1.9.4.3

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International Specialists in the Environment

MEMORANDUM

DATE: March 22, 1988

TO: John Osborn, FIT-RPO, USEPA, Region X

FOR: Joyce Crosson, RSCC, USEPA, Region X

THRU: Jeffrey Villnow, FIT-OM, E&E, Seattle

FROM: Lila Accra, Chemist, E&E, Seattle
Andrew Hafferty, Senior Chemist, E&E, Seattle

SUBJ: QA of Case 8915/SAS 3591J (Organics)
Spokane Junkyard

REF: F10-8802-07

CC: Raleigh Farlow, DPO-ESD, USEPA, Region X
Gerald Muth, DPO, Region X Laboratory, Manchester
Kent Kitchingman, DPO, USEPA, Region
Glen Bruck, ESD-PO, USEPA, Region X
Deborah Flood, HWD-SM, USEPA, Region X
Joseph Hunt, E&E-PM, Seattle

The Quality Assurance review of four samples, Case 8915/SAS 3591J, collected from Spokane Junkyard, has been completed. Four water samples were analyzed at low level for Volatiles, Semivolatiles, and Pesticides/PCBs by S-Cubed of La Jolla/San Diego, California. The samples were numbered:

JB-909	JB-911
JB-910	JB-928

Data Qualifications

The following comments refer to the laboratory performance in meeting the Quality Control Specifications outlined in IFB WA 87-K-236-238.

31109

USEPA SF
1108034

recycled paper

The four water samples in this data package were analyzed with low detection limits:

Parameters	Detection Limit
VOAs:	
Purgeable Halocarbons	0.5 ppb
Purgeable Aromatics	0.2 ppb
BNAs	1.0 ppb
Pesticides	0.1 ppb

VOAs were run by Methods 601 and 602. Laboratory instrument problems were encountered. Method 601 compounds were reanalyzed with a Flame Ionization Detector (FID) using a 25-ml aliquot. No sample was left to attempt further Method 602 analysis. Method 602 results were unacceptable for data release.

1) Timeliness

Sample Number	Sample Date	Rec'd Date	VOA Anal.	BNA Ext.	BNA Anal.	Pest Ext.	Pest Anal.
JB-909	02/12/88	02/13/88	03/10/88	02/16/88	02/24/88	02/16/88	02/19/88
JB-910	02/11/88	02/13/88	03/10/88	02/16/88	02/24/88	02/16/88	02/19/88
JB-911	02/11/88	02/13/88	03/10/88	02/16/88	02/24/88	02/16/88	02/19/88
JB-928	02/11/88	02/13/88	03/10/88	02/16/88	02/24/88	02/16/88	02/20/88

The following samples exceeded holding times for Volatile Analysis:

Sample Number	Date Sampled	Date Extracted	Time Elapsed	QC Limits
JB-909	02/12/88	03/10/88	27 days	14 days
JB-910	02/11/88	03/10/88	28 days	14 days
JB-911	02/11/88	03/10/88	28 days	14 days
JB-928	02/11/88	03/10/88	28 days	14 days

All volatile organic data has been flagged either "J", estimated quantity or "UJ", estimated detection limit, as appropriate.

2) Instrument Tuning - Acceptable

All tuning check compound mass abundances and ratios were within contract required limits for semivolatile analysis.

3) Initial Calibration - Acceptable

All SPCC and non-SPCC compounds were within contract required limits for the initial calibration with average Relative Response Factors (RRFs) above 0.05 for semivolatiles. All CCC compounds were within contract required limits for the initial calibration with Percent Relative Standard Deviations below 30%.

The initial calibration for semivolatile analysis was a three-point calibration with standards at 20, 50, and 100 total nanograms concentration. The current IFB requires a five point calibration at 20, 50, 80, 120 and 160 total nanograms. No action was taken.

The following non-CCC compounds had percent relative standard deviations greater than 30% for the initial semivolatile calibration.

Date	Compound	Fraction	%RSD
02/24/88	4-Nitroaniline	Semivolatile	32
02/24/88	3,3'-Dichlorobenzidine	Semivolatile	32
02/24/88	Benzo(k)fluoranthene	Semivolatile	32

Results for the three compounds listed above have been flagged "J" or "UJ", as appropriate.

The initial calibration for volatiles was a 4-point calibration using two different standard mixes, B and C, which contained the following compounds:

Mix B	Mix C
Methylene chloride	trans-1,2-Dichloroethene
1,1-Dichloroethene	1,2-Dichloroethane
1,1-Dichloroethane	Carbon tetrachloride
Chloroform	1,2-Dichloropropane
1,1,1-Trichloroethane	Trichloroethene
Bromodichloromethane	1,1,2-Trichloroethane
cis-1,3-Dichloropropene	2-Chloroethylvinylether
Dibromochloromethane	Tetrachloroethane
trans-1,3-Dichloropropene	
Bromoform	
Tetrachloroethene	

All results were based on single column analysis.

Other compounds normally analyzed by Method 601 and all compounds analyzed by Method 602 were reported as 0.5u by the laboratory. Since no standards were run for these compounds, and the possibility of false negatives exists, these data are flagged as unusable (R) for all samples.

The calibration factors for trichloroethene were transcribed onto the Calibration Data Summary Sheet incorrectly. Since there were no positive results for trichloroethene in any sample, no action was taken.

Three compounds in the volatile initial calibration had %RSDs above 30%:

Compound	%RSD
Bromoform	73
2-Chloroethylvinylether	36
Methylene chloride	78

These compounds remain flagged as estimated (J) for all samples.

4) Continuing Calibrations

Semivolatile and volatile analyses for all samples were completed within twelve hours of the Initial Calibration. Continuing Calibrations were not necessary.

5) Instrument Detection Limits

Instrument Detection Limits (IDL) for seven compounds were above the SAS required Detection Limits for semivolatile analysis.

Compound	IDL ug/l	Required Detection Limits ug/l
Benzoic acid	10.7	1.0
Dimethylphthalate	1.3	1.0
2,4-Dinitrophenol	2.4	1.0
Diethylphthalate	1.4	1.0
4,6-Dinitro-2-methylphenol	4.2	1.0
di-n-Butylphthalate	1.4	1.0
Butylbenzylphthalate	1.4	1.0

No action was taken.

Volatile Instrument Detection Limits were not provided by the laboratory. All non-detected volatile compounds were reported as 0.5u.

All Pesticide/PCB IDLs met the required Detection Limits of 0.1 ppb except Toxaphene with an IDL of 0.195 ppb.

6) Blanks

The following compounds were detected in blanks at levels above IDL, but below CRDL for semivolatile HSL compounds.

Fraction	Compound	(Scan No.)	Concentration ug/l	CRDL ug/l
Semivolatile	bis(2-Ethylhexyl)phthalate	(1555)	0.87	1.0
Semivolatile	Unknown - C_7H_8	(3)	9J	-
Semivolatile	Tetrachloroethene	(65)	12J	-
Semivolatile	Unknown	(307)	6J	-
Semivolatile	1,13-Tetradecadiene	(1266)	2J	-

For bis(2-Ethylhexyl)phthalate, sample results less than 8.7 ug/l are qualified as undetected (UJ). For other compounds listed above, sample results less than five times the amount found in the blank are qualified as undetected (UJ).

The volatile blank contained no compounds above 0.5 ppb.

No compounds were found in the Pesticide/PCB blank at IDL.

7) Pesticide Standards

a) Linearity - Acceptable

The evaluation standards met the contract required limits of less than 10% RSD for linearity.

b) DDT Retention Time - Acceptable

The retention time for DDT on the primary and secondary GC column met or exceeded 12 minutes for the standard runs.

c) Retention Time Windows - Acceptable

The retention time windows met the contract specifications.

d) Analytical Sequence - Acceptable

The analytical sequence met the contract required frequency and order, except that Aroclor 1221 and 1232 were not run. These standards were included from an analysis on January 29, 1988. No action was taken.

e) 4,4'-DDT/Endrin Degradation - Acceptable

The percent breakdown for Endrin and DDT did not exceed the contract limit of 20% for the combined breakdown totals.

f) Dibutylchlorendate Retention Time Shift - Acceptable

The Percent Difference calculated for the retention time of Dibutylchlorendate did not exceed 2% for the packed columns.

g) Standards Summary

No pesticides or PCBs were identified. No action is required.

8) Surrogate Recovery - Acceptable

Recoveries for all surrogate compounds for semivolatile analysis were within QC limits.

Surrogate compounds were not used for the VOA analysis by Method 601.

Recoveries for Dibutylchlorendate for the Pesticide/PCB analysis were all within advisory limits.

9) Matrix Spike and Matrix Spike Duplicate

The following compounds were outside QC limits for %R in the Matrix Spike (MS) and/or the Matrix Spike Duplicate (MSD).

Sample Number	Compound	Fraction	%R	QC Limits
JB-910 MS	1,2,4-Trichlorobenzene	B/N	120	39 - 98%
JB-910 MSD	1,2,4-Trichlorobenzene	B/N	105	39 - 98%
JB-910 MS	Acenaphthalene	B/N	120	46 - 118%
JB-910 MS	2,4-Dinitrotoluene	B/N	130	24 - 96%
JB-910 MSD	2,4-Dinitrotoluene	B/N	115	24 - 96%
JB-910 MS	Pentachlorophenol	Acid	123	9 - 103%
JB-910 MS	4-Chloro-3-Methylphenol	Acid	105	23 - 97%
JB-910 MS	4-Nitrophenol	Acid	0	10 - 80%
JB-910 MSD	4-Nitrophenol	Acid	0	10 - 80%

4-Nitrophenol had 0% Recovery for both the MS and MSD. Since the possibility of a false negative exists, negative results for this compound are flagged as unusable (R).

The following RPDs were outside QC limits for the MS and MSD.

Sample Number	Compound	Matrix	Fraction	RPD	QA Limits
JB-910 MS/MSD	Lindane	Water	Pest/PCB	39%	15%
JB-910 MS/MSD	Heptachlor	Water	Pest/PCB	22%	20%

There are no positive hits for these compounds. No action is necessary.

The volatile matrix samples were spiked with 1,1-Dichloroethene, Trichloroethene, and Chlorobenzene at a level of 10 ppb. Reported percent recoveries could not be reproduced for 1,1-Dichloroethene or Trichloroethene in the MS/MSD. The reported percent recoveries for Chlorobenzene in the MS/MSD cannot be considered valid since the standards which were used for calibration did not contain this compound. Because of the inconclusive matrix spike sample results, any reported values for volatiles should be flagged as estimated (J).

10) Sample Analysis

There was no Form I semivolatile data sheet provided for sample JB-909. Raw data indicates that there were no semivolatile compounds detected in this sample. A Form I for sample JB-909 has been completed by the reviewer for informational purposes only.

All volatile analyses results were determined by GC/FID on a single column. Any positive results must be flagged as Tentatively Identified (N) and are for limited use only.

11) Laboratory Contact

No laboratory contact was made.

Data Use

The usefulness of the data is based on the criteria outlined in the "Laboratory Data Validation Functional Guidelines for Evaluating Organics and Pesticides/PCB Analyses" (R-582-5-5-01).

Upon consideration of the data qualifications noted above, semivolatile and pesticide/PCB data are ACCEPTABLE for use except where flagged with data qualifiers which modify the usefulness of the individual values.

Volatile data are of LIMITED USE only.

Additional data packages associated with this project are expected from CLP or EPA laboratories.

Data Qualifiers

U - The material was analyzed for, but was not detected. The associated numerical value is an estimated sample quantitation limit.

J - The associated numerical value is an estimated quantity because quality control criteria were not met or concentrations reported were less than the CRQL.

R - Quality Control indicates that data are unusable (compound may or may not be present). Resampling and reanalysis are necessary for verification.

Q - No analytical result.

N - Presumptive evidence of presence of material (tentative identification).

B - The compound was found in the laboratory blank as well as the sample.

M - Mass spectral criteria for positive identification were not met. However, in the opinion of the laboratory, the identification is correct based on the analyst's professional judgement.

F - Concentration of this compound exceeds either the Primary or Secondary Drinking Water Standards listed in the Safe Drinking Water Act of 1974.

Organics Analysis Data Sheet

Sample Number
JB 909

Laboratory Name S-Cubed
Case No. 8915/3591-J
Lab Sample ID No. JB 909
QC Report No. NA
Sample Matrix Water
Data Release Authorized By JW
Date Sample Received 2-13-88

Volatile Compounds (Method 601/602)

Date Extracted/Prepared NA
Date Analyzed 3-10-88
Conc/Dil Factor 1 pH N/R
Percent Moisture (Not Decanted) N/A

Purgable Halocarbons Method 601	µg/L or µg/kg (Circle One)		µg/L or µg/kg (Circle One)
Bromodichloromethane	.5U J	1,1-Dichloroethane	.5U J
Bromoform	.5U J	1,2-Dichloroethane	.5U J
Bromomethane	.5U R	1,1-Dichloroethene	.5U J
Carbon tetrachloride	.5U J	trans-1,2-Dichloroethene	.5U J
Chlorobenzene	.5U R	1,2-Dichloropropane	.5U J
Chloroethane	.5U R	cis-1,3-Dichloropropene	.5U J
2-Chloroethylvinyl ether	.5U J	trans-1,3-dichloropropene	.5U J
Chloroform	.5U J	Methylene chloride	.5U J
Chloromethane	.5U R	1,1,2,2-Tetrachloroethane	.5U J
Dibromochloromethane	.5U R	Tetrachloroethene	.5U R
1,2-Dichlorobenzene	.5U R	1,1,1-Trichloroethane	.5U J
1,3-Dichlorobenzene	.5U R	1,1,2-Trichloroethane	.5U J
1,4-Dichlorobenzene	.5U R	Tetrachloroethene	.5U J
Dichlorodifluoromethane	.5U J	Trichlorofluoromethane	.5U R
TRICHLOROETHYLENE	.5U J	Vinyl chloride	.5U R

Purgable Aromatics Method 602	µg/L or µg/kg (Circle One)
Benzene	.5U R
Chlorobenzene	.5U R
1,2-Dichlorobenzene	.5U R
1,3-Dichlorobenzene	.5U R
1,4-Dichlorobenzene	.5U R
Ethylbenzene	.5U R
Toluene	.5U R

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. Reporting 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 are detected at less than method detection limit.

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.

NC Indicates compound detection on primary column that was not confirmed on the secondary column.

3/17/88

Laboratory Name S-CUBED

Case No 8915/3591J

Sample Number
JB 904 [illegible]

Organics Analysis Data Sheet
(Page 2)

Semivolatile Compounds

Concentration: Low Medium (Circle One)

Date Extracted/Prepared 16FEB88

Date Analyzed 24FEB88

Conc./Dil Factor 1.0

Percent Moisture (Decanted) NA

GPC Cleanup ☐Yes ☑No

Separatory Funnel Extraction ☑Yes

Continuous Liquid - Liquid Extraction ☐Yes

This form has been completed by the reviewer for informational purposes only. 3/21/88

CAS Number		ug/l or ug/Kg (Circle One)
108-95-2	Phenol	1.00 U
111-44-4	bis(-2-Chloroethyl)Ether	0.75 U
95-57-8	2-Chlorophenol	1.00 U
541-73-1	1 3-Dichlorobenzene	1.00 U
106-46-7	1, 4-Dichlorobenzene	1.00 U
100-51-6	Benzyl Alcohol	1.00 U
95-50-1	1, 2-Dichlorobenzene	1.25 U
95-48-7	2-Methylphenol	0.50 U
39638-32-9	bis(2-chloroisopropyl)Ether	1.25 U
106-44-5	4-Methylphenc	0.50 U
621-64-7	N-Nitroso-Di-n-Propylamine	0.75 U
67-72-1	Hexachloroethane	1.00 U
98-95-3	Nitrobenzene	1.25 U
78-59-1	Isophorone	1.25 U
88-75-5	2-Nitrophenol	1.00 U
105-67-9	2, 4-Dimethylphenol	1.00 U
65-85-0	Benzoic Acid	15.0 U
111-91-1	bis(-2-Chloroethoxy)Methane	1.25 U
120-83-2	2, 4-Dichlorophenol	1.00 U
120-82-1	1, 2, 4-Trichlorobenzene	1.00 U
91-20-3	Naphthalene	1.00 U
106-47-8	4-Chloroaniline	1.00 U
87-68-3	Hexachlorobutadiene	1.25 U
59-50-7	4-Chloro-3-Methylphenol	0.75 U
91-57-6	2-Methylnaphthalene	1.00 U
77-47-4	Hexachlorocyclopentadiene	1.00 U
88-06-2	2, 4, 6-Trichlorophenol	0.75 U
95-95-4	2, 4, 5-Trichlorophenol	0.75 U
91-58-7	2-Chloronaphthalene	0.75 U
88-74-4	2-Nitroaniline	0.50 U
131-11-3	Dimethyl Phthalate	0.75 U
208-96-8	Acenaphthylene	0.75 U
99-09-2	3-Nitroaniline	1.25 U

CAS Number		ug/l or ug/Kg (Circle One)
83-32-9	Acenaphthene	0.75 U
51-28-5	2, 4-Dinitrophenol	7.50 U
100-02-7	4-Nitrophenol	0.75 U R
132-64-9	Dibenzofuran	0.50 U
121-14-2	2, 4-Dinitrotoluene	0.50 U
606-20-2	2, 6-Dinitrotoluene	0.50 U
84-66-2	Diethylphthalate	0.50 U
7005-72-3	4-Chlorophenyl-phenylether	0.50 U
86-73-7	Fluorene	0.50 U
100-01-6	4-Nitroaniline	1.50 UJ
534-52-1	4, 6-Dinitro-2-Methylphenol	0.75 U
86-30-6	N-Nitrosodiphenylamine (1)	0.75 U
101-55-3	4-Bromophenyl-phenylether	0.75 U
118-74-1	Hexachlorobenzene	0.75 U
87-86-5	Pentachlorophenol	1.00 U
85-01-8	Phenanthrene	0.50 U
120-12-7	Anthracene	1.25 U
84-74-2	Di-n-Butylphthalate	1.00 U
206-44-0	Fluoranthene	0.75 U
129-00-0	Pyrene	0.75 U
85-68-7	Butylbenzylphthalate	1.75 U
91-94-1	3, 3'-Dichlorobenzidine	1.00 UJ
56-55-3	Benzo(a)Anthracene	0.75 U
117-81-7	bis(2-Ethylhexyl)Phthalate	0.56 UJ
218-01-9	Chrysene	0.75 U
117-84-0	Di-n-Octyl Phthalate	0.75 U
205-99-2	Benzo(b)Fluoranthene	0.75 U
207-08-9	Benzo(k)Fluoranthene	0.75 UJ
50-32-8	Benzo(a)Pyrene	1.00 U
193-39-5	Indeno(1, 2, 3-cd)Pyrene	1.75 U
53-70-3	Dibenz(a, h)Anthracene	1.25 U
191-24-2	Benzo(g, h, i)Perylene	2.00 U

(1)-Cannot be separated from diphenylamine

Laboratory Name S-CUBED

Case No 8915 (SAS 3591 J)

Sample Number
JB 909

Organics Analysis Data Sheet
(Page 3)

Pesticide / PCBs

Concentration (Low) Medium (Circle One)

Date Extracted / Prepared 16-Feb-88

Date Analyzed 19-Feb-88

Conc / Dil Factor 1.00

Percent Moisture (decanted) NA

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	0.010 u
319-85-7	Beta-BHC	0.005 u
319-86-8	Delta-BHC	0.005 u
58-89-9	Gamma-BHC (Lindane)	0.005 u
76-44-8	Heptachlor	0.030 u
309-00-2	Aldrin	0.005 u
1024-57-3	Heptachlor Epoxide	0.005 u
959 98-8	Endosulfan I	0.010 u
60-57-1	Dieldrin	0.010 u
72-55-9	4, 4'-DDE	0.005 u
72-20-8	Endrin	0.010 u
33213-65-9	Endosulfan II	0.010 u
72-54-8	4, 4'-DDD	0.020 u
1031-07-8	Endosulfan Sulfate	0.10 u
50-29-3	4, 4'-DDT	0.020 u
72-43-5	Methoxychlor	0.020 u
53494-70-5	Endrin Ketone	0.030 u
57-74-9	Chlordane	0.020 u
8001-35-2	Toxaphene	0.25 u
12674-11-2	Aroclor-1016	0.10 u
11104-28-2	Aroclor-1221	0.10 u
11141-16-5	Aroclor-1232	0.10 u
53469-21-9	Aroclor-1242	0.10 u
12672-29-6	Aroclor-1248	0.10 u
11097-69-1	Aroclor-1254	0.10 u
11096-82-5	Aroclor-1260	0.10 u
7421-93-4	ENDRIN ALDEHYDE	0.030 u

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 mL or W_s NA V_t 1.00 mL V_i 1.0 ml

3/17/88

Laboratory Name S-CUBED

Case No 8915/3591 J

Sample Number JB 909

(JB909 BNA)

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. NA	UNKNOWN C_7H_8	BNA	2	9 UJ
2. 127184	tetrachloroethene	↓	64	12 UJ
3. NA	UNKNOWN		304	3 UJ
4.				
5.				
6.				
7.				
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28.				
29.				
30.				

Organics Analysis Data Sheet

Sample Number
JB 910

Laboratory Name S-Cubed
Case No. 8915/3591-J
Lab Sample ID No. JB 910
QC Report No. NA
Sample Matrix water
Data Release Authorized By [illegible]
Date Sample Received 2-13-88

Volatile Compounds (Method 601/602)

Date Extracted/Prepared NA
Date Analyzed 3-10-88
Conc/Dil Factor 1 pH NR
Percent Moisture (Not Decanted) N/A

Purgable Halocarbons
Method 601

	µg/L or µg/kg (Circle One)		µg/L or µg/kg (Circle One)
Bromodichloromethane	0.55 JN	1,1-Dichloroethane	.5u J
Bromoform	.5u J	1,2-Dichloroethane	.5u J
Bromomethane	.5u R	1,1-Dichloroethane	.5u J
Carbon tetrachloride	0.69 JN	trans-1,2-Dichloroethene	.5u J
Chlorobenzene	.5u R	1,2-Dichloropropane	.5u J
Chloroethane	.5u R	cis-1,3-Dichloropropene	.5u J
2-Chloroethylvinyl ether	.5u J	trans-1,3-dichloropropene	.5u J
Chloroform	1.9 JN	Methylene chloride	0.74 JN
Chloromethane	.5u R	1,1,2,2-Tetrachloroethane	.5u J
Dibromochloromethane	.5u R	Tetrachloroethene	.5u R
1,2-Dichlorobenzene	.5u R	1,1,1-Trichloroethane	0.76 JN
1,3-Dichlorobenzene	.5u R	1,1,2-Trichloroethane	.5u J
1,4-Dichlorobenzene	.5u R	Tetrachloroethene	0.84 JN
Dichlorodifluoromethane	.5u J	Trichlorofluoromethane	.5u R
TRI CHLOROETHYLENE	.5u J	Vinyl chloride	.5u R

Purgable Aromatics
Method 602

	µg/L or µg/kg (Circle One)
Benzene	.5u R
Chlorobenzene	.5u R
1,2-Dichlorobenzene	.5u R
1,3-Dichlorobenzene	.5u R
1,4-Dichlorobenzene	.5u R
Ethylbenzene	.5u R
Toluene	.5u R

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. Reporting 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 are detected at less than method detection limit.

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.

NC Indicates compound detection on primary column that was not confirmed on the secondary column.

[illegible] 3/9/88

Laboratory Name S-CUBED

Case No 8915/3591J

Sample Number
JB 910

Organics Analysis Data Sheet
(Page 2)

Semivolatile Compounds

Concentration: (Low) Medium (Circle One)

Date Extracted/Prepared 16FEB88

Date Analyzed 24FEB88

Conc./Dil Factor 1.0

Percent Moisture (Decanted) NA

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	1.00	U
111-44-4	bis(-2-Chloroethyl)Ether	0.75	U
95-57-8	2-Chlorophenol	1.00	U
541-73-1	1 3-Dichlorobenzene	1.00	U
106-46-7	1, 4-Dichlorobenzene	1.00	U
100-51-6	Benzyl Alcohol	1.00	U
95-50-1	1, 2-Dichlorobenzene	1.25	U
95-48-7	2-Methylphenol	0.50	U
39638-32-9	bis(2-chloroisopropyl)Ether	1.25	U
106-44-5	4-Methylphenc	0.50	U
621-64-7	N-Nitroso-Di-n-Propylamine	0.75	U
67-72-1	Hexachloroethane	1.00	U
98-95-3	Nitrobenzene	1.25	U
78-59-1	Isophorone	1.25	U
88-75-5	2-Nitrophenol	1.00	U
105-67-9	2, 4-Dimethylphenol	1.00	U
65-85-0	Benzoic Acid	15.0	U
111-91-1	bis(-2-Chloroethoxy)Methane	1.25	U
120-83-2	2, 4-Dichlorophenol	1.00	U
120-82-1	1, 2 4-Trichlorobenzene	1.00	U
91-20-3	Naphthalene	1.00	U
106-47-8	4-Chloroaniline	1.00	U
87-68-3	Hexachlorobutadiene	1.25	U
59-50-7	4-Chloro-3-Methylphenol	0.75	U
91-57-6	2-Methylnaphthalene	1.00	U
77-47-4	Hexachlorocyclopentadiene	1.00	U
88-06-2	2, 4, 6-Trichlorophenol	0.75	U
95-95-4	2, 4, 5-Trichlorophenol	0.75	U
91-58-7	2-Chloronaphthalene	0.75	U
88-74-4	2-Nitroaniline	0.50	U
131-11-3	Dimethyl Phthalate	0.75	U
208-96-8	Acenaphthylene	0.75	U
99-09-2	3-Nitroaniline	1.25	U

CAS Number		(ug/l or ug/Kg) (Circle One)	
83-32-9	Acenaphthene	0.75	U
51-28-5	2, 4-Dinitrophenol	7.50	U
100-02-7	4-Nitrophenol	0.75	U R
132-64-9	Dibenzofuran	0.50	U
121-14-2	2, 4-Dinitrotoluene	0.50	U
606-20-2	2, 6-Dinitrotoluene	0.50	U
84-66-2	Diethylphthalate	0.50	U
7005-72-3	4-Chlorophenyl-phenylether	0.50	U
86-73-7	Fluorene	0.50	U
100-01-6	4-Nitroaniline	1.50	UJ
534-52-1	4, 6-Dinitro-2-Methylphenol	0.75	U
86-30-6	N-Nitrosodiphenylamine (1)	0.75	U
101-55-3	4-Bromophenyl-phenylether	0.75	U
118-74-1	Hexachlorobenzene	0.75	U
87-86-5	Pentachlorophenol	1.00	U
85-01-8	Phenanthrene	0.50	U
120-12-7	Anthracene	1.25	U
84-74-2	Di-n-Butylphthalate	1.00	U
206-44-0	Fluoranthene	0.75	U
129-00-0	Pyrene	0.75	U
85-68-7	Butylbenzylphthalate	1.75	U
91-94-1	3, 3'-Dichlorobenzidine	1.00	UJ
56-55-3	Benzo(a)Anthracene	0.75	U
117-81-7	bis(2-Ethylhexyl)Phthalate	1.33	UJ
218-01-9	Chrysene	0.75	U
117-84-0	Di-n-Octyl Phthalate	0.75	U
205-99-2	Benzo(b)Fluoranthene	0.75	U
207-08-9	Benzo(k)Fluoranthene	0.75	UJ
50-32-8	Benzo(a)Pyrene	1.00	U
193-39-5	Indeno(1, 2, 3-cd)Pyrene	1.75	U
53-70-3	Dibenz(a, h)Anthracene	1.25	U
191-24-2	Benzo(g, h, i)Perylene	2.00	U

(1)-Cannot be separated from diphenylamine

7 85

Laboratory Name S-CUBED

Case No 8915 (SAS 3591 J)

Sample Number
JB 910

Organics Analysis Data Sheet
(Page 3)

Pesticide / PCBs

Concentration (Low) Medium (Circle One)

Date Extracted / Prepared 16-Feb-88

Date Analyzed 19-Feb-88

Conc / Dil Factor 1.00

Percent Moisture (decanted) NA

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	0.010 u
319-85-7	Beta-BHC	0.005 u
319-86-8	Delta-BHC	0.005 u
58-89-9	Gamma-BHC (Lindane)	0.005 u
76-44-8	Heptachlor	0.030 u
309-00-2	Aldrin	0.005 u
1024-57-3	Heptachlor Epoxide	0.005 u
959 98-8	Endosulfan I	0.010 u
60-57-1	Dieldrin	0.010 u
72-55-9	4, 4'-DDE	0.005 u
72-20-8	Endrin	0.010 u
33213-65-9	Endosulfan II	0.010 u
72-54-8	4, 4'-DDD	0.020 u
1031-07-8	Endosulfan Sulfate	0.10 u
50-29-3	4, 4'-DDT	0.020 u
72-43-5	Methoxychlor	0.020 u
53494-70-5	Endrin Ketone	0.030 u
57-74-9	Chlordane	0.020 u
8001-35-2	Toxaphene	0.25 u
12674-11-2	Aroclor-1016	0.10 u
11104-28-2	Aroclor-1221	0.10 u
11141-16-5	Aroclor-1232	0.10 u
53469-21-9	Aroclor-1242	0.10 u
12672-29-6	Aroclor-1248	0.10 u
11097-69-1	Aroclor-1254	0.10 u
11096-82-5	Aroclor-1260	0.10 u
7421-93-4	ENDRIN ALDEHYDE	0.030 u

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 mL or W_s NA V_t 1.00 mL V_i 1.0 ml

JJW 3/22/88

Laboratory Name S-CUBED

Case No 8915/3519J

Sample Number JB 910

JB 910 (BNA)

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. NA	UNKNOWN	BNA	60	44 J
2. 127184	tetrachloroethene	↓	64	13 UJ
3. NA	UNKNOWN	↓	107	5 J
4. ↓	UNKNOWN	↓	309	2 UJ
5. NA	UNKNOWN	↓	369	43 J
6. 1541204	bi-2-cyclohexen-1-yl	↓	415	2 J
7. NA	UNKNOWN	↓	560	2 J
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3/22/88

Organics Analysis Data Sheet

Sample Number
JB 911

Laboratory Name S-Cubed

Case No. 8915/3591-J

Lab Sample ID No. JB 911

QC Report No. NA

Sample Matrix water

Data Release Authorized By pw

Date Sample Received 2-13-88

Volatile Compounds (Method 601/602)

Date Extracted/Prepared NA

Date Analyzed 3-10-88

Conc/Dil Factor 1 pH NR

Percent Moisture (Not Decanted) NA

Purgable Halocarbons Method 601	µg/L or µg/kg (Circle One)		µg/L or µg/kg (Circle One)
Bromodichloromethane	0.75 J N	1,1-Dichloroethane	.54 J
Bromoform	.54 J	1,2-Dichloroethane	.54 J
Bromomethane	.54 R	1,1-Dichloroethane	.54 J
Carbon tetrachloride	0.59 J N	trans-1,2-Dichloroethene	.54 J
Chlorobenzene	.54 R	1,2-Dichloropropane	.54 J
Chloroethane	.54 R	cis-1,3-Dichloropropene	.54 J
2-Chloroethylvinyl ether	.54 J	trans-1,3-dichloropropene	.54 J
Chloroform	1.1 J N	Methylene chloride	.54 J
Chloromethane	.54 R	1,1,2,2-Tetrachloroethane	.54 J
Dibromochloromethane	.54 R	Tetrachloroethane	.54 R
1,2-Dichlorobenzene	.54 R	1,1,1-Trichloroethane	0.81 J N
1,3-Dichlorobenzene	.54 R	1,1,2-Trichloroethane	.54 J
1,4-Dichlorobenzene	.54 R	Tetrachloroethene	.54 J
Dichlorodifluoromethane	.54 J	Trichlorofluoromethane	.54 R
TRICHLOROETHYLENE	.54 J	Vinyl chloride	.54 R

Purgable Aromatics Method 602	µg/L or µg/kg (Circle One)
Benzene	.54 R
Chlorobenzene	.54 R
1,2-Dichlorobenzene	.54 R
1,3-Dichlorobenzene	.54 R
1,4-Dichlorobenzene	.54 R
Ethylbenzene	.54 R
Toluene	.54 R

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. Reporting 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 are detected at less than method detection limit.

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.

NC Indicates compound detection on primary column that was not confirmed on the secondary column.

3/22/88

Laboratory Name S-CUBED

Case No 8915/3591J

Sample Number
JB 911

Organics Analysis Data Sheet
(Page 2)

Semivolatile Compounds

Concentration: (Low) Medium (Circle One)

Date Extracted/Prepared 16FEB88

Date Analyzed 24FEB88

Conc./Dil Factor 1.0

Percent Moisture (Decanted) NA

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	1.00 U
111-44-4	bis(-2-Chloroethyl)Ether	0.75 U
95-57-8	2-Chlorophenol	1.00 U
541-73-1	1 3-Dichlorobenzene	1.00 U
106-46-7	1, 4-Dichlorobenzene	1.00 U
100-51-6	Benzyl Alcohol	1.00 U
95-50-1	1, 2-Dichlorobenzene	1.25 U
95-48-7	2-Methylphenol	0.50 U
39638-32-9	bis(2-chloroisopropyl)Ether	1.25 U
106-44-5	4-Methylphenol	0.50 U
621-64-7	N-Nitroso-Di-n-Propylamine	0.75 U
67-72-1	Hexachloroethane	1.00 U
98-95-3	Nitrobenzene	1.25 U
78-59-1	Isophorone	1.25 U
88-75-5	2-Nitrophenol	1.00 U
105-67-9	2, 4-Dimethylphenol	1.00 U
65-85-0	Benzoic Acid	15.0 U
111-91-1	bis(-2-Chloroethoxy)Methane	1.25 U
120-83-2	2, 4-Dichlorophenol	1.00 U
120-82-1	1, 2, 4-Trichlorobenzene	1.00 U
91-20-3	Naphthalene	1.00 U
106-47-8	4-Chloroaniline	1.00 U
87-68-3	Hexachlorobutadiene	1.25 U
59-50-7	4-Chloro-3-Methylphenol	0.75 U
91-57-6	2-Methylnaphthalene	1.00 U
77-47-4	Hexachlorocyclopentadiene	1.00 U
88-06-2	2, 4, 6-Trichlorophenol	0.75 U
95-95-4	2, 4, 5-Trichlorophenol	0.75 U
91-58-7	2-Chloronaphthalene	0.75 U
88-74-4	2-Nitroaniline	0.50 U
131-11-3	Dimethyl Phthalate	0.75 U
208-96-8	Acenaphthylene	0.75 U
89-09-2	3-Nitroaniline	1.25 U

CAS Number		(ug/l or ug/Kg) (Circle One)
83-32-9	Acenaphthene	0.75 U
51-28-5	2, 4-Dinitrophenol	7.50 U
100-02-7	4-Nitrophenol	0.75 U R
132-64-9	Dibenzofuran	0.50 U
121-14-2	2, 4-Dinitrotoluene	0.50 U
606-20-2	2, 6-Dinitrotoluene	0.50 U
84-66-2	Diethylphthalate	0.50 U
7005-72-3	4-Chlorophenyl-phenylether	0.50 U
86-73-7	Fluorene	0.50 U
100-01-6	4-Nitroaniline	1.50 UJ
534-52-1	4, 6-Dinitro-2-Methylphenol	0.75 U
86-30-6	N-Nitrosodiphenylamine (1)	0.75 U
101-55-3	4-Bromophenyl-phenylether	0.75 U
118-74-1	Hexachlorobenzene	0.75 U
87-86-5	Pentachlorophenol	1.00 U
85-01-8	Phenanthrene	0.50 U
120-12-7	Anthracene	1.25 U
84-74-2	Di-n-Butylphthalate	1.00 U
206-44-0	Fluoranthene	0.75 U
129-00-0	Pyrene	0.75 U
85-68-7	Butylbenzylphthalate	1.75 U
91-94-1	3, 3'-Dichlorobenzidine	1.00 UJ
56-55-3	Benzo(a)Anthracene	0.75 U
117-81-7	bis(2-Ethylhexyl)Phthalate	0.81 UJ
218-01-9	Chrysene	0.75 U
117-84-0	Di-n-Octyl Phthalate	0.75 U
205-99-2	Benzo(b)Fluoranthene	0.75 U
207-08-9	Benzo(k)Fluoranthene	0.75 UJ
50-32-8	Benzo(a)Pyrene	1.00 U
193-39-5	Indeno(1, 2, 3-cd)Pyrene	1.75 U
53-70-3	Dibenz(a, h)Anthracene	1.25 U
191-24-2	Benzo(g, h, i)Perylene	2.00 U

(1)-Cannot be separated from diphenylamine

Laboratory Name S-CUBED

Case No 8915 (SAS 3591 J)

Sample Number
JB 911

Organics Analysis Data Sheet
(Page 3)

Pesticide / PCBs

Concentration (Low) Medium (Circle One)

Date Extracted / Prepared 16-Feb-88

Date Analyzed 19-Feb-88

Conc / Dil Factor 1.00

Percent Moisture (decanted) NA

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	0.010 u
319-85-7	Beta-BHC	0.005 u
319-86-8	Delta-BHC	0.005 u
58-89-9	Gamma-BHC (Lindane)	0.005 u
76-44-8	Heptachlor	0.030 u
309-00-2	Aldrin	0.005 u
1024-57-3	Heptachlor Epoxide	0.005 u
959 98-8	Endosulfan I	0.010 u
60-57-1	Dieldrin	0.010 u
72-55-9	4, 4'-DDE	0.005 u
72-20-8	Endrin	0.010 u
33213-65-9	Endosulfan II	0.010 u
72-54-8	4, 4'-DDD	0.020 u
1031-07-8	Endosulfan Sulfate	0.10 u
50-29-3	4, 4'-DDT	0.020 u
72-43-5	Methoxychlor	0.020 u
53494-70-5	Endrin Ketone	0.030 u
57-74-9	Chlordane	0.020 u
8001-35-2	Toxaphene	0.25 u
12674-11-2	Aroclor-1016	0.10 u
11104-28-2	Aroclor-1221	0.10 u
11141-16-5	Aroclor-1232	0.10 u
53469-21-9	Aroclor-1242	0.10 u
12672-29-6	Aroclor-1248	0.10 u
11097-69-1	Aroclor-1254	0.10 u
11096-82-5	Aroclor-1260	0.10 u
7421-93-4	ENDRIN ALDEHYDE	0.030 u

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 mL or W_s NA V_t 1.00 mL V_i 1.0 ml

Laboratory Name S-CUBED

Case No 8915/3591J

Sample Number JB911

JB911 (BNA)

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. NA	UNKNOWN C_7H_8	BNA	3	20 UJ
2. NA	UNKNOWN		60	41 J
3. 127184	tetrachloro ethene		65	13 UJ
4. NA	UNKNOWN		108	4 J
5.	UNKNOWN		116	8 J
6.	UNKNOWN		136	2 J
7.	UNKNOWN		183	3 J
8. NA	UNKNOWN		239	2 J
9. 930687	2 cyclohexen-1-one		242	2 J
10. NA	UNKNOWN		310	4 UJ
11. NA	UNKNOWN		369	41 J
12. 1541204	bi-2-cyclohexen-1-yl		415	2 J
13. NA	UNKNOWN		459	3 J
14.				
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Organics Analysis Data Sheet

Sample Number
JB 928

Laboratory Name S-Cubed
Case No. 8915/3591-J
Lab Sample ID No. JB 928
QC Report No. NA
Sample Matrix Water
Data Release Authorized By JW
Date Sample Received 2-13-88

Volatile Compounds (Method 601/602)

Date Extracted/Prepared NA
Date Analyzed 3-10-88
Conc/Dil Factor 1 pH NR
Percent Moisture (Not Decanted) N/A

Purgable Halocarbons Method 601	µg/L or µg/kg (Circle One)		µg/L or µg/kg (Circle One)
Bromodichloromethane	.5U J	1,1-Dichloroethane	.5U J
Bromoform	.5U J	1,2-Dichloroethane	.5U J
Bromomethane	.5U R	1,1-Dichloroethane	.5U J
Carbon tetrachloride	0.66 JN	trans-1,2-Dichloroethene	.5U J
Chlorobenzene	.5U R	1,2-Dichloropropane	.5U J
Chloroethane	.5U R	cis-1,3-Dichloropropene	.5U J
2-Chloroethylvinyl ether	.5U J	trans-1,3-dichloropropene	.5U J
Chloroform	0.81 JN	Methylene chloride	2.1 JN
Chloromethane	.5U R	1,1,2,2-Tetrachloroethane	.5U J
Dibromochloromethane	.5U R	Tetrachloroethane	.5U R
1,2-Dichlorobenzene	.5U R	1,1,1-Trichloroethane	.5U J
1,3-Dichlorobenzene	.5U R	1,1,2-Trichloroethane	.5U J
1,4-Dichlorobenzene	.5U R	Tetrachloroethene	.5U J
Dichlorodifluoromethane	.5U J	Trichlorofluoromethane	.5U R
TRICHLOROETHYLENE	.5U J	Vinyl chloride	.5U R

Purgable Aromatics Method 602	µg/L or µg/kg (Circle One)
Benzene	.5U R
Chlorobenzene	.5U R
1,2-Dichlorobenzene	.5U R
1,3-Dichlorobenzene	.5U R
1,4-Dichlorobenzene	.5U R
Ethylbenzene	.5U R
Toluene	.5U R

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. Reporting 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 are detected at less than method detection limit.

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.

NC Indicates compound detection on primary column that was not confirmed on the secondary column.

JW 3/22/88

Laboratory Name S-CUBED

Case No 8915/3591J

Sample Number JB 928

Organics Analysis Data Sheet
(Page 2)

Semivolatile Compounds

Concentration: (Low) Medium (Circle One)

Date Extracted/Prepared 16FEB88

Date Analyzed 24FEB88

Conc./Dil Factor 1.0

Percent Moisture (Decanted) NA

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	1.18
111-44-4	bis(-2-Chloroethyl)Ether	0.75 U
95-57-8	2-Chlorophenol	1.00 U
541-73-1	1 3-Dichlorobenzene	1.00 U
106-46-7	1, 4-Dichlorobenzene	1.00 U
100-51-6	Benzyl Alcohol	1.00 U
95-50-1	1, 2-Dichlorobenzene	1.25 U
95-48-7	2-Methylphenol	0.50 U
39638-32-9	bis(2-chloroisopropyl)Ether	1.25 U
106-44-5	4-Methylphenc	0.50 U
621-64-7	N-Nitroso-Di-n-Propylamine	0.75 U
67-72-1	Hexachloroethane	1.00 U
98-95-3	Nitrobenzene	1.25 U
78-59-1	Isophorone	1.25 U
88-75-5	2-Nitrophenol	1.00 U
105-67-9	2, 4-Dimethylphenol	1.00 U
65-85-0	Benzoic Acid	15.0 U
111-91-1	bis(-2-Chloroethoxyl)Methane	1.25 U
120-83-2	2, 4-Dichlorophenol	1.00 U
120-82-1	1, 2, 4-Trichlorobenzene	1.00 U
91-20-3	Naphthalene	1.56
106-47-8	4-Chloroaniline	1.00 U
87-68-3	Hexachlorobutadiene	1.25 U
59-50-7	4-Chloro-3-Methylphenol	0.75 U
91-57-6	2-Methylnaphthalene	1.00 U
77-47-4	Hexachlorocyclopentadiene	1.00 U
88-06-2	2, 4, 6-Trichlorophenol	0.75 U
95-95-4	2, 4, 5-Trichlorophenol	0.75 U
91-58-7	2-Chloronaphthalene	0.75 U
88-74-4	2-Nitroaniline	0.50 U
131-11-3	Dimethyl Phthalate	0.75 U
208-96-8	Acenaphthylene	0.75 U
99-09-2	3-Nitroaniline	1.25 U

CAS Number		(ug/l or ug/Kg) (Circle One)
83-32-9	Acenaphthene	0.75 U
51-28-5	2, 4-Dinitrophenol	7.50 U
100-02-7	4-Nitrophenol	0.75 U R
132-64-9	Dibenzofuran	0.50 U
121-14-2	2, 4-Dinitrotoluene	0.50 U
606-20-2	2, 6-Dinitrotoluene	0.50 U
84-66-2	Diethylphthalate	0.50 U
7005-72-3	4-Chlorophenyl-phenylether	0.50 U
86-73-7	Fluorene	0.50 U
100-01-6	4-Nitroaniline	1.50 UJ
534-52-1	4, 6-Dinitro-2-Methylphenol	0.75 U
86-30-6	N-Nitrosodiphenylamine (1)	0.75 U
101-55-3	4-Bromophenyl-phenylether	0.75 U
118-74-1	Hexachlorobenzene	0.75 U
87-86-5	Pentachlorophenol	1.00 U
85-01-8	Phenanthrene	0.50 U
120-12-7	Anthracene	1.25 U
84-74-2	Di-n-Butylphthalate	1.00 U
206-44-0	Fluoranthene	0.75 U
129-00-0	Pyrene	0.75 U
85-68-7	Butylbenzylphthalate	1.75 U
91-94-1	3, 3'-Dichlorobenzidine	1.00 UJ
56-55-3	Benzo(a)Anthracene	0.75 U
117-81-7	bis(2-Ethylhexyl)Phthalate	0.97 UJ
218-01-9	Chrysene	0.75 U
117-84-0	Di-n-Octyl Phthalate	0.75 U
205-99-2	Benzo(b)Fluoranthene	0.75 U
207-08-9	Benzo(k)Fluoranthene	0.75 UJ
50-32-8	Benzo(a)Pyrene	1.00 U
193-39-5	Indeno(1, 2, 3-cd)Pyrene	1.75 U
53-70-3	Dibenz(a, h)Anthracene	1.25 U
191-24-2	Benzo(g, h, i)Perylene	2.00 U

(1)-Cannot be separated from diphenylamine

Laboratory Name S-CUBED

Case No 8915 (SAS 3591 J)

Sample Number JB 928

Organics Analysis Data Sheet
(Page 3)

Pesticide / PCBs

Concentration (Low) Medium (Circle One)

Date Extracted / Prepared 16-Feb-88

Date Analyzed 20-Feb-88

Conc / Dil Factor 1.00

Percent Moisture (decanted) NA

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	0.010	u
319-85-7	Beta-BHC	0.005	u
319-86-8	Delta-BHC	0.005	u
58-89-9	Gamma-BHC (Lindane)	0.005	u
76-44-8	Heptachlor	0.030	u
309-00-2	Aldrin	0.005	u
1024-57-3	Heptachlor Epoxide	0.005	u
959 98-8	Endosulfan I	0.010	u
60-57-1	Dieldrin	0.010	u
72-55-9	4,4'-DDE	0.005	u
72-20-8	Endrin	0.010	u
33213-65-9	Endosulfan II	0.010	u
72-54-8	4,4'-DDD	0.020	u
1031-07-8	Endosulfan Sulfate	0.10	u
50-29-3	4,4'-DDT	0.020	u
72-43-5	Methoxychlor	0.020	u
53494-70-5	Endrin Ketone	0.030	u
57-74-9	Chlordane	0.020	u
8001-35-2	Toxaphene	0.25	u
12674-11-2	Aroclor-1016	0.10	u
11104-28-2	Aroclor-1221	0.10	u
11141-16-5	Aroclor-1232	0.10	u
53469-21-9	Aroclor-1242	0.10	u
12672-29-6	Aroclor-1248	0.10	u
11097-69-1	Aroclor-1254	0.10	u
11096-82-5	Aroclor-1260	0.10	u
7421-93-4	ENDRIN ALDEHYDE	0.030	u

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 mL or W_s NA V_t 1.00 mL V_i 1.0 ml

7.85

Laboratory Name S-CUBED

Case No 8915/3591J

Sample Number JB 928

JB928 (BNA)

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. 127184	tetrachloroethene	BNA	64	33 UJ
2. NA	UNKNOWN	↓	115	4 J
3. NA	UNKNOWN		308	12 UJ
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Form 1, Part B

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