sample wt/vol: 30.0 (g/mL) G Lab File ID: 0125AN07

Level: (low/med) LOW Date Received: 12/17/87

% Moisture: not dec. 29 dec. ____ Date Extracted: 12/22/87

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 01/25/88

GPC Cleanup: (Y/N) N pH: 6.5 Dilution Factor: 100

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

CAS NO.	COMPOUND	(ug/L or ug/Kg) UG/KG	Q
99-09-2	3-Nitroaniline	220000	U
83-32-9	Acenaphthene	850	J
51-28-5	2,4-Dinitrophenol	220000	U
100-02-7	4-Nitrophenol	220000	U
132-64-9	Dibenzofuran	46000	U
121-14-2	2,4-Dinitrotoluene	46000	U
84-66-2	Diethylphthalate	46000	U
7005-72-3	4-Chlorophenyl-phenylether	46000	U
86-73-7	Fluorene	6100	J
100-01-6	4-Nitroaniline	220000	U
534-52-1	4,6-Dinitro-2-Methylphenol	220000	U
86-30-6	N-Nitrosodiphenylamine (1)	7400	J
101-55-3	4-Bromophenyl-phenylether	46000	U
118-74-1	Hexachlorobenzene	46000	U
87-86-5	Pentachlorophenol	7800	J
85-01-8	Phenanthrene	31000	J
120-12-7	Anthracene	7000	J
84-74-2	Di-n-Butylphthalate	37000	J
206-44-0	Fluoranthene	21000	J
129-00-0	Pyrene	21000	J
85-68-7	Butylbenzylphthalate	46000	U
91-94-1	3,3'-Dichlorobenzidine	9200	U
56-55-3	Benzo(a)Anthracene	7100	J
218-01-9	Chrysene	9500	J
117-81-7	bis(2-Ethylhexyl)Phthalate	810000	E
117-84-0	Di-n-Octylphthalate	22000	J
205-99-2	Benzo(b)Fluoranthene	6500	J
207-08-9	Benzo(k)Fluoranthene	6900	J
50-32-8	Benzo(a)Pyrene	7400	J
193-39-5	Indeno(1,2,3-cd)Pyrene	46000	U
53-70-3	Dibenz(a,h)Anthracene	46000	U
191-24-2	Benzo(g,h,i)Perylene	46000	U

(1) - Cannot be separated from Diphenylamine

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1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

ES430

ab Name: RF WESTON, INC Contract: 68-01-7413

Code: WESCA Case No.: 8736 SAS No.: _____ SDG No.: ES-428

trix: (soil/water) SOIL Lab Sample ID: 8712S47-07

ample wt/vol: 30.0 (g/mL) G Lab File ID: 0125AN07

el: (low/med) LOW Date Received: 12/17/87

Moisture: not dec. 25 dec. ____ Date Extracted: 12/22/87

raction: (SepF/Cont/Sonc) SONC Date Analyzed: 01/25/88

FC Cleanup: (Y/N) N pH: 6.5 Dilution Factor: ~~0.2100~~ 100 V 1988 - 3 1988

CONCENTRATION UNITS:
(ug/L or ug/kg) UG/KG

per TICs found. 20

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN SUBSTITUTED BENZENE	7.70	150000	JX
2.	UNKNOWN	7.83	190000	JX
3.	UNKNOWN SUBSTITUTED BENZENE	8.37	770000	JX
4.	UNKNOWN HYDROCARBON	8.80	160000	JX
5.	UNKNOWN SUBSTITUTED BENZENE	8.95	200000	JX
6.	UNKNOWN	9.24	490000	JX
7.	UNKNOWN SUBSTITUTED BENZENE	9.47	300000	JX
8.	UNKNOWN	9.57	240000	JX
9.	UNKNOWN SUBSTITUTED BENZENE	10.00	350000	JX
10.	UNKNOWN SUBSTITUTED BENZENE	10.12	300000	JX
11.	UNKNOWN	10.29	500000	JX
12.	UNKNOWN SUBSTITUTED BENZENE	10.70	240000	JX
13.	UNKNOWN	11.15	170000	JX
14.	UNKNOWN SUBSTITUTED BENZENE	11.37	430000	JX
15.	UNKNOWN	11.52	170000	JX
16.	UNKNOWN	22.85	420000	JX
17.	UNKNOWN	23.62	160000	JX
18.	UNKNOWN	24.04	390000	JX
19.	UNKNOWN	24.19	360000	JX
20.	UNKNOWN	24.49	180000	JX

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

ES431

Lab Name: RF WESTON, INC Contract: 68-01-7412

Lab Code: WESCA Case No.: 8736 SAS No.: _____ SDG No.: ES-428

Matrix: (soil/water) SOIL Lab Sample ID: 6712847-11

Sample wt/vol: _____ (g/mL) G Lab File ID: 12030915

Level: (low/med) MED Date Received: 12/17/87

Moisture: not dec. 41 Date Analyzed: 12/27/87

Column: [illegible] [illegible] Dilution Factor: 400,000

FEB 03 1988

CAS NO.	COMPOUND	CONCENTRATION UNITS (ug/L or ug/kg) UG/L	Q
[illegible]	Chloromethane	[illegible]	U
[illegible]	Bromomethane	[illegible]	U
[illegible]	Vinyl Chloride	[illegible]	U
[illegible]	Chloroethane	[illegible]	U
[illegible]	Methylene Chloride	[illegible]	
[illegible]	Acetone	[illegible]	
[illegible]	Carbon Disulfide	[illegible]	
[illegible]	1,1-Dichloroethene	[illegible]	U
[illegible]	1,1-Dichloroethane	[illegible]	U
[illegible]	Total 1,2-Dichloroethene	[illegible]	U
[illegible]	Chloroform	[illegible]	U
[illegible]	1,2-Dichloroethane	[illegible]	U
[illegible]	2-Butanone	[illegible]	U
[illegible]	1,1,1-Trichloroethane	[illegible]	U
[illegible]	Carbon Tetrachloride	[illegible]	U
[illegible]	Vinyl Acetate	[illegible]	U
[illegible]	Bromodichloromethane	[illegible]	U
[illegible]	1,2-Dichloropropane	[illegible]	U
10061-01-5	cis-1,3-Dichloropropene	[illegible]	U
79-01-6	Trichloroethene	[illegible]	
124-48-1	Dibromochloromethane	[illegible]	U
79-00-5	1,1,2-Trichloroethane	[illegible]	U
71-43-2	Benzene	[illegible]	J
[illegible]	trans-1,3-Dichloropropene	[illegible]	U
[illegible]	Bromoform	[illegible]	U
[illegible]	4-Methyl-2-Pentanone	[illegible]	U
[illegible]	2-Hexanone	[illegible]	J
[illegible]	Tetrachloroethene	[illegible]	J
[illegible]	1,1,2,2-Tetrachloroethane	[illegible]	U
108-88-3	Toluene	[illegible]	
108-90-7	Chlorobenzene	[illegible]	U
100-41-4	Ethylbenzene	[illegible]	
100-42-5	Styrene	[illegible]	U
1330-20-7	Total Xylenes	[illegible]	

T.H. 3/24/88

Quantitation limits of aromatics are estimated J
T.H. 2/24/88

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I

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

E5421

Lab Name: RF WESTON, INC Contract: 68-01-7413

Lab Code: WESCA Case No.: 5776 SAS No.: _____ SDG No.: ES-429

Matrix: (soil/water) SOIL Lab Sample ID: 8712947-11

Sample wt/vol: _____ (g/mL) G Lab File ID: 1227V515

Level: (low/med) MED Date Received: 12/17/87

% Moisture: not dec. 43 Date Analyzed: 12/23/87

GC Column (packed/cap) CAP Dilution Factor: ~~[illegible]~~ 400,000

Number TICs Found: 0 CONCENTRATION UNITS: ug/L or ug/Kg (ug/L or ug/Kg)

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.

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1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

ES431

b Name: RF WESTON, INC Contract: 68-01-7413

Code: WESCA Case No.: 8736 SAS No.: _____ SDG No.: ES-428

rix: (soil/water) SOIL Lab Sample ID: 8712S47-10

mple wt/vol: 30.0 (g/mL) G Lab File ID: 0125AN06

vel: (low/med) LOW Date Received: 12/17/87

Moisture: not dec. 43 dec. ____ Date Extracted: 12/22/87

reaction: (SepF/Cont/Sonc) SONC Date Analyzed: 01/25/88

C Cleanup: (Y/N) N pH: 6.6 Dilution Factor: ~~0.[illegible]~~ 100 µ

FEB - 3 1988

CONCENTRATION UNITS: (ug/L or ug/kg) UG/KG

CAS NO.	COMPOUND		C
108-95-2	Phenol	110000	
111-44-4	bis(2-Chloroethyl)Ether	58000	U
95-57-8	2-Chlorophenol	58000	U
541-73-1	1,3-Dichlorobenzene	58000	U
106-46-7	1,4-Dichlorobenzene	58000	U
100-51-6	Benzyl Alcohol	58000	U
95-50-1	1,2-Dichlorobenzene	17000	J
95-48-7	2-Methylphenol	28000	J
108-60-1	bis(2-Chloroisopropyl)ether	58000	U
106-44-5	4-Methylphenol	61000	
621-64-7	N-Nitroso-Di-n-Propylamine	58000	U
67-72-1	Hexachloroethane	58000	U
98-95-3	Nitrobenzene	58000	U
78-59-1	Isophorone	240000	
88-75-5	2-Nitrophenol	58000	U
105-67-9	2,4-Dimethylphenol	31000	J
65-85-0	Benzoic Acid	280000	U
111-91-1	bis(2-Chloroethoxy)Methane	58000	U
120-83-2	2,4-Dichlorophenol	58000	U
120-82-1	1,2,4-Trichlorobenzene	58000	U
91-20-3	Naphthalene	270000	
106-47-8	4-Chloroaniline	58000	U
87-68-3	Hexachlorobutadiene	58000	U
59-50-7	4-Chloro-3-Methylphenol	58000	U
91-57-6	2-Methylnaphthalene	110000	
77-47-4	Hexachlorocyclopentadiene	58000	U
88-06-2	2,4,6-Trichlorophenol	58000	U
95-95-4	2,4,5-Trichlorophenol	280000	U
91-58-7	2-Chloronaphthalene	58000	U
88-74-4	2-Nitroaniline	280000	U
131-11-3	Dimethylphthalate	24000	J
208-96-8	Acenaphthylene	58000	U
606-20-2	2,6-Dinitrotoluene	58000	U

Quant. limits grammatic are estimated
TM 2/29/88

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VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

ES432

Name: RF WESTON, INC Contract: 68-01-7413

Lab Code: WESCA Case No.: 8736 SAS No.: _____ SDG No.: ES-428

Matrix: (soil/water) SOIL Lab Sample ID: 8712S47-14

Sample wt/vol: _____ (g/mL) G Lab File ID: 1223VS05

Level: (low/med) MED Date Received: 12/17/87

Moisture: not dec. 23 Date Analyzed: 12/23/87

Column: (pack/cap) PACK Dilution Factor: ~~[illegible]~~ 100,000

FEB 03 1989

CONCENTRATION UNITS: (ug/L or ug/kg) [illegible]

CAS NO	COMPOUND		Q
74-87-3	Chloromethane	1300000	U
74-83-7	Bromomethane	1300000	U
75-01-4	Vinyl Chloride	1300000	U
75-00-3	Chloroethane	1300000	U
75-09-2	Methylene Chloride	650000	U
67-64-1	Acetone	1300000	~~U~~ ~~47~~
75-15-0	Carbon Disulfide	650000	U
75-35-4	1,1-Dichloroethene	650000	U
75-35-3	1,1-Dichloroethane	650000	U
540-59-0	1,2-Dichloroethene (total)	650000	U
67-66-3	Chloroform	650000	U
107-06-2	1,2-Dichloroethane	650000	U
78-97-3	2-Butanone	670000	J
71-55-6	1,1,1-Trichloroethane	650000	U
56-23-5	Carbon Tetrachloride	650000	U
108-05-4	Vinyl Acetate	1300000	U
75-27-4	Bromodichloromethane	650000	U
78-87-5	1,2-Dichloropropane	650000	U
10061-01-5	cis-1,3-Dichloropropene	650000	U
79-01-6	Trichloroethene	650000	U
124-48-1	Dibromochloromethane	650000	U
79-00-5	1,1,2-Trichloroethane	650000	U
71-43-2	Benzene	650000	U
10061-02-6	Trans-1,3-Dichloropropene	650000	U
75-25-2	Bromoform	650000	U
108-10-1	4-Methyl-2-Pentanone	1300000	U
591-78-6	2-Hexanone	1300000	U
127-18-4	Tetrachloroethene	650000	U
79-34-5	1,1,2,2-Tetrachloroethane	1300000	U
108-88-3	Toluene	5700000	
108-90-7	Chlorobenzene	650000	U
100-41-4	Ethylbenzene	340000	J
100-42-5	Styrene	650000	U
1330-20-7	Total Xylenes	1600000	

T.Y. ~~[illegible]~~ 3/29/88

Quant. limits of aromatics are estimated J
T.Y. 2/29/88

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1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

ES432

Name: RF WESTON, INC Contract: 68-01-7413

ab Code: WESCA Case No.: 8736 SAS No.: _____ SDG No.: ES-428

rix: (soil/water) SOIL Lab Sample ID: 8712547-14

mple wt/vol: _____ (g/mL) G Lab File ID: 1223V505

evel: (low/med) MED Date Received: 12/17/87

oisture: not dec. 23 Date Analyzed: 12/23/87

lumn (pack/cap) PAC Dilution Factor: 100,000

FEB 03 1988

CONCENTRATION UNITS:
(ug/L or ug/kg) UG/KG

ber TICs found: 1

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
[illegible]	UNKNOWN CYCLIC HYDROCARBON	8.52	1300000	[illegible]

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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

ES432

Name: RF WESTON.INC Contract: 68-01-7413

Code: WESCA Case No.: 8736 SAS No.: _____ SDG No.: ES-428

Matrix: (soil/water) SOIL Lab Sample ID: 8712S47-13

Sample wt/vol: 30.0 (g/mL) G Lab File ID: 0125AN09

Level: (low/med) LOW Date Received: 12/17/87

Moisture: not dec. 23 dec. ____ Date Extracted: 12/22/87

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 01/25/88

GPC Cleanup: (Y/N) N pH: 5.0 Dilution Factor: 100 FEB - 3 '88

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) UG/L	Q
108-95-2	Phenol	43000	U
111-44-4	bis(2-Chloroethyl)ether	43000	U
95-57-8	2-Chlorophenol	43000	U
541-73-1	1,3-Dichlorobenzene	43000	U
106-46-7	1,4-Dichlorobenzene	43000	U
100-51-6	Benzyl Alcohol	43000	U
95-50-1	1,2-Dichlorobenzene	43000	U
95-48-7	2-Methylphenol	43000	U
108-60-1	bis(2-Chloroisopropyl)ether	43000	U
106-44-5	4-Methylphenol	43000	U
621-64-7	N-Nitroso-Di-n-Propylamine	43000	U
67-72-1	Hexachloroethane	43000	U
98-95-3	Nitrobenzene	43000	U
78-59-1	Isophorone	43000	U
88-75-5	2-Nitrophenol	43000	U
105-67-9	2,4-Dimethylphenol	43000	U
65-85-0	Benzoic Acid	210000	U
111-91-1	bis(2-Chloroethoxy)Methane	43000	U
120-83-2	2,4-Dichlorophenol	43000	U
120-82-1	1,2,4-Trichlorobenzene	43000	U
91-20-3	Naphthalene	10000	J
106-47-8	4-Chloroaniline	43000	U
87-68-3	Hexachlorobutadiene	43000	U
59-50-7	4-Chloro-3-Methylphenol	43000	U
91-57-6	2-Methylnaphthalene	8100	J
77-47-4	Hexachlorocyclopentadiene	43000	U
88-06-2	2,4,6-Trichlorophenol	43000	U
95-95-4	2,4,5-Trichlorophenol	210000	U
91-58-7	2-Chloronaphthalene	43000	U
88-74-4	2-Nitroaniline	210000	U
131-11-3	Dimethylphthalate	43000	U
208-96-8	Acenaphthylene	43000	U
606-20-2	2,6-Dinitrotoluene	43000	U

Quant. limits [illegible] [illegible] 2/25/88

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

ES432

Lab Name: RF WESTON, INC Contract: 68-01-7413

Lab Code: WESCA Case No.: 8736 SAS No.: _____ SDG No.: ES-428

Matrix: (soil/water) SOIL Lab Sample ID: 8712847-13

Sample wt/vol: 30.0 (g/mL) G Lab File ID: 0125AN09

Level: (low/med) LOW Date Received: 12/17/87

Moisture: not dec. 23 dec. ____ Date Extracted: 12/22/87

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 01/25/88

GPC Cleanup: (Y/N) N pH: 9.3 Dilution Factor: 100

FEB - 3 1988

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) UG/KG	C
99-09-2	3-Nitroaniline	210000	U
83-32-9	Acenaphthene	9000	J
51-28-5	2,4-Dinitrophenol	210000	U
100-02-7	4-Nitrophenol	210000	U
132-64-9	Dibenzofuran	5100	J
121-14-2	2,4-Dinitrotoluene	43000	U
84-66-2	Diethylphthalate	43000	U
7005-72-3	4-Chlorophenyl-phenylether	43000	U
86-73-7	Fluorene	10000	J
100-01-6	4-Nitroaniline	210000	U
534-52-1	4,6-Dinitro-2-Methylphenol	210000	U
86-30-6	N-Nitrosodiphenylamine (1)	8700	J
101-55-3	4-Bromophenyl-phenylether	43000	U
118-74-1	Hexachlorobenzene	43000	U
87-86-5	Pentachlorophenol	210000	U
85-01-8	Phenanthrene	73000	
120-12-7	Anthracene	13000	J
84-74-2	Di-n-Butylphthalate	5000	J
206-44-0	Fluoranthene	83000	
129-00-0	Pyrene	63000	
85-68-7	Butylbenzylphthalate	43000	U
91-94-1	3,3'-Dichlorobenzidine	86000	U
56-55-3	Benzo(a)Anthracene	29000	J
218-01-9	Chrysene	41000	J
117-81-7	Bis(2-Ethylhexyl)Phthalate	43000	U
117-84-0	Di-n-Octylphthalate	43000	U
205-99-2	Benzo(b)Fluoranthene	59000	
207-08-9	Benzo(k)Fluoranthene	33000	J
50-32-8	Benzo(a)Pyrene	37000	J
193-39-5	Indeno(1,2,3-cd)Pyrene	15000	J
53-70-3	Dibenz(a,h)Anthracene	43000	U
191-24-2	Benzo(g,h,i)Perylene	16000	J

(1) - Cannot be separated from Diphenylamine

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

ES432

Lab Name: RF WESTON, INC Contract: 68-01-7413

Lab Code: WESCA Case No.: 8736 SAS No.: _____ SDG No.: ES-426

Matrix: (soil/water) SOIL Lab Sample ID: 8712847-13

Sample wt/vol: 30.0 (g/mL) G Lab File ID: 0125AN09

Level: (low/med) LOW Date Received: 12/17/87

% Moisture: not dec. 23 dec. ____ Date Extracted: 12/22/87

Extraction: (SonP/Cont/Sonc) SONC Date Analyzed: 01/25/88 FEB - 3 1988

GPC Cleanup: (Y/N) N pH: 8.0 Dilution Factor: 100

Number TICs found: 5 CONCENTRATION UNITS: (ug/L or ug/kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN [illegible]	23.74	21000	[illegible]
2.	UNKNOWN	27.36	17000	[illegible]
3.	UNKNOWN [illegible]	30.76	34000	[illegible]
4.	UNKNOWN	35.14	77000	[illegible]
5.	UNKNOWN	35.26	47000	[illegible]

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1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

ES433

Lab Name: RF WESTON, INC Contract: 68-01-7413

Lab Code: WESCA Case No.: 8736 SAS No.: _____ SDG No.: ES-428

Matrix: (soil/water) SOIL Lab Sample ID: 8712S47-17

Sample wt/vol: _____ (g/mL) G Lab File ID: 1223V508

Level: (low/med) MED Date Received: 12/17/87

% Moisture: not dec. 25 Date Analyzed: 12/23/87

Column: (pack/cap) PACK Dilution Factor: ~~0.00592~~ 50,000

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

CAS NO.	COMPOUND	(ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	670000	U
74-83-9	Bromomethane	670000	U
75-01-4	Vinyl Chloride	670000	U
75-00-3	Chloroethane	670000	U
75-09-2	Methylene Chloride	17200	J
67-64-1	Acetone	[illegible]	[illegible]
75-15-0	Carbon Disulfide	330000	U
75-35-4	1,1-Dichloroethene	330000	U
75-34-3	1,1-Dichloroethane	330000	U
540-59-0	1,2-Dichloroethene (total)	330000	U
67-66-3	Chloroform	330000	U
107-06-2	1,2-Dichloroethane	330000	U
78-93-3	2-Butanone	670000	U
71-55-6	1,1,1-Trichloroethane	330000	U
56-23-5	Carbon Tetrachloride	330000	U
108-05-4	Vinyl Acetate	670000	U
75-27-4	Bromodichloromethane	330000	U
78-87-5	1,2-Dichloropropane	330000	U
10061-01-5	cis-1,3-Dichloropropene	330000	U
79-01-6	Trichloroethene	120000	J
124-48-1	Dibromochloromethane	330000	U
79-00-5	1,1,2-Trichloroethane	330000	U
71-43-2	Benzene	390000	
10061-02-6	Trans-1,3-Dichloropropene	330000	U
75-25-2	Bromoform	330000	U
108-10-1	4-Methyl-2-Pentanone	670000	U
591-78-6	2-Hexanone	670000	U
127-18-4	Tetrachloroethene	330000	U
79-34-5	1,1,2,2-Tetrachloroethane	670000	U
108-88-3	Toluene	1000000	
108-90-7	Chlorobenzene	330000	U
100-41-4	Ethylbenzene	420000	
100-42-5	Styrene	330000	U
1330-20-7	Total Xylenes	750000	

Analyte limits & quantitation are estimated J
T.G. 2/29/88

FEB 09 1988

3/24/88

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1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

ES433

Lab Name: RF WESTON, INC Contract: 68-01-7413

Lab Code: WESCA Case No.: 8736 SAS No.: _____ SDG No.: ES-428

Matrix: (soil/water) SOIL Lab Sample ID: 8712S47-17

Sample wt/vol: _____ (g/mL) G Lab File ID: 1223VS08

Level: (low/med) MED Date Received: 12/17/87

% Moisture: not dec. 25 Date Analyzed: 12/23/87

Column (pack/cap) FAC Dilution Factor: ~~[illegible]~~ 50,000

Number TICs found: 0 CONCENTRATION UNITS: (ug/L or ug/kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

FEB 03 1988

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

ES433

ab Name: RF WESTON.INC Contract: 68-01-7413

Code: WESCA Case No.: 8736 SAS No.: _____ SDG No.: ES-428

atrix: (soil/water) SOIL Lab Sample ID: 8712S47-16

ple wt/vol: 30.0 (g/mL) G Lab File ID: 0126AN01

el: (low/med) LOW Date Received: 12/17/87

Moisture: not dec. 25 dec. ____ Date Extracted: 12/22/87

raction: (SepF/Cont/Sonc) SONC Date Analyzed: 01/26/88

Cleanup: (Y/N) N pH: 7.4 Dilution Factor: ~~[illegible]~~ 100

CONCENTRATION UNITS: (ug/L or ug/kg) UG/KG

CAS NO.	COMPOUND		
108-95-2	Phenol	5700	J
111-44-4	bis(2-Chloroethyl)Ether	44000	U
95-57-8	2-Chlorophenol	44000	U
541-73-1	1,3-Dichlorobenzene	44000	U
106-46-7	1,4-Dichlorobenzene	44000	U
100-51-6	Benzyl Alcohol	44000	U
95-50-1	1,2-Dichlorobenzene	44000	U
95-48-7	2-Methylphenol	44000	U
108-60-1	bis(2-Chloroisopropyl)ether	44000	U
106-44-5	4-Methylphenol	44000	U
621-64-7	N-Nitroso-Di-n-Propylamine	44000	U
67-72-1	Hexachloroethane	44000	U
98-95-3	Nitrobenzene	44000	U
78-59-1	Isophorone	44000	U
88-75-5	2-Nitrophenol	44000	U
105-67-9	2,4-Dimethylphenol	44000	U
65-85-0	Benzoic Acid	210000	U
111-91-1	bis(2-Chloroethoxy)Methane	44000	U
120-83-2	2,4-Dichlorophenol	44000	U
120-82-1	1,2,4-Trichlorobenzene	44000	U
91-20-3	Naphthalene	85000	
106-47-8	4-Chloroaniline	44000	U
87-68-3	Hexachlorobutadiene	44000	U
59-50-7	4-Chloro-3-Methylphenol	44000	U
91-57-6	2-Methylnaphthalene	34000	J
77-47-4	Hexachlorocyclopentadiene	44000	U
88-06-2	2,4,6-Trichlorophenol	44000	U
95-95-4	2,4,5-Trichlorophenol	210000	U
91-58-7	2-Chloronaphthalene	44000	U
88-74-4	2-Nitroaniline	210000	U
131-11-3	Dimethylphthalate	44000	U
208-96-8	Acenaphthylene	44000	U
606-20-2	2,6-Dinitrotoluene	44000	U

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1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

ES433

Lab Name: RF WESTON, INC Contract: 68-01-7413

Lab Code: WESCA Case No.: 8736 SAS No.: _____ SDG No.: ES-428

Matrix: (soil/water) SOIL Lab Sample ID: 8712S47-16

Sample wt/vol: 30.0 (g/mL) G Lab File ID: 0126AN01

Level: (low/med) LOW Date Received: 12/17/87

% Moisture: not dec. 25 dec. ____ Date Extracted: 12/22/87

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 01/26/88

GPC Cleanup: (Y/N) N pH: 7.4 Dilution Factor: ~~0.5000~~ 100 1.53 - 3 1033

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/kg) UG/KG	Q
99-09-2	3-Nitroaniline	210000	U
83-32-9	Acenaphthene	4120	U
51-28-5	2,4-Dinitrophenol	210000	U
100-02-7	4-Nitrophenol	210000	U
132-64-9	Dibenzofuran	44000	U
121-14-2	2,4-Dinitrotoluene	44000	U
84-66-2	Diethylphthalate	44000	U
7005-72-3	4-Chlorophenyl-phenylether	44000	U
86-73-7	Fluorene	44000	U
100-01-6	4-Nitroaniline	210000	U
534-52-1	4,6-Dinitro-2-Methylphenol	210000	U
86-30-6	N-Nitrosodiphenylamine (1)	7700	J
101-55-3	4-Bromophenyl-phenylether	44000	U
118-74-1	Hexachlorobenzene	44000	U
87-86-5	Pentachlorophenol	210000	U
85-01-8	Phenanthrene	27000	J
120-12-7	Anthracene	6000	J
84-74-2	Di-n-Butylphthalate	44000	U
206-44-0	Fluoranthene	35000	J
129-00-0	Pyrene	20000	J
85-68-7	Butylbenzylphthalate	44000	U
91-94-1	3,3'-Dichlorobenzidine	88000	U
56-55-3	Benzo(a)Anthracene	16000	J
218-01-9	Chrysene	15000	J
117-81-7	bis(2-Ethylhexyl)Phthalate	44000	U
117-84-0	Di-n-Octylphthalate	44000	U
205-99-2	Benzo(b)Fluoranthene	22000	J
207-08-9	Benzo(k)Fluoranthene	12000	J
50-32-8	Benzo(a)Pyrene	12000	J
193-39-5	Indeno(1,2,3-cd)Pyrene	44000	U
53-70-3	Dibenz(a,h)Anthracene	44000	U
191-24-2	Benzo(g,h,i)Perylene	44000	U

(1) - Cannot be separated from Diphenylamine

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1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

ES433

Lab Name: RF WESTON,INC Contract: 68-01-7413

Lab Code: WESCA Case No.: 8736 SAS No.: _____ SDG No.: ES-428

Matrix: (soil/water) SOIL Lab Sample ID: 8712S47-16

Sample wt/vol: 30.0 (g/mL) G Lab File ID: 0126AN01

Level: (low/med) LOW Date Received: 12/17/87

% Moisture: not dec. 25 dec. ____ Date Extracted: 12/22/87

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 01/26/88

GPC Cleanup: (Y/N) N pH: 7.4 Dilution Factor: 100 FEB - 8 1988

Number TICs found: 18 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	7.63	21000	JX
2.	UNKNOWN	7.87	120000	JX
3.	UNKNOWN	7.97	66000	JX
4.	UNKNOWN SUBSTITUTED BENZENE	8.22	22000	JX
5.	UNKNOWN SUBSTITUTED BENZENE	8.49	260000	JX
6.	UNKNOWN	9.07	112000	JX
7.	UNKNOWN	9.34	142000	JX
8.	UNKNOWN	9.57	170000	JX
9.	UNKNOWN SUBSTITUTED BENZENE	9.69	230000	JX
10.	UNKNOWN	9.87	48000	JX
11.	UNKNOWN SUBSTITUTED BENZENE	10.09	150000	JX
12.	UNKNOWN SUBSTITUTED BENZENE	10.20	170000	JX
13.	UNKNOWN	10.35	62000	JX
14.	UNKNOWN	10.60	18000	JX
15.	UNKNOWN SUBSTITUTED BENZENE	10.77	43000	JX
16.	UNKNOWN SUBSTITUTED BENZENE	10.85	66000	JX
17.	UNKNOWN	11.22	31000	JX
18.	UNKNOWN	11.44	67000	JX

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

ES434

Lab Name: RF WESTON, INC Contract: 68-01-7413

Lab Code: WESCA Case No.: 8736 SAS No.: _____ SDG No.: ES-428

Matrix: (soil/water) SOIL Lab Sample ID: 8712947-29

Sample wt/vol: _____ (g/mL) G Lab File ID: 1223V509

Level: (low/med) MED Date Received: 12/17/87

% Moisture: not dec. 38 Date Analyzed: 12/23/87

Column: (pack/cap) PAC Dilution Factor: 25,000

FEB 03 1988

CONCENTRATION UNITS:
(ug/L or ug/kg) UG/KG

CAS NO.	COMPOUND	(ug/L or ug/kg) UG/KG	Q
74-87-3	Chloromethane	250000	U
74-83-9	Bromomethane	250000	U
75-01-4	Vinyl Chloride	250000	U
75-00-3	Chloroethane	250000	U
75-09-2	Methylene Chloride	25000	U
67-64-1	Acetone	[illegible]	[illegible]
75-15-0	Carbon Disulfide	250000	U
75-35-4	1,1-Dichloroethene	250000	U
75-34-3	1,1-Dichloroethane	250000	U
540-59-0	1,2-Dichloroethene (total)	25000	J
67-66-3	Chloroform	250000	U
107-06-2	1,2-Dichloroethane	250000	U
78-93-3	2-Butanone	250000	U
71-55-6	1,1,1-Trichloroethane	25000	J
56-23-5	Carbon Tetrachloride	250000	U
108-05-4	Vinyl Acetate	250000	U
75-27-4	Bromodichloromethane	250000	U
78-87-5	1,2-Dichloropropane	250000	U
10061-01-5	cis-1,3-Dichloropropene	250000	U
79-01-6	Trichloroethene	43000	J
124-48-1	Dibromochloromethane	250000	U
79-00-5	1,1,2-Trichloroethane	250000	U
71-43-2	Benzene	150000	J
10061-02-6	Trans-1,3-Dichloropropene	250000	U
75-25-2	Bromoform	250000	U
108-10-1	4-Methyl-2-Pentanone	250000	U
591-78-6	2-Hexanone	160000	J
127-18-4	Tetrachloroethene	250000	U
79-34-5	1,1,2,2-Tetrachloroethane	250000	U
108-88-3	Toluene	1200000	
108-90-7	Chlorobenzene	250000	U
100-41-4	Ethylbenzene	770000	
100-42-5	Styrene	250000	U
1330-20-7	Total Xylenes	4000000	

Quant. limits & annotations are calculated 5 TLG 2/29/88

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1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

ES434

Name: RF WESTON, INC Contract: 68-01-7413

-b Code: WESCA Case No.: 8736 SAS No.: _____ SDG No.: ES-428

a rix: (soil/water) SOIL Lab Sample ID: 8712847-20

ple wt/vol: _____ (g/mL) G Lab File ID: 1223V809

evel: (low/med) MED Date Received: 12/17/87

pisture: not dec. 36 Date Analyzed: 12/23/87

lumn (pack/cap) PAC Dilution Factor: 25,000

FEB 03 1988

CONCENTRATION UNITS:
(ug/L or ug/kg) UG/KG

ber TICs found: 0

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

ES434

Lab Name: RF WESTON,INC Contract: 68-01-7413

Lab Code: WESCA Case No.: 8736 SAS No.: _____ SDG No.: ES-428

Matrix: (soil/water) SOIL Lab Sample ID: 8712S47-19

Sample wt/vol: 30.0 (g/mL) G Lab File ID: 0126AN02

Level: (low/med) LOW Date Received: 12/17/87

% Moisture: not dec. 36 dec. _____ Date Extracted: 12/22/87

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 01/26/88

GPC Cleanup: (Y/N) N pH: 8.2 Dilution Factor: 100

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	52000	U
111-44-4	bis(2-Chloroethyl)Ether	52000	U
95-57-8	2-Chlorophenol	52000	U
541-73-1	1,3-Dichlorobenzene	52000	U
106-46-7	1,4-Dichlorobenzene	52000	U
100-51-6	Benzyl Alcohol	52000	U
95-50-1	1,2-Dichlorobenzene	52000	U
95-48-7	2-Methylphenol	52000	U
108-60-1	bis(2-Chloroisopropyl)Ether	52000	U
106-44-5	4-Methylphenol	52000	U
621-64-7	N-Nitroso-Di-n-Propylamine	52000	U
67-72-1	Hexachloroethane	52000	U
98-95-3	Nitrobenzene	52000	U
78-59-1	Isophorone	52000	U
88-75-5	2-Nitrophenol	52000	U
105-67-9	2,4-Dimethylphenol	52000	U
65-85-0	Benzoic Acid	250000	U
111-91-1	bis(2-Chloroethoxy)Methane	52000	U
120-83-2	2,4-Dichlorophenol	52000	U
120-82-1	1,2,4-Trichlorobenzene	52000	U
91-20-3	Naphthalene	120000	
106-47-8	4-Chloroaniline	52000	U
87-68-3	Hexachlorobutadiene	52000	U
59-50-7	4-Chloro-3-Methylphenol	52000	U
91-57-6	2-Methylnaphthalene	25000	J
77-47-4	Hexachlorocyclopentadiene	52000	U
88-06-2	2,4,6-Trichlorophenol	52000	U
95-95-4	2,4,5-Trichlorophenol	250000	U
91-58-7	2-Chloronaphthalene	52000	U
88-74-4	2-Nitroaniline	250000	U
131-11-3	Dimethylphthalate	52000	U
208-96-8	Acenaphthylene	52000	U
606-20-2	2,6-Dinitrotoluene	52000	U

Quant. limits are calculated on dry weight

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

ES434

Lab Name: RF WESTON, INC Contract: 68-01-7413

Lab Code: WESCA Case No.: 8736 SAS No.: _____ SDG No.: ES-428

Matrix: (soil/water) SOIL Lab Sample ID: 8712S47-19

Sample wt/vol: 30.0 (g/mL) G Lab File ID: 0126AN02

Level: (low/med) LOW Date Received: 12/17/87

% Moisture: not dec. 36 dec. ____ Date Extracted: 12/22/87

Extraction: (SepF Cont Sonc) SONC Date Analyzed: 01/26/88 FEB - 9 1988

GPC Cleanup: (Y/N) N pH: 8.2 Dilution Factor: ~~8.70~~ 100 ul

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) UG/KG	Q
99-09-2	3-Nitroaniline	250000	U
83-32-9	Acenaphthene	7500	U
51-28-5	2,4-Dinitrophenol	250000	U
100-02-7	4-Nitrophenol	250000	U
132-64-9	Dibenzofuran	52000	U
121-14-2	2,4-Dinitrotoluene	52000	U
84-66-2	Diethylphthalate	52000	U
7005-72-3	4-Chlorophenyl-phenylether	52000	U
86-73-7	Fluorene	9120	J
100-01-6	4-Nitroaniline	250000	U
534-52-1	4,6-Dinitro-2-methylphenol	250000	U
86-30-6	N-Nitrosodiphenylamine (1)	6700	J
101-55-3	4-Bromophenyl-phenylether	52000	U
118-74-1	Hexachlorobenzene	52000	U
87-86-5	Pentachlorophenol	250000	U
85-01-8	Phenanthrene	55000	
120-12-7	Anthracene	13000	J
84-74-2	Di-n-Butylphthalate	33000	J
206-44-0	Fluoranthene	65000	
129-00-0	Pyrene	67000	
85-68-7	Butylbenzylphthalate	52000	U
91-94-1	3,3'-Dichlorobenzidine	100000	U
56-55-3	Benzo(a)Anthracene	21000	J
218-01-9	Chrysene	22000	J
117-81-7	bis(2-Ethylhexyl)Phthalate	52000	U
117-84-0	Di-n-Octylphthalate	52000	U
205-99-2	Benzo(b)Fluoranthene	25000	J
207-08-9	Benzo(k)Fluoranthene	25000	J
50-32-8	Benzo(a)Pyrene	30000	J
193-39-5	Indeno(1,2,3-cd)Pyrene	14000	J
53-70-3	Dibenz(a,h)Anthracene	52000	U
191-24-2	Benzo(g,h,i)Perylene	16000	J

(1) - Cannot be separated from Diphenylamine

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ecology and environment

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

ES434

Lab Name: RF WESTON, INC Contract: 68-01-7413

Lab Code: WESCA Case No.: 8736 SAS No.: _____ SDG No.: ES-428

Matrix: (soil/water) SOIL Lab Sample ID: 8712847-19

Sample wt/vol: 30.0 (g/mL) G Lab File ID: 0126AN02

Level: (low/med) LOW Date Received: 12/17/87

% Moisture: not dec. 36 dec. ____ Date Extracted: 12/22/87

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 01/26/88

GPC Cleanup: (Y/N) N pH: 8.2 Dilution Factor: ~~0.5~~ 100

FEB - 3 1988

Number TICs Found: 20

CONCENTRATION UNITS:
(ug/L or ug/kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN SUBSTITUTED BENZENE	7.75	[illegible]	JX
2.	UNKNOWN	7.88	[illegible]	JX
3.	UNKNOWN SUBSTITUTED BENZENE	8.13	[illegible]	JX
4.	UNKNOWN SUBSTITUTED BENZENE	8.40	[illegible]	JX
5.	UNKNOWN HYDROCARBON	8.90	[illegible]	JX
6.	UNKNOWN SUBSTITUTED BENZENE	9.00	[illegible]	JX
7.	UNKNOWN	9.30	[illegible]	JX
8.	UNKNOWN SUBSTITUTED BENZENE	9.5[illegible]	[illegible]	JX
9.	UNKNOWN SUBSTITUTED BENZENE	[illegible].64	[illegible]	JX
10.	UNKNOWN	9.82	[illegible]	JX
11.	UNKNOWN SUBSTITUTED BENZENE	10.04	[illegible]	JX
12.	UNKNOWN SUBSTITUTED BENZENE	10.17	[illegible]	JX
13.	UNKNOWN	10.32	72000	JX
14.	UNKNOWN SUBSTITUTED BENZENE	10.57	46000	JX
15.	UNKNOWN SUBSTITUTED BENZENE	10.74	93000	JX
16.	UNKNOWN SUBSTITUTED BENZENE	10.82	140000	JX
17.	UNKNOWN	11.19	67000	JX
18.	UNKNOWN	11.40	110000	JX
19.	UNKNOWN	11.62	[illegible]	JX
20.	UNKNOWN	31.16	[illegible]	JX

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

ES435

Name: RF WESTON, INC Contract: 68-01-7413

Lab Code: WESCA Case No.: 8736 SAS No.: _____ SDG No.: ES-428

Matrix: (soil/water) SOIL Lab Sample ID: 8712S47-23

Sample wt/vol: _____ (g/mL) G Lab File ID: 1223VS10

Level: (low/med) MED Date Received: 12/17/87

% Moisture: not dec. 20 Date Analyzed: 12/23/87

Column: (pack/cap) PACK Dilution Factor: ~~0.00400~~ 25,000

FEB 03 1988

CONCENTRATION UNITS: (ug/L or ug/kg) UG/KG

CAS NO.	COMPOUND		Q
74-87-3	Chloromethane	310000	U
74-83-9	Bromomethane	310000	U
75-01-4	Vinyl Chloride	310000	U
75-00-3	Chloroethane	310000	U
75-09-2	Methylene Chloride	58000	J
67-64-1	Acetone	510000	~~J~~ U
75-15-0	Carbon Disulfide	160000	U
75-35-4	1,1-Dichloroethene	160000	U
75-35-3	1,1-Dichloroethane	160000	U
540-59-0	1,2-Dichloroethene (total)	56000	J
67-66-3	Chloroform	160000	U
107-06-2	1,2-Dichloroethane	160000	U
78-93-3	2-Butanone	310000	U
71-55-6	1,1,1-Trichloroethane	75000	J
56-23-5	Carbon Tetrachloride	160000	U
108-05-4	Vinyl Acetate	310000	U
75-27-4	Bromodichloromethane	160000	U
78-87-5	1,2-Dichloropropane	160000	U
10061-01-5	cis-1,3-Dichloropropene	160000	U
79-01-6	Trichloroethene	38000	J
124-48-1	Dibromochloromethane	160000	U
79-00-5	1,1,2-Trichloroethane	160000	U
71-43-2	Benzene	260000	
10061-02-6	Trans-1,3-Dichloropropene	160000	U
75-25-2	Bromoform	160000	U
108-10-1	4-Methyl-2-Pentanone	310000	U
591-78-6	2-Hexanone	240000	J
127-18-4	Tetrachloroethene	160000	U
79-34-5	1,1,2,2-Tetrachloroethane	310000	U
108-88-3	Toluene	1500000	
108-90-7	Chlorobenzene	160000	U
100-41-4	Ethylbenzene	670000	
100-42-5	Styrene	160000	U
1330-20-7	Total Xylenes	3300000	

T.K. 2/20/88 3/22/88

Quant. limits of acetone are estimated N.J

FORM I VOA 1/87 Rev.

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

ES435

Lab Name: RF WESTON, INC Contract: 68-01-7413

Lab Code: WESCA Case No.: 8736 SAS No.: _____ SDG No.: ES-428

Matrix: (soil/water) SOIL Lab Sample ID: 8712S47-23

Sample wt/vol: _____ (g/mL) G Lab File ID: 1223VS10

Level: (low/med) MED Date Received: 12/17/87

% Moisture: not dec. 20 Date Analyzed: 12/23/87

Column (pack/cap) PACK Dilution Factor: ~~[illegible]~~ 25,000.-

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

FORM I VOA-TIC 1/87 Rev.

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

ES435

Lab Name: RF WESTON.INC Contract: 68-01-7413

Lab Code: WESCA Case No.: 8736 SAS No.: _____ SDG No.: ES-428

Matrix: (soil/water) SOIL Lab Sample ID: 8712S47-22

Sample wt/vol: 30.0 (g/mL) G Lab File ID: 0126AN03

Level: (low/med) LOW Date Received: 12/17/87

% Moisture: not dec. 20 dec. ____ Date Extracted: 12/22/87

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 01/26/88

GPC Cleanup: (Y/N) N pH: 7.7 Dilution Factor: ~~0.0100~~ 100 U

FEB - 3 1988

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) UG/KG	Q
108-95-2	Phenol	41000	U
111-44-4	bis(2-Chloroethyl)Ether	41000	U
95-57-8	2-Chlorophenol	41000	U
541-73-1	1,3-Dichlorobenzene	41000	U
106-46-7	1,4-Dichlorobenzene	41000	U
100-51-6	Benzyl Alcohol	41000	U
95-50-1	1,2-Dichlorobenzene	41000	U
95-48-7	2-Methylphenol	41000	U
108-60-1	bis(2-Chloroisopropyl)ether	41000	U
106-44-5	4-Methylphenol	41000	U
621-64-7	N-Nitroso-Di-n-Propylamine	41000	U
67-72-1	Hexachloroethane	41000	U
98-95-3	Nitrobenzene	41000	U
78-59-1	Isophorone	41000	U
88-75-5	2-Nitrophenol	41000	U
105-67-9	2,4-Dimethylphenol	41000	U
65-85-0	Benzoic Acid	200000	U
111-91-1	bis(2-Chloroethoxy)Methane	41000	U
120-83-2	2,4-Dichlorophenol	41000	U
120-82-1	1,2,4-Trichlorobenzene	41000	U
91-20-3	Naphthalene	83000	
106-47-8	4-Chloroaniline	41000	U
87-68-3	Hexachlorobutadiene	41000	U
59-50-7	4-Chloro-3-Methylphenol	41000	U
91-57-6	2-Methylnaphthalene	25000	J
77-47-4	Hexachlorocyclopentadiene	41000	U
88-06-2	2,4,6-Trichlorophenol	41000	U
95-95-4	2,4,5-Trichlorophenol	200000	U
91-58-7	2-Chloronaphthalene	41000	U
88-74-4	2-Nitroaniline	200000	U
131-11-3	Dimethylphthalate	41000	U
208-96-8	Acenaphthylene	41000	U
606-20-2	2,6-Dinitrotoluene	41000	U

Quant. limits of aromatics are achievable. [illegible] 2/29/88

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1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

ES435

Lab Name: RF WESTON, INC Contract: 68-01-7413

Code: WESCA Case No.: 8736 SAS No.: _____ SDG No.: ES-428

Matrix: (soil/water) SOIL Lab Sample ID: 8712S47-22

Sample wt/vol: 30.0 (g/mL) G Lab File ID: 0126AN03

Level: (low/med) LOW Date Received: 12/17/87

% Moisture: not dec. 20 dec. ____ Date Extracted: 12/22/87

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 01/26/88

GPC Cleanup: (Y/N) N pH: 7.7 Dilution Factor: 100 ul

FEB - 3 1988

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

CAS NO.	COMPOUND		Q
99-09-2	3-Nitroaniline	200000	U
83-32-9	Acenaphthene	7100	J
51-28-5	2,4-Dinitrophenol	200000	U
100-02-7	4-Nitrophenol	200000	U
132-64-9	Dibenzofuran	4100	J
121-14-2	2,4-Dinitrotoluene	41000	U
84-66-2	Diethylphthalate	41000	U
7005-72-3	4-Chlorophenyl-phenylether	41000	U
86-73-7	Fluorene	7800	J
100-01-6	4-Nitroaniline	200000	U
534-52-1	4,6-Dinitro-2-Methylphenol	200000	U
86-30-6	N-Nitrosodiphenylamine (1)	7100	J
101-55-3	4-Bromophenyl-phenylether	41000	U
118-74-1	Hexachlorobenzene	41000	U
87-86-5	Pentachlorophenol	200000	U
85-01-8	Phenanthrene	63000	
120-12-7	Anthracene	15000	J
84-74-2	Di-n-Butylphthalate	41000	U
206-44-0	Fluoranthene	64000	
129-00-0	Pyrene	87000	
85-68-7	Butylbenzylphthalate	41000	U
91-94-1	3,3'-Dichlorobenzidine	83000	U
56-55-3	Benzo(a)Anthracene	37000	J
218-01-9	Chrysene	38000	J
117-81-7	bis(2-Ethylhexyl)Phthalate	41000	U
117-84-0	Di-n-Octylphthalate	12000	J
205-99-2	Benzo(b)Fluoranthene	32000	J
207-08-9	Benzo(k)Fluoranthene	30000	J
50-32-8	Benzo(a)Pyrene	34000	J
193-39-5	Indeno(1,2,3-cd)Pyrene	15000	J
53-70-3	Dibenz(a,h)Anthracene	41000	U
191-24-2	Benzo(g,h,i)Perylene	17000	J

(1) - Cannot be separated from Diphenylamine

recycled paper

ecology and environment

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

ES435

Lab Name: RF WESTON, INC Contract: 68-01-7413

Lab Code: WESCA Case No.: 8736 SAS No.: _____ SDG No.: ES-428

Matrix: (soil/water) SOIL Lab Sample ID: 8712S47-22

Sample wt/vol: 30.0 (g/mL) G Lab File ID: 0126AN03

Level: (low/med) LOW Date Received: 12/17/87

Moisture: not dec. 20 dec. ____ Date Extracted: 12/22/87

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 01/26/88

FEB - 3 1988

GPC Cleanup: (Y/N) N pH: 7.7 Dilution Factor: ~~0.0100~~ 100

Number TICs found: 19

CONCENTRATION UNITS:
(ug/L or ug/kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN SUBSTITUTED BENZENE	7.85	120000	JX
2.	UNKNOWN SUBSTITUTED BENZENE	8.50	250000	JX
3.	UNKNOWN	8.97	54000	JX
4.	UNKNOWN SUBSTITUTED BENZENE	9.07	74000	JX
5.	UNKNOWN	9.35	91000	JX
6.	UNKNOWN SUBSTITUTED BENZENE	9.57	130000	JX
7.	UNKNOWN SUBSTITUTED BENZENE	9.70	240000	JX
8.	UNKNOWN SUBSTITUTED BENZENE	10.10	180000	JX
9.	UNKNOWN SUBSTITUTED BENZENE	10.22	200000	JX
10.	UNKNOWN	10.37	54000	JX
11.	UNKNOWN SUBSTITUTED BENZENE	10.62	25000	JX
12.	UNKNOWN SUBSTITUTED BENZENE	10.79	53000	JX
13.	UNKNOWN SUBSTITUTED BENZENE	10.87	83000	JX
14.	UNKNOWN	11.24	41000	JX
15.	UNKNOWN SUBSTITUTED BENZENE	11.45	70000	JX
16.	UNKNOWN	20.34	78000	JX
17.	UNKNOWN PHTHALATE	21.39	130000	JX
18.	UNKNOWN	23.72	33000	JX
19.	UNKNOWN	26.17	33000	JX

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FORM I SV-TIC

ecology and environment

1/87 Rev.

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

ES-428

ab Name: RF WESTON, INC. Contract: 68-01-7413

Code: WESCA Case No.: 8736 SAS No.: _____ SDG No.: ES-428

atrix: (soil/water) SOIL Lab Sample ID: 8712-S047-001

ample wt/vol: 30.0 (g/mL) G Lab File ID: _____

vel: (low/med) LOW Date Received: 12/17/87

Moisture: not dec. 28 dec. ____ Date Extracted: 12/22/87

traction: (SepF/Cont/Sonc) SONC Date Analyzed: 01/14/88

PC Cleanup: (Y/N) N pH: 7.1 Dilution Factor: 0.00500

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) UG/KG	Q
319-84-6	alpha-BHC	2200	U
319-85-7	beta-BHC	2200	U
319-86-8	delta-BHC	2200	U
58-89-9	gamma-BHC (Lindane)	2200	U
76-44-8	Heptachlor	2200	U
309-00-2	Aldrin	2200	U
1024-57-3	Heptachlor epoxide	2200	U
959-98-8	Endosulfan I	2200	U
60-57-1	Dieldrin	4400	U
72-55-9	4,4'-DDE	4400	U
72-20-8	Endrin	4400	U
33213-65-9	Endosulfan II	4400	U
72-54-8	4,4'-DDD	4400	U
1031-07-8	Endosulfan sulfate	4400	U
50-29-3	4,4'-DDT	4400	U
72-43-5	Methoxychlor	22000	U
53494-70-5	Endrin ketone	4400	U
5103-71-9	alpha-Chlordane	10000	J
5103-74-2	gamma-Chlordane	8700	J
8001-35-2	Toxaphene	44000	U
12674-11-2	Aroclor-1016	22000	U
11104-28-2	Aroclor-1221	22000	U
11141-16-5	Aroclor-1232	22000	U
53469-21-9	Aroclor-1242	22000	U
12672-29-6	Aroclor-1248	22000	U
11097-69-1	Aroclor-1254	44000	U
11096-82-5	Aroclor-1260	30000	J

Quantitation limits of pesticides are estimated J
T.J. 2/29/88

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

ES-429

Lab Name: RF WESTON.INC. Contract: 68-01-7413

Lab Code: WESCA Case No.: 8736 SAS No.: _____ SDG No.: ES-428

Matrix: (soil/water) SOIL Lab Sample ID: 8712-S047-004

Sample wt/vol: 30.0 (g/mL) G Lab File ID: _____

Level: (low/med) LOW Date Received: 12/17/87

% Moisture: not dec. 35 dec. ____ Date Extracted: 12/22/87

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 01/14/88

GPC Cleanup: (Y/N) N pH: 6.9 Dilution Factor: 0.00100

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
319-84-6	alpha-BHC	12000	U
319-85-7	beta-BHC	12000	U
319-86-8	delta-BHC	12000	U
58-89-9	gamma-BHC (Lindane)	12000	U
76-44-8	Heptachlor	12000	U
309-00-2	Aldrin	12000	U
1024-57-3	Heptachlor epoxide	12000	U
959-98-8	Endosulfan I	12000	U
60-57-1	Dieldrin	25000	U
72-55-9	4,4'-DDE	25000	U
72-20-8	Endrin	25000	U
33213-65-9	Endosulfan II	25000	U
72-54-8	4,4'-DDD	25000	U
1031-07-8	Endosulfan sulfate	25000	U
50-29-3	4,4'-DDT	25000	U
72-43-5	Methoxychlor	120000	U
53494-70-5	Endrin ketone	25000	U
5103-71-9	alpha-Chlordane	89000	J
5103-74-2	gamma-Chlordane	76000	J
8001-35-2	Toxaphene	250000	U
12674-11-2	Aroclor-1016	120000	U
11104-28-2	Aroclor-1221	120000	U
11141-16-5	Aroclor-1232	120000	U
53469-21-9	Aroclor-1242	120000	U
12672-29-6	Aroclor-1248	120000	U
11097-69-1	Aroclor-1254	250000	U
11096-82-5	Aroclor-1260	390000	

Quantitation limits of aromatics are estimated J
T.J. 2/29/88

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

ES-430

Lab Name: RF WESTON, INC. Contract: 68-01-7413

Lab Code: WESCA Case No.: 8736 SAS No.: _____ SDG No.: ES-428

Matrix: (soil/water) SOIL Lab Sample ID: 8712-S047-007

Sample wt/vol: 30.0 (g/mL) G Lab File ID: _____

Level: (low/med) LOW Date Received: 12/17/87

Moisture: not dec. 28 dec. ____ Date Extracted: 12/22/87

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 01/14/88

GPC Cleanup: (Y/N) N pH: 6.5 Dilution Factor: 0.00100

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
319-84-6	alpha-BHC	11000	U
319-85-7	beta-BHC	11000	U
319-86-8	delta-BHC	11000	U
58-89-9	gamma-BHC (Lindane)	11000	U
76-44-8	Heptachlor	11000	U
309-00-2	Aldrin	11000	U
1024-57-3	Heptachlor epoxide	11000	U
959-98-8	Endosulfan I	11000	U
60-57-1	Dieldrin	22000	U
72-55-9	4,4'-DDE	22000	U
72-20-8	Endrin	22000	U
33213-65-9	Endosulfan II	22000	U
72-54-8	4,4'-DDD	22000	U
1031-07-8	Endosulfan sulfate	22000	U
50-29-3	4,4'-DDT	22000	U
72-43-5	Methoxychlor	110000	U
53494-70-5	Endrin ketone	22000	U
5103-71-9	alpha-Chlordane	110000	U
5103-74-2	gamma-Chlordane	110000	U
8001-35-2	Toxaphene	220000	U
12674-11-2	Aroclor-1016	110000	U
11104-28-2	Aroclor-1221	110000	U
11141-16-5	Aroclor-1232	110000	U
53469-21-9	Aroclor-1242	110000	U
12672-29-6	Aroclor-1248	110000	U
11097-69-1	Aroclor-1254	220000	U
11096-82-5	Aroclor-1260	320000	

Quantitation limits of aromatics are estimated.
[illegible] 2/24/88

1D
FESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

ES-431

ab Name: RF WESTON.INC. Contract: 68-01-7413

a Code: WESCA Case No.: 8736 SAS No.: _____ SDG No.: ES-428

atrix: (soil/water) SOIL Lab Sample ID: 8712-S047-010

ample wt/vol: 30.0 (g/mL) G Lab File ID: _____

evel: (low/med) LOW Date Received: 12/17/87

Moisture: not dec. 43 dec. ____ Date Extracted: 12/22/87

xtraction: (SepF/Cont/Sonc) SONC Date Analyzed: 01/14/88

PC Cleanup: (Y/N) N pH: 6.6 Dilution Factor: 0.00500

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
319-84-6	alpha-BHC	2900	U
319-85-7	beta-BHC	2800	U
319-86-8	delta-BHC	2800	U
58-89-9	gamma-BHC (Lindane)	2800	U
76-44-8	Heptachlor	2900	U
309-00-2	Aldrin	2900	U
1024-57-3	Heptachlor epoxide	2900	U
959-98-8	Endosulfan I	2600	U
60-57-1	Dieldrin	5600	U
72-55-9	4,4'-DDE	5600	U
72-20-8	Endrin	5600	U
33213-65-9	Endosulfan II	5600	U
72-54-8	4,4'-DDD	5600	U
1031-07-8	Endosulfan sulfate	5600	U
50-29-3	4,4'-DDT	5600	U
72-43-5	Methoxychlor	28000	U
53494-70-5	Endrin ketone	5600	U
5103-71-9	alpha-Chlordane	8600	J
5103-74-2	gamma-Chlordane	7700	J
8001-35-2	Toxaphene	56000	U
12674-11-2	Aroclor-1016	28000	U
11104-28-2	Aroclor-1221	28000	U
11141-16-5	Aroclor-1232	28000	U
53469-21-9	Aroclor-1242	28000	U
12672-29-6	Aroclor-1248	28000	U
11097-69-1	Aroclor-1254	56000	U
11096-82-5	Aroclor-1260	88000	

Quant. limits of aromatics are estimated J
T.G. 2/29/88

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

ES-432

Lab Name: RF WESTON.INC. Contract: 68-01-7413

Lab Code: WESCA Case No.: 8736 SAS No.: _____ SDG No.: ES-428

Matrix: (soil/water) SOIL Lab Sample ID: 8712-S047-013

Sample wt/vol: 30.0 (g/mL) G Lab File ID: _____

Level: (low/med) LOW Date Received: 12/17/87

% Moisture: not dec. 23 dec. ____ Date Extracted: 12/22/87

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 01/14/88

GPC Cleanup: (Y/N) N pH: 8.0 Dilution Factor: 0.0100

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
319-84-6	alpha-BHC	1000	U
319-85-7	beta-BHC	1000	U
319-86-8	delta-BHC	1000	U
58-89-9	gamma-BHC (Lindane)	1000	U
76-44-8	Heptachlor	1000	U
309-00-2	Aldrin	1000	U
1024-57-3	Heptachlor epoxide	1000	U
959-98-8	Endosulfan I	1000	U
60-57-1	Dieldrin	2100	U
72-55-9	4,4'-DDE	2100	U
72-20-8	Endrin	2100	U
33213-65-9	Endosulfan II	2100	U
72-54-8	4,4'-DDD	2100	U
1031-07-8	Endosulfan sulfate	2100	U
50-29-3	4,4'-DDT	2100	U
72-43-5	Methoxychlor	10000	U
53494-70-5	Endrin ketone	2100	U
5103-71-9	alpha-Chlordane	10000	U
5103-74-2	gamma-Chlordane	10000	U
8001-35-2	Toxaphene	21000	U
12674-11-2	Aroclor-1016	10000	U
11104-28-2	Aroclor-1221	10000	U
11141-16-5	Aroclor-1232	10000	U
53469-21-9	Aroclor-1242	10000	U
12672-29-6	Aroclor-1248	10000	U
11097-69-1	Aroclor-1254	21000	U
11096-82-5	Aroclor-1260	21000	U

Quant. limits of aromatics are estimated J
T.g. 2/29/88

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

ES-433

Lab Name: RF WESTON,INC. Contract: 68-01-7413

Lab Code: WESCA Case No.: 8736 SAS No.: _____ SDG No.: ES-428

Matrix: (soil/water) SOIL Lab Sample ID: 8712-S047-016

Sample wt/vol: 30.0 (g/mL) G Lab File ID: _____

Level: (low/med) LOW Date Received: 12/17/87

% Moisture: not dec. 25 dec. ____ Date Extracted: 12/22/87

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 01/14/88

GPC Cleanup: (Y/N) N pH: 7.4 Dilution Factor: 0.00500

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
319-84-6	alpha-BHC	2100	U
319-85-7	beta-BHC	2100	U
319-86-8	delta-BHC	2100	U
58-89-9	gamma-BHC (Lindane)	2100	U
76-44-8	Heptachlor	2100	U
309-00-2	Aldrin	2100	U
1024-57-3	Heptachlor epoxide	2100	U
959-98-8	Endosulfan I	2100	U
60-57-1	Dieldrin	4300	U
72-55-9	4,4'-DDE	4300	U
72-20-8	Endrin	4300	U
33213-65-9	Endosulfan II	4300	U
72-54-8	4,4'-DDD	4300	U
1031-07-8	Endosulfan sulfate	4300	U
50-29-3	4,4'-DDT	4300	U
72-43-5	Methoxychlor	21000	U
53494-70-5	Endrin ketone	4300	U
5103-71-9	alpha-Chlordane	13000	J
5103-74-2	gamma-Chlordane	1300	J
8001-35-2	Toxaphene	43000	U
12674-11-2	Aroclor-1016	21000	U
11104-28-2	Aroclor-1221	21000	U
11141-16-5	Aroclor-1232	21000	U
53469-21-9	Aroclor-1242	21000	U
12672-29-6	Aroclor-1248	21000	U
11097-69-1	Aroclor-1254	43000	U
11096-82-5	Aroclor-1260	43000	U

Quant. limits of aromatics are estimated J
J.G. 2/29/88

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

ES-434

Lab Name: RF WESTON, INC. Contract: 68-01-7413

Lab Code: WESCA Case No.: 8736 SAS No.: SDG No.: ES-428

Matrix: (soil/water) SOIL Lab Sample ID: 8712-S047-019

Sample wt/vol: 30.0 (g/mL) G Lab File ID:

Level: (low/med) LOW Date Received: 12/17/87

% Moisture: not dec. 36 dec. Date Extracted: 12/22/87

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 01/14/88

GPC Cleanup: (Y/N) N pH: 8.2 Dilution Factor: 0.00200

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
319-84-6	alpha-BHC	6200	U
319-85-7	beta-BHC	6200	U
319-86-8	delta-BHC	6200	U
58-89-9	gamma-BHC (Lindane)	6200	U
76-44-8	Heptachlor	6200	U
309-00-2	Aldrin	6200	U
1024-57-3	Heptachlor epoxide	6200	U
959-98-8	Endosulfan I	6200	U
60-57-1	Dieldrin	12000	U
72-55-9	4,4'-DDE	12000	U
72-20-8	Endrin	12000	U
33213-65-9	Endosulfan II	12000	U
72-54-8	4,4'-DDD	12000	U
1031-07-8	Endosulfan sulfate	12000	U
50-29-3	4,4'-DDT	12000	U
72-43-5	Methoxychlor	62000	U
53494-70-5	Endrin ketone	12000	U
5103-71-9	alpha-Chlordane	11000	J
5103-74-2	gamma-Chlordane	2800	J
8001-35-2	Toxaphene	120000	U
12674-11-2	Aroclor-1016	62000	U
11104-28-2	Aroclor-1221	62000	U
11141-16-5	Aroclor-1232	62000	U
53469-21-9	Aroclor-1242	62000	U
12672-29-6	Aroclor-1248	62000	U
11097-69-1	Aroclor-1254	120000	U
11096-82-5	Aroclor-1260	120000	U

Quant. limits of aromatics are estimated J
T.G. 2/29/88

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

ES-435

ab Name: RF WESTON, INC. Contract: 68-01-7413

Code: WESCA Case No.: 8736 SAS No.: _____ SDG No.: ES-428

trix: (soil/water) SOIL Lab Sample ID: 8712-S047-022

ple wt/vol: 30.0 (g/mL) G Lab File ID: _____

el: (low/med) LOW Date Received: 12/17/87

Moisture: not dec. 20 dec. ____ Date Extracted: 12/22/87

raction: (SepF/Cont/Sonc) SONC Date Analyzed: 01/14/88

PC Cleanup: (Y/N) N pH: 7.7 Dilution Factor: 0.00100

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) UG/KG	Q
319-84-6	alpha-BHC	10000	U
319-85-7	beta-BHC	10000	U
319-86-8	delta-BHC	10000	U
58-89-9	gamma-BHC (Lindane)	10000	U
76-44-8	Heptachlor	10000	U
309-00-2	Aldrin	10000	U
1024-57-3	Heptachlor epoxide	10000	U
959-98-8	Endosulfan I	10000	U
60-57-1	Dieldrin	20000	U
72-55-9	4,4'-DDE	20000	U
72-20-8	Endrin	20000	U
33213-65-9	Endosulfan II	20000	U
72-54-8	4,4'-DDD	20000	U
1031-07-8	Endosulfan sulfate	20000	U
50-29-3	4,4'-DDT	20000	U
72-43-5	Methoxychlor	100000	U
53494-70-5	Endrin ketone	20000	U
5103-71-9	alpha-Chlordane	38000	J
5103-74-2	gamma-Chlordane	3800	J
8001-35-2	Toxaphene	200000	U
12674-11-2	Aroclor-1016	100000	U
11104-28-2	Aroclor-1221	100000	U
11141-16-5	Aroclor-1232	100000	U
53469-21-9	Aroclor-1242	100000	U
12672-29-6	Aroclor-1248	100000	U
11097-69-1	Aroclor-1254	200000	U
11096-82-5	Aroclor-1260	200000	U

Quant. limits are estimated
mg. 2/24/88

15

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

ES434

Lab Name: RF WESTON, INC Contract: 68-01-7413

Lab Code: WESCA Case No.: 8736 SAS No.: _____ SDG No.: ES-428

Matrix: (soil/water) SOIL Lab Sample ID: 8712S47-19

Sample wt/vol: 30.0 (g/mL) G Lab File ID: 0126AN02

Level: (low/med) LOW Date Received: 12/17/87

% Moisture: not dec. 36 dec. ____ Date Extracted: 12/22/87

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 01/26/88

GPC Cleanup: (Y/N) N pH: 8.2 Dilution Factor: ~~0.3125~~ 100

CONCENTRATION UNITS: (ug/L or ug/kg) UG/KG

CAS NO.	COMPOUND	(ug/L or ug/kg) UG/KG	Q
108-95-2	Phenol	52000	U
111-44-4	bis(2-Chloroethyl)Ether	52000	U
95-57-8	2-Chlorophenol	52000	U
541-73-1	1,3-Dichlorobenzene	52000	U
106-46-7	1,4-Dichlorobenzene	52000	U
100-51-6	Benzyl Alcohol	52000	U
95-50-1	1,2-Dichlorobenzene	52000	U
95-48-7	2-Methylphenol	52000	U
108-60-1	bis(2-Chloroisopropyl)Ether	52000	U
106-44-5	4-Methylphenol	52000	U
621-64-7	N-Nitroso-Di-n-Propylamine	52000	U
67-72-1	Hexachloroethane	52000	U
98-95-3	Nitrobenzene	52000	U
78-59-1	Isophorone	52000	U
88-75-5	2-Nitrophenol	52000	U
105-67-9	2,4-Dimethylphenol	52000	U
65-85-0	Benzoic Acid	250000	U
111-91-1	bis(2-Chloroethoxy)Methane	52000	U
120-83-2	2,4-Dichlorophenol	52000	U
120-82-1	1,2,4-Trichlorobenzene	52000	U
91-20-3	Naphthalene	120000	
106-47-8	4-Chloroaniline	52000	U
87-68-3	Hexachlorobutadiene	52000	U
59-50-7	4-Chloro-3-Methylphenol	52000	U
91-57-6	2-Methylnaphthalene	25000	J
77-47-4	Hexachlorocyclopentadiene	52000	U
88-06-2	2,4,6-Trichlorophenol	52000	U
95-95-4	2,4,5-Trichlorophenol	250000	U
91-58-7	2-Chloronaphthalene	52000	U
88-74-4	2-Nitroaniline	250000	U
131-11-3	Dimethylphthalate	52000	U
208-96-8	Acenaphthylene	52000	U
606-20-2	2,6-Dinitrotoluene	52000	U

Gnarl. limits are estimated

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

ES434

Lab Name: RF WESTON, INC Contract: 68-01-7413

Lab Code: WESCA Case No.: 8736 SAS No.: _____ SDG No.: ES-428

Matrix: (soil/water) SOIL Lab Sample ID: 8712S47-19

Sample wt/vol: 30.0 (g/mL) G Lab File ID: 0126AN02

Level: (low/med) LOW Date Received: 12/17/87

% Moisture: not dec. 36 dec. ____ Date Extracted: 12/22/87

Extraction: (SepF Cont Sonc) SONC Date Analyzed: 01/26/88 FEB - 3 1988

GPC Cleanup: (Y/N) N pH: 8.2 Dilution Factor: ~~6.7~~ 100 ul

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) UG/KG	Q
99-09-2	3-Nitroaniline	250000	U
83-32-9	Acenaphthene	7000	J
51-28-5	2,4-Dinitrophenol	250000	U
100-02-7	4-Nitrophenol	250000	U
132-64-9	Dibenzofuran	52000	U
121-14-2	2,4-Dinitrotoluene	52000	U
84-66-2	Diethylphthalate	52000	U
7005-72-3	4-Chlorophenyl-phenylether	52000	U
86-73-7	Fluorene	9100	J
100-01-6	4-Nitroaniline	250000	U
534-52-1	4,6-Dinitro-2-Methylphenol	250000	U
86-30-6	N-Nitrosodiphenylamine (1)	6300	J
101-55-3	4-Bromophenyl-phenylether	52000	U
118-74-1	Hexachlorobenzene	52000	U
87-86-5	Pentachlorophenol	250000	U
85-01-8	Phenanthrene	55000	
120-12-7	Anthracene	13000	J
84-74-2	Di-n-Butylphthalate	33000	J
206-44-0	Fluoranthene	65000	
129-00-0	Pyrene	67000	
85-68-7	Butylbenzylphthalate	52000	U
91-94-1	3,3'-Dichlorobenzidine	100000	U
56-55-3	Benzo(a)Anthracene	11000	J
218-01-9	Chrysene	22000	J
117-81-7	bis(2-Ethylhexyl)Phthalate	52000	U
117-84-0	Di-n-Octylphthalate	52000	U
205-99-2	Benzo(b)Fluoranthene	25000	J
207-08-9	Benzo(k)Fluoranthene	25000	J
50-32-8	Benzo(a)Pyrene	30000	J
193-39-5	Indeno(1,2,3-cd)Pyrene	14000	J
53-70-3	Dibenz(a,h)Anthracene	52000	U
191-24-2	Benzo(g,h,i)Perylene	16000	J

(1) - Cannot be separated from Diphenylamine

recycled paper

ecology and environment

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

ES434

Lab Name: RF WESTON, INC Contract: 68-01-7413

Lab Code: WESCA Case No.: 8736 SAS No.: _____ SDG No.: ES-428

Matrix: (soil/water) SOIL Lab Sample ID: 8712847-19

Sample wt/vol: 30.0 (g/mL) G Lab File ID: 0126AN02

Level: (low/med) LOW Date Received: 12/17/87

Moisture: not dec. 36 dec. ____ Date Extracted: 12/22/87

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 01/26/88

GC Cleanup: (Y/N) N pH: 8.2 Dilution Factor: ~~0.5~~ 100 ul

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Number TICs found: 20

CONCENTRATION UNITS:
(ug/L or ug/kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN SUBSTITUTED BENZENE	7.75	[illegible]	JX
2.	UNKNOWN	7.88	[illegible]	JX
[illegible]	UNKNOWN SUBSTITUTED BENZENE	8.17	[illegible]	JX
[illegible]	UNKNOWN SUBSTITUTED BENZENE	8.40	[illegible]	JX
5.	UNKNOWN HYDROCARBON	8.90	[illegible]	JX
[illegible]	UNKNOWN SUBSTITUTED BENZENE	9.00	[illegible]	JX
[illegible]	UNKNOWN	9.20	[illegible]	JX
8.	UNKNOWN SUBSTITUTED BENZENE	9.5[illegible]	[illegible]	JX
[illegible]	UNKNOWN SUBSTITUTED BENZENE	[illegible]	[illegible]	JX
[illegible]	UNKNOWN	9.82	[illegible]	JX
1.	UNKNOWN SUBSTITUTED BENZENE	10.04	[illegible]	JX
2.	UNKNOWN SUBSTITUTED BENZENE	10.17	[illegible]	JX
[illegible]	UNKNOWN	10.32	72000	JX
[illegible]	UNKNOWN SUBSTITUTED BENZENE	10.57	46000	JX
5.	UNKNOWN SUBSTITUTED BENZENE	10.74	93000	JX
6.	UNKNOWN SUBSTITUTED BENZENE	10.82	140000	JX
7.	UNKNOWN	11.19	67000	JX
8.	UNKNOWN	11.40	110000	JX
[illegible]	UNKNOWN	11.62	[illegible]	JX
[illegible]	UNKNOWN	11.16	[illegible]	JX

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

ES435

Lab Name: RF WESTON, INC Contract: 68-01-7413

Lab Code: WESCA Case No.: 8736 SAS No.: _____ SDG No.: ES-428

Matrix: (soil/water) SOIL Lab Sample ID: 8712S47-23

Sample wt/vol: _____ (g/mL) G Lab File ID: 1223VS10

Level: (low/med) MED Date Received: 12/17/87

% Moisture: not dec. 20 Date Analyzed: 12/23/87

Column (pack/cap) PACK Dilution Factor: ~~0.00100~~ 25,000.-

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

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1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

ES435

Lab Name: RF WESTON.INC Contract: 68-01-7413

Lab Code: WESCA Case No.: 8736 SAS No.: _____ SDG No.: ES-428

Matrix: (soil/water) SOIL Lab Sample ID: 8712S47-22

Sample wt/vol: 30.0 (g/mL) G Lab File ID: 0126AN03

Level: (low/med) LOW Date Received: 12/17/87

% Moisture: not dec. 20 dec. ____ Date Extracted: 12/22/87

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 01/26/88

GPC Cleanup: (Y/N) N pH: 7.7 Dilution Factor: ~~0.0100~~ 100 U

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CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	41000	U
111-44-4	bis(2-Chloroethyl)Ether	41000	U
95-57-8	2-Chlorophenol	41000	U
541-73-1	1,3-Dichlorobenzene	41000	U
106-46-7	1,4-Dichlorobenzene	41000	U
100-51-6	Benzyl Alcohol	41000	U
95-50-1	1,2-Dichlorobenzene	41000	U
95-48-7	2-Methylphenol	41000	U
108-60-1	bis(2-Chloroisopropyl)ether	41000	U
106-44-5	4-Methylphenol	41000	U
621-64-7	N-Nitroso-Di-n-Propylamine	41000	U
67-72-1	Hexachloroethane	41000	U
98-95-3	Nitrobenzene	41000	U
78-59-1	Isophorone	41000	U
88-75-5	2-Nitrophenol	41000	U
105-67-9	2,4-Dimethylphenol	41000	U
65-85-0	Benzoic Acid	200000	U
111-91-1	bis(2-Chloroethoxy)Methane	41000	U
120-83-2	2,4-Dichlorophenol	41000	U
120-82-1	1,2,4-Trichlorobenzene	41000	U
91-20-3	Naphthalene	83000	
106-47-8	4-Chloroaniline	41000	U
87-68-3	Hexachlorobutadiene	41000	U
59-50-7	4-Chloro-3-Methylphenol	41000	U
91-57-6	2-Methylnaphthalene	25000	J
77-47-4	Hexachlorocyclopentadiene	41000	U
88-06-2	2,4,6-Trichlorophenol	41000	U
95-95-4	2,4,5-Trichlorophenol	200000	U
91-58-7	2-Chloronaphthalene	41000	U
88-74-4	2-Nitroaniline	200000	U
131-11-3	Dimethylphthalate	41000	U
208-96-8	Acenaphthylene	41000	U
606-20-2	2,6-Dinitrotoluene	41000	U

Quant. limits of aromatics are achievable. mg. 2/29/88

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

ES435

ab Name: RF WESTON, INC Contract: 68-01-7413

Code: WESCA Case No.: 8736 SAS No.: _____ SDG No.: ES-428

trix: (soil/water) SOIL Lab Sample ID: 8712S47-22

ample wt/vol: 30.0 (g/mL) G Lab File ID: 0126AN03

vel: (low/med) LOW Date Received: 12/17/87

Moisture: not dec. 20 dec. ____ Date Extracted: 12/22/87

raction: (SepF/Cont/Sonc) SONC Date Analyzed: 01/26/88

Cleanup: (Y/N) N pH: 7.7 Dilution Factor: 100 ul

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CONCENTRATION UNITS: (ug/L or ug/kg) UG/KG

CAS NO.	COMPOUND		Q
99-09-2	3-Nitroaniline	200000	U
83-32-9	Acenaphthene	7100	J
51-28-5	2,4-Dinitrophenol	200000	U
100-02-7	4-Nitrophenol	200000	U
132-64-9	Dibenzofuran	4100	J
121-14-2	2,4-Dinitrotoluene	41000	U
84-66-2	Diethylphthalate	41000	U
7005-72-3	4-Chlorophenyl-phenylether	41000	U
86-73-7	Fluorene	7800	J
100-01-6	4-Nitroaniline	200000	U
534-52-1	4,6-Dinitro-2-Methylphenol	200000	U
86-30-6	N-Nitrosodiphenylamine (1)	7100	J
101-55-3	4-Bromophenyl-phenylether	41000	U
118-74-1	Hexachlorobenzene	41000	U
87-86-5	Pentachlorophenol	200000	U
85-01-8	Phenanthrene	63000	
120-12-7	Anthracene	15000	J
84-74-2	Di-n-Butylphthalate	41000	U
206-44-0	Fluoranthene	64000	
129-00-0	Pyrene	87000	
85-68-7	Butylbenzylphthalate	41000	U
91-94-1	3,3'-Dichlorobenzidine	83000	U
56-55-3	Benzo(a)Anthracene	37000	J
218-01-9	Chrysene	38000	J
117-81-7	bis(2-Ethylhexyl)Phthalate	41000	U
117-84-0	Di-n-Octylphthalate	12000	J
205-99-2	Benzo(b)Fluoranthene	32000	J
207-08-9	Benzo(k)Fluoranthene	30000	J
50-32-8	Benzo(a)Pyrene	34000	J
193-39-5	Indeno(1,2,3-cd)Pyrene	15000	J
53-70-3	Dibenz(a,h)Anthracene	41000	U
191-24-2	Benzo(g,h,i)Perylene	17000	J

(1) - Cannot be separated from Diphenylamine

recycled paper ecology and environment

FORM I SV-2 1/87 Rev

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

ES435

Lab Name: RF WESTON, INC Contract: 68-01-7413

Lab Code: WESCA Case No.: 8736 SAS No.: SDG No.: ES-428

Matrix: (soil/water) SOIL Lab Sample ID: 8712S47-22

Sample wt/vol: 30.0 (g/mL) G Lab File ID: 0126AN03

Level: (low/med) LOW Date Received: 12/17/87

% Moisture: not dec. 20 dec. Date Extracted: 12/22/87

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 01/26/88

GPC Cleanup: (Y/N) N pH: 7.7 Dilution Factor: ~~0.8400~~ 100

FEB - 3 1988

Number TICs found: 18 CONCENTRATION UNITS: (ug/L or ug/kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN SUBSTITUTED BENZENE	7.85	120000	JX
2.	UNKNOWN SUBSTITUTED BENZENE	8.50	250000	JX
3.	UNKNOWN	8.97	54000	JX
4.	UNKNOWN SUBSTITUTED BENZENE	9.07	74000	JX
5.	UNKNOWN	9.35	91000	JX
6.	UNKNOWN SUBSTITUTED BENZENE	9.57	170000	JX
7.	UNKNOWN SUBSTITUTED BENZENE	9.70	240000	JX
8.	UNKNOWN SUBSTITUTED BENZENE	10.19	180000	JX
9.	UNKNOWN SUBSTITUTED BENZENE	10.22	200000	JX
10.	UNKNOWN	10.37	54000	JX
11.	UNKNOWN SUBSTITUTED BENZENE	10.62	25000	JX
12.	UNKNOWN SUBSTITUTED BENZENE	10.79	53000	JX
13.	UNKNOWN SUBSTITUTED BENZENE	10.87	83000	JX
14.	UNKNOWN	11.24	41000	JX
15.	UNKNOWN SUBSTITUTED BENZENE	11.45	70000	JX
16.	UNKNOWN	20.34	78000	JX
17.	UNKNOWN PHTHALATE	21.39	170000	JX
18.	UNKNOWN	23.72	33000	JX
19.	UNKNOWN	26.17	33000	JX

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ecology and environment

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

ES-428

Lab Name: RF WESTON, INC. Contract: 68-01-7413

Lab Code: WESCA Case No.: 8736 SAS No.: _____ SDG No.: ES-426

Matrix: (soil/water) SOIL Lab Sample ID: 8712-S047-001

Sample wt/vol: 30.0 (g/mL) G Lab File ID: _____

Level: (low/med) LOW Date Received: 12/17/87

% Moisture: not dec. 28 dec. ____ Date Extracted: 12/22/87

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 01/14/88

GPC Cleanup: (Y/N) N pH: 7.1 Dilution Factor: 0.00500

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) UG/KG	Q
319-84-6	alpha-BHC	2200	U
319-85-7	beta-BHC	2200	U
319-86-8	delta-BHC	2200	U
58-89-9	gamma-BHC (Lindane)	2200	U
76-44-8	Heptachlor	2200	U
309-00-2	Aldrin	2200	U
1024-57-3	Heptachlor epoxide	2200	U
959-98-8	Endosulfan I	2200	U
60-57-1	Dieldrin	4400	U
72-55-9	4,4'-DDE	4400	U
72-20-8	Endrin	4400	U
33213-65-9	Endosulfan II	4400	U
72-54-8	4,4'-DDD	4400	U
1031-07-8	Endosulfan sulfate	4400	U
50-29-3	4,4'-DDT	4400	U
72-43-5	Methoxychlor	22000	U
53494-70-5	Endrin ketone	4400	U
5103-71-9	alpha-Chlordane	10000	J
5103-74-2	gamma-Chlordane	8700	J
8001-35-2	Toxaphene	44000	U
12674-11-2	Aroclor-1016	22000	U
11104-28-2	Aroclor-1221	22000	U
11141-16-5	Aroclor-1232	22000	U
53469-21-9	Aroclor-1242	22000	U
12672-29-6	Aroclor-1248	22000	U
11097-69-1	Aroclor-1254	44000	U
11096-82-5	Aroclor-1260	30000	J

Concentration limits & numbers are estimated J.
T.J. 2/29/88

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

ES-429

Lab Name: RF WESTON.INC. Contract: 68-01-7413

Lab Code: WESCA Case No.: 8736 SAS No.: _____ SDG No.: ES-428

Matrix: (soil/water) SOIL Lab Sample ID: 8712-S047-004

Sample wt/vol: 30.0 (g/mL) G Lab File ID: _____

Level: (low/med) LOW Date Received: 12/17/87

Moisture: not dec. 35 dec. ____ Date Extracted: 12/22/87

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 01/14/88

GPC Cleanup: (Y/N) N pH: 6.9 Dilution Factor: 0.00100

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
319-84-6	alpha-BHC	12000	U
319-85-7	beta-BHC	12000	U
319-86-8	delta-BHC	12000	U
58-89-9	gamma-BHC (Lindane)	12000	U
76-44-8	Heptachlor	12000	U
309-00-2	Aldrin	12000	U
1024-57-3	Heptachlor epoxide	12000	U
959-98-8	Endosulfan I	12000	U
60-57-1	Dieldrin	25000	U
72-55-9	4,4'-DDE	25000	U
72-20-8	Endrin	25000	U
33213-65-9	Endosulfan II	25000	U
72-54-8	4.4'-DDD	25000	U
1031-07-8	Endosulfan sulfate	25000	U
50-29-3	4.4'-DDT	25000	U
72-43-5	Methoxychlor	120000	U
53494-70-5	Endrin ketone	25000	U
5103-71-9	alpha-Chlordane	89000	J
5103-74-2	gamma-Chlordane	76000	J
8001-35-2	Toxaphene	250000	U
12674-11-2	Aroclor-1016	120000	U
11104-28-2	Aroclor-1221	120000	U
11141-16-5	Aroclor-1232	120000	U
53469-21-9	Aroclor-1242	120000	U
12672-29-6	Aroclor-1248	120000	U
11097-69-1	Aroclor-1254	250000	U
11096-82-5	Aroclor-1260	390000	

Quantitation limits of aromatics are estimated J
T.J. 2/29/88

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

ES-430

Lab Name: RF WESTON, INC. Contract: 68-01-7413

Lab Code: WESCA Case No.: 8736 SAS No.: _____ SDG No.: ES-428

Matrix: (soil/water) SOIL Lab Sample ID: 8712-S047-007

Sample wt/vol: 30.0 (g/mL) G Lab File ID: _____

Level: (low/med) LOW Date Received: 12/17/87

% Moisture: not dec. 28 dec. ____ Date Extracted: 12/22/87

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 01/14/88

GPC Cleanup: (Y/N) N pH: 6.5 Dilution Factor: 0.00100

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
319-84-6	alpha-BHC	11000	U
319-85-7	beta-BHC	11000	U
319-86-8	delta-BHC	11000	U
58-89-9	gamma-BHC (Lindane)	11000	U
76-44-8	Heptachlor	11000	U
309-00-2	Aldrin	11000	U
1024-57-3	Heptachlor epoxide	11000	U
959-98-8	Endosulfan I	11000	U
60-57-1	Dieldrin	22000	U
72-55-9	4,4'-DDE	22000	U
72-20-8	Endrin	22000	U
33213-65-9	Endosulfan II	22000	U
72-54-8	4,4'-DDD	22000	U
1031-07-8	Endosulfan sulfate	22000	U
50-29-3	4,4'-DDT	22000	U
72-43-5	Methoxychlor	110000	U
53494-70-5	Endrin ketone	22000	U
5103-71-9	alpha-Chlordane	110000	U
5103-74-2	gamma-Chlordane	110000	U
8001-35-2	Toxaphene	220000	U
12674-11-2	Aroclor-1016	110000	U
11104-28-2	Aroclor-1221	110000	U
11141-16-5	Aroclor-1232	110000	U
53469-21-9	Aroclor-1242	110000	U
12672-29-6	Aroclor-1248	110000	U
11097-69-1	Aroclor-1254	220000	U
11096-82-5	Aroclor-1260	320000	

Quantitation limits of aromatics are estimated.
Tg. 2/24/88

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

ES-431

ab Name: RF WESTON,INC. Contract: 68-01-7413

Code: WESCA Case No.: 8736 SAS No.: _____ SDG No.: ES-428

rix: (soil/water) SOIL Lab Sample ID: 8712-S047-010

ple wt/vol: 30.0 (g/mL) G Lab File ID: _____

el: (low/med) LOW Date Received: 12/17/87

Moisture: not dec. 43 dec. ____ Date Extracted: 12/22/87

action: (SepF/Cont/Sonc) SONC Date Analyzed: 01/14/88

Cleanup: (Y/N) N pH: 6.6 Dilution Factor: 0.00500

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
319-84-6	alpha-BHC	2900	U
319-85-7	beta-BHC	2900	U
319-86-8	delta-BHC	2900	U
58-89-9	gamma-BHC (Lindane)	2900	U
76-44-8	Heptachlor	2900	U
309-00-2	Aldrin	2900	U
1024-57-3	Heptachlor epoxide	2900	U
959-98-8	Endosulfan I	2900	U
60-57-1	Dieldrin	5600	U
72-55-9	4,4'-DDE	5600	U
72-20-8	Endrin	5600	U
33213-65-9	Endosulfan II	5600	U
72-54-8	4,4'-DDD	5600	U
1031-07-8	Endosulfan sulfate	5600	U
50-29-3	4,4'-DDT	5600	U
72-43-5	Methoxychlor	28000	U
53494-70-5	Endrin ketone	5600	U
5103-71-9	alpha-Chlordane	8600	J
5103-74-2	gamma-Chlordane	7700	J
8001-35-2	Toxaphene	56000	U
12674-11-2	Aroclor-1016	28000	U
11104-28-2	Aroclor-1221	28000	U
11141-16-5	Aroclor-1232	28000	U
53469-21-9	Aroclor-1242	28000	U
12672-29-6	Aroclor-1248	28000	U
11097-69-1	Aroclor-1254	56000	U
11096-82-5	Aroclor-1260	88000	

Quant. limits of aromatics are estimated
T.G. 2/24/88

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

ES-432

Lab Name: RF WESTON, INC. Contract: 68-01-7413

Lab Code: WESCA Case No.: 8736 SAS No.: _____ SDG No.: ES-428

Matrix: (soil/water) SOIL Lab Sample ID: 8712-S047-013

Sample wt/vol: 30.0 (g/mL) G Lab File ID: _____

Level: (low/med) LOW Date Received: 12/17/87

% Moisture: not dec. 23 dec. ____ Date Extracted: 12/22/87

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 01/14/88

GPC Cleanup: (Y/N) N pH: 8.0 Dilution Factor: 0.0100

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
319-84-6	alpha-BHC	1000	U
319-85-7	beta-BHC	1000	U
319-86-8	delta-BHC	1000	U
58-89-9	gamma-BHC (Lindane)	1000	U
76-44-8	Heptachlor	1000	U
309-00-2	Aldrin	1000	U
1024-57-3	Heptachlor epoxide	1000	U
959-98-8	Endosulfan I	1000	U
60-57-1	Dieldrin	2100	U
72-55-9	4,4'-DDE	2100	U
72-20-8	Endrin	2100	U
33213-65-9	Endosulfan II	2100	U
72-54-8	4,4'-DDD	2100	U
1031-07-8	Endosulfan sulfate	2100	U
50-29-3	4,4'-DDT	2100	U
72-43-5	Methoxychlor	10000	U
53494-70-5	Endrin ketone	2100	U
5103-71-9	alpha-Chlordane	10000	U
5103-74-2	gamma-Chlordane	10000	U
8001-35-2	Toxaphene	21000	U
12674-11-2	Aroclor-1016	10000	U
11104-28-2	Aroclor-1221	10000	U
11141-16-5	Aroclor-1232	10000	U
53469-21-9	Aroclor-1242	10000	U
12672-29-6	Aroclor-1248	10000	U
11097-69-1	Aroclor-1254	21000	U
11096-82-5	Aroclor-1260	21000	U

Quant. limit of aromatics are estimated J
T.G. 2/29/88

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PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

ES-433

Lab Name: RF WESTON,INC. Contract: 68-01-7413

Lab Code: WESCA Case No.: 8736 SAS No.: _____ SDG No.: ES-428

Matrix: (soil/water) SOIL Lab Sample ID: 8712-S047-016

Sample wt/vol: 30.0 (g/mL) G Lab File ID: _____

Level: (low/med) LOW Date Received: 12/17/87

% Moisture: not dec. 25 dec. ____ Date Extracted: 12/22/87

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 01/14/88

GPC Cleanup: (Y/N) N pH: 7.4 Dilution Factor: 0.00500

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
319-84-6	alpha-BHC	2100	U
319-85-7	beta-BHC	2100	U
319-86-8	delta-BHC	2100	U
58-89-9	gamma-BHC (Lindane)	2100	U
76-44-8	Heptachlor	2100	U
309-00-2	Aldrin	2100	U
1024-57-3	Heptachlor epoxide	2100	U
959-98-8	Endosulfan I	2100	U
60-57-1	Dieldrin	4300	U
72-55-9	4,4'-DDE	4300	U
72-20-8	Endrin	4300	U
33213-65-9	Endosulfan II	4300	U
72-54-8	4,4'-DDD	4300	U
1031-07-8	Endosulfan sulfate	4300	U
50-29-3	4,4'-DDT	4300	U
72-43-5	Methoxychlor	21000	U
53494-70-5	Endrin ketone	4300	U
5103-71-9	alpha-Chlordane	13000	J
5103-74-2	gamma-Chlordane	1300	J
8001-35-2	Toxaphene	43000	U
12674-11-2	Aroclor-1016	21000	U
11104-28-2	Aroclor-1221	21000	U
11141-16-5	Aroclor-1232	21000	U
53469-21-9	Aroclor-1242	21000	U
12672-29-6	Aroclor-1248	21000	U
11097-69-1	Aroclor-1254	43000	U
11096-82-5	Aroclor-1260	43000	U

Quant. limits of aromatics are estimated J
T.H. 2/29/88

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

ES-434

Lab Name: RF WESTON, INC. Contract: 68-01-7413

Code: WESCA Case No.: 8736 SAS No.: _____ SDG No.: ES-428

Matrix: (soil/water) SOIL Lab Sample ID: 8712-S047-019

Sample wt/vol: 30.0 (g/mL) G Lab File ID: _____

Level: (low/med) LOW Date Received: 12/17/87

Moisture: not dec. 36 dec. ____ Date Extracted: 12/22/87

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 01/14/88

GPC Cleanup: (Y/N) N pH: 8.2 Dilution Factor: 0.00200

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
319-84-6	alpha-BHC	6200	U
319-85-7	beta-BHC	6200	U
319-86-8	delta-BHC	6200	U
58-89-9	gamma-BHC (Lindane)	6200	U
76-44-8	Heptachlor	6200	U
309-00-2	Aldrin	6200	U
1024-57-3	Heptachlor epoxide	6200	U
959-98-8	Endosulfan I	6200	U
60-57-1	Dieldrin	12000	U
72-55-9	4,4'-DDE	12000	U
72-20-8	Endrin	12000	U
33213-65-9	Endosulfan II	12000	U
72-54-8	4,4'-DDD	12000	U
1031-07-8	Endosulfan sulfate	12000	U
50-29-3	4,4'-DDT	12000	U
72-43-5	Methoxychlor	62000	U
53494-70-5	Endrin ketone	12000	U
5103-71-9	alpha-Chlordane	11000	J
5103-74-2	gamma-Chlordane	2800	J
8001-35-2	Toxaphene	120000	U
12674-11-2	Aroclor-1016	62000	U
11104-28-2	Aroclor-1221	62000	U
11141-16-5	Aroclor-1232	62000	U
53469-21-9	Aroclor-1242	62000	U
12672-29-6	Aroclor-1248	62000	U
11097-69-1	Aroclor-1254	120000	U
11096-82-5	Aroclor-1260	120000	U

Quant. limits of aromatics are estimated J
T.G. 2/29/88

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

ES-435

ab Name: RF WESTON, INC. Contract: 68-01-7413

Code: WESCA Case No.: 8736 SAS No.: _____ SDG No.: ES-428

trix: (soil/water) SOIL Lab Sample ID: 8712-S047-022

ample wt/vol: 30.0 (g/mL) G Lab File ID: _____

el: (low/med) LOW Date Received: 12/17/87

Moisture: not dec. 20 dec. ____ Date Extracted: 12/22/87

raction: (SepF/Cont/Sonc) SONC Date Analyzed: 01/14/88

FC Cleanup: (Y/N) N pH: 7.7 Dilution Factor: 0.00100

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) UG/KG	Q
319-84-6	alpha-BHC	10000	U
319-85-7	beta-BHC	10000	U
319-86-8	delta-BHC	10000	U
58-89-9	gamma-BHC (Lindane)	10000	U
76-44-8	Heptachlor	10000	U
309-00-2	Aldrin	10000	U
1024-57-3	Heptachlor epoxide	10000	U
959-98-8	Endosulfan I	10000	U
60-57-1	Dieldrin	20000	U
72-55-9	4,4'-DDE	20000	U
72-20-8	Endrin	20000	U
33213-65-9	Endosulfan II	20000	U
72-54-8	4,4'-DDD	20000	U
1031-07-8	Endosulfan sulfate	20000	U
50-29-3	4,4'-DDT	20000	U
72-43-5	Methoxychlor	100000	U
53494-70-5	Endrin ketone	20000	U
5103-71-9	alpha-Chlordane	38000	J
5103-74-2	gamma-Chlordane	3800	J
8001-35-2	Toxaphene	200000	U
12674-11-2	Aroclor-1016	100000	U
11104-28-2	Aroclor-1221	100000	U
11141-16-5	Aroclor-1232	100000	U
53469-21-9	Aroclor-1242	100000	U
12672-29-6	Aroclor-1248	100000	U
11097-69-1	Aroclor-1254	200000	U
11096-82-5	Aroclor-1260	200000	U

Quant. limits of ammonia are estimated J
[illegible] 2/24/86

E01
CONFIRMATION
KBB 11-5-87

TRIANGLE LABORATORIES, INC
2,3,7,8-TCDD/TCDF ANALYSIS

ANALYST	HSK	FILE #	M872260
DATE	8-20-87	CONCAL #	M872252
SAMPLE WEIGHT	10.13	TLI #	8701504
SAMPLE ID	SAS3119E01		

NAME	CONC (ppt)	DL	EMPC	RATIO	RT
2378-TCDF	ND		15.46	0.598	15.22
2378-TCDD	ND		17.92	1.118	13.18

SURROGATE RESULTS SUMMARY

NAME	CONC (ppt)	% RECOVERY	RATIO	RT
13C12-TCDF	158.35	82.58	0.789	15.20
37Cl-TCDD	165.74	86.44		13.19

INTERNAL STANDARDS RECOVERY RESULTS

NAME	CONC (ppt)	% RECOVERY	RATIO	RT
2378-13C12-TCDD	176.53	92.06	0.810	13.18

DSI 21
E02
SCREEN

TRIANGLE LABORATORIES, INC.
PCDD/PCDF ANALYSIS (D)

KBB 11-5-87

ANALYST: MC
DATE: 80/16/87
SAMPLEWT: 10.31

FILE NAME: M872213
SAMPLE ID: SAS 3119E02
CASE NO: SAS 3319E
PROJ NO: 8701504

CONCAL: M872209

NAME	CONC(ppt)	NUMBER	DL	EMPC	RATIO	RT
2378-TCDD	ND		3.610			
TOTAL TCDD	ND			31.275	0.91	
12378-PCDD	ND		7.010			
TOTAL PCDD	ND		7.010			
123478-HxCDD	ND		4.272			
123678-HxCDD	ND		4.640			
123789-HxCDD	ND			12.179	0.51	
TOTAL HxCDD	123.789	2			1.11	
234678-HpCDD	830.601				0.96	43.23
TOTAL HpCDD	1661.038	2			0.99	
OCDD	10225.865				0.88	48.21
2378-TCDF	ND			120.991	0.61	
TOTAL TCDF	94.706	3			0.81	
12378-PCDF	ND			16.056	0.33	
23478-PCDF	24.588				0.56	30.35
TOTAL PCDF	195.799	4			0.59	
123478-HxCDF	ND			54.571	2.15	
123678-HxCDF	ND			16.900	5.88	
234678-HxCDF	ND			20.554	2.32	
123789-HxCDF	ND		4.293			
TOTAL HxCDF	156.265	2			1.25	
234678-HpCDF	ND			199.492	1.27	
234789-HpCDF	ND		5.078			
TOTAL HpCDF	272.073	1			0.89	
OCDF	517.013				0.96	48.32

SURROGATE RECOVERY SUMMARY

NAME	CONC (ppt.)	% REC.	RATIO	RT
13C12-TCDF	231.22	119.19	0.86	25.23
37Cl-TCDD	210.14	108.33		26.05
13C12-HxCDF	182.76	94.21	1.23	36.24

INTERNAL STANDARDS RECOVERY SUMMARY

NAME	CONC (ppt.)	% REC.	RATIO	RT
2378-13C12-TCDD	166.53	85.85	0.89	26.04
13C12-PCDD	93.08	47.98	0.54	30.59
13C12-HxCDD	193.33	99.66	1.31	37.37
13C12-HpCDD	151.89	78.30	0.98	43.22
13C12-OCDD	208.01	53.61	0.95	48.20

E02
CONFIRMATION
KBB 11-5-87

TRIANGLE LABORATORIES, INC
2,3,7,8-TCDD/TCDF ANALYSIS

ANALYST	HSK	FILE #	M872261
DATE	8 20-87	CONCAL #	M872252
SAMPLE WEIGHT	10.51	TLI #	8701504
SAMPLE ID	SAS1119E02		

NAME	CON. (ppt)	DL	EMPC	RATIO	RT
2378-TCDF	ND		104.03	0.367	15.24
2378-TCDD	ND	11.88		0.729	13.19

SURROGATE RESULTS SUMMARY

NAME	CONC (ppt)	% RECOVERY	RATIO	RT
13C12-TCDF	186.41	96.09	0.743	15.23
37Cl-TCDD	241.87	124.68		13.19

INTERNAL STANDARDS RECOVERY RESULTS

NAME	CONC (ppt)	% RECOVERY	RATIO	RT
2378-13C12-TCDD	163.74	84.41	0.674	13.18

ecology and environment, inc.

111 WEST JACKSON BLVD., CHICAGO, ILLINOIS 60604, TEL. 312-663-9415

International Specialists in the Environment

CRL Receipt Date 11/4/87 FIT Receipt Date 11/19 Review Completed 11/23/87

TO: Jeff Carman

FROM: Zena Gold-Kaufman

SUBJECT: US Scrap

PAN: IL0102 CASE # ~~8467~~ SAS3119E

Sample Description DIOXIN

Organics (VOA, ABN, Pest/PCB)

# 2	Low Soil
_____	Low Water
_____	Drinking Water
_____	Other

Inorganics (Metals, Cyanide)

#_____	Low Soil
_____	Low Water
_____	Drinking Water
_____	Other

Project Data Status _____ Completed!!

_____ Incomplete, awaiting: _____

FIT Data Review Findings:

Check Data Sheets for Transcription Errors

_____Compounds were detected in sample(s); see enclosed sheet.

Book No. 6 Page No. 196 Date Sampled 7/15

26U:001

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION V

DATE: 11/6/87 D. Wesolowski

SUBJECT: Review of Region V CLP Data Received for Review on 8-21-87

FROM: Curtis Ross, Director (5SCRL)
Central Regional Laboratory

TO: Data User: FIT

We have reviewed the data for the following case(s).

SITE NAME: US SCRAP SMO Case No. SAS 3119E

EPA Data Set No. SF-4182 No. of Samples: 2 D.U./Activity Numbers Y905 / C72100

CRL No. 87FC12S37, S38

SMO Traffic No. 3119 E01, E02

CLP Laboratory: TRIANGLE Hrs. Required for Review: 2 hrs

Following are our findings:

This review covers 2 samples for full tetra → octa dioxin/furan analysis. Second column confirmation for 2,3,7,8-TCDD/TCDF was performed.

Data qualifiers are noted on qualifier sheets which follow.

Kevin B. Bolger 11-5-87

( ) Data are acceptable for use.
(✓) Data are acceptable for use with qualifications referenced above. See Data Qualifier sheets and Calibration Outlier forms for flags and additional comments.
( ) Data are preliminary - pending verification by Contractor Laboratory. See Case Summary above.
( ) Data are unacceptable.

cc: Carla Dempsey, CLP Quality Assurance Officer, Analytical Operations Branch
James Petty, Chief Quality Assurance Research, EMSL, Las Vegas

DATA QUALIFIERS

Contractor: TRIANGLE

Case SAS 3119E

Below is a summary of the out-of-control audits and the possible effect on the data for this case:

1. Method BLANKS. Method blank for all tetra-octa dioxin/furan isomers was < 10 ppT; 2,3,7,8-TCDD/TCDF was < 5 ppT.

2. Surrogate Recoveries. Surrogate recoveries were all within acceptable SAS criteria

3. Matrix spike/MSD analysis High recoveries were obtained for the following spikes: 1234678 HpCDD (236%), OCDD (305%) 2,3,7,8-TCDF (181%) and 1234678 HpCDF (165%) all MS%; 1,234678 HpCDD (270%), OCDD (996%) and OCDF (199%) all MSD%; Total TCDD (80%) and Total TCDF - % RPD. These parameters appear to be high due to high values actually observed or possible interferents in coeluting peaks. MS/MSD analyses were performed using E-01 in which ppB values were obtained for Hx → Octa CDD/CDF.

4. Results As discussed above, upwards of ppB values were in E01/E02 for HxCDD → Octa CDD/F in the full screen analyses. TCDD/TCDF was observed in E01 and TCDF in E02. Confirmations were performed for 2,3,7,8-TCDD/TCDF; none were confirmed. Due to high levels of Total TCDD/TCDF, confirmation of 2,3,7,8-TCDD in E01 may be obscured. Value of ~11 ppT 2,3,7,8-TCDD was observed in E01 full screen while the confirmation run gave a high detection limit of over 15 ppT. This was not resolved due to ~113 ppT total TCDD in the sample along with coeluents. No additional clean up was successful.

Reviewed by: Kevin B Bolger

Phone: (312) 353-4696

DATA QUALIFIERS

Contractor: TRIANGLE

Case SAS 3114E

Below is a summary of the out-of-control audits and the possible effect on the data for this case:

4. (Continued) As discussed, results if positive are noted in the "CONC (ppT)" column while negative results are posted in either the "DL" or "EMPC" columns. Results for 2,3,7,8-TCDD should be used only as the separate Confirmation report.

All ion ratios met criteria for positive hits as well as retention windows.

Reviewed by: Kevin B. Bolger

Phone: (242) 353-4676

TRIANGLE LABORATORIES, INC.
4915F PROSPECTUS DRIVE
RESEARCH TRIANGLE PARK, NC 27713
919 544-5729

CASE NARRATIVE

DATE:	18 Aug 1987
CLIENT ID:	SAS 3119-E
TLI NO.:	8701504
OBJECTIVE:	ANALYSIS OF TWO SOIL SAMPLES FOR THE PRESENCE OF TETRA- THROUGH OCTACHLORODIBENZODIOXINS AND DIBENZO-FURANS

Sample Preparation

The samples were prepared by using the methods described in the RCRA Method 8280 analytical protocol. Note that the recommended cleanup procedure (i.e., "regular piggy back columns") was not adequate (presence of interferences during the HRGC/HRMS analysis). The samples were thus re-extracted and submitted to an 8280-type cleanup (acid/base wash, neutral alumina column and carbon column) before GC/MS analysis. All the samples (including the quality control and method blank samples) were fortified with 200 ppt of the tetra- through heptachlorinated internal and surrogate standards and 400 ppt of the octachlorinated dibenzodioxin internal standard. This was accomplished by using the sample fortification solution described in Table 1.

The solution contains eight carbon-labeled PCDD/PCDF standards. The $^{13}C_{12}$-2,3,7,8-TCDD internal standard is used to quantitate TCDDs and TCDFs, $^{13}C_{12}$-1,2,3,7,8-PeCDD is used to quantitate PeCDDs and PeCDFs, $^{13}C_{12}$-1,2,3,6,7,8-HxCDD is used to quantitate HxCDDs and HxCDFs, $^{13}C_{12}$-1,2,3,4,6,7,8-HpCDD is used to quantitate HpCDDs and HpCDFs, and $^{13}C_{12}$-OCDD is used to quantitate OCDD and OCDF.

The matrix spike (MS) and matrix spike duplicate (MSD) quality control samples were selected from sample number 3119E01 and fortified with the unlabeled compounds listed in Table 2. The fortification levels were ~40 ppt for the tetrachlorinated isomers, ~200 ppt for the penta- through heptachlorinated isomers and ~100 ppt for the octachlorinated isomers.

Document Control

The Document Control package contains all laboratory records received or generated during the sample handling by Triangle Laboratories. In addition, representative quality control (QC) charts are provided in the Document Control section. Two types

of QC charts are included; the first one consists in plotting the percent recoveries of all labeled internal and surrogate standards used during the sample preparation while the second set of QC charts represents the variation of the continuing calibration response factors for the fifteen 2,3,7,8-substituted PCDD/PCDFs, OCDF and OCDD. Both types of QC charts were obtained from recent analyses of large batches (>20 samples) of soil samples by using similar extraction-cleanup and HRGC/HRMS analysis procedures as the samples reported herein. These charts will be updated regularly for large batches of soil samples in order to demonstrate the statistical control of the measurement system. [UWL/LWL = Upper/Lower Warning Limits (2 standard deviations; UQCL/LQCL = Upper/Lower Control Limits (3 standard deviations).]

Data Package

On the enclosed sample data sheets, the concentrations are given in parts per trillion (ppt). "RT" is the gas chromatographic retention time in minutes and seconds, "number" is the number of GC peaks identified as PCDD/PCDF isomers in the totals reported for each homologous series, and "ratio" is the integrated ion abundance ratio observed for the M to M+2 ions of the tetra- through pentachlorinated isomers and M+2 to M+4 for the hexa- through octachlorinated isomers. "DL" is the detection limit for samples presenting an analyte response that is less than 2.5 times the background level. "EMPC", representing the estimated maximum possible concentration, is reported for GC/MS signals eluting within the PCDD/PCDF retention time windows established with the daily GC performance analysis, and which are characterized by a signal-to-noise ratio in excess of 2.5:1 but do not meet all of the qualitative identification criteria listed below. The "EMPC" is calculated by using the same expression used for reporting the identified analyte concentrations. The "DL" and "EMPC" are both reported in ppt.

For quantifications, the sum of the peak areas for the two ions monitored is used. When no peak is detected, an area of 10 counts for each ion (total 20 counts) is used to calculate the detection limit. The results of the samples are given on a dry weight basis. The percent moisture results are given in the analyst bench sheets provided in the Document Control package.

High-Resolution Gas Chromatography / High-Resolution Mass Spectrometry

For GC/MS analysis, the final residue was dissolved in 20 uL of a toluene solution containing the recovery standards shown in Table 1. The recoveries of the carbon-labeled tetra- and pentachlorinated dibenzodioxins internal standards were calculated by using $^{13}C_{12}$-1,2,3,4-TCDD as the recovery standard. The recoveries of higher homologues (hexa- through octachlorinated congeners) were determined relative to $^{13}C_{12}$-1,2,3,7,8,9-HxCDD.

E01
CONFIRMATION
KBB 11-5-87

TRIANGLE LABORATORIES, INC
2,3,7,8-TCDD/TCDF ANALYSIS

ANALYST	HSK	FILE #	M872260
DATE	8-20-87	CONCAL #	M872252
SAMPLE WEIGHT	10.43	TLI #	8701504
SAMPLE ID	SAS3119E01		

NAME	CONC (ppt)	DL	EMPC	RATIO	RT
2378-TCDF	ND		15.46	0.593	15.22
2378-TCDD	ND		17.92	1.118	13.18

SURROGATE RESULTS SUMMARY

NAME	CONC (ppt)	% RECOVERY	RATIO	RT
13C12-TCDF	158.35	82.58	0.789	15.20
37Cl-TCDD	165.74	86.44		13.19

INTERNAL STANDARDS RECOVERY RESULTS

NAME	CONC (ppt)	% RECOVERY	RATIO	RT
2378-13C12-TCDD	176.53	92.06	0.810	13.18

DS1-01
E02
SCREEN

KBB 11-5-87

TRIANGLE LABORATORIES, INC.
PCDD/PCDF ANALYSIS (D)

ANALYST: MC
DATE: 80/16/87
SAMPLEWT: 10.31

FILE NAME: M872213
SAMPLE ID: SAS 3119E02
CASE NO: SAS 3319E
PROJ NO: 8701504

CONCAL: M872209

NAME	CONC(ppt)	NUMBER	DL	EMPC	RATIO	RT
2378-TCDD	ND		3.610			
TOTAL TCDD	ND			31.275	0.91	
12378-PCDD	ND		7.010			
TOTAL PCDD	ND		7.010			
123478-HxCDD	ND		4.272			
123678-HxCDD	ND		4.640			
123789-HxCDD	ND			12.179	0.51	
TOTAL HxCDD	123.789	2			1.11	
1234678-HpCDD	830.601				0.96	43.23
TOTAL HpCDD	1661.038	2			0.99	
OCDD	10225.865				0.88	48.21
2378-TCDF	ND			120.991	0.61	
TOTAL TCDF	94.706	3			0.81	
12378-PCDF	ND			16.056	0.33	
23478-PCDF	24.588				0.56	30.35
TOTAL PCDF	195.299	4			0.59	
123478-HxCDF	ND			54.571	2.15	
123678-HxCDF	ND			16.900	5.88	
234678-HxCDF	ND			20.554	2.32	
123789-HxCDF	ND		4.293			
TOTAL HxCDF	156.265	2			1.25	
1234678-HpCDF	ND			199.492	1.27	
1234789-HpCDF	ND		5.078			
TOTAL HpCDF	272.073	1			0.89	
OCDF	517.013				0.96	48.32

SURROGATE RECOVERY SUMMARY

NAME	CONC (ppt)	% REC.	RATIO	RT
13C12-TCDF	231.22	119.19	0.86	25.23
37CL-TCDD	210.14	108.33		26.05
13C12-HxCDF	182.76	94.21	1.23	36.24

INTERNAL STANDARDS RECOVERY SUMMARY

NAME	CONC (ppt)	% REC.	RATIO	RT
2378-13C12-TCDD	166.53	85.85	0.89	26.04
13C12-PCDD	93.08	47.98	0.54	30.59
13C12-HxCDD	193.33	99.66	1.31	37.37
13C12-HpCDD	151.89	78.30	0.98	43.22
13C12-OCDD	208.01	53.61	0.95	48.20

E02
CONFIRMATION
KBB 11-5-87

TRIANGLE LABORATORIES, INC
2,3,7,8-TCDD/TCDF ANALYSIS

ANALYST	HSK	FILE #	M872261
DATE	8 20-87	CONCAL #	M872252
SAMPLE WEIGHT	10.31	TLI #	8701504
SAMPLE ID	SAS1119E02		

NAME	CON. (ppt)	DL	EMPC	RATIO	RT
2378-TCDF	ND		104.03	0.367	15.24
2378-TCDD	ND	11.88		0.729	13.19

SURROGATE RESULTS SUMMARY

NAME	CONC (ppt)	% RECOVERY	RATIO	RT
13C12-TCDF	186.41	96.09	0.743	15.23
37Cl-TCDD	241.87	124.68		13.19

INTERNAL STANDARDS RECOVERY RESULTS

NAME	CONC (ppt)	% RECOVERY	RATIO	RT
2378-13C12-TCDD	163.74	84.41	0.674	13.18

TABLE 2. COMPOSITION OF THE INITIAL CALIBRATION SOLUTIONS

Compound	Concentrations (pg/uL)					
Sol. Number	1	2	3	4	5	6
Unlabeled Analytes						
2,3,7,8-TCDD	5	10	50	100	500	1000
2,3,7,8-TCDF	5	10	50	100	500	1000
1,2,3,7,8-PeCDD	25	50	250	500	2500	5000
1,2,3,7,8-PeCDF	25	50	250	500	2500	5000
2,3,4,7,8-PeCDF	25	50	250	500	2500	5000
1,2,3,4,7,8-HxCDD	25	50	250	500	2500	5000
1,2,3,6,7,8-HxCDD	25	50	250	500	2500	5000
1,2,3,7,8,9-HxCDD	25	50	250	500	2500	5000
1,2,3,4,7,8-HxCDF	25	50	250	500	2500	5000
1,2,3,6,7,8-HxCDF	25	50	250	500	2500	5000
1,2,3,7,8,9-HxCDF	25	50	250	500	2500	5000
2,3,4,6,7,8-HxCDF	25	50	250	500	2500	5000
1,2,3,4,6,7,8-HpCDD	25	50	250	500	2500	5000
1,2,3,4,6,7,8-HpCDF	25	50	250	500	2500	5000
1,2,3,4,7,8,9-HpCDF	25	50	250	500	2500	5000
OCDD	50	100	500	1000	5000	10000
OCDF	50	100	500	1000	5000	10000
Internal Standards						
$^{13}C_{12}$-2,3,7,8-TCDD	100	100	100	100	100	100
$^{13}C_{12}$-1,2,3,7,8-PeCDD	100	100	100	100	100	100
$^{13}C_{12}$-1,2,3,6,7,8-HxCDD	100	100	100	100	100	100
$^{13}C_{12}$-1,2,3,4,6,7,8-HpCDD	100	100	100	100	100	100
$^{13}C_{12}$-OCDD	200	200	200	200	200	200
Surrogate Standards						
$^{37}Cl_4$-2,3,7,8-TCDD	5	10	50	100	500	1000
$^{13}C_{12}$-2,3,7,8-TCDF	5	10	50	100	500	1000
$^{13}C_{12}$-1,2,3,4,7,8-HxCDF	5	10	50	100	500	1000
Recovery Standard						
$^{13}C_{12}$-1,2,3,4-TCDD	100	100	100	100	100	100
$^{13}C_{12}$-1,2,3,7,8,9-HxCDD	100	100	100	100	100	100

TABLE 3: GAS CHROMATOGRAPHY CONDITIONS

Column Type	DB-5
Length (m)	60
i.d. (mm)	0.25
Film Thickness (um)	0.25
Carrier Gas	Helium
Carrier Gas Flow (mL/min)	1-2
Injection Mode	splitless
Valve Time (s)	30
Initial Temperature (° C)	150
Program Temperature	150° C to 190° C ballistically then 3° C/min up to 300° C.

7/29/87

US Scrap SAS 3119 E Dioxin/Furan

Triangle labs extracted samples - high residue
They want to re-extract & do more drastic
cleanup involving acid/base washing and
then alumina column cleanup. I suggested
(after talking to F.T. and R. Hix) that they
use a 1g sample instead of the 10g.
Yves Tondeur - lab contact - said he would
try the more extensive cleanup and will
document.

In Reference to Case No(s):
SAS 3119-E

Contract Laboratory Program
REGIONAL/LABORATORY COMMUNICATION SYSTEM

Telephone Record Log

Date of Call: 16 July 87

Laboratory Name: [illegible] Labs

Lab Contact: Yves [illegible]

Region: V

Regional Contact: [illegible]

Call Initiated By: ✓ Laboratory ___ Region

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

Summary of Questions/Issues Discussed:

[illegible] [illegible] 2 [illegible]

Summary of Resolution:

[illegible] is complete

[signature]
Signature

16 July 87
Date

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

TLI-577-1504
DATE 8-19-87

TRIANGLE LABORATORIES, INC.
MATRIX SPIKE
SAMPLE # SAS 3119E01-MS AND 3119E01-MSD
wt 10.490 10.450

ISOMER	MS(TOTAL) (pg)	MSD(TOTAL) (pg)	AVERAGE (pg)	DEVIATION ABS	DEVIATION %RD
2378-TCDD	443.328	551.655	497.492	54.164	-22%
TOTAL TCDD	1041.521	2428.580	1735.050	693.530	-80%
123478-PCDD	2098.703	1870.759	1984.731	-113.972	11%
TOTAL PCDD	2640.648	2599.646	2620.147	-20.501	2%
123478-HxCDD	1985.558	1518.072	1751.815	-233.743	27%
123679-HxCDD	2548.231	2376.225	2462.228	-86.003	7%
123789-HxCDD	1977.260	2282.071	2129.666	152.405	-14%
TOTAL HxCDD	10790.853	10676.033	10733.443	-57.410	1%
1234678-HpCDD	18608.526	17890.086	18249.306	-359.220	4%
TOTAL HpCDD	36582.721	34540.176	35561.449	-1021.273	6%
OCDD	193346.540	165109.269	179227.904	-14118.636	16%
2378-TCDF	1779.209	2214.668	1996.939	217.730	-22%
TOTAL TCDF	3932.596	5870.078	4901.337	968.741	-40%
12378-PCDF	2715.441	1970.975	2343.208	-372.233	32%
234678-PCDF	2734.323	2312.063	2523.193	-211.130	17%
TOTAL PCDF	6406.138	6771.704	6588.921	182.783	-6%
123478-HXCDF	2976.013	2739.258	2857.636	-118.377	8%
123678-HxCDF	2673.796	2192.514	2433.155	-240.641	20%
234678-HXCDF	2270.036	2097.524	2183.780	-86.256	8%
123789-HXCDF	2185.696	1702.200	1943.948	-241.748	25%
TOTAL HxCDF	12011.155	11463.963	11737.559	-273.596	5%
1234678-HpCDF	4957.994	5703.087	5330.541	372.547	-14%
1234789-HpCDF	2286.715	2393.154	2339.935	53.220	-5%
TOTAL HpCDF	13049.875	13546.753	13298.314	248.439	-4%
OCDD	16193.728	13905.397	15049.562	-1144.165	15%

TLI#87019048
DATE 8-19-87

TRIANGLE LABORATORIES, INC.
MATRIX SPIKE
SAMPLE # SAS 3119E01 AND 3119E01-MSD

ISOMER	SAMPLE (ppt)	SPIKED (ppt)	OBSERVED (ppt)	RECOVERIES ABS	RECOVERIES %REC
2378-TCDD	10.8	38.3	52.8	42.0	110%
123478-PCDD	ND	191.4	179.0	179.0	94%
123478-HxCDD	ND	191.4	145.3	145.3	76%
123679-HxCDD	ND	191.4	227.4	227.4	119%
123789-HxCDD	ND	191.4	218.4	218.4	114%
1234678-HpCDD	1259.4	191.4	1712.0	452.5	236%
OCDD	14631.9	382.8	15799.9	1168.1	305%
2378-TCDF	142.7	38.3	211.9	69.3	181%
12378-PCDF	ND	191.4	188.6	188.6	99%
234678-PCDF	27.4	191.4	221.3	193.8	101%
123478-HXCDF	ND	191.4	262.1	262.1	137%
123678-HxCDF	ND	191.4	209.8	209.8	110%
234678-HXCDF	ND	191.4	200.7	200.7	105%
123789-HXCDF	ND	191.4	162.9	162.9	85%
1234678-HpCDF	229.5	191.4	545.8	316.2	165%
1234789-HpCDF	ND	191.4	229.0	229.0	120%
OCDF	785.1	382.8	1330.7	545.6	143%

ILI#27(15)1P
DATE 8 19 87

TRIANGLE LABORATORIES, INC.
MATRIX SPIKE
SAMPLE # 3119E01 AND 3119E01-MS

ISOMER	SAMPLE (ppt)	SPIKED (ppt)	OBSERVED (ppt)	RECOVERIES ABS	RECOVERIES %REC
2378-TCDD	10.8	38.1	42.3	31.4	82%
123478-PCDD	ND	190.7	200.1	200.1	105%
123478-HxCDD	ND	190.7	189.3	189.3	99%
123679-HxCDD	ND	190.7	242.9	242.9	127%
123789-HxCDD	ND	190.7	188.5	188.5	99%
1234678-HpCDD	1259.4	190.7	1773.9	514.5	270%
OCDD	14631.9	381.3	18431.5	3799.7	996%
2378-TCDF	142.7	38.1	169.6	27.0	71%
12378-PCDF	ND	190.7	258.9	258.9	136%
234678-PCDF	27.4	190.7	260.7	233.3	122%
123478-HXCDF	ND	190.7	283.7	283.7	149%
123678-HxCDF	ND	190.7	254.9	254.9	134%
234678-HXCDF	ND	190.7	216.4	216.4	113%
123789-HXCDF	ND	190.7	208.4	208.4	109%
1234678-HpCDF	229.5	190.7	472.6	243.1	127%
1234789-HpCDF	ND	190.7	218.0	218.0	114%
OCDF	785.1	381.3	1543.7	758.7	199%

BLANK
KBB 11-5-87

TRIANGLE LABORATORIES, INC.
PCDD/PCDF ANALYSIS (D)

ALYST: MC FILE NAME: M872215 CONCAL: M872209
TE: 08/20/87 SAMPLE ID: BLANK
MPLEWT: 10.00 CASE NO: SAS3119E
PROJ NO: 8701504

NAME	CONC(ppt)	NUMBER	DL	EMPC	RATIO	RT
378-TCDD	ND		3.725			
TAL TCDD	ND		3.725			
2378-PCDD	ND		6.037			
TAL PCDD	ND		6.037			
23478-HxCDD	ND		2.965			
23678-HxCDD	ND		3.220			
123789-HxCDD	ND		3.562			
TAL HxCDD	ND		3.230			
234678-HpCDD	ND		4.130			
TAL HpCDD	ND		4.130			
CDD	ND		7.857			
378-TCDF	ND		2.905			
TAL TCDF	ND		2.905			
2378-PCDF	ND		4.732			
3478-PCDF	ND		4.567			
TAL PCDF	ND		4.650			
23478-HxCDF	ND		2.105			
23678-HxCDF	ND		1.980			
34678-HxCDF	ND		2.385			
23789-HxCDF	ND		2.980			
TAL HxCDF	ND		2.305			
234678-HpCDF	ND		2.697			
234789-HpCDF	ND		3.355			
TAL HpCDF	ND		2.990			
CDF	ND		7.115			

URROGATE RECOVERY SUMMARY

AME	CONC (ppt)	% REC.	RATIO	RT
3C12-TCDF	225.88	112.94	0.70	25.20
7CL-TCDD	231.31	115.66		26.01
3C12-HxCDF	189.27	94.64	1.23	36.20

NTERNAL STANDARDS RECOVERY SUMMARY

NAME	CONC (ppt)	% REC.	RATIO	RT
2378-13C12-TCDD	214.44	107.22	0.83	26.00
13C12-PCDD	143.60	71.80	0.65	30.56
13C12-HxCDD	248.42	124.21	1.31	37.32
13C12-HpCDD	204.93	102.47	1.11	43.17
13C12-OCDD	262.56	65.64	0.91	48.14

ecology and environment, inc.

111 WEST JACKSON BLVD., CHICAGO, ILLINOIS 60604, TEL. 312-663-9415

International Specialists in the Environment

CRL Receipt Date 10/19/87 FIT Receipt Date 12/11/87 Review Completed 1/10/88

TO: Jeff Carmen

FROM: Brenda R. Jones

SUBJECT: U.S. Scrap

PAN: _____ (1 hour charged for review) Case # SAS 3254E

Sample Description

Organics (VOA, ABN, Pest/PCB)		Inorganics (Metals, Cyanide)	
# _____	Low Soil	# _____	Low Soil
_____	Low Water	_____	Low Water
_____	Drinking Water	_____	Drinking Water
✓	Other dioxin-soils	_____	Other

Project Data Status _____ Completed!!

_____ Incomplete, awaiting _____

FIT Data Review Findings:

1) 2378 TCDF and 2378 TCDD not confirmed in E01 and E02 several other compounds present in screens of E01 and E02

2) E03 - see Re analysis data → dated 12/11/87 → both 2378 TCDF and 2378 TCDD detected at 60.73 (pg/g) and 26.45 pg/g respectively

3) E04 → 2378-TCDF (54.17 pg/g) and 2378 TCDD (32.65 pg/g) confirmed.

Check Data Sheets for Transcription Errors

✓✓ Compounds were detected in sample(s); see enclosed sheet.

Book No. 6 Page No. 282 Date Sampled _____

4) Other dioxins and furans detected in screens of E03 and E04

5) EMPC = estimated maximum possible concentration

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION V

RCC 12/11/87 20 pages

DATE: 2/7/87

SUBJECT: Review of Region V CLP Data
Received for Review on 10-19-87

FROM: Curtis Ross, Director (5SCRL) Patrick J. Chuille
Central Regional Laboratory

TO: Data User: FIT

We have reviewed the data for the following case(s).

SITE NAME: US SCRAP SMO Case No. SAS 3254E

EPA Data Set No. SF-4377 No. of Samples: 4 D.U./Activity Numbers Y905/C721CC

CRL No. 87FC17534-537

SMO Traffic No. E01-E04

CLP Laboratory: TRIANGLE Hrs. Required for Review: 2

Following are our findings:

This review covers 4 soil samples for tetra→octa TCDD/TCDF.
Data Qualifier Sheets which follow indicate qualifiers on specific samples as necessary.
Results for E-03/E-04 are considered preliminary until receipt of deliverables from lab (expected by 12-14-87) These are referenced on telephone log and data qualifier sheets.

Kevin B Bolger 12-7-87

( ) Data are acceptable for use.
(✓) Data are acceptable for use with qualifications referenced above. See Data Qualifier sheets and Calibration Outlier forms for flags and additional comments.
(✓) Data are preliminary - pending verification by Contractor Laboratory. See Case Summary above. (SAMPLE E-04/E03)
( ) Data are unacceptable.

cc: Carla Dempsey, CLP Quality Assurance Officer, Analytical Operations Branch
James Petty, Chief Quality Assurance Research, EMSL, Las Vegas

DATA QUALIFIERS

Contractor: TRIANGLE LABS

Case: SAS 3254E

Below is a summary of the out-of-control audits and the possible effect on the data for this case:

1. Calibration. All initial calibration response factors had acceptable % RSD and continuing calibrations had < 20% %D for all parameters. Internal standards/surrogates had < 20% %D.

2. Method Blanks: No positives were noted in method blank. Detection limits (DL, or EMPC) met all target detection limits. Surrogate/int std recoveries were all acceptable.

3. Matrix spike/MSD. Deliverables for matrix spike and matrix spike duplicate for sample E-04 were not complete in the case data package. Until received, data for the matrix unspiked sample will be flagged preliminary.

4. Results. Results are presented in two ways: full tetra → octa dioxin/furan screen and 2,3,7,8-TCDD/TCDF confirmation. 2,3,7,8-TCDD/TCDF confirmation is performed on second column. The full screen (indicated "PCDD/PCDF Analysis" presents either positive result under CONC (ppT) or a detection limit (DL or EMPC) if undetected. Results for "2,3,7,8-TCDD/TCDF Analysis" should be used from confirmation data sheet.

EC1 – 2,3,7,8-TCDD/TCDF was not confirmed however total tetra → octa CDD/CDF was found (up to ppB levels for octa CDD. All surrogates, retention times/ratios were acceptable

Reviewed by: Kevin B Bolger

Phone: (312) 353-4670

DATA QUALIFIERS

Contractor: TRIANGLE LABS

Case SAS 3254E

Below is a summary of the out-of-control audits and the possible effect on the data for this case:

4. Results (continued)

E-02 – 2,3,7,8-TCDF was not confirmed although observed in full screen, use confirmatory results for both 2,3,7,8-TCDD/TCDF.

E-03*: Results for 2,3,7,8-TCDD/TCDF indicated positive for confirmatory analysis however this actually was not confirmed. 2,3,7,8-TCDF confirmation had >3 second GCD RT from surrogate compound therefore it is flagged as an "EMPC" at level indicated in the CONC (pg/g) column. 2,3,7,8-TCDD was not found in the screening run so result should be used in the "DL" column of the full screen analysis.

E-04: 2,3,7,8-TCDD/TCDF confirmed. These results are preliminary as indicated under (3.) above.

* New data sheets are to be sent from the laboratory as indicated in the attached telephone log.

Reviewed by: Kevin B Bolger

Phone: (312) 353-4676

Date:

p. 4 of

In Reference to Case No(s):
SAS 2234F

Contract Laboratory Program
REGIONAL/LABORATORY COMMUNICATION SYSTEM
Telephone Record Log

Date of Call: 12-7-87

Laboratory Name: TRIANGLE LABS

Lab Contact: YVES TONDEUR

Region: 5

Regional Contact: KEVIN BOLGER

Call Initiated By: ___ Laboratory ✓ Region

In reference to data for the following sample number(s):
(1) E-03 AND (2) E04 MS/MSD

Summary of Questions/Issues Discussed:
(1) E03 Confirmatory Results indicated positive for 2,3,7,8-TCDD /TCDF Although screen did not indicate positive for 2,3,7,8 -TCDD. Also confirmation run did not meet < 3 second Retention Time Difference for 2,3,7,8-TCDF and $^{13}C_{12}$-TCDF
(2) Case missing % recovery and RPD for E04 MS and MSD.

Summary of Resolution:
LAB would prepare replacement deliverables for the above

Kevin B Bolger
Signature
(312)353-4676

12-7-87
Date

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

In Reference to Case No(s):
SAS 3254E

Contract Laboratory Program
REGIONAL/LABORATORY COMMUNICATION SYSTEM

Telephone Record Log

Date of Call: 26 AUG 87

Laboratory Name: TRIANGLE LABS

Lab Contact: YVES FONDEUR

Region: V

Regional Contact: Charles T. Elly / Frank Thomas

Call Initiated By: X Laboratory ___ Region

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

All

Summary of Questions/Issues Discussed:

Is the sample (field sample) selected for MS and MSD billable as a regular sample also?

Summary of Resolution:

Yes.

Signature

26 Aug 87
Date

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

SF 4377

TRIANGLE LABORATORIES, INC.
4915F PROSPECTUS DRIVE
RESEARCH TRIANGLE PARK, NC 27713
919 544-5729

RECEIVED
OCT 18 1987
U.S. EPA CENTRAL REGIONAL LAB

CASE NARRATIVE

DATE: 14 Oct 1987
CLIENT ID: SAS 3254-E
TLI NO.: 8701590
OBJECTIVE: ANALYSIS OF FOUR SOIL SAMPLES FOR THE PRESENCE OF TETRA- THROUGH OCTACHLOROPOLYBENZODIOXINS AND DIBENZOFURANS

Sample Preparation

The samples were prepared by using the methods described in the enclosed analytical protocol. All the samples (including the quality control and method blank samples) were fortified with 200 ppt of the tetra- through heptachlorinated internal and surrogate standards and 400 ppt of the octachlorinated dibenzodioxin internal standard. This was accomplished by using the sample fortification solution described in Table 1.

The solution contains eight carbon-labeled PCDD/PCDF standards. The $^{13}C_{12}$-2,3,7,8-TCDD internal standard is used to quantify TCDDs and TCDFs. $^{13}C_{12}$-1,2,3,7,8-PeCDD is used to quantify PeCDDs and PeCDFs. $^{13}C_{12}$-1,2,3,6,7,8-HxCDD is used to quantify HxCDDs and HxCDFs. $^{13}C_{12}$-1,2,3,4,6,7,8-HpCDD is used to quantify HpCDDs and HpCDFs, and $^{13}C_{12}$-OCDD is used to quantify OCDD and OCDF.

The carbon column used in the final cleanup step was prepared by mixing Celite 545 and AX-21 carbon.

The matrix spike (MS) and matrix spike duplicate (MSD) quality control samples were selected from sample number 3254-E-04 and fortified with the unlabeled compounds listed in Table 2. The fortification levels were 10 ppt for the tetrachlorinated isomers, 200 ppt for the penta- through heptachlorinated isomers and 400 ppt for the octachlorinated isomers.

Document Control

The Document Control package contains all laboratory records received or generated during the sample handling by Triangle Laboratories. In addition, representative quality control (QC) charts are provided in the Document Control section. Two types of QC charts are included: the first one consists in plotting the percent recoveries of all labeled internal and surrogate standards used during the sample preparation while the second set of QC charts represents the variation of the continuing

calibration response factors for the fifteen 2,3,7,8-substituted PCDD/PCDFs, OCDF and OCDD. Both types of QC charts were obtained from recent analyses of large batches (>20 samples) of soil samples by using similar extraction-cleanup and HRGC/HRMS analysis procedures as the samples reported herein. These charts will be updated regularly for large batches of soil samples in order to demonstrate the statistical control of the measurement system. [UWL/LWL = Upper/Lower Warning Limits (2 standard deviations; UQCL/LQCL = Upper/Lower Control Limits (3 standard deviations).]

Data Package

On the enclosed sample data sheets, the concentrations are given in parts per trillion (ppt). "RT" is the gas chromatographic retention time in minutes and seconds, "number" is the number of GC peaks identified as PCDD/PCDF isomers in the totals reported for each homologous series and "ratio" is the integrated ion abundance ratio observed for the M to M-2 ions of the tetra- through pentachlorinated isomers and M-2 to M-4 for the hexa- through octachlorinated isomers. "DL" is the detection limit for samples presenting an analyte response that is less than 2.5 times the background level. "EMPC", representing the estimated maximum possible concentration, is reported for GC/MS signals eluting within the PCDD/PCDF retention time windows established with the daily GC performance analysis and which are characterized by a signal-to-noise ratio in excess of 2.5:1 but do not meet all of the qualitative identification criteria listed below. The "EMPC" is calculated by using the same expression used for reporting the identified analyte concentrations. The "DL" and "EMPC" are both reported in ppt.

For quantifications, the sum of the peak areas for the two ions monitored is used. When no peak is detected, an area of 10 counts for each ion (total 20 counts) is used to calculate the detection limit. The results of the samples are given on a dry weight basis.

High-Resolution Gas Chromatography / High-Resolution Mass Spectrometry

For GC/MS analysis, the final residue was dissolved in 20 uL of a toluene solution containing the recovery standards shown in Table 1. The recoveries of the carbon-labeled tetra- and penta-chlorinated dibenzodioxins internal standards were calculated by using $^{13}C_{12}$-1,2,3,4-TCDD as the recovery standard. The recoveries of higher homologues (hexa- through octachlorinated congeners) were determined relative to $^{13}C_{12}$-1,2,3,7,8,9-HxCDD. The concentrations of $^{37}Cl_4$-2,3,7,8-TCDD and $^{13}C_{12}$-2,3,7,8-TCDF in the final extract are calculated relative to $^{13}C_{12}$-2,3,7,8-TCDD. The concentration of the third surrogate standard (i.e., $^{13}C_{12}$-1,2,3,4,7,8-HxCDF) is measured against $^{13}C_{12}$-1,2,3,6,7,8-HxCDD.

The samples were analyzed by using a VG 70704 mass spectrometer operated in the selected ion recording mode, at a resolving power of 8,000. A VG 11/250 data system was used to acquire the data. A Varian 3700 GC, equipped with a fused-silica capillary column, was employed. One uL of the 20-uL final sample volume was analyzed by using the GC conditions summarized in Table 3.

Initial Calibration

The mass spectrometer response was calibrated with the help of the set of six initial calibration solutions shown in Table 2

An acceptable calibration must meet the following criteria:

1) The percent relative standard deviations for the mean response factors from each of the unlabeled analytes (Table 2) and of the internal standards (Table 2) must be less than 20 percent.

2) The signal-to-noise ratio (S/N) for the GC signals present in every selected ion current profile must be $\geq$ 2.5.

3) The ion abundance ratios must be within the specified control limits (see identification criteria)

Continuing Calibration

A continuing calibration was demonstrated every 12 hours by injecting one uL of solution number 4 from Table 2. The response factors (RFs) used for the calculation of the analyte concentrations were obtained from the daily continuing calibration check (vide infra). For the total homologous PCDD/PCDF concentrations (e.g., total HxCDDs), the RFs were taken, when applicable, as the average of the RFs for the individual congeners listed in the continuing calibration reporting form. Note that when only one isomer is present, a discrepancy may appear between the reported concentration for the individual isomer and the total, as a result of using a different RF.

The continuing calibration delta RF (on the data sheets) corresponds to the relative percent difference between the daily RF and the initial calibration RF.

An acceptable continuing calibration run must meet the following criteria:

1) The measured RFs (for the unlabeled as well as labeled compounds) obtained during the continuing calibration run must be within 20 percent for tetra- through heptachlorinated compounds and 25 percent for octachlorinated compounds of the mean values established during the initial calibration.

2) The ion-abundance ratios must be within the allowed control limits listed below.

Confirmation Analyses

For confirmation of 2,3,7,8-TCDD, 2,3,7,8-TCDF and other 2,3,7,8-substituted PCDD/PCDFs, the samples were analyzed on a second high-resolution GC column (SP-2331, DB-17) while monitoring (in addition to the molecular ions) the COCl fragment ions also under high-resolution mass spectrometric conditions.

Identification Criteria

The positive identification criteria used for the characterization of polychlorinated dibenzodioxins and dibenzofurans are as follows:

1) The integrated ion abundance ratio (M/M+2 or M+2/M+4) must be within 15 percent of the theoretical value. The acceptable ion abundance ratio ranges for the identification of chlorine-containing compounds are:

M/M+2
- tetra 0.65-0.89
- penta 0.52-0.70

M+2/M+4
- hexa 1.05-1.41
- hepta 0.87-1.17
- octa 0.75-1.01

2) The retention time for the analytes must be within 3 s of the corresponding ^{13}C-labeled internal standard or surrogate standard.

3) The monitored ions for an analyte must maximize within 3 s.

4) The identification of specific isomers that do not have a corresponding ^{13}C-labeled standards is done by comparison of the relative retention time (RRT) of the analyte to the nearest internal standard retention time with reference (i.e., within 0.005 RRT units) to the comparable RRTs found in the continuing calibration.

5) The (S/N) for all monitored ions must be greater than 2.5.

6) The confirmation of 2,3,7,8-TCDD, 2,3,7,8-TCDF and other 2,3,7,8-substituted PCDD/PCDFs must satisfy all of the above identification criteria.

For Triangle Laboratories,

Analyst	QA Project Officer	Program Manager
Michael D. Chu (for MC Chu)	Hani S. Karam	Yves Tondeur

TRIANGLE LABORATORIES, INC.
DIOXIN/FURAN ANALYSIS (D)

METHOD BLANK

KBB 12-5-87

ANALYST: MC
DATE: 10/10/87
SAMPLEWT: 10.00

FILE NAME: M873018
SAMPLE ID: TL1 BLANK
CASE NO: SAS 2234F
PROJ NO: 8701700

CONCAL: M873017

NAME	CONC (ppt)	NUMBER	DL	EMPC	RATIO	RT
2378-TCDD	ND		0.405			
TOTAL TCDD	ND		0.405			
12378-PCDD	ND		0.633			
TOTAL PCDD	ND		0.633			
123478-HxCDD	ND		0.473			
123678-HxCDD	ND		0.478			
123789-HxCDD	ND		0.549			
TOTAL HxCDD	ND			5.014	7.20	
1234678-HpCDD	ND		0.633			
TOTAL HpCDD	ND		0.633			
OCDD	ND	?DL		6.362	0.76	
2378-TCDF	ND		0.312			
TOTAL TCDF	ND		0.312			
12378-PCDF	ND		0.455			
23178-PCDF	ND		0.493			
TOTAL PCDF	ND		0.473			
123478-HxCDF	ND		0.295			
123678-HxCDF	ND		0.265			
234678-HxCDF	ND		0.348			
123789-HxCDF	ND		0.438			
TOTAL HxCDF	ND		0.325			
1234678-HpCDF	ND		0.380			
1234789-HpCDF	ND		0.480			
TOTAL HpCDF	ND		0.425			
OCDF	ND		0.930			

SURROGATE RECOVERY SUMMARY

NAME	CONC (ppt)	% REC.	RATIO	RT
13C12-TCDF	169.09	84.55	0.73	29.24
37Cl-TCDD	180.66	90.33		30.12
13C12-HxCDF	134.62	67.31	1.24	39.13

INTERNAL STANDARDS RECOVERY SUMMARY

NAME	CONC (ppt)	% REC.	RATIO	RT
2378-13C12-TCDD	107.26	53.63	0.79	29.11
13C12-PCDD	96.73	48.37	0.62	35.33
13C12-HxCDD	119.69	59.85	1.22	40.28
13C12-HpCDD	98.12	49.06	1.01	45.20
13C12-OCDD	158.33	39.58	0.90	50.29

DSD02
E01

TRIANGLE LABORATORIES, INC.
PCDD/PCDF ANALYSIS - D

ANALYST: MC
DATE: 10/10/87
SAMPLEWT: 8.77

FILE NAME: M87[illegible]19
SAMPLE ID: 5-33689
CASE NO: SAS [illegible]
PROJ NO: 8701[illegible]

FOCAL: M87[illegible]017
file screen
CBB 12-5-87

NAME	CONC(ppt)	NUMBER	DL	EMPC	RATIO	RT
2378-TCDD	9.361				0.75	30.13
TOTAL TCDD	88.294	8 78.98			0.78	
12378-PCDD	ND			7.533	0.86	
TOTAL PCDD	50.767	5			0.55	
123478-HxCDD	9.033				1.25	40.22
123678-HxCDD	ND	54.57		56.998	1.46	
123789-HxCDD	45.482				1.17	40.59
TOTAL HxCDD	278.421	5 223.9			1.19	
1234678-HpCDD	971.796				1.01	45.24
TOTAL HpCDD	1719.018	2 747.2			1.03	
OCDD	7361.877				0.87	50.46
2378-TCDF	68.263				0.82	29.27
TOTAL TCDF	232.855	164.6 7			0.77	
12378-PCDF	ND			13.989	0.28	
23478-PCDF	ND			18.523	0.77	
TOTAL PCDF	228.347	5			0.62	
123478-HxCDF	26.497	37.52			1.08	39.15
123678-HxCDF	11.019				1.23	39.24
234678-HxCDF	ND			13.970	1.46	
123789-HxCDF	ND	55.21	0.455			
TOTAL HxCDF	92.723	4			1.19	
1234678-HpCDF	319.816				1.04	43.52
1234789-HpCDF	ND			14.382	0.70	
TOTAL HpCDF	705.123	385.3 3			0.99	
OCDF	401.316				0.91	50.58

SURROGATE RECOVERY SUMMARY

NAME	CONC (ppt)	% REC.	RATIO	RT
13C12-TCDF	201.14	88.20	0.76	29.24
37CL-TCDD	193.39	84.80		30.13
13C12-HxCDF	183.85	80.62	1.24	39.13

INTERNAL STANDARDS RECOVERY SUMMARY

NAME	CONC (ppt)	% REC.	RATIO	RT
2378-13C12-TCDD	159.77	70.06	0.82	30.12
13C12-PCDD	138.72	60.83	0.67	35.34
13C12-HxCDD	139.55	61.19	1.24	40.30
13C12-HpCDD	120.86	53.00	1.07	45.23
13C12-OCDD	254.06	55.70	0.92	50.44

Confirmation

EC1

TRIANGLE LABORATORIES, INC
2,3,7,8-TCDD/TCDF ANALYSIS

ANALYST	JCA	FILE #	M873154
DATE	10-14-87	CONCAL #	M8789A 3145
SAMPLE WEIGHT	8.77	TLI #	8701560
SAMPLE ID	SAS 3294E 5-33689		

NAME	CONC (pg/g)	DL	EMPC	RATIO	RT
2378-TCDF	ND		13.02	0.812	22.26
2378-TCDD	ND		13.57	1.199	20.02

SURROGATE RESULTS SUMMARY

NAME	CONC (pg/g)	% RECOVERY	RATIO	RT
13C12-TCDF	207.90	91.17	0.766	22.25
37Cl-TCDD	219.39	96.20		20.02

INTERNAL STANDARDS RECOVERY RESULTS

NAME	CONC (pg/g)	% RECOVERY	RATIO	RT
2378-13C12-TCDD	148.04	64.92	0.838	20.00

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OCT 15 1987
U.S. EPA CENTRAL
REGIONAL LAB

DSD03 - EC2

KBB 12-5-87

TRIANGLE LABORATORIES, INC.
PCDD/PCDF ANALYSIS (D)

ANALYST: MC
DATE: 10/10/87
SAMPLEWT: 9.23

FILE NAME: M873020
SAMPLE ID: 5-33690
CASE NO: SAS 3254E
PROJ NO: 8701590

CONCAL: M873017

NAME	CONC(ppt)	NUMBER	DL	EMPC	RATIO	RT
2378-TCDD	ND		0.512			
TOTAL TCDD	2.252	1			0.66	
12378-PCDD	ND		0.850			
TOTAL PCDD	ND		0.850			
123478-HxCDD	ND			3.177	0.55	
123678-HxCDD	ND			8.262	0.98	
123789-HxCDD	ND		0.965			
TOTAL HxCDD	28.307	2			1.28	
1234678-HpCDD	138.092				0.97	45.23
TOTAL HpCDD	256.349	2			1.06	
OCDD	973.946				0.82	50.43
2378-TCDF	18.335				0.71	29.26
TOTAL TCDF	66.195	6			0.78	
12378-PCDF	ND			3.891	1.05	
23478-PCDF	7.275				0.61	35.07
TOTAL PCDF	43.281	3			0.62	
123478-HxCDF	5.945				1.15	39.14
123678-HxCDF	ND		0.475			
234678-HxCDF	ND		0.623			
123789-HxCDF	1.989				1.21	41.18
TOTAL HxCDF	8.754	3			1.14	
1234678-HpCDF	29.376				0.96	43.52
1234789-HpCDF	ND		0.905			
TOTAL HpCDF	67.758	2			1.02	
OCDF	45.973				0.82	50.58

118.3
47.9
36.1
7.9
0.9
38.4

SURROGATE RECOVERY SUMMARY

NAME	CONC (ppt)	% REC.	RATIO	RT
13C12-TCDF	194.96	89.97	0.75	29.24
37CL-TCDD	195.40	90.18		30.12
13C12-HxCDF	190.80	88.05	1.27	39.13

INTERNAL STANDARDS RECOVERY SUMMARY

NAME	CONC (ppt)	% REC.	RATIO	RT
2378-13C12-TCDD	147.10	68.03	0.77	30.11
13C12-PCDD	125.27	57.81	0.61	35.36
13C12-HxCDD	135.84	62.69	1.17	40.30
13C12-HpCDD	105.61	48.74	1.07	45.22
13C12-OCDD	211.50	48.80	0.94	50.43

E-02
confirmation

TRIANGLE LABORATORIES, INC
2,3,7,8 TCDD/TCDF ANALYSIS

ANALYST	JCA	FILE #	M5731[illegible]
DATE	10-14-87	CONCAL #	M372969 [illegible] 745
SAMPLE WEIGHT	8.77	TLI #	870150[illegible]
SAMPLE ID	SAS 3259E 5-33690		

NAME	CONC (pg/g)	DL	EMPC	RATIO	RT
2378-TCDF	ND		5.03	0.030	22.26
2378-TCDD	ND	1.05		1.000	

SURROGATE RESULTS SUMMARY

NAME	CONC (pg/g)	% RECOVERY	RATIO	RT
13C12-TCDF	213.45	93.60	0.793	22.23
37Cl-TCDD	228.37	100.14		20.01

INTERNAL STANDARDS RECOVERY RESULTS

NAME	CONC (pg/g)	% RECOVERY	RATIO	RT
2378-13C12-TCDD	154.59	67.79	0.810	19.59

CSD02

E03

full screen

K33
12-5-87

TRIANGLE LABORATORIES, INC.
PCDD/PCDF ANALYSIS (D)

ANALYST: MC
DATE: 10/10/87
SAMPLEWT: 9.66

FILE NAME: M873021
SAMPLE ID: 5-152395
CASE NO: SAS 3251E
PROJ NO: 8701590

CONCAL: M873017

NAME	CONC(ppt)	NUMBER	DL	EMPC	RATIO	RT
2378-TCDD	ND		0.537			
TOTAL TCDD	468.739	8			0.77	
12378-PCDD	31.507	587.2			0.52	35.39
TOTAL PCDD	618.820	7			0.60	
123478-HxCDD	ND			29.203	1.04	
123678-HxCDD	151.794	280.9			1.17	40.35
123789-HxCDD	129.138	1507.9			1.28	41.03
TOTAL HxCDD	1788.790	5			1.26	
1234678-HpCDD	2051.148	1745.9			1.03	45.30
TOTAL HpCDD	3797.029	2			1.02	
OCDD	13948.541				0.86	50.54
2378-TCDF	312.080	985.2			0.76	29.28
TOTAL TCDF	1297.254	10			0.76	
12378-PCDF	46.750	151.4			0.67	34.12
23478-PCDF	104.604	941.9			0.62	35.10
TOTAL PCDF	1093.391	11			0.59	
123478-HxCDF	198.682				1.18	39.16
123678-HxCDF	91.433	390.1			1.19	39.27
234678-HxCDF	100.009				1.17	40.16
123789-HxCDF	ND	178.3	0.707			
TOTAL HxCDF	568.412	6			1.17	
1234678-HpCDF	621.125	667.2			1.00	43.57
1234789-HpCDF	46.099				0.99	46.11
TOTAL HpCDF	1358.174	690.9 3			1.01	
OCDF	906.768				0.84	51.08

SURROGATE RECOVERY SUMMARY

NAME	CONC (ppt)	% REC.	RATIO	RT
13C12-TCDF	174.31	84.19	0.84	29.20
37CL-TCDD	175.31	84.67		30.10
13C12-HxCDF	231.31	111.72	1.10	39.17

INTERNAL STANDARDS RECOVERY SUMMARY

NAME	CONC (ppt)	% REC.	RATIO	RT
2378-13C12-TCDD	153.50	74.14	0.79	30.14
13C12-PCDD	170.83	82.51	0.60	35.37
13C12-HxCDD	122.19	59.02	1.25	40.34
13C12-HpCDD	101.48	49.01	1.15	45.29
13C12-OCDD	210.51	52.29	0.96	50.53

E-03

TRIANGLE LABORATORIES, INC
2,3,7,8-TCDD/TCDF ANALYSIS

ANALYST	JCA	FILE #	M873151
DATE	10-14-87	CONCAL #	M872909 3145 3125
SAMPLE WEIGHT	9.66	TLI #	8701590
SAMPLE ID	SAS 3254E 5-152-395		

NAME	CONC (pg/g)	DL	EMPC	RATIO	RT
2378-TCDF	60.73			0.835	22.34
2378-TCDD	26.45			0.813	20.06

SURROGATE RESULTS SUMMARY

NAME	CONC (pg/g)	% RECOVERY	RATIO	RT
13C12-TCDF	187.81	90.71	0.783	22.23
37Cl-TCDD	179.26	86.58		20.04

INTERNAL STANDARDS RECOVERY RESULTS

NAME	CONC (pg/g)	% RECOVERY	RATIO	RT
2378-13C12-TCDD	132.10	63.80	0.923	20.04

CSD 03
EC4
full Dorm
KBB
12-5-87

TRIANGLE LABORATORIES, INC.
PCDD/PCDF ANALYSIS (D)

ANALYST: MC
DATE: 10/10/87
SAMPLEWT: 8.04

FILE NAME: M873023
SAMPLE ID: 5-152863
CASE NO: SAS 3251E
PROJ NO: 8701590

CONCAL: M873017

NAME	CONC(ppt)	NUMBER	DL	EMPC	RATIO	RT
2378-TCDD	22.620	66.5			0.69	30.24
TOTAL TCDD	89.094	3			0.82	
12378-PCDD	ND		-	20.090	0.50	
TOTAL PCDD	215.052	-			0.58	
123478-HxCDD	ND		0.663			
123678-HxCDD	153.975	251.8			1.36	40.39
123789-HxCDD	97.783	960.1			1.10	41.07
TOTAL HxCDD	1211.916	6			1.27	
1234678-HpCDD	4258.130	3824.4			1.02	45.35
TOTAL HpCDD	8082.562	2			1.03	
OCDD	62397.068				0.86	51.03
2378-TCDF	496.753	1163.9			0.72	29.33
TOTAL TCDF	1660.651	12			0.79	
12378-PCDF	81.313	186.9			0.64	34.16
23478-PCDF	105.645	869.6		-	0.64	35.14
TOTAL PCDF	1056.455	12			0.62	
123478-HxCDF	154.622	315.3			1.05	39.21
123678-HxCDF	61.737				1.28	39.31
234678-HxCDF	64.042	295.4			1.09	40.20
123789-HxCDF	34.936				1.08	41.34
TOTAL HxCDF	610.666	7			1.18	
1234678-HpCDF	649.045				1.05	44.03
1234789-HpCDF	ND	1452.9		64.840	1.38	
TOTAL HpCDF	2101.967	2			1.03	
OCDF	3104.310				0.83	51.15

SURROGATE RECOVERY SUMMARY

NAME	CONC (ppt)	% REC.	RATIO	RT
13C12-TCDF	205.25	82.51	0.79	29.31
37CL-TCDD	209.80	84.36		30.24
13C12-HxCDF	246.59	99.13	1.28	39.21

INTERNAL STANDARDS RECOVERY SUMMARY

NAME	CONC (ppt)	% REC.	RATIO	RT
2378-13C12-TCDD	171.44	68.92	0.81	30.23
13C12-PCDD	210.27	84.53	0.65	35.40
13C12-HxCDD	138.66	55.74	1.32	40.37
13C12-HpCDD	104.47	42.00	1.05	45.35
13C12-OCDD	172.63	34.69	0.96	51.01

E-04
CONFIRM
KBS 12-5-87

TRIANGLE LABORATORIES, INC
2,3,7,8-TCDD/TCDF ANALYSIS

ANALYST	JCA	FILE #	M873152
DATE	10-14-87	CONCAL #	M872907 3145 JBS
SAMPLE WEIGHT	8.04	TLI #	8701590
SAMPLE ID	SAS 3259E 5-152-83663 JBS		

NAME	CONC (pg/g)	DL	EMPC	RATIO	RT
2378-TCDF	54.17			0.877	22.49
2378-TCDD	32.65			0.752	20.12

SURROGATE RESULTS SUMMARY

NAME	CONC (pg/g)	% RECOVERY	RATIO	RT
13C12-TCDF	163.06	65.55	0.826	22.47
37Cl-TCDD	257.56	103.54		20.12

INTERNAL STANDARDS RECOVERY RESULTS

NAME	CONC (pg/g)	% RECOVERY	RATIO	RT
2378-13C12-TCDD	116.10	46.67	0.846	20.09

Received 12-28-87

ADDITIONAL SUBMISSION

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION V

DATE: 2/23/87

SUBJECT: Review of Region V CLP Data
Received for Review on 12-11-87

FROM: Curtis Ross, Director (5SCRL) Patrick J. Chuilla for
Central Regional Laboratory

TO: Data User: FIT

We have reviewed the data for the following case(s).

SITE NAME: US Scrap SMO Case No. SAS 3254E

EPA Data Set No. SF-4377 No. of Samples: 4 D.U./Activity Numbers Y905 / C72100

CRL No. 87 FC 17 $34-$37

SMO Traffic No. E01 - E01

CLP Laboratory: TRIANGLE Hrs. Required for Review: 1

Following are our findings:

This review covers an additional submission for previously reviewed dioxin case. Results for samples E03 and E04 previously flagged as PRELIMINARY have been changed to acceptable with qualifications. Please note qualifiers on data qualifier sheets which follow.

Kevin B. Bolger 12-11-87

( ) Data are acceptable for use.
(✓) Data are acceptable for use with qualifications referenced above. See Data Qualifier sheets and Calibration Outlier forms for flags and additional comments.
( ) Data are preliminary - pending verification by Contractor Laboratory. See Case Summary above.
( ) Data are unacceptable.

cc: Carla Dempsey, CLP Quality Assurance Officer, Analytical Operations Branch
James Petty, Chief Quality Assurance Research, EMSL, Las Vegas

DATA QUALIFIERS

Contractor: TRIANGLE

Case SAS 3254E

Below is a summary of the out-of-control audits and the possible effect on the data for this case:

1. Positive results for sample E03 are indicated for 2,3,7,8-TCDD/TCDF. The TCDD was originally noted posted on the full tetra → octa screen but was a typographical error. The TCDF was originally considered a false positive due to an error in transcription of a retention time.
The "E03 confirmation" results under CONC (pg/g) should be used in place of the previously submitted results

2. Matrix spike/Matrix spike duplicate analyses allow further qualification of matrix (unspiked) sample E04. Recoveries for were low for 1,2,3,4,6,7,8-HpCDD (MSD -24%), 2,3,7,8-TCDF (MSD -10%), 123478 HxCDD (MS 0%) 123478-HxCDF, 1234678 Hp (MS -1%) and high for 123679-HxCDD (MS 179%), 1234678-HpCDD (406% - MS), OCDD (MS = 2260%, MSD = 769%) and OCDF (MSD = 284% high, ~~OCDD~~ MS = 20% low). These parameters are flagged J (estimated) in the unspiked E-04.

Reviewed by: Kevin S Bolger

Phone: (312) 353-4696

TRIANGLE LABS

RECEIVED

DEC 11 1987

U.S. EPA, CENTRAL REGIONAL LAB.
536 S. CLARK STREET
CHICAGO, ILLINOIS 60605

08 DEC 1987

Kevin Bolger
USEPA Region V
436 S. Clark
Chicago, IL 60605

Re: SAS-3254-E, Sample E03

Dear Kevin:

Enclosed is the partial resubmit for sample SAS-3254-E03 (GC/MS File M873021). It consists of a revised sample data top sheet, which shows that 12.4 ppt of 2,3,7,8-TCDD are detected in the screen analysis (as opposed to the previously reported ND). The reason for this change is due to the fact that the peak at 30:14 min for m/z 320 was not very well resolved (GC/MS File M873021) and was not detected by the peak detection program. Note that the corresponding signal at m/z 322 was detected. We measured manually the peak area of m/z 320 and regenerated the top sheet. This is our fault and should have been caught by our QA section before mailing those results to you.

An interesting consequence of this update is the fact that twice as much of 2,3,7,8-TCDD were found in the confirmation analysis (26.5 ppt; GC/MS File M873151). Examining the confirmation data, I suspect that monitoring the loss of COCl from the molecular ions is responsible for the loss in sensitivity observed. This will result in less accurate measurements. In the future, Triangle Labs will perform the confirmation analyses without monitoring the COCl losses provided high-resolution mass spectrometry is used for the analysis.

Finally, the difference in retention times between the unlabeled and labeled TCDFs that you pointed out to our attention is due to a typo; 22:23 min was entered when in fact the quantitation report clearly indicates that 22:33 min should have been entered. Included is the corrected version of the sample data top sheet.

Kevin, do not hesitate to call if you have more questions regarding SAS-3254-E.

Sincerely,

Yves Tondeur, Ph.D.

Triangle Laboratories, Inc.
801-10 Capitola Drive
Research Triangle Park, NC 27713
919-544-5729

E03
SCREEN
RGG 12-11-87

TRIANGLE LABORATORIES, INC.
PCDD/PCDF ANALYSIS (D)

ANALYST: MC
DATE: 12/08/87
SAMPLEWT: 9.66

FILE NAME: M873021
SAMPLE ID: ~~5-153306-03~~ SAS 3254-E03
CASE NO: SAS 3254E
PROJ NO: 8701590

CONCAL: M873017

NAME	CONC(ppt)	NUMBER	DL	EMPC	RATIO	RT
2378-TCDD	12.388	468.7			0.71	30.14
TOTAL TCDD	481.128	9			0.76	
12378-PCDD	31.607	587.2			0.52	35.39
TOTAL PCDD	618.820	7			0.60	
123478-HxCDD	ND			29.203	1.04	
123678-HxCDD	151.794	280.9			1.17	40.35
123789-HxCDD	129.138	1507.9			1.28	41.03
TOTAL HxCDD	1788.790	5			1.26	
1234678-HpCDD	2051.148	1745.9			1.03	45.30
TOTAL HpCDD	3797.029	2			1.02	
OCDD	13948.541				0.86	50.54
2378-TCDF	312.080	985.2			0.76	29.28
TOTAL TCDF	1297.254	10			0.76	
12378-PCDF	46.750	151.4			0.67	34.12
23478-PCDF	104.604	941.9			0.62	35.10
TOTAL PCDF	1093.391	11			0.59	
123478-HxCDF	198.682	390.1			1.18	39.16
123678-HxCDF	91.433				1.19	39.27
234678-HxCDF	100.009	178.3			1.17	40.16
123789-HxCDF	ND		0.707			
TOTAL HxCDF	568.412	6			1.17	
1234678-HpCDF	621.125	667.2			1.00	43.57
1234789-HpCDF	46.099	690.9			0.99	46.11
TOTAL HpCDF	1358.174	3			1.01	
OCDF	906.768				0.84	51.08

SURROGATE RECOVERY SUMMARY

NAME	CONC (ppt)	% REC.	RATIO	RT
13C12-TCDF	174.31	84.19	0.84	29.26
37CL-TCDD	175.31	84.67		30.16
13C12-HxCDF	231.31	111.72	1.10	39.17

INTERNAL STANDARDS RECOVERY SUMMARY

NAME	CONC (ppt)	% REC.	RATIO	RT
2378-13C12-TCDD	153.50	74.14	0.79	30.14
13C12-PCDD	170.83	82.51	0.60	35.37
13C12-HxCDD	122.19	59.02	1.25	40.34
13C12-HpCDD	101.48	49.01	1.15	45.29
13C12-OCDD	216.51	52.29	0.96	50.53

E03

CONFIRMATION

KBB 12-11-87

TRIANGLE LABORATORIES, INC
2,3,7,8-TCDD/TCDF ANALYSIS

ANALYST	JCA	FILE #	M873151
DATE	10-14-87	CONCAL #	M872904 EMS
SAMPLE WEIGHT	9.66	TLI #	8701590
SAMPLE ID	SAS 3254E 5-152-395 03		

NAME	CONC (pg/g)	DL	EMPC	RATIO	RT
2378-TCDF	60.73			0.835	22.34
2378-TCDD	26.45			0.813	20.06

SURROGATE RESULTS SUMMARY

NAME	CONC (pg/g)	% RECOVERY	RATIO	RT
13C12-TCDF	187.81	90.71	0.783	~~22.23~~ 22.33
37Cl-TCDD	179.26	86.58		20.08

INTERNAL STANDARDS RECOVERY RESULTS

NAME	CONC (pg/g)	% RECOVERY	RATIO	RT
2378-13C12-TCDD	132.10	63.80	0.923	20.04

M873151

MPLE 1 INJECTION 1 GROUP 1 CHANNEL 315 94

	AREA	RETENTION TIME
1	7.701936E+01	0:21:44
2	1.863222E+02	0:21:49
3	6.353919E+03	0:22:33

M873151

PLE 1 INJECTION 1 GROUP 1 CHANNEL 317.94

	AREA	RETENTION TIME
1	8.113224E+03	0:22:33

TLI#8701590
DATE 10-13-87

TRIANGLE LABORATORIES, INC.
MATRIX SPIKE
SAMPLE # SAS3254E 152863 AND SAS3254E 152863 MSD

ISOMER	SAMPLE (ppt)	SPIKED (ppt)	OBSERVED (ppt)	RECOVERIES ABS	RECOVERIES %REC
2378-TCDD	22.62	49.20	67.73	45.11	92%
12378-PCDD	ND	246.00	250.15	250.15	102%
123478-HxCDD	ND	246.00	137.22	137.22	56%
123679-HxCDD	153.97	246.00	478.83	324.86	132%
123789-HxCDD	97.78	246.00	361.56	263.78	107%
1234678-HpCDD	4258.13	246.00	4318.39	60.26	24%
OCDD	62397.07	492.00	73516.50	11119.43	2260%
2378-TCDF	496.75	49.20	491.88	-4.88	-10%
12378-PCDF	81.31	246.00	311.60	230.29	94%
23478-PCDF	105.64	246.00	274.09	168.44	68%
123478-HXCDF	154.62	246.00	249.60	94.98	39%
123678-HxCDF	61.74	246.00	424.78	363.04	148%
234678-HXCDF	64.04	246.00	268.13	204.09	83%
123789-HXCDF	34.94	246.00	208.44	173.50	71%
1234678-HpCDF	649.04	246.00	766.63	117.59	48%
1234789-HpCDF	ND	246.00	318.62	318.62	130%
OCDF	3104.31	492.00	4499.88	1395.57	284%

TLI#8701590
DATE 10-13-87

TRIANGLE LABORATORIES, INC.
MATRIX SPIKE
SAMPLE # SAS3254E 152863 AND SAS3254E 152453 MS

ISOMER	SAMPLE (ppt)	SPIKED (ppt)	OBSERVED (ppt)	ABS]	DRECOVERIES
2378-TCDD	22.62	49.51	86.06	63.44	128%
12378-PCDD	ND	247.52	280.01	280.01	113%
123478-HxCDD	ND	247.52	NA	.00	0%
123679-HxCDD	153.97	247.52	595.95	441.97	179%
123789-HxCDD	97.78	247.52	401.28	303.50	123%
1234678-HpCDD	4258.13	247.52	5262.17	1004.04	406%
OCDD	62397.07	495.05	58589.81	-3807.26	-769%
2378-TCDF	496.75	49.51	537.73	40.98	83%
12378-PCDF	81.31	247.52	291.96	210.65	85%
23478-PCDF	105.64	247.52	292.93	187.28	76%
123478-HXCDF	154.62	247.52	120.06	-34.56	-14%
123678-HxCDF	61.74	247.52	335.04	273.31	110%
234678-HXCDF	64.04	247.52	298.28	234.24	95%
123789-HXCDF	34.94	247.52	231.27	196.34	79%
1234678-HpCDF	649.04	247.52	651.67	2.62	1%
1234789-HpCDF	ND	247.52	274.87	274.87	111%
OCDF	3104.31	495.05	3006.94	-97.37	-20%

TLI#8701590
DATE 10-13-87

TRIANGLE LABORATORIES, INC.
MATRIX SPIKE
SAMPLE # SAS 3254E-152863 MS AND SAS 3254E-152
wt 8.1 8.1

ISOMER	MS(TOTAL) (pg)	MSD(TOTAL) (pg)	AVERAGE (pg)	D VIATION ABS	%RD
2378-TCDD	695.4	550.6	623.0	-72.4	23%
TOTAL TCDD	880.2	789.2	834.7	-45.5	11%
123478-PCDD	2262.5	2033.7	2148.1	-114.4	11%
TOTAL PCDD	3076.7	3606.1	3341.4	264.7	-16%
123478-HxCDD	.0	1115.6	557.8	557.8	-200%
123679-HxCDD	4815.3	3892.9	4354.1	-461.2	21%
123789-HxCDD	3242.3	2939.5	3090.9	-151.430	10%
TOTAL HxCDD	15473.0	16441.4	15957.2	484.2	-6%
1234678-HpCDD	42518.3	35108.5	38813.4	-3704.9	19%
TOTAL HpCDD	76045.9	64262.0	70153.9	-5892.0	17%
OCDD	473405.7	597689.1	535547.4	62141.7	-23%
2378-TCDF	4344.9	3999.0	4171.9	-172.9	8%
TOTAL TCDF	11823.9	13178.0	12501.0	677.1	-11%
12378-PCDF	2359.0	2533.3	2446.2	87.1	-7%
234678-PCDF	2366.9	2228.3	2297.6	-69.3	6%
TOTAL PCDF	11087.5	12203.8	11645.6	558.2	-10%
123478-HXCDF	970.1	2029.2	1499.7	529.6	-71%
123678-HxCDF	2707.1	3453.5	3080.3	373.2	-24%
234678-HXCDF	2410.1	2179.9	2295.0	-115.1	10%
123789-HXCDF	1868.7	1694.6	1781.6	-87.0	10%
TOTAL HxCDF	9752.6	15156.2	12454.4	2701.8	-43%
1234678-HpCDF	5265.5	6232.7	5749.1	483.6	-17%
1234789-HpCDF	2220.9	2590.4	2405.6	184.8	-15%
TOTAL HpCDF	19271.4	20725.7	19998.5	727.2	-7%
OCDD	24296.1	36584.0	30440.0	6144.0	-40%

SF 4377

TRIANGLE LABORATORIES, INC.
4915F PROSPECTUS DRIVE
RESEARCH TRIANGLE PARK, NC 27713
919 541-5729

RECEIVED
OCT 15 1987
U.S. EPA CENTRAL
REGIONAL LAB

CASE NARRATIVE

DATE: 14 Oct 1987
CLIENT ID: SAS 3254-E
TLI NO.: 8701590
OBJECTIVE: ANALYSIS OF FOUR SOIL SAMPLES FOR THE PRESENCE OF TETRA THROUGH OCTACHLORINATED [illegible] AND DIBENZO[illegible]

Sample Preparation

The samples were prepared [illegible] using the methods described in the enclosed analytical protocol. All the samples (including the quality control and method blank samples) were fortified with [illegible] ppt of the tetra- through heptachlorinated internal and surrogate standards and [illegible] ppt of [illegible] octachlorinated dibenzodioxin internal standard. This was [illegible] used by using the sample fortification solution described [illegible]

The solution contains eight carbon-labeled PCDD PCDF standards. The $^{13}C_{12}$-2,3,7,8-TCDD internal standard is used to quantify TCDDs and TCDFs. $^{13}C_{12}$-1,2,3,7,8-PeCDD is used to quantify PeCDDs and PeCDFs. $^{13}C_{12}$-1,2,3,6,7,8-HxCDD is used to quantify HxCDDs and HxCDFs. $^{13}C_{12}$-1,2,3,4,6,7,8-HpCDD is used to quantify HpCDDs and HpCDFs, and $^{13}C_{12}$-OCDD is used to quantify OCDD and OCDF.

The carbon column used in the final cleanup step was prepared by mixing Celite 545 and AK-21 carbon.

The matrix spike (MS) and matrix spike duplicate (MSD) quality control samples were selected from sample number 3254-E-04 and fortified with the unlabeled compounds listed in Table 2. The fortification levels were 40 ppt for the tetrachlorinated isomers, 200 ppt for the penta- through heptachlorinated isomers and 400 ppt for the octachlorinated isomers.

Document Control

The Document Control package contains all laboratory records received or generated during the sample handling by Triangle Laboratories. In addition, representative quality control (QC) charts are provided in the Document Control section. Two types of QC charts are included: the first one consists in plotting the percent recoveries of all labeled internal and surrogate standards used during the sample preparation while the second set of QC charts represents the variation of the continuing

calibration response factors for the fifteen 2,3,7,8-substituted PCDD/PCDFs, OCDF and OCDD. Both types of QC charts were obtained from recent analyses of large batches (>20 samples) of soil samples by using similar extraction-cleanup and HRGC/HRMS analysis procedures as the samples reported herein. These charts will be updated regularly for large batches of soil samples in order to demonstrate the statistical control of the measurement system. [UWL/LWL = Upper/Lower Warning Limits (2 standard deviations); UCCL/LCCL = Upper/Lower Control Limits (3 standard deviations).]

Data Package

On the enclosed sample data sheets, the concentrations are given in parts per trillion (ppt). RT is the gas chromatographic retention time in minutes (min) and 'number' is the number of GC peaks identified as PCDD/PCDF isomers in the totals reported for each homologous series. The 'ratio' is the integrated ion abundance ratio observed for the M to M-2 ions of the tetra- through pentachlorinated isomers and M-2 to M-4 for the hexa- through octachlorinated isomers. 'DL' is the detection limit for samples presenting an analyte response that is less than 2.5 times the background level. 'EMPC', representing the estimated maximum possible concentration, is reported for GC/MS signals eluting within the PCDD/PCDF retention time windows established with the daily GC performance analysis and which are characterized by a signal-to-noise ratio in excess of 2.5:1 but do not meet all of the qualitative identification criteria listed below. The 'EMPC' is calculated by using the same expression used for reporting the identified analyte concentrations. The "DL" and "EMPC" are both reported in ppt.

For quantifications, the sum of the peak areas for the two ions monitored is used. When no peak is detected, an area of 10 counts for each ion (total 20 counts) is used to calculate the detection limit. The results of the samples are given on a dry weight basis.

High-Resolution Gas Chromatography / High-Resolution Mass Spectrometry

For GC/MS analysis, the final residue was dissolved in 20 uL of a toluene solution containing the recovery standards shown in Table 1. The recoveries of the carbon-labeled tetra- and penta-chlorinated dibenzodioxins internal standards were calculated by using $^{13}C_{12}$-1,2,3,4-TCDD as the recovery standard. The recoveries of higher homologues (hexa- through octachlorinated congeners) were determined relative to $^{13}C_{12}$-1,2,3,7,8,9-HxCDD. The concentrations of $^{37}Cl_4$-2,3,7,8-TCDD and $^{13}C_{12}$-2,3,7,8-TCDF in the final extract are calculated relative to $^{13}C_{12}$-2,3,7,8-TCDD. The concentration of the third surrogate standard (i.e., $^{13}C_{12}$-1,2,3,4,7,8-HxCDF) is measured against $^{13}C_{12}$-1,2,3,6,7,8-HxCDD.

The samples were analyzed by using a VG 70-70H mass spectrometer operated in the selected ion recording mode, at a resolving power of 8,000. A VG 11/250 data system was used to acquire the data. A Varian 3700 GC, equipped with a fused-silica capillary column, was employed. One uL of the 20-uL final sample volume was analyzed by using the GC conditions summarized in Table 3.

Initial Calibration

The mass spectrometer response was calibrated with the help of the set of six initial calibration solutions shown in Table 2.

An acceptable calibration must meet the following criteria:

1) The percent relative standard deviation for the [illegible] response factors from each of the unlabeled analytes (Table 1) and of the internal standards (Table 2) must be less than 20 percent.

2) The signal-to-noise ratio (S/N) for the GC signals present in every selected ion current profile must be [illegible] 5.

3) The ion abundance ratios must be within the specified [illegible] limits (see identification criteria).

Continuing Calibration

A continuing calibration was demonstrated every 12 hours by injecting one uL of solution number 4 from Table 2. The response factors (RFs) used for the calculation of the analyte concentrations were obtained from the daily continuing calibration check (vide infra). For the total homologous PCDD/PCDF concentrations (e.g., total HxCDDs), the RFs were taken, when applicable, as the average of the RFs for the individual congeners listed in the continuing calibration reporting form. Note that when only one isomer is present, a discrepancy may appear between the reported concentration for the individual isomer and the total, as a result of using a different RF.

The continuing calibration delta RF (on the data sheets) corresponds to the relative percent difference between the daily RF and the initial calibration RF.

An acceptable continuing calibration run must meet the following criteria:

1) The measured RFs (for the unlabeled as well as labeled compounds) obtained during the continuing calibration run must be within 20 percent for tetra- through heptachlorinated compounds and 25 percent for octachlorinated compounds of the mean values established during the initial calibration.

2) The ion-abundance ratios must be within the allowed control limits listed below

Confirmation Analyses

For confirmation of 2,3,7,8-TCDD, 2,3,7,8-TCDF and other 2,3,7,8-substituted PCDD/PCDFs the samples were analyzed on a second high-resolution GC column (SP-2331/DB-17) while monitoring (in addition to the molecular ions) the 2001 fragment ions also under high-resolution mass spectrometry conditions

Identification Criteria

The positive identification criteria used for the characterization of polychlorinated dibenzodioxins and dibenzofurans are as follows

1) The integrated ion abundance ratio (M-/M+2 or M+2/M+4) must be within 15 percent of the theoretical value. The acceptable ion abundance ratio ranges for the identification of chlorine-containing compounds are

M/M+2
tetra 0.67-0.89
penta 0.52-0.70

M+2/M+4
hexa 1.05-1.41
hepta 0.87-1.17
octa 0.73-1.01

2) The retention time for the analytes must be within 3 s of the corresponding ^{13}C-labeled internal standard or surrogate standard

3) The monitored ions for an analyte must maximize within 3 s.

4) The identification of specific isomers that do not have a corresponding ^{13}C-labeled standards is done by comparison of the relative retention time (RRT) of the analyte to the nearest internal standard retention time with reference (i.e., within 0.005 RRT units) to the comparable RRTs found in the continuing calibration.

5) The (S/N) for all monitored ions must be greater than 2.5.

6) The confirmation of 2,3,7,8-TCDD, 2,3,7,8-TCDF and other 2,3,7,8-substituted PCDD/PCDFs must satisfy all of the above identification criteria.

For Triangle Laboratories

Analyst	QA Project Officer	Program Manager
Michael D. Chu	Hari S. Karan	Yves Tondeur

ecology and environment, inc.
111 WEST JACKSON BLVD., CHICAGO, ILLINOIS 60604, TEL. 312-663-9415
International Specialists in the Environment

CRL Receipt Date 4/4/88 FIT Receipt Date 4/[illegible] Review Completed 2/5/[illegible]

TO: Carman
FROM: Loretta Guzdziol
SUBJECT: US Scrap
PAN: JL0102 (1 hour charged for review) Case # 8635

Sample Description

Organics (VOA, ABN, Pest/PCB)		Inorganics (Metals, Cyanide)	
#	Low Soil	# 5	Low Soil
	Low Water	10	Low Water
	Drinking Water		Drinking Water
	Other		Other

Project Data Status _____ Completed!!

✓ Incomplete, awaiting organic soil + water well

complete case #8635

FIT Data Review Findings:

Check Data Sheets for Transcription Errors

_____ Compounds were detected in sample(s); see enclosed sheet.

Book No. 7 Page No. 152 Date Sampled [illegible]

ecology and environment, inc.

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International Specialists in the Environment

MEMORANDUM

DATE: 2/3/88

TO: File

FROM: Loretta Guzdziol

SUBJECT: US Scrap (8635)

PAN ILO102

Below is a list of elements whose spike recoveries were biased low:

Element	Spike Recovery
Cu(soil)	72%

The low recoveries rates biases the data low, thereby raising the detection limits and estimating any reported values. This means that in the worst case the true concentration is greater than the reported values and the data is an underestimation.

It is the opinion of this reviewer that the data is acceptable for HRS scoring.

45G:2

recycled paper

I. REPORTING UNITS

A. Organics

1. Water Samples - ug/L or ppb (parts per billion)
2. Soils or Sediments - ug/kg or ppb (parts per billion)

B. Metals

1. Water Samples - ug/L or ppb (parts per billion)
2. Soils or Sediments - mg/kg or ppm (parts per million)

II. DEFINITIONS OF FOOTNOTES TO ANALYTICAL DATA

A. Organics

FOOTNOTE	DEFINITION	INTERPRETATION
U	Indicates compound was analyzed for but not detected.	Compound was not detected.
J	Indicates an estimated value.	Compound value may be semi-quantitative.
UJ	Quantitation limit is estimated due to a Quality Control (QC) protocol.	Compound was not detected.
C	This flag applies to pesticide results where the identification has been confirmed by GC/MS. Single component pesticides >10 ng/ul in the final extract shall be confirmed by GC/MS.	Compound was confirmed by mass spectroscopy
B	This flag is used when the analyte is found in the associated blank as well as in the sample. It indicates possible/probable blank contamination and warns the data user to take appropriate action.	Compound value may be semi-quantitative if it is <5x the blank concentration (<10x the blank concentrations for common lab artifacts: phthalates, methylene chloride, acetone, toluene, 2-butanone).
E	This flag identifies compounds whose concentrations exceed the calibration range of the GC/MS instrument for that specific analysis. This flag will not apply to pesticides/PCBs analyzed by GC/EC methods.	Compound value may be semi-quantitative.
D	This flag identifies all compounds identified in an analysis at a secondary dilution factor.	Alerts data user to a possible change in the CRQL.
A	This flag indicates that a TIC is a suspected aldol-condensation product.	Alerts data user of a lab artifact.
R	Results are unusable due to a major violation of QC protocol.	Compound value is not usable.

B. Metals

FOOTNOTE OLD	FOOTNOTE NEW	DEFINITION	INTERPRETATION
E	E	Estimated or not reported due to inteference. See laboratory narrative.	Compound or element was not detected or value may be semi-quantitative.
s	s	Analysis by Method of Standard Additions.	Value may be quantitative.
R	N	Spike recoveries outside QC protocols which indicates a possible matrix problem. Data may be biased high or low. See spike results and laboratory narrative.	Value may be quantitative or semi-quantitative.
*	*	Duplicate value outside QC protocols which indicates a possible matrix problem.	Value may be semi-quantitative.
+	+	Correlation coefficient for standard additions in less than 0.995. See review and laboratory narrative.	Data value may be biased.
[ ]	B	Value is real, but is above Instrument DL and below CRDL.	Value may be quantitative or semi-quantitative.
UJ		DL is estimated because of a QC protocol. DL is possibly above or below CRDL.	Compound or element was not detected.
J		Value is above CRDL and is an estimated value because of a QC Protocol.	Value may be semi-quantitative.
U	U	Compound was analyzed for but not detected.	Compound was not detected.
	M	Duplicate injection precision not met.	Value may be semi-quantitative.
	W	Post digestion spike for furnance AA analysis is out of control limits (35-115%), while sample absorbance is <50% of spike absorbance.	Value may be semi-quantitative.

C. Other Symbols Used

NA Value not available due to insufficient data.
NR Value not calculated since chemical is not a carcinogen.
( ) Estimated value.

ecology and environment, inc.
CHICAGO, ILLINOIS

CHEMICAL EVALUATION FORM

SITE NAME: US Scrap PAN# ILO102 DATE: 2/3/88

CASE # 8635 UNITS- mg/kg (soils) REVIEWER: SY.

TOX/ PERS	COMPOUND	CRDL	3-5xCRDL	MEQ 970	MEQ 502	✓ 975	✓ 976	✓ 977		
	~~ALUMINUM~~ X	40								
	ANTIMONY UJ	2.4			18.3 N	9.5 BN				
	ARSENIC J	2		6.5 *	13.9 S*	18 S*	23.1 S*	10.8 *		
	~~BARIUM~~ X	40								
	BERYLLIUM	1		0.86 B	0.74 B	2.0	4.1	0.45 B		
	CADMIUM	1		1.7	58	2.9	25.1	2.7		
	CHROMIUM J	2		653 E*	1510 E*	708 E*	269 E*	9.6 E*		
	COBALT	10		14.6	12.2 B	9.3 B	7.5 B	6.4 B		
low	COPPER J	5		114 N	274 N	149 N	147 N	133 N		
	LEAD J	1		235 E	677 E	566 E	492 E	2600 E		
	MERCURY	.008		0.3	0.7		0.3	0.6		
	NICKEL J	8		90.9 E	66.2 E	86.7 E	46.3 E	44.3 E		
	SELENIUM R	1					11.3 +N			
	SILVER	2								
	THALLIUM	2								
	TIN	8								
	VANADIUM J	10		14.2 E	22.5 E	104 E	23.0 E	19.9 E		
	~~ZINC~~ X	4								
high	CYANIDE J	2		0.74 *N	0.98 *N	2.0 *N	14.7 *N	0.79 *N		

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CHICAGO, ILLINOIS

CHEMICAL EVALUATION FORM

SITE NAME: U.S. Scrap PAN# ILO102 DATE: 2/3/88

CASE # 8635 UNITS- RAS water (ug/l) REVIEWER: [illegible]

TOX/ PERS	COMPOUND	CRQL	3-5xCRQL	MEQ 963	964	965	966	967	969	971
	ALUMINUM	X								
	ANTIMONY	60								
	ARSENIC	10		303 S						
	BARIUM	X								
	BERYLLIUM	5								
	CADMIUM	5								
	CHROMIUM	10		15.8	15.9	46.5				
	COBALT	50								
	COPPER	25		26.1	35.7	45.5	13.8 B	36.0	10.9 B	
	LEAD	5			11.6S					
	MERCURY	0.2								
	NICKEL	40		11.7 B	31.6 B	330	18.5	39.3 B		
	SELENIUM R	5		12.6 SN						
	SILVER	10								
	THALLIUM UJ	10		2.7 BWN	2.0 WN					
	TIN	40								
	VANADIUM	50			5.6 B	4.7 B				
	ZINC	X								
	CYANIDE	10		17.4		26.7				

ecology and environment, inc.
CHICAGO, ILLINOIS

CHEMICAL EVALUATION FORM

SITE NAME: US Scrap PAN: ILO102 DATE: 2/3/88

CASE: 8635 UNITS: RAS water (ug/l) REVIEWER: LY

TOX/ PERS	COMPOUND	CRDL	3-5xCRDL	972	973	974				
	ALUMINUM	X								
	ANTIMONY	60			979 B					
	ARSENIC	10			J					
	BARIUM	X								
	BERYLLIUM	5								
	CADMIUM	5			396	454				
	CHROMIUM	10		132	562	555				
	COBALT	50			400 B	399 B				
	COPPER	25		49.0	277 B	225 B				
	LEAD	5		13.0 S	2030 + J	646 E J				
	MERCURY	0.2								
	NICKEL	40		692	1360	1360				
	SELENIUM R	5			312 +N					
	SILVER	10								
	THALLIUM UJ	10			25.0 BEN J	23.0 BEN J				
	TIN	40								
	VANADIUM	50		3.6 B						
	ZINC	X								
	CYANIDE	10			55.2	238				

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION V

127

DATE: 1.2/88

SUBJECT: Review of Region V CLP Data
Received for Review on 1-14-88

FROM: Curtis Ross, Director (5SCRL)
Central Regional Laboratory

TO: Data User: FIT

We have reviewed the data for the following case(s).

SITE NAME: U.S. SCRAP SMO case No. 8635

EPA Data Set No. SF4707 No. of Samples: 15 D.U./Activity Numbers Y905/C72178

CRL No. 88FC09S11-S14, S18-S21, S23-S25, S17, R03, D18

SMO Traffic No. MEQ502, 963-967, 969-977

CLP Laboratory: RMAL Hrs. Required for Review: 6

Following are our findings:

This review covers five soil samples(QC# 87492) and ten water samples (QC# 87484) analyzed for metals and cyanide.

QC # 87492(soils)

The matrix spike recovery for:
- -Sb (63.1%) indicates low bias and the detection limits may be elevated(UJ).
- -Cu (72%) indicates low bias and the results are estimated(J).
- -Se(0%) indicates significantly low bias and the data are unusable(R).

Duplicates for As(70.6 RPD) are out of control limits and the data are estimated(J). For Al(23.6 RPD) the duplicates are within control limits for soils (35% RPD) and the data are acceptable.

(next page)

( ) Data are acceptable for use.
(X) Data are acceptable for use with qualifications noted above.
( ) Data are preliminary - pending verification by Contractor Laboratory.
( ) Data are unacceptable.

cc: Duane Geuder, Quality Assurance Officer, EPA Support Services
James Petty, Chief Quality Assurance Research, EMSL, Las Vegas

EPA FORM 1320-6 (Rev. 5/87)

DATA QUALIFIERS

Contractor: RMAL

| Case 8635 |

Serial dilution for Ba(11.2%), Fe(10.2%), Pb(13.3%), Ni(14.5%), K(19.6%), V(15.1%), Zn(11.8%) and Cr(11.0%) indicate interference and the data are estimated (J).

For Mn, the serial dilution (10.9%) and the duplicates are out of control limits and the data are estimated(J).

For CN, the matrix spike recovery (139%) indicates high bias and the duplicates (67.9 RPD) are out of control limits. Therefore, the data for cyanide are estimated(J).

All QC data for Hg are acceptable.

<u>QC# 87484(water)</u>

The matrix spike recovery for Tl(69.4%) indicates a low bias and the detection limits may be elevated(UJ). The matrix spike recovery for Se(0%) indicate significantly low bias and the data are unusable(R).

Pb for sample MEQ 973 was quantitated by the MSA and the correlation coefficient was less than 0.995 both times. Therefore, the Pb data for MEQ 973 is estimated(J).

Analytical spike recoveries for As(MEQ 973), Tl(MEQ973, MEQ 974), and Pb(MEQ 974) are less than 40% and this indicates interference. Therefore, the data for above samples are estimated(J).

Serial dilution for Al (10.3%) indicates interference and the data are estimated(J).

All QC data for Hg and CN are acceptable.

Reviewed by: Winston K. Vijjeswarapu Winston Vijjeswarapu

Phone: 312-353-2917

Date: January20, 1988

U.S. EPA - CLP

COVER PAGE - INORGANIC ANALYSES DATA PACKAGE 00001

Lab Name: ROCKY MOUNTAIN ANALYTICAL Contract: 68-01-7476

Lab Code: ENSECO Case No.: 8635 SAS No.: _____ SDG No.: MEQ970

SOW No.: 7/87

EPA Sample No.	Lab Sample ID.
MEQ502	
MEQ970	
MEQ970D	
MEQ970S	
MEQ975	
MEQ976	
MEQ977	

JAN 1988
CENTRAL REGION
536 S CLARK STREET
CHICAGO ILLINOIS 60605

Were ICP interelement corrections applied? Yes/No YES

Were ICP background corrections applied? Yes/No YES
If yes-were raw data generated before application of background corrections? Yes/No NO

Comments:
5 LOW SOILS FOR TOTAL METALS AND CYANIDE ANALYSIS
INTEFERENCE ON SERIAL DILUTION NOTED FOR BA,CA,CR,PB,MN,NI,P,V, AND ZINC
RMA QC#87492 Selenium LCS Determined by MSA.

Release of the data contained in this hardcopy data package and in the computer readable data submitted on floppy diskette have been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature.

Lab Manager: TG

Date: 01/07/88

U.S. EPA - CLP

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INORGANIC ANALYSIS DATA SHEET

00004

EPA SAMPLE NO.

MEQ970

Lab Name: ROCKY MOUNTAIN ANALYTICAL Contract: 68-01-7476

Lab Code: ENSECO Case No.: 8635 SAS No.: _____ SDG No.: MEQ970

Matrix (soil/water): SOIL Lab Sample ID: _____

Level (low/med): LOW Date Recieved: 12/02/87

% Solids: 78.2

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	9200		*	P
7440-36-0	Antimony	7.9	U	N	P
7440-38-2	Arsenic	6.5		*	F
7440-39-3	Barium	122		E	P
7440-41-7	Beryllium	0.86	B		P
7440-43-9	Cadmium	1.7			P
7440-70-2	Calcium	99700			P
7440-47-3	Chromium	653		E*	P
7440-48-4	Cobalt	14.6			P
7440-50-8	Copper	114		N	P
7439-89-6	Iron	51400		E	P
7439-92-1	Lead	235		E	P
7439-95-4	Magnesium	67000			P
7439-96-5	Manganese	5220		E*	P
7439-97-6	Mercury	0.3			CV
7440-02-0	Nickel	90.9		E	P
7440-09-7	Potassium	408	B	E	P
7482-49-2	Selenium	0.51	U	WN	F
7440-22-4	Silver	1.3	U		P
7440-23-5	Sodium	384	U		P
7440-28-0	Thallium	5.1	U	WN	F
7440-62-2	Vanadium	142		E	P
7440-66-6	Zinc	312		E	P
	Cyanide	0.74		*N	AS

Color Before: BROWN Clarity Before: _____ Texture: COARSE

Color After: BROWN Clarity After: _____ Artifacts: _____

Comments:

THALLIUM VALUE REPORTED AT AN ADDITIONAL 10X DILUTION

U.S. EPA - CLP

1

INORGANIC ANALYSIS DATA SHEET

00003

EPA SAMPLE NO.

MEQ502

Lab Name: ROCKY MOUNTAIN ANALYTICAL Contract: 68-01-7476

Lab Code: ENSECO Case No.: 8635 SAS No.: _____ SDG No.: MEQ970

Matrix (soil/water): SOIL Lab Sample ID: _____

Level (low/med): LOW Date Recieved: 12/04/87

% Solids: 67.5

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	7420		*	P
7440-36-0	Antimony	18.3		N	P
7440-38-2	Arsenic	13.9		S*	F
7440-39-3	Barium	430		E	P
7440-41-7	Beryllium	0.74	B		P
7440-43-9	Cadmium	5.8			P
7440-70-2	Calcium	49700			P
7440-47-3	Chromium	1510		E*	P
7440-48-4	Cobalt	12.2	B		P
7440-50-8	Copper	274		N	P
7439-89-6	Iron	116000		E	P
7439-92-1	Lead	677		E	P
7439-95-4	Magnesium	14200			P
7439-96-5	Manganese	764		E*	P
7439-97-6	Mercury	0.7			CV
7440-02-0	Nickel	66.2		E	P
7440-09-7	Potassium	1140	B	E	P
7482-49-2	Selenium	0.59	U	WN	F
7440-22-4	Silver	1.5	U		P
7440-23-5	Sodium	444	U		P
7440-28-0	Thallium	0.59	U	WN	F
7440-62-2	Vanadium	22.5		E	P
7440-66-6	Zinc	2030		E	P
	Cyanide	0.98		*N	AS

Color Before: BROWN Clarity Before: _____ Texture: COARSE

Color After: BROWN Clarity After: _____ Artifacts: _____

Comments:

ARSENIC VALUE DETERMINED BY MSA

U.S. EPA - CLP

1
INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MEQ975

Lab Name: ROCKY MOUNTAIN ANALYTICAL Contract: 68-01-7476

Lab Code: ENSECO Case No.: 8635 SAS No.: _____ SDG No.: MEQ970

Matrix (soil/water): SOIL Lab Sample ID: _____

Level (low/med): LOW Date Recieved: 12/02/87

% Solids: 81.2

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	11700		*	P
7440-36-0	Antimony	9.5	B	N	P
7440-38-2	Arsenic	18.8		S*	F
7440-39-3	Barium	233		E	P
7440-41-7	Beryllium	2.0			P
7440-43-9	Cadmium	2.9			P
7440-70-2	Calcium	118000			P
7440-47-3	Chromium	708		E*	P
7440-48-4	Cobalt	9.3	B		P
7440-50-8	Copper	149		N	P
7439-89-6	Iron	66300		E	P
7439-92-1	Lead	566		E	P
7439-95-4	Magnesium	63700			P
7439-96-5	Manganese	3620		E*	P
7439-97-6	Mercury	0.1	U		CV
7440-02-0	Nickel	86.7		E	P
7440-09-7	Potassium	962	B	E	P
7482-49-2	Selenium	0.49	U	WN	F
7440-22-4	Silver	1.2	U		P
7440-23-5	Sodium	488	B		P
7440-28-0	Thallium	0.49	U	WN	F
7440-62-2	Vanadium	104		E	P
7440-66-6	Zinc	546		E	P
	Cyanide	2.0		*N	AS

Color Before: BROWN Clarity Before: _____ Texture: COARSE
Color After: BROWN Clarity After: _____ Artifacts: _____

Comments:
ARSENIC VALUE DETERMINED BY MSA

00006

U.S. EPA - CLP

1

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MEQ976

Lab Name: ROCKY MOUNTAIN ANALYTICAL Contract: 68-01-7476

Lab Code: ENSECO Case No.: 8635 SAS No.: _____ SDG No.: MEQ970

Matrix (soil/water): SOIL Lab Sample ID: _____

Level (low/med): LOW Date Recieved: 12/02/87

% Solids: 74.4

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	20500		*	P
7440-36-0	Antimony	8.3	U	N	P
7440-38-2	Arsenic	23.1		S*	F
7440-39-3	Barium	384		E	P
7440-41-7	Beryllium	4.1			P
7440-43-9	Cadmium	25.1			P
7440-70-2	Calcium	123000			P
7440-47-3	Chromium	269		E*	P
7440-48-4	Cobalt	7.5	B		P
7440-50-8	Copper	147		N	P
7439-89-6	Iron	22100		E	P
7439-92-1	Lead	492		E	P
7439-95-4	Magnesium	11200			P
7439-96-5	Manganese	4080		E*	P
7439-97-6	Mercury	0.3			CV
7440-02-0	Nickel	46.3		E	P
7440-09-7	Potassium	2160		E	P
7482-49-2	Selenium	11.3		+N	F
7440-22-4	Silver	1.3	U		P
7440-23-5	Sodium	895	B		P
7440-28-0	Thallium	0.54	U	WK*	F
7440-62-2	Vanadium	23.0		E	P
7440-66-6	Zinc	639		E	P
	Cyanide	14.7		*N	AS

Color Before: BROWN Clarity Before: _____ Texture: COARSE

Color After: BROWN Clarity After: _____ Artifacts: _____

Comments:

ARSENIC AND SELENIUM VALUE DETERMINED BY MSA

U.S. EPA - CLP

1
INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MEQ977

Lab Name: ROCKY MOUNTAIN ANALYTICAL Contract: 68-01-7476

Lab Code: ENSECO Case No.: 8635 SAS No.: _____ SDG No.: MEQ970

Matrix (soil/water): SOIL Lab Sample ID: _____

Level (low/med): LOW Date Recieved: 12/04/87

% Solids: 80.9

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	4810		*	P
7440-36-0	Antimony	7.7	U	N	P
7440-38-2	Arsenic	10.8		*	F
7440-39-3	Barium	553		E	P
7440-41-7	Beryllium	0.45	B		P
7440-43-9	Cadmium	2.7			P
7440-70-2	Calcium	77300			P
7440-47-3	Chromium	96.5		E*	P
7440-48-4	Cobalt	6.4	B		P
7440-50-8	Copper	133		N	P
7439-89-6	Iron	19200		E	P
7439-92-1	Lead	2600		E	P
7439-95-4	Magnesium	16100			P
7439-96-5	Manganese	545		E*	P
7439-97-6	Mercury	0.6			CV
7440-02-0	Nickel	44.3		E	P
7440-09-7	Potassium	605	B	E	P
7482-49-2	Selenium	0.49	U	WN	F
7440-22-4	Silver	1.2	U		P
7440-23-5	Sodium	376	B		P
7440-28-0	Thallium	0.49	U	WN	F
7440-62-2	Vanadium	19.9		E	P
7440-66-6	Zinc	900		E	P
	Cyanide	0.39 ~~0.74~~		*N	AS

Color Before: BROWN Clarity Before: _____ Texture: COARSE
Color After: BROWN Clarity After: _____ Artifacts: _____

Comments:

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3
BLANKS

00016

Lab Name: ROCKY MOUNTAIN ANALYTICAL Contract: 68-01-7476

Lab Code: ENSECO Case No.: 8635 SAS No.: _____ SDG No.: MEQ970

Preparation Blank Matrix (soil/water): SOIL

Preparation Blank Concentration Units (ug/L or mg/kg): MG/KG

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L) 1	C	2	C	3	C	Prepa-ration BLANK	C	M
Aluminum	20.0	U	20.0	U	20.0	U	20.0	U	8.6	B	P
Antimony	31.0	U	31.0	U	31.0	U	31.0	U	6.2	U	P
Arsenic											
Barium	3.0	U	3.0	U	3.0	U	3.0	U	0.60	U	P
Beryllium	1.0	U	1.0	U	1.0	U	1.0	U	0.20	U	P
Cadmium	5.0	U	5.0	U	5.0	U	5.0	U	1.0	U	P
Calcium	92.0	U	92.0	U	92.0	U	92.0	U	26.5	B	P
Chromium	5.0	U	5.0	U	5.0	U	5.0	U	1.0	U	P
Cobalt	6.0	U	6.0	U	6.0	U	6.0	U	1.2	U	P
Copper	9.0	U	9.0	U	9.0	U	9.0	U	2.3	B	P
Iron	31.0	U	31.0	U	31.0	U	31.0	U	7.2	B	P
Lead	28.0	U	28.0	U	28.0	U	28.0	U	5.6	U	P
Magnesium	90.0	U	90.0	U	90.0	U	90.0	U	18.0	U	P
Manganese	5.0	U	5.0	U	5.0	U	5.0	U	1.0	U	P
Mercury											
Nickel	7.0	U	7.0	U	7.0	U	7.0	U	1.4	U	P
Potassium	111	U	111	U	111	U	111	U	22.2	U	P
Selenium											
Silver	5.0	U	5.0	U	5.0	U	5.0	U	1.0	U	P
Sodium	1500	U	1500	U	1500	U	1500	U	300	U	P
Thallium											
Vanadium	2.0	U	2.0	U	2.0	U	2.0	U	0.40	U	P
Zinc	13.0	U	13.0	U	13.0	U	13.0	U	2.6	U	P
Cyanide											

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3
BLANKS

00017

Lab Name: ROCKY MOUNTAIN ANALYTICAL Contract: 68-01-7476

Lab Code: ENSECO Case No.: 8635 SAS No.: _____ SDG No.: MEQ970

Preparation Blank Matrix (soil/water): SOIL

Preparation Blank Concentration Units (ug/L or mg/kg): MG/KG

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L) 1	C	2	C	3	C	Prepa-ration BLANK	C	M
Aluminum											
Antimony											
Arsenic	4.0	U	4.0	U	4.0	U			0.80	U	F
Barium											
Beryllium											
Cadmium											
Calcium											
Chromium											
Cobalt											
Copper											
Iron											
Lead											
Magnesium											
Manganese											
Mercury	0.2	U	0.2	U	0.2	U	0.2	U	0.1	U	CV
Nickel											
Potassium											
Selenium	2.0	U	2.0	U	2.0	U	2.0	U	0.40	U	F
Silver											
Sodium											
Thallium	2.0	U	2.0	U	2.0	U	2.0	U	0.40	U	F
Vanadium											
Zinc											
Cyanide	10.0	U	10.0	U	10.0	U	10.0	U	0.50	U	AS

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3
BLANKS

Lab Name: ROCKY MOUNTAIN ANALYTICAL Contract: 68-01-7476

Lab Code: ENSECO Case No.: 8635 SAS No.: _____ SDG No.: MEQ970

Preparation Blank Matrix (soil/water): SOIL

Preparation Blank Concentration Units (ug/L or mg/kg): MG/KG

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L) 1	C	2	C	3	C	Prepa-ration BLANK	C	M
Aluminum											
Antimony											
Arsenic											
Barium											
Beryllium											
Cadmium											
Calcium											
Chromium											
Cobalt											
Copper											
Iron											
Lead											
Magnesium											
Manganese											
Mercury											
Nickel											
Potassium											
Selenium			2.0	U							F
Silver											
Sodium											
Thallium			2.0	U							F
Vanadium											
Zinc											
Cyanide			10.0	U							AS

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3
BLANKS

Lab Name: ROCKY MOUNTAIN ANALYTICAL Contract: 68-01-7476

Lab Code: ENSECO Case No.: 8635 SAS No.: _____ SDG No.: ME0970

Preparation Blank Matrix (soil/water): SOIL

Preparation Blank Concentration Units (ug/L or mg/kg): MG/KG

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L) 1	C	2	C	3	C	Prepa-ration BLANK	C	M
Aluminum											
Antimony											
Arsenic	4.0	U	4.0	U	4.0	U	4.0	U			F
Barium											
Beryllium											
Cadmium											
Calcium											
Chromium											
Cobalt											
Copper											
Iron											
Lead											
Magnesium											
Manganese											
Mercury											
Nickel											
Potassium											
Selenium											
Silver											
Sodium											
Thallium											
Vanadium											
Zinc											
Cyanide											

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3
BLANKS

00020

Lab Name: ROCKY MOUNTAIN ANALYTICAL Contract: 68-01-7476

Lab Code: ENSECO Case No.: 8635 SAS No.: _____ SDG No.: MEQ970

Preparation Blank Matrix (soil/water): SOIL

Preparation Blank Concentration Units (ug/L or mg/kg): MG/KG

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L) 1	C	2	C	3	C	Prepa-ration BLANK	C	M
Aluminum											
Antimony											
Arsenic			4.0	U	4.0	U	4.0	U			F
Barium											
Beryllium											
Cadmium											
Calcium											
Chromium											
Cobalt											
Copper											
Iron											
Lead											
Magnesium											
Manganese											
Mercury											
Nickel											
Potassium											
Selenium											
Silver											
Sodium											
Thallium											
Vanadium											
Zinc											
Cyanide											

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00022

5A
SPIKE SAMPLE RECOVERY

EPA SAMPLE NO.

MEQ970S

Lab Name: ROCKY MOUNTAIN ANALYTICAL Contract: 68-01-7476

Lab Code: ENSECO Case No.: 8635 SAS No.: _____ SDG No.: MEQ970

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

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

Analyte	Control Limit %R	Spiked Sample Result (SSR)	C	Sample Result (SR)	C	Spike Added (SA)	%R	Q	M
Aluminum		7000		9200					NR
Antimony	75-125	80.8		7.9	U	128	63.1	N	P
Arsenic	75-125	15.9		6.5		10.2	92.2		F
Barium	75-125	609		122		512	95.1		P
Beryllium	75-125	14.6		0.86	B	12.8	107.3		P
Cadmium	75-125	15.2		1.7		12.8	105.5		P
Calcium		93400		99700					NR
Chromium		804		653		51.2	294.9		P
Cobalt	75-125	136		14.6		128	94.8		P
Copper	75-125	160		114		63.9	72.0	N	P
Iron		60200		51400					NR
Lead	75-125	361		235		128	98.4		P
Magnesium		70100		67000					NR
Manganese		1930		5220		128	-2570.3		P
Mercury	75-125	0.8		0.3		0.6	85.0		CV
Nickel	75-125	226		90.9		128	105.5		P
Potassium		311	B	408	B				NR
Selenium	75-125	5.1	U	0.51	U	2.6	0	N	F
Silver	75-125	12.1		1.3	U	12.8	94.5		P
Sodium		585	B	384	U				NR
Thallium	75-125	12.0 ~~60.1~~		5.1	U	12.8	~~469.5~~	N	F
Vanadium	75-125	297		142		128	121.1		P
Zinc	75-125	461		312		128	116.4		P
Cyanide	75-125	9.5		0.74		6.4	136.9	N	AS

Comments:
ARSENIC AND SELENIUM SPIKE REPORTED AT AN ADDITIONAL 10X DILUTION
THALLIUM SAMPLE REPORTED AT AN ADDITIONAL 10X DILUTION
THALLIUM SPIKE VALUE DETERMINED BY MSA

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5B
POST DIGEST SPIKE SAMPLE RECOVERY

EPA SAMPLE NO.

MEQ970A

Lab Name: ROCKY MOUNTAIN ANALYTICAL Contract: 68-01-7476

Lab Code: ENSECO Case No.: 8635 SAS No.: _____ SDG No.: MEQ970

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

Concentration Units: ug/L

Analyte	Control Limit %R	Spiked Sample Result (SSR)	C	Sample Result (SR)	C	Spike Added (SA)	%R	Q	M
Aluminum									NR
Antimony		156		18.4		120	114.7		P
Arsenic									NR
Barium									NR
Beryllium									NR
Cadmium									NR
Calcium									NR
Chromium									NR
Cobalt									NR
Copper		1430		446		900	109.3		P
Iron									NR
Lead									NR
Magnesium									NR
Manganese									NR
Mercury									NR
Nickel									NR
Potassium									NR
Selenium									NR
Silver									NR
Sodium									NR
Thallium									NR
Vanadium									NR
Zinc									NR
Cyanide		6.0		2.9 ~~0.58~~		5.0 ~~20.0~~	62.0		AS

Comments:

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6
DUPLICATES

EPA SAMPLE NO.

MEQ970D

Lab Name: ROCKY MOUNTAIN ANALYTICAL Contract: 68-01-7476

Lab Code: ENSECO Case No.: 8635 SAS No.: _____ SDG No.: MEQ970

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

% Solids for Sample: 78.2 % Solids for Duplicate: 78.6

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

Analyte	Control Limit	Sample (S)	C	Duplicate (D)	C	RPD	Q	M
Aluminum		9200		7260		23.6	*	P
Antimony		7.9	U	11.0	B	200		P
Arsenic	2.6	6.5		13.6		70.6	*	F
Barium	51.2	122		114		6.8		P
Beryllium		0.86	B	1.0	B	15.1		P
Cadmium	1.3	1.7		1.4		19.4		P
Calcium		99700		94600		5.2		P
Chromium		653		821		22.8	*	P
Cobalt	12.8	14.6		6.8	B	72.9		P
Copper		114		93.6		19.7		P
Iron		51400		61600		18.1		P
Lead		235		220		6.6		P
Magnesium		67000		79100		16.6		P
Manganese		5220		2980		54.6	*	P
Mercury	0.1	0.3		0.3				CV
Nickel		90.9		102		11.5		P
Potassium		408	B	425	B	4.1		P
Selenium		0.51	U	0.51	U			F
Silver		1.3	U	1.3	U			P
Sodium		384	U	384	U			P
Thallium		5.1	U	5.1	U			F
Vanadium		142		152		6.8		P
Zinc		312		296		5.3		P
Cyanide	0.6	0.74		1.5		67.9	*	AS

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LABORATORY CONTROL SAMPLE

Lab Name: ROCKY MOUNTAIN ANALYTICAL Contract: 68-01-7476

Lab Code: ENSECO Case No.: 8635 SAS No.: _____ SDG No.: MEQ970

Solid LCS Source: EMSL-LV

Aqueous LCS Source: EMSL-LV

Analyte	Aqueous (ug/L) True	Found	%R(1)	Solid (mg/kg) True	Found	C	Limits		%R
Aluminum				325	285		225	424	87.7
Antimony				211	237		127	294	112
Arsenic									
Barium				4.8	5.7	B	0.0	40.0	119
Beryllium				19.4	21.4		16.5	22.3	110
Cadmium				45.4	45.6		35.7	55.1	100
Calcium				196200	200000		166800	225600	102
Chromium				99.6	103		79.2	120	103
Cobalt				144	152		125	162	106
Copper				6910	7550		6006	7820	109
Iron				22430	23100		17770	27080	103
Lead				236	227		188	285	96.2
Magnesium				118100	124000		100400	129900	105
Manganese				208	231		177	239	111
Mercury									
Nickel				60.9	63.0		49.2	72.6	103
Potassium				50.0	50.1	B	0.0	1000	100
Selenium									
Silver				22.2	22.1		15.5	29.0	99.5
Sodium				50.0	300	U	0.0	1000	
Thallium									
Vanadium				65.8	71.0		51.7	79.9	108
Zinc				187	176		138	236	94.1
Cyanide									

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LABORATORY CONTROL SAMPLE

Lab Name: ROCKY MOUNTAIN ANALYTICAL Contract: 68-01-7476

Lab Code: ENSECO Case No.: 8635 SAS No.: _____ SDG No.: MEQ970

Solid LCS Source: EMSL-LV

Aqueous LCS Source: EMSL-LV

Analyte	Aqueous (ug/L) True	Found	%R(1)	Solid (mg/kg) True	Found	C	Limits		%R
Aluminum									
Antimony									
Arsenic				917	804		635	1199	87.7
Barium									
Beryllium									
Cadmium									
Calcium									
Chromium									
Cobalt									
Copper									
Iron									
Lead									
Magnesium									
Manganese									
Mercury				12.7	13.0		8.5	17.0	102
Nickel									
Potassium									
Selenium				39.2	37.8		19.1	59.4	96.4
Silver									
Sodium									
Thallium				39.0	32.1		24.6	53.5	82.3
Vanadium									
Zinc									
Cyanide									

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000001

COVER PAGE - INORGANIC ANALYSES DATA PACKAGE

Lab Name: ROCKY MOUNTAIN ANALYTICAL Contract: 68-01-7476

Lab Code: ENSECO Case No.: 8635 SAS No.: _____ SDG No.: MEQ964

SOW No.: 7/87

EPA Sample No.	Lab Sample ID.
MEQ963	
MEQ964	
MEQ965	
MEQ966	
MEQ966D	
MEQ967	
MEQ967S	
MEQ969	
MEQ971	
MEQ972	
MEQ973	
MEQ974	

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536 S. CLARK STREET
CHICAGO, ILLINOIS 60605

Were ICP interelement corrections applied? Yes/No YES

Were ICP background corrections applied? Yes/No YES
If yes-were raw data generated before application of background corrections? Yes/No NO

Comments:
10 LOW WATERS OF TOTAL METALS AND CYANIDE ANALYSIS
INTERFERENCE ON SERAIL DILUTION NOTED FOR ALUMINUM
RMA QC #87484

Release of the data contained in this hardcopy data package and in the computer readable data submitted on floppy diskette have been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature.

Lab Manager: [signature]

Date: 01/05/88

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1
INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MEQ963

Lab Name: ROCKY MOUNTAIN ANALYTICAL Contract: 68-01-7476

Lab Code: ENSECO Case No.: 8635 SAS No.: _____ SDG No.: MEQ964

Matrix (soil/water): WATER Lab Sample ID: _____

Level (low/med): LOW Date Recieved: 12/02/87

% Solids: 0.0

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	288		E	P
7440-36-0	Antimony	31.0	U		P
7440-38-2	Arsenic	30.3		S	F
7440-39-3	Barium	3.9	B		P
7440-41-7	Beryllium	1.0	U		P
7440-43-9	Cadmium	5.0	U		P
7440-70-2	Calcium	14700			P
7440-47-3	Chromium	15.8			P
7440-48-4	Cobalt	6.0	U		P
7440-50-8	Copper	26.1			P
7439-89-6	Iron	520			P
7439-92-1	Lead	1.0	U	W	F
7439-95-4	Magnesium	2900	B		P
7439-96-5	Manganese	13.4	B		P
7439-97-6	Mercury	0.2	U		CV
7440-02-0	Nickel	11.7	B		P
7440-09-7	Potassium	9370			P
7482-49-2	Selenium	12.6		SN	F
7440-22-4	Silver	5.0	U		P
7440-23-5	Sodium	352000			P
7440-28-0	Thallium	8.7	B	WN	F
7440-62-2	Vanadium	9.3	B		P
7440-66-6	Zinc	22.5			P
	Cyanide	17.4			AS

Color Before: RED Clarity Before: CLEAR Texture: _____
Color After: COLORLESS Clarity After: CLOUDY Artifacts: _____

Comments:
Arsenic value determined by MSA
Selenium value determined by MSA

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1
INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MEQ964

Lab Name: ROCKY MOUNTAIN ANALYTICAL Contract: 68-01-7476

Lab Code: ENSECO Case No.: 8635 SAS No.: _____ SDG No.: MEQ964

Matrix (soil/water): WATER Lab Sample ID: _____

Level (low/med): LOW Date Recieved: 12/01/87

% Solids: 0.0

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	3100		E	P
7440-36-0	Antimony	31.0	U		P
7440-38-2	Arsenic	4.0	U		F
7440-39-3	Barium	21.1	B		P
7440-41-7	Beryllium	1.0	U		P
7440-43-9	Cadmium	5.0	U		P
7440-70-2	Calcium	26700			P
7440-47-3	Chromium	15.9			P
7440-48-4	Cobalt	6.0	U		P
7440-50-8	Copper	35.7			P
7439-89-6	Iron	4200			P
7439-92-1	Lead	11.6		S	F
7439-95-4	Magnesium	15300			P
7439-96-5	Manganese	107			P
7439-97-6	Mercury	0.2	U		CV
7440-02-0	Nickel	31.6	B		P
7440-09-7	Potassium	9190			P
7482-49-2	Selenium	2.0	U	W N	F
7440-22-4	Silver	5.0	U		P
7440-23-5	Sodium	114000			P
7440-28-0	Thallium	2.0		W N	F
7440-62-2	Vanadium	5.6	B		P
7440-66-6	Zinc	55.5			P
	Cyanide	10.0	U		AS

Color Before: RED Clarity Before: CLEAR Texture: _____
Color After: COLORLESS Clarity After: CLOUDY Artifacts: _____

Comments:
Lead value determined by MSA

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INORGANIC ANALYSIS DATA SHEET

000004

EPA SAMPLE NO.

MEQ965

Lab Name: ROCKY MOUNTAIN ANALYTICAL Contract: 68-01-7476

Lab Code: ENSECO Case No.: 8635 SAS No.: _____ SDG No.: MEQ964

Matrix (soil/water): WATER Lab Sample ID: _____

Level (low/med): LOW Date Recieved: 12/01/87

% Solids: 0.0

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	3240		E	P
7440-36-0	Antimony	31.0	U		P
7440-38-2	Arsenic	4.0	U		F
7440-39-3	Barium	60.2	B		P
7440-41-7	Beryllium	1.0	U		P
7440-43-9	Cadmium	5.0	U		P
7440-70-2	Calcium	284000			P
7440-47-3	Chromium	46.5			P
7440-48-4	Cobalt	9.6	B		P
7440-50-8	Copper	45.5			P
7439-89-6	Iron	3250			P
7439-92-1	Lead	10.0	U	W	F
7439-95-4	Magnesium	147000			P
7439-96-5	Manganese	724			P
7439-97-6	Mercury	0.2	U		CV
7440-02-0	Nickel	330			P
7440-09-7	Potassium	25300			P
7482-49-2	Selenium	2.0	U	W N	F
7440-22-4	Silver	5.0	U		P
7440-23-5	Sodium	154000			P
7440-28-0	Thallium	20.0	U	W N	F
7440-62-2	Vanadium	4.7	B		P
7440-66-6	Zinc	82.6			P
	Cyanide	26.7			AS

Color Before: RED Clarity Before: CLEAR Texture: _____

Color After: COLORLESS Clarity After: CLOUDY Artifacts: _____

Comments:

Thallium result reported at a 10x dilution.
Lead result reported at a 10x dilution.

U.S. EPA - CLP

1
INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MEQ966

Lab Name: ROCKY MOUNTAIN ANALYTICAL Contract: 68-01-7476

Lab Code: ENSECO Case No.: 8635 SAS No.: _____ SDG No.: MEQ964

Matrix (soil/water): WATER Lab Sample ID: _____

Level (low/med): LOW Date Recieved: 12/01/87

% Solids: 0.0

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	26.2	B	E	P
7440-36-0	Antimony	31.0	U		P
7440-38-2	Arsenic	4.0	U		F
7440-39-3	Barium	42.6	B		P
7440-41-7	Beryllium	1.0	U		P
7440-43-9	Cadmium	5.0	U		P
7440-70-2	Calcium	145000			P
7440-47-3	Chromium	5.0	U		P
7440-48-4	Cobalt	6.0	U		P
7440-50-8	Copper	13.8	B		P
7439-89-6	Iron	60.6	B		P
7439-92-1	Lead	1.0	U	W	F
7439-95-4	Magnesium	59700			P
7439-96-5	Manganese	465			P
7439-97-6	Mercury	0.2	U		CV
7440-02-0	Nickel	78.5			P
7440-09-7	Potassium	19700			P
7482-49-2	Selenium	2.0	U	WN	F
7440-22-4	Silver	5.0	U		P
7440-23-5	Sodium	112000			P
7440-28-0	Thallium	2.0	U	WN	F
7440-62-2	Vanadium	2.0	U		P
7440-66-6	Zinc	21.8			P
	Cyanide	10.0	U		AS

Color Before: RED Clarity Before: CLEAR Texture: _____
Color After: COLORLESS Clarity After: CLEAR Artifacts: _____

Comments:

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INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MEQ967

Lab Name: ROCKY MOUNTAIN ANALYTICAL Contract: 68-01-7476

Lab Code: ENSECO Case No.: 8635 SAS No.: _____ SDG No.: MEQ964

Matrix (soil/water): WATER Lab Sample ID: _____

Level (low/med): LOW Date Recieved: 12/01/87

% Solids: 0.0

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	65.4	B	E	P
7440-36-0	Antimony	31.0	U		P
7440-38-2	Arsenic	4.0	U		F
7440-39-3	Barium	59.4	B		P
7440-41-7	Beryllium	1.0	U		P
7440-43-9	Cadmium	5.0	U		P
7440-70-2	Calcium	224000			P
7440-47-3	Chromium	5.0	U		P
7440-48-4	Cobalt	6.0	U		P
7440-50-8	Copper	36.0			P
7439-89-6	Iron	31.0	U		P
7439-92-1	Lead	1.0	U	W	F
7439-95-4	Magnesium	105000			P
7439-96-5	Manganese	427			P
7439-97-6	Mercury	0.2	U		CV
7440-02-0	Nickel	39.3	B		P
7440-09-7	Potassium	16000			P
7482-49-2	Selenium	2.0	U	WN	F
7440-22-4	Silver	5.0	U		P
7440-23-5	Sodium	109000			P
7440-28-0	Thallium	2.0	U	WN	F
7440-62-2	Vanadium	2.0	U		P
7440-66-6	Zinc	39.1			P
	Cyanide	10.0	U		AS

Color Before: RED Clarity Before: CLEAR Texture: _____

Color After: COLORLESS Clarity After: CLEAR Artifacts: _____

Comments:

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INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MEQ969

Lab Name: ROCKY MOUNTAIN ANALYTICAL Contract: 68-01-7476

Lab Code: ENSECO Case No.: 8635 SAS No.: ' SDG No.: MEQ964

Matrix (soil/water): WATER Lab Sample ID: _____

Level (low/med): LOW Date Recieved: 12/02/87

% Solids: 0.0

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	20.0	U	E	P
7440-36-0	Antimony	31.0	U		P
7440-38-2	Arsenic	4.0	U	W	F
7440-39-3	Barium	3.0	U		P
7440-41-7	Beryllium	1.0	U		P
7440-43-9	Cadmium	5.0	U		P
7440-70-2	Calcium	312	B		P
7440-47-3	Chromium	5.0	U		P
7440-48-4	Cobalt	6.0	U		P
7440-50-8	Copper	10.9	B		P
7439-89-6	Iron	31.0	U		P
7439-92-1	Lead	1.0	U		F
7439-95-4	Magnesium	90.0	U		P
7439-96-5	Manganese	5.0	U		P
7439-97-6	Mercury	0.2	U		CV
7440-02-0	Nickel	7.0	U		P
7440-09-7	Potassium	111	U		P
7482-49-2	Selenium	2.0	U	W N	F
7440-22-4	Silver	5.0	U		P
7440-23-5	Sodium	1500	U		P
7440-28-0	Thallium	2.0	U	W N	F
7440-62-2	Vanadium	2.0	U		P
7440-66-6	Zinc	13.4	B		P
	Cyanide	10.0	U		AS

Color Before: RED Clarity Before: CLEAR Texture: _____
Color After: COLORLESS Clarity After: CLEAR Artifacts: _____

Comments: Sample is a blank)

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INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MEQ971

Lab Name: ROCKY MOUNTAIN ANALYTICAL Contract: 68-01-7476

Lab Code: ENSECO Case No.: 8635 SAS No.: _____ SDG No.: MEQ964

Matrix (soil/water): WATER Lab Sample ID: _____

Level (low/med): LOW Date Recieved: 12/01/87

% Solids: 0.0

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	20.0	U	E	P
7440-36-0	Antimony	31.0	U		P
7440-38-2	Arsenic	4.0	U		F
7440-39-3	Barium	3.0	U		P
7440-41-7	Beryllium	1.0	U		P
7440-43-9	Cadmium	5.0	U		P
7440-70-2	Calcium	731	B		P
7440-47-3	Chromium	5.0	U		P
7440-48-4	Cobalt	6.0	U		P
7440-50-8	Copper	9.0	U		P
7439-89-6	Iron	31.0	U		P
7439-92-1	Lead	1.0	U		F
7439-95-4	Magnesium	112	B		P
7439-96-5	Manganese	5.0	U		P
7439-97-6	Mercury	0.2	U		CV
7440-02-0	Nickel	7.0	U		P
7440-09-7	Potassium	111	U		P
7482-49-2	Selenium	2.0	U	N	F
7440-22-4	Silver	5.0	U		P
7440-23-5	Sodium	1500	U		P
7440-28-0	Thallium	2.0	U	N	F
7440-62-2	Vanadium	2.0	U		P
7440-66-6	Zinc	13.0	U		P
	Cyanide	10.0	U		AS

Color Before: RED Clarity Before: CLEAR Texture: _____
Color After: COLORLESS Clarity After: CLEAR Artifacts: _____

Comments: Sample is a blank)

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INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MEQ972

Lab Name: ROCKY MOUNTAIN ANALYTICAL Contract: 68-01-7476

Lab Code: ENSECO Case No.: 8635 SAS No.: _____ SDG No.: MEQ964

Matrix (soil/water): WATER Lab Sample ID: _____

Level (low/med): LOW Date Recieved: 12/02/87

% Solids: 0.0

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	1840		E	P
7440-36-0	Antimony	31.0	U		P
7440-38-2	Arsenic	4.0	U	W	F
7440-39-3	Barium	42.8	B		P
7440-41-7	Beryllium	1.0	U		P
7440-43-9	Cadmium	5.0	U		P
7440-70-2	Calcium	90500			P
7440-47-3	Chromium	13.2			P
7440-48-4	Cobalt	6.0	U		P
7440-50-8	Copper	49.0			P
7439-89-6	Iron	3310			P
7439-92-1	Lead	13.0		S	F
7439-95-4	Magnesium	84400			P
7439-96-5	Manganese	207			P
7439-97-6	Mercury	0.2	U		CV
7440-02-0	Nickel	69.2			P
7440-09-7	Potassium	27300			P
7482-49-2	Selenium	2.0	U	WN	F
7440-22-4	Silver	5.0	U		P
7440-23-5	Sodium	27900			P
7440-28-0	Thallium	2.0	U	WN	F
7440-62-2	Vanadium	3.6	B		P
7440-66-6	Zinc	49.0			P
	Cyanide	10.0	U		AS

Color Before: RED Clarity Before: CLEAR Texture: _____

Color After: COLORLESS Clarity After: CLOUDY Artifacts: _____

Comments: Lead value determined by MSA

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INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MEQ973

Lab Name: ROCKY MOUNTAIN ANALYTICAL Contract: 68-01-7476

Lab Code: ENSECO Case No.: 8635 SAS No.: _____ SDG No.: MEQ964

Matrix (soil/water): WATER Lab Sample ID: _____

Level (low/med): LOW Date Recieved: 12/02/87

% Solids: 0.0

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	2160	B	E	P
7440-36-0	Antimony	979	B		P
7440-38-2	Arsenic	40.0	U	E	F
7440-39-3	Barium	120	B		P
7440-41-7	Beryllium	20.0	U		P
7440-43-9	Cadmium	396			P
7440-70-2	Calcium	159000			P
7440-47-3	Chromium	562			P
7440-48-4	Cobalt	400	B		P
7440-50-8	Copper	277	B		P
7439-89-6	Iron	61300			P
7439-92-1	Lead	2030		+	F
7439-95-4	Magnesium	55900	B		P
7439-96-5	Manganese	6900			P
7439-97-6	Mercury	0.2	U		CV
7440-02-0	Nickel	1360			P
7440-09-7	Potassium	77200	B		P
7482-49-2	Selenium	318		+N	F
7440-22-4	Silver	100	U		P
7440-23-5	Sodium	13600000			P
7440-28-0	Thallium	25.0	B	E N	F
7440-62-2	Vanadium	40.0	U		P
7440-66-6	Zinc	1820			P
	Cyanide	55.2			AS

Color Before: RED Clarity Before: CLEAR Texture: _____
Color After: BROWN Clarity After: CLOUDY Artifacts: _____

Comments:
Arsenic value reported at a 10X dilution. Selenium determined by MSA.
Interference suspected for arsenic.
Thallium value reported at a 10X dilution. Interference suspected.
Lead value determined by MSA
~~For~~ ICP reported at a 20X dilution due to high Na concentration

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1
INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MEQ974

Lab Name: ROCKY MOUNTAIN ANALYTICAL Contract: 68-01-7476

Lab Code: ENSECO Case No.: 8635 SAS No.: _____ SDG No.: MEQ964

Matrix (soil/water): WATER Lab Sample ID: _____

Level (low/med): LOW Date Recieved: 12/01/87

% Solids: 0.0

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	2480	B	E	P
7440-36-0	Antimony	620	U		P
7440-38-2	Arsenic	40.0	U	E	F
7440-39-3	Barium	131	B		P
7440-41-7	Beryllium	20.0	U		P
7440-43-9	Cadmium	454			P
7440-70-2	Calcium	160000			P
7440-47-3	Chromium	555			P
7440-48-4	Cobalt	399	B		P
7440-50-8	Copper	225	B		P
7439-89-6	Iron	64000			P
7439-92-1	Lead	646		E	F
7439-95-4	Magnesium	59000	B		P
7439-96-5	Manganese	7360			P
7439-97-6	Mercury	0.2	U		CV
7440-02-0	Nickel	1360			P
7440-09-7	Potassium	73100	B		P
7482-49-2	Selenium	100	U	E N	F
7440-22-4	Silver	100	U		P
7440-23-5	Sodium	14200000			P
7440-28-0	Thallium	23.0	B	E N	F
7440-62-2	Vanadium	40.0	U		P
7440-66-6	Zinc	1880			P
	Cyanide	23.8			AS

Color Before: RED Clarity Before: CLEAR Texture: _____
Color After: BROWN Clarity After: CLOUDY Artifacts: _____

Comments:
(Arsenic) value reported at a 10X dilution.
Interference suspected for Arsenic.
Selenium value reported at a 50X dilution. Interference suspected.
Thallium value reported at a 10X dilution. Interference suspected.
Lead value reported at a 10X dilution. Interference suspected.
ICP reported at a 20X dilution due to high Na concentrations.

3
BLANKS

Lab Name: ROCKY MOUNTAIN ANALYTICAL Contract: 68-01-7476

Lab Code: ENSECO Case No.: 8635 SAS No.: _____ SDG No.: MEQ964

Preparation Blank Matrix (soil/water): WATER

Preparation Blank Concentration Units (ug/L or mg/kg): UG/L

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L) 1	C	2	C	3	C	Prepa-ration BLANK	C	M
Aluminum	20.0	U	20.0	U	20.0	U	20.0	U	20.0	U	P
Antimony	31.0	U	31.0	U	31.0	U	31.0	U	31.0	U	P
Arsenic											
Barium	3.0	U	3.0	U	3.0	U	3.0	U	3.0	U	P
Beryllium	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	P
Cadmium	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	P
Calcium	92.0	U	92.0	U	92.0	U	92.0	U	103	B	P
Chromium	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	P
Cobalt	6.0	U	6.0	U	6.0	U	6.0	U	6.0	U	P
Copper	9.0	U	9.0	U	9.0	U	9.0	U	24.3	B	P
Iron	31.0	U	31.0	U	31.0	U	31.0	U	31.0	U	P
Lead											
Magnesium	90.0	U	90.0	U	90.0	U	90.0	U	90.0	U	P
Manganese	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	P
Mercury											
Nickel	7.0	U	7.0	U	7.0	U	7.0	U	7.0	U	P
Potassium	111	U	111	U	111	U	111	U	111	U	P
Selenium											
Silver	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	P
Sodium	1500	U	1500	U	1500	U	1500	U	1500	U	P
Thallium											
Vanadium	2.0	U	2.0	U	2.0	U	2.0	U	2.0	U	P
Zinc	13.0	U	13.0	U	13.0	U	13.0	U	13.0	U	P
Cyanide											

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3
BLANKS

Lab Name: ROCKY MOUNTAIN ANALYTICAL Contract: 68-01-7476

Lab Code: ENSECO Case No.: 8635 SAS No.: _____ SDG No.: MEQ964

Preparation Blank Matrix (soil/water): WATER

Preparation Blank Concentration Units (ug/L or mg/kg): UG/L

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L) 1	C	2	C	3	C	Prepa-ration BLANK	C	M
Aluminum											
Antimony											
Arsenic	4.0	U	4.0	U	4.0	U	4.0	U	4.0	U	F
Barium											
Beryllium											
Cadmium											
Calcium											
Chromium											
Cobalt											
Copper											
Iron											
Lead	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	F
Magnesium											
Manganese											
Mercury	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	CV
Nickel											
Potassium											
Selenium	2.0	U	2.0	U	2.0	U	2.0	U	2.0	U	F
Silver											
Sodium											
Thallium	2.0	U	2.0	U	2.0	U	2.0	U	2.0	U	F
Vanadium											
Zinc											
Cyanide	10.0	U	10.0	U	10.0	U	10.0	U	10.0	U	AS

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000020

3
BLANKS

Lab Name: ROCKY MOUNTAIN ANALYTICAL Contract: 68-01-7476

Lab Code: ENSECO Case No.: 8635 SAS No.: _____ SDG No.: MEQ964

Preparation Blank Matrix (soil/water): WATER

Preparation Blank Concentration Units (ug/L or mg/kg): UG/L

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L) 1	C	2	C	3	C	Prepa-ration BLANK	C	M
Aluminum											
Antimony											
Arsenic			4.0	U	4.0	U					F
Barium											
Beryllium											
Cadmium											
Calcium											
Chromium											
Cobalt											
Copper											
Iron											
Lead			1.0	U							F
Magnesium											
Manganese											
Mercury											
Nickel											
Potassium											
Selenium			2.0	U	2.0	U	2.0	U			F
Silver											
Sodium											
Thallium			2.0	U							F
Vanadium											
Zinc											
Cyanide			~~10.0~~ 6	U							AS

0000204

3
BLANKS

Lab Name: Rocky Mountain Analytical Contract: 68-01-7476

Lab Code: ENSECO Case No.: 8635 SAS No.: . SDG No.: M6096

Preparation Blank Matrix (soil/water): WATER

Preparation Blank Concentration Units (ug/L or mg/kg): ug/L

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L) 1	C	2	C	3	C	Prepa-ration Blank	C	M
Aluminum											
Antimony											
Arsenic											
Barium											
Beryllium											
Cadmium											
Calcium											
Chromium											
Cobalt											
Copper											
Iron											
Lead	1.0	U	1.0	U	1.0	U	1.0	U			F
Magnesium											
Manganese											
Mercury											
Nickel											
Potassium											
Selenium			2.0	U							F
Silver											
Sodium											
Thallium	2.0	U	2.0	U	2.0	U	2.0	U			F
Vanadium											
Zinc											
Cyanide											

3
BLANKS

000020B

Lab Name: Rocky Mountain Analytical Contract: 68-01-7476

Lab Code: ENSECO Case No.: 8635 SAS No.: . SDG No.: MC0964

Preparation Blank Matrix (soil/water): WATER

Preparation Blank Concentration Units (ug/L or mg/kg): ug/L

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L) 1	C	2	C	3	C	Prepa-ration Blank	C	M
Aluminum											
Antimony											
Arsenic											
Barium											
Beryllium											
Cadmium											
Calcium											
Chromium											
Cobalt											
Copper											
Iron											
Lead	1.0	U	1.0	U	1.2	B					F
Magnesium											
Manganese											
Mercury											
Nickel											
Potassium											
Selenium											
Silver											
Sodium											
Thallium											
Vanadium											
Zinc											
Cyanide											

U.S. EPA - CLP

5A
SPIKE SAMPLE RECOVERY

EPA SAMPLE NO.

MEQ967S

Lab Name: ROCKY MOUNTAIN ANALYTICAL Contract: 68-01-7476

Lab Code: ENSECO Case No.: 8635 SAS No.: _____ SDG No.: MEQ964

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

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

Analyte	Control Limit %R	Spiked Sample Result (SSR)	C	Sample Result (SR)	C	Spike Added (SA)	%R	Q	M
Aluminum	75-125	1960		65.4	B	2000	94.7		P
Antimony	75-125	452		31.0	U	500	90.4		P
Arsenic		43.6		4.0	U	40.0	109.0		F
Barium	75-125	1740		59.4	B	2000	84.0		P
Beryllium	75-125	45.0		1.0	U	50.0	90.0		P
Cadmium	75-125	42.6		5.0	U	50.0	85.2		P
Calcium		221000		224000					NR
Chromium	75-125	172		5.0	U	200	86.0		P
Cobalt	75-125	446		6.0	U	500	89.2		P
Copper	75-125	271		36.0		250	94.0		P
Iron	75-125	931		31.0	U	1000	93.1		P
Lead		21.1		1.0	U	20.0	105.5		F
Magnesium		104000		105000					NR
Manganese	75-125	864		427		500	87.4		P
Mercury	75-125	1.0		0.2	U	1.0	100.0		CV
Nickel	75-125	475		39.3	B	500	87.1		P
Potassium		15800		16000					NR
Selenium		20.0	U	2.0	U	10.0	0	N	F
Silver	75-125	44.1		5.0	U	50.0	88.2		P
Sodium		110000		109000					NR
Thallium		34.7		2.0	U	50.0	69.4	N	F
Vanadium	75-125	443		2.0	U	500	88.6		P
Zinc	75-125	489		39.1		500	90.0		P
Cyanide	75-125	91.4		10.0	U	100	91.4		AS

Comments:
Selenium spiked sample result repeated at a 10x dilution
Thallium and Lead spiked sample results determined by MSA.

U.S. EPA - CLP

6
DUPLICATES

EPA SAMPLE NO.

MEQ966D

Lab Name: ROCKY MOUNTAIN ANALYTICAL Contract: 68-01-7476

Lab Code: ENSECO Case No.: 8635 SAS No.: _____ SDG No.: MEQ964

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

% Solids for Sample: 0.0 % Solids for Duplicate: 0.0

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

Analyte	Control Limit	Sample (S)	C	Duplicate (D)	C	RPD	Q	M
Aluminum		26.2	B	29.0	B	10.1		P
Antimony		31.0	U	31.0	U			P
Arsenic		4.0	U	4.0	U			F
Barium		42.6	B	42.9	B	0.7		P
Beryllium		1.0	U	1.0	U			P
Cadmium		5.0	U	5.0	U			P
Calcium		145000		147000		1.4		P
Chromium		5.0	U	5.0	U			P
Cobalt		6.0	U	6.0	U			P
Copper		13.8	B	9.9	B	32.9		P
Iron		60.6	B	55.7	B	8.4		P
Lead		1.0	U	1.0	U			F
Magnesium		59700		60800		1.8		P
Manganese		465		476		2.3		P
Mercury		0.2	U	0.2	U			CV
Nickel	40.0	78.5		82.3		4.7		P
Potassium	5000	19700		20000		1.5		P
Selenium		2.0	U	2.0	U			
Silver		5.0	U	5.0	U			P
Sodium		112000		114000		1.8		P
Thallium		2.0	U	2.0	U			F
Vanadium		2.0	U	2.0	U			P
Zinc	20.0	21.8		21.3		2.3		P
Cyanide		10.0	U	10.0	U			AS

U.S. EPA - CLP

7
LABORATORY CONTROL SAMPLE

Lab Name: ROCKY MOUNTAIN ANALYTICAL Contract: 68-01-7476

Lab Code: ENSECO Case No.: 8635 SAS No.: _____ SDG No.: MEQ964

Solid LCS Source: EMSL-LV

Aqueous LCS Source: EMSL-LV

Analyte	Aqueous (ug/L) True	Found	%R(1)	Solid (mg/kg) True	Found	C	Limits		%R
Aluminum	1980	1990	101						
Antimony	1010	983	97.3						
Arsenic									
Barium	1980	1860	93.9						
Beryllium	481	477	99.2						
Cadmium	489	496	101						
Calcium	49800	48300	97.0						
Chromium	506	460	90.9						
Cobalt	474	479	101						
Copper	542	566	104						
Iron	1990	1920	96.5						
Lead									
Magnesium	25000	24000	96.0						
Manganese	513	490	95.5						
Mercury									
Nickel	496	464	93.5						
Potassium	50200	49200	98.0						
Selenium									
Silver	509	484	95.1						
Sodium	50700	49800	98.2						
Thallium									
Vanadium	511	477	93.3						
Zinc	3100	2990	96.5						
Cyanide									

000024A

7

LABORATORY CONTROL SAMPLE

Lab Name: Rocky Mountain Analytical Contract: 68-01-7476

Lab Code: ENSECO Case No.: 8635 SAS No.: _____ SDG No.: MC0964

Solid LCS Source: EMSL-LV

Aqueous LCS Source: EMSL-LV

Analyte	Aqueous (ug/L) True	Found	%R	Solid (mg/kg) True	Found	C	Limits		%R
Aluminum									
Antimony									
Arsenic	49.4	41.0	83.0						
Barium									
Beryllium									
Cadmium									
Calcium									
Chromium									
Cobalt									
Copper									
Iron									
Lead	97.9	92.8	94.8						
Magnesium									
Manganese									
Mercury									
Nickel									
Potassium									
Selenium	98.2	99.8	101.6						
Silver									
Sodium									
Thallium	97.6	92.8	95.4						
Vanadium									
Zinc									
Cyanide									

ecology and environment, inc.

111 WEST JACKSON BLVD, CHICAGO, ILLINOIS 60604, TEL 312-663-9415
International Specialists in the Environment

CRL Receipt Date 10-21-87 FIT Receipt Date 12-31-87 Review Completed 12-31-87

TO: JEFF CARMAN

FROM: Jim Mertes

SUBJECT: U.S. SCRAP

PAN: IL 01 02 VA CASE # ~~8026~~ 8027

Sample Description

Organics (VOA, ABN, Pest/PCB)		Inorganics (Metals, Cyanide)	
# 4	Low Soil	#	Low Soil
6	Low Water		Low Water
	Drinking Water		Drinking Water
	Other		Other

Project Data Status X Completed!! for This sampling date

Incomplete, awaiting:

FIT Data Review Findings:

- A considerable number of PAH's detected in the soil samples but at concentration below and only slightly above the CRQL. Pesticides also detected.
- All Water samples free of contaminants except EP481 where lindane was detected at the CRQL. (.050 ppb)

Check Data Sheets for Transcription Errors

- Soil samples were diluted + the CRQL's were adjusted accordingly.

X Compounds were detected in sample(s); see enclosed sheet.

- TIC's

Book No. 7 Page No. 3 Date Sampled 9-9-87

26U:001

1 hr. charged to above pan a
Week ending 1-2-88

recycled paper

US SCRAP
Case # 8027

479+80 = No TCL hits

COMPOUND	SAMPLE	DET. LIMIT	ppb EP098	099	404	465	481	482	483	484
dimethyl phthalate										
acenapthylene			34J		18J					
3-nitroaniline										
acenaphthene					27J					
2,4-dinitrophenol										
4-nitrophenol										
dibenzofuran			30J		22J					
2,4-dinitrotoluene										
2,6-dinitrotoluene										
diethylphthalate										
4-chlorophenyl-phenylether										
fluorene			56J	8J	47J	23J				
4-nitroaniline										
4,6-dinitro-2-methylphenol										
N-nitrosodiphenylamine										
4-bromophenyl-phenylether										
hexachlorobenzene										
pentachlorophenol										
phenanthrene			480J	70J	410J	160J				
anthracene			130J		95J	43J				
di-n-butylphthalate										
fluoranthene		680 D.L.	760	91J	540J	290J				
benzidine			730		510J					
pyrene				79J		190J				
butylbenzylphthalate				49J						
3,3'-dichlorobenzidine										
benzo(a)anthracene			420J		250J	120J				
bis(2-ethylhexyl)phthalate			61J							
chrysene			420J	52J	270J	120J				
di-n-octylphthalate										
benzo(b&k)fluoranthene			330J / 97J	34J	170J / 45J	150J / 25J				
benzo(a)pyrene			410J	43J	230J	110J				
indeno(1,2,3-cd)pyrene			220J	19J	110J	59J				
dibenzo(a,h)anthracene			22J		39J					
benzo(g,h,i)perylene					130J	69J				
alpha-BHC										
beta-BHC										
delta-BHC										
gamma-BHC(lindane)		.050					.050			
heptachlor										
aldrin										
heptachlor epoxide										
endosulfan I				1J						
dieldrin										
4,4'-DDE			78		6.5J	12J				
endrin										
endosulfan II										
4,4'-DDD				7J	33					
endrin aldehyde										
endosulfan sulfate										
4,4'-DDT										
methoxychlor										
endrin ketone										
chlordane										
toxaphene										
Aroclor-1016										
Aroclor-1221										
Aroclor-1232										
Aroclor-1242										
Aroclor-1248										
Aroclor-1254										
Aroclor-1260										

NO HITS

D.L. = 22

D.L. = 22

US EPA
Case = 6027

479-480 = No ICL hits

COMPOUND	SAMPLE	DET. LIMIT	ppb							
			EPA	099	404	405	481	482	483	484
chloromethane										
bromomethane										
vinyl chloride										
chloroethane										
methylene chloride										
acetone							10J			12J
carbon disulfide										
1,1-dichloroethene										
1,1-dichloroethane										
trans-1,2,-dichloroethene										
chloroform										
1,2-dichloroethane										
2-butanone						34				
1,1,1-trichloroethane										
carbon tetrachloride										
vinyl acetate										
bromodichloromethane										
1,1,2,2-tetrachloroethane										
1,2-dichloropropane										
trans-1,3-dichloropropene										
trichloroethene										
dibromochloromethane										
1,1,2-trichloroethane										
benzene										
cis-1,3-dichloropropene										
2-chloroethylvinylether										
bromoform										
2-hexanone										
4-methyl-2-pentanone										
tetrachloroethene										
toluene										
chlorobenzene										
ethylbenzene										
styrene										
total xylenes										
N-nitrosodimethylamine										
phenol										
aniline										
bis(2-chloroethyl)ether										
2-chlorophenol										
1,3-dichlorobenzene										
1,4-dichlorobenzene										
benzyl alcohol										
1,2-dichlorobenzene										
2-methylphenol										
bis(2-chloroisopropyl)ether										
4-methylphenol										
N-nitroso-di-n-propylamine										
hexachloroethane										
nitrobenzene										
isophrone										
2-nitrophenol										
2,4-dimethylphenol										
benzoic acid										
bis(2-chloroethoxy)methane										
2,4-dichlorophenol										
1,2,4-trichlorobenzene										
napthalene										
4-chloroaniline										
hexachlorobutadiene										
4-chloro-3-methylphenol										
2-methylnapthalene			31J		18J	18J				
hexachlorocyclopentadiene										
2,4,6-trichlorophenol										
2,4,5-trichlorophenol										

VOA

S

Received 12-31-87
57 PAGES

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION V

DATE: 12/27/87

SUBJECT: Review of Region V CLP Data
Received for Review on 10-21-87

FROM: Curtis Ross, Director (5SCRL) Patrick J. Chunlle for
Central Regional Laboratory

TO: Data User: FIT

We have reviewed the data for the following case(s).

SITE NAME: U.S. Scrap SMO Case No. 8027

EPA Data Set No. SF 4405 No. of Samples: 10 D.U./Activity Numbers Y905/C72100

CRL No. 87FC18554-S57; 87FC17R06, D67, S67-S70

SMO Tra : No. EP098, 099, 405, 404, 479-484

CLP Lab -tory: S-Cubed Hrs. Required for Review: 10

Followir are our findings:

This review covers 4 soil and 6 water samples for full analysis.

Qualifiers and calibration outliers are noted on the following pages of the review narrative. The 4 soil samples all contained one or more HSL compounds.

Diane Dennis-Flagler
12-21-87

( ) Data are acceptable for use.
(X) Data are acceptable for use with qualifications referenced above. See Data Qualifier sheets and Calibration Outlier forms for flags and additional comments.
( ) Data are preliminary - pending verification by Contractor Laboratory. See Case Summary above.
( ) Data are unacceptable.

cc: Carla Dempsey, CLP Quality Assurance Officer, Analytical Operations Branch
James Petty, Chief Quality Assurance Research, EMSL, Las Vegas

DATA QUALIFIERS

Contractor: S-cubed

Case 8027

Below is a summary of the out-of-control audits and the possible effect on the data for this case:

1) Holding Times -
All holding times were met for sample extractions and analysis.

2) GC/MS Tuning & GC Instrument Performance -
All GC/MS BFB and DFTPP tuning criteria were acheived. Linearity okay for GC and DDT and Endrin column degradation was under 20%.

3) Calibration -
Volatile and semivolatile outliers for initial and continuing calibrations are noted on the calibration outliers forms which follow.

4) Blanks -
The pesticide blanks were clean. The blanks for the Volatiles' water & soil matrices contained low levels of methylene chloride and acetone. The ABN soil blank which was ran on 10-6-87 contain an unknown contaminant scan # 91-98. This unknown shows up on the TIC sheets of all the ABN which were run that day. I feel this was a laboratory contaminant, and therefore should be disregarded as being present in the native sample.

Reviewed by: Diane Dennis-Flagler

DATA QUALIFIERS

Contractor: S-cubed

Case 8027

Below is a summary of the out-of-control audits and the possible effect on the data for this case:

5) Surrogate Recoveries -
Soil volatiles and ABN surrogate recoveries all met Q.C. criteria. One soil pesticide surrogate recovery was higher than Q.C. limits. Water volatile recoveries were all within Q.C. limits. Two water samples exhibited lower ABN recoveries of 2-Fluorobiphenyl than contract requirements. One water pesticide recoveries was high.

6) MS / MSD
Water matrix spike / matrix spike Duplicate recoveries were okay. The soil MS/MSD RPDs were incorrectly calculated for the ABN fractions. Therefore all the RPD's were outside of Q.C. limits. The soil MS/MSD recoveries were okay. Even though all of the RPD's are out I do not feel that this seriously compromises the quality of the data. Since the MS/MSD & Surrogate recoveries are okay.

7) Overall system performance was okay. There were some small baseline problems with some of the soil Volatiles at the start of the chromatograph but nothing that would seriously impact the quality of the results. The compounds which would be affected

Reviewed by: Diane Dennis-Flagler
Phone: (312) 353-9079

DATA QUALIFIERS

Contractor: S-cubed

Case 8027

Below is a summary of the out-of-control audits and the possible effect on the data for this case:

by this elevation in the baseline have been flagged on the OAD sheets. Otherwise I find the data acceptable for use.

Reviewed by: Diane Dennis-Flagler

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY REGION V
CALIBRATION OUTLIERS
VOLATILE HSL COMPOUNDS

CASE/SAS # 8027 CONTRACTOR S-cubed

Instrument # VG1	Init. Cal.			Cont. Cal.			Cont. Cal.			Cont. Cal.			Cont. Cal.		
DATE/TIME:	8-18-87			9-10/15 20			9-11/10:31			9-14/17:34					
	RF	%RSD	*	RF	%D	*	RF	%D	*	RF	%D	*	RF	%D	*
Chloromethane							2.75	34.0	J						
Bromomethane															
Vinyl Chloride															
Chloroethane															
Methylene Chloride															
Acetone				1.04	28.0	J	1.04	31.0	J						
Carbon Disulfide															
1,1-Dichloroethane															
1,1-Dichloroethene															
Trans-1,2-Dichloroethene							1.68	33.0	J						
Chloroform															
2-Butanone															
1,2-Dichloroethane							4.10	34.0	J						
1,1,1-Trichloroethane															
Carbon Tetrachloride															
Vinyl Acetate															
Bromodichloromethane															
1,2-Dichloropropane															
Trans-1,3-Dichloropropene															
Trichloroethene															
Dibromochloromethane															
1,1,2-Trichloroethane															
Benzene															
cis-1,3-Dichloropropene															
2-Chloroethylvinylether															
Bromoform															
4-Methyl-2-Pentanone							0.67	27.0	J						
2-Hexanone							0.49	28.0	J						
Tetrachloroethene															
1,1,2,2-Tetrachloroethane															
Toluene															
Chlorobenzene															
Ethylbenzene															
Styrene															
m-Xylene															
o/p-Xylene															

AFFECTED SAMPLES:

LAB BLK	EP 482	EP 404 MSD
EP 480	EP 404	EP 126
EP 481	EP 405	EP 127
EP 482	EP 099	MATRIX BLK
EP 483	EP 098	EP 128
EP 484	MATRIX BLK	EP 404 MS
EP 479	EP 480 MS	EP 130
	EP 480 MSD	EP 131
	EP 144	
	EP 145	

Reviewer's Initials/Date: dd 12-27

* These flags should be applied to the analytes on the sample data sheets.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY REGION V
CALIBRATION OUTLIERS
SEMIVOLATILE HSL COMPOUNDS
(Page 1)

CASE/SAS # 8027 CONTRACTOR S-cubed

Instrument # 1 HP	Init. Cal.			Cont. Cal.			Cont. Cal.			Cont. Cal.			Cont. Cal.		
DATE/TIME:	9-30-87			10-3 / 9:55			10-6 / 9:05								
	RF	%RSD	*	RF	%D	*	RF	%D	*	RF	%D	*	RF	%D	*
Phenol															
bis(-2-Chloroethyl)Ether															
2-Chlorophenol															
1,3-Dichlorobenzene															
1,4-Dichlorobenzene															
Benzyl Alcohol															
1,2-Dichlorobenzene															
2-Methylphenol															
bis(2-chloroisopropyl)Ether															
4-Methylphenol															
N-Nitroso-Di-n-Propylamine															
Hexachloroethane															
Nitrobenzene				0.45	50.4	J									
Isophorone															
2-Nitrophenol															
2,4-Dimethylphenol															
Benzoic Acid				0.29	28.0	J									
bis(2-Chloroethoxy)Methane															
2,4-Dichlorophenol															
1,2,4-Trichlorobenzene															
Naphthalene															
4-Chloroaniline															
Hexachlorobutadiene															
4-Chloro-3-Methylphenol															
2-Methylnaphthalene															
Hexachlorocyclopentadiene															
2,4,6-Trichlorophenol															
2,4,5-Trichlorophenol															
2-Chloronaphthalene															
2-Nitroaniline															
Dimethyl Phthalate															
Acenaphthylene															
3-Nitroaniline															
Acenaphthene															
2,4-Dinitrophenol															
4-Nitrophenol															
Dibenzofuran															

AFFECTED SAMPLES:

ET 101	LAB BLK		
ET 102	EP 405		
EP 479	EP 098		
EP 480	EP 099		
EP 483	EP 404		
EP 481	EP 180		
EP 484	EP 180 MS		
EP 482	EP 180 MSD		
LAB BLK			

Reviewer Initials/Date: dd 12-27-87

* These flags should be applied to the analytes on the sample data sheets.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY REGION V
CALIBRATION OUTLIERS
SEMIVOLATILE HSL COMPOUNDS
Page 2

CASE/SAS # 8027 CONTRACTOR S-cubed

Instrument # 1 HP	Init. Cal.			Cont. Cal.			Cont. Cal.			Cont. Cal.			Cont. Cal.		
DATE/TIME:	9-30-87			10-3/9 55			10-6/9 05								
	RF	%RSD	*	RF	%D	*	RF	%D	*	RF	%D	*	RF	%D	*
2,4-Dinitrotoluene															
2,6-Dinitrotoluene															
Diethylphthalate															
4-Chlorophenyl-phenylether															
Fluorene															
4-Nitroaniline															
4,6-Dinitro-2-Methylphenol															
N-Nitrosodiphenylamine															
4-Bromophenyl-phenylether															
Hexachlorobenzene															
Pentachlorophenol															
Phenanthrene															
Anthracene															
Di-n-Butylphthalate															
Fluoranthene															
Pyrene															
Butylbenzylphthalate															
Benzo(a)Anthracene															
bis(2-Ethylhexyl)Phthalate															
Chrysene															
Di-n-Octyl Phthalate															
Benzo(b)Fluoranthene															
Benzo(k)Fluoranthene															
Benzo(a)Pyrene															
Indeno(1,2,3-cd)Pyrene															
Dibenz(a,h)Anthracene															
Benzo(g,h,i) Perylene															
3,3'-Dicholorobenzidine				0.26	33.3 J										

SEE PAGE 1 FOR AFFECTED SAMPLES.

* These flags should be applied to the analytes on the sample data sheets.

Reviewer's Initials/Date: daf 12-28-87

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY REGION V
CALIBRATION OUTLIERS
SEMIVOLATILE HSL COMPOUNDS
(Page 1)

CASE/SAS # 8027 CONTRACTOR S-cubed

Instrument # THP	Init. Cal.			Cont. Cal.			Cont. Cal.			Cont. Cal.			Cont. Cal.		
DATE/TIME:	10-12-87			10-13/11:03											
	RF	%RSD	*	RF	%D	*	RF	%D	*	RF	%D	*	RF	%D	*
Phenol															
bis(-2-Chloroethyl)Ether															
2-Chlorophenol															
1,3-Dichlorobenzene															
1,4-Dichlorobenzene															
Benzyl Alcohol															
1,2-Dichlorobenzene															
2-Methylphenol															
bis(2-chloroisopropyl)Ether															
4-Methylphenol															
N-Nitroso-Di-n-Propylamine															
Hexachloroethane															
Nitrobenzene															
Isophorone															
2-Nitrophenol															
2,4-Dimethylphenol															
Benzoic Acid															
bis(2-Chloroethoxy)Methane															
2,4-Dichlorophenol															
1,2,4-Trichlorobenzene															
Naphthalene															
4-Chloroaniline															
Hexachlorobutadiene															
4-Chloro-3-Methylphenol															
2-Methylnaphthalene															
Hexachlorocyclopentadiene															
2,4,6-Trichlorophenol															
2,4,5-Trichlorophenol															
2-Chloronaphthalene															
2-Nitroaniline															
Dimethyl Phthalate															
Acenaphthylene															
3-Nitroaniline															
Acenaphthene															
2,4-Dinitrophenol															
4-Nitrophenol															
Dibenzofuran															

AFFECTED SAMPLES:

EP 483 ms
EP 483 msD
EP 404 ms
EP 404 msD

Reviewer Initials/Date: DJ 12-28-87

* These flags should be applied to the analytes on the sample data sheets.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY REGION V
CALIBRATION OUTLIERS
SEMIVOLATILE HSL COMPOUNDS
Page 2

CASE/SAS # 8027 CONTRACTOR S-cubed

Instrument # 1HP	Init. Cal.			Cont. Cal.			Cont. Cal.			Cont. Cal.			Cont. Cal.		
DATE/TIME:	10-12-87			10-13 / 1:03											
	RF	%RSD	*	RF	%D	*	RF	%D	*	RF	%D	*	RF	%D	*
2,4-Dinitrotoluene															
2,6-Dinitrotoluene															
Diethylphthalate															
4-Chlorophenyl-phenylether															
Fluorene															
4-Nitroaniline															
4,6-Dinitro-2-Methylphenol															
N-Nitrosodiphenylamine															
4-Bromophenyl-phenylether															
Hexachlorobenzene															
Pentachlorophenol															
Phenanthrene															
Anthracene															
Di-n-Butylphthalate															
Fluoranthene															
Pyrene															
Butylbenzylphthalate															
Benzo(a)Anthracene															
bis(2-Ethylhexyl)Phthalate															
Chrysene															
Di-n-Octyl Phthalate															
Benzo(b)Fluoranthene															
4 Benzo(k)Fluoranthene	1.02	31.1	J	1.02	25.5	J									
Benzo(a)Pyrene															
Indeno(1,2,3-cd)Pyrene															
Dibenz(a,h)Anthracene															
Benzo(g,h,i) Perylene															
3,3'-Dichlorobenzidine				0.32	29.7	J									

SEE PAGE 1 FOR AFFECTED SAMPLES.

* These flags should be applied to the analytes on the sample data sheets.

Reviewer's Initials/Date: DJ 12-28-87

8/87

Case: 8027

Contractor: S-Cubed

TENTATIVELY IDENTIFIED COMPOUNDS
WATCH ASSESSMENT

NOTE: Reviewer should note directly on Organic Analysis Data Sheet (OADS) those matches that in his opinion (based on contract criteria) are unreasonable.

CRITERIA

(1) Relative intensities of major ions (>10%) reference spectrum should be present in the sample spectrum.

(2) Relative intensities of major ions in sample spectrum should agree to within ± 20% of reference spectrum intensities.

(3) Molecular ions present in reference spectrum should be prese in sample spectrum.

(4) Ions present in sample spectrum, but not in reference spectru should be reviewed for possible background contamination or presence of coeluting interferences.

(5) Ions present in reference spectrum, but not in the sample spectrum should be reviewed for possible subtraction from the sample spectrum because of background contamination or coeluting interferences.

(6) If, in the reviewer's opinion, no valid identification can be made the compound should be labelled as "unknown" and the initials and date of the reviewer placed on the OADS.

Reviewer's Initials/Date: ddf 12-28-87

SF 4405

S-CUBED

A Division of Maxwell Laboratories, Inc.

October 16, 1987

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REGIONAL LAB

Volume 1 of 2

NARRATIVE CASE 8027
S-CUBED CONTRACT NO. 68-01-7261

This case consists of four soil and six water samples for full analysis.

There were no problems encountered in volatile analyses and all samples were found very clean. All surrogate recoveries are within QC limits.

MS/MSD results are all within limits with the exception of slightly high RPD for 1,2-dichloroethene.

Base Neutral/Acid water samples were also found very clean, soils being low level samples containing several PNAs and hydrocarbons as target compounds and TICs. Surrogate recoveries were within QC limits. The only deviation from recommended QC limits for MS/MSD analyses in water was one slightly high 2,4-Dinitrotoluene recovery. Several soil RPDs are high, MS analysis having recoveries on the low side. This is probably a sample matrix effect.

A couple of Pesticide/PCB samples were found to contain some 4,4'-DDD and a few other single component pesticides below detection limit. One water and one soil sample had high Dibutychlorendate recovery. Percent RSD for DDT was above the 10 percent limit 9-29-87 and 10-7-87 on Column SP2100. This column was not used for quantitation. All MS/MSD data are within QC limits.

JoAnn Wilkinson

JoAnn Wilkinson
Project Manager

P.O. Box 1620, La Jolla, California 92038-1620 3398 Carmel Mountain Road, San Diego, California 92121-1095
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SOIL SURROGATE PERCENT RECOVERY SUMMARY

Case No. 8027 Contract Laboratory S-CUBED Contract No. 68-01-7261

Low ✓ Medium _____

	EMD TRAFFIC NO.	VOLATILE: TOLUENE-D8 (81-117)	VOLATILE: BFB (74-121)	VOLATILE: 1,2 DICHLORO-ETHANE-D4 (70-121)	SEMI-VOLATILE: NITRO-BENZENE-D5 (23-120)	SEMI-VOLATILE: 2-FLUORO-BIPHENYL (30-115)	SEMI-VOLATILE: TERPHENYL-D14 (18-137)			SEMI-VOLATILE: PHENOL-D6 (24-113)	SEMI-VOLATILE: 2-FLUORO-PHENOL (25-121)	SEMI-VOLATILE: 2,4,6 TRIBROMO-PHENOL (19-122)	PESTICIDE: DIBUTYL-CHLORENDATE ** (20-150)
	EP098	105	100	94	55	67	83			65	64	61	124
	EP099	108	94	100	41	49	51			50	46	43	86
	EP404	110	95	101	46	56	57			54	51	50	117
	EP404MS	110	83	82	31	35	34			39	37	30	108
	EP404MSD	102	93	98	51	54	53			64	63	51	982 *
	EP405	114	86	93	44	54	55			49	78	86	86
(1)	LAB BLANK	101	101	102	44	50	59			51	51	46	143
(2)	14SPV021	101	100	99	NA	NA	NA			NA	NA	NA	NR
(3)	Lab Blank	NA	NA	NA	46	51	52			56	56	45	NA

* VALUES ARE OUTSIDE OF CONTRACT REQUIRED QC LIMITS

** ADVISORY LIMITS ONLY

Volatiles: 0 out of 24 ; outside of QC limits

Semi-Volatiles: 0 out of 48 ; outside of QC limits

Pesticides: 1 out of 7 ; outside of QC limits

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Comments: (1) 11SV1021 (VOA) ; BL914 (BNA) ; LAB BLANK 9-16 (PEST.)
(2) VOA LAB BLANK.
(3) BL109 (BNA)

FORM II

WATER SURROGATE PERCENT RECOVERY SUMMARY

Case No. 8027 Contract Laboratory S-CUBED Contract No. 68-01-7261

		VOLATILE			SEMI-VOLATILE								PESTICIDE
	EMO TRAFFIC NO.	TOLUENE-D8 (88-110)	BFB (86-115)	1,2 DICHLORO-ETHANE-D4 (76-114)	NITRO-BENZENE-D5 (35-114)	2-FLUORO-BIPHENYL (43-116)	TERPHENYL-D14 (33-141)			PHENOL-D5 (10-94)	2-FLUORO-PHENOL (21-100)	2,4,6 TRIBROMO-PHENOL (10-123)	DIBUTYL-CHLORENDATE** (24-154)
	EP479	89	98	98	68	50	80			75	69	84	105
	EP480	88	88	86	40	32*	50			58	54	67	170*
	EP480MS	102	105	114		NA					NA		114
	EP480MSD	101	104	110									130
	EP481	91	96	83	57	43	60			46	47	57	111
	EP482	97	101	97	58	49	61			60	59	67	108
	EP483	88	91	93	48	40	61			33	50	58	111
	EP484	93	99	101	53	38*	58			60	61	67	114
(1)	LAB BLANK	99	101	96	64	48	86			70	70	76	98
(2)	11SV1021	101	101	102	NA	NA	NA			NA	NA	NA	NA
	EP483MS		NA		73	60	78			75	77	63	NA
	EP483MSD				57	54	65			63	57	61	NA
(3)	Lab Blank	NA	NA	NA	63	59	65			76	83	63	NA

* VALUES ARE OUTSIDE OF CONTRACT REQUIRED QC LIMITS

**ADVISORY LIMITS ONLY

Volatiles: 0 out of 30 ; outside of QC limits

Semi-Volatiles: 2 out of 60 ; outside of QC limits

Pesticides: 1 out of 9 ; outside of QC limits

Comments: (1) 10SV1021 (VOA); LB914 (BNA); LAB BLANKW (PEST.)

(2) VOA Lab Blank

(3) LB 109 (BNA)

WATER MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Case No. 8027 Contractor S-CUBED Contract No. 68-01-7261

FRACTION	COMPOUND	CONC. SPIKE ADDED (ug/L)	SAMPLE RESULT	CONC. MS	% REC	CONC. MSD	% REC	RPD	QC LIMITS* RPD	QC LIMITS* RECOVERY
VOA SMO SAMPLE NO. EP480	1,1-Dichloroethene	54	0	57	106	44	81	26*	14	61-145
	Trichloroethene	49	0	46	94	47	96	2	14	71-120
	Chlorobenzene	55	0	55	100	54	98	2	13	75-130
	Toluene	53	0	53	100	53	100	0	13	76-125
	Benzene	55	0	54	98	55	100	2	11	76-127
B/N SMO SAMPLE NO. EP483	1,2,4-Trichlorobenzene	100	0	73	73	60	60	14	28	39-98
	Acenaphthene	100	0	102	102	82	82	15	31	46-118
	2,4 Dinitrotoluene	100	0	98	98*	74	74	20	38	24-96
	Pyrene	100	0	102	102	86	86	12	31	26-127
	N-Nitroso-Di-n-Propylamine	100	0	99	99	84	84	12	38	41-116
	1,4-Dichlorobenzene	100	0	70	70	56	56	16	28	36-97
ACID SMO SAMPLE NO. EP483	Pentachlorophenol	200	0	152	76	154	77	1	50	9-103
	Phenol	200	0	153	77	140	70	7	42	12-89
	2-Chlorophenol	200	0	180	90	148	74	14	40	27-123
	4-Chloro-3-Methylphenol	200	0	170	85	154	77	7	42	23-97
	4-Nitrophenol	200	0	150	75	134	67	8	50	10-80
PEST SMO SAMPLE NO. EP480	Lindane	0.20	0	0.24	118	0.24	118	Ø	15	56-123
	Heptachlor	0.20	0	0.19	93	0.18	90	3	20	40-131
	Aldrin	0.20	0	0.23	116	0.23	113	3	22	40-120
	Dieldrin	0.50	0	0.49	98	0.50	100	2	18	52-126
	Endrin	0.50	0	0.52	105	0.57	115	9	21	56-121
	4,4'-DDT	0.50	0	0.52	104	0.52	104	Ø	27	38-127

*ASTERISKED VALUES ARE OUTSIDE QC LIMITS.

RPD: VOAs 1 out of 5 : outside QC limits
B/N 8 out of 6 : outside QC limits
ACID 8 out of 5 : outside QC limits
PEST 0 out of 6 : outside QC limits

RECOVERY: VOAs 0 out of 10 : outside QC limits
B/N 1 out of 12 : outside QC limits
ACID 0 out of 10 : outside QC limits
PEST 0 out of 14 : outside QC limits

Comments:

SOIL MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Case No. 8027 Contractor S-CUBED Contract No. 68-01-7261

Low Level ✓ Medium Level

FRACTION	COMPOUND	CONC. SPIKE ADDED (ug/Kg)	SAMPLE RESULT	CONC. MS	% REC	CONC. MSD	% REC	RPD	QC LIMITS* RPD	QC LIMITS* RECOVERY	
VOA SMO SAMPLE NO. EP404	1,1-Dicholorethene	74 (74)(A)	0	90	122	69	93	26*	22	59-172	
	Trichloroethene	64 (64)(A)	0	61	95	61	95	0	24	62-137	
	Chlorobenzene	73 (73)(A)	0	70	96	71	97	1	21	60-133	
	Toluene	72 (73)(A)	0	77	107	73	100	5	21	59-139	
	Benzene	75 (76)(A)	0	79	105	76	100	4	21	66-142	
B/N SMO SAMPLE NO. EP404	1,2,4-Trichlorobenzene	2300	0	870	38	1500	65	37*	23	38-107	
	Acenaphthene	2300	27	1100	48	1700	74	30*	19	31-137	
	2,4 Dinitrotoluene	2300	0	880	38	1500	65	37	47	28-89	52%*
	Pyrene	2300	510	600	26*	1300	57	53*	36	35-142	
	N-Nitrosodi-n-Propylamine	2300	0	1000	43	1700	74	37	38	41-126	52*
	1,4-Dichlorobenzene	2300	0	880	38	1500	65	37*	27	28-104	
ACID SMO SAMPLE NO. EP404	Pentachlorophenol	4500	0	920	18	2000	44	59*	47	17-109	
	Phenol	4500	0	2000	44	3000	67	29	35	26-90	40*
	2-Chlorophenol	4500	0	2000	44	3400	76	38	50	25-102	52*
	4-Chloro-3-Methylphenol	4500	0	950	21*	3400	76	80*	33	26-103	
	4-Nitrophenol	4500	0	1700	38	3000	67	39	50	11-114	55*
PEST SMO SAMPLE NO. EP404	Lindane	4.5	0	3.8	85	4.7	105	21	50	46-127	
	Heptachlor	4.5	0	3.9	87	5.1	114	27	31	35-130	
	Aldrin	4.5	0	4.3	97	5.4	119	20	43	34-132	
	Dieldrin	11	0	9.1	81	11	100	21	38	31-134	
	Endrin	11	0	9.6	85	12	109	25	45	42-139	
	4,4'-DDT	11	0	7.9	70	12	105	40	50	23-134	

*ASTERISKED VALUES ARE OUTSIDE QC LIMITS.

RPD: VOAs 1 out of 5 ; outside QC limits
B/N 6* out of 6 ; outside QC limits
ACID 2* out of 5 ; outside QC limits
PEST 0 out of 6 ; outside QC limits

RECOVERY: VOAs 0 out of 10 ; outside QC limits
B/N 1 out of 12 ; outside QC limits
ACID 1 out of 10 ; outside QC limits
PEST 0 out of 12 ; outside QC limits

Comments:

(A) The number in parenthesis are used for MSD.

* RPD Calculated incorrectly. 12-21-87

FORM III

8/85

METHOD BLANK SUMMARY

Case No. 8027 Region 5 Contractor S-CUBED Contract No. 68-01-7261

	FILE ID	DATE OF ANALYSIS	FRACTION	MATRIX	CONC. LEVEL	INST. ID	CAS NUMBER	COMPOUND (HSL, TIC OR UNKNOWN)	CONC.	UNITS	CRDL
	10SV1021	9-10-87	VOA	Water	L	VG1	75-09-2	methylene chloride	6	ug/l	5
	11SV1081	9-11-87	↓		↓	↓	75-09-2	methylene chloride	5	↓	5
	11SPV1021	9-11-87	↓	Water	↓	↓	67-64-1	acetone	7	↓	10
(A)	14SPV081	9-14-87	↓	Soil*	↓	↓	75-09-2	methylene chloride	4	↓	5
	14SPV021	9-14-87	VOA	Soil	L	VG1	67-64-1	acetone	8	ug/l	10
(B)	BL914	10-6-87	ABN	↓	↓	HP1	84-74-2	di-n-butyl phthalate	310	ug/kg	330
	BL914	10-6-87	↓	Soil	↓	↓	NA	UNKNOWN (S98)	2000	ug/kg	NR
(B)	LB914	10-3-87	ABN	Water	L	HP1	—	Nothing Found —			
(C)	LAB BLANK 9-16.	9-30-87	PEST	Soil	L	HP5890II	—	Nothing found —			
(D)	LAB BLANKW	10-8-87	↓	H_2O	L	↓	—	Nothing found —			
(E)	LB109	10-13-87	ABN	H_2O	L	HP1	NA	UNKNOWN (S.15)	260	µg/l	NA
	↓	↓	↓	↓	↓	↓	NA	Unknown (S. 307)	280	↓	↓
							NA	UNKNOWN (S. 86)	160		
							NA	UNKNOWN (S. 130)	29		
							NA	UNKNOWN (S. 167)	61		
	↓	↓		↓			1193-18-6	2-cyclohexen-1-one, 3-methyl-	13	↓	↓
(E)	BL109	10-13-87		Soil			84-74-2	Di-n-butylphthalate	300	µg/kg	330
	↓	↓	↓	↓	↓	↓	NA	UNKNOWN (S. 77)	35	↓	NA
	~~LB109~~	~~10-13-87~~	~~ABN~~	~~H_2O~~	~~L~~	~~HP1~~	~~NA~~	~~UNKNOW (S 307~~ jw			

Comments: * Soil H_2O utilized due to lack of clean soil matrix

(A) Also case holding blank

(B) Extracted 9-14-87

(C) Extracted 9-16-87

(D) Extracted 9-11-87

(E) Extracted 10-9-87

FORM IV 7/85

Sample Number:
EPV96 :

ORGANICS ANALYSIS DATA SHEET
(Page 1)

Laboratory Name: S-CUBED
Lab Sample ID No: 11SV1071 (VOA)
Sample Matrix: SOIL
Data Release Authorized By: _pw_

Case No: 8027
QC Report No: N.R
Contract No: 68-01-7261
Date Sample Received: 09-10-87

VOLATILE COMPOUNDS
Concentration: Low Medium (Circle One)
Date Extracted/Prepared: 09-11-87
Date Analyzed: 09-11-87
Conc/Dil Factor: 1.01 pH: 7.9
Percent Moisture (Not Decanted): 26.7

CAS Number		ug/l or ug/kg (Circle One)	CAS Number		ug/l or ug/kg (Circle One)
74-87-3	CHLOROMETHANE	14 UJ	78-87-5	1,2-DICHLOROPROPANE	7 U
74-83-9	BROMOMETHANE	14 UJ	10061-02-6	TRANS-1,3-DICHLOROPROPENE	7 U
75-01-4	VINYL CHLORIDE	14 UJ	79-01-6	TRICHLOROETHENE	7 U
75-00-3	CHLOROETHANE	14 UJ	124-48-1	DIBROMOCHLOROMETHANE	7 U
75-09-2	METHYLENE CHLORIDE	4UJ R	79-00-5	1,1,2-TRICHLOROETHANE	7 U
67-64-1	ACETONE	59 UJ R	71-43-2	BENZENE	7 U
75-15-0	CARBON BISULFIDE	7 UJ	10061-01-5	CIS-1,3-DICHLOROPROPENE	7 U
75-35-4	1,1-DICHLOROETHENE	7 U	110-75-8	2-CHLOROETHYLVINYLETHER	14 U
75-34-3	1,1-DICHLOROETHANE	7 U	75-25-2	BROMOFORM	7 U
156-60-5	TRANS-1,2-DICHLOROETHENE	7 UJ	591-78-6	2-HEXANONE	14 UJ
67-66-3	CHLOROFORM	7 U	108-10-1	4-METHYL-2-PENTANONE	14 UJ
107-06-2	1,2-DICHLOROETHANE	7 UJ	127-18-4	TETRACHLOROETHENE	7 U
78-93-3	2-BUTANONE	14 U	79-34-5	1,1,2,2-TETRACHLOROETHANE	7 U
71-55-6	1,1,1-TRICHLOROETHANE	7 U	108-88-3	TOLUENE	7 U
56-23-5	CARBON TETRACHLORIDE	7 U	108-90-7	CHLOROBENZENE	7 U
108-05-4	VINYL ACETATE	14 U	100-41-4	ETHYLBENZENE	7 U
75-27-4	BROMODICHLOROMETHANE	7 U	100-42-5	STYRENE	7 U
				TOTAL XYLENES	7 U

Data Reporting Qualifiers

For reporting results to EPA, the following results qualifier are used. Additional flags or footnotes explaning 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 (eg. 10U) based on necessary concentration/dilution action. (this is not necessarily the instrument detection limit.) The footnotes 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 (eg 10J). If limit of detection is 10 ug/L and a concentration of 3ug/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 > or = 10 ng/ul in the final extract should be confirmed by GC/MS.

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

S Matrix spiked compound.

UJ ddf 12-14-87

Lab Name : S - CUBED
Case No : 8027

Sample Number
EP 098

ORGANICS ANALYSIS DATA SHEET
(Page 2)

Semivolatile Compounds

Concentration: Low Medium (Circle One)
Date Extracted: 9-14-87
Date Analyzed: 10/06/87 12:28
Conc/Dil Factor: 1.50
Percent Moisture (Decanted) N.A.

GPC Cleanup ✓ Yes __ No
Separatory Funnel Extraction __ Yes
Continuous Liquid-Liquid Extraction __ Yes

C.A.S. Number		ug/L or ug/Kg (Circle One)	
108-95-2	Phenol	680.	U
111-44-4	bis(-2-Chloroethyl)Ether	680.	U
95-57-8	2-Chlorophenol	680.	U
541-73-1	1,3-Dichlorobenzene	680.	U
106-46-7	1,4-Dichlorobenzene	680.	U
100-51-6	Benzyl Alcohol	680.	U
95-50-1	1,2-Dichlorobenzene	680.	U
95-48-7	2-Methylphenol	680.	U
39638-32-9	bis(2-chloroisopropyl)Ether	680.	U
106-44-5	4-Methylphenol	680.	U
621-64-7	N-Nitroso-Di-n-Propylamine	680.	U
67-72-1	Hexachloroethane	680.	U
98-95-3	Nitrobenzene	680.	U
78-59-1	Isophorone	680.	U
88-75-5	2-Nitrophenol	680.	U
105-67-9	2,4-Dimethylphenol	680.	U
65-85-0	Benzoic Acid	3400.	U
111-91-1	bis(-2-Chloroethoxy)Methane	680.	U
120-83-2	2,4-Dichlorophenol	680.	U
120-82-1	1,2,4-Trichlorobenzene	680.	U
91-20-3	Naphthalene	680.	U
106-47-8	4-Chloroaniline	680.	U
87-68-3	Hexachlorobutadiene	680.	U
59-50-7	4-Chloro-3-Methylphenol	680.	U
91-57-6	2-Methylnaphthalene	37.	J
77-47-4	Hexachlorocyclopentadiene	680.	U
88-06-2	2,4,6-Trichlorophenol	680.	U
95-95-4	2,4,5-Trichlorophenol	3400.	U
91-58-7	2-Chloronaphthalene	680.	U
88-74-4	2-Nitroaniline	3400.	U
131-11-3	Dimethyl Phthalate	680.	U
208-96-8	Acenaphthylene	34.	J
99-09-2	3-Nitroaniline	3400.	U

C.A.S. Number		ug/L or ug/Kg (Circle One)	
83-32-9	Acenaphthene	680u ~~35. J~~	
51-28-5	2,4-Dinitrophenol	3400.	U
100-02-7	4-Nitrophenol	3400.	U
132-64-9	Dibenzofuran	30.	J
121-14-2	2,4-Dinitrotoluene	680.	U
606-20-2	2,6-Dinitrotoluene	680.	U
84-66-2	Diethylphthalate	680.	U
7005-72-3	4-Chlorophenyl-phenylether	680.	U
86-73-7	Fluorene	56.	J
100-01-6	4-Nitroaniline	680.	U
534-52-1	4,6-Dinitro-2-Methylphenol	3400.	U
86-30-6	N-Nitrosodiphenylamine (1)	680.	U
101-55-3	4-Bromophenyl-phenylether	680.	U
118-74-1	Hexachlorobenzene	680.	U
87-86-5	Pentachlorophenol	3400.	U
85-01-8	Phenanthrene	480.	J
120-12-7	Anthracene	130.	J
84-74-2	Di-n-Butylphthalate	680.	U
206-44-0	Fluoranthene	760.	
129-00-0	Pyrene	730.	
85-68-7	Butylbenzylphthalate	680.	U
91-94-1	3,3'-Dichlorobenzidine	1400.	U
56-55-3	Benzo(a)Anthracene	420.	J
117-81-7	bis(2-Ethylhexyl)Phthalate	61.	J
218-01-9	Chrysene	420.	J
117-84-0	Di-n-Octyl Phthalate	680.	U
205-99-2	Benzo(b)Fluoranthene	330.	J
207-08-9	Benzo(k)Fluoranthene	97.	J
50-32-8	Benzo(a)Pyrene	410.	J
193-39-5	Indeno(1,2,3-cd)Pyrene	220.	J
53-70-3	Dibenzo(a,h)Anthracene	22.	J
191-24-2	Benzo(g,h,i)Perylene	680.	U

680 D.2

(1)-Cannot be separated from diphenylamine

Laboratory Name: S-Cubed
Case No.: 8027

Sample Number
EP 098

ORGANICS ANALYSIS DATA
(Page 3)

Pesticide/PCBs

Concentration: LOW
Date Extracted/Prepared: 9-16-87
Date Analyzed: 9-30-87
Conc/Dil Factor: 1.00

GPC Cleanup ___Yes ✓ NO
Separatory Funnel Extraction ___Yes
Continuous Liquid-Liquid Extraction ___Yes

CAS # Number		ug/l or ug/kg (Circle One)
319-84-6	ALPHA-BHC	11 u
319-85-7	BETA-BHC	11 u
319-86-8	DELTA-BHC	11 u
58-89-9	GAMMA-BHC (LINDANE)	11 u
76-44-8	HEPTACHLOR	11 u
309-00-2	ALDRIN	11 u
1024-57-3	HEPTACHLOR EPOXIDE	11 u
959-98-8	ENDOSULFAN I	11 u
60-57-1	DIELDRIN	22 u
72-55-9	4,4'-DDE	22 u
72-20-8	ENDRIN	22 u
33213-65-9	ENDOSULFAN II	22 u
72-54-8	4,4'-DDD	78 **
7421-93-4	ENDRIN ALDEHYDE	22 u
1031-07-8	ENDOSULFAN SULFATE	22 u
50-29-3	4,4'-DDT	22 u
72-43-5	METHOXYCHLOR	110 u
53494-70-5	ENDRIN KETONE	22 u
57-74-9	CHLORDANE	110 u
8001-35-2	TOXAPHENE	220 u
12674-11-2	AROCLOR-1016	110 u
11104-28-2	AROCLOR-1221	110 u
11141-16-5	AROCLOR-1232	110 u
53469-21-9	AROCLOR-1242	110 u
12672-29-6	AROCLOR-1248	110 u
11097-69-1	AROCLOR-1254	220 u
11096-82-5	AROCLOR-1260	220 u

22 D.L.

Volume of water extracted (ml): N.A.
Weight of sample extracted (g): 30.0
Volume of total extract (ml): 10.00
Volume of extract injected (ul): 1.00

Form 1 7/85 REV.

** CONFIRMED BY GC DUAL COLUMN CONFIRMATION

Laboratory Name S-CUBED

Case No 8027

Sample Number EP098

11SV1071 (VOA)
EP098 (ABN)

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.	No TIC	VOA		
2. NA	UNKNOWN	ABN	92	2700 UJ
3.	UNKNOWN hydrocarbon		734	320J
4.			822	420J
5.			905	320J
6.			984	390J
7.			989	710J
8.			1059	290J
9.			1066	320J
10.			1130	320J
11.			1198	260J
12.	UNKNOWN hydrocarbon		1263	260J
13. 123-79-5	Hexanedioic acid, dioctyl ester		1442	1100J
14. NA	UNKNOWN hydrocarbon		1550	290J
15.	UNKNOWN hydrocarbon		1600	320J
16.	UNKNOWN PAH		1694	540J
17.	UNKNOWN		1698	620J
18.	UNKNOWN		1913	1400J
19.	UNKNOWN		1932	580J
20.	UNKNOWN		1964	580J
21. NA	UNKNOWN	ABN	2038	500J
22.				
23.				
24.				
25.				
26.				
27.				
28.				
29.				
30.				

UJ ddf 12-14-87

ORGANICS ANALYSIS DATA SHEET
(Page 1)

Sample Number: EP099

Laboratory Name: S-CUBED
Lab Sample ID No: 11SV1061 (VOA)
Sample Matrix: SOIL
Data Release Authorized By: _____

Case No: 8027
QC Report No: N.R
Contract No: 68-01-7261
Date Sample Received: 09-10-87

VOLATILE COMPOUNDS

Concentration: Low Medium (Circle One)
Date Extracted/Prepared: 09-11-87
Date Analyzed: 09-11-87
Conc/Dil Factor: 1.0 pH: 8.4
Percent Moisture (Not Decanted): 27.6

CAS Number		ug/l or ug/kg (Circle One)	CAS Number		ug/l or ug/kg (Circle One)
74-87-3	CHLOROMETHANE	14 UJ	78-87-5	1,2-DICHLOROPROPANE	7 U
74-83-9	BROMOMETHANE	14 UJ	10061-02-6	TRANS-1,3-DICHLOROPROPENE	7 U
75-01-4	VINYL CHLORIDE	14 UJ	79-01-6	TRICHLOROETHENE	7 U
75-00-3	CHLOROETHANE	14 UJ	124-48-1	DIBROMOCHLOROMETHANE	7 U
75-09-2	METHYLENE CHLORIDE	5UJ	79-00-5	1,1,2-TRICHLOROETHANE	7 U
67-64-1	ACETONE	10 UJ ~~5 J B~~	71-43-2	BENZENE	7 U
75-15-0	CARBON DISULFIDE	7 UJ	10061-01-5	CIS-1,3-DICHLOROPROPENE	7 U
75-35-4	1,1-DICHLOROETHENE	7 U	110-75-8	2-CHLOROETHYLVINYLETHER	14 U
75-34-3	1,1-DICHLOROETHANE	7 U	75-25-2	BROMOFORM	7 U
156-60-5	TRANS-1,2-DICHLOROETHENE	7 UJ	591-78-6	2-HEXANONE	14 UJ
67-66-3	CHLOROFORM	7 U	108-10-1	4-METHYL-2-PENTANONE	14 UJ
107-06-2	1,2-DICHLOROETHANE	7 UJ	127-18-4	TETRACHLOROETHENE	7 U
78-93-3	2-BUTANONE	14 U	79-34-5	1,1,2,2-TETRACHLOROETHANE	7 U
71-55-6	1,1,1-TRICHLOROETHANE	7 U	108-88-3	TOLUENE	7 U
56-23-5	CARBON TETRACHLORIDE	7 U	108-90-7	CHLOROBENZENE	7 U
108-05-4	VINYL ACETATE	14 U	100-41-4	ETHYLBENZENE	7 U
75-27-4	BROMODICHLOROMETHANE	7 U	100-42-5	STYRENE	7 U
				TOTAL XYLENES	7 U

Data Reporting Qualifiers

For reporting results to EPA, the following results qualifier are used. Additional flags or footnotes explaning 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 (eg. 10U) based on necessary concentration/dilution action. (this is not necessarily the instrument detection limit.) The footnotes 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 (eg 10J). If limit of detection is 10 ug/L and a concentration of 3ug/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 > or = 10 ng/ul in the final extract should be confirmed by GC/MS.

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

S Matrix spiked compound.

UJ ddf 12-14-87

Lab Name : S - CUBED
Case No : 8027

Sample Number
EP 099

ORGANICS ANALYSIS DATA SHEET
(Page 2)

Semivolatile Compounds

Concentration: Low Medium (Circle One)
Date Extracted: 9-14-87
Date Analyzed: 10/06/87 13:27
Conc/Dil Factor: 1.50
Percent Moisture (Decanted) N.A.

GPC Cleanup ✓ Yes __ No
Separatory Funnel Extraction __ Yes
Continuous Liquid-Liquid Extraction __ Yes

C.A.S. Number		ug/L or ug/Kg (Circle One)	
108-95-2	Phenol	690.	U
111-44-4	bis(-2-Chloroethyl)Ether	690.	U
95-57-8	2-Chlorophenol	690.	U
541-73-1	1,3-Dichlorobenzene	690.	U
106-46-7	1,4-Dichlorobenzene	690.	U
100-51-6	Benzyl Alcohol	690.	U
95-50-1	1,2-Dichlorobenzene	690.	U
95-48-7	2-Methylphenol	690.	U
39638-32-9	bis(2-chloroisopropyl)Ether	690.	U
106-44-5	4-Methylphenol	690.	U
621-64-7	N-Nitroso-Di-n-Propylamine	690.	U
67-72-1	Hexachloroethane	690.	U
98-95-3	Nitrobenzene	690.	U
78-59-1	Isophorone	690.	U
88-75-5	2-Nitrophenol	690.	U
105-67-9	2,4-Dimethylphenol	690.	U
65-85-0	Benzoic Acid	3500.	U
111-91-1	bis(-2-Chloroethoxy)Methane	690.	U
120-83-2	2,4-Dichlorophenol	690.	U
120-82-1	1,2,4-Trichlorobenzene	690.	U
91-20-3	Naphthalene	690.	U
106-47-8	4-Chloroaniline	690.	U
87-68-3	Hexachlorobutadiene	690.	U
59-50-7	4-Chloro-3-Methylphenol	690.	U
91-57-6	2-Methylnaphthalene	690.	U
77-47-4	Hexachlorocyclopentadiene	690.	U
88-06-2	2,4,6-Trichlorophenol	690.	U
95-95-4	2,4,5-Trichlorophenol	3500.	U
91-58-7	2-Chloronaphthalene	690.	U
88-74-4	2-Nitroaniline	3500.	U
131-11-3	Dimethyl Phthalate	690.	U
208-96-8	Acenaphthylene	690.	U
99-09-2	3-Nitroaniline	3500.	U

C.A.S. Number		ug/L or ug/Kg (Circle One)	
83-32-9	Acenaphthene	690.	U
51-28-5	2,4-Dinitrophenol	3500.	U
100-02-7	4-Nitrophenol	3500.	U
132-64-9	Dibenzofuran	690.	U
121-14-2	2,4-Dinitrotoluene	690.	U
606-20-2	2,6-Dinitrotoluene	690.	U
84-66-2	Diethylphthalate	690.	U
7005-72-3	4-Chlorophenyl-phenylether	690.	U
86-73-7	Fluorene	8.	J
100-01-6	4-Nitroaniline	690.	U
534-52-1	4,6-Dinitro-2-Methylphenol	3500.	U
86-30-6	N-Nitrososdiphenylamine (1)	690.	U
101-55-3	4-Bromophenyl-phenylether	690.	U
118-74-1	Hexachlorobenzene	690.	U
87-86-5	Pentachlorophenol	3500.	U
85-01-8	Phenanthrene	70.	J
120-12-7	Anthracene	690.	U
84-74-2	Di-n-Butylphthalate	690.	U
206-44-0	Fluoranthene	91.	J
129-00-0	Pyrene	79.	J
85-68-7	Butylbenzylphthalate	49.	J
91-94-1	3,3'-Dichlorobenzidine	1400.	U
56-55-3	Benzo(a)Anthracene	690.	U
117-81-7	bis(2-Ethylhexyl)Phthalate	~~25.~~	~~J~~ 690U
218-01-9	Chrysene	52.	J
117-84-0	Di-n-Octyl Phthalate	690.	U
205-99-2	Benzo(b)Fluoranthene	34.	J
207-08-9	Benzo(k)Fluoranthene	690.	U
50-32-8	Benzo(a)Pyrene	43.	J
193-39-5	Indeno(1,2,3-cd)Pyrene	19.	J
53-70-3	Dibenzo(a,h)Anthracene	690.	U
191-24-2	Benzo(g,h,i)Perylene	690.	U

(1)-Cannot be separated from diphenylamine

UJ ddf 12-14-87

Laboratory Name: S-Cubed
Case No.: 8027

Sample Number
EP 099

ORGANICS ANALYSIS DATA
(Page 3)

Pesticide/PCBs

Concentration: LOW
Date Extracted/Prepared: 9-16-87
Date Analyzed: 9-30-87
Conc/Dil Factor: 1.00

GPC Cleanup ___Yes ✓ NO
Separatory Funnel Extraction ___Yes
Continuous Liquid-Liquid Extraction ___Yes

CAS # Number		ug/l or ug/Kg (Circle One)
319-84-6	ALPHA-BHC	11 u
319-85-7	BETA-BHC	11 u
319-86-8	DELTA-BHC	11 u
58-89-9	GAMMA-BHC (LINDANE)	11 u
76-44-8	HEPTACHLOR	11 u
309-00-2	ALDRIN	11 u
1024-57-3	HEPTACHLOR EPOXIDE	11 u
959-98-8	ENDOSULFAN I	1 J **
60-57-1	DIELDRIN	22 u
72-55-9	4,4'-DDE	22 u
72-20-8	ENDRIN	22 u
33213-65-9	ENDOSULFAN II	22 u
72-54-8	4,4'-DDD	7 J **
7421-93-4	ENDRIN ALDEHYDE	22 u
1031-07-8	ENDOSULFAN SULFATE	22 u
50-29-3	4,4'-DDT	22 u
72-43-5	METHOXYCHLOR	110 u
53494-70-5	ENDRIN KETONE	22 u
57-74-9	CHLORDANE	110 u
8001-35-2	TOXAPHENE	220 u
12674-11-2	AROCLOR-1016	110 u
11104-28-2	AROCLOR-1221	110 u
11141-16-5	AROCLOR-1232	110 u
53469-21-9	AROCLOR-1242	110 u
12672-29-6	AROCLOR-1248	110 u
11097-69-1	AROCLOR-1254	220 u
11096-82-5	AROCLOR-1260	220 u

Volume of water extracted (ml): N.A.
Weight of sample extracted (g): 30.0
Volume of total extract (ml): 10.00
Volume of extract injected (ul): 1.00

Form 1 7/85 REV.

** CONFIRMED BY GC DUAL COLUMN CONFIRMATION

Laboratory Name S-CUBED

Case No 8027

Sample Number EP099

11SV1061 (VOA)
EP099 (ABN)

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.	No TIC	VOA		
2. 127184	tetrachloroethene	ABN	40	1600 J
3. NA	UNKNOWN	↑	95	3000 UJ
4. NA	UNKNOWN hydrocarbon	↓	992	280 J
5. 4337659	hexanedioic acid, mono(2-ethylhexyl) ester	ABN	1446	1200 J
6.				
7.				
8.				
9.				
10.				
11.				
12.				
13.				
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UJ ddf 12-14-87

Sample Number: EP404

ORGANICS ANALYSIS DATA SHEET
(Page 1)

Laboratory Name: G-CUSED
Lab Sample ID No: 11SV1041 (VOA)
Sample Matrix: SOIL
Data Release Authorized By: N

Case No: 8027
QC Report No: N.R
Contract No: 68-01-7261
Date Sample Received: 09-10-87

VOLATILE COMPOUNDS

Concentration: Low Medium (Circle One)
Date Extracted/Prepared: 09-11-87
Date Analyzed: 09-11-87
Conc/Dil Factor: 1.01 pH: 7.9
Percent Moisture (Not Decanted): 26.5

CAS Number		ug/l or ug/kg (Circle One)	CAS Number		ug/l or ug/kg (Circle One)
74-87-3	CHLOROMETHANE	13 UJ	78-87-5	1,2-DICHLOROPROPANE	7 U
74-83-9	BROMOMETHANE	13 UJ	10061-02-6	TRANS-1,3-DICHLOROPROPENE	7 U
75-01-4	VINYL CHLORIDE	13 UJ	79-01-6	TRICHLOROETHENE	7 U
75-00-3	CHLOROETHANE	13 UJ	124-48-1	DIBROMOCHLOROMETHANE	7 U
75-09-2	METHYLENE CHLORIDE	5 UJ B	79-00-5	1,1,2-TRICHLOROETHANE	7 U
67-64-1	ACETONE	45 UJB	71-43-2	BENZENE	7 U
75-15-0	CARBON DISULFIDE	7 UJ	10061-01-5	CIS-1,3-DICHLOROPROPENE	7 U
75-35-4	1,1-DICHLOROETHENE	7 U	110-75-8	2-CHLOROETHYLVINYLETHER	13 U
75-34-3	1,1-DICHLOROETHANE	7 U	75-25-2	BROMOFORM	7 U
156-60-5	TRANS-1,2-DICHLOROETHENE	7 UJ	591-78-6	2-HEXANONE	13 UJ
67-66-3	CHLOROFORM	7 U	108-10-1	4-METHYL-2-PENTANONE	13 UJ
107-06-2	1,2-DICHLOROETHANE	7 UJ	127-18-4	TETRACHLOROETHENE	7 U
78-93-3	2-BUTANONE	13 U	79-34-5	1,1,2,2-TETRACHLOROETHANE	7 U
71-55-6	1,1,1-TRICHLOROETHANE	7 U	108-88-3	TOLUENE	7 U
56-23-5	CARBON TETRACHLORIDE	7 U	108-90-7	CHLOROBENZENE	7 U
108-05-4	VINYL ACETATE	13 U	100-41-4	ETHYLBENZENE	7 U
75-27-4	BROMODICHLOROMETHANE	7 U	100-42-5	STYRENE	7 U
				TOTAL XYLENES	7 U

Data Reporting Qualifiers

For reporting results to EPA, the following results qualifier are used. Additional flags or footnotes explaning 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 (eg. 10U) based on necessary concentration/dilution action. (this is not necessarily the ~~instrument~~ detection limit.) The footnotes 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 (eg 10J). If limit of detection is 10 ug/L and a concentration of 3ug/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 > or = 10 ng/ul in the final extract should be confirmed by GC/MS.

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

S Matrix spiked compound.

UJ def 12-14-87

Lab Name : S - CUBED
Case No : 8027

Sample Number
EP 404

ORGANICS ANALYSIS DATA SHEET
(Page 2)

Semivolatile Compounds

Concentration: Low Medium (Circle One)
Date Extracted: 9-14-87
Date Analyzed: 10/06/87 14:33
Conc/Dil Factor: 1.50
Percent Moisture (Decanted) N.A.

GPC Cleanup ✓ Yes __ No
Separatory Funnel Extraction __ Yes
Continuous Liquid-Liquid Extraction __ Yes

C.A.S. Number		ug/L or ug/Kg (Circle One)	
108-95-2	Phenol	680.	U
111-44-4	bis(-2-Chloroethyl)Ether	680.	U
95-57-8	2-Chlorophenol	680.	U
541-73-1	1,3-Dichlorobenzene	680.	U
106-46-7	1,4-Dichlorobenzene	680.	U
100-51-6	Benzyl Alcohol	680.	U
95-50-1	1,2-Dichlorobenzene	680.	U
95-48-7	2-Methylphenol	680.	U
39638-32-9	bis(2-chloroisopropyl)Ether	680.	U
106-44-5	4-Methylphenol	680.	U
621-64-7	N-Nitroso-Di-n-Propylamine	680.	U
67-72-1	Hexachloroethane	680.	U
98-95-3	Nitrobenzene	680.	U
78-59-1	Isophorone	680.	U
88-75-5	2-Nitrophenol	680.	U
105-67-9	2,4-Dimethylphenol	680.	U
65-85-0	Benzoic Acid	3400.	U
111-91-1	bis(-2-Chloroethoxy)Methane	680.	U
120-83-2	2,4-Dichlorophenol	680.	U
120-82-1	1,2,4-Trichlorobenzene	680.	U
91-20-3	Naphthalene	680.	U
106-47-8	4-Chloroaniline	680.	U
87-68-3	Hexachlorobutadiene	680.	U
59-50-7	4-Chloro-3-Methylphenol	680.	U
91-57-6	2-Methylnaphthalene	18.	J
77-47-4	Hexachlorocyclopentadiene	680.	U
88-06-2	2,4,6-Trichlorophenol	680.	U
95-95-4	2,4,5-Trichlorophenol	3400.	U
91-58-7	2-Chloronaphthalene	680.	U
88-74-4	2-Nitroaniline	3400.	U
131-11-3	Dimethyl Phthalate	680.	U
208-96-8	Acenaphthylene	18.	J
99-09-2	3-Nitroaniline	3400.	U

C.A.S. Number		ug/L or ug/Kg (Circle One)	
83-32-9	Acenaphthene	27.	J
51-28-5	2,4-Dinitrophenol	3400.	U
100-02-7	4-Nitrophenol	3400.	U
132-64-9	Dibenzofuran	22.	J
121-14-2	2,4-Dinitrotoluene	680.	U
606-20-2	2,6-Dinitrotoluene	680.	U
84-66-2	Diethylphthalate	~~16. J~~	680u
7005-72-3	4-Chlorophenyl-phenylether	680.	U
86-73-7	Fluorene	47.	J
100-01-6	4-Nitroaniline	680.	U
534-52-1	4,6-Dinitro-2-Methylphenol	3400.	U
86-30-6	N-Nitrososdiphenylamine (1)	680.	U
101-55-3	4-Bromophenyl-phenylether	680.	U
118-74-1	Hexachlorobenzene	680.	U
87-86-5	Pentachlorophenol	3400.	U
85-01-8	Phenanthrene	410.	J
120-12-7	Anthracene	95.	J
84-74-2	Di-n-Butylphthalate	10.	UJ
206-44-0	Fluoranthene	540.	J
129-00-0	Pyrene	510.	J
85-68-7	Butylbenzylphthalate	680.	U
91-94-1	3,3'-Dichlorobenzidine	1400.	U
56-55-3	Benzo(a)Anthracene	250.	J
117-81-7	bis(2-Ethylhexyl)Phthalate	~~36. J~~	680U
218-01-9	Chrysene	270.	J
117-84-0	Di-n-Octyl Phthalate	~~8. J~~	680u
205-99-2	Benzo(b)Fluoranthene	170.	J
207-08-9	Benzo(k)Fluoranthene	49.	J
50-32-8	Benzo(a)Pyrene	230.	J
193-39-5	Indeno(1,2,3-cd)Pyrene	110.	J
53-70-3	Dibenzo(a,h)Anthracene	39.	J
191-24-2	Benzo(g,h,i)Perylene	130.	J

(1)-Cannot be separated from diphenylamine

UJ ddf 12-14-87

Laboratory Name: S-Cubed
Case No.: 802.

Sample Number
EP 404

ORGANICS ANALYSIS DATA
(Page 3)

Pesticide/PCBs

Concentration: LOW
Date Extracted/Prepared: 9-16-87
Date Analyzed: 9-30-87
Conc/Dil Factor: 1.00

GPC Cleanup ___Yes ✓ NO
Separatory Funnel Extraction ___Yes
Continuous Liquid-Liquid Extraction ___Yes

CAS # Number		ug/l or ug/kg (Circle One)
319-84-6	ALPHA-BHC	11 u
319-85-7	BETA-BHC	11 u
319-86-8	DELTA-BHC	11 u
58-89-9	GAMMA-BHC (LINDANE)	11 u
76-44-8	HEPTACHLOR	11 u
309-00-2	ALDRIN	11 u
1024-57-3	HEPTACHLOR EPOXIDE	11 u
959-98-8	ENDOSULFAN I	11 u
60-57-1	DIELDRIN	22 u
72-55-9	4,4'-DDE	6.5 J ++
72-20-8	ENDRIN	22 u
33213-65-9	ENDOSULFAN II	22 u
72-54-8	4,4'-DDD	33 ++
7421-93-4	ENDRIN ALDEHYDE	22 u
1031-07-8	ENDOSULFAN SULFATE	22 u
50-29-3	4,4'-DDT	22 u
72-43-5	METHOXYCHLOR	110 u
53494-70-5	ENDRIN KETONE	22 u
57-74-9	CHLORDANE	110 u
8001-35-2	TOXAPHENE	220 u
12674-11-2	AROCLOR-1016	110 u
11104-28-2	AROCLOR-1221	110 u
11141-16-5	AROCLOR-1232	110 u
53469-21-9	AROCLOR-1242	110 u
12672-29-6	AROCLOR-1248	110 u
11097-69-1	AROCLOR-1254	220 u
11096-82-5	AROCLOR-1260	220 u

Volume of water extracted (ml): N.A.
Weight of sample extracted (g): 30.0
Volume of total extract (ml): 10.00
Volume of extract injected (ul): 1.00

++ CONFIRMED BY GC DUAL COLUMN CONFIRMATION

Laboratory Name S-CUBED

Case No 8027

Sample Number EP404

11SV1041 (VOA)
EP404 (ABN)

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.	No TIC	VOA		
2. NA	UNKNOWN	ABN	93	2100UJ
3.	UNKNOWN hydrocarbon		991	490 J
4.	UNKNOWN hydrocarbon		1068	260 J
5.	UNKNOWN PHTHALATE		1112	300 J
6.	UNKNOWN		1444	270 J
7. NA	UNKNOWN PAH		1696	390 J
8.	(HSL cmpd)		~~1703~~	~~440 J~~
9. NA	UNKNOWN		1915	580 J
10. NA	UNKNOWN	ABN	1934	290 J
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30				

UJ ddf 12-14-87

ORGANICS ANALYSIS DATA SHEET
(Page 1)

Sample Number: EP405

Laboratory Name: S-CUBED
Lab Sample ID No: 11SV1051 (VOA)
Sample Matrix: SOIL
Data Release Authorized By: N

Case No: 8027
QC Report No: N.R
Contract No: 68-01-7261
Date Sample Received: 09-10-87

VOLATILE COMPOUNDS

Concentration: Low Medium (Circle One)
Date Extracted/Prepared: 09-11-87
Date Analyzed: 09-11-87
Conc/Dil Factor: 1.0 pH: 8.2
Percent Moisture (Not Decanted): 29.0

CAS Number		ug/l or ug/kg (Circle One)	CAS Number		ug/l or ug/kg (Circle One)
74-87-3	CHLOROMETHANE	14 UJ	78-87-5	1,2-DICHLOROPROPANE	7 U
74-83-9	BROMOMETHANE	14 UJ	10061-02-6	TRANS-1,3-DICHLOROPROPENE	7 U
75-01-4	VINYL CHLORIDE	14 UJ	79-01-6	TRICHLOROETHENE	7 U
75-00-3	CHLOROETHANE	14 UJ	124-48-1	DIBROMOCHLOROMETHANE	7 U
75-09-2	METHYLENE CHLORIDE	4 UJ B	79-00-5	1,1,2-TRICHLOROETHANE	7 U
67-64-1	ACETONE	10 UJ ~~6 J B~~ N	71-43-2	BENZENE	7 U
75-15-0	CARBON DISULFIDE	7 UJ	10061-01-5	CIS-1,3-DICHLOROPROPENE	7 U
75-35-4	1,1-DICHLOROETHENE	7 U	110-75-8	2-CHLOROETHYLVINYLETHER	14 U
75-34-3	1,1-DICHLOROETHANE	7 U	75-25-2	BROMOFORM	7 U
156-60-5	TRANS-1,2-DICHLOROETHENE	7 UJ	591-78-6	2-HEXANONE	14 UJ
67-66-3	CHLOROFORM	7 U	108-10-1	4-METHYL-2-PENTANONE	14 UJ
107-06-2	1,2-DICHLOROETHANE	7 UJ	127-18-4	TETRACHLOROETHENE	7 U
78-93-3	2-BUTANONE	34	79-34-5	1,1,2,2-TETRACHLOROETHANE	7 U
71-55-6	1,1,1-TRICHLOROETHANE	7 U	108-88-3	TOLUENE	7 U
56-23-5	CARBON TETRACHLORIDE	7 U	108-90-7	CHLOROBENZENE	7 U
108-05-4	VINYL ACETATE	14 U	100-41-4	ETHYLBENZENE	7 U
75-27-4	BROMODICHLOROMETHANE	7 U	100-42-5	STYRENE	7 U
				TOTAL XYLENES	7 U

Data Reporting Qualifiers

For reporting results to EPA, the following results qualifier are used. Additional flags or footnotes explaning 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 (eg.10U) based on necessary concentration/dilution action.(this is not necessarily the instrument detection limit.)The footnotes 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 (eg 10J) .If limit of detection is 10 ug/L and a concentration of 3ug/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 > or = 10 ng/ul in the final extract should be confirmed by GC/MS.

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

S Matrix spiked compound.

UJ dof 12-14-87

Lab Name : S - CUBED
Case No : 8027

Sample Number
EP 405

ORGANICS ANALYSIS DATA SHEET
(Page 2)

Semivolatile Compounds

Concentration: Low Medium (Circle One)
Date Extracted: 9-14-87
Date Analyzed: 10/06/87 11:30
Conc/Dil Factor: 1.50
Percent Moisture (Decanted) N.A.

GPC Cleanup ✓ Yes __ No
Separatory Funnel Extraction __ Yes
Continuous Liquid-Liquid Extraction __ Yes

C.A.S. Number		ug/L or ug/Kg (Circle One)	
108-95-2	Phenol	700.	U
111-44-4	bis(-2-Chloroethyl)Ether	700.	U
95-57-8	2-Chlorophenol	700.	U
541-73-1	1,3-Dichlorobenzene	700.	U
106-46-7	1,4-Dichlorobenzene	700.	U
100-51-6	Benzyl Alcohol	700.	U
95-50-1	1,2-Dichlorobenzene	700.	U
95-48-7	2-Methylphenol	700.	U
39638-32-9	bis(2-chloroisopropyl)Ether	700.	U
106-44-5	4-Methylphenol	700.	U
621-64-7	N-Nitroso-Di-n-Propylamine	700.	U
67-72-1	Hexachloroethane	700.	U
98-95-3	Nitrobenzene	700.	U
78-59-1	Isophorone	700.	U
88-75-5	2-Nitrophenol	700.	U
105-67-9	2,4-Dimethylphenol	700.	U
65-85-0	Benzoic Acid	3500.	U
111-91-1	bis(-2-Chloroethoxy)Methane	700.	U
120-83-2	2,4-Dichlorophenol	700.	U
120-82-1	1,2,4-Trichlorobenzene	700.	U
91-20-3	Naphthalene	700.	U
106-47-8	4-Chloroaniline	700.	U
87-68-3	Hexachlorobutadiene	700.	U
59-50-7	4-Chloro-3-Methylphenol	700.	U
91-57-6	2-Methylnaphthalene	18.	J
77-47-4	Hexachlorocyclopentadiene	700.	U
88-06-2	2,4,6-Trichlorophenol	700.	U
95-95-4	2,4,5-Trichlorophenol	3500.	U
91-58-7	2-Chloronaphthalene	700.	U
88-74-4	2-Nitroaniline	3500.	U
131-11-3	Dimethyl Phthalate	700.	U
208-96-8	Acenaphthylene	700.	U
99-09-2	3-Nitroaniline	3500.	U

C.A.S. Number		ug/L or ug/Kg (Circle One)	
83-32-9	Acenaphthene	~~[illegible]~~ → 700 u	
51-28-5	2,4-Dinitrophenol	3500.	U
100-02-7	4-Nitrophenol	3500.	U
132-64-9	Dibenzofuran	700.	U
121-14-2	2,4-Dinitrotoluene	700.	U
606-20-2	2,6-Dinitrotoluene	700.	U
84-66-2	Diethylphthalate	700.	U
7005-72-3	4-Chlorophenyl-phenylether	700.	U
86-73-7	Fluorene	23.	J
100-01-6	4-Nitroaniline	700.	U
534-52-1	4,6-Dinitro-2-Methylphenol	3500.	U
86-30-6	N-Nitrosodiphenylamine (1)	700.	U
101-55-3	4-Bromophenyl-phenylether	700.	U
118-74-1	Hexachlorobenzene	700.	U
87-86-5	Pentachlorophenol	3500.	U
85-01-8	Phenanthrene	160.	J
120-12-7	Anthracene	43.	J
84-74-2	Di-n-Butylphthalate	700.	UJ
206-44-0	Fluoranthene	290.	J
129-00-0	Pyrene	190.	J
85-68-7	Butylbenzylphthalate	700.	U
91-94-1	3,3'-Dichlorobenzidine	1400.	U
56-55-3	Benzo(a)Anthracene	120.	J
117-81-7	bis(2-Ethylhexyl)Phthalate	700.	U
218-01-9	Chrysene	120.	J
117-84-0	Di-n-Octyl Phthalate	700.	U
205-99-2	Benzo(b)Fluoranthene	150.	J
207-08-9	Benzo(k)Fluoranthene	25.	J
50-32-8	Benzo(a)Pyrene	110.	J
193-39-5	Indeno(1,2,3-cd)Pyrene	59.	J
53-70-3	Dibenzo(a,h)Anthracene	700.	U
191-24-2	Benzo(g,h,i)Perylene	69.	J

(1)-Cannot be separated from diphenylamine

UJ ddf 12-14-87

Laboratory Name: S-Cubed
Case No.: 3...

Sample Number
EP 405

ORGANICS ANALYSIS DATA
(Page 3)

Pesticide/PCBs

Concentration: LOW
Date Extracted/Prepared: 9-16-87
Date Analyzed: 9-30-87
Conc/Dil Factor: 1.00

GPC Cleanup ___Yes ✓ NO
Separatory Funnel Extraction ___Yes
Continuous Liquid-Liquid Extraction ___Yes

CAS # Number		ug/l or ug/Kg (Circle One)
319-84-6	ALPHA-BHC	11 u
319-85-7	BETA-BHC	11 u
319-86-8	DELTA-BHC	11 u
58-89-9	GAMMA-BHC (LINDANE)	11 u
76-44-8	HEPTACHLOR	11 u
309-00-2	ALDRIN	11 u
1024-57-3	HEPTACHLOR EPOXIDE	11 u
959-98-8	ENDOSULFAN I	11 u
60-57-1	DIELDRIN	23 u
72-55-9	4,4'-DDE	23 u
72-20-8	ENDRIN	23 u
33213-65-9	ENDOSULFAN II	23 u
72-54-8	4,4'-DDD	12 J **
7421-93-4	ENDRIN ALDEHYDE	23 u
1031-07-8	ENDOSULFAN SULFATE	23 u
50-29-3	4,4'-DDT	23 u
72-43-5	METHOXYCHLOR	110 u
53494-70-5	ENDRIN KETONE	23 u
57-74-9	CHLORDANE	110 u
8001-35-2	TOXAPHENE	230 u
12674-11-2	AROCLOR-1016	110 u
11104-28-2	AROCLOR-1221	110 u
11141-16-5	AROCLOR-1232	110 u
53469-21-9	AROCLOR-1242	110 u
12672-29-6	AROCLOR-1248	110 u
11097-69-1	AROCLOR-1254	230 u
11096-82-5	AROCLOR-1260	230 u

Volume of water extracted (ml): N.A.
Weight of sample extracted (g): 30.0
Volume of total extract (ml): 10.00
Volume of extract injected (ul): 1.00

Form I 7/85 REV.

** CONFIRMED BY GC DUAL COLUMN CONFIRMATION

Laboratory Name S-CUBED

Case No 8027

Sample Number EP405

11SV1051 (VOA)
EP405 (ABN)

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.	No TIC	VOA		
2. NA	UNKNOWN	ABN	70	310 J
3. ↓	UNKNOWN	↑	91	3800 UJ B
4. ↓	UNKNOWN hydrocarbon	↓	824	270 J
5. NA	UNKNOWN hydrocarbon	ABN	991	480 J
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UJ ddf 12-14-87

Sample Number: EP479

ORGANICS ANALYSIS DATA SHEET
(Page 1)

Laboratory Name: S-CUBED
Lab Sample ID No: 10SV1111 (VOA)
Sample Matrix: WATER
Data Release Authorized By: _____

Case No: 8027
QC Report No: N.R
Contract No: 68-01-7261
Date Sample Received: 09-10-87

VOLATILE COMPOUNDS

Concentration: Low Medium (Circle One)
Date Extracted/Prepared: 09-10-87
Date Analyzed: 09-10-87
Conc/Dil Factor: 1.0 pH: N.R
Percent Moisture (Not Decanted): N.R

CAS Number		ug/l or ug/kg (Circle One)	CAS Number		ug/l or ug/kg (Circle One)
74-87-3	CHLOROMETHANE	10 U J	78-87-5	1,2-DICHLOROPROPANE	5 U
74-83-9	BROMOMETHANE	10 U J	10061-02-6	TRANS-1,3-DICHLOROPROPENE	5 U
75-01-4	VINYL CHLORIDE	10 U J	79-01-6	TRICHLOROETHENE	5 U
75-00-3	CHLOROETHANE	10 U J	124-48-1	DIBROMOCHLOROMETHANE	5 U
75-09-2	METHYLENE CHLORIDE	3 U J	79-00-5	1,1,2-TRICHLOROETHANE	5 U
67-64-1	ACETONE	10 U J	71-43-2	BENZENE	5 U
75-15-0	CARBON DISULFIDE	5 U J	10061-01-5	CIS-1,3-DICHLOROPROPENE	5 U
75-35-4	1,1-DICHLOROETHENE	5 U	110-75-8	2-CHLOROETHYLVINYLETHER	10 U
75-34-3	1,1-DICHLOROETHANE	5 U	75-25-2	BROMOFORM	5 U
156-60-5	TRANS-1,2-DICHLOROETHENE	5 U	591-78-6	2-HEXANONE	10 U
67-66-3	CHLOROFORM	5 U	108-10-1	4-METHYL-2-PENTANONE	10 U
107-06-2	1,2-DICHLOROETHANE	5 U	127-18-4	TETRACHLOROETHENE	5 U
78-93-3	2-BUTANONE	10 U	79-34-5	1,1,2,2-TETRACHLOROETHANE	5 U
71-55-6	1,1,1-TRICHLOROETHANE	5 U	108-88-3	TOLUENE	5 U
56-23-5	CARBON TETRACHLORIDE	5 U	108-90-7	CHLOROBENZENE	5 U
108-05-4	VINYL ACETATE	10 U	100-41-4	ETHYLBENZENE	5 U
75-27-4	BROMODICHLOROMETHANE	5 U	100-42-5	STYRENE	5 U
				TOTAL XYLENES	5 U

Data Reporting Qualifiers

For reporting results to EPA, the following results qualifier are used. Additional flags or footnotes explaning 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 (eg. 10U) based on necessary concentration/dilution action. (this is not necessarily the instrument detection limit.) The footnotes 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 (eg 10J). If limit of detection is 10 ug/L and a concentration of 3ug/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 > or = 10 ng/ul in the final extract should be confirmed by GC/MS.

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

S Matrix spiked compound.

UJ dcf 12-14-87

Lab Name : S - CUBED
Case No : 8027

Sample Number
EP 479

ORGANICS ANALYSIS DATA SHEET
(Page 2)

Semivolatile Compounds

Concentration: Low Medium (Circle One)
Date Extracted: 9-14-87
Date Analyzed: 10/03/87 14:33
Conc/Dil Factor: 1.00
Percent Moisture (Decanted) N.A.

GPC Cleanup __ Yes ✓ No
Separatory Funnel Extraction __ Yes
Continuous Liquid-Liquid Extraction ✓ Yes

C.A.S. 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.	UJ
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.	UJ
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

C.A.S. 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	10.	U
534-52-1	4,6-Dinitro-2-methylphenol	50.	U
86-30-6	N-Nitrososdiphenylamine (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	Dibenzo(a,h)Anthracene	10.	U
191-24-2	Benzo(g,h,i)Perylene	10.	U

(1)-Cannot be separated from diphenylamine

UJ dof 12-14-87

Laboratory Name: S-Cubed
Case No.: 6027

Sample Number
EP 479

ORGANICS ANALYSIS DATA
(Page 3)

Pesticide/PCBs

Concentration: LOW
Date Extracted/Prepared: 9-11-87
Date Analyzed: 9-30-87
Cont/Dil Factor: 1.00

GPC Cleanup ___Yes ✓ NO
Separatory Funnel Extraction ___Yes
Continuous Liquid-Liquid Extraction ✓ Yes

CAS # Number		ug/l or ug/Kg (Circle One)
319-84-6	ALPHA-BHC	0.050 u
319-85-7	BETA-BHC	0.050 u
319-86-8	DELTA-BHC	0.050 u
58-89-9	GAMMA-BHC (LINDANE)	0.050 u
76-44-8	HEPTACHLOR	0.050 u
309-00-2	ALDRIN	0.050 u
1024-57-3	HEPTACHLOR EPOXIDE	0.050 u
959-98-8	ENDOSULFAN I	0.050 u
60-57-1	DIELDRIN	0.10 u
72-55-9	4,4'-DDE	0.10 u
72-20-8	ENDRIN	0.10 u
33213-65-9	ENDOSULFAN II	0.10 u
72-54-8	4,4'-DDD	0.10 u
7421-93-4	ENDRIN ALDEHYDE	0.10 u
1031-07-8	ENDOSULFAN SULFATE	0.10 u
50-29-3	4,4'-DDT	0.10 u
72-43-5	METHOXYCHLOR	0.50 u
53494-70-5	ENDRIN KETONE	0.10 u
57-74-9	CHLORDANE	0.50 u
8001-35-2	TOXAPHENE	1.0 u
12674-11-2	AROCLOR-1016	0.50 u
11104-28-2	AROCLOR-1221	0.50 u
11141-16-5	AROCLOR-1232	0.50 u
53469-21-9	AROCLOR-1242	0.50 u
12672-29-6	AROCLOR-1248	0.50 u
11097-69-1	AROCLOR-1254	1.0 u
11096-82-5	AROCLOR-1260	1.0 u

Volume of water extracted (ml): 1000
Weight of sample extracted (g): N.A.
Volume of total extract (ml): 10.00
Volume of extract injected (ul): 1.00

Form I 7/85 REV.

** CONFIRMED BY GC DUAL COLUMN CONFIRMATION

Laboratory Name S-CUBED

Case No 8027

Sample Number EP479

10SV1111 (VOA)
EP479 (ABN)

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.	No Tic	VOA		
2.	No Tic	ABN		
3.				
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Sample Number: EP480

ORGANICS ANALYSIS DATA SHEET
(Page 1)

Laboratory Name: S-CUBED
Lab Sample ID No: 10SV1041 (VOA)
Sample Matrix: WATER
Data Release Authorized By: ___

Case No: 8027
QC Report No: N.R
Contract No: 68-01-7261
Date Sample Received: 09-10-87

VOLATILE COMPOUNDS

Concentration: Low Medium (Circle One)
Date Extracted/Prepared: 09-10-87
Date Analyzed: 09-10-87
Conc/Dil Factor: 1.0 pH: N.R
Percent Moisture (Not Decanted): N.R

CAS Number		ug/l or ug/kg (Circle One)	CAS Number		ug/l or ug/kg (Circle One)
74-87-3	CHLOROMETHANE	10 U J	78-87-5	1,2-DICHLOROPROPANE	5 U
74-83-9	BROMOMETHANE	10 U J	10061-02-6	TRANS-1,3-DICHLOROPROPENE	5 U
75-01-4	VINYL CHLORIDE	10 U J	79-01-6	TRICHLOROETHENE	5 U
75-00-3	CHLOROETHANE	10 U J	124-48-1	DIBROMOCHLOROMETHANE	5 U
75-09-2	METHYLENE CHLORIDE	3 U J	79-00-5	1,1,2-TRICHLOROETHANE	5 U
67-64-1	ACETONE	10 U J	71-43-2	BENZENE	5 U
75-15-0	CARBON DISULFIDE	5 U J	10061-01-5	CIS-1,3-DICHLOROPROPENE	5 U
75-35-4	1,1-DICHLOROETHENE	5 U	110-75-8	2-CHLOROETHYLVINYLETHER	10 U
75-34-3	1,1-DICHLOROETHANE	5 U	75-25-2	BROMOFORM	5 U
156-60-5	TRANS-1,2-DICHLOROETHENE	5 U	591-78-6	2-HEXANONE	10 U
67-66-3	CHLOROFORM	5 U	108-10-1	4-METHYL-2-PENTANONE	10 U
107-06-2	1,2-DICHLOROETHANE	5 U	127-18-4	TETRACHLOROETHENE	5 U
78-93-3	2-BUTANONE	10 U	79-34-5	1,1,2,2-TETRACHLOROETHANE	5 U
71-55-6	1,1,1-TRICHLOROETHANE	5 U	108-88-3	TOLUENE	5 U
56-23-5	CARBON TETRACHLORIDE	5 U	108-90-7	CHLOROBENZENE	5 U
108-05-4	VINYL ACETATE	10 U	100-41-4	ETHYLBENZENE	5 U
75-27-4	BROMODICHLOROMETHANE	5 U	100-42-5	STYRENE	5 U
				TOTAL XYLENES	5 U

Data Reporting Qualifiers

For reporting results to EPA, the following results qualifier are used. Additional flags or footnotes explaning 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 (eg. 10U) based on necessary concentration/dilution action. (this is not necessarily the instrument detection limit.) The footnotes 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 (eg 10J). If limit of detection is 10 ug/L and a concentration of 3ug/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 > or = 10 ng/ul in the final extract should be confirmed by GC/MS.

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

S Matrix spiked compound.

VJ dof 12-14-87

Lab Name : S - CUBED
Case No : 8027

Sample Number
EP 480

ORGANICS ANALYSIS DATA SHEET
(Page 2)

Semivolatile Compounds

Concentration: Low Medium (Circle One)
Date Extracted: 9-14-87
Date Analyzed: 10/03/87 15:34
Conc/Dil Factor: 1.00
Percent Moisture (Decanted) N.A.

GPC Cleanup __ Yes ✓ No
Separatory Funnel Extraction __ Yes
Continuous Liquid-Liquid Extraction ✓ Yes

C.A.S. 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.	UJ
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.	UJ
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

C.A.S. 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	10.	U
534-52-1	4,6-Dinitro-2-methylphenol	50.	U
86-30-6	N-Nitrososdiphenylamine (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	Dibenzo(a,h)Anthracene	10.	U
191-24-2	Benzo(g,h,i)Perylene	10.	U

(1)-Cannot be separated from diphenylamine

UJ ddf 12-14-87

Laboratory Name: S-Cubed
Case No.: [illegible]

Sample Number:
EP 46v

ORGANICS ANALYSIS DATA
(Page 3)

Pesticide/PCBs

Concentration: LOW
Date Extracted/Prepared: 9-11-87
Date Analyzed: 10-08-87
Conc/Dil Factor: 1.00

GPC Cleanup ___yes ✓ NO
Separatory Funnel Extraction ___yes
Continuous Liquid-Liquid Extraction ✓ yes

CAS # Number		ug/l or ug/Kg (Circle One)
319-84-6	ALPHA-BHC	0.050 u
319-85-7	BETA-BHC	0.050 u
319-86-8	DELTA-BHC	0.050 u
58-89-9	GAMMA-BHC (LINDANE)	0.050 u
76-44-8	HEPTACHLOR	0.050 u
309-00-2	ALDRIN	0.050 u
1024-57-3	HEPTACHLOR EPOXIDE	0.050 u
959-98-8	ENDOSULFAN I	0.050 u
60-57-1	DIELDRIN	0.10 u
72-55-9	4,4 -DDE	0.10 u
72-20-8	ENDRIN	0.10 u
33213-65-9	ENDOSULFAN II	0.10 u
72-54-8	4,4'-DDD	0.10 u
7421-93-4	ENDRIN ALDEHYDE	0.10 u
1031-07-8	ENDOSULFAN SULFATE	0.10 u
50-29-3	4,4'-DDT	0.10 u
72-43-5	METHOXYCHLOR	0.50 u
53494-70-5	ENDRIN KETONE	0.10 u
57-74-9	CHLORDANE	0.50 u
8001-35-2	TOXAPHENE	1.0 u
12674-11-2	AROCLOR-1016	0.50 u
11104-28-2	AROCLOR-1221	0.50 u
11141-16-5	AROCLOR-1232	0.50 u
53469-21-9	AROCLOR-1242	0.50 u
12672-29-6	AROCLOR-1248	0.50 u
11097-69-1	AROCLOR-1254	1.0 u
11096-82-5	AROCLOR-1260	1.0 u

Volume of water extracted (ml): 1000
Weight of sample extracted (g): N.A.
Volume of total extract (ml): 10.00
Volume of extract injected (ul): 1.00

Form 1 7/85 REV.

** CONFIRMED BY GC DUAL COLUMN CONFIRMATION

Laboratory Name S-CUBED

Case No 8027

Sample Number EP480

10SV1041 (VOA)
EP430 (ABN)

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.	No TIC	VOA		
2.	No TIC	ABN		
3.				
4.				
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Sample Number: EP481

ORGANICS ANALYSIS DATA SHEET
(Page 1)

Laboratory Name: S-CUBED
Lab Sample ID No: 10SV1051 (VOA)
Sample Matrix: WATER
Data Release Authorized By: _____

Case No: 8027
QC Report No: N.R
Contract No: 68-01-7261
Date Sample Received: 09-10-87

VOLATILE COMPOUNDS
Concentration: Low Medium (Circle One)
Date Extracted/Prepared: 09-10-87
Date Analyzed: 09-10-87
Conc/Dil Factor: 1.0 pH: N.R
Percent Moisture (Not Decanted): N.R

CAS Number		ug/l or ug/kg (Circle One)	CAS Number		ug/l or ug/kg (Circle One)
74-87-3	CHLOROMETHANE	10 UJ	78-87-5	1,2-DICHLOROPROPANE	5 U
74-83-9	BROMOMETHANE	10 UJ	10061-02-6	TRANS-1,3-DICHLOROPROPENE	5 U
75-01-4	VINYL CHLORIDE	10 UJ	79-01-6	TRICHLOROETHENE	5 U
75-00-3	CHLOROETHANE	10 UJ	124-48-1	DIBROMOCHLOROMETHANE	5 U
75-09-2	METHYLENE CHLORIDE	4UJ	79-00-5	1,1,2-TRICHLOROETHANE	5 U
67-64-1	ACETONE	10J	71-43-2	BENZENE	5 U
75-15-0	CARBON DISULFIDE	5 UJ	10061-01-5	CIS-1,3-DICHLOROPROPENE	5 U
75-35-4	1,1-DICHLOROETHENE	5 U	110-75-8	2-CHLOROETHYLVINYLETHER	10 U
75-34-3	1,1-DICHLOROETHANE	5 U	75-25-2	BROMOFORM	5 U
156-60-5	TRANS-1,2-DICHLOROETHENE	5 U	591-78-6	2-HEXANONE	10 U
67-66-3	CHLOROFORM	5 U	108-10-1	4-METHYL-2-PENTANONE	10 U
107-06-2	1,2-DICHLOROETHANE	5 U	127-18-4	TETRACHLOROETHENE	5 U
78-93-3	2-BUTANONE	10 U	79-34-5	1,1,2,2-TETRACHLOROETHANE	5 U
71-55-6	1,1,1-TRICHLOROETHANE	5 U	108-88-3	TOLUENE	5 U
56-23-5	CARBON TETRACHLORIDE	5 U	108-90-7	CHLOROBENZENE	5 U
108-05-4	VINYL ACETATE	10 U	100-41-4	ETHYLBENZENE	5 U
75-27-4	BROMODICHLOROMETHANE	5 U	100-42-5	STYRENE	5 U
				TOTAL XYLENES	5 U

Data Reporting Qualifiers

For reporting results to EPA, the following results qualifier are used. Additional flags or footnotes explaning 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 (eg.10U) based on necessary concentration/dilution action.(this is not necessarily the instrument detection limit.)The footnotes 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 (eg 10J) .If limit of detection is 10 ug/L and a concentration of 3ug/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 > or = 10 ng/ul in the final extract should be confirmed by GC/MS.

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

S Matrix spiked compound.

UJ / J } ddf 12-14-87

Lab Name : S - CUBED
Case No : 8027

Sample Number
EP 481

ORGANICS ANALYSIS DATA SHEET
(Page 2)

Semivolatile Compounds

Concentration: Low Medium (Circle One)
Date Extracted: 9-14-87
Date Analyzed: 10/03/87 19:35
Conc/Dil Factor: 1.00
Percent Moisture (Decanted) N.A.

GPC Cleanup __ Yes ✓ No
Separatory Funnel Extraction __ Yes
Continuous Liquid-Liquid Extraction ✓ Yes

C.A.S. 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.	UJ
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.	UJ
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

C.A.S. 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	10.	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	Dibenzo(a,h)Anthracene	10.	U
191-24-2	Benzo(g,h,i)Perylene	10.	U

(1)-Cannot be separated from diphenylamine

UJ ddf 12-14-87

Laboratory Name: S-Cubed
Case No.: 8027

Sample Number
EP 481

ORGANICS ANALYSIS DATA
(Page 3)

Pesticide/PCBs

Concentration: LOW
Date Extracted/Prepared: 9-11-87
Date Analyzed: 9-30-87
Conc/Dil Factor: 1.00

GPC Cleanup ___Yes ✓NO
Separatory Funnel Extraction ___Yes
Continuous Liquid-Liquid Extraction ✓Yes

CAS # Number		ug/l or ug/Kg (Circle One)
319-84-6	ALPHA-BHC	0.050 u
319-85-7	BETA-BHC	0.050 u
319-86-8	DELTA-BHC	0.050 u
58-89-9	GAMMA-BHC (LINDANE)	0.050 **
76-44-8	HEPTACHLOR	0.050 u
309-00-2	ALDRIN	0.050 u
1024-57-3	HEPTACHLOR EPOXIDE	0.050 u
959-98-8	ENDOSULFAN I	0.050 u
60-57-1	DIELDRIN	0.10 u
72-55-9	4,4'-DDE	0.10 u
72-20-8	ENDRIN	0.10 u
33213-65-9	ENDOSULFAN II	0.10 u
72-54-8	4,4'-DDD	0.10 u
7421-93-4	ENDRIN ALDEHYDE	0.10 u
1031-07-8	ENDOSULFAN SULFATE	0.10 u
50-29-3	4,4'-DDT	0.10 u
72-43-5	METHOXYCHLOR	0.50 u
53494-70-5	ENDRIN KETONE	0.10 u
57-74-9	CHLORDANE	0.50 u
8001-35-2	TOXAPHENE	1.0 u
12674-11-2	AROCLOR-1016	0.50 u
11104-28-2	AROCLOR-1221	0.50 u
11141-16-5	AROCLOR-1232	0.50 u
53469-21-9	AROCLOR-1242	0.50 u
12672-29-6	AROCLOR-1248	0.50 u
11097-69-1	AROCLOR-1254	1.0 u
11096-82-5	AROCLOR-1260	1.0 u

Volume of water extracted (ml): 1000
Weight of sample extracted (g): N.A.
Volume of total extract (ml): 10.00
Volume of extract injected (ul): 1.00

** CONFIRMED BY GC DUAL COLUMN CONFIRMATION

Laboratory Name S-CUBED

Case No 8027

Sample Number EP481

10SV1051 (VOA)
EP480 (ABN)

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.	No TIC	VOA		
2.	No TIC	ABN		
3.				
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Sample Number: E482

ORGANICS ANALYSIS DATA SHEET
(Page 1)

Laboratory Name: S-CUBED
Lab Sample ID No: 11SV1031 (VOA)
Sample Matrix: WATER
Data Release Authorized By: _____

Case No: 8027
QC Report No: N.R
Contract No: 68-01-7261
Date Sample Received: 09-10-87

VOLATILE COMPOUNDS

Concentration: Low Medium (Circle One)
Date Extracted/Prepared: 09-11-87
Date Analyzed: 09-11-87
Conc/Dil Factor: 1.0 pH: N.R
Percent Moisture (Not Decanted): N.R

CAS Number		ug/l or ug/kg (Circle One)	CAS Number		ug/l or ug/kg (Circle One)
74-87-3	CHLOROMETHANE	10 UJ	78-87-5	1,2-DICHLOROPROPANE	5 U
74-83-9	BROMOMETHANE	10 UJ	10061-02-6	TRANS-1,3-DICHLOROPROPENE	5 U
75-01-4	VINYL CHLORIDE	10 UJ	79-01-6	TRICHLOROETHENE	5 U
75-00-3	CHLOROETHANE	10 UJ	124-48-1	DIBROMOCHLOROMETHANE	5 U
75-09-2	METHYLENE CHLORIDE	3UJ B	79-00-5	1,1,2-TRICHLOROETHANE	5 U
67-64-1	ACETONE	8UJ B	71-43-2	BENZENE	5 U
75-15-0	CARBON BISULFIDE	5 UJ	10061-01-5	CIS-1,3-DICHLOROPROPENE	5 U
75-35-4	1,1-DICHLOROETHENE	5 U	110-75-8	2-CHLOROETHYLVINYLETHER	10 U
75-34-3	1,1-DICHLOROETHANE	5 U	75-25-2	BROMOFORM	5 U
156-60-5	TRANS-1,2-DICHLOROETHENE	5 UJ	591-78-6	2-HEXANONE	10 UJ
67-66-3	CHLOROFORM	5 U	108-10-1	4-METHYL-2-PENTANONE	10 UJ
107-06-2	1,2-DICHLOROETHANE	5 UJ	127-18-4	TETRACHLOROETHENE	5 U
78-93-3	2-BUTANONE	10 U	79-34-5	1,1,2,2-TETRACHLOROETHANE	5 U
71-55-6	1,1,1-TRICHLOROETHANE	5 U	108-88-3	TOLUENE	5 U
56-23-5	CARBON TETRACHLORIDE	5 U	108-90-7	CHLOROBENZENE	5 U
108-05-4	VINYL ACETATE	10 U	100-41-4	ETHYLBENZENE	5 U
75-27-4	BROMODICHLOROMETHANE	5 U	100-42-5	STYRENE	5 U
				TOTAL XYLENES	5 U

Data Reporting Qualifiers

For reporting results to EPA, the following results qualifier are used. Additional flags or footnotes explaning 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 (eg. 10U) based on necessary concentration/dilution action. (this is not necessarily the instrument detection limit.) The footnotes 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 (eg 10J). If limit of detection is 10 ug/L and a concentration of 3ug/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 > or = 10 ng/ul in the final extract should be confirmed by GC/MS.

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

S Matrix spiked compound.

UJ 12-14-87

Lab Name : S - CUBED
Case No : 8027

Sample Number
EP 482

ORGANICS ANALYSIS DATA SHEET
(Page 2)

Semivolatile Compounds

Concentration: Low Medium (Circle One)
Date Extracted: 9-14-87
Date Analyzed: 10/03/87 21:32
Conc/Dil Factor: 1.00
Percent Moisture (Decanted) N.A.

GPC Cleanup __ Yes ✓ No
Separatory Funnel Extraction __ Yes
Continuous Liquid-Liquid Extraction ✓ Yes

C.A.S. 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.	UJ
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.	UJ
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

C.A.S. 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	10.	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	Dibenzo(a,h)Anthracene	10.	U
191-24-2	Benzo(g,h,i)Perylene	10.	U

(1)-Cannot be separated from diphenylamine

UJ 2Df 12-14-87

Laboratory Name: S-Cubed
Case No.: 8027

Sample Number
EP 482

ORGANICS ANALYSIS DATA
(Page 3)

Pesticide/PCBs

Concentration: LOW
Date Extracted/Prepared: 9-11-87
Date Analyzed: 9-30-87
Conc/Dil Factor: 1.00

GPC Cleanup ___Yes ✓ NO
Separatory Funnel Extraction ___Yes
Continuous Liquid-Liquid Extraction ✓ Yes

CAS # Number		ug/l or ug/Kg (Circle One)
319-84-6	ALPHA-BHC	0.050 u
319-85-7	BETA-BHC	0.050 u
319-86-8	DELTA-BHC	0.050 u
58-89-9	GAMMA-BHC (LINDANE)	0.050 u
76-44-8	HEPTACHLOR	0.050 u
309-00-2	ALDRIN	0.050 u
1024-57-3	HEPTACHLOR EPOXIDE	0.050 u
959-98-8	ENDOSULFAN I	0.050 u
60-57-1	DIELDRIN	0.10 u
72-55-9	4,4'-DDE	0.10 u
72-20-8	ENDRIN	0.10 u
33213-65-9	ENDOSULFAN II	0.10 u
72-54-8	4,4'-DDD	0.10 u
7421-93-4	ENDRIN ALDEHYDE	0.10 u
1031-07-8	ENDOSULFAN SULFATE	0.10 u
50-29-3	4,4'-DDT	0.10 u
72-43-5	METHOXYCHLOR	0.50 u
53494-70-5	ENDRIN KETONE	0.10 u
57-74-9	CHLORDANE	0.50 u
8001-35-2	TOXAPHENE	1.0 u
12674-11-2	AROCLOR-1016	0.50 u
11104-28-2	AROCLOR-1221	0.50 u
11141-16-5	AROCLOR-1232	0.50 u
53469-21-9	AROCLOR-1242	0.50 u
12672-29-6	AROCLOR-1248	0.50 u
11097-69-1	AROCLOR-1254	1.0 u
11096-82-5	AROCLOR-1260	1.0 u

Volume of water extracted (ml): 1000
Weight of sample extracted (g): N.A.
Volume of total extract (ml): 10.00
Volume of extract injected (ul): 1.00

** CONFIRMED BY GC DUAL COLUMN CONFIRMATION

Laboratory Name S-CUBED

Case No 8027

Sample Number EP482

11SV1031 (VOA)
EP482 (ABN)

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.	No TIC	VOA		
2. 6599754	Methanamine, N-pentylidene	ABN	357	8 J
3. 112345	Ethanol, 2-(2-butoxyethoxy)	ABN	537	8 J
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ORGANICS ANALYSIS DATA SHEET
(Page 1)

Sample Number: EP483

Laboratory Name: S-CUBED
Lab Sample ID No: 10SV1081 (VOA)
Sample Matrix: WATER
Data Release Authorized By: [signature]

Case No: 8027
QC Report No: N.R
Contract No: 68-01-7261
Date Sample Received: 09-10-87

VOLATILE COMPOUNDS
Concentration: Low Medium (Circle One)
Date Extracted/Prepared: 09-10-87
Date Analyzed: 09-10-87
Conc/Dil Factor: 1.0 pH: N.R
Percent Moisture (Not Decanted): N.R

CAS Number		ug/l or ug/kg (Circle One)	CAS Number		ug/l or ug/kg (Circle One)
74-87-3	CHLOROMETHANE	10 UJ	78-87-5	1,2-DICHLOROPROPANE	5 U
74-83-9	BROMOMETHANE	10 UJ	10061-02-6	TRANS-1,3-DICHLOROPROPENE	5 U
75-01-4	VINYL CHLORIDE	10 UJ	79-01-6	TRICHLOROETHENE	5 U
75-00-3	CHLOROETHANE	10 UJ	124-48-1	DIBROMOCHLOROMETHANE	5 U
75-09-2	METHYLENE CHLORIDE	3UJ	79-00-5	1,1,2-TRICHLOROETHANE	5 U
67-64-1	ACETONE	10 UJ	71-43-2	BENZENE	5 U
75-15-0	CARBON DISULFIDE	5 UJ	10061-01-5	CIS-1,3-DICHLOROPROPENE	5 U
75-35-4	1,1-DICHLOROETHENE	5 U	110-75-8	2-CHLOROETHYLVINYLETHER	10 U
75-34-3	1,1-DICHLOROETHANE	5 U	75-25-2	BROMOFORM	5 U
156-60-5	TRANS-1,2-DICHLOROETHENE	5 U	591-78-6	2-HEXANONE	10 U
67-66-3	CHLOROFORM	5 U	108-10-1	4-METHYL-2-PENTANONE	10 U
107-06-2	1,2-DICHLOROETHANE	5 U	127-18-4	TETRACHLOROETHENE	5 U
78-93-3	2-BUTANONE	10 U	79-34-5	1,1,2,2-TETRACHLOROETHANE	5 U
71-55-6	1,1,1-TRICHLOROETHANE	5 U	108-88-3	TOLUENE	5 U
56-23-5	CARBON TETRACHLORIDE	5 U	108-90-7	CHLOROBENZENE	5 U
108-05-4	VINYL ACETATE	10 U	100-41-4	ETHYLBENZENE	5 U
75-27-4	BROMODICHLOROMETHANE	5 U	100-42-5	STYRENE	5 U
				TOTAL XYLENES	5 U

Data Reporting Qualifiers

For reporting results to EPA, the following results qualifier are used. Additional flags or footnotes explaning 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 (eg.10U) based on necessary concentration/dilution action.(this is not necessarily the instrument detection limit.)The footnotes 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 (eg 10J) .If limit of detection is 10 ug/L and a concentration of 3ug/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 > or = 10 ng/ul in the final extract should be confirmed by GC/MS.

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

S Matrix spiked compound.

UJ [initials] 12-14-87

Lab Name : S - CUBED
Case No : 8027

Sample Number
EP 483

ORGANICS ANALYSIS DATA SHEET
(Page 2)

Semivolatile Compounds

Concentration: Low Medium (Circle One)
Date Extracted: 9-14-87
Date Analyzed: 10/03/87 18:36
Conc/Dil Factor: 1.00
Percent Moisture (Decanted) N.A.

GPC Cleanup _ Yes ✓ No
Separatory Funnel Extraction _ Yes
Continuous Liquid-Liquid Extraction ✓ Yes

C.A.S. 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.	UJ
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.	UJ
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

C.A.S. 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	10.	U
534-52-1	4,6-Dinitro-2-methylphenol	50.	U
86-30-6	N-Nitrososdiphenylamine (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	Dibenzo(a,h)Anthracene	10.	U
191-24-2	Benzo(g,h,i)Perylene	10.	U

(1)-Cannot be separated from diphenylamine

UJ dof 12-14-87

Laboratory Name: S-Cubed
Case No.: 8027

Sample Number
EP 483

ORGANICS ANALYSIS DATA
(Page 3)

Pesticide/PCBs

Concentration: LOW
Date Extracted/Prepared: 9-11-87
Date Analyzed: 9-30-87
Conc/Dil Factor: 1.00

GPC Cleanup ___Yes ✓NO
Separatory Funnel Extraction ___Yes
Continuous Liquid-Liquid Extraction ✓Yes

CAS # Number		ug/l or ug/Kg (Circle One)
319-84-6	ALPHA-BHC	0.050 u
319-85-7	BETA-BHC	0.050 u
319-86-8	DELTA-BHC	0.050 u
58-89-9	GAMMA-BHC (LINDANE)	0.050 u
76-44-8	HEPTACHLOR	0.050 u
309-00-2	ALDRIN	0.050 u
1024-57-3	HEPTACHLOR EPOXIDE	0.050 u
959-98-8	ENDOSULFAN I	0.050 u
60-57-1	DIELDRIN	0.10 u
72-55-9	4,4'-DDE	0.10 u
72-20-8	ENDRIN	0.10 u
33213-65-9	ENDOSULFAN II	0.10 u
72-54-8	4,4'-DDD	0.10 u
7421-93-4	ENDRIN ALDEHYDE	0.10 u
1031-07-8	ENDOSULFAN SULFATE	0.10 u
50-29-3	4,4'-DDT	0.10 u
72-43-5	METHOXYCHLOR	0.50 u
53494-70-5	ENDRIN KETONE	0.10 u
57-74-9	CHLORDANE	0.50 u
8001-35-2	TOXAPHENE	1.0 u
12674-11-2	AROCLOR-1016	0.50 u
11104-28-2	AROCLOR-1221	0.50 u
11141-16-5	AROCLOR-1232	0.50 u
53469-21-9	AROCLOR-1242	0.50 u
12672-29-6	AROCLOR-1248	0.50 u
11097-69-1	AROCLOR-1254	1.0 u
11096-82-5	AROCLOR-1260	1.0 u

Volume of water extracted (ml): 1000
Weight of sample extracted (g): N.A.
Volume of total extract (ml): 10.00
Volume of extract injected (ul): 1.00

** CONFIRMED BY GC DUAL COLUMN CONFIRMATION

Laboratory Name S-CUBED

Case No 8027

Sample Number EP483

10SV1081 (VOA)
EP483 (ABN)

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. 109-99-9	tetra hydro furan	VOA	187	11J
2.	No TIC	ABN		
3.				
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Sample Number: EP484

ORGANICS ANALYSIS DATA SHEET
(Page 1)

Laboratory Name: S-CUBED
Lab Sample ID No: 105V1091 (VOA)
Sample Matrix: WATER
Data Release Authorized By: _____

Case No: 8027
QC Report No: N.R
Contract No: 68-01-7261
Date Sample Received: 09-10-87

VOLATILE COMPOUNDS

Concentration: Low Medium (Circle One)
Date Extracted/Prepared: 09-10-87
Date Analyzed: 09-10-87
Conc/Dil Factor: 1.0 pH: N.R
Percent Moisture (Not Decanted): N.R

CAS Number		ug/l or ug/kg (Circle One)	CAS Number		ug/l or ug/kg (Circle One)
74-87-3	CHLOROMETHANE	10 UJ	78-87-5	1,2-DICHLOROPROPANE	5 U
74-83-9	BROMOMETHANE	10 UJ	10061-02-6	TRANS-1,3-DICHLOROPROPENE	5 U
75-01-4	VINYL CHLORIDE	10 UJ	79-01-6	TRICHLOROETHENE	5 U
75-00-3	CHLOROETHANE	10 UJ	124-48-1	DIBROMOCHLOROMETHANE	5 U
75-09-2	METHYLENE CHLORIDE	4UJ B	79-00-5	1,1,2-TRICHLOROETHANE	5 U
67-64-1	ACETONE	12 J	71-43-2	BENZENE	5 U
75-15-0	CARBON DISULFIDE	5 UJ	10061-01-5	CIS-1,3-DICHLOROPROPENE	5 U
75-35-4	1,1-DICHLOROETHENE	5 U	110-75-8	2-CHLOROETHYLVINYLETHER	10 U
75-34-3	1,1-DICHLOROETHANE	5 U	75-25-2	BROMOFORM	5 U
156-60-5	TRANS-1,2-DICHLOROETHENE	5 U	591-78-6	2-HEXANONE	10 U
67-66-3	CHLOROFORM	5 U	108-10-1	4-METHYL-2-PENTANONE	10 U
107-06-2	1,2-DICHLOROETHANE	5 U	127-18-4	TETRACHLOROETHENE	5 U
78-93-3	2-BUTANONE	10 U	79-34-5	1,1,2,2-TETRACHLOROETHANE	5 U
71-55-6	1,1,1-TRICHLOROETHANE	5 U	108-88-3	TOLUENE	5 U
56-23-5	CARBON TETRACHLORIDE	5 U	108-90-7	CHLOROBENZENE	5 U
108-05-4	VINYL ACETATE	10 U	100-41-4	ETHYLBENZENE	5 U
75-27-4	BROMODICHLOROMETHANE	5 U	100-42-5	STYRENE	5 U
				TOTAL XYLENES	5 U

Data Reporting Qualifiers

For reporting results to EPA, the following results qualifier are used. Additional flags or footnotes explaning 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 (eg.10U) based on necessary concentration/dilution action.(this is not necessarily the instrument detection limit.)The footnotes 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 (eg 10J) .If limit of detection is 10 ug/L and a concentration of 3ug/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 > or = 10 ng/ul in the final extract should be confirmed by GC/MS.

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

S Matrix spiked compound.

UJ/J } 12-14-87

Lab Name : S - CUBED
Case No : 8027

Sample Number
EP 484

ORGANICS ANALYSIS DATA SHEET
(Page 2)

Semivolatile Compounds

Concentration: Low Medium (Circle One)
Date Extracted: 9-14-87
Date Analyzed: 10/03/87 20:34
Conc/Dil Factor: 1.00
Percent Moisture (Decanted) N.A.

GPC Cleanup __ Yes ✓ No
Separatory Funnel Extraction __ Yes
Continuous Liquid-Liquid Extraction ✓ Yes

C.A.S. Number		ug/L or ug/Kg (Circle One)		C.A.S. Number		ug/L or ug/Kg (Circle One)	
108-95-2	Phenol	10.	U	83-32-9	Acenaphthene	10.	U
111-44-4	bis(-2-Chloroethyl)Ether	10.	U	51-28-5	2,4-Dinitrophenol	50.	U
95-57-8	2-Chlorophenol	10.	U	100-02-7	4-Nitrophenol	50.	U
541-73-1	1,3-Dichlorobenzene	10.	U	132-64-9	Dibenzofuran	10.	U
106-46-7	1,4-Dichlorobenzene	10.	U	121-14-2	2,4-Dinitrotoluene	10.	U
100-51-6	Benzyl Alcohol	10.	U	606-20-2	2,6-Dinitrotoluene	10.	U
95-50-1	1,2-Dichlorobenzene	10.	U	84-66-2	Diethylphthalate	10.	U
95-48-7	2-Methylphenol	10.	U	7005-72-3	4-Chlorophenyl-phenylether	10.	U
39638-32-9	bis(2-chloroisopropyl)Ether	10.	U	86-73-7	Fluorene	10.	U
106-44-5	4-Methylphenol	10.	U	100-01-6	4-Nitroaniline	10.	U
621-64-7	N-Nitroso-Di-n-propylamine	10.	U	534-52-1	4,6-Dinitro-2-methylphenol	50.	U
67-72-1	Hexachloroethane	10.	U	86-30-6	N-Nitrososdiphenylamine (1)	10.	U
98-95-3	Nitrobenzene	10.	UJ	101-55-3	4-Bromophenyl-phenylether	10.	U
78-59-1	Isophorone	10.	U	118-74-1	Hexachlorobenzene	10.	U
88-75-5	2-Nitrophenol	10.	U	87-86-5	Pentachlorophenol	50.	U
105-67-9	2,4-Dimethylphenol	10.	U	85-01-8	Phenanthrene	10.	U
65-85-0	Benzoic Acid	50.	UJ	120-12-7	Anthracene	10.	U
111-91-1	bis(-2-Chloroethoxy)Methane	10.	U	84-74-2	Di-n-Butylphthalate	10.	U
120-83-2	2,4-Dichlorophenol	10.	U	206-44-0	Fluoranthene	10.	U
120-82-1	1,2,4-Trichlorobenzene	10.	U	129-00-0	Pyrene	10.	U
91-20-3	Naphthalene	10.	U	85-68-7	Butylbenzylphthalate	10.	U
106-47-8	4-Chloroaniline	10.	U	91-94-1	3,3'-Dichlorobenzidine	20.	U
87-68-3	Hexachlorobutadiene	10.	U	56-55-3	Benzo(a)Anthracene	10.	U
59-50-7	4-Chloro-3-methylphenol	10.	U	117-81-7	bis(2-Ethylhexyl)Phthalate	10.	U
91-57-6	2-Methylnaphthalene	10.	U	218-01-9	Chrysene	10.	U
77-47-4	Hexachlorocyclopentadiene	10.	U	117-84-0	Di-n-Octyl Phthalate	10.	U
88-06-2	2,4,6-Trichlorophenol	10.	U	205-99-2	Benzo(b)Fluoranthene	10.	U
95-95-4	2,4,5-Trichlorophenol	50.	U	207-08-9	Benzo(k)Fluoranthene	10.	U
91-58-7	2-Chloronaphthalene	10.	U	50-32-8	Benzo(a)Pyrene	10.	U
88-74-4	2-Nitroaniline	50.	U	193-39-5	Indeno(1,2,3-cd)Pyrene	10.	U
131-11-3	Dimethyl Phthalate	10.	U	53-70-3	Dibenzo(a,h)Anthracene	10.	U
208-96-8	Acenaphthylene	10.	U	191-24-2	Benzo(g,h,i)Perylene	10.	U
99-09-2	3-Nitroaniline	50.	U				

(1)-Cannot be separated from diphenylamine

Form 1 7/85

UJ 12-14-87

Laboratory Name: S-Cubed
Case No.: 8027

Sample Number
EP 484

ORGANICS ANALYSIS DATA
(Page 3)

Pesticide/PCBs

Concentration: LOW
Date Extracted/Prepared: 9-11-87
Date Analyzed: 9-30-87
Conc/Dil Factor: 1.00

GPC Cleanup ___Yes ✓ NO
Separatory Funnel Extraction ___Yes
Continuous Liquid-Liquid Extraction ✓ Yes

CAS # Number		ug/l or ug/kg (Circle One)
319-84-6	ALPHA-BHC	0.050 u
319-85-7	BETA-BHC	0.050 u
319-86-8	DELTA-BHC	0.050 u
58-89-9	GAMMA-BHC (LINDANE)	0.050 u
76-44-8	HEPTACHLOR	0.050 u
309-00-2	ALDRIN	0.050 u
1024-57-3	HEPTACHLOR EPOXIDE	0.050 u
959-98-8	ENDOSULFAN I	0.050 u
60-57-1	DIELDRIN	0.10 u
72-55-9	4,4'-DDE	0.10 u
72-20-8	ENDRIN	0.10 u
33213-65-9	ENDOSULFAN II	0.10 u
72-54-8	4,4'-DDD	0.10 u
7421-93-4	ENDRIN ALDEHYDE	0.10 u
1031-07-8	ENDOSULFAN SULFATE	0.10 u
50-29-3	4,4'-DDT	0.10 u
72-43-5	METHOXYCHLOR	0.50 u
53494-70-5	ENDRIN KETONE	0.10 u
57-74-9	CHLORDANE	0.50 u
8001-35-2	TOXAPHENE	1.0 u
12674-11-2	AROCLOR-1016	0.50 u
11104-28-2	AROCLOR-1221	0.50 u
11141-16-5	AROCLOR-1232	0.50 u
53469-21-9	AROCLOR-1242	0.50 u
12672-29-6	AROCLOR-1248	0.50 u
11097-69-1	AROCLOR-1254	1.0 u
11096-82-5	AROCLOR-1260	1.0 u

Volume of water extracted (ml): 1000
Weight of sample extracted (g): N.A.
Volume of total extract (ml): 10.00
Volume of extract injected (ul): 1.00

Form 1 7/85 REV.

** CONFIRMED BY GC DUAL COLUMN CONFIRMATION

Laboratory Name S-CUBED

Case No 8027

Sample Number EP484

10SV1091 (VOA)
EP484 (ABN)

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.	No TIC	VOA		
2.	No TIC	ABN		
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				
11.				
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29.				
30.				

ecology and environment, inc.

111 WEST JACKSON BLVD., CHICAGO, ILLINOIS 60604, TEL. 312-663-9415

International Specialists in the Environment

CRL Receipt Date [illegible] FIT Receipt Date [illegible] Review Completed 11/15/87

TO: Jeff [illegible]

FROM: Brenda R. Jones

SUBJECT: U.S. Smelt

PAN: ILD102 CASE # 3027

Sample Description

Organics (VOA, ABN, Pest/PCB)		Inorganics (Metals, Cyanide)	
#	Low Soil	# 4	Low Soil
	Low Water		Low Water
	Drinking Water		Drinking Water
	Other		Other

Project Data Status _____ Completed!!

✓ Incomplete, awaiting: _____

FIT Data Review Findings:

Check Data Sheets for Transcription Errors

✓ Compounds were detected in sample(s); see enclosed sheet.

Book No. 7 Page No. 3 Date Sampled 9/9/87

26U:001

ecology and environment, inc.
CHICAGO, ILLINOIS

CHEMICAL EVALUATION FORM

SITE NAME: [illegible] PAN#: DATE: [illegible]

CASE #: [illegible] UNITS: [illegible] REVIEWER: [illegible]

TOX/ PERS	COMPOUND	CRDL	3-5xCRDL	[illegible]	[illegible]	[illegible]	[illegible]			
	ALUMINUM									
	ANTIMONY									
	ARSENIC	2		9.9	12	12	17			
	BARIUM									
	BERYLLIUM	1			0.76	0.96	0.79			
	CADMIUM									
	CHROMIUM	2		21	9.3	27	17			
	COBALT	10		13	14	21	12			
	COPPER	5		32	36	34	32			
	LEAD	1		20	42	24	62			
	MERCURY	.008				.15				
	NICKEL	8		29	19	39	25			
	SELENIUM									
	SILVER									
	THALLIUM									
	TIN									
	VANADIUM	1		23	25	[illegible]	22			
	ZINC									
	CYANIDE					.58				

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION V

DATE: 11-9-87

SUBJECT: Review of Region V CLP Data
Received for Review on 10 15 87 NOV 13 1987

FROM: Curtis Ross, Director (5SCRL)
Central Regional Laboratory

Rec
15 pages

TO: Data User: FIT Jay Hopkins

We have reviewed the data for the following case(s).

SITE NAME: U.S. SCRAP SMO case No. 8C27

EPA Data Set No. SF 4405 No. of Samples: 4 D.U./Activity Numbers 8905/C72100

CRL No. 87TC18S54-S57

SMO Traffic No. MEP450, 493-495

CLP Laboratory: RMAL Hrs. Required for Review: 1/4

Following are our findings:

This review covers 4 soil samples analyzed for metals and cyanide. Spike recovery for Se is 174% and biased high. However since Se was undetected in any of the soil samples, selenium data is acceptable and the "N" flag may be removed. Lead duplicate data is outside control limits for soil, and Pb data is estimated (J). Remainder of QC acceptable.

Ray Piccione
11.9.87

( ) Data are acceptable for use.
(✓) Data are acceptable for use with qualifications noted above.
( ) Data are preliminary - pending verification by Contractor Laboratory.
( ) Data are unacceptable.

cc: Duane Geuder, Quality Assurance Officer, EPA Support Services
James Petty, Chief Quality Assurance Research, EMSL, Las Vegas

EPA FORM 1320-6 (Rev. 5/87)

SEP 1 [illegible]

CENTRAL REGIONAL LABORATORY SAMPLE DATA REPORT
ORGANICS/INORGANICS

THIS FORM IS TO BE USED FOR SAMPLES SENT TO CONTRACT ONLY

SAMPLE DATE: 9/9/87
LOG IN DATE: 9/22/87
DUE DATE: 11/18/87

SUPERFUND 4405

CASE NUMBER/SAS No 8027 SITE NAME U.S. Scrap LABORATORY S3/RMAL DATE SHIPPED 9/9/87

SUPERFUND DU NUMBER 4905 EPA RPM or OSC (S M S)/(CES) _____ CERCLIS NUMBER ILD986679484 PAGE 1 OF 1

ACTIVITY NUMBER C72100

CRL LOG NUMBER	ORGANIC TRAFFIC REPORT NUMBER or SAS Packing List No	INORGANIC TRAFFIC REPORT NUMBER	WATER OR LIQUIDS: ACID BASE NEUTRAL CPDS ORGANIC SCAN UG L TOX17574	VOLATILE ORGANIC ANALYSIS ORGANIC SCAN UG L TOX17564	WATER POLYCHLORINATED BIPHENYLS UG L PES 17144	WATER CHLORINATED PESTICIDES UG L PES17134	TOTAL METALS IN WATER UG L MET111	WATER CYANIDE UG L MIN74919	NITRATE NITRITE MG/L MIN7284	AMMONIA MG/L MIN7294	RESIDUE FILTERABLE TDS MG/L MIN7362	RESIDUE, NON-FILT TSS MG/L MIN7372			SEDIMENTS or SOILS: ACID BASE NEUTRAL CPDS ORGANIC SCAN MG/KG TOX215722	VOLATILE ORGANIC ANALYSIS ORGANIC SCAN MG/KG TOX215622	SEDIMENTS POLYCHLORINATED BIPHENYLS MG/KG PES211422	SEDIMENT CHLORINATED PESTICIDES MG/KG 211322	TOTAL METALS MG/KG MET413	CYANIDE MG/KG MIN44930	EP TOXICITY METALS MG/KG	AMMONIA MG/KG MIN42925				
87FC13554	EP405	MEP450													✓	✓	✓	✓	✓	✓						
87FC13555	EP099	MEP493													✓	✓	✓	✓	✓	✓						
87FC13556	EP098	MEP494													✓	✓	✓	✓	✓	✓						
87FC13557	EP404	MEP495													✓	✓	✓	✓	✓	✓						
87FC17[illegible]	EP435		✓	✓	✓	✓																				
87FC17561	EP479		✓	✓	✓	✓																				
87FC17568	EP480		✓	✓	✓	✓																				
87FC17569	EP431		✓	✓	✓	✓																				
87FC17570	EP482		✓	✓	✓	✓																				
87FC17D67	EP434		✓	✓	✓	✓																				

QC EXCEPTION SUMMARY REPORT

CASE # 8627
DATA SET # 3F4405
LAB Q.C.# 84273
DATE: 11.9.87

SITE [illegible]
LAB [illegible]
REVIEWED BY [illegible]

MATRIX: [illegible]
CONC.: [illegible]
MATRIX: [illegible]
CONC.: [illegible]

WATER SAMPLE SPK. MC
WATER SAMPLE DUP. [illegible]
SOIL SAMPLE SPK. MEP 450
SOIL SAMPLE DUP. MEP 450

	OVERALL CASE QC									MATRIX SPECIFIC QC						SAMPLE SPECIFIC QC		FIELD QC			REGIONAL QC			OTHER/ COMMENTS
	Holding Time	Cal Blanks	Init Calver	Contin Calver	Prep Blk AQ	Prep Blk SOL	ICS %R	LCS % AQ	LCS % SOL	Sol Dup RPD	Sol Spk %R	AQ Dup RPD	AQ Spk %R	Ser Diln AQ	Ser Diln SOL	GFAA Dup	GFAA Spike	Blank	Dup RPD	Spike %R	Blind Blank	Blind Spike %R	Split Sample RPD	
minum																								
timony																								
enic																								
ium																								
yllium																								
lmium																								
cium																								
omium																								
alt																								
per																								
l										57														
nesium																								
ganese																								
cury																								
el																								
ssium																								
nium											174													
im																								
ium																								
dium																								
ide																								

SF 4465

000001

U.S. EPA Contract Laboratory Program
Sample Management Office
209 Madison St. - Alexandria, VA 22314
703/557-2490 FTS: 8-557-2490

Date 10-6-87

COVER PAGE
INORGANIC ANALYSIS DATA PACKAGE

Lab Name ROCKY MOUNTAIN ANALYTICAL
SOW No. 784

Case No. 8027
QC Report No. 87273

Sample Numbers

EPA No.	Lab ID No.	EPA No.	Lab ID No.
MEP450D			
MEP450			
MEP450S			
MEP493			
MEP494			
MEP495			
[MEP999]			

RECEIVED
OCT 09 1987
U.S. EPA CENTRAL REGIONAL LAB

Comments: 4 LOW SOILS FOR TOTAL METALS AND CYANIDE ANALYSIS
SERIAL DILUTION OF SAMPLE MEP495 IS IDENTIFIED AS [MEP999]

ICP interelement and background corrections applied? Yes X No ___.
If yes, corrections applied before X or after ___ generation of raw data.

Footnotes:

NR - not required by contract at this time
Form I:
Value - If the result is a value greater than or equal to the instrument detection limit but less than the contract required detection limit, report the value in brackets (i.e., [10]). Indicate the method used with P (for ICP/Flame AA) or F (for furnace).
U - Indicates element was analyzed for but not detected. Report with the detection limit value (e.g., 10U).
E - Indicates a value estimated or not reported due to the presence of interference. Explanatory note included on cover page.
S - Indicates value determined by Method of Standard Addition.
N - Indicates spike sample recovery is not within control limits.
* - Indicates duplicate analysis is not within control limits.
+ - Indicates the correlation coefficient for method of standard addition is Less than 0.995
CV - Indicates Cold Vapor
AS - Indicates Automated Spectrophotometric

Form I

U.S. EPA Contract Laboratory Program
Sample Management Office
200 Madison St. - Alexandria, VA 22314
703/557-2490 FTS: 8-557-2490

EPA Sample No.
MEP450

Date 10-6-87

INORGANIC ANALYSIS DATA SHEET

LAB NAME ROCKY MOUNTAIN ANALYTICAL
SOW NO. 784
LAB SAMPLE ID. NO. -

CASE NO. 8027
QC REPORT NO. 87273

Elements Identified and Measured

Concentration: Low X Medium ____
Matrix: Water ____ Soil X Sludge ____ Other ____

mg/kg dry weight

1.	ALUMINUM	10100	P	13.	MAGNESIUM	25200	P
2.	ANTIMONY	16U	P	14.	MANGANESE	416	P
3.	ARSENIC	9.9	F	15.	MERCURY	0.13U	CV
4.	BARIUM	[50]	P	16.	NICKEL	29	P
5.	BERYLLIUM	0.66U	P	17.	POTASSIUM	[2700]	P
6.	CADMIUM	2.6U	P	18.	SELENIUM	3.3U	F R
7.	CALCIUM	51400	P	19.	SILVER	2.6U	P
8.	CHROMIUM	21	P	20.	SODIUM	[907]	P
9.	COBALT	[13]	P	21.	THALLIUM	6.6U	F
10.	COPPER	32	P	22.	TIN	14U	P
11.	IRON	22600	P	23.	VANADIUM	[22]	P
12.	LEAD	20 S	F X	24.	ZINC	70	P
Cyanide		0.66U	AS	Percent Solids (%) 76			

Footnotes: For reporting results to EPA, standard result qualifiers are used as defined on Cover Page. Additional flags or footnotes explaining results are encouraged. Definition of such flags must be explicit and contained on Cover Page, however.

Comments: Pb value determined by MSA.

Lab Manager [illegible]

Form I

U.S. EPA Contract Laboratory Program
Sample Management Office
209 Madison St. - Alexandria, VA 22314
703/557-2490 FTS: 8-557-2490

EPA Sample No.
MEP493

Date 10-6-87

INORGANIC ANALYSIS DATA SHEET

LAB NAME ROCKY MOUNTAIN ANALYTICAL
SOW NO. 784
LAB SAMPLE ID. NO. -

CASE NO. 8027
QC REPORT NO. 87273

Elements Identified and Measured

Concentration: Low X Medium ____
Matrix: Water ____ Soil X Sludge ____ Other ____

mg/kg dry weight

1.	ALUMINUM	11000	P	13.	MAGNESIUM	29300	P
2.	ANTIMONY	17U	P	14.	MANGANESE	608	P
3.	ARSENIC	12	F	15.	MERCURY	0.14U	CV
4.	BARIUM	[77]	P	16.	NICKEL	29	P
5.	BERYLLIUM	[0.76]	P	17.	POTASSIUM	[2580]	P
6.	CADMIUM	2.7U	P	18.	SELENIUM	3.4U	F R
7.	CALCIUM	65900	P	19.	SILVER	2.7U	P
8.	CHROMIUM	23	P	20.	SODIUM	[798]	P
9.	COBALT	[14]	P	21.	THALLIUM	6.8U	F
10.	COPPER	36	P	22.	TIN	15U	P
11.	IRON	24300	P	23.	VANADIUM	[25]	P
12.	LEAD	42 S	F X	24.	ZINC	82	P

Cyanide 0.68U AS Percent Solids (%) 73

Footnotes: For reporting results to EPA, standard result qualifiers are used as defined on Cover Page. Additional flags or footnotes explaining results are encouraged. Definition of such flags must be explicit and contained on Cover Page, however.

Comments: Pb value determined by MSA.

Lab Manager [illegible]

Form I

U.S. EPA Contract Laboratory Program
Sample Management Office
209 Madison St. - Alexandria, VA 22314
703/557-2490 FTS: 8-557-2490

EPA Sample No.
MEP494

Date 10-6-87

INORGANIC ANALYSIS DATA SHEET

LAB NAME ROCKY MOUNTAIN ANALYTICAL
SOW NO. 784
LAB SAMPLE ID. NO. -

CASE NO. 8027
QC REPORT NO. 87273

Elements Identified and Measured

Concentration: Low X Medium ____
Matrix: Water ____ Soil X Sludge ____ Other ____

mg/kg dry weight

1.	ALUMINUM	14500	P	13.	MAGNESIUM	34200	P
2.	ANTIMONY	17U	P	14.	MANGANESE	536	P
3.	ARSENIC	12	F	15.	MERCURY	0.15	CV
4.	BARIUM	[70]	P	16.	NICKEL	39	P
5.	BERYLLIUM	[0.96]	P	17.	POTASSIUM	3410	P
6.	CADMIUM	2.7U	P	18.	SELENIUM	3.4U	F R
7.	CALCIUM	75200	P	19.	SILVER	2.7U	P
8.	CHROMIUM	27	P	20.	SODIUM	[833]	P
9.	COBALT	[21]	P	21.	THALLIUM	6.8U	F
10.	COPPER	34	P	22.	TIN	15U	P
11.	IRON	28800	P	23.	VANADIUM	[29]	P
12.	LEAD	24	F X	24.	ZINC	92	P

Cyanide 0.88 AS Percent Solids (%) 74

Footnotes: For reporting results to EPA, standard result qualifiers are used as defined on Cover Page. Additional flags or footnotes explaining results are encouraged. Definition of such flags must be explicit and contained on Cover Page, however.

Comments:

Lab Manager

Form I

U.S. EPA Contract Laboratory Program
Sample Management Office
209 Madison St. - Alexandria, VA 22314
703/557-2490 FTS: 8-557-2490

EPA Sample No.
MEP495

Date 10-6-87

INORGANIC ANALYSIS DATA SHEET

LAB NAME ROCKY MOUNTAIN ANALYTICAL
SOW NO. 784
LAB SAMPLE ID. NO. -

CASE NO. 8027
QC REPORT NO. 87273

Elements Identified and Measured

Concentration: Low X Medium ____
Matrix: Water ____ Soil X Sludge ____ Other ____

mg/kg dry weight

1.	ALUMINUM	9920	P	13.	MAGNESIUM	23600	P
2.	ANTIMONY	18U	P	14.	MANGANESE	444	P
3.	ARSENIC	17	F	15.	MERCURY	0.14U	CV
4.	BARIUM	[73]	P	16.	NICKEL	[25]	P
5.	BERYLLIUM	[0.79]	P	17.	POTASSIUM	[2360]	P
6.	CADMIUM	2.8U	P	18.	SELENIUM	3.5U	F R
7.	CALCIUM	55800	P	19.	SILVER	2.8U	P
8.	CHROMIUM	17	P	20.	SODIUM	[1080]	P
9.	COBALT	[12]	P	21.	THALLIUM	7U	F
10.	COPPER	32	P	22.	TIN	15U	P
11.	IRON	20000	P	23.	VANADIUM	[22]	P
12.	LEAD	62	F X	24.	ZINC	86	P
	Cyanide	0.7U	AS		Percent Solids (%) 71		

Footnotes: For reporting results to EPA, standard result qualifiers are used as defined on Cover Page. Additional flags or footnotes explaining results are encouraged. Definition of such flags must be explicit and contained on Cover Page, however.

Comments:

Lab Manager

Form III

Q.C. Report No. 87273

BLANKS

LAB NAME ROCKY MOUNTAIN ANALYTICAL CASE NO. 8027

DATE 10-6-87 UNITS ug/L

Matrix SOIL

Preparation Compound	Initial Calibration Blank Value	Continuing Calibration Blank Value 1	2	3	4	Preparation Blank 1	2
Metals:							
1. ALUMINUM		15u					
2. ANTIMONY		25u					
3. ARSENIC							
4. BARIUM		3u					
5. BERYLLIUM		1u					
6. CADMIUM		4u					
7. CALCIUM		179u					
8. CHROMIUM		4u					
9. COBALT		9u					
10. COPPER		1ou					
11. IRON		24u					
12. LEAD		N [15]					
13. MAGNESIUM		153u					
14. MANGANESE		4u					
15. MERCURY							
16. NICKEL		8u					
17. POTASSIUM		175u					
18. SELENIUM							
19. SILVER		4u					
20. SODIUM		1090u					
21. THALLIUM							
22. TIN		22u					
23. VANADIUM		7u					
24. ZINC		3u					
Other:							
Cyanide							

2 & 3

000010

Form III

Q.C. Report No. 87273

BLANKS

LAB NAME ROCKY MOUNTAIN ANALYTICAL CASE NO. 8027

DATE 10-6-87 UNITS ug/L

Matrix SOIL

Preparation Compound	Initial Calibration Blank Value	Continuing Calibration - Blank Value 1	2	3	4	Preparation Blank 1	2
Metals:							
1. ALUMINUM	15U	15U				15U	
2. ANTIMONY	25U	25U				25U	
3. ARSENIC	10u	10u	10u			10u	
4. BARIUM	3U	3U				3U	
5. BERYLLIUM	1U	1U				1U	
6. CADMIUM	4U	4U				4U	
7. CALCIUM	179U	179U				179U	
8. CHROMIUM	4U	4U				4U	
9. COBALT	9U	9U				9U	
10. COPPER	6U	6U				6U	
11. IRON	24U	24U				24U	
12. LEAD	5u	5u	5u			5u	
13. MAGNESIUM	153U	153U				153U	
14. MANGANESE	4U	4U				4U	
15. MERCURY	0.2u	0.2u				0.2u	
16. NICKEL	8U	8U				8U	
17. POTASSIUM	175U	175U				175U	
18. SELENIUM	5u	5u	5u			5u	
19. SILVER	4U	4U				4U	
20. SODIUM	1090U	1090U				1090U	
21. THALLIUM	10u	10u	10u			10u	
22. TIN	22U	22U				22U	
23. VANADIUM	7U	7U				7U	
24. ZINC	3U	3U				3U	
Other:							
Cyanide	10u	10u	10u	10u		10u	

3 A 3

000011

Form III

Q.C. Report No. 87273

BLANKS

LAB NAME ROCKY MOUNTAIN ANALYTICAL

CASE NO. 8027

DATE 10-6-87

UNITS ug/L

Matrix SOIL

Preparation Compound	Initial Calibration Blank Value	Continuing Calibration Blank Value 1	2	3	4	Preparation Blank 1	2
Metals:							
1. ALUMINUM							
2. ANTIMONY							
3. ARSENIC							
4. BARIUM							
5. BERYLLIUM							
6. CADMIUM							
7. CALCIUM							
8. CHROMIUM							
9. COBALT							
10. COPPER							
11. IRON							
12. LEAD	5u	5u					
13. MAGNESIUM							
14. MANGANESE							
15. MERCURY							
16. NICKEL							
17. POTASSIUM							
18. SELENIUM							
19. SILVER							
20. SODIUM							
21. THALLIUM							
22. TIN							
23. VANADIUM							
24. ZINC							
Other:							
Cyanide							

000013

Form V

Q.C. Report No. 87273

SPIKE SAMPLE RECOVERY

LAB NAME ROCKY MOUNTAIN ANALYTICAL

DATE 10-6-87

CASE NO. 8027
EPA Sample No. MEP450
Lab Sample ID No. -
Units mg/kg

MATRIX SOIL

Compound	Control Limit %R	Spiked Sample Result (SSR)	Sample Result (SR)	Spike Added (SA)	%R[1]	
Metals:						
1. ALUMINUM	75-125	7430	7690	NR		
2. ANTIMONY	75-125	236	12U	250	94	
3. ARSENIC	75-125	29	7.5	20	108	
4. BARIUM	75-125	1000	[38]	1000	96	
5. BERYLLIUM	75-125	25	0.5U	25	100	
6. CADMIUM	75-125	26	2U	25	104	
7. CALCIUM	75-125	37700	39100	NR		
8. CHROMIUM	75-125	120	16	100	104	
9. COBALT	75-125	259	[9.6]	250	100	
10. COPPER	75-125	150	24	125	101	
11. IRON	75-125	16600	17200	NR		
12. LEAD	75-125	23	15 S	10	80	
13. MAGNESIUM	75-125	18700	19100	NR		
14. MANGANESE	75-125	562	316	250	98	
15. MERCURY	75-125	0.53	0.1U	0.5	106	
16. NICKEL	75-125	268	22	250	98	
17. POTASSIUM	75-125	[2160]	[2050]	NR		
18. SELENIUM	75-125	8.7 S	2.5U	5	174	R
19. SILVER	75-125	25	2U	25	100	
20. SODIUM	75-125	[620]	[689]	NR		
21. THALLIUM	75-125	20	5U	25	80	
22. TIN	75-125	263	11U	250	105	
23. VANADIUM	75-125	265	[17]	250	99	
24. ZINC	75-125	306	53	250	101	
Other:						
Cyanide	75-125	4.4	0.5U	5	88	

[1] %R = [(SSR - SR)/SA] x 100
"R" - out of control

Comments: Pb Sample result determined by MSA.
Se Spiked sample result determined by MSA.

Form VI

Q.C. Report No. 87273

DUPLICATES

LAB NAME ROCKY MOUNTAIN ANALYTICAL

DATE 10-6-87

CASE NO. 8027
EPA Sample No. MEP450
Lab Sample ID No. -
Units mg/kg

Matrix SOIL

Compound	Control Limit[1]	Sample(S)	Duplicate(D)	RPD[2]	
Metals:					
1. ALUMINUM		7690	8460	9.5	
2. ANTIMONY		12U	12U	NC	
3. ARSENIC		7.5	9	18	
4. BARIUM		[38]	[41]	NC	
5. BERYLLIUM		0.5U	[0.72]	NC	
6. CADMIUM		2U	2U	NC	
7. CALCIUM		39100	44700	13	
8. CHROMIUM		16	15	6.5	
9. COBALT		[9.6]	[9.1]	NC	
10. COPPER		24	26	8	
11. IRON		17200	18100	5.1	
12. LEAD		15 S	27 S	57	X
13. MAGNESIUM		19100	20700	8	
14. MANGANESE		316	309	2.2	
15. MERCURY		0.1U	0.1U	NC	
16. NICKEL		22	26	17	
17. POTASSIUM		[2050]	[2280]	NC	
18. SELENIUM		2.5U	2.5U	NC	
19. SILVER		2U	2U	NC	
20. SODIUM		[689]	[617]	NC	
21. THALLIUM		5U	5U	NC	
22. TIN		11U	11U	NC	
23. VANADIUM		[17]	[17]	NC	
24. ZINC		53	52	1.9	
Other:					
Percent Solids		76	74	2.7	
Cyanide		0.5U	0.5U	NC	

X Out of Control
[1] To be added at a later date.
[2] RPD = [|S-D|/((S+D)/2)] x 100
NC - Non calculable RPD due to value(s) less than CRDL

Pb sample and duplicate results determined by MSA.

Form VII

Q.C. Report No. 87273
INSTRUMENT DETECTION LIMITS AND
LABORATORY CONTROL SAMPLE

LAB NAME ROCKY MOUNTAIN ANALYTICAL
DATE 10-6-87

CASE NO 8027
UNITS ug/L

Compound	Required Detection Limits (CRDL)-ug/l	Instrument Detection Limits (IDL)-ug/l ICP/AA	Furnace	Lab Control Sample True	Found	%R
Metals:						
1. ALUMINUM	200	15		1980	2080	105
2. ANTIMONY	60	25		1010	995	99
3. ARSENIC	10	31	2	49	42	86
4. BARIUM	200	3		1980	1990	100
5. BERYLLIUM	5	1		481	537	112
6. CADMIUM	5	4		489	534	109
7. CALCIUM	5000	179		49800	51200	103
8. CHROMIUM	10	4		506	528	104
9. COBALT	50	9		474	515	109
10. COPPER	25	6		542	581	107
11. IRON	100	24		1990	2060	103
12. LEAD	5	20	1	98	~~100~~ 114.5	~~103~~ 116
13. MAGNESIUM	5000	153		25000	26300	105
14. MANGANESE	15	4		513	557	109
15. MERCURY	0.2		0.2CV	1.0	1.0	100
16. NICKEL	40	8		496	494	100
17. POTASSIUM	5000	175		50200	52400	104
18. SELENIUM	5		1	98	104	106
19. SILVER	10	4		509	495	97
20. SODIUM	5000	1090		50700	53100	105
21. THALLIUM	10		1	97	96	99
22. TIN	40	22		2000	2040	102
23. VANADIUM	50	7		511	521	102
24. ZINC	20	3		3100	3110	100
Other:						
Cyanide	10		10AS	~~58~~ 129	125	97

CV - Cold Vapor
AS - Automated Spectrophotometric

Pb LCS value determined by MSA

ecology and environment, inc.

111 WEST JACKSON BLVD., CHICAGO, ILLINOIS 60604, TEL 312-663-9415

International Specialists in the Environment

CRL Receipt Date _____ FIT Receipt Date _____ Review Completed 11/17/87

TO: J Carmen

FROM: Zena Gold-Kaufman

SUBJECT: US Scrap

PAN: ILO102 CASE # 8027

Sample Description

Organics (VOA, ABN, Pest/PCB)		Inorganics (Metals, Cyanide)	
# _____	Low Soil	# ~~10~~	Low Soil
_____	Low Water	6	Low Water
_____	Drinking Water	_____	Drinking Water
_____	Other	_____	Other

Project Data Status _____ Completed!!

✓ Incomplete, awaiting: _____

FIT Data Review Findings:

Check Data Sheets for Transcription Errors

✓ Compounds were detected in sample(s); see enclosed sheet.

Book No. _____ Page No. _____ Date Sampled 9/09

26U:001

ecology and environment, inc.
CHICAGO, ILLINOIS

CHEMICAL EVALUATION FORM

SITE NAME: US Scrap PAN# IL0102 DATE:

CASE # UNITS- ug/l (low waters) REVIEWER:

TOX/ PERS	COMPOUND	CRDL	3-5xCRDL	R06	D67	S67	S68			
	ALUMINUM	200								
	ANTIMONY	60								
	ARSENIC	10								
	BARIUM	200								
	BERYLLIUM	5								
	CADMIUM	5								
	CHROMIUM	10								
	COBALT	50								
	COPPER	25		0.09						
	LEAD	5								
	MERCURY	0.2								
	NICKEL	40								
	SELENIUM	5								
	SILVER	10								
	THALLIUM	10								
	TIN	40								
	VANADIUM	50								
	ZINC	20								
	CYANIDE	10								

MS 9/30/87

USSCRAP

Jun 8 Oct 87

DL1:[001,054]RN593A.BRN 30-SEP-87 08:53:27 PAGE 2

DATA SET : SF4333

ELEMENT		FC17R06		FC17D67		FC17S67		FC17S68
AG ug/l	<	6.00	<	6.00	<	6.00	<	6.00
AL	<	80.	<	80.		357.		520.
B	<	80.		744.		809.		741.
BA	<	6.0		32.7		34.4		36.6
BE	<	1.00	<	1.00	<	1.00	<	1.00
CD	<	10.0	<	10.0	<	10.0	<	10.0
CO	<	6.00	<	6.00	<	6.00	<	6.00
CR	<	8.00	<	8.00	<	8.00	<	8.00
CU		6.09	<	6.00	<	6.00	<	6.00
FE	<	80.		422.		799.		1310.
LI	<	10.0		52.9		53.3		53.8
MN	<	5.0		9.8		13.1		22.2
MO	<	15.0		20.3		45.7		27.9
NI	<	30.0 ms	<	30.0 ms	<	30.0 ms	<	30.0 ms
SN	<	40.0	<	40.0	<	40.0	<	40.0
SR	<	10.		1890.		1910.		1880.
V	<	5.00	<	5.00	<	5.00	<	5.00
Y	<	5.00	<	5.00	<	5.00	<	5.00
ZN	<	40.0	<	40.0		152.0	<	40.0
mg/l								
CA	<	0.		276.		279.		276.
K	<	5.0		8.2		7.6		11.9
MG	<	0.1						
NA	<	1.0		36.0		36.5		36.0

Jun 8 0487

MS 9/30/87

DATA SET : SF4333

ELEMENT		FC17S69		FC17S70
AG ug/l	<	6.00	<	6.00
AL	<	80.		373.
B		785.		779.
BA		33.5		35.2
BE	<	1.00	<	1.00
CD	<	10.0	<	10.0
CO	<	6.00	<	6.00
CR	<	8.0		24.5
CU	<	6.00	<	6.00
FE		399.		1040.
LI		56.6		53.6
MN		9.8		17.6
MO		23.1	<	15.0
NI	<	30.0 ms	<	30.0 ms
SN	<	40.0	<	40.0
SR		1960.		1890.
V	<	5.00	<	5.00
Y	<	5.00	<	5.00
ZN	<	40.0	<	40.0
mg/l				
CA		287.		275.
K	<	5.0		11.7
NA		37.4		36.1

MS 10/6/87

7TFA05WUZ

C7617Z

ENVIRONMENTAL PROTECTION AGENCY
FOR THE TEAM: METALS

DIVISION/BRANCH SUPERFUND FIT SAMPLE DATE 9/9/87 LAB ARRIVAL DATE 9/10/87 DUE DATE 10/23/87

DU NUMBER Y905 ~~C76100~~ DATA SET NUMBER 4333 STUDY U.S. Scrap' chicago PRIORITY N CONTRACTOR CRL

CRL LOG NUMBER	SAMPLE DESCRIPTION Sample # TAG #	TOTAL METALS WATER TOTAL ICAP UG/L MET111	TOTAL METALS WATER AS UG/L MET161	TOTAL METALS WATER PB UG/L MET1191	TOTAL METALS WATER SB UG/L MET1201	TOTAL METALS WATER CD UG/L MET1211	TOTAL METALS WATER TL UG/L MET1221
87FC17B06	Blank 5-016884	✓	✓ <2	✓ <2	✓ <2	✓ <0.2	✓ <2
87FC17S67	SW-1 " 85	✓	✓ <2	✓ <2	✓ <2	✓ <0.2	✓ <2
87FC17S68	SW-2 " 86	✓	✓ <2	✓ <2	✓ <2	✓ <0.2	✓ <2
87FC17S69	SW-3 " 87	✓	✓ <2	✓ <2	✓ <2	✓ <0.2	✓ <2
87FC17S70	SW-4 " 88	✓	✓ <2	✓ <2	✓ <2	✓ <0.2	✓ <2
87FC17D67	duplicate SW-1 " 89	✓	✓ <2	✓ <2	✓ <2	✓ <0.2	✓ <2
			9/15/87	9/17/87	9.11.81	9-16-87	9/22/87
			PM/HP.	HP	I.L	PM	HPhan

C76122

JVM 8 Oct 87 8/10/13/87

ENVIRONMENTAL PROTECTION AGENCY
FOR THE TEAM: METALS

DIVISION/BRANCH Superfund FIT SAMPLING DATE 9/9/87 LAB ARRIVAL DATE 9/10/87 DUE DATE 10/23/87

DU NUMBER Y905 DATASET NUMBER 4333 STUDY ~~[illegible]~~ U.S. Scrap PRIORITY N CONTRACTOR CRL

CRL LOG NUMBER	SAMPLE DESCRIPTION	MATRIX Water TEST Se UNITS ug/l ~~MET235026~~ 1211
	Sample # Tag #	
87FC17R06	Blank 5-016884	✓ <2
87FC17S67	SW-1 " 85	✓ <2
87FC17S68	SW-2 " 86	✓ <2
87FC17S69	SW-3 " 87	✓ <2
87FC17S70	SW-4 " 88	✓ <2
87FC17D67	Duplicate SW-1 " 87	✓ <2
		H. Pham 9/18/87

MS 10/6/87

CRL V.2: 3/85

[redacted] OK- [redacted] 9/2[redacted]1

7TFA05WU27

C76122

ENVIRONMENTAL PROTECTION AGENCY
FOR THE TEAM: MINERALS - NUTRIENTS

DIVISION/BRANCH SUPERFUND FIT SAMPLE DATE 9/9/87 LAB ARRIVAL DATE 9/10/87 DUE DATE 10/23/87

DU NUMBER U9905 DATA SET NUMBER 4333 STUDY U.S. Scrap (chromate) PRIORITY N CONTRACTOR CRL

CRL LOG NUMBER	SAMPLE DESCRIPTION Sample#- TAG#-	WATER PHENOLICS UG PHENOL/L MIN 74818	WATER CYANIDE UG CN/L MIN 74919	WATER GROSS ALPHA P CI/L MIN 75020	WATER CR^{+6} UG CR^{+6}/L MIN 74616	WATER MERCURY UG HG/L MIN 74717
87FC17R06	Blank 5-016890		✓ K5			
87FC17S67	SW-1 " 91		✓ K5			
87FC17S68	SW-2 " 92		✓ K5			
87FC17S69	SW-3 " 93		✓ K5			
87FC17S70	SW-4 " 94		✓ K5			
87FC17D67	duplicate SW-1 " 95		✓ K5			
			RVP / QWB			
			9/21/87			
			Run by Auto - UV			
			using Method 335.3			

Sylvia Griffin

U.S. EPA CENTRAL REGIONAL LAB

ecology and environment, inc.

111 WEST JACKSON BLVD., CHICAGO, ILLINOIS 60604, TEL 312 663 9415

International Specialists in the Environment

CRL Receipt Date 12-8-87 FIT Receipt Date 2-3-88 Review Completed 2-17-88

TO: JEFF CARMAN

FROM: James Mertes

SUBJECT: U/S. SCRAP

PAN: IL0102 (1 hour charged for review) Case # 8404

Sample Description

Organics (VOA, ABN, Pest/PCB)		Inorganics (Metals, Cyanide)	
#	Low Soil	#	Low Soil
19	Low Water, 1 low water VOA only		Low Water
	Drinking Water		Drinking Water
	Other		Other

Project Data Status X Completed!! for this sampling date

Incomplete, awaiting

FIT Data Review Findings:

- High concentrations of various solvents in several samples
- Common lab artifacts in many samples (acetone, methylene chloride, phthalates)
- Note EPA reviewers case summary for unuseable data
- One sample analyzed for VOA's only (EQ402), several samples were diluted; raising the det. limit

Check Data Sheets for Transcription Errors

- EQ 412, 413, 403, 404 analyzed as medium concentration for volatiles

X Compounds were detected in sample(s); see enclosed sheet.

- TIC's in most samples.

Book No. 7 Page No. 98 Date Sampled 11-4/5-87

recycled paper

U.S. SCRAP

8404

1 of 2

COMPOUND	EQ 394	EQ 395	396	397	398	399	400	401	402	403	404
chloromethane											
bromomethane											
vinyl chloride											
chloroethane											
methylene chloride						1.4 J	10				
acetone							15		28		
carbon disulfide											
1,1-dichloroethene											
1,1-dichloroethane											
trans-1,2,-dichloroethene											240 J
chloroform									2.2 J		
1,2-dichloroethane											
2-butanone											
1,1,1-trichloroethane											
carbon tetrachloride											
vinyl acetate											
bromodichloromethane											
1,1,2,2-tetrachloroethane											
1,2-dichloropropane											
trans-1,3-dichloropropene											
trichloroethene											
dibromochloromethane				D.L=5	D.L=100						
1,1,2-trichloroethane											
benzene				32	150						110 J
cis-1,3-dichloropropene											
2-chloroethylvinylether											
bromoform											
2-hexanone											
4-methyl-2-pentanone											
tetrachloroethene											
toluene	1.4 J		1.1 J					1.1 J	1.1 J		
chlorobenzene											
ethylbenzene				D.L=5							920 J
styrene											
total xylenes				22	D.L=20						5700 D.L = 500
N-nitrosodimethylamine											
phenol				8.5 J	50						
aniline											
bis(2-chloroethyl)ether											
2-chlorophenol											
1,3-dichlorobenzene											
1,4-dichlorobenzene											
benzyl alcohol											
1,2-dichlorobenzene											3.1 J
2-methylphenol											
bis 2-chloroisopropyl)ether											
4-methylphenol											2.1 J
N-nitroso-di-n-propylamine											
hexachloroethane											
nitrobenzene											
isophrone					D.L=20						
2-nitrophenol											D.L=40
2,4-dimethylphenol				14 J	32						160
benzoic acid											
bis(2-chloroethoxy)methane											
2,4-dichlorophenol											
1,2,4-trichlorobenzene											
napthalene											140 D.L=40
4-chloroaniline											
hexachlorobutadiene											
4-chloro-3-methylphenol											
2-methylnapthalene											20 J
hexachlorocyclopentadiene											
2,4,6-trichlorophenol											
2,4,5-trichlorophenol											
2-chloronaphthalene											
2-nitroaniline											
dimethyl phthalate											
acenapthylene											
3-nitroaniline											
acenaphthene											
2,4-dinitrophenol											
4-nitrophenol											
dibenzofuran											
2,4-dinitrotoluene											
2,6-dinitrotoluene											
diethylphthalate											
4-chlorophenyl-phenylether											
fluorene											
4-nitroaniline											
4,6-dinitro-2-methylphenol											
N-nitrosodiphenylamine											
4-bromophenyl-phenylether											
hexachlorobenzene											

B404

1/82

COMPOUND	DTC	PPB										
	SAMPLE	EQ 394	395	396	397	398	399	400	401	402	403	404
pentachlorophenol												
phenanthrene												
anthracene												
di-n-butylphthalate												
fluoranthene												
benzidine												
pyrene												
butylbenzylphthalate												
3,3'-dichlorobenzidine												
benzo a anthracene												
bis(2-ethylhexyl)phthalate												
chrysene												
di-n-octylphthalate												
benzo(b&k)fluoranthene												
benzo(a)pyrene												
indeno(1,2,3-cd)pyrene												
dibenzo(a,h)anthracene												
benzo(g,h,i)perylene												
alpha-BHC												
beta-BHC												
delta-BHC												
gamma-BHC (lindane)												
heptachlor												
aldrin												
heptachlor epoxide												
endosulfan I												
dieldrin												
4,4'-DDE												
endrin												
endosulfan II												
4,4'-DDD												
endrin aldehyde												
endosulfan sulfate												
4,4'-DDT												
methoxychlor												
endrin ketone												
chlordane												
toxaphene												
Aroclor-1016												
Aroclor-1221												
Aroclor-1232												
Aroclor-1242												
Aroclor-1248												
Aroclor-1254												
Aroclor-1260												
ELEMENT												
aluminum												
antimony												
arsenic												
barium												
beryllium												
cadmium												
calcium												
chromium												
cobalt												
copper												
iron												
lead												
magnesium												
manganese												
mercury												
nickel												
potassium												
selenium												
silver												
sodium												
thallium												
tin												
vanadium												
zinc												
cyanide CHECK IF ANALYZED ( )												
TENTATIVELY IDENTIFIED ORGANICS												

PEST.

8464

#2 of 2

COMPOUND	SAMPLE	EQ 405	EQ 407	408	409	410	411	412	413	414
chloromethane										
bromomethane										
vinyl chloride										
chloroethane	DL=5000									
methylene chloride		96000				8.2	5.4	190 J	210 j	220 j
acetone	DL=10,000	92000				12		DL=2000	26000	30
carbon disulfide										DL=1000
1,1-dichloroethene										
1,1-dichloroethane	DL=5000							DL=1000	2900	
trans-1,2,-dichloroethene		13000							4300	240 j
chloroform										
1,2-dichloroethane										
2-butanone								DL=2000	28000	
1,1,1-trichloroethane										
carbon tetrachloride										
vinyl acetate										
bromodichloromethane										
1,1,2,2-tetrachloroethane										
1,2-dichloropropane										
trans-1,3-dichloropropene										
trichloroethene		1200 J								
dibromochloromethane										
1,1,2-trichloroethane										
benzene	D.L=5000	8600							530 j	590
cis-1,3-dichloropropene										
2-chloroethylvinylether										
bromoform										
2-hexanone		X HES								
4-methyl-2-pentanone										
tetrachloroethene										
toluene	D.L=5000	35000				1.4 J		*	* 13000	* 13000
chlorobenzene										
ethylbenzene		4000 J						1800	3800	1900
styrene							500 D.L=			
total xylenes	D.L=5000	22000						5800	21000	16000
N-nitrosodimethylamine										
phenol	DL=2400	29000							1000 = D.L	31 j
aniline										
bis(2-chloroethyl)ether										
2-chlorophenol										
1,3-dichlorobenzene										
1,4-dichlorobenzene										
benzyl alcohol										16 j
1,2-dichlorobenzene										24 j
2-methylphenol	DL=2400	4200						5.5 j	940 j	840
bis(2-chloroisopropyl)ether										
4-methylphenol		8700						11 j	2600	200
N-nitroso-di-n-propylamine									DL=1600	
hexachloroethane										
nitrobenzene										
isophrone										
2-nitrophenol										
2,4-dimethylphenol		1700 J						7.9 j	370 j	170
benzoic acid										
bis(2-chloroethoxy)methane										
2,4-dichlorophenol										740
1,2,4-trichlorobenzene							D.L=20			
napthalene		300 J						35	440 j	380
4-chloroaniline										
hexachlorobutadiene										
4-chloro-3-methylphenol										
2-methylnapthalene								4.0 j		35 j
hexachlorocyclopentadiene										
2,4,6-trichlorophenol										
2,4,5-trichlorophenol										
2-chloronaphthalene										
2-nitroaniline										
dimethyl phthalate										
acenapthylene										
3-nitroaniline										
acenaphthene										
2,4-dinitrophenol										
4-nitrophenol										
dibenzofuran										
2,4-dinitrotoluene										
2,6-dinitrotoluene										
diethylphthalate										
4-chlorophenyl-phenylether										
fluorene										
4-nitroaniline										
4,6-dinitro-2-methylphenol										
N-nitrosodiphenylamine								2.0 j		8.5 j
4-bromophenyl-phenylether										
hexachlorobenzene										

D.L=500

D.L=80

8404

2 of 2

COMPOUND	SAMPLE	EQ 405	407	408	409	410	411	412	413	414		
	DIC	PPB										
pentachlorophenol												
phenanthrene												
anthracene												
di-n-butylphthalate												
fluoranthene												
benzidine												
pyrene												
butylbenzylphthalate												
3,3'-dichlorobenzidine												
benzo(a)anthracene												
bis(2-ethylhexyl)phthalate				4.2j		24 DL 20		6.1j				
chrysene												
di-n-octylphthalate												
benzo(b&k)fluoranthene												
benzo(a)pyrene												
indeno(1,2,3-cd)pyrene												
dibenzo(a,h)anthracene												
benzo(g,h,i)perylene												
alpha-BHC												
beta-BHC												
delta-BHC												
gamma-BHC(lindane)												
heptachlor												
aldrin												
heptachlor epoxide												
endosulfan I												
dieldrin												
4,4'-DDE												
endrin												
endosulfan II												
4,4'-DDD												
endrin aldehyde												
endosulfan sulfate												
4,4'-DDT												
methoxychlor												
endrin ketone												
chlordane												
toxaphene												
Aroclor-1016												
Aroclor-1221												
Aroclor-1232												
Aroclor-1242												
Aroclor-1248												
Aroclor-1254												
Aroclor-1260												
ELEMENT												
aluminum												
antimony												
arsenic												
barium												
beryllium												
cadmium												
calcium												
chromium												
cobalt												
copper												
iron												
lead												
magnesium												
manganese												
mercury												
nickel												
potassium												
selenium												
silver												
sodium												
thallium												
tin												
vanadium												
zinc												
cyanide CHECK IF ANALYZED ( )												
TENTATIVELY IDENTIFIED ORGANICS												

PEST.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION V

DATE 1/25/88

SUBJECT. Review of Region V CLP Data
Received for Review on 12-8-87

FROM Curtis Ross, Director (5SCRL)
Central Regional Laboratory

TO Data User: FIT

We have reviewed the data for the following case(s).

SITE NAME: U.S. SCRAP SMO Case No. 8404

EPA Data Set No. SF 4603 No. of Samples: 20 D.U./Activity Numbers ETFAQSWUZZ Y905 / C721ZZ

CRL No. 88FC05S89 - S99, R04, D91, R05; 88FC06S01 - S06

SMO Traffic No. EQ394 - 405, 407 - 414

CLP Laboratory: ENSECO - ERCO Hrs. Required for Review: 120 hrs

Following are our findings:

THIS REVIEW COVERS ORGANIC ANALYSIS OF (19) WATER SAMPLES FOR VOLATILES, SEMI-VOLATILES, PCB'S AND PESTICIDES. THERE IS ONE WATER SAMPLE FOR VOLATILES ONLY. THERE WERE NO MAJOR PROBLEMS WITH THE CASE WHICH WOULD CAUSE THE DATA TO BE UNUSABLE. HOWEVER, THERE ARE SEVERAL POINTS WHICH ARE OF IMPORTANCE TO BE DISCUSSED IN THE FOLLOWING SECTION.

( ) Data are acceptable for use.
(✓) Data are acceptable for use with qualifications referenced above. See Data Qualifier sheets and Calibration Outlier forms for flags and additional comments.
( ) Data are preliminary - pending verification by Contractor Laboratory. See Case Summary above.
( ) Data are unacceptable.

cc: Carla Dempsey, CLP Quality Assurance Officer, Analytical Operations Branch
James Petty, Chief Quality Assurance Research, EMSL, Las Vegas

DATA QUALIFIERS

Contractor: ENSECO-ERCO

Case 8404

Below is a summary of the out-of-control audits and the possible effect on the data for this case:

(1) HOLDING TIMES WERE EXCEEDED BY 21 DAYS ON THE MEDIUM LEVEL MS/MSD FOR THE WATER VOA SAMPLE EQ412. THE SURROGATE OF FRACTION EQ401 SEMI VOA, HAD TO BE RE-EXTRACTED. THE RE-EXTRACTION OCCURED NINE DAYS OUTSIDE THE HOLDING TIME LIMITS. THE EQ 394 DE RE-EXTRACTION FOR SEMI-VOA, TO DEMONSTRATE A MATRIX EFFECT, TOOK PLACE 10 DAYS BEYOND THE CONTRACT REQUIREMENTS FOR HOLDING TIME. THE APPROPRIATE ACTION FOR EQ 394 RE APPEARS UNDER THE SURROGATE RECOVERY SECTION BELOW. THE DATA SHEETS FOR EQ412, WATER VOA, AND EQ 401, SEMI-VOA WATER, NOTED (UJ).

(2) GC/MS TUNING WAS VERY SATISFACTORY AS WAS PCB/PESTICIDES COLUMN DEGRADATION. INSTRUMENT PERFORMANCE WAS GOOD.

(3) CALIBRATION OUTLIERS ARE TABULATED IN THE CALIBRATION OUTLIER FORMS. APPROPRIATE FLAGS WERE PLACED ON THE DATA SHEETS. CCC AND SPC ARE SATISFACTORY.

(4) THERE WERE SOME COMMON CONTAMINANTS PRESENT IN THE BLANKS. METHOD BLANKS (2) AND (4) AS WELL AS ERCO BLANK (8), ALL VOA, CONTAINED METHYLENE CHLORIDE BELOW CRQL. THE BLANKS USED FOR THE WATER BNA FRACTION HAD BIS(2-ETHYL HEXYL) PHTHALATE IN ERCO BK (3) AND (4). N-NITROSODIPHENYLAMINE WAS ALSO PRESENT IN ERCO BK (#4). THESE COMPOUNDS WERE BELOW CRQL. THE ASSOCIATED DATA SHEET HAD THESE CONTAMINANTS NOTED (UJ). THERE WERE SEVERAL TIC'S PRESENT IN ERCO BK (2), (3) AND (4) WHICH WERE USED FOR BNA ANALYSIS. GC/MS ANALYSIS SUBSTANTIATES THE PRESENCE OF THESE COMPOUNDS. THE PESTICIDE BKS DID NOT CONTAIN CONTAMINANTS.

Reviewed by: Robert Katzer

Phone: 317-353-2917

Date: 1/20/88

DATA QUALIFIERS

Contractor: ENSECO-RCC

Case 8464

Below is a summary of the out-of-control audits and the possible effect on the data for this case:

*5 THE SURROGATE RECOVERIES OF THE WATER ICE WERE SATISFACTORY FOR ALL SAMPLES. THE RECOVERIES OF 2-FLUOROPHENOL AND 2,4,6-TRIBROMOPHENOL IN THE SEMI-VOA FRACTION HAD LOW RECOVERIES IN EQ 394, EQ 394 RE, EQ 395, EQ 395 MS AND EQ 395 MSD DUE TO A MATRIX EFFECT. BECAUSE THESE SURROGATE RESULTS OF EQ 394, 394 RE AND 395 ARE BELOW 10% RECOVERY IN THE SEMI-VOA FRACTION; THEIR RESPECTIVE SEMI-VOA DATA SHEETS HAVE ALL RESULTS FLAGGED (R). DIBUTYL CHLORENDATE RECOVERY WAS ABOVE THE PESTICIDE ADVISORY LIMITS IN EQ 396, EQ 399, EQ 410, EQ 395 MS AND EQ 395 MSD. ERCO BLANK (6) GAVE A DIBUTYL CHLORENDATE RESULT ABOVE THE ADVISORY LIMITS. THE SEMI-VOA FRACTIONS OF EQ 405 AND EQ 413 HAD THEIR SURROGATE RECOVERIES DILUTED OUT AS WAS THE DIBUTYL CHLORENDATE RECOVERIES OF EQ 405, EQ 417, EQ 413 AND EQ 414.

(6) THE MATRIX INTERFERENCE DEMONSTRATED IN SAMPLE EQ359, SEMI-VOA, IS RESPONSIBLE FOR THE LOW PENTACHLOROPHENOL RECOVERIES IN THE MS AND THE MSD AS WELL AS LOW MS AND MSD RECOVERY FOR 4-NITROPHENOL. 2-CHLOROPHENOL ALSO HAD A LOW MS RECOVERY. THE RPD FOR PENTACHLOROPHENOL AND 4-NITROPHENOL IN THE EQ 395 SEMI-VOA COULD NOT BE CALCULATED DUE TO THE LOW RECOVERY OF THESE COMPOUNDS. THE DATA SHEET REPRESENTING THIS FRACTION HAS ALREADY BEEN FLAGGED (R) AS DESCRIBED UNDER SURROGATE ANALYSIS.

Reviewed by: Robert Kadyk

Phone: 317-353-2917

Date: 1/20/88

DATA QUALIFIERS

Contractor: ENSECO-ERCO

Case 8404

Below is a summary of the out-of-control audits and the possible effect on the data for this case:

THE DIELDRIN MS AND MSD AND 4,4'-DDT MS/MSD AS WELL AS THE ENDRIN MS HAD RECOVERIES ABOVE THE QC LIMITS. THE MSD OF TOLUENE IN THE MEDIUM LEVEL VOA SAMPLE EQ 412 HAD AN ELEVATED % RECOVERY AS WELL AS ELEVATED % RPD. THEREFORE, TOLUENE HAS BEEN FLAGGED (NO) IN THE EQ 412 DATA SHEET.

(7) COMPOUND IDENTIFICATION AND THE TIC WORKUP WERE CARRIED OUT PROPERLY. GC/MS RESULTS SUBSTANTIATE THE COMPOUNDS IDENTIFIED. FLAGS WERE APPLIED TO THE RESPECTIVE DATA SHEETS.

(8) DATA ARE ACCEPTABLE FOR USE WITH THE EXCEPTION OF SEMI-VOA OF EQ 394, EQ 395, EQ 394 RE.

Reviewed by: Robert Katzer

Phone: 312-353-2917

Date: 1/20/88

VOLATILE HSL COMPOUNDS

CASE/SAS # 8404 CONTRACTOR ENSECO

Instrument # N3	Init. Cal.			Cont. Cal.			Cont. Cal.			Cont. Cal.			Cont. Cal.		
DATE/TIME:	10/13/87			11/7/87 11:08			11557 09:-5			11/8/87 19:39			11/9/87 0965		
	RF	%RSD	*	RF	%D	*	RF	%D	*	RF	%D	*	RF	%D	*
Chloromethane															
Bromomethane											2811	J			
Vinyl Chloride															
Chloroethane															
Methylene Chloride															
Acetone															
Carbon Disulfide					81.91	J		153.91	J		134.39	J		82.38	J
1,1-Dichloroethane															
1,1-Dichloroethene															
Trans-1,2-Dichloroethene															
Chloroform															
2-Butanone								27.19	J					21.35	
1,2-Dichloroethane															
1,1,1-Trichloroethane															
Carbon Tetrachloride															
Vinyl Acetate															
Bromodichloromethane															
1,2-Dichloropropane															
Trans-1,3-Dichloropropene															
Trichloroethene															
Dibromochloromethane															
1,1,2-Trichloroethane															
Benzene															
cis-1,3-Dichloropropene															
2-Chloroethylvinylether															
Bromoform															
4-Methyl-2-Pentanone					26.9[illegible]	J									
2-Hexanone					28.4[illegible]	J								27.[illegible]	J
Tetrachloroethene															
1,1,2,2-Tetrachloroethane															
Toluene															
Chlorobenzene															
Ethylbenzene															
Styrene															
m-Xylene															
o/p-Xylene															

	EQ 398	EQ 397	EQ 395 MS	EQ 401
	EQ 404	EQ 396	EQ 395 MSD	METHOD BK M224
	EQ 399	EQ 395	EQ 407	
	METHOD BK M186	METHOD BK M200	EQ 408	
			EQ 403	
			EQ 394	
			EQ 409	
			EQ 402	
			METHOD BK M211	

AFFECTED SAMPLES:

Reviewer's Initials/Date: RK 1/15/88

* These flags should be applied to the analytes on the sample data sheets.

CASE/SAS # 8404 VOLATILE HSL COMPOUNDS CONTRACTOR ENSECO

Instrument # V3	Init. Cal.			Cont. Cal.			Cont. Cal.			Cont. Cal.			Cont. Cal.		
DATE/TIME:	10/13/87			11/10/87 09:18			11/10/87 19:49			11/11/87 12:[illegible]					
	RF	%RSD	*	RF	%D	*	RF	%D	*	RF	%D	*	RF	%D	*
Chloromethane															
Bromomethane															
Vinyl Chloride															
Chloroethane															
Methylene Chloride															
Acetone															
Carbon Disulfide					94.25	J		115.07	J		97.60	J			
1,1-Dichloroethane															
1,1-Dichloroethene															
Trans-1,2-Dichloroethene															
Chloroform															
2-Butanone					34.67	J									
1,2-Dichloroethane															
1,1,1-Trichloroethane															
Carbon Tetrachloride															
Vinyl Acetate								27.55	J						
Bromodichloromethane															
1,2-Dichloropropane															
Trans-1,3-Dichloropropene															
Trichloroethene															
Dibromochloromethane															
1,1,2-Trichloroethane															
Benzene															
cis-1,3-Dichloropropene															
2-Chloroethylvinylether															
Bromoform															
4-Methyl-2-Pentanone					28.50	J		31.98	J		27.41	J			
2-Hexanone					32.49	J		30.54	J		27.75	J			
Tetrachloroethene															
1,1,2,2-Tetrachloroethane															
Toluene															
Chlorobenzene															
Ethylbenzene															
Styrene															
m-Xylene															
o/p-Xylene															

AFFECTED SAMPLES:

EQ 400	EQ 411	EQ 413
EQ 414	EQ 410	METHOD BK M277
EQ 405	EQ 412	
METHOD BK M249	METHOD BK M262	

Reviewer's Initials/Date: RK 1/15/88

* These flags should be applied to the analytes on the sample data sheets.

CASE/SAS # 8404 VOLATILE HSL COMPOUNDS CONTRACTOR ENSECO

Instrument # K2	Init. Cal.			Cont. Cal.			Cont. Cal.			Cont. Cal.			Cont. Cal.		
DATE/TIME:	11/30/87			12/1/87 09 48											
	RF	%RSD	*	RF	%D	*	RF	%D	*	RF	%D	*	RF	%D	*
Chloromethane															
Bromomethane															
Vinyl Chloride															
Chloroethane															
Methylene Chloride															
Acetone															
Carbon Disulfide															
1,1-Dichloroethane															
1,1-Dichloroethene															
Trans-1,2-Dichloroethene															
Chloroform															
2-Butanone															
1,2-Dichloroethane															
1,1,1-Trichloroethane															
Carbon Tetrachloride															
Vinyl Acetate															
Bromodichloromethane															
1,2-Dichloropropane															
Trans-1,3-Dichloropropene															
Trichloroethene															
Dibromochloromethane															
1,1,2-Trichloroethane															
Benzene															
cis-1,3-Dichloropropene															
2-Chloroethylvinylether					27.58	J									
Bromoform															
4-Methyl-2-Pentanone															
2-Hexanone															
Tetrachloroethene															
1,1,2,2-Tetrachloroethane															
Toluene															
Chlorobenzene															
Ethylbenzene															
Styrene															
m-Xylene															
o/p-Xylene															

AFFECTED SAMPLES:

EQ 412 MSD
EQ 412 SD
70907 BK

Reviewer's Initials/Date: RK 1/15/88

* These flags should be applied to the analytes on the sample data sheets.

UNITED STATES ENVIRONMENTAL

CALIBRATION OUTLIERS
SEMIVOLATILE HSL COMPOUNDS
(Page 1)

CASE/SAS # 8404 CONTRACTOR ENSECO

Instrument # GC/MS 52	Init. Cal.			Cont. Cal.			Cont. Cal.			Cont. Cal.			Cont. Cal.		
DATE/TIME:	10/14/87			11/19/87 8:33			11/20/87 8:18			11/23/87 7:46			11/27/87 8:3		
	RF	%RSD	*	RF	%D	*	RF	%D	*	RF	%D	*	RF	%D	*
Phenol															
bis(-2-Chloroethyl)Ether															
2-Chlorophenol															
1,3-Dichlorobenzene															
1,4-Dichlorobenzene															
Benzyl Alcohol															
1,2-Dichlorobenzene															
2-Methylphenol															
bis(2-chloroisopropyl)Ether															
4-Methylphenol															
N-Nitroso-Di-n-Propylamine															
Hexachloroethane															
Nitrobenzene															
Isophorone															
2-Nitrophenol															
2,4-Dimethylphenol															
Benzoic Acid					30.3	J		33.0	J		27.5	J		28.1	J
bis(2-Chloroethoxy)Methane															
2,4-Dichlorophenol															
1,2,4-Trichlorobenzene															
Naphthalene															
4-Chloroaniline															
Hexachlorobutadiene															
4-Chloro-3-Methylphenol															
2-Methylnaphthalene															
Hexachlorocyclopentadiene								25.5	J		31.7	J			
2,4,6-Trichlorophenol															
2,4,5-Trichlorophenol															
2-Chloronaphthalene															
2-Nitroaniline															
Dimethyl Phthalate															
Acenaphthylene															
3-Nitroaniline											35.8	J			
Acenaphthene															
2,4-Dinitrophenol											28.7	J		28.-	J
4-Nitrophenol															
Dibenzofuran															

AFFECTED SAMPLES:

ERCO BK 5[illegible]0	EQ-414	EQ-399	ERCO BK 266
EQ-411	EQ-413	EQ-407	EQ-395 MS
EQ-400	EQ-405-406	EQ-408	EQ-395 MSD
EQ-410	EQ-396-398	EQ-403	
EQ-412	ERCO BK 5[illegible]MB	EQ-394	
		EQ-409	
		EQ-401	

Reviewer Initials/Date: RK 11/15/88

* These flags should be applied to the analytes on the sample data sheets.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY REGION V
CALIBRATION OUTLIERS
SEMIVOLATILE HSL COMPOUNDS
Page 2

CASE/SAS # 5909 CONTRACTOR ENSECO

Instrument # 69MS 52	Init. Cal.			Cont. Cal.			Cont. Cal.			Cont. Cal.			Cont. Cal.		
DATE/TIME:	10/14/87			11/19/87 8:37			11/20/87 5:05			11/23/87 7:46			11/24/87 5:2		
	RF	%RSD	*	RF	%D	*	RF	%D	*	RF	%D	*	RF	%D	*
2,4-Dinitrotoluene															
2,6-Dinitrotoluene															
Diethylphthalate															
4-Chlorophenyl-phenylether															
Fluorene															
4-Nitroaniline								36.7	J						
4,6-Dinitro-2-Methylphenol														30.1	J
N-Nitrosodiphenylamine															
4-Bromophenyl-phenylether															
Hexachlorobenzene															
Pentachlorophenol															
Phenanthrene															
Anthracene															
Di-n-Butylphthalate															
Fluoranthene															
Pyrene															
Butylbenzylphthalate															
Benzo(a)Anthracene															
bis(2-Ethylhexyl)Phthalate															
Chrysene															
Di-n-Octyl Phthalate															
Benzo(b)Fluoranthene															
Benzo(k)Fluoranthene															
Benzo(a)Pyrene															
Indeno(1,2,3-cd)Pyrene											422	J			
Dibenz(a,h)Anthracene					229	J									
Benzo(g,h,i) Perylene					30.6	J									

SEE PAGE 1 FOR AFFECTED SAMPLES.

* These flags should be applied to the analytes on the sample data sheets.

Reviewer's Initials/Date: RK 1/15/88

8/87

CALIBRATION OUTLIERS
SEMIVOLATILE HSL COMPOUNDS
(Page 1)

CASE/SAS # 8404 CONTRACTOR ENSECO

Instrument # GC/MS 53	Init. Cal.			Cont. Cal.			Cont. Cal.			Cont. Cal.			Cont. Cal.		
DATE/TIME:	11/20/87			12/2/87 14..											
	RF	%RSD	*	RF	%D	*	RF	%D	*	RF	%D	*	RF	%D	*
Phenol															
bis(-2-Chloroethyl)Ether															
2-Chlorophenol															
1,3-Dichlorobenzene															
1,4-Dichlorobenzene															
Benzyl Alcohol															
1,2-Dichlorobenzene															
2-Methylphenol															
bis(2-chloroisopropyl)Ether															
4-Methylphenol															
N-Nitroso-Di-n-Propylamine															
Hexachloroethane															
Nitrobenzene															
Isophorone															
2-Nitrophenol															
2,4-Dimethylphenol															
Benzoic Acid															
bis(2-Chloroethoxy)Methane															
2,4-Dichlorophenol															
1,2,4-Trichlorobenzene															
Naphthalene															
4-Chloroaniline															
Hexachlorobutadiene															
4-Chloro-3-Methylphenol															
2-Methylnaphthalene															
Hexachlorocyclopentadiene					34.2	J									
2,4,6-Trichlorophenol															
2,4,5-Trichlorophenol															
2-Chloronaphthalene															
2-Nitroaniline															
Dimethyl Phthalate															
Acenaphthylene															
3-Nitroaniline															
Acenaphthene															
2,4-Dinitrophenol															
4-Nitrophenol															
Dibenzofuran															

AFFECTED SAMPLES:

ERCO BK. 6075B
EA-394 RESTR.

Reviewer Initials/Date RK 1/15/88

* These flags should be applied to the analytes on the sample data sheets.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY REGION V
CALIBRATION OUTLIERS
SEMIVOLATILE HSL COMPOUNDS
Page 2

CASE/SAS # 8404 CONTRACTOR ENSECO

Instrument # GC/MS 53	Init. Cal.			Cont. Cal.			Cont. Cal.			Cont. Cal.			Cont. Cal.		
DATE/TIME:	11/20/87			12/2/87 14:37											
	RF	%RSD	*	RF	%D	*	RF	%D	*	RF	%D	*	RF	%D	*
2,4-Dinitrotoluene															
2,6-Dinitrotoluene															
Diethylphthalate															
4-Chlorophenyl-phenylether															
Fluorene															
4-Nitroaniline					723	J									
4,6-Dinitro-2-Methylphenol															
N-Nitrosodiphenylamine															
4-Bromophenyl-phenylether															
Hexachlorobenzene															
Pentachlorophenol															
Phenanthrene															
Anthracene															
Di-n-Butylphthalate															
Fluoranthene															
Pyrene															
Butylbenzylphthalate															
Benzo(a)Anthracene															
bis(2-Ethylhexyl)Phthalate															
Chrysene															
Di-n-Octyl Phthalate															
Benzo(b)Fluoranthene															
Benzo(k)Fluoranthene															
Benzo(a)Pyrene															
Indeno(1,2,3-cd)Pyrene															
Dibenz(a,h)Anthracene															
Benzo(g,h,i) Perylene															

SEE PAGE 1 FOR AFFECTED SAMPLES.

* These flags should be applied to the analytes on the sample data sheets.

Reviewer's Initials/Date: RK 1/15/88

8/87

Case: 8404

Contractor: ENSECO-#60

TENTATIVELY IDENTIFIED COMPOUNDS
MATCH ASSESSMENT

NOTE: Reviewer should note directly on Organic Analysis Data Sheet (OADS) those matches that in his opinion (based on contract criteria) are unreasonable.

CRITERIA

(1) Relative intensities of major ions (>10%) reference spectrum should be present in the sample spectrum.

(2) Relative intensities of major ions in sample spectrum should agree to within ± 20% of reference spectrum intensities.

(3) Molecular ions present in reference spectrum should be present in sample spectrum.

(4) Ions present in sample spectrum, but not in reference spectrum should be reviewed for possible background contamination or presence of coeluting interferences.

(5) Ions present in reference spectrum, but not in the sample spectrum should be reviewed for possible subtraction from the sample spectrum because of background contamination or coeluting interferences.

(6) If, in the reviewer's opinion, no valid identification can be made the compound should be labelled as "unknown" and the initials and date of the reviewer placed on the OADS.

Robert Kotzer 1/20/88

December 7, 1987

RECEIVED
DEC 08 1987
U.S. EPA CENTRAL
REGIONAL LAB

Case Narrative

U.S. EPA Case 8404
Contractor: Enseco Incorporated
Contract Number: 68-01-7147

1. Case 8404 consists of the results of twenty aqueous samples. Thirteen of the samples were received on November 5, 1987, and seven were received on November 6, 1987.

2. The analyses were performed by the Erco Laboratory under the California Analytical Laboratory's contract.

3. The semivolatile fraction of sample EQ 395 showed low surrogate percent recoveries. Since the matrix spike and matrix spike duplicate of this sample also had low surrogate percent recoveries, these analyses demonstrate a matrix effect.

4. Since there were matrix interferences in sample EQ 395, this may be the reason that two of the spiked compounds (pentachlorophenol and 4-nitrophenol) were not recovered in the matrix spike and matrix spike duplicate.

5. The semivolatile fraction of EQ 394 showed low surrogate percent recoveries. The analysis of the reextract also showed low recoveries, demonstrating a matrix effect.

6. The semivolatile fraction of EQ 401 had to be reextracted. The reextraction occurred nine days outside the holding time.

7. We identified caprolactum (CAS #105-60-2) as a tentatively identified compound in some of the samples. The second best match by the library search was 6-aminohexanoic acid. The mass spectra of 6-aminohexanoic acid and caprolactum are virtually identical. Upon electron ionization mass spectrometry, 6-aminohexanoic acid will immediately be converted into caprolactum. Identification of this compound as caprolactum is therefore tentative.

8. The medium level matrix spike and matrix spike duplicate for the volatile fraction were analyzed outside of the required holding time.

Elizabeth McCarthy

Elizabeth McCarthy
Data Control Manager

WATER SURROGATE PERCENT RECOVERY SUMMARY

Case No. 8404 Contract Laboratory Enseco-Feco Laboratory Contract No. 68-01-7147

	VOLATILE			SEMI-VOLATILE								PESTICIDE
SMO TRAFFIC NO.	TOLUENE-D8 (88-110)	BFB (86-115)	1,2 DICHLORO-ETHANE-D4 (76-114)	NITRO-BENZENE-D5 (35-114)	2-FLUORO-BIPHENYL (43-116)	TERPHENYL-D14 (33-141)			PHENOL-D5 (10-94)	2-FLUORO-PHENOL (21-100)	2,4,6 TRIBROMO PHENOL (10-123)	DIBUTYL-CHLORENDATE ** (24-154)
EQ 394	102	101	98	68	60	49			20	4.1 *	— *	135
EQ 394re				73	73	67			13	3.7 *	1.6 *	
EQ 395	102	101	99	73	70	54			33	9.7 *	4.8 *	143
EQ 396	100	100	97	75	75	93			40	60	83	190 **
EQ 397	100	101	99	76	75	90			31	64	83	109
EQ 398	101	102	99	75	71	80			17	60	73	92
EQ 399	102	97	102	79	76	79			49	67	76	170 **
EQ 400	102	104	102	84	80	82			49	71	79	110
EQ 401	101	102	98	101	98	104			60	85	96	136
EQ 402	99	99	98									
EQ 403	102	100	100	82	80	86			17	63	73	142
EQ 404	101	98	101	94	86	90			78	76	99	69
EQ 405	103	101	102	DL	DL	DL			DL	DL	DL	DL
EQ 407	100	100	103	78	76	85			36	69	91	130
EQ 408	105	109	101	81	76	68			50	66	87	86
EQ 409	101	101	97	85	81	91			59	67	76	110
EQ 410	101	104	108	75	74	59			45	62	78	159 **
EQ 411	100	101	111	86	77	91			53	74	90	82
EQ 412	97	107	104	92	90	79			48	71	85	DL
EQ 413	104	100	98	DL	DL	DL			DL	DL	DL	DL
EQ 414	103	104	103	93	87	71			56	77	85	DL
EQ 395MS	99	99	97	80	81	59			2.8	10 *	5.1 *	175 **
EQ 395MSD	100	101	95	82	87	61			3.5	11 *	3.3 *	158 *

* VALUES ARE OUTSIDE OF CONTRACT REQUIRED QC LIMITS

** ADVISORY LIMITS ONLY

Volatiles: 0 out of 66 ; outside of QC limits

Semi-Volatiles: 10 out of 120 ; outside of QC limits

Pesticides: 5+4DL out of 19 ; outside of QC limits

Comments: The reextract of sample EQ 394 shows a matrix effect. The matrix spike and matrix spike duplicate of sample EQ 395 shows a matrix effect.

WATER SURROGATE PERCENT RECOVERY SUMMARY

Case No. 8404 Contract Laboratory Enseco-Erco Laboratory Contract No. 68-01-7147

SMO TRAFFIC NO.	VOLATILE: TOLUENE-D8 (88-110)	VOLATILE: BFB (86-115)	VOLATILE: 1,2 DICHLORO-ETHANE-D4 (76-114)	SEMI-VOLATILE: NITRO-BENZENE-D5 (35-114)	SEMI-VOLATILE: 2-FLUORO-BIPHENYL (43-116)	SEMI-VOLATILE: TERPHENYL-D14 (33-141)	SEMI-VOLATILE:	SEMI-VOLATILE:	SEMI-VOLATILE: PHENOL-D5 (10-94)	SEMI-VOLATILE: 2-FLUORO-PHENOL (21-100)	SEMI-VOLATILE: 2,4,6 TRIBROMO PHENOL (10-123)	PESTICID: DIBUTYL-CHLORENDA (24-154)
Method Blank 1	101	100	96									
Method Blank 2	102	100	97									
Method Blank 3	100	100	94									
Method Blank 4	100	100	97									
Method Blank 5	100	103	94									
Method Blank 6	98	104	108									
Method Blank 7	101	98	97									
Erco Blank 1				84	88	87			28	27	42	
Erco Blank 2				88	89	79			85	90	81	
Erco Blank 3				105	101	105			54	80	103	
Erco Blank 4				90	82	97			31	57	104	
Erco Blank 5												140
Erco Blank 6												194
Erco Blank 7												133
Method Blank 8	101	103	97									
EQ 442 MS	99	103	97									
EQ 442 MSD	101	106	98									

* VALUES ARE OUTSIDE OF CONTRACT REQUIRED QC LIMITS

**ADVISORY LIMITS ONLY

Volatiles: 0 out of 30 ; outside of QC limits

Semi-Volatiles: 0 out of 24 ; outside of QC limits

Pesticides: 1 out of 3 ; outside of QC limits

Comments:

2

FORM II

7/85

WATER MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Case No. 8404 **Contractor** Enseco Eno Laboratory **Contract No.** 68-01-7147

FRACTION	COMPOUND	CONC. SPIKE ADDED (ug/L)	SAMPLE RESULT	CONC. MS	% REC	CONC. MSD	% REC	RPD	QC LIMITS* RPD	QC LIMITS* RECOVERY
VOA SMO SAMPLE NO. EQ 395	1,1-Dichloroethene	50	0	41	82	40	80	2.5	14	61-145
	Trichloroethene	50	0	44	87	44	87	0	14	71-120
	Chlorobenzene	50	0	43	90	43	87	4.5	13	75-130
	Toluene	50	0	47	93	45	89	4.3	13	76-125
	Benzene	50	0	47	94	46	91	2.2	11	76-127
B/N SMO SAMPLE NO. EQ 395	1,2,4-Trichlorobenzene	200	0	130	65	150	75	14	28	39-98
	Acenaphthene	200	0	160	80	170	85	6	31	46-118
	2,4 Dinitrotoluene	200	0	140	70	130	65	7	38	24-96
	Pyrene	200	0	170	85	200	100	16	31	26-127
	N-Nitroso-Di-n-Propylamine	200	0	140	70	140	70	0	38	41-116
	1,4-Dichlorobenzene	200	0	120	60	130	65	8	28	36-97
ACID SMO SAMPLE NO. EQ 395	Pentachlorophenol	400	0	3.5	1 *	0	0 *	†	50	9-103
	Phenol	400	0	97	24	120	30	22	42	12-89
	2-Chlorophenol	400	0	91	23 *	110	28	20	40	27-123
	4-Chloro-3-Methylphenol	400	0	230	58	250	63	8	42	23-97
	4-Nitrophenol	400	0	23	6 *	3.5	1 *	†	50	10-80
PEST SMO SAMPLE NO. EQ 395	Lindane	0.20	0	0.24	120	0.24	120	0	15	56-123
	Heptachlor	0.20	0	0.22	110	0.19	95	15	20	40-131
	Aldrin	0.20	0	0.24	120	0.21	105	15	22	40-120
	Dieldrin	0.50	0	0.75	150 *	0.67	134 *	16	18	52-126
	Endrin	0.50	0	0.63	126 *	0.58	116	10	21	56-121
	4,4'-DDT	0.50	0	0.75	150 *	0.69	138 *	12	27	38-127

*ASTERISKED VALUES ARE OUTSIDE QC LIMITS.

RPD:
VOAs 0 out of 5 ; outside QC limits
B/N 0 out of 6 ; outside QC limits
ACID 0 out of 3 ; outside QC limits
PEST 1 out of 6 ; outside QC limits

RECOVERY:
VOAs 0 out of 10 ; outside QC limits
B/N 0 out of 12 ; outside QC limits
ACID 5 out of 10 ; outside QC limits
PEST 5 out of 12 ; outside QC limits

Comments: † unable to calculate due to low recovery. See Narrative

3

FORM III

7/85

WATER MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Case No. 8404 **Contractor** ERCO/A Division of ENSECO INC. **Contract No.** 68-01-7411

FRACTION	COMPOUND	CONC. SPIKE ADDED (ug/L)	SAMPLE RESULT	CONC. MS	% REC	CONC. MSD	% REC	RPD	QC LIMITS* RPD	QC LIMITS* RECOVERY
VOA SMO SAMPLE NO. EQ 412	1,1-Dichloroethene	5000	0	4700	94	4500	90	4.3	14	61-145
	Trichloroethene	5000	0	4900	98	4700	94	4.2	14	71-120
	Chlorobenzene	5000	0	5500	110	5300	106	3.7	13	75-130
	Toluene	5000	6000	12000	120	13000	140*	15*	13	76-125
	Benzene	5000	0	5500	110	5100	102	7.5	11	76-127
B/N SMO SAMPLE NO. —	1,2,4-Trichlorobenzene								28	39-98
	Acenaphthene								31	46-118
	2,4 Dinitrotoluene								38	24-96
	Pyrene								31	26-127
	N-Nitroso-Di-n-Propylamine								38	41-116
	1,4-Dichlorobenzene								28	36-97
ACID SMO SAMPLE NO. —	Pentachlorophenol								50	9-103
	Phenol								42	12-89
	2-Chlorophenol								40	27-123
	4-Chloro-3-Methylphenol								42	23-97
	4-Nitrophenol								50	10-80
PEST SMO SAMPLE NO. —	Lindane								15	56-123
	Heptachlor								20	40-131
	Aldrin								22	40-120
	Dieldrin								18	52-126
	Endrin								21	56-121
	4,4'-DDT								27	38-127

*ASTERISKED VALUES ARE OUTSIDE QC LIMITS.

RPD: VOAs 1 out of 5; outside QC limits
B/N — out of —; outside QC limits
ACID — out of —; outside QC limits
PEST — out of —; outside QC limits

RECOVERY: VOAs 1 out of 10; outside QC limits
B/N — out of —; outside QC limits
ACID — out of —; outside QC limits
PEST — out of —; outside QC limits

Comments:

FORM III

7/85

METHOD BLANK SUMMARY

Case No. 8404 Region V Contractor Enseco Inc. - Erco Laboratory Contract No. 68-01-7147

FILE ID	DATE OF ANALYSIS	FRACTION	MATRIX	CONC. LEVEL	INST. ID	CAS NUMBER	COMPOUND (HSL, TIC OR UNKNOWN)	CONC.	UNITS	CRQL
Method Blank 1	11.7.87	VOA	water	low	GCMS V3	—	none detected	—	—	—
Method Blank 2	11.8.87	VOA	water	low	GCMS V3	75.09.2	Methylene Chloride	1.0	ug/l	5 u
Method Blank 3	11.8.87	VOA	water	low	GCMS V3	—	none detected	—	—	—
Method Blank 4	11.9.87	VOA	water	low	GCMS V3	75.09.2	Methylene Chloride	3.5	ug/l	5 u
Method Blank 5	11.10.87	VOA	water	low	GCMS V-3	—	none detected	—	—	—
Method Blank 6	11.10.87	VOA	water	low	GCMS V3	—	none detected	—	—	—
Method Blank 7	11.11.87	VOA	water	low	GCMS V3	—	none detected	—	—	—
Erco Blank 1	11.20.87	BNA	water	low	GCMS S-2	—	none detected	—	—	—
Erco Blank 2	11.19.87	BNA	water	low	GCMS S-2	—	2-fluorophenol and unknown	47	ug/l	NA
↓	↓	↓	↓	↓	↓	—	2-fluorophenol and unknown	4.5	ug/l	NA
↓	↓	↓	↓	↓	↓	128.37.0	Phenol, 2,6-bis (1,1-dimethylethyl)-4-methyl	4.2	ug/l	NA
Erco Blank 3	11.24.87	BNA	water	low	GCMS S-2	117.81.7	bis (2-Ethylhexyl) Phthalate	1.3	ug/l	10 u
↓	↓	↓	↓	↓	↓	—	2-Fluorophenol and unknown	4.2	ug/l	NA
↓	↓	↓	↓	↓	↓	128.37.0	Phenol, 2,6-bis (1,1-dimethylethyl) 4 methyl	4.1	ug/l	NA
Erco Blank 4	12.2.87	BNA	water	low	GCMS S-2	86.30.6	N Nitrosodiphenylamine	1.1	ug/l	10 u
↓	↓	↓	↓	↓	↓	117.81.7	bis (2-Ethylhexyl) Phthalate	6.4	ug/l	10 u
↓	↓	↓	↓	↓	↓	108.94.1	Cyclohexanone and 2-fluorophenol	5.9	ug/l	NA
Erco Blank 5	11.16.87	Pest.	water	low	GC #9	—	none detected	—	—	—
Erco Blank 6	11.16.87	Pest	water	low	GC #9	—	none detected	—	—	—
Erco Blank 7	11.21.87	Pest	water	low	GC #9-2	—	none detected	—	—	—

Comments: NA = not applicable

METHOD BLANK SUMMARY RESUBMITTED DATA.

Case No. 8404 Region I Contractor Enseco Inc - Ecco Laboratory Contract No. 68-01-7147

FILE ID	DATE OF ANALYSIS	FRACTION	MATRIX	CONC. LEVEL	METHOD ID	CAS NUMBER	COMPOUND (HSL, TIC OR UNKNOWN)	CONC.	UNITS	CRDL
Ecco Blank 8	12-4-87	VOA	WATER	~~LOW~~ med.	V2	75-09-2	Methylene Chloride	1.3	ug/l	5

Comments:

Organics Analysis Data Sheet
(Page 1)

Resubmitted Data

Laboratory Name Enseco - Erco Laboratory

Case No 8404

Lab Sample ID No 5830-14

QC Report No. 003-CAL

Sample Matrix. Water

Contract No 68-01-7147

Data Release Authorized By: Am

Date Sample Received: 11.~~6~~.87 5 gsm

Volatile Compounds

Concentration: Low Medium (Circle One)

Date Extracted/Prepared: 11.9.87

Date Analyzed: 11.9.87

Conc/Dil Factor: 1.0 pH —

Percent Moisture: (Not Decanted) —

CAS Number		ug/l or ug/Kg (Circle One)
74-87-3	Chloromethane	10u
74-83-9	Bromomethane	10uJ
75-01-4	Vinyl Chloride	10u
75-00-3	Chloroethane	10u
75-09-2	Methylene Chloride	2.5JB MJ
67-64-1	Acetone	10uJ
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	10u
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	1.4J
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 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., 10J). If limit of detection is 10 µg/l and a concentration of 3 µg/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/ul 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.

RK (MJ, J)
1/19/88

24

Case No 8404

EQ-394

583014

Organics Analysis Data Sheet
(Page 2)

See Reextract Results.

Semivolatile Compounds

Concentration (Low) Medium (Circle One)

Date Extracted/Prepared 11/9/87

Date Analyzed 11/23/87

Conc/Dil Factor: 1

Percent Moisture (Decanted) –

GPC Cleanup ☐Yes ☒No

Separatory Funnel Extraction ☒Yes

Continuous Liquid - Liquid Extraction ☐Yes

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

CAS Number		ug/l or ug/Kg (Circle One)
83-32-9	Acenaphthene	20 u
51-28-5	2, 4-Dinitrophenol	100 u
100-02-7	4-Nitrophenol	100 u
132-64-9	Dibenzofuran	20 u
121-14-2	2 4-Dinitrotoluene	20 u
606-20-2	2 6-Dinitrotoluene	20 u
84-66-2	Diethylphthalate	20 u
7005-72-3	4-Chlorophenyl-phenylether	20 u
86-73-7	Fluorene	20 u
100-01-6	4-Nitroaniline	100 u
534-52-1	4, 6-Dinitro-2-Methylphenol	100 u
86-30-6	N-Nitrosodiphenylamine (1)	20 u
101-55-3	4-Bromophenyl-phenylether	20 u
118-74-1	Hexachlorobenzene	20 u
87-86-5	Pentachlorophenol	100 u
85-01-8	Phenanthrene	20 u
120-12-7	Anthracene	20 u
84-74-2	Di-n-Butylphthalate	20 u
206-44-0	Fluoranthene	20 u
129-00-0	Pyrene	20 u
85-68-7	Butylbenzylphthalate	20 u
91-94-1	3, 3'-Dichlorobenzidine	40 u
56-55-3	Benzo(a)Anthracene	20 u
117-81-7	bis(2-Ethylhexyl)Phthalate	20 u
218-01-9	Chrysene	20 u
117-84-0	Di-n-Octyl Phthalate	20 u
205-99-2	Benzo(b)Fluoranthene	20 u
207-08-9	Benzo(k)Fluoranthene	20 u
50-32-8	Benzo(a)Pyrene	20 u
193-39-5	Indeno(1, 2, 3-cd)Pyrene	20 u J
53-70-3	Dibenzo(a, h)Anthracene	20 u
191-24-2	Benzo(g, h, i)Perylene	20 u

(1)-Cannot be separated from diphenylamine

ALL RESULTS ARE FLAGGED (R) (SURROGATE RECOVERY < 10%) RK.

RK (JLS) 11/19/87

Form I 7/85

25

AVC

Laboratory Name ERCO/ENSECO

Case No 8404

Sample Number EQ394

Organics Analysis Data Sheet
(Page 3)

Pesticide /PCBs

Concentration (Low) Medium (Circle One)

Date Extracted /Prepared 11-9-87

Date Analyzed 11-16-87

Conc/Dil Factor 1

Percent Moisture (decanted) 100

GPC Cleanup ☐Yes ☒No

Separatory Funnel Extraction ☒Yes

Continuous Liquid - Liquid Extraction ☐Yes

CAS Number		(ug /l) or ug /Kg (Circle One)
319-84 6	Alpha-BHC	0.05U
319-85 7	Beta-BHC	0.05U
319-86 8	Delta BHC	0.05U
58 89 9	Gamma-BHC (Lindane)	0.05U
76-44-8	Heptachlor	0.05U
309 00-2	Aldrin	0.05U
1024-57-3	Heptachlor Epoxide	0.05U
959-98-8	Endosulfan I	0.05U
60 57-1	Dieldrin	0.10U
72-55 9	4 4 -DDE	0.10U
72-20-8	Endrin	0.10U
33213-65 9	Endosulfan II	0.10U
72-54-8	4 4 -DDD	0.10U
1031-07-8	Endosulfan Sulfate	0.10U
50-29 3	4 4 -DDT	0.10U
72-43-5	Methoxychlor	0.50U
53494 70 5	Endrin Ketone	0.10U
57-74 9	Chlordane	0.50U
8001-35 2	Toxaphene	1.0U
12674-11-2	Aroclor-1016	0.50U
11104-28-2	Aroclor-1221	0.50U
11141-16 5	Aroclor-1232	0.50U
53469 21-9	Aroclor-1242	0.50U
12672-29-6	Aroclor-1248	0.50U
11097-69-1	Aroclor-1254	0.50U
11096-82-5	Aroclor 1260	0.50U

V_i = Volume of extract injected (ul)

V_s = Volume of water extracted (ml)

W_s = Weight of sample extracted (g)

V_t = Volume of total extract (ul)

V_s 1000 or W_s NA V_t 1000 V_i 2.0

Case No 8404

EQ-394

583C14

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. 105-LC-2	Caprolactam	BNA	695	16
2. –	none detected	VOA	–	–
3.				
4.				
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AVC

Sample Number
EQ-394 reextract

BNA only
Resubmitted Data

Organics Analysis Data Sheet
(Page 1)

Laboratory Name Enseco - Ero laboratory
Case No 8404
Lab Sample ID No 5830-14
QC Report No 003-CAL
Sample Matrix water
Contract No 68-01-7147
Data Release Authorized By AN/JC
Date Sample Received 11-~~6~~-87
5 EJM.

Volatile Compounds

~~Concentration: Low Medium (Circle One)~~
~~Date Extracted/Prepared~~
~~Date Analyzed~~
~~Conc/Dil Factor: pH~~
~~Percent Moisture: (Not Decanted)~~

REEXTRACT DEMONSTRATES A MATRIX EFFECT.

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

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

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 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. 10J). If limit of detection is 10 µg/l and a concentration of 3 µg/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/ul 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.

Case No 8404

E9-394 RE EXTR

583014

Organics Analysis Data Sheet
(Page 2)

Semivolatile Compounds

Demonstrates matrix effect.

Concentration: Low Medium (Circle One)

Date Extracted/Prepared 11/30/87

Date Analyzed 12/2/87

Conc/Dil Factor: 2

Percent Moisture (Decanted) -

GPC Cleanup ☐Yes ☒No

Separatory Funnel Extraction ☒Yes

Continuous Liquid - Liquid Extraction ☐Yes

CAS Number		ug/l or ug/Kg (Circle One)
108-95-2	Phenol	20 u
111-44-4	bis(-2-Chloroethyl)Ether	20 u
95-57-8	2-Chlorophenol	20 u
541-73-1	1 3-Dichlorobenzene	20 u
106-46-7	1, 4-Dichlorobenzene	20 u
100-51-6	Benzyl Alcohol	20 u
95-50-1	1 2-Dichlorobenzene	20 u
95-48-7	2-Methylphenol	20 u
39638-32-9	bis(2-chloroisopropyl)Ether	20 u
106-44-5	4-Methylpheno	20 u
621-64-7	N-Nitroso-Di-n-Propylamine	20 u
67-72-1	Hexachloroethane	20 u
98-95-3	Nitrobenzene	20 u
78-59-1	Isophorone	20 u
88-75-5	2-Nitrophenol	20 u
105-67-9	2, 4-Dimethylphenol	20 u
65-85-0	Benzoic Acid	100 u
111-91-1	bis(-2-Chloroethoxy)Methane	20 u
120-83-2	2, 4-Dichlorophenol	20 u
120-82-1	1, 2, 4-Trichlorobenzene	20 u
91-20-3	Naphthalene	20 u
106-47-8	4-Chloroaniline	20 u
87-68-3	Hexachlorobutadiene	20 u
59-50-7	4-Chloro-3-Methylphenol	20 u
91-57-6	2-Methylnaphthalene	20 u
77-47-4	Hexachlorocyclopentadiene	20 u J
88-06-2	2, 4, 6-Trichlorophenol	20 u
95-95-4	2, 4, 5-Trichlorophenol	100 u
91-58-7	2-Chloronaphthalene	20 u
88-74-4	2-Nitroaniline	100 u
131-11-3	Dimethyl Phthalate	20 u
208-96-8	Acenaphthylene	20 u
90-09-2	3-Nitroaniline	100 u

CAS Number		ug/l or ug/Kg (Circle One)
83-32-9	Acenaphthene	20 u
51-28-5	2, 4-Dinitrophenol	100 u
100-02-7	4-Nitrophenol	100 u
132-64-9	Dibenzofuran	20 u
121-14-2	2 4-Dinitrotoluene	20 u
606-20-2	2 6-Dinitrotoluene	20 u
84-66-2	Diethylphthalate	20 u
7005-72-3	4-Chlorophenyl-phenylether	20 u
86-73-7	Fluorene	20 u
100-01-6	4-Nitroaniline	100 u J
534-52-1	4, 6-Dinitro-2-Methylphenol	100 u
86-30-6	N-Nitrosodiphenylamine (1)	2.6 ~~j b~~ u J
101-55-3	4-Bromophenyl-phenylether	20 u
118-74-1	Hexachlorobenzene	20 u
87-86-5	Pentachlorophenol	100 u
85-01-8	Phenanthrene	20 u
120-12-7	Anthracene	20 u
84-74-2	Di-n-Butylphthalate	20 u
206-44-0	Fluoranthene	20 u
129-00-0	Pyrene	20 u
85-68-7	Butylbenzylphthalate	20 u
91-94-1	3, 3'-Dichlorobenzidine	20 u
56-55-3	Benzo(a)Anthracene	20 u
117-81-7	bis(2-Ethylhexyl)Phthalate	18 ~~j b~~ u J
218-01-9	Chrysene	20 u
117-84-0	Di-n-Octyl Phthalate	20 u
205-99-2	Benzo(b)Fluoranthene	20 u
207-08-9	Benzo(k)Fluoranthene	20 u
50-32-8	Benzo(a)Pyrene	20 u
193-39-5	Indeno(1, 2, 3-cd)Pyrene	20 u
53-70-3	Dibenz(a h)Anthracene	20 u
191-24-2	Benzo(g h, i)Perylene	20 u

(1)-Cannot be separated from diphenylamine

ALL RESULTS ARE FLAGGED (R.)
(SURROGATE RECOVERY <10%)
R.K.

Form I

ALL RESULTS ~~UJ~~ - HOLDING TIMES EXCEEDED

RK 1/19/88

48 /85

AVL NCI

Case No [illegible]

E9-394 RE EXTRA

5E3014

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	1510	23
2.	Unknown	BNA	1514	23
3.				
4.				
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AVL
WCA

EW 975

Organics Analysis Data Sheet
(Page 1)

Laboratory Name: Enseco - Erco Laboratory
Case No. 8404
Lab Sample ID No. 5830-05
QC Report No: 003-CAL
Sample Matrix. Water
Contract No 65-01-7147
Data Release Authorized By: [illegible]
Date Sample Received: 11.5.87 5 GSM

Volatile Compounds

Concentration: Low Medium (Circle One)
Date Extracted/Prepared: 11.8.87
Date Analyzed: 11.8.87
Conc/Dil Factor: 1.0 pH —
Percent Moisture: (Not Decanted) —

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	2.0 ~~5~~ BMJ
67-64-1	Acetone	10u
75-15-0	Carbon Disulfide	5uJ
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	10uJ
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	10u
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 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., 10J). If limit of detection is 10 µg·l and a concentration of 3 µg·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/ul 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

RK (MJ) 1/19/88

Case No 8404

E9-395

58305

Organics Analysis Data Sheet
(Page 2)

Semivolatile Compounds

Concentration: Low Medium (Circle One)

Date Extracted/Prepared 11/9/87

Date Analyzed: 11/20/87

Conc/Dil Factor: 4

Percent Moisture (Decanted) -

GPC Cleanup ☐Yes ☒No

Separatory Funnel Extraction ☒Yes

Continuous Liquid - Liquid Extraction ☐Yes

CAS Number		ug/l or ug/Kg (Circle One)
108-95-2	Phenol	40 µ
111-44-4	bis(-2-Chloroethyl)Ether	40 µ
95-57-8	2-Chlorophenol	40 µ
541-73-1	1 3-Dichlorobenzene	40 µ
106-46-7	1, 4-Dichlorobenzene	40 µ
100-51-6	Benzyl Alcohol	40 µ
95-50-1	1 2-Dichlorobenzene	40 µ
95-48-7	2-Methylphenol	40 µ
39638-32-9	bis(2-chloroisopropyl)Ether	40 µ
106-44-5	4-Methylpheno	40 µ
621-64-7	N-Nitroso-Di-n-Propylamine	40 µ
67-72-1	Hexachloroethane	40 µ
98-95-3	Nitrobenzene	40 µ
78-59-1	Isophorone	40 µ
88-75-5	2-Nitrophenol	40 µ
105-67-9	2, 4-Dimethylphenol	40 µ
65-85-0	Benzoic Acid	200 µ J
111-91-1	bis(-2-Chloroethoxy)Methane	40 µ
120-83-2	2, 4-Dichlorophenol	40 µ
120-82-1	1, 2, 4-Trichlorobenzene	40 µ
91-20-3	Naphthalene	40 µ
106-47-8	4-Chloroaniline	40 µ
87-68-3	Hexachlorobutadiene	40 µ
59-50-7	4-Chloro-3-Methylphenol	40 µ
91-57-6	2-Methylnaphthalene	40 µ
77-47-4	Hexachlorocyclopentadiene	40 µ J
88-06-2	2, 4, 6-Trichlorophenol	40 µ
95-95-4	2, 4, 5-Trichlorophenol	200 µ
91-58-7	2-Chloronaphthalene	40 µ
88-74-4	2-Nitroaniline	200 µ
131-11-3	Dimethyl Phthalate	40 µ
203-96-8	Acenaphthylene	40 µ
90-09-2	3-Nitroaniline	200 µ

CAS Number		ug/l or ug/Kg (Circle One)
83-32-9	Acenaphthene	40 µ
51-28-5	2, 4-Dinitrophenol	200 µ
100-02-7	4-Nitrophenol	200 µ
132-64-9	Dibenzofuran	40 µ
121-14-2	2 4-Dinitrotoluene	40 µ
606-20-2	2 6-Dinitrotoluene	40 µ
84-66-2	Diethylphthalate	40 µ
7005-72-3	4-Chlorophenyl-phenylether	40 µ
86-73-7	Fluorene	40 µ
100-01-6	4-Nitroaniline	200 µ J
534-52-1	4, 6-Dinitro-2-Methylphenol	200 µ
86-30-6	N-Nitrosodiphenylamine (1)	40 µ
101-55-3	4-Bromophenyl-phenylether	40 µ
118-74-1	Hexachlorobenzene	40 µ
87-86-5	Pentachlorophenol	40 µ
85-01-8	Phenanthrene	200 µ
120-12-7	Anthracene	40 µ
84-74-2	Di-n-Butylphthalate	40 µ
206-44-0	Fluoranthene	40 µ
129-00-0	Pyrene	40 µ
85-68-7	Butylbenzylphthalate	40 µ
91-94-1	3, 3'-Dichlorobenzidine	80 µ
56-55-3	Benzo(a)Anthracene	40 µ
117-81-7	bis(2-Ethylhexyl)Phthalate	40 µ
218-01-9	Chrysene	40 µ
117-84-0	Di-n-Octyl Phthalate	40 µ
205-99-2	Benzo(b)Fluoranthene	40 µ
207-08-9	Benzo(k)Fluoranthene	40 µ
50-32-8	Benzo(a)Pyrene	40 µ
193-39-5	Indeno(1, 2, 3-cd)Pyrene	40 µ
53-70-3	Dibenz(a h)Anthracene	40 µ
191-24-2	Benzo(g, h, i)Perylene	40 µ

(1)-Cannot be separated from diphenylamine

ALL RESULTS ARE FLAGGED (R)
(SURROGATE RECOVERY <10%)
R.K. 1/19/88

RK (MT) 1/19/88

Form I

7/85

AVZ NLL

Case No 8904

EW575

Organics Analysis Data Sheet
(Page 3)

Pesticide/PCBs

Concentration (Low) Medium (Circle One)

Date Extracted/Prepared 11-6-87

Date Analyzed 11-16-87

Conc/Dil Factor 1

Percent Moisture (decanted) 100

GPC Cleanup ☐Yes ☒No

Separatory Funnel Extraction ☒Yes

Continuous Liquid - Liquid Extraction ☐Yes

CAS Number		(ug/l) or ug/Kg (Circle One)
319-84-6	Alpha-BHC	0.05U
319-85-7	Beta-BHC	0.05U
319-86-8	Delta-BHC	0.05U
58-89-9	Gamma-BHC (Lindane)	0.05U
76-44-8	Heptachlor	0.05U
309-00-2	Aldrin	0.05U
1024-57-3	Heptachlor Epoxide	0.05U
959-98-8	Endosulfan I	0.05U
60-57-1	Dieldrin	0.10U J
72-55-9	4 4 -DDE	0.10U
72-20-8	Endrin	0.10U J
33213-65-9	Endosulfan II	0.10U
72-54-8	4 4'-DDD	0.10U
1031-07-8	Endosulfan Sulfate	0.10U
50-29-3	4 4 -DDT	0.10U J
72-43-5	Methoxychlor	0.50U
53494-70 5	Endrin Ketone	0.10U
57-74-9	Chlordane	0.50U
8001-35 2	Toxaphene	1.0U
12674-11-2	Aroclor-1016	0.50U
11104-28-2	Aroclor-1221	0.50U
11141-16-5	Aroclor-1232	0.50U
53469-21-9	Aroclor-1242	0.50U
12672-29-6	Aroclor-1248	0.50U
11097-69-1	Aroclor-1254	0.50U
11096-82-5	Aroclor-1260	0.50U

V_i = Volume of extract injected (ul)

V_s = Volume of water extracted (ml)

W_s = Weight of sample extracted (g)

V_t = Volume of total extract (ul)

V_s 500 or W_s NA V_t 1000 V_i 2.0

R.K. 11/19/88 (MT)

58305

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	1565	37
2.	Unknown	BNA	1645	16
3.	none detected	VOA	—	—
4.				
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AVL
NUL

Organics Analysis Data Sheet
(Page 1)

Laboratory Name: Enseco - Erco Laboratory
Case No: 5404
Lab Sample ID No: 5830-03
QC Report No: 003-CAL
Sample Matrix: Water
Contract No: 68-01-7147
Data Release Authorized By:
Date Sample Received: 11-6-87
5 gm

Volatile Compounds

Concentration: Low Medium (Circle One)
Date Extracted/Prepared: 11-8-87
Date Analyzed: 11-8-87
Conc/Dil Factor: 1.0 pH —
Percent Moisture (Not Decanted) —

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	2.4 JB ~~MJ~~
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	10u
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	1.1 J
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 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., 10J). If limit of detection is 10 µg/l and a concentration of 3 µg/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/ul 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

RK (MJ)
1/19/88

92

Case No _____

E4-576

52303

Organics Analysis Data Sheet
(Page 2)

Semivolatile Compounds

Concentration: (Low) Medium (Circle One)

Date Extracted/Prepared 11/4/87

Date Analyzed: 11/20/87

Conc./Dil Factor: 8

Percent Moisture (Decanted) –

GPC Cleanup ☐Yes ☒No

Separatory Funnel Extraction ☒Yes

Continuous Liquid - Liquid Extraction ☐Yes

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

CAS Number		(ug/l or ug/Kg) (Circle One)
83-32-9	Acenaphthene	20 u
51-28-5	2, 4-Dinitrophenol	100 u
100-02-7	4-Nitrophenol	100 u
132-64-9	Dibenzofuran	20 u
121-14-2	2 4-Dinitrotoluene	20 u
606-20-2	2 6-Dinitrotoluene	20 u
84-66-2	Diethylphthalate	20 u
7005-72-3	4-Chlorophenyl-phenylether	20 u
86-73-7	Fluorene	20 u
100-01-6	4-Nitroaniline	100 u
534-52-1	4, 6-Dinitro-2-Methylphenol	100 u
86-30-6	N-Nitrosodiphenylamine (1)	20 u
101-55-3	4-Bromophenyl-phenylether	20 u
118-74-1	Hexachlorobenzene	20 u
87-86-5	Pentachlorophenol	100 u
85-01-8	Phenanthrene	20 u
120-12-7	Anthracene	20 u
84-74-2	Di-n-Butylphthalate	20 u
206-44-0	Fluoranthene	20 u
129-00-0	Pyrene	20 u
85-68-7	Butylbenzylphthalate	20 u
91-94-1	3, 3'-Dichlorobenzidine	40 u
56-55-3	Benzo(a)Anthracene	20 u
117-81-7	bis(2-Ethylhexyl)Phthalate	20 u
218-01-9	Chrysene	20 u
117-84-0	Di-n-Octyl Phthalate	20 u
205-99-2	Benzo(b)Fluoranthene	20 u
207-08-9	Benzo(k)Fluoranthene	20 u
50-32-8	Benzo(a)Pyrene	20 u
193-39-5	Indeno(1, 2, 3-cd)Pyrene	20 u
53-70-3	Dibenz(a, h)Anthracene	20 u
191-24-2	Benzo(g, h, i)Perylene	20 u

(1)-Cannot be separated from diphenylamine

RK 1/19/88

(MJ)

Case No 0404

Organics Analysis Data Sheet
(Page 3)

Pesticide/PCBs

Concentration (Low) Medium (Circle One)

Date Extracted/Prepared 11-6-87

Date Analyzed 11-16-87

Conc/Dil Factor 1

Percent Moisture (decanted) 100

GPC Cleanup ☐Yes ☒No

Separatory Funnel Extraction ☒Yes

Continuous Liquid - Liquid Extraction ☐Yes

CAS Number		(ug/l) or ug/Kg (Circle One)
319-84-6	Alpha-BHC	0.05U
319-85-7	Beta-BHC	0.05U
319-86-8	Delta-BHC	0.05U
58 89 9	Gamma-BHC (Lindane)	0.05U
76-44-8	Heptachlor	0.05U
309-00-2	Aldrin	0.05U
1024-57-3	Heptachlor Epoxide	0.05U
959-98-8	Endosulfan I	0.05U
60 57-1	Dieldrin	0.10U
72-55-9	4 4 -DDE	0.10U
72-20-8	Endrin	0.10U
33213-65-9	Endosulfan II	0.10U
72-54-8	4 4 -DDD	0.10U
1031-07-8	Endosulfan Sulfate	0.10U
50-29-3	4 4 -DDT	0.10U
72-43-5	Methoxychlor	0.50U
53494-70 5	Endrin Ketone	0.10U
57-74 9	Chlordane	0.50U
8001-35 2	Toxaphene	1.0U
12674-11-2	Aroclor-1016	0.50U
11104-28-2	Aroclor-1221	0.50U
11141-16-5	Aroclor-1232	0.50U
53469-21-9	Aroclor-1242	0.50U
12672-29-6	Aroclor-1248	0.50U
11097-69-1	Aroclor-1254	0.50U
11096-82-5	Aroclor-1260	0.50U

V_i = Volume of extract injected (ul)

V_s = Volume of water extracted (ml)

W_s = Weight of sample extracted (g)

V_t = Volume of total extract (ul)

V_s 1000 or W_s NA V_t 1000 V_i 2.0

Case No _____

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. 75285	2-methyl propane	VOA	206	40
2. 873-49	cyclohexanone, 3,3,5-trimethyl-	VOA	1264	5
3. –	none detected	BNA	–	–
4.				
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EQ 547

Organics Analysis Data Sheet
(Page 1)

Laboratory Name Enseco - Erco Laboratory
Case No 8404
Lab Sample ID No 5830-01
QC Report No 003-CAL
Sample Matrix Water
Contract No 68-01-7147
Data Release Authorized By Aw
Date Sample Received 11.~~6~~5.87 EJM 5

Volatile Compounds

Concentration: Low Medium (Circle One)
Date Extracted/Prepared: 11.8.87
Date Analyzed: 11.8.87
Conc/Dil Factor: 1.0 pH —
Percent Moisture (Not Decanted) —

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	3.2 ~~JB~~ MJ
67-64-1	Acetone	10u
75-15-0	Carbon Disulfide	5uJ
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	10uJ
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	32
10061-01-5	cis-1, 3-Dichloropropene	5u
110-75-8	2-Chloroethylvinylether	10u
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	22

D.L= 5

5

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 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., 10J). If limit of detection is 10 µg/l and a concentration of 3 µg/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/ul 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.

AK (MJ)
1/19/88

116

Case No: [illegible]

EQ-397

583c1

Organics Analysis Data Sheet
(Page 2)

Semivolatile Compounds

Concentration: Low Medium (Circle One)

Date Extracted/Prepared 11/9/87

Date Analyzed. 11/20/87

Conc/Dil Factor: 4

Percent Moisture (Decanted) -

GPC Cleanup ☐Yes ☒No

Separatory Funnel Extraction ☒Yes

Continuous Liquid - Liquid Extraction ☐Yes

?

CAS Number		ug/l or ug/Kg (Circle One)
108-95-2	Phenol	85 j
111-44-4	bis(-2-Chloroethyl)Ether	40 u
95-57-8	2-Chlorophenol	40 u
541-73-1	1 3-Dichlorobenzene	40 u
106-46-7	1 4-Dichlorobenzene	40 u
100-51-6	Benzyl Alcohol	40 u
95-50-1	1 2-Dichlorobenzene	40 u
95-48-7	2-Methylphenol	40 u
39638-32-9	bis(2-chloroisopropyl)Ether	40 u
106-44-5	4-Methylphenol	40 u
621-64-7	N-Nitroso-Di-n-Propylamine	40 u
67-72-1	Hexachloroethane	40 u
98-95-3	Nitrobenzene	40 u
78-59-1	Isophorone	40 u
88-75-5	2-Nitrophenol	40 u
105-67-9	2. 4-Dimethylphenol	14 j
65-85-0	Benzoic Acid	200 u J
111-91-1	bis(-2-Chloroethoxy)Methane	40 u
120-83-2	2. 4-Dichlorophenol	40 u
120-82-1	1. 2. 4-Trichlorobenzene	40 u
91-20-3	Naphthalene	40 u
106-47-8	4-Chloroaniline	40 u
87-68-3	Hexachlorobutadiene	40 u
59-50-7	4-Chloro-3-Methylphenol	40 u
91-57-6	2-Methylnaphthalene	40 u
77-47-4	Hexachlorocyclopentadiene	40 u J
88-06-2	2. 4. 6-Trichlorophenol	40 u
95-95-4	2. 4. 5-Trichlorophenol	200 u
91-58-7	2-Chloronaphthalene	40 u
88-74-4	2-Nitroaniline	200 u
131-11-3	Dimethyl Phthalate	40 u
208-96-8	Acenaphthylene	40 u
99-09-2	3-Nitroaniline	200 u

CAS Number		ug/l or ug/Kg (Circle One)
83-32-9	Acenaphthene	40 u
51-28-5	2. 4-Dinitrophenol	200 u
100-02-7	4-Nitrophenol	200 u
132-64-9	Dibenzofuran	40 u
121-14-2	2 4-Dinitrotoluene	40 u
606-20-2	2 6-Dinitrotoluene	40 u
84-66-2	Diethylphthalate	40 u
7005-72-3	4-Chlorophenyl-phenylether	40 u
86-73-7	Fluorene	40 u
100-01-6	4-Nitroaniline	200 u J
534-52-1	4. 6-Dinitro-2-Methylphenol	200 u
86-30-6	N-Nitrosodiphenylamine (1)	40 u
101-55-3	4-Bromophenyl-phenylether	40 u
118-74-1	Hexachlorobenzene	40 u
87-86-5	Pentachlorophenol	200 u
85-01-8	Phenanthrene	40 u
120-12-7	Anthracene	40 u
84-74-2	Di-n-Butylphthalate	40 u
206-44-0	Fluoranthene	40 u
129-00-0	Pyrene	40 u
85-68-7	Butylbenzylphthalate	40 u
91-94-1	3. 3'-Dichlorobenzidine	80 u
56-55-3	Benzo(a)Anthracene	40 u
117-81-7	bis(2-Ethylhexyl)Phthalate	40 u
218-01-9	Chrysene	40 u
117-84-0	Di-n-Octyl Phthalate	40 u
205-99-2	Benzo(b)Fluoranthene	40 u
207-08-9	Benzo(k)Fluoranthene	40 u
50-32-8	Benzo(a)Pyrene	40 u
193-39-5	Indeno(1. 2. 3-cd)Pyrene	40 u
53-70-3	Dibenz(a. h)Anthracene	40 u
191-24-2	Benzo(g. h. i)Perylene	40 u

(1)-Cannot be separated from diphenylamine

Form I RK (MT) 1/19/88

7/85

NL 210

Case No 0404

E4547

Organics Analysis Data Sheet
(Page 3)

Pesticide/PCBs

Concentration (Low) Medium (Circle One)

Date Extracted/Prepared 11-6-87

Date Analyzed 11-16-87 ; 11-17-87

Conc/Dil Factor 10

Percent Moisture (decanted) 100

GPC Cleanup ☐Yes ☒No

Separatory Funnel Extraction ☒Yes

Continuous Liquid - Liquid Extraction ☐Yes

CAS Number		ug/l or ug/Kg (Circle One)
319-84-6	Alpha-BHC	0.50U
319-85-7	Beta-BHC	0.50U
319-86-8	Delta BHC	0.50U
58-89-9	Gamma-BHC (Lindane)	0.50U
76-44-8	Heptachlor	0.50U
309-00-2	Aldrin	0.50U
1024-57-3	Heptachlor Epoxide	0.50U
959-98-8	Endosulfan I	0.50U
60-57-1	Dieldrin	1.0U
72-55-9	4,4'-DDE	1.0U
72-20-8	Endrin	1.0U
33213-65-9	Endosulfan II	1.0U
72-54-8	4,4'-DDD	1.0U
1031-07-8	Endosulfan Sulfate	1.0U
50-29-3	4,4'-DDT	1.0U
72-43-5	Methoxychlor	5.0U
53494-70-5	Endrin Ketone	1.0U
57-74-9	Chlordane	5.0U
8001-35-2	Toxaphene	10U
12674-11-2	Aroclor-1016	5.0U
11104-28-2	Aroclor-1221	5.0U
11141-16-5	Aroclor-1232	5.0U
53469-21-9	Aroclor-1242	5.0U
12672-29-6	Aroclor-1248	5.0U
11097-69-1	Aroclor-1254	5.0U
11096-82-5	Aroclor-1260	5.0U

V_i = Volume of extract injected (ul)

V_s = Volume of water extracted (ml)

W_s = Weight of sample extracted (g)

V_t = Volume of total extract (ul)

V_s 1000 or W_s NA V_t 1000 V_i 2.0

58301

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 and methylene chloride	BNA	184	54
2. 15176-21-3	1,4-dioxane, 2,5-dimethyl	BNA	196	170
3.	dimethylbenzene isomer	BNA	246	38
4. 873-94-9	3,3,5-trimethyl cyclohexanone	BNA	478	1200
5. 116-02-9	3,3,5-trimethyl cyclohexanol	BNA	493	580
6. 632-14-4	Trimethyl urea	BNA	505	29
7.	dimethylphenol isomer	BNA	584	28
8.	Unknown alcohol	BNA	596	48
9.	dimethylphenol isomer	BNA	665	66
10. 105-60-2	caprolactam	BNA	735	180
11.	Unknown	BNA	745	34
12. 1124-53-4	N-cyclohexyl-acetamide	BNA	754	23
13.	Substituted propanol	BNA	767	18
14. 109875	Dimethoxy methane	VOA	342	80
15.	C_4H_8O isomer		384	210
16.	unknown hydrocarbon		404	21
17. 60297	1,1'-oxybis ethane		427	21
18.	$C_4H_8O_2$ isomer		476	43
19.	$C_5H_{10}O$ isomer		552	43
20.	unknown hydrocarbon		650	17
21.	$C_6H_{12}O_2$ isomer		818	89
22.	unknown hydrocarbon		1266	610
23. 116029	cyclohexanol, 3,3,5-trimethyl-		1421	46
24.				
25.				
26.				
27.				
28.				
29.				
30.				

AHL
NCR

Organics Analysis Data Sheet
(Page 1)

Laboratory Name: Enseco - Erco Laboratory
Case No.: 8404
Lab Sample ID No: 5530-02
QC Report No.: 003-CAL
Sample Matrix: Water
Contract No: 68-01-7147
Data Release Authorized By: [illegible]
Date Sample Received: 11.5.87

Volatile Compounds

Concentration: Low Medium (Circle One)
Date Extracted/Prepared: 11.7.87
Date Analyzed: 11.7.87
Conc/Dil Factor: 20 pH —
Percent Moisture (Not Decanted) —

CAS Number		ug/l or ug/Kg (Circle One)
74-87-3	Chloromethane	200u
74-83-9	Bromomethane	200u
75-01-4	Vinyl Chloride	200u
75-00-3	Chloroethane	200u
75-09-2	Methylene Chloride	100u
67-64-1	Acetone	200u
75-15-0	Carbon Disulfide	100u
75-35-4	1, 1-Dichloroethene	100u
75-34-3	1, 1-Dichloroethane	100u
156-60-5	Trans-1, 2-Dichloroethene	100u
67-66-3	Chloroform	100u
107-06-2	1, 2-Dichloroethane	100u
78-93-3	2-Butanone	200u
71-55-6	1, 1, 1-Trichloroethane	100u
56-23-5	Carbon Tetrachloride	100u
108-05-4	Vinyl Acetate	200u
75-27-4	Bromodichloromethane	100u

CAS Number		ug/l or ug/Kg (Circle One)
78-87-5	1, 2-Dichloropropane	100u
10061-02-6	Trans-1, 3-Dichloropropene	100u
79-01-6	Trichloroethene	100u
124-48-1	Dibromochloromethane	100u
79-00-5	1, 1, 2-Trichloroethane	100u
71-43-2	Benzene	150
10061-01-5	cis-1, 3-Dichloropropene	100u
110-75-8	2-Chloroethylvinylether	200u
75-25-2	Bromoform	100u
108-10-1	4-Methyl-2-Pentanone	200u J
591-78-6	2-Hexanone	200u J
127-18-4	Tetrachloroethene	100u
79-34-5	1, 1, 2, 2-Tetrachloroethane	100u
108-88-3	Toluene	100u
108-90-7	Chlorobenzene	100u
100-41-4	Ethylbenzene	100u
100-42-5	Styrene	100u
	Total Xylenes	100u

D.L. = 100

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 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., 10J). If limit of detection is 10 µg/l and a concentration of 3 µg/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/ul 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.

RK (MJ) 1/19/88

Case No _____

E4-378

58302

Organics Analysis Data Sheet
(Page 2)

Semivolatile Compounds

Concentration: Low Medium (Circle One)

Date Extracted/Prepared 11/9/87

Date Analyzed: 11/20/87

Conc/Dil Factor: 2

Percent Moisture (Decanted) –

GPC Cleanup ☐Yes ☒No

Separatory Funnel Extraction ☒Yes

Continuous Liquid - Liquid Extraction ☐Yes

CAS Number		ug/l or ug/Kg (Circle One)
108-95-2	Phenol	50
111-44-4	bis(-2-Chloroethyl)Ether	20 µ
95-57-8	2-Chlorophenol	20 µ
541-73-1	1 3-Dichlorobenzene	20 µ
106-46-7	1, 4-Dichlorobenzene	20 µ
100-51-6	Benzyl Alcohol	20 µ
95-50-1	1 2-Dichlorobenzene	20 µ
95-48-7	2-Methylphenol	20 µ
39638-32-9	bis(2-chloroisopropyl)Ether	20 µ
106-44-5	4-Methylphenol	20 µ
621-64-7	N-Nitroso-Di-n-Propylamine	20 µ
67-72-1	Hexachloroethane	20 µ
98-95-3	Nitrobenzene	20 µ
78-59-1	Isophorone	20 µ
88-75-5	2-Nitrophenol	20 µ
105-67-9	2, 4-Dimethylphenol	32
65-85-0	Benzoic Acid	100 µ
111-91-1	bis(-2-Chloroethoxy)Methane	20 µ
120-83-2	2, 4-Dichlorophenol	20 µ
120-82-1	1, 2, 4-Trichlorobenzene	20 µ
91-20-3	Naphthalene	20 µ
106-47-8	4-Chloroaniline	20 µ
87-68-3	Hexachlorobutadiene	20 µ
59-50-7	4-Chloro-3-Methylphenol	20 µ
91-57-6	2-Methylnaphthalene	20 µ
77-47-4	Hexachlorocyclopentadiene	20 µ
88-06-2	2, 4, 6-Trichlorophenol	20 µ
95-95-4	2, 4, 5-Trichlorophenol	100 µ
91-58-7	2-Chloronaphthalene	20 µ
88-74-4	2-Nitroaniline	100 µ
131-11-3	Dimethyl Phthalate	20 µ
208-96-8	Acenaphthylene	20 µ
90-09-2	3-Nitroaniline	100 µ

D.L= 20

20

CAS Number		ug/l or ug/Kg (Circle One)
83-32-9	Acenaphthene	20 µ
51-28-5	2, 4-Dinitrophenol	100 µ
100-02-7	4-Nitrophenol	100 µ
132-64-9	Dibenzofuran	20 µ
121-14-2	2 4-Dinitrotoluene	20 µ
606-20-2	2 6-Dinitrotoluene	20 µ
84-66-2	Diethylphthalate	20 µ
7005-72-3	4-Chlorophenyl-phenylether	20 µ
86-73-7	Fluorene	20 µ
100-01-6	4-Nitroaniline	100 µ
534-52-1	4, 6-Dinitro-2-Methylphenol	100 µ
86-30-6	N-Nitrosodiphenylamine (1)	20 µ
101-55-3	4-Bromophenyl-phenylether	20 µ
118-74-1	Hexachlorobenzene	20 µ
87-86-5	Pentachlorophenol	100 µ
85-01-8	Phenanthrene	20 µ
120-12-7	Anthracene	20 µ
84-74-2	Di-n-Butylphthalate	20 µ
206-44-0	Fluoranthene	20 µ
129-00-0	Pyrene	20 µ
85-68-7	Butylbenzylphthalate	20 µ
91-94-1	3, 3'-Dichlorobenzidine	40 µ
56-55-3	Benzo(a)Anthracene	20 µ
117-81-7	bis(2-Ethylhexyl)Phthalate	20 µ
218-01-9	Chrysene	20 µ
117-84-0	Di-n-Octyl Phthalate	20 µ
205-99-2	Benzo(b)Fluoranthene	20 µ
207-08-9	Benzo(k)Fluoranthene	20 µ
50-32-8	Benzo(a)Pyrene	20 µ
193-39-5	Indeno(1, 2, 3-cd)Pyrene	20 µ
53-70-3	Dibenz(a, h)Anthracene	20 µ
191-24-2	Benzo(g, h i)Perylene	20 µ

(1)-Cannot be separated from diphenylamine

Form I RK 1/19/88 (MJ)

1C8 7/85

AVL
NK

Case No. 8404

EQ570

Organics Analysis Data Sheet
(Page 3)

Pesticide/PCBs

Concentration (Low) Medium (Circle One)

Date Extracted/Prepared 11-6-87

Date Analyzed 11-16-87; 11-17-87

Conc/Dil Factor 10

Percent Moisture (decanted) 100

GPC Cleanup ☐Yes ☒No

Separatory Funnel Extraction ☒Yes

Continuous Liquid - Liquid Extraction ☐Yes

CAS Number		ug/l or ug/Kg (Circle One)
319-84-6	Alpha-BHC	0.50U
319-85-7	Beta-BHC	0.50U
319-86-8	Delta-BHC	0.50U
58-89-9	Gamma-BHC (Lindane)	0.50U
76-44-8	Heptachlor	0.50U
309-00-2	Aldrin	0.50U
1024-57-3	Heptachlor Epoxide	0.50U
959-98-8	Endosulfan I	0.50U
60-57-1	Dieldrin	1.0U
72-55-9	4,4'-DDE	1.0U
72-20-8	Endrin	1.0U
33213-65-9	Endosulfan II	1.0U
72-54-8	4,4'-DDD	1.0U
1031-07-8	Endosulfan Sulfate	1.0U
50-29-3	4,4'-DDT	1.0U
72-43-5	Methoxychlor	5.0U
53494-70-5	Endrin Ketone	1.0U
57-74-9	Chlordane	5.0U
8001-35-2	Toxaphene	10U
12674-11-2	Aroclor-1016	5.0U
11104-28-2	Aroclor-1221	5.0U
11141-16-5	Aroclor-1232	5.0U
53469-21-9	Aroclor-1242	5.0U
12672-29-6	Aroclor-1248	5.0U
11097-69-1	Aroclor-1254	5.0U
11096-82-5	Aroclor-1260	5.0U

V_i = Volume of extract injected (ul)

V_s = Volume of water extracted (ml)

W_s = Weight of sample extracted (g)

V_t = Volume of total extract (ul)

V_s 1000 or W_s NA V_t 1000 V_i 2.0

Organics Analysis Data Sheet
(Page 4)

58308

Tentatively Identified Compounds

CAS Number	Compound Name	Fraction	RT or Scan Number	Estimated Concentration (ug/l or ug/kg)
1.	Unknown(s)	BNA	184	93
2. 15176-21-3	1,4-dioxane, 2,5-dimethyl	BNA	203	130
3.	2-fluorophenol and unknown	BNA	275	18
4.	2-fluorophenol and unknown	BNA	283	40
5. 873-94-9	3,3,5-trimethylcyclohexanone	BNA	472	1300
6. 116-02-9	3,3,5-trimethylcyclohexanol	BNA	497	600
7. 632-14-4	Trimethylurea	BNA	509	32
8. 617-94-7	Benzenemethanol, α,α-dimethyl and unknown	BNA	533	35
9.	Dimethylphenol isomer	BNA	586	42
10.	Unknown alcohol	BNA	597	29
11.	Dimethylphenol isomer and unknown	BNA	626	24
12.	Dimethylphenol isomer	BNA	645	21
13.	Unknown	BNA	661	17
14.	Substituted hexanoic acid	BNA	673	17
15. 105-60-2	Caprolactam + unknown	BNA	706-727	900
16.	Unknown	BNA	750	51
17.	Substituted propanol	BNA	763	21
18.	Unknown	BNA	843	13
19. 98-73-7	4-(1,1-dimethylethyl) benzoic acid	BNA	919	18
20.	Unknown	BNA	1587	30
21.	C_4H_8O isomer	VOA	381	310
22. 873949	cyclohexanone, 3,3,5-trimethyl -	VOA	1264	400
23.				
24.				
25.				
26.				
27.				
28.				
29.				
30.				

Organics Analysis Data Sheet
(Page 1)

Laboratory Name: Enseco - Erco Laboratory
Case No. 8404
Lab Sample ID No. 5830-09
QC Report No: 003-CAL
Sample Matrix: Water
Contract No. 68-01-7147
Data Release Authorized By: A
Date Sample Received: 11/5/87 5/M

Volatile Compounds

Concentration: Low Medium (Circle One)
Date Extracted/Prepared: 11.7.87
Date Analyzed: 11.7.87
Conc/Dil Factor: 1.0 pH —
Percent Moisture (Not Decanted) —

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	1.4 J
67-64-1	Acetone	10u
75-15-0	Carbon Disulfide	5u J
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	10u
75-25-2	Bromoform	5u
108-10-1	4-Methyl-2-Pentanone	10u J
591-78-6	2-Hexanone	10u J
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 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., 10J). If limit of detection is 10 µg/l and a concentration of 3 µg/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/ul 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

RK (MS) 1/19/88

Case No _____

EY-577

58309

Organics Analysis Data Sheet
(Page 2)

Semivolatile Compounds

Concentration: Low Medium (Circle One)

Date Extracted/Prepared 11/9/87

Date Analyzed 11/23/87

Conc/Dil Factor: 2

Percent Moisture (Decanted) –

GPC Cleanup ☐Yes ☒No

Separatory Funnel Extraction ☒Yes

Continuous Liquid - Liquid Extraction ☐Yes

CAS Number		ug/l or ug/Kg (Circle One)
108-95-2	Phenol	20 µ
111-44-4	bis(-2-Chloroethyl)Ether	20 µ
95-57-8	2-Chlorophenol	20 µ
541-73-1	1 3-Dichlorobenzene	20 µ
106-46-7	1, 4-Dichlorobenzene	20 µ
100-51-6	Benzyl Alcohol	20 µ
95-50-1	1 2-Dichlorobenzene	20 µ
95-48-7	2-Methylphenol	20 µ
39638-32-9	bis(2-chloroisopropyl)Ether	20 µ
106-44-5	4-Methylpheno	20 µ
621-64-7	N-Nitroso-Di-n-Propylamine	20 µ
67-72-1	Hexachloroethane	20 µ
98-95-3	Nitrobenzene	20 µ
78-59-1	Isophorone	20 µ
88-75-5	2-Nitrophenol	20 µ
105-67-9	2, 4-Dimethylphenol	20 µ
65-85-0	Benzoic Acid	100 µ J
111-91-1	bis(-2-Chloroethoxy)Methane	20 µ
120-83-2	2, 4-Dichlorophenol	20 µ
120-82-1	1, 2, 4-Trichlorobenzene	20 µ
91-20-3	Naphthalene	20 µ
106-47-8	4-Chloroaniline	20 µ
87-68-3	Hexachlorobutadiene	20 µ
59-50-7	4-Chloro-3-Methylphenol	20 µ
91-57-6	2-Methylnaphthalene	20 µ
77-47-4	Hexachlorocyclopentadiene	20 µ J
88-06-2	2, 4, 6-Trichlorophenol	20 µ
95-95-4	2, 4, 5-Trichlorophenol	100 µ
91-58-7	2-Chloronaphthalene	20 µ
88-74-4	2-Nitroaniline	100 µ
131-11-3	Dimethyl Phthalate	20 µ
208-96-8	Acenaphthylene	20 µ
90-09-2	3-Nitroaniline	100 µ J

CAS Number		ug/l or ug/Kg (Circle One)
83-32-9	Acenaphthene	20 µ
51-28-5	2, 4-Dinitrophenol	100 µ
100-02-7	4-Nitrophenol	100 µ
132-64-9	Dibenzofuran	20 µ
121-14-2	2 4-Dinitrotoluene	20 µ
606-20-2	2 6-Dinitrotoluene	20 µ
84-66-2	Diethylphthalate	20 µ
7005-72-3	4-Chlorophenyl-phenylether	20 µ
86-73-7	Fluorene	20 µ
100-01-6	4-Nitroaniline	100 µ
534-52-1	4, 6-Dinitro-2-Methylphenol	100 µ
86-30-6	N-Nitrosodiphenylamine (1)	20 µ
101-55-3	4-Bromophenyl-phenylether	20 µ
118-74-1	Hexachlorobenzene	20 µ
87-86-5	Pentachlorophenol	100 µ
85-01-8	Phenanthrene	20 µ
120-12-7	Anthracene	20 µ
84-74-2	Di-n-Butylphthalate	20 µ
206-44-0	Fluoranthene	20 µ
129-00-0	Pyrene	20 µ
85-68-7	Butylbenzylphthalate	20 µ
91-94-1	3, 3'-Dichlorobenzidine	40 µ
56-55-3	Benzo(a)Anthracene	20 µ
117-81-7	bis(2-Ethylhexyl)Phthalate	20 µ
218-01-9	Chrysene	20 µ
117-84-0	Di-n-Octyl Phthalate	20 µ
205-99-2	Benzo(b)Fluoranthene	20 µ
207-08-9	Benzo(k)Fluoranthene	20 µ
50-32-8	Benzo(a)Pyrene	20 µ
193-39-5	Indeno(1, 2, 3-cd)Pyrene	20 µ J
53-70-3	Dibenz(a, h)Anthracene	20 µ
191-24-2	Benzo(g, h, i)Perylene	20 µ

(1)-Cannot be separated from diphenylamine

RK 1/19/88

Form I

217

7/85

AVL
NCR

Case No. _____

Organics Analysis Data Sheet
(Page 3)

Pesticide/PCBs

Concentration (Low) Medium (Circle One)

Date Extracted/Prepared 11-6-87

Date Analyzed 11-16-87

Conc/Dil Factor 1

Percent Moisture (decanted) 100

GPC Cleanup ☐Yes ☒No

Separatory Funnel Extraction ☒Yes

Continuous Liquid - Liquid Extraction ☐Yes

CAS Number		(ug/l) or ug/Kg (Circle One)
319-84-6	Alpha-BHC	0.05U
319-85-7	Beta-BHC	0.05U
319-86-8	Delta-BHC	0.05U
58-89-9	Gamma-BHC (Lindane)	0.05U
76-44-8	Heptachlor	0.05U
309-00-2	Aldrin	0.05U
1024-57-3	Heptachlor Epoxide	0.05U
959-98-8	Endosulfan I	0.05U
60-57-1	Dieldrin	0.10U
72-55-9	4,4'-DDE	0.10U
72-20-8	Endrin	0.10U
33213-65-9	Endosulfan II	0.10U
72-54-8	4,4'-DDD	0.10U
1031-07-8	Endosulfan Sulfate	0.10U
50-29-3	4,4'-DDT	0.10U
72-43-5	Methoxychlor	0.50U
53494-70-5	Endrin Ketone	0.10U
57-74-9	Chlordane	0.50U
8001-35-2	Toxaphene	1.0U
12674-11-2	Aroclor-1016	0.50U
11104-28-2	Aroclor-1221	0.50U
11141-16-5	Aroclor-1232	0.50U
53469-21-9	Aroclor-1242	0.50U
12672-29-6	Aroclor-1248	0.50U
11097-69-1	Aroclor-1254	0.50U
11096-82-5	Aroclor-1260	0.50U

V_i = Volume of extract injected (ul)

V_s = Volume of water extracted (ml)

W_s = Weight of sample extracted (g)

V_t = Volume of total extract (ul)

V_s 1000 or W_s NA V_t 1000 V_i 2.0

Case No _____

E4-344
58304

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.	No values	BNA	—	—
2.	none detected	VOA	—	—
3.				
4.				
5.				
6.				
7.				
8.				
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30.				

AHL NCR

Organics Analysis Data Sheet
(Page 1)

Laboratory Name: Enseco - Erco Laboratory
Case No: 5404
Lab Sample ID No: 58 SC-02
QC Report No.: 003-CPR
Sample Matrix: Water
Contract No: 68-01-7147
Data Release Authorized By: [illegible]
Date Sample Received: 11.6.87

Volatile Compounds

Concentration: Low Medium (Circle One)
Date Extracted/Prepared: 11.10.87
Date Analyzed: 11.10.87
Conc/Dil Factor: 1.0 pH —
Percent Moisture: (Not Decanted) —

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	10
67-64-1	Acetone	15
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	10u
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 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., 10J). If limit of detection is 10 µg/l and a concentration of 3 µg/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/ul 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.

RK (MJ)
1/19/88

Form I

11/85

Case No 8404

E7-400

585C 2

Organics Analysis Data Sheet
(Page 2)

Semivolatile Compounds

Concentration: Low Medium (Circle One)

Date Extracted/Prepared 11-10-87

Date Analyzed 11/19/87

Conc/Dil Factor: 2

Percent Moisture (Decanted) —

GPC Cleanup ☐Yes ☑No

Separatory Funnel Extraction ☑Yes

Continuous Liquid - Liquid Extraction ☐Yes

CAS Number		ug/l or ug/Kg (Circle One)
108-95-2	Phenol	20 u
111-44-4	bis(-2-Chloroethyl)Ether	20 u
95-57-8	2-Chlorophenol	20 u
541-73-1	1 3-Dichlorobenzene	20 u
106-46-7	1 4-Dichlorobenzene	20 u
100-51-6	Benzyl Alcohol	20 u
95-50-1	1 2-Dichlorobenzene	20 u
95-48-7	2-Methylphenol	20 u
39638-32-9	bis(2-chloroisopropyl)Ether	20 u
106-44-5	4-Methylpheno	20 u
621-64-7	N-Nitroso-Di-n-Propylamine	20 u
67-72-1	Hexachloroethane	20 u
98-95-3	Nitrobenzene	20 u
78-59-1	Isophorone	20 u
88-75-5	2-Nitrophenol	20 u
105-67-9	2, 4-Dimethylphenol	20 u
65-85-0	Benzoic Acid	100 u J
111-91-1	bis(-2-Chloroethoxy)Methane	20 u
120-83-2	2, 4-Dichlorophenol	20 u
120-82-1	1, 2, 4-Trichlorobenzene	20 u
91-20-3	Naphthalene	20 u
106-47-8	4-Chloroaniline	20 u
87-68-3	Hexachlorobutadiene	20 u
59-50-7	4-Chloro-3-Methylphenol	20 u
91-57-6	2-Methylnaphthalene	20 u
77-47-4	Hexachlorocyclopentadiene	20 u
88-06-2	2, 4, 6-Trichlorophenol	20 u
95-95-4	2, 4, 5-Trichlorophenol	100 u
91-58-7	2-Chloronaphthalene	20 u
88-74-4	2-Nitroaniline	100 u
131-11-3	Dimethyl Phthalate	20 u
203-96-8	Acenaphthylene	20 u
90-09-2	3-Nitroaniline	100 u

CAS Number		ug/l or ug/Kg (Circle One)
83-32-9	Acenaphthene	20 u
51-28-5	2, 4-Dinitrophenol	100 u
100-02-7	4-Nitrophenol	100 u
132-64-9	Dibenzofuran	20 u
121-14-2	2 4-Dinitrotoluene	20 u
606-20-2	2 6-Dinitrotoluene	20 u
84-66-2	Diethylphthalate	20 u
7005-72-3	4-Chlorophenyl-phenylether	20 u
86-73-7	Fluorene	20 u
100-01-6	4-Nitroaniline	100 u
534-52-1	4, 6-Dinitro-2-Methylphenol	100 u
86-30-6	N-Nitrosodiphenylamine (1)	20 u
101-55-3	4-Bromophenyl-phenylether	20 u
118-74-1	Hexachlorobenzene	20 u
87-86-5	Pentachlorophenol	100 u
85-01-8	Phenanthrene	20 u
120-12-7	Anthracene	20 u
84-74-2	Di-n-Butylphthalate	20 u
206-44-0	Fluoranthene	20 u
129-00-0	Pyrene	20 u
85-68-7	Butylbenzylphthalate	20 u
91-94-1	3, 3'-Dichlorobenzidine	40 u
56-55-3	Benzo(a)Anthracene	20 u
117-81-7	bis(2-Ethylhexyl)Phthalate	20 u
218-01-9	Chrysene	20 u
117-84-0	Di-n-Octyl Phthalate	20 u
205-99-2	Benzo(b)Fluoranthene	20 u
207-08-9	Benzo(k)Fluoranthene	20 u
50-32-8	Benzo(a)Pyrene	20 u
193-39-5	Indeno(1, 2, 3-cd)Pyrene	20 u
53-70-3	Dibenz(a, h)Anthracene	20 u J
191-24-2	Benzo(g, h, i)Perylene	20 u J

(1)-Cannot be separated from diphenylamine

Form I RK 1/19/88 (uJ)

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Case No _____

Organics Analysis Data Sheet
(Page 3)

Pesticide/PCBs

Concentration (Low) Medium (Circle One)

Date Extracted/Prepared 11-9-87

Date Analyzed 11-22-87

Conc/Dil Factor 1

Percent Moisture (decanted) 100

GPC Cleanup ☐Yes ☒No

Separatory Funnel Extraction ☒Yes

Continuous Liquid - Liquid Extraction ☐Yes

CAS Number		(ug/l) or ug/Kg (Circle One)
319-84-6	Alpha-BHC	0.05U
319-85-7	Beta-BHC	0.05U
319-86-8	Delta-BHC	0.05U
58-89-9	Gamma-BHC (Lindane)	0.05U
76-44-8	Heptachlor	0.05U
309-00-2	Aldrin	0.05U
1024-57-3	Heptachlor Epoxide	0.05U
959-98-8	Endosulfan I	0.05U
60-57-1	Dieldrin	0.10U
72-55-9	4,4'-DDE	0.10U
72-20-8	Endrin	0.10U
33213-65-9	Endosulfan II	0.10U
72-54-8	4,4'-DDD	0.10U
1031-07-8	Endosulfan Sulfate	0.10U
50-29-3	4,4'-DDT	0.10U
72-43-5	Methoxychlor	0.50U
53494-70-5	Endrin Ketone	0.10U
57-74-9	Chlordane	0.50U
8001-35-2	Toxaphene	1.0U
12674-11-2	Aroclor-1016	0.50U
11104-28-2	Aroclor-1221	0.50U
11141-16-5	Aroclor-1232	0.50U
53469-21-9	Aroclor-1242	0.50U
12672-29-6	Aroclor-1248	0.50U
11097-69-1	Aroclor-1254	0.50U
11096-82-5	Aroclor-1260	0.50U

V_i = Volume of extract injected (ul)

V_s = Volume of water extracted (ml)

W_s = Weight of sample extracted (g)

V_t = Volume of total extract (ul)

V_s 500 or W_s NA V_t 1000 V_i 2.0

Case No. _____

58 502

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.	No unknowns	BNA		
2.				
3.	None detected	VOA		
4.				
5.				
6.				
7.				
8.				
9.				
10.				
11.				
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29.				
30.				

Organics Analysis Data Sheet
(Page 1)

Laboratory Name: Enseco - Erco Laboratory
Case No: 8404
Lab Sample ID No: 5830-10
QC Report No.: 003-CAL
Sample Matrix: Water
Contract No: 68-01-7147
Data Release Authorized By: [illegible]
Date Sample Received: 11.5.87

Volatile Compounds

Concentration: (Low) Medium (Circle One)
Date Extracted/Prepared: 11.9.87
Date Analyzed: 11.9.87
Conc/Dil Factor: 1.0 pH —
Percent Moisture: (Not Decanted) —

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	~~4.4 B~~ MJ
67-64-1	Acetone	10u
75-15-0	Carbon Disulfide	5uJ
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	10uJ
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	10u
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	1.1J
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 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., 10J). If limit of detection is 10 µg/l and a concentration of 3 µg/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/ul 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

RK. (MJ)
1/19/88

Case No _____

583010
reextract.

Organics Analysis Data Sheet
(Page 2)

Semivolatile Compounds

Concentration: Low Medium (Circle One)

Date Extracted/Prepared 11/19/87

Date Analyzed: 11/23/87

Conc/Dil Factor: 2

Percent Moisture (Decanted) –

GPC Cleanup ☐Yes ☒No

Separatory Funnel Extraction ☐Yes

Continuous Liquid - Liquid Extraction ☐Yes

CAS Number		ug/l or ug/Kg (Circle One)
108-95-2	Phenol	20 µ
111-44-4	bis(-2-Chloroethyl)Ether	20 µ
95-57-8	2-Chlorophenol	20 µ
541-73-1	1 3-Dichlorobenzene	20 µ
106-46-7	1, 4-Dichlorobenzene	20 µ
100-51-6	Benzyl Alcohol	20 µ
95-50-1	1 2-Dichlorobenzene	20 µ
95-48-7	2-Methylphenol	20 µ
39638-32-9	bis(2-chloroisopropyl)Ether	20 µ
106-44-5	4-Methylpheno	20 µ
621-64-7	N-Nitroso-Di-n-Propylamine	20 µ
67-72-1	Hexachloroethane	20 µ
98-95-3	Nitrobenzene	20 µ
78-59-1	Isophorone	20 µ
88-75-5	2-Nitrophenol	20 µ
105-67-9	2, 4-Dimethylphenol	20 µ
65-85-0	Benzoic Acid	100 µ
111-91-1	bis(-2-Chloroethoxy)Methane	20 µ
120-83-2	2, 4-Dichlorophenol	20 µ
120-82-1	1, 2, 4-Trichlorobenzene	20 µ
91-20-3	Naphthalene	20 µ
106-47-8	4-Chloroaniline	20 µ
87-68-3	Hexachlorobutadiene	20 µ
59-50-7	4-Chloro-3-Methylphenol	20 µ
91-57-6	2-Methylnaphthalene	20 µ
77-47-4	Hexachlorocyclopentadiene	20 µ
88-06-2	2, 4, 6-Trichlorophenol	20 µ
95-95-4	2, 4, 5-Trichlorophenol	100 µ
91-58-7	2-Chloronaphthalene	20 µ
88-74-4	2-Nitroaniline	100 µ
131-11-3	Dimethyl Phthalate	20 µ
208-96-8	Acenaphthylene	20 µ
90-09-2	3-Nitroaniline	100 µ

CAS Number		ug/l or ug/Kg (Circle One)
83-32-9	Acenaphthene	20 µ
51-28-5	2, 4-Dinitrophenol	100 µ
100-02-7	4-Nitrophenol	100 µ
132-64-9	Dibenzofuran	20 µ
121-14-2	2 4-Dinitrotoluene	20 µ
606-20-2	2 6-Dinitrotoluene	20 µ
84-66-2	Diethylphthalate	20 µ
7005-72-3	4-Chlorophenyl-phenylether	20 µ
86-73-7	Fluorene	20 µ
100-01-6	4-Nitroaniline	100 µ
534-52-1	4, 6-Dinitro-2-Methylphenol	100 µ
86-30-6	N-Nitrosodiphenylamine (1)	20 µ
101-55-3	4-Bromophenyl-phenylether	20 µ
118-74-1	Hexachlorobenzene	20 µ
87-86-5	Pentachlorophenol	100 µ
85-01-8	Phenanthrene	20 µ
120-12-7	Anthracene	20 µ
84-74-2	Di-n-Butylphthalate	20 µ
206-44-0	Fluoranthene	20 µ
129-00-0	Pyrene	20 µ
85-68-7	Butylbenzylphthalate	20 µ
91-94-1	3, 3'-Dichlorobenzidine	40 µ
56-55-3	Benzo(a)Anthracene	20 µ
117-81-7	bis(2-Ethylhexyl)Phthalate	~~20 µ~~ 32 µ
218-01-9	Chrysene	20 µ
117-84-0	Di-n-Octyl Phthalate	20 µ
205-99-2	Benzo(b)Fluoranthene	20 µ
207-08-9	Benzo(k)Fluoranthene	20 µ
50-32-8	Benzo(a)Pyrene	20 µ
193-39-5	Indeno(1, 2, 3-cd)Pyrene	20 µ
53-70-3	Dibenz(a h)Anthracene	20 µ
191-24-2	Benzo(g, h i)Perylene	20 µ

(1)-Cannot be separated from diphenylamine

RK ALL RESULTS Severely HOLDING TIMES EXCEEDED

1/19/88

Form I

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AVL

Case No _____

Organics Analysis Data Sheet
(Page 3)

Pesticide/PCBs

Concentration (Low) Medium (Circle One)

Date Extracted/Prepared 11-9-87

Date Analyzed 11-16-87

Conc/Dil Factor 1

Percent Moisture (decanted) 100

GPC Cleanup ☐Yes ☒No

Separatory Funnel Extraction ☒Yes

Continuous Liquid - Liquid Extraction ☐Yes

CAS Number		(ug/l) or ug/Kg (Circle One)
319-84-6	Alpha-BHC	0.05U
319-85-7	Beta-BHC	0.05U
319-86-8	Delta-BHC	0.05U
58 89-9	Gamma-BHC (Lindane)	0.05U
76-44-8	Heptachlor	0.05U
309-00-2	Aldrin	0.05U
1024-57-3	Heptachlor Epoxide	0.05U
959-98-8	Endosulfan I	0.05U
60 57-1	Dieldrin	0.10U
72-55-9	4 4 -DDE	0.10U
72-20-8	Endrin	0.10U
33213-65-9	Endosulfan II	0.10U
72-54-8	4 4 -DDD	0.10U
1031-07-8	Endosulfan Sulfate	0.10U
50-29-3	4 4 -DDT	0.10U
72-43-5	Methoxychlor	0.50U
53494-70 5	Endrin Ketone	0.10U
57-74-9	Chlordane	0.50U
8001-35 2	Toxaphene	1.0U
12674-11-2	Aroclor-1016	0.50U
11104-28-2	Aroclor-1221	0.50U
11141-16-5	Aroclor-1232	0.50U
53469-21-9	Aroclor-1242	0.50U
12672-29-6	Aroclor-1248	0.50U
11097-69-1	Aroclor-1254	0.50U
11096-82-5	Aroclor-1260	0.50U

V_i = Volume of extract injected (ul)

V_s = Volume of water extracted (ml)

W_s = Weight of sample extracted (g)

V_t = Volume of total extract (ul)

V_s 1000 or W_s NA V_t 1000 V_i 2.0

583010

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.	2. fluorophenol and unknown	BNA	215	47
2. 57-10-3	Hexadecanoic acid	BNA	1246	20
3.	Unknown	BNA	1356	17
4. —	None detected	VOA	—	—
5.				
6.				
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Organics Analysis Data Sheet
(Page 1)

VOA only

Laboratory Name: Enseco - Erco Laboratory
Case No: 8404
Lab Sample ID No: 5830-16
QC Report No.: 003-CAL
Sample Matrix: Water
Contract No: 68-01-7147
Data Release Authorized By: AN/DLB
Date Sample Received: 11.5.87

Volatile Compounds

Concentration: (Low) Medium (Circle One)

Date Extracted/Prepared: 11-9-87

Date Analyzed: 11-9-87

Conc/Dil Factor: 1.0 pH —

Percent Moisture (Not Decanted) —

CAS Number		ug/l or ug/Kg (Circle One)
74-87-3	Chloromethane	10U
74-83-9	Bromomethane	10UJ
75-01-4	Vinyl Chloride	10U
75-00-3	Chloroethane	10U
75-09-2	Methylene Chloride	26 JB MJ
67-64-1	Acetone	28
75-15-0	Carbon Disulfide	5UJ
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	2.2J
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	10U
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	1.1J
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 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., 10J). If limit of detection is 10 µg/l and a concentration of 3 µg/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/ul 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.

RK (MJ) 11/9/87

Organics Analysis Data Sheet
(Page 1)

Laboratory Name: Enseco - Erco Laboratory
Case No: 5404
Lab Sample ID No.: 5830-13
QC Report No: 003-CAL
Sample Matrix: Water
Contract No.: 68-01-7147
Data Release Authorized By: [illegible]
Date Sample Received: 11.5.87

Volatile Compounds

Concentration: Low Medium (Circle One)
Date Extracted/Prepared: 11.9.87
Date Analyzed: 11.9.87
Conc/Dil Factor: 1.0 pH —
Percent Moisture: (Not Decanted)

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	2.3 ~~JB~~ M
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	10u
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 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., 10J). If limit of detection is 10 µg·l and a concentration of 3 µg·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/ul 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.

R.K. 1/19/88
(MJ)

Form I

583013

Organics Analysis Data Sheet
(Page 2)

Semivolatile Compounds

Concentration: (Low) Medium (Circle One)

Date Extracted/Prepared 11/9/87

Date Analyzed 11/23/87

Conc/Dil Factor: 4

Percent Moisture (Decanted) -

GPC Cleanup ☐Yes ☐No

Separatory Funnel Extraction ☐Yes

Continuous Liquid - Liquid Extraction ☐Yes

CAS Number		(ug/l) or ug/Kg (Circle One)
108-95-2	Phenol	40 u
111-44-4	bis(-2-Chloroethyl)Ether	40 u
95-57-8	2-Chlorophenol	40 u
541-73-1	1 3-Dichlorobenzene	40 u
106-46-7	1, 4-Dichlorobenzene	40 u
100-51-6	Benzyl Alcohol	40 u
95-50-1	1 2-Dichlorobenzene	40 u
95-48-7	2-Methylphenol	40 u
39638-32-9	bis(2-chloroisopropyl)Ether	40 u
106-44-5	4-Methylphenol	40 u
621-64-7	N-Nitroso-Di-n-Propylamine	40 u
67-72-1	Hexachloroethane	40 u
98-95-3	Nitrobenzene	40 u
78-59-1	Isophorone	40 u
88-75-5	2-Nitrophenol	40 u
105-67-9	2, 4-Dimethylphenol	40 u
65-85-0	Benzoic Acid	200 u J
111-91-1	bis(-2-Chloroethoxy)Methane	40 u
120-83-2	2, 4-Dichlorophenol	40 u
120-82-1	1, 2, 4-Trichlorobenzene	40 u
91-20-3	Naphthalene	40 u
106-47-8	4-Chloroaniline	40 u
87-68-3	Hexachlorobutadiene	40 u
59-50-7	4-Chloro-3-Methylphenol	40 u
91-57-6	2-Methylnaphthalene	40 u
77-47-4	Hexachlorocyclopentadiene	40 u J
88-06-2	2, 4, 6-Trichlorophenol	40 u
95-95-4	2, 4, 5-Trichlorophenol	200 u
91-58-7	2-Chloronaphthalene	40 u
88-74-4	2-Nitroaniline	200 u
131-11-3	Dimethyl Phthalate	40 u
208-96-8	Acenaphthylene	40 u
99-09-2	3-Nitroaniline	200 u J

CAS Number		(ug/l) or ug/Kg (Circle One)
83-32-9	Acenaphthene	40 u
51-28-5	2, 4-Dinitrophenol	200 u
100-02-7	4-Nitrophenol	200 u
132-64-9	Dibenzofuran	40 u
121-14-2	2 4-Dinitrotoluene	40 u
606-20-2	2, 6-Dinitrotoluene	40 u
84-66-2	Diethylphthalate	40 u
7005-72-3	4-Chlorophenyl-phenylether	40 u
86-73-7	Fluorene	40 u
100-01-6	4-Nitroaniline	200 u
534-52-1	4, 6-Dinitro-2-Methylphenol	200 u
86-30-6	N-Nitrosodiphenylamine (1)	40 u
101-55-3	4-Bromophenyl-phenylether	40 u
118-74-1	Hexachlorobenzene	40 u
87-86-5	Pentachlorophenol	200 u
85-01-8	Phenanthrene	40 u
120-12-7	Anthracene	40 u
84-74-2	Di-n-Butylphthalate	40 u
206-44-0	Fluoranthene	40 u
129-00-0	Pyrene	40 u
85-68-7	Butylbenzylphthalate	40 u
91-94-1	3, 3'-Dichlorobenzidine	80 u
56-55-3	Benzo(a)Anthracene	40 u
117-81-7	bis(2-Ethylhexyl)Phthalate	40 u
218-01-9	Chrysene	40 u
117-84-0	Di-n-Octyl Phthalate	40 u
205-99-2	Benzo(b)Fluoranthene	40 u
207-08-9	Benzo(k)Fluoranthene	40 u
50-32-8	Benzo(a)Pyrene	40 u
193-39-5	Indeno(1, 2, 3-cd)Pyrene	40 u J
53-70-3	Dibenz(a, h)Anthracene	40 u
191-24-2	Benzo(g, h, i)Perylene	40 u

(1)-Cannot be separated from diphenylamine

(uJ)
RK
1/19/88

Organics Analysis Data Sheet
(Page 3)

Pesticide/PCBs

Concentration (Low) Medium (Circle One)

Date Extracted/Prepared 11-9-87

Date Analyzed 11-16-87

Conc/Dil Factor 1

Percent Moisture (decanted) 100

GPC Cleanup ☐Yes ☒No

Separatory Funnel Extraction ☒Yes

Continuous Liquid - Liquid Extraction ☐Yes

CAS Number		(ug/l) or ug/Kg (Circle One)
319-84-6	Alpha-BHC	0.05U
319-85-7	Beta-BHC	0.05U
319-86-8	Delta-BHC	0.05U
58 89-9	Gamma-BHC (Lindane)	0.05U
76-44-8	Heptachlor	0.05U
309-00-2	Aldrin	0.05U
1024-57-3	Heptachlor Epoxide	0.05U
959-98-8	Endosulfan I	0.05U
60 57-1	Dieldrin	0.10U
72-55-9	4 4 -DDE	0.10U
72-20-8	Endrin	0.10U
33213-65-9	Endosulfan II	0.10U
72-54-8	4 4 -DDD	0.10U
1031-07-8	Endosulfan Sulfate	0.10U
50-29-3	4 4 -DDT	0.10U
72-43-5	Methoxychlor	0.50U
53494-70 5	Endrin Ketone	0.10U
57-74-9	Chlordane	0.50U
8001-35 2	Toxaphene	1.0U
12674-11-2	Aroclor-1016	0.50U
11104-28-2	Aroclor-1221	0.50U
11141-16-5	Aroclor-1232	0.50U
53469-21-9	Aroclor-1242	0.50U
12672-29-6	Aroclor-1248	0.50U
11097-69-1	Aroclor-1254	0.50U
11096-82-5	Aroclor-1260	0.50U

V_i = Volume of extract injected (ul)

V_s = Volume of water extracted (ml)

W_s = Weight of sample extracted (g)

V_t = Volume of total extract (ul)

V_s 1000 or W_s NA V_t 1000 V_i 2.0

Organics Analysis Data Sheet
(Page 4)

523013

Tentatively Identified Compounds

CAS Number	Compound Name	Fraction	RT or Scan Number	Estimated Concentration (ug/l or ug/kg)
1. —	2 fluorophenol and unknown	BNA	260	27
2. 105-60-2	caprolactam	BNA	736	1700
3. —	none detected	VOA	—	—
4.				
5.				
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Organics Analysis Data Sheet
(Page 1)

Laboratory Name Enseco - Erco Laboratory
Case No 8404
Lab Sample ID No 5830-04
QC Report No. 003-CAL
Sample Matrix. Water
Contract No. 68-01-7147
Data Release Authorized By AV
Date Sample Received 11.5.87 SDM

Volatile Compounds

Concentration: Low Medium (Circle One)
Date Extracted/Prepared: 11.7.87
Date Analyzed: 11.7.87
Conc/Dil Factor: 100 pH —
Percent Moisture: (Not Decanted) —

CAS Number		ug/l or ug/Kg (Circle One)
74-87-3	Chloromethane	1000u
74-83-9	Bromomethane	1000u
75-01-4	Vinyl Chloride	1000u
75-00-3	Chloroethane	1000u
75-09-2	Methylene Chloride	500u
67-64-1	Acetone	1000u
75-15-0	Carbon Disulfide	500u J
75-35-4	1, 1-Dichloroethene	500u
75-34-3	1, 1-Dichloroethane	500u
156-60-5	Trans-1, 2-Dichloroethene	240J
67-66-3	Chloroform	500u
107-06-2	1, 2-Dichloroethane	500u
78-93-3	2-Butanone	1000u
71-55-6	1, 1, 1-Trichloroethane	500u
56-23-5	Carbon Tetrachloride	500u
108-05-4	Vinyl Acetate	1000u
75-27-4	Bromodichloromethane	500u

CAS Number		ug/l or ug/Kg (Circle One)
78-87-5	1, 2-Dichloropropane	500u
10061-02-6	Trans-1, 3-Dichloropropene	500u
79-01-6	Trichloroethene	500u
124-48-1	Dibromochloromethane	500u
79-00-5	1, 1, 2-Trichloroethane	500u
71-43-2	Benzene	110J
10061-01-5	cis-1, 3-Dichloropropene	500u
110-75-8	2-Chloroethylvinylether	1000u
75-25-2	Bromoform	500u
108-10-1	4-Methyl-2-Pentanone	1000u J
591-78-6	2-Hexanone	1000u J
127-18-4	Tetrachloroethene	500u
79-34-5	1, 1, 2, 2-Tetrachloroethane	500u
108-88-3	Toluene	500u
108-90-7	Chlorobenzene	500u
100-41-4	Ethylbenzene	920
100-42-5	Styrene	500u
	Total Xylenes	5700

D.L 500 500 HRS

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 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., 10J). If limit of detection is 10 µg/l and a concentration of 3 µg/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/ul 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

R.K. 1/19/88
(MJ)

Case No. _____

E4-404

58304

Organics Analysis Data Sheet
(Page 2)

Semivolatile Compounds

Concentration: (Low) Medium (Circle One)

Date Extracted/Prepared 11/4/87

Date Analyzed: 11/20/87

Conc/Dil Factor: 4

Percent Moisture (Decanted) –

GPC Cleanup ☐Yes ☐No

Separatory Funnel Extraction ☐Yes

Continuous Liquid - Liquid Extraction ☐Yes

CAS Number		ug/l or ug/Kg (Circle One)
108-95-2	Phenol	40 u
111-44-4	bis(-2-Chloroethyl)Ether	40 u
95-57-8	2-Chlorophenol	40 u
541-73-1	1 3-Dichlorobenzene	40 u
106-46-7	1 4-Dichlorobenzene	40 u
100-51-6	Benzyl Alcohol	40 u
95-50-1	1 2-Dichlorobenzene	3 j
95-48-7	2-Methylphenol	40 u
39638-32-9	bis(2-chloroisopropyl)Ether	40 u
106-44-5	4-Methylphenol	2.1 j
621-64-7	N-Nitroso-Di-n-Propylamine	40 u
67-72-1	Hexachloroethane	40 u
98-95-3	Nitrobenzene	40 u
78-59-1	Isophorone	40 u
88-75-5	2-Nitrophenol	40 u
105-67-9	2. 4-Dimethylphenol	160
65-85-0	Benzoic Acid	200 u
111-91-1	bis(-2-Chloroethoxy)Methane	40 u
120-83-2	2. 4-Dichlorophenol	40 u
120-82-1	1. 2. 4-Trichlorobenzene	40 u
91-20-3	Naphthalene	140
106-47-8	4-Chloroaniline	40 u
87-68-3	Hexachlorobutadiene	40 u
59-50-7	4-Chloro-3-Methylphenol	40 u
91-57-6	2-Methylnaphthalene	20 j
77-47-4	Hexachlorocyclopentadiene	40 u
88-06-2	2. 4. 6-Trichlorophenol	40 u
95-95-4	2. 4. 5-Trichlorophenol	200 u
91-58-7	2-Chloronaphthalene	40 u
88-74-4	2-Nitroaniline	200 u
131-11-3	Dimethyl Phthalate	40 u
208-96-8	Acenaphthylene	40 u
99-09-2	3-Nitroaniline	200 u

CAS Number		ug/l or ug/Kg (Circle One)
83-32-9	Acenaphthene	40 u
51-28-5	2. 4-Dinitrophenol	200 u
100-02-7	4-Nitrophenol	200 u
132-64-9	Dibenzofuran	40 u
121-14-2	2 4-Dinitrotoluene	40 u
606-20-2	2 6-Dinitrotoluene	40 u
84-66-2	Diethylphthalate	40 u
7005-72-3	4-Chlorophenyl-phenylether	40 u
86-73-7	Fluorene	40 u
100-01-6	4-Nitroaniline	200 u
534-52-1	4. 6-Dinitro-2-Methylphenol	200 u
86-30-6	N-Nitrosodiphenylamine (1)	40 u
101-55-3	4-Bromophenyl-phenylether	40 u
118-74-1	Hexachlorobenzene	40 u
87-86-5	Pentachlorophenol	200 u
85-01-8	Phenanthrene	40 u
120-12-7	Anthracene	40 u
84-74-2	Di-n-Butylphthalate	40 u
206-44-0	Fluoranthene	40 u
129-00-0	Pyrene	40 u
85-68-7	Butylbenzylphthalate	40 u
91-94-1	3. 3'-Dichlorobenzidine	80 u
56-55-3	Benzo(a)Anthracene	40 u
117-81-7	bis(2-Ethylhexyl)Phthalate	40 u
218-01-9	Chrysene	40 u
117-84-0	Di-n-Octyl Phthalate	40 u
205-99-2	Benzo(b)Fluoranthene	40 u
207-08-9	Benzo(k)Fluoranthene	40 u
50-32-8	Benzo(a)Pyrene	40 u
193-39-5	Indeno(1. 2. 3-cd)Pyrene	40 u
53-70-3	Dibenz(a h)Anthracene	40 u
191-24-2	Benzo(g. h. i)Perylene	40 u

(1)-Cannot be separated from diphenylamine

R.K. (MJ)
1/19/88

Form I

7-85

AVL

Case No. _____

Organics Analysis Data Sheet
(Page 3)

Pesticide/PCBs

Concentration (Low) Medium (Circle One)

Date Extracted/Prepared 11-6-87

Date Analyzed 11-16-87 ; 11-17-87

Conc/Dil Factor 10

Percent Moisture (decanted) 100

GPC Cleanup ☐Yes ☒No

Separatory Funnel Extraction ☒Yes

Continuous Liquid - Liquid Extraction ☐Yes

CAS Number		ug/l or ug/Kg (Circle One)
319-84-6	Alpha BHC	0.50U
319-85-7	Beta-BHC	0.50U
319-86-8	Delta BHC	0.50U
58-89-9	Gamma-BHC (Lindane)	0.50U
76-44-8	Heptachlor	0.50U
309-00-2	Aldrin	0.50U
1024-57-3	Heptachlor Epoxide	0.50U
959-98-8	Endosulfan I	0.50U
60-57-1	Dieldrin	1.0U
72-55-9	4,4'-DDE	1.0U
72-20-8	Endrin	1.0U
33213-65-9	Endosulfan II	1.0U
72-54-8	4,4'-DDD	1.0U
1031-07-8	Endosulfan Sulfate	1.0U
50-29-3	4,4'-DDT	1.0U
72-43-5	Methoxychlor	5.0U
53494-70-5	Endrin Ketone	1.0U
57-74-9	Chlordane	5.0U
8001-35-2	Toxaphene	10U
12674-11-2	Aroclor-1016	5.0U
11104-28-2	Aroclor-1221	5.0U
11141-16-5	Aroclor-1232	5.0U
53469-21-9	Aroclor-1242	5.0U
12672-29-6	Aroclor-1248	5.0U
11097-69-1	Aroclor-1254	5.0U
11096-82-5	Aroclor-1260	5.0U

V_i = Volume of extract injected (ul)

V_s = Volume of water extracted (ml)

W_s = Weight of sample extracted (g)

V_t = Volume of total extract (ul)

V_s 1000 or W_s NA V_t 1000 V_i 2.0

ecology and environment

recycled paper

ecology and environment

Organics Analysis Data Sheet
(Page 4)

58 304

recycled paper

Tentatively Identified Compounds

CAS Number	Compound Name	Fraction	RT or Scan Number	Estimated Concentration (ug/l or ug/kg)
1. 15176-21-3	1,4-dioxane, 2,5-dimethyl	BNA	200	150
2. 100-41-4	Ethylbenzene	BNA	242	360
3.	Dimethylbenzene isomer	BNA	257	2100
4.	Dimethylbenzene isomer	BNA	269	170
5.	Dimethylbenzene isomer	BNA	275	440
6.	Ethyl-methylbenzene isomer	BNA	379	170
7.	Trimethylbenzene isomer	BNA	420	310
8.	Trimethylbenzene isomer	BNA	451	170
9. 87[illegible]-94-[illegible]	3,3,5-trimethylcyclohexanone	BNA	470	1500
10. 116-02-9	3,3,5-trimethylcyclohexanol	BNA	491	640
11.	Ethyl-dimethylbenzene isomer	BNA	524	150
12.	C4-benzene isomer	BNA	532	170
13.	Tetramethylbenzene isomer	BNA	566	100
14.	Tetramethylbenzene isomer	BNA	570	140
15. 90-00-6	2-ethylphenol	BNA	592	100
16.	Dimethylphenol isomer	BNA	624	110
17.	Unknown	BNA	1553	120
18.	Unknown	BNA	1588	200
19.	Unknown	BNA	1643	270
20.	Unknown	BNA	1650	130
21.	none detected	VOA	—	—
22.				
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AVL

Organics Analysis Data
(Page 1)

ecology and environment

Laboratory Name Enseco - Erco Laboratory

Case No 8404

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Lab Sample ID No 5850-05

QC Report No 003-CAL

Sample Matrix Water

Contract No 68-01-7147

Data Release Authorized By Am

Date Sample Received 11.6.87

Volatile Compounds

Concentration Low Medium (Circle One)

Date Extracted/Prepared. 11.10.87

Date Analyzed. 11.10.87

Conc/Dil Factor: 1000 pH —

Percent Moisture (Not Decanted) —

CAS Number		ug/l or ug/Kg (Circle One)
74-87-3	Chloromethane	10,000u
74-83-9	Bromomethane	10,000u
75-01-4	Vinyl Chloride	10,000u
75-00-3	Chloroethane	10,000u
75-09-2	Methylene Chloride	76000
67-64-1	Acetone	92000
75-15-0	Carbon Disulfide	5000u J
75-35-4	1, 1-Dichloroethene	5000u
75-34-3	1, 1-Dichloroethane	5000u
156-60-5	Trans-1, 2-Dichloroethene	13000
67-66-3	Chloroform	5000u
107-06-2	1, 2-Dichloroethane	5000u
78-93-3	2-Butanone	170,000 uJ
71-55-6	1, 1, 1-Trichloroethane	5000u
56-23-5	Carbon Tetrachloride	5000u
108-05-4	Vinyl Acetate	10,000u
75-27-4	Bromodichloromethane	5000u

CAS Number		ug/l or ug/Kg (Circle One)
78-87-5	1, 2-Dichloropropane	5000u
10061-02-6	Trans-1, 3-Dichloropropene	5000u
79-01-6	Trichloroethene	1200J
124-48-1	Dibromochloromethane	5000u
79-00-5	1, 1, 2-Trichloroethane	5000u
71-43-2	Benzene	8600
10061-01-5	cis-1, 3-Dichloropropene	5000u
110-75-8	2-Chloroethylvinylether	10000u
75-25-2	Bromoform	5000u
108-10-1	4-Methyl-2-Pentanone	100,000 uJ
591-78-6	2-Hexanone	10000u J
127-18-4	Tetrachloroethene	5000u
79-34-5	1, 1, 2, 2-Tetrachloroethane	5000u
108-88-3	Toluene	35000
108-90-7	Chlorobenzene	5000u
100-41-4	Ethylbenzene	4000J
100-42-5	Styrene	5000u
	Total Xylenes	22000

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 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., 10J). If limit of detection is 10 µg/l and a concentration of 3 µg/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/ul 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

R. K. (uJ)
1/19/88

Form I

11/85

Case No. _____

EY-405

58505

Organics Analysis Data Sheet
(Page 2)

Semivolatile Compounds

Concentration: Low Medium (Circle One)

Date Extracted/Prepared 11-10-87

Date Analyzed: 11/20/87

Conc/Dil Factor: 240

Percent Moisture (Decanted) -

GPC Cleanup ☐Yes ☑No

Separatory Funnel Extraction ☑Yes

Continuous Liquid - Liquid Extraction ☐Yes

CAS Number		ug/l or ug/Kg (Circle One)
108-95-2	Phenol	24000
111-44-4	bis(-2-Chloroethyl)Ether	2400 µ
95-57-8	2-Chlorophenol	2400 µ
541-73-1	1 3-Dichlorobenzene	2400 µ
106-46-7	1, 4-Dichlorobenzene	2400 µ
100-51-6	Benzyl Alcohol	2400 µ
95-50-1	1 2-Dichlorobenzene	2400 µ
95-48-7	2-Methylphenol	4200
39638-32-9	bis(2-chloroisopropyl)Ether	~~8700~~ 2400 µ
106-44-5	4-Methylphenol	~~2400 µ~~ 8700
621-64-7	N-Nitroso-Di-n-Propylamine	2400 µ
67-72-1	Hexachloroethane	2400 µ
98-95-3	Nitrobenzene	2400 µ
78-59-1	Isophorone	2400 µ
88-75-5	2-Nitrophenol	2400 µ
105-67-9	2, 4-Dimethylphenol	1700 j
65-85-0	Benzoic Acid	21000 µJ
111-91-1	bis(-2-Chloroethoxy)Methane	2400 µ
120-83-2	2, 4-Dichlorophenol	2400 µ
120-82-1	1, 2, 4-Trichlorobenzene	2400 µ
91-20-3	Naphthalene	300 j
106-47-8	4-Chloroaniline	2400 µ
87-68-3	Hexachlorobutadiene	2400 µ
59-50-7	4-Chloro-3-Methylphenol	2400 µ
91-57-6	2-Methylnaphthalene	2400 µ
77-47-4	Hexachlorocyclopentadiene	2400 µJ
88-06-2	2, 4, 6-Trichlorophenol	2400 µ
95-95-4	2, 4, 5-Trichlorophenol	12,000 µ
91-58-7	2-Chloronaphthalene	2400 µ
88-74-4	2-Nitroaniline	12000 µ
131-11-3	Dimethyl Phthalate	2400 µ
208-96-8	Acenaphthylene	2400 µ
90-09-2	3-Nitroaniline	12000 µ

CAS Number		ug/l or ug/Kg (Circle One)
83-32-9	Acenaphthene	2400 µ
51-28-5	2, 4-Dinitrophenol	12000 µ
100-02-7	4-Nitrophenol	12000 µ
132-64-9	Dibenzofuran	2400 µ
121-14-2	2 4-Dinitrotoluene	2400 µ
606-20-2	2 6-Dinitrotoluene	2400 µ
84-66-2	Diethylphthalate	2400 µ
7005-72-3	4-Chlorophenyl-phenylether	2400 µ
86-73-7	Fluorene	2400 µ
100-01-6	4-Nitroaniline	12000 µJ
534-52-1	4, 6-Dinitro-2-Methylphenol	12000 µ
86-30-6	N-Nitrosodiphenylamine (1)	2400 µ
101-55-3	4-Bromophenyl-phenylether	2400 µ
118-74-1	Hexachlorobenzene	2400 µ
87-86-5	Pentachlorophenol	12000 µ
85-01-8	Phenanthrene	2400 µ
120-12-7	Anthracene	2400 µ
84-74-2	Di-n-Butylphthalate	2400 µ
206-44-0	Fluoranthene	2400 µ
129-00-0	Pyrene	2400 µ
85-68-7	Butylbenzylphthalate	2400 µ
91-94-1	3, 3'-Dichlorobenzidine	4800 µ
56-55-3	Benzo(a)Anthracene	2400 µ
117-81-7	bis(2-Ethylhexyl)Phthalate	2400 µ
218-01-9	Chrysene	2400 µ
117-84-0	Di-n-Octyl Phthalate	2400 µ
205-99-2	Benzo(b)Fluoranthene	2400 µ
207-08-9	Benzo(k)Fluoranthene	2400 µ
50-32-8	Benzo(a)Pyrene	2400 µ
193-39-5	Indeno(1, 2, 3-cd)Pyrene	2400 µ
53-70-3	Dibenz(a, h)Anthracene	2400 µ
191-24-2	Benzo(g, h, i)Perylene	2400 µ

(1)-Cannot be separated from diphenylamine

RK. 1/19/88

(MJ)

Form I 7/85

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AVL

Organics Analysis Data Sheet
(Page 3)

ecology and environment

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Pesticide /PCBs

Concentration (Low) Medium (Circle One)

Date Extracted /Prepared 11-9-87

Date Analyzed 11-22-87

Conc/Dil Factor 2000

Percent Moisture (decanted) 100

GPC Cleanup ☐Yes ☒No

Separatory Funnel Extraction ☒Yes

Continuous Liquid - Liquid Extraction ☐Yes

CAS Number		(ug /l or ug /Kg) (Circle One)
319-84-6	Alpha BHC	100U
319-85-7	Beta-BHC	100U
319-86-8	Delta BHC	100U
58-89-9	Gamma-BHC (Lindane	100U
76-44-8	Heptachlor	100U
309-00-2	Aldrin	100U
1024-57-3	Heptachlor Epoxide	100U
959-98-8	Endosulfan I	100U
60-57-1	Dieldrin	200U
72-55-9	4,4'-DDE	200U
72-20-8	Endrin	200U
33213-65-9	Endosulfan II	200U
72-54-8	4,4'-DDD	200U
1031-07-8	Endosulfan Sulfate	200U
50-29-3	4,4'-DDT	200U
72-43-5	Methoxychlor	1000U
53494-70-5	Endrin Ketone	200U
57-74-9	Chlordane	1000U
8001-35-2	Toxaphene	2000U
12674-11-2	Aroclor-1016	1000U
11104-28-2	Aroclor-1221	1000U
11141-16-5	Aroclor-1232	1000U
53469-21-9	Aroclor-1242	1000U
12672-29-6	Aroclor-1248	1000U
11097-69-1	Aroclor-1254	1000U
11096-82-5	Aroclor-1260	1000U

V_i = Volume of extract injected (ul)

V_s = Volume of water extracted (ml)

W_s = Weight of sample extracted (g)

V_t = Volume of total extract (ul)

V_s 1000 or W_s NA V_t 1000 V_i 2.0

58505

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	184	13000
2.		Unknown alkanoic acid	BNA	199	6500
3.		Unknown alkanoic acid	BNA	224	4600
4.		dimethylbenzene isomer & unknown alkanoic acid	BNA	257	28000
5.		Unknown alkanoic acid	BNA	272	34000
6.		2-methylcyclopentanol isomer	BNA	281	19000
7.		dimethylbenzene isomer	BNA	288	14000
8.		Unknown alkanoic acid	BNA	299	3200
9.		Unknown alkanoic acid	BNA	304	4000
10.	107-41-5	2-methyl, 2,4-pentanediol + unknown	BNA	343	13000
11.		Unknown alkanoic acid	BNA	351	5900
12.	142-62-1	Hexanoic acid	BNA	359	11000
13.	873-94-9	3,3,5-trimethylcyclohexanone	BNA	480	47000
14.	116-02-9	3,3,5-trimethylcyclohexanol	BNA	496	18000
15.	617-94-7	α,α-dimethyl-benzene methanol	BNA	534	5000
16.	111-14-8	Heptanoic acid	BNA	557	7400
17.		dimethylphenol isomer	BNA	624	3500
18.		Unknown acid and unknown(s) including	BNA	648	11000
19.		dimethylphenol isomers	BNA	↓	↓
19 20.	124-07-2	Octanoic acid	BNA	658	7000
20 21.	501-52-0	Benzenepropanoic acid	BNA	787	2100
22.					
23.		Unknown Hydrocarbon	VOA	304	13000
24.	14898794	2-Butanol	VOA	491	28000
25.	108112	4-methyl-2-pentanol	VOA	817	28000
26.					
27.					
28.					
29.					
30.					

AVL

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Organics Analysis Data Sheet
(Page 1)

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Laboratory Name: Enseco - Erco Laboratory
Case No.: 8404
Lab Sample ID No.: 5830-11
QC Report No.: 003-CAL
Sample Matrix: Water
Contract No.: 68-01-7147
Data Release Authorized By: [signature]
Date Sample Received: 11.5.87 [initials]

Volatile Compounds

Concentration: Low Medium (Circle One)
Date Extracted/Prepared: 11.9.87
Date Analyzed: 11.9.87
Conc/Dil Factor: 1.0 pH —
Percent Moisture: (Not Decanted) —

CAS Number		ug/l or ug/Kg (Circle One)
74-87-3	Chloromethane	10u
74-83-9	Bromomethane	10u J
75-01-4	Vinyl Chloride	10u
75-00-3	Chloroethane	10u
75-09-2	Methylene Chloride	4.6 ~~JB~~ MJ
67-64-1	Acetone	10u
75-15-0	Carbon Disulfide	5u J
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	10u
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 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., 10J). If limit of detection is 10 µg/l and a concentration of 3 µg/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/ul 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.

RK (MJ) 1/19/88

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ecology and environment

Organics Analysis Data Sheet
(Page 2)

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583 : 11

Semivolatile Compounds

Concentration: Low Medium (Circle One)

Date Extracted/Prepared 11/9/87

Date Analyzed 11/23/87

Conc/Dil Factor: 4

Percent Moisture (Decanted) -

GPC Cleanup ☐Yes ☒No

Separatory Funnel Extraction ☒Yes

Continuous Liquid - Liquid Extraction ☐Yes

CAS Number		ug/l or ug/Kg (Circle One)
108-95-2	Phenol	40 µ
111-44-4	bis(-2-Chloroethyl)Ether	40 µ
95-57-8	2-Chlorophenol	40 µ
541-73-1	1 3-Dichlorobenzene	40 µ
106-46-7	1, 4-Dichlorobenzene	40 µ
100-51-6	Benzyl Alcohol	40 µ
95-50-1	1 2-Dichlorobenzene	40 µ
95-48-7	2-Methylphenol	40 µ
39638-32-9	bis(2-chloroisopropyl)Ether	40 µ
106-44-5	4-Methylphenol	40 µ
621-64-7	N-Nitroso-Di-n-Propylamine	40 µ
67-72-1	Hexachloroethane	40 µ
98-95-3	Nitrobenzene	40 µ
78-59-1	Isophorone	40 µ
88-75-5	2-Nitrophenol	40 µ
105-67-9	2, 4-Dimethylphenol	40 µ
65-85-0	Benzoic Acid	200 µ J
111-91-1	bis(-2-Chloroethoxy)Methane	40 µ
120-83-2	2, 4-Dichlorophenol	40 µ
120-82-1	1, 2, 4-Trichlorobenzene	40 µ
91-20-3	Naphthalene	40 µ
106-47-8	4-Chloroaniline	40 µ
87-68-3	Hexachlorobutadiene	40 µ
59-50-7	4-Chloro-3-Methylphenol	40 µ
91-57-6	2-Methylnaphthalene	40 µ
77-47-4	Hexachlorocyclopentadiene	40 µ J
88-06-2	2, 4, 6-Trichlorophenol	40 µ
95-95-4	2, 4, 5-Trichlorophenol	200 µ
91-58-7	2-Chloronaphthalene	40 µ
88-74-4	2-Nitroaniline	200 µ
131-11-3	Dimethyl Phthalate	40 µ
208-96-8	Acenaphthylene	40 µ
90-09-2	3-Nitroaniline	200 µ

CAS Number		ug/l or ug/Kg (Circle One)
83-32-9	Acenaphthene	40 µ
51-28-5	2, 4-Dinitrophenol	200 µ
100-02-7	4-Nitrophenol	200 µ
132-64-9	Dibenzofuran	40 µ
121-14-2	2 4-Dinitrotoluene	40 µ
606-20-2	2 6-Dinitrotoluene	40 µ
84-66-2	Diethylphthalate	40 µ
7005-72-3	4-Chlorophenyl-phenylether	40 µ
86-73-7	Fluorene	40 µ
100-01-6	4-Nitroaniline	200 µ J
534-52-1	4, 6-Dinitro-2-Methylphenol	200 µ
86-30-6	N-Nitrosodiphenylamine (1)	40 µ
101-55-3	4-Bromophenyl-phenylether	40 µ
118-74-1	Hexachlorobenzene	40 µ
87-86-5	Pentachlorophenol	200 µ
85-01-8	Phenanthrene	40 µ
120-12-7	Anthracene	40 µ
84-74-2	Di-n-Butylphthalate	40 µ
206-44-0	Fluoranthene	40 µ
129-00-0	Pyrene	40 µ
85-68-7	Butylbenzylphthalate	40 µ
91-94-1	3, 3'-Dichlorobenzidine	80 µ
56-55-3	Benzo(a)Anthracene	40 µ
117-81-7	bis(2-Ethylhexyl)Phthalate	40 µ
218-01-9	Chrysene	40 µ
117-84-0	Di-n-Octyl Phthalate	40 µ
205-99-2	Benzo(b)Fluoranthene	40 µ
207-08-9	Benzo(k)Fluoranthene	40 µ
50-32-8	Benzo(a)Pyrene	40 µ
193-39-5	Indeno(1, 2, 3-cd)Pyrene	40 µ J
53-70-3	Dibenz(a, h)Anthracene	40 µ
191-24-2	Benzo(g, h i)Perylene	40 µ

(1)-Cannot be separated from diphenylamine

R.K. 1/19/88 444

(MJ)

Form I 7/85

AVL
NUL

Case No _____

Organics Analysis Data Sheet
(Page 3)

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Pesticide/PCBs

Concentration (Low) Medium (Circle One)

Date Extracted/Prepared 11-9-87

Date Analyzed 11-16-87 ; 11-17-87

Conc/Dil Factor 10

Percent Moisture (decanted) 100

GPC Cleanup ☐Yes ☒No

Separatory Funne Extraction ☒Yes

Continuous Liquid - Liquid Extraction ☐Yes

CAS Number		ug/l or ug/Kg (Circle One)
319-84-6	Alpha BHC	0.50U
319-85-7	Beta-BHC	0.50U
319-86-8	Delta BHC	0.50U
58-89-9	Gamma-BHC (Lindane)	0.50U
76-44-8	Heptachlor	0.50U
309-00-2	Aldrin	0.50U
1024-57-3	Heptachlor Epoxide	0.50U
959 98-8	Endosulfan I	0.50U
60 57-1	Dieldrin	1.0U
72-55-9	4 4 -DDE	1.0U
72-20-8	Endrin	1.0U
33213-65-9	Endosulfan II	1.0U
72-54-8	4 4 -DDD	1.0U
1031-07-8	Endosulfan Sulfate	1.0U
50-29-3	4 4 -DDT	1.0U
72-43-5	Methoxychlor	5.0U
53494-70 5	Endrin Ketone	1.0U
57-74-9	Chlordane	5.0U
8001-35 2	Toxaphene	10U
12674-11-2	Aroclor-1016	5.0U
11104-28-2	Aroclor-1221	5.0U
11141-16-5	Aroclor-1232	5.0U
53469-21-9	Aroclor-1242	5.0U
12672-29-6	Aroclor-1248	5.0U
11097-69-1	Aroclor-1254	5.0U
11096-82-5	Aroclor-1260	5.0U

V_i = Volume of extract injected (ul)

V_s = Volume of water extracted (ml)

W_s = Weight of sample extracted (g)

V_t = Volume of total extract (ul)

V_s 1000 or W_s NA V_t 1000 V_i 2.0

Organics Analysis Data Sheet
(Page 4)

583011

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Tentatively Identified Compounds

CAS Number	Compound Name	Fraction	RT or Scan Number	Estimated Concentration (ug/l or ug/kg)
1. 105-60-2	Caprolactam	BNA	741	180
2.	Unknown	BNA	1162	44
3.	Unknown	BNA	1168	24
4.	none detected	VOA	—	—
5.				
6.				
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29.				
30.				

AVL
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ecology and environment

EY 408

Organics Analysis Data Sheet
(Page 1)

Laboratory Name: Enseco - Erco Laboratory
Case No. 8404
Lab Sample ID No 5530-12
QC Report No: 003-CAL
Sample Matrix. Water
Contract No. 68-01-7147
Data Release Authorized By: A
Date Sample Received 11.5.87 DM

Volatile Compounds

Concentration: (Low) Medium (Circle One)
Date Extracted/Prepared: 11.9.87
Date Analyzed: 11.9.87
Conc/Dil Factor: 1.0 pH —
Percent Moisture: (Not Decanted) —

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	1.7 JB 10
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	10u
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., 10J). If limit of detection is 10 µg/l and a concentration of 3 µg/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/µl 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.

R.K. (MJ) 11/19/87

583012

Organics Analysis Data Sheet
(Page 2)

Semivolatile Compounds

Concentration: Low Medium (Circle One)

Date Extracted/Prepared 11/9/87

Date Analyzed: 11/23/87

Conc/Dil Factor: 2

Percent Moisture (Decanted) –

GPC Cleanup ☐Yes ☑No

Separatory Funnel Extraction ☑Yes

Continuous Liquid - Liquid Extraction ☐Yes

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

CAS Number		ug/l or ug/Kg (Circle One)
83-32-9	Acenaphthene	20 u
51-28-5	2. 4-Dinitrophenol	100 u
100-02-7	4-Nitrophenol	100 u
132-64-9	Dibenzofuran	20 u
121-14-2	2 4-Dinitrotoluene	20 u
606-20-2	2 6-Dinitrotoluene	20 u
84-66-2	Diethylphthalate	20 u
7005-72-3	4-Chlorophenyl-phenylether	20 u
86-73-7	Fluorene	20 u
100-01-6	4-Nitroaniline	100 u
534-52-1	4. 6-Dinitro-2-Methylphenol	100 u
86-30-6	N-Nitrosodiphenylamine (1)	20 u
101-55-3	4-Bromophenyl-phenylether	20 u
118-74-1	Hexachlorobenzene	20 u
87-86-5	Pentachlorophenol	100 u
85-01-8	Phenanthrene	20 u
120-12-7	Anthracene	20 u
84-74-2	Di-n-Butylphthalate	20 u
206-44-0	Fluoranthene	20 u
129-00-0	Pyrene	20 u
85-68-7	Butylbenzylphthalate	20 u
91-94-1	3. 3'-Dichlorobenzidine	40 u
56-55-3	Benzo(a)Anthracene	20 u
117-81-7	bis(2-Ethylhexyl)Phthalate	4.7 j
218-01-9	Chrysene	20 u
117-84-0	Di-n-Octyl Phthalate	20 u
205-99-2	Benzo(b)Fluoranthene	20 u
207-08-9	Benzo(k)Fluoranthene	20 u
50-32-8	Benzo(a)Pyrene	20 u
193-39-5	Indeno(1. 2. 3-cd)Pyrene	20 u J
53-70-3	Dibenz(a. h)Anthracene	20 u
191-24-2	Benzo(g. h. i)Perylene	20 u

(1)-Cannot be separated from diphenylamine

KK 1/19/88

Form I

7/85

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Organics Analysis Data Sheet
(Page 3)

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Pesticide/PCBs

Concentration (Low) Medium (Circle One)

Date Extracted/Prepared 11-9-87

Date Analyzed 11-16-87; 11-17-87

Conc/Dil Factor 10

Percent Moisture (decanted) 100

GPC Cleanup ☐Yes ☒No

Separatory Funnel Extraction ☒Yes

Continuous Liquid - Liquid Extraction ☐Yes

CAS Number		ug/l or ug/Kg (Circle One)
319-84-6	Alpha-BHC	0.50U
319-85-7	Beta-BHC	0.50U
319-86-8	Delta-BHC	0.50U
58-89-9	Gamma-BHC (Lindane)	0.50U
76-44-8	Heptachlor	0.50U
309-00-2	Aldrin	0.50U
1024-57-3	Heptachlor Epoxide	0.50U
959-98-8	Endosulfan I	0.50U
60-57-1	Dieldrin	1.0U
72-55-9	4 4 -DDE	1.0U
72-20-8	Endrin	1.0U
33213-65-9	Endosulfan II	1.0U
72-54-8	4 4 -DDD	1.0U
1031-07-8	Endosulfan Sulfate	1.0U
50-29-3	4 4 -DDT	1.0U
72-43-5	Methoxychlor	5.0U
53494-70-5	Endrin Ketone	1.0U
57-74-9	Chlordane	5.0U
8001-35 2	Toxaphene	10U
12674-11-2	Aroclor-1016	5.0U
11104-28-2	Aroclor-1221	5.0U
11141-16-5	Aroclor-1232	5.0U
53469-21-9	Aroclor-1242	5.0U
12672-29-6	Aroclor-1248	5.0U
11097-69-1	Aroclor-1254	5.0U
11096-82-5	Aroclor-1260	5.0U

V_i = Volume of extract injected (ul)

V_s = Volume of water extracted (ml)

W_s = Weight of sample extracted (g)

V_t = Volume of total extract (ul)

V_s 1000 or W_s NA V_t 1000 V_i 2.0

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Tentatively Identified Compounds

CAS Number	Compound Name	Fraction	RT or Scan Number	Estimated Concentration (ug/L or ug/kg)
1.	unknown and methylene chloride	BNA	196	24
2. 112-96-2	~~Unknown~~ benzene methanol a,a-dimethyl	BNA	527	53
3.	Unknown	BNA	~~EET~~ 597	12
4.	Unknown nitrogen containing compound	BNA	681	34
5. 105-60-2	caprolactam	BNA	714	250
6.	Unknown	BNA	725	10
7.	Unknown	BNA	757	9
8	$C_4H_8Cl_2$ isomer	BNA	787	14
9	Unknown	BNA	951	20
10. 76-76-4	Pentobarbital and unknown	BNA	1112	12
11.	Unknown	BNA	1232	11
12. 57-10-3	Hexadecanoic acid	BNA	1246	14
13.	Unknown	BNA	1549	12
14.	Unknown	BNA	1576	19
15.	Unknown	BNA	1581	20
16.	Unknown	BNA	1600	28
17.	Unknown	BNA	1613	15
18.	Unknown	BNA	1637	24
19.	Unknown	BNA	1643	23
20. 109875	dimethoxy methane	VOA	341	48
21. 60297	1,1'-oxybis-ethane	VOA	427	12
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Organics Analysis Data Sheet
(Page 1)

Laboratory Name: Enseco - Erco Laboratory
Case No: 8404
Lab Sample ID No: 5830-15
QC Report No.: 003-CAL
Sample Matrix: Water
Contract No: 87-01-7147
Data Release Authorized By: [illegible]
Date Sample Received: 11.5.87

Volatile Compounds

Concentration: Low Medium (Circle One)
Date Extracted/Prepared: 11.9.87
Date Analyzed: 11.9.87
Conc/Dil Factor: 1.0 pH —
Percent Moisture: (Not Decanted) —

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	1.8JB uJ
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	10U
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 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., 10J). If limit of detection is 10 µg/l and a concentration of 3 µg/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/µl 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

RK (uJ)
1/19/88

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Organics Analysis Data Sheet
(Page 2)

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Semivolatile Compounds

Concentration: (Low) Medium (Circle One)

Date Extracted/Prepared: 11/4/87

Date Analyzed: 11/23/87

Conc/Dil Factor: 4

Percent Moisture (Decanted) –

GPC Cleanup ☐Yes ☒No

Separatory Funnel Extraction ☒Yes

Continuous Liquid - Liquid Extraction ☐Yes

CAS Number		(ug/l or ug/Kg) (Circle One)
108-95-2	Phenol	40 µ
111-44-4	bis(-2-Chloroethyl)Ether	40 µ
95-57-8	2-Chlorophenol	40 µ
541-73-1	1 3-Dichlorobenzene	40 µ
106-46-7	1. 4-Dichlorobenzene	40 µ
100-51-6	Benzyl Alcohol	40 µ
95-50-1	1 2-Dichlorobenzene	40 µ
95-48-7	2-Methylphenol	40 µ
39638-32-9	bis(2-chloroisopropyl)Ether	40 µ
106-44-5	4-Methylphenol	40 µ
621-64-7	N-Nitroso-Di-n-Propylamine	40 µ
67-72-1	Hexachloroethane	40 µ
98-95-3	Nitrobenzene	40 µ
78-59-1	Isophorone	40 µ
88-75-5	2-Nitrophenol	40 µ
105-67-9	2. 4-Dimethylphenol	40 µ
65-85-0	Benzoic Acid	200 µ J
111-91-1	bis(-2-Chloroethoxy)Methane	40 µ
120-83-2	2. 4-Dichlorophenol	40 µ
120-82-1	1. 2. 4-Trichlorobenzene	40 µ
91-20-3	Naphthalene	40 µ
106-47-8	4-Chloroaniline	40 µ
87-68-3	Hexachlorobutadiene	40 µ
59-50-7	4-Chloro-3-Methylphenol	40 µ
91-57-6	2-Methylnaphthalene	40 µ
77-47-4	Hexachlorocyclopentadiene	40 µ J
88-06-2	2. 4. 6-Trichlorophenol	40 µ
95-95-4	2. 4. 5-Trichlorophenol	200 µ
91-58-7	2-Chloronaphthalene	40 µ
88-74-4	2-Nitroaniline	200 µ
131-11-3	Dimethyl Phthalate	40 µ
208-96-8	Acenaphthylene	40 µ
99-09-2	3-Nitroaniline	200 µ J

CAS Number		(ug/l or ug/Kg) (Circle One)
83-32-9	Acenaphthene	40 µ
51-28-5	2. 4-Dinitrophenol	200 µ
100-02-7	4-Nitrophenol	200 µ
132-64-9	Dibenzofuran	40 µ
121-14-2	2 4-Dinitrotoluene	40 µ
606-20-2	2 6-Dinitrotoluene	40 µ
84-66-2	Diethylphthalate	40 µ
7005-72-3	4-Chlorophenyl-phenylether	40 µ
86-73-7	Fluorene	40 µ
100-01-6	4-Nitroaniline	200 µ
534-52-1	4. 6-Dinitro-2-Methylphenol	200 µ
86-30-6	N-Nitrosodiphenylamine (1)	40 µ
101-55-3	4-Bromophenyl-phenylether	40 µ
118-74-1	Hexachlorobenzene	40 µ
87-86-5	Pentachlorophenol	200 µ
85-01-8	Phenanthrene	40 µ
120-12-7	Anthracene	40 µ
84-74-2	Di-n-Butylphthalate	40 µ
206-44-0	Fluoranthene	40 µ
129-00-0	Pyrene	40 µ
85-68-7	Butylbenzylphthalate	40 µ
91-94-1	3. 3'-Dichlorobenzidine	80 µ
56-55-3	Benzo(a)Anthracene	40 µ
117-81-7	bis(2-Ethylhexyl)Phthalate	40 µ
218-01-9	Chrysene	40 µ
117-84-0	Di-n-Octyl Phthalate	40 µ
205-99-2	Benzo(b)Fluoranthene	40 µ
207-08-9	Benzo(k)Fluoranthene	40 µ
50-32-8	Benzo(a)Pyrene	40 µ
193-39-5	Indeno(1. 2. 3-cd)Pyrene	40 µ J
53-70-3	Dibenz(a. h)Anthracene	40 µ
191-24-2	Benzo(g. h. i)Perylene	40 µ

(1)-Cannot be separated from diphenylamine

R.K. 11/19/88

(MJ)

Form I

7/85

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AVL

Case No. _____

Organics Analysis Data Sheet
(Page 3)

Pesticide/PCBs

Concentration (Low) Medium (Circle One)

Date Extracted/Prepared 11-9-87

Date Analyzed 11-16-87 ; 11-17-87

Conc/Dil Factor 10

Percent Moisture (decanted) 100

GPC Cleanup ☐Yes ☒No

Separatory Funnel Extraction ☒Yes

Continuous Liquid - Liquid Extraction ☐Yes

CAS Number		ug/l or ug/Kg (Circle One)
319-84-6	Alpha-BHC	0.50U
319-85-7	Beta-BHC	0.50U
319-86-8	Delta-BHC	0.50U
58-89-9	Gamma-BHC (Lindane)	0.50U
76-44-8	Heptachlor	0.50U
309-00-2	Aldrin	0.50U
1024-57-3	Heptachlor Epoxide	0.50U
959-98-8	Endosulfan I	0.50U
60-57-1	Dieldrin	1.0U
72-55-9	4,4'-DDE	1.0U
72-20-8	Endrin	1.0U
33213-65-9	Endosulfan II	1.0U
72-54-8	4,4'-DDD	1.0U
1031-07-8	Endosulfan Sulfate	1.0U
50-29-3	4,4'-DDT	1.0U
72-43-5	Methoxychlor	5.0U
53494-70-5	Endrin Ketone	1.0U
57-74-9	Chlordane	5.0U
8001-35-2	Toxaphene	10U
12674-11-2	Aroclor-1016	5.0U
11104-28-2	Aroclor-1221	5.0U
11141-16-5	Aroclor-1232	5.0U
53469-21-9	Aroclor-1242	5.0U
12672-29-6	Aroclor-1248	5.0U
11097-69-1	Aroclor-1254	5.0U
11096-82-5	Aroclor-1260	5.0U

V_i = Volume of extract injected (ul)

V_s = Volume of water extracted (ml)

W_s = Weight of sample extracted (g)

V_t = Volume of total extract (ul)

V_s 1000 or W_s NA V_t 1000 V_i 2.0

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Organics Analysis Data Sheet
(Page 4)

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Tentatively Identified Compounds

CAS Number	Compound Name	Fraction	RT or Scan Number	Estimated Concentration (ug/l or ug/kg)
1.	2-fluorophenol and unknown	BNA	361	43
2. 635-[illegible]	Trimethylurea	BNA	508	11
3. 105-[illegible]	Caprolactam	BNA	721	700
4.	C3-substituted benzenesulfonamide	BNA	1031	23
5.	N-ethyl-4-methyl-benzenesulfonamide	BNA	1079	22
6. 60297	1,1'-oxybis-ethane	VOA	427	62
7. —	unknown hydrocarbon	VOA	818	8.5
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Laboratory Name Enseco Erco Laboratory

Case No 8404

Lab Sample ID No 58-SC-03

QC Report No 003-CAL

Sample Matrix Water

Contract No 68-01-7147

Data Release Authorized By

Date Sample Received 11.6.87

Volatile Compounds

Concentration: Low Medium (Circle One)

Date Extracted/Prepared: 11.11.87

Date Analyzed: 11.11.87

Conc/Dil Factor: 1.0 pH —

Percent Moisture (Not Decanted) —

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	8.2
67-64-1	Acetone	12
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	10u
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	1.4J
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 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., 10J). If limit of detection is 10 µg/l and a concentration of 3 µg/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/ul 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

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(MJ)

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Organics Analysis Data Sheet
(Page 2)

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Semivolatile Compounds

Concentration: Low Medium (Circle One)

Date Extracted/Prepared 11-10-87

Date Analyzed: 11/19/87

Conc/Dil Factor: 2

Percent Moisture (Decanted) –

GPC Cleanup ☐Yes ☒No

Separatory Funnel Extraction ☒Yes

Continuous Liquid - Liquid Extraction ☐Yes

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

CAS Number		ug/l or ug/Kg (Circle One)
83-32-9	Acenaphthene	20 u
51-28-5	2. 4-Dinitrophenol	100 u
100-02-7	4-Nitrophenol	100 u
132-64-9	Dibenzofuran	20 u
121-14-2	2 4-Dinitrotoluene	20 u
606-20-2	2 6-Dinitrotoluene	20 u
84-66-2	Diethylphthalate	20 u
7005-72-3	4-Chlorophenyl-phenylether	20 u
86-73-7	Fluorene	20 u
100-01-6	4-Nitroaniline	100 u
534-52-1	4. 6-Dinitro-2-Methylphenol	100 u
86-30-6	N-Nitrosodiphenylamine (1)	20 u
101-55-3	4-Bromophenyl-phenylether	20 u
118-74-1	Hexachlorobenzene	20 u
87-86-5	Pentachlorophenol	100 u
85-01-8	Phenanthrene	20 u
120-12-7	Anthracene	20 u
84-74-2	Di-n-Butylphthalate	20 u
206-44-0	Fluoranthene	20 u
129-00-0	Pyrene	20 u
85-68-7	Butylbenzylphthalate	20 u
91-94-1	3. 3'-Dichlorobenzidine	40 u
56-55-3	Benzo(a)Anthracene	20 u
117-81-7	bis(2-Ethylhexyl)Phthalate	24
218-01-9	Chrysene	20 u
117-84-0	Di-n-Octyl Phthalate	20 u
205-99-2	Benzo(b)Fluoranthene	20 u
207-08-9	Benzo(k)Fluoranthene	20 u
50-32-8	Benzo(a)Pyrene	20 u
193-39-5	Indeno(1. 2. 3-cd)Pyrene	20 u
53-70-3	Dibenzo(a h)Anthracene	20 u J
191-24-2	Benzo(g. h. i)Perylene	20 u J

(1)-Cannot be separated from diphenylamine

R.K. 11/19/88

Form I

7/85

543

Case No [illegible]

[illegible]

Organics Analysis Data Sheet
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Pesticide / PCBs

Concentration (Low) Medium (Circle One)

Date Extracted / Prepared 11-9-87

Date Analyzed 11-22-87

Conc / Dil Factor 10

Percent Moisture (decanted) 100

GPC Cleanup ☐Yes ☒No

Separatory Funnel Extraction ☒Yes

Continuous Liquid - Liquid Extraction ☐Yes

CAS Number		ug/l or ug/Kg (Circle One)
319-84-6	Alpha-BHC	0.50U
319-85-7	Beta-BHC	0.50U
319-86-8	Delta-BHC	0.50U
58 89 9	Gamma-BHC (Lindane)	0.50U
76-44-8	Heptachlor	0.50U
309-00-2	Aldrin	0.50U
1024-57-3	Heptachlor Epoxide	0.50U
959-98-8	Endosulfan I	0.50U
60-57-1	Dieldrin	1.0U
72-55-9	4 4 -DDE	1.0U
72-20-8	Endrin	1.0U
33213-65-9	Endosulfan II	1.0U
72-54-8	4, 4 -DDD	1.0U
1031-07-8	Endosulfan Sulfate	1.0U
50-29-3	4 4 -DDT	1.0U
72-43-5	Methoxychlor	5.0U
53494-70 5	Endrin Ketone	1.0U
57-74 9	Chlordane	5.0U
8001-35 2	Toxaphene	10U
12674-11-2	Aroclor-1016	5.0U
11104-28-2	Aroclor-1221	5.0U
11141-16-5	Aroclor-1232	5.0U
53469-21-9	Aroclor-1242	5.0U
12672-29-6	Aroclor-1248	5.0U
11097-69-1	Aroclor-1254	5.0U
11096-82-5	Aroclor-1260	5.0U

V_i = Volume of extract injected (ul)

V_s = Volume of water extracted (ml)

W_s = Weight of sample extracted (g)

V_t = Volume of total extract (ul)

V_s 1000 or W_s NA V_t 1000 V_i 2.0

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Organics Analysis Data Sheet
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Tentatively Identified Compounds

CAS Number	Compound Name	Fraction	RT or Scan Number	Estimated Concentration (ug/l or ug/kg)
1.	2-fluorophenol and unknown	BNA	265	11
2. 143-07-7	Dodecanoic acid	BNA	914	15
3.	Benzenesulfonamide - (3-methyl	BNA	1037	13
4.	Unknown	BNA	1355	11
5. 85-60-9	Phenol, 4,4'-butylidenebis/2-(1,1-dimethyl	BNA	1653	17
6.	ethyl)-5-methyl-			
7.				
8.	None detected	VOA		
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5-5 7/85

MR AL

Organics Analysis Data Sheet
(Page 1)

Laboratory Name: Enseco - Erco Laboratory
Case No: 5464
Lab Sample ID No: 5550-01
QC Report No: 003-CAL
Sample Matrix: Water
Contract No: 68-01-7147
Data Release Authorized By: [illegible]
Date Sample Received: 11.6.87

Volatile Compounds

Concentration: Low Medium (Circle One)
Date Extracted/Prepared: 11.11.87
Date Analyzed: 11.11.87
Conc/Dil Factor: 1.0 pH —
Percent Moisture: (Not Decanted) —

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	5.4
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	10u
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 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., 10J). If limit of detection is 10 µg·l and a concentration of 3 µg·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/ul 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

R.K. 1/19/88
(MJ)

ecology and environment

Organics Analysis Data Sheet
(Page 2)

recycled paper

58601

Semivolatile Compounds

Concentration: Low Medium (Circle One)

Date Extracted/Prepared 11-10-87

Date Analyzed. 11/19/87

Conc/Dil Factor: 2

Percent Moisture (Decanted) –

GPC Cleanup ☐Yes ☒No

Separatory Funnel Extraction ☒Yes

Continuous Liquid - Liquid Extraction ☐Yes

CAS Number		ug/l or ug/Kg (Circle One)
108-95-2	Phenol	20 µ
111-44-4	bis(-2-Chloroethyl)Ether	20 µ
95-57-8	2-Chlorophenol	20 µ
541-73-1	1 3-Dichlorobenzene	20 µ
106-46-7	1 4-Dichlorobenzene	20 µ
100-51-6	Benzyl Alcohol	20 µ
95-50-1	1 2-Dichlorobenzene	20 µ
95-48-7	2-Methylphenol	20 µ
39638-32-9	bis(2-chloroisopropyl)Ether	20 µ
106-44-5	4-Methylphenol	20 µ
621-64-7	N-Nitroso-Di-n-Propylamine	20 µ
67-72-1	Hexachloroethane	20 µ
98-95-3	Nitrobenzene	20 µ
78-59-1	Isophorone	20 µ
88-75-5	2-Nitrophenol	20 µ
105-67-9	2, 4-Dimethylphenol	20 µ
65-85-0	Benzoic Acid	100 µ J
111-91-1	bis(-2-Chloroethoxy)Methane	20 µ
120-83-2	2, 4-Dichlorophenol	20 µ
120-82-1	1, 2, 4-Trichlorobenzene	20 µ
91-20-3	Naphthalene	20 µ
106-47-8	4-Chloroaniline	20 µ
87-68-3	Hexachlorobutadiene	20 µ
59-50-7	4-Chloro-3-Methylphenol	20 µ
91-57-6	2-Methylnaphthalene	20 µ
77-47-4	Hexachlorocyclopentadiene	20 µ
88-06-2	2, 4, 6-Trichlorophenol	20 µ
95-95-4	2, 4, 5-Trichlorophenol	100 µ
91-58-7	2-Chloronaphthalene	20 µ
88-74-4	2-Nitroaniline	100 µ
131-11-3	Dimethyl Phthalate	20 µ
203-96-8	Acenaphthylene	20 µ
90-09-2	3-Nitroaniline	100 µ

CAS Number		ug/l or ug/Kg (Circle One)
83-32-9	Acenaphthene	20 µ
51-28-5	2, 4-Dinitrophenol	100 µ
100-02-7	4-Nitrophenol	100 µ
132-64-9	Dibenzofuran	20 µ
121-14-2	2 4-Dinitrotoluene	20 µ
606-20-2	2 6-Dinitrotoluene	20 µ
84-66-2	Diethylphthalate	20 µ
7005-72-3	4-Chlorophenyl-phenylether	20 µ
86-73-7	Fluorene	20 µ
100-01-6	4-Nitroaniline	100 µ
534-52-1	4, 6-Dinitro-2-Methylphenol	100 µ
86-30-6	N-Nitrosodiphenylamine (1)	20 µ
101-55-3	4-Bromophenyl-phenylether	20 µ
118-74-1	Hexachlorobenzene	20 µ
87-86-5	Pentachlorophenol	100 µ
85-01-8	Phenanthrene	20 µ
120-12-7	Anthracene	20 µ
84-74-2	Di-n-Butylphthalate	20 µ
206-44-0	Fluoranthene	20 µ
129-00-0	Pyrene	20 µ
85-68-7	Butylbenzylphthalate	20 µ
91-94-1	3, 3'-Dichlorobenzidine	40 µ
56-55-3	Benzo(a)Anthracene	20 µ
117-81-7	bis(2-Ethylhexyl)Phthalate	20 µ
218-01-9	Chrysene	20 µ
117-84-0	Di-n-Octyl Phthalate	20 µ
205-99-2	Benzo(b)Fluoranthene	20 µ
207-08-9	Benzo(k)Fluoranthene	20 µ
50-32-8	Benzo(a)Pyrene	20 µ
193-39-5	Indeno(1, 2, 3-cd)Pyrene	20 µ
53-70-3	Dibenz(a, h)Anthracene	20 µ J
191-24-2	Benzo(g, h, i)Perylene	20 µ J

(1)-Cannot be separated from diphenylamine

Form I

R.K. 1/19/88

(MJ)

575

7/85

AVL

Case No 8404

EQ411

ecology and environment

Organics Analysis Data Sheet
(Page 3)

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Pesticide/PCBs

Concentration (Low) Medium (Circle One)

Date Extracted/Prepared 11-9-87

Date Analyzed 11-22-87

Conc/Dil Factor 10

Percent Moisture (decanted) 100

GPC Cleanup ☐Yes ☒No

Separatory Funnel Extraction ☒Yes

Continuous Liquid - Liquid Extraction ☐Yes

CAS Number		ug/l or ug/Kg (Circle One)
319-84-6	Alpha BHC	0.50U
319-85-7	Beta-BHC	0.50U
319-86-8	Delta-BHC	0.50U
58-89-9	Gamma-BHC (Lindane)	0.50U
76-44-8	Heptachlor	0.50U
309-00-2	Aldrin	0.50U
1024-57-3	Heptachlor Epoxide	0.50U
959-98-8	Endosulfan I	0.50U
60-57-1	Dieldrin	1.0U
72-55-9	4,4'-DDE	1.0U
72-20-8	Endrin	1.0U
33213-65-9	Endosulfan II	1.0U
72-54-8	4,4'-DDD	1.0U
1031-07-8	Endosulfan Sulfate	1.0U
50-29-3	4,4'-DDT	1.0U
72-43-5	Methoxychlor	5.0U
53494-70-5	Endrin Ketone	1.0U
57-74-9	Chlordane	5.0U
8001-35-2	Toxaphene	10U
12674-11-2	Aroclor-1016	5.0U
11104-28-2	Aroclor-1221	5.0U
11141-16-5	Aroclor-1232	5.0U
53469-21-9	Aroclor-1242	5.0U
12672-29-6	Aroclor-1248	5.0U
11097-69-1	Aroclor-1254	5.0U
11096-82-5	Aroclor-1260	5.0U

V_i = Volume of extract injected (ul)

V_s = Volume of water extracted (ml)

W_s = Weight of sample extracted (g)

V_t = Volume of total extract (ul)

V_s 1000 or W_s NA V_t 1000 V_i 2.0

Case No _____

58501

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. 105-60-2	Caprolactam	B/N	695	16
2.	C3-Benzenesulfonamide isomer	B/N	1636	22
3. 80-39-7	N-ethyl-4-methylbenzenesulfonamide isomer	B/N	1674	11
4.				
5.	~~SMO~~ no volatiles found	VOA		
6.				
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30.				

ecology and environment

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Laboratory Name Enseco - Erco Laboratory

Case No 8404

Lab Sample ID No 5850-06

QC Report No 003-CAL

Sample Matrix water

Contract No 68-01-7147

Data Release Authorized By

Date Sample Received 11.6.87

Volatile Compounds

Concentration: ~~Low~~ Medium (Circle One)

Date Extracted/Prepared: 11.11.87

Date Analyzed: 11.11.87

Conc/Dil Factor: 100 pH

Percent Moisture (Not Decanted)

CAS Number		ug/l or ug/Kg (Circle One)
74-87-3	Chloromethane	1000u
74-83-9	Bromomethane	1000u
75-01-4	Vinyl Chloride	1000u
75-00-3	Chloroethane	1000u
75-09-2	Methylene Chloride	~~3005~~ 1905
67-64-1	Acetone	1000u
75-15-0	Carbon Disulfide	500u
75-35-4	1, 1-Dichloroethene	500u
75-34-3	1, 1-Dichloroethane	500u
156-60-5	Trans-1, 2-Dichloroethene	500u
67-66-3	Chloroform	500u
107-06-2	1, 2-Dichloroethane	500u
78-93-3	2-Butanone	1000u
71-55-6	1, 1, 1-Trichloroethane	500u
56-23-5	Carbon Tetrachloride	500u
108-05-4	Vinyl Acetate	1000u
75-27-4	Bromodichloromethane	500u

CAS Number		ug/l or ug/Kg (Circle One)
78-87-5	1, 2-Dichloropropane	500u
10061-02-6	Trans-1, 3-Dichloropropene	500u
79-01-6	Trichloroethene	500u
124-48-1	Dibromochloromethane	500u
79-00-5	1, 1, 2-Trichloroethane	500u
71-43-2	Benzene	500u
10061-01-5	cis-1, 3-Dichloropropene	500u
110-75-8	2-Chloroethylvinylether	1000u
75-25-2	Bromoform	500u
108-10-1	4-Methyl-2-Pentanone	1000u J
591-78-6	2-Hexanone	1000u J
127-18-4	Tetrachloroethene	500u
79-34-5	1, 1, 2, 2-Tetrachloroethane	500u
108-88-3	Toluene	6000 NJ
108-90-7	Chlorobenzene	500u
100-41-4	Ethylbenzene	1800
100-42-5	Styrene	~~500u~~
	Total Xylenes	5500

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 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., 10J). If limit of detection is 10 µg/l and a concentration of 3 µg/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/ul 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.

R.K. 11/19/88

ALL SAMPLES (NJ)

MS/MSD HOLDING TIME EXT

Form I

600 11/85

ecology and environment

Organics Analysis Data Sheet
(Page 2)

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5856

Semivolatile Compounds

Concentration: (Low) Medium (Circle One)

Date Extracted/Prepared 11-10-87

Date Analyzed: 11/19/87

Conc/Dil Factor: 1

Percent Moisture (Decanted) -

GPC Cleanup ☐Yes ☐No

Separatory Funnel Extraction ☐Yes

Continuous Liquid - Liquid Extraction ☐Yes

CAS Number		ug/l or ug/Kg (Circle One)
108-95-2	Phenol	20 u
111-44-4	bis(-2-Chloroethyl)Ether	20 u
95-57-8	2-Chlorophenol	20 u
541-73-1	1 3-Dichlorobenzene	20 u
106-46-7	1 4-Dichlorobenzene	20 u
100-51-6	Benzyl Alcohol	20 u
95-50-1	1 2-Dichlorobenzene	20 u
95-48-7	2-Methylphenol	~~20 u~~ 5.5 j
39638-32-9	bis(2-chloroisopropyl)Ether	20 u
106-44-5	4-Methylphenol	~~10~~ 11 j
621-64-7	N-Nitroso-Di-n-Propylamine	20 u
67-72-1	Hexachloroethane	20 u
98-95-3	Nitrobenzene	20 u
78-59-1	Isophorone	20 u
88-75-5	2-Nitrophenol	20 u
105-67-9	2. 4-Dimethylphenol	7.9 j
65-85-0	Benzoic Acid	~~60 u~~ J
111-91-1	bis(-2-Chloroethoxy)Methane	20 u
120-83-2	2. 4-Dichlorophenol	20 u
120-82-1	1. 2. 4-Trichlorobenzene	20 u
91-20-3	Naphthalene	39
106-47-8	4-Chloroaniline	20 u
87-68-3	Hexachlorobutadiene	20 u
59-50-7	4-Chloro-3-Methylphenol	20 u
91-57-6	2-Methylnaphthalene	4.9 j
77-47-4	Hexachlorocyclopentadiene	20 u
88-06-2	2. 4. 6-Trichlorophenol	20 u
95-95-4	2. 4. 5-Trichlorophenol	100 u
91-58-7	2-Chloronaphthalene	20 u
88-74-4	2-Nitroaniline	100 u
131-11-3	Dimethyl Phthalate	20 u
208-96-8	Acenaphthylene	20 u
90-09-2	3-Nitroaniline	100 u

CAS Number		ug/l or ug/Kg (Circle One)
83-32-9	Acenaphthene	20 u
51-28-5	2. 4-Dinitrophenol	100 u
100-02-7	4-Nitrophenol	100 u
132-64-9	Dibenzofuran	20 u
121-14-2	2 4-Dinitrotoluene	20 u
606-20-2	2 6-Dinitrotoluene	20 u
84-66-2	Diethylphthalate	20 u
7005-72-3	4-Chlorophenyl-phenylether	20 u
86-73-7	Fluorene	20 u
100-01-6	4-Nitroaniline	100 u
534-52-1	4. 6-Dinitro-2-Methylphenol	100 u
86-30-6	N-Nitrosodiphenylamine (1)	3.0 j
101-55-3	4-Bromophenyl-phenylether	20 u
118-74-1	Hexachlorobenzene	20 u
87-86-5	Pentachlorophenol	100 u
85-01-8	Phenanthrene	20 u
120-12-7	Anthracene	20 u
84-74-2	Di-n-Butylphthalate	20 u
206-44-0	Fluoranthene	20 u
129-00-0	Pyrene	20 u
85-68-7	Butylbenzylphthalate	20 u
91-94-1	3. 3'-Dichlorobenzidine	40 u
56-55-3	Benzo(a)Anthracene	20 u
117-81-7	bis(2-Ethylhexyl)Phthalate	6.1 j
218-01-9	Chrysene	20 u
117-84-0	Di-n-Octyl Phthalate	20 u
205-99-2	Benzo(b)Fluoranthene	20 u
207-08-9	Benzo(k)Fluoranthene	20 u
50-32-8	Benzo(a)Pyrene	20 u
193-39-5	Indeno(1. 2. 3-cd)Pyrene	20 u
53-70-3	Dibenz(a h)Anthracene	20 u J
191-24-2	Benzo(g h. i)Perylene	20 u J

(1)-Cannot be separated from diphenylamine

K.K. 11/19/88

Form I

7/85

~~ALL RESULTS~~ (ug)
~~FAX/MSP before tape out~~
RK 1/24/88

601

AL

Organics Analysis Data Sheet
(Page 3)

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Pesticide/PCBs

Concentration (Low) Medium (Circle One)

Date Extracted/Prepared 11-9-87

Date Analyzed 11-22-87

Conc/Dil Factor 100

Percent Moisture (decanted) 100

GPC Cleanup ☐Yes ☒No

Separatory Funnel Extraction ☒Yes

Continuous Liquid - Liquid Extraction ☐Yes

CAS Number		(ug/l or ug/Kg) (Circle One)
319-84-6	Alpha BHC	5.0u
319-85-7	Beta-BHC	5.0u
319-86-8	Delta-BHC	5.0u
58-89-9	Gamma-BHC (Lindane	5.0u
76-44-8	Heptachlor	5.0u
309-00-2	Aldrin	5.0u
1024-57-3	Heptachlor Epoxide	5.0u
959-98-8	Endosulfan I	5.0u
60-57-1	Dieldrin	10u
72-55-9	4,4'-DDE	10u
72-20-8	Endrin	10u
33213-65-9	Endosulfan II	10u
72-54-8	4,4'-DDD	10u
1031-07-8	Endosulfan Sulfate	10u
50-29-3	4,4'-DDT	10u
72-43-5	Methoxychlor	50u
53494-70-5	Endrin Ketone	10u
57-74-9	Chlordane	50u
8001-35-2	Toxaphene	100u
12674-11-2	Aroclor-1016	50u
11104-28-2	Aroclor-1221	50u
11141-16-5	Aroclor-1232	50u
53469-21-9	Aroclor-1242	50u
12672-29-6	Aroclor-1248	50u
11097-69-1	Aroclor-1254	50u
11096-82-5	Aroclor-1260	50u

V_i = Volume of extract injected (ul)

V_s = Volume of water extracted (ml)

W_s = Weight of sample extracted (g)

V_t = Volume of total extract (ul)

V_s 1000 or W_s NA V_t ~~2.~~ 1000 V_i 2.0

Form 1

602 7/85

ecology and environment

Organics Analysis Data Sheet
(Page 4)

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58506

Tentatively Identified Compounds

CAS Number	Compound Name	Fraction	RT or Scan Number	Estimated Concentration (ug/l or ug/kg)
1.	methylene chloride and unknown	BNA	184	74
2. 100-41-4	Ethylbenzene	BNA	231	160
3.	dimethylbenzene isomer	BNA	246	2300
4.	dimethylbenzene isomer	BNA	277	480
5.	dimethylbenzene isomer	BNA	288	35
6.	dimethylbenzene isomer	BNA	304	36
7.	ethyl-methylbenzene isomer	BNA	374	140
8	trimethylbenzene isomer	BNA	381	60
9.	trimethylbenzene isomer	BNA	414	300
10.	trimethylbenzene isomer	BNA	450	55
11.	C_9H_{10} isomer	BNA	465	59
12. 873-94-9	3,3,5-trimethylcyclohexanone	BNA	473	410
13. 14-52-9	3,3,5-trimethylcyclohexanol + unknown	BNA	488	320
14.	tetramethylbenzene isomer	BNA	561	35
15.	tetramethylbenzene isomer	BNA	566	78
16.	tetramethylbenzene isomer	BNA	6[illegible]	71
17. 124-07-2	octanoic acid + unknown	BNA	670	44
18. [illegible]	Lupratactone	BNA	713	400
19. [illegible]	Dodecanoic acid	BNA	920	44
20.	Cu-benzene isomer	BNA	527	100
21.				
22.	None detected	VOA		
23.				
24.				
25.				
26.				
27.				
28.				
29.				
30.				

603

Organics Analysis Data Sheet
(Page 1)

ecology and environment

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Laboratory Name Enseco - Erco Laboratory

Case No 8404

Lab Sample ID No 5850-07

QC Report No 003-CAL

Sample Matrix Water

Contract No 68-01-7147

Data Release Authorized By [signature]

Date Sample Received 11.6.87

Volatile Compounds

Concentration: Low Medium (Circle One)

Date Extracted/Prepared: 11.11.87

Date Analyzed: 11.11.87

Conc/Dil Factor: 200 pH —

Percent Moisture: (Not Decanted) —

CAS Number		ug/l or ug/Kg (Circle One)
74-87-3	Chloromethane	2000u
74-83-9	Bromomethane	2000u
75-01-4	Vinyl Chloride	2000u
75-00-3	Chloroethane	2000u
75-09-2	Methylene Chloride	240J
67-64-1	Acetone	26000
75-15-0	Carbon Disulfide	1000u
75-35-4	1, 1-Dichloroethene	1000u
75-34-3	1, 1-Dichloroethane	2900
156-60-5	Trans-1, 2-Dichloroethene	4300
67-66-3	Chloroform	1000u
107-06-2	1, 2-Dichloroethane	1000u
78-93-3	2-Butanone	28000
71-55-6	1, 1, 1-Trichloroethane	1000u
56-23-5	Carbon Tetrachloride	1000u
108-05-4	Vinyl Acetate	2000u
75-27-4	Bromodichloromethane	1000u

CAS Number		ug/l or ug/Kg (Circle One)
78-87-5	1, 2-Dichloropropane	1000u
10061-02-6	Trans-1, 3-Dichloropropene	1000u
79-01-6	Trichloroethene	1000u
124-48-1	Dibromochloromethane	1000u
79-00-5	1, 1, 2-Trichloroethane	1000u
71-43-2	Benzene	530J
10061-01-5	cis-1, 3-Dichloropropene	1000u
110-75-8	2-Chloroethylvinylether	2000u
75-25-2	Bromoform	1000u
108-10-1	4-Methyl-2-Pentanone	36000
591-78-6	2-Hexanone	2000u
127-18-4	Tetrachloroethene	1000u
79-34-5	1, 1, 2, 2-Tetrachloroethane	1000u
108-88-3	Toluene	13000
108-90-7	Chlorobenzene	1000u
100-41-4	Ethylbenzene	3500
100-42-5	Styrene	1000u
	Total Xylenes	21000

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.

* HRS

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 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., 10J). If limit of detection is 10 µg/l and a concentration of 3 µg/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/ul 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

R.K. 1/19/88 (MO)

Case No 8404

EQ-413

ecology and environment

Organics Analysis Data Sheet
(Page 2)

recycled paper

Semivolatile Compounds

Concentration: Low Medium (Circle One)

Date Extracted/Prepared 11-10-87

Date Analyzed 11/20/87

Conc/Dil Factor: 160

Percent Moisture (Decanted) –

GPC Cleanup ☐Yes ☒No

Separatory Funnel Extraction ☐Yes

Continuous Liquid - Liquid Extraction ☐Yes

CAS Number		ug/l or ug/Kg (Circle One) ?
108-95-2	Phenol	26 000 µ
111-44-4	bis(-2-Chloroethyl)Ether	1600 µ
95-57-8	2-Chlorophenol	1600 µ
541-73-1	1 3-Dichlorobenzene	1600 µ
106-46-7	1, 4-Dichlorobenzene	1600 µ
100-51-6	Benzyl Alcohol	1600 µ
95-50-1	1 2-Dichlorobenzene	1600 µ
95-48-7	2-Methylphenol	940 j
39638-32-9	bis(2-chloroisopropyl)Ether	1600 µ
106-44-5	4-Methylpheno	2600
621-64-7	N-Nitroso-Di-n-Propylamine	1600 µ
67-72-1	Hexachloroethane	1600 µ
98-95-3	Nitrobenzene	1600 µ
78-59-1	Isophorone	1600 µ
88-75-5	2-Nitrophenol	1600 µ
105-67-9	2, 4-Dimethylphenol	~~1600 µ~~ 370 j
65-85-0	Benzoic Acid	8000 µ J
111-91-1	bis(2-Chloroethoxy)Methane	1600 µ
120-83-2	2, 4-Dichlorophenol	1600 µ
120-82-1	1, 2, 4-Trichlorobenzene	1600 µ
91-20-3	Naphthalene	440 j
106-47-8	4-Chloroaniline	1600 µ
87-68-3	Hexachlorobutadiene	1600 µ
59-50-7	4-Chloro-3-Methylphenol	1600 µ
91-57-6	2-Methylnaphthalene	1600 µ
77-47-4	Hexachlorocyclopentadiene	1600 µ J
88-06-2	2, 4, 6-Trichlorophenol	1600 µ
95-95-4	2, 4, 5-Trichlorophenol	8000 µ
91-58-7	2-Chloronaphthalene	1600 µ
88-74-4	2-Nitroaniline	8000 µ
131-11-3	Dimethyl Phthalate	1600 µ
208-96-8	Acenaphthylene	1600 µ
90-09-2	3-Nitroaniline	8000 µ

CAS Number		ug/l or ug/Kg (Circle One)
83-32-9	Acenaphthene	1600 µ
51-28-5	2, 4-Dinitrophenol	8000 µ
100-02-7	4-Nitrophenol	8000 µ
132-64-9	Dibenzofuran	1600 µ
121-14-2	2 4-Dinitrotoluene	1600 µ
606-20-2	2 6-Dinitrotoluene	1600 µ
84-66-2	Diethylphthalate	1600 µ
7005-72-3	4-Chlorophenyl-phenylether	1600 µ
86-73-7	Fluorene	1600 µ
100-01-6	4-Nitroaniline	8000 µ J
534-52-1	4, 6-Dinitro-2-Methylphenol	8000 µ
86-30-6	N-Nitrosodiphenylamine (1)	1600 µ
101-55-3	4-Bromophenyl-phenylether	1600 µ
118-74-1	Hexachlorobenzene	1600 µ
87-86-5	Pentachlorophenol	8000 µ
85-01-8	Phenanthrene	1600 µ
120-12-7	Anthracene	1600 µ
84-74-2	Di-n-Butylphthalate	1600 µ
206-44-0	Fluoranthene	1600 µ
129-00-0	Pyrene	1600 µ
85-68-7	Butylbenzylphthalate	1600 µ
91-94-1	3, 3'-Dichlorobenzidine	3200 µ
56-55-3	Benzo(a)Anthracene	1600 µ
117-81-7	bis(2-Ethylhexyl)Phthalate	1600 µ
218-01-9	Chrysene	1600 µ
117-84-0	Di-n-Octyl Phthalate	1600 µ
205-99-2	Benzo(b)Fluoranthene	1600 µ
207-08-9	Benzo(k)Fluoranthene	1600 µ
50-32-8	Benzo(a)Pyrene	1600 µ
193-39-5	Indeno(1, 2, 3-cd)Pyrene	1600 µ
53-70-3	Dibenz(a h)Anthracene	1600 µ
191-24-2	Benzo(g, h, i)Perylene	1600 µ

(1)-Cannot be separated from diphenylamine

R.K. 1/19/88

(nJ)

Form I

7/85

002

AVL

Organics Analysis Data Sheet
(Page 3)

Pesticide /PCBs

Concentration (Low) Medium (Circle One)

Date Extracted /Prepared 11-9-87

Date Analyzed 11-22-87

Conc /Dil Factor 200

Percent Moisture (decanted) 100

GPC Cleanup ☐Yes ☒No

Separatory Funnel Extraction ☒Yes

Continuous Liquid - Liquid Extraction ☐Yes

CAS Number		(ug /l or ug /Kg) (Circle One)
319-84-6	Alpha BHC	10U
319-85-7	Beta-BHC	10U
319-86-8	Delta BHC	10U
58-89-9	Gamma BHC (Lindane)	10U
76-44-8	Heptachlor	10U
309-00-2	Aldrin	10U
1024-57-3	Heptachlor Epoxide	10U
959-98-8	Endosulfan I	10U
60-57-1	Dieldrin	20U
72-55-9	4,4'-DDE	20U
72-20-8	Endrin	20U
33213-65-9	Endosulfan II	20U
72-54-8	4,4'-DDD	20U
1031-07-8	Endosulfan Sulfate	20U
50-29-3	4,4'-DDT	20U
72-43-5	Methoxychlor	100U
53494-70-5	Endrin Ketone	20U
57-74-9	Chlordane	100U
8001-35-2	Toxaphene	200U
12674-11-2	Aroclor-1016	100U
11104-28-2	Aroclor-1221	100U
11141-16-5	Aroclor-1232	100U
53469-21-9	Aroclor-1242	100U
12672-29-6	Aroclor-1248	100U
11097-69-1	Aroclor-1254	100U
11096-82-5	Aroclor-1260	100U

V_i = Volume of extract injected (ul)

V_s = Volume of water extracted (ml)

W_s = Weight of sample extracted (g)

V_t = Volume of total extract (ul)

V_s 1000 or W_s NA V_t 1000 V_i 2.0

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CY-413

Organics Analysis Data Sheet
(Page 4)

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Tentatively Identified Compounds

CAS Number	Compound Name	Fraction	RT or Scan Number	Estimated Concentration (ug/l or ug/kg)
1. 100-41-4	Ethylbenzene	BNA	240	3700
2.	dimethylbenzene isomer	BNA	252	13000
3.	$C_6H_{12}C$ isomer and dimethylbenzene isomer	BNA	271	1200
4.	dimethylbenzene isomer	BNA	283	3800
5.	C_3-benzene isomer and phenol	BNA	419	900
6. 873-94-9	3,3,5-trimethylcyclohexanone	BNA	476	4800
7. 116-02-9	3,3,5-trimethylcyclohexanol	BNA	493	12000
8. 617-94-7	α,α-dimethylbenzenemethanol	BNA	532	4700
9. 149-57-5	2-ethylhexanoic acid	BNA	588	3100
10.	Unknown and 2,4-dimethylphenol	BNA	601	1400
11.	C_2-phenol isomer	BNA	622	1100
12. 10485-56-1	3-cyclohexene-1-methanol, α-α,4-trimethyl-	BNA	645	1100
13. 103-82-2	Benzene acetic acid	BNA	704	2100
14. 501-52-0	Benzene propanoic acid	BNA	785	900
15.				
16. 108112	4-methyl-2-pentanol	VOA	818	1800
17.				
18.				
19.				
20.				
21.				
22.				
23.				
24.				
25.				
26.				
27.				
28.				
29.				
30.				

004

Laboratory Name Enseco - Erco Laboratory

Case No 5404

Lab Sample ID No 5550-04

QC Report No. 003-CAL

Sample Matrix Water

Contract No 68-01-7147

Data Release Authorized By: Am

Date Sample Received 11.6.87

Volatile Compounds

Concentration: Low Medium (Circle One)

Date Extracted/Prepared: 11.10.87

Date Analyzed: 11.10.87

Conc/Dil Factor: 100 pH —

Percent Moisture: (Not Decanted) —

CAS Number		ug/l or ug/Kg (Circle One)
74-87-3	Chloromethane	1000U
74-83-9	Bromomethane	1000U
75-01-4	Vinyl Chloride	1000U
75-00-3	Chloroethane	1000U
75-09-2	Methylene Chloride	2200J
67-64-1	Acetone	1700
75-15-0	Carbon Disulfide	500U J
75-35-4	1, 1-Dichloroethene	500U
75-34-3	1, 1-Dichloroethane	500U
156-60-5	Trans-1, 2-Dichloroethene	240J
67-66-3	Chloroform	500U
107-06-2	1, 2-Dichloroethane	500U
78-93-3	2-Butanone	1000U J
71-55-6	1, 1, 1-Trichloroethane	500U
56-23-5	Carbon Tetrachloride	500U
108-05-4	Vinyl Acetate	1000U
75-27-4	Bromodichloromethane	500U

CAS Number		ug/l or ug/Kg (Circle One)
78-87-5	1, 2-Dichloropropane	500U
10061-02-6	Trans-1, 3-Dichloropropene	500U
79-01-6	Trichloroethene	500U
124-48-1	Dibromochloromethane	500U
79-00-5	1, 1, 2-Trichloroethane	500U
71-43-2	Benzene	590
10061-01-5	cis-1, 3-Dichloropropene	500U
110-75-8	2-Chloroethylvinylether	1000U
75-25-2	Bromoform	500U
108-10-1	4-Methyl-2-Pentanone	780J
591-78-6	2-Hexanone	1000U J
127-18-4	Tetrachloroethene	500U
79-34-5	1, 1, 2, 2-Tetrachloroethane	500U
108-88-3	Toluene *	13000
108-90-7	Chlorobenzene	500U
100-41-4	Ethylbenzene *	1900
100-42-5	Styrene	500U
	Total Xylenes *	16000

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.

*HRS

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 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., 10J). If limit of detection is 10 µg/l and a concentration of 3 µg/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/ul 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.

R.K. 11/11/88

(MJ)

718

Case No _____

Organics Analysis Data Sheet
(Page 2)

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58504

Semivolatile Compounds

Concentration: Low Medium (Circle One)

Date Extracted/Prepared 11-10-87

Date Analyzed 11/10/87

Conc/Dil Factor: 8

Percent Moisture (Decanted) -

GPC Cleanup ☐Yes ☒No

Separatory Funnel Extraction ☒Yes

Continuous Liquid - Liquid Extraction ☐Yes

CAS Number		ug/l or ug/Kg (Circle One)
108-95-2	Phenol	31 j
111-44-4	bis(-2-Chloroethyl)Ether	80 µ
95-57-8	2-Chlorophenol	80 µ
541-73-1	1 3-Dichlorobenzene	80 µ
106-46-7	1 4-Dichlorobenzene	80 µ
100-51-6	Benzyl Alcohol	[illegible]
95-50-1	1 2-Dichlorobenzene	[illegible]
95-48-7	2-Methylphenol	240
39638-32-9	bis(2-chloroisopropyl)Ether	[illegible]
106-44-5	4-Methylphenol	[illegible] ?
621-64-7	N-Nitroso-Di-n-Propylamine	80 µ
67-72-1	Hexachloroethane	80 µ
98-95-3	Nitrobenzene	80 µ
78-59-1	Isophorone	80 µ
88-75-5	2-Nitrophenol	80 µ
105-67-9	2, 4-Dimethylphenol	170
65-85-0	Benzoic Acid	400 µ
111-91-1	bis(-2-Chloroethoxy)Methane	80 µ
120-83-2	2, 4-Dichlorophenol	140
120-82-1	1, 2, 4-Trichlorobenzene	80 µ
91-20-3	Naphthalene	380
106-47-8	4-Chloroaniline	80 µ
87-68-3	Hexachlorobutadiene	80 µ
59-50-7	4-Chloro-3-Methylphenol	80 µ
91-57-6	2-Methylnaphthalene	35 j
77-47-4	Hexachlorocyclopentadiene	80 µ
88-06-2	2, 4, 6-Trichlorophenol	80 µ
95-95-4	2, 4, 5-Trichlorophenol	400 µ
91-58-7	2-Chloronaphthalene	80 µ
88-74-4	2-Nitroaniline	400 µ
131-11-3	Dimethyl Phthalate	80 µ
208-96-8	Acenaphthylene	80 µ
90-09-2	3-Nitroaniline	400 µ

CAS Number		ug/l or ug/Kg (Circle One)
83-32-9	Acenaphthene	80 µ
51-28-5	2, 4-Dinitrophenol	400 µ
100-02-7	4-Nitrophenol	400 µ
132-64-9	Dibenzofuran	80 µ
121-14-2	2 4-Dinitrotoluene	80 µ
606-20-2	2 6-Dinitrotoluene	80 µ
84-66-2	Diethylphthalate	80 µ
7005-72-3	4-Chlorophenyl-phenylether	80 µ
86-73-7	Fluorene	80 µ
100-01-6	4-Nitroaniline	400 µ
534-52-1	4, 6-Dinitro-2-Methylphenol	400 µ
86-30-6	N-Nitrosodiphenylamine (1)	8.5 j
101-55-3	4-Bromophenyl-phenylether	80 µ
118-74-1	Hexachlorobenzene	80 µ
87-86-5	Pentachlorophenol	~~80 µ~~ 400 µ
85-01-8	Phenanthrene	80 µ
120-12-7	Anthracene	80 µ
84-74-2	Di-n-Butylphthalate	80 µ
206-44-0	Fluoranthene	80 µ
129-00-0	Pyrene	80 µ
85-68-7	Butylbenzylphthalate	80 µ
91-94-1	3, 3'-Dichlorobenzidine	160 µ
56-55-3	Benzo(a)Anthracene	80 µ
117-81-7	bis(2-Ethylhexyl)Phthalate	80 µ
218-01-9	Chrysene	80 µ
117-84-0	Di-n-Octyl Phthalate	80 µ
205-99-2	Benzo(b)Fluoranthene	80 µ
207-08-9	Benzo(k)Fluoranthene	80 µ
50-32-8	Benzo(a)Pyrene	80 µ
193-39-5	Indeno(1, 2, 3-cd)Pyrene	80 µ
53-70-3	Dibenz(a, h)Anthracene	80 µ
191-24-2	Benzo(g, h, i)Perylene	80 µ

(1)-Cannot be separated from diphenylamine

RK 1/19/88

(MJ)

Form I 7/85

719

Organics Analysis Data Sheet
(Page 4)

58 504

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Tentatively Identified Compounds

CAS Number	Compound Name	Fraction	RT or Scan Number	Estimated Concentration (ug/l or ug/kg)
1.	Unknown and methylenechloride	BNA	184	160
2. 100-41-4	Ethylbenzene	BNA	238	72
3.	dimethylbenzene isomer	BNA	254	9500
4.	dimethylbenzene isomer	BNA	284	3300
5.	dimethylbenzene isomer	BNA	310	78
6.	ethyl-, methylbenzene isomer	BNA	377	380
7.	trimethylbenzene isomer	BNA	386	130
8.	$C_9H_{12}O$ isomer	BNA	392	320
9.	ethyl-, methylbenzene isomer	BNA	401	240
10.	trimethylbenzene isomer	BNA	419	700
11.	trimethylbenzene isomer	BNA	454	280
12. 873-[illegible]-9	3,3,5-trimethylcyclohexanone	BNA	476	1100
13. 116-[illegible]-9	3,3,5-trimethylcyclohexanol	BNA	494	1000
14.	ethyl-, dimethylbenzene isomer	BNA	531	180
15.	tetramethylbenzene isomer	BNA	565	83
16.	tetramethylbenzene isomer	BNA	570	140
17.	ethylphenol isomer	BNA	590	220
18. 104[illegible]-5-1	3-[illegible]-1-methanol-2,2,4-trimethyl	BNA	646	120
19.	+ unknown (possibly dimethylphenol	BNA	↓	
20.	isomer)	BNA	↓	2
21.	Unknown	BNA	710	85
22.	Unknown	BNA	724	200
23.				
24.	None detected	VOA		
25.				
26.				
27.				
28.				
29.				
30.				

ecology and environment

recycled paper

6/28/88

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION V

DATE: 6-15-88

SUBJECT: Review of Region V CLP Data
Received for Review on 6-6-88

FROM: Curtis Ross ,Director (5SCRL)
Central Regional Laboratory Jay Thakker

TO: Data User : FIT

We have reviewed the data for the following case(s).

SITE NAME: U.S.SCRAP SMO case No. 9614SAS3871E

EPA Data Set No SF5192(2) No.of Samples: 11 D.U/Activity Numbers Y905/C721Z8

CRL No. 88FC22S17,S21-S28,D24,R05

SMO Traffic No. MEX232,331,336-340,682,684,685,860

CLP Laboratory: VERSAR Hrs.required for Review 3

Following are our findings:
This review covers 9 water samples and 2 soil samples analyzed for metals and cyanide.
For sample MEX331 laboratory recieved only cyanide aliquot, on traffic report this sample was marked only for metals.
Field duplicates (MEX339&MEX682) showed high RPD for Zn(67%).
The lab did not have sample MEX232 on cover page ,this was corrected by reviewer.

For water samples. Mn was flagged with E from serial dilution instead of Ni, this was corrected by reviewer.
Serial dilution showed interferences for Ni and Zn. All data for these elements are estimated(J).
Spike recoveries for Hg(25%),Tl(0%) are shown above. All Tl data are unusable(R). Hg data except sample MEX338 are unusable(R).
Sample MEX338 does not needed U for Hg,As. This was corrected by reviewer.
Hg data for sample MEX338 is estimated(J).
Tl results were reported for some samples to IDL,for some to CRDL. The reviewer corrected this,all samples reported to CRDL.

For soil samples. Duplicate analysis gave high RPD's for Mn(33%) and Cr(46%). Limits of +/-35% apply for soil duplicate analysis.All Cr data are estimated(J) Spike recoveries for Sb(68%),Mn(127%),Tl(61%),Zn(128%) and CN(30%) showed above.Detection limits for Sb,Tl,CN could be elevated and all Sb,Tl,CN data are estimated(UJ).All Mn and Zn data are estimated(J).

John Lebin
6.15.88

( ) Data are acceptable for use.
(X) Data are acceptable for use with qualifications noted above.
( ) Data are preliminary-pending verification by Contract Laboratory.
( ) Data are unacceptable.

FORM I

U.S. EPA CONTRACT LABORATORY PROGRAM
SAMPLE MANAGEMENT OFFICE
P.O. BOX 818 - ALEXANDRIA, VA. 22313
703/557-2490 FTS: 8-557-2490

SAMPLE NO.
MEX 336

DATE 5/26/88

INORGANIC ANALYSIS DATA SHEET

LAB NAME VERSAR INC.

CASE NO. 9614/3871E

SOW NO. 785

LAB RECEIPT DATE 5/20/88

LAB SAMPLE ID. NO. 49803, 49810

QC REPORT NO. 217 - 220

PROJECT-TASK 5027.0000

BATCH 217

ELEMENTS IDENTIFIED AND MEASURED

CONCENTRATION: LOW X MEDIUM HIGH

MATRIX: WATER X SOIL WIPE

UG/L

1.	ALUMINUM	[63.]	P	13.	MAGNESIUM	70000.	P
2.	ANTIMONY	[25.]	P	14.	MANGANESE	124. E	P
3.	ARSENIC	10. U	F	15.	MERCURY	0.2 UN	
4.	BARIUM	563.	P	16.	NICKEL	115. E	P
5.	BERYLLIUM	1.0 U	P	17.	POTASSIUM	115000.	P
6.	CADMIUM	4.0 U	P	18.	SELENIUM	5.0 U	F
7.	CALCIUM	53400.	P	19.	SILVER	2.0 U	P
8.	CHROMIUM	6.0 U	P	20.	SODIUM	528000.	P
9.	COBALT	6.0 U	P	21.	THALLIUM	100. UN	F
10.	COPPER	20. U	P	22.	VANADIUM	3.0 U	P
11.	IRON	630.	P	23.	ZINC	34. E	P
12.	LEAD	11.	F				
	CYANIDE	150.					

FOOTNOTES: SEE COVER PAGE.

COMMENTS: COLOR - YELLOW; CLARITY - CLOUDY; DF OF 10 FOR TL, CN; DF OF 5 FOR MG, NA;

LAB SUPERVISOR PKW for

JANET BECKMAN

FORM I

U.S. EPA CONTRACT LABORATORY PROGRAM
SAMPLE MANAGEMENT OFFICE
P.O. BOX 818 - ALEXANDRIA, VA. 22313
703/557-2490 FTS: 8-557-2490

SAMPLE NO.
MEX 337

DATE 5/26/88

INORGANIC ANALYSIS DATA SHEET

LAB NAME VERSAR INC.

CASE NO. 9614/3871E

SOW NO. 785

LAB RECEIPT DATE 5/20/88

LAB SAMPLE ID. NO. 49804, 49811

QC REPORT NO. 217 - 220

PROJECT-TASK 5027.0000

BATCH 217

ELEMENTS IDENTIFIED AND MEASURED

CONCENTRATION: LOW X MEDIUM HIGH

MATRIX: WATER X SOIL WIPE

UG/L

1.	ALUMINUM	[66.]	P	13.	MAGNESIUM	383000.	P
2.	ANTIMONY	[28.]	P	14.	MANGANESE	449. ~~E~~ T.L	P
3.	ARSENIC	10. U	F	15.	MERCURY	0.2 UN	
4.	BARIUM	[96.]	P	16.	NICKEL	[559. E	P
5.	BERYLLIUM	1.0 U	P	17.	POTASSIUM	78900.	P
6.	CADMIUM	4.0 U	P	18.	SELENIUM	5.0 U	F
7.	CALCIUM	219000.	P	19.	SILVER	2.0 U	P
8.	CHROMIUM	12.	P	20.	SODIUM	248000.	P
9.	COBALT	[7.0]	P	21.	THALLIUM	100 ~~30.~~ UNE	F
10.	COPPER	4.0 U	P	22.	VANADIUM	[10.]	P
11.	IRON	6950.	P	23.	ZINC	[15.] E	P
12.	LEAD	5.0 U	F				
	CYANIDE	29.6					

FOOTNOTES: SEE COVER PAGE.

COMMENTS: COLOR - TAN; CLARITY - CLOUDY; DF OF 10 FOR TL;

LAB SUPERVISOR PKW for

JANET BECKMAN

FORM I

U.S. EPA CONTRACT LABORATORY PROGRAM
SAMPLE MANAGEMENT OFFICE
P.O. BOX 818 - ALEXANDRIA, VA. 22313
703/557-2490 FTS: 8-557-2490

SAMPLE NO.
MEX 338

DATE 5/26/88

INORGANIC ANALYSIS DATA SHEET

LAB NAME VERSAR INC.

CASE NO. 9614/3871E

SOW NO. 785

LAB RECEIPT DATE 5/20/88

LAB SAMPLE ID. NO. 49805, 49812

QC REPORT NO. 217 - 220

PROJECT-TASK 5027.0000

BATCH 217

ELEMENTS IDENTIFIED AND MEASURED

CONCENTRATION: LOW X MEDIUM HIGH

MATRIX: WATER X SOIL WIPE

UG/L

1.	ALUMINUM	536.	P	13.	MAGNESIUM	356000.	P
2.	ANTIMONY	21. U	P	14.	MANGANESE	20400.	P
3.	ARSENIC	46.	F S	15.	MERCURY	0.75	
4.	BARIUM	511.	P	16.	NICKEL	1020. E	P
5.	BERYLLIUM	1.0 U	P	17.	POTASSIUM	74100.	P
6.	CADMIUM	4.0 U	P	18.	SELENIUM	33.	F S
7.	CALCIUM	858000.	P	19.	SILVER	2.0 U	P
8.	CHROMIUM	131.	P	20.	SODIUM	498000.	P
9.	COBALT	1920.	P	21.	THALLIUM	30. UNE	F
10.	COPPER	4.0 U	P	22.	VANADIUM	70.	P
11.	IRON	407000.	P	23.	ZINC	49200. E	P
12.	LEAD	137.	F S				
	CYANIDE	29.1					

FOOTNOTES: SEE COVER PAGE.

COMMENTS: COLOR - BROWN; CLARITY - OPAQUE; DF OF 4 FOR AS; DF OF 10 FOR PB, TL; DF OF 3 FOR SE; DF OF 5 FOR CA, FE; SD;

LAB SUPERVISOR PKW for

JANET BECKMAN

FORM I

U.S. EPA CONTRACT LABORATORY PROGRAM
SAMPLE MANAGEMENT OFFICE
P.O. BOX 818 - ALEXANDRIA, VA. 22313
703/557-2490 FTS: 8-557-2490

SAMPLE NO.
MEX 339

DATE 5/26/88

INORGANIC ANALYSIS DATA SHEET

LAB NAME VERSAR INC.

CASE NO. 9614/3871E

SOW NO. 785

LAB RECEIPT DATE 5/20/88

LAB SAMPLE ID. NO. 49806, 49813

QC REPORT NO. 217 - 220

PROJECT-TASK 5027.0000

BATCH 217

ELEMENTS IDENTIFIED AND MEASURED

CONCENTRATION: LOW X MEDIUM HIGH

MATRIX: WATER X SOIL WIPE

UG/L

1.	ALUMINUM	[38.]	P	13.	MAGNESIUM	428000.	P
2.	ANTIMONY	105. U	P	14.	MANGANESE	5950. ~~E~~ L	P
3.	ARSENIC	10. U	F	15.	MERCURY	0.2 UN	
4.	BARIUM	[162.]	P	16.	NICKEL	728. E	P
5.	BERYLLIUM	1.0 U	P	17.	POTASSIUM	105000.	P
6.	CADMIUM	4.0 U	P	18.	SELENIUM	50. U	F
7.	CALCIUM	779000.	P	19.	SILVER	10. U	P
8.	CHROMIUM	100.	P	20.	SODIUM	317000.	P
9.	COBALT	[19.]	P	21.	THALLIUM	100 ~~20~~. TL UNE	F
10.	COPPER	20. U	P	22.	VANADIUM	[13.]	P
11.	IRON	284000.	P	23.	ZINC	79. E	P
12.	LEAD	5.0 U	F				
	CYANIDE	11.0					

FOOTNOTES: SEE COVER PAGE.

COMMENTS: COLOR - TAN; CLARITY - OPAQUE; DF OF 10 FOR SE, TL;
DF OF 5 FOR CA, FE;

LAB SUPERVISOR PKW for
JANET BECKMAN

FORM I

U.S. EPA CONTRACT LABORATORY PROGRAM
SAMPLE MANAGEMENT OFFICE
P.O. BOX 818 - ALEXANDRIA, VA. 22313
703/557-2490 FTS: 8-557-2490

SAMPLE NO.
MEX 340

DATE 5/26/88

INORGANIC ANALYSIS DATA SHEET

LAB NAME VERSAR INC.

CASE NO. 9614/3871E

SOW NO. 785

LAB RECEIPT DATE 5/20/88

LAB SAMPLE ID. NO. 49807, 49814

QC REPORT NO. 217 - 220

PROJECT-TASK 5027.0000

BATCH 217

ELEMENTS IDENTIFIED AND MEASURED

CONCENTRATION: LOW X MEDIUM HIGH

MATRIX: WATER X SOIL WIPE

UG/L

1.	ALUMINUM	403.	P	13.	MAGNESIUM	37500.	P
2.	ANTIMONY	21. U	P	14.	MANGANESE	41. E	P
3.	ARSENIC	10. U	F	15.	MERCURY	0.2 UN	
4.	BARIUM	[53.]	P	16.	NICKEL	95. E	P
5.	BERYLLIUM	1.0 U	P	17.	POTASSIUM	[4980.]	P
6.	CADMIUM	4.0 U	P	18.	SELENIUM	5.0 U	F
7.	CALCIUM	83200.	P	19.	SILVER	2.0 U	P
8.	CHROMIUM	[6.7]	P	20.	SODIUM	135000.	P
9.	COBALT	6.0 U	P	21.	THALLIUM	50. UN	F
10.	COPPER	4.0 U	P	22.	VANADIUM	3.0 U	P
11.	IRON	1730.	P	23.	ZINC	30. E	P
12.	LEAD	5.0 U	F				
	CYANIDE	10. U					

FOOTNOTES: SEE COVER PAGE.

COMMENTS: COLOR - WHITE; CLARITY - CLOUDY; DF OF 5 FOR TL;

LAB SUPERVISOR PKW for

JANET BECKMAN

FORM I

U.S. EPA CONTRACT LABORATORY PROGRAM
SAMPLE MANAGEMENT OFFICE
P.O. BOX 818 - ALEXANDRIA, VA. 22313
703/557-2490 FTS: 8-557-2490

SAMPLE NO.
MEX 682

DATE 5/26/88

INORGANIC ANALYSIS DATA SHEET

LAB NAME VERSAR INC.

CASE NO. 9614/3871E

SOW NO. 785

LAB RECEIPT DATE 5/20/88

LAB SAMPLE ID. NO. 49808, 49815

QC REPORT NO. 217 - 220

PROJECT-TASK 5027.0000

BATCH 217

ELEMENTS IDENTIFIED AND MEASURED

CONCENTRATION: LOW X MEDIUM HIGH

MATRIX: WATER X SOIL WIPE

UG/L

1.	ALUMINUM	[35.]	P	13.	MAGNESIUM	425000.	P
2.	ANTIMONY	105. U	P	14.	MANGANESE	5920. E	P
3.	ARSENIC	100. U	F	15.	MERCURY	0.2 UN	
4.	BARIUM	[161.]	P	16.	NICKEL	718. E	P
5.	BERYLLIUM	1.0 U	P	17.	POTASSIUM	105000.	P
6.	CADMIUM	4.0 U	P	18.	SELENIUM	50. U	F
7.	CALCIUM	752000.	P	19.	SILVER	10. U	P
8.	CHROMIUM	121.	P	20.	SODIUM	310000.	P
9.	COBALT	[18.]	P	21.	THALLIUM	~~30.~~ 100 J.L UNE	F
10.	COPPER	20. U	P	22.	VANADIUM	[14.]	P
11.	IRON	282000.	P	23.	ZINC	158. E	P
12.	LEAD	5.0 U	F				
	CYANIDE	10. U					

FOOTNOTES: SEE COVER PAGE.

COMMENTS: COLOR - TAN; CLARITY - OPAQUE; DF OF 10 FOR AS, SE, TL; DF OF 5 FOR CA, FE;

LAB SUPERVISOR PKW for

JANET BECKMAN

FORM I

U.S. EPA CONTRACT LABORATORY PROGRAM
SAMPLE MANAGEMENT OFFICE
P.O. BOX 818 - ALEXANDRIA, VA. 22313
703/557-2490 FTS: 8-557-2490

SAMPLE NO.
MEX 331

DATE 5/26/88

INORGANIC ANALYSIS DATA SHEET

LAB NAME VERSAR INC.

CASE NO. 9614/3871E

SOW NO. 785

LAB RECEIPT DATE 5/20/88

LAB SAMPLE ID. NO. 49809

QC REPORT NO. 217 - 220

PROJECT-TASK 5027.0000

BATCH 217

ELEMENTS IDENTIFIED AND MEASURED

CONCENTRATION: LOW X MEDIUM HIGH

MATRIX: WATER X SOIL WIPE

UG/L

1.	ALUMINUM	P	13.	MAGNESIUM	P
2.	ANTIMONY	P	14.	MANGANESE	P
3.	ARSENIC	F	15.	MERCURY	
4.	BARIUM	P	16.	NICKEL	P
5.	BERYLLIUM	P	17.	POTASSIUM	P
6.	CADMIUM	P	18.	SELENIUM	F
7.	CALCIUM	P	19.	SILVER	P
8.	CHROMIUM	P	20.	SODIUM	P
9.	COBALT	P	21.	THALLIUM	F
10.	COPPER	P	22.	VANADIUM	P
11.	IRON	P	23.	ZINC	P
12.	LEAD	F			
	CYANIDE	10. U			

FOOTNOTES: SEE COVER PAGE.

COMMENTS: COLOR - COLORLESS; CLARITY - CLEAR;

LAB SUPERVISOR PKW for

JANET BECKMAN

FORM I

U.S. EPA CONTRACT LABORATORY PROGRAM
SAMPLE MANAGEMENT OFFICE
P.O. BOX 818 - ALEXANDRIA, VA. 22313
703/557-2490 FTS: 8-557-2490

SAMPLE NO.
NEX 684

DATE 5/26/88

INORGANIC ANALYSIS DATA SHEET

LAB NAME VERSAR INC.

CASE NO. 9614/3871E

SOW NO. 785

LAB RECEIPT DATE 5/20/88

LAB SAMPLE ID. NO. 49845, 49847

QC REPORT NO. 217 - 220

PROJECT-TASK 5027.0000

BATCH 220

ELEMENTS IDENTIFIED AND MEASURED

CONCENTRATION: LOW X MEDIUM HIGH

MATRIX: WATER X SOIL WIPE

UG/L

1.	ALUMINUM	10. U	P	13.	MAGNESIUM	79600.	P
2.	ANTIMONY	21. U	P	14.	MANGANESE	247. E	P
3.	ARSENIC	10. U	F	15.	MERCURY	0.2 UN	
4.	BARIUM	[55.]	P	16.	NICKEL	176. E	P
5.	BERYLLIUM	1.0 U	P	17.	POTASSIUM	8840.	P
6.	CADMIUM	4.0 U	P	18.	SELENIUM	5.0 U	F
7.	CALCIUM	301000.	P	19.	SILVER	2.0 U	P
8.	CHROMIUM	16.	P	20.	SODIUM	57500.	P
9.	COBALT	6.0 U	P	21.	THALLIUM	50. UN	F
10.	COPPER	4.0 U	P	22.	VANADIUM	3.0 U	P
11.	IRON	[32.]	P	23.	ZINC	49. E	P
12.	LEAD	5.0 U	F				
	CYANIDE	10. U					

FOOTNOTES: SEE COVER PAGE.

COMMENTS: COLOR - COLORLESS; CLARITY - CLEAR; DF OF 5 FOR TL;

LAB SUPERVISOR Pkw for

JANET BECKMAN

FORM 1

U.S. EPA CONTRACT LABORATORY PROGRAM
SAMPLE MANAGEMENT OFFICE
P.O. BOX 818 - ALEXANDRIA, VA. 22313
703/557-2490 FTS: 8-557-2490

SAMPLE NO.
MEX 860

DATE 5/26/88

INORGANIC ANALYSIS DATA SHEET

LAB NAME VERSAR INC.

CASE NO. 9614/3871E

SOW NO. 785

LAB RECEIPT DATE 5/20/88

LAB SAMPLE ID. NO. 49846, 49848

QC REPORT NO. 217 - 220

PROJECT-TASK 5027.0000

BATCH 220

ELEMENTS IDENTIFIED AND MEASURED

CONCENTRATION: LOW X MEDIUM HIGH

MATRIX: WATER X SOIL WIPE

UG/L

1.	ALUMINUM	10. U	P	13.	MAGNESIUM	[34.]	P
2.	ANTIMONY	21. U	P	14.	MANGANESE	2.0 U E	P
3.	ARSENIC	10. U	F	15.	MERCURY	0.2 UN	
4.	BARIUM	2.0 U	P	16.	NICKEL	18. U E	P
5.	BERYLLIUM	1.0 U	P	17.	POTASSIUM	1200. U	P
6.	CADMIUM	4.0 U	P	18.	SELENIUM	5.0 U	F
7.	CALCIUM	[126.]	P	19.	SILVER	2.0 U	P
8.	CHROMIUM	6.0 U	P	20.	SODIUM	82. U	P
9.	COBALT	6.0 U	P	21.	THALLIUM	10. UN	F
10.	COPPER	[24.]	P	22.	VANADIUM	3.0 U	P
11.	IRON	[9.4]	P	23.	ZINC	9.0 U E	P
12.	LEAD	5.0 U	F				
	CYANIDE	10. U					

FOOTNOTES: SEE COVER PAGE.

COMMENTS: COLOR - COLORLESS; CLARITY - CLEAR;

LAB SUPERVISOR PKW for

JANET BECKMAN

FORM I

U.S. EPA CONTRACT LABORATORY PROGRAM
SAMPLE MANAGEMENT OFFICE
P.O. BOX 818 - ALEXANDRIA, VA. 22313
703/557-2490 FTS: 8-557-2490

SAMPLE NO.
MEX 232

DATE 5/26/88

INORGANIC ANALYSIS DATA SHEET

LAB NAME VERSAR INC.

CASE NO. 9614/3871E

SOW NO. 785

LAB RECEIPT DATE 5/20/88

LAB SAMPLE ID. NO. 49849

QC REPORT NO. 217 - 220

PROJECT-TASK 5027.0000

BATCH 220

ELEMENTS IDENTIFIED AND MEASURED

CONCENTRATION: LOW X MEDIUM HIGH

MATRIX: WATER SOIL X WIPE

MG/KG DRY WEIGHT

1.	ALUMINUM	10100.	P	13.	MAGNESIUM	12500.	P
2.	ANTIMONY	6.3 UN	P	14.	MANGANESE	403. N*	P
3.	ARSENIC	9.3	F	15.	MERCURY	0.15 U	
4.	BARIUM	140.	P	16.	NICKEL	30.	P
5.	BERYLLIUM	0.30 U	P	17.	POTASSIUM	1630.	P
6.	CADMIUM	1.2 U	P	18.	SELENIUM	1.5 U	F
7.	CALCIUM	30400.	P	19.	SILVER	0.60 U	P
8.	CHROMIUM	22. *	P	20.	SODIUM	[202.]	P
9.	COBALT	[8.3]	P	21.	THALLIUM	3.0 UN	F
10.	COPPER	30.	P	22.	VANADIUM	24.	P
11.	IRON	21200.	P	23.	ZINC	183. N	P
12.	LEAD	108.	F		PERCENT SOLIDS	66.4	
	CYANIDE	0.75 UN					

FOOTNOTES: SEE COVER PAGE.

COMMENTS: COLOR - GREY; TEXTURE - MEDIUM; DF OF 20 FOR PB; SD;

LAB SUPERVISOR PKW for

JANET BECKMAN

FORM 1

U.S. EPA CONTRACT LABORATORY PROGRAM
SAMPLE MANAGEMENT OFFICE
P.O. BOX 818 - ALEXANDRIA, VA. 22313
703/557-2490 FTS: 8-557-2490

SAMPLE NO.
MEX 685

DATE 5/26/88

INORGANIC ANALYSIS DATA SHEET

LAB NAME VERSAR INC.

CASE NO. 9614/3871E

SOW NO. 785

LAB RECEIPT DATE 5/20/88

LAB SAMPLE ID. NO. 49850

QC REPORT NO. 217 - 220

PROJECT-TASK 5027.0000

BATCH 220

ELEMENTS IDENTIFIED AND MEASURED

CONCENTRATION: LOW X MEDIUM HIGH

MATRIX: WATER SOIL X WIPE

MG/KG DRY WEIGHT

1.	ALUMINUM	9000.	P	13.	MAGNESIUM	19200.	P
2.	ANTIMONY	5.6 UN	P	14.	MANGANESE	584. N*	P
3.	ARSENIC	10.	F S	15.	MERCURY	0.68	
4.	BARIUM	237.	P	16.	NICKEL	29.	P
5.	BERYLLIUM	0.27 U	P	17.	POTASSIUM	[1230.]	P
6.	CADMIUM	3.2	P	18.	SELENIUM	1.3 U	F
7.	CALCIUM	59200.	P	19.	SILVER	0.54 U	P
8.	CHROMIUM	36. *	P	20.	SODIUM	[416.]	P
9.	COBALT	[8.8]	P	21.	THALLIUM	2.7 UN	F
10.	COPPER	86.	P	22.	VANADIUM	23.	P
11.	IRON	24400.	P	23.	ZINC	439. N	P
12.	LEAD	272.	F S		PERCENT SOLIDS	74.4	
	CYANIDE	0.67 UN					

FOOTNOTES: SEE COVER PAGE.

COMMENTS: COLOR - GREY; TEXTURE - COARSE; DF OF 4 FOR AS; DF OF 100 FOR PB;

LAB SUPERVISOR PKW for

JANET BECKMAN

QC EXCEPTION SUMMARY REPORT

CASE # 9614 /SAS3871 SITE U.S. Scrap MATRIX: 2S + 9W WATER SAMPLE SPK. _____
DATA SET # SE 5194 LAB Versar CONC. : 11L WATER SAMPLE DUP. _____
LAB Q.C.# _____ REVIEWED BY Ada Rivin SOIL SAMPLE SPK. _____
DATE: _____ SOIL SAMPLE DUP. _____

	OVERALL CASE QC									MATRIX SPECIFIC QC						SAMPLE SPECIFIC QC		FIELD QC			REGIONAL QC			OTHER/ COMMENTS
	Holding Time	Cal Blanks	Init Cal ver	Contin. Cal ver	Prep Blk AQ	Prep Blk SOL	ICS %R	LCS % AQ	LCS % SOL	Sol Dup RPD	Sol Spk. %R	AQ Dup RPD	AQ Spk. %R	Ser Diln AQ	Ser Diln SOL	GFAA Dup	GFAA Spike	Blank	Dup RPD	Spike %R	Blind Blank	Blind Spike %R	Split Sample RPD	
Aluminum																								
Antimony											68													
Arsenic																								
Barium																								
Beryllium																								
Cadmium																								
Calcium																								
Chromium										46														
Cobalt																								
Copper																								
Iron																								
Lead																								
Magnesium																								
Manganese										33	127													
Mercury													25											
Nickel														11										
Potassium																								
Selenium																								
Silver																								
Sodium																								
Thallium											61		0.											
Tin																								
Vanadium																								
Zinc											128			13					67					
Cyanide											30													

ecology and environment
recycled paper

US ENVIRONMENTAL PROTECTION AGENCY
SAMPLE MANAGEMENT OFFICE
P.O. BOX 818 - ALEXANDRIA, VA 22313
703/557-2490 FTS:8-557-2490

DATE: 5/26/88

COVER PAGE
INORGANIC ANALYSES DATA PACKAGE

Q.C. REPORT: 217 - 220
CASE NO.: 9614/3871E
PROJECT NO.: 5027.0000

LAB NAME: VERSAR, INC.
SOW NO.: 785

SAMPLE NUMBERS

EPA NO.	LAB ID NO.	EPA NO.	LAB ID NO.
MEX 336	49803, 49810	MEX 337	49804, 49811
MEX 338	49805, 49812	MEX 339	49806, 49813
MEX 340	49807, 49814	MEX 682	49808, 49815
MEX 684	49845, 49847	MEX 860	49846, 49848
MEX ~~860~~ 232 7.4.	49849	MEX 685	49850
MEX 331 .	49809		

COMMENTS: THE NICKEL AND ZINC VALUES FOR THE WATER MATRIX HAVE BEEN FLAGGED WITH E'S DUE TO THE SERIAL DILUTION; SOME OF THE THALLIUM VALUES FOR THE WATER MATRIX ARE FLAGGED WITH E'S DUE TO CHEMICAL INTERFERENCE; THIS IS A FOURTEEN DAY QUICK TURNAROUND SAS TASK;

ICP INTERELEMENT AND BACKGROUND CORRECTION APPLIED? YES.
CORRECTIONS APPLIED BEFORE GENERATION OF RAW DATA.

RECEIVED
JUN 06 1988
U.S. EPA CENTRAL
REGIONAL LAB

FOOTNOTES:

NR - NOT REQUIRED BY CONTRACT AT THIS TIME
FORM I:

VALUE - IF THE RESULT IS A VALUE GREATER THAN OR EQUAL TO THE INSTRUMENT DETECTION LIMIT BUT LESS THAN THE CONTRACT REQUIRED DETECTION LIMIT, REPORT THE VALUE IN BRACKETS (I.E., [10]). INDICATE THE ANALYTICAL METHOD USED WITH P (FOR ICP/FLAME AA) OR F (FOR FURNACE).
U - INDICATES ELEMENT WAS ANALYZED FOR BUT NOT DETECTED. REPORT WITH THE DETECTION LIMIT VALUE (E.G., 10U).
E - INDICATES A VALUE ESTIMATED OR NOT REPORTED DUE TO THE PRESENCE OF INTERFERENCE. EXPLANATORY NOTE INCLUDED ON COVER PAGE.
S - INDICATES VALUE DETERMINED BY METHOD OF STANDARD ADDITION
N - INDICATES SPIKE SAMPLE RECOVERY IS NOT WITHIN CONTROL LIMITS.
* - INDICATES DUPLICATE ANALYSIS IS NOT WITHIN CONTROL LIMITS.
+ - INDICATES THE CORRELATION COEFFICIENT FOR METHOD OF STANDARD ADDITION IS LESS THAN 0.995
DF - DILUTION FACTOR
SD - SAMPLE USED FOR ICP SERIAL DILUTION
M - INDICATES DUPLICATE INJECTION RESULTS EXCEED CONTROL LIMITS

INDICATE METHOD USED: P FOR ICP; A FOR FLAME AA; AND F FOR FURNACE.

ecology and environment

FORM III A
BLANKS

Q.C. REPORT: 217 - 220

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LAB NAME: VERSAR, INC.
DATE: 5/26/88

CASE NO.: 9614/3871E
UNITS: UG/L

MATRIX HOH

COMPOUND	INITIAL CALIB BLANK VALUE	CONTINUING CALIB BLANK VALUE 1	2	3	4	PREP BLANK (1) MATRIX 1: HOH	MATRIX 2: SOIL
1. ALUMINUM	10.U	10.U	10.U	10.U	10.U	10.U	[2.9]
2. ANTIMONY	21.U	21.U	21.U	21.U	21.U	21.U	4.2U
3. ARSENIC	3.0U	3.0U	---	---	---	3.0U	0.60U
4. BARIUM	2.0U	2.0U	2.0U	2.0U	2.0U	2.0U	0.40U
5. BERYLLIUM	1.0U	1.0U	1.0U	1.0U	1.0U	1.0U	0.20U
6. CADMIUM	4.0U	4.0U	4.0U	4.0U	4.0U	4.0U	0.80U
7. CALCIUM	9.0U	9.0U	[40.]	[43.]	[45.]	9.0U	1.8U
8. CHROMIUM	6.0U	6.0U	6.0U	6.0U	6.0U	6.0U	1.2U
9. COBALT	6.0U	6.0U	6.0U	6.0U	6.0U	6.0U	1.2U
10. COPPER	4.0U	4.0U	4.0U	4.0U	4.0U	4.0U	0.80U
11. IRON	8.0U	8.0U	8.0U	[14.]	[16.]	8.0U	[1.6]
12. LEAD	1.0U	1.0U	1.0U	1.0U	---	1.0U	0.20U
13. MAGNESIUM	[3.5]	[4.0]	[71.]	[8.4]	[5.3]	2.0U	0.40U
14. MANGANESE	2.0U	2.0U	2.0U	2.0U	2.0U	2.0U	0.40U
15. MERCURY	0.2U	0.2U	---	---	---	0.2U	0.10U
16. NICKEL	18.U	18.U	18.U	18.U	18.U	18.U	3.6U
17. POTASSIUM	1200.U	1200.U	1200.U	1200.U	1200.U	1200.U	240.U
18. SELENIUM	3.0U	3.0U	---	---	---	3.0U	0.60U
19. SILVER	2.0U	2.0U	2.0U	2.0U	2.0U	2.0U	0.40U
20. SODIUM	82.U	82.U	82.U	82.U	82.U	82.U	16.U
21. THALLIUM	3.0U	3.0U	3.0U	3.0U	3.0U	3.0U	0.60U
22. VANADIUM	3.0U	3.0U	3.0U	3.0U	3.0U	3.0U	0.60U
23. ZINC	9.0U	9.0U	9.0U	9.0U	9.0U	9.0U	1.8U
24. CYANIDE	10.U	10.U	10.U	---	---	10.U	2.5U

(1) REPORTING UNITS: AQUEOUS, UG/L; SOLID, MG/KG

FORM III B
BLANKS

LAB NAME: VERSAR, INC.
DATE: 5/26/88

CASE NO.: 9614/3871E
UNITS: UG/L

MATRIX HOH

COMPOUND	INITIAL CALIB BLANK VALUE	CONTINUING CALIB BLANK VALUE 1	2	3	4	PREP BLANK (1) MATRIX 1: SOIL	MATRIX 2: HOH
1. ALUMINUM		10.U				2.0U	
2. ANTIMONY		21.U				4.2U	
3. ARSENIC	3.0U	3.0U	3.0U			---	
4. BARIUM		2.0U				0.40U	
5. BERYLLIUM		1.0U				0.20U	
6. CADMIUM		4.0U				0.80U	
7. CALCIUM		9.0U				1.8U	
8. CHROMIUM		6.0U				1.2U	
9. COBALT		6.0U				1.2U	
10. COPPER		4.0U				0.80U	
11. IRON		8.0U				1.6U	
12. LEAD	1.0U	1.0U				---	
13. MAGNESIUM		[5.3]				0.40U	
14. MANGANESE		2.0U				0.40U	
15. MERCURY	0.2U	0.2U				---	
16. NICKEL		18.U				3.6U	
17. POTASSIUM		1200.U				240.U	
18. SELENIUM	3.0U	3.0U	3.0U	3.0U	3.0U	---	
19. SILVER		2.0U				0.40U	
20. SODIUM		[967.]				16.U	
21. THALLIUM		3.0U	3.0U			---	
22. VANADIUM		3.0U				0.60U	
23. ZINC		9.0U				1.8U	
24. CYANIDE	10.U	10.U	10.U			---	10.U

(1) REPORTING UNITS: AQUEOUS, UG/L; SOLID, MG/KG

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FORM III C
BLANKS

ecology and environment

LAB NAME: VERSAR, INC.
DATE: 5/26/88

CASE NO.: 9614/3871E
UNITS: UG/L

MATRIX HOH

COMPOUND	INITIAL CALIB BLANK VALUE	CONTINUING CALIB BLANK VALUE 1	2	3	4	PREP BLANK (1) MATRIX 1:	MATRIX 2:
1. ALUMINUM							
2. ANTIMONY							
3. ARSENIC	3.0U	3.0U					
4. BARIUM							
5. BERYLLIUM							
6. CADMIUM							
7. CALCIUM							
8. CHROMIUM							
9. COBALT							
10. COPPER							
11. IRON							
12. LEAD	1.0U	1.0U	1.0U				
13. MAGNESIUM							
14. MANGANESE							
15. MERCURY							
16. NICKEL							
17. POTASSIUM							
18. SELENIUM		3.0U					
19. SILVER							
20. SODIUM							
21. THALLIUM							
22. VANADIUM							
23. ZINC							
24. CYANIDE							

(1) REPORTING UNITS: AQUEOUS, UG/L; SOLID, MG/KG

FORM III D
BLANKS

LAB NAME: VERSAR, INC.
DATE: 5/26/88

CASE NO.: 9614/3871E
UNITS: UG/L

MATRIX HOH

COMPOUND	INITIAL CALIB BLANK VALUE	CONTINUING CALIB BLANK VALUE 1	2	3	4	PREP BLANK (1) MATRIX 1:	MATRIX 2:
1. ALUMINUM							
2. ANTIMONY							
3. ARSENIC	3.0U	3.0U	3.0U				
4. BARIUM							
5. BERYLLIUM							
6. CADMIUM							
7. CALCIUM							
8. CHROMIUM							
9. COBALT							
10. COPPER							
11. IRON							
12. LEAD	1.0U	1.0U	1.0U				
13. MAGNESIUM							
14. MANGANESE							
15. MERCURY							
16. NICKEL							
17. POTASSIUM							
18. SELENIUM							
19. SILVER							
20. SODIUM							
21. THALLIUM							
22. VANADIUM							
23. ZINC							
24. CYANIDE							

(1) REPORTING UNITS: AQUEOUS, UG/L; SOLID, MG/KG

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FORM V A
SPIKE SAMPLE RECOVERY

Q.C. REPORT: 217 - 220

LAB NAME: VERSAR, INC.
DATE: 5/26/88

MATRIX: L. HOH

CASE NO.: 9614/3871E
EPA SAMPLE NO.: MEX 340
LAB SAMPLE ID NO.: 49807
UNITS: UG/L

COMPOUND	CONTROL LIMIT %R	SPIKED SAMPLE RESULT (SSR)	SAMPLE RESULT (SR)	SPIKED ADDED (SA)	%R (1)	
1. ALUMINUM	75-125	2410.	403.	2000.	100.	
2. ANTIMONY	75-125	468.	21.U	500.	94.	
3. ARSENIC (2)	75-125	17.	10.U	20.	85.	
4. BARIUM	75-125	1980.	[53.]	2000.	96.	
5. BERYLLIUM	75-125	47.	1.0U	50.	94.	
6. CADMIUM	75-125	53.	4.0U	50.	106.	
7. CALCIUM	75-125	NR	---	---	---	
8. CHROMIUM	75-125	199.	[6.7]	200.	96.	
9. COBALT	75-125	477.	6.0U	500.	95.	
10. COPPER	75-125	222.	4.0U	250.	89.	
11. IRON	75-125	2680.	1730.	1000.	95.	
12. LEAD (2)	75-125	29.	11.	20.	90.	
13. MAGNESIUM	75-125	NR	---	---	---	
14. MANGANESE	75-125	226.	41.	200.	92.	
15. MERCURY (3)	75-125	1.0	0.75	1.0	25.	N
16. NICKEL	75-125	498.	95.	400.	101.	
17. POTASSIUM	75-125	NR	---	---	---	
18. SELENIUM (2)	75-125	11.	5.0U	10.	110.	
19. SILVER	75-125	44.	2.0U	50.	88.	
20. SODIUM	75-125	NR	---	---	---	
21. THALLIUM (2)	75-125	10.U	100.U	50.	0.0	N
22. VANADIUM	75-125	484.	3.0U	500.	97.	
23. ZINC	75-125	222.	30.	200.	96.	
24. CYANIDE (2)	75-125	256.	150.	100.	106.	

(1) %R = [(SSR-SR)/SA] X 100 "N"- OUT OF CONTROL "NR" - NOT REQUIRED
(2) EPA # MEX 336 - LAB # 49803, 49810 (3) EPA # MEX 338 - LAB # 49805

FORM V B
SPIKE SAMPLE RECOVERY

LAB NAME: VERSAR, INC.
DATE: 5/26/88

MATRIX: L. SOIL

CASE NO.: 9614/3871E
EPA SAMPLE NO.: MEX 232
LAB SAMPLE ID NO.: 49849
UNITS: UG/L

COMPOUND	CONTROL LIMIT %R	SPIKED SAMPLE RESULT (SSR)	SAMPLE RESULT (SR)	SPIKED ADDED (SA)	%R (1)	
1. ALUMINUM	75-125	NR	---	---	---	
2. ANTIMONY	75-125	102.	6.3U	151.	68.	N
3. ARSENIC	75-125	23.	9.3	12.	114.	
4. BARIUM	75-125	750.	140.	602.	101.	
5. BERYLLIUM	75-125	14.	0.30U	15.	93.	
6. CADMIUM	75-125	14.	1.2U	15.	93.	
7. CALCIUM	75-125	NR	---	---	---	
8. CHROMIUM	75-125	82.	22.	60.	100.	
9. COBALT	75-125	153.	[8.3]	151.	96.	
10. COPPER	75-125	109.	30.	75.	105.	
11. IRON	75-125	NR	---	---	---	
12. LEAD	75-125	130.	108.	15.	147.	
13. MAGNESIUM	75-125	NR	---	---	---	
14. MANGANESE	75-125	595.	403.	151.	127.	N
15. MERCURY (2)	75-125	1.3	0.68	0.67	92.	
16. NICKEL	75-125	174.	30.	151.	95.	
17. POTASSIUM	75-125	NR	---	---	---	
18. SELENIUM	75-125	2.6	1.5U	3.0	87.	
19. SILVER	75-125	12.	0.60U	15.	80.	
20. SODIUM	75-125	NR	---	---	---	
21. THALLIUM	75-125	9.2	3.0U	15.	61.	N
22. VANADIUM	75-125	171.	24.	151.	97.	
23. ZINC	75-125	376.	183.	151.	128.	N
24. CYANIDE (2)	75-125	1.96	0.67U	6.49	30.	N

(1) %R = [(SSR-SR)/SA] X 100 "N"- OUT OF CONTROL "NR" - NOT REQUIRED
(3) EPA # MEX 685 - LAB # 49850

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FORM VI B
DUPLICATES

ecology and environment

LAB NAME: VERSAR, INC.
DATE: 5/26/88

MATRIX: L. SOIL

CASE NO.: 9614/3871E
EPA SAMPLE NO.:
LAB SAMPLE ID NO.: 49849
UNITS: MG/KG

COMPOUND	CONTROL LIMITS (1)	SAMPLE(S)	DUPLICATE(D)	RPD(2)	
1. ALUMINUM		10100.	10500.	3.9	
2. ANTIMONY		6.3U	91.	NC	
3. ARSENIC	+/- 3.0	9.3	12.	13.	
4. BARIUM	+/- 60.	140.	150.	6.9	
5. BERYLLIUM		0.30U	0.30U	NC	
6. CADMIUM		1.2U	1.2U	NC	
7. CALCIUM		30400.	37000.	20.	
8. CHROMIUM		22.	35.	46.	*
9. COBALT		[8.3]	[9.8]	NC	
10. COPPER	+/- 7.5	30.	35.	15.	
11. IRON		21200.	24700.	15.	
12. LEAD		108.	106.	1.9	
13. MAGNESIUM		12500.	15300.	20.	
14. MANGANESE		403.	562.	33.	*
15. MERCURY (3)		0.68	0.64	6.1	
16. NICKEL	+/- 12.	30.	24.	22.	
17. POTASSIUM		1630.	[1440.]	NC	
18. SELENIUM		1.5U	1.5U	NC	
19. SILVER		0.60U	0.60U	NC	
20. SODIUM		[202.]	[168.]	NC	
21. THALLIUM		3.0U	3.0U	NC	
22. VANADIUM	+/- 15.	24.	26.	8.0	
23. ZINC		183.	207.	12.	
24. CYANIDE (3)		0.67U	0.67U	NC	

(1) TO BE ADDED AT A LATER DATE (2) RPD = [(S-D)/((S+D)/2)]X100
(3) EPA # MEX 685 - LAB # 49850
NC - NON CALCULABLE RPD DUE TO VALUE(S) LESS THAN CRDL * - OUT OF CONTROL

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FORM VI A
DUPLICATES

Q.C. REPORT: 217 - 220

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LAB NAME: VERSAR, INC.
DATE: 5/26/88

MATRIX: L. HOH

CASE NO.: 9614/3871E
EPA SAMPLE NO.: MEX 340
LAB SAMPLE ID NO.: 49807
UNITS: UG/L

COMPOUND	CONTROL LIMITS (1)	SAMPLE(S)	DUPLICATE(D)	RPD(2)
1. ALUMINUM	+/- 200.	403.	501.	22.
2. ANTIMONY		21.U	21.U	NC
3. ARSENIC (3)		10.U	10.U	NC
4. BARIUM		[53.]	[52.]	NC
5. BERYLLIUM		1.0U	1.0U	NC
6. CADMIUM		4.0U	4.0U	NC
7. CALCIUM		83200.	82800.	0.48
8. CHROMIUM		[6.7]	[6.7]	NC
9. COBALT		6.0U	6.0U	NC
10. COPPER		4.0U	4.0U	NC
11. IRON		1730.	1760.	1.7
12. LEAD (3)	+/- 5.0	11.	10.	9.5
13. MAGNESIUM		37500.	37100.	1.1
14. MANGANESE	+/- 15.	41.	40.	2.5
15. MERCURY (4)	+/- 0.2	0.75	0.67	11.
16. NICKEL	+/- 40.	95.	88.	7.6
17. POTASSIUM		[4980.]	5280.	NC
18. SELENIUM (3)		5.0U	5.0U	NC
19. SILVER		2.0U	2.0U	NC
20. SODIUM		135000.	132000.	2.2
21. THALLIUM (3)		100.U	30.UE	NC
22. VANADIUM		3.0U	[3.3]	NC
23. ZINC	+/- 20.	30.	34.	12.
24. CYANIDE (3)	+/- 100.	150.	161.	NC

(1) TO BE ADDED AT A LATER DATE (2) RPD = [(S-D)/((S+D)/2)]X100
(3) EPA # MEX 336 - LAB # 49803, 49810 (4) EPA # MEX 338 - LAB # 49805
NC - NON CALCULABLE RPD DUE TO VALUE(S) LESS THAN CRDL * - OUT OF CONTROL

FORM VII A

INSTRUMENT DETECTION LIMITS AND LABORATORY CONTROL SAMPLE

LAB NAME: VERSAR, INC. CASE NO.: 9614/3871E DATE: 5/26/88

LCS NO.:LCSA OR LCSF (HOH)

COMPOUND	CRDL	IDL (UG/L) ICP/AA ID# 9	IDL (UG/L) Furnace ID# 6	LABORATORY CONTROL SAMPLE UNITS: UG/L TRUE	FOUND	%R
1. ALUMINUM	200.	10.		1980.	1960.	99.
2. ANTIMONY (1)	60.	21.		1010.	958.	95.
3. ARSENIC	10.		3.	47.0	47.	100.
4. BARIUM	200.	2.		1980.	1980.	100.
5. BERYLLIUM	5.	1.		481.	467.	97.
6. CADMIUM	5.	4.		489.	487.	100.
7. CALCIUM	5000.	9.		49800.	47200.	95.
8. CHROMIUM	10.	6.		506.	488.	96.
9. COBALT	50.	6.		474.	483.	102.
10. COPPER	25.	4.		542.	502.	93.
11. IRON	100.	8.		1990.	1880.	94.
12. LEAD	5.					
13. MAGNESIUM	5000.	2.		25000.	22800.	91.
14. MANGANESE	15.	2.		513.	495.	96.
15. MERCURY	0.2					
16. NICKEL	40.	18.		496.	478.	96.
17. POTASSIUM	5000.	1200.		50200.	47200.	94.
18. SELENIUM	5.					
19. SILVER	10.	2.		509.	450.	88.
20. SODIUM	5000.	82.		50700.	49200.	97.
21. THALLIUM	10.					
22. VANADIUM	50.	3.		511.	498.	97.
23. ZINC	20.	9.		3100.	2870.	92.
24. CYANIDE	10.	NR	NR	1000.	902.	90.

NR - NOT REQUIRED ID# 9- JARRELL ASH ICAP 61 ID# 6- PERKIN ELMER 5000

(1) LCS NO. IS LCS B

INSTRUMENT DETECTION LIMITS AND LABORATORY CONTROL SAMPLE

LAB NAME: VERSAR, INC. CASE NO.: 9614/3871E DATE: 5/26/88

LCS NO.: LCSF (HOH)

COMPOUND	CRDL	IDL (UG/L) ICP/AA ID#	IDL (UG/L) Furnace ID# 8	LABORATORY CONTROL SAMPLE UNITS: UG/L TRUE	FOUND	%R
1. ALUMINUM	200.					
2. ANTIMONY	60.					
3. ARSENIC	10.					
4. BARIUM	200.					
5. BERYLLIUM	5.					
6. CADMIUM	5.					
7. CALCIUM	5000.					
8. CHROMIUM	10.					
9. COBALT	50.					
10. COPPER	25.					
11. IRON	100.					
12. LEAD	5.		1.	97.9	90.	92.
13. MAGNESIUM	5000.					
14. MANGANESE	15.					
15. MERCURY	0.2					
16. NICKEL	40.					
17. POTASSIUM	5000.					
18. SELENIUM	5.		3.	104.	108.	104.
19. SILVER	10.					
20. SODIUM	5000.					
21. THALLIUM	10.					
22. VANADIUM	50.					
23. ZINC	20.					
24. CYANIDE	10.	NR	NR	1000.	925.	92.

NR - NOT REQUIRED ID# 8- PERKIN ELMER 3030

FORM VII D Q.C. REPORT: 217 - 220

INSTRUMENT DETECTION LIMITS AND LABORATORY CONTROL SAMPLE

LAB NAME: VERSAR, INC. CASE NO.: 9614/3871E DATE: 5/26/88

LCS NO.:ICV #5 (HOH)

COMPOUND	CRDL	IDL (UG/L) ICP/AA ID#	IDL (UG/L) Furnace ID# 7	LABORATORY CONTROL SAMPLE UNITS: UG/L TRUE	FOUND	%R
1. ALUMINUM	200.					
2. ANTIMONY	60.					
3. ARSENIC	10.					
4. BARIUM	200.					
5. BERYLLIUM	5.					
6. CADMIUM	5.					
7. CALCIUM	5000.					
8. CHROMIUM	10.					
9. COBALT	50.					
10. COPPER	25.					
11. IRON	100.					
12. LEAD	5.					
13. MAGNESIUM	5000.					
14. MANGANESE	15.					
15. MERCURY	0.2		0.2	5.2	4.8	92.
16. NICKEL	40.					
17. POTASSIUM	5000.					
18. SELENIUM	5.					
19. SILVER	10.					
20. SODIUM	5000.					
21. THALLIUM	10.					
22. VANADIUM	50.					
23. ZINC	20.					
24. CYANIDE	10.					

NR - NOT REQUIRED ID# 7- MAS 50

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FORM VII E

G.C. REPORT: 217 - 220

INSTRUMENT DETECTION LIMITS AND LABORATORY CONTROL SAMPLE

LAB NAME: VERSAR, INC. CASE NO.: 9614/3871E DATE: 5/26/88

LCS NO.:LCSA OR LCSF (SOIL)

COMPOUND	CRDL	IDL (UG/L) ICP/AA ID# 9	IDL (UG/L) Furnace ID# 6	LABORATORY CONTROL SAMPLE UNITS: UG/L TRUE	FOUND	%R
1. ALUMINUM	200.	10.		1980.	1920.	97.
2. ANTIMONY (1)	60.	21.		1010.	962.	95.
3. ARSENIC	10.		3.	47.0	46.	98
4. BARIUM	200.	2.		1980.	1930.	97.
5. BERYLLIUM	5.	1.		481.	452.	94.
6. CADMIUM	5.	4.		489.	481.	98.
7. CALCIUM	5000.	9.		49800.	46300.	93.
8. CHROMIUM	10.	6.		506.	490.	97.
9. COBALT	50.	6.		474.	483.	102.
10. COPPER	25.	4.		542.	490.	90.
11. IRON	100.	8.		1990.	1830.	92.
12. LEAD	5.					
13. MAGNESIUM	5000.	2.		25000.	22200.	89.
14. MANGANESE	15.	2.		513.	481.	94.
15. MERCURY	0.2					
16. NICKEL	40.	18.		496.	464.	94.
17. POTASSIUM	5000.	1200.		50200.	46200.	92.
18. SELENIUM	5.					
19. SILVER	10.	2.		509.	444.	87.
20. SODIUM	5000.	82.		50700.	47600.	94.
21. THALLIUM	10.					
22. VANADIUM	50.	3.		511.	486.	95.
23. ZINC	20.	9.		3100.	2880.	93.
24. CYANIDE	10.	NR	NR	1000.	874.	87

NR - NOT REQUIRED ID# 9- JARRELL ASH ICAP 61 ID# 6- PERKIN ELMER 5000

(1) LCS NO. IS LCS K

FORM VII F

Q.C. REPORT: 217 - 220

INSTRUMENT DETECTION LIMITS AND LABORATORY CONTROL SAMPLE

LAB NAME: VERSAR, INC. CASE NO.: 9614/38/1E DATE: 5/26/88

LCS NO.: LCSF (SOIL)

COMPOUND	CRDL	IDL (UG/L) ICP/AA ID#	IDL (UG/L) Furnace ID# 8	LABORATORY CONTROL SAMPLE UNITS: UG/L TRUE	FOUND	%R
1. ALUMINUM	200.					
2. ANTIMONY	60.					
3. ARSENIC	10.					
4. BARIUM	200.					
5. BERYLLIUM	5.					
6. CADMIUM	5.					
7. CALCIUM	5000.					
8. CHROMIUM	10.					
9. COBALT	50.					
10. COPPER	25.					
11. IRON	100.					
12. LEAD	5.		1.	97.9	90.	92.
13. MAGNESIUM	5000.					
14. MANGANESE	15.					
15. MERCURY	0.2					
16. NICKEL	40.					
17. POTASSIUM	5000.					
18. SELENIUM	5.		3.	104.	89.	86.
19. SILVER	10.					
20. SODIUM	5000.					
21. THALLIUM	10.					
22. VANADIUM	50.					
23. ZINC	20.					
24. CYANIDE	10.					

NR - NOT REQUIRED ID# 8- PERKIN ELMER 3030

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