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MEMORANDUM

DATE: June 26, 1989

FOR: Rhonda Wreggelsworth, RSCC, USEPA, Region X

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

FROM: Tracy Yerian, Senior Chemist, E & E, Seattle

SUBJ: QA of Case 11739 (Organics)
Magnum Salvage/Horizon Vehicles

REF: F10-8904-007
PAN F10Z094QA

CC: John Osborn, PO, USEPA, Region X
Bruce Woods, ESD, USEPA, Region X
Gerald Muth, DPO, Region X Laboratory, Manchester
David Stockton, DPO, USEPA, Region VI
Deborah Flood, HWD-SM, USEPA, Region X
Joseph Hunt, FIT-PD, E & E, Seattle
Mark Ader, FIT-PM, E & E, Seattle

The Quality Assurance review of 17 samples, Case 11739, collected from Magnum Salvage/Horizon Vehicles has been completed. Six water and eleven soil samples were analyzed at low level for TCL semivolatile organics and pesticides/PCBs by American Analytical Technical Services of Broken Arrow, Oklahoma. The samples were numbered:

JD410 (water)	JD416 (soil)	JD838 (soil)
JD411 (water)	JD417 (soil)	JD839 (soil)
JD412 (water)	JD418 (soil)	JD840 (soil)
JD413 (water)	JD419 (soil)	JD841 (soil)
JD414 (water)	JD420 (soil)	JD842 (soil)
JD415 (water)	JS421 (soil)	

Samples JD415 and JD417 underwent matrix spike and matrix spike duplicate analysis.

Data Qualifications

The following comments refer to the laboratory performance in meeting the Quality Control Specifications outlined in IFB WA-87K236-238, following Laboratory Data Validation Functional Guidelines for Evaluating Organics Analysis (February 1, 1988).

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1) Timeliness

Sample Number	Sample Date	Rec'd Date	BNA Ext.	BNA Anal.	Pest. Ext.	Pest. Anal.
JD410	04/13/89	04/15/89	04/18/89	05/03/89	04/18/89	04/26/89
JD411	04/13/89	04/15/89	04/18/89	05/03/89	04/18/89	04/26/89
JD412	04/13/89	04/15/89	04/18/89	05/03/89	04/18/89	04/26/89
JD413	04/13/89	04/15/89	04/18/89	05/03/89	04/18/89	04/26/89
JD414	04/13/89	04/15/89	04/18/89	05/03/89	04/18/89	04/26/89
JD415	04/13/89	04/15/89	04/18/89	05/03/89	04/18/89	04/27/89
JD416	04/13/89	04/15/89	04/26/89	05/10/89	04/26/89	05/10/89
JD417	04/13/89	04/15/89	04/26/89	05/10/89	04/26/89	05/10/89
JD418	04/13/89	04/15/89	04/26/89	05/10/89	04/26/89	05/10/89
JD419	04/13/89	04/15/89	04/26/89	05/10/89	04/26/89	05/10/89
JD420	04/13/89	04/15/89	04/26/89	05/10/89	04/26/89	05/10/89
JD421	04/13/89	04/15/89	04/26/89	05/10/89	04/26/89	05/10/89
JD838	04/13/89	04/15/89	04/26/89	05/10/89	04/26/89	05/10/89
JD839	04/13/89	04/15/89	04/26/89	05/10/89	04/26/89	05/10/89
JD840	04/13/89	04/15/89	04/26/89	05/10/89	04/26/89	05/10/89
JD841	04/13/89	04/15/89	04/26/89	05/10/89	04/26/89	05/10/89
JD842	04/13/89	04/15/89	04/26/89	05/10/89	04/26/89	05/10/89

All samples met holding time criteria for semivolatiles and pesticides, except:

Sample Number	Matrix	Fraction	Sampling Date	Extraction Date	Time Elapsed	QC Criteria
JD416	Soil	BNA/Pest/PCB	04/13/89	04/26/89	13 days	7 days
JD417	Soil	BNA/Pest/PCB	04/13/89	04/26/89	13 days	7 days
JD418	Soil	BNA/Pest/PCB	04/13/89	04/26/89	13 days	7 days
JD419	Soil	BNA/Pest/PCB	04/13/89	04/26/89	13 days	7 days
JD420	Soil	BNA/Pest/PCB	04/13/89	04/26/89	13 days	7 days
JD421	Soil	BNA/Pest/PCB	04/13/89	04/26/89	13 days	7 days
JD838	Soil	BNA/Pest/PCB	04/13/89	04/26/89	13 days	7 days
JD839	Soil	BNA/Pest/PCB	04/13/89	04/26/89	13 days	7 days
JD840	Soil	BNA/Pest/PCB	04/13/89	04/26/89	13 days	7 days
JD841	Soil	BNA/Pest/PCB	04/13/89	04/26/89	13 days	7 days
JD842	Soil	BNA/Pest/PCB	04/13/89	04/26/89	13 days	7 days

Data, by sample and fraction, was flagged "J" (estimated quantity) or "UJ" (not detected, adjusted quantitation limit) as appropriate.

2) Instrument Tuning

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

Date	Time	Fraction	Compound	Ion	Relative Abundance	QC Criteria	Associated Samples
05/10/89	14:11	BNA	DFTPP*	441	85	8.0**	***

* DFTPP = Decafluorotriphenylphosphine
** 8.0 was the relative abundance of ion 443; ion 441 criteria relative abundance is that it must be present, but less than ion 443. Upon contact with the laboratory, corrected raw data and summary sheets for the date and time listed above were submitted. No action was taken.
*** JD416, JD417, JD418, JD419, JD420, JD421, JD838.

The summary (5B) for the DFTPP tuning dated May 3, 1989, reported a standard injection time of 9:31; raw data reported a standard injection time of 11:13. As 9:31 was the correct injection for the previous tuning run, reviewer assumed 11:13 to be the correct injection time for the May 3, 1989, tuning analysis. No action was taken.

3) Initial Calibration

All 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 (RSDs) below 30 percent.

All non-SPCC compounds had average RRFs of greater than or equal to 0.05 in the initial volatile or semivolatile calibration.

4) Continuing Calibrations

All SPCC compounds were at or above the contract required Relative Response Factor (RRF(50)) criteria of 0.05 for semivolatiles. All CCC compounds were at or below the contract required Relative Percent Difference (RPD) limits of 25 percent for the semivolatile continuing calibrations.

All non-SPCC compounds had RRF(50)s of greater than or equal to 0.05 for continuing semivolatile calibrations.

All non-CCC compounds that were detected in the sample had percent difference (%D) values for the continuing calibration less than or equal to 25 percent.

5) Blanks

Frequency criteria was met for laboratory blank analysis.

The following compounds were detected in laboratory blanks at levels above IDL, but below CRQL for TCL compounds:

Blank ID	Fraction	Compound	Conc. µg/L	CRQL µg/L	Associated Samples
SBLK 1	BNA	bis(2-ethylhexyl) phthalate	6 J	10 U	JD410, JD411, JD412, JD413, JD414, JD415

Reported levels of the above compounds in the samples were flagged "UJ" (adjusted quantitation limit) if the concentrations were below five times the concentrations found in the appropriate blank (10 times for common solvents).

No Tentatively Identified Compounds (TICs) were identified in the laboratory blanks.

6) Pesticide Standards

a) Linearity

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

b) DDT Retention Time

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

The retention time windows met the contract specifications.

d) Analytical Sequence

The analytical sequence met the contract required frequency and order.

e) 4,4'-DDT/Endrin Degradation

The percent breakdown for Endrin and DDT met the contract limit of 20 percent for the individual or combined breakdown totals.

f) Dibutylchlorendate Retention Time Shift

The percent difference (%D) calculated for the retention time of dibutylchlorendate did not exceed 0.3 percent for the capillary columns for any samples, except:

Sample Number	Matrix	Date Analyzed	%D
JD839	Soil	05/10/89	0.4
JD840	Soil	05/10/89	0.5
JD841	Soil	05/10/89	0.6
JD842	Soil	05/10/89	0.5

All pesticide/RB results for the above samples were flagged unusable (R).

g) Standards Summary

Not all of the calibration factors used to establish linearity could be verified; most of the water matrix factors were verified as analyte area divided by the standard concentrations, but all the recalculated calibration factors for soil matrix were off by a factor of 1.1 to 2.1, using the above calculation. No action was taken.

7) Surrogate Recovery

Recoveries (%R) for all surrogate compounds for volatile and semivolatile analysis met QC criteria, except:

Sample Number	Fraction	Compound	Matrix	%R	QC Limits
JD410	BNA	Phenol-d5	Water	98	10 - 94
JD415MS	BNA	Phenol-d5	Water	98	10 - 95
JD415MSD	BNA	Phenol-d5	Water	98	10 - 95

No action was taken based on the one semivolatile surrogate outlier.

Recoveries for dibutylchlorendate (pesticide/PCB surrogate) met advisory QC guidelines.

All surrogate compounds met calibration QC criteria.

8) Matrix Spike and Matrix Spike Duplicate

All Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Percent Recoveries (%Rs) met advisory QC guidelines, except:

Sample Number	Fraction	Compound	Matrix	%R	QC Limits
JD415MS	BNA	Phenol	Water	88	12 - 86
		4-chloro-3-methylphenol	Water	105	23 - 97
		4-nitrophenol	Water	118	10 - 80
		2,4-dinitrotoluene	Water	111	24 - 96
		Pentachlorophenol	Water	124	9 - 103
JD415MSD	BNA	Phenol	Water	90	12 - 86
		4-chloro-3-methylphenol	Water	101	23 - 97
		4-nitrophenol	Water	125	10 - 80
		2,4-dinitrotoluene	Water	116	24 - 96
		Pentachlorophenol	Water	130	9 - 103
JD415MSD	Pest/PCB	Gamma-BHC	Water	133	56 - 123
		Aldrin	Water	126	40 - 120
JD417MS	BNA	N-Nitroso-di-n-propylamine	Soil	38	41 - 126
JD417MS	Pest/PCB	Aldrin	Soil	142	34 - 132
JD417MSD	BNA	N-Nitroso-di-n-propylamine	Soil	35	41 - 126
JD417MSD	Pest/PCB	Aldrin	Soil	163	34 - 132

The acid compounds in the semivolatile fraction of sample JD415 were flagged as estimated (J or UJ).

Results for N-Nitroso-di-n-propylamine in sample JD417 was flagged as estimated (J or UJ).

All RPD values for the MS and MSD were within QC guidelines.

9) Internal Standard Recovery

All internal standard areas were within established QC limits.

10) Sample Analysis

All reported results above IDLs but below Contract Required Quantitation Limit (CRQL) were flagged as estimated (J) on the Data Sheets.

The pesticide/PCB fraction of sample JD421 appeared to contain A1260, which was not reported by the laboratory. Upon contact with the laboratory, a corrected Form I was submitted. The corrected Form I for JD421 was submitted with this memorandum.

Due to the relatively similar nature of the two capillary columns used for pesticide/PCB analysis, 4,4'-DDT areas were reported for both columns when A1260 or A1254 were present in the sample. The laboratory used professional judgement in not reporting 4,4'-DDT for those samples. As it was not possible to verify whether DDT was present at low levels without GC-MS analysis, which was not performed, quantitation limits for 4,4'-DDT were rejected (R).

11) Laboratory Contact

The laboratory was contacted on 06/01/89 and 06/02/89 (see attached Telephone Record Log).

Data Use

The usefulness of the data is based on the criteria outlined in the "Laboratory Data Validation Functional Guidelines for Evaluating Organics Analyses" (February 1, 1988).

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

This QA memorandum completes the series of QA reviews of CLP data for samples collected during the site investigation identified on the cover page under the heading Magnum Salvage/Horizon Vehicles.

Data Qualifiers

U - The material was analyzed for, but was not detected. The associated numerical value is a contractual quantitation limit, adjusted for sample weight/sample volume, extraction volume, percent solids and sample dilution.

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

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

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

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

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.

X - The reported result may be a combination of indistinguishable isomers.

ORG/11739

In Reference to Case No(s): 11739

Contract Laboratory Program
REGIONAL/LABORATORY COMMUNICATION SYSTEM

Telephone Record Log

Date of Call: ~~5-31-89~~ 6-1-89

Laboratory Name: American Analytical Technical Services

Lab Contact: Robert Harris

Region: X

Regional Contact:

Call Initiated By: ____ Laboratory X Region

In reference to data for the following sample number(s):
JD 410 - JD 421, JD 838 - JD 842

Summary of Questions/Issues Discussed:
1) Please define exclamation points next to raw areas for Aroclor hits
2) Examine JD421, reported as no hits, but area indicate an Aroclor (that file was not run)

Summary of Resolution:
1) exclamation points have no meaning
2) re-run Aroclor file for the sample; doesn't look like a PCB. They will FAX data from the Aroclor file

Tracy Yerian
Signature

~~5-31-89~~ 6-1-89
Date

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

In Reference to Case No(s): 11739

Contract Laboratory Program
REGIONAL/LABORATORY COMMUNICATION SYSTEM

Telephone Record Log

Date of Call: 6-2-89

Laboratory Name: American Analytical Technical Services

Lab Contact: Gayault Springapure

Region: X

Regional Contact:

Call Initiated By: ____ Laboratory X Region

In reference to data for the following sample number(s):
JD410-JD421, JD838-JD842

Summary of Questions/Issues Discussed:
1) FAX not received
2) Tuning cut
3) DDT? Shows up as hit on quant and conf when Aroclors are present - can they be sure it isn't present?

Summary of Resolution:
1) Will send corrected tune
2) Gayault has not seen Aroclor file for sample JD421. He confirmed that it is a hit for A1260. He also agreed that if DDT was present when A1260 or A1254, it wouldn't be identified at low levels.

Tracy Yerian
Signature

6-3-89
Date

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

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1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JD410

Lab Name: SWL - TULSA Contract: 68-01-7392

Lab Code: AATS Case No.: 11739 SAS No.: _____ SDG No.: JD410

Matrix: (soil/water) WATER Lab Sample ID: 25831

Sample wt/vol: 1000 (g/mL) ML Lab File ID: 25831

Level: (low/med) LOW Date Received: 04/15/89

% Moisture: not dec. ____ dec. ____ Date Extracted: 04/18/89

Extraction: (SepF/Cont/Sonc) CONT Date Analyzed: 05/03/89

GPC Cleanup: (Y/N) N pH: 6.1 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
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
108-60-1	bis(2-Chloroisopropyl)Ether	10	U
106-44-5	4-Methylphenol	10	U
621-64-7	N-Nitroso-Di-n-Propylamine	10	U
67-72-1	Hexachloroethane	10	U
98-95-3	Nitrobenzene	10	U
78-59-1	Isophorone	10	U
88-75-5	2-Nitrophenol	10	U
105-67-9	2,4-Dimethylphenol	10	U
65-85-0	Benzoic Acid	50	U
111-91-1	bis(2-Chloroethoxy)Methane	10	U
120-83-2	2,4-Dichlorophenol	10	U
120-82-1	1,2,4-Trichlorobenzene	10	U
91-20-3	Naphthalene	10	U
106-47-8	4-Chloroaniline	10	U
87-68-3	Hexachlorobutadiene	10	U
59-50-7	4-Chloro-3-Methylphenol	10	U
91-57-6	2-Methylnaphthalene	10	U
77-47-4	Hexachlorocyclopentadiene	10	U
88-06-2	2,4,6-Trichlorophenol	10	U
95-95-4	2,4,5-Trichlorophenol	50	U
91-58-7	2-Chloronaphthalene	10	U
88-74-4	2-Nitroaniline	50	U
131-11-3	Dimethyl Phthalate	10	U
208-96-8	Acenaphthylene	10	U
606-20-2	2,6-Dinitrotoluene	10	U

JOY 6-2-89

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1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JD410

Lab Name: SWL - TULSA Contract: 68-01-7392

Lab Code: AATS Case No.: 11739 SAS No.: _____ SDG No.: JD410

Matrix: (soil/water) WATER Lab Sample ID: 25831

Sample wt/vol: 1000 (g/mL) ML Lab File ID: 25831

Level: (low/med) LOW Date Received: 04/15/89

% Moisture: not dec. _____ dec. _____ Date Extracted: 04/18/89

Extraction: (SepF/Cont/Sonc) CONT Date Analyzed: 05/07/89

GPC Cleanup: (Y/N) N pH: 6.1 Dilution Factor: 1.0

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

CAS NO.	COMPOUND	3	
99-09-2	3-Nitroaniline	50	U
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
84-66-2	Diethylphthalate	10	U
7005-72-3	4-Chlorophenyl-phenylether	10	U
86-73-7	Fluorene	10	U
100-01-6	4-Nitroaniline	50	U
534-52-1	4,6-Dinitro-2-Methylphenol	50	U
86-30-6	N-Nitrosodiphenylamine (1)	10	U
101-55-3	4-Bromophenyl-phenylether	10	U
118-74-1	Hexachlorobenzene	10	U
87-86-5	Pentachlorophenol	50	U
85-01-8	Phenanthrene	10	U
120-12-7	Anthracene	10	U
84-74-2	Di-n-Butylphthalate	10	U
206-44-0	Fluoranthene	10	U
129-00-0	Pyrene	10	U
85-68-7	Butylbenzylphthalate	10	U
91-94-1	3,3'-Dichlorobenzidine	20	U
56-55-3	Benzo(a)Anthracene	10	U
218-01-9	Chrysene	10	U
117-81-7	bis(2-Ethylhexyl)Phthalate	10	U
117-84-0	Di-n-Octyl Phthalate	10	U
205-99-2	Benzo(b)Fluoranthene	10	U
207-08-9	Benzo(k)Fluoranthene	10	U
50-32-8	Benzo(a)Pyrene	10	U
193-39-5	Indeno(1,2,3-cd)Pyrene	10	U
53-70-3	Dibenz(a,h)Anthracene	10	U
191-24-2	Benzo(g,h,i)Perylene	10	U

(1) - Cannot be separated from Diphenylamine

FORM I SV-2 1/87 Rev.

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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

JD410

Lab Name: SWL - TULSA Contract: 68-01-7392

Lab Code: AATS Case No.: 11739 SAS No.: _____ SDG No.: JD410

Matrix: (soil/water) WATER Lab Sample ID: 25831

Sample wt/vol: 1000 (g/mL) ML Lab File ID: 25831

Level: (low/med) LOW Date Received: 04/15/89

% Moisture: not dec. _____ dec. _____ Date Extracted: 04/18/89

Extraction: (SepF/Cont/Sonc) CONT Date Analyzed: 05/03/89

GPC Cleanup: (Y/N) N pH: 6.1 Dilution Factor: 1.0

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

FORM I SV-TIC

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1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JD410

Lab Name: SWL - TULSA Contract: 68-01-7392

Lab Code: AATS Case No.: 11739 SAS No.: _____ SDG No.: JD410

Matrix: (soil/water) WATER Lab Sample ID: 25831

Sample wt/vol: 1000 (g/mL) ML Lab File ID: _____

Level: (low/med) LOW Date Received: 04/15/89

% Moisture: not dec. ____ dec. ____ Date Extracted: 04/18/89

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 04/26/89

GPC Cleanup: (Y/N) N pH: 6.1 Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
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
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
5103-71-9	alpha-Chlordane	0.50	U
5103-74-2	gamma-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

JWK 6-2-89

FORM I PEST 1/87 Rev.

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1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JD411

Lab Name: SWL - TULSA Contract: 68-01-7392

Lab Code: AATS Case No.: 11739 SAS No.: _____ SDG No.: JD410

Matrix: (soil/water) WATER Lab Sample ID: 25832

Sample wt/vol: 1000 (g/mL) ML Lab File ID: 25832

Level: (low/med) LOW Date Received: 04/15/89

% Moisture: not dec. ____ dec. ____ Date Extracted: 04/18/89

Extraction: (SepF/Cont/Sonc) CONT Date Analyzed: 05/03/89

GPC Cleanup: (Y/N) N pH: 6.1 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
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
108-60-1	bis(2-Chloroisopropyl)Ether	10	U
106-44-5	4-Methylphenol	10	U
621-64-7	N-Nitroso-Di-n-Propylamine	10	U
67-72-1	Hexachloroethane	10	U
98-95-3	Nitrobenzene	10	U
78-59-1	Isophorone	10	U
88-75-5	2-Nitrophenol	10	U
105-67-9	2,4-Dimethylphenol	10	U
65-85-0	Benzoic Acid	50	U
111-91-1	bis(2-Chloroethoxy)Methane	10	U
120-83-2	2,4-Dichlorophenol	10	U
120-82-1	1,2,4-Trichlorobenzene	10	U
91-20-3	Naphthalene	10	U
106-47-8	4-Chloroaniline	10	U
87-68-3	Hexachlorobutadiene	10	U
59-50-7	4-Chloro-3-Methylphenol	10	U
91-57-6	2-Methylnaphthalene	10	U
77-47-4	Hexachlorocyclopentadiene	10	U
88-06-2	2,4,6-Trichlorophenol	10	U
95-95-4	2,4,5-Trichlorophenol	50	U
91-58-7	2-Chloronaphthalene	10	U
88-74-4	2-Nitroaniline	50	U
131-11-3	Dimethyl Phthalate	10	U
208-96-8	Acenaphthylene	10	U
606-20-2	2,6-Dinitrotoluene	10	U

JOY 6-2-89

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JD411

Lab Name: SWL - TULSA Contract: 68-01-7392

Lab Code: AATS Case No.: 11739 SAS No.: _____ SDG No.: JD410

Matrix: (soil/water) WATER Lab Sample ID: 25832

Sample wt/vol: 1000 (g/mL) ML Lab File ID: 25832

Level: (low/med) LOW Date Received: 04/15/89

% Moisture: not dec. _____ dec. _____ Date Extracted: 04/18/89

Extraction: (SepF/Cont/Sonc) CONT Date Analyzed: 05/03/89

GPC Cleanup: (Y/N) N pH: 6.1 Dilution Factor: 1.0

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

CAS NO.	COMPOUND		
99-09-2	3-Nitroaniline	50	U
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
84-66-2	Diethylphthalate	10	U
7005-72-3	4-Chlorophenyl-phenylether	10	U
86-73-7	Fluorene	10	U
100-01-6	4-Nitroaniline	50	U
534-52-1	4,6-Dinitro-2-Methylphenol	50	U
86-30-6	N-Nitrosodiphenylamine (1)	10	U
101-55-3	4-Bromophenyl-phenylether	10	U
118-74-1	Hexachlorobenzene	10	U
87-86-5	Pentachlorophenol	50	U
85-01-8	Phenanthrene	10	U
120-12-7	Anthracene	10	U
84-74-2	Di-n-Butylphthalate	10	U
206-44-0	Fluoranthene	10	U
129-00-0	Pyrene	10	U
85-68-7	Butylbenzylphthalate	10	U
91-94-1	3,3'-Dichlorobenzidine	20	U
56-55-3	Benzo(a)Anthracene	10	U
218-01-9	Chrysene	10	U
117-81-7	bis(2-Ethylhexyl)Phthalate	10	U
117-84-0	Di-n-Octyl Phthalate	10	U
205-99-2	Benzo(b)Fluoranthene	10	U
207-08-9	Benzo(k)Fluoranthene	10	U
50-32-8	Benzo(a)Pyrene	10	U
193-39-5	Indeno(1,2,3-cd)Pyrene	10	U
53-70-3	Dibenz(a,h)Anthracene	10	U
191-24-2	Benzo(g,h,i)Perylene	10	U

(1) - Cannot be separated from Diphenylamine

6-2-89

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

JD411

Lab Name: SWL - TULSA Contract: 68-01-7392

Lab Code: AATS Case No.: 11739 SAS No.: _____ SDG No.: JD410

Matrix: (soil/water) WATER Lab Sample ID: 25832

Sample wt/vol: 1000 (g/mL) ML Lab File ID: 25832

Level: (low/med) LOW Date Received: 04/15/89

% Moisture: not dec. _____ dec. _____ Date Extracted: 04/18/89

Extraction: (SepF/Cont/Sonc) CONT Date Analyzed: 05/03/89

GPC Cleanup: (Y/N) N pH: 6.1 Dilution Factor: 1.0

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

JDY 6-2-89

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JD411

Lab Name: SWL - TULSA Contract: 68-01-7392

Lab Code: AATS Case No.: 11739 SAS No.: _____ SDG No.: JD410

Matrix: (soil/water) WATER Lab Sample ID: 25832

Sample wt/vol: 1000 (g/mL) ML Lab File ID: _____

Level: (low/med) LOW Date Received: 04/15/89

% Moisture: not dec. ____ dec. ____ Date Extracted: 04/18/89

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 04/26/89

GPC Cleanup: (Y/N) N pH: 6.1 Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
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
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
5103-71-9	alpha-Chlordane	0.50	U
5103-74-2	gamma-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

JCF 6-2-89

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1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JD412

Lab Name: SWL - TULSA Contract: 68-01-7392

Lab Code: AATS Case No.: 11739 SAS No.: _____ SDG No.: JD410

Matrix: (soil/water) WATER Lab Sample ID: 25833

Sample wt/vol: 1000 (g/mL) ML Lab File ID: 25833

Level: (low/med) LOW Date Received: 04/15/89

% Moisture: not dec. ____ dec. ____ Date Extracted: 04/18/89

Extraction: (SepF/Cont/Sonc) CONT Date Analyzed: 05/03/89

GPC Cleanup: (Y/N) N pH: 7.8 Dilution Factor: 1.0

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

CAS NO.	COMPOUND		Q
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
108-60-1	bis(2-Chloroisopropyl)Ether	10	U
106-44-5	4-Methylphenol	10	U
621-64-7	N-Nitroso-Di-n-Propylamine	10	U
67-72-1	Hexachloroethane	10	U
98-95-3	Nitrobenzene	10	U
78-59-1	Isophorone	10	U
88-75-5	2-Nitrophenol	10	U
105-67-9	2,4-Dimethylphenol	10	U
65-85-0	Benzoic Acid	50	U
111-91-1	bis(2-Chloroethoxy)Methane	10	U
120-83-2	2,4-Dichlorophenol	10	U
120-82-1	1,2,4-Trichlorobenzene	10	U
91-20-3	Naphthalene	10	U
106-47-8	4-Chloroaniline	10	U
87-68-3	Hexachlorobutadiene	10	U
59-50-7	4-Chloro-3-Methylphenol	10	U
91-57-6	2-Methylnaphthalene	10	U
77-47-4	Hexachlorocyclopentadiene	10	U
88-06-2	2,4,6-Trichlorophenol	10	U
95-95-4	2,4,5-Trichlorophenol	50	U
91-58-7	2-Chloronaphthalene	10	U
88-74-4	2-Nitroaniline	50	U
131-11-3	Dimethyl Phthalate	10	U
208-96-8	Acenaphthylene	10	U
606-20-2	2,6-Dinitrotoluene	10	U

TDY 6-2-89

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JD412

Lab Name: SWL - TULSA Contract: 68-01-7392

Lab Code: AATS Case No.: 11739 SAS No.: _____ SDG No.: JD410

Matrix: (soil/water) WATER Lab Sample ID: 25833

Sample wt/vol: 1000 (g/mL) ML Lab File ID: 25833

Level: (low/med) LOW Date Received: 04/15/89

% Moisture: not dec. ____ dec. ____ Date Extracted: 04/18/89

Extraction: (SepF/Cont/Sonc) CONT Date Analyzed: 05/03/89

GPC Cleanup: (Y/N) N pH: 7.8 Dilution Factor: 1.0

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

CAS NO.	COMPOUND		
99-09-2	3-Nitroaniline	50	U
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
84-66-2	Diethylphthalate	10	U
7005-72-3	4-Chlorophenyl-phenylether	10	U
86-73-7	Fluorene	10	U
100-01-6	4-Nitroaniline	50	U
534-52-1	4,6-Dinitro-2-Methylphenol	50	U
86-30-6	N-Nitrosodiphenylamine (1)	10	U
101-55-3	4-Bromophenyl-phenylether	10	U
118-74-1	Hexachlorobenzene	10	U
87-86-5	Pentachlorophenol	50	U
85-01-8	Phenanthrene	10	U
120-12-7	Anthracene	10	U
84-74-2	Di-n-Butylphthalate	10	U
206-44-0	Fluoranthene	10	U
129-00-0	Pyrene	10	U
85-68-7	Butylbenzylphthalate	10	U
91-94-1	3,3'-Dichlorobenzidine	20	U
56-55-3	Benzo(a)Anthracene	10	U
218-01-9	Chrysene	10	U
117-81-7	bis(2-Ethylhexyl)Phthalate	10	U
117-84-0	Di-n-Octyl Phthalate	10	U
205-99-2	Benzo(b)Fluoranthene	10	U
207-08-9	Benzo(k)Fluoranthene	10	U
50-32-8	Benzo(a)Pyrene	10	U
193-39-5	Indeno(1,2,3-cd)Pyrene	10	U
53-70-3	Dibenz(a,h)Anthracene	10	U
191-24-2	Benzo(g,h,i)Perylene	10	U

(1) - Cannot be separated from Diphenylamine

JD 6-2-89

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1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

JD412

Lab Name: SWL - TULSA Contract: 68-01-7392

Lab Code: AATS Case No.: 11739 SAS No.: _____ SDG No.: JD410

Matrix: (soil/water) WATER Lab Sample ID: 25833

Sample wt/vol: 1000 (g/mL) ML Lab File ID: 25833

Level: (low/med) LOW Date Received: 04/15/89

% Moisture: not dec. ____ dec. ____ Date Extracted: 04/18/89

Extraction: (SepF/Cont/Sonc) CONT Date Analyzed: 05/03/89

GPC Clearup: (Y/N) N pH: 7.8 Dilution Factor: 1.0

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

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6-2-89

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JD412

Lab Name: SWL - TULSA Contract: 68-01-7392

Lab Code: AATS Case No.: 11739 SAS No.: _____ SDG No.: JD410

Matrix: (soil/water) WATER Lab Sample ID: 25833

Sample wt/vol: 1000 (g/mL) ML Lab File ID: _____

Level: (low/med) LOW Date Received: 04/15/89

% Moisture: not dec. ____ dec. ____ Date Extracted: 04/18/89

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 04/26/89

GPC Cleanup: (Y/N) N pH: 7.8 Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
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
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
5103-71-9	alpha-Chlordane	0.50	U
5103-74-2	gamma-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

6-2-8

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1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JD413

Lab Name: SWL - TULSA Contract: 68-01-7392

Lab Code: AATS Case No.: 11739 SAS No.: _____ SDG No.: JD410

Matrix: (soil/water) WATER Lab Sample ID: 25834

Sample wt/vol: 1000 (g/mL) ML Lab File ID: 25834

Level: (low/med) LOW Date Received: 04/15/89

% Moisture: not dec. _____ dec. _____ Date Extracted: 04/18/89

Extraction: (SepF/Cont/Sonc) CONT Date Analyzed: 05/05/89

GPC Cleanup: (Y/N) N pH: 8.0 Dilution Factor: 1.0

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

CAS NO.	COMPOUND		Q
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
108-60-1	bis(2-Chloroisopropyl)Ether	10	U
106-44-5	4-Methylphenol	10	U
621-64-7	N-Nitroso-Di-n-Propylamine	10	U
67-72-1	Hexachloroethane	10	U
98-95-3	Nitrobenzene	10	U
78-59-1	Isophorone	10	U
88-75-5	2-Nitrophenol	10	U
105-67-9	2,4-Dimethylphenol	10	U
65-85-0	Benzoic Acid	50	U
111-91-1	bis(2-Chloroethoxy)Methane	10	U
120-83-2	2,4-Dichlorophenol	10	U
120-82-1	1,2,4-Trichlorobenzene	10	U
91-20-3	Naphthalene	10	U
106-47-8	4-Chloroaniline	10	U
87-68-3	Hexachlorobutadiene	10	U
59-50-7	4-Chloro-3-Methylphenol	10	U
91-57-6	2-Methylnaphthalene	10	U
77-47-4	Hexachlorocyclopentadiene	10	U
88-06-2	2,4,6-Trichlorophenol	10	U
95-95-4	2,4,5-Trichlorophenol	50	U
91-58-7	2-Chloronaphthalene	10	U
88-74-4	2-Nitroaniline	50	U
131-11-3	Dimethyl Phthalate	10	U
208-96-8	Acenaphthylene	10	U
606-20-2	2,6-Dinitrotoluene	10	U

Joy 6-2-89

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JD413

Lab Name: SWL - TULSA Contract: 68-01-7392

Lab Code: AATS Case No.: 11739 SAS No.: _____ SDG No.: JD410

Matrix: (soil/water) WATER Lab Sample ID: 25834

Sample wt/vol: 1000 (g/mL) ML Lab File ID: 25834

Level: (low/med) LOW Date Received: 04/15/89

% Moisture: not dec. ____ dec. ____ Date Extracted: 04/18/89

Extraction: (SepF/Cont/Sonc) CONT Date Analyzed: 05/03/89

GPC Cleanup: (Y/N) N pH: 8.0 Dilution Factor: 1.0

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

CAS NO.	COMPOUND		Q
99-09-2	3-Nitroaniline	50	U
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
84-66-2	Diethylphthalate	10	U
7005-72-3	4-Chlorophenyl-phenylether	10	U
86-73-7	Fluorene	10	U
100-01-6	4-Nitroaniline	50	U
534-52-1	4,6-Dinitro-2-Methylphenol	50	U
86-30-6	N-Nitrosodiphenylamine (1)	10	U
101-55-3	4-Bromophenyl-phenylether	10	U
118-74-1	Hexachlorobenzene	10	U
87-86-5	Pentachlorophenol	50	U
85-01-8	Phenanthrene	10	U
120-12-7	Anthracene	10	U
84-74-2	Di-n-Butylphthalate	10	U
206-44-0	Fluoranthene	10	U
129-00-0	Pyrene	10	U
85-68-7	Butylbenzylphthalate	10	U
91-94-1	3,3'-Dichlorobenzidine	20	U
56-55-3	Benzo(a)Anthracene	10	U
218-01-9	Chrysene	10	U
117-81-7	bis(2-Ethylhexyl)Phthalate	10	U
117-84-0	Di-n-Octyl Phthalate	10	U
205-99-2	Benzo(b)Fluoranthene	10	U
207-08-9	Benzo(k)Fluoranthene	10	U
50-32-8	Benzo(a)Pyrene	10	U
193-39-5	Indeno(1,2,3-cd)Pyrene	10	U
53-70-3	Dibenz(a,h)Anthracene	10	U
191-24-2	Benzo(g,h,i)Perylene	10	U

(1) - Cannot be separated from Diphenylamine

6-2-89

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1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

JD413

Lab Name: SWL - TULSA Contract: 68-01-7392

Lab Code: AATS Case No.: 11739 SAS No.: _____ SDG No.: JD410

Matrix: (soil/water) WATER Lab Sample ID: 25834

Sample wt/vol: 1000 (g/mL) ML Lab File ID: 25834

Level: (low/med) LOW Date Received: 04/15/89

% Moisture: not dec. ____ dec. ____ Date Extracted: 04/18/89

Extraction: (SepF/Cont/Sonc) CONT Date Analyzed: 05/03/89

GPC Cleanup: (Y/N) N pH: 8.0 Dilution Factor: 1.0

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

JDK 6-2-89

FORM I SV-TIC

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1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JD413

Lab Name: SWL - TULSA Contract: 68-01-7392

Lab Code: AATS Case No.: 11739 SAS No.: _____ SDG No.: JD410

Matrix: (soil/water) WATER Lab Sample ID: 25834

Sample wt/vol: 1000 (g/mL) ML Lab File ID: _____

Level: (low/med) LOW Date Received: 04/15/89

% Moisture: not dec. ____ dec. ____ Date Extracted: 04/18/89

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 04/26/89

GPC Cleanup: (Y/N) N pH: 8.0 Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
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
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
5103-71-9	alpha-Chlordane	0.50	U
5103-74-2	gamma-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

JWP 6-2-89

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JD414

Lab Name: SWL - TULSA Contract: 68-01-7392

Lab Code: AATS Case No.: 11739 SAS No.: _____ SDG No.: JD410

Matrix: (soil/water) WATER Lab Sample ID: 25835

Sample wt/vol: 1000 (g/mL) ML Lab File ID: 25835

Level: (low/med) LOW Date Received: 04/15/89

% Moisture: not dec. ____ dec. ____ Date Extracted: 04/18/89

Extraction: (SepF/Cont/Sonc) CONT Date Analyzed: 05/03/89

GPC Cleanup: (Y/N) N pH: 7.9 Dilution Factor: 1.0

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

CAS NO.	COMPOUND		
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
108-60-1	bis(2-Chloroisopropyl)Ether	10	U
106-44-5	4-Methylphenol	10	U
621-64-7	N-Nitroso-Di-n-Propylamine	10	U
67-72-1	Hexachloroethane	10	U
98-95-3	Nitrobenzene	10	U
78-59-1	Isophorone	10	U
88-75-5	2-Nitrophenol	10	U
105-67-9	2,4-Dimethylphenol	10	U
65-85-0	Benzoic Acid	50	U
111-91-1	bis(2-Chloroethoxy)Methane	10	U
120-83-2	2,4-Dichlorophenol	10	U
120-82-1	1,2,4-Trichlorobenzene	10	U
91-20-3	Naphthalene	10	U
106-47-8	4-Chloroaniline	10	U
87-68-3	Hexachlorobutadiene	10	U
59-50-7	4-Chloro-3-Methylphenol	10	U
91-57-6	2-Methylnaphthalene	10	U
77-47-4	Hexachlorocyclopentadiene	10	U
88-06-2	2,4,6-Trichlorophenol	10	U
95-95-4	2,4,5-Trichlorophenol	50	U
91-58-7	2-Chloronaphthalene	10	U
88-74-4	2-Nitroaniline	50	U
131-11-3	Dimethyl Phthalate	10	U
208-96-8	Acenaphthylene	10	U
606-20-2	2,6-Dinitrotoluene	10	U

JDK 6-2-89

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JD414

Lab Name: SWL - TULSA Contract: 68-01-7392

Lab Code: AATS Case No.: 11739 SAS No.: _____ SDG No.: JD410

Matrix: (soil/water) WATER Lab Sample ID: 25835

Sample wt/vol: 1000 (g/mL) ML Lab File ID: 25835

Level: (low/med) LOW Date Received: 04/15/89

% Moisture: not dec. ____ dec. ____ Date Extracted: 04/18/89

Extraction: (SepF/Cont/Sonc) CONT Date Analyzed: 05/03/89

GPC Cleanup: (Y/N) N pH: 7.9 Dilution Factor: 1.0

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

CAS NO.	COMPOUND		
99-09-2	3-Nitroaniline	50	U
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
84-66-2	Diethylphthalate	10	U
7005-72-3	4-Chlorophenyl-phenylether	10	U
86-73-7	Fluorene	10	U
100-01-6	4-Nitroaniline	50	U
534-52-1	4,6-Dinitro-2-Methylphenol	50	U
86-30-6	N-Nitrosodiphenylamine (1)	10	U
101-55-3	4-Bromophenyl-phenylether	10	U
118-74-1	Hexachlorobenzene	10	U
87-86-5	Pentachlorophenol	50	U
85-01-8	Phenanthrene	10	U
120-12-7	Anthracene	10	U
84-74-2	Di-n-Butylphthalate	10	U
206-44-0	Fluoranthene	10	U
129-00-0	Pyrene	10	U
85-68-7	Butylbenzylphthalate	10	U
91-94-1	3,3'-Dichlorobenzidine	20	U
56-55-3	Benzo(a)Anthracene	10	U
218-01-9	Chrysene	10	U
117-81-7	bis(2-Ethylhexyl)Phthalate	10	U
117-84-0	Di-n-Octyl Phthalate	10	U
205-99-2	Benzo(b)Fluoranthene	10	U
207-08-9	Benzo(k)Fluoranthene	10	U
50-32-8	Benzo(a)Pyrene	10	U
193-39-5	Indeno(1,2,3-cd)Pyrene	10	U
53-70-3	Dibenz(a,h)Anthracene	10	U
191-24-2	Benzo(g,h,i)Perylene	10	U

(1) - Cannot be separated from Diphenylamine

6-3-89

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

JD414

Lab Name: SWL - TULSA Contract: 68-01-7392

Lab Code: AATS Case No.: 11739 SAS No.: _____ SDG No.: JD410

Matrix: (soil/water) WATER Lab Sample ID: 25835

Sample wt/vol: 1000 (g/mL) ML Lab File ID: 25835

Level: (low/med) LOW Date Received: 04/15/89

% Moisture: not dec. ____ dec. ____ Date Extracted: 04/18/89

Extraction: (SepF/Cont/Sonc) CONT Date Analyzed: 05/03/89

GPC Cleanup: (Y/N) N pH: 7.9 Dilution Factor: 1.0

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

Dep 6-2-89

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JD414

Lab Name: SWL - TULSA Contract: 68-01-7392

Lab Code: AATS Case No.: 11739 SAS No.: _____ SDG No.: JD410

Matrix: (soil/water) WATER Lab Sample ID: 25835

Sample wt/vol: 1000 (g/mL) ML Lab File ID: _____

Level: (low/med) LOW Date Received: 04/15/89

% Moisture: not dec. ____ dec. ____ Date Extracted: 04/18/89

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 04/26/89

GPC Cleanup: (Y/N) N pH: 7.9 Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
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
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
5103-71-9	alpha-Chlordane	0.50	U
5103-74-2	gamma-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	0.50	U
11096-82-5	Aroclor-1260	1.0	U

JDF 6-2-89

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1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JD415

Lab Name: SWL - TULSA Contract: 68-01-7392

Lab Code: AATS Case No.: 11739 SAS No.: _____ SDG No.: JD410

Matrix: (soil/water) WATER Lab Sample ID: 25836

Sample wt/vol: 1000 (g/mL) ML Lab File ID: 25836

Level: (low/med) LOW Date Received: 04/15/89

% Moisture: not dec. ____ dec. ____ Date Extracted: 04/18/89

Extraction: (SepF/Cont/Sonc) CONT Date Analyzed: 05/03/89

GPC Cleanup: (Y/N) N pH: 7.6 Dilution Factor: 1.0

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

CAS NO.	COMPOUND		Q
108-95-2	Phenol	10	U J
111-44-4	bis(2-Chloroethyl)Ether	10	U
95-57-8	2-Chlorophenol	10	U J
541-73-1	1,3-Dichlorobenzene	10	U
106-46-7	1,4-Dichlorobenzene	10	U
100-51-6	Benzyl Alcohol	10	U J
95-50-1	1,2-Dichlorobenzene	10	U
95-48-7	2-Methylphenol	10	U J
108-60-1	bis(2-Chloroisopropyl)Ether	10	U
106-44-5	4-Methylphenol	10	U J
621-64-7	N-Nitroso-Di-n-Propylamine	10	U
67-72-1	Hexachloroethane	10	U
98-95-3	Nitrobenzene	10	U
78-59-1	Isophorone	10	U
88-75-5	2-Nitrophenol	10	U
105-67-9	2,4-Dimethylphenol	10	U J
65-85-0	Benzoic Acid	50	U J
111-91-1	bis(2-Chloroethoxy)Methane	10	U
120-83-2	2,4-Dichlorophenol	10	U J
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 J
91-57-6	2-Methylnaphthalene	10	U
77-47-4	Hexachlorocyclopentadiene	10	U
88-06-2	2,4,6-Trichlorophenol	10	U J
95-95-4	2,4,5-Trichlorophenol	50	U J
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
606-20-2	2,6-Dinitrotoluene	10	U

JDY 6-2-89

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JD415

Lab Name: SWL - TULSA Contract: 68-01-7392

Lab Code: AATS Case No.: 11739 SAS No.: SDG No.: JD410

Matrix: (soil/water) WATER Lab Sample ID: 25836

Sample wt/vol: 1000 (g/mL) ML Lab File ID: 25836

Level: (low/med) LOW Date Received: 04/15/89

% Moisture: not dec. ____ dec. ____ Date Extracted: 04/18/89

Extraction: (SepF/Cont/Sonc) CONT Date Analyzed: 05/03/89

GPC Cleanup: (Y/N) N pH: 7.6 Dilution Factor: 1.0

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

CAS NO.	COMPOUND		Q
99-09-2	3-Nitroaniline	50	U
83-32-9	Acenaphthene	10	U
51-28-5	2,4-Dinitrophenol	50	U J
100-02-7	4-Nitrophenol	50	U J
132-64-9	Dibenzofuran	10	U
121-14-2	2,4-Dinitrotoluene	10	U
84-66-2	Diethylphthalate	10	U
7005-72-3	4-Chlorophenyl-phenylether	10	U
86-73-7	Fluorene	10	U
100-01-6	4-Nitroaniline	50	U
534-52-1	4,6-Dinitro-2-Methylphenol	50	U J
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 J
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
218-01-9	Chrysene	10	U
117-81-7	bis(2-Ethylhexyl)Phthalate	10	U
117-84-0	Di-n-Octyl Phthalate	10	U
205-99-2	Benzo(b)Fluoranthene	10	U
207-08-9	Benzo(k)Fluoranthene	10	U
50-32-8	Benzo(a)Pyrene	10	U
193-39-5	Indeno(1,2,3-cd)Pyrene	10	U
53-70-3	Dibenz(a,h)Anthracene	10	U
191-24-2	Benzo(g,h,i)Perylene	10	U

(1) - Cannot be separated from Diphenylamine

DOY 6-2-89

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1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

JD415

Lab Name: SWL - TULSA Contract: 68-01-7392

Lab Code: AATS Case No.: 11739 SAS No.: _____ SDG No.: JD410

Matrix: (soil/water) WATER Lab Sample ID: 25836

Sample wt/vol: 1000 (g/mL) ML Lab File ID: 25836

Level: (low/med) LOW Date Received: 04/15/89

% Moisture: not dec. _____ dec. _____ Date Extracted: 04/18/89

Extraction: (SepF/Cont/Sonc) CONT Date Analyzed: 05/03/89

GPC Cleanup: (Y/N) N pH: 7.6 Dilution Factor: 1.0

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

JDC 6-2-89

FORM I SV-TIC

1/87 Rev.

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JD415

Lab Name: SWL - TULSA Contract: 68-01-7392

Lab Code: AATS Case No.: 11739 SAS No.: _____ SDG No.: JD410

Matrix: (soil/water) WATER Lab Sample ID: 25836

Sample wt/vol: 1000 (g/mL) ML Lab File ID: _____

Level: (low/med) LOW Date Received: 04/15/89

% Moisture: not dec. ____ dec. ____ Date Extracted: 04/18/89

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 04/27/89

GPC Cleanup: (Y/N) N pH: 7.6 Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
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
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
5103-71-9	alpha-Chlordane	0.50	U
5103-74-2	gamma-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

JLY 6-2-89

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1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JD416

Lab Name: SWL - TULSA Contract: 68-01-7392

Lab Code: AATS Case No.: 11739 SAS No.: _____ SDG No.: JD410

Matrix: (soil/water) SOIL Lab Sample ID: 25837

Sample wt/vol: 30.0 (g/mL) G Lab File ID: 25837

Level: (low/med) LOW Date Received: 04/15/89

% Moisture: not dec. 10 dec. ____ Date Extracted: 04/26/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 05/10/89

GPC Cleanup: (Y/N) Y pH: 7.5 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	730	U J
111-44-4	bis(2-Chloroethyl)Ether	730	U
95-57-8	2-Chlorophenol	730	U
541-73-1	1,3-Dichlorobenzene	730	U
106-46-7	1,4-Dichlorobenzene	730	U
100-51-6	Benzyl Alcohol	730	U
95-50-1	1,2-Dichlorobenzene	730	U
95-48-7	2-Methylphenol	730	U
108-60-1	bis(2-Chloroisopropyl)Ether	730	U
106-44-5	4-Methylphenol	730	U
621-64-7	N-Nitroso-Di-n-Propylamine	730	U
67-72-1	Hexachloroethane	730	U
98-95-3	Nitrobenzene	730	U
78-59-1	Isophorone	730	U
88-75-5	2-Nitrophenol	730	U
105-67-9	2,4-Dimethylphenol	730	U
65-85-0	Benzoic Acid	3600	U
111-91-1	bis(2-Chloroethoxy)Methane	730	U
120-83-2	2,4-Dichlorophenol	730	U
120-82-1	1,2,4-Trichlorobenzene	730	U
91-20-3	Naphthalene	730	U
106-47-8	4-Chloroaniline	730	U
87-68-3	Hexachlorobutadiene	730	U
59-50-7	4-Chloro-3-Methylphenol	730	U
91-57-6	2-Methylnaphthalene	730	U
77-47-4	Hexachlorocyclopentadiene	730	U
88-06-2	2,4,6-Trichlorophenol	730	U
95-95-4	2,4,5-Trichlorophenol	3600	U
91-58-7	2-Chloronaphthalene	730	U
88-74-4	2-Nitroaniline	3600	U
131-11-3	Dimethyl Phthalate	730	U
208-96-8	Acenaphthylene	730	U
606-20-2	2,6-Dinitrotoluene	730	U

JDY 6/28

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JD416

Lab Name: SWL - TULSA Contract: 68-01-7392

Lab Code: AATS Case No.: 11739 SAS No.: _____ SDG No.: JD410

Matrix: (soil/water) SOIL Lab Sample ID: 25837

Sample wt/vol: 30.0 (g/mL) G Lab File ID: 25837

Level: (low/med) LOW Date Received: 04/15/89

% Moisture: not dec. 10 dec. ____ Date Extracted: 04/26/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 05/10/89

GPC Cleanup: (Y/N) Y pH: 7.5 Dilution Factor: 1.0

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

CAS NO.	COMPOUND		Q
99-09-2	3-Nitroaniline	3600	U J
83-32-9	Acenaphthene	730	U
51-28-5	2,4-Dinitrophenol	3600	U
100-02-7	4-Nitrophenol	3600	U
132-64-9	Dibenzofuran	730	U
121-14-2	2,4-Dinitrotoluene	730	U
84-66-2	Diethylphthalate	730	U
7005-72-3	4-Chlorophenyl-phenylether	730	U
86-73-7	Fluorene	730	U
100-01-6	4-Nitroaniline	3600	U
534-52-1	4,6-Dinitro-2-Methylphenol	3600	U
86-30-6	N-Nitrosodiphenylamine (1)	730	U
101-55-3	4-Bromophenyl-phenylether	730	U
118-74-1	Hexachlorobenzene	730	U
87-86-5	Pentachlorophenol	3600	U
85-01-8	Phenanthrene	730	U
120-12-7	Anthracene	730	U
84-74-2	Di-n-Butylphthalate	730	U
206-44-0	Fluoranthene	730	U
129-00-0	Pyrene	730	U
85-68-7	Butylbenzylphthalate	730	U
91-94-1	3,3'-Dichlorobenzidine	1500	U
56-55-3	Benzo(a)Anthracene	730	U
218-01-9	Chrysene	730	U
117-81-7	bis(2-Ethylhexyl)Phthalate	730	U
117-84-0	Di-n-Octyl Phthalate	730	U
205-99-2	Benzo(b)Fluoranthene	730	U
207-08-9	Benzo(k)Fluoranthene	730	U
50-32-8	Benzo(a)Pyrene	730	U
193-39-5	Indeno(1,2,3-cd)Pyrene	730	U
53-70-3	Dibenz(a,h)Anthracene	730	U
191-24-2	Benzo(g,h,i)Perylene	730	U

(1) - Cannot be separated from Diphenylamine

JDY 6-2-

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1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

JD416

Lab Name: SWL - TULSA Contract: 68-01-7392

Lab Code: AATS Case No.: 11739 SAS No.: _____ SDG No.: JD410

Matrix: (soil/water) SOIL Lab Sample ID: 25837

Sample wt/vol: 30.0 (g/mL) G Lab File ID: 25837

Level: (low/med) LOW Date Received: 04/15/89

% Moisture: not dec. 10 dec. ____ Date Extracted: 04/26/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 05/10/89

GPC Cleanup: (Y/N) Y pH: 7.5 Dilution Factor: 1.0

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

JDY 6-2-89

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JD416

Lab Name: SWL - TULSA Contract: 68-01-7392

Lab Code: AATS Case No.: 11739 SAS No.: _____ SDG No.: JD410

Matrix: (soil/water) SOIL Lab Sample ID: 25837

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

Level: (low/med) LOW Date Received: 04/15/89

% Moisture: not dec. 10 dec. ____ Date Extracted: 04/26/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 05/10/89

GPC Cleanup: (Y/N) N pH: 7.5 Dilution Factor: 1.000

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
319-84-6	alpha-BHC	8.9	U J
319-85-7	beta-BHC	8.9	U
319-86-8	delta-BHC	8.9	U
58-89-9	gamma-BHC (Lindane)	8.9	U
76-44-8	Heptachlor	8.9	U
309-00-2	Aldrin	8.9	U
1024-57-3	Heptachlor epoxide	8.9	U
959-98-8	Endosulfan I	8.9	U
60-57-1	Dieldrin	8.9	U
72-55-9	4,4'-DDE	18	U
72-20-8	Endrin	18	U
33213-65-9	Endosulfan II	18	U
72-54-8	4,4'-DDD	18	U
1031-07-8	Endosulfan sulfate	18	U
50-29-3	4,4'-DDT	18	U
72-43-5	Methoxychlor	18	U
53494-70-5	Endrin ketone	89	U
5103-71-9	alpha-Chlordane	18	U
5103-74-2	gamma-Chlordane	89	U
8001-35-2	Toxaphene	89	U
12674-11-2	Aroclor-1016	180	U
11104-28-2	Aroclor-1221	89	U
11141-16-5	Aroclor-1232	89	U
53469-21-9	Aroclor-1242	89	U
12672-29-6	Aroclor-1248	89	U
11097-69-1	Aroclor-1254	89	U
11096-82-5	Aroclor-1260	180	U
		180	U

6-2-89

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1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JD417

Lab Name: SWL - TULSA Contract: 68-01-7392

Lab Code: AATS Case No.: 11739 SAS No.: _____ SDG No.: JD410

Matrix: (soil/water) SOIL Lab Sample ID: 25838

Sample wt/vol: 30.0 (g/mL) G Lab File ID: 25838

Level: (low/med) LOW Date Received: 04/15/89

% Moisture: not dec. 7 dec. ____ Date Extracted: 04/26/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 05/10/89

GPC Cleanup: (Y/N) Y pH: 7.8 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	710	U J
111-44-4	bis(2-Chloroethyl)Ether	710	U
95-57-8	2-Chlorophenol	710	U
541-73-1	1,3-Dichlorobenzene	710	U
106-46-7	1,4-Dichlorobenzene	710	U
100-51-6	Benzyl Alcohol	710	U
95-50-1	1,2-Dichlorobenzene	710	U
95-48-7	2-Methylphenol	710	U
108-60-1	bis(2-Chloroisopropyl)Ether	710	U
106-44-5	4-Methylphenol	710	U
621-64-7	N-Nitroso-Di-n-Propylamine	710	U
67-72-1	Hexachloroethane	710	U
98-95-3	Nitrobenzene	710	U
78-59-1	Isophorone	710	U
88-75-5	2-Nitrophenol	710	U
105-67-9	2,4-Dimethylphenol	710	U
65-85-0	Benzoic Acid	3400	U
111-91-1	bis(2-Chloroethoxy)Methane	710	U
120-83-2	2,4-Dichlorophenol	710	U
120-82-1	1,2,4-Trichlorobenzene	710	U
91-20-3	Naphthalene	710	U
106-47-8	4-Chloroaniline	710	U
87-68-3	Hexachlorobutadiene	710	U
59-50-7	4-Chloro-3-Methylphenol	710	U
91-57-6	2-Methylnaphthalene	710	U
77-47-4	Hexachlorocyclopentadiene	710	U
88-06-2	2,4,6-Trichlorophenol	710	U
95-95-4	2,4,5-Trichlorophenol	3400	U
91-58-7	2-Chloronaphthalene	710	U
88-74-4	2-Nitroaniline	3400	U
131-11-3	Dimethyl Phthalate	710	U
208-96-8	Acenaphthylene	710	U
606-20-2	2,6-Dinitrotoluene	710	U

FORM I SV-1 1/87 Rev.

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JD417

Lab Name: SWL - TULSA Contract: 68-01-7392

Lab Code: AATS Case No.: 11739 SAS No.: _____ SDG No.: JD410

Matrix: (soil/water) SOIL Lab Sample ID: 25838

Sample wt/vol: 30.0 (g/mL) G Lab File ID: 25838

Level: (low/med) LOW Date Received: 04/15/89

% Moisture: not dec. 7 dec. ____ Date Extracted: 04/26/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 05/10/89

GPC Cleanup: (Y/N) Y pH: 7.8 Dilution Factor: 1.0

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

CAS NO.	COMPOUND		Q
99-09-2	3-Nitroaniline	3400	U
83-32-9	Acenaphthene	710	U
51-28-5	2,4-Dinitrophenol	3400	U
100-02-7	4-Nitrophenol	3400	U
132-64-9	Dibenzofuran	710	U
121-14-2	2,4-Dinitrotoluene	710	U
84-66-2	Diethylphthalate	710	U
7005-72-3	4-Chlorophenyl-phenylether	710	U
86-73-7	Fluorene	710	U
100-01-6	4-Nitroaniline	3400	U
534-52-1	4,6-Dinitro-2-Methylphenol	3400	U
86-30-6	N-Nitrosodiphenylamine (1)	710	U
101-55-3	4-Bromophenyl-phenylether	710	U
118-74-1	Hexachlorobenzene	710	U
87-86-5	Pentachlorophenol	3400	U
85-01-8	Phenanthrene	710	U
120-12-7	Anthracene	710	U
84-74-2	Di-n-Butylphthalate	710	U
206-44-0	Fluoranthene	710	U
129-00-0	Pyrene	710	U
85-68-7	Butylbenzylphthalate	710	U
91-94-1	3,3'-Dichlorobenzidine	1400	U
56-55-3	Benzo(a)Anthracene	710	U
218-01-9	Chrysene	710	U
117-81-7	bis(2-Ethylhexyl)Phthalate	710	U
117-84-0	Di-n-Octyl Phthalate	710	U
205-99-2	Benzo(b)Fluoranthene	710	U
207-08-9	Benzo(k)Fluoranthene	710	U
50-32-8	Benzo(a)Pyrene	710	U
193-39-5	Indeno(1,2,3-cd)Pyrene	710	U
53-70-3	Dibenz(a,h)Anthracene	710	U
191-24-2	Benzo(g,h,i)Perylene	710	U

(1) - Cannot be separated from Diphenylamine

JDY 6-28

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

JD417

Lab Name: SWL - TULSA Contract: 68-01-7392

Lab Code: AATS Case No.: 11739 SAS No.: _____ SDG No.: JD410

Matrix: (soil/water) SOIL Lab Sample ID: 25838

Sample wt/vol: 30.0 (g/mL) G Lab File ID: 25838

Level: (low/med) LOW Date Received: 04/15/89

% Moisture: not dec. 7 dec. ____ Date Extracted: 04/26/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 05/10/89

GPC Cleanup: (Y/N) Y pH: 7.8 Dilution Factor: 1.0

Number TICs found: 0

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

NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

JDY 6-2-89

FORM I SV-TIC

1/87 Rev.

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JD417

ab Name: SWL - TULSA Contract: 68-01-7392

Lab Code: AATS Case No.: 11739 SAS No.: _____ SDG No.: JD410

Matrix: (soil/water) SOIL Lab Sample ID: 25833

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

Level: (low/med) LOW Date Received: 04/15/89

% Moisture: not dec. 8 dec. _____ Date Extracted: 04/26/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 05/10/89

GPC Cleanup: (Y/N) N pH: 7.8 Dilution Factor: 1.000

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	
319-84-6	alpha-BHC	8.7	U J
319-85-7	beta-BHC	8.7	U
319-86-8	delta-BHC	8.7	U
58-89-9	gamma-BHC (Lindane)	8.7	U
76-44-8	Heptachlor	8.7	U
309-00-2	Aldrin	8.7	U
1024-57-3	Heptachlor epoxide	8.7	U
959-98-8	Endosulfan I	8.7	U
60-57-1	Dieldrin	17	U
72-55-9	4,4'-DDE	17	U
72-20-8	Endrin	17	U
33213-65-9	Endosulfan II	17	U
72-54-8	4,4'-DDD	17	U
1031-07-8	Endosulfan sulfate	17	U
50-29-3	4,4'-DDT	17	U
72-43-5	Methoxychlor	87	U
53494-70-5	Endrin ketone	17	U
5103-71-9	alpha-Chlordane	87	U
5103-74-2	gamma-Chlordane	87	U
8001-35-2	Toxaphene	170	U
12674-11-2	Aroclor-1016	87	U
11104-28-2	Aroclor-1221	87	U
11141-16-5	Aroclor-1232	87	U
53469-21-9	Aroclor-1242	87	U
12672-29-6	Aroclor-1248	87	U
11097-69-1	Aroclor-1254	170	U
11096-82-5	Aroclor-1260	170	U

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1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JD418

Lab Name: SWL - TULSA Contract: 68-01-7392

Lab Code: AATS Case No.: 11739 SAS No.: _____ SDG No.: JD410

Matrix: (soil/water) SOIL Lab Sample ID: 25839

Sample wt/vol: 30.0 (g/mL) G Lab File ID: 25839

Level: (low/med) LOW Date Received: 04/15/89

% Moisture: not dec. 6 dec. ____ Date Extracted: 04/26/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 05/10/89

GPC Cleanup: (Y/N) Y pH: 7.6 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	700	U J
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
108-60-1	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	3400	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	700	U
77-47-4	Hexachlorocyclopentadiene	700	U
88-06-2	2,4,6-Trichlorophenol	700	U
95-95-4	2,4,5-Trichlorophenol	3400	U
91-58-7	2-Chloronaphthalene	700	U
88-74-4	2-Nitroaniline	3400	U
131-11-3	Dimethyl Phthalate	700	U
208-96-8	Acenaphthylene	700	U
606-20-2	2,6-Dinitrotoluene	700	U

JD4 6-2-89

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JD418

Lab Name: SWL - TULSA Contract: 68-01-7392

Lab Code: AATS Case No.: 11739 SAS No.: _____ SDG No.: JD410

Matrix: (soil/water) SOIL Lab Sample ID: 25839

Sample wt/vol: 30.0 (g/mL) G Lab File ID: 25839

Level: (low/med) LOW Date Received: 04/15/89

% Moisture: not dec. 6 dec. ____ Date Extracted: 04/26/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 05/10/89

GPC Cleanup: (Y/N) Y pH: 7.6 Dilution Factor: 1.0

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

CAS NO.	COMPOUND	Q
99-09-2	3-Nitroaniline	3400 U J
83-32-9	Acenaphthene	700 U
51-28-5	2,4-Dinitrophenol	3400 U
100-02-7	4-Nitrophenol	3400 U
132-64-9	Dibenzofuran	700 U
121-14-2	2,4-Dinitrotoluene	700 U
84-66-2	Diethylphthalate	700 U
7005-72-3	4-Chlorophenyl-phenylether	700 U
86-73-7	Fluorene	700 U
100-01-6	4-Nitroaniline	3400 U
534-52-1	4,6-Dinitro-2-Methylphenol	3400 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	3400 U
85-01-8	Phenanthrene	700 U
120-12-7	Anthracene	700 U
84-74-2	Di-n-Butylphthalate	700 U
206-44-0	Fluoranthene	700 U
129-00-0	Pyrene	700 U
85-68-7	Butylbenzylphthalate	700 U
91-94-1	3,3'-Dichlorobenzidine	1400 U
56-55-3	Benzo(a)Anthracene	700 U
218-01-9	Chrysene	700 U
117-81-7	bis(2-Ethylhexyl)Phthalate	380 J
117-84-0	Di-n-Octyl Phthalate	700 U
205-99-2	Benzo(b)Fluoranthene	700 U
207-08-9	Benzo(k)Fluoranthene	700 U
50-32-8	Benzo(a)Pyrene	700 U
193-39-5	Indeno(1,2,3-cd)Pyrene	700 U
53-70-3	Dibenz(a,h)Anthracene	700 U
191-24-2	Benzo(g,h,i)Perylene	700 U

(1) - Cannot be separated from Diphenylamine

JDY 6-2-89

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1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

JD418

Lab Name: SWL - TULSA Contract: 68-01-7392

Lab Code: AATS Case No.: 11739 SAS No.: _____ SDG No.: JD410

Matrix: (soil/water) SOIL Lab Sample ID: 25839

Sample wt/vol: 30.0 (g/mL) G Lab File ID: 25839

Level: (low/med) LOW Date Received: 04/15/89

% Moisture: not dec. 6 dec. _____ Date Extracted: 04/26/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 05/10/89

GPC Cleanup: (Y/N) Y pH: 7.6 Dilution Factor: 1.0

Number TICs found: 19

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN HYDROCARBON	17.95	1200	J
2.	UNKNOWN COMPOUND	18.57	1200	J
3.	UNKNOWN HYDROCARBON	18.74	1100	J
4.	UNKNOWN COMPOUND	19.40	1700	J
5.	UNKNOWN COMPOUND	19.52	1000	J
6.	UNKNOWN COMPOUND	19.67	1700	J
7.	UNKNOWN COMPOUND	20.07	1100	J
8.	UNKNOWN HYDROCARBON	20.59	2800	J
9.	UNKNOWN COMPOUND	20.87	2000	J
10.	UNKNOWN HYDROCARBON	21.74	630	J
11.	UNKNOWN COMPOUND	21.82	740	J
12.	UNKNOWN COMPOUND	22.72	590	J
13.	UNKNOWN COMPOUND	25.02	640	J
14.	UNKNOWN COMPOUND	25.26	730	J
15.	UNKNOWN COMPOUND	25.64	990	J
16.	UNKNOWN COMPOUND	25.91	1000	J
17.	UNKNOWN COMPOUND	26.17	4900	J
18.	UNKNOWN COMPOUND	26.46	1300	J
19.	UNKNOWN COMPOUND	27.31	1100	J

JDY 6-2-89

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JD418

Lab Name: SWL - TULSA Contract: 68-01-7392

Lab Code: AATS Case No.: 11739 SAS No.: _____ SDG No.: JD410

Matrix: (soil/water) SOIL Lab Sample ID: 25839

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

Level: (low/med) LOW Date Received: 04/15/89

% Moisture: not dec. 6 dec. ____ Date Extracted: 04/26/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 05/10/89

GPC Cleanup: (Y/N) N pH: 7.6 Dilution Factor: 5.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
319-84-6	alpha-BHC	43	U J
319-85-7	beta-BHC	43	U
319-86-8	delta-BHC	43	U
58-89-9	gamma-BHC (Lindane)	43	U
76-44-8	Heptachlor	43	U
309-00-2	Aldrin	43	U
1024-57-3	Heptachlor epoxide	43	U
959-98-8	Endosulfan I	43	U
60-57-1	Dieldrin	85	U
72-55-9	4,4'-DDE	85	U
72-20-8	Endrin	85	U
33213-65-9	Endosulfan II	85	U
72-54-8	4,4'-DDD	85	U
1031-07-8	Endosulfan sulfate	85	U
50-29-3	4,4'-DDT	85	U R
72-43-5	Methoxychlor	430	U J
53494-70-5	Endrin ketone	85	U
5103-71-9	alpha-Chlordane	430	U
5103-74-2	gamma-Chlordane	430	U
8001-35-2	Toxaphene	850	U
12674-11-2	Aroclor-1016	430	U
11104-28-2	Aroclor-1221	430	U
11141-16-5	Aroclor-1232	430	U
53469-21-9	Aroclor-1242	430	U
12672-29-6	Aroclor-1248	430	U
11097-69-1	Aroclor-1254	850	U
11096-82-5	Aroclor-1260	4600	J

Joy 6-2-8

FORM I PEST 1/87 Rev.

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JD419

Lab Name: SWL - TULSA Contract: 68-01-7392

Lab Code: AATS Case No.: 11739 SAS No.: _____ SDG No.: JD410

Matrix: (soil/water) SOIL Lab Sample ID: 25840

Sample wt/vol: 30.0 (g/mL) G Lab File ID: 25840

Level: (low/med) LOW Date Received: 04/15/89

% Moisture: not dec. 7 dec. ____ Date Extracted: 04/26/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 05/10/89

GPC Cleanup: (Y/N) Y pH: 7.4 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	
108-95-2	Phenol	710	U J
111-44-4	bis(2-Chloroethyl)Ether	710	U
95-57-8	2-Chlorophenol	710	U
541-73-1	1,3-Dichlorobenzene	710	U
106-46-7	1,4-Dichlorobenzene	710	U
100-51-6	Benzyl Alcohol	710	U
95-50-1	1,2-Dichlorobenzene	710	U
95-48-7	2-Methylphenol	710	U
108-60-1	bis(2-Chloroisopropyl)Ether	710	U
106-44-5	4-Methylphenol	710	U
621-64-7	N-Nitroso-Di-n-Propylamine	710	U
67-72-1	Hexachloroethane	710	U
98-95-3	Nitrobenzene	710	U
78-59-1	Isophorone	710	U
88-75-5	2-Nitrophenol	710	U
105-67-9	2,4-Dimethylphenol	710	U
65-85-0	Benzoic Acid	3400	U
111-91-1	bis(2-Chloroethoxy)Methane	710	U
120-83-2	2,4-Dichlorophenol	710	U
120-82-1	1,2,4-Trichlorobenzene	710	U
91-20-3	Naphthalene	710	U
106-47-8	4-Chloroaniline	710	U
87-68-3	Hexachlorobutadiene	710	U
59-50-7	4-Chloro-3-Methylphenol	710	U
91-57-6	2-Methylnaphthalene	710	U
77-47-4	Hexachlorocyclopentadiene	710	U
88-06-2	2,4,6-Trichlorophenol	710	U
95-95-4	2,4,5-Trichlorophenol	3400	U
91-58-7	2-Chloronaphthalene	710	U
88-74-4	2-Nitroaniline	3400	U
131-11-3	Dimethyl Phthalate	710	U
208-96-8	Acenaphthylene	710	U
606-20-2	2,6-Dinitrotoluene	710	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JD419

Lab Name: SWL - TULSA Contract: 68-01-7392

Lab Code: AATS Case No.: 11739 SAS No.: _____ SDG No.: JD410

Matrix: (soil/water) SOIL Lab Sample ID: 25840

Sample wt/vol: 30.0 (g/mL) G Lab File ID: 25840

Level: (low/med) LOW Date Received: 04/15/89

% Moisture: not dec. 7 dec. ____ Date Extracted: 04/26/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 05/10/89

GPC Cleanup: (Y/N) Y pH: 7.4 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
99-09-2	3-Nitroaniline	3400	U J
83-32-9	Acenaphthene	710	U
51-28-5	2,4-Dinitrophenol	3400	U
100-02-7	4-Nitrophenol	3400	U
132-64-9	Dibenzofuran	710	U
121-14-2	2,4-Dinitrotoluene	710	U
84-66-2	Diethylphthalate	710	U
7005-72-3	4-Chlorophenyl-phenylether	710	U
86-73-7	Fluorene	710	U
100-01-6	4-Nitroaniline	3400	U
534-52-1	4,6-Dinitro-2-Methylphenol	3400	U
86-30-6	N-Nitrosodiphenylamine (1)	710	U
101-55-3	4-Bromophenyl-phenylether	710	U
118-74-1	Hexachlorobenzene	710	U
87-86-5	Pentachlorophenol	3400	U
85-01-8	Phenanthrene	710	U
120-12-7	Anthracene	710	U
84-74-2	Di-n-Butylphthalate	710	U
206-44-0	Fluoranthene	710	U
129-00-0	Pyrene	710	U
85-68-7	Butylbenzylphthalate	710	U
91-94-1	3,3'-Dichlorobenzidine	1400	U
56-55-3	Benzo(a)Anthracene	710	U
218-01-9	Chrysene	710	U
117-81-7	bis(2-Ethylhexyl)Phthalate	390	J
117-84-0	Di-n-Octyl Phthalate	710	U J
205-99-2	Benzo(b)Fluoranthene	710	U
207-08-9	Benzo(k)Fluoranthene	710	U
50-32-8	Benzo(a)Pyrene	710	U
193-39-5	Indeno(1,2,3-cd)Pyrene	710	U
53-70-3	Dibenz(a,h)Anthracene	710	U
191-24-2	Benzo(g,h,i)Perylene	710	U

(1) - Cannot be separated from Diphenylamine

JDG 6-2-89

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

JD419

Lab Name: SWL - TULSA Contract: 68-01-7392

Lab Code: AATS Case No.: 11739 SAS No.: _____ SDG No.: JD410

Matrix: (soil/water) SOIL Lab Sample ID: 25840

Sample wt/vol: 30.0 (g/mL) G Lab File ID: 25840

Level: (low/med) LOW Date Received: 04/15/89

% Moisture: not dec. 7 dec. ____ Date Extracted: 04/26/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 05/10/89

GPC Cleanup: (Y/N) Y pH: 7.4 Dilution Factor: 1.0

Number TICs found: 21

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN HYDROCARBON	17.97	1500	J
2.	UNKNOWN COMPOUND	18.37	880	J
3.	UNKNOWN COMPOUND	18.59	1200	J
4.	UNKNOWN COMPOUND	18.67	930	J
5.	UNKNOWN COMPOUND	19.05	1700	J
6.	UNKNOWN HYDROCARBON	19.22	1000	J
7.	UNKNOWN COMPOUND	19.32	1000	J
8.	UNKNOWN HYDROCARBON	19.40	2000	J
9.	UNKNOWN COMPOUND	19.55	1400	J
10.	UNKNOWN COMPOUND	19.70	2300	J
11.	UNKNOWN COMPOUND	20.09	980	J
12.	UNKNOWN HYDROCARBON	20.60	2400	J
13.	UNKNOWN COMPOUND	20.89	1800	J
14.	UNKNOWN COMPOUND	21.85	770	J
15.	UNKNOWN COMPOUND	25.42	750	J
16.	UNKNOWN COMPOUND	25.66	1000	J
17.	UNKNOWN COMPOUND	25.94	1300	J
18.	UNKNOWN COMPOUND	26.17	4000	J
19.	UNKNOWN COMPOUND	26.47	1300	J
20.	UNKNOWN COMPOUND	27.06	820	J
21.	UNKNOWN COMPOUND	27.12	900	J

JDY 6-2-89

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JD419

Lab Name: SWL - TULSA Contract: 68-01-7392

Lab Code: AATS Case No.: 11739 SAS No.: _____ SDG No.: JD410

Matrix: (soil/water) SOIL Lab Sample ID: 25840

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

Level: (low/med) LOW Date Received: 04/15/89

% Moisture: not dec. 8 dec. ____ Date Extracted: 04/26/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 05/10/89

GPC Cleanup: (Y/N) N pH: 7.4 Dilution Factor: 5.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
319-84-6	alpha-BHC	43	U J
319-85-7	beta-BHC	43	U
319-86-8	delta-BHC	43	U
58-89-9	gamma-BHC (Lindane)	43	U
76-44-8	Heptachlor	43	U
309-00-2	Aldrin	43	U
1024-57-3	Heptachlor epoxide	43	U
959-98-8	Endosulfan I	43	U
60-57-1	Dieldrin	87	U
72-55-9	4,4'-DDE	87	U
72-20-8	Endrin	87	U
33213-65-9	Endosulfan II	87	U
72-54-8	4,4'-DDD	87	U
1031-07-8	Endosulfan sulfate	87	U
50-29-3	4,4'-DDT	87	U 2
72-43-5	Methoxychlor	430	U J
53494-70-5	Endrin ketone	87	U
5103-71-9	alpha-Chlordane	430	U
5103-74-2	gamma-Chlordane	430	U
8001-35-2	Toxaphene	870	U
12674-11-2	Aroclor-1016	430	U
11104-28-2	Aroclor-1221	430	U
11141-16-5	Aroclor-1232	430	U
53469-21-9	Aroclor-1242	430	U
12672-29-6	Aroclor-1248	430	U
11097-69-1	Aroclor-1254	870	U
11096-82-5	Aroclor-1260	5200	

JOY 6-2-89

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1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JD420

Lab Name: SWL - TULSA Contract: 68-01-7392

Lab Code: AATS Case No.: 11739 SAS No.: _____ SDG No.: JD410

Matrix: (soil/water) SOIL Lab Sample ID: 25841

Sample wt/vol: 30.0 (g/mL) G Lab File ID: 25841

Level: (low/med) LOW Date Received: 04/15/89

% Moisture: not dec. 5 dec. ____ Date Extracted: 04/26/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 05/10/89

GPC Cleanup: (Y/N) Y pH: 7.6 Dilution Factor: 1.0

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

CAS NO.	COMPOUND		Q
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
108-60-1	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	3400	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	3400	U
91-58-7	2-Chloronaphthalene	690	U
88-74-4	2-Nitroaniline	3400	U
131-11-3	Dimethyl Phthalate	690	U
208-96-8	Acenaphthylene	690	U
606-20-2	2,6-Dinitrotoluene	690	U

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1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JD420

Lab Name: SWL - TULSA Contract: 68-01-7392

Lab Code: AATS Case No.: 11739 SAS No.: _____ SDG No.: JD410

Matrix: (soil/water) SOIL Lab Sample ID: 25841

Sample wt/vol: 30.0 (g/mL) G Lab File ID: 25841

Level: (low/med) LOW Date Received: 04/15/89

% Moisture: not dec. 5 dec. ____ Date Extracted: 04/26/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 05/10/89

GPC Cleanup: (Y/N) Y pH: 7.6 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
99-09-2	3-Nitroaniline	3400	U J
83-32-9	Acenaphthene	690	U
51-28-5	2,4-Dinitrophenol	3400	U
100-02-7	4-Nitrophenol	3400	U
132-64-9	Dibenzofuran	690	U
121-14-2	2,4-Dinitrotoluene	690	U
84-66-2	Diethylphthalate	690	U
7005-72-3	4-Chlorophenyl-phenylether	690	U
86-73-7	Fluorene	690	U
100-01-6	4-Nitroaniline	3400	U
534-52-1	4,6-Dinitro-2-Methylphenol	3400	U
86-30-6	N-Nitrosodiphenylamine (1)	690	U
101-55-3	4-Bromophenyl-phenylether	690	U
118-74-1	Hexachlorobenzene	690	U
87-86-5	Pentachlorophenol	3400	U
85-01-8	Phenanthrene	690	U
120-12-7	Anthracene	690	U
84-74-2	Di-n-Butylphthalate	690	U
206-44-0	Fluoranthene	690	U
129-00-0	Pyrene	690	U
85-68-7	Butylbenzylphthalate	690	U
91-94-1	3,3'-Dichlorobenzidine	1400	U
56-55-3	Benzo(a)Anthracene	690	U
218-01-9	Chrysene	690	U
117-81-7	bis(2-Ethylhexyl)Phthalate	790	
117-84-0	Di-n-Octyl Phthalate	690	U
205-99-2	Benzo(b)Fluoranthene	690	U
207-08-9	Benzo(k)Fluoranthene	690	U
50-32-8	Benzo(a)Pyrene	690	U
193-39-5	Indeno(1,2,3-cd)Pyrene	690	U
53-70-3	Dibenz(a,h)Anthracene	690	U
191-24-2	Benzo(g,h,i)Perylene	690	U

(1) - Cannot be separated from Diphenylamine

10/5/89

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

JD420

Lab Name: SWL - TULSA Contract: 68-01-7392

Lab Code: AATS Case No.: 11739 SAS No.: _____ SDG No.: JD410

Matrix: (soil/water) SOIL Lab Sample ID: 25841

Sample wt/vol: 30.0 (g/mL) G Lab File ID: 25841

Level: (low/med) LOW Date Received: 04/15/89

% Moisture: not dec. 5 dec. ____ Date Extracted: 04/26/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 05/10/89

GPC Cleanup: (Y/N) Y pH: 7.6 Dilution Factor: 1.0

Number TICs found: 20

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN COMPOUND		1000	J
2.	UNKNOWN HYDROCARBON	17.97	1300	J
3.	UNKNOWN COMPOUND	18.65	1200	J
4.	UNKNOWN HYDROCARBON	18.75	1400	J
5.	UNKNOWN COMPOUND	19.05	630	J
6.	UNKNOWN COMPOUND	19.20	1200	J
7.	UNKNOWN HYDROCARBON	19.44	1300	J
8.	UNKNOWN COMPOUND	19.55	980	J
9.	UNKNOWN HYDROCARBON	19.72	1300	J
10.	UNKNOWN COMPOUND	20.09	1400	J
11.	UNKNOWN HYDROCARBON	20.39	990	J
12.	UNKNOWN HYDROCARBON	20.60	2400	J
13.	UNKNOWN COMPOUND	20.89	1300	J
14.	UNKNOWN HYDROCARBON	21.72	690	J
15.	UNKNOWN COMPOUND	21.85	950	J
16.	UNKNOWN PNA	22.45	530	J
17.	UNKNOWN COMPOUND	25.64	770	J
18.	UNKNOWN COMPOUND	25.92	940	J
19.	UNKNOWN COMPOUND	26.17	3200	J
20.	UNKNOWN COMPOUND	26.47	1000	J

JDK 6-2-89

1D

PESTICIDE O...NICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JD420

Lab Name: SWL - TULSA Contract: 68-01-7392

Lab Code: AATS Case No.: 11739 SAS No.: _____ SDG No.: JD410

Matrix: (soil/water) SOIL Lab Sample ID: 25841

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

Level: (low/med) LOW Date Received: 04/15/89

% Moisture: not dec. 5 dec. ____ Date Extracted: 04/26/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 05/10/89

GPC Cleanup: (Y/N) N pH: 7.6 Dilution Factor: 5.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
319-84-6	alpha-BHC	42	U J
319-85-7	beta-BHC	42	U
319-86-8	delta-BHC	42	U
58-89-9	gamma-BHC (Lindane)	42	U
76-44-8	Heptachlor	42	U
309-00-2	Aldrin	42	U
1024-57-3	Heptachlor epoxide	42	U
959-98-8	Endosulfan I	42	U
60-57-1	Dieldrin	84	U
72-55-9	4,4'-DDE	84	U
72-20-8	Endrin	84	U
33213-65-9	Endosulfan II	84	U
72-54-8	4,4'-DDD	84	U
1031-07-8	Endosulfan sulfate	84	U
50-29-3	4,4'-DDT	84	U R
72-43-5	Methoxychlor	420	U J
53494-70-5	Endrin ketone	84	U
5103-71-9	alpha-Chlordane	420	U
5103-74-2	gamma-Chlordane	420	U
8001-35-2	Toxaphene	840	U
12674-11-2	Aroclor-1016	420	U
11104-28-2	Aroclor-1221	420	U
11141-16-5	Aroclor-1232	420	U
53469-21-9	Aroclor-1242	420	U
12672-29-6	Aroclor-1248	420	U
11097-69-1	Aroclor-1254	840	U
11096-82-5	Aroclor-1260	3100	J

JDK 6-5-89

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1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JD421

Lab Name: SWL - TULSA Contract: 68-01-7392

Lab Code: AATS Case No.: 11739 SAS No.: _____ SDG No.: JD410

Matrix: (soil/water) SOIL Lab Sample ID: 25842

Sample wt/vol: 30.0 (g/mL) G Lab File ID: 25842

Level: (low/med) LOW Date Received: 04/15/89

% Moisture: not dec. 18 dec. ____ Date Extracted: 04/26/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 05/10/89

GPC Cleanup: (Y/N) Y pH: 7.0 Dilution Factor: 1.0

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

CAS NO.	COMPOUND		Q
108-95-2	Phenol	800	U J
111-44-4	bis(2-Chloroethyl)Ether	800	U
95-57-8	2-Chlorophenol	800	U
541-73-1	1,3-Dichlorobenzene	800	U
106-46-7	1,4-Dichlorobenzene	800	U
100-51-6	Benzyl Alcohol	800	U
95-50-1	1,2-Dichlorobenzene	800	U
95-48-7	2-Methylphenol	800	U
108-60-1	bis(2-Chloroisopropyl)Ether	800	U
106-44-5	4-Methylphenol	800	U
621-64-7	N-Nitroso-Di-n-Propylamine	800	U
67-72-1	Hexachloroethane	800	U
98-95-3	Nitrobenzene	800	U
78-59-1	Isophorone	800	U
88-75-5	2-Nitrophenol	800	U
105-67-9	2,4-Dimethylphenol	800	U
65-85-0	Benzoic Acid	3900	U
111-91-1	bis(2-Chloroethoxy)Methane	800	U
120-83-2	2,4-Dichlorophenol	800	U
120-82-1	1,2,4-Trichlorobenzene	800	U
91-20-3	Naphthalene	800	U
106-47-8	4-Chloroaniline	800	U
87-68-3	Hexachlorobutadiene	800	U
59-50-7	4-Chloro-3-Methylphenol	800	U
91-57-6	2-Methylnaphthalene	300	J
77-47-4	Hexachlorocyclopentadiene	800	U J
88-06-2	2,4,6-Trichlorophenol	800	U
95-95-4	2,4,5-Trichlorophenol	3900	U
91-58-7	2-Chloronaphthalene	800	U
88-74-4	2-Nitroaniline	3900	U
131-11-3	Dimethyl Phthalate	800	U
208-96-8	Acenaphthylene	800	U
606-20-2	2,6-Dinitrotoluene	800	U

JDK 6-5-89

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JD421

Lab Name: SWL - TULSA Contract: 68-01-7392

Lab Code: AATS Case No.: 11739 SAS No.: _____ SDG No.: JD410

Matrix: (soil/water) SOIL Lab Sample ID: 25842

Sample wt/vol: 30.0 (g/mL) G Lab File ID: 25842

Level: (low/med) LOW Date Received: 04/15/89

% Moisture: not dec. 18 dec. ____ Date Extracted: 04/26/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 05/10/89

GPC Cleanup: (Y/N) Y pH: 7.0 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
99-09-2	3-Nitroaniline	3900	U
83-32-9	Acenaphthene	800	U
51-28-5	2,4-Dinitrophenol	3900	U
100-02-7	4-Nitrophenol	3900	U
132-64-9	Dibenzofuran	800	U
121-14-2	2,4-Dinitrotoluene	800	U
84-66-2	Diethylphthalate	800	U
7005-72-3	4-Chlorophenyl-phenylether	800	U
86-73-7	Fluorene	800	U
100-01-6	4-Nitroaniline	3900	U
534-52-1	4,6-Dinitro-2-Methylphenol	3900	U
86-30-6	N-Nitrosodiphenylamine (1)	800	U
101-55-3	4-Bromophenyl-phenylether	800	U
118-74-1	Hexachlorobenzene	800	U
87-86-5	Pentachlorophenol	3900	U
85-01-8	Phenanthrene	800	U
120-12-7	Anthracene	800	U
84-74-2	Di-n-Butylphthalate	800	U
206-44-0	Fluoranthene	800	U
129-00-0	Pyrene	800	U
85-68-7	Butylbenzylphthalate	800	U
91-94-1	3,3'-Dichlorobenzidine	1600	U
56-55-3	Benzo(a)Anthracene	800	U
218-01-9	Chrysene	800	U
117-81-7	bis(2-Ethylhexyl)Phthalate	450	J
117-84-0	Di-n-Octyl Phthalate	800	U
205-99-2	Benzo(b)Fluoranthene	800	U
207-08-9	Benzo(k)Fluoranthene	800	U
50-32-8	Benzo(a)Pyrene	800	U
193-39-5	Indeno(1,2,3-cd)Pyrene	800	U
53-70-3	Dibenz(a,h)Anthracene	800	U
191-24-2	Benzo(g,h,i)Perylene	800	U

(1) - Cannot be separated from Diphenylamine

JDY 6-2-89

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1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

JD421

Lab Name: SWL - TULSA Contract: 68-01-7392

Lab Code: AATS Case No.: 11739 SAS No.: _____ SDG No.: JD410

Matrix: (soil/water) SOIL Lab Sample ID: 25842

Sample wt/vol: 30.0 (g/mL) G Lab File ID: 25842

Level: (low/med) LOW Date Received: 04/15/89

% Moisture: not dec. 18 dec. ____ Date Extracted: 04/26/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 05/10/89

GPC Cleanup: (Y/N) Y pH: 7.0 Dilution Factor: 1.0

Number TICs found: 21

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN COMPOUND	18.54	970	J
2.	UNKNOWN COMPOUND	19.09	1300	J
3.	UNKNOWN COMPOUND	19.30	810	J
4.	UNKNOWN COMPOUND	19.39	1100	J
5.	UNKNOWN COMPOUND	19.74	1300	J
6.	UNKNOWN COMPOUND	20.02	1400	J
7.	UNKNOWN COMPOUND	20.87	1200	J
8.	UNKNOWN COMPOUND	22.02	490	J
9.	UNKNOWN COMPOUND	22.45	600	J
10.	UNKNOWN COMPOUND	24.40	530	J
11.	UNKNOWN COMPOUND	25.09	830	J
12.	UNKNOWN COMPOUND	25.44	520	J
13.	UNKNOWN COMPOUND	25.66	850	J
14.	UNKNOWN COMPOUND	25.76	540	J
15.	UNKNOWN COMPOUND	25.96	1300	J
16.	UNKNOWN COMPOUND	26.17	4500	J
17.	UNKNOWN HYDROCARBON	26.34	1300	J
18.	UNKNOWN HYDROCARBON	26.52	2100	J
19.	UNKNOWN COMPOUND	27.12	940	J
20.	UNKNOWN COMPOUND	27.79	790	J
21.	UNKNOWN COMPOUND	28.41	1000	J

DY 6-2-89

PESTICIDE ORGANICS ANALYSIS DATA SHEET

JD421

Name: SWL - TULSA Contract: 68-01-7392

Lab Code: AATS Case No.: 11739 SAS No.: _____ SDG No.: JD410

Matrix: (soil/water) SOIL Lab Sample ID: 25842

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

Level: (low/med) LOW Date Received: 04/15/89

% Moisture: not dec. 18 dec. ____ Date Extracted: 04/26/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 05/10/89

GPC Cleanup: (Y/N) N pH: 7.0 Dilution Factor: 1.000

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

CAS NO.	COMPOUND		Q
319-84-6	alpha-BHC	9.8	U J
319-85-7	beta-BHC	9.8	U
319-86-8	delta-BHC	9.8	U
58-89-9	gamma-BHC (Lindane)	9.8	U
76-44-8	Heptachlor	9.8	U
309-00-2	Aldrin	9.8	U
1024-57-3	Heptachlor epoxide	9.8	U
959-98-8	Endosulfan I	9.8	U
60-57-1	Dieldrin	20	U
72-55-9	4,4'-DDE	20	U
72-20-8	Endrin	20	U
33213-65-9	Endosulfan II	20	U
72-54-8	4,4'-DDD	20	U
1031-07-8	Endosulfan sulfate	20	U
50-29-3	4,4'-DDT	20	U R
72-43-5	Methoxychlor	98	U J
53494-70-5	Endrin ketone	20	U
5103-71-9	alpha-Chlordane	98	U
5103-74-2	gamma-Chlordane	98	U
8001-35-2	Toxaphene	200	U
12674-11-2	Aroclor-1016	98	U
11104-28-2	Aroclor-1221	98	U
11141-16-5	Aroclor-1232	98	U
53469-21-9	Aroclor-1242	98	U
12672-29-6	Aroclor-1248	98	U
11097-69-1	Aroclor-1254	200	U
11096-82-5	Aroclor-1260	600	J

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1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JD838

Lab Name: SWL - TULSA Contract: 68-01-7392

Lab Code: AATS Case No.: 11739 SAS No.: _____ SDG No.: JD410

Matrix: (soil/water) SOIL Lab Sample ID: 25843

Sample wt/vol: 30.0 (g/mL) G Lab File ID: 25843

Level: (low/med) LOW Date Received: 04/15/89

% Moisture: not dec. 19 dec. _____ Date Extracted: 04/26/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 05/10/89

GPC Cleanup: (Y/N) Y pH: 6.4 Dilution Factor: 1.0

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

CAS NO.	COMPOUND		
108-95-2	Phenol	810	U J
111-44-4	bis(2-Chloroethyl)Ether	810	U
95-57-8	2-Chlorophenol	810	U
541-73-1	1,3-Dichlorobenzene	810	U
106-46-7	1,4-Dichlorobenzene	810	U
100-51-6	Benzyl Alcohol	810	U
95-50-1	1,2-Dichlorobenzene	810	U
95-48-7	2-Methylphenol	810	U
108-60-1	bis(2-Chloroisopropyl)Ether	810	U
106-44-5	4-Methylphenol	810	U
621-64-7	N-Nitroso-Di-n-Propylamine	810	U
67-72-1	Hexachloroethane	810	U
98-95-3	Nitrobenzene	810	U
78-59-1	Isophorone	810	U
88-75-5	2-Nitrophenol	810	U
105-67-9	2,4-Dimethylphenol	810	U
65-85-0	Benzoic Acid	4000	U
111-91-1	bis(2-Chloroethoxy)Methane	810	U
120-83-2	2,4-Dichlorophenol	810	U
120-82-1	1,2,4-Trichlorobenzene	810	U
91-20-3	Naphthalene	810	U
106-47-8	4-Chloroaniline	810	U
87-68-3	Hexachlorobutadiene	810	U
59-50-7	4-Chloro-3-Methylphenol	810	U
91-57-6	2-Methylnaphthalene	810	U
77-47-4	Hexachlorocyclopentadiene	810	U
88-06-2	2,4,6-Trichlorophenol	810	U
95-95-4	2,4,5-Trichlorophenol	4000	U
91-58-7	2-Chloronaphthalene	810	U
88-74-4	2-Nitroaniline	4000	U
131-11-3	Dimethyl Phthalate	810	U
208-96-8	Acenaphthylene	810	U
606-20-2	2,6-Dinitrotoluene	810	U

JDY 7-89

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JD838

Lab Name: SWL - TULSA Contract: 68-01-7392

Lab Code: AATS Case No.: 11739 SAS No.: _____ SDG No.: JD410

Matrix: (soil/water) SOIL Lab Sample ID: 25843

Sample wt/vol: 30.0 (g/mL) G Lab File ID: 25843

Level: (low/med) LOW Date Received: 04/15/89

% Moisture: not dec. 19 dec. ____ Date Extracted: 04/26/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 05/10/89

GPC Cleanup: (Y/N) Y pH: 6.4 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
99-09-2	3-Nitroaniline	4000	U J
83-32-9	Acenaphthene	810	U
51-28-5	2,4-Dinitrophenol	4000	U
100-02-7	4-Nitrophenol	4000	U
132-64-9	Dibenzofuran	810	U
121-14-2	2,4-Dinitrotoluene	810	U
84-66-2	Diethylphthalate	810	U
7005-72-3	4-Chlorophenyl-phenylether	810	U
86-73-7	Fluorene	810	U
100-01-6	4-Nitroaniline	4000	U
534-52-1	4,6-Dinitro-2-Methylphenol	4000	U
86-30-6	N-Nitrosodiphenylamine (1)	810	U
101-55-3	4-Bromophenyl-phenylether	810	U
118-74-1	Hexachlorobenzene	810	U
87-86-5	Pentachlorophenol	4000	U
85-01-8	Phenanthrene	810	U
120-12-7	Anthracene	810	U
84-74-2	Di-n-Butylphthalate	810	U
206-44-0	Fluoranthene	810	U
129-00-0	Pyrene	810	U
85-68-7	Butylbenzylphthalate	810	U
91-94-1	3,3'-Dichlorobenzidine	1600	U
56-55-3	Benzo(a)Anthracene	810	U
218-01-9	Chrysene	810	U
117-81-7	bis(2-Ethylhexyl)Phthalate	170	J
117-84-0	Di-n-Octyl Phthalate	810	U
205-99-2	Benzo(b)Fluoranthene	810	U
207-08-9	Benzo(k)Fluoranthene	810	U
50-32-8	Benzo(a)Pyrene	810	U
193-39-5	Indeno(1,2,3-cd)Pyrene	810	U
53-70-3	Dibenz(a,h)Anthracene	810	U
191-24-2	Benzo(g,h,i)Perylene	810	U

(1) - Cannot be separated from Diphenylamine

JDY 6-2-8

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1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

JD838

Lab Name: SWL - TULSA Contract: 68-01-7392

Lab Code: AATS Case No.: 11739 SAS No.: _____ SDG No.: JD410

Matrix: (soil/water) SOIL Lab Sample ID: 25843

Sample wt/vol: 30.0 (g/mL) G Lab File ID: 25843

Level: (low/med) LOW Date Received: 04/15/89

% Moisture: not dec. 19 dec. ____ Date Extracted: 04/26/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 05/10/89

GPC Cleanup: (Y/N) Y pH: 6.4 Dilution Factor: 1.0

Number TICs found: 14

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN COMPOUND	20.05	340	J
2.	UNKNOWN HYDROCARBON	21.19	500	J
3.	UNKNOWN HYDROCARBON	21.29	790	J
4.	UNKNOWN HYDROCARBON	21.74	1400	J
5.	UNKNOWN HYDROCARBON	21.89	1100	J
6.	UNKNOWN HYDROCARBON	22.12	390	J
7.	UNKNOWN HYDROCARBON	22.37	1500	J
8.	UNKNOWN HYDROCARBON	22.50	590	J
9.	UNKNOWN COMPOUND	22.59	340	J
10.	UNKNOWN COMPOUND	22.72	550	J
11.	UNKNOWN HYDROCARBON	24.14	520	J
12.	UNKNOWN COMPOUND	26.19	910	J
13.	UNKNOWN HYDROCARBON	26.54	1200	J
14.	UNKNOWN HYDROCARBON	28.41	460	J

JDH 6-2-89

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JD838

Lab Name: SWL - TULSA Contract: 68-01-7392

Lab Code: AATS Case No.: 11739 SAS No.: _____ SDG No.: JD410

Matrix: (soil/water) SOIL Lab Sample ID: 25843

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

Level: (low/med) LOW Date Received: 04/15/89

% Moisture: not dec. 19 dec. ____ Date Extracted: 04/26/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 05/10/89

GPC Cleanup: (Y/N) N pH: 6.4 Dilution Factor: 5.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG		
319-84-6	alpha-BHC	49	U	J
319-85-7	beta-BHC	49	U	
319-86-8	delta-BHC	49	U	
58-89-9	gamma-BHC (Lindane)	49	U	
76-44-8	Heptachlor	49	U	
309-00-2	Aldrin	49	U	
1024-57-3	Heptachlor epoxide	49	U	
959-98-8	Endosulfan I	49	U	
60-57-1	Dieldrin	99	U	
72-55-9	4,4'-DDE	99	U	
72-20-8	Endrin	99	U	
33213-65-9	Endosulfan II	99	U	
72-54-8	4,4'-DDD	99	U	
1031-07-8	Endosulfan sulfate	99	U	
50-29-3	4,4'-DDT	99	U	R
72-43-5	Methoxychlor	490	U	J
53494-70-5	Endrin ketone	99	U	
5103-71-9	alpha-Chlordane	490	U	
5103-74-2	gamma-Chlordane	490	U	
8001-35-2	Toxaphene	990	U	
12674-11-2	Aroclor-1016	490	U	
11104-28-2	Aroclor-1221	490	U	
11141-16-5	Aroclor-1232	490	U	
53469-21-9	Aroclor-1242	490	U	
12672-29-6	Aroclor-1248	490	U	
11097-69-1	Aroclor-1254	1700	J	
11096-82-5	Aroclor-1260	990	U	J

JDH 6-2

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1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JD839

Lab Name: SWL - TULSA Contract: 68-01-7392

Lab Code: AATS Case No.: 11739 SAS No.: _____ SDG No.: JD410

Matrix: (soil/water) SOIL Lab Sample ID: 25844

Sample wt/vol: 30.0 (g/mL) G Lab File ID: 25844

Level: (low/med) LOW Date Received: 04/15/89

% Moisture: not dec. 20 dec. ____ Date Extracted: 04/26/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 05/10/89

GPC Cleanup: (Y/N) Y pH: 7.0 Dilution Factor: 1.0

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

CAS NO.	COMPOUND	(ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	830	U J
111-44-4	bis(2-Chloroethyl)Ether	830	U
95-57-8	2-Chlorophenol	830	U
541-73-1	1,3-Dichlorobenzene	830	U
106-46-7	1,4-Dichlorobenzene	830	U
100-51-6	Benzyl Alcohol	830	U
95-50-1	1,2-Dichlorobenzene	830	U
95-48-7	2-Methylphenol	830	U
108-60-1	bis(2-Chloroisopropyl)Ether	830	U
106-44-5	4-Methylphenol	830	U
621-64-7	N-Nitroso-Di-n-Propylamine	830	U
67-72-1	Hexachloroethane	830	U
98-95-3	Nitrobenzene	830	U
78-59-1	Isophorone	830	U
88-75-5	2-Nitrophenol	830	U
105-67-9	2,4-Dimethylphenol	830	U
65-85-0	Benzoic Acid	4000	U
111-91-1	bis(2-Chloroethoxy)Methane	830	U
120-83-2	2,4-Dichlorophenol	830	U
120-82-1	1,2,4-Trichlorobenzene	830	U
91-20-3	Naphthalene	830	U
106-47-8	4-Chloroaniline	830	U
87-68-3	Hexachlorobutadiene	830	U
59-50-7	4-Chloro-3-Methylphenol	830	U
91-57-6	2-Methylnaphthalene	830	U
77-47-4	Hexachlorocyclopentadiene	830	U
88-06-2	2,4,6-Trichlorophenol	830	U
95-95-4	2,4,5-Trichlorophenol	4000	U
91-58-7	2-Chloronaphthalene	830	U
88-74-4	2-Nitroaniline	4000	U
131-11-3	Dimethyl Phthalate	830	U
208-96-8	Acenaphthylene	830	U
606-20-2	2,6-Dinitrotoluene	830	U

JDY 6-2-89

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JD839

Lab Name: SWL - TULSA Contract: 68-01-7392

Lab Code: AATS Case No.: 11739 SAS No.: _____ SDG No.: JD410

Matrix: (soil/water) SOIL Lab Sample ID: 25844

Sample wt/vol: 30.0 (g/mL) G Lab File ID: 25844

Level: (low/med) LOW Date Received: 04/15/89

% Moisture: not dec. 20 dec. ____ Date Extracted: 04/26/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 05/10/89

GPC Cleanup: (Y/N) Y pH: 7.0 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
99-09-2	3-Nitroaniline	4000	U J
83-32-9	Acenaphthene	830	U
51-28-5	2,4-Dinitrophenol	4000	U
100-02-7	4-Nitrophenol	4000	U
132-64-9	Dibenzofuran	830	U
121-14-2	2,4-Dinitrotoluene	830	U
84-66-2	Diethylphthalate	830	U
7005-72-3	4-Chlorophenyl-phenylether	830	U
86-73-7	Fluorene	830	U
100-01-6	4-Nitroaniline	4000	U
534-52-1	4,6-Dinitro-2-Methylphenol	4000	U
86-30-6	N-Nitrosodiphenylamine (1)	830	U
101-55-3	4-Bromophenyl-phenylether	830	U
118-74-1	Hexachlorobenzene	830	U
87-86-5	Pentachlorophenol	4000	U
85-01-8	Phenanthrene	830	U
120-12-7	Anthracene	830	U
84-74-2	Di-n-Butylphthalate	830	U
206-44-0	Fluoranthene	830	U
129-00-0	Pyrene	830	U
85-68-7	Butylbenzylphthalate	830	U
91-94-1	3,3'-Dichlorobenzidine	1700	U
56-55-3	Benzo(a)Anthracene	830	U
218-01-9	Chrysene	830	U
117-81-7	bis(2-Ethylhexyl)Phthalate	830	U
117-84-0	Di-n-Octyl Phthalate	830	U
205-99-2	Benzo(b)Fluoranthene	830	U
207-08-9	Benzo(k)Fluoranthene	830	U
50-32-8	Benzo(a)Pyrene	830	U
193-39-5	Indeno(1,2,3-cd)Pyrene	830	U
53-70-3	Dibenz(a,h)Anthracene	830	U
191-24-2	Benzo(g,h,i)Perylene	830	U

(1) - Cannot be separated from Diphenylamine

JDY 6-2-8

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

JD839

Lab Name: SWL - TULSA Contract: 68-01-7392

Lab Code: AATS Case No.: 11739 SAS No.: _____ SDG No.: JD410

Matrix: (soil/water) SOIL Lab Sample ID: 25844

Sample wt/vol: 30.0 (g/mL) G Lab File ID: 25844

Level: (low/med) LOW Date Received: 04/15/89

% Moisture: not dec. 20 dec. ____ Date Extracted: 04/24/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 05/10/89

GPC Cleanup: (Y/N) Y pH: 7.0 Dilution Factor: 1.0

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

JDY 6-2-89

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JD839

Lab Name: SWL - TULSA Contract: 68-01-7392

Lab Code: AATS Case No.: 11739 SAS No.: _____ SDG No.: JD410

Matrix: (soil/water) SOIL Lab Sample ID: 25844

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

Level: (low/med) LOW Date Received: 04/15/89

% Moisture: not dec. 21 dec. _____ Date Extracted: 04/26/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 05/10/89

GPC Cleanup: (Y/N) N pH: 7.0 Dilution Factor: 1.000

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
319-84-6	alpha-BHC	10	U R
319-85-7	beta-BHC	10	U
319-86-8	delta-BHC	10	U
58-89-9	gamma-BHC (Lindane)	10	U
76-44-8	Heptachlor	10	U
309-00-2	Aldrin	10	U
1024-57-3	Heptachlor epoxide	10	U
959-98-8	Endosulfan I	10	U
60-57-1	Dieldrin	20	U
72-55-9	4,4'-DDE	20	U
72-20-8	Endrin	20	U
33213-65-9	Endosulfan II	20	U
72-54-8	4,4'-DDD	20	U
1031-07-8	Endosulfan sulfate	20	U
50-29-3	4,4'-DDT	20	U
72-43-5	Methoxychlor	100	U
53494-70-5	Endrin ketone	20	U
5103-71-9	alpha-Chlordane	100	U
5103-74-2	gamma-Chlordane	100	U
8001-35-2	Toxaphene	200	U
12674-11-2	Aroclor-1016	100	U
11104-28-2	Aroclor-1221	100	U
11141-16-5	Aroclor-1232	100	U
53469-21-9	Aroclor-1242	100	U
12672-29-6	Aroclor-1248	100	U
11097-69-1	Aroclor-1254	200	U
11096-82-5	Aroclor-1260	200	U

JDK 6-2-89

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1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JD840

Lab Name: SWL - TULSA Contract: 68-01-7392

Lab Code: AATS Case No.: 11739 SAS No.: _____ SDG No.: JD410

Matrix: (soil/water) SOIL Lab Sample ID: 25845

Sample wt/vol: 30.0 (g/mL) G Lab File ID: 25845

Level: (low/med) LOW Date Received: 04/15/89

% Moisture: not dec. 21 dec. ____ Date Extracted: 04/26/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 05/12/89

GPC Cleanup: (Y/N) Y pH: 6.6 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	840	U J
111-44-4	bis(2-Chloroethyl)Ether	840	U
95-57-8	2-Chlorophenol	840	U
541-73-1	1,3-Dichlorobenzene	840	U
106-46-7	1,4-Dichlorobenzene	840	U
100-51-6	Benzyl Alcohol	840	U
95-50-1	1,2-Dichlorobenzene	840	U
95-48-7	2-Methylphenol	840	U
108-60-1	bis(2-Chloroisopropyl)Ether	840	U
106-44-5	4-Methylphenol	840	U
621-64-7	N-Nitroso-Di-n-Propylamine	840	U
67-72-1	Hexachloroethane	840	U
98-95-3	Nitrobenzene	840	U
78-59-1	Isophorone	840	U
88-75-5	2-Nitrophenol	840	U
105-67-9	2,4-Dimethylphenol	840	U
65-85-0	Benzoic Acid	4100	U
111-91-1	bis(2-Chloroethoxy)Methane	840	U
120-83-2	2,4-Dichlorophenol	840	U
120-82-1	1,2,4-Trichlorobenzene	840	U
91-20-3	Naphthalene	840	U
106-47-8	4-Chloroaniline	840	U
87-68-3	Hexachlorobutadiene	840	U
59-50-7	4-Chloro-3-Methylphenol	840	U
91-57-6	2-Methylnaphthalene	840	U
77-47-4	Hexachlorocyclopentadiene	840	U
88-06-2	2,4,6-Trichlorophenol	840	U
95-95-4	2,4,5-Trichlorophenol	4100	U
91-58-7	2-Chloronaphthalene	840	U
88-74-4	2-Nitroaniline	4100	U
131-11-3	Dimethyl Phthalate	840	U
208-96-8	Acenaphthylene	840	U
606-20-2	2,6-Dinitrotoluene	840	U

JDK 6-2-89

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JD840

Lab Name: SWL - TULSA Contract: 68-01-7392

Lab Code: AATS Case No.: 11739 SAS No.: _____ SDG No.: JD410

Matrix: (soil/water) SOIL Lab Sample ID: 25845

Sample wt/vol: 30.0 (g/mL) G Lab File ID: 25845

Level: (low/med) LOW Date Received: 04/15/89

% Moisture: not dec. 21 dec. ____ Date Extracted: 04/26/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 05/10/89

GPC Cleanup: (Y/N) Y pH: 6.6 Dilution Factor: 1.0

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

CAS NO.	COMPOUND	Q
99-09-2	3-Nitroaniline	4100 U
83-32-9	Acenaphthene	840 U
51-28-5	2,4-Dinitrophenol	4100 U
100-02-7	4-Nitrophenol	4100 U
132-64-9	Dibenzofuran	840 U
121-14-2	2,4-Dinitrotoluene	840 U
84-66-2	Diethylphthalate	840 U
7005-72-3	4-Chlorophenyl-phenylether	840 U
86-73-7	Fluorene	840 U
100-01-6	4-Nitroaniline	4100 U
534-52-1	4,6-Dinitro-2-Methylphenol	4100 U
86-30-6	N-Nitrosodiphenylamine (1)	840 U
101-55-3	4-Bromophenyl-phenylether	840 U
118-74-1	Hexachlorobenzene	840 U
87-86-5	Pentachlorophenol	4100 U
85-01-8	Phenanthrene	840 U
120-12-7	Anthracene	840 U
84-74-2	Di-n-Butylphthalate	840 U
206-44-0	Fluoranthene	840 U
129-00-0	Pyrene	840 U
85-68-7	Butylbenzylphthalate	840 U
91-94-1	3,3'-Dichlorobenzidine	1700 U
56-55-3	Benzo(a)Anthracene	840 U
218-01-9	Chrysene	840 U
117-81-7	bis(2-Ethylhexyl)Phthalate	840 U
117-84-0	Di-n-Octyl Phthalate	840 U
205-99-2	Benzo(b)Fluoranthene	840 U
207-08-9	Benzo(k)Fluoranthene	840 U
50-32-8	Benzo(a)Pyrene	840 U
193-39-5	Indeno(1,2,3-cd)Pyrene	840 U
53-70-3	Dibenz(a,h)Anthracene	840 U
191-24-2	Benzo(g,h,i)Perylene	840 U

(1) - Cannot be separated from Diphenylamine

JDY 6-2-89

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1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

JD840

Lab Name: SWL - TULSA Contract: 68-01-7392

Lab Code: AATS Case No.: 11739 SAS No.: _____ SDG No.: JD410

Matrix: (soil/water) SOIL Lab Sample ID: 25845

Sample wt/vol: 30.0 (g/mL) G Lab File ID: 25845

Level: (low/med) LOW Date Received: 04/15/89

% Moisture: not dec. 21 dec. ____ Date Extracted: 04/26/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 05/10/89

GPC Cleanup: (Y/N) Y pH: 6.6 Dilution Factor: 1.0

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

JCY 6-2-89

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO

JD840

Lab Name: SWL - TULSA Contract: 68-01-7392

Lab Code: AATS Case No.: 11739 SAS No.: _____ SDG No.: JD410

Matrix: (soil/water) SOIL Lab Sample ID: 25845

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

Level: (low/med) LOW Date Received: 04/15/89

% Moisture: not dec. 21 dec. ____ Date Extracted: 04/26/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 05/10/89

GPC Cleanup: (Y/N) N pH: 6.6 Dilution Factor: 1.000

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
319-84-6	alpha-BHC	10	U
319-85-7	beta-BHC	10	U
319-86-8	delta-BHC	10	U
58-89-9	gamma-BHC (Lindane)	10	U
76-44-8	Heptachlor	10	U
309-00-2	Aldrin	10	U
1024-57-3	Heptachlor epoxide	10	U
959-98-8	Endosulfan I	10	U
60-57-1	Dieldrin	20	U
72-55-9	4,4'-DDE	20	U
72-20-8	Endrin	20	U
33213-65-9	Endosulfan II	20	U
72-54-8	4,4'-DDD	20	U
1031-07-8	Endosulfan sulfate	20	U
50-29-3	4,4'-DDT	20	U
72-43-5	Methoxychlor	100	U
53494-70-5	Endrin ketone	20	U
5103-71-9	alpha-Chlordane	100	U
5103-74-2	gamma-Chlordane	100	U
8001-35-2	Toxaphene	200	U
12674-11-2	Aroclor-1016	100	U
11104-28-2	Aroclor-1221	100	U
11141-16-5	Aroclor-1232	100	U
53469-21-9	Aroclor-1242	100	U
12672-29-6	Aroclor-1248	100	U
11097-69-1	Aroclor-1254	200	U
11096-82-5	Aroclor-1260	200	U

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1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JD841

Lab Name: SWL - TULSA Contract: 68-01-7392

Lab Code: AATS Case No.: 11739 SAS No.: _____ SDG No.: JD410

Matrix: (soil/water) SOIL Lab Sample ID: 25846

Sample wt/vol: 30.0 (g/mL) G Lab File ID: 25846

Level: (low/med) LOW Date Received: 04/15/89

% Moisture: not dec. 28 dec. ____ Date Extracted: 04/26/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 05/10/89

GPC Cleanup: (Y/N) Y pH: 6.7 Dilution Factor: 1.0

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

CAS NO.	COMPOUND	Q
108-95-2	Phenol	920 U J
111-44-4	bis(2-Chloroethyl)Ether	920 U
95-57-8	2-Chlorophenol	920 U
541-73-1	1,3-Dichlorobenzene	920 U
106-46-7	1,4-Dichlorobenzene	920 U
100-51-6	Benzyl Alcohol	920 U
95-50-1	1,2-Dichlorobenzene	920 U
95-48-7	2-Methylphenol	920 U
108-60-1	bis(2-Chloroisopropyl)Ether	920 U
106-44-5	4-Methylphenol	920 U
621-64-7	N-Nitroso-Di-n-Propylamine	920 U
67-72-1	Hexachloroethane	920 U
98-95-3	Nitrobenzene	920 U
78-59-1	Isophorone	920 U
88-75-5	2-Nitrophenol	920 U
105-67-9	2,4-Dimethylphenol	920 U
65-85-0	Benzoic Acid	4400 U
111-91-1	bis(2-Chloroethoxy)Methane	920 U
120-83-2	2,4-Dichlorophenol	920 U
120-82-1	1,2,4-Trichlorobenzene	920 U
91-20-3	Naphthalene	920 U
106-47-8	4-Chloroaniline	920 U
87-68-3	Hexachlorobutadiene	920 U
59-50-7	4-Chloro-3-Methylphenol	920 U
91-57-6	2-Methylnaphthalene	920 U
77-47-4	Hexachlorocyclopentadiene	920 U
88-06-2	2,4,6-Trichlorophenol	920 U
95-95-4	2,4,5-Trichlorophenol	4400 U
91-58-7	2-Chloronaphthalene	920 U
88-74-4	2-Nitroaniline	4400 U
131-11-3	Dimethyl Phthalate	920 U
208-96-8	Acenaphthylene	920 U
606-20-2	2,6-Dinitrotoluene	920 U

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1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JD841

Lab Name: SWL - TULSA Contract: 68-01-7392

Lab Code: AATS Case No.: 11739 SAS No.: _____ SDG No.: JD410

Matrix: (soil/water) SOIL Lab Sample ID: 25846

Sample wt/vol: 30.0 (g/mL) G Lab File ID: 25846

Level: (low/med) LOW Date Received: 04/15/89

% Moisture: not dec. 28 dec. ____ Date Extracted: 04/26/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 05/10/89

GPC Cleanup: (Y/N) Y pH: 6.7 Dilution Factor: 1.0

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

CAS NO.	COMPOUND		
99-09-2	3-Nitroaniline	4400	U J
83-32-9	Acenaphthene	920	U
51-28-5	2,4-Dinitrophenol	4400	U
100-02-7	4-Nitrophenol	4400	U
132-64-9	Dibenzofuran	920	U
121-14-2	2,4-Dinitrotoluene	920	U
84-66-2	Diethylphthalate	920	U
7005-72-3	4-Chlorophenyl-phenylether	920	U
86-73-7	Fluorene	920	U
100-01-6	4-Nitroaniline	4400	U
534-52-1	4,6-Dinitro-2-Methylphenol	4400	U
86-30-6	N-Nitrosodiphenylamine (1)	920	U
101-55-3	4-Bromophenyl-phenylether	920	U
118-74-1	Hexachlorobenzene	920	U
87-86-5	Pentachlorophenol	4400	U
85-01-8	Phenanthrene	920	U
120-12-7	Anthracene	920	U
84-74-2	Di-n-Butylphthalate	920	U
206-44-0	Fluoranthene	920	U
129-00-0	Pyrene	920	U
85-68-7	Butylbenzylphthalate	920	U
91-94-1	3,3'-Dichlorobenzidine	1800	U
56-55-3	Benzo(a)Anthracene	920	U
218-01-9	Chrysene	920	U
117-81-7	bis(2-Ethylhexyl)Phthalate	920	U
117-84-0	Di-n-Octyl Phthalate	920	U
205-99-2	Benzo(b)Fluoranthene	920	U
207-08-9	Benzo(k)Fluoranthene	920	U
50-32-8	Benzo(a)Pyrene	920	U
193-39-5	Indeno(1,2,3-cd)Pyrene	920	U
53-70-3	Dibenz(a,h)Anthracene	920	U
191-24-2	Benzo(g,h,i)Perylene	920	U

(1) - Cannot be separated from Diphenylamine

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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

JD841

Lab Name: SWL - TULSA Contract: 68-01-7392

Lab Code: AATS Case No.: 11739 SAS No.: _____ SDG No.: JD410

Matrix: (soil/water) SOIL Lab Sample ID: 25846

Sample wt/vol: 30.0 (g/mL) G Lab File ID: 25846

Level: (low/med) LOW Date Received: 04/15/89

% Moisture: not dec. 28 dec. ____ Date Extracted: 04/26/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 05/10/89

GPC Cleanup: (Y/N) Y pH: 6.7 Dilution Factor: 1.0

Number TICs found: 2

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN COMPOUND	6.03	550	J
2.	UNKNOWN HYDROCARBON	26.52	1200	J

JDY 6-2-89

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO

JD841

Lab Name: SWL - TULSA Contract: 68-01-7392

Lab Code: AATS Case No.: 11739 SAS No.: _____ SDG No.: JD410

Matrix: (soil/water) SOIL Lab Sample ID: 25846

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

Level: (low/med) LOW Date Received: 04/15/89

% Moisture: not dec. 29 dec. ____ Date Extracted: 04/26/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 05/10/89

GPC Cleanup: (Y/N) N pH: 6.7 Dilution Factor: 1.000

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
319-84-6	alpha-BHC	11	U R
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	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
5103-71-9	alpha-Chlordane	110	U
5103-74-2	gamma-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

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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JD842

Lab Name: SWL - TULSA Contract: 68-01-7392

Lab Code: AATS Case No.: 11739 SAS No.: _____ SDG No.: JD410

Matrix: (soil/water) SOIL Lab Sample ID: 25847

Sample wt/vol: 30.0 (g/mL) G Lab File ID: 25847

Level: (low/med) LOW Date Received: 04/15/89

% Moisture: not dec. 17 dec. _____ Date Extracted: 04/26/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 05/10/89

GPC Cleanup: (Y/N) Y pH: 6.0 Dilution Factor: 1.0

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

CAS NO.	COMPOUND		
108-95-2	Phenol	800	U J
111-44-4	bis(2-Chloroethyl)Ether	800	U
95-57-8	2-Chlorophenol	800	U
541-73-1	1,3-Dichlorobenzene	800	U
106-46-7	1,4-Dichlorobenzene	800	U
100-51-6	Benzyl Alcohol	800	U
95-50-1	1,2-Dichlorobenzene	800	U
95-48-7	2-Methylphenol	800	U
108-60-1	bis(2-Chloroisopropyl)Ether	800	U
106-44-5	4-Methylphenol	800	U
621-64-7	N-Nitroso-Di-n-Propylamine	800	U
67-72-1	Hexachloroethane	800	U
98-95-3	Nitrobenzene	800	U
78-59-1	Isophorone	800	U
88-75-5	2-Nitrophenol	800	U
105-67-9	2,4-Dimethylphenol	800	U
65-85-0	Benzoic Acid	3900	U
111-91-1	bis(2-Chloroethoxy)Methane	800	U
120-83-2	2,4-Dichlorophenol	800	U
120-82-1	1,2,4-Trichlorobenzene	800	U
91-20-3	Naphthalene	800	U
106-47-8	4-Chloroaniline	800	U
87-68-3	Hexachlorobutadiene	800	U
59-50-7	4-Chloro-3-Methylphenol	800	U
91-57-6	2-Methylnaphthalene	800	U
77-47-4	Hexachlorocyclopentadiene	800	U
88-06-2	2,4,6-Trichlorophenol	800	U
95-95-4	2,4,5-Trichlorophenol	3900	U
91-58-7	2-Chloronaphthalene	800	U
88-74-4	2-Nitroaniline	3900	U
131-11-3	Dimethyl Phthalate	800	U
208-96-8	Acenaphthylene	800	U
606-20-2	2,6-Dinitrotoluene	800	U

JDY 6-7-89

1C

SEMIVOLATILE O NICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JD842

Lab Name: SWL - TULSA Contract: 68-01-7392

Lab Code: AATS Case No.: 11739 SAS No.: _____ SDG No.: JD410

Matrix: (soil/water) SOIL Lab Sample ID: 25847

Sample wt/vol: 30.0 (g/mL) G Lab File ID: 25847

Level: (low/med) LOW Date Received: 04/15/89

% Moisture: not dec. 17 dec. ____ Date Extracted: 04/26/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 05/10/89

GPC Cleanup: (Y/N) Y pH: 6.0 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
99-09-2	3-Nitroaniline	3900	U J
83-32-9	Acenaphthene	800	U
51-28-5	2,4-Dinitrophenol	3900	U
100-02-7	4-Nitrophenol	3900	U
132-64-9	Dibenzofuran	800	U
121-14-2	2,4-Dinitrotoluene	800	U
84-66-2	Diethylphthalate	800	U
7005-72-3	4-Chlorophenyl-phenylether	800	U
86-73-7	Fluorene	800	U
100-01-6	4-Nitroaniline	3900	U
534-52-1	4,6-Dinitro-2-Methylphenol	3900	U
86-30-6	N-Nitrosodiphenylamine (1)	800	U
101-55-3	4-Bromophenyl-phenylether	800	U
118-74-1	Hexachlorobenzene	800	U
87-86-5	Pentachlorophenol	3900	U
85-01-8	Phenanthrene	800	U
120-12-7	Anthracene	800	U
84-74-2	Di-n-Butylphthalate	800	U
206-44-0	Fluoranthene	800	U
129-00-0	Pyrene	800	U
85-68-7	Butylbenzylphthalate	250	J
91-94-1	3,3'-Dichlorobenzidine	1600	U
56-55-3	Benzo(a)Anthracene	800	U
218-01-9	Chrysene	800	U
117-81-7	bis(2-Ethylhexyl)Phthalate	800	U
117-84-0	Di-n-Octyl Phthalate	310	J
205-99-2	Benzo(b)Fluoranthene	800	U
207-08-9	Benzo(k)Fluoranthene	800	U
50-32-8	Benzo(a)Pyrene	800	U
193-39-5	Indeno(1,2,3-cd)Pyrene	800	U
53-70-3	Dibenz(a,h)Anthracene	800	U
191-24-2	Benzo(g,h,i)Perylene	800	U

(1) - Cannot be separated from Diphenylamine

JDY 6-2-8

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1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

JD942

Lab Name: SWL - TULSA Contract: 68-01-7392

Lab Code: AATS Case No.: 11739 SAS No.: _____ SDG No.: JD410

Matrix: (soil/water) SOIL Lab Sample ID: 25847

Sample wt/vol: 30.0 (g/mL) G Lab File ID: 25847

Level: (low/med) LOW Date Received: 04/15/89

% Moisture: not dec. 17 dec. _____ Date Extracted: 04/26/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 05/10/89

GPC Cleanup: (Y/N) Y pH: 6.0 Dilution Factor: 1.0

Number TICs found: 14

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN COMPOUND	3.93	350	J
2.	UNKNOWN COMPOUND	4.43	640	J
3.	UNKNOWN COMPOUND	4.57	420	J
4.	UNKNOWN COMPOUND	4.78	380	J
5.	UNKNOWN COMPOUND	5.47	320	J
6.	UNKNOWN COMPOUND	6.02	430	J
7.	UNKNOWN COMPOUND	6.50	310	J
8.	UNKNOWN COMPOUND	25.14	580	J
9.	UNKNOWN COMPOUND	25.99	660	J
10.	UNKNOWN HYDROCARBON	26.54	3000	J
11.	UNKNOWN PHTHALATE	26.86	340	J
12.	UNKNOWN HYDROCARBON	28.47	2200	J
13.	UNKNOWN COMPOUND	31.72	1200	J
14.	UNKNOWN COMPOUND	34.21	230	J

JDK 6-2-89

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JD842

Lab Name: SWL - TULSA Contract: 68-01-7392

Lab Code: AATS Case No.: 11739 SAS No.: _____ SDG No.: JD410

Matrix: (soil/water) SOIL Lab Sample ID: 25847

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

Level: (low/med) LOW Date Received: 04/15/89

% Moisture: not dec. 18 dec. ____ Date Extracted: 04/26/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 05/10/89

GPC Cleanup: (Y/N) N pH: 6.0 Dilution Factor: 1.000

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
319-84-6	alpha-BHC	9.8	U
319-85-7	beta-BHC	9.8	U
319-86-8	delta-BHC	9.8	U
58-89-9	gamma-BHC (Lindane)	9.8	U
76-44-8	Heptachlor	9.8	U
309-00-2	Aldrin	9.8	U
1024-57-3	Heptachlor epoxide	9.8	U
959-98-8	Endosulfan I	9.8	U
60-57-1	Dieldrin	20	U
72-55-9	4,4'-DDE	20	U
72-20-8	Endrin	20	U
33213-65-9	Endosulfan II	20	U
72-54-8	4,4'-DDD	20	U
1031-07-8	Endosulfan sulfate	20	U
50-29-3	4,4'-DDT	20	U
72-43-5	Methoxychlor	98	U
53494-70-5	Endrin ketone	20	U
5103-71-9	alpha-Chlordane	98	U
5103-74-2	gamma-Chlordane	98	U
8001-35-2	Toxaphene	200	U
12674-11-2	Aroclor-1016	98	U
11104-28-2	Aroclor-1221	98	U
11141-16-5	Aroclor-1232	98	U
53469-21-9	Aroclor-1242	98	U
12672-29-6	Aroclor-1248	98	U
11097-69-1	Aroclor-1254	200	U
11096-82-5	Aroclor-1260	200	U

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