Hydrogen Safety Project Chemical Analysis Support Task

Window "C" Semivolatile Organic Analysis

B. M. Gillespie

R. W. Stromatt

E. W. Hoppe

March 1992

**Prepared for the U.S. Department of Energy
under Contract DE-AC06-76RLO 1830**

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HYDROGEN SAFETY PROJECT
CHEMICAL ANALYSIS SUPPORT TASK

WINDOW "C"
SEMIVOLATILE ORGANIC ANALYSIS

B. M. Gillespie
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E. W. Hoppe

March 1992

Prepared for
the U.S. Department of Energy
under Contract DE-AC06-76RLO 1830

Pacific Northwest Laboratory
Richland, Washington 99352

MASTER

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for

SUMMARY

Core samples taken from tank 101-SY at Hanford during Window "C" were analyzed for semivolatile organics by staff of the Analytical Chemistry Laboratory at Pacific Northwest Laboratory. Westinghouse Hanford Company submitted these samples as Sample Delivery Group 14.

The procedures used and the chain of custody were carefully documented. Results are reported on Contract Laboratory Program report forms as required by the Technical Project Plan 17667. The results will be used by the 101-SY Hydrogen Safety Project.

CONTRIBUTORS LIST

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RW Stromatt, Co Project Manager
BM Gillespie, Co Project Manager
BO Barnes, Quality Engineer
DR Sauer, Project Assistant

HOT CELL OPERATIONS

RT Steele, Sub-Task Leader
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ORGANIC CHEMISTRY ANALYSIS

RW Stromatt, Sub-Task Leader
EW Hoppe
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MJ Steele
WT Cobb

CERTIFICATION STATEMENT

I certify that this data package is in compliance with the terms and conditions of the TPP 17667 and QA Plan MCS-027 for completeness. Release of the data contained in this hard copy data package has been authorized by the ACL Project Manager or the Project Manager's designee, as verified by the following signature.

B. M. Gillespie

B. M. Gillespie
101-SY ACL Project Manager

12-17-91

Date

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INTRODUCTION

This data package contains the results obtained by Pacific Northwest Laboratory (PNL) staff in the characterization of samples for the 101-SY Hydrogen Safety Project. The samples were submitted for analysis by Westinghouse Hanford Company (WHC) under the Technical Project Plan (TPP) 17667 and the Quality Assurance Plan MCS-027. The analytical procedures required for analysis were defined in the Test Instructions (TI) prepared by the PNL 101-SY Analytical Chemistry Laboratory (ACL) Project Management Office in accordance with the TPP and the QA Plan.

The samples (Table 1) are from Sample Delivery Group 14 taken from Tank 241-101-SY during Window "C" after the May 1991 gas release event. They were submitted with the appropriate WHC Chain of Custody (COC) and Sample Analysis Request Forms. The samples were delivered to the "B" hot cells in the 325 Building in the 300 Area.

The requested analysis for these samples was semivolatile organic analysis. The quality control (QC) requirements for each sample are defined in the test instructions for each sample. The QC requirements outlined in the procedures and requested in the WHC SOW were followed.

The data in this package are reported on forms as per the Contract Laboratory Program (CLP) reporting format. A brief analysis report is provided along with the report forms for the solid phase analysis and the liquid phase analysis. Three appendices are provided: one for Test Instructions, one for Chain of Custody, Sample Analysis Request, and Sample Receipt Forms, and one that contains the primary organic analytical data.

TABLE 1: 101-SY Sample Numbers

<u>WHC Sample Number</u>	<u>PNL ALO Sample Number</u>
<u>Sample Delivery Group #14</u>	
#1060	92-00205
#1061	92-00206
#1062	92-00207
#1063	92-00208

ORGANIC LABORATORY ANALYST SIGNATURE LIST

<u>Analyst</u> <u>Name</u>	<u>Initials</u>	<u>Written</u> <u>Name</u>	<u>Initials</u>
Robert W. Stromatt	RWS	<u>Robert W. Stromatt</u>	<u>RWS</u>
Eric W. Hoppe	EWB	<u>Eric W. Hoppe</u>	<u>EWB</u>
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Diana L. Bellofatto	DLB	<u>Diana L. Bellofatto</u>	<u>DLB</u>
Marilyn J. Steele	MJS	<u>Marilyn J. Steele</u>	<u>MJS</u>
William T. Cobb	WTC	<u>William T. Cobb</u>	<u>WTC</u>

ANALYSIS REPORT

Semivolatile Organic Compounds

SAMPLE ANALYSIS REPORTED

Analysis of four 101-SY samples (#1060, #1061, #1062, and #1063) for semivolatile organic compounds by gas chromatography/mass spectrometry (GC/MS) is the subject of this report. Two of the samples contained a significant amount of liquid, and after consulting with WHC, these two samples were partitioned into the solid and liquid phases. The solid and liquid phases were analyzed separately.

SAMPLE DESCRIPTION AND PREPARATION

<u>Sample ID</u>	<u>ACL Lab Number</u>
#1060	92-00205
#1061	92-00206 liquid
#1061	92-00206 solid
#1062	92-00207
#1063	92-00208 liquid
#1063	92-00208 solid

The samples were received in good condition on 10/06/91.

- Extraction procedure PNL-ALO-344.
- Extraction location Lab 302 and B hot cells, 325 building
- Extraction type Sonication, medium level, soil
Separatory funnel, medium level, water
- Sample/Extract storage temperature 4°C(+/-2°)

ANALYSIS METHOD

- GC/MS procedure: PNL-ALO-345.
- GC/MS instrumentation: HP-5890/5970 GC/MS (WB38473)
- GC/MS location: Lab 325, 325 building.

The screening analysis was performed on diluted extract by GC/MS since the GC/FID normally used was not in operation. The extract from the aqueous phase was determined to need concentration and then analyzed without dilution. The extracts from the solid samples could not be concentrated because of their radioactivity, and were consequently analyzed at an effective x10 dilution.

QUALITY CONTROL

The QC features in the analytical procedure were followed as described in the following list of attached CLP forms that relate to QC and summarizes the QC results.

<u>Form</u>	<u>Information</u>	<u>Comments</u>
2D	Surrogate Recovery	Requirements were met for the method blanks, but not for any of the samples. See discussion of deviations below.
3D	MS/MSD Recovery	Matrix spike analyses were not required by the SOW or the TPP.
4B	Method Blank Summary	Requirements were met.
5B	Tune/Mass Calibration	Requirements were met.
6B,C	Initial Calibration	Requirements were met.
7B,C	Daily Calibration	Requirements were met.
8B,C	Internal Standards	Requirements were met.

The following describes deviations from QC and protocol requirements.

- Surrogate Recovery

Surrogate recovery requirements were met only for the method blanks. The base neutral surrogate recovery requirements were met for all samples. Only the acid surrogate 2,4,6-tribromophenol in the liquid phase of sample #1063 met recovery requirements. All acid surrogate compounds were totally missing from the solid phase samples. Traces of some of the acid surrogates were found in the liquid phase samples. Sample #1061 did have 2-fluoro-4-nitrophenol which was probably formed from the acid surrogate 2-fluorophenol by nitration during the solvent extraction of the acidified liquid sample. No other nitration products of the acid surrogates were found. The pH of the solid sample should be in the range of 5 to 11. The pH of the solid samples was about 14, so the acidic compounds would not be likely to extract. The preparation of liquid samples includes extraction from acidified sample as well as from the original sample, so some acid surrogate was observed in these samples.

- Matrix Spike/Matrix Spike Duplicate (MS/MSD) Recoveries

MS/MSD QC was not requested for these samples.

DATA

The sample analysis and calibration data are archived on magnetic tape in the 325 building 325 laboratory. The following is the list of the pertinent files for the sample analyses in this report.

<u>File Name</u>	<u>Sample Number</u>	<u>Sample Analyzed</u>
>JC201		Mass Calibration and Tune Check
>JC202		Daily Calibration
>JC208		Method Blank
>JC209	92-00206	#1061 Liquid
>JC210	92-00206	#1061 Liquid, Duplicate
>JC211	92-00208	#1063 Liquid
>JC212	92-00208	#1063 Liquid, Duplicate
>JC302		Mass Calibration and Tune Check
>JC303		Daily Calibration
>JC304		Method Blank, Sample #1060
>JC305		Method Blank, Sample #1061, #1062, and #1063
>JC306	92-00205	#1060 Solid
>JC307	92-00206	#1061 Solid
>JC308	92-00207	#1062 Solid
>JC309	92-00208	#1063 Solid
>JC310	92-00205	#1060 Solid, Duplicate
>JC311	92-00206	#1061 Solid, Duplicate
>JC312	92-00207	#1062 Solid, Duplicate
>JC313	92-00208	#1063 Solid, Duplicate

Laboratory data is maintained as follows:

<u>Activity</u>	<u>LRB Number</u>	<u>Page Number</u>
• GC/MS injection log	BNW-53728	120-122
• Extraction bench sheet:	filed with data in the ACL/ALO records center	
• GC/MS data, sample report:	filed with data in the ACL/ALO records center	

RESULTS

CLP Target Compounds: As seen in the attached 1B,C Forms, the only target compounds found in the #1061 and #1063 liquid samples were benzoic acid at concentrations below the "Contract Required Quantitation Limits" and di-n-butylphthalate which was also in the blank below the CRQL level. No extractable target compounds were found in the solid samples.

The following defines the Q-flags in the Form 1's

<u>"Q" Flag</u>	<u>Definition</u>
U	Indicates the compound was analyzed for but not detected, the U-flagged concentration is the Contract Required Quantitation Limit.
J	Indicates an estimated value for target and tentatively identified compounds, spectra meet criteria but response is below Contract Required Quantitation Limit for the target compounds.
B	Indicates compound was found in the blank.
X	Indicates compound was manually deleted because all requirements were not met.
D	Indicates analysis was performed on a diluted sample.
E	Indicates that quantitation was outside of the calibration range.
A	Aldol condensation product.

Tentatively Identified Compounds (TIC): The attached 1F Forms show results for the TIC's. Concentration estimates for the TIC's are made assuming that the response factor for each TIC is one. The peak area for each TIC is then compared to the area of the nearest internal standard (for which concentrations are known) to estimate the TIC concentrations. Identification of the TIC is made by a computer search of the NIST mass spectral library to attempt a match with the spectrum of each of the TIC's. The TIC's reported as "Unknown" did not have satisfactory matches with library spectra. The TIC concentration estimate and identification are reported only if the TIC peak area is 10% or greater than the nearest internal standard peak area.

The method blank liquid sample extracted in the "A" hot cells had three TIC's; the unknown phthalate was likely contamination from a plastic, and the hexanedioic acid ester and triphenyl phosphine oxide are probably from the lab renovation activities in the 325 building. The remaining TIC's in the liquid samples are believed to be native to the sample except for the 2-fluoro-4-nitrophenol which is probably a nitration product of the acid surrogate 2-fluorophenol. No TIC's were observed in the solid sample extracts.

COMMENTS

- The liquid samples were extracted in the hot cells, and the extracts were transferred to lab 302. The unconcentrated extracts were screened after additional dilution by the GC/MS. These data indicated that the

extract could be concentrated and analyzed directly. Since the extraction had significantly reduced the activity, the concentration step did not present a radiation complication for the analysis.

- The solid samples were extracted in lab 302, but in contrast to the liquid sample extracts, significant activity extracted into the organic phase. The extract could not be concentrated for the GC/MS analysis because of its activity, so in effect, the sample was diluted by x10.
- Experience with radioactive samples so far has been that the activity is associated with particulates which can be removed by filtration or centrifugation. Very little reduction of activity was accomplished by these actions on the solid sample extracts. Possible explanations could be that the particulates were very small (colloidal), or that the radionuclide(s) was extracted into the organic phase as a complex.
- The extracts of the solid samples did not have observable semivolatile organics, but there was a significant increase in the chromatographic baseline at high retention time (ie, higher temperatures). It is likely that considerable nonvolatile organics are present in these samples as evidenced by the relatively large TOC (total organic carbon) values and the lack of observable semivolatile or volatile organics. The nonvolatiles may have deposited in the GC injection port, and some of the degradation products contributed to the increased baseline. The mass spectra along the base line does indicate CO₂ and column degradation. This may provide yet another explanation of the loss of the acid surrogates.
- As mentioned in the surrogate recovery discussions, the extraction from this highly basic solid sample may reduce the extraction of acidic compounds. Consequently, the extraction process may require modification, such as adjusting the sample pH to neutral prior to extraction.

ANALYST *PLH/Am* DATE *12-4-91* REVIEW *CS* DATE *12-4-91*

SOLID-PHASE ANALYSIS REPORT FORMS

The solid phase of the following samples was analyzed for semivolatile organics:

SAMPLES	#1060
	#1061
	#1062
	#1063
	#1060 DUPLICATE
	#1061 DUPLICATE
	#1062 DUPLICATE
	#1063 DUPLICATE

Results are reported on the following Contract Laboratory Program report forms:

FORMS:	1B,C,F,
	2D
	4B
	5B
	6B,C
	7B,C
	8B,C

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

Lab Name: BATTELLE-PNL

Contract: -----

MET BLANK

Lab Code: ----- Case No.: ----- SAS No.: ----- SDC No.: -----

Matrix: (soil/water) SOIL

Lab Sample ID: 1060 RR

Sample wt/vol: 1. (g/mL) G

Lab File ID: >JC304

Level: (low/med) MED

Date Received: 10/06/91

% Moisture: not dec..1 dec. --

Date Extracted: 10/16/91

Extraction: (Sepf/Cont/Sonc) SONC

Date Analyzed: 10/23/91

GPC Cleanup: (Y/N) N pH: 14

Dilution Factor: 10.0000

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg	Q
108-95-2-----	Phenol	100000.	U D
111-44-4-----	bis(2-Chloroethyl) Ether	100000.	U D
95-57-8-----	2-Chlorophenol	100000.	U D
541-73-1-----	1,3-Dichlorobenzene	100000.	U D
106-46-7-----	1,4-Dichlorobenzene	100000.	U D
100-51-6-----	Benzyl alcohol	100000.	U D
95-50-1-----	1,2-Dichlorobenzene	100000.	U D
95-48-7-----	2-Methylphenol	100000.	U D
39638-32-9-----	bis(2-chloroisopropyl) ether	100000.	U D
106-44-5-----	4-Methylphenol	100000.	U D
621-64-7-----	N-Nitroso-Di-n-propylamine	100000.	U D
67-72-1-----	Hexachloroethane	100000.	U D
98-95-3-----	Nitrobenzene	100000.	U D
78-59-1-----	Isophorone	100000.	U D
88-75-5-----	2-Nitrophenol	100000.	U D
105-67-9-----	2,4-Dimethylphenol	100000.	U D
65-85-0-----	Benzoic acid	500000.	U D
111-91-1-----	bis(2-Chloroethoxy) methane	100000.	U D
120-83-2-----	2,4-Dichlorophenol	100000.	U D
120-82-1-----	1,2,4-Trichlorobenzene	100000.	U D
91-20-3-----	Naphthalene	100000.	U D
106-47-8-----	4-Chloroaniline	100000.	U D
87-68-3-----	Hexachlorobutadiene	100000.	U D
59-50-7-----	4-Chloro-3-methylphenol	100000.	U D
91-57-6-----	2-Methylnaphthalene	100000.	U D
77-47-4-----	Hexachlorocyclopentadiene	100000.	U D
88-06-2-----	2,4,6-Trichlorophenol	100000.	U D
95-95-4-----	2,4,5-Trichlorophenol	500000.	U D
91-58-7-----	2-Chloronaphthalene	100000.	U D
88-74-4-----	2-Nitroaniline	500000.	U D
131-11-3-----	Dimethylphthalate	100000.	U D
208-96-8-----	Acenaphthylene	100000.	U D
606-20-2-----	2,6-Dinitrotoluene	100000.	U D

FORM I SV-1

1/87 Rev.

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

MET BLANK

Lab Name: BATTELLE-PNL

Contract: -----

Lab Code: ----- Case No.: ----- SAS No.: ----- SDG No.: -----

Matrix: (soil/water) SOIL

Lab Sample ID: 1060 RR

Sample wt/vol: 1. (g/mL) G

Lab File ID: >JC304

Level: (low/med) MED

Date Received: 10/06/91

% Moisture: not dec..1 dec. --

Date Extracted: 10/16/91

Extraction: (Sepf/Cont/Sonc) SONC

Date Analyzed: 10/23/91

GPC Cleanup: (Y/N) N pH: 14

Dilution Factor: 10.0000

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

CAS NO.	COMPOUND	Q
99-09-2-----	3-Nitroaniline	500000. U D
83-32-9-----	Acenaphthene	100000. U D
51-28-5-----	2,4-Dinitrophenol	500000. U D
100-02-7-----	4-Nitrophenol	500000. U D
132-64-9-----	Dibenzofuran	100000. U D
121-14-2-----	2,4-Dinitrotoluene	100000. U D
84-66-2-----	Diethylphthalate	100000. U
7005-72-3-----	4-Chlorophenyl-phenylether	100000. U D
86-73-7-----	Fluorene	100000. U D
100-01-6-----	4-Nitroaniline	500000. U D
534-52-1-----	4,6-Dinitro-2-methylphenol	500000. U D
86-30-6-----	N-Nitrosodiphenylamine (1)	100000. U D
101-55-3-----	4-Bromophenyl-phenylether	100000. U D
118-74-1-----	Hexachlorobenzene	100000. U D
87-86-5-----	Pentachlorophenol	500000. U D
85-01-8-----	Phenanthrene	100000. U D
120-12-7-----	Anthracene	100000. U D
84-74-2-----	Di-n-butylphthalate	100000. U D
206-44-0-----	Fluoranthene	100000. U D
129-00-0-----	Pyrene	100000. U D
85-68-7-----	Butylbenzylphthalate	100000. U D
91-94-1-----	3,3'-Dichlorobenzidine	200000. U D
56-55-3-----	Benzo(a)anthracene	100000. U D
218-01-9-----	Chrysene	100000. U D
117-81-7-----	bis(2-Ethylhexyl)phthalate	100000. U D
117-84-0-----	Di-n-octylphthalate	100000. U D
205-99-2-----	Benzo(b)fluoranthene	100000. U D
207-08-9-----	Benzo(k)fluoranthene	100000. U D
50-32-8-----	Benzo(a)pyrene	100000. U D
193-39-5-----	Indeno(1,2,3-cd)pyrene	100000. U D
53-70-3-----	Dibenz(a,h)anthracene	100000. U D
191-24-2-----	Benzo(g,h,i)perylene	100000. U D

(1) - Cannot be separated from Diphenylamine

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

MET BLANK

Lab Name: BATTELLE-PNL

Contract: -----

Lab Code: ----- Case No.: ----- SAS No.: ----- SDG No.: -----

Matrix: (soil/water) SOIL

Lab Sample ID: 1060 RR

Sample wt/vol: 1. (g/mL) G

Lab File ID: >JC304

Level: (low/med) MED

Date Received: 10/06/91

% Moisture: not dec..1 dec. --

Date Extracted: 10/16/91

Extraction: (Sepf/Cont/Sonc) SONC

Date Analyzed: 10/23/91

GPC Cleanup: (Y/N) N pH: --

Dilution Factor: 10.0000

Number TICs found: 1

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 791286	Phosphine oxide, triphenyl-	33.73	150000.	J
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				
11.				
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26.				
27.				
28.				
29.				
30.				

FORM I SV-TIC

1/87 Rev.

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

Lab Name: BATTELLE-PNL

Contract: -----

MET BLANK

Lab Code: ----- Case No.: ----- SAS No.: ----- SDG No.: -----

Matrix: (soil/water) SOIL

Lab Sample ID: 1061/3

Sample wt/vol: 1. (g/mL) G

Lab File ID: >JC305

Level: (low/med) MED

Date Received: 10/06/91

% Moisture: not dec..1 dec. --

Date Extracted: 10/16/91

Extraction: (Sepf/Cont/Sonc) SONC

Date Analyzed: 10/23/91

GPC Cleanup: (Y/N) N pH: --

Dilution Factor: 10.0000

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

CAS NO.	COMPOUND		
108-95-2-----	Phenol	100000.	U D
111-44-4-----	bis(2-Chloroethyl) Ether	100000.	U D
95-57-8-----	2-Chlorophenol	100000.	U D
541-73-1-----	1,3-Dichlorobenzene	100000.	U D
106-46-7-----	1,4-Dichlorobenzene	100000.	U D
100-51-6-----	Benzyl alcohol	100000.	U D
95-50-1-----	1,2-Dichlorobenzene	100000.	U D
95-48-7-----	2-Methylphenol	100000.	U D
39638-32-9-----	bis(2-chloroisopropyl) ether	100000.	U D
106-44-5-----	4-Methylphenol	100000.	U D
621-64-7-----	N-Nitroso-Di-n-propylamine	100000.	U D
67-72-1-----	Hexachloroethane	100000.	U D
98-95-3-----	Nitrobenzene	100000.	U D
78-59-1-----	Isophorone	100000.	U D
88-75-5-----	2-Nitrophenol	100000.	U D
105-67-9-----	2,4-Dimethylphenol	100000.	U D
65-85-0-----	Benzoic acid	500000.	U D
111-91-1-----	bis(2-Chloroethoxy) methane	100000.	U D
120-83-2-----	2,4-Dichlorophenol	100000.	U D
120-82-1-----	1,2,4-Trichlorobenzene	100000.	U D
91-20-3-----	Naphthalene	100000.	U D
106-47-8-----	4-Chloroaniline	100000.	U D
87-68-3-----	Hexachlorobutadiene	100000.	U D
59-50-7-----	4-Chloro-3-methylphenol	100000.	U D
91-57-6-----	2-Methylnaphthalene	100000.	U D
71-47-4-----	Hexachlorocyclopentadiene	100000.	U D
81-06-2-----	2,4,6-Trichlorophenol	100000.	U D
91-95-4-----	2,4,5-Trichlorophenol	500000.	U D
91-58-7-----	2-Chloronaphthalene	100000.	U D
88-74-4-----	2-Nitroaniline	500000.	U D
131-11-3-----	Dimethylphthalate	100000.	U D
208-96-8-----	Acenaphthylene	100000.	U D
606-20-2-----	2,6-Dinitrotoluene	100000.	U D

FORM 1 SV-1

1/87 Rev.

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

MET BLANK

Lab Name: BATTELLE-PNL Contract: -----

Lab Code: ----- Case No.: ----- SAS No.: ----- SDG No.: -----

Matrix: (soil/water) SOIL Lab Sample ID: 1061/3

Sample wt/vol: 1. (g/mL) G Lab File ID: >JC305

Level: (low/med) MED Date Received: 10/06/91

% Moisture: not dec..1 dec. -- Date Extracted: 10/16/91

Extraction: (Sepf/Cont/Sonc) SONC Date Analyzed: 10/23/91

GPC Cleanup: (Y/N) N pH:-- Dilution Factor: 10.0000

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg	Q
99-09-2-----	3-Nitroaniline	500000.	U D
83-32-9-----	Acenaphthene	100000.	U D
51-28-5-----	2,4-Dinitrophenol	500000.	U D
100-02-7-----	4-Nitrophenol	500000.	U D
132-64-9-----	Dibenzofuran	100000.	U D
121-14-2-----	2,4-Dinitrotoluene	100000.	U D
84-66-2-----	Diethylphthalate	100000.	U D
7005-72-3-----	4-Chlorophenyl-phenylether	100000.	U D
86-72-7-----	Fluorene	100000.	U D
100-6-----	4-Nitroaniline	500000.	U D
534-1-----	4,6-Dinitro-2-methylphenol	500000.	U D
86-30-----	N-Nitrosodiphenylamine (1)	100000.	U D
101-55-3-----	4-Bromophenyl-phenylether	100000.	U D
118-74-1-----	Hexachlorobenzene	100000.	U D
87-86-5-----	Pentachlorophenol	500000.	U D
85-01-8-----	Phenanthrene	100000.	U D
120-12-7-----	Anthracene	100000.	U D
84-74-2-----	Di-n-butylphthalate	100000.	U D
206-44-0-----	Fluoranthene	100000.	U D
129-00-0-----	Pyrene	100000.	U D
85-68-7-----	Butylbenzylphthalate	100000.	U D
91-94-1-----	3,3'-Dichlorobenzidine	200000.	U D
56-55-3-----	Benzo(a)anthracene	100000.	U D
218-01-9-----	Chrysene	100000.	U D
117-81-7-----	bis(2-Ethylhexyl)phthalate	100000.	U D
117-84-0-----	Di-n-octylphthalate	100000.	U D
205-99-2-----	Benzo(b)fluoranthene	100000.	U D
207-08-9-----	Benzo(k)fluoranthene	100000.	U D
50-32-8-----	Benzo(a)pyrene	100000.	U D
193-39-5-----	Indeno(1,2,3-cd)pyrene	100000.	U D
53-70-3-----	Dibenz(a,h)anthracene	100000.	U D
191-24-2-----	Benzo(g,h,i)perylene	100000.	U D

(1) - Cannot be separated from Diphenylamine

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

MET BLANK

Lab Name: BATTELLE-PNL

Contract: -----

Lab Code: ----- Case No.: ----- SAS No.: ----- SDG No.: -----

Matrix: (soil/water) SOIL

Lab Sample ID: 1061/3

Sample wt/vol: 1. (g/mL) G

Lab File ID: >JC305

Level: (low/med) MED

Date Received: 10/06/91

% Moisture: not dec..1 dec. --

Date Extracted: 10/16/91

Extraction: (Sepf/Cont/Sonc) SONC

Date Analyzed: 10/23/91

GPC Cleanup: (Y/N) N pH: --

Dilution Factor: 10.0000

Number TICs found: 1

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 791286	Phosphine oxide, triphenyl-	33.72	89000.	J
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FORM I SV-TIC

1/87 Rev.

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

101SY 1060

Lab Name: BATTELLE-PNL

Contract: -----

Lab Code: ----- Case No.: ----- SAS No.: ----- SDG No.: -----

Matrix: (soil/water) SOIL

Lab Sample ID: 92-00205

Sample wt/vol: 1.3060 (g/mL) G

Lab File ID: >JC306

Level: (low/med) MED

Date Received: 10/06/91

% Moisture: not dec.31 dec. --

Date Extracted: 10/16/91

Extraction: (Sepf/Cont/Sonc) SONC

Date Analyzed: 10/23/91

GPC Cleanup: (Y/N) N pH: 14

Dilution Factor: 10.0000

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg	Q
108-95-2-----	Phenol	110000.	U D
111-44-4-----	bis(2-Chloroethyl) Ether	110000.	U D
95-57-8-----	2-Chlorophenol	110000.	U D
541-73-1-----	1,3-Dichlorobenzene	110000.	U D
106-46-7-----	1,4-Dichlorobenzene	110000.	U D
100-51-6-----	Benzyl alcohol	110000.	U D
95-50-1-----	1,2-Dichlorobenzene	110000.	U D
95-48-7-----	2-Methylphenol	110000.	U D
39638-32-9-----	bis(2-chloroisopropyl) ether	110000.	U D
106-44-3-----	4-Methylphenol	110000.	U D
621-64-7-----	N-Nitroso-Di-n-propylamine	110000.	U D
67-72-1-----	Hexachloroethane	110000.	U D
98-95-3-----	Nitrobenzene	110000.	U D
78-59-1-----	Isophorone	110000.	U D
88-75-5-----	2-Nitrophenol	110000.	U D
105-67-9-----	2,4-Dimethylphenol	110000.	U D
65-85-0-----	Benzoic acid	550000.	U D
111-91-1-----	bis(2-Chloroethoxy) methane	110000.	U D
120-83-2-----	2,4-Dichlorophenol	110000.	U D
120-82-1-----	1,2,4-Trichlorobenzene	110000.	U D
91-20-3-----	Naphthalene	110000.	U D
106-47-8-----	4-Chloroaniline	110000.	U D
87-68-3-----	Hexachlorobutadiene	110000.	U D
59-50-7-----	4-Chloro-3-methylphenol	110000.	U D
91-57-6-----	2-Methylnaphthalene	110000.	U D
77-47-4-----	Hexachlorocyclopentadiene	110000.	U D
88-06-2-----	2,4,6-Trichlorophenol	110000.	U D
95-95-4-----	2,4,5-Trichlorophenol	550000.	U D
91-58-7-----	2-Chloronaphthalene	110000.	U D
88-74-4-----	2-Nitroaniline	550000.	U D
131-11-3-----	Dimethylphthalate	110000.	U D
208-96-8-----	Acenaphthylene	110000.	U D
606-20-2-----	2,6-Dinitrotoluene	110000.	U D

FORM 1 SV-1

1/87 Rev.

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

Lab Name: BATTELLE-PNL

Contract: -----

101SY 1060

Lab Code: ----- Case No.: ----- SAS No.: ----- SDG No.: -----

Matrix: (soil/water) SOIL

Lab Sample ID: 92-00205

Sample wt/vol: 1.3060 (g/mL) G

Lab File ID: >JC306

Level: (low/med) MED

Date Received: 10/06/91

% Moisture: not dec.31 dec. --

Date Extracted: 10/16/91

Extraction: (Sepf/Cont/Sonc) SONC

Date Analyzed: 10/23/91

GPC Cleanup: (Y/N) N pH:14

Dilution Factor: 10.0000

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg	Q
99-09-2-----	3-Nitroaniline	550000.	U D
83-32-9-----	Acenaphthene	110000.	U D
51-28-5-----	2,4-Dinitrophenol	550000.	U D
100-02-7-----	4-Nitrophenol	550000.	U D
132-64-9-----	Dibenzofuran	110000.	U D
121-14-2-----	2,4-Dinitrotoluene	110000.	U D
84-66-2-----	Diethylphthalate	110000.	U D
7005-72-3-----	4-Chlorophenyl-phenylether	110000.	U D
86-73-7-----	Fluorene	110000.	U D
100-01-6-----	4-Nitroaniline	550000.	U D
534-52-1-----	4,6-Dinitro-2-methylphenol	550000.	U D
86-30-6-----	N-Nitrosodiphenylamine (1)	110000.	U D
101-55-3-----	4-Bromophenyl-phenylether	110000.	U D
118-74-1-----	Hexachlorobenzene	110000.	U D
87-86-5-----	Pentachlorophenol	550000.	U D
85-01-8-----	Phenanthrene	110000.	U D
120-12-7-----	Anthracene	110000.	U D
84-74-2-----	Di-n-butylphthalate	110000.	U D
206-44-0-----	Fluoranthene	110000.	U D
129-00-0-----	Pyrene	110000.	U D
85-68-7-----	Butylbenzylphthalate	110000.	U D
91-94-1-----	3,3'-Dichlorobenzidine	220000.	U D
56-55-3-----	Benzo(a)anthracene	110000.	U D
218-01-9-----	Chrysene	110000.	U D
117-81-7-----	bis(2-Ethylhexyl)phthalate	110000.	U D
117-84-0-----	Di-n-octylphthalate	110000.	U D
205-99-2-----	Benzo(b)fluoranthene	110000.	U D
207-08-9-----	Benzo(k)fluoranthene	110000.	U D
50-32-8-----	Benzo(a)pyrene	110000.	U D
193-39-5-----	Indeno(1,2,3-cd)pyrene	110000.	U D
53-70-3-----	Dibenz(a,h)anthracene	110000.	U D
191-24-2-----	Benzo(g,h,i)perylene	110000.	U D

(1) - Cannot be separated from Diphenylamine

FORM I SV-2

1/87 Rev.

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

101BY 1060

Lab Name: BATTELLE-PNL

Contract: -----

Lab Code: ----- Case No.: ----- SAS No.: ----- SDQ No.: -----

Matrix: (soil/water) SOIL

Lab Sample ID: 92-00205

Sample wt/vol: 1.3060 (g/mL) G

Lab File ID: >JC306

Level: (low/med) MED

Date Received: 10/06/91

% Moisture: not dec. 31 dec. --

Date Extracted: 10/16/91

Extraction: (Sepf/Cont/Sonc) SONC

Date Analyzed: 10/23/91

GPC Cleanup: (Y/N) N pH: 14

Dilution Factor: 10.0000

Number TICs found: 1

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 791286	Phosphine oxide, triphenyl-	33.74	120000.	JB
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FORM I SV-TIC

1/87 Rev.

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

Lab Name: BATTELLE-PNL

Contract: -----

101SY 1061

Lab Code: ----- Case No.: ----- SAS No.: ----- SDG No.: -----

Matrix: (soil/water) SOIL

Lab Sample ID: 92-00206

Sample wt/vol: 1.6568 (g/mL) G

Lab File ID: >JC307

Level: (low/med) MED

Date Received: 10/06/91

% Moisture: not dec.38 dec. --

Date Extracted: 10/16/91

Extraction: (Sepf/Cont/Sonc) SONC

Date Analyzed: 10/23/91

GPC Cleanup: (Y/N) N pH: 14

Dilution Factor: 10.0000

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg	Q
108-95-2-----	Phenol	97000.	U D
111-44-4-----	bis(2-Chloroethyl) Ether	97000.	U D
95-57-8-----	2-Chlorophenol	97000.	U D
541-73-1-----	1,3-Dichlorobenzene	97000.	U D
106-46-7-----	1,4-Dichlorobenzene	97000.	U D
100-51-6-----	Benzyl alcohol	97000.	U D
95-50-1-----	1,2-Dichlorobenzene	97000.	U D
95-48-7-----	2-Methylphenol	97000.	U D
39638-32-9-----	bis(2-chloroisopropyl) ether	97000.	U D
106-44-5-----	4-Methylphenol	97000.	U D
621-64-7-----	N-Nitroso-Di-n-propylamine	97000.	U D
67-72-1-----	Hexachloroethane	97000.	U D
98-95-3-----	Nitrobenzene	97000.	U D
78-59-1-----	Isophorone	97000.	U D
88-75-5-----	2-Nitrophenol	97000.	U D
105-67-9-----	2,4-Dimethylphenol	97000.	U D
65-85-0-----	Benzoic acid	490000.	U D
111-91-1-----	bis(2-Chloroethoxy) methane	97000.	U D
120-83-2-----	2,4-Dichlorophenol	97000.	U D
120-82-1-----	1,2,4-Trichlorobenzene	97000.	U D
91-20-3-----	Naphthalene	97000.	U D
106-47-8-----	4-Chloroaniline	97000.	U D
87-68-3-----	Hexachlorobutadiene	97000.	U D
59-50-7-----	4-Chloro-3-methylphenol	97000.	U D
91-57-6-----	2-Methylnaphthalene	97000.	U D
77-47-4-----	Hexachlorocyclopentadiene	97000.	U D
88-06-2-----	2,4,6-Trichlorophenol	97000.	U D
95-95-4-----	2,4,5-Trichlorophenol	490000.	U D
91-58-7-----	2-Chloronaphthalene	97000.	U D
88-74-4-----	2-Nitroaniline	490000.	U D
131-11-3-----	Dimethylphthalate	97000.	U D
208-96-8-----	Acenaphthylene	97000.	U D
606-20-2-----	2,6-Dinitrotoluene	97000.	U D

FORM I SV-1

1/87 Rev.

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

101SY 1061

Lab Name: BATTELLE-PNL

Contract: -----

Lab Code: ----- Case No.: ----- SAS No.: ----- SDG No.: -----

Matrix: (soil/water) SOIL

Lab Sample ID: 92-00206

Sample wt/vol: 1.6568 (g/mL) G

Lab File ID: >JC307

Level: (low/med) MED

Date Received: 10/06/91

% Moisture: not dec.38 dec. --

Date Extracted: 10/16/91

Extraction: (Sepf/Cont/Sonc) SONC

Date Analyzed: 10/23/91

GPC Cleanup: (Y/N) N pH: 14

Dilution Factor: 10.0000

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg	Q
99-09-2-----	3-Nitroaniline	490000.	U D
83-32-9-----	Acenaphthene	97000.	U D
51-28-5-----	2,4-Dinitrophenol	490000.	U D
100-02-7-----	4-Nitrophenol	490000.	U D
132-64-9-----	Dibenzofuran	97000.	U D
121-14-2-----	2,4-Dinitrotoluene	97000.	U D
84-66-2-----	Diethylphthalate	97000.	U D
7005-72-3-----	4-Chlorophenyl-phenylether	97000.	U D
86-73-7-----	Fluorene	97000.	U D
100-01-6-----	4-Nitroaniline	490000.	U D
534-52-1-----	4,6-Dinitro-2-methylphenol	490000.	U D
86-30-6-----	N-Nitrosodiphenylamine (1)	97000.	U D
101-55-3-----	4-Bromophenyl-phenylether	97000.	U D
118-74-1-----	Hexachlorobenzene	97000.	U D
87-86-5-----	Pentachlorophenol	490000.	U D
85-01-8-----	Phenanthrene	97000.	U D
120-12-7-----	Anthracene	97000.	U D
84-74-2-----	Di-n-butylphthalate	97000.	U D
206-44-0-----	Fluoranthene	97000.	U D
129-00-0-----	Pyrene	97000.	U D
85-68-7-----	Butylbenzylphthalate	97000.	U D
91-94-1-----	3,3'-Dichlorobenzidine	190000.	U D
56-55-3-----	Benzo(a)anthracene	97000.	U D
218-01-9-----	Chrysene	97000.	U D
117-81-7-----	bis(2-Ethylhexyl)phthalate	97000.	U D
117-84-0-----	Di-n-octylphthalate	97000.	U D
205-99-2-----	Benzo(b)fluoranthene	97000.	U D
207-08-9-----	Benzo(k)fluoranthene	97000.	U D
50-32-8-----	Benzo(a)pyrene	97000.	U D
193-39-5-----	Indeno(1,2,3-cd)pyrene	97000.	U D
53-70-3-----	Dibenz(a,h)anthracene	97000.	U D
191-24-2-----	Benzo(g,h,i)perylene	97000.	U D

(1) - Cannot be separated from Diphenylamine

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

101SY 1061

Lab Name: BATTELLE-PNL

Contract: -----

Lab Code: ----- Case No.: ----- SAS No.: ----- SDG No.: -----

Matrix: (soil/water) SOIL

Lab Sample ID: 92-00206

Sample wt/vol: 1.6568 (g/mL) G

Lab File ID: >JC307

Level: (low/med) MED

Date Received: 10/06/91

% Moisture: not dec.38 dec. --

Date Extracted: 10/16/91

Extraction: (Sepf/Cont/Sonc) SONC

Date Analyzed: 10/23/91

GPC Cleanup: (Y/N) N pH: 14

Dilution Factor: 10.0000

Number TICs found: 1

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 791286	Phosphine oxide, triphenyl-	33.74	86000.	JB
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FORM I SV-TIC

1/87 Rev.

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

101SY 1062

Lab Name: BATTELLE-PNL Contract: -----

Lab Code: ----- Case No.: ----- SAS No.: ----- SDG No.: -----

Matrix: (soil/water) SOIL Lab Sample ID: 92-00207

Sample wt/vol: 0.9119 (g/mL) G Lab File ID: >JC308

Level: (low/med) MED Date Received: 10/06/91

% Moisture: not dec.31 dec. -- Date Extracted: 10/16/91

Extraction: (Sepf/Cont/Sonc) SONC Date Analyzed: 10/23/91

GPC Cleanup: (Y/N) N pH: 14 Dilution Factor: 10.0000

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg	Q
108-95-2-----	Phenol	160000.	U D
111-44-4-----	bis(2-Chloroethyl) Ether	160000.	U D
95-57-8-----	2-Chlorophenol	160000.	U D
541-73-1-----	1,3-Dichlorobenzene	160000.	U D
106-46-7-----	1,4-Dichlorobenzene	160000.	U D
100-51-6-----	Benzyl alcohol	160000.	U D
95-50-1-----	1,2-Dichlorobenzene	160000.	U D
95-48-7-----	2-Methylphenol	160000.	U D
39638-32-9-----	bis(2-chloroisopropyl) ether	160000.	U D
106-44-5-----	4-Methylphenol	160000.	U D
621-64-7-----	N-Nitroso-Di-n-propylamine	160000.	U D
67-72-1-----	Hexachloroethane	160000.	U D
98-95-3-----	Nitrobenzene	160000.	U D
78-59-1-----	Isophorone	160000.	U D
88-75-5-----	2-Nitrophenol	160000.	U D
105-67-9-----	2,4-Dimethylphenol	160000.	U D
65-85-0-----	Benzoic acid	790000.	U D
111-91-1-----	bis(2-Chloroethoxy) methane	160000.	U D
120-83-2-----	2,4-Dichlorophenol	160000.	U D
120-82-1-----	1,2,4-Trichlorobenzene	160000.	U D
91-20-3-----	Naphthalene	160000.	U D
106-47-8-----	4-Chloroaniline	160000.	U D
87-68-3-----	Hexachlorobutadiene	160000.	U D
59-50-7-----	4-Chloro-3-methylphenol	160000.	U D
91-57-6-----	2-Methylnaphthalene	160000.	U D
77-47-4-----	Hexachlorocyclopentadiene	160000.	U D
88-06-2-----	2,4,6-Trichlorophenol	160000.	U D
95-95-4-----	2,4,5-Trichlorophenol	790000.	U D
91-58-7-----	2-Chloronaphthalene	160000.	U D
88-74-4-----	2-Nitroaniline	790000.	U D
131-11-3-----	Dimethylphthalate	160000.	U D
208-96-8-----	Acenaphthylene	160000.	U D
606-20-2-----	2,6-Dinitrotoluene	160000.	U D

FORM I SV-1

1/87 Rev.

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

101SY 1062

Lab Name: BATTELLE-PNL Contract: -----

Lab Code: ----- Case No.: ----- SAS No.: ----- SDG No.: -----

Matrix: (soil/water) SOIL Lab Sample ID: 92-00207

Sample wt/vol: 0.9119 (g/mL) G Lab File ID: >JC308

Level: (low/med) MED Date Received: 10/06/91

% Moisture: not dec.31 dec. -- Date Extracted: 10/16/91

Extraction: (Sepf/Cont/Sonc) SONC Date Analyzed: 10/23/91

GPC Cleanup: (Y/N) N pH: 14 Dilution Factor: 10.0000

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg	Q
99-09-2-----	3-Nitroaniline	790000.	U D
83-32-9-----	Acenaphthene	160000.	U D
51-28-5-----	2,4-Dinitrophenol	790000.	U D
100-02-7-----	4-Nitrophenol	790000.	U D
132-64-9-----	Dibenzofuran	160000.	U D
121-14-2-----	2,4-Dinitrotoluene	160000.	U D
84-66-2-----	Diethylphthalate	160000.	U D
7005-72-3-----	4-Chlorophenyl-phenylether	160000.	U D
86-73-7-----	Fluorene	160000.	U D
100-01-6-----	4-Nitroaniline	790000.	U D
534-52-1-----	4,6-Dinitro-2-methylphenol	790000.	U D
86-30-6-----	N-Nitrosodiphenylamine (1)	160000.	U D
101-55-3-----	4-Bromophenyl-phenylether	160000.	U D
118-74-1-----	Hexachlorobenzene	160000.	U D
87-86-5-----	Pentachlorophenol	790000.	U D
85-01-8-----	Phenanthrene	160000.	U D
120-12-7-----	Anthracene	160000.	U D
84-74-2-----	Di-n-butylphthalate	160000.	U D
206-44-0-----	Fluoranthene	160000.	U D
129-00-0-----	Pyrene	160000.	U D
85-68-7-----	Butylbenzylphthalate	160000.	U D
91-94-1-----	3,3'-Dichlorobenzidine	320000.	U D
56-55-3-----	Benzo(a)anthracene	160000.	U D
218-01-9-----	Chrysene	160000.	U D
117-81-7-----	bis(2-Ethylhexyl)phthalate	160000.	U D
117-84-0-----	Di-n-octylphthalate	160000.	U D
205-99-2-----	Benzo(b)fluoranthene	160000.	U D
207-08-9-----	Benzo(k)fluoranthene	160000.	U D
50-32-8-----	Benzo(a)pyrene	160000.	U D
193-39-5-----	Indeno(1,2,3-cd)pyrene	160000.	U D
53-70-3-----	Dibenz(a,h)anthracene	160000.	U D
191-24-2-----	Benzo(g,h,i)perylene	160000.	U D

(1) - Cannot be separated from Diphenylamine

FORM I SV-2

1/87 Rev.

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

101SY 1062

Lab Name: BATTELLE-PNL

Contract: -----

Lab Code: ----- Case No.: ----- SAS No.: ----- SDG No.: -----

Matrix: (soil/water) SOIL

Lab Sample ID: 92-00207

Sample wt/vol: 0.9119 (g/mL) G

Lab File ID: >JC308

Level: (low/med) MED

Date Received: 10/06/91

% Moisture: not dec.31 dec. --

Date Extracted: 10/16/91

Extraction: (Sepf/Cont/Sonc) SONC

Date Analyzed: 10/23/91

GPC Cleanup: (Y/N) N pH: 14

Dilution Factor: 10.0000

Number TICs found: 1

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 791286	Phosphine oxide, triphenyl-	33.78	150000.	JB
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FORM I SV-TIC

1/87 Rev.

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

Lab Name: BATTELLE-PNL

Contract: -----

101SY 1063

Lab Code: ----- Case No.: ----- SAS No.: ----- SDG No.: -----

Matrix: (soil/water) SOIL

Lab Sample ID: 92-00208

Sample wt/vol: 1.2594 (g/mL) G

Lab File ID: >JC309

Level: (low/med) MED

Date Received: 10/06/91

% Moisture: not dec.30 dec. --

Date Extracted: 10/16/91

Extraction: (Sepf/Cont/Sonc) SONC

Date Analyzed: 10/23/91

GPC Cleanup: (Y/N) N pH: 14

Dilution Factor: 10.0000

CAS NO. COMPOUND CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/Kg Q

108-95-2-----	Phenol	110000.	U D
111-44-4-----	bis(2-Chloroethyl) Ether	110000.	U D
95-57-8-----	2-Chlorophenol	110000.	U D
541-73-1-----	1,3-Dichlorobenzene	110000.	U D
106-46-7-----	1,4-Dichlorobenzene	110000.	U D
100-51-6-----	Benzyl alcohol	110000.	U D
95-50-1-----	1,2-Dichlorobenzene	110000.	U D
95-48-7-----	2-Methylphenol	110000.	U D
39638-32-9-----	bis(2-chloroisopropyl) ether	110000.	U D
106-44-5-----	4-Methylphenol	110000.	U D
621-64-7-----	N-Nitroso-Di-n-propylamine	110000.	U D
67-72-1-----	Hexachloroethane	110000.	U D
98-95-3-----	Nitrobenzene	110000.	U D
78-59-1-----	Isophorone	110000.	U D
88-75-5-----	2-Nitrophenol	110000.	U D
105-67-9-----	2,4-Dimethylphenol	110000.	U D
65-85-0-----	Benzoic acid	570000.	U D
111-91-1-----	bis(2-Chloroethoxy) methane	110000.	U D
120-83-2-----	2,4-Dichlorophenol	110000.	U D
120-82-1-----	1,2,4-Trichlorobenzene	110000.	U D
91-20-3-----	Naphthalene	110000.	U D
106-47-8-----	4-Chloroaniline	110000.	U D
87-68-3-----	Hexachlorobutadiene	110000.	U D
59-50-7-----	4-Chloro-3-methylphenol	110000.	U D
91-57-6-----	2-Methylnaphthalene	110000.	U D
77-47-4-----	Hexachlorocyclopentadiene	110000.	U D
88-06-2-----	2,4,6-Trichlorophenol	110000.	U D
95-95-4-----	2,4,5-Trichlorophenol	570000.	U D
91-58-7-----	2-Chloronaphthalene	110000.	U D
88-74-4-----	2-Nitroaniline	570000.	U D
131-11-3-----	Dimethylphthalate	110000.	U D
208-96-8-----	Acenaphthylene	110000.	U D
606-20-2-----	2,6-Dinitrotoluene	110000.	U D

FORM I SV-1

1/87 Rev.

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

Lab Name: BATTELLE-PNL

Contract: -----

101SY 1063

Lab Code: ----- Case No.: ----- SAS No.: ----- SDG No.: -----

Matrix: (soil/water) SOIL

Lab Sample ID: 92-00208

Sample wt/vol: 1.2594 (g/mL) G

Lab File ID: >JC309

Level: (low/med) MED

Date Received: 10/06/91

% Moisture: not dec.30 dec. --

Date Extracted: 10/16/91

Extraction: (Sepf/Cont/Sonc) SONC

Date Analyzed: 10/23/91

GPC Cleanup: (Y/N) N pH:14

Dilution Factor: 10.0000

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg	Q
99-09-2-----	3-Nitroaniline	570000.	U D
83-32-9-----	Acenaphthene	110000.	U D
51-28-5-----	2,4-Dinitrophenol	570000.	U D
100-02-7-----	4-Nitrophenol	570000.	U D
132-64-9-----	Dibenzofuran	110000.	U D
121-14-2-----	2,4-Dinitrotoluene	110000.	U D
84-66-2-----	Diethylphthalate	110000.	U D
7005-72-3-----	4-Chlorophenyl-phenylether	110000.	U D
86-73-7-----	Fluorene	110000.	U D
100-01-6-----	4-Nitroaniline	570000.	U D
534-52-1-----	4,6-Dinitro-2-methylphenol	570000.	U D
86-30-6-----	N-Nitrosodiphenylamine (1)	110000.	U D
101-55-3-----	4-Bromophenyl-phenylether	110000.	U D
118-74-1-----	Hexachlorobenzene	110000.	U D
87-86-5-----	Pentachlorophenol	570000.	U D
85-01-8-----	Phenanthrene	110000.	U D
120-12-7-----	Anthracene	110000.	U D
84-74-2-----	Di-n-butylphthalate	110000.	U D
206-44-0-----	Fluoranthene	110000.	U D
129-00-0-----	Pyrene	110000.	U D
85-68-7-----	Butylbenzylphthalate	110000.	U D
91-94-1-----	3,3'-Dichlorobenzidine	230000.	U D
56-55-3-----	Benzo(a)anthracene	110000.	U D
218-01-9-----	Chrysene	110000.	U D
117-81-7-----	bis(2-Ethylhexyl)phthalate	110000.	U D
117-84-0-----	Di-n-octylphthalate	110000.	U D
205-99-2-----	Benzo(b)fluoranthene	110000.	U D
207-08-9-----	Benzo(k)fluoranthene	110000.	U D
50-32-8-----	Benzo(a)pyrene	110000.	U D
193-39-5-----	Indeno(1,2,3-cd)pyrene	110000.	U D
53-70-3-----	Dibenz(a,h)anthracene	110000.	U D
191-24-2-----	Benzo(g,h,i)perylene	110000.	U D

(1) - Cannot be separated from Diphenylamine

FORM I SV-2

1/87 Rev.

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

101SY 1063

Lab Name: BATTELLE-PNL

Contract: -----

Lab Code: ----- Case No.: ----- SAS No.: ----- SDG No.: -----

Matrix: (soil/water) SOIL

Lab Sample ID: 92-00208

Sample wt/vol: 1.2594 (g/mL) G

Lab File ID: >JC309

Level: (low/med) MED

Date Received: 10/06/91

% Moisture: not dec.30 dec. --

Date Extracted: 10/16/91

Extraction: (Sepf/Cont/Sonc) SONC

Date Analyzed: 10/23/91

GPC Cleanup: (Y/N) N pH: 14

Dilution Factor: 10.0000

Number TICs found: 1

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 791286	Phosphine oxide, triphenyl-	33.72	94000.	JB
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FORM I SV-TIC

1/87 Rev.

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

Lab Name: BATTELLE-PNL

Contract: -----

101SY 1060D

Lab Code: ----- Case No.: ----- SAS No.: ----- SDG No.: -----

Matrix: (soil/water) SOIL

Lab Sample ID: 92-00205 D

Sample wt/vol: 1.1424 (g/mL) C

Lab File ID: >JC310

Level: (low/med) MED

Date Received: 10/06/91

% Moisture: not dec.31 dec. --

Date Extracted: 10/16/91

Extraction: (Sepf/Cont/Sonc) SONC

Date Analyzed: 10/23/91

GPC Cleanup: (Y/N) N pH: 14

Dilution Factor: 10.0000

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg	Q
108-95-2-----	Phenol	130000.	U D
111-44-4-----	bis(2-Chloroethyl) Ether	130000.	U D
95-57-8-----	2-Chlorophenol	130000.	U D
541-73-1-----	1,3-Dichlorobenzene	130000.	U D
106-46-7-----	1,4-Dichlorobenzene	130000.	U D
100-51-6-----	Benzyl alcohol	130000.	U D
95-50-1-----	1,2-Dichlorobenzene	130000.	U D
95-48-7-----	2-Methylphenol	130000.	U D
39638-32-9-----	bis(2-chloroisopropyl) ether	130000.	U D
106-44-5-----	4-Methylphenol	130000.	U D
621-64-7-----	N-Nitroso-Di-n-propylamine	130000.	U D
67-72-1-----	Hexachloroethane	130000.	U D
98-95-3-----	Nitrobenzene	130000.	U D
78-59-1-----	Isophorone	130000.	U D
88-75-5-----	2-Nitrophenol	130000.	U D
105-67-9-----	2,4-Dimethylphenol	130000.	U D
65-85-0-----	Benzoic acid	630000.	U D
111-91-1-----	bis(2-Chloroethoxy) methane	130000.	U D
120-83-2-----	2,4-Dichlorophenol	130000.	U D
120-82-1-----	1,2,4-Trichlorobenzene	130000.	U D
91-20-3-----	Naphthalene	130000.	U D
106-47-8-----	4-Chloroaniline	130000.	U D
87-68-3-----	Hexachlorobutadiene	130000.	U D
59-50-7-----	4-Chloro-3-methylphenol	130000.	U D
91-57-6-----	2-Methylnaphthalene	130000.	U D
77-47-4-----	Hexachlorocyclopentadiene	130000.	U D
88-06-2-----	2,4,6-Trichlorophenol	130000.	U D
95-95-4-----	2,4,5-Trichlorophenol	630000.	U D
91-58-7-----	2-Chloronaphthalene	130000.	U D
88-74-4-----	2-Nitroaniline	630000.	U D
131-11-3-----	Dimethylphthalate	130000.	U D
208-96-8-----	Acenaphthylene	130000.	U D
606-20-2-----	2,6-Dinitrotoluene	130000.	U D

FORM 1 SV-1

1/87 Rev.

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

101SY 1060D

Lab Name: BATTELLE-PNL

Contract: -----

Lab Code: ----- Case No.: ----- SAS No.: ----- SDG No.: -----

Matrix: (soil/water) SOIL

Lab Sample ID: 92-00205 D

Sample wt/vol: 1.1424 (g/mL) G

Lab File ID: >JC310

Level: (low/med) MED

Date Received: 10/06/91

% Moisture: not dec.31 dec. --

Date Extracted: 10/16/91

Extraction: (Sepf/Cont/Sonc) SONC

Date Analyzed: 10/23/91

GPC Cleanup: (Y/N) N pH: 14

Dilution Factor: 10.0000

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg	Q
99-09-2-----	3-Nitroaniline	630000.	U D
83-32-9-----	Acenaphthene	130000.	U D
51-28-5-----	2,4-Dinitrophenol	630000.	U D
100-02-7-----	4-Nitrophenol	630000.	U D
132-64-9-----	Dibenzofuran	130000.	U D
121-14-2-----	2,4-Dinitrotoluene	130000.	U D
84-66-2-----	Diethylphthalate	130000.	U D
7005-72-3-----	4-Chlorophenyl-phenylether	130000.	U D
86-73-7-----	Fluorene	130000.	U D
100-01-6-----	4-Nitroaniline	630000.	U D
534-52-1-----	4,6-Dinitro-2-methylphenol	630000.	U D
86-30-6-----	N-Nitrosodiphenylamine (1)	130000.	U D
101-55-3-----	4-Bromophenyl-phenylether	130000.	U D
118-74-1-----	Hexachlorobenzene	130000.	U D
87-86-5-----	Pentachlorophenol	630000.	U D
85-01-8-----	Phenanthrene	130000.	U D
120-12-7-----	Anthracene	130000.	U D
84-74-2-----	Di-n-butylphthalate	130000.	U D
206-44-0-----	Fluoranthene	130000.	U D
129-00-0-----	Pyrene	130000.	U D
85-68-7-----	Butylbenzylphthalate	130000.	U D
91-94-1-----	3,3'-Dichlorobenzidine	250000.	U D
56-55-3-----	Benzo(a)anthracene	130000.	U D
218-01-9-----	Chrysene	130000.	U D
117-81-7-----	bis(2-Ethylhexyl)phthalate	130000.	U D
117-84-0-----	Di-n-octylphthalate	130000.	U D
205-99-2-----	Benzo(b)fluoranthene	130000.	U D
207-08-9-----	Benzo(k)fluoranthene	130000.	U D
50-32-8-----	Benzo(a)pyrene	130000.	U D
193-39-5-----	Indeno(1,2,3-cd)pyrene	130000.	U D
53-70-3-----	Dibenz(a,h)anthracene	130000.	U D
191-24-2-----	Benzo(g,h,i)perylene	130000.	U D

(1) - Cannot be separated from Diphenylamine

FORM I SV-2

1/87 Rev.

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

101SY 1060D

Lab Name: BATTELLE-PNL

Contract: -----

Lab Code: ----- Case No.: ----- SAS No.: ----- SDG No.: -----

Matrix: (soil/water) SOIL

Lab Sample ID: 92-00205 D

Sample wt/vol: 1.1424 (g/mL) G

Lab File ID: >JC310

Level: (low/med) MED

Date Received: 10/06/91

% Moisture: not dec.31 dec. --

Date Extracted: 10/16/91

Extraction: (Sepf/Cont/Sonc) SONC

Date Analyzed: 10/23/91

GPC Cleanup: (Y/N) N pH: 14

Dilution Factor: 10.0000

Number TICs found: 1

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 791286	Phosphine oxide, triphenyl-	33.74	82000.	JB
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FORM I SV-TIC

1/87 Rev.

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

101SY 1061D

Lab Name: BATTELLE-PNL

Contract: -----

Lab Code: ----- Case No.: ----- SAS No.: ----- SDG No.: -----

Matrix: (soil/water) SOIL

Lab Sample ID: 92-00207 D

Sample wt/vol: 1.8083 (g/mL) G

Lab File ID: >JC311

Level: (low/med) MED

Date Received: 10/06/91

% Moisture: not dec.37 dec. --

Date Extracted: 10/16/91

Extraction: (Sepf/Cont/Sonc) SOMC

Date Analyzed: 10/24/91

GPC Cleanup: (Y/N) N pH: 14

Dilution Factor: 10.0000

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg	Q
108-95-2-----	Phenol	88000.	U D
111-44-4-----	bis(2-Chloroethyl) Ether	88000.	U D
95-57-8-----	2-Chlorophenol	88000.	U D
541-73-1-----	1,3-Dichlorobenzene	88000.	U D
106-46-7-----	1,4-Dichlorobenzene	88000.	U D
100-51-6-----	Benzyl alcohol	88000.	U D
95-50-1-----	1,2-Dichlorobenzene	88000.	U D
95-48-7-----	2-Methylphenol	88000.	U D
39638-32-9-----	bis(2-chloroisopropyl) ether	88000.	U D
106-44-5-----	4-Methylphenol	88000.	U D
621-64-7-----	N-Nitroso-Di-n-propylamine	88000.	U D
67-72-1-----	Hexachloroethane	88000.	U D
98-95-3-----	Nitrobenzene	88000.	U D
78-59-1-----	Isophorone	88000.	U D
88-75-5-----	2-Nitrophenol	88000.	U D
105-67-9-----	2,4-Dimethylphenol	88000.	U D
65-85-0-----	Benzoic acid	440000.	U D
111-91-1-----	bis(2-Chloroethoxy) methane	88000.	U D
120-83-2-----	2,4-Dichlorophenol	88000.	U D
120-82-1-----	1,2,4-Trichlorobenzene	88000.	U D
91-20-3-----	Naphthalene	88000.	U D
106-47-8-----	4-Chloroaniline	88000.	U D
87-68-3-----	Hexachlorobutadiene	88000.	U D
59-50-7-----	4-Chloro-3-methylphenol	88000.	U D
91-57-6-----	2-Methylnaphthalene	88000.	U D
77-47-4-----	Hexachlorocyclopentadiene	88000.	U D
88-06-2-----	2,4,6-Trichlorophenol	88000.	U D
95-95-4-----	2,4,5-Trichlorophenol	440000.	U D
91-58-7-----	2-Chloronaphthalene	88000.	U D
88-74-4-----	2-Nitroaniline	440000.	U D
131-11-3-----	Dimethylphthalate	88000.	U D
208-96-8-----	Acenaphthylene	88000.	U D
606-20-2-----	2,6-Dinitrotoluene	88000.	U D

FORM I SV-1

1/87 Rev.

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

101SY 1061D

Lab Name: BATTELLE-PNL

Contract: -----

Lab Code: ----- Case No.: ----- SAS No.: ----- SDC No.: -----

Matrix: (soil/water) SOIL

Lab Sample ID: 92-00207 D

Sample wt/vol: 1.8083 (g/mL) G

Lab File ID: >JC311

Level: (low/med) MED

Date Received: 10/06/91

% Moisture: not dec.37 dec. --

Date Extracted: 10/16/91

Extraction: (Sepf/Cont/Sonc) SONC

Date Analyzed: 10/24/91

GPC Cleanup: (Y/N) N pH: 14

Dilution Factor: 10.0000

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg	Q
99-09-2-----	3-Nitroaniline	440000.	U D
83-32-9-----	Acenaphthene	88000.	U D
51-28-5-----	2,4-Dinitrophenol	440000.	U D
100-02-7-----	4-Nitrophenol	440000.	U D
132-64-9-----	Dibenzofuran	88000.	U D
121-14-2-----	2,4-Dinitrotoluene	88000.	U D
84-66-2-----	Diethylphthalate	88000.	U D
7005-72-3-----	4-Chlorophenyl-phenylether	88000.	U D
86-73-7-----	Fluorene	88000.	U D
100-01-6-----	4-Nitroaniline	440000.	U D
534-52-1-----	4,6-Dinitro-2-methylphenol	440000.	U D
86-30-6-----	N-Nitrosodiphenylamine (1)	88000.	U D
101-55-3-----	4-Bromophenyl-phenylether	88000.	U D
118-74-1-----	Hexachlorobenzene	88000.	U D
87-86-5-----	Pentachlorophenol	440000.	U D
85-01-8-----	Phenanthrene	88000.	U D
120-12-7-----	Anthracene	88000.	U D
84-74-2-----	Di-n-butylphthalate	88000.	U D
206-44-0-----	Fluoranthene	88000.	U D
129-00-0-----	Pyrene	88000.	U D
85-68-7-----	Butylbenzylphthalate	88000.	U D
91-94-1-----	3,3'-Dichlorobenzidine	180000.	U D
56-55-3-----	Benzo(a)anthracene	88000.	U D
218-01-9-----	Chrysene	88000.	U D
117-81-7-----	bis(2-Ethylhexyl)phthalate	88000.	U D
117-84-0-----	Di-n-octylphthalate	88000.	U D
205-99-2-----	Benzo(b)fluoranthene	88000.	U D
207-08-9-----	Benzo(k)fluoranthene	88000.	U D
50-32-8-----	Benzo(a)pyrene	88000.	U D
193-39-5-----	Indeno(1,2,3-cd)pyrene	88000.	U D
53-70-3-----	Dibenz(a,h)anthracene	88000.	U D
191-24-2-----	Benzo(g,h,i)perylene	88000.	U D

(1) - Cannot be separated from Diphenylamine

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

101SY 1061D

Lab Name: BATTELLE-PNL

Contract: -----

Lab Code: ----- Case No.: ----- SAS No.: ----- SDG No.: -----

Matrix: (soil/water) SOIL

Lab Sample ID: 92-00207 D

Sample wt/vol: 1.8083 (g/mL) G

Lab File ID: >JC311

Level: (low/med) MED

Date Received: 10/06/91

% Moisture: not dec. 37 dec. --

Date Extracted: 10/16/91

Extraction: (Sepf/Cont/Sonc) SONC

Date Analyzed: 10/24/91

GPC Cleanup: (Y/N) N pH: 14

Dilution Factor: 10.0000

Number TICs found: 2

CONCENTRATION UNITS;
(ug/L or ug/Kg) ug/Kg

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 791286	Phosphine oxide, triphenyl-	33.72	63000.	JB
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FORM I SV-TIC

1/87 Rev.

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

101SY 1062D

Lab Name: BATTELLE-PNL

Contract: -----

Lab Code: ----- Case No.: ----- SAS No.: ----- SDG No.: -----

Matrix: (soil/water) SOIL

Lab Sample ID: 92-00207 D

Sample wt/vol: 0.9819 (g/mL) G

Lab File ID: >JC312

Level: (low/med) MED

Date Received: 10/06/91

% Moisture: not dec.31 dec. --

Date Extracted: 10/16/91

Extraction: (Sepf/Cont/Sonc) SONC

Date Analyzed: 10/24/91

GPC Cleanup: (Y/N) N pH: 14

Dilution Factor: 10.0000

CAS NO. COMPOUND CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/Kg Q

108-95-2-----	Phenol	150000.	U D
111-44-4-----	bis(2-Chloroethyl) Ether	150000.	U D
95-57-8-----	2-Chlorophenol	150000.	U D
541-73-1-----	1,3-Dichlorobenzene	150000.	U D
106-46-7-----	1,4-Dichlorobenzene	150000.	U D
100-51-6-----	Benzyl alcohol	150000.	U D
95-50-1-----	1,2-Dichlorobenzene	150000.	U D
95-48-7-----	2-Methylphenol	150000.	U D
39638-32-9-----	bis(2-chloroisopropyl) ether	150000.	U D
106-44-5-----	4-Methylphenol	150000.	U D
621-64-7-----	N-Nitroso-Di-n-propylamine	150000.	U D
67-72-1-----	Hexachloroethane	150000.	U D
98-95-3-----	Nitrobenzene	150000.	U D
78-59-1-----	Isophorone	150000.	U D
88-75-5-----	2-Nitrophenol	150000.	U D
105-67-9-----	2,4-Dimethylphenol	150000.	U D
65-85-0-----	Benzoic acid	740000.	U D
111-91-1-----	bis(2-Chloroethoxy) methane	150000.	U D
120-83-2-----	2,4-Dichlorophenol	150000.	U D
120-82-1-----	1,2,4-Trichlorobenzene	150000.	U D
91-20-3-----	Naphthalene	150000.	U D
106-47-8-----	4-Chloroaniline	150000.	U D
87-68-3-----	Hexachlorobutadiene	150000.	U D
59-50-7-----	4-Chloro-3-methylphenol	150000.	U D
91-57-6-----	2-Methylnaphthalene	150000.	U D
77-47-4-----	Hexachlorocyclopentadiene	150000.	U D
88-06-2-----	2,4,6-Trichlorophenol	150000.	U D
95-95-4-----	2,4,5-Trichlorophenol	740000.	U D
91-58-7-----	2-Chloronaphthalene	150000.	U D
88-74-4-----	2-Nitroaniline	740000.	U D
131-11-3-----	Dimethylphthalate	150000.	U D
208-96-8-----	Acenaphthylene	150000.	U D
606-20-2-----	2,6-Dinitrotoluene	150000.	U D

FORM I SV-1

1/87 Rev.

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

Lab Name: BATTELLE-PNL

Contract: -----

101SY 1062D

Lab Code: ----- Case No.: ----- SAS No.: ----- SDG No.: -----

Matrix: (soil/water) SOIL

Lab Sample ID: 92-00207 D

Sample wt/vol: 0.9819 (g/mL) G

Lab File ID: >JC312

Level: (low/med) MED

Date Received: 10/06/91

% Moisture: not dec.31 dec. ---

Date Extracted: 10/16/91

Extraction: (Sepf/Cont/Sonc) SONC

Date Analyzed: 10/24/91

GPC Cleanup: (Y/N) N pH:14

Dilution Factor: 10.0000

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg	Q
99-09-2-----	3-Nitroaniline	740000.	U D
83-32-9-----	Acenaphthene	150000.	U D
51-28-5-----	2,4-Dinitrophenol	740000.	U D
100-02-7---	4-Nitrophenol	740000.	U D
232-64-9-----	Dibenzofuran	150000.	U D
121-14-2-----	2,4-Dinitrotoluene	150000.	U D
84-66-2-----	Diethylphthalate	150000.	U D
7005-72-3-----	4-Chlorophenyl-phenylether	150000.	U D
86-73-7-----	Fluorene	150000.	U D
100-01-6-----	4-Nitroaniline	740000.	U D
534-52-1-----	4,6-Dinitro-2-methylphenol	740000.	U D
86-30-6-----	N-Nitrosodiphenylamine (1)	150000.	U D
101-55-3-----	4-Bromophenyl-phenylether	150000.	U D
118-74-1-----	Hexachlorobenzene	150000.	U D
87-86-5-----	Pentachlorophenol	740000.	U D
85-01-8-----	Phenanthrene	150000.	U D
120-12-7-----	Anthracene	150000.	U D
84-74-2-----	Di-n-butylphthalate	150000.	U D
206-44-0-----	Fluoranthene	150000.	U D
129-00-0-----	Pyrene	150000.	U D
85-68-7-----	Butylbenzylphthalate	150000.	U D
91-94-1-----	3,3'-Dichlorobenzidine	300000.	U D
56-55-3-----	Benzo(a)anthracene	150000.	U D
218-01-9-----	Chrysene	150000.	U D
117-81-7-----	bis(2-Ethylhexyl)phthalate	150000.	U D
117-84-0-----	Di-n-octylphthalate	150000.	U D
205-99-2-----	Benzo(b)fluoranthene	150000.	U D
207-08-9-----	Benzo(k)fluoranthene	150000.	U D
50-32-8-----	Benzo(a)pyrene	150000.	U D
193-39-5-----	Indeno(1,2,3-cd)pyrene	150000.	U D
53-70-3-----	Dibenz(a,h)anthracene	150000.	U D
191-24-2-----	Benzo(g,h,i)perylene	150000.	U D

(1) - Cannot be separated from Diphenylamine

FORM I SV-2

1/87 Rev.

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

101SY 1062D

Lab Name: BATTELLE-PNL

Contract: -----

Lab Code: ----- Case No.: ----- SAS No.: ----- SDG No.: -----

Matrix: (soil/water) SOIL

Lab Sample ID: 92-00207 D

Sample wt/vol: 0.9819 (g/mL) G

Lab File ID: >JC312

Level: (low/med) MED

Date Received: 10/06/91

% Moisture: not dec.31 dec. --

Date Extracted: 10/16/91

Extraction: (Sepf/Cont/Sonc) SONC

Date Analyzed: 10/24/91

GPC Cleanup: (Y/N) N pH: 14

Dilution Factor: 10.0000

Number TICs found: 1

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 791286	Phosphine oxide, triphenyl-	33.71	93000.	JB
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FORM I SV-TIC

1/87 Rev.

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

Lab Name: BATTELLE-PNL

Contract: -----

101SY 1063D

Lab Code: ----- Case No.: ----- SAS No.: ----- SDG No.: -----

Matrix: (soil/water) SOIL

Lab Sample ID: 92-00208 D

Sample wt/vol: 1.4436 (g/mL) G

Lab File ID: >JC313

Level: (low/med) MED

Date Received: 10/06/91

% Moisture: not dec.30 dec. --

Date Extracted: 10/16/91

Extraction: (Sepf/Cont/Sonc) SONC

Date Analyzed: 10/24/91

GPC Cleanup: (Y/N) N pH: 14

Dilution Factor: 10.0000

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg	Q
108-95-2-----	Phenol	99000.	U D
111-44-4-----	bis(2-Chloroethyl) Ether	99000.	U D
95-57-8-----	2-Chlorophenol	99000.	U D
541-73-1-----	1,3-Dichlorobenzene	99000.	U D
106-46-7-----	1,4-Dichlorobenzene	99000.	U D
100-51-6-----	Benzyl alcohol	99000.	U D
95-50-1-----	1,2-Dichlorobenzene	99000.	U D
95-48-7-----	2-Methylphenol	99000.	U D
39638-32-9-----	bis(2-chloroisopropyl) ether	99000.	U D
106-44-5-----	4-Methylphenol	99000.	U D
621-64-7-----	N-Nitroso-Di-n-propylamine	99000.	U D
67-72-1-----	Hexachloroethane	99000.	U D
98-95-3-----	Nitrobenzene	99000.	U D
78-59-1-----	Isophorone	99000.	U D
88-75-5-----	2-Nitrophenol	99000.	U D
105-67-9-----	2,4-Dimethylphenol	99000.	U D
65-85-0-----	Benzoic acid	490000.	U D
111-91-1-----	bis(2-Chloroethoxy) methane	99000.	U D
120-83-2-----	2,4-Dichlorophenol	99000.	U D
120-82-1-----	1,2,4-Trichlorobenzene	99000.	U D
91-20-3-----	Naphthalene	99000.	U D
106-47-8-----	4-Chloroaniline	99000.	U D
87-68-3-----	Hexachlorobutadiene	99000.	U D
59-50-7-----	4-Chloro-3-methylphenol	99000.	U D
91-57-6-----	2-Methylnaphthalene	99000.	U D
77-47-4-----	Hexachlorocyclopentadiene	99000.	U D
88-06-2-----	2,4,6-Trichlorophenol	99000.	U D
95-95-4-----	2,4,5-Trichlorophenol	490000.	U D
91-58-7-----	2-Chloronaphthalene	99000.	U D
88-74-4-----	2-Nitroaniline	490000.	U D
131-11-3-----	Dimethylphthalate	99000.	U D
208-96-8-----	Acenaphthylene	99000.	U D
606-20-2-----	2,6-Dinitrotoluene	99000.	U D

FORM I SV-1

1/87 Rev.

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

101SY 1063D

Lab Name: BATTELLE-PNL

Contract: -----

Lab Code: ----- Case No.: ----- SAS No.: ----- SDG No.: -----

Matrix: (soil/water) SOIL

Lab Sample ID: 92-00208 D

Sample wt/vol: 1.4436 (g/mL) G

Lab File ID: >JC313

Level: (low/med) MED

Date Received: 10/06/91

% Moisture: not dec.30 dec. --

Date Extracted: 10/16/91

Extraction: (Sepf/Cont/Sonc) SONC

Date Analyzed: 10/24/91

GPC Cleanup: (Y/N) N pH:14

Dilution Factor: 10.0000

CAS NO. COMPOUND CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/Kg Q

99-09-2-----	3-Nitroaniline	490000.	U D
83-32-9-----	Acenaphthene	99000.	U D
51-28-5-----	2,4-Dinitrophenol	490000.	U D
100-02-7-----	4-Nitrophenol	490000.	U D
132-64-9-----	Dibenzofuran	99000.	U D
121-14-2-----	2,4-Dinitrotoluene	99000.	U D
84-66-2-----	Diethylphthalate	99000.	U D
7005-72-3-----	4-Chlorophenyl-phenylether	99000.	U D
86-73-7-----	Fluorene	99000.	U D
100-01-6-----	4-Nitroaniline	490000.	U D
534-52-1-----	4,6-Dinitro-2-methylphenol	490000.	U D
86-30-6-----	N-Nitrosodiphenylamine (1)	99000.	U D
101-55-3-----	4-Bromophenyl-phenylether	99000.	U D
118-74-1-----	Hexachlorobenzene	99000.	U D
87-86-5-----	Pentachlorophenol	490000.	U D
85-01-8-----	Phenanthrene	99000.	U D
120-12-7-----	Anthracene	99000.	U D
84-74-2-----	Di-n-butylphthalate	99000.	U D
206-44-0-----	Fluoranthene	99000.	U D
129-00-0-----	Pyrene	99000.	U D
85-68-7-----	Butylbenzylphthalate	99000.	U D
91-94-1-----	3,3'-Dichlorobenzidine	200000.	U D
56-55-3-----	Benzo(a)anthracene	99000.	U D
218-01-9-----	Chrysene	99000.	U D
117-81-7-----	bis(2-Ethylhexyl)phthalate	99000.	U D
117-84-0-----	Di-n-octylphthalate	99000.	U D
205-99-2-----	Benzo(b)fluoranthene	99000.	U D
207-08-9-----	Benzo(k)fluoranthene	99000.	U D
50-32-8-----	Benzo(a)pyrene	99000.	U D
193-39-5-----	Indeno(1,2,3-cd)pyrene	99000.	U D
53-70-3-----	Dibenz(a,h)anthracene	99000.	U D
191-24-2-----	Benzo(g,h,i)perylene	99000.	U D

(1) - Cannot be separated from Diphenylamine

FORM I SV-2

1/87 Rev.

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

101SY 1063D

Lab Name: BATTELLE-PNL

Contract: -----

Lab Code: ----- Case No.: ----- SAS No.: ----- SDG No.: -----

Matrix: (soil/water) SOIL

Lab Sample ID: 92-00208 D

Sample wt/vol: 1.4436 (g/mL) G

Lab File ID: >JC113

Level: (low/med) MED

Date Received: 10/06/91

% Moisture: not dec.30 dec. --

Date Extracted: 10/16/91

Extraction: (Sepf/Cont/Sonc) SONC

Date Analyzed: 10/24/91

GPC Cleanup: (Y/N) N pH: 14

Dilution Factor: 10.0000

Number TICs found: 1

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 791286	Phosphine oxide, triphenyl-	33.71	53000.	JB
2.				
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FORM I SV-TIC

1/87 Rev.

2D
SOIL SEMIVOLATILE SURROGATE RECOVERY

Lab Name: BATTELLE-PNL

Contract: -----

Lab Code: ----- Case No.: ----- SAS No.: ----- SDG No.: -----

Level: (low/med) MED

	EPA SAMPLE NO.	S1 (NBZ) #	S2 (FBP) #	S3 (TPH) #	S4 (PHL) #	S5 (2FP) #	S6 (TBP) #	OTHER	TOT OUT
01	MET BLANK	99	107	113	100	87	73		0
02	MET BLANK	99	106	116	100	89	80		0
03	101SY 1060	69	104	113	0 *	0 *	0 *		3
04	101SY 1061	70	107	108	0 *	0 *	0 *		3
05	101SY 1062	59	104	107	0 *	0 *	0 *		3
06	101SY 1063	75	106	106	0 *	0 *	0 *		3
07	101SY 1060	52	84	89	0 *	0 *	0 *		3
08	101SY 1061	74	100	108	0 *	0 *	0 *		3
09	101SY 1062	69	96	102	0 *	0 *	0 *		3
10	101SY 1063	66	92	98	0 *	0 *	0 *		3
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QC LIMITS

S1 (NBZ) = Nitrobenzene-d5 (23-120)
 S2 (FBP) = 2-Fluorobiphenyl (30-115)
 S3 (TPH) = Terphenyl-d14 (18-137)
 S4 (PHL) = Phenol-d5 (24-113)
 S5 (2FP) = 2-Fluorophenol (25-121)
 S6 (TBP) = 2,4,6-Tribromophenol (19-122)

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

4B
SEMIVOLATILE METHOD BLANK SUMMARY

Lab Name: BATTELLE-PNL Contract: -----
 Lab Code: ----- Case No.: ----- SAS No.: ----- SDG No.: -----
 Lab File ID: >JC304 Lab Sample ID: 1060 RR
 Date Extracted 10/16/91 Extraction: (SepF/Cont/Sonc) SONC
 Date Analyzed: 10/23/91 Time Analyzed: 17:19
 Matrix: (soil/water) SOIL Level: (low/med) MED
 Instrument ID: BNA1

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
01	101SY 1060	92-00205	>JC306	10/23/91
02				
03				
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COMMENTS:

4B
SEMIVOLATILE METHOD BLANK SUMMARY

Lab Name: BATTELLE-PNL Contract: -----
 Lab Code: ----- Case No.: ----- SAS No.: ----- SDG No.: -----
 Lab File ID: >JC305 Lab Sample ID: 1061/3
 Date Extracted 10/16/91 Extraction: (SepF/Cont/Sonc) SONC
 Date Analyzed: 10/23/91 Time Analyzed: 18:22
 Matrix: (soil/water) SOIL Level: (low/med) MED
 Instrument ID: BNA1

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
01	101SY 1061	92-00206	>JC307	10/23/91
02	101SY 1062	92-00207	>JC308	10/23/91
03	101SY 1063	92-00208	>JC309	10/23/91
04	101SY 1060D	92-00205 D	>JC310	10/23/91
05	101SY 1061D	92-00207 D	>JC311	10/24/91
06	101SY 1062D	92-00207 D	>JC312	10/24/91
07	101SY 1063D	92-00208 D	>JC313	10/24/91
08				
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COMMENTS:

5B
SEMIVOLATILE ORGANIC GC/MS TUNING AND MASS
CALIBRATION - DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: BATTELLE-PNL

Contract: -----

Lab Code: ----- Case No.: ----- SAS No.: ----- SDG No.: -----

Lab File ID: >JC302

DFTPP Injection Date: 10/23/91

Instrument ID: BNA1

DFTPP Injection Time: 15:17

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	10.0 - 60.0% of mass 198	56.8
68	Less than 2.0% of mass 69	1.0(1.2)1
69	Mass 69 relative abundance	83.
70	Less than 2.0% of mass 69	.3(.3)1
127	40.0 - 60.0% of mass 198	49.9
197	Less than 1.0% of mass 198	0.0
198	Base Peak, 100% relative abundance	100.
199	5.0 - 9.0% of mass 198	7.0
275	10.0 - 30.0% of mass 198	19.9
365	Greater than 1.00% of mass 198	2.15
441	Present, but less than mass 443	13.4
442	Greater than 40.0% of mass 198	95.3
443	17.0 - 23.0% of mass 442	18.5(19.4)2

1-Value is % mass 69

2-Value is % mass 442

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	DAILY CAL	DAILY CAL	>JC303	10/23/91	15:52
02	MET BLANK	1060 RR	>JC304	10/23/91	17:19
03	MET BLANK	1061/3	>JC305	10/23/91	18:22
04	101SY 1060	92-00205	>JC306	10/23/91	19:25
05	101SY 1061	92-00206	>JC307	10/23/91	20:28
06	101SY 1062	92-00207	>JC308	10/23/91	21:30
07	101SY 1063	92-00208	>JC309	10/23/91	22:33
08	101SY 1060D	92-00205 D	>JC310	10/23/91	23:36
09	101SY 1061D	92-00207 D	>JC311	10/24/91	0:39
10	101SY 1062D	92-00207 D	>JC312	10/24/91	1:41
11	101SY 1063D	92-00208 D	>JC313	10/24/91	2:44
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page 1 of 1

FORM V SV

1/87 Rev.

GB
SEMIVOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: BATTELLE-PNL

Contract: -----

Lab Code: ----- Case No.: ----- SAS No.: ----- SDG No.: -----

Instrument ID: BNA1 Calibration Date(s): 10/02/91 | second

Min RRF for SPCC(#) = 0.050

Max %RSD for CCC(*) = 30.0%

LAB FILE ID:		RRF20 =>JA104		RRF50 =>JA103			
RRF80 =>JA105		RRF120=>JA106		RRF160=>JA107			
COMPOUND	RRF20	RRF50	RRF80	RRF120	RRF160	RRF	% RSD
Phenol	* 2.114	1.833	2.078	1.969	1.945	1.988	5.6*
bis(2-Chloroethyl) ether	1.960	1.910	2.206	2.324	2.348	2.150	9.5
2-Chlorophenol	1.606	1.535	1.667	1.649	1.694	1.630	3.8
1,3-Dichlorobenzene	1.645	1.534	1.689	1.669	1.691	1.645	3.9
1,4-Dichlorobenzene	* 1.901	1.805	1.836	1.752	1.738	1.806	3.7*
Benzyl alcohol	1.003	.942	1.043	.989	.960	.987	4.0
1,2-Dichlorobenzene	1.714	1.618	1.706	1.575	1.463	1.615	6.4
2-Methylphenol	1.416	1.302	1.423	1.369	1.356	1.373	3.6
bis(2-chloroisopropyl) ether	1.590	1.412	1.643	1.526	1.508	1.536	5.7
4-Methylphenol	1.432	1.358	1.514	1.502	1.538	1.469	5.0
N-Nitroso-di-n-propylamine	# .634	.591	.683	.613	.613	.627	5.6#
Hexachloroethane	.821	.780	.835	.771	.755	.792	4.3
Nitrobenzene	.498	.444	.475	.446	.448	.462	5.1
Isophorone	1.026	.931	1.006	.967	.969	.980	3.8
2-Nitrophenol	* .264	.258	.267	.260	.272	.264	2.1*
2,4-Dimethylphenol	.361	.334	.340	.329	.331	.339	3.8
Benzoic acid	0.000	.209	.253	.262	.266	.248	10.6
bis(2-Chloroethoxy) methane	.632	.563	.601	.574	.572	.589	4.8
2,4-Dichlorophenol	* .361	.341	.339	.324	.321	.337	4.8*
1,2,4-Trichlorobenzene	.404	.376	.372	.349	.347	.370	6.2
Naphthalene	1.232	1.106	1.111	1.044	1.006	1.100	7.8
4-Chloroaniline	.437	.421	.514	.505	.508	.477	9.3
Hexachlorobutadiene	* .193	.183	.173	.163	.160	.174	8.0*
4-Chloro-3-methylphenol	* .365	.332	.349	.333	.339	.344	4.0*
2-Methylnaphthalene	.721	.668	.667	.634	.630	.664	5.5
Hexachlorocyclopentadiene	# .352	.381	.384	.370	.359	.369	3.8#
2,4,6-Trichlorophenol	* .442	.431	.431	.412	.409	.425	3.3*
2,4,5-Trichlorophenol	.508	.490	.488	.463	.461	.482	4.1
2-Chloronaphthalene	1.497	1.386	1.405	1.316	1.282	1.377	6.1
2-Nitroaniline	0.000	.449	.487	.464	.465	.466	3.3
Dimethylphthalate	1.655	1.580	1.638	1.575	1.576	1.605	2.4
Acenaphthylene	2.242	2.088	2.127	2.001	1.969	2.085	5.2
2,6-Dinitrotoluene	.450	.448	.468	.453	.454	.455	1.7
3-Nitroaniline	0.000	.313	.394	.438	.449	.399	15.5
Acenaphthene	* 1.305	1.201	1.207	1.140	1.106	1.192	6.4*
2,4-Dinitrophenol	# 0.000	.155	.194	.210	.228	.197	15.8#
4-Nitrophenol	# 0.000	.173	.190	.185	.192	.185	4.5#

GC
SEMIVOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: BATTELLE-PNL

Contract: -----

Lab Code: ----- Case No.: ----- SAS No.: ----- SDG No.: -----

Instrument ID: BNA1 Calibration Date(s): 10/02/91 | second

Min RRF for SPCC(%) = 0.050

Max %RSD for CCC(*) = 30.0%

LAB FILE ID:		RRF20 =>JA104		RRF50 =>JA103		RRF80 =>JA105		RRF120 =>JA106		RRF160 =>JA107	
COMPOUND		RRF20	RRF50	RRF80	RRF120	RRF160	RRF	RSD			
Dibenzofuran		1.834	1.708	1.749	1.660	1.640	1.718	4.5			
2,4-Dinitrotoluene		.564	.559	.591	.571	.572	.572	2.1			
Diethylphthalate		1.723	1.619	1.711	1.643	1.646	1.668	2.7			
4-Chlorophenyl-phenylether		.639	.605	.610	.584	.576	.603	4.1			
Fluorene		1.391	1.316	1.330	1.264	1.253	1.311	4.3			
4-Nitroaniline		0.000	.319	.333	.347	.395	.348	9.5			
4,6-Dinitro-2-methylphenol		0.000	.181	.198	.199	.201	.195	4.8			
N-Nitrosodiphenylamine (1)		.647	.597	.586	.548	.522	.580	8.3*			
4-Bromophenyl-phenylether		.237	.231	.228	.219	.218	.226	3.6			
Hexachlorobenzene		.307	.296	.291	.283	.280	.292	3.7			
Pentachlorophenol		0.000	.182	.188	.185	.190	.186	1.8*			
Phenanthrene		1.321	1.234	1.239	1.198	1.183	1.235	4.3			
Anthracene		1.329	1.242	1.263	1.206	1.185	1.245	4.5			
Di-n-butylphthalate		2.177	2.004	2.102	2.020	2.015	2.064	3.6			
Fluoranthene		1.404	1.345	1.328	1.273	1.264	1.323	4.3*			
Pyrene		2.044	1.790	1.778	1.651	1.595	1.772	9.8			
Butylbenzylphthalate		1.261	1.114	1.181	1.119	1.096	1.154	5.9			
3,3'-Dichlorobenzidine		.275	.168	.190	.199	.225	.211	19.4			
Benzo(a)anthracene		1.444	1.318	1.340	1.274	1.251	1.325	5.7			
Chrysene		1.340	1.201	1.182	1.124	1.069	1.183	8.6			
bis(2-Ethylhexyl)phthalate		1.833	1.600	1.690	1.568	1.516	1.641	7.6			
Di-n-octylphthalate		3.097	2.708	2.892	2.672	2.472	2.768	8.6*			
Benzo(b)fluoranthene		1.352	1.349	1.495	1.461	1.567	1.445	6.5			
Benzo(k)fluoranthene		1.237	1.141	1.150	1.049	1.019	1.119	7.8			
Benzo(a)pyrene		1.247	1.157	1.241	1.119	1.085	1.170	6.2*			
Indeno(1,2,3-cd)pyrene		1.094	1.068	1.169	1.139	1.146	1.123	3.6			
Dibenz(a,h)anthracene		1.132	1.092	1.119	1.022	.982	1.069	6.1			
Benzo(g,h,i)perylene		1.162	1.111	1.159	1.065	1.028	1.105	5.3			
Nitrobenzene-d5		.483	.439	.471	.451	.453	.459	3.8			
2-Fluorobiphenyl		1.509	1.417	1.402	1.310	1.269	1.382	6.8			
Terphenyl-d14		1.097	.966	.957	.878	.853	.950	10.1			
Phenol-d6		0.000	0.000	0.000	0.000	0.000	0.000	0.0			
2-Fluorophenol		1.468	1.383	1.574	1.565	1.617	1.521	6.2			
2,4,6-Tribromophenol		.130	.132	.132	.130	.129	.131	1.0			

(1) Cannot be separated from Diphenylamine

7B
SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: BATTELLE-PNL

Contract: -----

Lab Code: ----- Case No.: ----- SAS No.: ----- SDG No.: -----

Instrument ID: BNA1 Calibration Date: 10/23/91 Time: 15:52

Lab File ID: >JC303 Init. Calib. Date(s): 10/12/91 10/23/91

Min RRF50 for SPCC(%) = 0.050

Max %D for CCC(%) = 25.0%

COMPOUND	RRF	RRF50	%D
Phenol	1.988	2.097	5.5
bis(2-Chloroethyl) ether	2.150	2.296	6.8
2-Chlorophenol	1.630	1.695	4.0
1,3-Dichlorobenzene	1.645	1.665	1.2
1,4-Dichlorobenzene	1.806	1.723	4.6
Benzyl alcohol	.987	1.099	11.3
1,2-Dichlorobenzene	1.615	1.680	4.0
2-Methylphenol	1.373	1.484	8.1
bis(2-chloroisopropyl) ether	1.536	2.309	50.3
4-Methylphenol	1.469	1.573	7.1
N-Nitroso-di-n-propylamine	.627	.895	42.7
Hexachloroethane	.792	.880	11.0
Nitrobenzene	.462	.576	24.6
Isophorone	.980	1.184	20.8
2-Nitrophenol	.264	.264	.2
2,4-Dimethylphenol	.339	.340	.1
Benzoic acid	.248	.295	19.1
bis(2-Chloroethoxy) methane	.589	.660	12.1
2,4-Dichlorophenol	.337	.332	1.5
1,2,4-Trichlorobenzene	.370	.373	.9
Naphthalene	1.100	1.082	1.6
4-Chloroaniline	.477	.439	8.0
Hexachlorobutadiene	.174	.196	12.4
4-Chloro-3-methylphenol	.344	.401	16.8
2-Methylnaphthalene	.664	.660	.5
Hexachlorocyclopentadiene	.369	.437	18.3
2,4,6-Trichlorophenol	.425	.431	1.3
2,4,5-Trichlorophenol	.482	.487	1.1
2-Chloronaphthalene	1.377	1.311	4.8
2-Nitroaniline	.466	.626	34.3
Dimethylphthalate	1.605	1.646	2.6
Acenaphthylene	2.085	2.030	2.6
2,6-Dinitrotoluene	.455	.464	2.1
3-Nitroaniline	.399	.261	34.5
Acenaphthene	1.192	1.182	.8
2,4-Dinitrophenol	.197	.223	13.3
4-Nitrophenol	.185	.218	17.9

7C
SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: BATTELLE-PNL Contract: -----
 Lab Code: ----- Case No.: ----- SAS No.: ----- SDG No.: -----
 Instrument ID: BNA1 Calibration Date: 10/23/91 Time: 15:52
 Lab File ID: >JC303 Init. Calib. Date(s): 10/12/91 10/23/91
 Min RRF50 for SPCC(%) = 0.050 Max %D for CCC(*) = 25.0%

COMPOUND	RRF	RRF50	%D
Dibenzofuran	1.718	1.720	.1
2,4-Dinitrotoluene	.572	.604	5.6
Diethylphthalate	1.668	1.747	4.7
4-Chlorophenyl-phenylether	.603	.612	1.5
Fluorene	1.311	1.322	.8
4-Nitroaniline	.348	.372	6.8
4,6-Dinitro-2-methylphenol	.195	.193	1.0
N-Nitrosodiphenylamine (1) *	.580	.519	10.6 *
4-Bromophenyl-phenylether	.226	.247	9.2
Hexachlorobenzene	.297	.354	21.4
Pentachlorophenol *	.186	.225	10.8 *
Phenanthrene	1.235	1.148	7.0
Anthracene	1.245	1.166	6.4
Di-n-butylphthalate	2.064	1.958	5.1
Fluoranthene *	1.323	1.320	.2 *
Pyrene	1.772	2.215	25.0
Butylbenzylphthalate	1.154	1.081	6.3
3,3'-Dichlorobenzidine	.211	.133	36.9
Benzo(a)anthracene	1.325	1.290	2.7
Chrysene	1.183	1.096	7.3
bis(2-Ethylhexyl)phthalate	1.641	1.542	6.0
Di-n-octylphthalate *	2.768	2.299	16.9 *
Benzo(b)fluoranthene	1.445	1.196	17.2
Benzo(k)fluoranthene	1.119	.986	11.9
Benzo(a)pyrene *	1.170	1.089	6.9 *
Indeno(1,2,3-cd)pyrene	1.123	1.413	25.9
Dibenz(a,h)anthracene	1.069	1.154	7.9
Benzo(g,h,i)perylene	1.105	1.221	10.5
Nitrobenzene-d5	.459	.559	21.6
2-Fluorobiphenyl	1.382	1.327	4.0
Terphenyl-d14	.950	.927	2.4
Phenol-d6	0.000	0.000	0.0
2-Fluorophenol	1.521	1.700	11.7
2,4,6-Tribromophenol	.131	.188	44.2

(1) Cannot be separated from Diphenylamine

8B
SEMIVOLATILE INTERNAL STANDARD AREA SUMMARY

Lab Name: BATTELLE-PNL

Contract: -----

Lab Code: ----- Case No.: ----- SAS No.: ----- SDG No.: -----

Lab File ID (Standard): >JC303

Date Analyzed: 10/23/91

Instrument ID: BNA1

Time Analyzed: 15:52

	IS1 (DCB) AREA #	RT	IS2 (NPT) AREA #	RT	IS3 (ANT) AREA #	RT
=====	=====	=====	=====	=====	=====	=====
12 HOUR STD	29597.	5.68	103835.	8.56	54246.	15.59
=====	=====	=====	=====	=====	=====	=====
UPPER LIMIT	59194.		207670.		108492.	
=====	=====	=====	=====	=====	=====	=====
LOWER LIMIT	14798.		51918.		27123.	
=====	=====	=====	=====	=====	=====	=====
EPA SAMPLE NO.						
=====	=====	=====	=====	=====	=====	=====
01 MET BLANK	35640.	5.66	110082.	8.53	59583.	15.57
02 MET BLANK	35166.	5.67	110076.	8.53	59263.	15.58
03 101SY 1060	34703.	5.68	111226.	8.54	59561.	15.59
04 101SY 1061	36271.	5.66	114613.	8.54	60562.	15.57
05 101SY 1062	35618.	5.70	112977.	8.57	59468.	15.61
06 101SY 1063	36771.	5.65	118082.	8.52	62921.	15.56
07 101SY 1060D	36540.	5.67	118112.	8.54	62700.	15.57
08 101SY 1061D	37573.	5.65	121856.	8.50	65187.	15.54
09 101SY 1063D	39896.	5.63	129128.	8.50	69346.	15.52
10						
11						
12						
13						
14						
15						
16						
17						
18						
19						
20						
21						
22						

IS1 (DCB) = 1,4-Dichlorobenzene-d4

IS2 (NPT) = Naphthalene-d8

IS3 (ANT) = Acenaphthene-d8

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

Column used to flag internal standard area values with an asterisk

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FORM VIII SV-1

1/87 Rev.

8C
SEMIVOLATILE INTERNAL STANDARD AREA SUMMARY

Lab Name:BATTELLE-PNL

Contract:-----

Lab Code: ----- Case No.: ----- SAS No.: ----- SDG No.: -----

Lab File ID (Standard): >JC303

Date Analyzed:10/23/91

Instrument ID: BNA1

Time Analyzed: 15:52

	IS4 (PHN) AREA #	RT	IS5 (CRY) AREA #	RT	IS3 (PRY) AREA #	RT
=====	=====	=====	=====	=====	=====	=====
12 HOUR STD	89291.	22.99	39512.	33.19	49145.	37.10
=====	=====	=====	=====	=====	=====	=====
UPPER LIMIT	178582.		79024.		98290.	
=====	=====	=====	=====	=====	=====	=====
LOWER LIMIT	44645.		19756.		24573.	
=====	=====	=====	=====	=====	=====	=====
EPA SAMPLE NO.						
=====	=====	=====	=====	=====	=====	=====
01 MET BLANK	95420.	22.96	42051.	33.16	51809.	37.06
02 MET BLANK	94535.	22.97	42264.	33.16	51187.	37.06
03 101SY 1060	95404.	22.97	38928.	33.17	51038.	37.07
04 101SY 1061	97288.	22.95	37662.	33.15	47615.	37.06
05 101SY 1062	96591.	23.00	37230.	33.20	45578.	37.10
06 101SY 1063	99099.	22.95	37153.	33.14	45370.	37.04
07 101SY 1060D	100106.	22.94	39859.	33.15	46166.	37.05
08 101SY 1062D	105801.	22.91	42317.	33.13	47994.	37.03
09 101SY 1063D	111045.	22.90	44803.	33.12	51470.	37.02
10						
11						
12						
13						
14						
15						
16						
17						
18						
19						
20						
21						
22						

IS4 (PHN) = Phenanthrene-d10
IS5 (CRY) = Chrysene-d12
IS6 (PRY) = Perylene-d12

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

Column used to flag internal standard area values with an asterisk

page 1 of 1

FORM VIII SV-2

1/87 Rev.

LIQUID PHASE ANALYSIS REPORT FORMS

The liquid phase of the following samples was analyzed for semivolatile organics:

SAMPLES: #1061
 #1061 DUPLICATE
 #1063
 #1063 DUPLICATE

Results are reported on the following Contract Laboratory Program report forms:

FORMS: 1B,C,F,
 2C
 4B
 5B
 6B,C
 7B,C
 8B,C

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

MET BLANK

Lab Name: BATTELLE-PNL

Contract: -----

Lab Code: ----- Case No.: ----- SAS No.: ----- SDG No.: -----

Matrix: (soil/water) WATER

Lab Sample ID: 1061/1063

Sample wt/vol: 20 (g/mL) mL

Lab File ID: >JC208

Level: (low/med) MED

Date Received: 10/06/91

% Moisture: not dec.-- dec. 100

Date Extracted: 10/11/91

Extraction: (Sepf/Cont/Sonc) SEPF

Date Analyzed: 10/22/91

GPC Cleanup: (Y/N) N pH: -----

Dilution Factor: 1.00000

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
108-95-2-----	Phenol	1000.	U
111-44-4-----	bis(2-Chloroethyl) Ether	1000.	U
95-57-8-----	2-Chlorophenol	1000.	U
541-73-1-----	1,3-Dichlorobenzene	1000.	U
106-46-7-----	1,4-Dichlorobenzene	1000.	U
100-51-6-----	Benzyl alcohol	1000.	U
95-50-1-----	1,2-Dichlorobenzene	1000.	U
95-48-7-----	2-Methylphenol	1000.	U
39638-32-9-----	bis(2-chloroisopropyl) ether	1000.	U
106-44-5-----	4-Methylphenol	1000.	U
621-64-7-----	N-Nitroso-Di-n-propylamine	1000.	U
67-72-1-----	Hexachloroethane	1000.	U
98-95-3-----	Nitrobenzene	1000.	U
78-59-1-----	Isophorone	1000.	U
88-75-5-----	2-Nitrophenol	1000.	U
105-67-9-----	2,4-Dimethylphenol	1000.	U
65-85-0-----	Benzoic acid	5000.	U
111-91-1-----	bis(2-Chloroethoxy) methane	1000.	U
120-83-2-----	2,4-Dichlorophenol	1000.	U
120-82-1-----	1,2,4-Trichlorobenzene	1000.	U
91-20-3-----	Naphthalene	1000.	U
106-47-8-----	4-Chloroaniline	1000.	U
87-68-3-----	Hexachlorobutadiene	1000.	U
59-50-7-----	4-Chloro-3-methylphenol	1000.	U
91-57-6-----	2-Methylnaphthalene	1000.	U
77-47-4-----	Hexachlorocyclopentadiene	1000.	U
88-06-2-----	2,4,6-Trichlorophenol	1000.	U
95-95-4-----	2,4,5-Trichlorophenol	5000.	U
91-58-7-----	2-Chloronaphthalene	1000.	U
88-74-4-----	2-Nitroaniline	5000.	U
131-11-3-----	Dimethylphthalate	1000.	U
208-96-8-----	Acenaphthylene	1000.	U
606-20-2-----	2,6-Dinitrotoluene	1000.	U

FORM I SV-1

1/87 Rev.

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

Lab Name: BATTELLE-PNL

Contract: -----

MET BLANK

Lab Code: ----- Case No.: ----- SAS No.: ----- SDG No.: -----

Matrix: (soil/water) WATER

Lab Sample ID: 1061/1063

Sample wt/vol: 20 (g/mL) mL

Lab File ID: >JC208

Level: (low/med) MED

Date Received: 10/06/91

% Moisture: not dec.-- dec. 100

Date Extracted: 10/11/91

Extraction: (Sepf/Cont/Sonc) SEPF

Date Analyzed: 10/22/91

GPC Cleanup: (Y/N) N pH: ----

Dilution Factor: 1.00000

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
99-09-2-----	3-Nitroaniline	5000.	U
83-32-9-----	Acenaphthene	1000.	U
51-28-5-----	2,4-Dinitrophenol	5000.	U
100-02-7-----	4-Nitrophenol	5000.	U
132-64-9-----	Dibenzofuran	1000.	U
121-14-2-----	2,4-Dinitrotoluene	1000.	U
84-66-2-----	Diethylphthalate	1000.	U
7005-72-3-----	4-Chlorophenyl-phenylether	1000.	U
86-73-7-----	Fluorene	1000.	U
100-01-6-----	4-Nitroaniline	5000.	U
534-52-1-----	4,6-Dinitro-2-methylphenol	5000.	U
86-30-6-----	N-Nitrosodiphenylamine (1)	1000.	U
101-55-3-----	4-Bromophenyl-phenylether	1000.	U
118-74-1-----	Hexachlorobenzene	1000.	U
87-86-5-----	Pentachlorophenol	5000.	U
85-01-8-----	Phenanthrene	1000.	U
120-12-7-----	Anthracene	1000.	U
84-74-2-----	Di-n-butylphthalate	120.	JB
206-44-0-----	Fluoranthene	1000.	U
129-00-0-----	Pyrene	1000.	U
85-68-7-----	Butylbenzylphthalate	1000.	U
91-94-1-----	3,3'-Dichlorobenzidine	2000.	U
56-55-3-----	Benzo(a)anthracene	1000.	U
218-01-9-----	Chrysene	1000.	U
117-81-7-----	bis(2-Ethylhexyl)phthalate	1000.	U
117-84-0-----	Di-n-octylphthalate	1000.	U
205-99-2-----	Benzo(b)fluoranthene	1000.	U
207-08-9-----	Benzo(k)fluoranthene	1000.	U
50-32-8-----	Benzo(a)pyrene	1000.	U
193-39-5-----	Indeno(1,2,3-cd)pyrene	1000.	U
53-70-3-----	Dibenz(a,h)anthracene	1000.	U
191-24-2-----	Benzo(g,h,i)perylene	1000.	U

(1) - Cannot be separated from Diphenylamine

FORM I SV-2

1/87 Rev.

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

MET BLANK

Lab Name: BATTELLE-PNL

Contract: -----

Lab Code: ----- Case No.: ----- SAS No.: ----- SDG No.: -----

Matrix: (soil/water) WATER

Lab Sample ID: 1061/1063

Sample wt/vol: 20 (g/mL) mL

Lab File ID: >JC208

Level: (low/med) MED

Date Received: 10/06/91

% Moisture: not dec.-- dec. 100

Date Extracted: 10/11/91

Extraction: (Sepf/Cont/Sonc) SEPF

Date Analyzed: 10/22/91

GPC Cleanup: (Y/N) N pH: --

Dilution Factor: 1.00000

Number TICs found: 3

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	Unknown phthalate	25.25	410.	J
2.	Hexanedioic acid ester	32.49	410.	J
3. 791286	Phosphine oxide, triphenyl-	33.82	2600.	J
4.				
5.				
6.				
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27.				
28.				
29.				
30.				

FORM I SV-TIC

1/87 Rev.

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

101SY 10G1

Lab Name: BATTELLE-PNL

Contract: -----

Lab Code: ----- Case No.: ----- SAS No.: ----- SDG No.: -----

Matrix: (soil/water) WATER

Lab Sample ID: 92-00206

Sample wt/vol: 8 (g/mL) mL

Lab File ID: >JC209

Level: (low/med) MED

Date Received: 10/06/91

% Moisture: not dec.-- dec. 100

Date Extracted: 10/11/91

Extraction: (Sepf/Cont/Sonc) SEPF

Date Analyzed: 10/22/91

GPC Cleanup: (Y/N) N pH: 14

Dilution Factor: 1.00000

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
108-95-2	Phenol	2500.	U
111-44-4	bis(2-Chloroethyl) Ether	2500.	U
95-57-8	2-Chlorophenol	2500.	U
541-73-1	1,3-Dichlorobenzene	2500.	U
106-46-7	1,4-Dichlorobenzene	2500.	U
100-51-6	Benzyl alcohol	2500.	U
95-50-1	1,2-Dichlorobenzene	2500.	U
95-48-7	2-Methylphenol	2500.	U
39638-32-9	bis(2-chloroisopropyl) ether	2500.	U
106-44-5	4-Methylphenol	2500.	U
621-64-7	N-Nitroso-Di-n-propylamine	2500.	U
67-72-1	Hexachloroethane	2500.	U
98-95-3	Nitrobenzene	2500.	U
78-59-1	Isophorone	2500.	U
88-75-5	2-Nitrophenol	2500.	U
105-67-9	2,4-Dimethylphenol	2500.	U
65-85-0	Benzoic acid	510.	J
111-91-1	bis(2-Chloroethoxy) methane	2500.	U
120-83-2	2,4-Dichlorophenol	2500.	U
120-82-1	1,2,4-Trichlorobenzene	2500.	U
91-20-3	Naphthalene	2500.	U
106-47-8	4-Chloroaniline	2500.	U
87-68-3	Hexachlorobutadiene	2500.	U
59-50-7	4-Chloro-3-methylphenol	2500.	U
91-57-6	2-Methylnaphthalene	2500.	U
77-47-4	Hexachlorocyclopentadiene	2500.	U
88-06-2	2,4,6-Trichlorophenol	2500.	U
95-95-4	2,4,5-Trichlorophenol	13000.	U
91-58-7	2-Chloronaphthalene	2500.	U
88-74-4	2-Nitroaniline	13000.	U
131-11-3	Dimethylphthalate	2500.	U
208-96-8	Acenaphthylene	2500.	U
606-20-2	2,6-Dinitrotoluene	2500.	U

FORM I SV-1

1/87 Rev.

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

101SY 1061

Lab Name: BATTELLE-PNL

Contract: -----

Lab Code: ----- Case No.: ----- SAS No.: ----- SDG No.: -----

Matrix: (soil/water) WATER

Lab Sample ID: 92-00206

Sample wt/vol: 8 (g/mL) mL

Lab File ID: >JC209

Level: (low/med) MED

Date Received: 10/06/91

% Moisture: not dec.-- dec. 100

Date Extracted: 10/11/91

Extraction: (Sepf/Cont/Sonc) SEPF

Date Analyzed: 10/22/91

GPC Cleanup: (Y/N) N pH: 14

Dilution Factor: 1.00000

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
99-09-2-----	3-Nitroaniline	13000.	U
83-32-9-----	Acenaphthene	2500.	U
51-28-5-----	2,4-Dinitrophenol	13000.	U
100-02-7-----	4-Nitrophenol	13000.	U
132-64-9-----	Dibenzofuran	2500.	U
121-14-2-----	2,4-Dinitrotoluene	2500.	U
84-66-2-----	Diethylphthalate	2500.	U
7005-72-3-----	4-Chlorophenyl-phenylether	2500.	U
86-73-7-----	Fluorene	2500.	U
100-01-6-----	4-Nitroaniline	13000.	U
534-52-1-----	4,6-Dinitro-2-methylphenol	13000.	U
86-30-6-----	N-Nitrosodiphenylamine (1)	2500.	U
101-55-3-----	4-Bromophenyl-phenylether	2500.	U
118-74-1-----	Hexachlorobenzene	2500.	U
87-86-5-----	Pentachlorophenol	13000.	U
85-01-8-----	Phenanthrene	2500.	U
120-12-7-----	Anthracene	2500.	U
84-74-2-----	Di-n-butylphthalate	250.	JB
206-44-0-----	Fluoranthene	2500.	U
129-00-0-----	Pyrene	2500.	U
85-68-7-----	Butylbenzylphthalate	2500.	U
91-94-1-----	3,3'-Dichlorobenzidine	5000.	U
56-55-3-----	Benzo(a)anthracene	2500.	U
218-01-9-----	Chrysene	2500.	U
117-81-7-----	bis(2-Ethylhexyl)phthalate	2500.	U
117-84-0-----	Di-n-octylphthalate	2500.	U
205-99-2-----	Benzo(b)fluoranthene	2500.	U
207-08-9-----	Benzo(k)fluoranthene	2500.	U
50-32-8-----	Benzo(a)pyrene	2500.	U
193-39-5-----	Indeno(1,2,3-cd)pyrene	2500.	U
53-70-3-----	Dibenz(a,h)anthracene	2500.	U
191-24-2-----	Benzo(g,h,i)perylene	2500.	U

(1) - Cannot be separated from Diphenylamine

FORM I SV-2

1/87 Rev.

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

101SY 1061

Lab Name: BATTELLE-PNL

Contract: -----

Lab Code: ----- Case No.: ----- SAS No.: ----- SDG No.: -----

Matrix: (soil/water) WATER

Lab Sample ID: 92-00206

Sample wt/vol: 8 (g/mL) mL

Lab File ID: >JC209

Level: (low/med) MED

Date Received: 10/06/91

% Moisture: not dec.-- dec. 100

Date Extracted: 10/11/91

Extraction: (Sepf/Cont/Sonc) SEPF

Date Analyzed: 10/22/91

GPC Cleanup: (Y/N) N pH: 14

Dilution Factor: 1.00000

Number TICs found: 12

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	Unknown	4.08	2700.	J
2.	Unknown	4.43	6200.	J
3.	Unknown	5.95	1000.	J
4.	Unknown	6.51	1700.	J
5.	Unknown	7.59	2700.	J
6.	403190 2-FLUORO-4-NITROPHENOL	7.90	1400.	J
7.	Unknown	9.62	1100.	J
8.	Unknown	12.02	8100.	J
9.	Unknown	12.37	1900.	J
10.	Unknown	17.03	5300.	J
11.	Hexanedioic acid ester	32.50	1300.	JB
12.	791286 Phosphine oxide, triphenyl-	33.82	6100.	JB
13.				
14.				
15.				
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FORM I SV-TIC

1/87 Rev.

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

101SY 1061D

Lab Name: BATTELLE-PNL

Contract: -----

Lab Code: ----- Case No.: ----- SAS No.: ----- SEQ No.: -----

Matrix: (soil/water) WATER

Lab Sample ID: 92-00206 D

Sample wt/vol: 8 (g/mL) mL

Lab File ID: >JC210

Level: (low/med) MED

Date Received: 10/06/91

% Moisture: not dec.-- dec. 100

Date Extracted: 10/11/91

Extraction: (Sepf/Cont/Sonc) SEPF

Date Analyzed: 10/22/91

GPC Cleanup: (Y/N) N pH: 14

Dilution Factor: 1.00000

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
---------	----------	--	---

108-95-2-----	Phenol	2500.	U
111-44-4-----	bis(2-Chloroethyl) Ether	2500.	U
95-57-8-----	2-Chlorophenol	2500.	U
541-73-1-----	1,3-Dichlorobenzene	2500.	U
106-46-7-----	1,4-Dichlorobenzene	2500.	U
100-51-6-----	Benzyl alcohol	2500.	U
95-50-1-----	1,2-Dichlorobenzene	2500.	U
95-48-7-----	2-Methylphenol	2500.	U
39638-32-9-----	bis(2-chloroisopropyl) ether	2500.	U
106-44-5-----	4-Methylphenol	2500.	U
621-61-7-----	N-Nitroso-Di-n-propylamine	2500.	U
67-72-1-----	Hexachloroethane	2500.	U
98-95-3-----	Nitrobenzene	2500.	U
71-59-1-----	Isophorone	2500.	U
88-75-5-----	2-Nitrophenol	2500.	U
105-67-9-----	2,4-Dimethylphenol	2500.	U
65-85-0-----	Benzoic acid	520.	J
111-91-1-----	bis(2-Chloroethoxy) methane	2500.	U
120-83-2-----	2,4-Dichlorophenol	2500.	U
120-82-1-----	1,2,4-Trichlorobenzene	2500.	U
91-20-3-----	Naphthalene	2500.	U
106-47-8-----	4-Chloroaniline	2500.	U
87-68-3-----	Hexachlorobutadiene	2500.	U
59-50-7-----	4-Chloro-3-methylphenol	2500.	U
91-57-6-----	2-Methylnaphthalene	2500.	U
77-47-4-----	Hexachlorocyclopentadiene	2500.	U
88-06-2-----	2,4,6-Trichlorophenol	2500.	U
95-95-4-----	2,4,5-Trichlorophenol	13000.	U
91-58-7-----	2-Chloronaphthalene	2500.	U
88-74-4-----	2-Nitroaniline	13000.	U
131-11-3-----	Dimethylphthalate	2500.	U
208-96-8-----	Acenaphthylene	2500.	U
606-20-2-----	2,6-Dinitrotoluene	2500.	U

FORM I SV-1

1/87 Rev.

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

Lab Name: BATTELLE-PNL

Contract: -----

101SY 1061D

Lab Code: ----- Case No.: ----- SAS No.: ----- SDG No.: -----

Matrix: (soil/water) WATER

Lab Sample ID: 92-00206 D

Sample wt/vol: 8 (g/mL) mL

Lab File ID: >JC210

Level: (low/med) MED

Date Received: 10/06/91

% Moisture: not dec.-- dec. 100

Date Extracted: 10/11/91

Extraction: (Sepf/Cont/Sonc) SEPF

Date Analyzed: 10/22/91

GPC Cleanup: (Y/N) N pH: 14

Dilution Factor: 1.00000

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
99-09-2-----	3-Nitroaniline	13000.	U
83-32-9-----	Acenaphthene	2500.	U
51-28-5-----	2,4-Dinitrophenol	13000.	U
100-02-7-----	4-Nitrophenol	13000.	U
132-64-9-----	Dibenzofuran	2500.	U
121-14-2-----	2,4-Dinitrotoluene	2500.	U
84-66-2-----	Diethylphthalate	2500.	U
7005-72-3-----	4-Chlorophenyl-phenylether	2500.	U
86-73-7-----	Fluorene	2500.	U
100-01-6-----	4-Nitroaniline	13000.	U
534-52-1-----	4,6-Dinitro-2-methylphenol	13000.	U
86-30-6-----	N-Nitrosodiphenylamine (1)	2500.	U
101-55-3-----	4-Bromophenyl-phenylether	2500.	U
118-74-1-----	Hexachlorobenzene	2500.	U
87-86-5-----	Pentachlorophenol	13000.	U
85-01-8-----	Phenanthrene	2500.	U
120-12-7-----	Anthracene	2500.	U
84-74-2-----	Di-n-butylphthalate	150.	JB
206-44-0-----	Fluoranthene	2500.	U
129-00-0-----	Pyrene	2500.	U
85-68-7-----	Butylbenzylphthalate	2500.	U
91-94-1-----	3,3'-Dichlorobenzidine	5000.	U
56-55-3-----	Benzo(a)anthracene	2500.	U
218-01-9-----	Chrysene	2500.	U
117-81-7-----	bis(2-Ethylhexyl)phthalate	2500.	U
117-84-0-----	Di-n-octylphthalate	2500.	U
205-99-2-----	Benzo(b)fluoranthene	2500.	U
207-08-9-----	Benzo(k)fluoranthene	2500.	U
50-32-8-----	Benzo(a)pyrene	2500.	U
193-39-5-----	Indeno(1,2,3-cd)pyrene	2500.	U
53-70-3-----	Dibenz(a,h)anthracene	2500.	U
191-24-2-----	Benzo(g,h,i)perylene	2500.	U

(1) - Cannot be separated from Diphenylamine

FORM I SV-2

1/87 Rev.

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

101SY 1061D

Lab Name: BATTELLE-PNL

Contract: -----

Lab Code: ----- Case No.: ----- SAS No.: ----- SDG No.: -----

Matrix: (soil/water) WATER

Lab Sample ID: 92-00206 D

Sample wt/vol: 8 (g/mL) mL

Lab File ID: >JC210

Level: (low/med) MED

Date Received: 10/06/91

% Moisture: not dec.-- dec. 100

Date Extracted: 10/11/91

Extraction: (Sepf/Cont/Sonc) SEPF

Date Analyzed: 10/22/91

GPC Cleanup: (Y/N) N pH: 14

Dilution Factor: 1.00000

Number TICs found: 14

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	Unknown	4.08	2700.	J
2.	Unknown	4.43	7500.	J
3.	Unknown	5.95	1400.	J
4.	Unknown	6.50	1700.	J
5.	Dichlorocyclohexane	6.56	1000.	J
6.	Unknown	7.59	3200.	J
7.	403190 2-FLUORO-4-NITROPHENOL	7.90	1800.	J
8.	Unknown	9.63	1500.	J
9.	Unknown	12.04	8300.	J
10.	Unknown	12.38	2100.	J
11.	Unknown	17.05	4300.	J
12.	Unknown phthalate	25.26	1300.	JB
13.	Hexanedioic acid ester	32.50	4500.	JB
14.	791286 Phosphine oxide, triphenyl-	33.82	5800.	JB
15.				
16.				
17.				
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FORM I SV-TIC

1/87 Rev.

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

101SY 1063

Lab Name: BATTELLE-PNL

Contract: -----

Lab Code: ----- Case No.: ----- SAS No.: ----- SDO No.: -----

Matrix: (soil/water) WATER

Lab Sample ID: 92-00208

Sample wt/vol: 5 (g/mL) mL

Lab File ID: >JC211

Level: (low/med) MED

Date Received: 10/06/91

% Moisture: not dec.-- dec. 100

Date Extracted: 10/11/91

Extraction: (Sepf/Cont/Sonc) SEPF

Date Analyzed: 10/22/91

GPC Cleanup: (Y/N) N pH: 14

Dilution Factor: 1.00000

CONCENTRATION UNITS:
CAS NO. COMPOUND (ug/L or ug/Kg) ug/L Q

108-95-2-----	Phenol	4000.	U
111-44-4-----	bis(2-Chloroethyl) Ether	4000.	U
95-57-8-----	2-Chlorophenol	4000.	U
541-73-1-----	1,3-Dichlorobenzene	4000.	U
106-46-7-----	1,4-Dichlorobenzene	4000.	U
100-51-6-----	Benzyl alcohol	4000.	U
95-50-1-----	1,2-Dichlorobenzene	4000.	U
95-48-7-----	2-Methylphenol	4000.	U
39638-32-9-----	bis(2-chloroisopropyl) ether	4000.	U
106-44-5-----	4-Methylphenol	4000.	U
621-64-7-----	N-Nitroso-Di-n-propylamine	4000.	U
67-72-1-----	Hexachloroethane	4000.	U
98-95-3-----	Nitrobenzene	4000.	U
78-59-1-----	Isophorone	4000.	U
88-75-5-----	2-Nitrophenol	4000.	U
105-67-9-----	2,4-Dimethylphenol	4000.	U
65-85-0-----	Benzoic acid	560.	J
111-91-1-----	bis(2-Chloroethoxy) methane	4000.	U
120-83-2-----	2,4-Dichlorophenol	4000.	U
120-82-1-----	1,2,4-Trichlorobenzene	4000.	U
91-20-3-----	Naphthalene	4000.	U
106-47-8-----	4-Chloroaniline	4000.	U
87-68-3-----	Hexachlorobutadiene	4000.	U
59-50-7-----	4-Chloro-3-methylphenol	4000.	U
91-57-6-----	2-Methylnaphthalene	4000.	U
77-47-4-----	Hexachlorocyclopentadiene	4000.	U
88-06-2-----	2,4,6-Trichlorophenol	4000.	U
95-95-4-----	2,4,5-Trichlorophenol	20000.	U
91-58-7-----	2-Chloronaphthalene	4000.	U
88-74-4-----	2-Nitroaniline	20000.	U
131-11-3-----	Dimethylphthalate	4000.	U
208-96-8-----	Acenaphthylene	4000.	U
606-20-2-----	2,6-Dinitrotoluene	4000.	U

FORM I SV-1

1/87 Rev.

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

Lab Name: BATTELLE-PNL

Contract: -----

101SY 1063

Lab Code: ----- Case No.: ----- SAS No.: ----- SDG No.: -----

Matrix: (soil/water) WATER

Lab Sample ID: 92-00208

Sample wt/vol: 5 (g/mL) mL

Lab File ID: >JC211

Level: (low/med) MED

Date Received: 10/06/91

% Moisture: not dec.-- dec. 100

Date Extracted: 10/11/91

Extraction: (Sepf/Cont/Sonc) SEPF

Date Analyzed: 10/22/91

GPC Cleanup: (Y/N) N pH: 14

Dilution Factor: 1.00000

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
99-09-2-----	3-Nitroaniline	20000.	U
83-32-9-----	Acenaphthene	4000.	U
51-28-5-----	2,4-Dinitrophenol	20000.	U
100-02-7-----	4-Nitrophenol	20000.	U
132-64-9-----	Dibenzofuran	4000.	U
121-14-2-----	2,4-Dinitrotoluene	4000.	U
84-66-2-----	Diethylphthalate	4000.	U
7005-72-3-----	4-Chlorophenyl-phenylether	4000.	U
86-73-7-----	Fluorene	4000.	U
100-01-6-----	4-Nitroaniline	20000.	U
534-52-1-----	4,6-Dinitro-2-methylphenol	20000.	U
86-30-6-----	N-Nitrosodiphenylamine (1)	4000.	U
101-55-3-----	4-Bromophenyl-phenylether	4000.	U
118-74-1-----	Hexachlorobenzene	4000.	U
87-86-5-----	Pentachlorophenol	20000.	U
85-01-8-----	Phenanthrene	4000.	U
120-12-7-----	Anthracene	4000.	U
84-74-2-----	Di-n-butylphthalate	290.	JB
206-44-0-----	Fluoranthene	4000.	U
129-00-0-----	Pyrene	4000.	U
85-68-7-----	Butylbenzylphthalate	4000.	U
91-94-1-----	3,3'-Dichlorobenzidine	8000.	U
56-55-3-----	Benzo(a)anthracene	4000.	U
218-01-9-----	Chrysene	4000.	U
117-81-7-----	bis(2-Ethylhexyl)phthalate	4000.	U
117-84-0-----	Di-n-octylphthalate	4000.	U
205-99-2-----	Benzo(b)fluoranthene	4000.	U
207-08-9-----	Benzo(k)fluoranthene	4000.	U
50-32-8-----	Benzo(a)pyrene	4000.	U
193-39-5-----	Indeno(1,2,3-cd)pyrene	4000.	U
53-70-3-----	Dibenz(a,h)anthracene	4000.	U
191-24-2-----	Benzo(g,h,i)perylene	4000.	U

(1) - Cannot be separated from Diphenylamine

FORM I SV-2

1/87 Rev.

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

101SY 1063

Lab Name: BATTELLE-PNL

Contract: -----

Lab Code: ----- Case No.: ----- SAS No.: ----- SDG No.: -----

Matrix: (soil/water) WATER

Lab Sample ID: 92-00200

Sample wt/vol: 5 (g/mL) mL

Lab File ID: >JC211

Level: (low/med) MED

Date Received: 10/06/91

% Moisture: not dec.-- dec. 100

Date Extracted: 10/11/91

Extraction: (Sepf/Cont/Sonc) SEPF

Date Analyzed: 10/22/91

GPC Cleanup: (Y/N) N pH: 14

Dilution Factor: 1.00000

Number TICs found: 5

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	Unknown	5.95	1700.	J
2.	Unknown	7.58	6300.	J
3.	Unknown	11.85	14000.	J
4.	Unknown	16.97	8900.	J
5. 791286	Phosphine oxide, triphenyl-	33.81	8600.	JB
6.				
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FORM I SV-TIC

1/87 Rev.

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

101SY 1063D

Lab Name: BATTELLE-PNL

Contract: -----

Lab Code: ----- Case No.: ----- SAS No.: ----- SDG No.: -----

Matrix: (soil/water) WATER

Lab Sample ID: 92-00208 D

Sample wt/vol: 5 (g/mL) mL

Lab File ID: >JC212

Level: (low/med) MED

Date Received: 10/06/91

% Moisture: not dec.-- dec. 100

Date Extracted: 10/11/91

Extraction: (Sepf/Cont/Sonc) SEPF

Date Analyzed: 10/22/91

GPC Cleanup: (Y/N) N pH: 14

Dilution Factor: 1.00000

CAS NO. COMPOUND CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/L Q

108-95-2-----	Phenol	4000.	U
111-44-4-----	bis(2-Chloroethyl) Ether	4000.	U
95-57-8-----	2-Chlorophenol	4000.	U
541-73-1-----	1,3-Dichlorobenzene	4000.	U
106-46-7-----	1,4-Dichlorobenzene	4000.	U
100-51-6-----	Benzyl alcohol	4000.	U
95-50-1-----	1,2-Dichlorobenzene	4000.	U
95-48-7-----	2-Methylphenol	4000.	U
39638-32-9-----	bis(2-chloroisopropyl) ether	4000.	U
106-44-5-----	4-Methylphenol	4000.	U
621-64-7-----	N-Nitroso-Di-n-propylamine	4000.	U
67-72-1-----	Hexachloroethane	4000.	U
98-95-3-----	Nitrobenzene	4000.	U
78-59-1-----	Isophorone	4000.	U
88-75-5-----	2-Nitrophenol	4000.	U
105-67-9-----	2,4-Dimethylphenol	4000.	U
65-85-0-----	Benzoic acid	520.	J
111-91-1-----	bis(2-Chloroethoxy) methane	4000.	U
120-83-2-----	2,4-Dichlorophenol	4000.	U
120-82-1-----	1,2,4-Trichlorobenzene	4000.	U
91-20-3-----	Naphthalene	4000.	U
106-47-8-----	4-Chloroaniline	4000.	U
87-68-3-----	Hexachlorobutadiene	4000.	U
59-50-7-----	4-Chloro-3-methylphenol	4000.	U
91-57-6-----	2-Methylnaphthalene	4000.	U
77-47-4-----	Hexachlorocyclopentadiene	4000.	U
88-06-2-----	2,4,6-Trichlorophenol	4000.	U
95-95-4-----	2,4,5-Trichlorophenol	20000.	U
91-58-7-----	2-Chloronaphthalene	4000.	U
88-74-4-----	2-Nitroaniline	20000.	U
131-11-3-----	Dimethylphthalate	4000.	U
208-96-8-----	Acenaphthylene	4000.	U
606-20-2-----	2,6-Dinitrotoluene	4000.	U

FORM I SV-1

1/87 Rev.

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

101SY 1063D

Lab Name: BATTELLE-PNL

Contract: -----

Lab Code: ----- Case No.: ----- SAS No.: ----- SDG No.: -----

Matrix: (soil/water) WATER

Lab Sample ID: 92-00208 D

Sample wt/vol: 5 (g/mL) mL

Lab File ID: >JC212

Level: (low/med) MED

Date Received: 10/06/91

% Moisture: not dec.-- dec. 100

Date Extracted: 10/11/91

Extraction: (Sepf/Cont/Sonc) SEPF

Date Analyzed: 10/22/91

GPC Cleanup: (Y/N) N pH: 14

Dilution Factor: 1.00000

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
99-09-2-----	3-Nitroaniline	20000.	U
83-32-9-----	Acenaphthene	4000.	U
51-28-5-----	2,4-Dinitrophenol	20000.	U
100-02-7-----	4-Nitrophenol	20000.	U
132-64-9-----	Dibenzofuran	4000.	U
121-14-2-----	2,4-Dinitrotoluene	4000.	U
84-66-2-----	Diethylphthalate	4000.	U
7005-72-3-----	4-Chlorophenyl-phenylether	4000.	U
86-73-7-----	Fluorene	4000.	U
100-01-6-----	4-Nitroaniline	20000.	U
534-52-1-----	4,6-Dinitro-2-methylphenol	20000.	U
86-30-6-----	N-Nitrosodiphenylamine (1)	4000.	U
101-55-3-----	4-Bromophenyl-phenylether	4000.	U
118-74-1-----	Hexachlorobenzene	4000.	U
87-86-5-----	Pentachlorophenol	20000.	U
85-01-8-----	Phenanthrene	4000.	U
120-12-7-----	Anthracene	4000.	U
84-74-2-----	Di-n-butylphthalate	400.	JB
206-44-0-----	Fluoranthene	4000.	U
129-00-0-----	Pyrene	4000.	U
85-68-7-----	Butylbenzylphthalate	4000.	U
91-94-1-----	3,3'-Dichlorobenzidine	8000.	U
56-55-3-----	Benzo(a)anthracene	4000.	U
218-01-9-----	Chrysene	4000.	U
117-81-7-----	bis(2-Ethylhexyl)phthalate	4000.	U
117-84-0-----	Di-n-octylphthalate	4000.	U
205-99-2-----	Benzo(b)fluoranthene	4000.	U
207-08-9-----	Benzo(k)fluoranthene	4000.	U
50-32-8-----	Benzo(a)pyrene	4000.	U
193-39-5-----	Indeno(1,2,3-cd)pyrene	4000.	U
53-70-3-----	Dibenz(a,h)anthracene	4000.	U
191-24-2-----	Benzo(g,h,i)perylene	4000.	U

(1) - Cannot be separated from Diphenylamine

FORM I SV-2

1/87 Rev.

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

101SY 1063D

Lab Name: BATTELLE-PNL

Contract: -----

Lab Code: ----- Case No.: ----- SAS No.: ----- SDG No.: -----

Matrix: (soil/water) WATER

Lab Sample ID: 92-00208 D

Sample wt/vol: 5 (g/mL) mL

Lab File ID: >JC212

Level: (low/med) MED

Date Received: 10/06/91

% Moisture: not dec.-- dec. 100

Date Extracted: 10/11/91

Extraction: (Sepf/Cont/Sonc) SEPF

Date Analyzed: 10/22/91

GPC Cleanup: (Y/N) N pH: 14

Dilution Factor: 1.00000

Number TICs found: 6

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	Unknown	5.94	1700.	J
2.	Unknown	7.58	5400.	J
3.	Unknown	11.85	14000.	J
4.	Unknown	16.97	8400.	J
5.	Unknown phthalate	25.24	2000.	JB
6. 791286	Phosphine oxide, triphenyl-	33.80	8400.	JB
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FORM I SV-TIC

1/87 Rev.

2C
WATER SEMIVOLATILE SURROGATE RECOVERY

Lab Name: BATTELLE-PNL

Contract: -----

Lab Code: ----- Case No.: ----- SAS No.: ----- SDG No.: -----

	EPA SAMPLE NO.	S1 (NBZ) #	S2 (FBP) #	S3 (TPH) #	S4 (PHL) #	S5 (2FP) #	S6 (TBP) #	OTHER	TOT OUT
01	MET BLANK	79	67	82	58	54	51		0
02	101SY 1061	79	62	77	0 *	0 *	2 *		3
03	101SY 1061	84	65	78	0 *	0 *	1 *		3
04	101SY 1063	82	64	78	2 *	0 *	29		2
05	101SY 1063	86	68	81	2 *	0 *	24		2
06									
07									
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QC LIMITS

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

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

4B
SEMIVOLATILE METHOD BLANK SUMMARY

Lab Name: BATTELLE-PNL Contract: -----
 Lab Code: ----- Case No.: ----- SAS No.: ----- SDG No.: -----
 Lab File ID: >JC208 Lab Sample ID: 1061/1063
 Date Extracted 10/11/91 Extraction: (SepF/Cont/Sonc) SEPF
 Date Analyzed: 10/22/91 Time Analyzed: 16:04
 Matrix: (soil/water) WATER Level: (low/med) MED
 Instrument ID: BNA1

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
01	101SY 1061	92-00206	>JC209	10/22/91
02	101SY 1061D	92-00206 D	>JC210	10/22/91
03	101SY 1063	92-00208	>JC211	10/22/91
04	101SY 1063D	92-00208 D	>JC212	10/22/91
05				
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COMMENTS: _____

5B
SEMIVOLATILE ORGANIC GC/MS TUNING AND MASS
CALIBRATION - DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: BATTELLE-PNL Contract: -----
Lab Code: ----- Case No.: ----- SAS No.: ----- SDG No.: -----
Lab File ID: >JC201 DFTPP Injection Date: 10/22/91
Instrument ID: BNA1 DFTPP Injection Time: 8:22

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	30.0 - 60.0% of mass 198	46.2
68	Less than 2.0% of mass 69	.9(1.3)1
69	Mass 69 relative abundance	71.
70	Less than 2.0% of mass 69	.3(.4)1
127	40.0 - 60.0% of mass 198	52.5
197	Less than 1.0% of mass 198	0.0
198	Base Peak, 100% relative abundance	100.
199	5.0 - 9.0% of mass 198	6.7
275	10.0 - 30.0% of mass 198	19.4
365	Greater than 1.00% of mass 198	1.87
441	Present, but less than mass 443	12.6
442	Greater than 40.0% of mass 198	88.1
443	17.0 - 23.0% of mass 442	17.6(19.9)2

1-Value is % mass 69

2-Value is % mass 442

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	DAILY CAL	DAILY CAL	>JC202	10/22/91	8:55
02	MET BLANK	1061/1063	>JC208	10/22/91	16:04
03	101SY 1061	92-00206	>JC209	10/22/91	17:08
04	101SY 1061D	92-00206 D	>JC210	10/22/91	18:12
05	101SY 1063	92-00208	>JC211	10/22/91	19:15
06	101SY 1063D	92-00208 D	>JC212	10/22/91	20:18
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FORM V SV

1/87 Rev.

6B
SEMIVOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: BATTELLE-PNL

Contract:-----

Lab Code: ----- Case No.: ----- SAS No.: ----- SDG No.: -----

Instrument ID: BNA1 Calibration Date(s): 10/02/91 | second

Min $\overline{RRF}$ for SPCC(#) = 0.050

Max %RSD for CCC(*) = 30.0%

LAB FILE ID:		RRF20 =>JA104		RRF50 =>JA103			
RRF80 =>JA105		RRF120=>JA106		RRF160=>JA107			
COMPOUND		RRF20	RRF50	RRF80	RRF120	RRF160	% RSD
Phenol	*	2.114	1.833	2.078	1.969	1.945	1.988 5.6*
bis(2-Chloroethyl) ether		1.960	1.910	2.206	2.324	2.348	2.150 9.5
2-Chlorophenol		1.606	1.535	1.667	1.649	1.694	1.630 3.8
1,3-Dichlorobenzene		1.645	1.534	1.689	1.669	1.691	1.645 3.9
1,4-Dichlorobenzene	*	1.901	1.805	1.836	1.752	1.738	1.806 3.7*
Benzyl alcohol		1.003	.942	1.043	.989	.960	.987 4.0
1,2-Dichlorobenzene		1.714	1.618	1.706	1.575	1.463	1.615 6.4
2-Methylphenol		1.416	1.302	1.423	1.369	1.356	1.373 3.6
bis(2-chloroisopropyl) ether		1.590	1.412	1.643	1.526	1.508	1.536 5.7
4-Methylphenol		1.432	1.358	1.514	1.502	1.538	1.469 5.0
N-Nitroso-di-n-propylamine	#	.634	.591	.683	.613	.613	.627 5.6#
Hexachloroethane		.821	.780	.835	.771	.755	.792 4.3
Nitrobenzene		.498	.444	.475	.446	.448	.462 5.1
Isophorone		1.026	.931	1.006	.967	.969	.980 3.8
2-Nitrophenol	*	.264	.258	.267	.260	.272	.264 2.1*
2,4-Dimethylphenol		.361	.334	.340	.329	.331	.339 3.8
Benzoic acid		0.000	.209	.253	.262	.266	.248 10.6
bis(2-Chloroethoxy) methane		.632	.583	.601	.574	.572	.589 4.8
2,4-Dichlorophenol	*	.361	.341	.339	.324	.321	.337 4.8*
1,2,4-Trichlorobenzene		.404	.376	.372	.349	.347	.370 6.2
Naphthalene		1.232	1.106	1.111	1.044	1.006	1.100 7.8
4-Chloroaniline		.437	.421	.514	.505	.508	.477 9.3
Hexachlorobutadiene	*	.193	.183	.173	.163	.160	.174 8.0*
4-Chloro-3-methylphenol	*	.365	.332	.349	.333	.339	.344 4.0*
2-Methylnaphthalene		.721	.668	.667	.634	.630	.664 5.5
Hexachlorocyclopentadiene	#	.352	.381	.384	.370	.359	.369 3.8#
2,4,6-Trichlorophenol	*	.442	.431	.431	.412	.409	.425 3.3*
2,4,5-Trichlorophenol		.508	.490	.488	.463	.461	.482 4.1
2-Chloronaphthalene		1.497	1.386	1.405	1.316	1.282	1.377 6.1
2-Nitroaniline		0.000	.449	.487	.464	.465	.466 3.3
Dimethylphthalate		1.655	1.580	1.638	1.575	1.576	1.605 2.4
Acenaphthylene		2.242	2.088	2.127	2.001	1.969	2.085 5.2
2,6-Dinitrotoluene		.450	.448	.468	.453	.454	.455 1.7
3-Nitroaniline		0.000	.313	.394	.438	.449	.399 15.5
Acenaphthene	*	1.305	1.201	1.207	1.140	1.106	1.192 6.4*
2,4-Dinitrophenol	#	0.000	.155	.194	.210	.228	.197 15.8#
4-Nitrophenol	#	0.000	.173	.190	.185	.192	.185 4.5#

6C
SEMIVOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: BATTELLE-PNL

Contract: -----

Lab Code: ----- Case No.: ----- SAS No.: ----- SDG No.: -----

Instrument ID: BNA1 Calibration Date(s): 10/02/91 | second

Min RRF for SPCC(%) = 0.050

Max %RSD for CCC(*) = 30.0%

LAB FILE ID:		RRF20 =>JA104		RRF50 =>JA103			
RRF80 =>JA105		RRF120=>JA106		RRF160=>JA107			
COMPOUND	RRF20	RRF50	RRF80	RRF120	RRF160	RRF	% RSD
Dibenzofuran	1.834	1.708	1.749	1.660	1.640	1.718	4.5
2,4-Dinitrotoluene	.564	.559	.591	.571	.572	.572	2.1
Diethylphthalate	1.723	1.619	1.711	1.643	1.646	1.668	2.7
4-Chlorophenyl-phenylether	.639	.605	.610	.584	.576	.603	4.1
Fluorene	1.391	1.316	1.330	1.264	1.253	1.311	4.3
4-Nitroaniline	0.000	.319	.333	.347	.395	.348	9.5
4,6-Dinitro-2-methylphenol	0.000	.181	.198	.199	.201	.195	4.8
N-Nitrosodiphenylamine (1) *	.647	.597	.586	.548	.522	.580	8.3*
4-Bromophenyl-phenylether	.237	.231	.228	.219	.218	.226	3.6
Hexachlorobenzene	.307	.296	.291	.283	.280	.292	3.7
Pentachlorophenol *	0.000	.182	.188	.185	.190	.186	1.8*
Phenanthrene	1.321	1.234	1.239	1.198	1.183	1.235	4.3
Anthracene	1.329	1.242	1.263	1.206	1.185	1.245	4.5
Di-n-butylphthalate	2.177	2.004	2.102	2.020	2.015	2.064	3.6
Fluoranthene *	1.404	1.345	1.328	1.273	1.264	1.323	4.3*
Pyrene	2.044	1.790	1.778	1.651	1.595	1.772	9.8
Butylbenzylphthalate	1.261	1.114	1.181	1.119	1.096	1.154	5.9
3,3'-Dichlorobenzidine	.275	.168	.190	.199	.225	.211	19.4
Benzo(a)anthracene	1.444	1.318	1.340	1.274	1.251	1.325	5.7
Chrysene	1.340	1.201	1.182	1.124	1.069	1.183	8.6
bis(2-Ethylhexyl)phthalate	1.833	1.600	1.690	1.568	1.516	1.641	7.6
Di-n-octylphthalate *	3.097	2.708	2.892	2.672	2.472	2.768	8.6*
Benzo(b)fluoranthene	1.352	1.349	1.495	1.461	1.567	1.445	6.5
Benzo(k)fluoranthene	1.237	1.141	1.150	1.049	1.019	1.119	7.8
Benzo(a)pyrene *	1.247	1.157	1.241	1.119	1.085	1.170	6.2*
Indeno(1,2,3-cd)pyrene	1.094	1.068	1.169	1.139	1.146	1.123	3.6
Dibenz(a,h)anthracene	1.132	1.092	1.119	1.022	.982	1.069	6.1
Benzo(g,h,i)perylene	1.162	1.111	1.159	1.065	1.028	1.105	5.3
=====							
Nitrobenzene-d5	.483	.439	.471	.451	.453	.459	3.8
2-Fluorobiphenyl	1.509	1.417	1.402	1.310	1.269	1.382	6.8
Terphenyl-d14	1.097	.966	.957	.878	.853	.950	10.1
Phenol-d6	0.000	0.000	0.000	0.000	0.000	0.000	0.0
2-Fluorophenol	1.468	1.383	1.574	1.565	1.617	1.521	6.2
2,4,6-Tribromophenol	.130	.132	.132	.130	.129	.131	1.0

(1) Cannot be separated from Diphenylamine

7B
SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name:BATTELLE-PNL

Contract:-----

Lab Code: ----- Case No.: ----- SAS No.: ----- SDG No.: -----

Instrument ID: BNA1 Calibration Date: 10/22/91 Time: 8:55

Lab File ID: >JC202 Init. Calib. Date(s):10/12/91 10/22/91

Min RRF50 for SPCC(#) = 0.050

Max %D for CCC(*) = 25.0%

COMPOUND	RRF	RRF50	%D
Phenol	* 1.988	1.890	4.9 *
bis(2-Chloroethyl) ether	2.150	2.049	4.7
2-Chlorophenol	1.630	1.640	.6
1,3-Dichlorobenzene	1.645	1.686	2.5
1,4-Dichlorobenzene	* 1.806	1.709	5.4 *
Benzyl alcohol	.987	1.045	5.9
1,2-Dichlorobenzene	1.615	1.667	3.2
2-Methylphenol	1.373	1.412	2.8
bis(2-chloroisopropyl) ether	1.536	1.551	1.0
4-Methylphenol	1.469	1.487	1.3
N-Nitroso-di-n-propylamine	# .627	.743	18.6 #
Hexachloroethane	.792	.834	5.3
Nitrobenzene	.462	.492	6.3
Isophorone	.980	1.025	4.6
2-Nitrophenol	* .264	.260	1.4 *
2,4-Dimethylphenol	.339	.340	.2
Benzoic acid	.248	.260	5.1
bis(2-Chloroethoxy) methane	.589	.597	1.4
2,4-Dichlorophenol	* .337	.332	1.4 *
1,2,4-Trichlorobenzene	.370	.370	.1
Naphthalene	1.100	1.087	1.2
4-Chloroaniline	.477	.304	36.2
Hexachlorobutadiene	* .174	.182	4.6 *
4-Chloro-3-methylphenol	* .344	.369	7.5 *
2-Methylnaphthalene	.664	.667	.4
Hexachlorocyclopentadiene	# .369	.394	6.7 #
2,4,6-Trichlorophenol	* .425	.424	.3 *
2,4,5-Trichlorophenol	.482	.481	.2
2-Chloronaphthalene	1.377	1.335	3.1
2-Nitroaniline	.466	.490	5.1
Dimethylphthalate	1.605	1.589	1.0
Acenaphthylene	2.085	2.054	1.5
2,6-Dinitrotoluene	.455	.449	1.2
3-Nitroaniline	.399	.229	42.5
Acenaphthene	* 1.192	1.187	.4 *
2,4-Dinitrophenol	# .197	.209	6.5 #
4-Nitrophenol	# .185	.192	3.7 #

7C
SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: BATTELLE-PNL

Contract: -----

Lab Code: ----- Case No.: ----- SAS No.: ----- SDG No.: -----

Instrument ID: BNA1 Calibration Date: 10/22/91 Time: 8:55

Lab File ID: >JC202 Init. Calib. Date(s): 10/12/91 10/22/91

Min RRF50 for SPCC(#) = 0.050

Max %D for CCC(*) = 25.0%

COMPOUND	RRF	RRF50	%D
=====	=====	=====	=====
Dibenzofuran	1.718	1.707	.6
2,4-Dinitrotoluene	.572	.580	1.6
Diethylphthalate	1.668	1.660	.5
4-Chlorophenyl-phenylether	.603	.597	1.0
Fluorene	1.311	1.308	.3
4-Nitroaniline	.348	.340	2.4
4,6-Dinitro-2-methylphenol	.195	.189	3.0
N-Nitrosodiphenylamine (1) *	.580	.523	9.8 *
4-Bromophenyl-phenylether	.226	.228	1.0
Hexachlorobenzene	.292	.322	10.4
Pentachlorophenol *	.186	.206	10.7 *
Phenanthrene	1.235	1.160	6.1
Anthracene	1.245	1.187	4.7
Di-n-butylphthalate	2.064	1.980	4.1
Fluoranthene *	1.323	1.277	3.4 *
Pyrene	1.772	1.981	11.8
Butylbenzylphthalate	1.154	1.193	3.3
3,3'-Dichlorobenzidine	.211	.157	25.7
Benzo(a)anthracene	1.325	1.353	2.1
Chrysene	1.183	1.156	2.3
bis(2-Ethylhexyl)phthalate	1.641	1.704	3.8
Di-n-octylphthalate *	2.768	2.623	5.2 *
Benzo(b)fluoranthene	1.445	1.346	6.8
Benzo(k)fluoranthene	1.119	.957	14.5
Benzo(a)pyrene *	1.170	1.148	1.9 *
Indeno(1,2,3-cd)pyrene	1.123	1.375	22.5
Dibenz(a,h)anthracene	1.069	1.114	4.2
Benzo(g,h,i)perylene	1.105	1.186	7.3
=====	=====	=====	=====
Nitrobenzene-d5	.459	.487	6.0
2-Fluorobiphenyl	1.382	1.334	3.4
Terphenyl-d14	.950	.939	1.2
Phenol-d6	0.000	0.000	0.0
2-Fluorophenol	1.521	1.612	6.0
2,4,6-Tribromophenol	.131	.160	22.7

(1) Cannot be separated from Diphenylamine

8B
SEMIVOLATILE INTERNAL STANDARD AREA SUMMARY

Lab Name: BATTELLE-PNL Contract: -----
 Lab Code: ----- Case No.: ----- SAS No.: ----- SDG No.: -----
 Lab File ID (Standard): >JC202 Date Analyzed: 10/22/91
 Instrument ID: BNA1 Time Analyzed: 8:55

	IS1 (DCB) AREA #	RT	IS2 (NPT) AREA #	RT	IS3 (ANT) AREA #	RT
=====	=====	=====	=====	=====	=====	=====
12 HOUR STD	44101.	5.74	152155.	8.64	78163.	15.70
=====	=====	=====	=====	=====	=====	=====
UPPER LIMIT	88202.		304310.		156326.	
=====	=====	=====	=====	=====	=====	=====
LOWER LIMIT	22051.		76078.		39081.	
=====	=====	=====	=====	=====	=====	=====
EPA SAMPLE NO.						
=====	=====	=====	=====	=====	=====	=====
01 MET BLANK	38755.	5.73	130975.	8.62	64510.	15.69
02 101SY 1061	38668.	5.73	131643.	8.62	64514.	15.69
03 101SY 1061D	38877.	5.73	131350.	8.62	64756.	15.69
04 101SY 1063	39672.	5.73	134723.	8.62	65296.	15.68
05 101SY 1063D	39758.	5.73	134491.	8.61	65369.	15.69
06						
07						
08						
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10						
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17						
18						
19						
20						
21						
22						

IS1 (DCB) = 1,4-Dichlorobenzene-d4
 IS2 (NPT) = Naphthalene-d8
 IS3 (ANT) = Acenaphthene-d8

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

Column used to flag internal standard area values with an asterisk

8C
SEMIVOLATILE INTERNAL STANDARD AREA SUMMARY

Lab Name: BATTELLE-PNL Contract: -----
 Lab Code: ----- Case No.: ----- SAS No.: ----- SDG No.: -----
 Lab File ID (Standard): >JC202 Date Analyzed: 10/22/91
 Instrument ID: BNA1 Time Analyzed: 8:55

	IS4 (PHN) AREA #	RT	IS5 (CRY) AREA #	RT	IS6 (PRY) AREA #	RT
=====	=====	=====	=====	=====	=====	=====
12 HOUR STD	123519.	23.11	53786.	33.21	64708.	37.11
=====	=====	=====	=====	=====	=====	=====
UPPER LIMIT	247038.		107572.		129416.	
=====	=====	=====	=====	=====	=====	=====
LOWER LIMIT	61760.		26893.		32354.	
=====	=====	=====	=====	=====	=====	=====
EPA SAMPLE NO.						
=====	=====	=====	=====	=====	=====	=====
01 MET BLANK	93840.	23.08	39689.	33.24	43277.	37.15
02 101SY 1061	93766.	23.08	40288.	33.24	42187.	37.15
03 101SY 1061D	94020.	23.09	40608.	33.24	42525.	37.15
04 101SY 1063	95274.	23.08	41453.	33.23	43599.	37.14
05 101SY 1063D	96052.	23.08	41430.	33.23	42321.	37.13
06						
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IS4 (PHN) = Phenanthrene-d10
 IS5 (CRY) = Chrysene-d12
 IS6 (PRY) = Perylene-d12

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

Column used to flag internal standard area values with an asterisk

APPENDIX A

TEST INSTRUCTIONS

TEST INSTRUCTIONSTI-101SY-17
Page 1 of 2101-SY SAMPLE TEST INSTRUCTION
WINDOW C
FOR SEMI VOLATILE ORGANIC ANALYSIS

DATE PREPARED: October 7, 1991

PREPARED BY: B. M. Gillespie

SAMPLE NUMBERS: 92-00205 (#1060), 92-00206 (#1061), 92-00207 (#1062),
and 92-00208 (#1063)APPROVED BY: B. M. Gillespie
Project ManagerDATE: 10-7-91CONTROLLING DOCUMENTS:

Project TPP: 101-SY Chemical Analysis Support Task TPP 17667

Project QAPP: Hydrogen Safety Project QA Plan MCS-027

Administrative Control Procedure: PNL-ALO-010

INTRODUCTION

This Test Instruction (TI) defines the scope of work to be completed on 101-SY tank samples that may be crust, slurry/sludge, saltcake and/or liquid samples and their accompanying blind and blank samples requiring Organic analysis.

This TI is based on the TPP 17667. Any deviations from the instructions contained in this TI will require prior approval from the Project Manager.

Upon sample receipt, samples and their extractants will be stored at $4 \pm 2^{\circ}\text{C}$, radioactive levels permitting.

All extractions are to be completed within the 10 day hold time and analyzed within 40 days of extraction following the identified procedure and reported in the units of ug/L or ug/Kg. If deviations from the procedure must be made, the Project Manager must first be notified. Then the change is documented and this documentation must accompany the analytical data. All analytical data are returned to the ALO Project Support Office. Use of screen is optional.

REQUESTED ANALYSES

<u>Requested Analysis</u>	<u>Procedure #</u>	<u>Task Leader</u>
Extraction of Single Shell Tank Samples for the Analysis of Semivolatile Organic Compounds	PNL-ALO-344	Stromatt
Screening of Semivolatile Organic Compounds	PNL-ALO-340	Stromatt

101-SY SAMPLE TEST INSTRUCTION
WINDOW C
FOR TOTAL ORGANIC CARBON ANALYSIS

REQUESTED ANALYSES (continued)

<u>Requested Analysis</u>	<u>Procedure #</u>	<u>Task Leader</u>
GC/MS Analysis of Extractable Semivolatile Organic Compounds	PNL-ALO-345	Stromatt

The following procedures may be used if necessary to "clean-up" the samples before analysis by GC/MS:

Silica Gel Cleanup for Semivolatile Organic Analysis	PNL-ALO-361	Stromatt
Acid-Base Partition Cleanup for Semivolatile Organic Analysis	PNL-ALO-362	Stromatt

SAMPLE PREPARATION INSTRUCTIONS

If samples aliquots must be transferred to other groups or out of the building, they must be transferred in accordance with PNL-ALO-010 (i.e. COC).

Respective representative sample aliquots, as spelled out below, will be used for sample preparation as follows:

B-HOT CELL PREPARATION INSTRUCTIONS

If radiation levels permit, two 1-gram samples (if enough sample material was received) in 40 ml vials should be dispensed for semi-volatile analysis. Otherwise, the semi-volatile organic analysis prep will have to be completed in the B-hot Cell.

QUALITY CONTROL

Each sample batch requires that a blank analysis be performed with that batch.

APPENDIX B
CHAIN OF CUSTODY FORMS

APPENDIX B
CHAIN OF CUSTODY FORMS

This appendix contains chain of custody forms for the semivolatile organic analysis of sample delivery group No. 14 for the 101-SY hydrogen safety project chemical analysis support task.

The Westinghouse Chain of Custody and Sample Analysis Request Forms are followed by the ALO Chain of Custody Form.

A. 6000.407 (04r)U)

Westinghouse Hanford
Company

CHAIN OF CUSTODY

to PNL

Company Contact B. A. Crawford Telephone 3-1972

Sample Collected by D. W. Edmonson / K. J. Patterson Date 10/2/91 Time

Sample Locations 101-SY tank

Ice Chest No. Field Logbook and Page No.

Remarks submitted to PNL for Semi UOA analysis

Bill of Lading No. Offsite Property No.

Method of Shipment B-plant pgs in N-SS overpacks

Shipped to 325 Bldg Attn: Rick Steele

Possible Sample Hazards Radioactive material in caustic matrix
see attached RSR #13695

Sample Identification

#10162 - Composite #3 - Segments 14b, 15, 16, 17 and 18, 101-SY Core 22

#10160 - Composite #4 - Segments 19, 20, 21 & 22, 101-SY Core 22

Chain of Possession

Relinquished by: <u>Beverly A. Crawford</u>	Received by: <u>Rick P. Shook</u>	Date/Time: <u>10/6/91 08:00</u>
Relinquished by: <u>Rick P. Shook</u>	Received by: <u>John K. Rasmussen</u>	Date/Time: <u>10-6-91 10:10</u>
Relinquished by:	Received by:	Date/Time:
Relinquished by:	Received by:	Date/Time:

Ln PNL

Collector D.W. Edmonson / K.J. Patterson Date Sampled 10/2/91 Time — hours
Company Contact B.A. Crawford Telephone (501) 973-1972

Field Information** _____

Special Handling and/or Storage radioactive material in caustic matrix (~50 grams of sample)

Possible Sample Hazards _____

Received by _____ Title _____ Date _____
Analysis Required _____

B.5

to PNL

Collector D.W. Edmonson / K.J. Patterson Date Sampled 10/2/91 Time - hours
Company Contact BA Crawford Telephone (509) 373-1972

Field Information**

Special Handling and/or Storage radioactive material in caustic matrix (~50 grams of sample)

Possible Sample Hazards _____

Received by _____ Title _____ Date _____

Analysis Required

**Use back of page for additional information relative to sample location.

B01-005

LA-6000-406 (05/90)

SAMPLE RECEIPT FORM

Delivered by: B-PLANT OVERPAK Date/Time: 10-6-91 1010, 1405

Received by: John K. R...

Customer Sample Number(s): 1060, 1061, 1062, 1063

ALO Sample Number(s): 92-00205, 92-00206, 92-00207, 92-00208

1. Customer Chain-of-Custody Form: Present X Absent _____

2. Additional Shipping Forms (list):

ORSR

3. Custody Seals on Shipping and/or Sample Containers and their Conditions.

Present X Absent _____

If Present, Condition: GOOD

4. Sample Tag(s) ID Numbers if not Recorded on the Chain-of-Custody Record or on Sample Vial.

Notes: N/A

5. Condition of Shipping Container (i.e., broken container, dented, breached plastic bag, temperature of sample container as defined in Section 3.0 in PNL-ALO-051, etc.)

GOOD, 3 HOGS WERE INTERNALLY CONTAMINATED. 23° AMBIENT TEMP.

6. Condition of Sample Vials.

GOOD

7. Verification of Agreement or Nonagreement of Information on Receiving Documents.

AGREE

8. Resolution of Problems or Discrepancies.

N/A

RETURN COMPLETED FORM TO PROJECT MANAGER

<u>92-00205</u> ALO SAMPLE NUMBER	<u>SVOA</u> ANALYSIS REQUESTED	<u>101-SY #1060</u> SAMPLE DESCRIPTION
SENDER <u>Rick I. Steele</u>		<u>10-9-91</u> DATE
RECEIVER <u>MJ Steele</u>		<u>10-9-91</u> DATE

<u>92-00206</u> ALO SAMPLE NUMBER	<u>SVOA</u> ANALYSIS REQUESTED	<u>101-SY #1061</u> SAMPLE DESCRIPTION
SENDER <u>Rick I. Steele</u>		<u>10-9-91</u> DATE
RECEIVER <u>MJ Steele</u>		<u>10-9-91</u> DATE

<u>92-00207</u> ALO SAMPLE NUMBER	<u>SVOA</u> ANALYSIS REQUESTED	<u>101-SY #1062</u> SAMPLE DESCRIPTION
SENDER <u>Rick I. Steele</u>		<u>10-9-91</u> DATE
RECEIVER <u>MJ Steele</u>		<u>10-9-91</u> DATE

<u>92-00208</u> ALO SAMPLE NUMBER	<u>SVOA</u> ANALYSIS REQUESTED	<u>101-SY #1063</u> SAMPLE DESCRIPTION
SENDER <u>Rick I. Steele</u>		<u>10-9-91</u> DATE
RECEIVER <u>MJ Steele</u>		<u>10-9-91</u> DATE

Original - Project Management Office
Copy - Sender
Copy - Receiver

Applicable Test Instruction

TI-101SY-17

DISTRIBUTION

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4 Westinghouse Hanford Company
J. R. Jewett, T6-50 (4)

END

**DATE
FILMED**

5 / 5 / 92