UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5 CENTRAL REGIONAL LABORATORY
536 SOUTH CLARK STREET
CHICAGO, ILLINOIS 60605

US EPA RECORDS CENTER REGION 5
478118

Print Date: 11/25/02

Subject: Review of Region 5 Data for Himco Dump

From: Tom Sedlacek, Chemist
Contractor to Region 5 Central Regional Laboratory
Submitted to CRL on 11/25/02 DMS

To: Superfund, US EPA Region 5
77 West Jackson Boulevard
Chicago, IL 60604

Attached are Results for: Himco Dump

Analyses included in this report:

THF & 1,4-Dioxane

Dear Bob,
Ross Del Rosario said that I should submit this data to you since Doug Yeskis is leaving today. If you have any questions, pls. phone me at 3-9073
Sylvia 3-9073

Sylvia Griffin NOV 27 2002

Data Management Coordinator and Date Received

Date Transmitted: NOV 27 2002

Please have the U.S. EPA Project Manager/Officer call the CRL Sample Coordinator at 3-7444 for any comments or questions.

Please sign and date this form below and return it with any comments to:

Sylvia Griffin
Data Management Coordinator
Region 5 Central Regional Laboratory
ML-10C

_____/____/_____

Received by and Date

Comments:

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IIT Research Institute ESAT Region 5
536 South Clark Street, Suite 734; Chicago, IL 60605
Telephone (312) 353-8302 Facsimile (312) 353-8307

WORK ORDER

Printed: 11/25/02 10:54:35A

E2K0101

IITRI - ESAT Contract

Client: Superfund, US EPA Region 5 **Project Manager:** Jennifer Mokos
Project: Himco Dump **Project Number:** 2003SY01

Report To:
Howard Pham
Superfund, US EPA Region 5
77 West Jackson Boulevard
Chicago, IL 60604
Phone: (312) 353-2310
Fax: (312) 886-6171

Date Due: Dec-03-02 15:00 (30 day TAT)
Received By: William Sargent Date Received: Nov-01-02 11:27
Logged In By: William Sargent Date Logged In: Nov-01-02 12:16

Samples Received at:	°C
All containers intact:	No
Sample labels/COC agree:	No
Samples Preserved Properly:	No
Custody Seals Present:	No

Analysis	Due	TAT	Expires	Comments
E2K0101-01 2003SY01S01-SINK [Water] Sampled Oct-31-02 07:40 Central				
Volatiles Full List	Dec-03-02 12:00	30	Nov-07-02 07:40	
THF & 1,4-Dioxane	Dec-03-02 12:00	30	Nov-14-02 07:40	
E2K0101-02 2003SY01R02-Pump Blank [Water] Sampled Oct-31-02 11:50 Central				
GFAA 5100 Cd	Dec-03-02 12:00	30	Apr-29-03 11:50	
Volatiles Full List	Dec-03-02 12:00	30	Nov-07-02 11:50	
SVOA Standard List	Dec-03-02 12:00	30	Nov-07-02 11:50	
Cyanide, Total	Dec-03-02 12:00	30	Nov-14-02 11:50	pH10
Hg Total CVAA	Dec-03-02 12:00	30	Nov-28-02 11:50	pH2
Solids, Dry Weight	Dec-03-02 12:00	30	Nov-07-02 11:50	For SVOA Standard List in batch EK21101
B ICP (W)	Dec-03-02 12:00	30	Apr-29-03 11:50	pH2
THF & 1,4-Dioxane	Dec-03-02 12:00	30	Nov-14-02 11:50	
Metals SF ICP (W)	Dec-03-02 12:00	30	Apr-29-03 11:50	pH2
GFAA SIMAA Metals	Dec-03-02 12:00	30	Apr-29-03 11:50	pH2
E2K0101-03 2003SY01R03-Trip Blank [Water] Sampled Oct-31-02 11:50 Central				
Volatiles Full List	Dec-03-02 12:00	30	Nov-07-02 11:50	
THF & 1,4-Dioxane	Dec-03-02 12:00	30	Nov-14-02 11:50	

E2K0101

IITRI - ESAT Contract

Client: Superfund, US EPA Region 5 **Project Manager:** Jennifer Mokos
Project: Himco Dump **Project Number:** 2003SY01

Analysis	Due	TAT	Expires	Comments
E2K0101-04 2003SY01S04-WT116A [Water] Sampled Oct-31-02 13:52 Central				
GFAA 5100 Cd	Dec-03-02 12:00	30	Apr-29-03 13:52	
Volatiles Full List	Dec-03-02 12:00	30	Nov-07-02 13:52	
SVOA Standard List	Dec-03-02 12:00	30	Nov-07-02 13:52	
Cyanide, Total	Dec-03-02 12:00	30	Nov-14-02 13:52	pH10
Hg Total CVAA	Dec-03-02 12:00	30	Nov-28-02 13:52	pH2
Solids, Dry Weight	Dec-03-02 12:00	30	Nov-07-02 13:52	For SVOA Standard List in batch EK21101
B ICP (W)	Dec-03-02 12:00	30	Apr-29-03 13:52	pH2
THF & 1,4-Dioxane	Dec-03-02 12:00	30	Nov-14-02 13:52	
Metals SF ICP (W)	Dec-03-02 12:00	30	Apr-29-03 13:52	pH2
GFAA SIMAA Metals	Dec-03-02 12:00	30	Apr-29-03 13:52	pH2
E2K0101-05 2003SY01D04-WT116A [Water] Sampled Oct-31-02 13:52 Central				
GFAA 5100 Cd	Dec-03-02 12:00	30	Apr-29-03 13:52	
Volatiles Full List	Dec-03-02 12:00	30	Nov-07-02 13:52	
SVOA Standard List	Dec-03-02 12:00	30	Nov-07-02 13:52	
Cyanide, Total	Dec-03-02 12:00	30	Nov-14-02 13:52	pH10
Hg Total CVAA	Dec-03-02 12:00	30	Nov-28-02 13:52	pH2
Solids, Dry Weight	Dec-03-02 12:00	30	Nov-07-02 13:52	For SVOA Standard List in batch EK21101
B ICP (W)	Dec-03-02 12:00	30	Apr-29-03 13:52	pH2
THF & 1,4-Dioxane	Dec-03-02 12:00	30	Nov-14-02 13:52	
Metals SF ICP (W)	Dec-03-02 12:00	30	Apr-29-03 13:52	pH2
GFAA SIMAA Metals	Dec-03-02 12:00	30	Apr-29-03 13:52	pH2
E2K0101-06 2003SY01S05-WT115A [Water] Sampled Oct-31-02 15:00 Central MS/MSD				
GFAA 5100 Cd	Dec-03-02 12:00	30	Apr-29-03 15:00	
Volatiles Full List	Dec-03-02 12:00	30	Nov-07-02 15:00	
SVOA Standard List	Dec-03-02 12:00	30	Nov-07-02 15:00	
Cyanide, Total	Dec-03-02 12:00	30	Nov-14-02 15:00	pH10
Hg Total CVAA	Dec-03-02 12:00	30	Nov-28-02 15:00	pH2
Solids, Dry Weight	Dec-03-02 12:00	30	Nov-07-02 15:00	For SVOA Standard List in batch EK21101
B ICP (W)	Dec-03-02 12:00	30	Apr-29-03 15:00	pH2
THF & 1,4-Dioxane	Dec-03-02 12:00	30	Nov-14-02 15:00	
Metals SF ICP (W)	Dec-03-02 12:00	30	Apr-29-03 15:00	pH2
GFAA SIMAA Metals	Dec-03-02 12:00	30	Apr-29-03 15:00	pH2

Reviewed By Date

CASE NARRATIVE

DATE: November 25, 2002

PROJECT NAME: Data Set E2K0101: Himco Dump Water Samples for Tetrahydrofuran & 1,4-Dioxane analysis

ANALYST: Thomas Sedlacek, IITRI/ESAT

I. CASE DESCRIPTION:

ESAT was given Six water samples for Tetrahydrofuran & 1,4-Dioxane analysis per CRL SOP GCMS024. The samples were analyzed within the fourteen day holding time for preserved water samples. No other problems were observed.

II INSTRUMENT QUALITY CONTROLS:

1. **Instrument Performance Checks:** A GC/MS instrument performance check using *BFB* was made each day of analysis to determine if acceptable EPA tuning criteria were met. The QC criteria are the same as those found in the Statement of Work under the EPAs Contract Laboratory Program and CRL SOPs. All criteria were met, no problems were observed.

2. **Initial Calibrations (IC):** An acceptable five point IC is required for all target compounds before samples can be analyzed. The QC criterion for the IC states each analyte's %RSD must be <30%.

   The Initial Calibration for Tetrahydrofuran & 1,4-Dioxane was run on November 12, 2002 and met all QC requirements. No problems were observed

3. **Continuing calibration (CC):** An acceptable CC is required for all target compounds before samples can be analyzed. The QC criteria for CC states each analytes %D must be <30%.

   All of the analytes in the continuing calibration check for Tetrahydrofuran & 1,4-Dioxane ran on November 13, 2002 met the QC requirements.
   No other problems were observed.

4. **Internal Standard (IS) Area and Retention Time Summary:** The QC criteria states that the IS area of the samples must be within fifty percent of the IS area of the corresponding CC. The RT of the IS for samples must also be within 30 seconds

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of the RT of the IS for the corresponding standard. All internal standards met the QC requirements with exception in EK20803-BLK1 the area was out of control high and in EK20803-BLK2 the area was out of control low. No other problems were observed.

II METHOD QUALITY CONTROL:

1. Method Blank Results: A lab blank, was prepared for each day samples were analyzed to check the GC/MS, and the reagents for laboratory contamination.

The Method Blanks EK20803-BLK1 (VBLK111202) and EK20803-BLK2 (VBLK111302) contained the target analyte Tetrahydrofuran.

2. Surrogate Spike Compound Results:
The surrogate recovery was within QC limits for all the Tetrahydrofuran & 1,4-Dioxane samples with the exception of E2K0101-04 (2003SY01S04) which was out of control limits low. In sample E2K0101-04, hits are flagged "J" and non-detects are flagged "UJ".
No other problems were observed.

3. Laboratory Control Sample (LCS) Results:
Only a LCS is required for the Tetrahydrofuran & 1,4-Dioxane analysis and the recovery of all analytes were within QC limits.

4. Matrix Spike/Matrix Spike Duplicate (MS/MSD) Results
Sample E2K0101-06 (2003SY01S05) was used as the Matrix Spike/Matrix Spike Duplicate analysis.

The analyte recoveries for Tetrahydrofuran & 1,4-Dioxane matrix spike/spike duplicate were with QC requirements with the exception of Dioxane which exceeded the upper control limit in the matrix spike sample. No action is required

IV. SAMPLE RESULTS:
The raw data and final reviewed reports are archived on R5CRL\Vol2\IITRI-GCMS\TSEDLAC\GCMS7\DATA.

EXAMPLE CALCULATIONS

$$Concentration\ (ug/L) = \frac{(A_x)(I_s)(Df)}{(A\,is)(RRF)(Vs)}$$ Formula for waters

For 1,4-Dioxane in 2003SY01S05 Reported value of 11 ug/L

$$11.1\ (ug/L) = \frac{(3819158)(50)(1)}{(8650701)(.396)(5.0)}$$

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Telephone (312) 353-8302 Facsimile (312) 353-8307

Superfund, US EPA Region 5 77 West Jackson Boulevard Chicago IL, 60604	Project: Himco Dump Project Number: 2003SY01 Project Manager: Howard Pham	**Reported:** Nov-25-02 14:18

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
2003SY01S01-SINK	E2K0101-01	Water	Oct-31-02 07:40	Nov-01-02 11:27
2003SY01R02-Pump Blank	E2K0101-02	Water	Oct-31-02 11:50	Nov-01-02 11:27
2003SY01R03-Trip Blank	E2K0101-03	Water	Oct-31-02 11:50	Nov-01-02 11:27
2003SY01S04-WT116A	E2K0101-04	Water	Oct-31-02 13:52	Nov-01-02 11:27
2003SY01D04-WT116A	E2K0101-05	Water	Oct-31-02 13:52	Nov-01-02 11:27
2003SY01S05-WT115A	E2K0101-06	Water	Oct-31-02 15:00	Nov-01-02 11:27

Tom Sedlacek, Chemist

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Superfund, US EPA Region 5	Project: Himco Dump	
77 West Jackson Boulevard	Project Number: 2003SY01	**Reported:**
Chicago IL, 60604	Project Manager: Howard Pham	Nov-25-02 14:18

2003SY01S01-SINK
E2K0101-01(Water)
Sampled: Oct-31-02 07:40
Received: Nov-01-02 11:27

Volatiles by GC/MS

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
1,4-Dioxane	U		3.5	5.0	ug/L	1	EK20803	Nov-08-02	Nov-13-02
Tetrahydrofuran	U		2.2	2.5	"	"	"	"	"
Surrogate: 1,4-Dioxane-d8	56.3			*56.3 %*	*23-117*		"	"	"

Tom Sedlacek, Chemist

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Telephone (312) 353-8302 Facsimile (312) 353-8307

Superfund, US EPA Region 5 77 West Jackson Boulevard Chicago IL, 60604	Project: Himco Dump Project Number: 2003SY01 Project Manager: Howard Pham	**Reported:** Nov-25-02 14:18

2003SY01R02-Pump Blank

E2K0101-02(Water)
Sampled: Oct-31-02 11:50
Received: Nov-01-02 11:27

Volatiles by GC/MS

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
1,4-Dioxane	U		3.5	5.0	ug/L	1	EK20803	Nov-08-02	Nov-12-02
Tetrahydrofuran	U		2.2	2.5	"	"	"	"	"
Surrogate: 1,4-Dioxane-d8	93.9			*93.9 %*	*23-117*		"	"	"

Tom Sedlacek, Chemist

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536 South Clark Street, Suite 734; Chicago, IL 60605
Telephone (312) 353-8302 Facsimile (312) 353-8307

Superfund, US EPA Region 5 77 West Jackson Boulevard Chicago IL, 60604	Project: Himco Dump Project Number: 2003SY01 Project Manager: Howard Pham	**Reported:** Nov-25-02 14:18

2003SY01R03-Trip Blank
E2K0101-03(Water)
Sampled: Oct-31-02 11:50
Received: Nov-01-02 11:27

Volatiles by GC/MS

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
1,4-Dioxane	**U**		3.5	5.0	ug/L	1	EK20803	Nov-08-02	Nov-13-02
Tetrahydrofuran	**U**		2.2	2.5	"	"	"	"	"
Surrogate: 1,4-Dioxane-d8	84.7			*84.7 %*	*23-117*		"	"	"

Tom Sedlacek, Chemist

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Telephone (312) 353-8302 Facsimile (312) 353-8307

Superfund, US EPA Region 5	Project: Himco Dump	
77 West Jackson Boulevard	Project Number: 2003SY01	**Reported:**
Chicago IL, 60604	Project Manager: Howard Pham	Nov-25-02 14:18

2003SY01S04-WT116A
E2K0101-04(Water)
Sampled: Oct-31-02 13:52
Received: Nov-01-02 11:27

Volatiles by GC/MS

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
1,4-Dioxane	**9.2**	J	3.5	5.0	ug/L	1	EK20803	Nov-08-02	Nov-13-02
Tetrahydrofuran	**7.4**	J	2.2	2.5	"	"	"	"	"
Surrogate: 1,4-Dioxane-d8	24.9			*24.9 %*	*23-117*		"	"	"

Tom Sedlacek, Chemist

IIT RESEARCH INSTITUTE

IIT Research Institute ESAT Region 5
536 South Clark Street, Suite 734; Chicago, IL 60605
Telephone (312) 353-8302 Facsimile (312) 353-8307

Superfund, US EPA Region 5	Project: Himco Dump	
77 West Jackson Boulevard	Project Number: 2003SY01	**Reported:**
Chicago IL, 60604	Project Manager: Howard Pham	Nov-25-02 14:18

2003SY01D04-WT116A

E2K0101-05(Water)
Sampled: Oct-31-02 13:52
Received: Nov-01-02 11:27

Volatiles by GC/MS

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
1,4-Dioxane	**32**		3.5	5.0	ug/L	1	EK20803	Nov-08-02	Nov-13-02
Tetrahydrofuran	**8.7**		2.2	2.5	"	"	"	"	"
Surrogate: 1,4-Dioxane-d8	85.1			*85.1 %*	*23-117*		"	"	"

Tom Sedlacek, Chemist

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536 South Clark Street, Suite 734; Chicago, IL 60605
Telephone (312) 353-8302 Facsimile (312) 353-8307

Superfund, US EPA Region 5 77 West Jackson Boulevard Chicago IL, 60604	Project: Himco Dump Project Number: 2003SY01 Project Manager: Howard Pham	**Reported:** Nov-25-02 14:18

2003SY01S05-WT115A
E2K0101-06(Water)
Sampled: Oct-31-02 15:00
Received: Nov-01-02 11:27

Volatiles by GC/MS

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
1,4-Dioxane	**11**		3.5	5.0	ug/L	1	EK20803	Nov-08-02	Nov-12-02
Tetrahydrofuran	**6.3**		2.2	2.5	"	"	"	"	"
Surrogate: 1,4-Dioxane-d8	74.6			*74.6 %*		*23-117*	"	"	"

Tom Sedlacek, Chemist

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536 South Clark Street, Suite 734; Chicago, IL 60605
Telephone (312) 353-8302 Facsimile (312) 353-8307

Superfund, US EPA Region 5	Project: Himco Dump	
77 West Jackson Boulevard	Project Number: 2003SY01	**Reported:**
Chicago IL, 60604	Project Manager: Howard Pham	Nov-25-02 14:18

Notes and Definitions

J	The identification of the analyte is acceptable; the reported value is an estimate.
U	Not Detected
NR	Not Reported

Tom Sedlacek, Chemist

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 5 CENTRAL REGIONAL LABORATORY

536 SOUTH CLARK STREET

CHICAGO, ILLINOIS 60605

Print Date: 12/5/02

Subject: Review of Region 5 Data for Himco Dump

From: Xuyen Nguyen, Chemist XN 12/5/02
Contractor to Region 5 Central Regional Laboratory
Submitted to CRL on

To: Superfund, US EPA Region 5
77 West Jackson Boulevard
Chicago, IL 60604

Attached are Results for: Himco Dump

Analyses included in this report:

SVOA Standard List

Sylvia Griffin 12/5/02

Data Management Coordinator and Date Received

Date Transmitted: 12/5/02

Please have the U.S. EPA Project Manager/Officer call the CRL Sample Coordinator at 3-7444 for any comments or questions.

Please sign and date this form below and return it with any comments to:

Sylvia Griffin
Data Management Coordinator
Region 5 Central Regional Laboratory
ML-10C

_____/____/_____

Received by and Date

Comments:

CASE NARRATIVE

DATE: November 25, 2002 TDF#:05-0-047
Job#:249-0-1476-109-011-002

PROJECT NAME: Data set W/O # E2K0101 water samples for Semi-Volatile (CRL SOP GCMS026).
SITE NAME: HIMCO DUMP

ANALYST: Xuyen Nguyen, IITRI/ESAT

I CASE DESCRIPTION:

ESAT received four water samples (E2K0101-02# 2003SY01R02, E2K0101-04# 2003 SY01S04, E2K0101-05# 2003SY01D04 and E2K0101-06# 2003SY01S05) for semi-volatile analysis on November 01, 2002. The samples were extracted on November 4, 2002 using the continuous liquid/liquid extraction method per CRL SOP GCMS026. All samples extracts were analyzed on November 13, 2002 . Their IS responses were below the lower QC limits. All The samples were re- analyzed on November 20, 2002 within the required hold time after discussing with the TOPO.

II. INSTRUMENT QUALITY CONTROLS:

1. Instrument Performance Checks:

A GC/MS instrument performance check using DFTPP was made each day of analysis to determine if acceptable EPA tuning criteria were met. The QC criteria are the same as those found in CRL SOP GCMS026. All standards and samples were analyzed on GCMS #2. All QC criteria were met and no problems were observed.

2. Initial Calibrations (IC):

An acceptable five point IC is required for all target compounds before samples can be analyzed. The QC criterion for the IC states each analyte's %RSD must be < 30% for water (according to the criteria listed in CRL SOP GCMS026).All analytes met the requirements for the IC analyzed on November 20, 2002 except Benzoic acid (74.50%RSD), Hexachlorocyclopentadiene (53.7%RSD), 2,4-Dinitrophenol (58.6%RSD), 4,6-Dinitro-2-methylphenol(64.3%RSD) and Pentachlorophenol (94.8%RSD). These analytes were flagged estimated "J" for positive results and "UJ" for non-detects. The analyte 2,4-Dinitrophenol has three point calibration curve , 4-Nitrophenol has four point calibration curve and Pentachlorophenol has three point calibration curve. These compounds have an elevated detection limit.

3. Continuing calibration (CC):

An acceptable CC is required for all target compounds before samples can be analyzed. The QC criteria for the CC states each analyte's %D must be <25%. The continuing calibration, analyzed on November 20, 2002 reported all compounds within the quality control limits except 2,4-Dinitrophenol(52.4%D) and Pentachlorophenol (85.7%D). These analytes were flagged "J" for positive results and "UJ" for non-detects in the associated samples.

4. Internal Standard (IS) Area and Retention Time Summary:

The QC criteria states that the IS area of the samples must range from 50 to 200% of the internal standard area of the corresponding CC. The RT of the IS for samples must also be within ±30 seconds of the RT of the IS for the corresponding standard.
All internal standards area met the QC requirements .

III. METHOD QUALITY CONTROL:

1. Method Blank Results:

A lab blank was prepared for each day samples were extracted to check the GC/MS, extraction glassware and the reagents for laboratory contamination.
The extraction blank EK21101-blk1 reported bis(2-Ethylhexyl)phthalate at 6ug/L . This analyte was qualified as non-detected "UJ" when the sample result is less than(<) ten (10) times the blank results and detected "J" when the sample results at or above the reporting limit(RL) in all the associated samples.

2. Surrogate Spike Compound Results:

All surrogate recoveries were within the control limits stated in the CRL SOP GCMS026 except in the sample E2I0501-MSD1, only one surrogate Nitrobenzene-d5(34%) was outside the control QC limits, no action was required.

3. Laboratory Control Sample (LCS) Results:

The EK21101-BS1 and EK21101-BSD1 were each spiked with 500ul of the 100ug/ml ABN LCS standard solution. This corresponded to a 50ug spiked into one liter of water.
In the EK21101-BS1 and EK21101-BSD1 samples, all the relative percent differences (RPD) were within QC limits except Dimethylphthalate(103%) and Diethylphthalate(52%).
In the EK21101-BS1/BSD1 samples , all the percent recoveries were within limits except analytes Diethylphthalate(20%) and Pentachlorophenol(5%) which were outside limits in the BS1 sample but were within limits in the BSD1 sample so no action was required..
The analyte 2,4-Dinitrophenol was not detected in either the BS1 or BSD1. This analyte was flagged "Q" for detected compound and "R" for non-detected compound in all the samples.

4. Matrix Spike/Matrix Spike Duplicate (MS/MSD) Results

Sample E2K0101-06 was used as the MS1/MSD1 samples. The MS1 and MSD1 samples were each spiked with 500ul of the 100ug/ml ABN LCS standard solution.
In the MS1 sample all the percent recoveries were within limits except Pentachlorophenol (188%) and 3,3-Dichlorobenzidine(26%).
The analyte 2,4-Dinitrophenol was not detected in either MS1 or MSD1. This analyte was flagged "Q" for detected and "R" for non-detected compounds in the native sample.

In the MSD1 sample all the percent recoveries were within limits except: bis(2-Chloroethyl)ether (10%), 1,3-Dichlorobenzene(11%), 1,4-Dichlorobenzene(12%), 1,2-Dichlorobenzene(16%), bis(2-chloroisopropyl)ether(24%), 2-Nitrophenol(38%) N-Nitroso-di-n-propylamine(32%), Nitrobenzene(32%), Isophorone(42%), bis(2-Chloroethoxy)methane(44%), 1,2,4-Trichlorobenzene(32%) 4-Chloroaniline (26%), Pentachlorophenol(162%) and 3,3-Dichlorobenzidine (18%). All these compounds percent recoveries were within limits in the MS1 except the analytes Pentachlorophenol and 3,3-Dichlorobenzidine were outside limits in both MS1 and MSD1. These compounds were flagged "J" for detected and "UJ" for non-detected compounds in the native sample.

The relative percent differences(RPD) were within limits except bis(2-Chloroethyl)ether (117%), 1,3-Dichlorobenzene(123%), 1,4-Dichlorobenzene(120%), 1,2-Dichlorobenzene (103%), bis(2-chloroisopropyl)ether(83%), Hexachloroethane(97%), N-Nitroso-di-n-propylamine(64%), Nitrobenzene(58%), Isophorone(42%), 2,4-Nitrophenol (51%),4-Chloroaniline (76%) and bis(2-Ethylhexyl)phthalate(29%). No other problems were observed.

IV.SAMPLES RESULTS:

In the sample E2k0101-02 contained bis(2-Ethylhexyl)phthalate(5.0ug/L)
In the sample E2k0101-04 contained bis(2-Ethylhexyl)phthalate(7.0ug/L
In the sample E2k0101-05 contained bis(2-Ethylhexyl)phthalate(4.0ug/L)
In the sample E2k0101-06 contained bis(2-Ethylhexyl)phthalate(6.0ug/L)
The raw /processed data files, method files and sequence files are archived on R5CRL\VOL2\XNGUYEN\2002.
Tentatively Identified Compounds (TICs) have been listed for each sample. These compounds listed on the Enviroforms were selected based on the best Mass spectrum match of the unknown compound to compounds in the library. These compounds are suggested and not confirmed. LIMS reports will be generated as soon as possible.

Environmental Protection Agency Region 5
Central Regional Laboratory

536 South Clark Street, Chicago, IL 60605
Phone:(312)353-8370 Fax:(312)886-2591

WORK ORDER **Printed: 11/25/02 12:26:56P**

E2K0101

IITRI - ESAT Contract

Client: Superfund, US EPA Region 5 **Project Manager:** Jennifer Mokos
Project: Himco Dump **Project Number:** 2003SY01

Report To:
Howard Pham, Superfund, US EPA Region 5 | 77 West Jackson Boulevard, Chicago, IL 60604 | Phone: (312) 353-2310, Fax: (312) 886-6171

Date Due: Dec-03-02 15:00 (30 day TAT)
Received By: William Sargent Date Received: Nov-01-02 11:27
Logged In By: William Sargent Date Logged In: Nov-01-02 12:16

Samples Received at:	°C
All containers intact:	No
Sample labels/COC agree:	No
Samples Preserved Properly:	No
Custody Seals Present:	No

Analysis	Due	TAT	Expires	Comments
E2K0101-01 2003SY01S01-SINK [Water] Sampled Oct-31-02 07:40 Central				
Volatiles Full List	Dec-03-02 12:00	30	Nov-07-02 07:40	
THF & 1,4-Dioxane	Dec-03-02 12:00	30	Nov-14-02 07:40	
E2K0101-02 2003SY01R02-Pump Blank [Water] Sampled Oct-31-02 11:50 Central				
GFAA 5100 Cd	Dec-03-02 12:00	30	Apr-29-03 11:50	
Volatiles Full List	Dec-03-02 12:00	30	Nov-07-02 11:50	
SVOA Standard List	Dec-03-02 12:00	30	Nov-07-02 11:50	
Cyanide, Total	Dec-03-02 12:00	30	Nov-14-02 11:50	pH10
Hg Total CVAA	Dec-03-02 12:00	30	Nov-28-02 11:50	pH2
Solids, Dry Weight	Dec-03-02 12:00	30	Nov-07-02 11:50	For SVOA Standard List in batch EK21101
B ICP (W)	Dec-03-02 12:00	30	Apr-29-03 11:50	pH2
THF & 1,4-Dioxane	Dec-03-02 12:00	30	Nov-14-02 11:50	
Metals SF ICP (W)	Dec-03-02 12:00	30	Apr-29-03 11:50	pH2
GFAA SIMAA Metals	Dec-03-02 12:00	30	Apr-29-03 11:50	pH2
E2K0101-03 2003SY01R03-Trip Blank [Water] Sampled Oct-31-02 11:50 Central				
Volatiles Full List	Dec-03-02 12:00	30	Nov-07-02 11:50	
THF & 1,4-Dioxane	Dec-03-02 12:00	30	Nov-14-02 11:50	

E2K0101

IITRI - ESAT Contract

Client: Superfund, US EPA Region 5 **Project Manager:** Jennifer Mokos
Project: Himco Dump **Project Number:** 2003SY01

Analysis	Due	TAT	Expires	Comments
E2K0101-04 2003SY01S04-WT116A [Water] Sampled Oct-31-02 13:52 Central				
GFAA 5100 Cd	Dec-03-02 12:00	30	Apr-29-03 13:52	
Volatiles Full List	Dec-03-02 12:00	30	Nov-07-02 13:52	
SVOA Standard List	Dec-03-02 12:00	30	Nov-07-02 13:52	
Cyanide, Total	Dec-03-02 12:00	30	Nov-14-02 13:52	pH10
Hg Total CVAA	Dec-03-02 12:00	30	Nov-28-02 13:52	pH2
Solids, Dry Weight	Dec-03-02 12:00	30	Nov-07-02 13:52	For SVOA Standard List in batch EK21101
B ICP (W)	Dec-03-02 12:00	30	Apr-29-03 13:52	pH2
THF & 1,4-Dioxane	Dec-03-02 12:00	30	Nov-14-02 13:52	
Metals SF ICP (W)	Dec-03-02 12:00	30	Apr-29-03 13:52	pH2
GFAA SIMAA Metals	Dec-03-02 12:00	30	Apr-29-03 13:52	pH2
E2K0101-05 2003SY01D04-WT116A [Water] Sampled Oct-31-02 13:52 Central				
GFAA 5100 Cd	Dec-03-02 12:00	30	Apr-29-03 13:52	
Volatiles Full List	Dec-03-02 12:00	30	Nov-07-02 13:52	
SVOA Standard List	Dec-03-02 12:00	30	Nov-07-02 13:52	
Cyanide, Total	Dec-03-02 12:00	30	Nov-14-02 13:52	pH10
Hg Total CVAA	Dec-03-02 12:00	30	Nov-28-02 13:52	pH2
Solids, Dry Weight	Dec-03-02 12:00	30	Nov-07-02 13:52	For SVOA Standard List in batch EK21101
B ICP (W)	Dec-03-02 12:00	30	Apr-29-03 13:52	pH2
THF & 1,4-Dioxane	Dec-03-02 12:00	30	Nov-14-02 13:52	
Metals SF ICP (W)	Dec-03-02 12:00	30	Apr-29-03 13:52	pH2
GFAA SIMAA Metals	Dec-03-02 12:00	30	Apr-29-03 13:52	pH2
E2K0101-06 2003SY01S05-WT115A [Water] Sampled Oct-31-02 15:00 Central MS/MSD				
GFAA 5100 Cd	Dec-03-02 12:00	30	Apr-29-03 15:00	
Volatiles Full List	Dec-03-02 12:00	30	Nov-07-02 15:00	
SVOA Standard List	Dec-03-02 12:00	30	Nov-07-02 15:00	
Cyanide, Total	Dec-03-02 12:00	30	Nov-14-02 15:00	pH10
Hg Total CVAA	Dec-03-02 12:00	30	Nov-28-02 15:00	pH2
Solids, Dry Weight	Dec-03-02 12:00	30	Nov-07-02 15:00	For SVOA Standard List in batch EK21101
B ICP (W)	Dec-03-02 12:00	30	Apr-29-03 15:00	pH2
THF & 1,4-Dioxane	Dec-03-02 12:00	30	Nov-14-02 15:00	
Metals SF ICP (W)	Dec-03-02 12:00	30	Apr-29-03 15:00	pH2
GFAA SIMAA Metals	Dec-03-02 12:00	30	Apr-29-03 15:00	pH2

Reviewed By Date

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IIT Research Institute ESAT Region 5
536 South Clark Street, Suite 734; Chicago, IL 60605
Telephone (312) 353-8302 Facsimile (312) 353-8307

Superfund, US EPA Region 5 77 West Jackson Boulevard Chicago IL, 60604	Project:Himco Dump Project Number:2003SY01 Project Manager:Howard Pham	**Reported:** Dec-05-02 14:50

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
2003SY01R02-Pump Blank	E2K0101-02	Water	Oct-31-02 11:50	Nov-01-02 11:27
2003SY01S04-WT116A	E2K0101-04	Water	Oct-31-02 13:52	Nov-01-02 11:27
2003SY01D04-WT116A	E2K0101-05	Water	Oct-31-02 13:52	Nov-01-02 11:27
2003SY01S05-WT115A	E2K0101-06	Water	Oct-31-02 15:00	Nov-01-02 11:27

Xuyen Nguyen, Chemist

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Telephone (312) 353-8302 Facsimile (312) 353-8307

Superfund, US EPA Region 5 77 West Jackson Boulevard Chicago IL, 60604	Project: Himco Dump Project Number: 2003SY01 Project Manager: Howard Pham	**Reported:** Dec-05-02 14:50

2003SY01R02-Pump Blank
E2K0101-02(Water)
Sampled: Oct-31-02 11:50
Received: Nov-01-02 11:27

Semivolatiles by GC/MS

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
Phenol	U		0.74	5.0	ug/L	1	EK21101	Nov-04-02	Nov-20-02
Bis(2-chloroethyl)ether	U		0.68	5.0	"	"	"	"	"
2-Chlorophenol	U		0.79	5.0	"	"	"	"	"
1,3-Dichlorobenzene	U		2.1	5.0	"	"	"	"	"
1,4-Dichlorobenzene	U		2.2	5.0	"	"	"	"	"
Benzyl alcohol	U		1.0	5.0	"	"	"	"	"
1,2-Dichlorobenzene	U		1.9	5.0	"	"	"	"	"
2-Methylphenol	U		0.64	5.0	"	"	"	"	"
Bis(2-chloroisopropyl)ether	U		1.8	5.0	"	"	"	"	"
4-Methylphenol	U		0.80	5.0	"	"	"	"	"
N-Nitrosodi-n-propylamine	U		1.7	5.0	"	"	"	"	"
Hexachloroethane	U		2.7	5.0	"	"	"	"	"
Nitrobenzene	U		1.4	5.0	"	"	"	"	"
Isophorone	U		1.4	5.0	"	"	"	"	"
2-Nitrophenol	U		1.5	5.0	"	"	"	"	"
2,4-Dimethylphenol	U		1.4	5.0	"	"	"	"	"
Benzoic acid	U	J	1.8	25	"	"	"	"	"
Bis(2-chloroethoxy)methane	U		1.0	5.0	"	"	"	"	"
2,4-Dichlorophenol	U		1.2	5.0	"	"	"	"	"
1,2,4-Trichlorobenzene	U		1.8	5.0	"	"	"	"	"
Naphthalene	U		1.1	5.0	"	"	"	"	"
4-Chloroaniline	U		1.6	5.0	"	"	"	"	"
Hexachlorobutadiene	U		2.5	5.0	"	"	"	"	"
2-Methylnaphthalene	U		1.1	5.0	"	"	"	"	"
4-Chloro-3-methylphenol	U		1.1	5.0	"	"	"	"	"
Hexachlorocyclopentadiene	U	J	2.8	25	"	"	"	"	"
2,4,6-Trichlorophenol	U		1.1	5.0	"	"	"	"	"
2,4,5-Trichlorophenol	U		1.6	5.0	"	"	"	"	"
2-Chloronaphthalene	U		1.4	5.0	"	"	"	"	"
2-Nitroaniline	U		2.3	5.0	"	"	"	"	"
Acenaphthylene	U		0.68	5.0	"	"	"	"	"
Dimethyl phthalate	U		1.2	5.0	"	"	"	"	"

Xuyen Nguyen, Chemist

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IIT Research Institute ESAT Region 5
536 South Clark Street, Suite 734; Chicago, IL 60605
Telephone (312) 353-8302 Facsimile (312) 353-8307

Superfund, US EPA Region 5 77 West Jackson Boulevard Chicago IL, 60604	Project: Himco Dump Project Number: 2003SY01 Project Manager: Howard Pham	**Reported:** Dec-05-02 14:50

2003SY01R02-Pump Blank
E2K0101-02(Water)
Sampled: Oct-31-02 11:50
Received: Nov-01-02 11:27

Semivolatiles by GC/MS

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
2,6-Dinitrotoluene	U		1.6	5.0	ug/L	1	EK21101	Nov-04-02	Nov-20-02
Acenaphthene	U		0.60	5.0	"	"	"	"	"
3-Nitroaniline	U		2.0	25	"	"	"	"	"
Dibenzofuran	U		1.6	5.0	"	"	"	"	"
2,4-Dinitrophenol	U	R	1.8	25	"	"	"	"	"
2,4-Dinitrotoluene	U		2.0	5.0	"	"	"	"	"
Fluorene	U		1.1	5.0	"	"	"	"	"
4-Nitrophenol	U		1.6	25	"	"	"	"	"
4-Chlorophenyl phenyl ether	U		1.4	5.0	"	"	"	"	"
Diethyl phthalate	U	J	1.7	5.0	"	"	"	"	"
4,6-Dinitro-2-methylphenol	U	J	1.5	25	"	"	"	"	"
N-Nitrosodiphenylamine	U		1.4	5.0	"	"	"	"	"
4-Nitroaniline	U		1.7	25	"	"	"	"	"
4-Bromophenyl phenyl ether	U		0.88	5.0	"	"	"	"	"
Hexachlorobenzene	U		1.4	5.0	"	"	"	"	"
Pentachlorophenol	U	J	1.6	25	"	"	"	"	"
Phenanthrene	U		0.56	5.0	"	"	"	"	"
Anthracene	U		0.80	5.0	"	"	"	"	"
Carbazole	U		1.6	5.0	"	"	"	"	"
Di-n-butyl phthalate	U		1.9	5.0	"	"	"	"	"
Fluoranthene	U		3.6	5.0	"	"	"	"	"
Pyrene	U		3.0	5.0	"	"	"	"	"
Butyl benzyl phthalate	U		2.2	5.0	"	"	"	"	"
3,3'-Dichlorobenzidine	U		1.1	25	"	"	"	"	"
Chrysene	U		0.65	5.0	"	"	"	"	"
Benzo (a) anthracene	U		0.92	5.0	"	"	"	"	"
Bis(2-ethylhexyl)phthalate	4.9	UJ	2.3	5.0	"	"	"	"	"
Di-n-octyl phthalate	U		2.7	5.0	"	"	"	"	"
Benzo (b) fluoranthene	U		1.1	5.0	"	"	"	"	"
Benzo (k) fluoranthene	U		1.1	5.0	"	"	"	"	"
Benzo (a) pyrene	U		0.73	5.0	"	"	"	"	"
Indeno (1,2,3-cd) pyrene	U		0.30	5.0	"	"	"	"	"

Xuyen Nguyen, Chemist

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Superfund, US EPA Region 5	Project: Himco Dump	
77 West Jackson Boulevard	Project Number: 2003SY01	**Reported:**
Chicago IL, 60604	Project Manager: Howard Pham	Dec-05-02 14:50

2003SY01R02-Pump Blank

E2K0101-02(Water)
Sampled: Oct-31-02 11:50
Received: Nov-01-02 11:27

Semivolatiles by GC/MS

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
Dibenz (a,h) anthracene	U		0.63	5.0	ug/L	1	EK21101	Nov-04-02	Nov-20-02
Benzo (g,h,i) perylene	U		0.93	5.0	"	"	"	"	"
Surrogate: 2-Fluorophenol	17.9			*35.8 %*	*18-128*		"	"	"
Surrogate: Phenol-d6	26.8			*53.6 %*	*12-133*		"	"	"
Surrogate: Nitrobenzene-d5	23.2			*46.4 %*	*5-158*		"	"	"
Surrogate: 2-Fluorobiphenyl	25.7			*51.4 %*	*29-128*		"	"	"
Surrogate: 2,4,6-Tribromophenol	39.0			*78.0 %*	*32-148*		"	"	"
Surrogate: Terphenyl-dl4	42.3			*84.6 %*	*62-140*		"	"	"

Xuyen Nguyen, Chemist

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Telephone (312) 353-8302 Facsimile (312) 353-8307

Superfund, US EPA Region 5 77 West Jackson Boulevard Chicago IL, 60604	Project: Himco Dump Project Number: 2003SY01 Project Manager: Howard Pham	**Reported:** Dec-05-02 14:50

2003SY01S04-WT116A
E2K0101-04(Water)
Sampled: Oct-31-02 13:52
Received: Nov-01-02 11:27

Semivolatiles by GC/MS

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
Phenol	U		0.74	5.0	ug/L	1	EK21101	Nov-04-02	Nov-20-02
Bis(2-chloroethyl)ether	U		0.68	5.0	"	"	"	"	"
2-Chlorophenol	U		0.79	5.0	"	"	"	"	"
1,3-Dichlorobenzene	U		2.1	5.0	"	"	"	"	"
1,4-Dichlorobenzene	U		2.2	5.0	"	"	"	"	"
Benzyl alcohol	U		1.0	5.0	"	"	"	"	"
1,2-Dichlorobenzene	U		1.9	5.0	"	"	"	"	"
2-Methylphenol	U		0.64	5.0	"	"	"	"	"
Bis(2-chloroisopropyl)ether	U		1.8	5.0	"	"	"	"	"
4-Methylphenol	U		0.80	5.0	"	"	"	"	"
N-Nitrosodi-n-propylamine	U		1.7	5.0	"	"	"	"	"
Hexachloroethane	U		2.7	5.0	"	"	"	"	"
Nitrobenzene	U		1.4	5.0	"	"	"	"	"
Isophorone	U		1.4	5.0	"	"	"	"	"
2-Nitrophenol	U		1.5	5.0	"	"	"	"	"
2,4-Dimethylphenol	U		1.4	5.0	"	"	"	"	"
Benzoic acid	U	J	1.8	25	"	"	"	"	"
Bis(2-chloroethoxy)methane	U		1.0	5.0	"	"	"	"	"
2,4-Dichlorophenol	U		1.2	5.0	"	"	"	"	"
1,2,4-Trichlorobenzene	U		1.8	5.0	"	"	"	"	"
Naphthalene	U		1.1	5.0	"	"	"	"	"
4-Chloroaniline	U		1.6	5.0	"	"	"	"	"
Hexachlorobutadiene	U		2.5	5.0	"	"	"	"	"
2-Methylnaphthalene	U		1.1	5.0	"	"	"	"	"
4-Chloro-3-methylphenol	U		1.1	5.0	"	"	"	"	"
Hexachlorocyclopentadiene	U	J	2.8	25	"	"	"	"	"
2,4,6-Trichlorophenol	U		1.1	5.0	"	"	"	"	"
2,4,5-Trichlorophenol	U		1.6	5.0	"	"	"	"	"
2-Chloronaphthalene	U		1.4	5.0	"	"	"	"	"
2-Nitroaniline	U		2.3	5.0	"	"	"	"	"
Acenaphthylene	U		0.68	5.0	"	"	"	"	"
Dimethyl phthalate	U		1.2	5.0	"	"	"	"	"

Xuyen Nguyen, Chemist

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IIT Research Institute ESAT Region 5
536 South Clark Street, Suite 734; Chicago, IL 60605
Telephone (312) 353-8302 Facsimile (312) 353-8307

Superfund, US EPA Region 5 77 West Jackson Boulevard Chicago IL, 60604	Project: Himco Dump Project Number: 2003SY01 Project Manager: Howard Pham	**Reported:** Dec-05-02 14:50

2003SY01S04-WT116A
E2K0101-04(Water)
Sampled: Oct-31-02 13:52
Received: Nov-01-02 11:27

Semivolatiles by GC/MS

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
2,6-Dinitrotoluene	U		1.6	5.0	ug/L	1	EK21101	Nov-04-02	Nov-20-02
Acenaphthene	U		0.60	5.0	"	"	"	"	"
3-Nitroaniline	U		2.0	25	"	"	"	"	"
Dibenzofuran	U		1.6	5.0	"	"	"	"	"
2,4-Dinitrophenol	U	R	1.8	25	"	"	"	"	"
2,4-Dinitrotoluene	U		2.0	5.0	"	"	"	"	"
Fluorene	U		1.1	5.0	"	"	"	"	"
4-Nitrophenol	U		1.6	25	"	"	"	"	"
4-Chlorophenyl phenyl ether	U		1.4	5.0	"	"	"	"	"
Diethyl phthalate	U	J	1.7	5.0	"	"	"	"	"
4,6-Dinitro-2-methylphenol	U	J	1.5	25	"	"	"	"	"
N-Nitrosodiphenylamine	U		1.4	5.0	"	"	"	"	"
4-Nitroaniline	U		1.7	25	"	"	"	"	"
4-Bromophenyl phenyl ether	U		0.88	5.0	"	"	"	"	"
Hexachlorobenzene	U		1.4	5.0	"	"	"	"	"
Pentachlorophenol	U	J	1.6	25	"	"	"	"	"
Phenanthrene	U		0.56	5.0	"	"	"	"	"
Anthracene	U		0.80	5.0	"	"	"	"	"
Carbazole	U		1.6	5.0	"	"	"	"	"
Di-n-butyl phthalate	U		1.9	5.0	"	"	"	"	"
Fluoranthene	U		3.6	5.0	"	"	"	"	"
Pyrene	U		3.0	5.0	"	"	"	"	"
Butyl benzyl phthalate	U		2.2	5.0	"	"	"	"	"
3,3'-Dichlorobenzidine	U		1.1	25	"	"	"	"	"
Chrysene	U		0.65	5.0	"	"	"	"	"
Benzo (a) anthracene	U		0.92	5.0	"	"	"	"	"
Bis(2-ethylhexyl)phthalate	6.9	UJ	2.3	5.0	"	"	"	"	"
Di-n-octyl phthalate	U		2.7	5.0	"	"	"	"	"
Benzo (b) fluoranthene	U		1.1	5.0	"	"	"	"	"
Benzo (k) fluoranthene	U		1.1	5.0	"	"	"	"	"
Benzo (a) pyrene	U		0.73	5.0	"	"	"	"	"
Indeno (1,2,3-cd) pyrene	U		0.30	5.0	"	"	"	"	"

Xuyen Nguyen, Chemist

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Superfund, US EPA Region 5 77 West Jackson Boulevard Chicago IL, 60604	Project: Himco Dump Project Number: 2003SY01 Project Manager: Howard Pham	**Reported:** Dec-05-02 14:50

2003SY01S04-WT116A
E2K0101-04(Water)
Sampled: Oct-31-02 13:52
Received: Nov-01-02 11:27

Semivolatiles by GC/MS

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
Dibenz (a,h) anthracene	U		0.63	5.0	ug/L	1	EK21101	Nov-04-02	Nov-20-02
Benzo (g,h,i) perylene	U		0.93	5.0	"	"	"	"	"
Surrogate: 2-Fluorophenol	32.0			*64.0 %*	*18-128*		"	"	"
Surrogate: Phenol-d6	37.0			*74.0 %*	*12-133*		"	"	"
Surrogate: Nitrobenzene-d5	36.6			*73.2 %*	*5-158*		"	"	"
Surrogate: 2-Fluorobiphenyl	32.8			*65.6 %*	*29-128*		"	"	"
Surrogate: 2,4,6-Tribromophenol	52.4			*105 %*	*32-148*		"	"	"
Surrogate: Terphenyl-dl4	39.0			*78.0 %*	*62-140*		"	"	"

Xuyen Nguyen, Chemist

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Superfund, US EPA Region 5 77 West Jackson Boulevard Chicago IL, 60604	Project: Himco Dump Project Number: 2003SY01 Project Manager: Howard Pham	**Reported:** Dec-05-02 14:50

2003SY01D04-WT116A
E2K0101-05(Water)
Sampled: Oct-31-02 13:52
Received: Nov-01-02 11:27

Semivolatiles by GC/MS

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
Phenol	U		0.74	5.0	ug/L	1	EK21101	Nov-04-02	Nov-20-02
Bis(2-chloroethyl)ether	U		0.68	5.0	"	"	"	"	"
2-Chlorophenol	U		0.79	5.0	"	"	"	"	"
1,3-Dichlorobenzene	U		2.1	5.0	"	"	"	"	"
1,4-Dichlorobenzene	U		2.2	5.0	"	"	"	"	"
Benzyl alcohol	U		1.0	5.0	"	"	"	"	"
1,2-Dichlorobenzene	U		1.9	5.0	"	"	"	"	"
2-Methylphenol	U		0.64	5.0	"	"	"	"	"
Bis(2-chloroisopropyl)ether	U		1.8	5.0	"	"	"	"	"
4-Methylphenol	U		0.80	5.0	"	"	"	"	"
N-Nitrosodi-n-propylamine	U		1.7	5.0	"	"	"	"	"
Hexachloroethane	U		2.7	5.0	"	"	"	"	"
Nitrobenzene	U		1.4	5.0	"	"	"	"	"
Isophorone	U		1.4	5.0	"	"	"	"	"
2-Nitrophenol	U		1.5	5.0	"	"	"	"	"
2,4-Dimethylphenol	U		1.4	5.0	"	"	"	"	"
Benzoic acid	U	J	1.8	25	"	"	"	"	"
Bis(2-chloroethoxy)methane	U		1.0	5.0	"	"	"	"	"
2,4-Dichlorophenol	U		1.2	5.0	"	"	"	"	"
1,2,4-Trichlorobenzene	U		1.8	5.0	"	"	"	"	"
Naphthalene	U		1.1	5.0	"	"	"	"	"
4-Chloroaniline	U		1.6	5.0	"	"	"	"	"
Hexachlorobutadiene	U		2.5	5.0	"	"	"	"	"
2-Methylnaphthalene	U		1.1	5.0	"	"	"	"	"
4-Chloro-3-methylphenol	U		1.1	5.0	"	"	"	"	"
Hexachlorocyclopentadiene	U	J	2.8	25	"	"	"	"	"
2,4,6-Trichlorophenol	U		1.1	5.0	"	"	"	"	"
2,4,5-Trichlorophenol	U		1.6	5.0	"	"	"	"	"
2-Chloronaphthalene	U		1.4	5.0	"	"	"	"	"
2-Nitroaniline	U		2.3	5.0	"	"	"	"	"
Acenaphthylene	U		0.68	5.0	"	"	"	"	"
Dimethyl phthalate	U		1.2	5.0	"	"	"	"	"

Xuyen Nguyen, Chemist

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536 South Clark Street, Suite 734; Chicago, IL 60605
Telephone (312) 353-8302 Facsimile (312) 353-8307

Superfund, US EPA Region 5 77 West Jackson Boulevard Chicago IL, 60604	Project:Himco Dump Project Number:2003SY01 Project Manager:Howard Pham	**Reported:** Dec-05-02 14:50

2003SY01D04-WT116A
E2K0101-05(Water)
Sampled: Oct-31-02 13:52
Received: Nov-01-02 11:27

Semivolatiles by GC/MS

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
2,6-Dinitrotoluene	U		1.6	5.0	ug/L	1	EK21101	Nov-04-02	Nov-20-02
Acenaphthene	U		0.60	5.0	"	"	"	"	"
3-Nitroaniline	U		2.0	25	"	"	"	"	"
Dibenzofuran	U		1.6	5.0	"	"	"	"	"
2,4-Dinitrophenol	U	R	1.8	25	"	"	"	"	"
2,4-Dinitrotoluene	U		2.0	5.0	"	"	"	"	"
Fluorene	U		1.1	5.0	"	"	"	"	"
4-Nitrophenol	U		1.6	25	"	"	"	"	"
4-Chlorophenyl phenyl ether	U		1.4	5.0	"	"	"	"	"
Diethyl phthalate	U	J	1.7	5.0	"	"	"	"	"
4,6-Dinitro-2-methylphenol	U	J	1.5	25	"	"	"	"	"
N-Nitrosodiphenylamine	U		1.4	5.0	"	"	"	"	"
4-Nitroaniline	U		1.7	25	"	"	"	"	"
4-Bromophenyl phenyl ether	U		0.88	5.0	"	"	"	"	"
Hexachlorobenzene	U		1.4	5.0	"	"	"	"	"
Pentachlorophenol	U	J	1.6	25	"	"	"	"	"
Phenanthrene	U		0.56	5.0	"	"	"	"	"
Anthracene	U		0.80	5.0	"	"	"	"	"
Carbazole	U		1.6	5.0	"	"	"	"	"
Di-n-butyl phthalate	U		1.9	5.0	"	"	"	"	"
Fluoranthene	U		3.6	5.0	"	"	"	"	"
Pyrene	U		3.0	5.0	"	"	"	"	"
Butyl benzyl phthalate	U		2.2	5.0	"	"	"	"	"
3,3'-Dichlorobenzidine	U		1.1	25	"	"	"	"	"
Chrysene	U		0.65	5.0	"	"	"	"	"
Benzo (a) anthracene	U		0.92	5.0	"	"	"	"	"
Bis(2-ethylhexyl)phthalate	4.6	UJ	2.3	5.0	"	"	"	"	"
Di-n-octyl phthalate	U		2.7	5.0	"	"	"	"	"
Benzo (b) fluoranthene	U		1.1	5.0	"	"	"	"	"
Benzo (k) fluoranthene	U		1.1	5.0	"	"	"	"	"
Benzo (a) pyrene	U		0.73	5.0	"	"	"	"	"
Indeno (1,2,3-cd) pyrene	U		0.30	5.0	"	"	"	"	"

Xuyen Nguyen, Chemist

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IIT Research Institute ESAT Region 5
536 South Clark Street, Suite 734; Chicago, IL 60605
Telephone (312) 353-8302 Facsimile (312) 353-8307

Superfund, US EPA Region 5 77 West Jackson Boulevard Chicago IL, 60604	Project: Himco Dump Project Number: 2003SY01 Project Manager: Howard Pham	**Reported:** Dec-05-02 14:50

2003SY01D04-WT116A
E2K0101-05(Water)
Sampled: Oct-31-02 13:52
Received: Nov-01-02 11:27

Semivolatiles by GC/MS

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
Dibenz (a,h) anthracene	U		0.63	5.0	ug/L	1	EK21101	Nov-04-02	Nov-20-02
Benzo (g,h,i) perylene	U		0.93	5.0	"	"	"	"	"
Surrogate: 2-Fluorophenol	36.5			*73.0 %*	*18-128*		"	"	"
Surrogate: Phenol-d6	40.8			*81.6 %*	*12-133*		"	"	"
Surrogate: Nitrobenzene-d5	39.8			*79.6 %*	*5-158*		"	"	"
Surrogate: 2-Fluorobiphenyl	35.4			*70.8 %*	*29-128*		"	"	"
Surrogate: 2,4,6-Tribromophenol	53.0			*106 %*	*32-148*		"	"	"
Surrogate: Terphenyl-dl4	42.4			*84.8 %*	*62-140*		"	"	"

Xuyen Nguyen, Chemist

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IIT Research Institute ESAT Region 5
536 South Clark Street, Suite 734; Chicago, IL 60605
Telephone (312) 353-8302 Facsimile (312) 353-8307

Superfund, US EPA Region 5 77 West Jackson Boulevard Chicago IL, 60604	Project: Himco Dump Project Number: 2003SY01 Project Manager: Howard Pham	Reported: Dec-05-02 14:50

2003SY01S05-WT115A
E2K0101-06(Water)
Sampled: Oct-31-02 15:00
Received: Nov-01-02 11:27

Semivolatiles by GC/MS

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
Phenol	U		0.74	5.0	ug/L	1	EK21101	Nov-04-02	Nov-20-02
Bis(2-chloroethyl)ether	U		0.68	5.0	"	"	"	"	"
2-Chlorophenol	U		0.79	5.0	"	"	"	"	"
1,3-Dichlorobenzene	U		2.1	5.0	"	"	"	"	"
1,4-Dichlorobenzene	U		2.2	5.0	"	"	"	"	"
Benzyl alcohol	U		1.0	5.0	"	"	"	"	"
1,2-Dichlorobenzene	U		1.9	5.0	"	"	"	"	"
2-Methylphenol	U		0.64	5.0	"	"	"	"	"
Bis(2-chloroisopropyl)ether	U		1.8	5.0	"	"	"	"	"
4-Methylphenol	U		0.80	5.0	"	"	"	"	"
N-Nitrosodi-n-propylamine	U		1.7	5.0	"	"	"	"	"
Hexachloroethane	U		2.7	5.0	"	"	"	"	"
Nitrobenzene	U		1.4	5.0	"	"	"	"	"
Isophorone	U		1.4	5.0	"	"	"	"	"
2-Nitrophenol	U		1.5	5.0	"	"	"	"	"
2,4-Dimethylphenol	U		1.4	5.0	"	"	"	"	"
Benzoic acid	U	J	1.8	25	"	"	"	"	"
Bis(2-chloroethoxy)methane	U		1.0	5.0	"	"	"	"	"
2,4-Dichlorophenol	U		1.2	5.0	"	"	"	"	"
1,2,4-Trichlorobenzene	U		1.8	5.0	"	"	"	"	"
Naphthalene	U		1.1	5.0	"	"	"	"	"
4-Chloroaniline	U		1.6	5.0	"	"	"	"	"
Hexachlorobutadiene	U		2.5	5.0	"	"	"	"	"
2-Methylnaphthalene	U		1.1	5.0	"	"	"	"	"
4-Chloro-3-methylphenol	U		1.1	5.0	"	"	"	"	"
Hexachlorocyclopentadiene	U	J	2.8	25	"	"	"	"	"
2,4,6-Trichlorophenol	U		1.1	5.0	"	"	"	"	"
2,4,5-Trichlorophenol	U		1.6	5.0	"	"	"	"	"
2-Chloronaphthalene	U		1.4	5.0	"	"	"	"	"
2-Nitroaniline	U		2.3	5.0	"	"	"	"	"
Acenaphthylene	U		0.68	5.0	"	"	"	"	"
Dimethyl phthalate	U		1.2	5.0	"	"	"	"	"

Xuyen Nguyen, Chemist

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IIT Research Institute ESAT Region 5
536 South Clark Street, Suite 734; Chicago, IL 60605
Telephone (312) 353-8302 Facsimile (312) 353-8307

Superfund, US EPA Region 5	Project: Himco Dump	
77 West Jackson Boulevard	Project Number: 2003SY01	**Reported:**
Chicago IL, 60604	Project Manager: Howard Pham	Dec-05-02 14:50

2003SY01S05-WT115A
E2K0101-06(Water)
Sampled: Oct-31-02 15:00
Received: Nov-01-02 11:27

Semivolatiles by GC/MS

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
2,6-Dinitrotoluene	U		1.6	5.0	ug/L	1	EK21101	Nov-04-02	Nov-20-02
Acenaphthene	U		0.60	5.0	"	"	"	"	"
3-Nitroaniline	U		2.0	25	"	"	"	"	"
Dibenzofuran	U		1.6	5.0	"	"	"	"	"
2,4-Dinitrophenol	U	R	1.8	25	"	"	"	"	"
2,4-Dinitrotoluene	U		2.0	5.0	"	"	"	"	"
Fluorene	U		1.1	5.0	"	"	"	"	"
4-Nitrophenol	U		1.6	25	"	"	"	"	"
4-Chlorophenyl phenyl ether	U		1.4	5.0	"	"	"	"	"
Diethyl phthalate	U	J	1.7	5.0	"	"	"	"	"
4,6-Dinitro-2-methylphenol	U	J	1.5	25	"	"	"	"	"
N-Nitrosodiphenylamine	U		1.4	5.0	"	"	"	"	"
4-Nitroaniline	U		1.7	25	"	"	"	"	"
4-Bromophenyl phenyl ether	U		0.88	5.0	"	"	"	"	"
Hexachlorobenzene	U		1.4	5.0	"	"	"	"	"
Pentachlorophenol	U	J	1.6	25	"	"	"	"	"
Phenanthrene	U		0.56	5.0	"	"	"	"	"
Anthracene	U		0.80	5.0	"	"	"	"	"
Carbazole	U		1.6	5.0	"	"	"	"	"
Di-n-butyl phthalate	U		1.9	5.0	"	"	"	"	"
Fluoranthene	U		3.6	5.0	"	"	"	"	"
Pyrene	U		3.0	5.0	"	"	"	"	"
Butyl benzyl phthalate	U		2.2	5.0	"	"	"	"	"
3,3'-Dichlorobenzidine	U	J	1.1	25	"	"	"	"	"
Chrysene	U		0.65	5.0	"	"	"	"	"
Benzo (a) anthracene	U		0.92	5.0	"	"	"	"	"
Bis(2-ethylhexyl)phthalate	6.0	UJ	2.3	5.0	"	"	"	"	"
Di-n-octyl phthalate	U		2.7	5.0	"	"	"	"	"
Benzo (b) fluoranthene	U		1.1	5.0	"	"	"	"	"
Benzo (k) fluoranthene	U		1.1	5.0	"	"	"	"	"
Benzo (a) pyrene	U		0.73	5.0	"	"	"	"	"
Indeno (1,2,3-cd) pyrene	U		0.30	5.0	"	"	"	"	"

Xuyen Nguyen, Chemist

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IIT Research Institute ESAT Region 5
536 South Clark Street, Suite 734; Chicago, IL 60605
Telephone (312) 353-8302 Facsimile (312) 353-8307

Superfund, US EPA Region 5 77 West Jackson Boulevard Chicago IL, 60604	Project: Himco Dump Project Number: 2003SY01 Project Manager: Howard Pham	**Reported:** Dec-05-02 14:50

2003SY01S05-WT115A
E2K0101-06(Water)
Sampled: Oct-31-02 15:00
Received: Nov-01-02 11:27

Semivolatiles by GC/MS

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
Dibenz (a,h) anthracene	U		0.63	5.0	ug/L	1	EK21101	Nov-04-02	Nov-20-02
Benzo (g,h,i) perylene	U		0.93	5.0	"	"	"	"	"
Surrogate: 2-Fluorophenol	27.8			*55.6 %*		*18-128*	"	"	"
Surrogate: Phenol-d6	35.6			*71.2 %*		*12-133*	"	"	"
Surrogate: Nitrobenzene-d5	26.7			*53.4 %*		*5-158*	"	"	"
Surrogate: 2-Fluorobiphenyl	30.3			*60.6 %*		*29-128*	"	"	"
Surrogate: 2,4,6-Tribromophenol	47.2			*94.4 %*		*32-148*	"	"	"
Surrogate: Terphenyl-dl4	43.3			*86.6 %*		*62-140*	"	"	"

Xuyen Nguyen, Chemist

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IIT Research Institute ESAT Region 5
536 South Clark Street, Suite 734; Chicago, IL 60605
Telephone (312) 353-8302 Facsimile (312) 353-8307

Superfund, US EPA Region 5 77 West Jackson Boulevard Chicago IL, 60604	Project: Himco Dump Project Number: 2003SY01 Project Manager: Howard Pham	**Reported:** Dec-05-02 14:50

Semivolatiles by GC/MS - Quality Control

Batch EK21101 - BP SVOA

Blank (EK21101-BLK1) **Prepared: Nov-04-02 Analyzed: Nov-20-02**

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Phenol	U		0.74	5.0	ug/L						
Bis(2-chloroethyl)ether	U		0.68	5.0	"						
2-Chlorophenol	U		0.79	5.0	"						
1,3-Dichlorobenzene	U		2.1	5.0	"						
1,4-Dichlorobenzene	U		2.2	5.0	"						
Benzyl alcohol	U		1.0	5.0	"						
1,2-Dichlorobenzene	U		1.9	5.0	"						
2-Methylphenol	U		0.64	5.0	"						
Bis(2-chloroisopropyl)ether	U		1.8	5.0	"						
4-Methylphenol	U		0.80	5.0	"						
N-Nitrosodi-n-propylamine	U		1.7	5.0	"						
Hexachloroethane	U		2.7	5.0	"						
Nitrobenzene	U		1.4	5.0	"						
Isophorone	U		1.4	5.0	"						
2-Nitrophenol	U		1.5	5.0	"						
2,4-Dimethylphenol	U		1.4	5.0	"						
Benzoic acid	U	J	1.8	25	"						
Bis(2-chloroethoxy)methane	U		1.0	5.0	"						
2,4-Dichlorophenol	U		1.2	5.0	"						
1,2,4-Trichlorobenzene	U		1.8	5.0	"						
Naphthalene	U		1.1	5.0	"						
4-Chloroaniline	U		1.6	5.0	"						
Hexachlorobutadiene	U		2.5	5.0	"						
2-Methylnaphthalene	U		1.1	5.0	"						
4-Chloro-3-methylphenol	U		1.1	5.0	"						
Hexachlorocyclopentadiene	U	J	2.8	25	"						
2,4,6-Trichlorophenol	U		1.1	5.0	"						
2,4,5-Trichlorophenol	U		1.6	5.0	"						
2-Chloronaphthalene	U		1.4	5.0	"						
2-Nitroaniline	U		2.3	5.0	"						
Acenaphthylene	U		0.68	5.0	"						
Dimethyl phthalate	U		1.2	5.0	"						

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IIT Research Institute ESAT Region 5
536 South Clark Street, Suite 734; Chicago, IL 60605
Telephone (312) 353-8302 Facsimile (312) 353-8307

Superfund, US EPA Region 5	Project: Himco Dump	
77 West Jackson Boulevard	Project Number: 2003SY01	**Reported:**
Chicago IL, 60604	Project Manager: Howard Pham	Dec-05-02 14:50

Semivolatiles by GC/MS - Quality Control

Batch EK21101 - BP SVOA

Blank (EK21101-BLK1) **Prepared: Nov-04-02 Analyzed: Nov-20-02**

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
2,6-Dinitrotoluene	U		1.6	5.0	ug/L						
Acenaphthene	U		0.60	5.0	"						
3-Nitroaniline	U		2.0	25	"						
Dibenzofuran	U		1.6	5.0	"						
2,4-Dinitrophenol	U	R	1.8	25	"						
2,4-Dinitrotoluene	U		2.0	5.0	"						
Fluorene	U		1.1	5.0	"						
4-Nitrophenol	U		1.6	25	"						
4-Chlorophenyl phenyl ether	U		1.4	5.0	"						
Diethyl phthalate	U		1.7	5.0	"						
4,6-Dinitro-2-methylphenol	U	J	1.5	25	"						
N-Nitrosodiphenylamine	U		1.4	5.0	"						
4-Nitroaniline	U		1.7	25	"						
4-Bromophenyl phenyl ether	U		0.88	5.0	"						
Hexachlorobenzene	U		1.4	5.0	"						
Pentachlorophenol	U	J	1.6	25	"						
Phenanthrene	U		0.56	5.0	"						
Anthracene	U		0.80	5.0	"						
Carbazole	U		1.6	5.0	"						
Di-n-butyl phthalate	U		1.9	5.0	"						
Fluoranthene	U		3.6	5.0	"						
Pyrene	U		3.0	5.0	"						
Butyl benzyl phthalate	U		2.2	5.0	"						
3,3'-Dichlorobenzidine	U		1.1	25	"						
Chrysene	U		0.65	5.0	"						
Benzo (a) anthracene	U		0.92	5.0	"						
Bis(2-ethylhexyl)phthalate	5.69	J	2.3	5.0	"						
Di-n-octyl phthalate	U		2.7	5.0	"						
Benzo (b) fluoranthene	U		1.1	5.0	"						
Benzo (k) fluoranthene	U		1.1	5.0	"						
Benzo (a) pyrene	U		0.73	5.0	"						
Indeno (1,2,3-cd) pyrene	U		0.30	5.0	"						

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IIT Research Institute ESAT Region 5
536 South Clark Street, Suite 734; Chicago, IL 60605
Telephone (312) 353-8302 Facsimile (312) 353-8307

Superfund, US EPA Region 5 77 West Jackson Boulevard Chicago IL, 60604	Project:Himco Dump Project Number:2003SY01 Project Manager:Howard Pham	Reported: Dec-05-02 14:50

Semivolatiles by GC/MS - Quality Control

Batch EK21101 - BP SVOA

Blank (EK21101-BLK1) **Prepared: Nov-04-02 Analyzed: Nov-20-02**

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Dibenz (a,h) anthracene	U		0.63	5.0	ug/L						
Benzo (g,h,i) perylene	U		0.93	5.0	"						
Surrogate: 2-Fluorophenol	*21.5*				"	*50.0*		*43.0*	*18-128*		
Surrogate: Phenol-d6	*29.8*				"	*50.0*		*59.6*	*12-133*		
Surrogate: Nitrobenzene-d5	*30.6*				"	*50.0*		*61.2*	*5-158*		
Surrogate: 2-Fluorobiphenyl	*28.0*				"	*50.0*		*56.0*	*29-128*		
Surrogate: 2,4,6-Tribromophenol	*37.1*				"	*50.0*		*74.2*	*32-148*		
Surrogate: Terphenyl-dl4	*40.8*				"	*50.0*		*81.6*	*62-140*		

LCS (EK21101-BS1) **Prepared: Nov-04-02 Analyzed: Nov-20-02**

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Phenol	**34.5**		0.74	5.0	ug/L	50.0		69.0	7-128		
Bis(2-chloroethyl)ether	**31.0**		0.68	5.0	"	50.0		62.0	33-114		
2-Chlorophenol	**35.2**		0.79	5.0	"	50.0		70.4	31-121		
1,3-Dichlorobenzene	**22.7**		2.1	5.0	"	50.0		45.4	21-101		
1,4-Dichlorobenzene	**24.6**		2.2	5.0	"	50.0		49.2	22-102		
Benzyl alcohol	**37.4**		1.0	5.0	"	50.0		74.8	34-132		
1,2-Dichlorobenzene	**26.6**		1.9	5.0	"	50.0		53.2	27-102		
2-Methylphenol	**33.6**		0.64	5.0	"	50.0		67.2	36-115		
Bis(2-chloroisopropyl)ether	**34.3**		1.8	5.0	"	50.0		68.6	34-120		
4-Methylphenol	**33.7**		0.80	5.0	"	50.0		67.4	35-117		
N-Nitrosodi-n-propylamine	**35.2**		1.7	5.0	"	50.0		70.4	49-111		
Hexachloroethane	**14.1**		2.7	5.0	"	50.0		28.2	16-103		
Nitrobenzene	**33.8**		1.4	5.0	"	50.0		67.6	41-115		
Isophorone	**36.1**		1.4	5.0	"	50.0		72.2	51-115		
2-Nitrophenol	**34.4**		1.5	5.0	"	50.0		68.8	41-128		
2,4-Dimethylphenol	**26.8**		1.4	5.0	"	50.0		53.6	13-123		
Benzoic acid	U	J	1.8	25	"	50.0			5-176		
Bis(2-chloroethoxy)methane	**34.1**		1.0	5.0	"	50.0		68.2	48-118		
2,4-Dichlorophenol	**36.8**		1.2	5.0	"	50.0		73.6	40-137		

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Superfund, US EPA Region 5	Project: Himco Dump	
77 West Jackson Boulevard	Project Number: 2003SY01	**Reported:**
Chicago IL, 60604	Project Manager: Howard Pham	Dec-05-02 14:50

Semivolatiles by GC/MS - Quality Control

Batch EK21101 - BP SVOA

LCS (EK21101-BS1) **Prepared: Nov-04-02 Analyzed: Nov-20-02**

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
1,2,4-Trichlorobenzene	**26.9**		1.8	5.0	ug/L	50.0		53.8	36-108		
Naphthalene	**32.5**		1.1	5.0	"	50.0		65.0	36-111		
4-Chloroaniline	**38.0**		1.6	5.0	"	50.0		76.0	50-133		
Hexachlorobutadiene	**19.5**		2.5	5.0	"	50.0		39.0	26-108		
2-Methylnaphthalene	**31.2**		1.1	5.0	"	50.0		62.4	47-111		
4-Chloro-3-methylphenol	**38.6**		1.1	5.0	"	50.0		77.2	52-131		
Hexachlorocyclopentadiene	**4.25**	J	2.8	25	"	50.0		8.50	5-179		
2,4,6-Trichlorophenol	**41.1**		1.1	5.0	"	50.0		82.2	38-139		
2,4,5-Trichlorophenol	**39.7**		1.6	5.0	"	50.0		79.4	34-143		
2-Chloronaphthalene	**34.5**		1.4	5.0	"	50.0		69.0	50-114		
2-Nitroaniline	**44.2**		2.3	5.0	"	50.0		88.4	55-131		
Acenaphthylene	**36.4**		0.68	5.0	"	50.0		72.8	44-121		
Dimethyl phthalate	**3.57**		1.2	5.0	"	50.0		7.14	4-102		
2,6-Dinitrotoluene	**38.1**		1.6	5.0	"	50.0		76.2	58-128		
Acenaphthene	**36.2**		0.60	5.0	"	50.0		72.4	52-114		
3-Nitroaniline	**42.9**		2.0	25	"	50.0		85.8	49-137		
Dibenzofuran	**35.2**		1.6	5.0	"	50.0		70.4	52-119		
2,4-Dinitrophenol	**U**	J	1.8	25	"	50.0			16-189		
2,4-Dinitrotoluene	**40.1**		2.0	5.0	"	50.0		80.2	57-132		
Fluorene	**38.9**		1.1	5.0	"	50.0		77.8	53-120		
4-Nitrophenol	**70.6**		1.6	25	"	50.0		141	5-235		
4-Chlorophenyl phenyl ether	**37.8**		1.4	5.0	"	50.0		75.6	54-124		
Diethyl phthalate	**10.3**		1.7	5.0	"	50.0		20.6	34-129		
4,6-Dinitro-2-methylphenol	**17.6**	J	1.5	25	"	50.0		35.2	11-235		
N-Nitrosodiphenylamine	**34.3**		1.4	5.0	"	50.0		68.6	42-154		
4-Nitroaniline	**52.0**		1.7	25	"	50.0		104	4-158		
4-Bromophenyl phenyl ether	**36.3**		0.88	5.0	"	50.0		72.6	49-148		
Hexachlorobenzene	**38.2**		1.4	5.0	"	50.0		76.4	52-143		
Pentachlorophenol	**U**	J	1.6	25	"	50.0			11-247		
Phenanthrene	**38.1**		0.56	5.0	"	50.0		76.2	44-144		
Anthracene	**38.4**		0.80	5.0	"	50.0		76.8	44-144		
Carbazole	**43.0**		1.6	5.0	"	50.0		86.0	49-139		

Xuyen Nguyen, Chemist

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IIT Research Institute ESAT Region 5
536 South Clark Street, Suite 734; Chicago, IL 60605
Telephone (312) 353-8302 Facsimile (312) 353-8307

Superfund, US EPA Region 5	Project: Himco Dump	
77 West Jackson Boulevard	Project Number: 2003SY01	**Reported:**
Chicago IL, 60604	Project Manager: Howard Pham	Dec-05-02 14:50

Semivolatiles by GC/MS - Quality Control

Batch EK21101 - BP SVOA

LCS (EK21101-BS1) **Prepared: Nov-04-02 Analyzed: Nov-20-02**

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Di-n-butyl phthalate	**37.0**		1.9	5.0	ug/L	50.0		74.0	31-159		
Fluoranthene	**42.5**		3.6	5.0	"	50.0		85.0	49-138		
Pyrene	**44.4**		3.0	5.0	"	50.0		88.8	40-158		
Butyl benzyl phthalate	**47.7**		2.2	5.0	"	50.0		95.4	48-159		
3,3'-Dichlorobenzidine	**51.6**		1.1	25	"	50.0		103	41-183		
Chrysene	**38.6**		0.65	5.0	"	50.0		77.2	50-152		
Benzo (a) anthracene	**42.7**		0.92	5.0	"	50.0		85.4	54-153		
Bis(2-ethylhexyl)phthalate	**45.4**	J	2.3	5.0	"	50.0		90.8	47-153		
Di-n-octyl phthalate	**44.3**		2.7	5.0	"	50.0		88.6	30-156		
Benzo (b) fluoranthene	**41.6**		1.1	5.0	"	50.0		83.2	55-153		
Benzo (k) fluoranthene	**40.4**		1.1	5.0	"	50.0		80.8	43-149		
Benzo (a) pyrene	**43.2**		0.73	5.0	"	50.0		86.4	47-156		
Indeno (1,2,3-cd) pyrene	**36.9**		0.30	5.0	"	50.0		73.8	43-153		
Dibenz (a,h) anthracene	**36.4**		0.63	5.0	"	50.0		72.8	48-146		
Benzo (g,h,i) perylene	**33.8**		0.93	5.0	"	50.0		67.6	37-155		
Surrogate: 2-Fluorophenol	*35.4*				"	*50.0*		*70.8*	*18-128*		
Surrogate: Phenol-d6	*36.1*				"	*50.0*		*72.2*	*12-133*		
Surrogate: Nitrobenzene-d5	*37.1*				"	*50.0*		*74.2*	*5-158*		
Surrogate: 2-Fluorobiphenyl	*35.9*				"	*50.0*		*71.8*	*29-128*		
Surrogate: 2,4,6-Tribromophenol	*48.6*				"	*50.0*		*97.2*	*32-148*		
Surrogate: Terphenyl-dl4	*48.6*				"	*50.0*		*97.2*	*62-140*		

LCS Dup (EK21101-BSD1) **Prepared: Nov-04-02 Analyzed: Nov-20-02**

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Phenol	**33.8**		0.74	5.0	ug/L	50.0		67.6	7-128	2.05	84
Bis(2-chloroethyl)ether	**31.2**		0.68	5.0	"	50.0		62.4	33-114	0.643	63
2-Chlorophenol	**34.9**		0.79	5.0	"	50.0		69.8	31-121	0.856	62
1,3-Dichlorobenzene	**24.4**		2.1	5.0	"	50.0		48.8	21-101	7.22	75
1,4-Dichlorobenzene	**25.7**		2.2	5.0	"	50.0		51.4	22-102	4.37	79
Benzyl alcohol	**36.0**		1.0	5.0	"	50.0		72.0	34-132	3.81	40

Xuyen Nguyen, Chemist

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Telephone (312) 353-8302 Facsimile (312) 353-8307

Superfund, US EPA Region 5	Project: Himco Dump	
77 West Jackson Boulevard	Project Number: 2003SY01	Reported:
Chicago IL, 60604	Project Manager: Howard Pham	Dec-05-02 14:50

Semivolatiles by GC/MS - Quality Control

Batch EK21101 - BP SVOA

LCS Dup (EK21101-BSD1) **Prepared: Nov-04-02 Analyzed: Nov-20-02**

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
1,2-Dichlorobenzene	27.6		1.9	5.0	ug/L	50.0		55.2	27-102	3.69	73
2-Methylphenol	32.9		0.64	5.0	"	50.0		65.8	36-115	2.11	53
Bis(2-chloroisopropyl)ether	33.1		1.8	5.0	"	50.0		66.2	34-120	3.56	63
4-Methylphenol	32.4		0.80	5.0	"	50.0		64.8	35-117	3.93	51
N-Nitrosodi-n-propylamine	33.8		1.7	5.0	"	50.0		67.6	49-111	4.06	37
Hexachloroethane	16.4		2.7	5.0	"	50.0		32.8	16-103	15.1	77
Nitrobenzene	33.0		1.4	5.0	"	50.0		66.0	41-115	2.40	55
Isophorone	34.5		1.4	5.0	"	50.0		69.0	51-115	4.53	30
2-Nitrophenol	34.2		1.5	5.0	"	50.0		68.4	41-128	0.583	50
2,4-Dimethylphenol	27.8		1.4	5.0	"	50.0		55.6	13-123	3.66	73
Benzoic acid	U	J	1.8	25	"	50.0			5-176		155
Bis(2-chloroethoxy)methane	33.0		1.0	5.0	"	50.0		66.0	48-118	3.28	38
2,4-Dichlorophenol	36.2		1.2	5.0	"	50.0		72.4	40-137	1.64	53
1,2,4-Trichlorobenzene	26.8		1.8	5.0	"	50.0		53.6	36-108	0.372	58
Naphthalene	31.8		1.1	5.0	"	50.0		63.6	36-111	2.18	48
4-Chloroaniline	36.4		1.6	5.0	"	50.0		72.8	50-133	4.30	72
Hexachlorobutadiene	19.1		2.5	5.0	"	50.0		38.2	26-108	2.07	65
2-Methylnaphthalene	30.0		1.1	5.0	"	50.0		60.0	47-111	3.92	37
4-Chloro-3-methylphenol	37.0		1.1	5.0	"	50.0		74.0	52-131	4.23	37
Hexachlorocyclopentadiene	5.11	J	2.8	25	"	50.0		10.2	5-179	18.4	103
2,4,6-Trichlorophenol	39.9		1.1	5.0	"	50.0		79.8	38-139	2.96	48
2,4,5-Trichlorophenol	38.8		1.6	5.0	"	50.0		77.6	34-143	2.29	46
2-Chloronaphthalene	33.0		1.4	5.0	"	50.0		66.0	50-114	4.44	35
2-Nitroaniline	41.8		2.3	5.0	"	50.0		83.6	55-131	5.58	28
Acenaphthylene	34.5		0.68	5.0	"	50.0		69.0	44-121	5.36	29
Dimethyl phthalate	10.8		1.2	5.0	"	50.0		21.6	4-102	101	60
2,6-Dinitrotoluene	36.0		1.6	5.0	"	50.0		72.0	58-128	5.67	27
Acenaphthene	34.1		0.60	5.0	"	50.0		68.2	52-114	5.97	31
3-Nitroaniline	41.2		2.0	25	"	50.0		82.4	49-137	4.04	28
Dibenzofuran	33.7		1.6	5.0	"	50.0		67.4	52-119	4.35	27
2,4-Dinitrophenol	U	J	1.8	25	"	50.0			16-189		109
2,4-Dinitrotoluene	37.2		2.0	5.0	"	50.0		74.4	57-132	7.50	29

Xuyen Nguyen, Chemist

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IIT Research Institute ESAT Region 5
536 South Clark Street, Suite 734; Chicago, IL 60605
Telephone (312) 353-8302 Facsimile (312) 353-8307

Superfund, US EPA Region 5	Project: Himco Dump	
77 West Jackson Boulevard	Project Number: 2003SY01	**Reported:**
Chicago IL, 60604	Project Manager: Howard Pham	Dec-05-02 14:50

Semivolatiles by GC/MS - Quality Control

Batch EK21101 - BP SVOA

LCS Dup (EK21101-BSD1) **Prepared: Nov-04-02 Analyzed: Nov-20-02**

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Fluorene	**36.4**		1.1	5.0	ug/L	50.0		72.8	53-120	6.64	27
4-Nitrophenol	**68.2**		1.6	25	"	50.0		136	5-235	3.46	64
4-Chlorophenyl phenyl ether	**35.2**		1.4	5.0	"	50.0		70.4	54-124	7.12	30
Diethyl phthalate	**16.5**		1.7	5.0	"	50.0		33.0	34-129	46.3	37
4,6-Dinitro-2-methylphenol	**17.2**	J	1.5	25	"	50.0		34.4	11-235	2.30	59
N-Nitrosodiphenylamine	**33.6**		1.4	5.0	"	50.0		67.2	42-154	2.06	54
4-Nitroaniline	**48.5**		1.7	25	"	50.0		97.0	4-158	6.97	44
4-Bromophenyl phenyl ether	**35.5**		0.88	5.0	"	50.0		71.0	49-148	2.23	30
Hexachlorobenzene	**36.3**		1.4	5.0	"	50.0		72.6	52-143	5.10	29
Pentachlorophenol	**4.96**	J	1.6	25	"	50.0		9.92	11-247		87
Phenanthrene	**36.0**		0.56	5.0	"	50.0		72.0	44-144	5.67	25
Anthracene	**36.3**		0.80	5.0	"	50.0		72.6	44-144	5.62	29
Carbazole	**40.5**		1.6	5.0	"	50.0		81.0	49-139	5.99	47
Di-n-butyl phthalate	**34.6**		1.9	5.0	"	50.0		69.2	31-159	6.70	40
Fluoranthene	**39.8**		3.6	5.0	"	50.0		79.6	49-138	6.56	30
Pyrene	**40.9**		3.0	5.0	"	50.0		81.8	40-158	8.21	28
Butyl benzyl phthalate	**43.0**		2.2	5.0	"	50.0		86.0	48-159	10.4	40
3,3'-Dichlorobenzidine	**50.0**		1.1	25	"	50.0		100	41-183	3.15	44
Chrysene	**35.4**		0.65	5.0	"	50.0		70.8	50-152	8.65	36
Benzo (a) anthracene	**39.8**		0.92	5.0	"	50.0		79.6	54-153	7.03	36
Bis(2-ethylhexyl)phthalate	**41.3**	J	2.3	5.0	"	50.0		82.6	47-153	9.46	22
Di-n-octyl phthalate	**38.4**		2.7	5.0	"	50.0		76.8	30-156	14.3	87
Benzo (b) fluoranthene	**85.8**		1.1	5.0	"	50.0		172	55-153	69.4	83
Benzo (k) fluoranthene	**73.9**		1.1	5.0	"	50.0		148	43-149	58.6	83
Benzo (a) pyrene	**39.8**		0.73	5.0	"	50.0		79.6	47-156	8.19	72
Indeno (1,2,3-cd) pyrene	**33.1**		0.30	5.0	"	50.0		66.2	43-153	10.9	66
Dibenz (a,h) anthracene	**33.2**		0.63	5.0	"	50.0		66.4	48-146	9.20	74
Benzo (g,h,i) perylene	**29.7**		0.93	5.0	"	50.0		59.4	37-155	12.9	58
Surrogate: 2-Fluorophenol	*35.0*				"	*50.0*		*70.0*	*18-128*		
Surrogate: Phenol-d6	*34.7*				"	*50.0*		*69.4*	*12-133*		
Surrogate: Nitrobenzene-d5	*34.9*				"	*50.0*		*69.8*	*5-158*		
Surrogate: 2-Fluorobiphenyl	*33.0*				"	*50.0*		*66.0*	*29-128*		

Xuyen Nguyen, Chemist

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IIT Research Institute ESAT Region 5
536 South Clark Street, Suite 734; Chicago, IL 60605
Telephone (312) 353-8302 Facsimile (312) 353-8307

Superfund, US EPA Region 5 77 West Jackson Boulevard Chicago IL, 60604	Project: Himco Dump Project Number: 2003SY01 Project Manager: Howard Pham	**Reported:** Dec-05-02 14:50

Semivolatiles by GC/MS - Quality Control

Batch EK21101 - BP SVOA

LCS Dup (EK21101-BSD1) **Prepared: Nov-04-02 Analyzed: Nov-20-02**

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Surrogate: 2,4,6-Tribromophenol	*47.0*				*ug/L*	*50.0*		*94.0*	*32-148*		
Surrogate: Terphenyl-dl4	*43.6*				*"*	*50.0*		*87.2*	*62-140*		

Matrix Spike (EK21101-MS1) **Source: E2K0101-06** **Prepared: Nov-04-02 Analyzed: Nov-20-02**

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Phenol	**31.6**		0.74	5.0	ug/L	50.0	U	63.2	5-131		
Bis(2-chloroethyl)ether	**19.3**		0.68	5.0	"	50.0	U	38.6	5-156		
2-Chlorophenol	**31.1**		0.79	5.0	"	50.0	U	62.2	5-138		
1,3-Dichlorobenzene	**23.1**		2.1	5.0	"	50.0	U	46.2	39-96		
1,4-Dichlorobenzene	**23.9**		2.2	5.0	"	50.0	U	47.8	36-98		
Benzyl alcohol	**34.2**		1.0	5.0	"	50.0	U	68.4	5-188		
1,2-Dichlorobenzene	**25.2**		1.9	5.0	"	50.0	U	50.4	40-99		
2-Methylphenol	**31.5**		0.64	5.0	"	50.0	U	63.0	21-117		
Bis(2-chloroisopropyl)ether	**28.5**		1.8	5.0	"	50.0	U	57.0	5-168		
4-Methylphenol	**31.7**		0.80	5.0	"	50.0	U	63.4	26-114		
N-Nitrosodi-n-propylamine	**30.9**		1.7	5.0	"	50.0	U	61.8	5-182		
Hexachloroethane	**22.6**		2.7	5.0	"	50.0	U	45.2	5-132		
Nitrobenzene	**29.5**		1.4	5.0	"	50.0	U	59.0	5-163		
Isophorone	**32.4**		1.4	5.0	"	50.0	U	64.8	5-171		
2-Nitrophenol	**31.7**		1.5	5.0	"	50.0	U	63.4	5-157		
2,4-Dimethylphenol	**26.0**		1.4	5.0	"	50.0	U	52.0	5-116		
Benzoic acid	**U**	J	1.8	25	"	50.0	U		5-150		
Bis(2-chloroethoxy)methane	**30.8**		1.0	5.0	"	50.0	U	61.6	5-174		
2,4-Dichlorophenol	**34.4**		1.2	5.0	"	50.0	U	68.8	24-127		
1,2,4-Trichlorobenzene	**29.2**		1.8	5.0	"	50.0	U	58.4	41-106		
Naphthalene	**29.9**		1.1	5.0	"	50.0	U	59.8	5-168		
4-Chloroaniline	**28.9**		1.6	5.0	"	50.0	U	57.8	5-183		
Hexachlorobutadiene	**28.9**		2.5	5.0	"	50.0	U	57.8	38-99		
2-Methylnaphthalene	**30.7**		1.1	5.0	"	50.0	U	61.4	48-109		
4-Chloro-3-methylphenol	**38.4**		1.1	5.0	"	50.0	U	76.8	27-140		

Xuyen Nguyen, Chemist

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IIT Research Institute ESAT Region 5
536 South Clark Street, Suite 734; Chicago, IL 60605
Telephone (312) 353-8302 Facsimile (312) 353-8307

Superfund, US EPA Region 5	Project: Himco Dump	
77 West Jackson Boulevard	Project Number: 2003SY01	**Reported:**
Chicago IL, 60604	Project Manager: Howard Pham	Dec-05-02 14:50

Semivolatiles by GC/MS - Quality Control

Batch EK21101 - BP SVOA

Matrix Spike (EK21101-MS1) **Source: E2K0101-06** **Prepared: Nov-04-02 Analyzed: Nov-20-02**

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Hexachlorocyclopentadiene	**7.76**	J	2.8	25	ug/L	50.0	U	15.5	5-95		
2,4,6-Trichlorophenol	**41.0**		1.1	5.0	"	50.0	U	82.0	26-132		
2,4,5-Trichlorophenol	**39.5**		1.6	5.0	"	50.0	U	79.0	47-123		
2-Chloronaphthalene	**34.2**		1.4	5.0	"	50.0	U	68.4	56-106		
2-Nitroaniline	**41.5**		2.3	5.0	"	50.0	U	83.0	5-176		
Acenaphthylene	**34.8**		0.68	5.0	"	50.0	U	69.6	5-174		
Dimethyl phthalate	**35.7**		1.2	5.0	"	50.0	U	71.4	39-102		
2,6-Dinitrotoluene	**38.4**		1.6	5.0	"	50.0	U	76.8	67-110		
Acenaphthene	**35.2**		0.60	5.0	"	50.0	U	70.4	18-129		
3-Nitroaniline	**37.6**		2.0	25	"	50.0	U	75.2	5-203		
Dibenzofuran	**33.9**		1.6	5.0	"	50.0	U	67.8	5-112		
2,4-Dinitrophenol	U	J	1.8	25	"	50.0	U		5-191		
2,4-Dinitrotoluene	**40.2**		2.0	5.0	"	50.0	U	80.4	28-146		
Fluorene	**37.4**		1.1	5.0	"	50.0	U	74.8	55-113		
4-Nitrophenol	**82.6**		1.6	25	"	50.0	U	165	34-128		
4-Chlorophenyl phenyl ether	**36.9**		1.4	5.0	"	50.0	U	73.8	59-113		
Diethyl phthalate	**37.3**		1.7	5.0	"	50.0	U	74.6	55-100		
4,6-Dinitro-2-methylphenol	**30.5**	J	1.5	25	"	50.0	U	61.0	72-138		
N-Nitrosodiphenylamine	**35.8**		1.4	5.0	"	50.0	U	71.6	74-102		
4-Nitroaniline	**44.3**		1.7	25	"	50.0	U	88.6	5-177		
4-Bromophenyl phenyl ether	**36.4**		0.88	5.0	"	50.0	U	72.8	71-107		
Hexachlorobenzene	**37.9**		1.4	5.0	"	50.0	U	75.8	76-100		
Pentachlorophenol	**94.4**	J	1.6	25	"	50.0	U	189	5-394		
Phenanthrene	**37.8**		0.56	5.0	"	50.0	U	75.6	65-112		
Anthracene	**37.8**		0.80	5.0	"	50.0	U	75.6	61-114		
Carbazole	**42.2**		1.6	5.0	"	50.0	U	84.4	50-146		
Di-n-butyl phthalate	**37.5**		1.9	5.0	"	50.0	U	75.0	51-126		
Fluoranthene	**41.2**		3.6	5.0	"	50.0	U	82.4	41-152		
Pyrene	**42.1**		3.0	5.0	"	50.0	U	84.2	57-119		
Butyl benzyl phthalate	**45.8**		2.2	5.0	"	50.0	U	91.6	20-152		
3,3'-Dichlorobenzidine	**13.3**		1.1	25	"	50.0	U	26.6	5-113		
Chrysene	**37.0**		0.65	5.0	"	50.0	U	74.0	62-118		

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Superfund, US EPA Region 5 77 West Jackson Boulevard Chicago IL, 60604	Project: Himco Dump Project Number: 2003SY01 Project Manager: Howard Pham	**Reported:** Dec-05-02 14:50

Semivolatiles by GC/MS - Quality Control

Batch EK21101 - BP SVOA

Matrix Spike (EK21101-MS1) **Source: E2K0101-06** **Prepared: Nov-04-02 Analyzed: Nov-20-02**

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Benzo (a) anthracene	**42.0**		0.92	5.0	ug/L	50.0	U	84.0	63-120		
Bis(2-ethylhexyl)phthalate	**65.5**	J	2.3	5.0	"	50.0	6.0	119	39-138		
Di-n-octyl phthalate	**38.6**		2.7	5.0	"	50.0	U	77.2	28-158		
Benzo (b) fluoranthene	**45.1**		1.1	5.0	"	50.0	U	90.2	49-155		
Benzo (k) fluoranthene	**39.8**		1.1	5.0	"	50.0	U	79.6	43-149		
Benzo (a) pyrene	**41.5**		0.73	5.0	"	50.0	U	83.0	31-160		
Indeno (1,2,3-cd) pyrene	**38.9**		0.30	5.0	"	50.0	U	77.8	52-171		
Dibenz (a,h) anthracene	**38.9**		0.63	5.0	"	50.0	U	77.8	12-226		
Benzo (g,h,i) perylene	**37.0**		0.93	5.0	"	50.0	U	74.0	25-204		
Surrogate: 2-Fluorophenol	*30.4*				"	*50.0*		*60.8*	*18-128*		
Surrogate: Phenol-d6	*34.1*				"	*50.0*		*68.2*	*12-133*		
Surrogate: Nitrobenzene-d5	*32.1*				"	*50.0*		*64.2*	*5-158*		
Surrogate: 2-Fluorobiphenyl	*34.5*				"	*50.0*		*69.0*	*29-128*		
Surrogate: 2,4,6-Tribromophenol	*49.1*				"	*50.0*		*98.2*	*32-148*		
Surrogate: Terphenyl-dl4	*44.5*				"	*50.0*		*89.0*	*62-140*		

Matrix Spike Dup (EK21101-MSD1) **Source: E2K0101-06** **Prepared: Nov-04-02 Analyzed: Nov-20-02**

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Phenol	**27.2**		0.74	5.0	ug/L	50.0	U	54.4	5-131	15.0	42
Bis(2-chloroethyl)ether	**4.94**		0.68	5.0	"	50.0	U	9.88	5-156	118	45
2-Chlorophenol	**21.9**		0.79	5.0	"	50.0	U	43.8	5-138	34.7	86
1,3-Dichlorobenzene	**5.51**		2.1	5.0	"	50.0	U	11.0	39-96	123	82
1,4-Dichlorobenzene	**6.09**		2.2	5.0	"	50.0	U	12.2	36-98	119	75
Benzyl alcohol	**26.7**		1.0	5.0	"	50.0	U	53.4	5-188	24.6	28
1,2-Dichlorobenzene	**7.77**		1.9	5.0	"	50.0	U	15.5	40-99	106	66
2-Methylphenol	**26.4**		0.64	5.0	"	50.0	U	52.8	21-117	17.6	62
Bis(2-chloroisopropyl)ether	**11.6**		1.8	5.0	"	50.0	U	23.2	5-168	84.3	39
4-Methylphenol	**27.9**		0.80	5.0	"	50.0	U	55.8	26-114	12.8	44
N-Nitrosodi-n-propylamine	**16.5**		1.7	5.0	"	50.0	U	33.0	5-182	60.8	48
Hexachloroethane	**7.83**		2.7	5.0	"	50.0	U	15.7	5-132	97.1	200

Xuyen Nguyen, Chemist

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IIT Research Institute ESAT Region 5
536 South Clark Street, Suite 734; Chicago, IL 60605
Telephone (312) 353-8302 Facsimile (312) 353-8307

Superfund, US EPA Region 5 77 West Jackson Boulevard Chicago IL, 60604	Project: Himco Dump Project Number: 2003SY01 Project Manager: Howard Pham	**Reported:** Dec-05-02 14:50

Semivolatiles by GC/MS - Quality Control

Batch EK21101 - BP SVOA

Matrix Spike Dup (EK21101-MSD1) **Source: E2K0101-06** **Prepared: Nov-04-02 Analyzed: Nov-20-02**

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Nitrobenzene	**15.6**		1.4	5.0	ug/L	50.0	U	31.2	5-163	61.6	110
Isophorone	**20.7**		1.4	5.0	"	50.0	U	41.4	5-171	44.1	36
2-Nitrophenol	**19.1**		1.5	5.0	"	50.0	U	38.2	5-157	49.6	75
2,4-Dimethylphenol	**13.6**		1.4	5.0	"	50.0	U	27.2	5-116	62.6	69
Benzoic acid	**U**	J	1.8	25	"	50.0	U		5-150		42
Bis(2-chloroethoxy)methane	**21.8**		1.0	5.0	"	50.0	U	43.6	5-174	34.2	296
2,4-Dichlorophenol	**34.9**		1.2	5.0	"	50.0	U	69.8	24-127	1.44	23
1,2,4-Trichlorobenzene	**16.3**		1.8	5.0	"	50.0	U	32.6	41-106	56.7	115
Naphthalene	**18.8**		1.1	5.0	"	50.0	U	37.6	5-168	45.6	37
4-Chloroaniline	**12.7**		1.6	5.0	"	50.0	U	25.4	5-183	77.9	30
Hexachlorobutadiene	**15.1**		2.5	5.0	"	50.0	U	30.2	38-99	62.7	145
2-Methylnaphthalene	**24.6**		1.1	5.0	"	50.0	U	49.2	48-109	22.1	34
4-Chloro-3-methylphenol	**39.1**		1.1	5.0	"	50.0	U	78.2	27-140	1.81	28
Hexachlorocyclopentadiene	**5.40**	J	2.8	25	"	50.0	U	10.8	5-95	35.9	168
2,4,6-Trichlorophenol	**40.8**		1.1	5.0	"	50.0	U	81.6	26-132	0.489	25
2,4,5-Trichlorophenol	**41.8**		1.6	5.0	"	50.0	U	83.6	47-123	5.66	24
2-Chloronaphthalene	**32.2**		1.4	5.0	"	50.0	U	64.4	56-106	6.02	26
2-Nitroaniline	**43.6**		2.3	5.0	"	50.0	U	87.2	5-176	4.94	37
Acenaphthylene	**33.9**		0.68	5.0	"	50.0	U	67.8	5-174	2.62	23
Dimethyl phthalate	**37.4**		1.2	5.0	"	50.0	U	74.8	39-102	4.65	44
2,6-Dinitrotoluene	**39.4**		1.6	5.0	"	50.0	U	78.8	67-110	2.57	20
Acenaphthene	**35.1**		0.60	5.0	"	50.0	U	70.2	18-129	0.285	54
3-Nitroaniline	**35.6**		2.0	25	"	50.0	U	71.2	5-203	5.46	28
Dibenzofuran	**35.9**		1.6	5.0	"	50.0	U	71.8	5-112	5.73	16
2,4-Dinitrophenol	**19.2**	J	1.8	25	"	50.0	U	38.4	5-191		96
2,4-Dinitrotoluene	**41.3**		2.0	5.0	"	50.0	U	82.6	28-146	2.70	19
Fluorene	**39.4**		1.1	5.0	"	50.0	U	78.8	55-113	5.21	21
4-Nitrophenol	**113**		1.6	25	"	50.0	U	226	34-128	31.1	200
4-Chlorophenyl phenyl ether	**38.6**		1.4	5.0	"	50.0	U	77.2	59-113	4.50	17
Diethyl phthalate	**39.4**		1.7	5.0	"	50.0	U	78.8	55-100	5.48	22
4,6-Dinitro-2-methylphenol	**24.3**	J	1.5	25	"	50.0	U	48.6	72-138	22.6	68
N-Nitrosodiphenylamine	**36.4**		1.4	5.0	"	50.0	U	72.8	74-102	1.66	31

Xuyen Nguyen, Chemist

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IIT Research Institute ESAT Region 5
536 South Clark Street, Suite 734; Chicago, IL 60605
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Superfund, US EPA Region 5 77 West Jackson Boulevard Chicago IL, 60604	Project: Himco Dump Project Number: 2003SY01 Project Manager: Howard Pham	**Reported:** Dec-05-02 14:50

Semivolatiles by GC/MS - Quality Control

Batch EK21101 - BP SVOA

Matrix Spike Dup (EK21101-MSD1) **Source: E2K0101-06** **Prepared: Nov-04-02 Analyzed: Nov-20-02**

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
4-Nitroaniline	**47.3**		1.7	25	ug/L	50.0	U	94.6	5-177	6.55	73
4-Bromophenyl phenyl ether	**37.9**		0.88	5.0	"	50.0	U	75.8	71-107	4.04	12
Hexachlorobenzene	**39.1**		1.4	5.0	"	50.0	U	78.2	76-100	3.12	17
Pentachlorophenol	**80.6**	J	1.6	25	"	50.0	U	161	5-394	15.8	57
Phenanthrene	**39.6**		0.56	5.0	"	50.0	U	79.2	65-112	4.65	16
Anthracene	**33.0**		0.80	5.0	"	50.0	U	66.0	61-114	13.6	33
Carbazole	**45.6**		1.6	5.0	"	50.0	U	91.2	50-146	7.74	30
Di-n-butyl phthalate	**39.6**		1.9	5.0	"	50.0	U	79.2	51-126	5.45	40
Fluoranthene	**44.2**		3.6	5.0	"	50.0	U	88.4	41-152	7.03	22
Pyrene	**44.5**		3.0	5.0	"	50.0	U	89.0	57-119	5.54	55
Butyl benzyl phthalate	**49.5**		2.2	5.0	"	50.0	U	99.0	20-152	7.76	70
3,3'-Dichlorobenzidine	**8.81**		1.1	25	"	50.0	U	17.6	5-113	40.6	27
Chrysene	**38.8**		0.65	5.0	"	50.0	U	77.6	62-118	4.75	17
Benzo (a) anthracene	**42.7**		0.92	5.0	"	50.0	U	85.4	63-120	1.65	23
Bis(2-ethylhexyl)phthalate	**50.9**	J	2.3	5.0	"	50.0	6.0	89.8	39-138	25.1	33
Di-n-octyl phthalate	**48.4**		2.7	5.0	"	50.0	U	96.8	28-158	22.5	46
Benzo (b) fluoranthene	**105**		1.1	5.0	"	50.0	U	210	49-155	79.8	22
Benzo (k) fluoranthene	**89.4**		1.1	5.0	"	50.0	U	179	43-149	76.8	18
Benzo (a) pyrene	**36.4**		0.73	5.0	"	50.0	U	72.8	31-160	13.1	47
Indeno (1,2,3-cd) pyrene	**41.2**		0.30	5.0	"	50.0	U	82.4	52-171	5.74	37
Dibenz (a,h) anthracene	**40.8**		0.63	5.0	"	50.0	U	81.6	12-226	4.77	41
Benzo (g,h,i) perylene	**39.3**		0.93	5.0	"	50.0	U	78.6	25-204	6.03	37
Surrogate: 2-Fluorophenol	*17.5*				"	*50.0*		*35.0*	*18-128*		
Surrogate: Phenol-d6	*28.6*				"	*50.0*		*57.2*	*12-133*		
Surrogate: Nitrobenzene-d5	*16.9*				"	*50.0*		*33.8*	*5-158*		
Surrogate: 2-Fluorobiphenyl	*32.0*				"	*50.0*		*64.0*	*29-128*		
Surrogate: 2,4,6-Tribromophenol	*42.7*				"	*50.0*		*85.4*	*32-148*		
Surrogate: Terphenyl-dl4	*47.1*				"	*50.0*		*94.2*	*62-140*		

Xuyen Nguyen, Chemist

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IIT Research Institute ESAT Region 5
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Telephone (312) 353-8302 Facsimile (312) 353-8307

Superfund, US EPA Region 5	Project: Himco Dump	
77 West Jackson Boulevard	Project Number: 2003SY01	**Reported:**
Chicago IL, 60604	Project Manager: Howard Pham	Dec-05-02 14:50

Notes and Definitions

J	The identification of the analyte is acceptable; the reported value is an estimate.
R	The presence or absence of the analyte cannot be determined from the data due to severe quality control problems. The data are rejected and considered unuseable.
UJ	The analyte was not detected at or above the reported value. The reported value is an estimate.
U	Not Detected
NR	Not Reported

Xuyen Nguyen, Chemist

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5 CENTRAL REGIONAL LABORATORY
536 SOUTH CLARK STREET
CHICAGO, ILLINOIS 60605

Print Date: 11/27/02

Subject: Review of Region 5 Data for Himco Dump

From: Richard Dilg, Chemist
Contractor to Region 5 Central Regional Laboratory
Submitted to CRL on 12-4-02

To: Superfund, US EPA Region 5
77 West Jackson Boulevard
Chicago, IL 60604

Attached are Results for: Himco Dump

Analyses included in this report:

B ICP (W)	Metals SF ICP (W)

Sylvia Griffin DEC 0 4 2002

Data Management Coordinator and Date Received

Date Transmitted: DEC 0 4 2002

Please have the U.S. EPA Project Manager/Officer call the CRL Sample Coordinator at 3-7444 for any comments or questions.

Please sign and date this form below and return it with any comments to:

Sylvia Griffin
Data Management Coordinator
Region 5 Central Regional Laboratory
ML-10C

_____/____/_____

Received by and Date

Comments:

B ICP (W)
Metals SF ICP (W)

Method Number: CRL METALS 003 & METALS 025
Date Generated: November 27, 2002
Author: R.Dilg, IITRI-ESAT

Site Name: Himco Dump
Task Order Number: 05-0-02
TDF Number: 5-02-081
Job No.: 102-054 -001
Batch ID No.: E2K0101
Parameter: ICP

XP 11-27-02

ICP NARRATIVE

This narrative covers the analysis of 4 water samples from the named site sampled for ICP metals analysis.

For a listing of sample ID's, laboratory ID's, and sampling dates refer to the Work Order pages and/or the initial LIMS report pages where such listings can be found.

The samples were received properly preserved. Routine CRL hot block (water) digestion procedures (CRL Metals 003 and Metals 025) were used to prepare the water samples for GFAA and ICP analysis. The digested samples were analyzed using the Optima 3300 DV ICP unit using analysis run method water_080300_m_ESAT. Optima 3300 DV ICP results were stored to files E2K0101 11222002.

ICP RUN RESULTS - WATERS

Analyte mdl's determined during late summer of 2001 and rl values calculated from that information for ESAT analysis work for the Optima 3300 DV were used. The calculated rl values were used in reporting sample analysis results for this data case.

Analysis RUN E2K0101- Optima 3300 DV

29 to 31 analyte lines out of a possible 78 lines available using the Optima 3300 DV method were chosen by a plan agreed upon by Dr. J. V. Morris. These are to be used for routine reporting of analyte values that appear in the QA summary reports.

The following analytes will either not be addressed or only minimally mentioned in this case narrative:

Sn, Tl, As, Se, Sb, Ce, Mo, Pb, Cd, B, Ti, Y, Sr, Li

Two sets of QA / QC summary reports are provided for each analysis run for this deliverable. The first is the traditional set based on "default" QA/ QC limits. The second set is based on control chart (historical / statistically) determined QA/ QC limits. The formats used for the second set are new and may be subject to change for use with future data sets.

12-2-02

Analysis RUN E2K0101 - Optima 3300 DV (continued)

The following lists the case pertinent out-of-control QC audit check results based on default QA / QC (traditional) limits:

RUN E2K0101 waters :

Blanks: (Blank values are truncated rather than rounded)

	Instr blk1:	V 310	6.2	µg/L
	Digest blk :	Ni231	0.8	"
		V 310	5.9	"
	Instr blk2:	Cu327	- 2.0	"
		V 310	5.9	"
LCM's:	LCM1 :	Ag328	*	
	LCM1 (2):	Ag328	*	

* upper concentration level exceeded ; LCM2 check audits used for control purposes

Matrix spike: E2K0101-06:	Al396	#
(EK20401-MS1)	Ca315	#
	Fe259	#
	Fe273	#

audit not valid ; sample concentration greater than twice the spike concentration

RL check Soln: RL 1:
(See paragraph below regarding rl's)
RL 2:

Presently no "control" actions are associated with the observed RL analyte values actually determined during the analysis run. RL check solution values currently are being analyzed for purposes of generating a benchmark set of values which can be used to monitor the appropriateness of any given RL level of analyte concentration.

The following lists the case pertinent out-of-control QC audit check results based on control chart QA / QC (historical) limits. Only those analytes not already previously affected by default QA/ QC limits (see above) will be listed here:

(There is nothing pertinent to list.)

Analysis RUN E2K0101 - Optima 3300 DV (continued)

Sample analyte qualifications:

To date, compilation of control chart information is still on-going for some of the QA audits from Optima analysis runs. Until such time when compilation and evaluation of QA data is more complete, the following will be used:

Default QA/ QC limits for the digestion blank and instrument blank audits will be used for qualifying sample results. Control chart QA / QC limits and/or default limits for other QA/QC audit checks will be used to qualify sample results. In general, if the "wider" of either the default or the control chart limits is exceeded, then the reported results will be qualified for any given sample analyte result that may be affected. This latter approach has been discussed with Dr. J. V. Morris and it will be employed until a more consistent one is developed and spelled out in an approved SOP dealing with this matter.

As, Cd, Sb, Pb, Se, and Tl sample results were not reported by ICP; see GFAA results for these analytes.

The ICP sample results reported for the remaining analytes are usable except as noted in the following paragraphs.

For Ag, LCM2 QA check audits were used for control purposes rather than LCM1 check audits since the level of Ag in the LCM1 solutions exceed the upper linear limit for Ag.

For B, the sample results for E2K0101-02 is flagged "J" since it had a result between the MDL and the rl value and it is estimated because of this.

For Ca, the sample results for E2K0101-02 is flagged "J" since it had a result between the MDL and the rl value and it is estimated because of this.

For Cr, the sample results for E2K0101-02 and -05 are flagged "J" since they had a result between the MDL and the rl value and they are estimated because of this.

For Co, the sample results for E2K0101-04 and -05 are flagged "J" since they had a result between the MDL and the rl value and they are estimated because of this.

For Cu, the sample results for E2K0101-06 is flagged "J" since it had a result between the MDL and the rl value and it is estimated because of this.

For Ni, the sample result for E2K0101-02 is flagged "J" since it had a result between the MDL and the rl value and it is estimated because of this. The same result is also flagged "K" and may be biased high due to possible contamination indicated from blank audit results.

For Na, the sample result for E2K0101-02 is flagged "J" since it had a result between the MDL and the rl value and it is estimated because of this.

For V, the sample result for E2K0101-02 and -05 are flagged "J" since they had a result between the MDL and the rl value and they are estimated because of this. The same results and those for E2K0101-04 and -06 are also flagged "K" and may be biased high due to possible contamination indicated from blank audit results.

VT 11-27-02

For Zn, the sample results for E2K0101-06 is flagged "J" since it had a result between the MDL and the rl value and it is estimated because of this.

Other comments

Samples E2K0101-04 and -05 appear to be field duplicates; analyte values for Cu, Fe, and Zn do not exhibit good correlation. No sample results were qualified on the basis of any field duplicate comparison results.

Sample E2K0101-02 is a field blank. Small amounts of B, Ca, Cr, Ni, Na, and V were reported. However, no analytes for the other samples were qualified on the basis of field blank results.

R5CRL Files

The following pathways were used for storing analysis information to the R5CRL file server for the this data set:

Optima 3300 DV results:

(Vol2 on 'R5crl')[H:] \\ITRI-Metals \Rdilg \E2K0101 \Icp \Optima 3300DV \Methods_ESAT
(Vol2 on 'R5crl')[H:] \\ITRI-Metals \Rdilg \E2K0101 \Icp \Optima 3300DV \narrative
(Vol2 on 'R5crl')[H:] \\ITRI-Metals \Rdilg \E2K0101 \Icp \Optima 3300DV \Results_ESAT
(Vol2 on 'R5crl')[H:] \\ITRI-Metals \Rdilg \E2K0101 \Icp \Optima 3300DV \SIFs_ESAT
(Vol2 on 'R5crl')[H:] \\ITRI-Metals \Rdilg \E2K0101 \Icp \Optima 3300DV \SS processed data

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IIT Research Institute ESAT Region 5
536 South Clark Street, Suite 734; Chicago, IL 60605
Telephone (312) 353-8302 Facsimile (312) 353-8307

Superfund, US EPA Region 5 77 West Jackson Boulevard Chicago IL, 60604	Project: Himco Dump Project Number: 2003SY01 Project Manager: Howard Pham	**Reported:** Dec-04-02 08:13

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
2003SY01R02-Pump Blank	E2K0101-02	Water	Oct-31-02 11:50	Nov-01-02 11:27
2003SY01S04-WT116A	E2K0101-04	Water	Oct-31-02 13:52	Nov-01-02 11:27
2003SY01D04-WT116A	E2K0101-05	Water	Oct-31-02 13:52	Nov-01-02 11:27
2003SY01S05-WT115A	E2K0101-06	Water	Oct-31-02 15:00	Nov-01-02 11:27

Richard Dilg, Chemist 12-4-02

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Superfund, US EPA Region 5 77 West Jackson Boulevard Chicago IL, 60604	Project: Himco Dump Project Number: 2003SY01 Project Manager: Howard Pham	**Reported:** Dec-04-02 08:13

2003SY01R02-Pump Blank

E2K0101-02(Water)
Sampled: Oct-31-02 11:50
Received: Nov-01-02 11:27

Metals by ICP

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
Aluminum	**U**		13.0	44.0	ug/L	1	EK20401	Nov-12-02	Nov-22-02
Barium	**U**		0.3	0.9	"	"	"	"	"
Beryllium	**U**		1.0	2.8	"	"	"	"	"
Boron	**U**		23.0	78.0	"	"	"	"	"
Calcium	**42.1**	J	24.0	82.0	"	"	"	"	"
Chromium	**0.7**	J	0.3	0.9	"	"	"	"	"
Cobalt	**U**		1.2	4.2	"	"	"	"	"
Copper	**U**		1.3	4.4	"	"	"	"	"
Iron	**U**		12.0	42.0	"	"	"	"	"
Magnesium	**U**		37.0	128	"	"	"	"	"
Manganese	**U**		2.5	8.6	"	"	"	"	"
Nickel	**1.0**	J, K	0.8	2.7	"	"	"	"	"
Potassium	**U**		140	482	"	"	"	"	"
Silver	**U**		0.5	1.7	"	"	"	"	"
Sodium	**131**	J	110	370	"	"	"	"	"
Vanadium	**5.4**	J, K	4.8	17.0	"	"	"	"	"
Zinc	**U**		10.0	36.0	"	"	"	"	"

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Report Name: E2K0101

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Superfund, US EPA Region 5 77 West Jackson Boulevard Chicago IL, 60604	Project: Himco Dump Project Number: 2003SY01 Project Manager: Howard Pham	**Reported:** Dec-04-02 08:13

2003SY01S04-WT116A
E2K0101-04(Water)
Sampled: Oct-31-02 13:52
Received: Nov-01-02 11:27

Metals by ICP

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
Aluminum	**294**		13.0	44.0	ug/L	1	EK20401	Nov-12-02	Nov-22-02
Barium	**118**		0.3	0.9	"	"	"	"	"
Beryllium	**U**		1.0	2.8	"	"	"	"	"
Boron	**548**		23.0	78.0	"	"	"	"	"
Calcium	**564000**		24.0	82.0	"	"	"	"	"
Chromium	**1.2**		0.3	0.9	"	"	"	"	"
Cobalt	**2.1**	J	1.2	4.2	"	"	"	"	"
Copper	**13.6**		1.3	4.4	"	"	"	"	"
Iron	**5320**		12.0	42.0	"	"	"	"	"
Magnesium	**36700**		37.0	128	"	"	"	"	"
Manganese	**443**		2.5	8.6	"	"	"	"	"
Nickel	**8.2**		0.8	2.7	"	"	"	"	"
Potassium	**22200**		140	482	"	"	"	"	"
Silver	**U**		0.5	1.7	"	"	"	"	"
Sodium	**153000**		110	370	"	"	"	"	"
Vanadium	**9.9**	J, K	4.8	17.0	"	"	"	"	"
Zinc	**91.7**		10.0	36.0	"	"	"	"	"

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Telephone (312) 353-8302 Facsimile (312) 353-8307

Superfund, US EPA Region 5 77 West Jackson Boulevard Chicago IL, 60604	Project: Himco Dump Project Number: 2003SY01 Project Manager: Howard Pham	**Reported:** Dec-04-02 08:13

2003SY01D04-WT116A
E2K0101-05(Water)
Sampled: Oct-31-02 13:52
Received: Nov-01-02 11:27

Metals by ICP

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
Aluminum	**301**		13.0	44.0	ug/L	1	EK20401	Nov-12-02	Nov-22-02
Barium	**125**		0.3	0.9	"	"	"	"	"
Beryllium	**U**		1.0	2.8	"	"	"	"	"
Boron	**558**		23.0	78.0	"	"	"	"	"
Calcium	**578000**		24.0	82.0	"	"	"	"	"
Chromium	**0.7**	J	0.3	0.9	"	"	"	"	"
Cobalt	**2.7**	J	1.2	4.2	"	"	"	"	"
Copper	**47.4**		1.3	4.4	"	"	"	"	"
Iron	**6170**		12.0	42.0	"	"	"	"	"
Magnesium	**37200**		37.0	128	"	"	"	"	"
Manganese	**453**		2.5	8.6	"	"	"	"	"
Nickel	**9.3**		0.8	2.7	"	"	"	"	"
Potassium	**22500**		140	482	"	"	"	"	"
Silver	**U**		0.5	1.7	"	"	"	"	"
Sodium	**157000**		110	370	"	"	"	"	"
Vanadium	**10.2**	J, K	4.8	17.0	"	"	"	"	"
Zinc	**218**		10.0	36.0	"	"	"	"	"

12-4-02
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Superfund, US EPA Region 5 77 West Jackson Boulevard Chicago IL, 60604	Project: Himco Dump Project Number: 2003SY01 Project Manager: Howard Pham	**Reported:** Dec-04-02 08:13

2003SY01S05-WT115A
E2K0101-06(Water)
Sampled: Oct-31-02 15:00
Received: Nov-01-02 11:27

Metals by ICP

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
Aluminum	**4110**		13.0	44.0	ug/L	1	EK20401	Nov-12-02	Nov-22-02
Barium	**73.8**		0.3	0.9	"	"	"	"	"
Beryllium	**U**		1.0	2.8	"	"	"	"	"
Boron	**164**		23.0	78.0	"	"	"	"	"
Calcium	**359000**		24.0	82.0	"	"	"	"	"
Chromium	**5.7**		0.3	0.9	"	"	"	"	"
Cobalt	**U**		1.2	4.2	"	"	"	"	"
Copper	**2.1**	J	1.3	4.4	"	"	"	"	"
Iron	**3560**		12.0	42.0	"	"	"	"	"
Magnesium	**21800**		37.0	128	"	"	"	"	"
Manganese	**70.8**		2.5	8.6	"	"	"	"	"
Nickel	**8.4**		0.8	2.7	"	"	"	"	"
Potassium	**4130**		140	482	"	"	"	"	"
Silver	**U**		0.5	1.7	"	"	"	"	"
Sodium	**40800**		110	370	"	"	"	"	"
Vanadium	**17.9**	K	4.8	17.0	"	"	"	"	"
Zinc	**23.3**	J	10.0	36.0	"	"	"	"	"

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12-4-02

Richard Dilg, Chemist

Report Name: E2K0101

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Telephone (312) 353-8302 Facsimile (312) 353-8307

Superfund, US EPA Region 5	Project: Himco Dump	
77 West Jackson Boulevard	Project Number: 2003SY01	**Reported:**
Chicago IL, 60604	Project Manager: Howard Pham	Dec-04-02 08:13

Notes and Definitions

#	Spike audit not valid. The sample concentration exceeds twice the concentration of the spike added. No qualification made for this QC audit.
< 5X	One or both concentration values for the duplicate analysis audit were less than 5 times the MRL value AND the difference between the two values was less than the MRL value. The duplicate audit is acceptable. No qualification made for this QC audit.
J	The identification of the analyte is acceptable; the reported value is an estimate.
K	The identification of the analyte is acceptable; the reported value may be biased high. The actual value is expected to be less than the reported value.
U	Not Detected
NR	Not Reported

12-4-02
Richard Dilg, Chemist

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5 CENTRAL REGIONAL LABORATORY
536 SOUTH CLARK STREET
CHICAGO, ILLINOIS 60605

Print Date: 12/16/02

Subject: Review of Region 5 Data for Himco Dump

From: Jennifer Mokos, Chemist J. Mokos
Contractor to Region 5 Central Regional Laboratory
Submitted to CRL on 12/16/02 - Final Report

To: Superfund, US EPA Region 5
77 West Jackson Boulevard
Chicago, IL 60604

Attached are Results for: Himco Dump

Analyses included in this report:

Volatiles Full List

Sylvia Griffin DEC 16 2002

Data Management Coordinator and Date Received

Date Transmitted: DEC 16 2002

Please have the U.S. EPA Project Manager/Officer call the CRL Sample Coordinator at 3-7444 for any comments or questions.

Please sign and date this form below and return it with any comments to:

Sylvia Griffin
Data Management Coordinator
Region 5 Central Regional Laboratory
ML-10C

_____/____/_____

Received by and Date

Comments:

E2K0101
VOA

Central Regional Laboratory

536 South Clark Street, Chicago, IL 60605
Phone:(312)353-8370 Fax:(312)886-2591

WORK ORDER

Printed: 11/1/02 2:58:45PM

E2K0101

IITRI - ESAT Contract

Client: Superfund, US EPA Region 5 **Project Manager:** Jennifer Mokos
Project: Himco Dump **Project Number:** 2003SY01

Report To:

Howard Pham
Superfund, US EPA Region 5

77 West Jackson Boulevard
Chicago, IL 60604

Phone: (312) 353-2310
Fax: (312) 886-6171

Date Due: Dec-03-02 15:00 (30 day TAT)

Received By: William Sargent Date Received: Nov-01-02 11:27

Logged In By: William Sargent Date Logged In: Nov-01-02 12:16

Samples Received at:	°C
All containers intact:	No
Sample labels/COC agree:	No
Samples Preserved Properly:	No
Custody Seals Present:	No

Analysis	Due	TAT	Expires	Comments
E2K0101-01 2003SY01S01-SINK [Water] Sampled Oct-31-02 07:40 Central				
Volatiles Full List	Dec-03-02 12:00	30	Nov-07-02 07:40	
THF & 1,4-Dioxane	Dec-03-02 12:00	30	Nov-14-02 07:40	
E2K0101-02 2003SY01R02-Pump Blank [Water] Sampled Oct-31-02 11:50 Central				
Volatiles Full List	Dec-03-02 12:00	30	Nov-07-02 11:50	
SVOA Standard List	Dec-03-02 12:00	30	Nov-07-02 11:50	
Cyanide, Total	Dec-03-02 12:00	30	Nov-14-02 11:50	Ph(10)
Hg Total CVAA	Dec-03-02 12:00	30	Nov-28-02 11:50	Ph(2)
GFAA SimAA CdPb	Dec-03-02 12:00	30	Apr-29-03 11:50	Ph(2)
GFAA SimAA AsSbSe	Dec-03-02 12:00	30	Apr-29-03 11:50	Ph(2)
GFAA SimAA Tl	Dec-03-02 12:00	30	Apr-29-03 11:50	Ph(2)
THF & 1,4-Dioxane	Dec-03-02 12:00	30	Nov-14-02 11:50	
Metals SF ICP (W)	Dec-03-02 12:00	30	Apr-29-03 11:50	Ph(2)
E2K0101-03 2003SY01R03-Trip Blank [Water] Sampled Oct-31-02 11:50 Central				
Volatiles Full List	Dec-03-02 12:00	30	Nov-07-02 11:50	
THF & 1,4-Dioxane	Dec-03-02 12:00	30	Nov-14-02 11:50	

IITRI - ESAT Contract

Client: Superfund, US EPA Region 5 | **Project Manager:** Jennifer Mokos
Project: Himco Dump | **Project Number:** 2003SY01

Analysis	Due	TAT	Expires	Comments
E2K0101-04 2003SY01S04-WT116A [Water] Sampled Oct-31-02 13:52 Central				
Volatiles Full List	Dec-03-02 12:00	30	Nov-07-02 13:52	
SVOA Standard List	Dec-03-02 12:00	30	Nov-07-02 13:52	
Cyanide, Total	Dec-03-02 12:00	30	Nov-14-02 13:52	Ph(10)
Hg Total CVAA	Dec-03-02 12:00	30	Nov-28-02 13:52	Ph(2)
GFAA SimAA CdPb	Dec-03-02 12:00	30	Apr-29-03 13:52	Ph(2)
GFAA SimAA AsSbSe	Dec-03-02 12:00	30	Apr-29-03 13:52	Ph(2)
GFAA SimAA Tl	Dec-03-02 12:00	30	Apr-29-03 13:52	Ph(2)
THF & 1,4-Dioxane	Dec-03-02 12:00	30	Nov-14-02 13:52	
Metals SF ICP (W)	Dec-03-02 12:00	30	Apr-29-03 13:52	Ph(2)
E2K0101-05 2003SY01D04-WT116A [Water] Sampled Oct-31-02 13:52 Central				
Volatiles Full List	Dec-03-02 12:00	30	Nov-07-02 13:52	
SVOA Standard List	Dec-03-02 12:00	30	Nov-07-02 13:52	
Cyanide, Total	Dec-03-02 12:00	30	Nov-14-02 13:52	Ph(10)
Hg Total CVAA	Dec-03-02 12:00	30	Nov-28-02 13:52	Ph(2)
GFAA SimAA CdPb	Dec-03-02 12:00	30	Apr-29-03 13:52	Ph(2)
GFAA SimAA AsSbSe	Dec-03-02 12:00	30	Apr-29-03 13:52	Ph(2)
GFAA SimAA Tl	Dec-03-02 12:00	30	Apr-29-03 13:52	Ph(2)
THF & 1,4-Dioxane	Dec-03-02 12:00	30	Nov-14-02 13:52	
Metals SF ICP (W)	Dec-03-02 12:00	30	Apr-29-03 13:52	Ph(2)
E2K0101-06 2003SY01S05-WT115A(MS/MSD) [Water] Sampled Oct-31-02 15:00 Central				
Volatiles Full List	Dec-03-02 12:00	30	Nov-07-02 15:00	
SVOA Standard List	Dec-03-02 12:00	30	Nov-07-02 15:00	
Cyanide, Total	Dec-03-02 12:00	30	Nov-14-02 15:00	Ph(10)
Hg Total CVAA	Dec-03-02 12:00	30	Nov-28-02 15:00	Ph(2)
GFAA SimAA CdPb	Dec-03-02 12:00	30	Apr-29-03 15:00	Ph(2)
GFAA SimAA AsSbSe	Dec-03-02 12:00	30	Apr-29-03 15:00	Ph(2)
GFAA SimAA Tl	Dec-03-02 12:00	30	Apr-29-03 15:00	Ph(2)
THF & 1,4-Dioxane	Dec-03-02 12:00	30	Nov-14-02 15:00	
Metals SF ICP (W)	Dec-03-02 12:00	30	Apr-29-03 15:00	Ph(2)

Reviewed By _____ Date _____

CASE NARRATIVE

DATE: December 4, 2002

PROJECT NAME: Data Set E2K0101: Himco Dump Water Samples for Volatile Analysis.

ANALYST: Thomas Sedlacek, IITRI/ESAT

I. CASE DESCRIPTION:

ESAT was given Six water samples for the full volatile analysis per CRL SOP GCMS023. The samples were analyzed within the fourteen day holding time for preserved water samples. No other problems were observed.

II INSTRUMENT QUALITY CONTROLS:

1. Instrument Performance Checks: A GC/MS instrument performance check using *BFB* was made each day of analysis to determine if acceptable EPA tuning criteria were met. The QC criteria are the same as those found in the Statement of Work under the EPAs Contract Laboratory Program and CRL SOPs. All criteria were met, no problems were observed.

2. Initial Calibrations (IC): An acceptable five point IC is required for all target compounds before samples can be analyzed. The QC criterion for the IC states each analyte's %RSD must be <30%.

The IC run on November 14, 2002 met all QC requirements except Methylene Chloride which had a %RSD of 39.5%. In all samples the results for Methylene Chloride are qualified "J" for detects and "UJ" for non-detects. No other problems were observed.

3. Continuing calibration (CC): An acceptable CC is required for all target compounds before samples can be analyzed. The QC criteria for CC states each analytes %D must be <30%.

All of the analytes in the volatile continuing calibration check ran on November 14, 2002 met the QC requirements. No other problems were observed.

4. Internal Standard (IS) Area and Retention Time Summary: The QC criteria states that the IS area of the samples must be within fifty percent of the IS area of the corresponding

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CC. The RT of the IS for samples must also be within 30 seconds of the RT of the IS for the corresponding standard. All internal standards met the QC requirements with the exception of:
-the area for all the internal standards in sample E2K0101-05 (2003SY01D04) was out of control low.
- the area for all the internal standards in the QC sample EK20802-MS1 was out of control low.
For the compounds quantified using those internal standards, detected compounds were flagged "J" and non-detected compounds were flagged "UJ". No other problems were observed.

II **METHOD QUALITY CONTROL:**

1. **Method Blank Results:** A lab blank, was prepared for each day samples were extracted to check the GC/MS, and the reagents for laboratory contamination.

The Method Blank EK20802-BLK1 (VBLK111402) contained the target analytes Methylene Chloride at 5 µg/L. Methylene Chloride is a common lab contaminant and it's presence in any samples associated is flagged as non-detected (U), when the sample result is less than (<) ten (10) times the blank results.

2. **Surrogate Spike Compound Results:**

The surrogate recovery was within QC limits for all the volatile samples with the exception of EK20802-MS1 (2003SY01S05MS)where toluene-d8 (83.5%) and 4-Bromofluorobenzene (46.9%) were below the lower control limit (LCL). In this sample, detected compounds were flagged "J" and non-detected compounds were flagged "UJ". No other problems were observed.

3. **Laboratory Control Sample (LCS) Results:**
The recoveries for the analytes in the full volatile LCS/LCSD were below the LCL for 1,2-Dibromoethane and above the upper control limit (UCL) for m,p-Xylene. In all samples, detected m,p-xylene was flagged "J". No action was taken in samples that did not contain m,p-Xylene. In all samples, 1,2-Dibromoethane was flagged "J" when detected and "UJ" when it was not detected.

4. **Matrix Spike/Matrix Spike Duplicate (MS/MSD) Results**
Analyte percent recoveries for EK20802-MS1 and EK20802-MSD1 were within the QC limits except for Bromomethane (64.3% in MS and 65.7% in MSD) which were below the LCL and m,p-xylene

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(230% in MS and 210% in MSD) which were above the UCL. In the native sample, Bromomethane was flagged "UJ" and no action was taken for the m,p-xylene since the compound was detected in the native sample.

The RPD for Trichloroethane, Tetrachloroethene, 1,1,2,2-Tetrachloroethane, 1,2,3-Trichloropropane, 2-Chlorotoluene, 1,4-Dichlorobenzene, and 1,1-Dichloroethene exceeded the QC limits. According to SOP HK009, no action was taken for RPD alone.

IV. SAMPLE RESULTS:

The raw data and final reviewed reports are archived on R5CRL\Vol2\IITRI-GCMS\TSEDLAC\GCMS7\DATA.

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536 South Clark Street, Suite 734; Chicago, IL 60605
Telephone (312) 353-8302 Facsimile (312) 353-8307

Superfund, US EPA Region 5	Project: Himco Dump	
77 West Jackson Boulevard	Project Number: 2003SY01	**Reported:**
Chicago IL, 60604	Project Manager: Howard Pham	Dec-16-02 10:26

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
2003SY01S01-SINK	E2K0101-01	Water	Oct-31-02 07:40	Nov-01-02 11:27
2003SY01R02-Pump Blank	E2K0101-02	Water	Oct-31-02 11:50	Nov-01-02 11:27
2003SY01R03-Trip Blank	E2K0101-03	Water	Oct-31-02 11:50	Nov-01-02 11:27
2003SY01S04-WT116A	E2K0101-04	Water	Oct-31-02 13:52	Nov-01-02 11:27
2003SY01D04-WT116A	E2K0101-05	Water	Oct-31-02 13:52	Nov-01-02 11:27
2003SY01S05-WT115A	E2K0101-06	Water	Oct-31-02 15:00	Nov-01-02 11:27

J Mokos 12/16/02

Jennifer Mokos, Chemist

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536 South Clark Street, Suite 734; Chicago, IL 60605
Telephone (312) 353-8302 Facsimile (312) 353-8307

Superfund, US EPA Region 5	Project: Himco Dump	
77 West Jackson Boulevard	Project Number: 2003SY01	**Reported:**
Chicago IL, 60604	Project Manager: Howard Pham	Dec-16-02 10:26

Volatiles by GC/MS
IITRI - ESAT Contract

2003SY01S01-SINK (E2K0101-01) Water Sampled: Oct-31-02 07:40 Received: Nov-01-02 11:27

Analyte	Result	Flags / Qualifiers	MDL	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Acetone	U		20	25	ug/L	1	EK20802	Nov-08-0	Nov-14-02	EPA 624
Acrolein	U		22	25	"	"	"	"	"	EPA 624
Acrylonitrile	U		20	25	"	"	"	"	"	EPA 624
Benzene	U		4.7	5.0	"	"	"	"	"	EPA 624
Bromobenzene	U		5.2	10	"	"	"	"	"	EPA 624
Bromochloromethane	U		4.0	5.0	"	"	"	"	"	EPA 624
Bromodichloromethane	6.4		4.0	5.0	"	"	"	"	"	EPA 624
Bromoform	U		4.2	5.0	"	"	"	"	"	EPA 624
Bromomethane	U		5.5	10	"	"	"	"	"	EPA 624
2-Butanone	U		22	25	"	"	"	"	"	EPA 624
n-Butylbenzene	U		4.3	5.0	"	"	"	"	"	EPA 624
sec-Butylbenzene	U		4.4	5.0	"	"	"	"	"	EPA 624
tert-Butylbenzene	U		4.3	5.0	"	"	"	"	"	EPA 624
Carbon disulfide	U		4.4	5.0	"	"	"	"	"	EPA 624
Carbon tetrachloride	U		4.5	5.0	"	"	"	"	"	EPA 624
Chlorobenzene	U		4.4	5.0	"	"	"	"	"	EPA 624
Chloroethane	U		4.5	10	"	"	"	"	"	EPA 624
Chloroform	18		4.0	5.0	"	"	"	"	"	EPA 624
Chloromethane	U		3.8	10	"	"	"	"	"	EPA 624
2-Chlorotoluene	U		4.2	5.0	"	"	"	"	"	EPA 624
4-Chlorotoluene	U		4.1	5.0	"	"	"	"	"	EPA 624
Dibromochloromethane	U		4.0	5.0	"	"	"	"	"	EPA 624
1,2-Dibromo-3-chloropropane	U		3.6	5.0	"	"	"	"	"	EPA 624
1,2-Dibromoethane (EDB)	U	J	4.2	5.0	"	"	"	"	"	EPA 624
Dibromomethane	U		4.4	5.0	"	"	"	"	"	EPA 624
1,2-Dichlorobenzene	U		3.4	5.0	"	"	"	"	"	EPA 624
1,3-Dichlorobenzene	U		4.1	5.0	"	"	"	"	"	EPA 624
1,4-Dichlorobenzene	U		3.8	5.0	"	"	"	"	"	EPA 624
1,1-Dichloroethane	U		4.4	5.0	"	"	"	"	"	EPA 624
1,2-Dichloroethane	U		4.3	5.0	"	"	"	"	"	EPA 624
1,1-Dichloroethene	U		4.6	5.0	"	"	"	"	"	EPA 624
cis-1,2-Dichloroethene	U		4.4	5.0	"	"	"	"	"	EPA 624
trans-1,2-Dichloroethene	U		4.3	5.0	"	"	"	"	"	EPA 624
1,2-Dichloropropane	U		4.4	5.0	"	"	"	"	"	EPA 624
1,3-Dichloropropane	U		4.5	5.0	"	"	"	"	"	EPA 624
2,2-Dichloropropane	U		4.1	5.0	"	"	"	"	"	EPA 624

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Jennifer Mokos, Chemist

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IIT Research Institute ESAT Region 5
536 South Clark Street, Suite 734; Chicago, IL 60605
Telephone (312) 353-8302 Facsimile (312) 353-8307

Superfund, US EPA Region 5	Project: Himco Dump	
77 West Jackson Boulevard	Project Number: 2003SY01	Reported:
Chicago IL, 60604	Project Manager: Howard Pham	Dec-16-02 10:26

Volatiles by GC/MS

IITRI - ESAT Contract

2003SY01S01-SINK (E2K0101-01) Water Sampled: Oct-31-02 07:40 Received: Nov-01-02 11:27

Analyte	Result	Flags / Qualifiers	MDL	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
1,1-Dichloropropene	U		4.4	5.0	ug/L	1	EK20802	Nov-08-0	Nov-14-02	EPA 624
cis-1,3-Dichloropropene	U		4.0	5.0	"	"	"	"	"	EPA 624
trans-1,3-Dichloropropene	U		4.2	5.0	"	"	"	"	"	EPA 624
Ethylbenzene	U		4.2	5.0	"	"	"	"	"	EPA 624
Hexachlorobutadiene	U		4.5	5.0	"	"	"	"	"	EPA 624
2-Hexanone	U		8.0	10	"	"	"	"	"	EPA 624
Isopropylbenzene	U		4.4	5.0	"	"	"	"	"	EPA 624
p-Isopropyltoluene	U		4.4	5.0	"	"	"	"	"	EPA 624
Methylene chloride	U	J	4.1	5.0	"	"	"	"	"	EPA 624
4-Methyl-2-pentanone	U		8.5	10	"	"	"	"	"	EPA 624
Naphthalene	U		4.0	5.0	"	"	"	"	"	EPA 624
n-Propylbenzene	U		4.1	5.0	"	"	"	"	"	EPA 624
Styrene	U		4.6	5.0	"	"	"	"	"	EPA 624
1,1,2,2-Tetrachloroethane	U		3.8	5.0	"	"	"	"	"	EPA 624
1,1,1,2-Tetrachloroethane	U		4.3	5.0	"	"	"	"	"	EPA 624
Tetrachloroethene	U		4.4	5.0	"	"	"	"	"	EPA 624
Toluene	U		4.5	5.0	"	"	"	"	"	EPA 624
1,2,3-Trichlorobenzene	U		4.1	5.0	"	"	"	"	"	EPA 624
1,2,4-Trichlorobenzene	U		4.0	5.0	"	"	"	"	"	EPA 624
1,1,2-Trichloroethane	U		4.3	5.0	"	"	"	"	"	EPA 624
1,1,1-Trichloroethane	U		4.2	5.0	"	"	"	"	"	EPA 624
Trichloroethene	U		4.3	5.0	"	"	"	"	"	EPA 624
1,2,3-Trichloropropane	U		4.3	5.0	"	"	"	"	"	EPA 624
1,3,5-Trimethylbenzene	U		4.4	5.0	"	"	"	"	"	EPA 624
1,2,4-Trimethylbenzene	U		4.3	5.0	"	"	"	"	"	EPA 624
m,p-Xylene	U		8.5	10	"	"	"	"	"	EPA 624
o-Xylene	U		4.2	5.0	"	"	"	"	"	EPA 624
Surrogate: Benzene-d6	10.2			*102 %*		*78-114*	"	"	"	EPA 624
Surrogate: Toluene-d8	9.64			*96.4 %*		*85-115*	"	"	"	EPA 624
Surrogate: 4-Bromofluorobenzene	9.50			*95.0 %*		*79-109*	"	"	"	EPA 624

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Jennifer Mokos, Chemist

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IIT Research Institute ESAT Region 5
536 South Clark Street, Suite 734; Chicago, IL 60605
Telephone (312) 353-8302 Facsimile (312) 353-8307

Superfund, US EPA Region 5	Project: Himco Dump	
77 West Jackson Boulevard	Project Number: 2003SY01	**Reported:**
Chicago IL, 60604	Project Manager: Howard Pham	Dec-16-02 10:26

Volatiles by GC/MS

IITRI - ESAT Contract

2003SY01R02-Pump Blank (E2K0101-02) Water Sampled: Oct-31-02 11:50 Received: Nov-01-02 11:27

Analyte	Result	Flags / Qualifiers	MDL	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Acetone	U		20	25	ug/L	1	EK20802	Nov-08-0	Nov-14-02	EPA 624
Acrolein	U		22	25	"	"	"	"	"	EPA 624
Acrylonitrile	U		20	25	"	"	"	"	"	EPA 624
Benzene	U		4.7	5.0	"	"	"	"	"	EPA 624
Bromobenzene	U		5.2	10	"	"	"	"	"	EPA 624
Bromochloromethane	U		4.0	5.0	"	"	"	"	"	EPA 624
Bromodichloromethane	U		4.0	5.0	"	"	"	"	"	EPA 624
Bromoform	U		4.2	5.0	"	"	"	"	"	EPA 624
Bromomethane	U		5.5	10	"	"	"	"	"	EPA 624
2-Butanone	U		22	25	"	"	"	"	"	EPA 624
n-Butylbenzene	U		4.3	5.0	"	"	"	"	"	EPA 624
sec-Butylbenzene	U		4.4	5.0	"	"	"	"	"	EPA 624
tert-Butylbenzene	U		4.3	5.0	"	"	"	"	"	EPA 624
Carbon disulfide	U		4.4	5.0	"	"	"	"	"	EPA 624
Carbon tetrachloride	U		4.5	5.0	"	"	"	"	"	EPA 624
Chlorobenzene	U		4.4	5.0	"	"	"	"	"	EPA 624
Chloroethane	U		4.5	10	"	"	"	"	"	EPA 624
Chloroform	U		4.0	5.0	"	"	"	"	"	EPA 624
Chloromethane	U		3.8	10	"	"	"	"	"	EPA 624
2-Chlorotoluene	U		4.2	5.0	"	"	"	"	"	EPA 624
4-Chlorotoluene	U		4.1	5.0	"	"	"	"	"	EPA 624
Dibromochloromethane	U		4.0	5.0	"	"	"	"	"	EPA 624
1,2-Dibromo-3-chloropropane	U		3.6	5.0	"	"	"	"	"	EPA 624
1,2-Dibromoethane (EDB)	U	J	4.2	5.0	"	"	"	"	"	EPA 624
Dibromomethane	U		4.4	5.0	"	"	"	"	"	EPA 624
1,2-Dichlorobenzene	U		3.4	5.0	"	"	"	"	"	EPA 624
1,3-Dichlorobenzene	U		4.1	5.0	"	"	"	"	"	EPA 624
1,4-Dichlorobenzene	U		3.8	5.0	"	"	"	"	"	EPA 624
1,1-Dichloroethane	U		4.4	5.0	"	"	"	"	"	EPA 624
1,2-Dichloroethane	U		4.3	5.0	"	"	"	"	"	EPA 624
1,1-Dichloroethene	U		4.6	5.0	"	"	"	"	"	EPA 624
cis-1,2-Dichloroethene	U		4.4	5.0	"	"	"	"	"	EPA 624
trans-1,2-Dichloroethene	U		4.3	5.0	"	"	"	"	"	EPA 624
1,2-Dichloropropane	U		4.4	5.0	"	"	"	"	"	EPA 624
1,3-Dichloropropane	U		4.5	5.0	"	"	"	"	"	EPA 624
2,2-Dichloropropane	U		4.1	5.0	"	"	"	"	"	EPA 624

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Jennifer Mokos, Chemist

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IIT Research Institute ESAT Region 5
536 South Clark Street, Suite 734; Chicago, IL 60605
Telephone (312) 353-8302 Facsimile (312) 353-8307

Superfund, US EPA Region 5	Project: Himco Dump	
77 West Jackson Boulevard	Project Number: 2003SY01	Reported:
Chicago IL, 60604	Project Manager: Howard Pham	Dec-16-02 10:26

Volatiles by GC/MS

IITRI - ESAT Contract

2003SY01R02-Pump Blank (E2K0101-02) Water Sampled: Oct-31-02 11:50 Received: Nov-01-02 11:27

Analyte	Result	Flags / Qualifiers	MDL	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
1,1-Dichloropropene	U		4.4	5.0	ug/L	1	EK20802	Nov-08-0	Nov-14-02	EPA 624
cis-1,3-Dichloropropene	U		4.0	5.0	"	"	"	"	"	EPA 624
trans-1,3-Dichloropropene	U		4.2	5.0	"	"	"	"	"	EPA 624
Ethylbenzene	U		4.2	5.0	"	"	"	"	"	EPA 624
Hexachlorobutadiene	U		4.5	5.0	"	"	"	"	"	EPA 624
2-Hexanone	U		8.0	10	"	"	"	"	"	EPA 624
Isopropylbenzene	U		4.4	5.0	"	"	"	"	"	EPA 624
p-Isopropyltoluene	U		4.4	5.0	"	"	"	"	"	EPA 624
Methylene chloride	U	J	4.1	5.0	"	"	"	"	"	EPA 624
4-Methyl-2-pentanone	U		8.5	10	"	"	"	"	"	EPA 624
Naphthalene	U		4.0	5.0	"	"	"	"	"	EPA 624
n-Propylbenzene	U		4.1	5.0	"	"	"	"	"	EPA 624
Styrene	U		4.6	5.0	"	"	"	"	"	EPA 624
1,1,2,2-Tetrachloroethane	U		3.8	5.0	"	"	"	"	"	EPA 624
1,1,1,2-Tetrachloroethane	U		4.3	5.0	"	"	"	"	"	EPA 624
Tetrachloroethene	9.5		4.4	5.0	"	"	"	"	"	EPA 624
Toluene	U		4.5	5.0	"	"	"	"	"	EPA 624
1,2,3-Trichlorobenzene	U		4.1	5.0	"	"	"	"	"	EPA 624
1,2,4-Trichlorobenzene	U		4.0	5.0	"	"	"	"	"	EPA 624
1,1,2-Trichloroethane	U		4.3	5.0	"	"	"	"	"	EPA 624
1,1,1-Trichloroethane	U		4.2	5.0	"	"	"	"	"	EPA 624
Trichloroethene	U		4.3	5.0	"	"	"	"	"	EPA 624
1,2,3-Trichloropropane	U		4.3	5.0	"	"	"	"	"	EPA 624
1,3,5-Trimethylbenzene	U		4.4	5.0	"	"	"	"	"	EPA 624
1,2,4-Trimethylbenzene	U		4.3	5.0	"	"	"	"	"	EPA 624
m,p-Xylene	U		8.5	10	"	"	"	"	"	EPA 624
o-Xylene	U		4.2	5.0	"	"	"	"	"	EPA 624
Surrogate: Benzene-d6	9.99			*99.9 %*		*78-114*	"	"	"	EPA 624
Surrogate: Toluene-d8	9.53			*95.3 %*		*85-115*	"	"	"	EPA 624
Surrogate: 4-Bromofluorobenzene	9.12			*91.2 %*		*79-109*	"	"	"	EPA 624

J. Mokos 12/16/02

Jennifer Mokos, Chemist

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IIT Research Institute ESAT Region 5
536 South Clark Street, Suite 734; Chicago, IL 60605
Telephone (312) 353-8302 Facsimile (312) 353-8307

Superfund, US EPA Region 5	Project: Himco Dump	
77 West Jackson Boulevard	Project Number: 2003SY01	**Reported:**
Chicago IL, 60604	Project Manager: Howard Pham	Dec-16-02 10:26

Volatiles by GC/MS

IITRI - ESAT Contract

2003SY01R03-Trip Blank (E2K0101-03) Water Sampled: Oct-31-02 11:50 Received: Nov-01-02 11:27

Analyte	Result	Flags / Qualifiers	MDL	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Acetone	U		20	25	ug/L	1	EK20802	Nov-08-0	Nov-14-02	EPA 624
Acrolein	U		22	25	"	"	"	"	"	EPA 624
Acrylonitrile	U		20	25	"	"	"	"	"	EPA 624
Benzene	U		4.7	5.0	"	"	"	"	"	EPA 624
Bromobenzene	U		5.2	10	"	"	"	"	"	EPA 624
Bromochloromethane	U		4.0	5.0	"	"	"	"	"	EPA 624
Bromodichloromethane	U		4.0	5.0	"	"	"	"	"	EPA 624
Bromoform	U		4.2	5.0	"	"	"	"	"	EPA 624
Bromomethane	U		5.5	10	"	"	"	"	"	EPA 624
2-Butanone	U		22	25	"	"	"	"	"	EPA 624
n-Butylbenzene	U		4.3	5.0	"	"	"	"	"	EPA 624
sec-Butylbenzene	U		4.4	5.0	"	"	"	"	"	EPA 624
tert-Butylbenzene	U		4.3	5.0	"	"	"	"	"	EPA 624
Carbon disulfide	U		4.4	5.0	"	"	"	"	"	EPA 624
Carbon tetrachloride	U		4.5	5.0	"	"	"	"	"	EPA 624
Chlorobenzene	U		4.4	5.0	"	"	"	"	"	EPA 624
Chloroethane	U		4.5	10	"	"	"	"	"	EPA 624
Chloroform	U		4.0	5.0	"	"	"	"	"	EPA 624
Chloromethane	U		3.8	10	"	"	"	"	"	EPA 624
2-Chlorotoluene	U		4.2	5.0	"	"	"	"	"	EPA 624
4-Chlorotoluene	U		4.1	5.0	"	"	"	"	"	EPA 624
Dibromochloromethane	U		4.0	5.0	"	"	"	"	"	EPA 624
1,2-Dibromo-3-chloropropane	U		3.6	5.0	"	"	"	"	"	EPA 624
1,2-Dibromoethane (EDB)	U	J	4.2	5.0	"	"	"	"	"	EPA 624
Dibromomethane	U		4.4	5.0	"	"	"	"	"	EPA 624
1,2-Dichlorobenzene	U		3.4	5.0	"	"	"	"	"	EPA 624
1,3-Dichlorobenzene	U		4.1	5.0	"	"	"	"	"	EPA 624
1,4-Dichlorobenzene	U		3.8	5.0	"	"	"	"	"	EPA 624
1,1-Dichloroethane	U		4.4	5.0	"	"	"	"	"	EPA 624
1,2-Dichloroethane	U		4.3	5.0	"	"	"	"	"	EPA 624
1,1-Dichloroethene	U		4.6	5.0	"	"	"	"	"	EPA 624
cis-1,2-Dichloroethene	U		4.4	5.0	"	"	"	"	"	EPA 624
trans-1,2-Dichloroethene	U		4.3	5.0	"	"	"	"	"	EPA 624
1,2-Dichloropropane	U		4.4	5.0	"	"	"	"	"	EPA 624
1,3-Dichloropropane	U		4.5	5.0	"	"	"	"	"	EPA 624
2,2-Dichloropropane	U		4.1	5.0	"	"	"	"	"	EPA 624

12/16/02

Jennifer Mokos, Chemist

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IIT Research Institute ESAT Region 5
536 South Clark Street, Suite 734; Chicago, IL 60605
Telephone (312) 353-8302 Facsimile (312) 353-8307

Superfund, US EPA Region 5	Project: Himco Dump	
77 West Jackson Boulevard	Project Number: 2003SY01	**Reported:**
Chicago IL, 60604	Project Manager: Howard Pham	Dec-16-02 10:26

Volatiles by GC/MS

IITRI - ESAT Contract

2003SY01R03-Trip Blank (E2K0101-03) Water Sampled: Oct-31-02 11:50 Received: Nov-01-02 11:27

Analyte	Result	Flags / Qualifiers	MDL	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
1,1-Dichloropropene	U		4.4	5.0	ug/L	1	EK20802	Nov-08-0	Nov-14-02	EPA 624
cis-1,3-Dichloropropene	U		4.0	5.0	"	"	"	"	"	EPA 624
trans-1,3-Dichloropropene	U		4.2	5.0	"	"	"	"	"	EPA 624
Ethylbenzene	U		4.2	5.0	"	"	"	"	"	EPA 624
Hexachlorobutadiene	U		4.5	5.0	"	"	"	"	"	EPA 624
2-Hexanone	U		8.0	10	"	"	"	"	"	EPA 624
Isopropylbenzene	U		4.4	5.0	"	"	"	"	"	EPA 624
p-Isopropyltoluene	U		4.4	5.0	"	"	"	"	"	EPA 624
Methylene chloride	U	J	4.1	5.0	"	"	"	"	"	EPA 624
4-Methyl-2-pentanone	U		8.5	10	"	"	"	"	"	EPA 624
Naphthalene	U		4.0	5.0	"	"	"	"	"	EPA 624
n-Propylbenzene	U		4.1	5.0	"	"	"	"	"	EPA 624
Styrene	U		4.6	5.0	"	"	"	"	"	EPA 624
1,1,2,2-Tetrachloroethane	U		3.8	5.0	"	"	"	"	"	EPA 624
1,1,1,2-Tetrachloroethane	U		4.3	5.0	"	"	"	"	"	EPA 624
Tetrachloroethene	U		4.4	5.0	"	"	"	"	"	EPA 624
Toluene	U		4.5	5.0	"	"	"	"	"	EPA 624
1,2,3-Trichlorobenzene	U		4.1	5.0	"	"	"	"	"	EPA 624
1,2,4-Trichlorobenzene	U		4.0	5.0	"	"	"	"	"	EPA 624
1,1,2-Trichloroethane	U		4.3	5.0	"	"	"	"	"	EPA 624
1,1,1-Trichloroethane	U		4.2	5.0	"	"	"	"	"	EPA 624
Trichloroethene	U		4.3	5.0	"	"	"	"	"	EPA 624
1,2,3-Trichloropropane	U		4.3	5.0	"	"	"	"	"	EPA 624
1,3,5-Trimethylbenzene	U		4.4	5.0	"	"	"	"	"	EPA 624
1,2,4-Trimethylbenzene	U		4.3	5.0	"	"	"	"	"	EPA 624
m,p-Xylene	U		8.5	10	"	"	"	"	"	EPA 624
o-Xylene	U		4.2	5.0	"	"	"	"	"	EPA 624
Surrogate: Benzene-d6	9.94			*99.4 %*		*78-114*	"	"	"	EPA 624
Surrogate: Toluene-d8	9.35			*93.5 %*		*85-115*	"	"	"	EPA 624
Surrogate: 4-Bromofluorobenzene	8.99			*89.9 %*		*79-109*	"	"	"	EPA 624

J. Mokos 12/16/02

Jennifer Mokos, Chemist

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536 South Clark Street, Suite 734; Chicago, IL 60605
Telephone (312) 353-8302 Facsimile (312) 353-8307

Superfund, US EPA Region 5	Project: Himco Dump	
77 West Jackson Boulevard	Project Number: 2003SY01	Reported:
Chicago IL, 60604	Project Manager: Howard Pham	Dec-16-02 10:26

Volatiles by GC/MS

IITRI - ESAT Contract

2003SY01S04-WT116A (E2K0101-04) Water Sampled: Oct-31-02 13:52 Received: Nov-01-02 11:27

Analyte	Result	Flags / Qualifiers	MDL	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Acetone	U		20	25	ug/L	1	EK20802	Nov-08-0	Nov-14-02	EPA 624
Acrolein	U		22	25	"	"	"	"	"	EPA 624
Acrylonitrile	U		20	25	"	"	"	"	"	EPA 624
Benzene	U		4.7	5.0	"	"	"	"	"	EPA 624
Bromobenzene	U		5.2	10	"	"	"	"	"	EPA 624
Bromochloromethane	U		4.0	5.0	"	"	"	"	"	EPA 624
Bromodichloromethane	U		4.0	5.0	"	"	"	"	"	EPA 624
Bromoform	U		4.2	5.0	"	"	"	"	"	EPA 624
Bromomethane	U		5.5	10	"	"	"	"	"	EPA 624
2-Butanone	U		22	25	"	"	"	"	"	EPA 624
n-Butylbenzene	U		4.3	5.0	"	"	"	"	"	EPA 624
sec-Butylbenzene	U		4.4	5.0	"	"	"	"	"	EPA 624
tert-Butylbenzene	U		4.3	5.0	"	"	"	"	"	EPA 624
Carbon disulfide	U		4.4	5.0	"	"	"	"	"	EPA 624
Carbon tetrachloride	U		4.5	5.0	"	"	"	"	"	EPA 624
Chlorobenzene	U		4.4	5.0	"	"	"	"	"	EPA 624
Chloroethane	U		4.5	10	"	"	"	"	"	EPA 624
Chloroform	U		4.0	5.0	"	"	"	"	"	EPA 624
Chloromethane	U		3.8	10	"	"	"	"	"	EPA 624
2-Chlorotoluene	U		4.2	5.0	"	"	"	"	"	EPA 624
4-Chlorotoluene	U		4.1	5.0	"	"	"	"	"	EPA 624
Dibromochloromethane	U		4.0	5.0	"	"	"	"	"	EPA 624
1,2-Dibromo-3-chloropropane	U		3.6	5.0	"	"	"	"	"	EPA 624
1,2-Dibromoethane (EDB)	U	J	4.2	5.0	"	"	"	"	"	EPA 624
Dibromomethane	U		4.4	5.0	"	"	"	"	"	EPA 624
1,2-Dichlorobenzene	U		3.4	5.0	"	"	"	"	"	EPA 624
1,3-Dichlorobenzene	U		4.1	5.0	"	"	"	"	"	EPA 624
1,4-Dichlorobenzene	U		3.8	5.0	"	"	"	"	"	EPA 624
1,1-Dichloroethane	11		4.4	5.0	"	"	"	"	"	EPA 624
1,2-Dichloroethane	U		4.3	5.0	"	"	"	"	"	EPA 624
1,1-Dichloroethene	U		4.6	5.0	"	"	"	"	"	EPA 624
cis-1,2-Dichloroethene	U		4.4	5.0	"	"	"	"	"	EPA 624
trans-1,2-Dichloroethene	U		4.3	5.0	"	"	"	"	"	EPA 624
1,2-Dichloropropane	U		4.4	5.0	"	"	"	"	"	EPA 624
1,3-Dichloropropane	U		4.5	5.0	"	"	"	"	"	EPA 624
2,2-Dichloropropane	U		4.1	5.0	"	"	"	"	"	EPA 624

12/16/02
Jennifer Mokos, Chemist

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Superfund, US EPA Region 5	Project: Himco Dump	
77 West Jackson Boulevard	Project Number: 2003SY01	**Reported:**
Chicago IL, 60604	Project Manager: Howard Pham	Dec-16-02 10:26

Volatiles by GC/MS

IITRI - ESAT Contract

2003SY01S04-WT116A (E2K0101-04) Water Sampled: Oct-31-02 13:52 Received: Nov-01-02 11:27

Analyte	Result	Flags / Qualifiers	MDL	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
1,1-Dichloropropene	U		4.4	5.0	ug/L	1	EK20802	Nov-08-0	Nov-14-02	EPA 624
cis-1,3-Dichloropropene	U		4.0	5.0	"	"	"	"	"	EPA 624
trans-1,3-Dichloropropene	U		4.2	5.0	"	"	"	"	"	EPA 624
Ethylbenzene	U		4.2	5.0	"	"	"	"	"	EPA 624
Hexachlorobutadiene	U		4.5	5.0	"	"	"	"	"	EPA 624
2-Hexanone	U		8.0	10	"	"	"	"	"	EPA 624
Isopropylbenzene	U		4.4	5.0	"	"	"	"	"	EPA 624
p-Isopropyltoluene	U		4.4	5.0	"	"	"	"	"	EPA 624
Methylene chloride	U	J	4.1	5.0	"	"	"	"	"	EPA 624
4-Methyl-2-pentanone	U		8.5	10	"	"	"	"	"	EPA 624
Naphthalene	U		4.0	5.0	"	"	"	"	"	EPA 624
n-Propylbenzene	U		4.1	5.0	"	"	"	"	"	EPA 624
Styrene	U		4.6	5.0	"	"	"	"	"	EPA 624
1,1,2,2-Tetrachloroethane	U		3.8	5.0	"	"	"	"	"	EPA 624
1,1,1,2-Tetrachloroethane	U		4.3	5.0	"	"	"	"	"	EPA 624
Tetrachloroethene	U		4.4	5.0	"	"	"	"	"	EPA 624
Toluene	U		4.5	5.0	"	"	"	"	"	EPA 624
1,2,3-Trichlorobenzene	U		4.1	5.0	"	"	"	"	"	EPA 624
1,2,4-Trichlorobenzene	U		4.0	5.0	"	"	"	"	"	EPA 624
1,1,2-Trichloroethane	U		4.3	5.0	"	"	"	"	"	EPA 624
1,1,1-Trichloroethane	U		4.2	5.0	"	"	"	"	"	EPA 624
Trichloroethene	U		4.3	5.0	"	"	"	"	"	EPA 624
1,2,3-Trichloropropane	U		4.3	5.0	"	"	"	"	"	EPA 624
1,3,5-Trimethylbenzene	U		4.4	5.0	"	"	"	"	"	EPA 624
1,2,4-Trimethylbenzene	U		4.3	5.0	"	"	"	"	"	EPA 624
m,p-Xylene	U		8.5	10	"	"	"	"	"	EPA 624
o-Xylene	U		4.2	5.0	"	"	"	"	"	EPA 624
Surrogate: Benzene-d6	10.2			*102 %*		*78-114*	"	"	"	EPA 624
Surrogate: Toluene-d8	9.61			*96.1 %*		*85-115*	"	"	"	EPA 624
Surrogate: 4-Bromofluorobenzene	9.23			*92.3 %*		*79-109*	"	"	"	EPA 624

J. Mokos 12/16/02

Jennifer Mokos, Chemist

G00213

Report Name: E2K0101

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536 South Clark Street, Suite 734; Chicago, IL 60605
Telephone (312) 353-8302 Facsimile (312) 353-8307

Superfund, US EPA Region 5	Project: Himco Dump	
77 West Jackson Boulevard	Project Number: 2003SY01	**Reported:**
Chicago IL, 60604	Project Manager: Howard Pham	Dec-16-02 10:26

Volatiles by GC/MS

IITRI - ESAT Contract

2003SY01D04-WT116A (E2K0101-05) Water Sampled: Oct-31-02 13:52 Received: Nov-01-02 11:27

Analyte	Result	Flags / Qualifiers	MDL	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Acetone	U	J	20	25	ug/L	1	EK20802	Nov-08-0	Nov-14-02	EPA 624
Acrolein	U	J	22	25	"	"	"	"	"	EPA 624
Acrylonitrile	U	J	20	25	"	"	"	"	"	EPA 624
Benzene	U	J	4.7	5.0	"	"	"	"	"	EPA 624
Bromobenzene	U	J	5.2	10	"	"	"	"	"	EPA 624
Bromochloromethane	U	J	4.0	5.0	"	"	"	"	"	EPA 624
Bromodichloromethane	U	J	4.0	5.0	"	"	"	"	"	EPA 624
Bromoform	U	J	4.2	5.0	"	"	"	"	"	EPA 624
Bromomethane	U	J	5.5	10	"	"	"	"	"	EPA 624
2-Butanone	U	J	22	25	"	"	"	"	"	EPA 624
n-Butylbenzene	U	J	4.3	5.0	"	"	"	"	"	EPA 624
sec-Butylbenzene	U	J	4.4	5.0	"	"	"	"	"	EPA 624
tert-Butylbenzene	U	J	4.3	5.0	"	"	"	"	"	EPA 624
Carbon disulfide	U	J	4.4	5.0	"	"	"	"	"	EPA 624
Carbon tetrachloride	U	J	4.5	5.0	"	"	"	"	"	EPA 624
Chlorobenzene	U	J	4.4	5.0	"	"	"	"	"	EPA 624
Chloroethane	U	J	4.5	10	"	"	"	"	"	EPA 624
Chloroform	U	J	4.0	5.0	"	"	"	"	"	EPA 624
Chloromethane	U	J	3.8	10	"	"	"	"	"	EPA 624
2-Chlorotoluene	U	J	4.2	5.0	"	"	"	"	"	EPA 624
4-Chlorotoluene	U	J	4.1	5.0	"	"	"	"	"	EPA 624
Dibromochloromethane	U	J	4.0	5.0	"	"	"	"	"	EPA 624
1,2-Dibromo-3-chloropropane	U	J	3.6	5.0	"	"	"	"	"	EPA 624
1,2-Dibromoethane (EDB)	U	J	4.2	5.0	"	"	"	"	"	EPA 624
Dibromomethane	U	J	4.4	5.0	"	"	"	"	"	EPA 624
1,2-Dichlorobenzene	U	J	3.4	5.0	"	"	"	"	"	EPA 624
1,3-Dichlorobenzene	U	J	4.1	5.0	"	"	"	"	"	EPA 624
1,4-Dichlorobenzene	U	J	3.8	5.0	"	"	"	"	"	EPA 624
1,1-Dichloroethane	12	J	4.4	5.0	"	"	"	"	"	EPA 624
1,2-Dichloroethane	U	J	4.3	5.0	"	"	"	"	"	EPA 624
1,1-Dichloroethene	U	J	4.6	5.0	"	"	"	"	"	EPA 624
cis-1,2-Dichloroethene	U	J	4.4	5.0	"	"	"	"	"	EPA 624
trans-1,2-Dichloroethene	U	J	4.3	5.0	"	"	"	"	"	EPA 624
1,2-Dichloropropane	U	J	4.4	5.0	"	"	"	"	"	EPA 624
1,3-Dichloropropane	U	J	4.5	5.0	"	"	"	"	"	EPA 624
2,2-Dichloropropane	U	J	4.1	5.0	"	"	"	"	"	EPA 624

J. Mokos 12/16/02

Jennifer Mokos, Chemist

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Superfund, US EPA Region 5	Project: Himco Dump	
77 West Jackson Boulevard	Project Number: 2003SY01	**Reported:**
Chicago IL, 60604	Project Manager: Howard Pham	Dec-16-02 10:26

Volatiles by GC/MS

IITRI - ESAT Contract

2003SY01D04-WT116A (E2K0101-05) Water Sampled: Oct-31-02 13:52 Received: Nov-01-02 11:27

Analyte	Result	Flags / Qualifiers	MDL	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
1,1-Dichloropropene	U	J	4.4	5.0	ug/L	1	EK20802	Nov-08-0	Nov-14-02	EPA 624
cis-1,3-Dichloropropene	U	J	4.0	5.0	"	"	"	"	"	EPA 624
trans-1,3-Dichloropropene	U	J	4.2	5.0	"	"	"	"	"	EPA 624
Ethylbenzene	U	J	4.2	5.0	"	"	"	"	"	EPA 624
Hexachlorobutadiene	U	J	4.5	5.0	"	"	"	"	"	EPA 624
2-Hexanone	U	J	8.0	10	"	"	"	"	"	EPA 624
Isopropylbenzene	U	J	4.4	5.0	"	"	"	"	"	EPA 624
p-Isopropyltoluene	U	J	4.4	5.0	"	"	"	"	"	EPA 624
Methylene chloride	U	J	4.1	5.0	"	"	"	"	"	EPA 624
4-Methyl-2-pentanone	U	J	8.5	10	"	"	"	"	"	EPA 624
Naphthalene	U	J	4.0	5.0	"	"	"	"	"	EPA 624
n-Propylbenzene	U	J	4.1	5.0	"	"	"	"	"	EPA 624
Styrene	U	J	4.6	5.0	"	"	"	"	"	EPA 624
1,1,2,2-Tetrachloroethane	U	J	3.8	5.0	"	"	"	"	"	EPA 624
1,1,1,2-Tetrachloroethane	U	J	4.3	5.0	"	"	"	"	"	EPA 624
Tetrachloroethene	16	J	4.4	5.0	"	"	"	"	"	EPA 624
Toluene	U	J	4.5	5.0	"	"	"	"	"	EPA 624
1,2,3-Trichlorobenzene	U	J	4.1	5.0	"	"	"	"	"	EPA 624
1,2,4-Trichlorobenzene	U	J	4.0	5.0	"	"	"	"	"	EPA 624
1,1,2-Trichloroethane	U	J	4.3	5.0	"	"	"	"	"	EPA 624
1,1,1-Trichloroethane	U	J	4.2	5.0	"	"	"	"	"	EPA 624
Trichloroethene	U	J	4.3	5.0	"	"	"	"	"	EPA 624
1,2,3-Trichloropropane	U	J	4.3	5.0	"	"	"	"	"	EPA 624
1,3,5-Trimethylbenzene	U	J	4.4	5.0	"	"	"	"	"	EPA 624
1,2,4-Trimethylbenzene	U	J	4.3	5.0	"	"	"	"	"	EPA 624
m,p-Xylene	U	J	8.5	10	"	"	"	"	"	EPA 624
o-Xylene	U	J	4.2	5.0	"	"	"	"	"	EPA 624
Surrogate: Benzene-d6	10.2			*102 %*	*78-114*		"	"	"	EPA 624
Surrogate: Toluene-d8	9.18			*91.8 %*	*85-115*		"	"	"	EPA 624
Surrogate: 4-Bromofluorobenzene	8.13			*81.3 %*	*79-109*		"	"	"	EPA 624

J. Mokos 12/16/02

Jennifer Mokos, Chemist

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Superfund, US EPA Region 5	Project: Himco Dump	
77 West Jackson Boulevard	Project Number: 2003SY01	**Reported:**
Chicago IL, 60604	Project Manager: Howard Pham	Dec-16-02 10:26

Volatiles by GC/MS

IITRI - ESAT Contract

2003SY01S05-WT115A (E2K0101-06) Water Sampled: Oct-31-02 15:00 Received: Nov-01-02 11:27

Analyte	Result	Flags / Qualifiers	MDL	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Acetone	U		20	25	ug/L	1	EK20802	Nov-08-0	Nov-14-02	EPA 624
Acrolein	U		22	25	"	"	"	"	"	EPA 624
Acrylonitrile	U		20	25	"	"	"	"	"	EPA 624
Benzene	11		4.7	5.0	"	"	"	"	"	EPA 624
Bromobenzene	U		5.2	10	"	"	"	"	"	EPA 624
Bromochloromethane	U		4.0	5.0	"	"	"	"	"	EPA 624
Bromodichloromethane	U		4.0	5.0	"	"	"	"	"	EPA 624
Bromoform	U		4.2	5.0	"	"	"	"	"	EPA 624
Bromomethane	U		5.5	10	"	"	"	"	"	EPA 624
2-Butanone	U		22	25	"	"	"	"	"	EPA 624
n-Butylbenzene	U		4.3	5.0	"	"	"	"	"	EPA 624
sec-Butylbenzene	U		4.4	5.0	"	"	"	"	"	EPA 624
tert-Butylbenzene	U		4.3	5.0	"	"	"	"	"	EPA 624
Carbon disulfide	U		4.4	5.0	"	"	"	"	"	EPA 624
Carbon tetrachloride	U		4.5	5.0	"	"	"	"	"	EPA 624
Chlorobenzene	U		4.4	5.0	"	"	"	"	"	EPA 624
Chloroethane	U		4.5	10	"	"	"	"	"	EPA 624
Chloroform	U		4.0	5.0	"	"	"	"	"	EPA 624
Chloromethane	U		3.8	10	"	"	"	"	"	EPA 624
2-Chlorotoluene	U		4.2	5.0	"	"	"	"	"	EPA 624
4-Chlorotoluene	U		4.1	5.0	"	"	"	"	"	EPA 624
Dibromochloromethane	U		4.0	5.0	"	"	"	"	"	EPA 624
1,2-Dibromo-3-chloropropane	U		3.6	5.0	"	"	"	"	"	EPA 624
1,2-Dibromoethane (EDB)	U	J	4.2	5.0	"	"	"	"	"	EPA 624
Dibromomethane	U		4.4	5.0	"	"	"	"	"	EPA 624
1,2-Dichlorobenzene	U		3.4	5.0	"	"	"	"	"	EPA 624
1,3-Dichlorobenzene	U		4.1	5.0	"	"	"	"	"	EPA 624
1,4-Dichlorobenzene	U		3.8	5.0	"	"	"	"	"	EPA 624
1,1-Dichloroethane	U		4.4	5.0	"	"	"	"	"	EPA 624
1,2-Dichloroethane	U		4.3	5.0	"	"	"	"	"	EPA 624
1,1-Dichloroethene	U		4.6	5.0	"	"	"	"	"	EPA 624
cis-1,2-Dichloroethene	U		4.4	5.0	"	"	"	"	"	EPA 624
trans-1,2-Dichloroethene	U		4.3	5.0	"	"	"	"	"	EPA 624
1,2-Dichloropropane	U		4.4	5.0	"	"	"	"	"	EPA 624
1,3-Dichloropropane	U		4.5	5.0	"	"	"	"	"	EPA 624
2,2-Dichloropropane	U		4.1	5.0	"	"	"	"	"	EPA 624

J. Mokos 12/16/02

Jennifer Mokos, Chemist

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77 West Jackson Boulevard	Project Number: 2003SY01	**Reported:**
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Volatiles by GC/MS

IITRI - ESAT Contract

2003SY01S05-WT115A (E2K0101-06) Water Sampled: Oct-31-02 15:00 Received: Nov-01-02 11:27

Analyte	Result	Flags / Qualifiers	MDL	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
1,1-Dichloropropene	U		4.4	5.0	ug/L	1	EK20802	Nov-08-0	Nov-14-02	EPA 624
cis-1,3-Dichloropropene	U		4.0	5.0	"	"	"	"	"	EPA 624
trans-1,3-Dichloropropene	U		4.2	5.0	"	"	"	"	"	EPA 624
Ethylbenzene	U		4.2	5.0	"	"	"	"	"	EPA 624
Hexachlorobutadiene	U		4.5	5.0	"	"	"	"	"	EPA 624
2-Hexanone	U		8.0	10	"	"	"	"	"	EPA 624
Isopropylbenzene	U		4.4	5.0	"	"	"	"	"	EPA 624
p-Isopropyltoluene	U		4.4	5.0	"	"	"	"	"	EPA 624
Methylene chloride	U	J	4.1	5.0	"	"	"	"	"	EPA 624
4-Methyl-2-pentanone	U		8.5	10	"	"	"	"	"	EPA 624
Naphthalene	U		4.0	5.0	"	"	"	"	"	EPA 624
n-Propylbenzene	U		4.1	5.0	"	"	"	"	"	EPA 624
Styrene	U		4.6	5.0	"	"	"	"	"	EPA 624
1,1,2,2-Tetrachloroethane	U		3.8	5.0	"	"	"	"	"	EPA 624
1,1,1,2-Tetrachloroethane	U		4.3	5.0	"	"	"	"	"	EPA 624
Tetrachloroethene	U		4.4	5.0	"	"	"	"	"	EPA 624
Toluene	U		4.5	5.0	"	"	"	"	"	EPA 624
1,2,3-Trichlorobenzene	U		4.1	5.0	"	"	"	"	"	EPA 624
1,2,4-Trichlorobenzene	U		4.0	5.0	"	"	"	"	"	EPA 624
1,1,2-Trichloroethane	U		4.3	5.0	"	"	"	"	"	EPA 624
1,1,1-Trichloroethane	U		4.2	5.0	"	"	"	"	"	EPA 624
Trichloroethene	U		4.3	5.0	"	"	"	"	"	EPA 624
1,2,3-Trichloropropane	U		4.3	5.0	"	"	"	"	"	EPA 624
1,3,5-Trimethylbenzene	U		4.4	5.0	"	"	"	"	"	EPA 624
1,2,4-Trimethylbenzene	U		4.3	5.0	"	"	"	"	"	EPA 624
m,p-Xylene	U		8.5	10	"	"	"	"	"	EPA 624
o-Xylene	U		4.2	5.0	"	"	"	"	"	EPA 624
Surrogate: Benzene-d6	9.99			*99.9 %*		*78-114*	"	"	"	EPA 624
Surrogate: Toluene-d8	9.48			*94.8 %*		*85-115*	"	"	"	EPA 624
Surrogate: 4-Bromofluorobenzene	9.31			*93.1 %*		*79-109*	"	"	"	EPA 624

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Superfund, US EPA Region 5	Project: Himco Dump	
77 West Jackson Boulevard	Project Number: 2003SY01	**Reported:**
Chicago IL, 60604	Project Manager: Howard Pham	Dec-16-02 10:26

Volatiles by GC/MS - Quality Control
IITRI - ESAT Contract

Batch EK20802 - Volatiles

Blank (EK20802-BLK1) **Prepared: Nov-08-02 Analyzed: Nov-14-02**

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Acetone	U		20	25	ug/L						
Acrolein	U		22	25	"						
Acrylonitrile	U		20	25	"						
Benzene	U		4.7	5.0	"						
Bromobenzene	U		5.2	10	"						
Bromochloromethane	U		4.0	5.0	"						
Bromodichloromethane	U		4.0	5.0	"						
Bromoform	U		4.2	5.0	"						
Bromomethane	U		5.5	10	"						
2-Butanone	U		22	25	"						
n-Butylbenzene	U		4.3	5.0	"						
sec-Butylbenzene	U		4.4	5.0	"						
tert-Butylbenzene	U		4.3	5.0	"						
Carbon disulfide	U		4.4	5.0	"						
Carbon tetrachloride	U		4.5	5.0	"						
Chlorobenzene	U		4.4	5.0	"						
Chloroethane	U		4.5	10	"						
Chloroform	U		4.0	5.0	"						
Chloromethane	U		3.8	10	"						
2-Chlorotoluene	U		4.2	5.0	"						
4-Chlorotoluene	U		4.1	5.0	"						
Dibromochloromethane	U		4.0	5.0	"						
1,2-Dibromo-3-chloropropane	U		3.6	5.0	"						
1,2-Dibromoethane (EDB)	U	J	4.2	5.0	"						
Dibromomethane	U		4.4	5.0	"						
1,2-Dichlorobenzene	U		3.4	5.0	"						
1,3-Dichlorobenzene	U		4.1	5.0	"						
1,4-Dichlorobenzene	U		3.8	5.0	"						
1,1-Dichloroethane	U		4.4	5.0	"						
1,2-Dichloroethane	U		4.3	5.0	"						
1,1-Dichloroethene	U		4.6	5.0	"						
cis-1,2-Dichloroethene	U		4.4	5.0	"						

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Telephone (312) 353-8302 Facsimile (312) 353-8307

Superfund, US EPA Region 5	Project: Himco Dump	
77 West Jackson Boulevard	Project Number: 2003SY01	**Reported:**
Chicago IL, 60604	Project Manager: Howard Pham	Dec-16-02 10:26

Volatiles by GC/MS - Quality Control
IITRI - ESAT Contract

Batch EK20802 - Volatiles

Blank (EK20802-BLK1) **Prepared: Nov-08-02 Analyzed: Nov-14-02**

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
trans-1,2-Dichloroethene	U		4.3	5.0	ug/L						
1,2-Dichloropropane	U		4.4	5.0	"						
1,3-Dichloropropane	U		4.5	5.0	"						
2,2-Dichloropropane	U		4.1	5.0	"						
1,1-Dichloropropene	U		4.4	5.0	"						
cis-1,3-Dichloropropene	U		4.0	5.0	"						
trans-1,3-Dichloropropene	U		4.2	5.0	"						
Ethylbenzene	U		4.2	5.0	"						
Hexachlorobutadiene	U		4.5	5.0	"						
2-Hexanone	U		8.0	10	"						
Isopropylbenzene	U		4.4	5.0	"						
p-Isopropyltoluene	U		4.4	5.0	"						
Methylene chloride	5.22	J	4.1	5.0	"						
4-Methyl-2-pentanone	U		8.5	10	"						
Naphthalene	U		4.0	5.0	"						
n-Propylbenzene	U		4.1	5.0	"						
Styrene	U		4.6	5.0	"						
1,1,2,2-Tetrachloroethane	U		3.8	5.0	"						
1,1,1,2-Tetrachloroethane	U		4.3	5.0	"						
Tetrachloroethene	U		4.4	5.0	"						
Toluene	U		4.5	5.0	"						
1,2,3-Trichlorobenzene	U		4.1	5.0	"						
1,2,4-Trichlorobenzene	U		4.0	5.0	"						
1,1,2-Trichloroethane	U		4.3	5.0	"						
1,1,1-Trichloroethane	U		4.2	5.0	"						
Trichloroethene	U		4.3	5.0	"						
1,2,3-Trichloropropane	U		4.3	5.0	"						
1,3,5-Trimethylbenzene	U		4.4	5.0	"						
1,2,4-Trimethylbenzene	U		4.3	5.0	"						
m,p-Xylene	U		8.5	10	"						
o-Xylene	U		4.2	5.0	"						
Surrogate: Benzene-d6	*10.1*				"	*10.0*		*101*	*78-114*		

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Telephone (312) 353-8302 Facsimile (312) 353-8307

Superfund, US EPA Region 5	Project: Himco Dump	
77 West Jackson Boulevard	Project Number: 2003SY01	**Reported:**
Chicago IL, 60604	Project Manager: Howard Pham	Dec-16-02 10:26

Volatiles by GC/MS - Quality Control
IITRI - ESAT Contract

Batch EK20802 - Volatiles

Blank (EK20802-BLK1) **Prepared: Nov-08-02 Analyzed: Nov-14-02**

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Surrogate: Toluene-d8	*9.77*				*ug/L*	*10.0*		*97.7*	*85-115*		
Surrogate: 4-Bromofluorobenzene	*9.54*				"	*10.0*		*95.4*	*79-109*		

LCS (EK20802-BS1) **Prepared: Nov-08-02 Analyzed: Nov-14-02**

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Acetone	**U**		20	25	ug/L				137-200		
Acrolein	**U**		22	25	"				91-122		
Acrylonitrile	**U**		20	25	"				106-109		
Benzene	**11.2**				"	10.0		112	34-167		
Bromobenzene	**10.4**				"	10.0		104	44-167		
Bromochloromethane	**9.47**				"	10.0		94.7	37-175		
Bromodichloromethane	**9.43**				"	10.0		94.3	36-153		
Bromoform	**6.02**				"	10.0		60.2	17-157		
Bromomethane	**8.10**				"	10.0		81.0	106-116		
2-Butanone	**U**		22	25	"				105-119		
n-Butylbenzene	**14.0**				"	10.0		140	39-157		
sec-Butylbenzene	**12.2**				"	10.0		122	43-164		
tert-Butylbenzene	**11.7**				"	10.0		117	45-162		
Carbon disulfide	**U**		4.4	5.0	"				107-117		
Carbon tetrachloride	**9.88**				"	10.0		98.8	9-173		
Chlorobenzene	**11.0**				"	10.0		110	44-167		
Chloroethane	**9.28**		4.5	10	"				107-175		
Chloroform	**11.5**				"	10.0		115	46-157		
Chloromethane	**11.2**		3.8	10	"				70-76		
2-Chlorotoluene	**11.7**				"	10.0		117	35-173		
4-Chlorotoluene	**11.8**				"	10.0		118	43-164		
Dibromochloromethane	**7.51**				"	10.0		75.1	24-168		
1,2-Dibromo-3-chloropropane	**4.79**				"	10.0		47.9	11-188		
1,2-Dibromoethane (EDB)	**6.83**	J			"	10.0		68.3	109-116		
Dibromomethane	**7.87**				"	10.0		78.7	42-168		
1,2-Dichlorobenzene	**11.8**				"	10.0		118	47-163		
1,3-Dichlorobenzene	**11.4**				"	10.0		114	42-173		

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Jennifer Mokos, Chemist

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536 South Clark Street, Suite 734; Chicago, IL 60605
Telephone (312) 353-8302 Facsimile (312) 353-8307

Superfund, US EPA Region 5	Project: Himco Dump	
77 West Jackson Boulevard	Project Number: 2003SY01	Reported:
Chicago IL, 60604	Project Manager: Howard Pham	Dec-16-02 10:26

Volatiles by GC/MS - Quality Control
IITRI - ESAT Contract

Batch EK20802 - Volatiles

LCS (EK20802-BS1) **Prepared: Nov-08-02 Analyzed: Nov-14-02**

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
1,4-Dichlorobenzene	11.3				ug/L	10.0		113	41-170		
1,1-Dichloroethane	11.2				"	10.0		112	35-177		
1,2-Dichloroethane	8.92				"	10.0		89.2	20-188		
1,1-Dichloroethene	13.8				"	10.0		138	4-173		
cis-1,2-Dichloroethene	10.9				"	10.0		109	32-164		
trans-1,2-Dichloroethene	11.4				"	10.0		114	35-179		
1,2-Dichloropropane	10.3				"	10.0		103	44-156		
1,3-Dichloropropane	7.87				"	10.0		78.7	42-163		
2,2-Dichloropropane	10.2				"	10.0		102	12-158		
1,1-Dichloropropene	11.2				"	10.0		112	37-157		
cis-1,3-Dichloropropene	8.60				"	10.0		86.0	24-156		
trans-1,3-Dichloropropene	7.61				"	10.0		76.1	12-160		
Ethylbenzene	11.2				"	10.0		112	43-163		
Hexachlorobutadiene	14.8				"	10.0		148	21-166		
2-Hexanone	U		8.0	10	"				116-145		
Isopropylbenzene	11.4				"	10.0		114	44-163		
p-Isopropyltoluene	12.3				"	10.0		123	46-164		
Methylene chloride	13.3	J			"	10.0		133	44-174		
4-Methyl-2-pentanone	U		8.5	10	"				108-119		
Naphthalene	6.27				"	10.0		62.7	27-161		
n-Propylbenzene	11.6				"	10.0		116	55-156		
Styrene	10.9				"	10.0		109	43-157		
1,1,2,2-Tetrachloroethane	5.08				"	10.0		50.8	20-215		
1,1,1,2-Tetrachloroethane	10.3				"	10.0		103	28-176		
Tetrachloroethene	9.98				"	10.0		99.8	45-165		
Toluene	10.9				"	10.0		109	51-151		
1,2,3-Trichlorobenzene	10.1				"	10.0		101	37-159		
1,2,4-Trichlorobenzene	11.5				"	10.0		115	36-154		
1,1,2-Trichloroethane	7.51				"	10.0		75.1	27-174		
1,1,1-Trichloroethane	11.1				"	10.0		111	18-180		
Trichloroethene	12.8				"	10.0		128	44-159		
1,2,3-Trichloropropane	5.75				"	10.0		57.5	37-181		

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Telephone (312) 353-8302 Facsimile (312) 353-8307

Superfund, US EPA Region 5	Project: Himco Dump	
77 West Jackson Boulevard	Project Number: 2003SY01	Reported:
Chicago IL, 60604	Project Manager: Howard Pham	Dec-16-02 10:26

Volatiles by GC/MS - Quality Control
IITRI - ESAT Contract

Batch EK20802 - Volatiles

LCS (EK20802-BS1) **Prepared: Nov-08-02 Analyzed: Nov-14-02**

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
1,3,5-Trimethylbenzene	**11.7**				ug/L	10.0		117	37-171		
1,2,4-Trimethylbenzene	**11.9**				"	10.0		119	39-171		
m,p-Xylene	**22.8**	J			"	10.0		228	45-163		
o-Xylene	**11.0**				"	10.0		110	44-163		
Surrogate: Benzene-d6	*10.1*				"	*10.0*		*101*	*78-114*		
Surrogate: Toluene-d8	*10.0*				"	*10.0*		*100*	*85-115*		
Surrogate: 4-Bromofluorobenzene	*9.75*				"	*10.0*		*97.5*	*79-109*		

LCS Dup (EK20802-BSD1) **Prepared: Nov-08-02 Analyzed: Nov-14-02**

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Acetone	**U**		20	25	ug/L				137-200		200
Acrolein	**U**		22	25	"				91-122		200
Acrylonitrile	**U**		20	25	"				106-109		200
Benzene	**11.0**		4.7	5.0	"	10.0		110	34-167	1.80	200
Bromobenzene	**11.2**		5.2	10	"	10.0		112	44-167	7.41	200
Bromochloromethane	**11.1**		4.0	5.0	"	10.0		111	37-175	15.8	200
Bromodichloromethane	**10.3**		4.0	5.0	"	10.0		103	36-153	8.82	200
Bromoform	**9.46**		4.2	5.0	"	10.0		94.6	17-157	44.4	200
Bromomethane	**6.46**		5.5	10	"	10.0		64.6	106-116	22.5	200
2-Butanone	**U**		22	25	"				105-119		200
n-Butylbenzene	**11.9**		4.3	5.0	"	10.0		119	39-157	16.2	200
sec-Butylbenzene	**11.5**		4.4	5.0	"	10.0		115	43-164	5.91	200
tert-Butylbenzene	**11.1**		4.3	5.0	"	10.0		111	45-162	5.26	200
Carbon disulfide	**U**		4.4	5.0	"				107-117		200
Carbon tetrachloride	**9.81**		4.5	5.0	"	10.0		98.1	9-173	0.711	200
Chlorobenzene	**10.9**		4.4	5.0	"	10.0		109	44-167	0.913	200
Chloroethane	**7.79**		4.5	10	"				107-175		200
Chloroform	**11.4**		4.0	5.0	"	10.0		114	46-157	0.873	200
Chloromethane	**6.99**		3.8	10	"				70-76		200
2-Chlorotoluene	**11.1**		4.2	5.0	"	10.0		111	35-173	5.26	200
4-Chlorotoluene	**11.4**		4.1	5.0	"	10.0		114	43-164	3.45	200
Dibromochloromethane	**10.1**		4.0	5.0	"	10.0		101	24-168	29.4	200

J. Mokos 12/16/02

Jennifer Mokos, Chemist

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IIT Research Institute ESAT Region 5
536 South Clark Street, Suite 734; Chicago, IL 60605
Telephone (312) 353-8302 Facsimile (312) 353-8307

Superfund, US EPA Region 5	Project: Himco Dump	
77 West Jackson Boulevard	Project Number: 2003SY01	Reported:
Chicago IL, 60604	Project Manager: Howard Pham	Dec-16-02 10:26

Volatiles by GC/MS - Quality Control
IITRI - ESAT Contract

Batch EK20802 - Volatiles

LCS Dup (EK20802-BSD1) **Prepared: Nov-08-02 Analyzed: Nov-14-02**

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
1,2-Dibromo-3-chloropropane	8.90		3.6	5.0	ug/L	10.0		89.0	11-188	60.0	200
1,2-Dibromoethane (EDB)	10.3		4.2	5.0	"	10.0		103	109-116	40.5	200
Dibromomethane	10.4		4.4	5.0	"	10.0		104	42-168	27.7	200
1,2-Dichlorobenzene	11.7		3.4	5.0	"	10.0		117	47-163	0.851	200
1,3-Dichlorobenzene	11.1		4.1	5.0	"	10.0		111	42-173	2.67	200
1,4-Dichlorobenzene	11.4		3.8	5.0	"	10.0		114	41-170	0.881	200
1,1-Dichloroethane	11.1		4.4	5.0	"	10.0		111	35-177	0.897	200
1,2-Dichloroethane	11.0		4.3	5.0	"	10.0		110	20-188	20.9	200
1,1-Dichloroethene	13.1		4.6	5.0	"	10.0		131	4-173	5.20	200
cis-1,2-Dichloroethene	10.9		4.4	5.0	"	10.0		109	32-164	0.00	200
trans-1,2-Dichloroethene	11.4		4.3	5.0	"	10.0		114	35-179	0.00	200
1,2-Dichloropropane	10.9		4.4	5.0	"	10.0		109	44-156	5.66	200
1,3-Dichloropropane	10.6		4.5	5.0	"	10.0		106	42-163	29.6	200
2,2-Dichloropropane	10.3		4.1	5.0	"	10.0		103	12-158	0.976	200
1,1-Dichloropropene	10.9		4.4	5.0	"	10.0		109	37-157	2.71	200
cis-1,3-Dichloropropene	9.82		4.0	5.0	"	10.0		98.2	24-156	13.2	200
trans-1,3-Dichloropropene	9.75		4.2	5.0	"	10.0		97.5	12-160	24.7	200
Ethylbenzene	10.8		4.2	5.0	"	10.0		108	43-163	3.64	200
Hexachlorobutadiene	12.6		4.5	5.0	"	10.0		126	21-166	16.1	200
2-Hexanone	U		8.0	10	"				116-145		200
Isopropylbenzene	11.0		4.4	5.0	"	10.0		110	44-163	3.57	200
p-Isopropyltoluene	11.6		4.4	5.0	"	10.0		116	46-164	5.86	200
Methylene chloride	13.6	J	4.1	5.0	"	10.0		136	44-174	2.23	200
4-Methyl-2-pentanone	U		8.5	10	"				108-119		200
Naphthalene	9.32		4.0	5.0	"	10.0		93.2	27-161	39.1	200
n-Propylbenzene	11.0		4.1	5.0	"	10.0		110	55-156	5.31	200
Styrene	11.0		4.6	5.0	"	10.0		110	43-157	0.913	200
1,1,2,2-Tetrachloroethane	9.89		3.8	5.0	"	10.0		98.9	20-215	64.3	200
1,1,1,2-Tetrachloroethane	10.6		4.3	5.0	"	10.0		106	28-176	2.87	200
Tetrachloroethene	8.19		4.4	5.0	"	10.0		81.9	45-165	19.7	200
Toluene	10.5		4.5	5.0	"	10.0		105	51-151	3.74	200
1,2,3-Trichlorobenzene	11.1		4.1	5.0	"	10.0		111	37-159	9.43	200

J. Mokos 12/16/02

Jennifer Mokos, Chemist

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IIT Research Institute ESAT Region 5
536 South Clark Street, Suite 734; Chicago, IL 60605
Telephone (312) 353-8302 Facsimile (312) 353-8307

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77 West Jackson Boulevard	Project Number: 2003SY01	**Reported:**
Chicago IL, 60604	Project Manager: Howard Pham	Dec-16-02 10:26

Volatiles by GC/MS - Quality Control
IITRI - ESAT Contract

Batch EK20802 - Volatiles

LCS Dup (EK20802-BSD1) **Prepared: Nov-08-02 Analyzed: Nov-14-02**

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
1,2,4-Trichlorobenzene	**11.0**		4.0	5.0	ug/L	10.0		110	36-154	4.44	200
1,1,2-Trichloroethane	**10.4**		4.3	5.0	"	10.0		104	27-174	32.3	200
1,1,1-Trichloroethane	**10.8**		4.2	5.0	"	10.0		108	18-180	2.74	200
Trichloroethene	**11.0**		4.3	5.0	"	10.0		110	44-159	15.1	200
1,2,3-Trichloropropane	**10.9**		4.3	5.0	"	10.0		109	37-181	61.9	200
1,3,5-Trimethylbenzene	**11.2**		4.4	5.0	"	10.0		112	37-171	4.37	200
1,2,4-Trimethylbenzene	**11.5**		4.3	5.0	"	10.0		115	39-171	3.42	200
m,p-Xylene	**21.7**		8.5	10	"	10.0		217	45-163	4.94	200
o-Xylene	**10.6**		4.2	5.0	"	10.0		106	44-163	3.70	200
Surrogate: Benzene-d6	*10.1*				"	*10.0*		*101*	*78-114*		
Surrogate: Toluene-d8	*9.82*				"	*10.0*		*98.2*	*85-115*		
Surrogate: 4-Bromofluorobenzene	*10.2*				"	*10.0*		*102*	*79-109*		

Matrix Spike (EK20802-MS1) **Source: E2K0101-06** **Prepared: Nov-08-02 Analyzed: Nov-14-02**

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Benzene	**23.7**	J	4.7	5.0	ug/L	10.0	11	127	34-167		
Bromobenzene	**12.2**	J	5.2	10	"	10.0	U	122	44-167		
Bromochloromethane	**12.6**	J	4.0	5.0	"	10.0	U	126	37-175		
Bromodichloromethane	**9.32**	J	4.0	5.0	"	10.0	U	93.2	36-153		
Bromoform	**10.1**	J	4.2	5.0	"	10.0	U	101	17-157		
Bromomethane	**6.43**	J	5.5	10	"	10.0	U	64.3	106-116		
n-Butylbenzene	**10.9**	J	4.3	5.0	"	10.0	U	109	39-157		
sec-Butylbenzene	**11.8**	J	4.4	5.0	"	10.0	U	118	43-164		
tert-Butylbenzene	**9.96**	J	4.3	5.0	"	10.0	U	99.6	45-162		
Carbon disulfide	**U**	J	4.4	5.0	"		U		107-117		
Carbon tetrachloride	**U**	J	4.5	5.0	"	10.0	U		9-173		
Chlorobenzene	**12.3**	J	4.4	5.0	"	10.0	U	123	44-167		
Chloroethane	**11.7**	J	4.5	10	"		U		107-175		
Chloroform	**12.5**	J	4.0	5.0	"	10.0	U	125	46-157		
2-Chlorotoluene	**15.4**	J	4.2	5.0	"	10.0	U	154	35-173		
4-Chlorotoluene	**13.2**	J	4.1	5.0	"	10.0	U	132	43-164		
Dibromochloromethane	**8.98**	J	4.0	5.0	"	10.0	U	89.8	24-168		

J. Mokos 12/16/02

Jennifer Mokos, Chemist

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Superfund, US EPA Region 5	Project: Himco Dump	
77 West Jackson Boulevard	Project Number: 2003SY01	**Reported:**
Chicago IL, 60604	Project Manager: Howard Pham	Dec-16-02 10:26

Volatiles by GC/MS - Quality Control
IITRI - ESAT Contract

Batch EK20802 - Volatiles

Matrix Spike (EK20802-MS1) **Source: E2K0101-06** **Prepared: Nov-08-02 Analyzed: Nov-14-02**

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
1,2-Dibromo-3-chloropropane	11.5	J	3.6	5.0	ug/L	10.0	U	115	11-188		
1,2-Dibromoethane (EDB)	11.1	J	4.2	5.0	"	10.0	U	111	109-116		
Dibromomethane	13.0	J	4.4	5.0	"	10.0	U	130	42-168		
1,2-Dichlorobenzene	13.9	J	3.4	5.0	"	10.0	U	139	47-163		
1,3-Dichlorobenzene	14.5	J	4.1	5.0	"	10.0	U	145	42-173		
1,4-Dichlorobenzene	15.0	J	3.8	5.0	"	10.0	U	150	41-170		
1,1-Dichloroethane	15.2	J	4.4	5.0	"	10.0	U	152	35-177		
1,2-Dichloroethane	13.9	J	4.3	5.0	"	10.0	U	139	20-188		
1,1-Dichloroethene	16.1	J	4.6	5.0	"	10.0	U	161	4-173		
cis-1,2-Dichloroethene	11.6	J	4.4	5.0	"	10.0	U	116	32-164		
trans-1,2-Dichloroethene	13.1	J	4.3	5.0	"	10.0	U	131	35-179		
1,2-Dichloropropane	11.3	J	4.4	5.0	"	10.0	U	113	44-156		
1,3-Dichloropropane	11.4	J	4.5	5.0	"	10.0	U	114	42-163		
2,2-Dichloropropane	10.1	J	4.1	5.0	"	10.0	U	101	12-158		
1,1-Dichloropropene	10.1	J	4.4	5.0	"	10.0	U	101	37-157		
cis-1,3-Dichloropropene	7.78	J	4.0	5.0	"	10.0	U	77.8	24-156		
trans-1,3-Dichloropropene	7.72	J	4.2	5.0	"	10.0	U	77.2	12-160		
Ethylbenzene	9.84	J	4.2	5.0	"	10.0	U	98.4	43-163		
Hexachlorobutadiene	14.7	J	4.5	5.0	"	10.0	U	147	21-166		
Isopropylbenzene	9.41	J	4.4	5.0	"	10.0	U	94.1	44-163		
p-Isopropyltoluene	11.3	J	4.4	5.0	"	10.0	U	113	46-164		
Methylene chloride	11.3	J	4.1	5.0	"	10.0	U	113	44-174		
Naphthalene	8.69	J	4.0	5.0	"	10.0	U	86.9	27-161		
n-Propylbenzene	10.6	J	4.1	5.0	"	10.0	U	106	55-156		
Styrene	8.58	J	4.6	5.0	"	10.0	U	85.8	43-157		
1,1,2,2-Tetrachloroethane	14.9	J	3.8	5.0	"	10.0	U	149	20-215		
1,1,1,2-Tetrachloroethane	10.2	J	4.3	5.0	"	10.0	U	102	28-176		
Tetrachloroethene	14.5	J	4.4	5.0	"	10.0	U	145	45-165		
Toluene	9.42	J	4.5	5.0	"	10.0	U	94.2	51-151		
1,2,3-Trichlorobenzene	12.4	J	4.1	5.0	"	10.0	U	124	37-159		
1,2,4-Trichlorobenzene	9.77	J	4.0	5.0	"	10.0	U	97.7	36-154		
1,1,2-Trichloroethane	12.6	J	4.3	5.0	"	10.0	U	126	27-174		

J. Mokos 12/16/02

Jennifer Mokos, Chemist

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Superfund, US EPA Region 5	Project: Himco Dump	
77 West Jackson Boulevard	Project Number: 2003SY01	**Reported:**
Chicago IL, 60604	Project Manager: Howard Pham	Dec-16-02 10:26

Volatiles by GC/MS - Quality Control
IITRI - ESAT Contract

Batch EK20802 - Volatiles

Matrix Spike (EK20802-MS1) **Source: E2K0101-06** **Prepared: Nov-08-02 Analyzed: Nov-14-02**

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
1,1,1-Trichloroethane	**11.8**	J	4.2	5.0	ug/L	10.0	U	118	18-180		
Trichloroethene	**13.0**	J	4.3	5.0	"	10.0	U	130	44-159		
1,2,3-Trichloropropane	**16.2**	J	4.3	5.0	"	10.0	U	162	37-181		
1,3,5-Trimethylbenzene	**11.0**	J	4.4	5.0	"	10.0	U	110	37-171		
1,2,4-Trimethylbenzene	**11.5**	J	4.3	5.0	"	10.0	U	115	39-171		
m,p-Xylene	**23.0**	J	8.5	10	"	10.0	U	230	45-163		
o-Xylene	**9.60**	J	4.2	5.0	"	10.0	U	96.0	44-163		
Surrogate: Benzene-d6	*10.5*				"	*10.0*		*105*	*78-114*		
Surrogate: Toluene-d8	*8.35*				"	*10.0*		*83.5*	*85-115*		
Surrogate: 4-Bromofluorobenzene	*4.69*				"	*10.0*		*46.9*	*79-109*		

Matrix Spike Dup (EK20802-MSD1) **Source: E2K0101-06** **Prepared: Nov-08-02 Analyzed: Nov-14-02**

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Benzene	**22.2**		4.7	5.0	ug/L	10.0	11	112	34-167	12.6	200
Bromobenzene	**10.6**		5.2	10	"	10.0	U	106	44-167	14.0	200
Bromochloromethane	**10.8**		4.0	5.0	"	10.0	U	108	37-175	15.4	200
Bromodichloromethane	**9.95**		4.0	5.0	"	10.0	U	99.5	36-153	6.54	200
Bromoform	**9.80**		4.2	5.0	"	10.0	U	98.0	17-157	3.02	200
Bromomethane	**6.57**		5.5	10	"	10.0	U	65.7	106-116	2.15	200
n-Butylbenzene	**11.2**		4.3	5.0	"	10.0	U	112	39-157	2.71	200
sec-Butylbenzene	**11.2**		4.4	5.0	"	10.0	U	112	43-164	5.22	200
tert-Butylbenzene	**10.6**		4.3	5.0	"	10.0	U	106	45-162	6.23	200
Carbon disulfide	**U**		4.4	5.0	"		U		107-117		200
Carbon tetrachloride	**9.50**		4.5	5.0	"	10.0	U	95.0	9-173		200
Chlorobenzene	**10.5**		4.4	5.0	"	10.0	U	105	44-167	15.8	200
Chloroethane	**7.81**		4.5	10	"		U		107-175		200
Chloroform	**10.6**		4.0	5.0	"	10.0	U	106	46-157	16.5	200
2-Chlorotoluene	**10.8**		4.2	5.0	"	10.0	U	108	35-173	35.1	200
4-Chlorotoluene	**11.1**		4.1	5.0	"	10.0	U	111	43-164	17.3	200
Dibromochloromethane	**9.94**		4.0	5.0	"	10.0	U	99.4	24-168	10.1	200
1,2-Dibromo-3-chloropropane	**9.06**		3.6	5.0	"	10.0	U	90.6	11-188	23.7	200
1,2-Dibromoethane (EDB)	**10.1**		4.2	5.0	"	10.0	U	101	109-116	9.43	200

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J. Mokos 12/16/02
Jennifer Mokos, Chemist

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Superfund, US EPA Region 5	Project: Himco Dump	
77 West Jackson Boulevard	Project Number: 2003SY01	**Reported:**
Chicago IL, 60604	Project Manager: Howard Pham	Dec-16-02 10:26

Volatiles by GC/MS - Quality Control
IITRI - ESAT Contract

Batch EK20802 - Volatiles

Matrix Spike Dup (EK20802-MSD1) **Source: E2K0101-06** **Prepared: Nov-08-02 Analyzed: Nov-14-02**

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Dibromomethane	**10.6**		4.4	5.0	ug/L	10.0	U	106	42-168	20.3	200
1,2-Dichlorobenzene	**10.9**		3.4	5.0	"	10.0	U	109	47-163	24.2	200
1,3-Dichlorobenzene	**11.3**		4.1	5.0	"	10.0	U	113	42-173	24.8	200
1,4-Dichlorobenzene	**11.4**		3.8	5.0	"	10.0	U	114	41-170	27.3	200
1,1-Dichloroethane	**12.6**		4.4	5.0	"	10.0	U	126	35-177	18.7	200
1,2-Dichloroethane	**11.8**		4.3	5.0	"	10.0	U	118	20-188	16.3	200
1,1-Dichloroethene	**12.5**		4.6	5.0	"	10.0	U	125	4-173	25.2	200
cis-1,2-Dichloroethene	**10.6**		4.4	5.0	"	10.0	U	106	32-164	9.01	200
trans-1,2-Dichloroethene	**11.0**		4.3	5.0	"	10.0	U	110	35-179	17.4	200
1,2-Dichloropropane	**10.3**		4.4	5.0	"	10.0	U	103	44-156	9.26	200
1,3-Dichloropropane	**10.4**		4.5	5.0	"	10.0	U	104	42-163	9.17	200
2,2-Dichloropropane	**8.55**		4.1	5.0	"	10.0	U	85.5	12-158	16.6	200
1,1-Dichloropropene	**9.89**		4.4	5.0	"	10.0	U	98.9	37-157	2.10	200
cis-1,3-Dichloropropene	**8.83**		4.0	5.0	"	10.0	U	88.3	24-156	12.6	200
trans-1,3-Dichloropropene	**9.22**		4.2	5.0	"	10.0	U	92.2	12-160	17.7	200
Ethylbenzene	**10.1**		4.2	5.0	"	10.0	U	101	43-163	2.61	200
Hexachlorobutadiene	**12.3**		4.5	5.0	"	10.0	U	123	21-166	17.8	200
Isopropylbenzene	**10.1**		4.4	5.0	"	10.0	U	101	44-163	7.07	200
p-Isopropyltoluene	**11.4**		4.4	5.0	"	10.0	U	114	46-164	0.881	200
Methylene chloride	**9.13**	J	4.1	5.0	"	10.0	U	91.3	44-174	21.2	200
Naphthalene	**9.61**		4.0	5.0	"	10.0	U	96.1	27-161	10.1	200
n-Propylbenzene	**10.8**		4.1	5.0	"	10.0	U	108	55-156	1.87	200
Styrene	**10.0**		4.6	5.0	"	10.0	U	100	43-157	15.3	200
1,1,2,2-Tetrachloroethane	**11.0**		3.8	5.0	"	10.0	U	110	20-215	30.1	200
1,1,1,2-Tetrachloroethane	**10.4**		4.3	5.0	"	10.0	U	104	28-176	1.94	200
Tetrachloroethene	**9.74**		4.4	5.0	"	10.0	U	97.4	45-165	39.3	200
Toluene	**10.1**		4.5	5.0	"	10.0	U	101	51-151	6.97	200
1,2,3-Trichlorobenzene	**11.0**		4.1	5.0	"	10.0	U	110	37-159	12.0	200
1,2,4-Trichlorobenzene	**10.4**		4.0	5.0	"	10.0	U	104	36-154	6.25	200
1,1,2-Trichloroethane	**10.7**		4.3	5.0	"	10.0	U	107	27-174	16.3	200
1,1,1-Trichloroethane	**10.3**		4.2	5.0	"	10.0	U	103	18-180	13.6	200
Trichloroethene	**10.4**		4.3	5.0	"	10.0	U	104	44-159	22.2	200

J. Mokos 12/16/02

Jennifer Mokos, Chemist

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Superfund, US EPA Region 5	Project: Himco Dump	
77 West Jackson Boulevard	Project Number: 2003SY01	**Reported:**
Chicago IL, 60604	Project Manager: Howard Pham	Dec-16-02 10:26

Volatiles by GC/MS - Quality Control
IITRI - ESAT Contract

Batch EK20802 - Volatiles

Matrix Spike Dup (EK20802-MSD1) **Source: E2K0101-06** **Prepared: Nov-08-02 Analyzed: Nov-14-02**

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
1,2,3-Trichloropropane	**11.1**		4.3	5.0	ug/L	10.0	U	111	37-181	37.4	200
1,3,5-Trimethylbenzene	**10.8**		4.4	5.0	"	10.0	U	108	37-171	1.83	200
1,2,4-Trimethylbenzene	**11.1**		4.3	5.0	"	10.0	U	111	39-171	3.54	200
m,p-Xylene	**21.0**		8.5	10	"	10.0	U	210	45-163	9.09	200
o-Xylene	**9.91**		4.2	5.0	"	10.0	U	99.1	44-163	3.18	200
Surrogate: Benzene-d6	*10.2*				"	*10.0*		*102*	*78-114*		
Surrogate: Toluene-d8	*9.91*				"	*10.0*		*99.1*	*85-115*		
Surrogate: 4-Bromofluorobenzene	*10.4*				"	*10.0*		*104*	*79-109*		

J Mokos 12/16/02

Jennifer Mokos, Chemist

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Superfund, US EPA Region 5	Project: Himco Dump	
77 West Jackson Boulevard	Project Number: 2003SY01	**Reported:**
Chicago IL, 60604	Project Manager: Howard Pham	Dec-16-02 10:26

Notes and Definitions

J	The identification of the analyte is acceptable; the reported value is an estimate.
U	Not Detected
NR	Not Reported

000029

J. Mokos 12/16/02

Jennifer Mokos, Chemist

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 5 CENTRAL REGIONAL LABORATORY

536 SOUTH CLARK STREET

CHICAGO, ILLINOIS 60605

Date: DEC 19 2002

Subject: Review of Region 5 Data for **Himco Dump (Elkhart, IN)**

From: **Marjorie Mattox, Chemist, ESAT/IITRI**
Contractor to Region 5 Central Regional Laboratory
Submitted to EPA: Marjorie L. Mattox 12-19-02

To:

Attached are the results for: **Himco Dump (Elkhart, IN)**

CRL data set number: **E2K0101**

Samples analyzed for: **Mercury**

Results are reported for sample designations: **E2K0101-02, -04, -05, -06**

Sylvia Griffin DEC 19 2002

Data Management Coordinator and Date Received

Date Transmitted: DEC 19 2002

Please have the U.S. EPA Project Manager/Officer call the CRL Sample Coordinator at 3-7444 for any comments or questions.

Please sign and date this form below and return it with any comments to:

Sylvia Griffin
Data Management Coordinator
Region 5 Central Regional Laboratory
ML-10C

_____ / /

Received by and Date

Comments:

Rev. 4/10/02

Parameter: Mercury
Method: 245.2*DNS (AIG044 dated 01/23/01)
Analyst: M. Mattox M. Mattox
Date: December 5, 2002 12-5-02

Data Set: E2K0101
TDF: 5-02-081
JOB: 249-0-1476-102-054-001
Task Order: 05-0-02

NARRATIVE

000007

Four (4) water samples from the Himco Dump site (work order E2K0101) were collected on October 31, 2002. The samples were received properly preserved on November 1, 2002.

LIMS ID	CRL ID	Station ID
E2K0101-02	2003SY01R02	Pump Blank
E2K0101-04	2003SY01S04	WT116A
E2K0101-05	2003SY01D04	WT116A
E2K0101-06	2003SY01S05	WT115A

All samples were analyzed within the 28 day holding time limit. Samples were initially digested on November 25, 2002 with work order E2J3101. Problems with the instrument due to a previous analysis with high mercury levels prevented the completion of analysis on November 26, 2002. The samples were redigested and reanalyzed on November 27, 2002. All QC was acceptable, therefore all results are acceptable.

The samples were digested by adding the acid mixture, potassium permanganate, and potassium persulfate manually. The samples were then covered during the digestion. Digestion was done by heating the batch at 95 degrees in a water bath for two hours. This procedure was done in accordance with an SOP modification dated June 26, 2002. The hydroxylamine solution was manually added prior to analysis.

Details of this analysis can be found in the EPA instrument logbook and in the IITRI logbook number C31626.

Water samples E2K0101-04/05 appear to be a field duplicate pair, the two samples show good correlation.

The narrative, spreadsheet, and QC summary are stored in file folder:
r5crl\vol2\iitri-aig\mmattox\PSAMercury\Hg Water\E2K0101

Analytical final results were stored in the following database file:
r5crl\vol2\iitri-aig\mmattox\PSAMercury\Hg Water\E2K0101\112702 (Each analytical run is stored as a text file directly from the instrument and also as a Lotus spreadsheet).

Results have been entered into RLIMS and matrix and digestion QC are reported on RLIMS generated reports. Instrument QC are reported in a separate WordPerfect report.

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000008

Superfund, US EPA Region 5	Project: Himco Dump	
77 West Jackson Boulevard	Project Number: 2003SY01	**Reported:**
Chicago IL, 60604	Project Manager: Howard Pham	Dec-17-02 16:53

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
2003SY01R02-Pump Blank	E2K0101-02	Water	Oct-31-02 11:50	Nov-01-02 11:27
2003SY01S04-WT116A	E2K0101-04	Water	Oct-31-02 13:52	Nov-01-02 11:27
2003SY01D04-WT116A	E2K0101-05	Water	Oct-31-02 13:52	Nov-01-02 11:27
2003SY01S05-WT115A	E2K0101-06	Water	Oct-31-02 15:00	Nov-01-02 11:27

M. Mattox 12-17-02
Margie Mattox, Chemist

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Telephone (312) 353-8302 Facsimile (312) 353-8307

000009

Superfund, US EPA Region 5	Project: Himco Dump	
77 West Jackson Boulevard	Project Number: 2003SY01	**Reported:**
Chicago IL, 60604	Project Manager: Howard Pham	Dec-17-02 16:53

Cold Vapor Analyses
IITRI - ESAT Contract

2003SY01R02-Pump Blank (E2K0101-02RE1) Water Sampled: Oct-31-02 11:50 Received: Nov-01-02 11:27

Analyte	Result	Flags / Qualifiers	MDL	Limit	Units	Dilution	Batch	Prepared	Analyzed
Mercury	U		0.1	0.5	ug/L	1	EK22702	Nov-27-0	Nov-27-02

2003SY01S04-WT116A (E2K0101-04RE1) Water Sampled: Oct-31-02 13:52 Received: Nov-01-02 11:27

Analyte	Result	Flags / Qualifiers	MDL	Limit	Units	Dilution	Batch	Prepared	Analyzed
Mercury	U		0.1	0.5	ug/L	1	EK22702	Nov-27-0	Nov-27-02

2003SY01D04-WT116A (E2K0101-05RE1) Water Sampled: Oct-31-02 13:52 Received: Nov-01-02 11:27

Analyte	Result	Flags / Qualifiers	MDL	Limit	Units	Dilution	Batch	Prepared	Analyzed
Mercury	U		0.1	0.5	ug/L	1	EK22702	Nov-27-0	Nov-27-02

2003SY01S05-WT115A (E2K0101-06RE1) Water Sampled: Oct-31-02 15:00 Received: Nov-01-02 11:27

Analyte	Result	Flags / Qualifiers	MDL	Limit	Units	Dilution	Batch	Prepared	Analyzed
Mercury	U		0.1	0.5	ug/L	1	EK22702	Nov-27-0	Nov-27-02

M. Mattox 12-17-02
Margie Mattox, Chemist

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536 South Clark Street, Suite 734; Chicago, IL 60605
Telephone (312) 353-8302 Facsimile (312) 353-8307

000010

Superfund, US EPA Region 5	Project: Himco Dump	
77 West Jackson Boulevard	Project Number: 2003SY01	**Reported:**
Chicago IL, 60604	Project Manager: Howard Pham	Dec-17-02 16:53

Notes and Definitions

U	Not Detected
NR	Not Reported

M. Mattox 12-17-02
Margie Mattox, Chemist

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 5 CENTRAL REGIONAL LABORATORY

536 SOUTH CLARK STREET

CHICAGO, ILLINOIS 60605

Date: DEC 0 2 2002

Subject: Review of Region 5 Data for **Himco Dump**

From: **Stephen Connet, Chemist, IITRI/ESAT**
Contractor to Region 5 Central Regional Laboratory
Submitted to CRL on 11-27-02

To:

Attached are the results for: **Himco Dump**

CRL data set number: **E2K0101**

Samples analyzed for: **GFAA Antimony, Arsenic, Cadmium, Lead, Selenium, Thallium**

Results are reported for sample designations: **E2K0101-02, -04 thru -06**

Sylvia Griffin DEC 0 2 2002

Data Management Coordinator and Date Received

Date Transmitted: DEC 0 2 2002

Please have the U.S. EPA Project Manager/Officer call the CRL Sample Coordinator at 3-7444 for any comments or questions.

Please sign and date this form below and return it with any comments to:

Sylvia Griffin
Data Management Coordinator
Region 5 Central Regional Laboratory
ML-10C

_____ / /

Received by and Date

Comments:

Rev. 4/10/02

Method: GFAA for Water
Site: Himco Dump
Date: November 22, 2002
Prepared by: Stephen Connet

TDF: 5-02-081
IITRI Job #: 249-0-1476-102-054-001
Task Order #: 05-0-02
Data Set: E2K0101

NARRATIVE

Four (4) water samples from the Himco Dump site were collected on October 31, 2002 and were properly preserved by CRL on November 1, 2002. The samples were submitted to ESAT for analysis of antimony, arsenic, cadmium, lead, selenium, and thallium by GFAA. The sample point identifications are on the page following this narrative.

The samples were digested following standard CRL 200.2 hot block water digestion protocols (CRL SOP METALS025) on November 4, 2002 (digestion batch EK20401). The set was redigested as under the same digestion batch number due to a spilled sample on November 12, 2002. Analyses were performed using 200.9 methods on the SIMAA 6000 (CRL SOP METALS017) using multi-element programs except for antimony and thallium, which were analyzed using the single element programs. Due to QC problems, cadmium was reanalyzed on the PE5100 using method 213.2 (CRL SOP METALS022). The concentrations for the LCS and matrix spike were changed per Dr. J. V. Morris of CRL. QC limits are based on ESAT control limits.

Samples E2K0101-04/-05 are field duplicates and do not show good correlation. No results are qualified for field duplicates. E2K0101-02 is a field blank. No qualifications are made for field blank contamination. Although the arsenic duplicate difference for E2K0101-06 is greater than the MDL, both the sample and the duplicate results are less than the MDL; therefore the duplicate difference is considered acceptable. Although the duplicate difference for selenium is greater than the MDL, both sample and duplicate results are reported from diluted samples and the raw values are less than the MDL; therefore the duplicate difference for selenium is considered acceptable. The matrix spike recoveries for selenium and thallium are less than the acceptable limit; all selenium and thallium results are flagged "L" and are considered estimated. The matrix spike from the November 4 digestion of the samples was run for verification of both matrix spike concentrations with similar results. All other QC were within limits; all other sample results are acceptable. All samples were analyzed within the holding time limit.

Non-detect results are reported to the reporting limit (RL). Results between the method detection limit (MDL) and the RL are reported as the instrument value with an "J" flag. The presence of interference required some samples to be diluted in order to meet analytical spike recovery criteria. The following reported values are adjusted for dilution: E2K0101-04, -05 and -06 for lead; E2K0101-04, -05 and -06 for selenium; E2K0101-04, -05 and -06 for thallium. Where appropriate, reported values are dilution corrected.

Analytical results, narrative, QC forms and run summaries were stored in the following database files:
Path: R5CRL\VOL2\IITRI-METALS\SCONNET\E2K0101
Results: \6000-Sb\111502A for antimony,
\6000-AsSe\111902A, \112002 and \112002A for arsenic and selenium,
\5100-Cd\111502 for cadmium,

000006

11-22-02

\6000-CdPb\111402 for lead,
\6000-Tl\111302 for thallium.
Narrative: \Reports\Narrative.wpd
QC Forms: \Reports\QC Report.123
Run Summaries: \Reports\Run Summary.123

Results and digestion/matrix QC forms are provided as LIMS generated forms. Logbook entries for this metals analysis can be found in IITRI logbook C31629 pages 9-10.

000006 A
11-26-02

11-22-02

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Telephone (312) 353-8302 Facsimile (312) 353-8307

Superfund, US EPA Region 5	Project: Himco Dump	
77 West Jackson Boulevard	Project Number: 2003SY01	**Reported:**
Chicago IL, 60604	Project Manager: Howard Pham	Nov-26-02 12:45

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
2003SY01R02-Pump Blank	E2K0101-02	Water	Oct-31-02 11:50	Nov-01-02 11:27
2003SY01S04-WT116A	E2K0101-04	Water	Oct-31-02 13:52	Nov-01-02 11:27
2003SY01D04-WT116A	E2K0101-05	Water	Oct-31-02 13:52	Nov-01-02 11:27
2003SY01S05-WT115A	E2K0101-06	Water	Oct-31-02 15:00	Nov-01-02 11:27

Stephen Connet, Chemist 11-26-02

000007

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Superfund, US EPA Region 5	Project: Himco Dump	
77 West Jackson Boulevard	Project Number: 2003SY01	**Reported:**
Chicago IL, 60604	Project Manager: Howard Pham	Nov-26-02 12:45

Metals by GFAA

IITRI - ESAT Contract

2003SY01R02-Pump Blank (E2K0101-02) Water Sampled: Oct-31-02 11:50 Received: Nov-01-02 11:27

Analyte	Result	Flags / Qualifiers	MDL	Limit	Units	Dilution	Batch	Prepared	Analyzed
Antimony	U		1.0	4.0	ug/L	1	EK20401	Nov-12-0	Nov-15-02
Arsenic	U		0.5	2.0	"	"	"	"	Nov-19-02
Cadmium	U		0.1	0.3	"	"	"	"	Nov-15-02
Lead	U		0.5	2.0	"	"	"	"	Nov-14-02
Selenium	U	L	1.0	4.0	"	"	"	"	Nov-19-02
Thallium	U	L	0.5	2.0	"	"	"	"	Nov-13-02

2003SY01S04-WT116A (E2K0101-04) Water Sampled: Oct-31-02 13:52 Received: Nov-01-02 11:27

Analyte	Result	Flags / Qualifiers	MDL	Limit	Units	Dilution	Batch	Prepared	Analyzed
Antimony	U		1.0	4.0	ug/L	1	EK20401	Nov-12-0	Nov-15-02
Arsenic	U		0.5	2.0	"	"	"	"	Nov-19-02
Cadmium	0.2	J	0.1	0.3	"	"	"	"	Nov-15-02
Lead	3.7	J	1.0	4.0	"	2	"	"	Nov-14-02
Selenium	U	L	5.0	20.0	"	5	"	"	Nov-20-02
Thallium	U	L	5.0	20.0	"	10	"	"	Nov-13-02

2003SY01D04-WT116A (E2K0101-05) Water Sampled: Oct-31-02 13:52 Received: Nov-01-02 11:27

Analyte	Result	Flags / Qualifiers	MDL	Limit	Units	Dilution	Batch	Prepared	Analyzed
Antimony	U		1.0	4.0	ug/L	1	EK20401	Nov-12-0	Nov-15-02
Arsenic	0.9	J	0.5	2.0	"	"	"	"	Nov-19-02
Cadmium	0.6		0.1	0.3	"	"	"	"	Nov-15-02
Lead	12.0		1.0	4.0	"	2	"	"	Nov-14-02
Selenium	U	L	5.0	20.0	"	5	"	"	Nov-20-02
Thallium	U	L	5.0	20.0	"	10	"	"	Nov-13-02

2003SY01S05-WT115A (E2K0101-06) Water Sampled: Oct-31-02 15:00 Received: Nov-01-02 11:27

Analyte	Result	Flags / Qualifiers	MDL	Limit	Units	Dilution	Batch	Prepared	Analyzed
Antimony	U		1.0	4.0	ug/L	1	EK20401	Nov-12-0	Nov-15-02
Arsenic	U		0.5	2.0	"	"	"	"	Nov-19-02
Cadmium	U		0.1	0.3	"	"	"	"	Nov-15-02
Lead	2.1	J	1.0	4.0	"	2	"	"	Nov-14-02

11-26-02

Stephen Connet, Chemist

000008

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Superfund, US EPA Region 5	Project: Himco Dump	
77 West Jackson Boulevard	Project Number: 2003SY01	**Reported:**
Chicago IL, 60604	Project Manager: Howard Pham	Nov-26-02 12:45

Metals by GFAA

IITRI - ESAT Contract

2003SY01S05-WT115A (E2K0101-06) Water Sampled: Oct-31-02 15:00 Received: Nov-01-02 11:27

Analyte	Result	Flags / Qualifiers	MDL	Limit	Units	Dilution	Batch	Prepared	Analyzed
Selenium	U	L	3.0	12.0	ug/L	3	EK20401	Nov-12-0	Nov-20-02
Thallium	U	L	5.0	20.0	"	10	"	"	Nov-13-02

11-26-02

000003

Stephen Connet, Chemist

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Telephone (312) 353-8302 Facsimile (312) 353-8307

Superfund, US EPA Region 5	Project: Himco Dump	
77 West Jackson Boulevard	Project Number: 2003SY01	**Reported:**
Chicago IL, 60604	Project Manager: Howard Pham	Nov-26-02 12:45

Notes and Definitions

< 5X	One or both concentration values for the duplicate analysis audit were less than 5 times the MRL value AND the difference between the two values was less than the MRL value. The duplicate audit is acceptable. No qualification made for this QC audit.
J	The identification of the analyte is acceptable; the reported value is an estimate.
L	The identification of the analyte is acceptable; the reported value may be biased low. The actual value is expected to be greater than the reported value.
U	Not Detected
NR	Not Reported

11-26-02

000010

Stephen Connet, Chemist

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 5 CENTRAL REGIONAL LABORATORY

536 SOUTH CLARK STREET

CHICAGO, ILLINOIS 60605

Date: DEC 19 2002

Subject: Review of Region 5 Data for **Himco Dump (Elkhart, IN)**

From: **Marjorie Mattox, Chemist, ESAT/IITRI**
Contractor to Region 5 Central Regional Laboratory
Submitted to EPA: Marjorie L. Mattox 12-19-02

To:

Attached are the results for: **Himco Dump (Elkhart, IN)**

CRL data set number: **E2K0101**

Samples analyzed for: **Cyanide**

Results are reported for sample designations: **E2K0101-02, 04, 05, 06**

Sylvia Griffin DEC 19 2002

Data Management Coordinator and Date Received

Date Transmitted: DEC 19 2002

Please have the U.S. EPA Project Manager/Officer call the CRL Sample Coordinator at 3-7444 for any comments or questions.

Please sign and date this form below and return it with any comments to:

Sylvia Griffin
Data Management Coordinator
Region 5 Central Regional Laboratory
ML-10C

_____ / /

Received by and Date

Comments:

Rev. 4/10/02

Parameter: Cyanide
Method: 335.2 NS (AIG025 dated 03/18/02)
Analyst: M. Mattox M. Mattox
Date: December 5, 2002 12-5-02

Data Set: E2K0101
TDF: 5-02-081
JOB: 249-0-1476-102-054-001
Task Order: 05-0-02

NARRATIVE

000009

Four (4) water samples from the Himco Dump site (work order E2K0101) were collected on October 31, 2002 . The samples were received on November 1, 2002. All samples were received improperly preserved at a ph of 10. EPA was informed and responded telling us to proceed with the analysis.

LIMS ID	CRL ID	Station ID
E2K0101-02	2003SY01R02	Pump Blank
E2K0101-04	2003SY01S04	WT116A
E2K0101-05	2003SY01D04	WT116A
E2K0101-06	2003SY01S05	WT115A

These four samples were assigned to ESAT for cyanide analysis. All samples were analyzed within the 14 day holding time limit. A predistillation check for sulfide and chlorine showed negative results.

Distillation was initially performed on the Easy Still unit on November 13, 2002 and analyzed later that day as LIMS batch EK21301. The analysis found the matrix duplicate difference to be outside of the ESAT control limit. This data is included at the end of the package for information only. This batch was redistilled and reanalyzed on November 14, 2002 as LIMS batch EK21401. All matrix and instrument QC were acceptable. The LIMS report shows the duplicate RPD as being out of control, however, since the sample results were less than the reporting limit, the duplicate difference was used for QC purposes.

A detailed history of the distillation and analysis can be found in the instrument log book and IITRI log book C31611.

Due to improper preservation and a possible low bias sample results for E2K0101-02, 04, 05, and 06 are flagged "J" and considered estimated.

The sample result for E2K0101-06 shows a result between the method detection limit and reporting limit. Therefore the result is considered estimated and is flagged "J" as stated above.

Samples E2K0101-04/05, appear to be a field duplicate pair showing good correlation.

Analytical final results were stored in the following database files:
R5crl\vol2\iitri-aig\mmattox\LACHET 2(SN 1327)\Cyanide-T\E2K0101\Lachet 2\111402 (Each analytical run is stored as a text file directly from the instrument and also as a Lotus spreadsheet).

Analytical aborted or not used results are stored in the following database file:
R5crl\vol2\iitri-aig\mmattox\LACHET 2(SN 1327)\Cyanide-T\E2K0101\Lachet 2\Data

The narrative, spreadsheet, and QC summary are stored in file folder
R5crl\vol2\iitri-aig\mmattox\Cyanide-T\E2K0101\CN Reports

At this time RLIMS is available and a RLIMS report is submitted for your review. In addition, WordPerfect reports were generated but not included as part of the deliverable.

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000010

Superfund, US EPA Region 5	Project: Himco Dump	
77 West Jackson Boulevard	Project Number: 2003SY01	**Reported:**
Chicago IL, 60604	Project Manager: Howard Pham	Dec-17-02 16:50

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
2003SY01R02-Pump Blank	E2K0101-02	Water	Oct-31-02 11:50	Nov-01-02 11:27
2003SY01S04-WT116A	E2K0101-04	Water	Oct-31-02 13:52	Nov-01-02 11:27
2003SY01D04-WT116A	E2K0101-05	Water	Oct-31-02 13:52	Nov-01-02 11:27
2003SY01S05-WT115A	E2K0101-06	Water	Oct-31-02 15:00	Nov-01-02 11:27

M. Mattox 12-17-02
Margie Mattox, Chemist

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000011

Superfund, US EPA Region 5	Project: Himco Dump	
77 West Jackson Boulevard	Project Number: 2003SY01	**Reported:**
Chicago IL, 60604	Project Manager: Howard Pham	Dec-17-02 16:50

Automated Colorimetric Analyses
IITRI - ESAT Contract

2003SY01R02-Pump Blank (E2K0101-02RE1) Water Sampled: Oct-31-02 11:50 Received: Nov-01-02 11:27

Analyte	Result	Flags / Qualifiers	MDL	Limit	Units	Dilution	Batch	Prepared	Analyzed
Cyanide (total)	U	J	2	8	ug/L	1	EK21401	Nov-14-0	Nov-14-02

2003SY01S04-WT116A (E2K0101-04RE1) Water Sampled: Oct-31-02 13:52 Received: Nov-01-02 11:27

Analyte	Result	Flags / Qualifiers	MDL	Limit	Units	Dilution	Batch	Prepared	Analyzed
Cyanide (total)	U	J	2	8	ug/L	1	EK21401	Nov-14-0	Nov-14-02

2003SY01D04-WT116A (E2K0101-05RE1) Water Sampled: Oct-31-02 13:52 Received: Nov-01-02 11:27

Analyte	Result	Flags / Qualifiers	MDL	Limit	Units	Dilution	Batch	Prepared	Analyzed
Cyanide (total)	U	J	2	8	ug/L	1	EK21401	Nov-14-0	Nov-14-02

2003SY01S05-WT115A (E2K0101-06RE1) Water Sampled: Oct-31-02 15:00 Received: Nov-01-02 11:27

Analyte	Result	Flags / Qualifiers	MDL	Limit	Units	Dilution	Batch	Prepared	Analyzed
Cyanide (total)	6	J	2	8	ug/L	1	EK21401	Nov-14-0	Nov-14-02

M. Mattox 12-17-02
Margie Mattox, Chemist

Report Name: E2K0101

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Telephone (312) 353-8302 Facsimile (312) 353-8307

000012

Superfund, US EPA Region 5	Project: Himco Dump	
77 West Jackson Boulevard	Project Number: 2003SY01	**Reported:**
Chicago IL, 60604	Project Manager: Howard Pham	Dec-17-02 16:50

Notes and Definitions

J	The identification of the analyte is acceptable; the reported value is an estimate.
U	Not Detected
NR	Not Reported

M. Mattox 12-17-02
Margie Mattox, Chemist

LABORATORY DATA

LAB. NO. D 7600

Sample Opened K.L.

Sampled Opened On JUN 27 1972

Arrival Temp.

Survey's Sew. (I.W.)

Analyses Results (mg/l)

B.O.D.5	✓ 4100.
pH	✓ 8.6
Alkalinity (M.O.)	
Chlorides	
Total Solids	✓ 12000.
Note Color of ash Volatile Total Solids	✓ 5200.
Suspended Solids	✓ 2600.
Volatile Susp. Solids	✓ 2280.
C.O.D.	✓ 7600.
Total Phosphates (PO4)	

ASH WAS BLACK W/WHITE & GREY FLAKES.

FIELD DATA

DISSOLVED OXYGEN			
Hour	mg/l	Temp.	Weather
12N			
1P.M.			
2			
3			
4			
5			
6			
7			
8			
9			
10			
11			
12N			
1A.M.			
2			
3			
4			
5			
6			
7			
8			
9			
10			
11			
Tot.			
Ave.			

Place Elkhart

Date 6/27/72 Station

Station Description

Leachate from Himco Landfill Elkhart Co.

PHYSICAL OBSERVATIONS

Date Last Rain

Riffle Pool

Black Putrid Sludge %Cover

Red Worms %Cover

White Fungi %Cover

Bottom: Gravel, Sand, Silt, Cant See

Oil or Grease %Cover

Algae %Cover

Sewage Solids %Cover

Color Odor

Composite Started

Time Sent to Lab.

Sent Via By

Delivered to

Supervisor: Shultz

Lab.No.	Hour	Bacteria: Total Coli.	Fecal Coli.	Fecal Strep.	Collector	Time

REPORTED

OCT 19 1972

WATER LABORATORY
IND. STATE BD. OF HEALTH

Table 13

HIMCO DUMP MUNICIPAL WATER SUPPLY HOOK-UP LIST

1. 54093 Westwood Drive
2. 27876 Westwood Drive
3. 54111 Westwood Drive
4. 54106 Westwood Drive
5. 54125 Westwood Drive
6. 54124 Westwood Drive
7. 54145 Westwood Drive
8. 54146 Westwood Drive
9. 54161 Westwood Drive
10. 54162 Westwood Drive
11. 54179 Westwood Drive
12. 54180 Westwood Drive
13. 54197 Westwood Drive
14. 54198 Westwood Drive
15. 54215 Westwood Drive
16. 54212 Westwood Drive
17. 54231 Westwood Drive
18. 54253 Westwood Drive
19. 54271 Westwood Drive
20. 54287 Westwood Drive
21. 54305 Westwood Drive
22. 27964 Westwood Drive
23. 27948 Westwood Drive
24. 27928 Westwood Drive
25. 27908 Westwood Drive
26. 54248 Westwood Drive
27. 54260 Westwood Drive
28. 54280 Westwood Drive
29. 27947 Westwood Drive
30. 27883 Westwood Drive
31. 27919 Westwood Drive
32. 54271 Northwood Drive
33. 54253 Northwood Drive
34. 54239 Northwood Drive
35. 54240 Northwood Drive
36. 54250 Northwood Drive
37. 54274 Northwood Drive
38. 54290 Northwood Drive

00000348
29400005

See Doc I D
110986 Miles Laboratories
Thomas Solvent

Thermo Chem Inc.
P.O. Box 51
Muskegon, Miohigan 49443

INVOICE

NO. 2115

DATE 4/22/75

YOUR ORDER NO.

SOLD TO • Thomas Solvent Company
5605 Planeview Drive
• Fort Wayne, Indiana 46825
•

SHIPPED TO

OUR ORDER NO.	SALESMAN	TERMS	F.O.B.	DATE SHIPPED	SHIPPED VIA
Verbal		Net 30 days	destination	April	Thomas Solvent Truck

QUANTITY ORDERED	QUANTITY SHIPPED	STOCK NUMBER/DESCRIPTION	UNIT PRICE	UNIT	AMOUNT
	48 drums	TO DISPOSE OF WASTE SOLVENT Material from Miles Labs Elkart Ind. - Move Ticket 2432	4.00/dr.		$192.00

37-3

GrayLee FORM 44-412 4-PARTS

ORIGINAL

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101401

10000001

CONTINENTAL CAN COMPANY, INC.

INVOICE—ORIGINAL

EXACT CASH DISCOUNT AND REMITTANCE ADDRESS ARE SHOWN AT BOTTOM OF INVOICE

INVOICE NO	INVOICE DATE
64-7072	6.28.71

PROD DIV	ORDER CD	OUR ORDER NO	DATE	FACTORY	CUSTOMER CODE	TERMS CD		CREDIT OFF	SHIPPED VIA
10	SOX	248-5689	5/4/71	64		02		172	Wolverine

SOLD TO: Thomas Solvent Company
4321 Evanston Avenue
Muskegon, Michigan
ATTENTION: ACCOUNTS PAYABLE DEPARTMENT

SALES OFFICE: 248 248 248 — SALESMAN: 10 10

CUST. STORE OR PLANT NO.

B/L OR DRAY TICKET NOS.: E-619756

RELEASE NO.

PARTIAL / FINAL: X

SHIP TO: Mr. Ron Byersmith
Thomas Solvent Company
4321 Evanston Avenue
Muskegon, Michigan

CUSTOMER ORDER NO. AND DATE

CAR OR TRUCK INITIALS AND NO.: 1323

WHSE. CODE

NET WEIGHT

DUNNAGE

GROSS WEIGHT: 102

FOB SELLER'S PLANT: Chicago

PPD

COLL: C

TERMS: Net 30 Days

DATE SHIPPED: 6-3-71

RETURNABLE SHIPPING MATL.: PALLETS / SHIP BOARD / COVERS

ORDER QUANTITY	DESCRIPTION (M.P.S. AND L.D.S.)	END-USE CODE	PRICE PER M	QUANTITY SHIPPED	AMOUNT
	64-65-413-464				
100	1/2 Gal Obl F Style Cans with 3/4" Flip Cap Opg - No Handles for charcoal lighter fluid	8311 QZP27C2	242.05	172 Cans @ 108	41.63
	KDF R/S CTNS		MEMO	17	memo

FOR THERMO CHEM

OK RBB 7/6/71

APPROVED FOR PAYMENT

7/21/71 Ck# 1035

CONTINENTAL CAN COMPANY, INC.
PLEASE REMIT TO: P.O. Box 1406
Chicago, Ill. 60690

CASH DISCOUNT shown here may be deducted from this invoice if payment is made within 10 days from date of this invoice, provided there is no past due indebtedness. Payment shall be in per funds. All indebtedness outstanding after due date shall bear interest at the rate of 7% per annum or 1% above the New York City prime rate whichever is higher, unless this rate exceeds the highest rate permitted by applicable state law, in which event the rate shall be the highest permissible by law.

CASH DISCOUNT: .42

[redacted] 41.63

[redacted]

NIQ

DUNNAGE lbs.

TOTAL WEIGHT → 102

Correct Weight is ..... lbs
Subject to Verification by the Weighing and Inspection Bureau Having Jurisdiction According to Agreement

☐ CONTENTS OF THIS CAR NOT TO BE TRANSFERRED. IN CASE OF BAD ORDER, NOTIFY SHIPPER.

LOADED BY SHIPPER ☑ YES ☐ NO — LOADED TO FULL VISIBLE CAPACITY ☐ YES ☑ NO — TO BE UNLOADED BY CONSIGNEE ☐ YES ☐ NO — ☐ PARTIAL ☐ FINAL

☐ THESE CANS FOR PERISHABLE FOODS

INVOICE NOS

The agreed or declared value of the property is hereby specifically stated by the shipper to be not exceeding per

CONTINENTAL CAN COMPANY, INC., Shipper

Per [signature]

1

Per [signature] Agent

SHIPPER'S No. E61975

Permanent post-office address of shipper

C.C.Co. Form 4523 H 11-69 M

[illegible] E. KILBARRICK AVE. CHICAGO, ILL. 60639

Thermo Chem Inc.
P.O. Box 51
Muskegon, Michigan 49443

110989 INVOICE

NO. 349

DATE 2/9/71

YOUR ORDER NO

SOLD TO: Marshall Division of
Miles Chemical Company
209 N. Centennial Street
Zeeland, Michigan

SHIPPED TO

OUR ORDER NO.	SALESMAN	TERMS	F.O.B.	DATE SHIPPED	SHIPPED VIA
		at once	Thermo Chem		Thomas Solvent Truck

QUANTITY ORDERED	QUANTITY SHIPPED	STOCK NUMBER DESCRIPTION	UNIT PRICE	UNIT	AMOUNT
	254 drums	TO BURN WASTE SOLVENT	6.00/drum		$1,524.00
		Your delivery ticket - 9984 - 64 drums Move Ticket 854 dated 11/18/70 Your delivery ticket - 9987 - 68 drums Move Ticket 856 dated 11/20/70 Your delivery ticket - 9992 - 31 drums Move Ticket 859 dated 11/24/70 Your delivery ticket - 9882 - 11 drums Move Ticket 861 dated 12/14/70 Your delivery ticket - 9886 - 28 drums Move Ticket 878 dated 12/18/70 Your delivery ticket - 9891 - 52 drums Move Ticket 880 dated 12/23/70			

All are counted under previous transactions. (2876 - 2883)

FORM 44-412 4 PARTS

QUADRUPLICATE

WILSON JONES COMPANY

06923

2884
Record Nos 2889

29300010

Thomas SOLVENT COMPANY

SOLVENTS - CHEMICALS
SOLVENT REPROCESSING
LIQUID WASTE DISPOSAL

MUSKEGON, MICH. 49443
P.O. BOX 51, (616) 777-2619

BATTLE CREEK, MICH. 49016
P.O. BOX 44, (616) 963-5565

FORT WAYNE, IND. 46805
5605 PLANEVIEW DRIVE, (219) 483-7322

ROMULUS, MICH. 48174
P.O. BOX 422, (313) 491-6365

MOVE TICKET

No. M 4001

LIQUID INDUSTRIAL WASTE DISPOSAL

CUSTOMER _____ Date _____

ADDRESS _____

☐ BULK ☐ DRUMS

Quantity	DESCRIPTION

Time In _____ Time Out _____

Shipped By _____

MILEAGE RECORD

From	To	Miles

License No. _____

THOMAS SOLVENT COMPANY

By _____

DESTINATION

☐ THERMO CHEM INC. MUSKEGON, MICH. ☐ OTHER _____

Method of Disposal ☐ BURNER ☐ RECLAIM _____

Disposation of Reprocessed Mat. ☐ RETURN TO CUSTOMER ☐ STOCK _____ ☐ OTHER _____

SPECIAL INSTRUCTIONS:

ORDER COMPLETED & BILLED _____

Received By _____

INVOICE NO. _____

08300001

101073

Thermo Chem Inc.
P.O. Box 51
Muskegon, Michigan 49443

INVOICE

NO. 1418

DATE 9/27/73

YOUR ORDER NO.

SOLD TO
Thomas Solvent Company
P.O. Box 51
Muskegon, Michigan 49443

SHIPPED TO

OUR ORDER NO.	SALESMAN	TERMS	F.O.B.	DATE SHIPPED	SHIPPED VIA
M-4353		Net 30 days	destination		Thomas Solvent Truck

QUANTITY ORDERED	QUANTITY SHIPPED	STOCK NUMBER/DESCRIPTION	UNIT PRICE	UNIT	AMOUNT
	3120 gals.	RERUN ACETONE	.19/gal.		592.80
	1080 gals.	RERUN WASH THINNER	.19/gal.		205.20
					$798.00
		Material put on tanker to be blended with material at Chemical Recovery and sent to Ford Motor Saline			
		Load M-26-B			

RBB

Graphic FORM 44-412 4-PARTS

DUPLICATE

WILSON JONES COMPANY © 1961 PRINTED IN U.S.A.

273

Thermo Chem Inc.
P.O. Box 51
Muskegon, Michigan 49443

110989 **INVOICE**

NO. 349

DATE 2/9/71

YOUR ORDER NO

SOLD TO: Marshall Division of
Miles Chemical Company
209 N. Centennial Street
Zeeland, Michigan

SHIPPED TO

OUR ORDER NO.	SALESMAN	TERMS	F.O.B.	DATE SHIPPED	SHIPPED VIA
		at once	Thermo Chem		Thomas Solvent Truck

QUANTITY ORDERED	QUANTITY SHIPPED	STOCK NUMBER DESCRIPTION	UNIT PRICE	UNIT	AMOUNT
	254 drums	TO BURN WASTE SOLVENT	6.00/drum		$1,524.00
		Your delivery ticket - 9984 - 64 drums Move Ticket 854 dated 11/18/70 Your delivery ticket - 9987 - 68 drums Move Ticket 856 dated 11/20/70 Your delivery ticket - 9992 - 31 drums Move Ticket 859 dated 11/24/70 Your delivery ticket - 9882 - 11 drums Move Ticket 861 dated 12/14/70 Your delivery ticket - 9886 - 28 drums Move Ticket 878 dated 12/18/70 Your delivery ticket - 9891 - 52 drums Move Ticket 880 dated 12/23/70			

All are counted under previous transactions. (2876 - 2883)

FORM 44-812 4 PARTS

QUADRUPLICATE

WILSON JONES COMPANY

06923

2884
Record Nos 2889

Thomas SOLVENT COMPANY

SOLVENTS - CHEMICALS
SOLVENT REPROCESSING
LIQUID WASTE DISPOSAL

MUSKEGON, MICH. 49443
P.O. BOX 51, (616) 777-2619

BATTLE CREEK, MICH. 49016
P.O. BOX 44, (616) 963-5565

FORT WAYNE, IND. 46805
5605 PLANEVIEW DRIVE, (219) 483-7322

ROMULUS, MICH. 48174
P.O. BOX 422, (313) 491-6365

MOVE TICKET

IN 2709

LIQUID INDUSTRIAL WASTE DISPOSAL

CUSTOMER NILES LABORATORIES, INC. Date _____

ADDRESS 1127 NORTH STREET

ELKHART, ~~INDIANA~~ INDIANA

☐ BULK ☐ DRUMS

Quantity	DESCRIPTION
30 drums	Waste

Time In _____ Time Out _____

Shipped By _____

MILEAGE RECORD

From	To	Miles

License No. _____

THOMAS SOLVENT COMPANY

By _____

DESTINATION

☐ THERMO CHEM INC. MUSKEGON, MICH. ☐ OTHER _____

Method of Disposal ☐ BURNER ☐ RECLAIM _____

Disposation of Reprocessed Mat. ☐ RETURN TO CUSTOMER ☐ STOCK _____ ☐ OTHER _____

SPECIAL INSTRUCTIONS:

ORDER COMPLETED & BILLED _____

INVOICE NO. _____

Received By _____

TS 000139

Record No. 3292

P.O. Box 91
Muskegon, Michigan 49443

NO. 1899

DATE 9/30/74

YOUR ORDER NO.

14252

SOLD TO • Thomas Solvent Company
5605 Planeview Drive
Fort Wayne, Indiana 46825

SHIPPED TO

OUR ORDER NO.	SALESMAN	TERMS	F.O.B.	DATE SHIPPED	SHIPPED VIA
verbal		Net 30 days	dest.	8/29	Thomas Solvent Truck

QUANTITY ORDERED	QUANTITY SHIPPED	STOCK NUMBER/DESCRIPTION	UNIT PRICE	UNIT	AMOUNT
	76 Drums	TO DISPOSE OF WASTE SOLVENT	5.00/dr.		$380.00
		Material from Miles Labs. - Move Ticket P2708			
		Thomas Solvent - Fort Wayne bills Miles Labs.			

OCT 8

Greyline FORM 44-412 4-PARTS

DUPLICATE

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274

14252
Record No. 3604

P. O. Box 51
Muskegon, Michigan 49443

NO. 2150

DATE 5/30/75

YOUR ORDER NO.

14429

SOLD TO • Thomas Solvent Company
P.O. Box 51
• Muskegon, Michigan 49443
•

SHIPPED TO

OUR ORDER NO.	SALESMAN	TERMS	F.O.B.	DATE SHIPPED	SHIPPED VIA
M5297		Net 30 days		May	Thomas Solvent Truck

QUANTITY ORDERED	QUANTITY SHIPPED	STOCK NUMBER/DESCRIPTION	UNIT PRICE	UNIT	AMOUNT
	2400 gals	RERUN ACETONE (Material & Surcharge)	.36/	gal.	864.00
	3600 gals	RERUN ACETONE (Prime Material & Surcharge)	.52/	gal.	1872.00
					$2736.00
		Surcharge is the freight paid on Miles Labs and Abbott Labs material			

FORM 44-412 4-PARTS

DUPLICATE

WILSON JONES COMPANY © 1951 PRINTED IN U.S.A.

274

14429
Record No. 3607

Record 3e10

Thermo Chem Inc.
P.O. Box 51
Muskegon, Michigan 49443

Invoice

No. 2878

Date 2/28/77

Your Order No.

Shipped to

Sold To Thomas Solvent Company
P.O. Box 51
Muskegon, Michigan 49443

Our Order No.	Salesman	Terms	F.O.B.	Date Shipped	Shipped VIA
M6547		Net 30 days	destination	feb	Thomas Solvent Truck

Quantity Ordered	Quantity Shipped	Stock Number/Description	Unit Price	Unit	Amount
	330 gals.	RERUN THINNER (6 drums)	.49	/gal.	161.70
	1800 gals.	RERUN LAKEWAY ACETONE	.50	/gal.	900.00
	4175 gals.	RERUN ACETONE	.50	/gal.	2087.50
	1375 gals.	DISPOSE OF ACETONE RESIDUE FROM MILES LABS ACETONE	.15	/gal.	206.25
					$3355.45

ck 2447 3-18-77 36-02 3149.20
37-02 206.25

APPROVED FOR PAYMENT

MAR 1 1977

APPROVED FOR PAYMENT
3/2/77

Disposal charge for material left after reclaiming the orisinal 70 drums.

WilsonJones
DAYLINE FORM 44-412 4-PART
© 1978 - PRINTED IN U.S.A.

Original / Invoice

576

Thomas SOLVENT COMPANY

SOLVENTS-CHEMICALS
SOLVENT REPROCESSING
LIQUID WASTE DISPOSAL

...N, MICH. 49443 ...51, (616) 777-2619 | BATTLE CREEK, MICH. 49016 P.O. BOX 44, (616) 963-5565 | FORT WAYNE, IND. 46805 5605 PLANEVIEW DRIVE, (219) 483-7322 | ROMULUS, MICH. 48174 P.O. BOX 422, (313) 491-6365

MOVE TICKET

Nº M3567

LIQUID INDUSTRIAL WASTE DISPOSAL

CUSTOMER Miles Laboratories

Date 2/16/77

ADDRESS Zeeland Michigan

For Sure

Tom J.

☐ BULK ☒ DRUMS

70

Quantity	DESCRIPTION
70	Thirty Acetone

Time In _____ Time Out _____

Shipped By Miles 2-16-77 [illegible]

MILEAGE RECORD

From	To	Miles

License No. 114-9

THOMAS SOLVENT COMPANY

By Ole Olsen

DESTINATION

☒ THERMO CHEM INC. MUSKEGON, MICH. ☐ OTHER _____

Method of Disposal ☐ BURNER ☒ RECLAIM _____

Disposation of Reprocessed Mat. ☐ RETURN TO CUSTOMER ☒ STOCK _____ ☐ OTHER _____

SPECIAL INSTRUCTIONS:

ORDER COMPLETED & BILLED _____

Received By [illegible] 2/17/77

INVOICE NO. _____ 18615

Record No. 3632

#3821

RECEIVING RECORD DATE 2/27/77

CUSTOMER Miles Labs

MATERIAL Dirty Acetone P.O.

NUMBER OF DRUMS 70

GALLONS BULK STORED IN

INSTRUCTIONS Rerun

FINAL YIELD

DRUMS READY TO SHIP

	FULL	PART
NUMBER		
GROSS		
TARE		
NET		

2/17

OFFICE RECORD	DATE	BY
ENTER RECEIVING RECORD		
ENTER INVENTORY		
ENTER YIELD IN INVENTORY		
ANALYTICAL DATA SHEET		

Mt - M3567

SOLVENTS-CHEMICALS
SOLVENT REPROCESSING
LIQUID WASTE DISPOSAL

46605
(219) 483-7322

ROMULUS, MICH. 48174
P.O. BOX 422, (313) 491-6365

Nº M3567

Date 2/16/77

For Sure

Tom J.

Miles
2-16-77 Sig

114-9

SOLVENT COMPANY

Le Olsen

OTHER

CLAIM

Disposation of Reprocessed Mat. ☐ RETURN TO CUSTOMER ☒ STOCK ☐ OTHER

SPECIAL INSTRUCTIONS:

18616

ORDER COMPLETED & BILLED

INVOICE NO.

Received By J Robinson 2/17/77

CUSTOMER Miles Lab (Sweet Acetone) STILL NUMBER DATE 2/22/77

Return or Stock	Gals.	Distillation Number	2 1089
No. of Drums		Customer Number	
Blend Tank		Water Spec.	
Special Instructions:		Net Return - gals.	1450 gals (84%)
From Still # 2-1088	221	Rerun Residue - gals.	
From #2 B.T. (Has been treated	1500	Was residue burned	
for sweet after initial run)		Was residue drummed	
		Rerun to be drummed	1505 gal
Total Charge	1721	Rerun for bulk tank	
Shortage In Drums		Total gallons for stock	
Solid In Drums		To #2 B.T	
Total Void			
Net Charge			

TIME	GALLONS TO RECEIVERS	GALLONS LEFT IN STILL	KIND OF DISTILATE	STEAM PRESSURE	STILL TEMP.	WET/DRY	VAC.	REMARKS
5:20	0-202	1721	Sweet Acetone	90#	50°C	—	No	Start up
5:30	"	"	"	"	56°C	"	"	Coming over
Still had previously been warmed up								
	Take off to B.T. - 100% flow							
9:00	Shutdown							1505
								970
								2475 put
								in T.S. Tank
		2655		—	69. % Yield			
		(30+25+15)x55						
								2475
								180
								2655
								15971
								15971

CUSTOMER Miles Lab. (Sweet Acetone) STILL NUMBER DATE 2/22/77

Return or Stock	Gals.	Distillation Number	2 1038
No. of Drums		Customer Number	
Blend Tank		Water Spec.	
Special Instructions:		Net Return - gals.	1102 gals.
From #1 B.T. (Has been treated	1323	Rerun Residue - gals.	
for Sweet after initial run)		Was residue burned	
		Was residue drummed	
		Rerun to be drummed	
Total Charge		Rerun for bulk tank	
Shortage In Drums		Total gallons for stock	
Solid In Drums		To #1 B.T.	
Total Void			
Net Charge	1323		

TIME	GALLONS TO RECEIVERS	GALLONS LEFT IN STILL	KIND OF DISTILATE	STEAM PRESSURE	STILL TEMP.	WET / DRY	VAC.	REMARKS
5:10	C-202	1323	Sweet Acetone	40#	0°C	—	No	Start up
5:45	"	"	"	"	57°C	"	"	Comm. Over
	Take-off to B.T. - 100% flow							
6:50	Shutdown - No water *							
7:45	Start up							
10:45	Shutdown -							

15972

29200006

Thomas SOLVENT COMPANY

SOLVENTS-CHEMICALS
SOLVENT REPROCESSING
LIQUID WASTE DISPOSAL

MUSKEGON, MICH. 49443
P.O. BOX 51, (616) 777-2619

BATTLE CREEK, MICH. 49016
P.O. BOX 44, (616) 963-5565

FORT WAYNE, IND. 46805
5605 PLANEVIEW DRIVE, (219) 483-7322

MOVE TICKET

LIQUID INDUSTRIAL WASTE DISPOSAL

№ 856

CUSTOMER Miles Lab.

Date 11/20/70

ADDRESS Zeeland, Michigan

☐ BULK ☒ DRUMS

Quantity	DESCRIPTION
68	Thirty Material

Time In _____ Time Out _____

Shipped By Miles Chem Sid Schoop

MILEAGE RECORD

From	To	Miles

License No. 114-5 #111

THOMAS SOLVENT COMPANY

By Ole Olsen

DESTINATION

☒ THERMO CHEM INC. MUSKEGON, MICH. ☐ OTHER _____

Method of Disposal ☒ BURNER ☒ RECLAIM _____

Disposation of Reprocessed Mat. ☐ RETURN TO CUSTOMER ☐ STOCK _____ ☐ OTHER _____

SPECIAL INSTRUCTIONS:

ORDER COMPLETED & BILLED _____

Received By Miles J. Robinson

[illegible]

KAYWOOD DIVISION*	55	0.0005		
KEELER BRASS COMPANY	9,335	0.0886	$141,892.00	$143,665.65
KEENE CORP./KAYDON BEARING DIVISION	3,390	0.0322	$51,528.00	$52,172.10
KEENE METAL PRODUCTS	165	0.0016	$2,508.00	$2,539.35
KELLOGG COMPANY	5,565	0.0528		
KELVINATOR INC. WHITE CONSOLIDATED INDUSTRIE	113,055	1.0729		
KENNEDY MANUFACTURING CORPORATION	29,961	0.2843	$455,407.20	$461,099.79
KENNAMER SCIENTIFIC EQUIPMENT CO.	3,300	0.0313		
KEYES DAVIS COMPANY	275	0.0026		
KEYSOR WARREN-SHERER	28,147	0.2671	$427,834.40	$433,182.33
KIRSCH CO. (COOPER INDUSTRIES, INC.)	1,980	0.0188	$30,096.00	$30,472.20
KLEER-FLO COMPANY*	55	0.0005	$836.00	$846.45
KOAPE INDUSTRIES, INC.	1,155	0.0110		
KIX MANUFACTURING CO.*	55	0.0005		
KYSOR INDUSTRIAL CORP. (DEXTER LOCK)	15,370	0.1459	$233,624.00	$236,544.30
K.V. MOLDED PRODUCTS	550	0.0052	$8,360.00	$8,464.50
LABEL TAPE MEDIATECT, INC.	3,163	0.0300	$48,077.60	$48,678.57
LABEL TECHNIQUE, INC.	7,087	0.0673	$107,722.40	$109,068.93
LACKS ENTERPRISES, INC. (REM DIE CASTING)	134,640	1.2778		
LAMINA, INC., DIV OF DIES & TOOLS	880	0.0084		
LAMPLIGHTER INDUSTRIES	330	0.0031	$5,016.00	$5,078.70
LANDSCAPE FORMS, INC.	6,956	0.0660	$105,731.20	$107,052.84
LASCO INDUSTRIES (PHILLIPS IND) (PINECO DIV)	118,139	1.1212		
LAUNDRY BASKET	55	0.0005	$836.00	$846.45
LEAR SIEGLER INC. (ORANGE GROVE, MJ)	16,445	0.1561	$249,964.00	$253,088.55
LEIGH DIVISION HARROW PRODUCTS, INC.	220	0.0021		
LIQUID GLAZE CO.	55	0.0005	$836.00	$846.45
LORIN INDUSTRIES	4,180	0.0397		
LORIN SPECIALTY PRODUCTS (C/O LORIN IND.)	1,540	0.0146	$23,408.00	$23,700.60
LODINGTON PLATING	55	0.0005	$836.00	$846.45
L.N. MECH	1,633	0.0155	$24,821.60	$25,131.87
M & C PRODUCTS INC.	605	0.0057	$9,196.00	$9,310.95
MALLOY LITHO*	55	0.0005	$836.00	$846.45
MARMON INDUSTRIES, INC.	5,865	0.0557	$89,148.00	$90,262.35
MARSHALL BRASS COMPANY, DIV OF S.H.LEGGIT CO	1,320	0.0125		
MATSON OLDSMOBILE	495	0.0047	$7,524.00	$7,618.05
MCGRAW EDISON CO.	3,740	0.0355	$56,848.00	$57,558.60
MCNAUGHTON & GUNN INC.*	55	0.0005		
MEAD-JOHNSON & CO (BRISTOL-MEYERS SQUIBB)	114,345	1.0852		
MEDALLION INSTRUMENTS (KYSOR-MEDALLION)	275	0.0026	$4,180.00	$4,232.25
MICHIGAN PAINT CO.*	55	0.0005	$836.00	$846.45
MICHIGAN PAPERBOARD CORP.	8,030	0.0762	$122,056.00	$123,581.70
MICHIGAN SPRING COMPANY	1,265	0.0120		
MIDDLEVILLE MANUFACTURING CO (SIMPSON, INC)	55	0.0005	$836.00	$846.45
MIDWEST COMPONENTS, INC.	880	0.0084		
MILES LABORATORIES, INC. (RHINECHEM)	143,736	1.3641		
MILLS MANUFACTURING*	55	0.0005	$836.00	$846.45
MITCHELL CORP OF OSWASSO	110	0.0010		
MODEL T-MODEL A (SHAY MOTORS CO.)	1,320	0.0125	$20,064.00	$20,314.80
MODERN PARTITIONS*	55	0.0005	$836.00	$846.45
MODERN PLASTICS	528	0.0050		
MODERN PRODUCTS (HAMORTH, INC.)	31,820	0.3028	$483,664.00	$489,709.80
MONSANTO CHEMICAL CO.	110	0.0010		
MORSE/HEMCO CORP.	2,255	0.0214		
MOTOR WHEEL CORPORATION	52,847	0.5015	$803,274.40	$813,315.33
MR. CAIBOSKI	110	0.0010	$1,672.00	$1,692.90
MUSKEGON CHEMICAL COMPANY	22,175	0.2104	$337,060.00	$341,273.25
MUSKEGON CHRONICLE	120	0.0011		
MUSKEGON PAINT & VARNISH*	55	0.0005	$836.00	$846.45
MUSKEGON PISTON RING CO.	2,490	0.0236		
NATIONAL SEAL CORP. (DIV. OF FEDERAL MOGUL)	120,479	1.1434		
NELSON CHEMICAL CO. (C/O CHARLOTTE NELSON)	14,330	0.1360	$217,816.00	$220,538.70
NEO CASTINGS (C/O RUDOLPH PALOSALI)	165	0.0016	$2,508.00	$2,539.35
NEW HOUSE PRINTING SUPPLY*	55	0.0005	$836.00	$846.45
NL INDUSTRIES, INC.	1,440	0.0137		
NORMIC INDUSTRIES, INC.	250	0.0024		
OBRIEN PAINT CORPORATION	17,490	0.1660	$265,848.00	$269,171.10
OMEGA RUBBER PRODUCTS	110	0.0010	$1,672.00	$1,692.90
OTT CHEMICAL	44,825	0.4254	$681,340.00	$689,856.75
OWENS-ILLINOIS	1,100	0.0104		

110978

KIRKLAND & ELLIS

A PARTNERSHIP INCLUDING PROFESSIONAL CORPORATIONS

200 East Randolph Drive
Chicago, Illinois 60601

To Call Writer Direct:
312 861-2426

312 861-2000

Facsimile:
312 861-2200

April 30, 1992

VIA MESSENGER

Ms. Maria Gonzales
Environmental Protection
Agency, Region V (5CS-3T)
77 West Jackson Boulevard
Chicago, IL 60604

Re: Thermo Chem Superfund Site

Dear Ms. Gonzales:

After reviewing the EPA's Waste Transaction Report dated January 13, 1992, for Miles Laboratories, as well as the documents in the possession of the Thermo Chem PRP Group, I am writing to request that the EPA's report be revised to reflect the correction of duplicate entries as follows:

Record No.	Comments
2874, 2875	There is no date on EPA's database for either record. It appears that these two records exactly match Record Nos. 3619 and 5550 (Invoice number M2969). The document used to support Record Nos. 2874 and 2875 is a bad copy (date is cut off) of Move Ticket 2969. See attached copies.
3292	This is a duplication of the material at Record No. 3604. The document used to back up transaction 3604 refers to Move Ticket 2708, the document for transaction 3292. See attached copies. The invoice states the specific number of drums sent to the site, which were merely estimated on the Move Ticket.
3602	This transaction does not match any entry in the PRP database, nor is there any invoice with the date of 01/07/71. It appears that this transaction duplicates volume entered elsewhere. Please supply the referenced document.

Record No.	Comments
2884 thru 2889	All six of these records are substantiated by one document, Invoice No. 349, which itemizes charges from six Move Tickets. The volumes for those Move Tickets have already been counted at Record Nos. 2876 through 2883. See attached copy.
3607	This invoice (#2150) includes material from both Miles and Abbott Labs. 2400 gallons were from Miles and 3600 were from Abbott. See attached copy.
3610	The material here is the amount from record no. 3632 which was disposed of after reclaiming. It has already been counted. See the attached copies.

Deduction of the volume represented by these entries reduces the Miles total by 30,385 to a new total of 138,181.

Please supply the requested documents and notify me in writing of any corrections that are made to the EPA's Transaction Report. If you have any questions, please call me at the number given above.

Thank you for your cooperation in this matter.

Sincerely,

Susan Gadzala

Susan P. Gadzala
Senior Legal Assistant

SPG:ns
Encs.

cc: James H. Schink, P.C.

110344

P 366 222 257

RECEIPT FOR CERTIFIED MAIL

NO INSURANCE COVERAGE PROVIDED
NOT FOR INTERNATIONAL MAIL
(See Reverse)

MILES LABORATORIES
RICHARD W. WINCHELL
1127 MYRTLE STREET
ELKHART, IN 46514

Postage	$ 85
Certified Fee	85
Special Delivery Fee	
Restricted Delivery Fee	
Return Receipt showing to whom and Date Delivered	90
Return Receipt showing to whom, Date, and Address of Delivery	
TOTAL Postage and Fees	$ 2.60
Postmark or Date	

CHICAGO, IL LOOP
OCT 1 1985

5HS-12 C. G. RASZER
PS Form 3800, June 1985

Page 1 of 2

~~103488 DOCIR~~

110 344

Page 2 of 2

SENDER: Complete items 1 and 2 when additional services are desired, and complete items 3 and 4.

Put your address in the "RETURN TO" Space on the reverse side. Failure to do this will prevent this card from being returned to you. The return receipt fee will provide you the name of the person delivered to and the date of delivery. For additional fees the following services are available. Consult postmaster for fees and check box(es) for additional service(s) requested.

1. ☐ Show to whom delivered, date, and addressee's address. *(Extra charge)*
2. ☐ Restricted Delivery *(Extra charge)*

3. Article Addressed to: MILES LABORATORIES RICHARD W. WINCHELL 1127 MYRTLE STREET ELKHART, IN 46514	4. Article Number P 366 622 257 Type of Service: ☐ Registered ☐ Insured ☒ Certified ☐ COD ☐ Express Mail ☐ Return Receipt for Merchandise Always obtain signature of addressee or agent and DATE DELIVERED.
5. Signature — Addressee X	8. Addressee's Address *(ONLY if requested and fee paid)*
6. Signature — Agent X [signature]	
7. Date of Delivery 10-15-90	

PS Form 3811, Apr. 1989 [illegible] DOMESTIC RETURN RECEIPT

TABLE 5
INORGANIC RESULTS FROM SAMPLING OF WELLS NEAR THE HIMCO LANDFILL (in µg/L)

Parameter	MCL's	B1	B3	E3	G1	G3	J1	J3	27919 Westwood	27948 Westwood	27964 Westwood	54125 Westwood	54215 Westwood	54231 Westwood	54253 Westwood	54271 Westwood	54280 Westwood	54287[1] Westwood	54305 Westwood
Aluminum	50	26 U	26 U	**133**	NA	NA	NA	NA	26 U	26 U	26 U	26 U	26 U	26 U	26 U	26 U	26 U	26 U / 26 U	26 U
Antimony	6	2 U	2 U	2 U	NA	NA	NA	NA	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
Arsenic	50	2 U	5 M	5 M	NA	NA	NA	NA	2 U	7	6 D M	2 M	4 U D	2 U	5 M	2 U	2 U	7 / 8 D M	4 U D
Barium	2000	118	61.8	38.8	NA	NA	NA	NA	28.1	102	113	108	32.8	43.5	128	50.4	72.8	63.8 / 64.5	60.4
Beryllium	4	1.6 U J	1.6 U J	1.6 U J	NA	NA	NA	NA	1.6 U J	1.6 U J	1.6 U J	1.6 U J	1.6 U J	1.6 U J	1.6 U J	1.6 U J	1.6 U J	1.6 U J / 1.6 U J	1.6 U J
Cadmium	5	0.1 U	0.1 U	0.1 U	NA	NA	NA	NA	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
Calcium	-	57200 J	87600 J	73400 J	NA	NA	NA	NA	103000 J	122000 J	113000 J	100000 J	91800 J	115000 J	91500 J	101000 J	105000 J	93300 J / 92300 J	177000 J
Chromium	100	3.4 U J	3.4 U J	5.1 M J	NA	NA	NA	NA	3.4 U J	3.5 M J	3.4 U J	3.6 M J	3.4 U J	3.4 U J	3.4 U J	3.4 U J	3.4 U J	3.4 U J / 3.4 U J	3.4 U J
Cobalt	-	10.1 U	10.1 U	10.1 U	NA	NA	NA	NA	10.1 U	10.1 U	10.1 U	10.1 U	10.1 U	14 M J	10.1 U	10.1 U	10.1 U	10.5 M J /10.1 U	10.1 U
Copper	1300	4 U	4 U	4 U	NA	NA	NA	NA	9 M	4.1 M	11.9 M	5.8 M	14.2 M	6.1 M	7.3 M	7.3 M	26.1 M	7.3 M / 4 U	4 U
Iron	300 [2]	**509**	**418**	**2500**	NA	NA	NA	NA	51.1 M B J	**6120**	**5860**	**885**	22.4 U	25.3 M B J	**1670**	104 B J	22.4 U	**5050 / 5030**	**2170**
Lead	15	3 M	2 U	2 U	NA	NA	NA	NA	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
Magnesium	-	22000	27200	29200	NA	NA	NA	NA	19000 J	16000 J	16100 J	21500	19800 J	20800	26500	21700	20200	21500 / 22000	18200 J
Manganese	50 [2]	40.4	**299**	39	NA	NA	NA	NA	**146**	**72.3**	**73**	**284**	3.2 U	3.2 U	**213**	**359**	**355**	**63.1 / 59.6**	**1560**
Mercury	2	0.2 U	0.2 U	0.2 U	NA	NA	NA	NA	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U / 0.2 U	0.2 U
Nickel	100	19.4 U	19.4 U	19.4 U	NA	NA	NA	NA	19.4 U	19.4 U	19.4 U	19.4 U	21.4 M	19.4 U	19.4 U	19.4 U	19.4 U	19.4 U / 19.4 U	19.4 U
Potassium	-	2080	1240	1700	NA	NA	NA	NA	3660	2870	2610	1790	4650	4300	1330	1790	2580	1150 /1160	5270
Selenium	50	2 U	2 U	2 U	NA	NA	NA	NA	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
Silver	100 [2]	6.8 U	6.8 U	6.8 U	NA	NA	NA	NA	6.8 U	6.8 U	6.8 U	6.8 U	6.8 U	6.8 U	6.8 U	6.8 U	6.8 U	6.8 U / 6.8 U	6.8 U
Sodium	-	50700	19700	11900	NA	NA	NA	NA	56700	33200	13500	17600	126000	82500	14500	22600	65400	14900 / 14700	44400
Thallium	2	1 U	1 U	1 U	NA	NA	NA	NA	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Vanadium	-	3.9 U	3.9 U	3.9 U	NA	NA	NA	NA	3.9 U	3.9 U	3.9 U	3.9 U	3.9 U	3.9 U	3.9 U	3.9 U	3.9 U	3.9 U / 3.9 U	3.9 U
Zinc	5000 [2]	22.2 M J	10.3 U	10.3 U	NA	NA	NA	NA	20.5 M J	30.1 M J	19 M J	10.3 U	96.5 J	160 J	44.3 M J	17.4 M J	31.5 M J	18.9 M J / 14.2 M J	17.4 M J

[1] duplicate sample taken here
U = Below Contract Required Detection Limit
M = Above Method Detection Limit but below the CRL reporting limit
D = sample has been diluted
- = No applicable MCL or SMCL

NA = Not Analyzed - no sample taken for these parameters
J = Estimated value that is less than the sample quantitation limit, but greater than zero
B = Analyte detected in blank as well as in the sample
[2] Secondary Drinking Water Standards (or SMCL)
BOLD = detection above MCL or SMCL

TABLE 4
ORGANIC RESULTS FROM SAMPLING OF WELLS NEAR THE HIMCO LANDFILL (in µg/L)

Parameter	MCL	B1	B3	E3	G1	G3	J1	J3	27919 Westwood	27948 Westwood	27964 Westwood	54125 Westwood	54215 Westwood	54231 Westwood	54253 Westwood	54271 Westwood	54280 Westwood	54287[1] Westwood	54305 Westwood	TB 1	TB 2
VOC's																					
Vinyl Chloride	2	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	**0.7 J**	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U / 1 U	**0.9 J**	1 U	1 U
1,1-Dichloroethane	-	1 U	1 U	1 U	1 U	1 U	**0.7 J**	1 U	**0.5 J**	**2**	**2**	1 U	1 U	1 U	1 U	**0.6 J**	1 U	**7 / 7**	**3**	1 U	1 U
cis-1,2-Dichloroethene	70	1 U	1 U	1 U	1 U	1 U	**0.7 J**	1 U	**0.6 J**	**1**	**0.8 J**	1 U	1 U	1 U	1 U	1 U	1 U	**0.5 J / 0.5 J**	**2**	1 U	1 U
Chloroform	80	1 U	1 U	1 U	1 U	1 U	1 U	1 U	**0.4 J**	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U / 1 U	1 U	1 U	1 U
1,2-Dichloroethane	5	1 U	**0.7 J**	**0.6 J**	1 U	1 U	1 U	**0.6 J**	1 U	1 U	1 U	1 U	1 U	1 U	**0.6 J**	1 U	1 U	**0.7 J / 1 U**	**0.6 J**	1 U	**0.5 J**
1,1,1-Trichloroethane	200	1 U	1 U	1 U	1 U	1 U	**1**	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U / 1 U	1 U	1 U	1 U
1,2-Dichloropropane	5	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U / 1 U	***10***	1 U	1 U
Trichloroethene	5	1 U	1 U	1 U	1 U	1 U	***6***	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U / 1 U	1 U	1 U	1 U
Benzene	5	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	**0.4 J / 0.4 J**	**0.4 J**	1 U	1 U
# of TIC's-VOA		0	0	0	0	0	0	0	0	**2**	**2**	0	0	0	0	0	0	0 / 0	**1**	0	0
SVOC's																					
Butylbenzylphthalate	-	**32 B**	26 BU	**20**	NA	NA	NA	NA	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U / 5 U	5 U	NA	NA
others		No	No	No	NA	NA	NA	NA	No	No	No	No	No	No	No	No	No	No / No	No	NA	NA

[1] duplicate sample taken here
NA = Not Analyzed - no sample taken for these parameters
U = Below Contract Required Detection Limit
J = Estimated value that is less than the sample quantitation limit, but greater than zero
B = Analyte detected in blank as well as in the sample
BOLD = are detections
- = No applicable MCL
bold and italize = detections and above MCL

Figure 1

Site Location Map

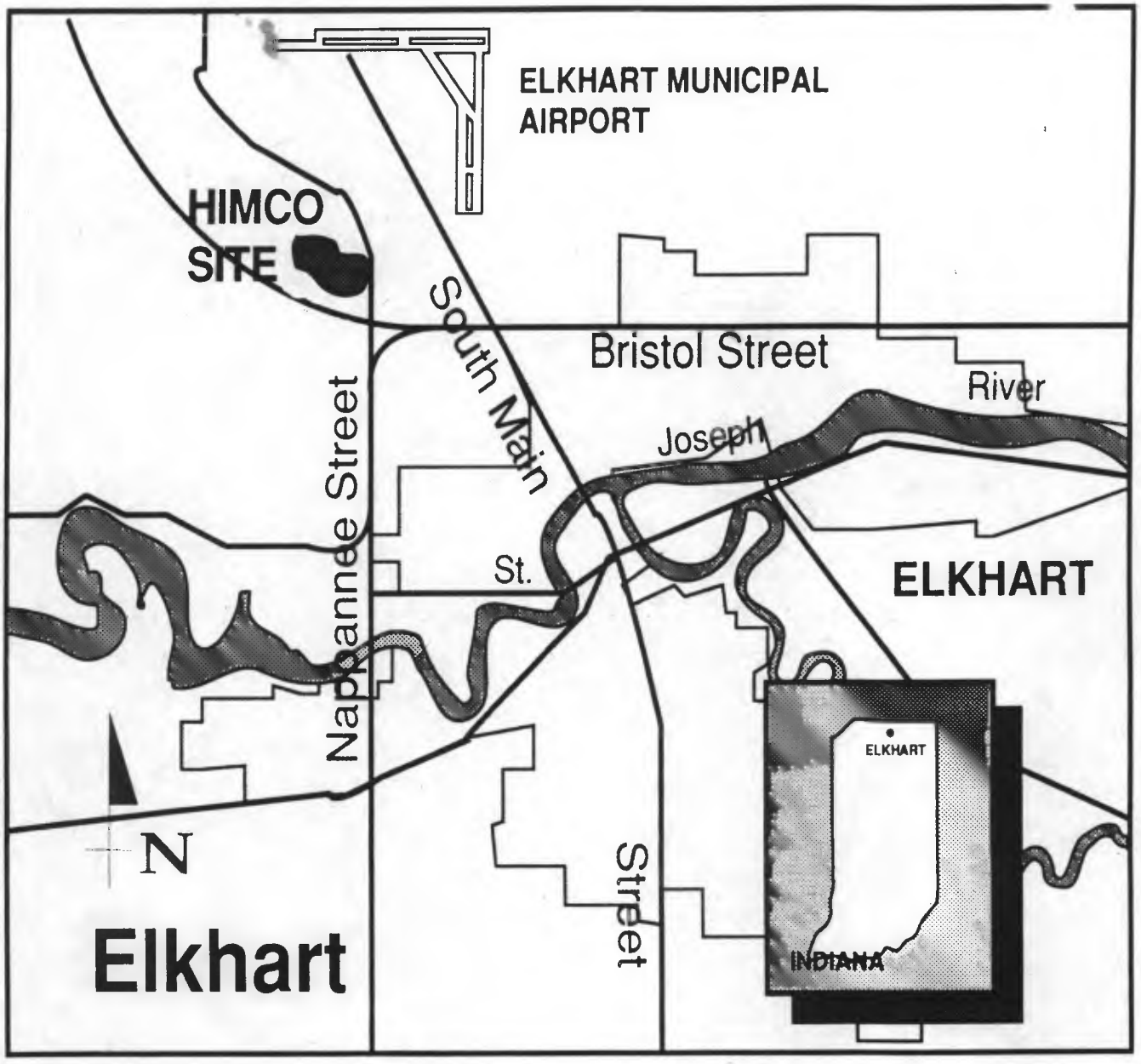


Figure 2

Site Layout Map

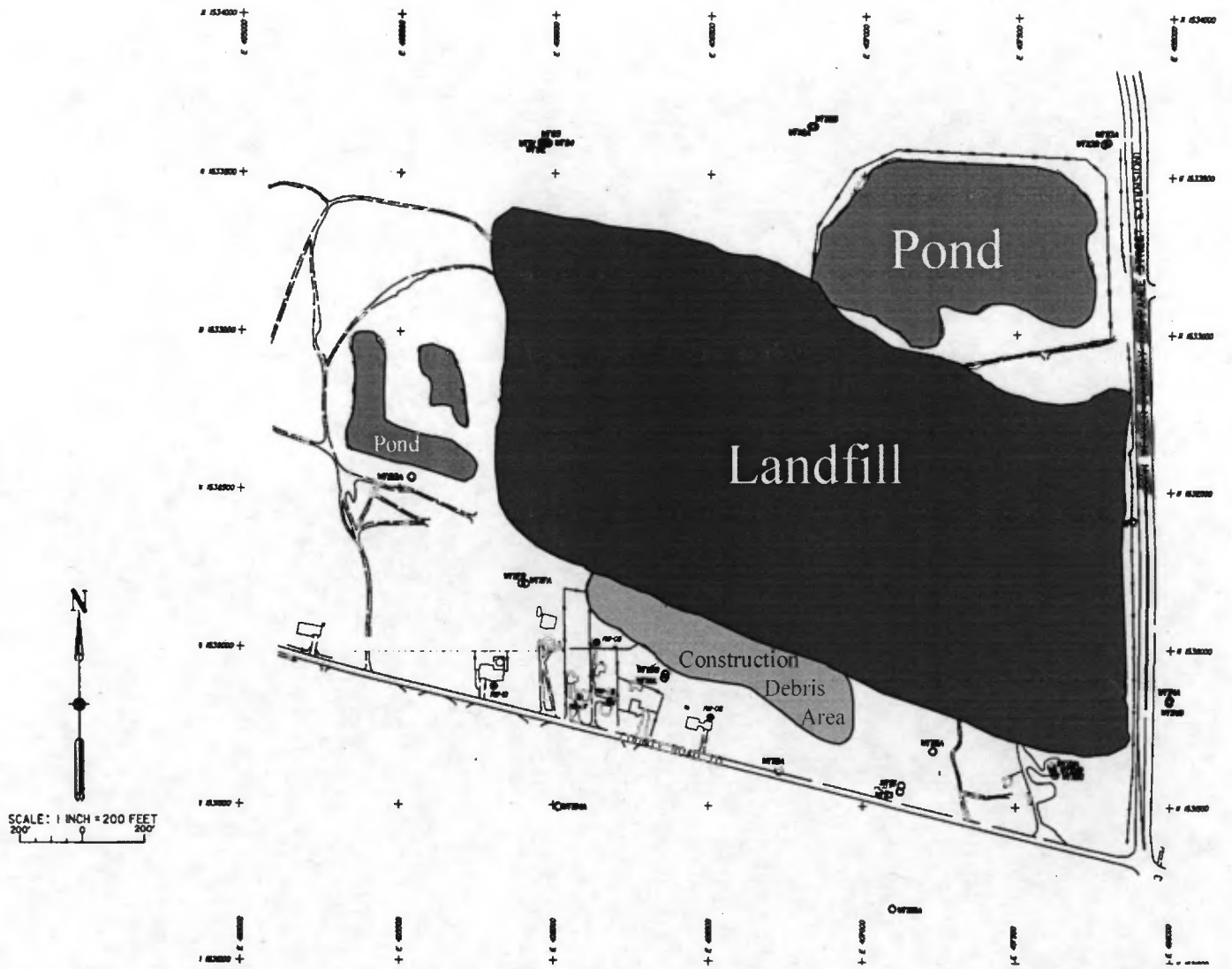


Figure 3
Trench Locations

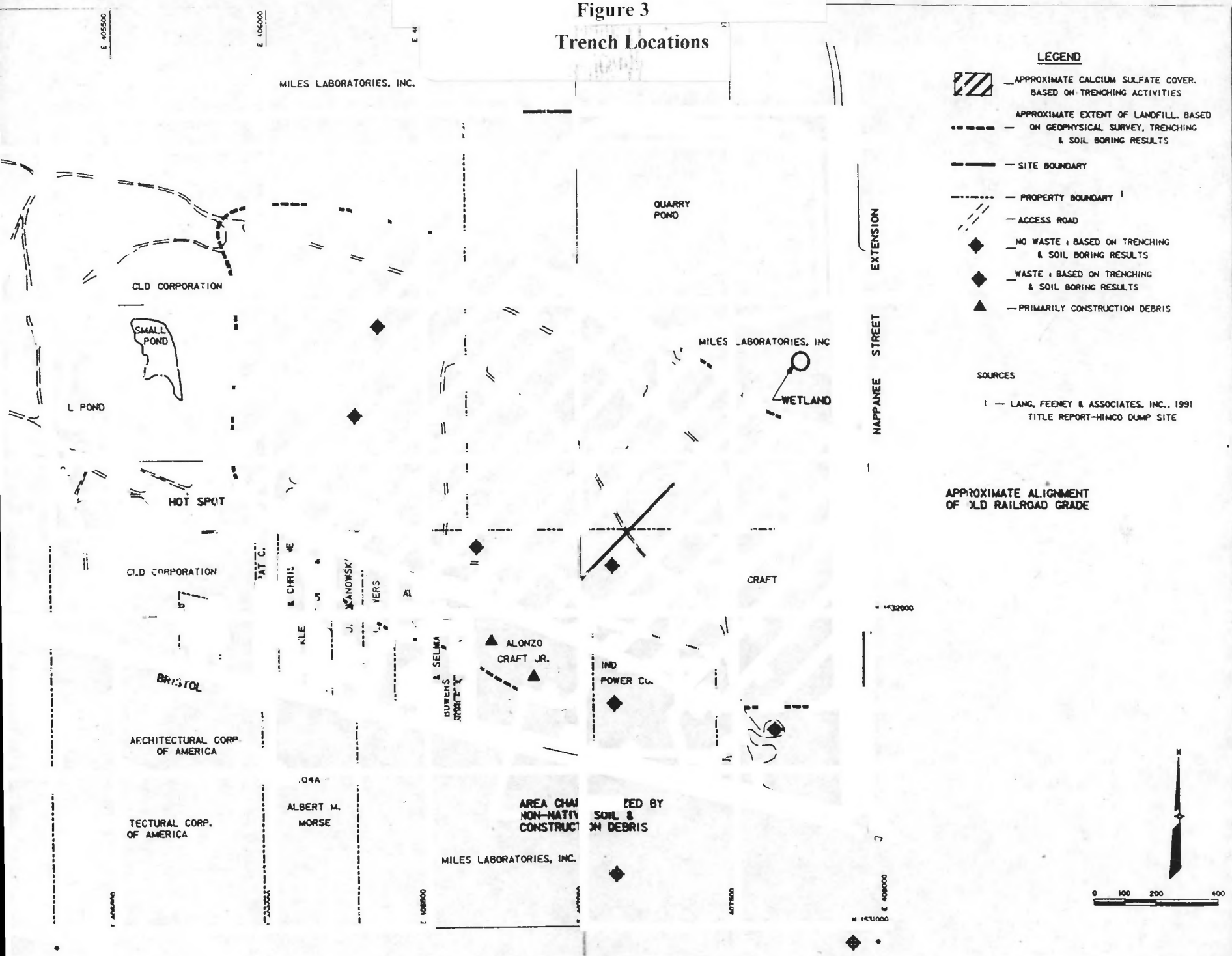
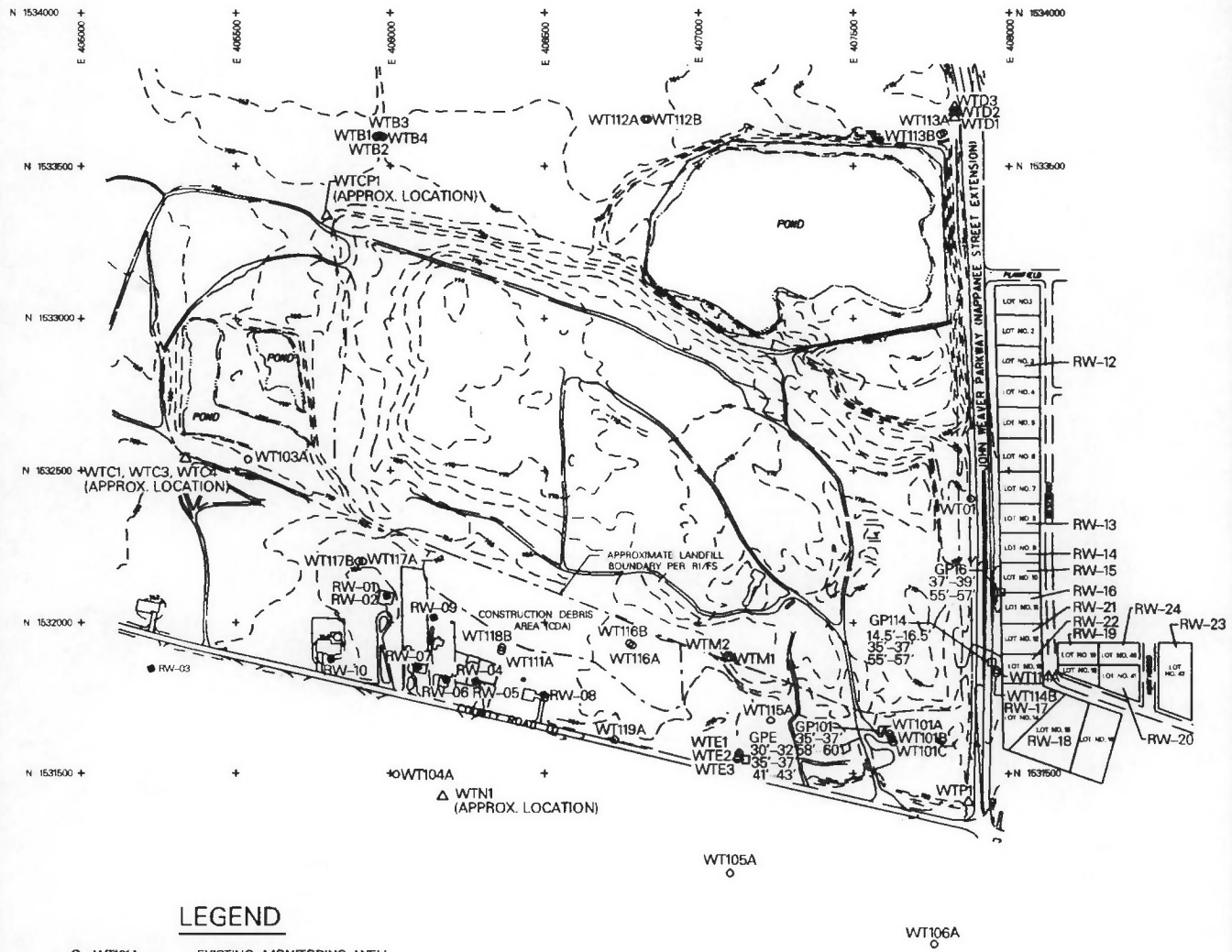


Figure 4
EPA Monitoring and Residential Wells Sampling Locations



LEGEND

○ WT101A	EXISTING MONITORING WELL
△ WTP1	ABANDONED MONITORING WELL
● RW-08	RESIDENTIAL WATER WELL
LOT NO. 3 RW-12	RESIDENTIAL LOT NUMBER AND RESIDENTIAL WATER WELL THAT WAS SAMPLED
GPE 30'-32' 35'-37' 41'-43'	DIRECT PUSH GROUND WATER SAMPLING LOCATION. SAMPLING DEPTHS ARE NOTED ADJACENT TO THE LOCATION SYMBOL.

NOTES:

1. THE WTG WELL CLUSTER IS LOCATED APPROXIMATELY 0.6 MILES EAST-NORTHEAST OF THE INTERSECTION OF COUNTY ROAD 10 AND JOHN WEAVER PARKWAY, AND CANNOT BE SHOWN ON THIS MAP.
2. THE WTJ WELL CLUSTER IS LOCATED APPROXIMATELY 0.55 MILES SOUTHEAST OF THE INTERSECTION OF COUNTY ROAD 10 AND JOHN WEAVER PARKWAY, AND CANNOT BE SHOWN ON THIS MAP.

FIGURE 4

COMPUTER AIDED DESIGN & DRAFTING

ELKHART, INDIANA
HIMCO DUMP SUPERFUND SITE
EPA MONITORING AND RESIDENTIAL WELL SAMPLING LOCATIONS
ehDfmw.dgn

Figure 4-1

USGS Monitoring Wells Sampling Locations

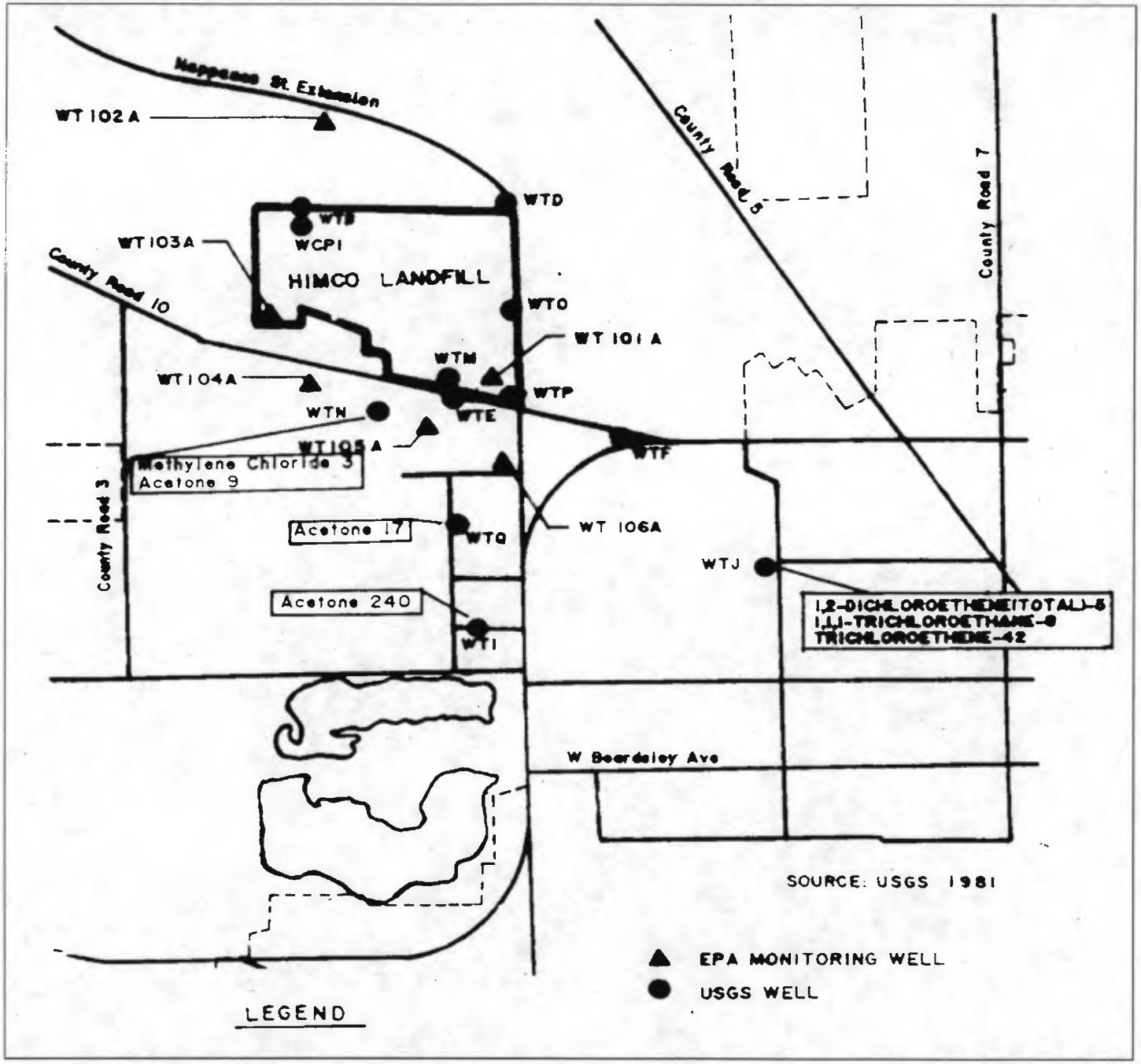


Figure 4-2

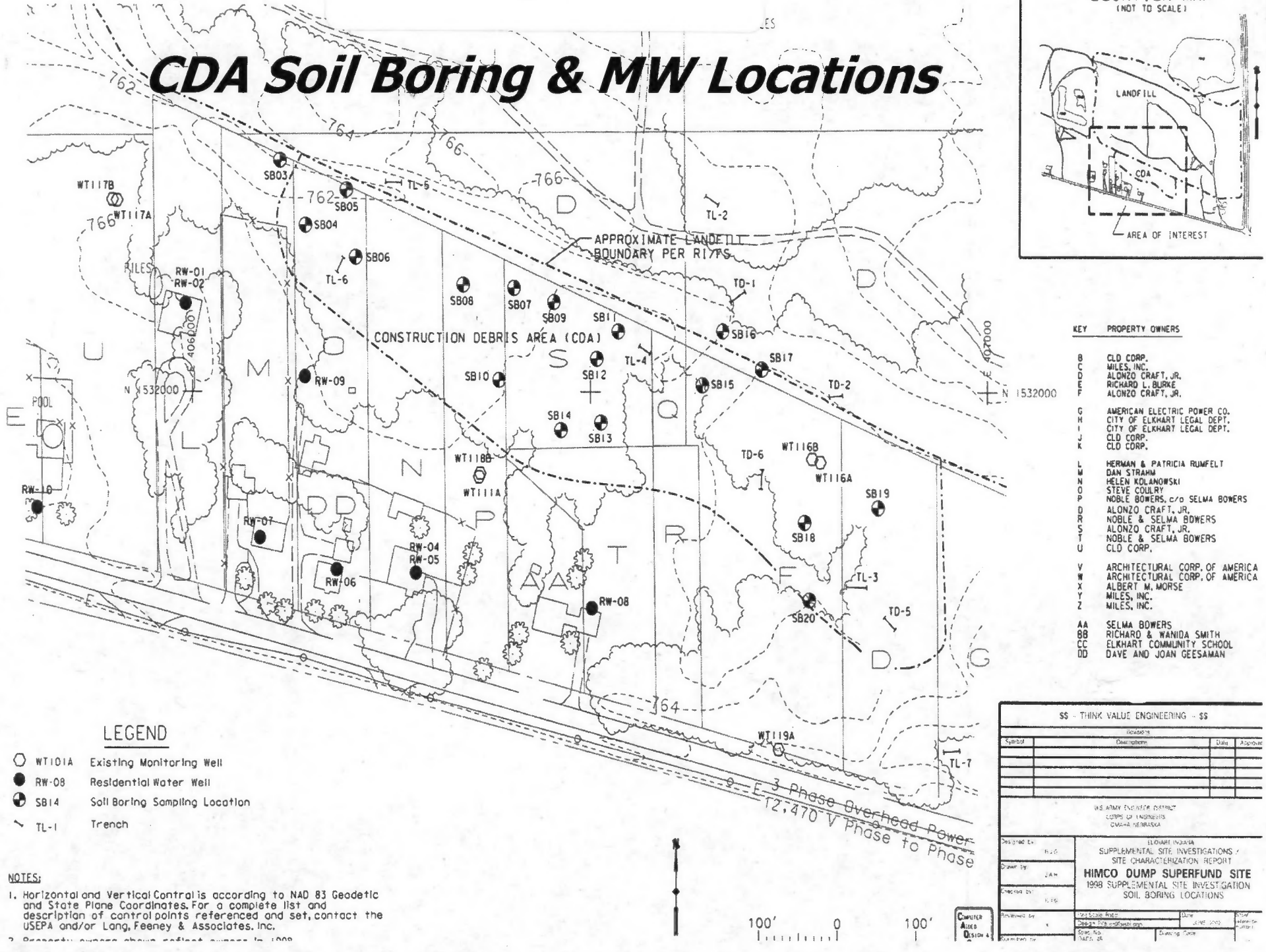
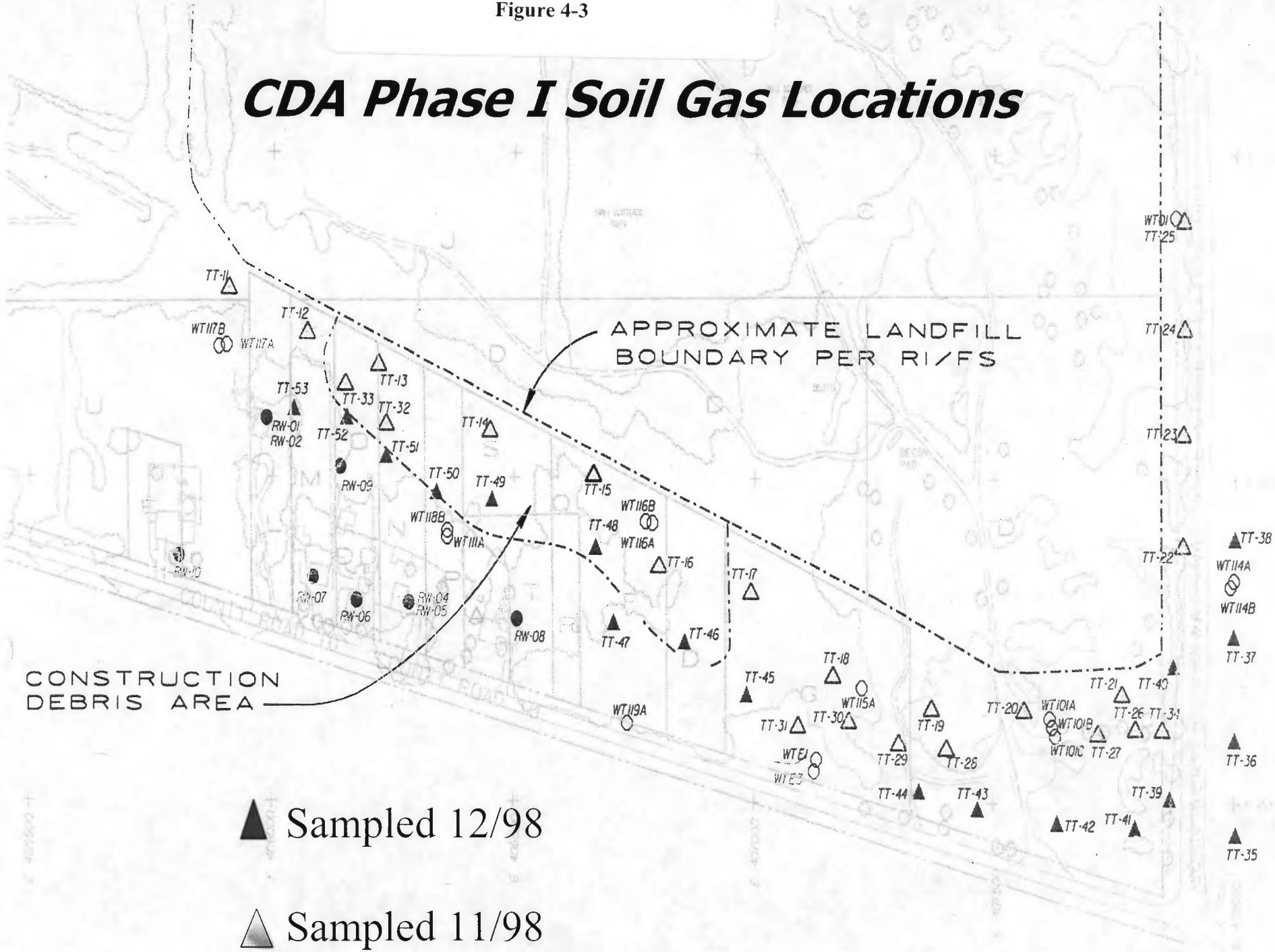

CDA Soil Boring & MW Locations
LOCATION MAP
(NOT TO SCALE)
LANDFILL
CDA
AREA OF INTEREST
APPROXIMATE LANDFILL BOUNDARY PER RI/FS
CONSTRUCTION DEBRIS AREA (CDA)
SB03
SB04
SB05
SB06
SB07
SB08
SB09
SB10
SB11
SB12
SB13
SB14
SB15
SB16
SB17
SB18
SB19
SB20
TL-1
TL-2
TL-3
TL-4
TL-5
TL-6
TL-7
TD-1
TD-2
TD-5
TD-6
RW-01
RW-02
RW-04
RW-05
RW-06
RW-07
RW-08
RW-09
RW-10
WT117A
WT117B
WT118A
WT118B
WT116A
WT116B
WT119A
POOL
N 532000
E 406000
E 407000
N 1532000
762
764
766
3 Phase Overhead Power
12,470 V Phase to Phase
KEY PROPERTY OWNERS
B CLD CORP.
C MILES, INC.
D ALONZO CRAFT, JR.
E RICHARD L. BURKE
F ALONZO CRAFT, JR.
G AMERICAN ELECTRIC POWER CO.
H CITY OF ELKHART LEGAL DEPT.
I CITY OF ELKHART LEGAL DEPT.
J CLD CORP.
K CLD CORP.
L HERMAN & PATRICIA RUMFELT
M DAN STRAHM
N HELEN KOLANOWSKI
O STEVE COULRY
P NOBLE BOWERS, c/o SELMA BOWERS
Q ALONZO CRAFT, JR.
R NOBLE & SELMA BOWERS
S ALONZO CRAFT, JR.
T NOBLE & SELMA BOWERS
U CLD CORP.
V ARCHITECTURAL CORP. OF AMERICA
W ARCHITECTURAL CORP. OF AMERICA
X ALBERT M. MORSE
Y MILES, INC.
Z MILES, INC.
AA SELMA BOWERS
BB RICHARD & WANIDA SMITH
CC ELKHART COMMUNITY SCHOOL
DD DAVE AND JOAN GEESAMAN
LEGEND
WT101A Existing Monitoring Well
RW-08 Residential Water Well
SB14 Soil Boring Sampling Location
TL-1 Trench
NOTES:
1. Horizontal and Vertical Control is according to NAD 83 Geodetic and State Plane Coordinates. For a complete list and description of control points referenced and set, contact the USEPA and/or Lang, Feeney & Associates, Inc.
100' 0 100'
$$ - THINK VALUE ENGINEERING - $$
US ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
OMAHA NEBRASKA
ELKHART INDIANA
SUPPLEMENTAL SITE INVESTIGATIONS /
SITE CHARACTERIZATION REPORT
HIMCO DUMP SUPERFUND SITE
1998 SUPPLEMENTAL SITE INVESTIGATION
SOIL BORING LOCATIONS

Figure 4-3

CDA Phase I Soil Gas Locations



▲ Sampled 12/98

△ Sampled 11/98

Figure 4-4

Phase I soil gas detected total chlorinated ethanes:

Chloroethane, 1,1-trichloroethane, and 1,1-dichloroethane

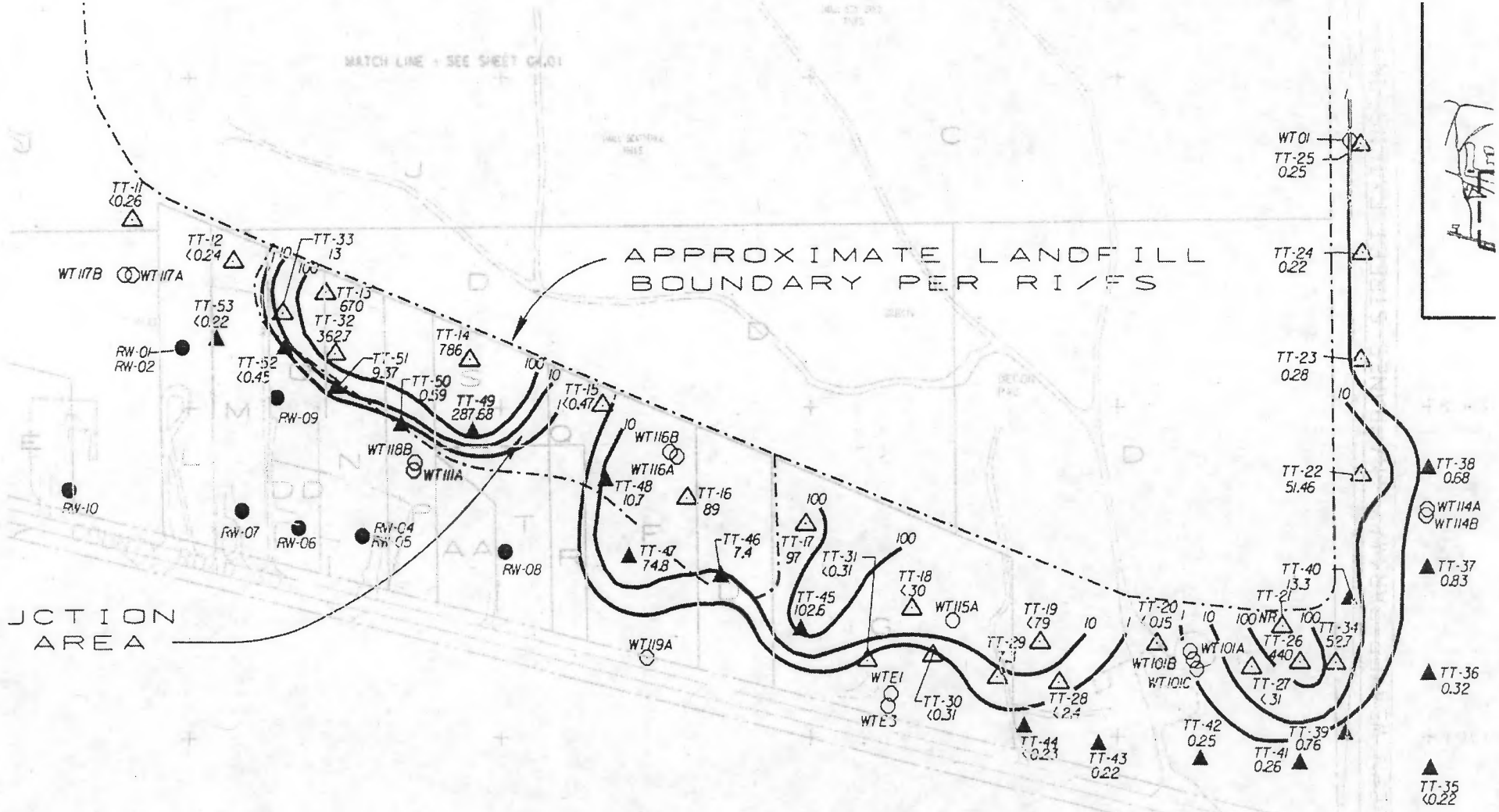


Figure 4-5

Phase I soil gas detected chlorinated ethenes:

tetrachloroethene, dichloroethene, and vinyl chloride

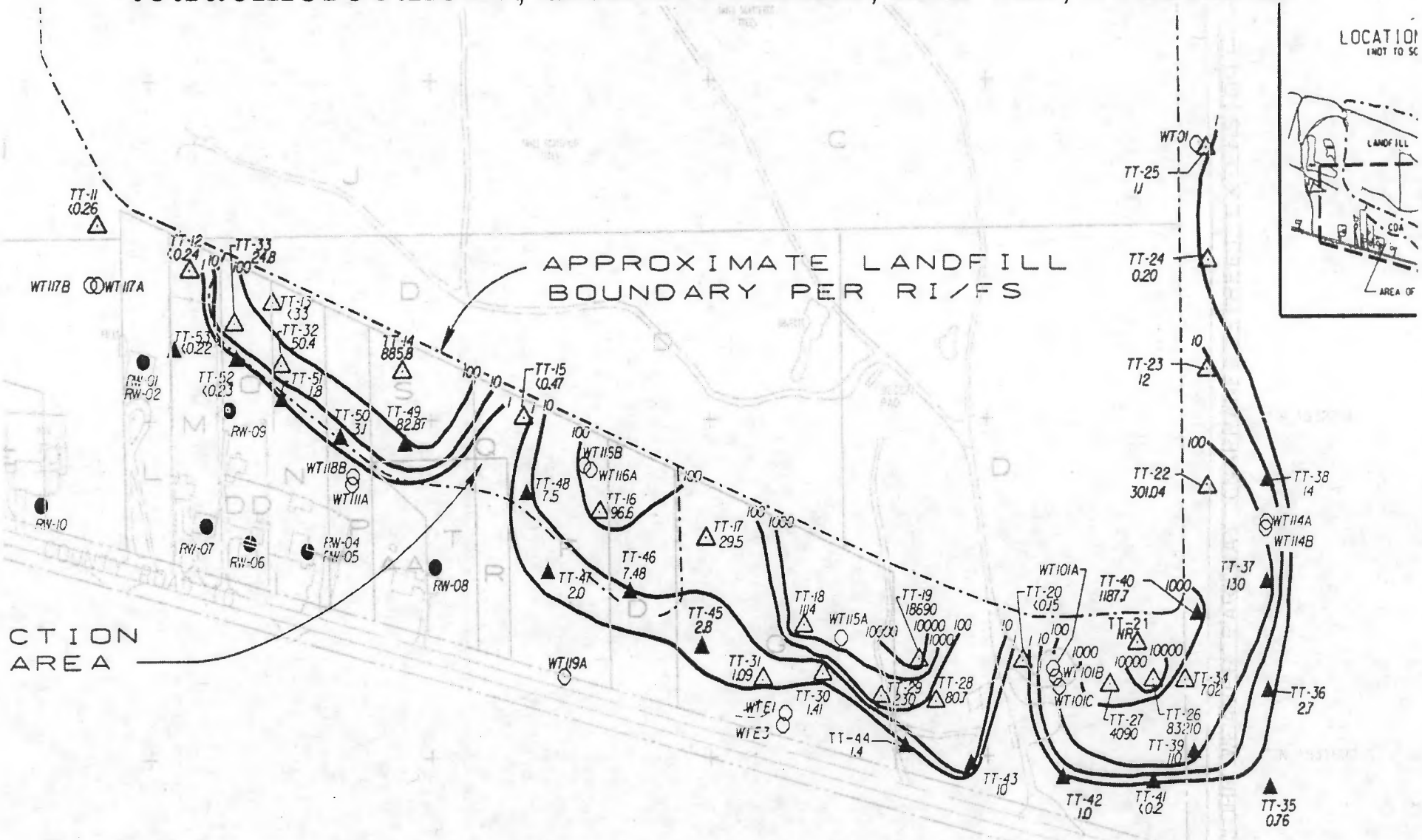


Figure 4-6

Phase I soil gas detected BTEX:

Benzene, toluene, ethylbenzene, and toluene

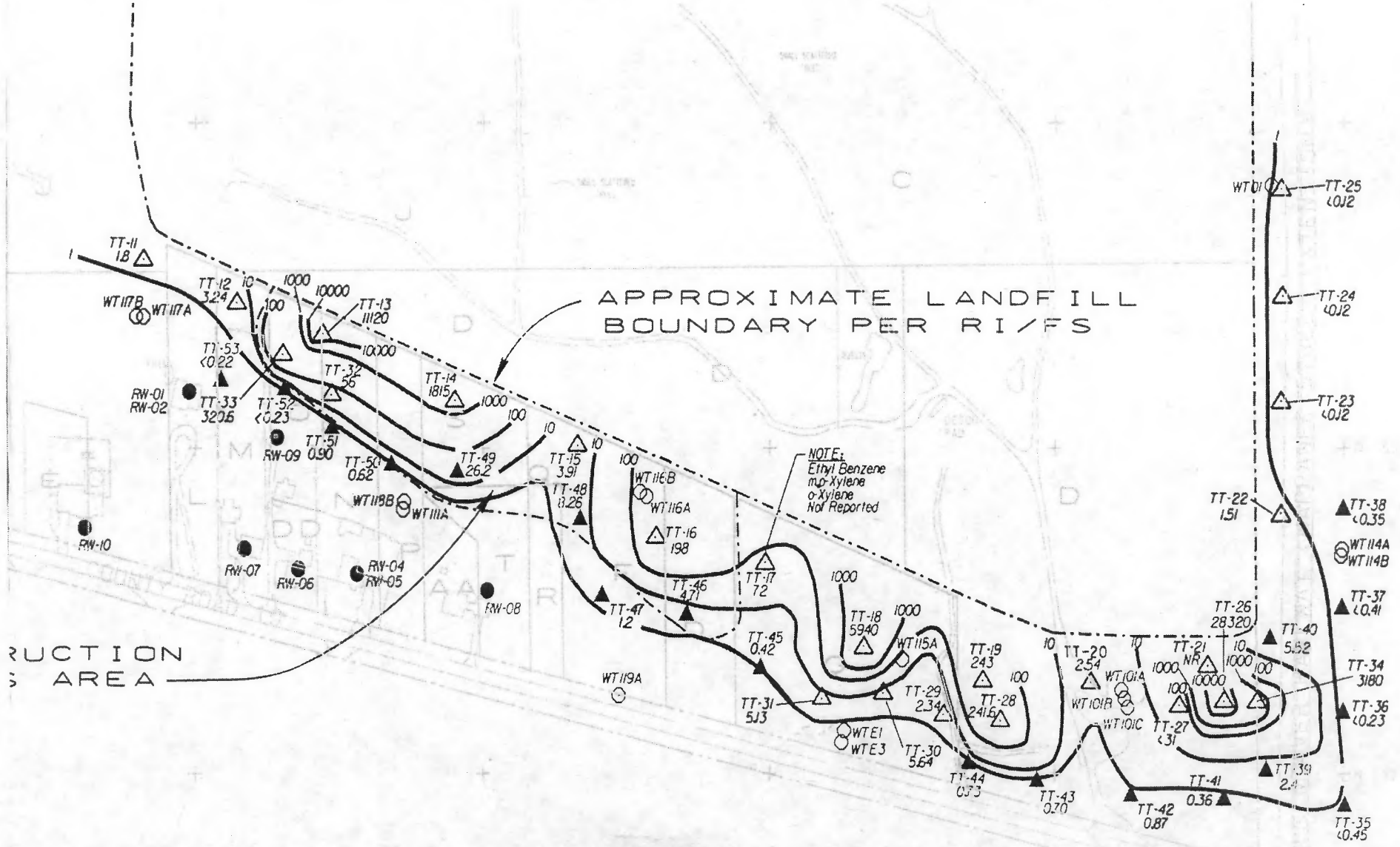
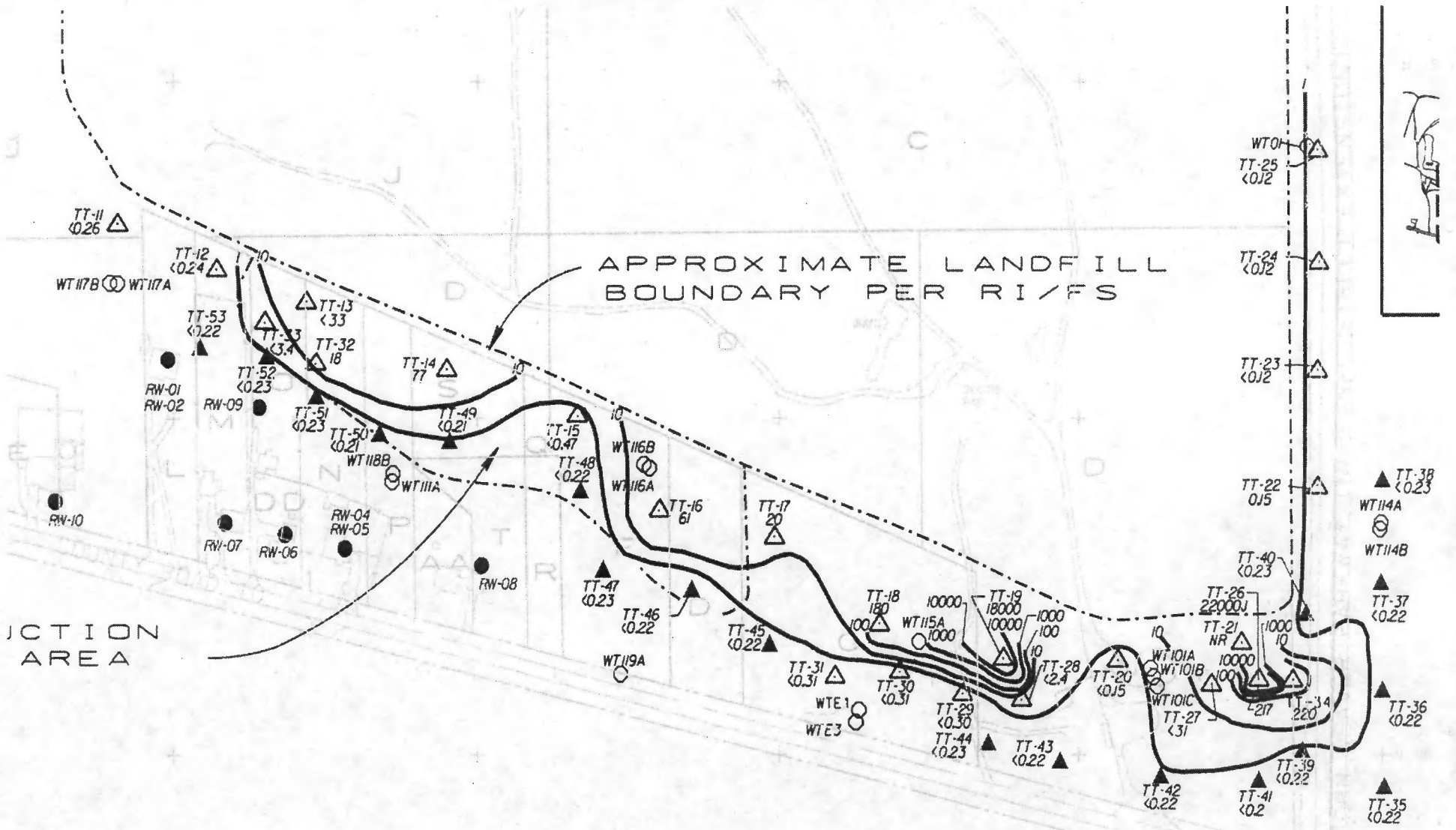


Figure 4-7

Phase I soil gas detected : Vinyl Chloride



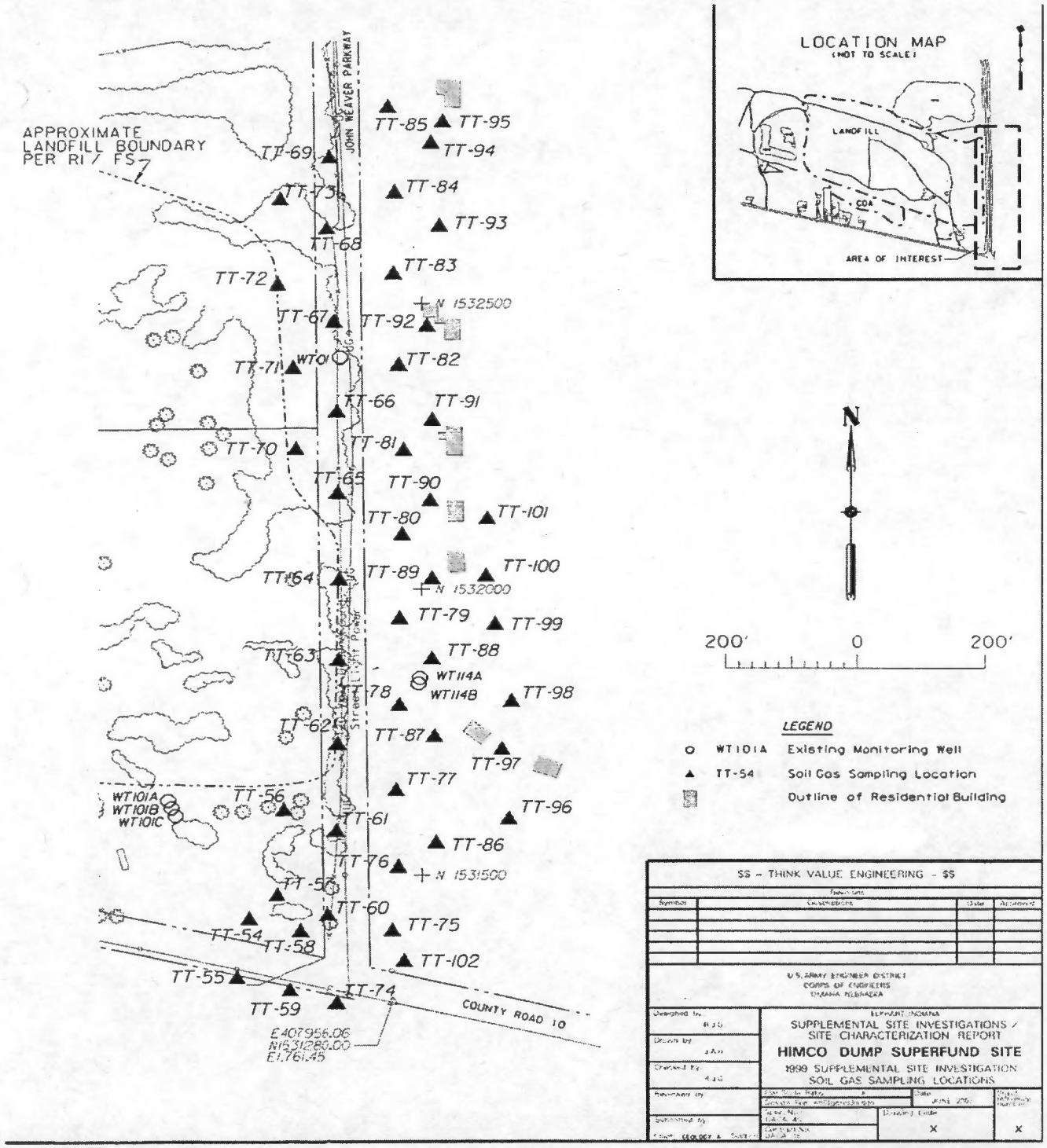
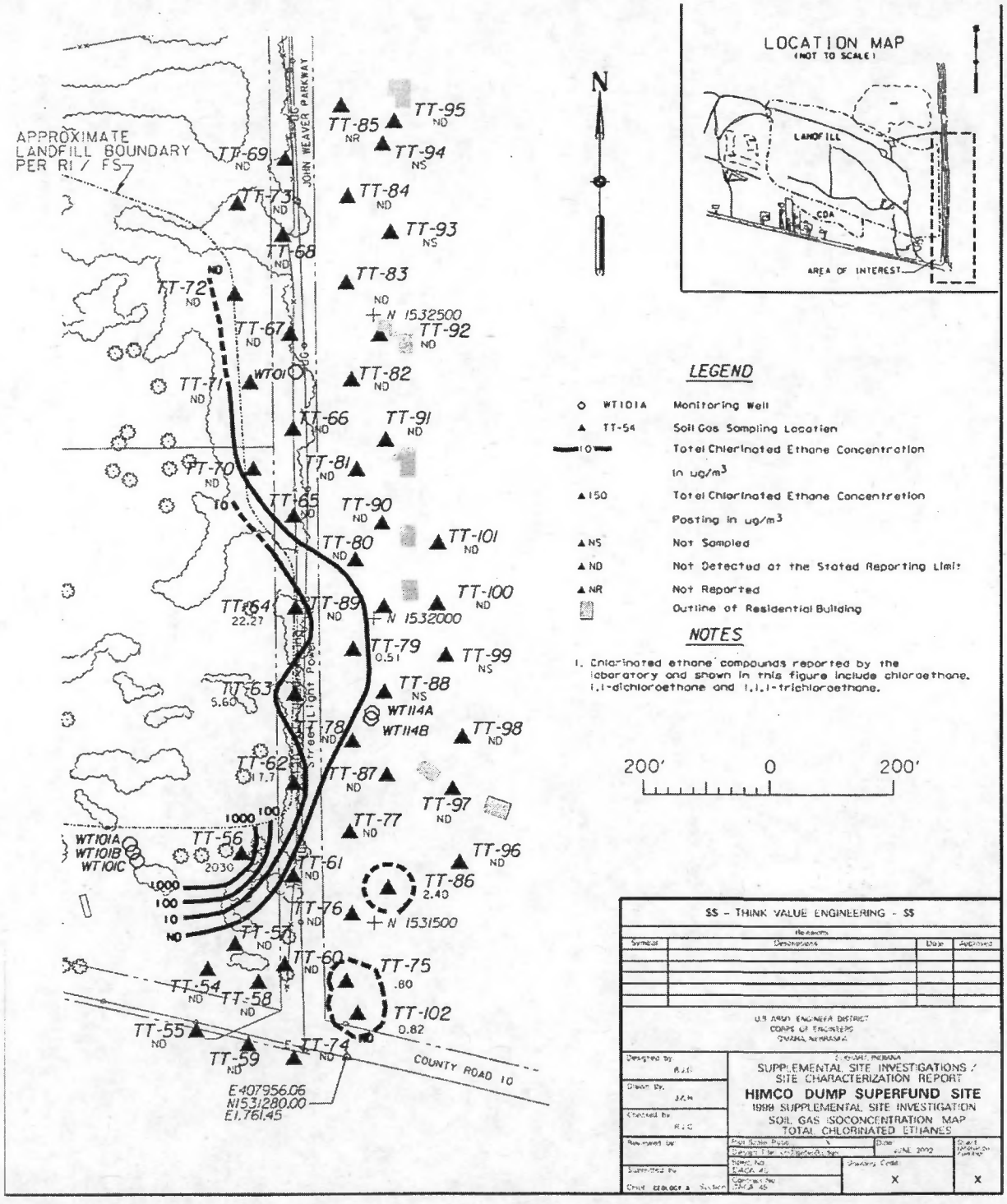


Figure 4-8

Eastern Area Phase II Soil Gas Locations

Figure 4-9



Phase II soil gas sampling detected chlorinated ethanes:

- Chloroethane
- 1,1-trichloroethane
- 1,1-dichloroethane

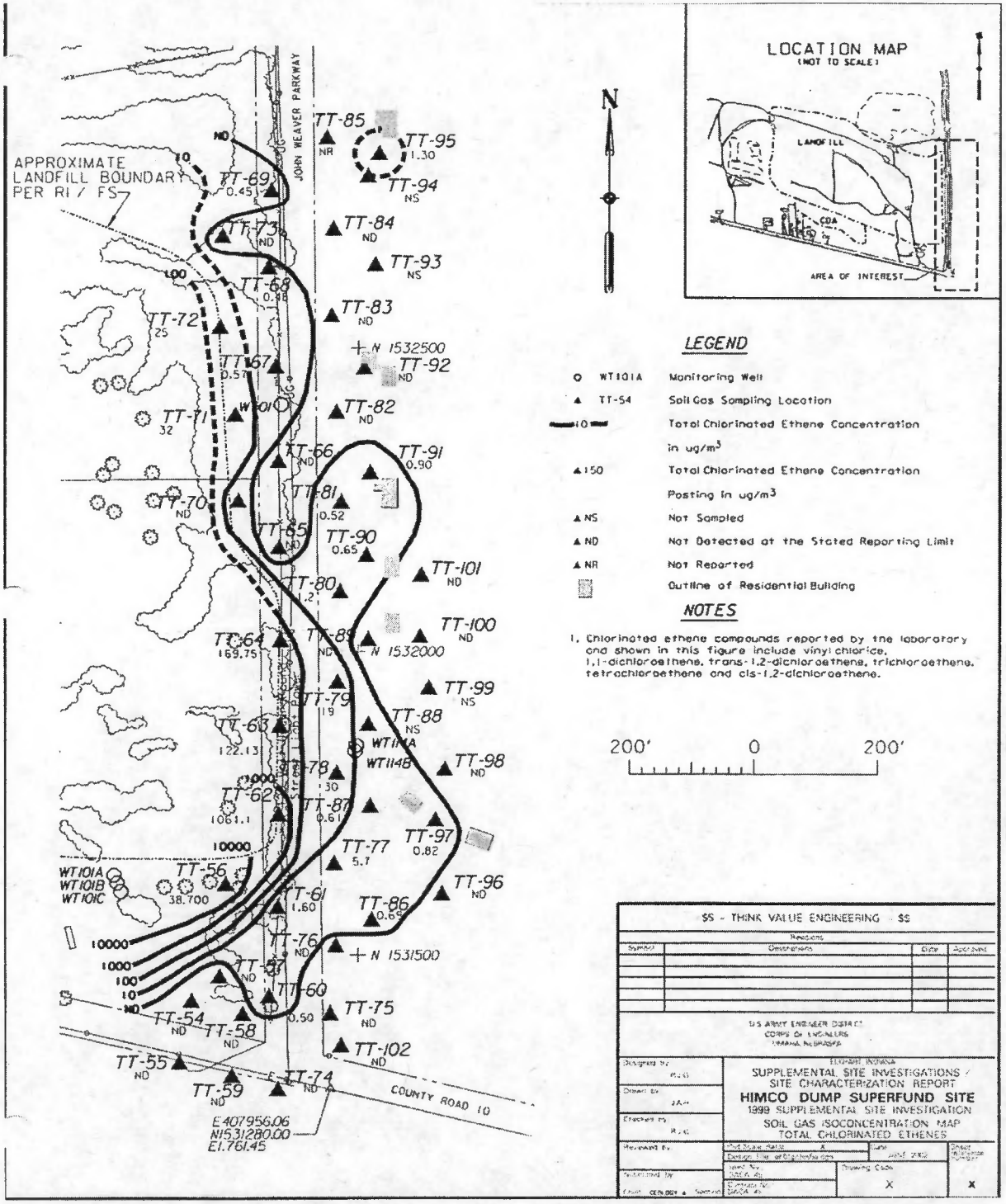


Figure 4-10

Phase II soil gas detected chlorinated ethenes

- tetrachloroethene
- dichloroethene
- vinyl chloride

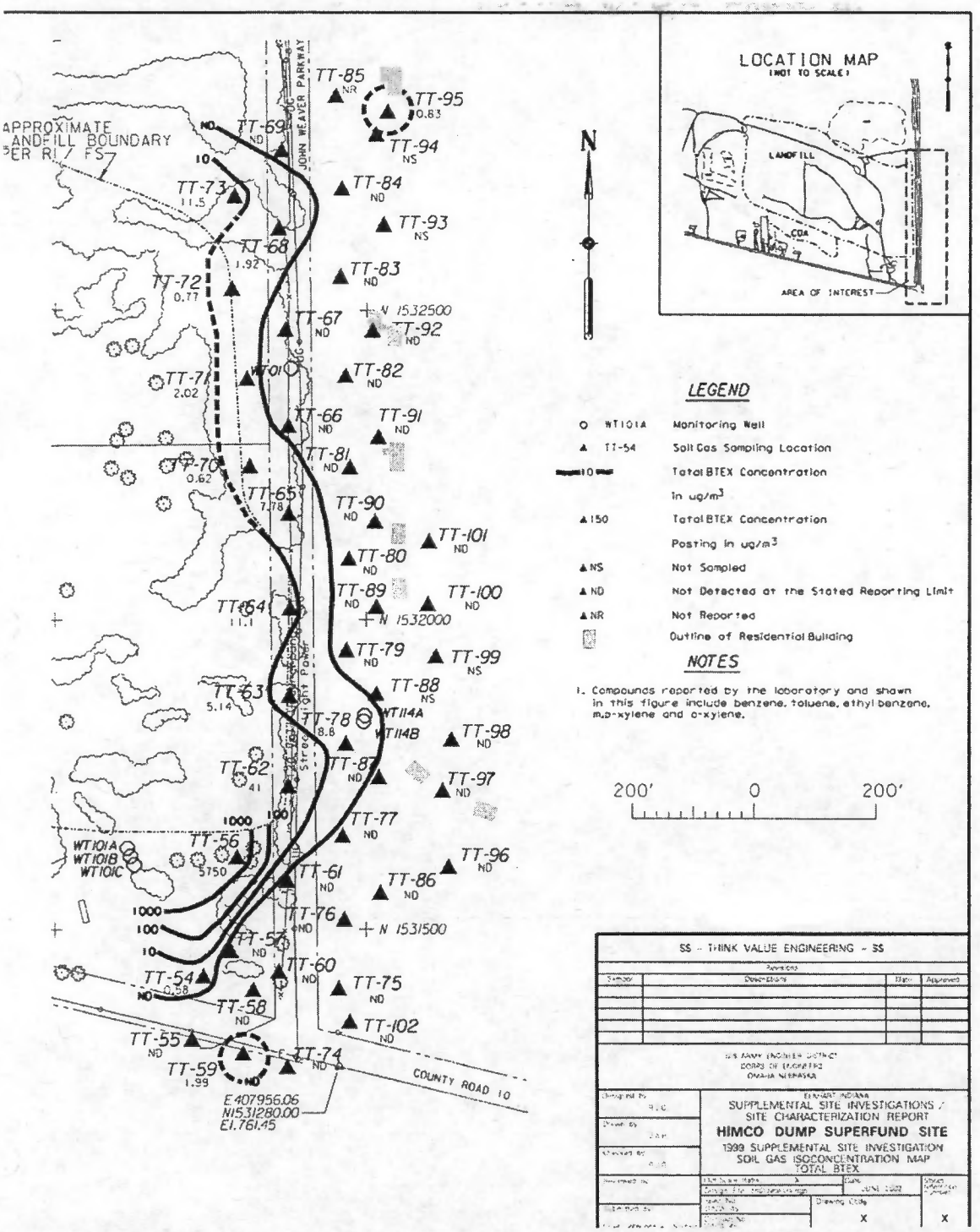


Figure 4-11

Phase II soil gas detected BTEX Phase II

- toluene
- benzene
- ethylbenzene
- xylene

Figure 4-12

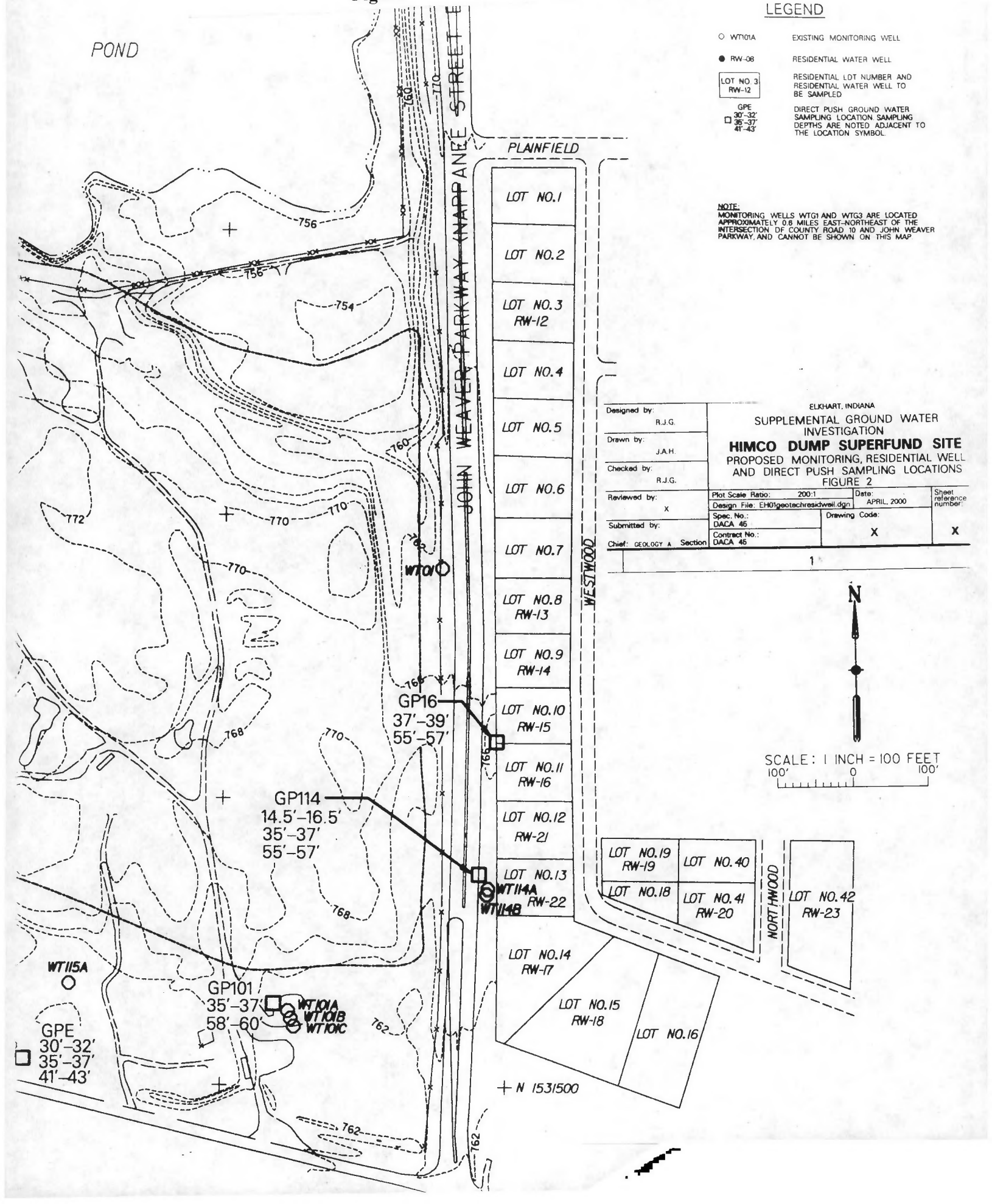

LEGEND
WT101A EXISTING MONITORING WELL
RW-08 RESIDENTIAL WATER WELL
LOT NO. 3 RW-12 RESIDENTIAL LOT NUMBER AND RESIDENTIAL WATER WELL TO BE SAMPLED
GPE 30'-32' 35'-37' 41'-43' DIRECT PUSH GROUND WATER SAMPLING LOCATION. SAMPLING DEPTHS ARE NOTED ADJACENT TO THE LOCATION SYMBOL
NOTE: MONITORING WELLS WTG1 AND WTG3 ARE LOCATED APPROXIMATELY 0.6 MILES EAST-NORTHEAST OF THE INTERSECTION OF COUNTY ROAD 10 AND JOHN WEAVER PARKWAY, AND CANNOT BE SHOWN ON THIS MAP.
POND
PLAINFIELD
JOHN WEAVER PARKWAY (NAPPANEE STREET)
WESTWOOD
NORTHWOOD
LOT NO.1
LOT NO.2
LOT NO.3 RW-12
LOT NO.4
LOT NO.5
LOT NO.6
LOT NO.7
LOT NO.8 RW-13
LOT NO.9 RW-14
LOT NO.10 RW-15
LOT NO.11 RW-16
LOT NO.12 RW-21
LOT NO.13 RW-22
LOT NO.14 RW-17
LOT NO.15 RW-18
LOT NO.16
LOT NO.19 RW-19
LOT NO.40
LOT NO.18
LOT NO.41 RW-20
LOT NO.42 RW-23
WT101
WT114A
WT114B
WT115A
GP16 37'-39' 55'-57'
GP114 14.5'-16.5' 35'-37' 55'-57'
GP101 35'-37' 58'-60'
WT101A WT101B WT101C
GPE 30'-32' 35'-37' 41'-43'
N 1531500
ELKHART, INDIANA
SUPPLEMENTAL GROUND WATER INVESTIGATION
HIMCO DUMP SUPERFUND SITE
PROPOSED MONITORING, RESIDENTIAL WELL AND DIRECT PUSH SAMPLING LOCATIONS
FIGURE 2
Designed by: R.J.G.
Drawn by: J.A.H.
Checked by: R.J.G.
Reviewed by: X
Submitted by:
Chief: GEOLOGY A Section
Plot Scale Ratio: 200:1
Design File: EH01geotechresidwell.dgn
Date: APRIL, 2000
Spec. No.: DACA 45
Contract No.: DACA 45
Drawing Code: X
Sheet reference number: X
1
N
SCALE: 1 INCH = 100 FEET
100' 0 100'

Table 1

Summary of Chemicals in Ground Water at Himco Dump Site (1990-2000)

Southern Downgradient Ground Water Basis: well pair: WT116A/WT119A (1990-2000)	Eastern Downgradient Ground Water Basis: WT101A, WT114A, WT114B, GP16 (all depths), GP101 (all depths), GP114 (all depths)	Eastern Residential Wells Basis: Individual Residential Wells
Carcinogens arsenic benzene bis(2-ethylhexyl)phthalate carbazole 1,2-DCP vinyl chloride	*Carcinogens* arsenic benzene bis(2-ethylhexyl)phthalate 1,2-DCP	*Carcinogens* arsenic benzene chloroform 1,2-DCA (EDC) 1,2-DCP vinyl chloride
Noncarcinogens antimony iron manganese sodium thallium	*Noncarcinogens* chromium iron manganese sodium thallium	*Noncarcinogens* calcium iron manganese sodium sulfate 1,1-DCA cis-1,2-DCE

Table 1-1

Risk Summary for Himco CDA Residential Scenarios

Himco Land Parcel	Carcinogenic Risk			Non-Cancer Hazard Index		
	GW	Soil	Total	GW	Soil	Total
M	**3.0E-04**	**3.0E-05**	**3.3E-04**	**46**	**0.50**	**46**
O	**3.0E-04**	**3.2E-05**	**3.3E-04**	**46**	**0.76**	**47**
N	**3.0E-04**	*1.9E-05**	**3.2E-04**	**46**	*0.11**	**46**
P	**3.0E-04**	**2.9E-05**	**3.3E-04**	**46**	**0.71**	**47**
S	**3.0E-04**	**1.1E-04**	**4.1E-04**	**46**	**2.9**	**49**
T	**3.0E-04**	*4.2E-05**	**3.4E-04**	**46**	*0.31**	**46**
Q	**3.0E-04**	*8.6E-05**	**3.9E-04**	**46**	*0.59**	**47**
R	**3.0E-04**	*4.6E-05**	**3.5E-04**	**46**	*0.27**	**46**
F	**3.0E-04**	**1.5E-04**	**4.5E-04**	**46**	**4.5**	**50**
D	**3.0E-04**	**6.4E-05**	**3.6E-04**	**46**	**0.97**	**47**

* No soil samples were colleted at Land Parcel N, R, Q and T; soil concentrations were developed by geostatistical methods (krieging) of arsenic and benzopyrene data in order to evaluate the risk. The risks are likely underestimates of soil risks; as only these two contaminants were considered.

Table 2 **Himco Residential Ground Water Sampling**
Carcinogenic Compounds - Risk for Drinking Water

Compound	Health Effects (ingestion/dermal* exposure)	Conc. Detected ug/L	Risk at Detection Level	MCL/ MCLG (public supplies) ug/L	10^{-4} Risk Level[a] ug/L
Benzene co-exposure: alcohol	*Cancer:* blood (leukemia) *Noncancer:* anemia; decrease in blood platelets; reproductive effects (in animals)	0.4 J 2 residences	$1x10^{-6}$	5/zero Final	34
Chloroform (TMH) co-exposure: epinephrine (bronchodialitors) barbituates	*Cancer:* liver (in animals) *Noncancer:* CNS...depression, irritability; kidney; liver: hepatitis, jaundice	0.4 J 1 residence	$3x10^{-5}$	100/zero 80-Proposed	620
1,2-Dichloroethane (EDC)	*Cancer:* stomach, liver, lung, mammary, endometrium (in animals) *Noncancer:* central nervous system; GI; liver; kidney; and lung	0.6 J - 0.7 J 3 residences	$5x10^{-6}$ - $6x10^{-6}$	5/zero Final	12
1,2-Dichloropropane	*Cancer:* liver, mammary (in animals) *Noncancer:* CNS; damage to liver, kidney, bladder; testes; lung; and reproductive effects	9 - 10 1 residence	$6x10^{-5}$	5/zero Final	16
Vinyl Chloride	*Cancer:* liver, kidney (in animals) *Noncancer:* damage to sperm and testes; peripheral blood flow (hands)	0.7 J - 0.9 J 2 residences	$4x10^{-5}$	2/zero Final	2
Arsenic	*Cancer:* skin, bladder, liver, kidney, prostate, lung *Noncancer:* nausea, vomiting, diarrhea; anemia; abnormal heartbeat; blood vessel damage; CNS: tingling/hands, feet	5 - 8 4 residences	$1x10^{-4}$ - $4x10^{-4}$	10 Final	4.5

a *Region 9 Preliminary Remediation Goals (PRGs) 2002;* October 1, 2002.
Risk for Tap Water (ingestion. + inhalation). At http://www.epa.gov/region09/waste/sfund/prg/index.htm
MCL/MCLG Values are 2003 (http://www.epa.gov/safewater/hfacts.html)

Table 3

Himco Residential Ground Water Sampling
Non-Carcinogenic Compounds - Risk for Drinking Water

Compound	Health Effects	Conc. Detected ug/L	HQ at Detection Level	MCL/MCLG (public supplies) ug/L	HQ [a] ug/L
1,1-Dichloroethane	kidney disease; delayed growth (pregnant animals)	0.5 J -12 6 residences			810
cis-1,2-Dichloroethene	blood (decreased # of RBCs); liver	0.5 J - 2 5 residences		70	61
Calcium	infants: milk-alkali syndrome males: urinary stones inhibits absorption of iron, zinc, other nutrients	100,000 - 205,000 J 5+ residences		infants: 60,000 ug/d; UL: over 1 yr: 2,500,000 ug/d	
Iron	GI: abdominal pain; nausea, vomiting; liver damage with iron overload	5,050 - 6,120 3 residences		RDA: infants: 6,000ug/d; 6 mo - 10 yr: 10,000 ug/d	
Manganese	neurological effects: apathy, general weakness, dullness, anorexia, muscle pain	1,560 -1,880 1 residence	1.8 - 2.0	50 UL (adults): 11,000 ug/d	880
Sodium	hypertension	44,400 - 126,000 5 residences		RDA: 1,400,000-1,500,000 ug/d 20,000 ug/L (low Na diet)	
Sulfate		132,000 - 154,000 6 residences		500,000 (250,000 aesthetics)	

a *Region 9 Preliminary Remediation Goals (PRGs) 2002;* October 1, 2002;
Risk for Tap Water (ingestion.+ inhalation).
At http://www.epa.gov/region09/waste/sfund/prg/index.htm
MCL/MCLG Values are 1996 (http://www.epa.gov.OST/Tools/dwstds1.html)
The UL refers to the Upper Intake Limit on the Recommended Dietary Allowance

Table 4

Residential Well Analytical Result Summary - March 2000
Supplemental Site Investigations/Site Characterization Report
Himco Dump Superfund Site
Elkhart, Indiana

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
1	Sample location	54287 Westwood		54287 Westwood		54280 Westwood		54271 Westwood		54215 Westwood		54253 Westwood		54231 Westwood	
2	Sample number	S12		R12		S09		S04		S05		S03		S10	
3	Date sampled	3/16/2000		3/16/2000		3/15/2000		3/15/2000		3/15/2000		3/15/2000		3/15/2000	
4	Units	µg/L		µg/L		µg/L		µg/L		µg/L		µg/L		µg/L	
5		Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual
6	TOTAL METALS														
7	Arsenic	7		8	J	2	U	2	U	4	U	5	J	2	U
8	Barium	63.8		64.5		72.8		50.4		32.8		128		43.5	
9	Calcium	93300	JB	92300	JB	105000	JB	101000	JB	91800	JB	91500	JB	115000	JB
10	Chromium	3.4	UJ	3.4	UJ	3.4	UJ	3.4	UJ	3.4	UJ	3.4	UJ	3.4	UJ
11	Cobalt	10.5	J	10.1	UJ	10.1	UJ	10.1	UJ	10.1	UJ	10.1	UJ	14	J
12	Copper	7.3	J	4	U	26.1	J	7.3	J	14.2	J	7.3	J	66.1	J
13	Iron	5050		5030		22.4	U	104	BJ	22.4	U	1670		25.3	JB
14	Magnesium	21500		22000		20200		21700		19800		26500		20800	
15	Manganese	63.1		59.6		355		359		3.2	U	213		3.2	U
16	Nickel	19.4	U	19.4	U	19.4	U	19.4	U	21.4	J	19.4	U	19.4	U
17	Potassium	1150		1160		2580		1790		4650		1330		4300	
18	Sodium	14900		14700		65400		22600	J	126000		14500		82500	
19	Zinc	18.9	J	14.2	J	31.5	J	17.4	J	95.6	J	44.3	J	160	J
20	MISC. INORGANICS														
21	Bromide (µg Br/L)	NS		NS		60	J	50	J	NS		60	J	NS	
22	Sulfate (mg SO_4/L)	NS		NS		133		138		NS		154		NS	
23	VOLATILE ORGANICS														
24	Sample number.	EDCJ5		EDCJ9		EDCK3		EDCK0		EDCK6		EDCK1		EDCJ8	
25	Vinyl Chloride	1	U	1	U	1	U	1	U	1	U	1	U	1	U
26	1,1-Dichloroethane	7		7		1	U	0.6	J	1	U	1	U	1	U
27	cis-1,2-Dichloroethene	0.5	J	0.5	J	1	U	1	U	1	U	1	U	1	U
28	Chloroform	1	U	1	U	1	U	1	U	1	U	1	U	1	U
29	1,2-Dichloroethane	0.7	J	1	U	1	U	1	U	1	U	0.6	J	1	U
30	1,2-Dichloropropane	1	U	1	U	1	U	1	U	1	U	1	U	1	U
31	Benzene	0.4	J	0.4	J	1	U	1	U	1	U	1	U	1	U
32	SEMIVOLATILE ORGANICS														
33	Sample number	EDCJ5		EDCJ9		EDCK3		EDCK0		EDCK6		EDCK1		EDCJ8	
34	No Semivolatile Compounds Detected	5	U	5	U	5	U	5	U	5	U	5	U	5	U

U: Analyte Not detected
J: Estimated value
B: Analyte also present in blank
NS: Not Sampled

Table 4 cont.

Residential Well Analytical Result Summary - March 2000
Supplemental Site Investigations/Site Characterization Report
Himco Dump Superfund Site
Elkhart, Indiana

	A	P	Q	R	S	T	U	V	W	X	Y
1	Sample location	54125 Westwood		54305 Westwood		27919 Westwood		27964 Westwood		27948 Westwood	
2	Sample number	S13		S11		S08		S06		S07	
3	Date sampled	3/16/2000		3/16/2000		3/15/2000		3/15/2000		3/15/2000	
4	Units	µg/L		µg/L		µg/L		µg/L		µg/L	
5		Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual
6	TOTAL METALS										
7	Arsenic	2	J	4	U	2	U	6	J	7	
8	Barium	108		60.4		28.1		113		102	
9	Calcium	100000	JB	177000	JB	103000	JB	113000	JB	122000	JB
10	Chromium	3.6	JB	3.4	UJ	3.4	UJ	3.4	UJ	3.5	J
11	Cobalt	10.1	UJ	10.1	UJ	10.1	UJ	10.1	UJ	10.1	UJ
12	Copper	5.8	JB	4	U	9	J	11.9	J	4.1	J
13	Iron	885		2170		51.1	JB	5860		6120	
14	Magnesium	21500		18200	J	19000	J	16100	J	16000	J
15	Manganese	284		1560		146		73		72.3	
16	Nickel	19.4	U	19.4	U	19.4	U	19.4	U	19.4	U
17	Potassium	1790		5270		3660		2610		2870	
18	Sodium	17600		44400		56700	J	13500	J	33200	
19	Zinc	10.3	U	17.4	J	20.5	J	19	J	30.1	J
20	MISC. INORGANICS										
21	Bromide (µg Br/L)	NS		70	J	60	J	NS		60	J
22	Sulfate (mg SO_4/L)	NS		171		132		NS		146	
23	VOLATILE ORGANICS										
24	Sample number	EDCJ4		EDCK8		EDCK4		EDCK5		EDCK2	
25	Vinyl Chloride	1	U	0.9	J	1	U	1	U	0.7	J
26	1,1-Dichloroethane	1	U	3		0.5	J	2		2	
27	cis-1,2-Dichloroethene	1	U	2		0.6	J	0.8	J	1	
28	Chloroform	1	U	1	U	0.4	J	1	U	1	U
29	1,2-Dichloroethane	1	U	0.6	J	1	U	1	U	1	U
30	1,2-Dichloropropane	1	U	10		1	U	1	U	1	U
31	Benzene	1	U	0.4	J	1	U	1	U	1	U
32	SEMIVOLATILE ORGANICS										
33	Sample number	EDCJ4		EDCK8		EDCK4		EDCK5		EDCK2	
34	No Semivolatile Compounds Detected	5	U	5	U	5	U	5	U	5	U

U: Analyte Not detected
J: Estimated value
B: Analyte also present in blank
NS: Not Sampled

Table 5

Residential Well Analytical Result Summary - April 2000
Supplemental Site Investigations/Site Characterization Report
Himco Dump Superfund Site
Elkhart, Indiana

	A	B	C	D	E	F	G	H	I	J	K
1	Sample location	54287 Westwood		54280 Westwood		54271 Westwood		54215 Westwood		54253 Westwood	
2	Sample number	SO1		SO2		SO3		SO6		SO4	
3	Date sampled	4/17/2000		4/17/2000		4/17/2000		4/17/2000		4/17/2000	
4	Units	µg/L		µg/L		µg/L		µg/L		µg/L	
5		Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual
6	TOTAL METALS										
7	Arsenic	**7**		2	U	2	U	2	J	**5**	J
8	Barium	**66.6**		**70.4**		**57.6**		**29.1**		**131**	
9	Calcium	**88100**		**102000**		**110000**		**83000**		**90000**	
10	Chromium	6.7	U	6.7	U	6.7	U	6.7	U	**2**	J
11	Copper	**31.3**	J	**11.4**	J	**14.7**	J	**13.3**	J	**34.8**	J
12	Iron	**5780**	J	**19.6**	JB	**86**	JB	**45.3**	JB	**1710**	J
13	Lead	2.0	U	2.0	U	2.0	U	2.0	U	2.0	U
14	Magnesium	**20600**		**20000**		**24000**		**19400**		**27600**	
15	Manganese	**58.7**		**325**		**380**		**0.6**	J	**223**	
16	Nickel	21	U	21	U	21	U	21	U	21	U
17	Potassium	**1100**		**2430**		**1880**		**4000**		**1280**	
18	Sodium	**15400**	J	**63200**	J	**30300**	J	**116000**	J	**15200**	J
19	Zinc	**34**	JB	**20.5**	JB	**13.1**	JB	**128**	B	**28.3**	JB
20	MISC. INORGANICS										
21	Bromide (µg Br^-/L)	**60**	J	**60**	J	**60**	J	**60**	J	**60**	J
22	Sulfate (mg SO_4/L)	**142**		**130**		**130**		**127**		**153**	
23	VOLATILE ORGANICS										
24	Sample number	EDPK9		EDPL0		EDPL1		EDPL4		EDPL2	
25	Methylene Chloride	**6**		**2**	U	**2**	U	**2**	U	**2**	U
26	1,1-Dichloroethane	**12**		**1**	U	**0.8**	J	**1**	U	**1**	U
27	cis-1,2-Dichloroethene	**0.8**	J	**1**	U	**1**	U	**1**	U	**1**	U
28	1,2-Dichloropropane	1	U	1	U	1	U	1	U	1	U

U: Analyte Not detected
J: Estimated value
B: Analyte also present in blank

Table 5 cont.

Residential Well Analytical Result Summary - April 2000
Supplemental Site Investigations/Site Characterization Report
Himco Dump Superfund Site
Elkhart, Indiana

	A	L	M	N	O	P	Q	R	S	T	U
1	Sample location	54231 Westwood		54125 Westwood		54305 Westwood		54305 Westwood Dup		27919 Westwood	
2	Sample number	SO5		SO7		SO10		SO11		SO8	
3	Date sampled	4/17/2000		4/18/2000		4/18/2000		4/18/2000		4/18/2000	
4	Units	µg/L		µg/L		µg/L		µg/L		µg/L	
5		Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual
6	TOTAL METALS										
7	Arsenic	2	U	3	J	2	U	2	U	2	U
8	Barium	43.9		109		76.6		63.2		39.3	
9	Calcium	106000		99000		205000		173000		132000	
10	Chromium	6.7	U	6.7	U	6.7	U	6.7	U	2.1	J
11	Copper	7.9	J	9.3	UJ	15.2	J	10.7	J	13.3	J
12	Iron	27.8	JB	1130	J	2790	J	2270	J	100	JB
13	Lead	2.0	U	2.0	U	2.0	J	2.0	U	2.0	U
14	Magnesium	21600		21500		21700		18200		24900	
15	Manganese	1.9	U	299		1880		1560		202	
16	Nickel	21	U	9.8	J	21	U	21	U	21	U
17	Potassium	3850		1760		6920		5170		4140	
18	Sodium	84700	J	19000	J	92200	J	73400	J	81000	J
19	Zinc	173	B	12.5	JB	39.1	B	26.9	JB	26.5	JB
20	MISC. INORGANICS										
21	Bromide (µg Br^-/L)	60	J	70	J	70	J	70	J	60	J
22	Sulfate (mg SO_4/L)	134		132	U	152		152		109	
23	VOLATILE ORGANICS										
24	Sample number	EDPL3		EDPL5		EDPL8		EDPM0		EDPL6	
25	Methylene Chloride	2	U	2	U	2	U	2	U	2	U
26	1,1-Dichloroethane	1	U	1	U	3		4		0.8	J
27	cis-1,2-Dichloroethene	1	U	1	U	2		2		0.7	J
28	1,2-Dichloropropane	1	U	1	U	8		9		1	U

U: Analyte Not detected
J: Estimated value
B: Analyte also present in blank

Table 5 cont.

Residential Well Analytical Result Summary - April 2000
Supplemental Site Investigations/Site Characterization Report
Himco Dump Superfund Site
Elkhart, Indiana

	A	V	W	X	Y	Z	AA
1	Sample location	27883 Westwood		27964 Westwood		27948 Westwood	
2	Sample number	SO9		SO12		SO13	
3	Date sampled	4/18/2000		4/19/2000		4/19/2000	
4	Units	µg/L		µg/L		µg/L	
5		Result	Qual	Result	Qual	Result	Qual
6	TOTAL METALS						
7	Arsenic	2	U	7	J	8	
8	Barium	35.8		106		92.3	
9	Calcium	99800		112000		97500	
10	Chromium	6.7	U	6.7	U	6.7	U
11	Copper	10.7	J	9.3	UJ	62.1	J
12	Iron	46.5	UJ	5870	J	5530	J
13	Lead	2.0	U	2.0	U	2.0	U
14	Magnesium	21500		15700		13600	
15	Manganese	30		72		65.2	
16	Nickel	21	U	21	U	21	U
17	Potassium	3700		2340		2590	
18	Sodium	91800	J	14800	J	35100	J
19	Zinc	87.3	B	12	JB	31.1	JB
20	MISC. INORGANICS						
21	Bromide (µg Br^-/L)	60	J	60	J	60	J
22	Sulfate (mg SO_4/L)	105		148		142	
23	VOLATILE ORGANICS						
24	Sample number	EDPL7		EDPM1		EDPM2	
25	Methylene Chloride	2	U	UJ	U	2	U
26	1,1-Dichloroethane	1	U	3		2	
27	cis-1,2-Dichloroethene	1	U	1		1	
28	1,2-Dichloropropane	1	U	1	U	1	U

U: Analyte Not detected
J: Estimated value
B: Analyte also present in blank

Table 6

Ground Water Analytical Result Summary - 1996 Supplemental Investigation
Supplemental Site Investigations/Site Characterization Report
Himco Dump Superfund Site
Elkhart, Indians

	A	B	C	D	E	F	G	H	I	J	K	L	M
1	**Sample location**	**WT105A**		**WT111A**		**WT111A Dup**		**WT106A**		**WT115A**		**WT116A**	
2	**Sample number**	**MEAKN2**		**MEAKN3**		**MEAKN4**		**MEAKN5**		**MEAKN7**			
3	**Date sampled**	**11/13/1996**		**11/13/1996**		**11/13/1996**		**11/13/1996**		**11/13/1996**		**11/13/1996**	
4	**Units**	**µg/L**		**µg/L**		**µg/L**		**µg/L**		**µg/L**		**µg/L**	
5	TOTAL METALS												
6	Aluminum	17.0	U	**280.0**		**267**		**50.8**		**32.0**		NS	
7	Arsenic	3.0	U	**3.7**		**3.10**		**5.60**		3.0	U	NS	
8	Barium	**5.4**		**105**		**107**		**101**		**33.3**		NS	
9	Calcium	**38000**		**8160**		**8220**		**146000**		**215000**		NS	
10	Chromium	1.0	U	**1.8**		**1.5**		1.0	U	**2.9**		NS	
11	Cobalt	1.0	U	**6.4**		**6.5**		1.0	U	**1.6**		NS	
12	Copper	1.0	U	**3.3**		**3.0**		1.0	U	**1.8**		NS	
13	Iron	**13.1**		**4470**		**4360**		**6080**		**2220**		NS	
14	Lead	1.00	U	1.00	U	1.00	U	1.00	U	1.00	U	NS	
15	Magnesium	**10200**		**2980**		**2980**		**18100**		**36000**		NS	
16	Manganese	**5.0**		**335**		**333**		**394**		**276**		NS	
17	Nickel	1.0	U	**7.2**		**7.2**		**1.8**		**3.8**		NS	
18	Potassium	**1760**		**1600**		**1620**		**4280**		**6520**		NS	
19	Sodium	**4460**	J	**3200**		**3270**	J	**25800**	J	**33600**	J	NS	
20	Thallium	20.00	U	**3.00**		**2.60**		**2.90**		**2.20**		NS	
21	Vanadium	1.0	U	**2.4**		**2.4**		1.0	U	**7.6**		NS	
22	Zinc	**3.6**	J	**22.2**	J	**21.2**	J	**2.9**	J	**4.1**	J	NS	
23	Cyanide	NS		NS		NS		NS		NS		NS	
24	VOLATILE ORGANICS												
25	Sample number	EAXX9		EAXY0		EAXY1		EAXY2		EAXY4		EAXY5	
26	1,1-Dichloroethane	10	U	10	U	10	U	10	U	10	U	**5**	J
27	total 1,2-Dichloroethene	10	U	10	U	10	U	**3**	J	10	U	**0.4**	J
28	1,2-Dichloropropane	10	U	10	U	10	U	10	U	10	U	**2**	J
29	Benzene	10	U	10	U	10	U	10	U	**2**	J	**7**	J
30	SEMIVOLATILE ORGANICS												
31	Sample number	EAXX9		EAXY0		EAXY1		EAXY2		EAXY4		EAXY5	
32	bis(2-Ethylhexyl)phthalate	10	U	10	U	**10**	J	10	U	10	U	NS	

U: Analyte not detected
J: Value is an estimated concentration
NS: Not sampled

Table 7

Ground Water Analytical Results Summary - Fall 1998
Supplemental Site Investigations/Site Characterization Report
Himco Dump Superfund Site
Elkhart, Indiana

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S
1	**Sample location**	**WT101A**		**WT101A duplicate**		**WT102A**		**WT112A**		**WT114A**		**WT115A**		**WT116A**		**WT119A**		**WT119A dup**	
2	**Date sampled**	**10/21/1998**		**10/21/1998**		**10/19/1998**		**10/20/1998**		**10/20/1998**		**10/21/1998**		**10/21/1998**		**10/22/1998**		**10/22/1998**	
3	**Units**	**µg/L**		**µg/L**		**µg/L**		**µg/L**		**µg/L**		**µg/L**		**µg/L**		µg/L		**µg/L**	
4		**Result**	**Qual**	**Result**	**Qual**	**Result**	**Qual**	**Result**	**Qual**	**Result**	**Qual**	**Result**	**Qual**	Result	**Qual**	**Result**	**Qual**	**Result**	**Qual**
5	TOTAL METALS																		
6	Aluminum	26.0	U	26.0	U	**27.6**	J	26.0	UJ	26.0	UJ	**94.1**	J	**58.0**	J	**258**	J	**249**	J
7	Antimony	42.2	U	42.2	U	42.2	UJ	42.2	UJ	42.2	UJ	42.2	U	42.2	UJ	**43.2**	BJ	42.2	U
8	Arsenic	**3.6**	J	**3.3**	J	0.90	UJ	0.90	UJ	**24.3**	J	**0.90**		**1.0**	J	**5.8**	J	**5.3**	
9	Barium	**91.2**	J	**85.5**	J	**47.3**	J	**36.6**	J	**238**	J	33.5	UJ	**192**	J	**78.3**		**76.0**	
10	Beryllium	0.60	U	0.60	U	0.60	UJ	0.60	UJ	**0.60**	J	0.60	U	0.60	UJ	0.60	UJ	0.60	UJ
11	Calcium	**377000**		**361000**		**17100**	J	**19000**	J	**27000**	J	**293000**		**60900**	J	**143000**		142000	
12	Chromium	**13.1**		**11.3**		**20.3**	J	**7.5**	J	**12.0**	J	**10.4**		7.0	UJ	**7.8**		7.0	U
13	Cobalt	7.8	U	7.8	U	7.8	UJ	7.8	UJ	**11.9**	J	7.8	U	7.8	UJ	7.8	U	7.8	U
14	Copper	4.1	U	4.1	U	4.1	UJ	4.1	UJ	4.1	UJ	4.1	U	4.1	UJ	**5.4**		4.9	
15	Iron	**28100**		**26900**		**96.8**	J	11.7	UJ	**17900**	J	**4590**		**4490**	J	**1690**		**1690**	
16	Lead	0.50	U	0.50	U	0.50	UJ	0.50	UJ	0.50	UJ	0.50	U	0.50	UJ	**3.4**	J	**2.4**	J
17	Magnesium	**14700**		**13900**		**16600**	J	**14000**	J	**24800**	J	**20300**		**52700**	J	**44800**		**44500**	
18	Manganese	**3080**		**2940**		**61.5**	J	**6.7**	J	**306**	J	**513**		**662**	J	**279**		**278**	
19	Mercury	0.10	U	0.10	U	**0.10**	J	0.10	UJ	0.10	UJ	0.10	U	**0.10**	J	0.10	U	0.10	U
20	Nickel	28.3	U	28.3	U	**73.0**	J	23.8	UJ	23.8	UJ	28.3	U	28.3	UJ	28.3		28.3	U
21	Potassium	**3630**	J	**3630**	J	**1610**	J	**1330**	J	**6640**	J	**3580**	J	**25200**	J	**11500**	J	**11200**	J
22	Selenium	**3.0**	R	**3.0**	R	6.0	UJ	6.0	UJ	6.0	UJ	**3.0**	R	**6.0**	R	**6.0**	J	**6.0**	J
23	Silver	5.3	U	5.3	U	**6.1**	J	5.3	UJ	5.3	UJ	5.3	U	5.3	UJ	5.3	U	5.3	U
24	Sodium	**35800**		**33100**		**48000**	J	**13300**	J	**47100**	J	**12100**		**179000**	J	**69100**		**68200**	
25	Zinc	3.2	U	3.2	U	3.2	UJ	3.2	UJ	**3.2**	J	**3.7**	J	3.2	UJ	4.9	U	4.9	U
26	Cyanide	**17.9**	J	**14.4**	J	**8.5**	J	**7.3**	J	**7.8**	J	**12.4**	J	**31.9**		**12**	J	**15.2**	
27	VOLATILE ORGANICS																		
28	1,1-Dichloroethane	10	U	10	U	10	U	10	U	**4**	J	10	U	**5**	J	10	U	10	U
29	SEMIVOLATILE ORGANICS																		
30	Diethylphthalate	**19**	J	**9**	J	10	U	10	U	**2**	J	10	UJ	10	U	10	U	10	U
31	bis(2-Ethylhexyl)phthalate	10	UJ	10	U	**3**	J	10	U	10	U	10	UJ	**2**	J	10	U	10	U

U: Analyte not detected
J: Estimated Value
R: Rejected Value (The data value is unusable.)

Table 8

Ground Water Analytical Summary - November 2000
Supplemental Site Investigations/Site Characterization Report
Himco Dump Superfund Site
Elkhart, Indiana

Sample location	54271 Northwood		54305 Westwood		54305 Westwood Dup		WT116A		WT101A	
Sample number	S01		S02		D02		S03		S04	
Date sampled	11/15-16/2000		11/15-16/2000		11/15-16/2000		11/15-16/2000		11/15-16/2000	
Units	µg/L		µg/L		µg/L		µg/L		µg/L	
	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual
TOTAL METALS										
Aluminum	35.9	J	58.2		53.7		335		112	
Arsenic	2	U	4	U	2	U	10	U	6.4	
Barium	48.1		46.9		47.4		133		79.3	
Calcium	102000		129000		129000		745000		227000	
Cobalt	1	U	0.8	J	0.9	JB	1.1		1	U
Copper	2.3		1	J	1.4	JB	2.1		2	U
Iron	60.2		1840		1720		8200		9490	
Lead	2	U	2	U	2	U	2	J	2	U
Magnesium	24800		14200		14200		60000		20200	
Manganese	103		1250		1250		1240		929	
Nickel	2.9	JB	3.4	JB	3.6	JB	4.2	JB	2.3	JB
Potassium	2790		4400		4670		30800		10100	
Sodium	53100		42300		42700		214000		36700	
Zinc	21.7	J	14.3	J	20.3	JB	85.5	J	14.9	JB
MISC. INORGANICS										
Bromide (µg Br^-/L)	40	J	14	U	30	J	3750	J	320	J
Sulfate (mg SO_4^-/L)	79.3		105		104		1020		177	
Chloride (mg Cl^-/L)	96.5		99.9		98.4		26		27.2	
VOLATILE ORGANICS										
Ethyl ether	1	U	26		31		100		49	
Dichlorofluoromethane	1	U	5		6		10		6	
1,1-Dichloroethane	1	U	4		4		9		14	
cis-1,2-Dichloroethene	1	U	2		3		1	U	1	U
1,2-Dichloroethane	1	U	1		1		1	U	1	U
Benzene	1	U	1	U	1	U	8		2	
1,2-Dichloropropane	1	U	8		8		2		1	U
SEMIVOLATILE ORGANICS										
Di-n-butylphthalate	4	JB	5	U	14	B	4	JB	4	JB
bis(2-Ethylhexyl)phthalate	5	U	3	J	3	JB	5	U	5	U
2-Hydroxybenzothiazole	10	UJ	10	UJ	10	UJ	23	J	30	UJ

U: Not detected
J: Estimated value.
B: Analyte also present in blank

Table 9

Monitoring Well Analytical Detections - April/May 2000
Supplemental Site Investigations/Site Characterization Report
Himco Dump Superfund Site
Elkhart, Indiana

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y
1	Sample location	WTB1		WTB3		WTB4		WTE1		WTE3		WTG1		WTG3		WT101A		WT101A Dup		WT101B		WT101C		WT102A	
2	Sample number	S030		S031		S032		S045		S046		S037		S036		S050		S051		S052		S049		S020	
3	Date sampled	4/26/2000		4/26/2000		4/26/2000		5/2/2000		5/2/2000		4/27/2000		4/27/2000		5/3/2000		5/3/2000		5/3/2000		5/3/2000		4/25/2000	
4	Screened interval (Feet BGS)	468.9-474.9		127.2-137.2		169.2-174.2		73.9-83.9		173.9-178.9		38.0-43.0		162-172		8.5-18.5		8.5-18.5		95.5-100.5		162.5-167.5		8.4-18.4	
5	Units	µg/L		µg/L		µg/L		µg/L		µg/L		µg/L		µg/L		µg/L		µg/L		µg/L		µg/L		µg/L	
6		Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual
7	TOTAL METALS																								
8	Aluminum	118	U	118	U	118	U	118	U	118	U	118	U	36.7	J	118	U	118	U	118	U	152		118	U
9	Arsenic	2	U	5	J	2	U	7	U	5	J	2	U	10		5	J	14	U	7	U	10		2	U
10	Barium	122		60.2		37		43.5		51.3		79.1		79.4		83.1		82.4		72.3		77.6		46.7	
11	Cadmium	0.1	U	0.1	U	0.1	U	0.3	U	0.3	U	0.1	U	0.1	U	0.3	U	0.3	U	0.3	U	0.3	U	0.1	U
12	Calcium	52500		96800		69400		174000		58300		94300		76400		258000		242000		137000		47900		173000	
13	Chromium	2.4	J	6.7	U	6.7	U	6.7	U	6.7	U	6.7	U	6.7	U	6.7	U	6.7	U	6.7	U	7.7	J	17.8	J
14	Cobalt	13.2	U	13.2	U	13.2	U	13.2	U	13.2	U	13.2	U	13.2	U	13.2	U	4	J	13.2	U	4	J	4.1	J
15	Copper	9.3	U	9.3	U	9.3	U	9.3	U	9.3	U	9.3	U	9.3	U	9.3	U	9.3	U	9.3	U	9.3	U	9.3	U
16	Iron	527	JB	426	JB	415	JB	5150		2240		1010	JB	1150	JB	16300		16100		2850		1380		115	JB
17	Lead	2	U	2	U	2	U	3	J	3	J	2	U	2	U	7	U	7	U	7	U	7	U	2	U
18	Magnesium	20900		27900	J	21200	J	35500		23800		24300	J	23500	J	27300		27500		52800		20100		18800	J
19	Manganese	40.1		356		206		204	J	21.1	J	52.7		21.8		1610	J	1540	J	36	J	20.5	J	86.7	
20	Mercury	0.1	U	0.1	U	0.1	U	0.1	UJ	0.1	UJ	0.1	U	0.1	U	0.1	UJ	0.1	UJ	0.1	UJ	0.1	UJ	0.1	U
21	Nickel	8.3	J	21	UJ	21	UJ	21	U	21	U	7	J	8.1	J	21	U	21	U	21	U	7	J	45.4	J
22	Potassium	2100		1290		759		4120		1810		1430		1260		6730		6810		6280		4130		2060	
23	Selenium	2	U	2	U	2	U	14	U	7	U	2	U	4	J	7	U	7	U	7	U	7	U	2	U
24	Silver	11.1	U	11.1	U	11.1	U	11.1	U	11.1	U	11.1	U	11.1	U	11.1	U	11.1	U	11.1	U	11.1	U	11.1	U
25	Sodium	55100		20300		4600		19100		12400		13800		18400		66800		65200		43100		36100		100000	
26	Vanadium	5.1	U	5.1	U	5.1	U	5.1	U	5.1	U	5.1	U	5.1	U	5.1	U	5.1	U	5.1	U	5.1	U	5.1	U
27	Zinc	36.9	JB	34.1	U	34.1	U	34.1	U	34.1	U	34.1	U	34.1	U	34.1	U	34.1	U	34.1	U	34.1	U	34.1	U
28	MISC. INORGANICS																								
29	Bromide (µg Br^-/L)	180	J	80	J	110	J	120	J	130	J	50	J	60	J	520	J	530	J	340	J	880	J	60	J
30	Sulfate (mg SO_4/L)	60	J	132	J	38	J	347		57		59	J	32	J	218		215		211		0.42	J	202	J

NS: Not sampled
U: Not detected
J: Estimated value
B: Analyte also present in blank

Table 9 cont.

Monitoring Well Analytical Detections - April/May 2000
Supplemental Site Investigations/Site Characterization Report
Himco Dump Superfund Site
Elkhart, Indiana

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y
1	Sample location	WTB1		WTB3		WTB4		WTE1		WTE3		WTG1		WTG3		WT101A		WT101A Dup		WT101B		WT101C		WT102A	
2	Sample number	S030		S031		S032		S045		S046		S037		S036		S050		S051		S052		S049		S020	
3	Date sampled	4/26/2000		4/26/2000		4/26/2000		5/2/2000		5/2/2000		4/27/2000		4/27/2000		5/3/2000		5/3/2000		5/3/2000		5/3/2000		4/25/2000	
4	Screened interval (Feet BGS)	468.9-474.9		127.2-137.2		169.2-174.2		73.9-83.9		173.9-178.9		38.0-43.0		162-172		8.5-18.5		8.5-18.5		95.5-100.5		162.5-167.5		8.4-18.4	
5	Units	µg/L		µg/L		µg/L		µg/L		µg/L		µg/L		µg/L		µg/L		µg/L		µg/L		µg/L		µg/L	
31	VOLATILE ORGANICS																								
32	Sample number	EDCG3		EDCG4		EDCG5		EOOFH		EOOFJ		EOOF8		EDCG9		ECFN2		ECFN3		ECFN4		EOOF5		EDPN4	
33	Vinyl Chloride	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U
34	Chloroethane	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2		2		1	U	1	U
35	1,1-Dichloroethane	1	U	1	U	1	U	1	U	1	U	1	U	1	U	8		8		1	U	1	U	1	U
36	cis-1,2-Dichloroethene	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U
37	Chloroform	1	U	1	U	1	U	1	U	3		1	U	1	U	1	U	1	U	1	U	1	U	1	U
38	1,2-Dichloropropane	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U
39	Trichloroethene	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U
40	Benzene	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2		2		1	U	1	U	1	U
41	Bromoform	1	U	1	U	1	U	1	U	1		1	U	1	U	1	U	1	U	1	U	1	U	1	U
42	Tetrachloroethene	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U
43	SEMIVOLATILE ORGANICS																								
44	Sample number	EDCG3		EDCG4		EDCG5		EOOFH		EOOFJ		EOOF8		EDCG9		ECFN2		ECFN3		ECFN4		EOOF5		EDPN4	
45	Diethylphthalate	5	U	5	U	5	U	3	J	2	J	5	U	5	U	3	J	4	J	2	J	5	U	5	U
46	Butylbenzylphthalate	5	U	5	U	5	U	4	J	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U
47	bis(2-Ethylhexyl)phthalate	5	U	6		5	U	19		35		4	J	19		8		4	J	2	J	2	J	5	U
48	Di-n-octylphthalate	5	U	5	U	5	U	4	J	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U

NS: Not sampled
U: Not detected
J: Estimated value
B: Analyte also present in blank

Table 9 cont.

Monitoring Well Analytical Detections - April/May 2000
Supplemental Site Investigations/Site Characterization Report
Himco Dump Superfund Site
Elkhart, Indiana

	A	Z	AA	AB	AC	AD	AE	AF	AG	AH	AI	AJ	AK	AL	AM	AN	AO	AP	AQ	AR	AS	AT	AU	AV	AW
1	Sample location	WT102B		WT102C		WTI05A		WT106A		WTI11A		WTI12A		WTI12B		WTI12B Dup		WTI13A		WTI13B		WTI14A		WTI14A - Split	
2	Sample number	S019		S018		S047		S048		S040		S035		S033		S034		S029		S028		S056		S056	
3	Date sampled	4/25/2000		4/25/2000		5/2/2000		5/2/2000		4/28/2000		4/27/2000		4/27/2000		4/27/2000		4/26/2000		4/26/2000		5/3/2000		5/3/2000	
4	Screened interval (Feet BGS)	62.9-67.9		157-162		8.5-18.5		8.6-18.6		11.9-21.9		7.7-17.7		57.1-62.1		57.1-62.1		14.4-24.4		65.0-70.0		14.5-24.5		14.5-24.5	
5	Units	µg/L		µg/L		µg/L		µg/L		µg/L		µg/L		µg/L		µg/L		µg/L		µg/L		µg/L		µg/L	
31	VOLATILE ORGANICS																								
32	Sample number	EDPN2		EDPN1		EOOFK		EOOF4		EOOFB		EDCG8		EDCG6		EDCG7		EDCG2		EDCG0		E01TP		EECFN10	
33	Vinyl Chloride	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U
34	Chloroethane	1	U	1	U	1	U	0.6	J	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U
35	1,1-Dichloroethane	1	U	1	U	1	U	0.9	J	1		1	U	1	U	1	U	1	U	1	U	3		2.6	
36	cis-1,2-Dichloroethene	1	U	1	U	1	U	1		1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U
37	Chloroform	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U
38	1,2-Dichloropropane	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U
39	Trichloroethene	1	U	1	U	1	U	0.6	J	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U
40	Benzene	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	0.9	J
41	Bromoform	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U
42	Tetrachloroethene	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U
43	SEMIVOLATILE ORGANICS																								
44	Sample number	EDPN2		EDPN1		EOOFK		EOOF4		EOOFB		EDCG8		EDCG6		EDCG7		EDCG2		EDCG0		E01TP		EECFN10	
45	Diethylphthalate	5	U	5	U	3	J	3	J	5	U	5	U	5	U	5	U	5	U	5	U	1	J	NS	
46	Butylbenzylphthalate	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	NS	
47	bis(2-Ethylhexyl)phthalate	5	U	2	J	17		47		5	U	39		5	U	5	U	5	U	5	U	2	J	NS	
48	Di-n-octylphthalate	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	NS	

NS: Not sampled
U: Not detected
J: Estimated value
B: Analyte also present in blank

Table 9 cont.

Monitoring Well Analytical Detections - April/May 2000
Supplemental Site Investigations/Site Characterization Report
Himco Dump Superfund Site
Elkhart, Indiana

	A	Z	AA	AB	AC	AD	AE	AF	AG	AH	AI	AJ	AK	AL	AM	AN	AO	AP	AQ	AR	AS	AT	AU	AV	AW
1	Sample location	WT102B		WT102C		WT105A		WT106A		WT111A		WT112A		WT112B		WT112B Dup		WT113A		WT113B		WT114A		WT114A - Split	
2	Sample number	S019		S018		S047		S048		S040		S035		S033		S034		S029		S028		S056		S056	
3	Date sampled	4/25/2000		4/25/2000		5/2/2000		5/2/2000		4/28/2000		4/27/2000		4/27/2000		4/27/2000		4/26/2000		4/26/2000		5/3/2000		5/3/2000	
4	Screened interval (Feet BGS)	62.9-67.9		157-162		8.5-18.5		8.6-18.6		11.9-21.9		7.7-17.7		57.1-62.1		57.1-62.1		14.4-24.4		65.0-70.0		14.5-24.5		14.5-24.5	
5	Units	µg/L		µg/L		µg/L		µg/L		µg/L		µg/L		µg/L		µg/L		µg/L		µg/L		µg/L		µg/L	
6		Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual
7	TOTAL METALS																								
8	Aluminum	118	U	500		112	J	3090		463		118	U	118	U	118	U	118	U	118	U	118	U	44	J
9	Arsenic	6	J	3	J	7	U	46		7	U	2	U	5	J	4	J	2	U	3	J	9		10	J
10	Barium	103		104		8.1		160		256		28.6		86.7		86		13.8		68.4		101		115	
11	Cadmium	0.1	U	0.1	U	0.3	U	0.1	J	0.2	J	0.1	U	0.1	U	0.1	U	0.1	J	0.1	U	0.3	U	2.5	U
12	Calcium	75800		129000		57400		175000		113000		247000		81800		79900		64300		101000		192000		203000	
13	Chromium	24.2	J	26.8	J	23.9	J	21.6	J	2.3	J	6.7	U	6.7	U	6.7	U	6.7	U	6.7	U	6.7	U	10	U
14	Cobalt	13.2	U	13.2	U	4.1	J	13.2	U	12.2	J	13.2	U	13.2	U	13.2	U	13.2	U	13.2	U	5.9	J	5.8	J
15	Copper	9.3	U	4	JB	9.3	U	11		9.3	U	9.3	U	9.3	U	9.3	U	4.2	JB	9.3	U	9.3	U	10	U
16	Iron	1580	JB	2210	JB	407		27600		12600		23.3	JB	1180	JB	1220	JB	59.8	JB	1210	JB	6510		6290	
17	Lead	2	U	2	J	7	U	6	J	7	U	2	U	2	U	2	U	2	U	2	U	7	U	10	U
18	Magnesium	22300		45600		16500	J	26800		19100	J	17000	J	21000	J	20900	J	16500	J	21400		18600	J	21000	
19	Manganese	91.9		288		160	J	559	J	1440	J	0.7	J	93.1		94.5		3.1		97.6		276	J	288	
20	Mercury	0.1	U	0.1	U	0.1	UJ	0.1	UJ	0.1	UJ	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	UJ	0.011	J
21	Nickel	8.1	J	23.7	J	73.3		11.7	J	8.7	J	21	UJ	21	UJ	21	UJ	21	UJ	21	UJ	21	U	4.8	J
22	Potassium	1840		1970		1360		4200		8380		1700		1320		1380		1210		2040		3390		3750	
23	Selenium	2	U	2	U	7	U	7	U	7	U	2	U	2	U	2	U	2	U	2	U	21	U	20	U
24	Silver	3.4	J	11.1	U	11.1	U	11.1	U	11.1	U	11.1	U	11.1	U	11.1	U	11.1	U	11.1	U	11.1	U	5	U
25	Sodium	25900		6060		7720		29300		39400		13800		22800		23300		14200		15300		123000		125000	
26	Vanadium	1.9	J	3.2	J	5.1	U	5.1	U	5.1	U	2.3	J	5.1	U	5.1	U	5.1	U	5.1	U	5.1	U	20	U
27	Zinc	34.1	U	13.5	JB	34.1	U	31.7	JB	18	JB	34.1	U	34.1	U	34.1	U	34.1	U	34.1	U	34.1	U	10	U
28	MISC. INORGANICS																								
29	Bromide (µg Br^-/L)	80	J	140	J	110	J	420	J	430	J	40	J	70	J	70	J	14	U	60	J	170	J	NS	
30	Sulfate (mg SO_4/L)	58	J	36	J	36		146		264		434	J	56	J	56	J	24	J	131	J	177		NS	

NS: Not sampled
U: Not detected
J: Estimated value
B: Analyte also present in blank

Table 9 cont.

Monitoring Well Analytical Detections - April/May 2000
Supplemental Site Investigations/Site Characterization Report
Himco Dump Superfund Site
Elkhart, Indiana

	A	AX	AY	AZ	BA	BB	BC	BD	BE	BF	BG	BH	BI	BJ	BK	BL	BM	BN	BO
1	Sample location	WT114B		WT115A		WT116A		WT116A Dup		WT116B		WT117A		WT117B		WT118B		WT119A	
2	Sample number	S057		S043		S053		S054		S055		S038		S039		S041		S042	
3	Date sampled	5/3/2000		5/1/2000		5/3/2000		5/3/2000		5/3/2000		4/27/2000		4/27/2000		4/28/2000		4/28/2000	
4	Screened interval (Feet BGS)	62.8-67.8		9.7-19.7		4.8-14.8		4.8-14.8		55.4-60.4		7.9-17.9		58.5-63.5		59.9-64.9		7.5-17.5	
5	Units	µg/L		µg/L		µg/L		µg/L		µg/L		µg/L		µg/L		µg/L		µg/L	
6		Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual
7	TOTAL METALS																		
8	Aluminum	118	U	8860		118	U	118	U	118	U	827		118	U	118	U	38.3	J
9	Arsenic	9		7	U	7	U	7	U	7	U	2	U	2	U	7	U	6	J
10	Barium	69.4		105		79.9		79.6		135		41.3		35.9		93.4		94	
11	Cadmium	0.3	U	0.1	J	0.1	J	0.1	J	0.3	U	0.1	U	0.1	U	0.3	U	0.3	U
12	Calcium	108000		241000		666000		685000		203000		70900		179000		193000		215000	
13	Chromium	3	J	12.8	J	6.7	U	6.7	U	6.7	U	9.3	J	6.7	U	6.7	U	2	J
14	Cobalt	13.2	U	13.2	U	11.2	J	11.5	J	13.2	U	13.2	U	13.2	U	13.2	U	13.2	U
15	Copper	9.3	U	19.7		15.8		15.5		9.3	U	3.2	JB	9.3	U	9.3	U	9.3	U
16	Iron	6320		6500		31900		32400		3710		508	JB	2280	JB	5790		2650	
17	Lead	7	U	11		6	J	13	J	7	U	2	U	2	U	7	U	7	U
18	Magnesium	17500	J	12400	J	66900		66100		22900		12000	J	24200	J	20000		70800	
19	Manganese	92.5	J	380	J	1810	J	1800	J	206	J	206		71.7		126	J	318	J
20	Mercury	0.1	UJ	0.1	UJ	0.1	UJ	0.1	UJ	0.1	UJ	0.1	U	0.1	U	0.1	UJ	0.1	UJ
21	Nickel	21	U	11.5	J	13.3	J	12.2	J	21	U	7.5	J	21	UJ	21	U	21	U
22	Potassium	2700		4440		19600		18900		5780		2180		1790		7800		22200	
23	Selenium	7	U	7	U	14	U	14	UJ	14	U	4	U	4	U	14	U	14	U
24	Silver	11.1	U	11.1	U	11.1	U	11.1	U	11.1	U	11.1	U	11.1	U	11.1	U	11.1	U
25	Sodium	14100		24600		161000		160000		23500		5110		17100		18700		61100	
26	Vanadium	5.1	U	14.5		5.1	U	5.1	U	5.1	U	3.1	J	5.1	U	5.1	U	5.1	U
27	Zinc	34.1	U	37.7	JB	178	J	194	J	34.1	U	34.1	U	34.1	U	34.1	U	34.1	U
28	MISC. INORGANICS																		
29	Bromide (µg Br⁻/L)	70	J	620		2380		2420		320	J	60	J	70	J	200	J	460	J
30	Sulfate (mg SO_4/L)	156		254		1260		1250		143		169	J	318	J	351		420	

NS: Not sampled
U: Not detected
J: Estimated value
B: Analyte also present in blank

Table 9 cont.

Monitoring Well Analytical Detections - April/May 2000
Supplemental Site Investigations/Site Characterization Report
Himco Dump Superfund Site
Elkhart, Indiana

	A	AX	AY	AZ	BA	BB	BC	BD	BE	BF	BG	BH	BI	BJ	BK	BL	BM	BN	BO
1	Sample location	WT114B		WT115A		WT116A		WT116A Dup		WT116B		WT117A		WT117B		WT118B		WT119A	
2	Sample number	S057		S043		S053		S054		S055		S038		S039		S041		S042	
3	Date sampled	5/3/2000		5/1/2000		5/3/2000		5/3/2000		5/3/2000		4/27/2000		4/27/2000		4/28/2000		4/28/2000	
4	Screened interval (Feet BGS)	62.8-67.8		9.7-19.7		4.8-14.8		4.8-14.8		55.4-60.4		7.9-17.9		58.5-63.5		59.9-64.9		7.5-17.5	
5	Units	µg/L		µg/L		µg/L		µg/L		µg/L		µg/L		µg/L		µg/L		µg/L	
31	VOLATILE ORGANICS																		
32	Sample number	E01TQ		EOOFF		ECFN5		ECFN6		ECFN8		EOOF9		EOOFA		EOOFC		EOOFE	
33	Vinyl Chloride	1	U	1	U	1		1		1	U	1	U	1	U	1	U	1	U
34	Chloroethane	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U
35	1,1-Dichloroethane	1	U	1	U	8		7		1	U	1	U	1	U	2		3	
36	cis-1,2-Dichloroethene	1	U	0.5	J	1		1		1	U	1	U	1	U	1	U	1	U
37	Chloroform	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U
38	1,2-Dichloropropane	1	U	1	U	1		1		1	U	1	U	1	U	1	U	1	U
39	Trichloroethene	1	U	0.6	J	1	U	1	U	1	U	1	U	1	U	1	U	1	U
40	Benzene	1	U	1		1	U	1	U	1	U	1	U	1	U	1	U	1	U
41	Bromoform	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U
42	Tetrachloroethene	1	U	0.8	J	1	U	1	U	1	U	1	U	1	U	1	U	1	U
43	SEMIVOLATILE ORGANICS																		
44	Sample number	E01TQ		EOOFF		ECFN5		ECFN6		ECFN8		EOOF9		EOOFA		EOOFC		EOOFE	
45	Diethylphthalate	5	U	2	J	5	U	4	J	2	J	5	U	5	U	5	U	5	U
46	Butylbenzylphthalate	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U
47	bis(2-Ethylhexyl)phthalate	1	J	18		7		2	J	2	J	7		5	U	5	U	5	U
48	Di-n-octylphthalate	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U

NS: Not sampled
U: Not detected
J: Estimated value
B: Analyte also present in blank

Table 10

Direct-Push Ground Water Analytical Summary-April/May 2000
Supplemental Site Investigations/Site Characterization Report
Himco Dump Superfund Site
Elkhart, Indiana

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U
1	Sample location	GPE-1		GPE-2		GPE-3		GP114-1		GP114-2		GP114-3		GP16-1		GP16-2		GP101-1		GP101-2	
2	Sample number	SO14		SO15		SO16		SO21		SO22		SO23		S024		S025		S026		SO27	
3	Date sampled	4/25/2000		4/25/2000		4/25/2000		4/25/2000		4/25/2000		4/25/2000		4/25/2000		4/25/2000		4/25/2000		4/25/2000	
4	Depth (Feet BGS)	30-32		35-37		41-43		14.5-16.5		35-37		55-57		37-39		55-57		35-37		58-60	
5	Units	µg/L		µg/L		µg/L		µg/L		µg/L		µg/L		µg/L		µg/L		µg/L		µg/L	
6		Result	Qual	Result	Qual	Result	Qua	Result	Qual	Result	Qual	Result	Qua	Result	Qual	Result	Qual	Result	Qual	Result	Qual
7	TOTAL METALS																				
8	Aluminum	2640		3960		3190		118	U	1180		6420		2160		11900		3410		455	
9	Arsenic	5	J	13		5	J	2	U	39		38		7	J	74		17		3	J
10	Barium	99		170		120		80.6		48.4		95.6		45.7		164		118		128	
11	Beryllium	2	U	2	U	2	U	2	U	2	U	2	U	2	U	0.7	JB	2	U	2	U
12	Cadmium	0.1	J	0.2	J	0.1	J	0.1	U	0.1	U	0.3	J	0.1	J	0.6	J	0.2	J	0.1	U
13	Calcium	351000		471000		211000		179000		245000		315000		176000		505000		281000		210000	
14	Chromium	46.5	J	154	J	90.3	J	6.7	U	19.1	J	173	J	38.1	J	124	J	64.4	J	12.6	J
15	Cobalt	5.3	J	9.3	J	8.2	J	13.2	U	13.2	U	14.9	J	7.7	J	20.8	J	10.2	J	13.2	U
16	Copper	23.5	B	55.1		27.9	B	9.3	U	11.5	B	76.3	U	18.4	B	105	U	31.1	B	7.3	JB
17	Iron	19100	JB	38400	JB	17800	JB	337	JB	13400	JB	56300	JB	12800	JB	71400	JB	26400	JB	12000	JB
18	Lead	15		27		12		2	U	9		35		10		47		27		4	J
19	Magnesium	47000		58800		31100		23200		34500		57300		34100		116000		42600		33800	
20	Manganese	751		957		490		500		309		881		563		1820	J	634		356	
21	Mercury	0.1	U	0.2	J	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	J	0.1	U	0.1	U
22	Nickel	26.2	J	38.2	J	22.4	J	21	U	7	J	57.8	J	18.4	J	64.6	J	29.9	J	10.2	J
23	Potassium	8490		12500		9000		3020		2760		4650		3060		4330		6080		6190	
24	Sodium	62200		86300		31500		178000		15300		17300		21600		16300		22800		25200	
25	Vanadium	8.2		7.3		2.5	J	5.1	U	5.1	U	8.8		3.9	J	29.9		6		5.1	U
26	Zinc	94.1	JB	149	JB	86.1	JB	34.1	U	40.7	JB	156	J	43	JB	172	J	82.3	JB	34.3	JB
27	MISC. INORGANICS																				
28	Bromide (µg Br^-/L)	860	J	1330	J	260	J	170	J	60	J	70	J	40	J	60	J	290	J	170	J
29	Sulfate (mg SO_4/L)	389	J	654	J	288	J	167	J	178	J	162	J	72	J	134	J	76	J	97	J
30	VOLATILE ORGANICS																				
31	Sample number	EDPM3		EDPM6		EDPM7		EDPN5		EDPN6		EDPN7		EDCF6		EDCF7		EDCF8		EDCF9	
32	Chloroethane	2		1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	2	
33	Carbon Disulfide	1	U	0.5	J	0.6	J	1	U	1	U	0.5	J	1	U	1	U	0.6	J	1	U
34	1,1-Dichloroethane	0.8	J	1	U	1	U	1		4		1		1	U	1		5		0.8	J
35	cis-1,2-Dichloroethene	1	U	1	U	1	U	1	U	1		0.7	J	1	U	1	U	1	U	1	U
36	1,2-Dichloropropane	0.5	J	1	U	1	U	1	U	2		1	U	2		1	U	1	U	1	U
37	Trichloroethene	1	U	1	U	1	U	1	U	1	U	1	U	0.5	J	1	U	1	U	1	U
38	Benzene	1		2		1	U	1	U	1		0.9	J	1	U	1	U	1		1	U
39	SEMIVOLATILE ORGANICS																				
40	Sample number	EDPM3		EDPM6		EDPM7		EDPN5		EDPN6		EDPN7		EDCF6		EDCF7		EDCF8		EDCF9	
41	Phenol	5	U	5	U	5		5	U	5	U	5	U	5	U	5	U	5	U	5	U
42	bis(2-Ethylhexyl)phthalate	5		5	U	4	J	5	U	5	U	2	J	5	U	5	U	5	U	4	J

U: Not detected
J: Estimated value
B: Analyte also present in blank

Table 11

Ground-water wells near Elkhart, Indiana sampled in 2000 and 2002 for selected industrial and household wastewater compounds.

[None, no data or comment; mm/dd/yyyy, date in month, day and year format; hhmm, time in hour and minute, 24 hour format; ug/L micrograms per liter; <, less than; ND, not detected in sample, minimum detection level not reported]

		Station Name					
Parameter or compound name	Reporting units	54305 WESTWOOD DRIVE AT ELKHART, IN RESIDENTIAL WELL (Result from duplicate sample, if different, in parenthesis)	HIMCO LF 116A AT ELKHART, IN	HIMCO LF 116A AT ELKHART, IN	USEPA WELL 101A AT HIMCO LANDFILL AT ELKHART, IN	USEPA WELL 115A AT HIMCO LANDFILL AT ELKHART, IN	Analytical comments, with blank sample concentrations in parenthesis
Station Identifier		414218086001101	414216086001701	414216086001701	414215086001702	None	
Collection Date	mm/dd/yyyy	11/15/2000	11/16/2000	10/31/2002	11/16/2000	10/31/2002	
Collection Time	hhmm	1630	1115	1400	1320	1500	
Industrial and Household Wastewater Products							
Acetophenone	ug/L	< 0.220	< 0.220	< 0.500	< 0.220	< 0.500	None
Anthraquinone	ug/L	--	--	< 0.500	--	< 0.500	None
Bis(2-ethyl hexyl) adipate	ug/L	< 2.000	< 2.000	--	< 2.000	--	None
Benzophenone	ug/L	--	--	< 0.500	--	E 0.069	None
5-methyl-1H-benzotriazole	ug/L	< 0.150	0.317	< 2.000	0.303	< 2.000	None
Bromoform	ug/L	--	--	< 0.500	--	< 0.500	None
Butylated hydroxyanisole (BHA)	ug/L	< 0.120	< 0.120	< 5.000	< 0.120	< 5.000	None
Butylated hydroxytoluene (BHT)	ug/L	< 0.110	< 0.110	--	< 0.110	--	None
Caffeine	ug/L	< 0.080	< 0.080	< 0.500	< 0.080	E 4.200	None
Camphor	ug/L	--	--	< 0.500	--	< 0.500	None
Carbazole	ug/L	--	--	< 0.500	--	< 0.500	None
Codeine	ug/L	< 0.200	< 0.200	--	< 0.200	--	None
Cotinine	ug/L	< 0.080	< 0.080	< 1.000	< 0.080	E 0.100	None
p-Cresol	ug/L	< 0.060	0.124	< 1.000	0.072	< 1.000	None
Cumene	ug/L	--	--	E 0.140	--	< 0.500	None
1,4-Dichlorobenzene	ug/L	< 0.040	0.313	E 0.190	0.076	< 0.500	None
3,4-Dichlorophenyl isocyanate	ug/L	--	--	< 0.500	--	< 0.500	None
N,N-Diethyltoluamide (DEET)	ug/L	< 0.080	0.462	E 0.380	0.241	E 0.280	None

Table 11 cont.

Ground-water wells near Elkhart, Indiana sampled in 2000 and 2002 for selected industrial and household wastewater compounds

		Station Name					
Parameter or compound name	Reporting units	54305 WESTWOOD DRIVE AT ELKHART, IN RESIDENTIAL WELL (Result from duplicate sample, if different, in parenthesis)	HIMCO LF 116A AT ELKHART, IN	HIMCO LF 116A AT ELKHART, IN	USEPA WELL 101A AT HIMCO LANDFILL AT ELKHART, IN	USEPA WELL 115A AT HIMCO LANDFILL AT ELKHART, IN	Analytical comments, with blank sample concentrations in parenthesis
Station Identifier		414218086001101	414216086001701	414216086001701	414215086001702	None	
Collection Date	mm/dd/yyyy	11/15/2000	11/16/2000	10/31/2002	11/16/2000	10/31/2002	
Collection Time	hhmm	1630	1115	1400	1320	1500	
Industrial and Household Wastewater Products							
2,6-Dimethylnapthalene	ug/L	--	--	< 0.500	--	< 0.500	None
Ethyl citrate	ug/L	--	--	< 0.500	--	E 0.077	None
Galaxolide (HHCB)	ug/L	--	--	< 0.500	--	E 0.085	None
Indole	ug/L	--	--	< 0.500	--	< 0.500	None
Isoborneol	ug/L	--	--	< 0.500	--	< 0.500	None
Isoquinoline	ug/L	--	--	< 0.500	--	< 0.500	None
d-Limonene	ug/L	--	--	< 0.500	--	< 0.500	None
Menthol	ug/L	--	--	< 0.500	--	E 0.094	None
1-Methylnapthalene	ug/L	--	--	< 0.500	--	< 0.500	None
2-Methylnapthalene	ug/L	--	--	< 0.500	--	< 0.500	None
Methyl salicylate	ug/L	--	--	< 0.500	--	< 0.500	None
Naphthalene	ug/L	< 0.025	< 0.025	< 0.500	< 0.025	< 0.500	None
Bisphenol A	ug/L	< 0.090	1.29	E 0.540	0.69	E 0.360	Detected in 2002 equipment rinse blank sample (E 0.1)
4-Cumylphenol	ug/L	--	--	< 1.000	--	< 1.000	None
Pentachlorophenol	ug/L	--	--	< 2.000	--	< 2.000	None
Phenol	ug/L	< 0.450 (E 0.314)	< 0.450	< 0.500	E 0.511	< 0.500	None

Table 11 cont.

Ground-water wells near Elkhart, Indiana sampled in 2000 and 2002 for selected industrial and household wastewater compounds

		Station Name					
Parameter or compound name	Reporting units	54305 WESTWOOD DRIVE AT ELKHART, IN RESIDENTIAL WELL (Result from duplicate sample, if different, in parenthesis)	HIMCO LF 116A AT ELKHART, IN	HIMCO LF 116A AT ELKHART, IN	USEPA WELL 101A AT HIMCO LANDFILL AT ELKHART, IN	USEPA WELL 115A AT HIMCO LANDFILL AT ELKHART, IN	Analytical comments, with blank sample concentrations in parenthesis
Station Identifier		414218086001101	414216086001701	414216086001701	414215086001702	None	
Collection Date	mm/dd/yyyy	11/15/2000	11/16/2000	10/31/2002	11/16/2000	10/31/2002	
Collection Time	hhmm	1630	1115	1400	1320	1500	
Herbicides and Pesticides							
Atrazine	ug/L	--	--	< 0.500	--	< 0.500	None
Bromacil	ug/L	--	--	< 0.500	--	< 0.500	None
Carbaryl	ug/L	< 0.060	< 0.060	< 1.000	< 0.060	< 1.000	None
cis-Chlordane	ug/L	< 0.040	< 0.040	--	< 0.040	--	None
Chlorpyrifos	ug/L	< 0.020	< 0.020	< 0.500	< 0.020	< 0.500	None
Diazinon	ug/L	< 0.030	< 0.030	< 0.500	< 0.030	< 0.500	None
Dichlorvos	ug/L	--	--	< 1.000	--	< 1.000	None
Dieldrin	ug/L	< 0.080	< 0.080	--	< 0.080	--	None
Lindane	ug/L	< 0.050	< 0.050	--	< 0.050	--	None
Metalaxyl	ug/L	--	--	< 0.500	--	< 0.500	None
Metolachlor	ug/L	--	--	< 0.500	--	< 0.500	None
Methyl parathion	ug/L	< 0.060	< 0.060	--	< 0.060	--	None
Prometon	ug/L	--	--	< 0.500	--	< 0.500	None
Polynuclear Aromatic Hydrocarbons							
Anthracene	ug/L	< 0.060	E 0.034	< 0.500	< 0.060	< 0.500	None
Fluoranthene	ug/L	< 0.030	< 0.030	E 0.076	< 0.030	< 0.500	None
Phenanthrene	ug/L	< 0.050	< 0.050	< 0.500	< 0.050	< 0.500	None
Pyrene	ug/L	< 0.030	< 0.030	< 0.500	< 0.030	< 0.500	None
Benzo(a)pyrene	ug/L	< 0.070	< 0.070	< 0.500	< 0.070	< 0.500	None

Table 11 cont.

Ground-water wells near Elkhart, Indiana sampled in 2000 and 2002 for selected industrial and household wastewater compounds

Parameter or compound name	Reporting units	Station Name: 54305 WESTWOOD DRIVE AT ELKHART, IN RESIDENTIAL WELL (Result from duplicate sample, if different, in parenthesis)	HIMCO LF 116A AT ELKHART, IN	HIMCO LF 116A AT ELKHART, IN	USEPA WELL 101A AT HIMCO LANDFILL AT ELKHART, IN	USEPA WELL 115A AT HIMCO LANDFILL AT ELKHART, IN	Analytical comments, with blank sample concentrations in parenthesis
Station Identifier		414218086001101	414216086001701	414216086001701	414215086001702	None	
Collection Date	mm/dd/yyyy	11/15/2000	11/16/2000	10/31/2002	11/16/2000	10/31/2002	
Collection Time	hhmm	1630	1115	1400	1320	1500	
Industrial and Household Wastewater Products							
Nonylphenol monoethoxylate-total (NPEO1)	ug/L	< 1.000	E 0.774	< 5.000	E 0.941	E 3.800	None
Nonylphenol monoethoxylate-total (NPEO2)	ug/L	< 1.100	< 1.100	< 5.000	E 1.460	E 0.890	None
4-n-Octylphenol	ug/L	--	--	< 1.000	--	< 1.000	None
4-tert-Octylphenol	ug/L	--	--	< 1.000	--	< 1.000	None
Octylphenol monoethyoxylate (OPEO1)	ug/L	< 0.120	E 0.166	< 1.000	E 0.260	E 0.280	Detected in 2002 laboratory blank sample (E 0.13)
Octylphenol diethyoxylate (OPEO2)	ug/L	< 0.200	< 0.200	< 1.000	< 0.200	< 1.000	None
2,6-di-t-Butylphenol	ug/L	< 0.150	< 0.150	--	< 0.150	--	None
p-Nonylphenol-total	ug/L	< 0.700	E 1.450	< 5.000	E 0.330	E 1.800	None
2,6-di-t-p-Benzoquinone	ug/L	< 0.500	E 0.965	--	< 0.500	--	None
Skatol	ug/L	--	--	< 1.000	--	< 1.000	None
Tetrachloroethylene	ug/L	< 0.030	< 0.030	< 0.500	< 0.030	< 0.500	None
Triclosan	ug/L	E 0.040 (E 0.041)	< 0.050	< 1.000	E 0.036	E 0.260	Detected in 2000 laboratory blank sample (E 0.044)
Tonalide (AHTN)	ug/L	--	--	< 0.500	--	E 0.330	None

Table 11 cont.

Ground-water wells near Elkhart, Indiana sampled in 2000 and 2002 for selected industrial and household wastewater compounds

Parameter or compound name	Reporting units	Station Name: 54305 WESTWOOD DRIVE AT ELKHART, IN RESIDENTIAL WELL (Result from duplicate sample, if different, in parenthesis)	HIMCO LF 116A AT ELKHART, IN	HIMCO LF 116A AT ELKHART, IN	USEPA WELL 101A AT HIMCO LANDFILL AT ELKHART, IN	USEPA WELL 115A AT HIMCO LANDFILL AT ELKHART, IN	Analytical comments, with blank sample concentrations in parenthesis
Station Identifier		414218086001101	414216086001701	414216086001701	414215086001702	None	
Collection Date	mm/dd/yyyy	11/15/2000	11/16/2000	10/31/2002	11/16/2000	10/31/2002	
Collection Time	hhmm	1630	1115	1400	1320	1500	
Industrial and Household Wastewater Products							
Fire Retardants							
Tributylphosphate	ug/L	--	--	0.64	--	E 0.100	None
Tri(2-chloroethyl)phosphate	ug/L	0.649 (0.741)	0.238	E 0.160	0.206	E 0.130	None
Tri(dichlorisopropyl)phosphate	ug/L	< 0.100	< 0.100	E 0.120	< 0.100	< 0.500	None
Ethanol,2-butoxy-,phosphate	ug/L	< 0.200	0.948	E 0.890	0.215	E 0.220	None
PBDE4-1	ug/L	--	--	< 10.000	--	< 10.000	None
PBDE4-2	ug/L	--	--	< 10.000	--	< 10.000	None
PBDE4-3	ug/L	--	--	< 10.000	--	< 10.000	None
PBDE5-1	ug/L	--	--	< 10.000	--	< 10.000	None
PBDE5-2	ug/L	--	--	< 10.000	--	< 10.000	None
PBDE5-3	ug/L	--	--	< 10.000	--	< 10.000	None
PBDE6-1	ug/L	--	--	< 10.000	--	< 10.000	None
PBDE6-2	ug/L	--	--	< 10.000	--	< 10.000	None
Plasticizers							
Diethylphthalate	ug/L	< 0.350	< 0.350	< 0.500	E 5.280	1.2	None
Diethylhexyl phthalate	ug/L	--	--	< 0.500	--	< 0.500	Detected in 2002 laboratory blank sample (E 1.0)
Bis(2-ethylhexyl) phthalate	ug/L	E 3.620 (< 2.500)	E 3.260	--	< 2.500	--	None
Phthalic anhydride	ug/L	< 0.350	< 0.350	--	E 1.150	--	None
Triphenyl phosphate	ug/L	< 0.100	< 0.100	< 0.500	< 0.100	< 0.500	None

Table 11 cont.

Ground-water wells near Elkhart, Indiana sampled in 2000 and 2002 for selected industrial and household wastewater compounds

Parameter or compound name	Reporting units	Station Name: 54305 WESTWOOD DRIVE AT ELKHART, IN RESIDENTIAL WELL (Result from duplicate sample, if different, in parenthesis)	HIMCO LF 116A AT ELKHART, IN	HIMCO LF 116A AT ELKHART, IN	USEPA WELL 101A AT HIMCO LANDFILL AT ELKHART, IN	USEPA WELL 115A AT HIMCO LANDFILL AT ELKHART, IN	Analytical comments, with blank sample concentrations in parenthesis
Station Identifier		414218086001101	414216086001701	414216086001701	414215086001702	None	
Collection Date	mm/dd/yyyy	11/15/2000	11/16/2000	10/31/2002	11/16/2000	10/31/2002	
Collection Time	hhmm	1630	1115	1400	1320	1500	
Hormones							
3B-Coprostanol	ug/L	< 0.600	< 0.600	E 0.350	< 0.600	E 2.000	None
Cholesterol	ug/L	< 1.500	< 1.500	E 0.640	< 1.500	E 3.700	None
Stigmastanol	ug/L	< 2.000	< 2.000	< 2.000	< 2.000	< 2.000	None
beta-Sitosterol	ug/L	--	--	< 2.000	--	E 1.400	None

Table 12

Ground-water wells near Elkhart, Indiana sampled in 2000 and 2002 for selected pharmaceutical compounds

[None, no data or comment; mm/dd/yyyy, date in month, day and year format; hhmm, time in hour and minute, 24 hour format; ug/L micrograms per liter; <, less than; ND, not detected in sample, minimum detection level not reported]

		Station Name					
Parameter or pharmaceutical name	Reporting units	54305 WESTWOOD DRIVE AT ELKHART, IN RESIDENTIAL WELL	HIMCO LF 116A AT ELKHART, IN	HIMCO LF 116A AT ELKHART, IN	USEPA WELL 101A AT HIMCO LANDFILL AT ELKHART, IN	USEPA WELL 115A AT HIMCO LANDFILL AT ELKHART, IN	Analytical comments, with blank sample concentrations in parenthesis
Station Identifier		414218086001101	414216086001701	414216086001701	414215086001702	None	
Collection Date	mm/dd/yyyy	11/15/2000	11/16/2000	10/31/2002	11/16/2000	10/31/2002	
Collection Time	hhmm	1630	1115	1400	1320	1500	
Diltiazem	ug/L	< 0.012	< 0.012	< 0.012	< 0.012	< 0.012	None
Enalaprilat	ug/L	< 0.152	< 0.152	--	< 0.152	--	None
Erythromycin	ug/L	--	--	ND	--	ND	None
Fluoxetine	ug/L	< 0.018	< 0.018	< 0.018	E 0.0049	< 0.018	None
Furosemide	ug/L	ND	ND	ND	ND	ND	None
Ibuprofen	ug/L	< 0.018	< 0.018	< 0.018	3.11	< 0.018	None
Gemfibrozil	ug/L	< 0.015	< 0.015	< 0.015	< 0.015	< 0.015	None
Paroxetine metabolite	ug/L	< 0.026	< 0.026	--	< 0.026	--	None
Lisinopril	ug/L	ND	ND	--	ND	--	None
Metformin	ug/L	< 0.003	< 0.003	< 0.003	< 0.003	< 0.003	None
Miconazole	ug/L	--	--	ND	--	ND	None
Naproxen	ug/L	--	--	ND	--	ND	None
Salbutamol	ug/L	< 0.029	< 0.029	< 0.029	< 0.029	< 0.029	None
Sulfamethoxazole	ug/L	< 0.023	< 0.023	< 0.023	< 0.023	< 0.023	None
Thiabendazole	ug/L	ND	ND	ND	ND	ND	None
Trimethoprim	ug/L	< 0.014	< 0.014	< 0.014	< 0.014	< 0.014	None
Urobilin	ug/L	ND	ND	--	ND	--	None
Warfarin	ug/L	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	None

Table 12 cont.

Ground-water wells near Elkhart, Indiana sampled in 2000 and 2002 for selected antibiotic compounds

[mm/dd/yyyy, date in month, day and year format; hhmm, time in hour and minute, 24 hour format; <, less than]

		Station Name		
Parameter or antibiotic name	Reporting units	54305 WESTWOOD DRIVE AT ELKHART, IN RESIDENTIAL WELL	HIMCO LF 116A AT ELKHART, IN	USEPA WELL 101A AT HIMCO LANDFILL AT ELKHART, IN
Station identifier		414218086001101	414216086001701	414215086001702
Date	mm/dd/yyyy	11/15/2000	11/16/2000	11/16/2000
Time	hhmm	1630	1115	1320
Carbadox	ug/L	<0.1	<0.1	<0.1
Chlortetracycline	ug/L	<0.05	<0.05	<0.05
Ciprofloxacin	ug/L	<0.02	<0.02	<0.02
Doxycycline	ug/L	<0.1	<0.1	<0.1
Enrofloxacin	ug/L	<0.02	<0.02	<0.02
Erythromycin-H2O	ug/L	<0.05	<0.05	<0.05
Lincomycin	ug/L	<0.05	<0.05	<0.05
Norfloxaxin	ug/L	<0.02	<0.02	<0.02
Oxytetracycline	ug/L	<0.1	<0.1	<0.1
Roxithromycin	ug/L	<0.03	<0.03	<0.03
Sarafloxacin	ug/L	<0.02	<0.02	<0.02
Sulfachloropyradizine	ug/L	<0.1	<0.1	<0.1
Sulfadimethoxine	ug/L	<0.05	<0.05	<0.05
Sulfamerazine	ug/L	<0.05	<0.05	<0.05
Sulfamethazine	ug/L	<0.05	<0.05	<0.05
Sulfamethizole	ug/L	<0.1	<0.1	<0.1
Sulfamethoxazole	ug/L	<0.1	<0.1	<0.1
Sulfathiazole	ug/L	<0.1	<0.1	<0.1
Tetracycline	ug/L	<0.05	<0.05	<0.05
Trimethoprim	ug/L	<0.03	<0.03	<0.03
Tylosin	ug/L	<0.05	<0.05	<0.05
Virginiamycin	ug/L	<0.1	<0.1	<0.1

REFERENCES CITED:

Barnes, K.K., Kolpin, D.W., Meyer, M.T., Thurman, E.M., Furlong, E.T., Zaugg, S.D., And Larry B. Barber, L.B., 2002, Water-quality data for pharmaceuticals, hormones and other organic wastewater contaminants in U.S. streams, 1999-2000: USGS Open-File Report 02-94, URL: http://toxics.usgs.gov/pubs/OFR-02-94/index.html, accessed July 17, 2003.

Kolpin, D.W., Furlong, E.T., Meyer, M.T., Thurman, E.M., Zaugg, S.D., Barber, L.B., and Buxton, H.T., 2002, Pharmaceuticals, hormones, and other organic wastewater contaminants in U.S. streams, 1999- 2000: A national reconnaissance: Environmental Science & Technology, v. 36, no. 6, p. 1202-1211

Table 12 cont.

Ground-water wells near Elkhart, Indiana sampled in 2002 for analysis by USEPA, Region 5 Central Regional Laboratory, Chicago, Illinois.
(#/#, duplicate sample results; None, no data or comment; ug/L micrograms per liter)

Parameter or compound name	Reporting Units	HIMCO LF 116A AT ELKHART, IN	USEPA WELL 115A AT HIMCO LANDFILL AT ELKHART, IN	Analytical comments with blank sample concentrations in parenthesis
1,4-Dioxane	ug/L	9.2/32	11	None
Tetrahydrofuran	ug/L	7.4/8.7	6.3	None

Table 13

Construction Debris Area Soil Analytical Results - October 1998
Himco Dump Superfund Site
Elkhart, Indiana

Sample location	SB03-0.5			SB03-2			SB04-0.5			SB04-2			SB04-6			SB05-0.5			SB05-2		
Date sampled	10/12/1998			10/12/1998			10/19/1998			10/19/1998			10/19/1998			10/19/1998			10/19/1998		
Sample Number	MEBQC1			MEBQC2			MEBQE3			MEBQE4			MEBQE5			MEBQE1			MEBQE2		
Units	mg/kg			mg/kg			mg/kg			mg/kg			mg/kg			mg/kg			mg/kg		
	Result	RL	Qual.	Result	RL	Qual.	Result	RL	Qual.	Result	RL	Qual.	Result	RL	Qual.	Result	RL	Qual.	Result	RL	Qual.
TOTAL METALS																					
Aluminum	**4080**			**3960**			**3340**			**5130**			**3340**			**2580**			**3070**		
Antimony	<	11.5	J	<	11.3	J	<	9.0		<	9.0		<	10.3		<	8.9		<	8.8	
Arsenic	**1.6**			**1.3**			**1.00**		J	**1.1**		J	**0.60**		J	**1.2**		J	**0.60**		J
Barium	**27.9**			**21.9**			**21.2**			**39.5**			**18.7**			**44.7**			**34.5**		
Beryllium	<	0.20		<	0.20		**0.10**		J	**0.20**		J	<	0.10		**0.20**		J	**0.30**		J
Cadmium	<	1.0		**1.0**			<	1.0		<	1.0		<	1.1		**1.1**			<	1.0	
Calcium	**1670**		J	**480**		J	**1020**			**1530**			**2070**			**5460**			**4180**		
Chromium	**5.2**		J	**5.3**		J	**4.8**			**6.4**			**5.1**			**7.0**			**8.3**		
Cobalt	<	3.4		<	3.4		<	1.7		<	1.7		<	1.9		**3.2**		J	**3.1**		J
Copper	**15.9**		J	**4.3**			**3.8**		J	**3.3**		J	**3.1**		J	**16.4**			**17.1**		
Iron	**3450**			**2530**			**4120**			**5070**			**2570**			**4590**			**4360**		
Lead	**9.8**			**11.7**			**8.1**		J	**7.8**		J	**6.2**		J	**56.9**			**22.3**		
Magnesium	**697**		J	**333**		J	**724**			**833**			**346**			**2390**			**2050**		
Manganese	**58.7**			**14.8**			**69.9**			**86.2**			**58.1**			**109**			**66.4**		
Mercury	<	0.06		<	0.06		**0.05**		J	**0.05**		J	<	0.06		**0.08**		J	**0.06**		J
Nickel	<	8.4		<	8.2		<	6.1		<	6.0		<	6.9		**6.2**		J	**12.3**		J
Potassium	**253**		J	<	127		<	198		**288**		J	<	227		<	195		**419**		J
Selenium	**0.80**		J	**0.90**		J	<	0.10		<	0.10		<	0.10		<	0.10		<	0.10	
Silver	<	0.90		<	0.90		<	1.1		<	1.1		<	1.3		<	1.1		<	1.1	
Sodium	**20.4**		J	**39.0**		J	**34.5**		J	**525**			**110**		J	**50.2**		J	**50.6**		J
Thallium	<	0.40		<	0.40		<	0.08		<	0.08		<	0.1		<	0.08		<	0.08	
Vanadium	**7.8**			**5.7**		J	**7.0**		J	**9.4**		J	**3.7**		J	**8.3**		J	**9.2**		J
Zinc	**26.0**			**14.4**			**15.6**			**17.3**			**10.0**			**72.9**			**52.4**		
Cyanide	**0.05**		J	**0.2**		J	<	0.10		**0.10**		J	**0.20**		J	**0.30**		J	**0.20**		J
VOLATILE ORGANICS																					
Sample Number	ECMK2			ECMK3			ECML6			ECML7			ECML8			ECML4			ECML5		
Units	µg/kg			µg/kg			µg/kg			µg/kg			µg/kg			µg/kg			µg/kg		
Methylene Chloride	**34**			<	18		<	11		<	11		<	13		<	11		<	10	
Acetone	**2**		J	**2**		J	<	11		<	11		<	13		<	11		<	10	
Carbon Disulfide	<	11		<	11		<	11		<	11		<	13		<	11		<	10	
1,1-Dichloroethane	<	11		<	11		<	11		<	11		<	13		<	11		<	10	
Benzene	<	11		<	11		<	11		<	11		<	13		<	11		<	10	
Ethylbenzene	<	11		<	11		<	11		<	11		<	13		<	11		<	10	
Xylene (total)	<	11		<	11		<	11		<	11		<	13		<	11		<	10	

RL = Reporting Limit (For this data set the Reporting Limit is the Contract Required Quantitation Limit)
J= Estimated Value
R=Rejected Value (The data is unusable.)

Table 13 cont.

Construction Debris Area Soil Analytical Results - October 1998
Himco Dump Superfund Site
Elkhart, Indiana

Sample location	SB06-0.5			SB06-0.5 Dup			SB06-2			SB07-0.5			SB07-2			SB08-0.5			SB08-2		
Date sampled	10/19/1998			10/19/1998			10/19/1998			10/21/1998			10/21/1998			10/20/1998			10/20/1998		
Sample Number	MEBQE6			MEBQE7			MEBQF4			MEBQH6			MEBQH7			MEBQF5			MEBQF6		
Units	mg/kg			mg/kg			mg/kg			mg/kg			mg/kg			mg/kg			mg/kg		
	Result	RL	Qual.	Result	RL	Qual.	Result	RL	Qual.	Result	RL	Qual.	Result	RL	Qual.	Result	RL	Qual.	Result	RL	Qual.
TOTAL METALS																					
Aluminum	4220			3000			2770			3100			1730			3150			1900		
Antimony	<	9.4		<	9.4		<	9.0		13.1		J	<	8.7	J	<	8.7		<	8.6	
Arsenic	2.1		J	1.4		J	1.1		J	2.3		J	0.70		J	1.1		J	0.55		J
Barium	51.8			47.7			40.4			13.0			7.8			14.8		J	126		
Beryllium	<	0.10		<	0.10		0.30		J	0.20		J	0.10		J	<	0.12		<	0.12	
Cadmium	<	1.0		<	1.0		<	1.0		<	1.0		<	0.90		<	0.95		<	0.94	
Calcium	1750			1660			728			1320			2140			953		J	<	6060	
Chromium	4.5			5.5			4.6			6.0			5.1			5.3			5.3		
Cobalt	3.3		J	1.9		J	2.8		J	4.0			1.9			3.3		J	1.9		J
Copper	20.4			19.9			22.6			7.4			6.4			5.3			5.1		J
Iron	6200			4800			3660			5240			4390			4680			2590		
Lead	13.4		J	17.2		J	9.4		J	5.2			6.5		S*	5.4			6.9		J
Magnesium	746			598			470			1140			1160			919		J	1040		
Manganese	337			296			227			133			44.7			105			35.8		
Mercury	<	0.06		<	0.06		<	0.05		<	0.05		<	0.05		0.05		J	<	0.05	
Nickel	9.6		J	7.0		J	<	6.0		6.0			<	5.8		<	5.9		6.7		J
Potassium	219		J	<	205		227		J	234			226			<	192		<	190	
Selenium	<	0.10		<	0.10		<	0.10		<	0.10	J	<	0.10	J	<	0.12		<	0.12	
Silver	<	1.2		<	1.2		<	1.1		<	1.1		<	1.1		<	1.1		<	1.1	
Sodium	24.8		J	<	18.1		32.6		J	41.6			<	16.8		29.9		J	32.7		J
Thallium	<	0.09		<	0.09		<	0.08		0.10		J	<	0.08	J	<	0.08		<	0.08	
Vanadium	8.5		J	7.0		J	5.2		J	8.1			4.7			10.0		J	5.7		J
Zinc	52.3			45.0			41.0			20.2			40.0			15.5			14.9		
Cyanide	0.30		J	<	0.10		<	0.10		0.20		J	<	0.10	J	0.92		J	0.40		J
VOLATILE ORGANICS																					
Sample Number	ECML9			ECMM6			ECMM7			ECMP9			ECMQ6			ECMM8			ECMM9		
Units	µg/kg			µg/kg			µg/kg			µg/kg			µg/kg			µg/kg			µg/kg		
Methylene Chloride	<	11		<	11		<	11		<	10		<	10		<	10		<	10	
Acetone	<	11		<	11		<	11		<	10		<	10		<	10		<	10	
Carbon Disulfide	<	11		<	11		<	11		<	10		<	10		<	10		<	10	
1,1-Dichloroethane	<	11		<	11		<	11		<	10		<	10		<	10		<	10	
Benzene	<	11		<	11		<	11		<	10		<	10		<	10		<	10	
Ethylbenzene	<	11		<	11		<	11		<	10		<	10		<	10		<	10	
Xylene (total)	<	11		<	11		<	11		<	10		<	10		<	10		<	10	

RL = Reporting Limit (For this data set the Reporting Limit is the Contract Required Quantitation Limit)
J= Estimated Value
R=Rejected Value (The data is unusable.)

Table 13 cont.

Construction Debris Area Soil Analytical Results - October 1998
Himco Dump Superfund Site
Elkhart, Indiana

Sample location	SB09-0.5			SB09-0.5 Dup			SB09			SB10-0.5			SB10-0.5 Dup			SB10-2			SB10-6		
Date sampled	10/21/1998			10/21/1998			10/21/1998			10/20/1998			10/20/1998			10/20/1998			10/20/1998		
Sample Number	MEBQH3			MEBQH4			MEBQH5			MEBQF7			MEBQF8			MEBQF9			MEBQG0		
Units	mg/kg			mg/kg			mg/kg			mg/kg			mg/kg			mg/kg			mg/kg		
	Result	RL	Qual.	Result	RL	Qual.	Result	RL	Qual.	Result	RL	Qual.	Result	RL	Qual.	Result	RL	Qual.	Result	RL	Qual.
TOTAL METALS																					
Aluminum	2480			2500			2120			4230			5670			3610			3320		
Antimony	<	9.0		<	8.9		<	8.8		<	9.1		<	9.2		<	8.9		<	9.0	
Arsenic	1.1		J	1.7		J	0.80		J	1.5		J	1.4		J	1.2		J	0.64		J
Barium	14.1		J	13.4		J	12.1		J	51.7			55.1			48.7			24.7		J
Beryllium	<	0.13		<	0.13		<	0.13		<	0.13		<	0.13		<	0.13		<	0.13	
Cadmium	<	0.98		<	0.97		<	0.96		<	0.99		1.2			<	0.97		<	0.99	
Calcium	19600			2650			12600			586		J	710		J	361		J	535		J
Chromium	5.7			5.4			5.2			5.5			7.0			5.5			7.6		
Cobalt	3.1		J	2.8		J	2.8		J	3.4		J	3.3		J	3.1		J	<	1.7	
Copper	9.2			9.1			8.0			35.1			37.2			38.1			12.7		
Iron	4750			4610			3620			4780			5330			4290			1330		
Lead	6.7			6.7			6.0			21.1		J	28.9		J	16.3		J	8.0		S
Magnesium	2380			1410			3500			559		J	766		J	503		J	678		J
Manganese	172			144			62.6			317			319			169			86.6		
Mercury	<	0.05		0.06		J	<	0.05		<	0.05		0.07		J	<	0.05		<	0.05	
Nickel	7.0		J	9.5			<	5.9		8.1		J	8.1		J	<	6.0		<	6.1	
Potassium	264		J	<	196		<	194		<	200		297		J	238		J	<	198	
Selenium	<	0.13		<	0.13	J	<	0.13	J	<	0.13		<	0.13		<	0.13		<	0.13	
Silver	<	1.1		<	1.1		<	1.1		<	1.1		<	1.1		<	1.1		<	1.1	
Sodium	36.2		J	37.6		J	32.6		J	34.3		J	45.5		J	39.3		J	29.8		J
Thallium	<	0.09		<	0.08		<	0.08		<	0.09		<	0.09		<	0.08		0.09		
Vanadium	7.2		J	8.8		J	7.6		J	10.1		J	10.4		J	9.5		J	<	10.9	
Zinc	26.2			22.2			24.1			58.3			68.9			50.1			24.9		
Cyanide	0.56		J	0.37		J	0.58		J	4.2			0.58		J	4.9			0.16		J
VOLATILE ORGANICS																					
Sample Number	ECMP6			ECMP7			ECMP8			ECMN0			ECMN1			ECMN2			ECMN3		
Units	µg/kg			µg/kg			µg/kg			µg/kg			µg/kg			µg/kg			µg/kg		
Methylene Chloride	<	11		<	10		<	10		<	11		<	11		<	10		<	11	
Acetone	<	11		<	10		<	10		<	11		<	11		<	10		<	11	
Carbon Disulfide	<	11		<	10		<	10		<	11		<	11		<	10		<	11	
1,1-Dichloroethane	<	11		<	10		<	10		<	11		<	11		<	10		<	11	
Benzene	<	11		<	10		<	10		<	11		<	11		<	10		<	11	
Ethylbenzene	<	11		<	10		<	10		<	11		<	11		<	10		<	11	
Xylene (total)	<	11		<	10		<	10		<	11		<	11		<	10		<	11	

RL = Reporting Limit (For this data set the Reporting Limit is the Contract Required Quantitation Limit)
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Table 13 cont.

Construction Debris Area Soil Analytical Results - October 1998
Himco Dump Superfund Site
Elkhart, Indiana

Sample location	SB11-0.5			SB11-2			SB11-6			SB12-0.5			SB12-2			SB12-6			SB13-0.5		
Date sampled	10/21/1998			10/21/1998			10/21/1998			10/20/1998			10/20/1998			10/20/1998			10/20/1998		
Sample Number	MEBQH0			MEBQH1			MEBQH2			MEBQG7			MEBQG8			MEBQG9			MEBQG4		
Units	mg/kg			mg/kg			mg/kg			mg/kg			mg/kg			mg/kg			mg/kg		
	Result	RL	Qual.	Result	RL	Qual.	Result	RL	Qual.	Result	RL	Qual.	Result	RL	Qual.	Result	RL	Qual.	Result	RL	Qual.
TOTAL METALS																					
Aluminum	4740			3360			4270			2260			1360			2280			3900		
Antimony	<	8.9	J	9.2		J	<	8.8	J	<	8.8		<	8.7		<	8.8		<	9.4	
Arsenic	12.5		J	4.7		J	2.8		J	1.1		J	0.70		J	0.9		J	2.1		J
Barium	102			57.0			55.8			13.8		J	8.0		J	14.2		J	65.8		
Beryllium	0.50		J	0.20		J	0.20		J	0.25		J	<	0.12		<	0.13		0.30		J
Cadmium	1.1			<	1.0		<	1.0		<	0.96		<	0.95		<	0.96		1.2		
Calcium	21900			26400			7620			1060			2990			1510			9970		
Chromium	12.6			9.2			17.2			5.1			3.3			6.3			8.5		
Cobalt	3.2			3.4			6.8			2.8		J	3.5		J	3.4		J	3.2		J
Copper	149			48.1			45.9			6.2			4.6		J	12.5			18.9		
Iron	11100			8820			21200			4080			2470			4570			5970		
Lead	160		J	92.9		J	186		J	6.1		J	5.4			7.1		J	167		
Magnesium	5950			11400			2580			853		J	1920			1140			1550		
Manganese	492			278			398			128			47.4			52.9			326		
Mercury	0.20			0.20			0.20			<	0.05		<	0.05		<	0.05		0.10		J
Nickel	12.0			<	5.9		10.0			<	5.9		<	5.9		<	5.9		8.8		J
Potassium	462			287			377			<	193		<	192		<	194		423		J
Selenium	<	0.10	J	<	0.10	J	<	0.10	J	<	0.12		<	0.12		0.13			<	0.10	
Silver	<	1.1		<	1.1		<	1.1		<	1.1		<	1.1		<	1.1		<	1.2	
Sodium	127			54.7			49.1			38.2		J	30.5		J	61.5		J	48.6		J
Thallium	0.10			<	0.08		<	0.08		<	0.08		<	0.08		<	0.08		<	0.09	
Vanadium	11.3			8.9			11.3			6.5		J	5.8		J	9.2		J	8.5		J
Zinc	294			136			109			22.8			15.1			38.9			109		
Cyanide	0.40		J	<	0.10	J	0.30		J	0.17		J	0.18		J	0.25		J	0.50		J
VOLATILE ORGANICS																					
Sample Number	ECMP3			ECMP4			ECMP5			ECMP0			ECMP1			ECMP2			ECMN7		
Units	µg/kg			µg/kg			µg/kg			µg/kg			µg/kg			µg/kg			µg/kg		
Methylene Chloride	<	11		<	10		<	10		<	10		<	10		<	10		<	11	J
Acetone	<	11		<	10		<	10		<	10		<	10		<	10		<	11	J
Carbon Disulfide	<	11		<	10		<	10		<	10		<	10		<	10		<	11	J
1,1-Dichloroethane	<	11		<	10		<	10		<	10		<	10		<	10		<	11	J
Benzene	<	11		<	10		<	10		<	10		<	10		<	10		<	11	J
Ethylbenzene	<	11		<	10		<	10		<	10		<	10		<	10			11	R
Xylene (total)	<	11		<	10		<	10		<	10		<	10		<	10			11	R

RL = Reporting Limit (For this data set the Reporting Limit is the Contract Required Quantitation Limit)
J= Estimated Value
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Table 13 cont.

Construction Debris Area Soil Analytical Results - October 1998
Himco Dump Superfund Site
Elkhart, Indiana

Sample location	SB13-2			SB13-6			SB14-0.5			SB14-2			SB14-6			SB15-0.5			SB15-2		
Date sampled	10/20/1998			10/20/1998			10/20/1998			10/20/1998			10/20/1998			10/19/1998			10/19/1998		
Sample Number	MEBQG5			MEBQG6																	
Units	mg/kg			mg/kg			mg/kg			mg/kg			mg/kg			mg/kg			mg/kg		
	Result	RL	Qual.	Result	RL	Qual.	Result	RL	Qual.	Result	RL	Qual.	Result	RL	Qual.	Result	RL	Qual.	Result	RL	Qual.
TOTAL METALS																					
Aluminum	3980			3220			4120			4500			2630			3470			2860		
Antimony	<	9.2		<	9.1		<	11.2		<	8.8		<	9.5		<	9.8		<	9.1	
Arsenic	0.90		J	0.90		J	0.83		J	1.1		J	0.60		J	6.0		J	4.4		J
Barium	35.7			33.6			115			36.2		J	43.7		J	102			133		
Beryllium	0.20		J	0.30		J	0.33		J	<	71.3		<	0.14		0.60		J	0.50		J
Cadmium	1.3			<	1.0		<	1.2		<	106.4		<	1.0		1.1			1.2		
Calcium	9300			12000			32700			2840			9350			16400			26800		
Chromium	14.2			12.9			14.6			6.7			15.5			12.9			14.0		
Cobalt	3.9		J	3.3		J	4.3		J	3.0		J	3.0		J	5.1		J	5		J
Copper	14.4			17.0			2110			18.7			25.3			113			283		
Iron	9180			11300			9410			4680			3920			26000			19400		
Lead	58.7			45.6		J	191		J	19.6		J	127		J	695		J	287		
Magnesium	3060			3000			3880			1180			1650			4810			5420		
Manganese	203			220			539			170			184			514			399		
Mercury	0.08		J	0.10		J	0.25		J	0.06		J	0.11		J	0.40			0.50		
Nickel	12.0		J	15.4		J	8.0		J	<	5.9		9.8			21.0		J	23.7		J
Potassium	310		J	279		J	278		J	277		J	210		J	363		J	385		J
Selenium	<	0.10	J	0.10			<	0.16	J	<	0.13		<	0.14		<	0.10		<	0.10	
Silver	<	1.1		<	1.1		<	1.4		<	1.1		<	1.2		1.2			2.0		
Sodium	54.7		J	74.3		J	83.7		J	40.5		J	43.0		J	<	65.0	J	60.9		J
Thallium	<	0.09		<	0.09		<	0.11		<	0.08		<	0.09		0.10			<	0.08	
Vanadium	9.8		J	6.0		J	11.3		J	9.9		J	8.0		J	11.1		J	10.2		J
Zinc	175			90.9			161			49.8			249			427			465		
Cyanide	0.30		J	0.90		J	0.14		J	0.12		J	<	0.11		1.1		J	0.90		J
VOLATILE ORGANICS																					
Sample Number	ECMN8			ECMN9																	
Units	µg/kg			µg/kg			µg/kg			µg/kg			µg/kg			µg/kg			µg/kg		
Methylene Chloride	<	10		<	11		<	12		<	10		<	11		<	11		<	11	
Acetone	<	10		<	11		<	12		<	10		<	11		<	11		22		
Carbon Disulfide	<	10		<	11		<	12		<	10		<	11		<	11		<	11	
1,1-Dichloroethane	<	10		<	11		<	12		<	10		<	11		<	11		<	11	
Benzene	<	10		<	11		<	12		<	10		<	11		<	11		<	11	
Ethylbenzene	<	10		<	11		<	12		<	10		<	11		<	11		<	11	
Xylene (total)	<	10		<	11		<	12		<	10		<	11		<	11		<	11	

RL = Reporting Limit (For this data set the Reporting Limit is the Contract Required Quantitation Limit)
J= Estimated Value
R=Rejected Value (The data is unusable.)

Table 13 cont.

Construction Debris Area Soil Analytical Results - October 1998
Himco Dump Superfund Site
Elkhart, Indiana

Sample location	SB15-6			SB16-05			SB16-2			SB16-6			SB16-6 Dup			SB17-0.5			SB17-2		
Date sampled	10/19/1998			10/15/1998			10/15/1998			10/15/1998			10/15/1998			10/15/1998			10/15/1998		
Sample Number																					
Units	mg/kg			mg/kg			mg/kg			mg/kg			mg/kg			mg/kg			mg/kg		
	Result	RL	Qual.	Result	RL	Qual.	Result	RL	Qual.	Result	RL	Qual.	Result	RL	Qual.	Result	RL	Qual.	Result	RL	Qual.
TOTAL METALS																					
Aluminum	8750			3340			4600			4820			8860			3230			5110		
Antimony	<	9.4		<	10.7	J	<	10.7	J	<	12.8	J	<	13.3	J	<	11.0	J	<	10.9	J
Arsenic	7.0		J	3.9			3.8			4.7			5.5			1.5			2.7		
Barium	112			32.5			55.5			54.3			95.7			29.7			37.4		
Beryllium	0.80		J	<	0.20		<	0.20		0.80		J	0.90		J	<	0.20		<	0.20	
Cadmium	2.0			<	0.90		<	0.90		<	1.10		<	1.10		1.0			<	0.90	
Calcium	31700			14000		J	14800		J	41200			85900		J	6220		J	<	18900	J
Chromium	17.9			7.9		J	9.6			13.1		J	11.3			6.3		J	9.5		
Cobalt	10.8			4.8		J	4.3		J	3.8		J	<	4.0		<	3.3		4.3		J
Copper	2220			16.4			49.0			18.3			18.9			63.9			11.9		
Iron	13500			8530			7460			10800			16600			3760			6680		
Lead	231		J	17.6			32.2			28.2			26.6			19.9			10.9		
Magnesium	22600			4660		J	3530		J	5460		J	7860		J	1440		J	4450		J
Manganese	1410			298			294			228			588			73.3			192		
Mercury	0.10		J	<	0.05		<	0.05		<	0.06		<	0.06		<	0.05		<	0.05	
Nickel	298			10.6			8.8			11.8			12.1			<	8.1		8.0		
Potassium	566		J	289		J	318		J	283		J	450		J	<	125		283		J
Selenium	<	0.10	J	0.60		J	0.70		J	1.4		J	1.3		J	0.80		J	0.80		J
Silver	<	1.2		<	0.80		<	0.80		<	1.0		<	1.1		<	0.90		<	0.90	
Sodium	184		J	29.8		J	78.0			219			378			27.4		J	65.4		
Thallium	<	0.09		<	0.40		0.50			0.50			<	0.50		<	0.40		<	0.40		
Vanadium	17.1			9.9			11.9			<	14.4		15.1			6.9			10.4		
Zinc	1120			66.5			109			76.0			78.6			54.0			26.6		
Cyanide	4.7			0.10		J	0.08		J	1.0			0.50			0.06		J	0.60		
VOLATILE ORGANICS																					
Sample Number																					
Units	µg/kg			µg/kg			µg/kg			µg/kg			µg/kg			µg/kg			µg/kg		
Methylene Chloride	<	10		<	18		<	24		<	13		<	25		<	20		<	10		
Acetone	<	10		2		J	<	10	J	<	12	J	<	14		3		J	<	10	J
Carbon Disulfide	<	10		<	11		<	10		<	12		2		J	<	11		<	10	
1,1-Dichloroethane	<	10		<	11		<	10		1		J	2		J	<	11		<	10	
Benzene	<	10		<	11		<	10		3		J	4		J	<	11		<	10	
Ethylbenzene	<	10		<	11		<	10		12			14			<	11		<	10	
Xylene (total)	<	10		<	11		<	10		7		J	9		J	<	11		<	10	

RL = Reporting Limit (For this data set the Reporting Limit is the Contract Required Quantitation Limit)
J= Estimated Value
R=Rejected Value (The data is unusable)

Table 13 cont.

Construction Debris Area Soil Analytical Results - October 1998
Himco Dump Superfund Site
Elkhart, Indiana

Sample location	SB18-0.5			SB18-2			SB18-6			SB19-0.5			SB19-2			SB19-6			SB20-0.5		
Date sampled	10/19/1998			10/19/1998			10/19/1998			10/15/1998			10/15/1998			10/15/1998			10/15/1998		
Sample Number																					
Units	mg/kg			mg/kg			mg/kg			mg/kg			mg/kg			mg/kg			mg/kg		
	Result	RL	Qual.	Result	RL	Qual.	Result	RL	Qual.	Result	RL	Qual.	Result	RL	Qual.	Result	RL	Qual.	Result	RL	Qual.
TOTAL METALS																					
Aluminum	4320			6200			5540			4120			4090			5210			3950		
Antimony	<	9.5		<	9.2		<	10.6		<	11.2	J	<	11.4	J	<	13.8	J	<	11.1	J
Arsenic	1.5		J	4.8		J	3.4		J	3.4			6.1			4.6			5.8		
Barium	81.1			89.8			130			53.5			444			168			172		
Beryllium	0.40		J	0.20		J	0.30		J	<	0.20		<	0.20		<	0.20		<	0.20	
Cadmium	1.0			1.2			<	1.2		<	1.0		<	1.0		<	1.2		<	1.0	
Calcium	4230			13000			14300			5070		J	21700		J	70500		J	69200		J
Chromium	10.5			19.8			11.1			6.9		J	13.1			14.3			25.1		
Cobalt	4.5		J	5.9		J	5.7		J	5.0		J	4.9		J	5.4		J	4.9		J
Copper	41.7			25.6			36.0			50.6			113			48.8			242		
Iron	8960			15000			7950			6700			9130			11200			8700		
Lead	67.4			83.4			88.9			49.8			172			131			161		
Magnesium	1810			4440			3470			2050		J	5220		J	12600		J	9940		J
Manganese	474			513			312			373			286			250			592		
Mercury	0.30			0.10		J	0.09		J	0.06			0.20			0.10			27.9		
Nickel	<	6.4		15.0		J	9.4		J	13.5			14.7			11.3			<	16.5	
Potassium	539		J	210		J	328		J	210		J	370		J	586		J	404		J
Selenium	<	0.10		<	0.10		<	0.20		1.0		J	1.6		J	<	0.60		0.60		J
Silver	<	1.2		<	1.2		<	1.3		<	0.90		1.0			<	1.1		1.9		
Sodium	75.7		J	78.2		J	87.1		J	36.2		J	86.3			344			105		
Thallium	<	0.09		<	0.09		<	0.10		<	0.40		<	0.40		<	0.50		<	0.40	
Vanadium	11.2		J	18.0			16.1			<	10.1		12.7			12.7			12.8		
Zinc	103			160			182			81.6			434			307			324		
Cyanide	0.50		J	1.5		J	0.40		J	0.10		J	0.90			0.60			3.3		
VOLATILE ORGANICS																					
Sample Number																					
Units	µg/kg			µg/kg			µg/kg			µg/kg			µg/kg			µg/kg			µg/kg		
Methylene Chloride	<	11		<	11		<	11		<	19		75			57			<	13	
Acetone	<	11		<	11		<	11		2		J	4		J	7		J	<	11	J
Carbon Disulfide	<	11		<	11		<	11		<	11		<	11		<	15		<	11	
1,1-Dichloroethane	<	11		<	11		<	11		<	11		<	11		<	15		<	11	
Benzene	<	11		<	11		<	11		<	11		<	11		<	15		<	11	
Ethylbenzene	<	11		<	11		<	11		<	11		<	11		<	15		<	11	
Xylene (total)	<	11		<	11		<	11		<	11		<	11		<	15		<	11	

RL = Reporting Limit (For this data set the Reporting Limit is the Contract Required Quantitation Limit)
J= Estimated Value
R=Rejected Value (The data is unusable.)

Table 13 cont.

Construction Debris Area Soil Analytical Results - October 1998
Himco Dump Superfund Site
Elkhart, Indiana

Sample location	SB20-2			SB20-6		
Date sampled	10/15/1998			10/16/1998		
Sample Number						
Units	mg/kg			mg/kg		
	Result	RL	Qual.	Result	RL	Qual.
TOTAL METALS						
Aluminum	4870			3420		
Antimony	<	11.1	J	<	10.9	J
Arsenic	10.8			8.1		
Barium	201			72.2		
Beryllium	<	0.70		0.7		J
Cadmium	1.1			<	0.9	
Calcium	24900		J	28700		J
Chromium	14.0			11.1		
Cobalt	5.4		J	6		J
Copper	664			54.4		
Iron	20600			11500		
Lead	238			105		
Magnesium	7730		J	8990		J
Manganese	454			200		
Mercury	4.5			1.2		
Nickel	22.3			11		
Potassium	483		J	339		J
Selenium	1.3		J	0.7		J
Silver	3.1			1.1		
Sodium	184			92.5		
Thallium	0.50			<	0.4	
Vanadium	15.8			12.9		
Zinc	537			121		
Cyanide	4.3			1.2		
VOLATILE ORGANICS						
Sample Number						
Units		µg/kg			µg/kg	
Methylene Chloride	<	17		<	11	
Acetone	2		J	2		J
Carbon Disulfide	<	11		<	11	
1,1-Dichloroethane	<	11		<	11	
Benzene	<	11		<	11	
Ethylbenzene	<	11		<	11	
Xylene (total)	<	11		<	11	

RL = Reporting Limit (For this data set the Reporting Limit is the Contract Required Quantitation Limit)
J= Estimated Value
R=Rejected Value (The data is unusable.)

Table 13 cont.

Construction Debris Area Soil Analytical Results - October 1998
Himco Dump Superfund Site
Elkhart, Indiana

Sample location	SB03-0.5			SB03-2			SB04-0.5			SB04-2			SB04-6			SB05-0.5			SB05-2		
Date sampled	10/12/1998			10/12/1998			10/19/1998			10/19/1998			10/19/1998			10/19/1998			10/19/1998		
Sample Number	ECMK2			ECMK3			ECML6			ECML7			ECML8			ECML4			ECML5		
	Result	RL	Qual.	Result	RL	Qual.	Result	RL	Qual.	Result	RL	Qual.	Result	RL	Qual.	Result	RL	Qual.	Result	RL	Qual.
SEMIVOLATILE ORGANICS																					
Units		µg/kg			µg/kg			µg/kg			µg/kg			µg/kg			µg/kg			µg/kg	
1,2-Dichlorobenzene	<	360		<	360		<	350		<	350		<	420		<	350		<	340	
4-Methylphenol	<	360		<	360		<	350		<	350		<	420		<	350		<	340	
Naphthalene	<	360		<	360		<	350		<	350		<	420		<	350		<	340	
2-Methylnaphthalene	<	360		<	360		<	350		<	350		<	420		<	350		<	340	
Acenaphthylene	<	360		<	360		<	350		<	350		<	420		<	350		<	340	
Acenaphthene	<	360		<	360		<	350		<	350		<	420		<	350	J	<	340	
Dibenzofuran	<	360		<	360		<	350		<	350		<	420		<	350		<	340	
Diethylphthalate	<	360		<	360		<	350		<	350		<	420		<	350		<	340	
Fluorene	<	360		<	360		<	350		<	350		<	420		<	350		<	340	
Phenanthrene	<	360		<	360		<	350		<	350		<	420		**46**		J	**140**		J
Anthracene	<	360		<	360		<	350		<	350		<	420		<	350		<	340	
Carbazole	<	360	J	<	360	J	<	350		<	350		<	420		<	350		<	340	
Di-n-butylphthalate	<	360		<	360		<	350		<	350		<	420	J	<	350		<	340	
Fluoranthene	<	360		<	360		<	350		<	350		<	420		**130**		J	**210**		J
Pyrene	<	360		<	360		<	350		<	350		<	420		**140**		J	**210**		J
Butylbenzylphthalate	<	360		<	360		<	350		<	350		<	420		<	350		<	340	
Benzo(a)anthracene	<	360		<	360		<	350		<	350		<	420		**75**	75	J	**120**		J
Chrysene	<	360		<	360		<	350		<	350		<	420		**84**	84	J	**110**		J
bis(2-Ethylhexyl)phthalate	**140**		J	<	360	J	<	350		<	350		<	420		<	350		**420**		
Di-n-octylphthalate	<	360		<	360		<	350		<	350		<	420		<	350		<	340	
Benzo(b)fluoranthene	<	360		<	360		<	350		<	350		<	420		**110**		J	**140**		J
Benzo(k)fluoranthene	<	360		<	360		<	350		<	350		<	420		<	350		**38**		J
Benzo(a)pyrene	<	360		<	360		<	350		<	350		<	420		**89**	89	J	**110**		J
Indeno(1,2,3-cd)pyrene	<	360		<	360		<	350		<	350		<	420		**79**		J	**62**		J
Dibenz(a,h)anthracene	<	360		<	360		<	350		<	350		<	420		<	350		<	340	
Benzo(g,h,i)perylene	<	360		<	360		**61**		J	**50**		J	**74**		J	**110**		J	**78**		J

RL = Reporting Limit (For this data set the Reporting Limit is the Contract Required Quantitation Limit)
J= Estimated Value
R=Rejected Value (The data is unusable.)

Table 13 cont.

Construction Debris Area Soil Analytical Results - October 1998
Himco Dump Superfund Site
Elkhart, Indiana

Sample location	SB06-0.5			SB06-0.5 Dup			SB06-2			SB07-0.5			SB07-2			SB08-0.5			SB08-2		
Date sampled	10/19/1998			10/19/1998			10/19/1998			10/21/1998			10/21/1998			10/20/1998			10/20/1998		
Sample Number	ECML9			ECMM6			ECMM7			ECMP9			ECMQ6			ECMM8			ECMM9		
	Result	RL	Qual.	Result	RL	Qual.	Result	RL	Qual.	Result	RL	Qual.	Result	RL	Qual.	Result	RL	Qual.	Result	RL	Qual.
SEMIVOLATILE ORGANICS																					
Units		µg/kg			µg/kg			µg/kg			µg/kg			µg/kg			µg/kg			µg/kg	
1,2-Dichlorobenzene	<	360		<	370		<	350		<	340		<	340		<	350		<	340	
4-Methylphenol	<	360		<	370		<	350		<	340		<	340		<	350		<	340	
Naphthalene	<	360		<	370		<	350		<	340		<	340		<	350		<	340	
2-Methylnaphthalene	<	360		<	370		<	350		<	340		<	340		<	350		<	340	
Acenaphthylene	<	360		<	370		<	350		<	340		<	340		<	350		<	340	
Acenaphthene	<	360		<	370		<	350		<	340	J	<	340		<	350		<	340	
Dibenzofuran	<	360		<	370		<	350		<	340		<	340		<	350		<	340	
Diethylphthalate	<	360		<	370		<	350		<	340		<	340		<	350		<	340	
Fluorene	<	360		<	370		<	350		<	340		<	340		<	350		<	340	
Phenanthrene	<	360		<	370		<	350		<	340		<	340		<	350		<	340	
Anthracene	<	360		<	370		<	350		<	340		<	340		<	350		<	340	
Carbazole	<	360		<	370		<	350		<	340		<	340		<	350		<	340	
Di-n-butylphthalate	<	360	J	<	370	J	<	350	J	<	340	J	<	340	J	<	350		<	340	
Fluoranthene	<	360		<	370		<	350		<	340		<	340		<	350		<	340	
Pyrene	<	360		<	370		<	350		<	340	J	<	340		<	350		<	340	
Butylbenzylphthalate	<	360		<	370		<	350		<	340		<	340		<	350		<	340	
Benzo(a)anthracene	<	360		<	370		<	350		<	340		<	340		<	350		<	340	
Chrysene	<	360		<	370		<	350		<	340		<	340		<	350		<	340	
bis(2-Ethylhexyl)phthalate	<	360		<	370		**460**			**690**		J	**700**		J	<	360		<	1500	
Di-n-octylphthalate	<	360		<	370		<	350		<	340	J	<	340	J	<	350		<	340	
Benzo(b)fluoranthene	<	360		<	370		<	350		<	340		<	340		<	350		<	340	
Benzo(k)fluoranthene	<	360		<	370		<	350		<	340		<	340		<	350		<	340	
Benzo(a)pyrene	<	360		<	370		<	350		<	340		<	340		<	350		<	340	
Indeno(1,2,3-cd)pyrene	<	360		<	370		<	350		<	340		<	340		<	350		<	340	
Dibenz(a,h)anthracene	<	360		<	370		<	350		<	340		<	340		<	350		<	340	
Benzo(g,h,i)perylene	<	360		**250**		J	<	350		<	340		<	340		<	350		<	340	

RL = Reporting Limit (For this data set the Reporting Limit is the Contract Required Quantitation Limit)
J= Estimated Value
R=Rejected Value (The data is unusable.)

Table 13 cont.

Construction Debris Area Soil Analytical Results - October 1998
Himco Dump Superfund Site
Elkhart, Indiana

Sample location	SB09-0.5			SB09-0.5 Dup			SB09			SB10-0.5			SB10-0.5 Dup			SB10-2			SB10-6		
Date sampled	10/21/1998			10/21/1998			10/21/1998			10/20/1998			10/20/1998			10/20/1998			10/20/1998		
Sample Number	ECMP6			ECMP7			ECMP8			ECMN0			ECMN1			ECMN2			ECMN3		
	Result	RL	Qual.	Result	RL	Qual.	Result	RL	Qual	Result	RL	Qual.	Result	RL	Qual.	Result	RL	Qual.	Result	RL	Qual
SEMIVOLATILE ORGANICS																					
Units		µg/kg			µg/kg			µg/kg			µg/kg			µg/kg			µg/kg			µg/kg	
1,2-Dichlorobenzene	<	350		<	350		<	350		<	360		<	360		<	340		<	350	
4-Methylphenol	<	350		<	350		<	350		<	360		<	360		<	340		<	350	
Naphthalene	<	350		<	350		<	350		<	360		<	360		<	340		<	350	
2-Methylnaphthalene	<	350		<	350		<	350		<	360		<	360		<	340		<	350	
Acenaphthylene	<	350		<	350		<	350		<	360		<	360		<	340		<	350	
Acenaphthene	<	350		<	350		<	350		<	360		<	360		<	340		<	350	
Dibenzofuran	<	350		<	350		<	350		<	360		<	360		<	340		<	350	
Diethylphthalate	<	350		<	350		<	350		<	360		<	360		<	340		<	350	
Fluorene	<	350		<	350		<	350		<	360		<	360		<	340		<	350	
Phenanthrene	<	350		<	350		<	350		<	360		<	360		<	340		<	350	
Anthracene	<	350		<	350		<	350		<	360		<	360		<	340		<	350	
Carbazole	<	350		<	350		<	350		<	360		<	360		<	340		<	350	
Di-n-butylphthalate	<	350	J	<	350	J	<	350	J	<	360		<	360		<	340		<	350	
Fluoranthene	<	350		<	350		<	350		<	360		<	360		<	340		<	350	
Pyrene	<	350		<	350		<	350		<	360		<	360		<	340		<	350	
Butylbenzylphthalate	<	350		<	350		<	350		<	360		<	360		<	340		<	350	
Benzo(a)anthracene	<	350		<	350		<	350		<	360		<	360		<	340		<	350	
Chrysene	<	350		<	350		<	350		<	360		<	360		<	340		<	350	
bis(2-Ethylhexyl)phthalate	**440**		J	**470**		J	**2600**		J	**140**		J	**150**		J	**71**		J	<	350	
Di-n-octylphthalate	<	350	J	<	350	J	<	350	J	**56**		J	**70**		J	<	340		<	350	
Benzo(b)fluoranthene	<	350		<	350		<	350		<	360		<	360		<	340		<	350	
Benzo(k)fluoranthene	<	350		<	350		<	350		<	360		<	360		<	340		<	350	
Benzo(a)pyrene	<	350		<	350		<	350		<	360		<	360		<	340		<	350	
Indeno(1,2,3-cd)pyrene	<	350		<	350		<	350		<	360		<	360		<	340		<	350	
Dibenz(a,h)anthracene	<	350		<	350		<	350		<	360		<	360		<	340		<	350	
Benzo(g,h,i)perylene	<	350		<	350		<	350		<	360		<	360		<	340		<	350	

RL = Reporting Limit (For this data set the Reporting Limit is the Contract Required Quantitation Limit)
J= Estimated Value
R=Rejected Value (The data is unusable.)

Table 13 cont.

Construction Debris Area Soil Analytical Results - October 1998
Himco Dump Superfund Site
Elkhart, Indiana

Sample location	SB11-0.5			SB11-2			SB11-6			SB12-0.5			SB12-2			SB12-6			SB13-0.5		
Date sampled	10/21/1998			10/21/1998			10/21/1998			10/20/1998			10/20/1998			10/20/1998			10/20/1998		
Sample Number	ECMP3			ECMP4			ECMP5			ECMP0			ECMP1			ECMP2			ECMN7		
	Result	RL	Qual.	Result	RL	Qual.	Result	RL	Qual.	Result	RL	Qual.	Result	RL	Qual.	Result	RL	Qual.	Result	RL	Qual.
SEMIVOLATILE ORGANICS																					
Units		µg/kg			µg/kg			µg/kg			µg/kg			µg/kg			µg/kg			µg/kg	
1,2-Dichlorobenzene	<	360		<	340		<	340		<	350		<	340		<	690		<	370	
4-Methylphenol	<	360		<	340		<	340		<	350		<	340		<	690		<	370	
Naphthalene	<	360		<	340		<	340		<	350		<	340		<	690		<	370	
2-Methylnaphthalene	<	360		<	340		<	340		<	350		<	340		<	690		<	370	
Acenaphthylene	<	360		<	340		<	340		<	350		<	340		<	690		<	370	
Acenaphthene	<	360		**160**		J	<	340		<	350		<	340		<	690		<	370	
Dibenzofuran	<	360		**78**		J	<	340		<	350		<	340		<	690		<	370	
Diethylphthalate	<	360		<	340		<	340		<	350		<	340		<	690		<	370	
Fluorene	<	360		**160**		J	<	340		<	350		<	340		<	690		<	370	
Phenanthrene	<	200	J	**3300**			<	340		<	350		<	340		<	690		<	370	
Anthracene	<	360		**460**			<	340		<	350		<	340		<	690		<	370	
Carbazole	<	360		**210**		J	<	340		<	350		<	340		<	690		<	370	
Di-n-butylphthalate	<	360	J	<	340		<	340	J	<	350		<	340		<	690		<	370	
Fluoranthene	**400**			**4600**			**51**		J	<	350		<	340		<	690		**100**		J
Pyrene	**470**			**3800**			<	340		<	350		<	340		<	690		**110**		J
Butylbenzylphthalate	<	360		<	340		<	340		<	350		<	340		<	690		<	370	
Benzo(a)anthracene	**280**		J	**1500**			**42**		J	<	350		<	340		<	690		**64**		J
Chrysene	**320**		J	**1400**			**51**		J	<	350		<	340		<	690		**72**		J
bis(2-Ethylhexyl)phthalate	**42**		J	**74**		J	**39**		J	**440**			**290**		J	**3400**			**160**		J
Di-n-octylphthalate	<	360	J	<	340	J	<	340	J	<	350		<	340		<	690		<	370	
Benzo(b)fluoranthene	**560**			**1900**			**75**		J	<	350		<	340		<	690		**93**		J
Benzo(k)fluoranthene	**150**		J	**560**			<	340		<	350		<	340		<	690		**370**		
Benzo(a)pyrene	**430**			**1500**			**57**		J	<	350		<	340		<	690		**66**		J
Indeno(1,2,3-cd)pyrene	**540**			**490**			**48**		J	<	350		<	340		<	690		**57**		J
Dibenz(a,h)anthracene	**140**		J	**130**		J	<	340		<	350		<	340		<	690		**370**		
Benzo(g,h,i)perylene	**710**			**470**			**63**		J	<	350		<	340		<	690		**81**		J

RL = Reporting Limit (For this data set the Reporting Limit is the Contract Required Quantitation Limit)
J= Estimated Value
R=Rejected Value (The data is unusable.)

Table 13 cont.

Construction Debris Area Soil Analytical Results - October 1998
Himco Dump Superfund Site
Elkhart, Indiana

Sample location	SB13-2			SB13-6			SB14-0.5			SB14-2			SB14-6			SB15-0.5			SB15-2		
Date sampled	10/20/1998			10/20/1998			10/20/1998			10/20/1998			10/20/1998			10/19/1998			10/19/1998		
Sample Number	ECMN8			ECMN9																	
	Result	RL	Qual.	Result	RL	Qual.	Result	RL	Qual.	Result	RL	Qual.	Result	RL	Qual.	Result	RL	Qual.	Result	RL	Qual.
SEMIVOLATILE ORGANICS																					
Units		µg/kg			µg/kg			µg/kg			µg/kg			µg/kg			µg/kg			µg/kg	
1,2-Dichlorobenzene	<	350		<	360		<	400		<	340		<	370		<	370		<	350	
4-Methylphenol	<	350		<	360		<	400		<	340		<	370		<	370		<	350	
Naphthalene	<	350		<	360		<	400		<	340		**120**		J	<	370		<	350	
2-Methylnaphthalene	<	350		<	360		<	400		<	340		<	370		<	370		<	350	
Acenaphthylene	<	350		<	360		<	400		<	340		<	370		<	370		<	350	
Acenaphthene	<	350		<	360		<	400		<	340		<	370		**73**		J	<	350	
Dibenzofuran	<	350		<	360		<	400		<	340		<	370		<	370		<	350	
Diethylphthalate	<	350		<	360		<	400		<	340		<	370		<	370		<	350	
Fluorene	<	350		<	360		<	400		<	340		<	370		<	370		<	350	
Phenanthrene	<	350		<	360		<	400		<	340		<	370		**360**		J	**280**		J
Anthracene	<	350		<	360		<	400		<	340		<	370		**63**		J	**53**		J
Carbazole	<	350		<	360		<	400		<	340		<	370		**37**		J	<	350	
Di-n-butylphthalate	<	350		<	360		<	400		<	340		<	370		<	370	J	<	350	J
Fluoranthene	<	350		**43**		J	**59**		J	<	340		**44**		J	**730**			**450**		
Pyrene	<	350		**44**		J	**64**		J	**40**		J		53	J	**900**			**540**		
Butylbenzylphthalate	<	350		<	360		**54**		J	<	340		<	370		<	370		<	350	
Benzo(a)anthracene	<	350		<	360		**41**		J	<	340		<	370		**620**			**260**		J
Chrysene	<	350		<	360		**59**		J	<	340		<	370		**760**			**270**		J
bis(2-Ethylhexyl)phthalate	**150**		J	**960**			**190**		J	**2900**			**30000**			<	370		<	350	
Di-n-octylphthalate	<	350		<	360		<	400		<	340		<	370		<	370		<	350	
Benzo(b)fluoranthene	<	350		**38**		J	**82**		J	<	340		**52**		J	**1600**			**390**		
Benzo(k)fluoranthene	<	350		<	360		**400**			<	340		<	370		**400**			**140**		J
Benzo(a)pyrene	<	350		<	360		**53**		J	<	340		<	370		**1000**			**290**		J
Indeno(1,2,3-cd)pyrene	<	350		<	360		**48**		J	<	340		<	370		**1200**			**230**		J
Dibenz(a,h)anthracene	<	350		<	360		**400**			<	340		<	370		**320**		J	**57**		J
Benzo(g,h,i)perylene	<	350		<	360		**88**		J	<	340		**38**		J	**1500**			**310**		J

RL = Reporting Limit (For this data set the Reporting Limit is the Contract Required Quantitation Limit)
J= Estimated Value
R=Rejected Value (The data is unusable.)

Table 13 cont.

Construction Debris Area Soil Analytical Results - October 1998
Himco Dump Superfund Site
Elkhart, Indiana

Sample location	SB15-6			SB16-05			SB16-2			SB16-6			SB16-6 Dup			SB17-0.5			SB17-2		
Date sampled	10/19/1998			10/15/1998			10/15/1998			10/15/1998			10/15/1998			10/15/1998			10/15/1998		
Sample Number	Result	RL	Qual.	Result	RL	Qual.	Result	RL	Qual.	Result	RL	Qual.	Result	RL	Qual.	Result	RL	Qual.	Result	RL	Qual.
SEMIVOLATILE ORGANICS																					
Units		µg/kg			µg/kg			µg/kg			µg/kg			µg/kg			µg/kg			µg/kg	
1,2-Dichlorobenzene	<	330		<	350		<	350		**98**		J	**83**		J	<	360		<	350	
4-Methylphenol	<	330		<	350		<	350		<	410		<	390		<	360		<	350	
Naphthalene	**38**		J	<	350		<	350		**120**		J	**130**		J	<	360		<	350	
2-Methylnaphthalene	<	330		<	350		<	350		<	410		<	390		<	360		<	350	
Acenaphthylene	**67**		J	<	350		<	350		<	410		<	390		<	360		<	350	
Acenaphthene	<	330		<	350		<	350		<	410		<	390		<	360	J	<	350	
Dibenzofuran	<	330		<	350		<	350		<	410		<	390		<	360		<	350	
Diethylphthalate	<	330		<	350		<	350		**84**		J	**46**		J	<	360		<	350	
Fluorene	<	330		<	350		<	350		<	410		<	390		<	360		<	350	
Phenanthrene	**170**		J	**37**		J	**100**		J	**270**		J	**250**		J	**380**			**83**		J
Anthracene	**41**		J	<	350		<	350		**53**		J	**57**		J	**59**		J	<	350	
Carbazole	<	330		<	350		<	350		<	410		<	390		**64**		J	<	350	
Di-n-butylphthalate	<	330		<	350		<	350		<	410		**390**			<	360		<	350	
Fluoranthene	**360**			**91**		J	**210**		J	**710**			<	660		**760**			**150**		J
Pyrene	**430**			**76**		J	**190**		J	**670**			**610**			**510**		J	**120**		J
Butylbenzylphthalate	<	330		<	350	J	<	350	J	**60**		J	<	390	J	<	360	J	<	350	J
Benzo(a)anthracene	**250**		J	**39**		J	**100**		J	**400**		J	**350**		J	**260**		J	**86**		J
Chrysene	**260**		J	**47**		J	**110**		J	**450**			**400**			**330**		J	**76**		J
bis(2-Ethylhexyl)phthalate	<	330		**410**		J	**160**		J	**270**		J	**120**		J	**51**		J	**36**		J
Di-n-octylphthalate	<	330		<	350	J	<	350	J	<	410	J	<	390	J	<	360	J	<	350	J
Benzo(b)fluoranthene	**490**			**44**		J	**120**		J	**750**			**430**			**280**		J	**55**		J
Benzo(k)fluoranthene	**140**		J	**50**		J	**120**		J	**900**			**440**			**340**		J	**77**		J
Benzo(a)pyrene	**430**			**53**		J	**120**		J	**530**			**450**			**280**		J	**62**		J
Indeno(1,2,3-cd)pyrene	**400**			**41**		J	**82**		J	**380**		J	**360**		J	**270**		J	**58**		J
Dibenz(a,h)anthracene	**99**		J	**350**			**43**		J	**160**		J	**150**		J	**120**		J	**350**		
Benzo(g,h,i)perylene	**550**			**39**		J	**89**		J	**280**		J	**250**		J	**220**		J	**47**		J

RL = Reporting Limit (For this data set the Reporting Limit is the Contract Required Quantitation Limit)
J= Estimated Value
R=Rejected Value (The data is unusable.)

Table 13 cont.

Construction Debris Area Soil Analytical Results - October 1998
Himco Dump Superfund Site
Elkhart, Indiana

Sample location Date sampled Sample Number	SB18-0.5 10/19/1998			SB18-2 10/19/1998			SB18-6 10/19/1998			SB19-0.5 10/15/1998			SB19-2 10/15/1998			SB19-6 10/15/1998			SB20-0.5 10/15/1998		
	Result	RL	Qual.	Result	RL	Qual.	Result	RL	Qual.	Result	RL	Qual.	Result	RL	Qual.	Result	RL	Qual.	Result	RL	Qual.
SEMIVOLATILE ORGANICS																					
Units		µg/kg			µg/kg			µg/kg			µg/kg			µg/kg			µg/kg			µg/kg	
1,2-Dichlorobenzene	<	370		<	360		<	370		<	360		<	370		<	490		<	360	
4-Methylphenol	<	370		<	360		<	370		<	360		<	370		<	490		<	360	
Naphthalene	<	370		**50**		J	<	370		<	360		<	370		<	490		<	360	
2-Methylnaphthalene	<	370		**48**		J	<	370		<	360		<	370		<	490		<	360	
Acenaphthylene	<	370		**83**		J	<	370		**96**		J	**290**		J	<	490		<	360	
Acenaphthene	<	370		**37**		J	<	370		<	360		<	370		<	490		**180**		J
Dibenzofuran	<	370		<	360		<	370		<	360		<	370		<	490		<	360	
Diethylphthalate	<	370		<	360		<	370		<	360		<	370		<	490		<	360	
Fluorene	<	370		**44**		J	<	370		<	360		**71**		J	<	490		<	360	
Phenanthrene	**320**		J	**590**			**86**		J	**160**		J	**450**			**190**		J	**460**		
Anthracene	**67**		J	**130**		J	<	370		**76**		J	**170**		J	<	490		**110**		J
Carbazole	**46**		J	**49**		J	<	370		<	360		**49**		J	<	490		**58**		J
Di-n-butylphthalate	<	370		<	360		<	370		**95**		J	**37**		J	<	490		<	360	
Fluoranthene	**510**			**1200**			**130**		J	**490**			**1700**			**490**			**1200**		
Pyrene	**470**			**1500**			**170**		J	**530**			**1900**			**420**		J	**1200**		
Butylbenzylphthalate	<	370		<	360		<	370		<	360	J	<	370	J	<	490	J	<	360	J
Benzo(a)anthracene	<	270		**770**			**77**		J	**310**		J	**1100**			**330**		J	**780**		
Chrysene	<	270		**780**			**100**		J	**300**		J	**970**			**380**		J	**880**		
bis(2-Ethylhexyl)phthalate	<	370		<	360		<	370		**73**		J	**160**		J	**170**		J	**90**		J
Di-n-octylphthalate	<	370		<	360		<	370		<	360	J	<	370	J	**130**		J	**120**		J
Benzo(b)fluoranthene	**410**			**1000**			**100**		J	**380**			**1700**			**690**			**1200**		
Benzo(k)fluoranthene	**89**		J	**340**		J	**370**			**360**			**2100**			**830**			**1200**		
Benzo(a)pyrene	**280**		J	**900**			**89**		J	**430**			**1400**			**480**		J	**1300**		
Indeno(1,2,3-cd)pyrene	**200**		J	**720**			**54**		J	**370**			**1100**			**410**		J	**1200**		
Dibenz(a,h)anthracene	**58**		J	**200**		J	**370**			**130**		J	**360**		J	**140**		J	**450**		
Benzo(g,h,i)perylene	**240**		J	**820**			**93**		J	**340**		J	**940**			**400**		J	**1000**		

RL = Reporting Limit (For this data set the Reporting Limit is the Contract Required Quantitation Limit)
J= Estimated Value
R=Rejected Value (The data is unusable.)

Table 13 cont.

Construction Debris Area Soil Analytical Results - October 1998
Himco Dump Superfund Site
Elkhart, Indiana

Sample location	SB20-2			SB20-6		
Date sampled	10/15/1998			10/16/1998		
Sample Number	Result	RL	Qual.	Result	RL	Qual.
SEMIVOLATILE ORGANICS						
Units		µg/kg			µg/kg	
1,2-Dichlorobenzene	<	360		<	350	
4-Methylphenol	50		J	<	350	
Naphthalene	290		J	2200		
2-Methylnaphthalene	160		J	1000		
Acenaphthylene	140		J	2300		
Acenaphthene	220		J	890		
Dibenzofuran	170		J	1500		
Diethylphthalate	<	360		<	350	
Fluorene	250		J	2500		
Phenanthrene	1900			18000		
Anthracene	450			4900		J
Carbazole	280		J	1500		
Di-n-butylphthalate	<	360		<	350	
Fluoranthene	2100			29000		
Pyrene	2500			21000		
Butylbenzylphthalate	<	360	J	<	350	J
Benzo(a)anthracene	1700			9700		
Chrysene	1400			9700		
bis(2-Ethylhexyl)phthalate	62		J	81		J
Di-n-octylphthalate	<	360		<	350	J
Benzo(b)fluoranthene	2800			9700		
Benzo(k)fluoranthene	1200			10000		
Benzo(a)pyrene	1700			11000		
Indeno(1,2,3-cd)pyrene	1200			6400		
Dibenz(a,h)anthracene	450			2000		
Benzo(g,h,i)perylene	1100			7100		

RL = Reporting Limit (For this data set the Reporting Limit is the Contract Required Quantitation Limit)
J= Estimated Value
R=Rejected Value (The data is unusable.)

Table 13-1

Soil Gas Analytical Results - November 1998
Himco Dump Superfund Site
Elkhart, Indiana

Sample Location	TT-11		TT-12		TT-13		TT-14			TT-14 Duplicate		TT-15	
Units	µg/m³		µg/m³		µg/m³		µg/m³			µg/m³		µg/m³	
	Result	RL	Result	RL	Result	RL	Result	RL	Qual	Result	RL	Result	RL
Analyte													
Vinyl Chloride	<	0.26	<	0.24	<	33	77		J	100		<	0.47
Bromomethane	<	0.52	<	0.48	<	66	1.0			<	64	<	0.94
Chloroethane	<	0.26	<	0.24	200		36			<	32	<	0.47
1,1-Dichloroethene	<	0.26	<	0.24	<	33	6.8			<	32	<	0.47
Carbon Disulfide	1.2		<	0.24	<	33	86		J	130		<	2.8
Acetone	<	2.6	<	2.4	<	330	<	2.30		<	320	<	4.70
Methylene Chloride	<	0.26	<	0.24	<	33	6.8		J	<	32	<	0.47
trans-1,2-Dichloroethene	<	0.26	<	0.24	<	33	12			<	32	<	0.47
1,1-Dichloroethane	<	0.26	<	0.24	470		500		J	2400		<	0.47
2-Butanone	<	2.6	<	2.4	<	330	<	2.30		<	320	<	4.70
Chloroform	<	0.26	<	0.24	<	33	<	0.23		<	32	<	0.47
1,1,1-Trichloroethane	<	0.26	<	0.24	<	33	250		J	300		<	0.47
Carbon Tetrachloride	<	0.26	<	0.24	<	33	40			<	32	<	0.47
Benzene	1.8		1.4		470		180		J	200		<	2.07
1,2-Dichloroethane	<	0.26	<	0.24	<	33	<	0.23		<	32	<	0.47
Trichloroethene	<	0.26	<	0.24	<	33	270		J	270		<	0.47
1,2-Dichloropropane	<	0.26	<	0.24	<	33	25			<	32	<	0.47
trans-1,3-Dichloropropene	<	0.26	<	0.24	<	33	<	0.23		<	32	<	0.47
Toluene	<	0.26	<	0.24	230		95		J	91		0.89	
cis-1,3-Dichloropropene	<	0.26	<	0.24	<	33	<	0.23		<	32	<	0.47
Tetrachloroethene	<	0.26	<	0.24	<	33	230		J	260		<	0.47
2-Hexanone	<	0.26	<	0.24	<	33	<	0.23		<	32	<	0.47
Chlorobenzene	<	0.26	<	0.24	<	33	11			<	32	<	0.47
Ethyl Benzene	<	0.26	0.54		3100		420		J	340		1.1	
m,p-Xylene	<	0.26	1.3		7100		730		J	400		1.4	
o-Xylene	<	0.26	<	0.24	220		390		J	320		0.52	
Styrene	<	0.26	<	0.24	<	33	13			<	32	<	0.47
cis-1,2-Dichloroethene	<	0.26	<	0.24	<	33	290		J	250		<	0.47

J= Estimated Value
NR= Not measured
R= Rejected Value (The data is unusable.)

Table 13-1 cont.

Soil Gas Analytical Results - November 1998
Himco Dump Superfund Site
Elkhart, Indiana

Sample Location	TT-16			TT-17		TT-18		TT-19			TT-20		TT-21	
Units	µg/m³			µg/m³		µg/m³		µg/m³			µg/m³		µg/m³	
	Result	RL	Qual	Result	RL	Result	RL	Result	RL	Qual	Result	RL	Result	RL
Analyte														
Vinyl Chloride	61			20		180		18000		J	<	0.15	NR	
Bromomethane	<	1.8		<	16	<	60	<	160		<	0.3	NR	
Chloroethane	<	3.6		<	8.1	<	30	<	79		<	0.15	NR	
1,1-Dichloroethene	<	1.8		<	8.1	69		130			<	0.15	NR	
Carbon Disulfide	4.7			19		920		2800			<	0.15	NR	
Acetone	<	18		<	81	<	300	<	790		1.5		NR	
Methylene Chloride	<	1.8		<	8.1	<	30	790			0.57		NR	
trans-1,2-Dichloroethene	4.6			<	8.1	<	30	<	79		<	0.15	NR	
1,1-Dichloroethane	89			57		<	30	<	79		<	0.15	NR	
2-Butanone	<	18		<	81	<	300	<	790		<	1.5	NR	
Chloroform	<	1.8		<	8.1	<	30	<	79		<	0.15	NR	
1,1,1-Trichloroethane	<	1.8		40	8.1	<	30	<	79		<	0.15	NR	
Carbon Tetrachloride	<	1.8		<	8.1	<	30	<	79		<	0.15	NR	
Benzene	190			37	8.1	200	30	<	79		0.36	0.15	NR	
1,2-Dichloroethane	<	1.8		<	8.1	<	30	<	79		<	0.15	NR	
Trichloroethene	14			9.5	8.1	340	30	<	79		<	0.15	NR	
1,2-Dichloropropane	18			14		<	30	<	79		<	0.15	NR	
trans-1,3-Dichloropropene	<	1.8		<	8.1	<	30	<	79		<	0.15	NR	
Toluene	5.6			35		240		<	79		1.3		NR	
cis-1,3-Dichloropropene	<	1.8		<	8.1	<	30	<	79		<	0.15	NR	
Tetrachloroethene	<	1.8		NR		460		<	79		<	0.15	NR	
2-Hexanone	<	1.8		NR		<	30	<	79		<	0.15	NR	
Chlorobenzene	<	1.8		NR		51		<	79		<	0.15	NR	
Ethyl Benzene	<	1.8		NR		3200		150			0.16		NR	
m,p-Xylene	2.4		B	NR		1700		93			0.54		NR	
o-Xylene	<	1.8		NR		600		<	79		0.18		NR	
Styrene	<	1.8		NR		<	30	<	79		0.54		NR	
cis-1,2-Dichloroethene	17			<	8.1	65		560			<	0.15	NR	

J= Estimated Value
NR= Not measured
R= Rejected Value (The data is unusable.)

Table 13 -1 cont.

Soil Gas Analytical Results - November 1998
Himco Dump Superfund Site
Elkhart, Indiana

Sample Location	TT-22			TT-23		TT-24		TT-25		TT-26			TT-26 (Duplicate)	
Units	ug/m3			ug/m3		ug/m3		ug/m3		ug/m3			ug/m3	
Analyte	Result	RL	Qual	Result	RL	Result	RL	Result	RL	Result	RL	Qual	Result	RL
Vinyl Chloride	0.15			<	0.12	<	0.12	<	0.12	22000		J	23000	
Bromomethane	<	0.26		<	0.24	<	0.24	<	0.23	<	150		<	850
Chloroethane	0.56			<	0.12	<	0.12	<	0.12	<	75		<	420
1,1-Dichloroethene	<	0.13		<	0.12	<	0.12	<	0.12	310			<	420
Carbon Disulfide	0.30			<	0.12	<	0.12	0.12		3000			6200	
Acetone	3.7			1.5		1.2		2.5		<	750		<	4200
Methylene Chloride	<	0.13		<	0.12	<	0.12	<	0.12	<	75		<	420
trans-1,2-Dichloroethene	0.39			<	0.12	<	0.12	<	0.12	<	75		<	420
1,1-Dichloroethane	46		J	<	0.12	<	0.12	<	0.12	440			<	420
2-Butanone	<	1.3		<	1.17	<	1.16	<	1.15	<	750		<	4200
Chloroform	1.5	0.13		0.30	0.12	0.61	0.12	<	0.12	280			<	420
1,1,1-Trichloroethane	4.9	0.13		0.28	0.12	0.22	0.12	0.25	0.12	<	75		<	420
Carbon Tetrachloride	0.13	0.13		0.12	0.12	<	0.12	<	0.12	<	75		<	420
Benzene	0.93	0.13		<	0.12	<	0.12	<	0.12	220	75		<	420
1,2-Dichloroethane	<	0.13		<	0.12	<	0.12	<	0.12	<	75		<	420
Trichloroethene	3.5	0.13		<	0.12	<	0.12	<	0.12	15000	75	J	21000	420
1,2-Dichloropropane	<	0.13		<	0.12	<	0.12	<	0.12	<	75		<	420
trans-1,3-Dichloropropene	0.18	0.13		<	0.12	<	0.12	<	0.12	<	75		<	420
Toluene	0.28			<	0.12	<	0.12	<	0.12	11000			13000	
cis-1,3-Dichloropropene	0.14			<	0.12	<	0.12	<	0.12	<	75		<	420
Tetrachloroethene	300		J	12		0.20		1.1		44000		J	80000	
2-Hexanone	<	0.13		<	0.12	<	0.12	<	0.12	<	75		<	420
Chlorobenzene	<	0.13		<	0.12	<	0.12	<	0.12	<	75		<	420
Ethyl Benzene	<	0.13		<	0.12	<	0.12	<	0.12	10000			15000	
m,p-Xylene	0.30			<	0.12	<	0.12	<	0.12	5700			8500	
o-Xylene	<	0.13		<	0.12	<	0.12	<	0.12	1400			2000	
Styrene	0.67			<	0.12	<	0.12	<	0.12	360.0			<	420
cis-1,2-Dichloroethene	<	0.13		<	0.12	<	0.12	<	0.12	1900			1700	

J= Estimated Value
NR= Not measured
R= Rejected Value (The data is unusable.)

Table 13-1 cont.

Soil Gas Analytical Results - November 1998
Himco Dump Superfund Site
Elkhart, Indiana

Sample Location	TT-27		TT-28		TT-29		TT-30		TT-31		TT-32		
Units	µg/m³		µg/m³		µg/m³		µg/m³		µg/m³		µg/m³		
	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Qual
Analyte													
Vinyl Chloride	<	31	<	2.4	<	0.30	<	0.31	<	0.31	18		
Bromomethane	66		<	4.7	<	0.60	<	0.62	<	0.62	<	1.9	
Chloroethane	<	31	<	2.4	<	0.30	<	0.31	<	0.31	2.7		
1,1-Dichloroethene	<	31	<	2.4	<	0.30	0.45		0.31		1.8		
Carbon Disulfide	<	31	7.1	2.4	<	1.5	<	0.95	<	1.1	9.9		
Acetone	<	310	<	23.6	<	3.0	<	3.1	<	3.1	<	9.4	
Methylene Chloride	<	31	<	2.4	<	0.30	<	0.31	<	0.3	<	0.94	
trans-1,2-Dichloroethene	<	31	<	2.4	<	0.30	0.52		0.45		4.0		
1,1-Dichloroethane	<	31	<	2.4	<	0.30	<	0.31	<	0.3	360		J
2-Butanone	<	310	<	23.6	<	2.98	<	3.1	<	3.1	<	9.4	
Chloroform	<	31	<	2.4	<	0.30	<	0.31	<	0.31	<	0.94	
1,1,1-Trichloroethane	<	31	<	2.4	7.3	0.30	<	0.31	<	0.31	<	0.94	
Carbon Tetrachloride	<	31	<	2.4	<	0.30	<	0.31	<	0.31	<	0.94	
Benzene	<	31	100		1.5		1.9		2.0		41		
1,2-Dichloroethane	<	31	<	2.4	<	0.30	<	0.31	<	0.31	1.7		R
Trichloroethene	90	31	14		<	0.30	<	0.31	<	0.31	16		
1,2-Dichloropropane	<	31	<	2.4	<	0.30	<	0.31	<	0.31	9.9		
trans-1,3-Dichloropropene	<	31	<	2.4	<	0.30	<	0.31	<	0.31	<	0.94	
Toluene	<	31	6.6		0.33		0.67		0.67		4.0		
cis-1,3-Dichloropropene	<	31	<	2.4	<	0.30	<	0.31	<	0.31	<	0.94	
Tetrachloroethene	4000		61		230		<	0.31	<	0.31	1.7		B
2-Hexanone	<	31	<	2.4	<	0.30	<	0.31	<	0.31	<	0.94	
Chlorobenzene	<	31	<	2.4	<	0.30	<	0.31	<	0.31	11		
Ethyl Benzene	<	31	52		<	0.30	0.81		0.63		1.8	0.94	
m,p-Xylene	<	31	52		0.51	0.30	1.5		1.3		4.5	0.94	
o-Xylene	<	31	31		<	0.30	0.76		0.53		4.7	0.94	
Styrene	<	31	2.6		<	0.30	<	0.31	<	0.31	<	0.94	
cis-1,2-Dichloroethene	<	31	5.7		<	0.30	0.44		0.33		8.9	0.94	

J= Estimated Value
NR= Not measured
R= Rejected Value (The data is unusable.)

Table 13-1 cont.

Soil Gas Analytical Results - November 1998
Himco Dump Superfund Site
Elkhart, Indiana

Sample Location	TT-33		TT-34			TT-35		TT-36		TT-37			TT-38	
Units	ug/m3		ug/m3			ug/m3		ug/m3		ug/m3			ug/m3	
	Result	RL	Result	RL	Qual	Result	RL	Result	RL	Result	RL	Qual	Result	RL
Analyte														
Vinyl Chloride	<	3.4	220			<	0.22	<	0.22	<	0.22		<	0.23
Bromomethane	<	6.9	<	9.0		<	0.44	<	0.44	<	0.44		<	0.45
Chloroethane	3.8		5.7			<	0.22	<	0.22	<	0.22		<	0.23
1,1-Dichloroethene	<	3.4	<	4.5		<	0.22	<	0.22	<	0.22		<	0.23
Carbon Disulfide	7.3		29			1.2		<	0.22	0.61			0.63	
Acetone	<	34.0	<	45		<	2.2	<	2.2	<	2.2		<	2.3
Methylene Chloride	<	3.4	<	4.5		<	0.22	<	0.22	<	0.22		<	0.23
trans-1,2-Dichloroethene	6.9		21			<	0.22	<	0.22	<	0.22		<	0.23
1,1-Dichloroethane	9.2		47			<	0.22	<	0.22	<	0.22		<	0.23
2-Butanone	<	34	<	45		<	2.2	<	2.2	<	2.2		<	2.3
Chloroform	<	3.4	<	4.5		<	0.22	<	0.22	<	0.22		<	0.23
1,1,1-Trichloroethane	<	3.4	<	4.5		<	0.22	0.32		0.83			0.68	
Carbon Tetrachloride	<	3.4	<	4.5		<	0.22	<	0.22	<	0.22		<	0.23
Benzene	210		750			<	0.22	<	0.22	<	0.22		<	0.23
1,2-Dichloroethane	<	3.4	<	4.5		<	0.22	<	0.22	<	0.22		<	0.23
Trichloroethene	8.7		43			<	0.22	<	0.22	<	0.22		<	0.23
1,2-Dichloropropane	<	3.4	<	4.5		<	0.22	<	0.22	<	0.22		<	0.23
trans-1,3-Dichloropropene	<	3.4	<	4.5		<	0.22	<	0.22	<	0.22		<	0.23
Toluene	20		190			<	0.45	<	0.23	<	0.41		<	0.35
cis-1,3-Dichloropropene	<	3.4	<	4.5		<	0.22	<	0.22	<	0.22		<	0.23
Tetrachloroethene	<	3.4	380			0.76		2.7		130		J	14	
2-Hexanone	<	3.4	<	4.5		1.8		<	0.22	<	0.22		<	0.23
Chlorobenzene	18		<	4.5		<	0.22	<	0.22	<	0.22		<	0.23
Ethyl Benzene	22		1000		J	<	0.22	<	0.22	<	0.22		<	0.23
m,p-Xylene	64		900			<	0.22	<	0.22	<	0.22		<	0.23
o-Xylene	4.6		340			<	0.22	<	0.22	<	0.22		<	0.23
Styrene	<	3.4	<	4.5		<	0.22	<	0.22	<	0.22		<	0.23
cis-1,2-Dichloroethene	9.2		38			<	0.22	<	0.22	<	0.22		<	0.23

J= Estimated Value
NR= Not measured
R= Rejected Value (The data is unusable.)

Table 13-1 cont.

Soil Gas Analytical Results - November 1998
Himco Dump Superfund Site
Elkhart, Indiana

Sample Location	TT-39			TT-39 (Dup)			TT-40			TT-41		TT-42		TT-43	
Units	µg/m³			µg/m³			µg/m³			µg/m³		µg/m³		µg/m³	
	Result	RL	Qual	Result	RL	Qual	Result	RL	Qual	Result	RL	Result	RL	Result	RL
Analyte															
Vinyl Chloride	<	0.22		<	0.22		<	0.23		<	0.2	<	0.22	<	0.22
Bromomethane	<	0.44		<	0.44		<	0.45		<	0.41	**0.61**		<	0.44
Chloroethane	<	0.22		<	0.22		<	0.23		<	0.2	<	0.22	<	0.22
1,1-Dichloroethene	<	0.22		<	0.22		**0.50**			<	0.2	<	0.22	<	0.22
Carbon Disulfide	**0.45**			**0.26**			**0.72**			**1.3**		**0.23**		**0.61**	
Acetone	<	2.2		<	2.2		<	2.3		<	2.0	<	2.2	<	2.2
Methylene Chloride	<	0.22		<	0.22		**1.4**			<	0.2	<	0.22	<	0.22
trans-1,2-Dichloroethene	<	0.22		<	0.22		**2.5**			<	0.2	<	0.22	<	0.22
1,1-Dichloroethane	<	0.22		<	0.22		**4.2**			<	0.2	<	0.22	<	0.22
2-Butanone	<	2.2		<	2.2		<	2.3		<	2.0	<	2.2	<	2.2
Chloroform	<	0.22		<	0.22		**2.9**			<	0.2	**1.6**		<	0.22
1,1,1-Trichloroethane	**0.76**			**0.67**			**9.1**			**0.26**		**0.25**		**0.22**	
Carbon Tetrachloride	<	0.22		<	0.22		<	0.23		<	0.2	<	0.22	<	0.22
Benzene	<	0.22		<	0.22		**1.1**			<	0.2	<	0.22	<	0.22
1,2-Dichloroethane	<	0.22		<	0.22		<	0.23		<	0.2	<	0.22	<	0.22
Trichloroethene	<	0.22		<	0.22		**77**		J	<	0.2	<	0.22	<	0.22
1,2-Dichloropropane	<	0.22		<	0.22		<	0.23		<	0.2	<	0.22	<	0.22
trans-1,3-Dichloropropene	<	0.22		<	0.22		<	0.23		<	0.2	<	0.22	<	0.22
Toluene	**2.4**			**0.71**			**2.5**			**0.36**		**0.87**		**0.70**	
cis-1,3-Dichloropropene	<	0.22		<	0.22		<	0.23		<	0.2	<	0.22	<	0.22
Tetrachloroethene	**110**		J	**89**		J	**1100**		J	<	0.2	**1.0**		**10**	
2-Hexanone	<	0.22		<	0.22		<	0.23		<	0.2	<	0.22	<	0.22
Chlorobenzene	<	0.22		<	0.22		<	0.23		<	0.2	<	0.22	<	0.22
Ethyl Benzene	<	0.22		<	0.22		**0.63**			<	0.2	<	0.22	<	0.22
m,p-Xylene	<	0.22		<	0.22		**0.91**			<	0.2	<	0.22	<	0.22
o-Xylene	<	0.22		<	0.22		**0.38**			<	0.2	<	0.22	<	0.22
Styrene	<	0.22		<	0.22		<	0.23		<	0.2	<	0.22	<	0.22
cis-1,2-Dichloroethene	<	0.22		<	0.22		**7.7**			<	0.2	<	0.22	<	0.22

J= Estimated Value
NR= Not measured
R= Rejected Value (The data is unusable.)

Table 13 -1 cont.

Soil Gas Analytical Results - November 1998
Himco Dump Superfund Site
Elkhart, Indiana

Sample Location	TT-44		TT-45			TT-46		TT-46 (Duplicate)		TT-47			TT-48	
Units	ug/m3		ug/m3			ug/m3		ug/m3		ug/m3			ug/m3	
Analyte	Result	RL	Result	RL	Qual	Result	RL	Result	RL	Result	RL	Qual	Result	RL
Vinyl Chloride	<	0.23	<	0.22		<	0.22	<	0.22	<	0.23		<	0.22
Bromomethane	<	0.45	<	0.43		<	0.45	<	0.45	0.63			<	0.43
Chloroethane	<	0.23	<	0.22		<	0.22	<	0.22	<	0.23		<	0.22
1,1-Dichloroethene	<	0.23	<	0.22		<	0.22	<	0.22	<	0.23		<	0.22
Carbon Disulfide	0.28		0.57			1.4		0.63		1.2			1.1	
Acetone	<	2.3	<	2.2		2.3		<	2.2	<	2.3		<	2.2
Methylene Chloride	<	0.23	<	0.22		<	0.22	<	0.22	<	0.23		<	0.22
trans-1,2-Dichloroethene	<	0.23	<	0.22		<	0.22	<	0.22	<	0.23		<	0.22
1,1-Dichloroethane	<	0.23	2.6			1.5		0.94		6.8			4.7	
2-Butanone	<	2.3	<	2.2		<	2.25	<	2.2	<	2.3		<	2.2
Chloroform	<	0.23	1.0			1.7		1.0		2.4			0.22	
1,1,1-Trichloroethane	<	0.23	100		J	5.9		3.4		68		J	6.0	
Carbon Tetrachloride	<	0.23	<	0.22		<	0.22	<	0.22	<	0.23		<	0.22
Benzene	<	0.23	<	0.22		0.27		<	0.22	<	0.23		0.99	
1,2-Dichloroethane	<	0.23	<	0.22		<	0.22	<	0.22	<	0.23		<	0.22
Trichloroethene	<	0.23	1.6			0.28		<	0.22	<	0.23		2.8	
1,2-Dichloropropane	<	0.23	<	0.22		<	0.22	<	0.22	<	0.23		<	0.22
trans-1,3-Dichloropropene	<	0.23	<	0.22		<	0.22	<	0.22	<	0.23		<	0.22
Toluene	0.73		0.42			3.6		0.80		1.2			6.9	
cis-1,3-Dichloropropene	<	0.23	<	0.22		<	0.22	<	0.22	<	0.23		<	0.22
Tetrachloroethene	1.4		1.2			7.2		5.4		2.0			4.7	
2-Hexanone	<	0.23	<	0.22		<	0.22	<	0.22	<	0.23		<	0.22
Chlorobenzene	<	0.23	<	0.22		<	0.22	<	0.22	<	0.23		<	0.22
Ethyl Benzene	<	0.23	<	0.22		0.30		<	0.22	<	0.23		0.37	
m,p-Xylene	<	0.23	<	0.22		0.54		<	0.22	<	0.23		<	0.22
o-Xylene	<	0.23	<	0.22		<	0.22	<	0.22	<	0.23		<	0.22
Styrene	<	0.23	<	0.22		<	0.22	<	0.22	<	0.23		<	0.22
cis-1,2-Dichloroethene	<	0.23	<	0.22		<	0.22	<	0.22	<	0.23		<	0.22

J= Estimated Value
NR= Not measured
R= Rejected Value (The data is unusable.)

Table 13-1 cont.

Soil Gas Analytical Results - November 1998
Himco Dump Superfund Site
Elkhart, Indiana

Sample Location	TT-49			TT-50		TT-51		TT-52		TT-53	
Units	µg/m³			µg/m³		µg/m³		µg/m³		µg/m³	
Analyte	Result	RL	Qual	Result	RL	Result	RL	Result	RL	Result	RL
Vinyl Chloride	<	0.21		<	0.21	<	0.23	<	0.23	<	0.22
Bromomethane	0.81			<	0.43	<	0.45	<	0.45	<	0.45
Chloroethane	4.3			<	0.21	<	0.23	<	0.45	<	0.22
1,1-Dichloroethene	0.56			<	0.21	<	0.23	<	0.23	<	0.22
Carbon Disulfide	1.2			0.25		0.44		0.50		<	0.22
Acetone	<	2.1		<	2.1	<	2.3	<	2.3	<	2.2
Methylene Chloride	<	0.21		<	0.21	<	0.23	<	0.23	<	0.22
trans-1,2-Dichloroethene	0.51			<	0.21	<	0.23	<	0.23	<	0.22
1,1-Dichloroethane	280		J	0.32		9.0		<	0.23	<	0.22
2-Butanone	<	2.1		<	2.1	<	2.3	<	2.3	<	2.2
Chloroform	<	0.21		<	0.21	<	0.23	<	0.23	<	0.22
1,1,1-Trichloroethane	7.3			0.27		0.37		<	0.23	<	0.22
Carbon Tetrachloride	<	0.21		<	0.21	<	0.23	<	0.23	<	0.22
Benzene	6.0			0.22		0.45		<	0.23	<	0.22
1,2-Dichloroethane	0.38			<	0.21	<	0.23	<	0.23	<	0.22
Trichloroethene	40			1.0		<	0.23	<	0.23	<	0.22
1,2-Dichloropropane	4.7			<	0.21	<	0.23	<	0.23	<	0.22
trans-1,3-Dichloropropene	<	0.21		<	0.21	<	0.23	<	0.23	<	0.22
Toluene	1.2			0.40		0.45		<	0.23	<	0.22
cis-1,3-Dichloropropene	<	0.21		<	0.21	<	0.23	<	0.23	<	0.22
Tetrachloroethene	39			2.1		1.8		<	0.23	<	0.22
2-Hexanone	<	0.21		<	0.21	<	0.23	<	0.23	<	0.22
Chlorobenzene	<	0.21		<	0.21	<	0.23	<	0.23	<	0.22
Ethyl Benzene	6.0			<	0.21	<	0.23	<	0.23	<	0.22
m,p-Xylene	9.4			<	0.21	<	0.23	<	0.23	<	0.22
o-Xylene	3.6			<	0.21	<	0.23	<	0.23	<	0.22
Styrene	<	0.21		<	0.21	<	0.23	<	0.23	<	0.22
cis-1,2-Dichloroethene	2.8			<	0.21	<	0.23	<	0.23	<	0.22

J= Estimated Value
NR= Not measured
R= Rejected Value (The data is unusable.)

1999

Table 13-2

Soil Gas Analytical Results - October 1999
Himco Dump Superfund Site
Elkhart, Indiana

Sample Location	TT-54			TT-61/TT-54			TT-55			TT-56			TT-56 Duplicate			TT-57		
Sample Tube Numbers	I1009A			I1021A&I1009B			I1014A&B			I1003A&B			I1005A&B			I1108A&B		
Compound - Units	µg/m³	RL	Qual	µg/m³	RL	Qual	µg/m³	RL	Qual	µg/m³	RL	Qual	µg/m³	RL	Qual	µg/m³	RL	Qual
Chloromethane	<	0.48		<	0.47		<	0.44		<	0.81		<	0.89		<	0.46	
Vinyl Chloride	<	0.48		<	0.47		<	0.44		20000	0.81		16000	0.89		<	0.46	
Bromomethane	<	0.48		<	0.47		<	0.44		11	0.81		<	0.89		<	0.46	
Chloroethane	<	0.48		<	0.47		<	0.44		530	0.81		<	0.89		<	0.46	
Freon 11	<	0.48		3.8	0.47	J	0.85	0.44		370	0.81		<	0.89		1.1	0.46	
1,1-Dichloroethene	<	0.48		<	0.47		<	0.44		1900	0.81		<	0.89		<	0.46	
Carbon Disulfide	1.1	0.48	J	0.71	0.47	J	0.71	0.44		19000	0.81		9800	0.89		<	0.46	
Acetone	<	2.4		3.3	2.4	J	<	2.2		<	4.1		<	4.5		4.6	2.3	
Methylene Chloride	<	0.48		<	0.47		<	0.44		<	0.81		<	0.89		<	0.46	
trans-1,2-Dichloroethene	<	0.48		<	0.47		<	0.44		<	0.81		<	0.89		<	0.46	
1,1-Dichloroethane	<	0.48		<	0.47		<	0.44		1500	0.81		<	0.89		<	0.46	
Vinyl Acetate	<	0.48		<	0.5		<	0.44		<	0.81		<	0.89		<	0.46	
2-Butanone	<	2.4		<	2.4		<	0.44		<	4.1		<	4.5		2.7	2.3	
Chloroform	<	0.48		<	0.47		<	0.44		110	0.81		<	0.89		<	0.46	
1,1,1-Trichloroethane	<	0.48		0.57	0.47	J	<	0.44		<	0.81		<	0.89		<	0.46	
Carbon Tetrachloride	<	0.48		<	0.47		<	0.44		<	0.81		<	0.89		<	0.46	
Benzene	<	0.48		<	0.47		<	0.44		380	0.81		<	0.89		<	0.46	
1,2-Dichloroethane	<	0.48		<	0.47		<	0.44		<	0.81		<	0.89		<	0.46	
Trichloroethene	<	0.48		<	0.47		<	0.44		6600	0.81		14000	0.89		<	0.46	
1,2-Dichloropropane	<	0.48		<	0.47		<	0.44		<	0.81		<	0.89		<	0.46	
Bromodichloromethane	<	0.48		<	0.47		<	0.44		<	0.81		<	0.89		<	0.46	
trans-1,3-Dichloropropene	<	0.48		<	0.47		<	0.44		<	0.81		<	0.89		<	0.46	
4-Methyl-2-pentanone	<	2.4		<	2.4		<	2.2		<	4.1		<	4.5		<	2.3	
Toluene	0.58	0.48	J	0.57	0.47	J	<	0.44		2800	0.81		6800	0.89		<	0.46	
cis-1,3-Dichloropropene	<	0.48		<	0.47		<	0.44		<	0.81		<	0.89		<	0.46	
1,1,2-Trichloroethane	<	0.48		<	0.47		<	0.44		<	0.81		<	0.89		<	0.46	
Tetrachloroethene	<	0.48		76	0.47	JE	<	0.44		6000	0.81		34884	0.89		<	0.46	
2-Hexanone	<	0.48		<	0.47		<	0.44		<	0.81		<	0.89		<	0.46	
Dibromochloromethane	<	0.48		<	0.47		<	0.44		<	0.81		<	0.89		<	0.46	
Chlorobenzene	<	0.48		<	0.47		<	0.44		<	0.81		<	0.89		<	0.46	
Ethyl Benzene	<	0.48		<	0.47		<	0.44		1400	0.81		6400	0.89		<	0.46	
m,p-Xylene	<	0.48		<	0.47		<	0.44		900	0.81		4500	0.89		<	0.46	
o-Xylene	<	0.48		<	0.47		<	0.44		270	0.81		980	0.89		<	0.46	
Styrene	<	0.48		<	0.47		<	0.44		90	0.81		<	0.89		<	0.46	
Bromoform	<	0.48		<	0.47		<	0.44		<	0.81		<	0.89		<	0.46	
1,1,2,2-Tetrachloroethane	<	0.48		<	0.47		<	0.44		<	0.81		<	0.89		<	0.46	
1,3-Dichlorobenzene	<	0.48		<	0.47		<	0.44		<	0.81		<	0.89		<	0.46	
1,4-Dichlorobenzene	<	0.48		<	0.47		<	0.44		50	0.81		<	0.89		<	0.46	
1,2-Dichlorobenzene	<	0.48		<	0.47		<	0.44		3.4	0.81		<	0.89		<	0.46	
cis-1,2-Dichloroethene	<	0.48		<	0.47		<	0.44		4200	0.81		2200	0.89		<	0.46	

E: Exceeds instrument calibration
S: Peak Saturation
RL: Reporting Limit
NS: Not Sampled
NR: Not Reported
NA: Not Applicable
<: Not detected

Table 13-2 cont.

Soil Gas Analytical Results - October 1999
Himco Dump Superfund Site
Elkhart, Indiana

Sample Location	TT-58			TT-59			TT-60			TT-61			TT-62			TT-63		
Sample Tube Numbers	11019A&B			11105A&B			11022A&B			11021B			11107 A&B			11104A&B		
Compound - Units	µg/m³	RL	Qual	µg/m³	RL	Qual	µg/m³	RL	Qual	µg/m³	RL	Qual	µg/m³	RL	Qual	µg/m³	RL	Qual
Chloromethane	<	0.47		<	0.47		<	0.46		<	0.47		<	0.47		<	0.47	
Vinyl Chloride	<	0.47		<	0.47		<	0.46		<	0.47		<	0.47		<	0.47	
Bromomethane	<	0.47		<	0.47		<	0.46		<	0.47		<	0.47		<	0.47	
Chloroethane	<	0.47		<	0.47		<	0.46		<	0.47		<	0.47		<	0.47	
Freon 11	3.1	0.47		0.76	0.47		0.78	0.46		1.1	0.47	J	90	0.47		190	0.47	
1,1-Dichloroethene	<	0.47		<	0.47		<	0.46		<	0.47		<	0.47		<	0.47	
Carbon Disulfide	0.66	0.47		4.7	0.47		0.96	0.46		<	0.47		1.2	0.47		0.84	0.47	
Acetone	2.9	2.4		4.4	2.4		4.3	2.3		<	2.3		7.1	2.4		<	2.3	
Methylene Chloride	<	0.47		<	0.47		0.59	0.46		<	0.47		4.7	0.47		<	0.47	
trans-1,2-Dichloroethene	<	0.47		<	0.47		<	0.46		<	0.47		7.1	0.47		<	0.47	
1,1-Dichloroethane	<	0.47		<	0.47		<	0.46		<	0.47		5.7	0.47		3.4	0.47	
Vinyl Acetate	<	0.47		<	0.47		<	0.46		<	0.47		<	0.47		<	0.47	
2-Butanone	<	2.4		2.8	2.4		2.5	2.3		<	2.3		6.1	2.4		<	2.3	
Chloroform	<	0.47		<	0.47		<	0.46		<	0.47		3.1	0.47		1.4	0.47	
1,1,1-Trichloroethane	<	0.47		<	0.47		<	0.46		<	0.47		12	0.47		2.2	0.47	
Carbon Tetrachloride	<	0.47		<	0.47		<	0.46		<	0.47		<	0.47		<	0.47	
Benzene	<	0.47		0.62	0.47		<	0.46		<	0.47		1.8	0.47		<	0.47	
1,2-Dichloroethane	<	0.47		<	0.47		<	0.46		<	0.47		<	0.47		<	0.47	
Trichloroethene	<	0.47		<	0.47		<	0.46		<	0.47		40	0.47		0.75	0.47	
1,2-Dichloropropane	<	0.47		<	0.47		<	0.46		<	0.47		1.2	0.47		<	0.47	
Bromodichloromethane	<	0.47		<	0.47		<	0.46		<	0.47		<	0.47		<	0.47	
trans-1,3-Dichloropropene	<	0.47		<	0.47		<	0.46		<	0.47		<	0.47		<	0.47	
4-Methyl-2-pentanone	<	2.4		<	2.4		<	2.3		<	2.3		3.1	2.4		<	2.3	
Toluene	<	0.47		0.85	0.47		<	0.46		<	0.47		20	0.47		5.1	0.47	
cis-1,3-Dichloropropene	<	0.47		<	0.47		<	0.46		<	0.47		<	0.47		<	0.47	
1,1,2-Trichloroethane	<	0.47		<	0.47		<	0.46		<	0.47		<	0.47		<	0.47	
Tetrachloroethene	<	0.47		<	0.47		0.50	0.46		1.6	0.47	J	990	0.47		120	0.47	
2-Hexanone	<	0.47		<	0.47		<	0.46		<	0.47		<	0.47		<	0.47	
Dibromochloromethane	<	0.47		<	0.47		<	0.46		<	0.47		<	0.47		<	0.47	
Chlorobenzene	<	0.47		<	0.47		<	0.46		<	0.47		<	0.47		<	0.47	
Ethyl Benzene	<	0.47		0.52	0.47		<	0.46		<	0.47		14	0.47		<	0.47	
m,p-Xylene	<	0.47		<	0.47		<	0.46		<	0.47		3.9	0.47		<	0.47	
o-Xylene	<	0.47		<	0.47		<	0.46		<	0.47		1.3	0.47		<	0.47	
Styrene	<	0.47		0.57	0.47		<	0.46		<	0.47		57	0.47		<	0.47	
Bromoform	<	0.47		<	0.47		<	0.46		<	0.47		<	0.47		<	0.47	
1,1,2,2-Tetrachloroethane	<	0.47		<	0.47		<	0.46		<	0.47		<	0.47		<	0.47	
1,3-Dichlorobenzene	<	0.47		<	0.47		<	0.46		<	0.47		<	0.47		<	0.47	
1,4-Dichlorobenzene	<	0.47		<	0.47		<	0.46		<	0.47		2.7	0.47		<	0.47	
1,2-Dichlorobenzene	<	0.47		<	0.47		<	0.46		<	0.47		<	0.47		<	0.47	
cis-1,2-Dichloroethene	<	0.47		<	0.47		<	0.46		<	0.47		24	0.47		<	0.47	

E: Exceeds instrument calibration
S: Peak Saturation
RL: Reporting Limit
NS: Not Sampled
NR: Not Reported
NA: Not Applicable
<: Not detected.

Table 13-2 cont.

Soil Gas Analytical Results - October 1999
Himco Dump Superfund Site
Elkhart, Indiana

Sample Location	TT-64			TT-65			TT-66			TT-67			TT-68			TT-69		
Sample Tube Numbers	11015A&B			11002A&B			11024A&B			11017A&B			11110A&B			11214A&B		
Compound - Units	µg/m³	RL	Qual	µg/m³	RL	Qual	µg/m³	RL	Qual	µg/m³	RL	Qual	µg/m³	RL	Qual	µg/m³	RL	Qual
Chloromethane	<	0.50		<	0.49		<	0.49		<	0.48		3.0	0.48		<	0.45	
Vinyl Chloride	<	0.50		<	0.49		<	0.49		<	0.48		<	0.48		<	0.45	
Bromomethane	<	0.50		<	0.49		<	0.49		<	0.48		<	0.48		<	0.45	
Chloroethane	<	0.50		<	0.49		<	0.49		<	0.48		<	0.48		<	0.45	
Freon 11	110	0.50		0.59	0.49		0.68	0.49		1.3	0.48		1.1	0.48		0.77	0.45	
1,1-Dichloroethene	<	0.50		<	0.49		<	0.49		<	0.48		<	0.48		<	0.45	
Carbon Disulfide	1.7	0.50		1.4	0.49		<	0.49		<	0.48		0.53	0.48		0.45	0.45	
Acetone	9.0	2.5		<	2.4		<	2.4		4.5	2.4		6.2	2.4		<	2.3	
Methylene Chloride	<	0.50		<	0.49		<	0.49		<	0.48		<	0.48		<	0.45	
trans-1,2-Dichloroethene	<	0.50		<	0.49		<	0.49		<	0.48		<	0.48		<	0.45	
1,1-Dichloroethane	22	0.50		<	0.49		<	0.49		<	0.48		<	0.48		<	0.45	
Vinyl Acetate	<	0.50		<	0.49		<	0.49		<	0.48		<	0.48		<	0.45	
2-Butanone	3.0	2.5		<	2.4		1.7	2.4		2.7	2.4		3.0	2.4		<	2.3	
Chloroform	7.5	0.50		<	0.49		<	0.49		<	0.48		<	0.48		<	0.45	
1,1,1-Trichloroethane	0.65	0.50		<	0.49		<	0.49		<	0.48		<	0.48		<	0.45	
Carbon Tetrachloride	<	0.50		<	0.49		<	0.49		<	0.48		<	0.48		<	0.45	
Benzene	0.50	0.50		0.64	0.49		<	0.49		<	0.48		1.06	0.48		<	0.45	
1,2-Dichloroethane	<	0.50		<	0.49		<	0.49		<	0.48		<	0.48		<	0.45	
Trichloroethene	29	0.50		<	0.49		<	0.49		<	0.48		<	0.48		<	0.45	
1,2-Dichloropropane	<	0.50		<	0.49		<	0.49		<	0.48		<	0.48		<	0.45	
Bromodichloromethane	<	0.50		<	0.49		<	0.49		<	0.48		<	0.48		<	0.45	
trans-1,3-Dichloropropene	<	0.50		<	0.49		<	0.49		<	0.48		<	0.48		<	0.45	
4-Methyl-2-pentanone	<	2.5		<	2.4		<	2.4		<	2.4		<	2.4		<	2.3	
Toluene	6.5	0.50		4.9	0.49		<	0.49		<	0.48		0.86	0.48		<	0.45	
cis-1,3-Dichloropropene	<	0.50		<	0.49		<	0.49		<	0.48		<	0.48		<	0.45	
1,1,2-Trichloroethane	<	0.50		<	0.49		<	0.49		<	0.48		<	0.48		<	0.45	
Tetrachloroethene	140	0.50		<	0.49		<	0.49		0.57	0.48		0.48	0.48		0.45	0.45	
2-Hexanone	<	0.50		<	0.49		<	0.49		<	0.48		<	0.48		<	0.45	
Dibromochloromethane	<	0.50		<	0.49		<	0.49		<	0.48		<	0.48		<	0.45	
Chlorobenzene	<	0.50		<	0.49		<	0.49		<	0.48		<	0.48		<	0.45	
Ethyl Benzene	1.4	0.50		<	0.49		<	0.49		<	0.48		<	0.48		<	0.45	
m,p-Xylene	1.6	0.50		1.7	0.49		<	0.49		<	0.48		<	0.48		<	0.45	
o-Xylene	1.1	0.50		0.54	0.49			0.49		<	0.48		<	0.48		<	0.45	
Styrene	<	0.50		<	0.49			0.49		<	0.48		<	0.48		<	0.45	
Bromoform	<	0.50		<	0.49		<	0.49		<	0.48		<	0.48		<	0.45	
1,1,2,2-Tetrachloroethane	<	0.50		<	0.49		<	0.49		<	0.48		<	0.48		<	0.45	
1,3-Dichlorobenzene	<	0.50		<	0.49		<	0.49		<	0.48		<	0.48		<	0.45	
1,4-Dichlorobenzene	16	0.50		<	0.49		<	0.49		<	0.48		<	0.48		<	0.45	
1,2-Dichlorobenzene	<	0.50		<	0.49		<	0.49		<	0.48		<	0.48		<	0.45	
cis-1,2-Dichloroethene	0.75	0.50		<	0.49		<	0.49		<	0.48		<	0.48		<	0.45	

E: Exceeds instrument calibration
S: Peak Saturation
RL: Reporting Limit
NS: Not Sampled
NR: Not Reported
NA: Not Applicable
<: Not detected

Table 13-2 cont.

Soil Gas Analytical Results - October 1999
Himco Dump Superfund Site
Elkhart, Indiana

Sample Location	TT-70			TT-71			TT-72			TT-73			TT-74			TT-75		
Sample Tube Numbers	11006A&B			11023A&B			11013A&B			11008A&B			11106A&B			11218A&B		
Compound - Units	µg/m³	RL	Qual	µg/m³	RL	Qual	µg/m³	RL	Qual	µg/m³	RL	Qual	µg/m³	RL	Qual	µg/m³	RL	Qual
Chloromethane	<	0.51		<	0.47		<	0.48			0.47		<	0.48		<	0.44	
Vinyl Chloride	<	0.51		<	0.47		<	0.48		<	0.47		<	0.48		<	0.44	
Bromomethane	<	0.51		<	0.47		<	0.48		<	0.47		<	0.48		<	0.44	
Chloroethane	<	0.51		<	0.47		<	0.48		<	0.47		<	0.48		<	0.44	
Freon 11	0.62	0.51		0.85	0.47		0.86	0.48		0.61	0.47		0.68	0.48		0.71	0.44	
1,1-Dichloroethene	<	0.51		<	0.47		<	0.48		<	0.47		<	0.48		<	0.44	
Carbon Disulfide	0.82	0.51		1.1	0.47		1.2	0.48		<	0.47		<	0.48		0.49	0.44	
Acetone	3.0	2.6		4.7	2.3		<	2.4		<	2.3		<	2.4		5.3	2.2	
Methylene Chloride	<	0.51		<	0.47		<	0.48		<	0.47		<	0.48		<	0.44	
trans-1,2-Dichloroethene	<	0.51		<	0.47		<	0.48		<	0.47		<	0.48		<	0.44	
1,1-Dichloroethane	<	0.51		<	0.47		<	0.48		<	0.47		<	0.48		<	0.44	
Vinyl Acetate	<	0.51		<	0.47		<	0.48		<	0.47		<	0.48		<	0.44	
2-Butanone	<	2.6		<	2.3		<	2.4		<	2.3		<	2.4		<	2.2	
Chloroform	<	0.51		<	0.47		<	0.48		0.66	0.47		<	0.48		1.4	0.44	
1,1,1-Trichloroethane	<	0.51		<	0.47		<	0.48		<	0.47		<	0.48		0.80	0.44	
Carbon Tetrachloride	<	0.51		<	0.47		<	0.48		<	0.47		<	0.48		<	0.44	
Benzene	<	0.51		0.47	0.47		<	0.48		2.2	0.47		<	0.48		<	0.44	
1,2-Dichloroethane	<	0.51		<	0.47		<	0.48		<	0.47		<	0.48		<	0.44	
Trichloroethene	<	0.51		<	0.47		<	0.48		<	0.47		<	0.48		<	0.44	
1,2-Dichloropropane	<	0.51		<	0.47		<	0.48		<	0.47		<	0.48		<	0.44	
Bromodichloromethane	<	0.51		<	0.47		<	0.48		<	0.47		<	0.48		<	0.44	
trans-1,3-Dichloropropene	<	0.51		<	0.47		<	0.48		<	0.47		<	0.48		<	0.44	
4-Methyl-2-pentanone	<	2.6		<	2.3		<	2.4		<	2.3		<	2.4		<	2.2	
Toluene	<	0.51		0.89	0.47		0.77	0.48		4.6	0.47		<	0.48		<	0.44	
cis-1,3-Dichloropropene	<	0.51		<	0.47		<	0.48		<	0.47		<	0.48		<	0.44	
1,1,2-Trichloroethane	<	0.51		<	0.47		<	0.48		<	0.47		<	0.48		<	0.44	
Tetrachloroethene	<	0.51		32	0.47		25	0.48		<	0.47		<	0.48		<	0.44	
2-Hexanone	<	0.51		<	0.47		<	0.48		<	0.47		<	0.48		<	0.44	
Dibromochloromethane	<	0.51		<	0.47		<	0.48		<	0.47		<	0.48		<	0.44	
Chlorobenzene	<	0.51		<	0.47		<	0.48		<	0.47		<	0.48		<	0.44	
Ethyl Benzene	<	0.51		0.66	0.47		<	0.48		1.5	0.47		<	0.48		<	0.44	
m,p-Xylene	0.62	0.51		<	0.47		<	0.48		2.3	0.47		<	0.48		<	0.44	
o-Xylene	<	0.51		<	0.47		<	0.48		0.85	0.47		<	0.48		<	0.44	
Styrene	<	0.51		<	0.47		<	0.48		<	0.47		<	0.48		<	0.44	
Bromoform	<	0.51		<	0.47		<	0.48		<	0.47		<	0.48		<	0.44	
1,1,2,2-Tetrachloroethane	<	0.51		<	0.47		<	0.48		<	0.47		<	0.48		<	0.44	
1,3-Dichlorobenzene	<	0.51		<	0.47		<	0.48		<	0.47		<	0.48		<	0.44	
1,4-Dichlorobenzene	<	0.51		<	0.47		<	0.48		<	0.47		<	0.48		<	0.44	
1,2-Dichlorobenzene	<	0.51		<	0.47		<	0.48		<	0.47		<	0.48		<	0.44	
cis-1,2-Dichloroethene	<	0.51		<	0.47		<	0.48		<	0.47		<	0.48		<	0.44	

E: Exceeds instrument calibration
S: Peak Saturation
RL: Reporting Limit
NS: Not Sampled
NR: Not Reported
NA: Not Applicable
<: Not detected.

Table 13-2 cont.

Soil Gas Analytical Results - October 1999
Himco Dump Superfund Site
Elkhart, Indiana

Sample Location	TT-76			TT-77			TT-78			TT-79			TT-80			TT-81		
Sample Tube Numbers	11206A&B			11211A&B			11225A&B			11210A&B			11223A&B			11201A&B		
Compound - Units	µg/m³	RL	Qual	µg/m³	RL	Qual	µg/m³	RL	Qual	µg/m³	RL	Qual	µg/m³	RL	Qual	µg/m³	RL	Qual
Chloromethane	<	0.45		<	0.48		<	0.49		<	0.47		<	0.48		<	0.47	
Vinyl Chloride	<	0.45		<	0.48		<	0.49		<	0.47		<	0.48		<	0.47	
Bromomethane	<	0.45		<	0.48		<	0.49		<	0.47		<	0.48		<	0.47	
Chloroethane	<	0.45		<	0.48		<	0.49		<	0.47		<	0.48		<	0.47	
Freon 11	0.90	0.45		1.6	0.48		1.4	0.49		5.6	0.47		1.7	0.48		0.75	0.47	
1,1-Dichloroethene	<	0.45		<	0.48		<	0.49		<	0.47		<	0.48		<	0.47	
Carbon Disulfide	0.99	0.45		0.86	0.48		1.6	0.49		<	0.47		0.53	0.48		1.2	0.47	
Acetone	<	2.4		<	2.4		4.0	2.5		<	2.3		<	2.4		<	2.4	
Methylene Chloride	<	0.45		<	0.48		0.64	0.49		<	0.47		0.53	0.48		0.47	0.47	
trans-1,2-Dichloroethene	<	0.45		<	0.48		<	0.49		<	0.47		<	0.48		<	0.47	
1,1-Dichloroethane	<	0.45		<	0.48		<	0.49		<	0.47		<	0.48		<	0.47	
Vinyl Acetate	<	0.45		<	0.48		<	0.49		<	0.47		<	0.48		<	0.47	
2-Butanone	<	2.4		<	2.4		<	2.5		<	2.3		<	2.4		<	2.4	
Chloroform	<	0.45		<	0.48		<	0.49		<	0.47		<	0.48		<	0.47	
1,1,1-Trichloroethane	<	0.45		<	0.48		<	0.49		0.51	0.47		<	0.48		<	0.47	
Carbon Tetrachloride	<	0.45		<	0.48		<	0.49		<	0.47		<	0.48		<	0.47	
Benzene	<	0.45		<	0.48		<	0.49		<	0.47		<	0.48		<	0.47	
1,2-Dichloroethane	<	0.45		<	0.48		<	0.49		<	0.47		<	0.48		<	0.47	
Trichloroethene	<	0.45		<	0.48		<	0.49		<	0.47		<	0.48		<	0.47	
1,2-Dichloropropane	<	0.45		<	0.48		<	0.49		<	0.47		<	0.48		<	0.47	
Bromodichloromethane	<	0.45		<	0.48		<	0.49		<	0.47		<	0.48		<	0.47	
trans-1,3-Dichloropropene	<	0.45		<	0.48		<	0.49		<	0.47		<	0.48		<	0.47	
4-Methyl-2-pentanone	<	2.4		<	2.4		<	2.5		<	2.3		<	2.4		<	2.4	
Toluene	<	0.45		<	0.48		8.8	0.49		<	0.47		<	0.48		<	0.47	
cis-1,3-Dichloropropene	<	0.45		<	0.48		<	0.49		<	0.47		<	0.48		<	0.47	
1,1,2-Trichloroethane	<	0.45		<	0.48		<	0.49		<	0.47		<	0.48		<	0.47	
Tetrachloroethene	<	0.45		5.7	0.48		30	0.49		19	0.47		1.2	0.48		0.52	0.47	
2-Hexanone	<	0.45		<	0.48		<	0.49		<	0.47		<	0.48		<	0.47	
Dibromochloromethane	<	0.45		<	0.48		<	0.49		<	0.47		<	0.48		<	0.47	
Chlorobenzene	<	0.45		<	0.48		<	0.49		<	0.47		<	0.48		<	0.47	
Ethyl Benzene	<	0.45		<	0.48		<	0.49		<	0.47		<	0.48		<	0.47	
m,p-Xylene	<	0.45		<	0.48		<	0.49		<	0.47		<	0.48		<	0.47	
o-Xylene	<	0.45		<	0.48		<	0.49		<	0.47		<	0.48		<	0.47	
Styrene	<	0.45		<	0.48		<	0.49		<	0.47		<	0.48		<	0.47	
Bromoform	<	0.45		<	0.48		<	0.49		<	0.47		<	0.48		<	0.47	
1,1,2,2-Tetrachloroethane	<	0.45		<	0.48		<	0.49		<	0.47		<	0.48		<	0.47	
1,3-Dichlorobenzene	<	0.45		<	0.48		<	0.49		<	0.47		<	0.48		<	0.47	
1,4-Dichlorobenzene	<	0.45		<	0.48		<	0.49		<	0.47		<	0.48		<	0.47	
1,2-Dichlorobenzene	<	0.45		<	0.48		<	0.49		<	0.47		<	0.48		<	0.47	
cis-1,2-Dichloroethene	<	0.45		<	0.48		<	0.49		<	0.47		<	0.48		<	0.47	

E: Exceeds instrument calibration
S: Peak Saturation
RL: Reporting Limit
NS: Not Sampled
NR: Not Reported
NA: Not Applicable
<: Not detected.

Table 13-2 cont.

Soil Gas Analytical Results - October 1999
Himco Dump Superfund Site
Elkhart, Indiana

Sample Location	TT-82			TT-83			TT-84			TT-85		TT-86			TT-87		
Sample Tube Numbers	11004A&B			11111A&B			11102A&B					11215A&B			11224A&B		
Compound - Units	µg/m³	RL	Qual	µg/m³	RL	Qual	µg/m³	RL	Qual	µg/m³	RL	µg/m³	RL	Qual	µg/m³	RL	Qual
Chloromethane	<	0.48		<	0.47		<	0.46		NR	NA	<	0.46		<	0.47	
Vinyl Chloride	<	0.48		<	0.47		<	0.46		NR	NA	<	0.46		<	0.47	
Bromomethane	<	0.48		<	0.47		<	0.46		NR	NA	<	0.46		<	0.47	
Chloroethane	<	0.48		<	0.47		<	0.46		NR	NA	<	0.46		<	0.47	
Freon 11	0.72	0.48		0.51	0.47		0.65	0.46		NR	NA	3.3	0.46		1.2	0.47	
1,1-Dichloroethene	<	0.48		<	0.47		<	0.46		NR	NA	<	0.46		<	0.47	
Carbon Disulfide	2.2	0.48		2.7	0.47		1.8	0.46		NR	NA	3.7	0.46		0.94	0.47	
Acetone	<	2.4		<	2.3		<	2.3		NR	NA	4.3	2.3		<	2.4	
Methylene Chloride	0.53	0.48		0.51	0.47		1.8	0.46		NR	NA	<	0.46		<	0.47	
trans-1,2-Dichloroethene	<	0.48		<	0.47		<	0.46		NR	NA	<	0.46		<	0.47	
1,1-Dichloroethane	<	0.48		<	0.47		<	0.46		NR	NA	<	0.46		<	0.47	
Vinyl Acetate	<	0.48		<	0.47		<	0.46		NR	NA	<	0.46		<	0.47	
2-Butanone	<	2.4		<	2.3		<	2.3		NR	NA	<	2.3		<	2.4	
Chloroform	<	0.48		<	0.47		<	0.46		NR	NA	<	0.46		<	0.47	
1,1,1-Trichloroethane	<	0.48		<	0.47		<	0.46		NR	NA	2.4	0.46		<	0.47	
Carbon Tetrachloride	<	0.48		<	0.47		<	0.46		NR	NA	<	0.46		<	0.47	
Benzene	<	0.48		<	0.47		<	0.46		NR	NA	<	0.46		<	0.47	
1,2-Dichloroethane	<	0.48		<	0.47		<	0.46		NR	NA	<	0.46		<	0.47	
Trichloroethene	<	0.48		<	0.47		<	0.46		NR	NA	<	0.46		<	0.47	
1,2-Dichloropropane	<	0.48		<	0.47		<	0.46		NR	NA	<	0.46		<	0.47	
Bromodichloromethane	<	0.48		<	0.47		<	0.46		NR	NA	<	0.46		<	0.47	
trans-1,3-Dichloropropene	<	0.48		<	0.47		<	0.46		NR	NA	<	0.46		<	0.47	
4-Methyl-2-pentanone	<	2.4		<	2.3		<	2.3		NR	NA	<	2.3		<	2.4	
Toluene	<	0.48		<	0.47		<	0.46		NR	NA	<	0.46		<	0.47	
cis-1,3-Dichloropropene	<	0.48		<	0.47		<	0.46		NR	NA	<	0.46		<	0.47	
1,1,2-Trichloroethane	<	0.48		<	0.47		<	0.46		NR	NA	<	0.46		<	0.47	
Tetrachloroethene	<	0.48		<	0.47		<	0.46		NR	NA	0.69	0.46		0.61	0.47	
2-Hexanone	<	0.48		<	0.47		<	0.46		NR	NA	<	0.46		<	0.47	
Dibromochloromethane	<	0.48		<	0.47		<	0.46		NR	NA	<	0.46		<	0.47	
Chlorobenzene	<	0.48		<	0.47		<	0.46		NR	NA	<	0.46		<	0.47	
Ethyl Benzene	<	0.48		<	0.47		<	0.46		NR	NA	<	0.46		<	0.47	
m,p-Xylene	<	0.48		<	0.47		<	0.46		NR	NA	<	0.46		<	0.47	
o-Xylene	<	0.48		<	0.47		<	0.46		NR	NA	<	0.46		<	0.47	
Styrene	<	0.48		<	0.47		<	0.46		NR	NA	<	0.46		<	0.47	
Bromoform	<	0.48		<	0.47		<	0.46		NR	NA	<	0.46		<	0.47	
1,1,2,2-Tetrachloroethane	<	0.48		<	0.47		<	0.46		NR	NA	<	0.46		<	0.47	
1,3-Dichlorobenzene	<	0.48		<	0.47		<	0.46		NR	NA	<	0.46		<	0.47	
1,4-Dichlorobenzene	<	0.48		<	0.47		<	0.46		NR	NA	<	0.46		<	0.47	
1,2-Dichlorobenzene	<	0.48		<	0.47		<	0.46		NR	NA	<	0.46		<	0.47	
cis-1,2-Dichloroethene	<	0.48		<	0.47		<	0.46		NR	NA	<	0.46		<	0.47	

E: Exceeds instrument calibration
S: Peak Saturation
RL: Reporting Limit
NS: Not Sampled
NR: Not Reported
NA: Not Applicable
<: Not detected.

Table 13-2 cont.

Soil Gas Analytical Results - October 1999
Himco Dump Superfund Site
Elkhart, Indiana

Sample Location	TT-88		TT-89			TT-90			TT-91			TT-92			TT-93		TT-94	
Sample Tube Numbers	NS		11313A&B			11222A&B			11315A&B			11207A&B			NS		NS	
Compound - Units	µg/m³	RL	µg/m³	RL	Qual	µg/m³	RL	Qual	µg/m³	RL	Qual	µg/m³	RL	Qual	µg/m³	RL	µg/m³	RL
Chloromethane	NS	NA	<	0.46		<	0.50		<	0.47		<	0.47		NS	NA	NS	NA
Vinyl Chloride	NS	NA	<	0.46		<	0.50		<	0.47		<	0.47		NS	NA	NS	NA
Bromomethane	NS	NA	<	0.46		<	0.50		<	0.47		<	0.47		NS	NA	NS	NA
Chloroethane	NS	NA	<	0.46		<	0.50		<	0.47		<	0.47		NS	NA	NS	NA
Freon 11	NS	NA	1.5	0.46		1.7	0.50		1.0	0.47		2.1	0.47		NS	NA	NS	NA
1,1-Dichloroethene	NS	NA	<	0.46		<	0.50		<	0.47		<	0.47		NS	NA	NS	NA
Carbon Disulfide	NS	NA	<	0.46		1.9	0.50		<	0.47		1.4	0.47		NS	NA	NS	NA
Acetone	NS	NA	<	2.3		2.8	2.5		<	2.4		<	2.4		NS	NA	NS	NA
Methylene Chloride	NS	NA	<	0.46		<	0.50		<	0.47		<	0.47		NS	NA	NS	NA
trans-1,2-Dichloroethene	NS	NA	<	0.46		<	0.50		<	0.47		<	0.47		NS	NA	NS	NA
1,1-Dichloroethane	NS	NA	<	0.46		<	0.50		<	0.47		<	0.47		NS	NA	NS	NA
Vinyl Acetate	NS	NA	<	0.46		<	0.50		<	0.47		<	0.47		NS	NA	NS	NA
2-Butanone	NS	NA	<	2.3		<	2.5		<	2.4		<	2.4		NS	NA	NS	NA
Chloroform	NS	NA	<	0.46		<	0.50		<	0.47		<	0.47		NS	NA	NS	NA
1,1,1-Trichloroethane	NS	NA	<	0.46		<	0.50		<	0.47		<	0.47		NS	NA	NS	NA
Carbon Tetrachloride	NS	NA	<	0.46		<	0.50		<	0.47		<	0.47		NS	NA	NS	NA
Benzene	NS	NA	<	0.46		<	0.50		<	0.47		<	0.47		NS	NA	NS	NA
1,2-Dichloroethane	NS	NA	<	0.46		<	0.50		<	0.47		<	0.47		NS	NA	NS	NA
Trichloroethene	NS	NA	<	0.46		<	0.50		<	0.47		<	0.47		NS	NA	NS	NA
1,2-Dichloropropane	NS	NA	<	0.46		<	0.50		<	0.47		<	0.47		NS	NA	NS	NA
Bromodichloromethane	NS	NA	<	0.46		<	0.50		<	0.47		<	0.47		NS	NA	NS	NA
trans-1,3-Dichloropropene	NS	NA	<	0.46		<	0.50		<	0.47		<	0.47		NS	NA	NS	NA
4-Methyl-2-pentanone	NS	NA	<	2.3		<	2.5		<	2.4		<	2.4		NS	NA	NS	NA
Toluene	NS	NA	<	0.46		<	0.50		<	0.47		<	0.47		NS	NA	NS	NA
cis-1,3-Dichloropropene	NS	NA	<	0.46		<	0.50		<	0.47		<	0.47		NS	NA	NS	NA
1,1,2-Trichloroethane	NS	NA	<	0.46		<	0.50		<	0.47		<	0.47		NS	NA	NS	NA
Tetrachloroethene	NS	NA	<	0.46		0.65	0.50		0.90	0.47		<	0.47		NS	NA	NS	NA
2-Hexanone	NS	NA	<	0.46		<	0.50		<	0.47		<	0.47		NS	NA	NS	NA
Dibromochloromethane	NS	NA	<	0.46		<	0.50		<	0.47		<	0.47		NS	NA	NS	NA
Chlorobenzene	NS	NA	<	0.46		<	0.50		<	0.47		<	0.47		NS	NA	NS	NA
Ethyl Benzene	NS	NA	<	0.46		<	0.50		<	0.47		<	0.47		NS	NA	NS	NA
m,p-Xylene	NS	NA	<	0.46		<	0.50		<	0.47		<	0.47		NS	NA	NS	NA
o-Xylene	NS	NA	<	0.46		<	0.50		<	0.47		<	0.47		NS	NA	NS	NA
Styrene	NS	NA	<	0.46		<	0.50		<	0.47		<	0.47		NS	NA	NS	NA
Bromoform	NS	NA	<	0.46		<	0.50		<	0.47		<	0.47		NS	NA	NS	NA
1,1,2,2-Tetrachloroethane	NS	NA	<	0.46		<	0.50		<	0.47		<	0.47		NS	NA	NS	NA
1,3-Dichlorobenzene	NS	NA	<	0.46		<	0.50		<	0.47		<	0.47		NS	NA	NS	NA
1,4-Dichlorobenzene	NS	NA	<	0.46		<	0.50		<	0.47		<	0.47		NS	NA	NS	NA
1,2-Dichlorobenzene	NS	NA	<	0.46		<	0.50		<	0.47		<	0.47		NS	NA	NS	NA
cis-1,2-Dichloroethene	NS	NA	<	0.46		<	0.50		<	0.47		<	0.47		NS	NA	NS	NA

E: Exceeds instrument calibration
S: Peak Saturation
RL: Reporting Limit
NS: Not Sampled
NR: Not Reported
NA: Not Applicable
<: Not detected.

Table 13-2 cont.

Soil Gas Analytical Results - October 1999
Himco Dump Superfund Site
Elkhart, Indiana

Sample Location	TT-95			TT-95 Duplicate			TT-96			TT-97			TT-97 Duplicate			TT-98		
Sample Tube Numbers	11317A&B			11304A&B			11217A&B			11310A&B			11205A&B			11203A&B		
Compound - Units	µg/m³	RL	Qual	µg/m³	RL	Qual	µg/m³	RL	Qual	µg/m³	RL	Qual	µg/m³	RL	Qual	µg/m³	RL	Qual
Chloromethane	<	0.46		<	0.44		<	0.48		<	0.48		<	0.49		<	0.50	
Vinyl Chloride	<	0.46		<	0.44		<	0.48		<	0.48		<	0.49		<	0.50	
Bromomethane	<	0.46		<	0.44		<	0.48		<	0.48		<	0.49		<	0.50	
Chloroethane	<	0.46		<	0.44		<	0.48		<	0.48		<	0.49		<	0.50	
Freon 11	0.70	0.46		0.61	0.44		1.5	0.48		1.3	0.48		2.0	0.49		0.99	0.50	
1,1-Dichloroethene	<	0.46		<	0.44		<	0.48		<	0.48		<	0.49		<	0.50	
Carbon Disulfide	<	0.46		1.4	0.44		1.1	0.48		4.4	0.48		2.7	0.49		3.3	0.50	
Acetone	<	2.2		<	2.3		2.7	2.4		<	2.4		3.2	2.5		<	2.5	
Methylene Chloride	<	0.46		<	0.44		<	0.48		<	0.48		<	0.49		<	0.50	
trans-1,2-Dichloroethene	<	0.46		<	0.44		<	0.48		<	0.48		<	0.49		<	0.50	
1,1-Dichloroethane	<	0.46		<	0.44		<	0.48		<	0.48		<	0.49		<	0.50	
Vinyl Acetate	<	0.46		<	0.44		<	0.48		<	0.48		<	0.49		<	0.50	
2-Butanone	<	2.2		<	2.3		<	2.4		<	2.4		<	2.5		<	2.5	
Chloroform	<	0.46		<	0.44		<	0.48		<	0.48		<	0.49		<	0.50	
1,1,1-Trichloroethane	<	0.46		<	0.44		<	0.48		<	0.48		<	0.49		<	0.50	
Carbon Tetrachloride	<	0.46		<	0.44		<	0.48		<	0.48		<	0.49		<	0.50	
Benzene	<	0.46		<	0.44		<	0.48		<	0.48		<	0.49		<	0.50	
1,2-Dichloroethane	<	0.46		<	0.44		<	0.48		<	0.48		<	0.49		<	0.50	
Trichloroethene	<	0.46		<	0.44		<	0.48		<	0.48		<	0.49		<	0.50	
1,2-Dichloropropane	<	0.46		<	0.44		<	0.48		<	0.48		<	0.49		<	0.50	
Bromodichloromethane	<	0.46		<	0.44		<	0.48		<	0.48		<	0.49		<	0.50	
trans-1.3-Dichloropropene	<	0.46		<	0.44		<	0.48		<	0.48		<	0.49		<	0.50	
4-Methyl-2-pentanone	<	2.2		<	2.3		<	2.4		<	2.4		<	2.5		<	2.5	
Toluene	0.83	0.46		0.48	0.44		<	0.48		<	0.48		<	0.49		<	0.50	
cis-1.3-Dichloropropene	<	0.46		<	0.44		<	0.48		<	0.48		<	0.49		<	0.50	
1,1,2-Trichloroethane	<	0.46		<	0.44		<	0.48		<	0.48		<	0.49		<	0.50	
Tetrachloroethene	1.3	0.46		1.6	0.44		<	0.48		0.82	0.48		0.69	0.49		<	0.50	
2-Hexanone	<	0.46		<	0.44		<	0.48		<	0.48		<	0.49		<	0.50	
Dibromochloromethane	<	0.46		<	0.44		<	0.48		<	0.48		<	0.49		<	0.50	
Chlorobenzene	<	0.46		<	0.44		<	0.48		<	0.48		<	0.49		<	0.50	
Ethyl Benzene	<	0.46		<	0.44		<	0.48		<	0.48		<	0.49		<	0.50	
m,p-Xylene	<	0.46		<	0.44		<	0.48		<	0.48		<	0.49		<	0.50	
o-Xylene	<	0.46		<	0.44		<	0.48		<	0.48		<	0.49		<	0.50	
Styrene	<	0.46		<	0.44		<	0.48		<	0.48		<	0.49		<	0.50	
Bromoform	<	0.46		<	0.44		<	0.48		<	0.48		<	0.49		<	0.50	
1,1,2,2-Tetrachloroethane	<	0.46		<	0.44		<	0.48		<	0.48		<	0.49		<	0.50	
1,3-Dichlorobenzene	<	0.46		<	0.44		<	0.48		<	0.48		<	0.49		<	0.50	
1,4-Dichlorobenzene	<	0.46		<	0.44		<	0.48		<	0.48		<	0.49		<	0.50	
1,2-Dichlorobenzene	<	0.46		<	0.44		<	0.48		<	0.48		<	0.49		<	0.50	
cis-1,2-Dichloroethene	<	0.46		<	0.44		<	0.48		<	0.48		<	0.49		<	0.50	

E: Exceeds instrument calibration
S: Peak Saturation
RL: Reporting Limit
NS: Not Sampled
NR: Not Reported
NA: Not Applicable
<: Not detected.

Table 13-2 cont.

Soil Gas Analytical Results - October 1999
Himco Dump Superfund Site
Elkhart, Indiana

Sample Location	TT-99		TT-100			TT-101			TT-102		
Sample Tube Numbers	NS		11311A&B			11212A&B			11216A&B		
Compound - Units	µg/m³	RL	µg/m³	RL	Qual	µg/m³	RL	Qual	µg/m³	RL	Qual
Chloromethane	NS	NA	<	0.48		<	0.49		<	0.46	
Vinyl Chloride	<		<	0.48		<	0.49		<	0.46	
Bromomethane	<		<	0.48		<	0.49		<	0.46	
Chloroethane	<		<	0.48		<	0.49		<	0.46	
Freon 11	<		0.72	0.48		0.98	0.49		1.1	0.46	
1,1-Dichloroethene	<		<	0.48		<	0.49		<	0.46	
Carbon Disulfide	<		<	0.48		1.1	0.49		0.87	0.46	
Acetone	<		<	2.4		6.8	2.4		<	2.3	
Methylene Chloride	<		<	0.48		<	0.49		<	0.46	
trans-1,2-Dichloroethene	<		<	0.48		<	0.49		<	0.46	
1,1-Dichloroethane	<		<	0.48		<	0.49		<	0.46	
Vinyl Acetate	<		<	0.48		<	0.49		<	0.46	
2-Butanone	<		<	2.4		<	2.4		<	2.3	
Chloroform	<		<	0.48		<	0.49		<	0.46	
1,1,1-Trichloroethane	<		<	0.48		<	0.49		0.82	0.46	
Carbon Tetrachloride	<		<	0.48		<	0.49		<	0.46	
Benzene	<		<	0.48		<	0.49		<	0.46	
1,2-Dichloroethane	<		<	0.48		<	0.49		<	0.46	
Trichloroethene	<		<	0.48		<	0.49		<	0.46	
1,2-Dichloropropane	<		<	0.48		<	0.49		<	0.46	
Bromodichloromethane	<		<	0.48		<	0.49		<	0.46	
trans-1,3-Dichloropropene	<		<	0.48		<	0.49		<	0.46	
4-Methyl-2-pentanone	<		<	2.4		<	2.4		<	2.3	
Toluene	<		<	0.48		<	0.49		<	0.46	
cis-1,3-Dichloropropene	<		<	0.48		<	0.49		<	0.46	
1,1,2-Trichloroethane	<		<	0.48		<	0.49		<	0.46	
Tetrachloroethene	<		<	0.48		<	0.49		<	0.46	
2-Hexanone	<		<	0.48		<	0.49		<	0.46	
Dibromochloromethane	<		<	0.48		<	0.49		<	0.46	
Chlorobenzene	<		<	0.48		<	0.49		<	0.46	
Ethyl Benzene	<		<	0.48		<	0.49		<	0.46	
m,p-Xylene	<		<	0.48		<	0.49		<	0.46	
o-Xylene	<		<	0.48		<	0.49		<	0.46	
Styrene	<		<	0.48		<	0.49		<	0.46	
Bromoform	<		<	0.48		<	0.49		<	0.46	
1,1,2,2-Tetrachloroethane	<		<	0.48		<	0.49		<	0.46	
1,3-Dichlorobenzene	<		<	0.48		<	0.49		<	0.46	
1,4-Dichlorobenzene	<		<	0.48		<	0.49		<	0.46	
1,2-Dichlorobenzene	<		<	0.48		<	0.49		<	0.46	
cis-1,2-Dichloroethene	<		<	0.48		<	0.49		<	0.46	

E: Exceeds instrument calibration
S: Peak Saturation
RL: Reporting Limit
NS: Not Sampled
NR: Not Reported
NA: Not Applicable
<: Not detected.

 wlw
4/14/97

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION V

DATE: Jan 21, 1997

SUBJECT: Review of Data
Received for Review on December 23, 1996

FROM: Stephen L. Ostrodka, Chief (SRT-4J)
Superfund Technical Support Section

TO: Data User: Superfund Patricia J Scott for Steve Ostrodka 01/21/97

We have reviewed the data for the following case:

SITE NAME: HIMCO DUMP (IN)

CASE NUMBER: 25143 SDG NUMBER: EAXX8

Number and Type of Samples: 8 - Waters

Sample Numbers: EAXX8 - 9, EAXY0 - 5

Laboratory: DATACHEM Hrs. for Review: 4.5 + 1.6

Following are our findings:

The data are acceptable and usable with the qualifications described in the attached narrative.

Patricia J Scott

1997
MW Sampling
Ballard

CC: Brian Freeman
Region 5 TPO
Mail Code: SM-5J

Case Number : 25143 **SDG Number:** EAXX8
Site Name: HIMCO DUMP (IN) **Laboratory:** DATACHEM

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

Eight (8) preserved water samples, numbered EAXX8, EAXX9 and EAXY0 through EAXY5, were collected on November 12, 1996 and November 13, 1996. The lab received the samples on November 15, 1996 in good condition. All eight (8) samples were analyzed for the full list of volatile organic analytes. Six (6) samples (EAXX9, EAXY0 through EAXY4) were analyzed for the full list of semivolatile organic analytes. All were analyzed according to CLP SOW OLM03.2 3/90.

Prepared By: A.C. Harvey/Lockheed-Martin ESAT
Date: January 10, 1997

Case Number : 25143 **SDG Number:** EAXX8
Site Name: HIMCO DUMP (IN) **Laboratory:** DATACHEM

1. HOLDING TIME

No problems found for this qualification.

2. GC/MS TUNING AND GC INSTRUMENT PERFORMANCE

No problems found for this qualification.

3. CALIBRATION

The following volatile samples are associated with a continuing calibration percent difference (%D) outside primary criteria. Hits are qualified "J" and non-detects are qualified "UJ".

Acetone, 1,2-Dichloroethane, 2-Butanone, 4-Methyl-2-Pentanone, 2-Hexanone
EAXX8, EAXX9, EAXY0, EAXY1, EAXY2, EAXY3, EAXY4, EAXY4MS, EAXY4MSD, EAXY5, VBLK01, VHBLK01

The following semivolatile samples are associated with a continuing calibration percent difference (%D) outside primary criteria. Hits are qualified "J" and non-detects are qualified "UJ".

Pentachlorophenol
EAXX9, EAXY0, EAXY1, EAXY2, EAXY3, EAXY4, EAXY4MS, EAXY4MSD, SBLK01

4. BLANKS

The following volatile samples have analyte concentrations reported below the CRQL and less than or equal to ten times (10X) the associated method blank concentration. Reported sample concentrations have been elevated to the CRQL. Hits are qualified "U" and non-detects are not flagged.

Methylene Chloride
EAXY2, EAXY3, EAXY4, EAXY4MS, EAXY4MSD, EAXY5, VHBLK01

The following semivolatile samples have analyte concentrations reported below the CRQL and less than or equal to ten times (10X) the associated method blank concentration. Reported sample concentrations have been elevated to the CRQL. Hits are qualified "U" and non-detects are not flagged.

Di-n-butylphthalate
EAXX9, EAXY0, EAXY1, EAXY2, EAXY3, EAXY4, EAXY4MS, EAXY4MSD

Prepared By: A.C. Harvey/Lockheed-Martin ESAT
Date: January 10, 1997

Case Number : 25143 **SDG Number: EAXX8**
Site Name: HIMCO DUMP (IN) **Laboratory: DATACHEM**

5. SYSTEM MONITORING COMPOUND AND SURROGATE RECOVERY

No problems found for this qualification.

6. MATRIX SPIKE/MATRIX SPIKE DUPLICATE

The following semivolatile matrix spike/matrix spike duplicate samples have percent recoveries which exceed the upper limit of the criteria window.

EAXY4MS
4-Nitrophenol, Pentachlorophenol

EAXY4MSD
4-Chloro-3-methylphenol, 4-Nitrophenol, 2,4-Dinitrotoluene, Pentachlorophenol

The presence of 4-Chloro-3-methylphenol, 4-Nitrophenol, 2,4-Dinitrotoluene and Pentachlorophenol in the unspiked sample, EAXY4, is qualified "J" and non-detects are not flagged.

7. FIELD BLANK AND FIELD DUPLICATE

Sample EAXY3 was a field blank. Sample EAXY1 is a field duplicate of Sample EAXY0. Results are not qualified based upon the results of the field blank or field duplicates.

8. INTERNAL STANDARDS

No problems found for this qualification.

9. COMPOUND IDENTIFICATION

After reviewing the mass spectra and chromatograms it appears that all VOA, SVOA, ~~and Pesticide/PCB~~ compounds were properly identified. 01/21/97

10. COMPOUND QUANTITATION AND REPORTED DETECTION LIMITS

The following volatile samples have analyte concentrations below the quantitation limit (CRQL). All results below the CRQL are qualified "J".

EAXY2
1,2-Dichloroethene (total)

EAXY4
Benzene

EAXY5
1,1-Dichloroethane, 1,2-Dichloroethene (total), 1,2-Dichloropropane, Trichloroethene, Benzene

Prepared By: A.C. Harvey/Lockheed-Martin ESAT
Date: January 10, 1997

Case Number : 25143 **SDG Number:** EAXX8
Site Name: HIMCO DUMP (IN) **Laboratory:** DATACHEM

VBLK01
Methylene Chloride

The following semivolatile samples have analyte concentrations below the quantitation limit (CRQL). All results below the CRQL are qualified "J".

SBLK01
Di-n-butylphthalate

11. SYSTEM PERFORMANCE

GC/MS baseline indicated acceptable performance. ~~The GC baseline for the pesticide analysis was acceptable.~~ PDS 01/21/97

12. ADDITIONAL INFORMATION

None.

Prepared By: A.C. Harvey/Lockheed-Martin ESAT
Date: January 10, 1997

CADRE Data Qualifier Sheet

Qualifiers	Data Qualifier Definitions
U	The analyte was analyzed for, but was not detected above the reported sample quantitation limit.
J	The anlayte was positively identified; the associated numerical value is an approximate concentration of the analyte in the sample.
UJ	The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the action limit of quantitation necessary to accurately and precisely measure the analyte in the sample.
N	The analysis indicates the present of an analyte for which there is presumptive evidence to make a tentative identification.
NJ	The analysis indicates the present of an analyte for which there is presumptive evidence to make a tentative identification and the associated numerical value represents its approximate concentration.
R	The data are unusable. (The compound may or may not be present)
H	Sample result is estimated and biased high.
L	Sample result is estimated and biased low.

TCL QUALIFIED SPREADSHEET

Case No: 25143
SDG No: EAXX8

Site: HIMCO DUMP
Laboratory: DATACHEM INC.

EPA SAMPLE NUMBER:	EAXX8		EAXX9		EAXY0		EAXY1		EAXY2	
REGIONAL SAMPLE NUMBER:										
SAMPLE LOCATION:	TRIP BLANK		WT105A		WT111A		WT111AD		WT106A	
SAMPLE TYPE:	Routine Sample		Routine Sample		Routine Sample		Routine Sample		Routine Sample	
MATRIX/ANALYSIS:	Water/LOW		Water/LOW		Water/LOW		Water/LOW		Water/LOW	
DILUTION FACTOR:	1.0		1.0		1.0		1.0		1.0	
PERCENT MOISTURE:										
VOA										
Chloromethane	10	U	10	U	10	U	10	U	10	U
Bromomethane	10	U	10	U	10	U	10	U	10	U
Vinyl Chloride	10	U	10	U	10	U	10	U	10	U
Chloroethane	10	U	10	U	10	U	10	U	10	U
Methylene Chloride	10	U	10	U	10	U	10	U	10	U
Acetone	10	UJ	10	UJ	10	UJ	10	UJ	10	UJ
Carbon Disulfide	10	U	10	U	10	U	10	U	10	U
1,1-Dichloroethene	10	U	10	U	10	U	10	U	10	U
1,1-Dichloroethane	10	U	10	U	10	U	10	U	10	U
1,2-Dichloroethene (total)	10	U	10	U	10	U	10	U	3	J
Chloroform	10	U	10	U	10	U	10	U	10	U
1,2-Dichloroethane	10	UJ	10	UJ	10	UJ	10	UJ	10	UJ
2-Butanone	10	UJ	10	UJ	10	UJ	10	UJ	10	UJ
1,1,1-Trichloroethane	10	U	10	U	10	U	10	U	10	U
Carbon Tetrachloride	10	U	10	U	10	U	10	U	10	U
Bromodichloromethane	10	U	10	U	10	U	10	U	10	U
1,2-Dichloropropane	10	U	10	U	10	U	10	U	10	U
cis-1,3-Dichloropropene	10	U	10	U	10	U	10	U	10	U
Trichloroethene	10	U	10	U	10	U	10	U	10	U
Dibromochloromethane	10	U	10	U	10	U	10	U	10	U
1,1,2-Trichloroethane	10	U	10	U	10	U	10	U	10	U
Benzene	10	U	10	U	10	U	10	U	10	U
trans-1,3-Dichloropropene	10	U	10	U	10	U	10	U	10	U
Bromoform	10	U	10	U	10	U	10	U	10	U
4-Methyl-2-Pentanone	10	UJ	10	UJ	10	UJ	10	UJ	10	UJ
2-Hexanone	10	UJ	10	UJ	10	UJ	10	UJ	10	UJ
Tetrachloroethene	10	U	10	U	10	U	10	U	10	U
1,1,2,2-Tetrachloroethane	10	U	10	U	10	U	10	U	10	U
Toluene	10	U	10	U	10	U	10	U	10	U
Chlorobenzene	10	U	10	U	10	U	10	U	10	U
Ethylbenzene	10	U	10	U	10	U	10	U	10	U
Styrene	10	U	10	U	10	U	10	U	10	U
Xylene (total)	10	U	10	U	10	U	10	U	10	U

FILE NAME: EAXX8 DATE: 01/07/97 TIME: 14:32 CADRE 2.3

Water units are reported in ug/L.
Soil units are reported in ug/Kg.

TCL QUALIFIED SPREADSHEET

Case No: 25143
SDG No: EAXX8

Site: HIMCO DUMP
Laboratory: DATACHEM INC.

EPA SAMPLE NUMBER:	EAXY3		EAXY4		EAXY4MS		EAXY4MSD		EAXY5	
REGIONAL SAMPLE NUMBER:										
SAMPLE LOCATION:	FIELD BLANK		WT115A						WT116A	
SAMPLE TYPE:	Routine Sample		Routine Sample		Matrix Spike		Matrix Spike Dup		Routine Sample	
MATRIX/ANALYSIS:	Water/LOW		Water/LOW		Water/LOW		Water/LOW		Water/LOW	
DILUTION FACTOR:	1.0		1.0		1.0		1.0		1.0	
PERCENT MOISTURE:										
VOA										
Chloromethane	10	U	10	U	10	U	10	U	10	U
Bromomethane	10	U	10	U	10	U	10	U	10	U
Vinyl Chloride	10	U	10	U	10	U	10	U	10	U
Chloroethane	10	U	10	U	10	U	10	U	10	U
Methylene Chloride	10	U	10	U	10	U	10	U	10	U
Acetone	10	UJ	10	UJ	10	UJ	10	UJ	10	UJ
Carbon Disulfide	10	U	10	U	10	U	10	U	10	U
1,1-Dichloroethene	10	U	10	U	47		47		10	U
1,1-Dichloroethane	10	U	10	U	10	U	10	U	5	J
1,2-Dichloroethene (total)	10	U	10	U	10	U	10	U	0.4	J
Chloroform	10	U	10	U	10	U	10	U	10	U
1,2-Dichloroethane	10	UJ	10	UJ	10	UJ	10	UJ	10	UJ
2-Butanone	10	UJ	10	UJ	10	UJ	10	UJ	10	UJ
1,1,1-Trichloroethane	10	U	10	U	10	U	10	U	10	U
Carbon Tetrachloride	10	U	10	U	10	U	10	U	10	U
Bromodichloromethane	10	U	10	U	10	U	10	U	10	U
1,2-Dichloropropane	10	U	10	U	10	U	10	U	2	J
cis-1,3-Dichloropropene	10	U	10	U	10	U	10	U	10	U
Trichloroethene	10	U	10	U	46		45		0.5	J
Dibromochloromethane	10	U	10	U	10	U	10	U	10	U
1,1,2-Trichloroethane	10	U	10	U	10	U	10	U	10	U
Benzene	10	U	2	J	48		47		7	J
trans-1,3-Dichloropropene	10	U	10	U	10	U	10	U	10	U
Bromoform	10	U	10	U	10	U	10	U	10	U
4-Methyl-2-Pentanone	10	UJ	10	UJ	10	UJ	10	UJ	10	UJ
2-Hexanone	10	UJ	10	UJ	10	UJ	10	UJ	10	UJ
Tetrachloroethene	10	U	10	U	10	U	10	U	10	U
1,1,2,2-Tetrachloroethane	10	U	10	U	10	U	10	U	10	U
Toluene	10	U	10	U	47		47		10	U
Chlorobenzene	10	U	10	U	46		46		10	U
Ethylbenzene	10	U	10	U	10	U	10	U	10	U
Styrene	10	U	10	U	10	U	10	U	10	U
Xylene (total)	10	U	10	U	10	U	10	U	10	U

FILE NAME: EAXX8 DATE: 01/07/97 TIME: 14:32 CADRE 2.3

Water units are reported in ug/L.
Soil units are reported in ug/Kg.

TCL QUALIFIED SPREADSHEET

Case No: 25143
SDG No: EAXX8

Site: HIMCO DUMP
Laboratory: DATACHEM INC.

EPA SAMPLE NUMBER:	VBLK01		VHBLK01				
REGIONAL SAMPLE NUMBER:							
SAMPLE LOCATION:							
SAMPLE TYPE:	Method Blank		Storage Blank				
MATRIX/ANALYSIS:	Water/LOW		Water/LOW				
DILUTION FACTOR:	1.0		1.0				
PERCENT MOISTURE:							
VOA							
Chloromethane	10	U	10	U			
Bromomethane	10	U	10	U			
Vinyl Chloride	10	U	10	U			
Chloroethane	10	U	10	U			
Methylene Chloride	0.8	J	10	U			
Acetone	10	UJ	10	UJ			
Carbon Disulfide	10	U	10	U			
1,1-Dichloroethene	10	U	10	U			
1,1-Dichloroethane	10	U	10	U			
1,2-Dichloroethene (total)	10	U	10	U			
Chloroform	10	U	10	U			
1,2-Dichloroethane	10	UJ	10	UJ			
2-Butanone	10	UJ	10	UJ			
1,1,1-Trichloroethane	10	U	10	U			
Carbon Tetrachloride	10	U	10	U			
Bromodichloromethane	10	U	10	U			
1,2-Dichloropropane	10	U	10	U			
cis-1,3-Dichloropropene	10	U	10	U			
Trichloroethene	10	U	10	U			
Dibromochloromethane	10	U	10	U			
1,1,2-Trichloroethane	10	U	10	U			
Benzene	10	U	10	U			
trans-1,3-Dichloropropene	10	U	10	U			
Bromoform	10	U	10	U			
4-Methyl-2-Pentanone	10	UJ	10	UJ			
2-Hexanone	10	UJ	10	UJ			
Tetrachloroethene	10	U	10	U			
1,1,2,2-Tetrachloroethane	10	U	10	U			
Toluene	10	U	10	U			
Chlorobenzene	10	U	10	U			
Ethylbenzene	10	U	10	U			
Styrene	10	U	10	U			
Xylene (total)	10	U	10	U			

Water units are reported in ug/L.
Soil units are reported in ug/Kg.

TCL QUALIFIED SPREADSHEET

Case No: 25143
SDG No: EAXX8

Site: HIMCO DUMP
Laboratory: DATACHEM INC.

EPA SAMPLE NUMBER:	EAXX9	EAXY0	EAXY1	EAXY2	EAXY3
REGIONAL SAMPLE NUMBER:					
SAMPLE LOCATION:	WT105A	WT111A	WT111AD	WT106A	FIELD BLANK
SAMPLE TYPE:	Routine Sample	Routine Sample	Routine Sample	Routine Sample	Routine Sample
MATRIX/ANALYSIS:	Water/LOW	Water/LOW	Water/LOW	Water/LOW	Water/LOW
DILUTION FACTOR:	1.0	1.0	1.0	1.0	1.0
PERCENT MOISTURE:					
BNA					
Phenol	10 U	10 U	10 U	10 U	10 U
bis(2-Chloroethyl)ether	10 U	10 U	10 U	10 U	10 U
2-Chlorophenol	10 U	10 U	10 U	10 U	10 U
1,3-Dichlorobenzene	10 U	10 U	10 U	10 U	10 U
1,4-Dichlorobenzene	10 U	10 U	10 U	10 U	10 U
1,2-Dichlorobenzene	10 U	10 U	10 U	10 U	10 U
2-Methylphenol	10 U	10 U	10 U	10 U	10 U
2,2'-oxybis(1-Chloropropane)	10 U	10 U	10 U	10 U	10 U
4-Methylphenol	10 U	10 U	10 U	10 U	10 U
N-Nitroso-di-n-propylamine	10 U	10 U	10 U	10 U	10 U
Hexachloroethane	10 U	10 U	10 U	10 U	10 U
Nitrobenzene	10 U	10 U	10 U	10 U	10 U
Isophorone	10 U	10 U	10 U	10 U	10 U
2-Nitrophenol	10 U	10 U	10 U	10 U	10 U
2,4-Dimethylphenol	10 U	10 U	10 U	10 U	10 U
bis(2-Chloroethoxy)methane	10 U	10 U	10 U	10 U	10 U
2,4-Dichlorophenol	10 U	10 U	10 U	10 U	10 U
1,2,4-Trichlorobenzene	10 U	10 U	10 U	10 U	10 U
Naphthalene	10 U	10 U	10 U	10 U	10 U
4-Chloroaniline	10 U	10 U	10 U	10 U	10 U
Hexachlorobutadiene	10 U	10 U	10 U	10 U	10 U
4-Chloro-3-methylphenol	10 U	10 U	10 U	10 U	10 U
2-Methylnaphthalene	10 U	10 U	10 U	10 U	10 U
Hexachlorocyclopentadiene	10 U	10 U	10 U	10 U	10 U
2,4,6-Trichlorophenol	10 U	10 U	10 U	10 U	10 U
2,4,5-Trichlorophenol	25 U	25 U	25 U	25 U	25 U
2-Chloronaphthalene	10 U	10 U	10 U	10 U	10 U
2-Nitroaniline	25 U	25 U	25 U	25 U	25 U
Dimethylphthalate	10 U	10 U	10 U	10 U	10 U
Acenaphthylene	10 U	10 U	10 U	10 U	10 U
2,6-Dinitrotoluene	10 U	10 U	10 U	10 U	10 U
3-Nitroaniline	25 U	25 U	25 U	25 U	25 U
Acenaphthene	10 U	10 U	10 U	10 U	10 U
2,4-Dinitrophenol	25 U	25 U	25 U	25 U	25 U
4-Nitrophenol	25 U	25 U	25 U	25 U	25 U
Dibenzofuran	10 U	10 U	10 U	10 U	10 U
2,4-Dinitrotoluene	10 U	10 U	10 U	10 U	10 U
Diethylphthalate	10 U	10 U	10 U	10 U	10 U
4-Chlorophenyl-phenylether	10 U	10 U	10 U	10 U	10 U
Fluorene	10 U	10 U	10 U	10 U	10 U
4-Nitroaniline	25 U	25 U	25 U	25 U	25 U
4,6-Dinitro-2-methylphenol	25 U	25 U	25 U	25 U	25 U
N-Nitrosodiphenylamine (1)	10 U	10 U	10 U	10 U	10 U
4-Bromophenyl-phenylether	10 U	10 U	10 U	10 U	10 U
Hexachlorobenzene	10 U	10 U	10 U	10 U	10 U
Pentachlorophenol	25 UJ	25 UJ	25 UJ	25 UJ	25 UJ
Phenanthrene	10 U	10 U	10 U	10 U	10 U
Anthracene	10 U	10 U	10 U	10 U	10 U
Carbazole	10 U	10 U	10 U	10 U	10 U
Di-n-butylphthalate	10 U	10 U	10 U	10 U	10 U
Fluoranthene	10 U	10 U	10 U	10 U	10 U
Pyrene	10 U	10 U	10 U	10 U	10 U
Butylbenzylphthalate	10 U	10 U	10 U	10 U	10 U
3,3'-Dichlorobenzidine	10 U	10 U	10 U	10 U	10 U
Benzo(a)anthracene	10 U	10 U	10 U	10 U	10 U
Chrysene	10 U	10 U	10 U	10 U	10 U
bis(2-Ethylhexyl)phthalate	10 U	10 U	10 U	10 U	10 U
Di-n-octylphthalate	10 U	10 U	10 U	10 U	10 U
Benzo(b)fluoranthene	10 U	10 U	10 U	10 U	10 U
Benzo(k)fluoranthene	10 U	10 U	10 U	10 U	10 U
Benzo(a)pyrene	10 U	10 U	10 U	10 U	10 U
Indeno(1,2,3-cd)pyrene	10 U	10 U	10 U	10 U	10 U
Dibenz(a,h)anthracene	10 U	10 U	10 U	10 U	10 U
Benzo(g,h,i)perylene	10 U	10 U	10 U	10 U	10 U

Water units are reported in ug/L.
Soil units are reported in ug/Kg.

TCL QUALIFIED SPREADSHEET

Case No: 25143
SDG No: EAXX8

Site: HIMCO DUMP
Laboratory: DATACHEM INC.

EPA SAMPLE NUMBER:	EAXY4		EAXY4MS		EAXY4MSD		SBLK01	
REGIONAL SAMPLE NUMBER:								
SAMPLE LOCATION:	WT115A							
SAMPLE TYPE:	Routine Sample		Matrix Spike		Matrix Spike Dup		Method Blank	
MATRIX/ANALYSIS:	Water/LOW		Water/LOW		Water/LOW		Water/LOW	
DILUTION FACTOR:	1.0		1.0		1.0		1.0	
PERCENT MOISTURE:								
BNA								
Phenol	10	U	58		67		10	U
bis(2-Chloroethyl)ether	10	U	10	U	10	U	10	U
2-Chlorophenol	10	U	56		66		10	U
1,3-Dichlorobenzene	10	U	10	U	10	U	10	U
1,4-Dichlorobenzene	10	U	27		35		10	U
1,2-Dichlorobenzene	10	U	10	U	10	U	10	U
2-Methylphenol	10	U	10	U	10	U	10	U
2,2'-oxybis(1-Chloropropane)	10	U	10	U	10	U	10	U
4-Methylphenol	10	U	10	U	10	U	10	U
N-Nitroso-di-n-propylamine	10	U	38		46		10	U
Hexachloroethane	10	U	10	U	10	U	10	U
Nitrobenzene	10	U	10	U	10	U	10	U
Isophorone	10	U	10	U	10	U	10	U
2-Nitrophenol	10	U	10	U	10	U	10	U
2,4-Dimethylphenol	10	U	10	U	10	U	10	U
bis(2-Chloroethoxy)methane	10	U	10	U	10	U	10	U
2,4-Dichlorophenol	10	U	10	U	10	U	10	U
1,2,4-Trichlorobenzene	10	U	31		38		10	U
Naphthalene	10	U	10	U	10	U	10	U
4-Chloroaniline	10	U	10	U	10	U	10	U
Hexachlorobutadiene	10	U	10	U	10	U	10	U
4-Chloro-3-methylphenol	10	U	69		78		10	U
2-Methylnaphthalene	10	U	10	U	10	U	10	U
Hexachlorocyclopentadiene	10	U	10	U	10	U	10	U
2,4,6-Trichlorophenol	10	U	10	U	10	U	10	U
2,4,5-Trichlorophenol	25	U	25	U	25	U	25	U
2-Chloronaphthalene	10	U	10	U	10	U	10	U
2-Nitroaniline	25	U	25	U	25	U	25	U
Dimethylphthalate	10	U	10	U	10	U	10	U
Acenaphthylene	10	U	10	U	10	U	10	U
2,6-Dinitrotoluene	10	U	10	U	10	U	10	U
3-Nitroaniline	25	U	25	U	25	U	25	U
Acenaphthene	10	U	42		52		10	U
2,4-Dinitrophenol	25	U	25	U	25	U	25	U
4-Nitrophenol	25	U	73		90		25	U
Dibenzofuran	10	U	10	U	10	U	10	U
2,4-Dinitrotoluene	10	U	43		56		10	U
Diethylphthalate	10	U	10	U	10	U	10	U
4-Chlorophenyl-phenylether	10	U	10	U	10	U	10	U
Fluorene	10	U	10	U	10	U	10	U
4-Nitroaniline	25	U	25	U	25	U	25	U
4,6-Dinitro-2-methylphenol	25	U	25	U	25	U	25	U
N-Nitrosodiphenylamine (1)	10	U	10	U	10	U	10	U
4-Bromophenyl-phenylether	10	U	10	U	10	U	10	U
Hexachlorobenzene	10	U	10	U	10	U	10	U
Pentachlorophenol	25	UJ	110	J	100	J	25	UJ
Phenanthrene	10	U	10	U	10	U	10	U
Anthracene	10	U	10	U	10	U	10	U
Carbazole	10	U	10	U	10	U	10	U
Di-n-butylphthalate	10	U	10	U	10	U	1	J
Fluoranthene	10	U	10	U	10	U	10	U
Pyrene	10	U	38		43		10	U
Butylbenzylphthalate	10	U	10	U	10	U	10	U
3,3'-Dichlorobenzidine	10	U	10	U	10	U	10	U
Benzo(a)anthracene	10	U	10	U	10	U	10	U
Chrysene	10	U	10	U	10	U	10	U
bis(2-Ethylhexyl)phthalate	10	U	10	U	10	U	10	U
Di-n-octylphthalate	10	U	10	U	10	U	10	U
Benzo(b)fluoranthene	10	U	10	U	10	U	10	U
Benzo(k)fluoranthene	10	U	10	U	10	U	10	U
Benzo(a)pyrene	10	U	10	U	10	U	10	U
Indeno(1,2,3-cd)pyrene	10	U	10	U	10	U	10	U
Dibenz(a,h)anthracene	10	U	10	U	10	U	10	U
Benzo(g,h,i)perylene	10	U	10	U	10	U	10	U

Water units are reported in ug/L.

TICS

Sample	TIC	Ret.Time	Conc.	Units	Flags
EAXY2					
	METHANE, CHLOROFLUORO-	3.86	11	UG/L	JN
	ETHER	6.54	7	UG/L	JN
	METHANE, DICHLOROFLUORO-	5.75	33	UG/L	JN
EAXY5					
	ETHER	6.54	22	UG/L	JN
	METHANE, DICHLOROFLUORO-	5.75	8	UG/L	JN
EAXY4					
	ETHER	6.54	12	UG/L	JN
	METHANE, DICHLOROFLUORO-	5.75	18	UG/L	JN
EAXY0					
	METHOXY ETHOXY ETHANOL ISOME	4.10	2	UG/L	J
EAXY1					
	ALKOXY ETHANOL ISOMER	4.10	2	UG/L	J
EAXY3					
	UNKNOWN KETONE	6.18	3	UG/L	J

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION V

ESD Central Regional Laboratory
Data Tracking Form for Contract Samples

Data Set No: _____ CERCLIS No: IN

Case No: 25143 Site Name Location: Himco Dump

Contractor or EPA Lab: DataChem Data User: SF

No. of Samples: 8 Date Sampled or Data Received: 12-23-96

Have Chain-of-Custody records been received? Yes ✓ No ___
Have traffic reports or packing lists been received? Yes ✓ No ___
If no, are traffic report or packing list numbers written on the chain-of-custody record? Yes ✓ No ___
If no, which traffic report or packing list numbers are missing?

_____ _____ _____ _____

_____ _____ _____ _____

Are basic data forms in? Yes ✓ No ___
No of samples claimed: 8 No. of samples received: 8

Received by: Lynette Burnett Date: 12-23-96

Received by LSSS: Lynette Burnett Date: 12-23-96

Review started: 1-10-97 Reviewer Signature: Allison C Harvey

Total time spent on review: 4.5 hrs Date review completed: 1-10-97

Copied by: Lynette Burnett Date: 1-23-97

Mailed to user by: Lynette Burnett Date: 1-23-97

DATA USER:
Please fill in the blanks below and return this form to:
Sylvia Griffen, Data mgmt. Coordinator, Region V, 5SCRL

Data received by: _____ Date: _____

Data review received by: _____ Date: _____

Inorganic Data Complete [ ] Suitable for Intended Purpose [ ] ✓ if OK
Organic Data Complete [ ] Suitable for Intended Purpose [ ] ✓ if OK
Dioxin Data Complete [ ] Suitable for Intended Purpose [ ] ✓ if OK
SAS Data Complete [ ] Suitable for Intended Purpose [ ] ✓ if OK

PROBLEMS: Please indicate reasons why data are not suitable for your uses.

_____

_____

Received by Data Mgmt. Coordinator for Files. Data: _____

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION V

DATE: 12-26-96

SUBJECT: Review of Data
Received for Review on Dec. 17, 1996

FROM: Stephen L. Ostrodka, Chief (SRT-4J) L.F.
Superfund Technical Support Section

TO: Data User: SF

We have reviewed the data by CADRE for the following case:

SITE NAME: Himco Dump (IN)

CASE NUMBER: 25143 SDG NUMBER: MEAKN2

Number and Type of Samples: 6 (Water)

Sample Numbers: MEAKN2-7

Laboratory: AATS Hrs. for Review: 2.0

Following are our findings:

All data are usable with the qualifications described in the attached narrative.

L. Finkelberg

CC: Brian Freeman
Region 5 TPO
Mail Code: SM-5J

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION V

DATE:

SUBJECT: Review of Region V CLP Data
Received for Review on Dec 17, 1996

FROM: Stephen L. Ostrodka, Chief (HSRL-5J)
Superfund Technical Support Section

TO: Data User: SF

We have reviewed the data for the following case:

SITE NAME: Himco Dump (IN)

CASE NUMBER: 25143 SDG NUMBER: MEAKN2

Number and Type of Samples: 6 (water)

Sample Numbers: MEAKN2-7

Laboratory: AATS Hrs. for Review: 2.0 + .5 wks

Following are our findings:

cc: Regional TPO
Brian Freeman
HSMC-5J

Case Number :25143
Site Name: HINCO DUMP (IN)

SDG Number: MEAKN2
Laboratory: AATS

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

Six low level water samples, MEAKN2-7 were collected on 11-13-96. The lab received the samples on 11-14-96 in good condition. All samples were analyzed for metals. All samples were analyzed using CLP SOW ILM04.0 analysis procedure.

Mercury analysis was performed using a Cold Vapor AA Technique. The remaining inorganic analyses were performed using an Inductively Coupled Plasma-Atomic Emission Spectrometric procedure.

Reviewed By: B. Lyon
Date: 12-23-96

Case Number :25143
Site Name: HINCO DUMP (IN)

SDG Number: MEAKN2
Laboratory: AATS

1. HOLDING TIME:

HOLDING TIME CRITERIA

INORGANICS

	-- Holding Time --		------- pH -------	
	Primary	Expanded	Primary	Expanded
Metals	180	0	2.0	0.0
Mercury	28	0	2.0	0.0
Cyanide	14	0	12.0	0.0

No problems were found for this qualification.

2. CALIBRATIONS:

CALIBRATION CRITERIA

INORGANICS

Percent Recovery Limits

	--- Primary ---		-- Expanded ---	
	Low	High	Low	High
Cyanide	85.00	115.00	70.00	130.00
AA	90.00	110.00	75.00	125.00
ICP	90.00	110.00	75.00	125.00
Mercury	80.00	120.00	65.00	135.00

No problems were found for this qualification.

3. BLANKS:

LABORATORY BLANKS CRITERIA

DC-284: The following inorganic samples are associated with a blank concentration which is greater than the instrument detection limit (IDL). The sample concentration is also greater than the IDL and less than five times the blank concentration. Hits are qualified "J" and non-detects are not flagged.

Zinc
MEAKN2, MEAKN3, MEAKN4, MEAKN5, MEAKN6, MEAKN7

Reviewed By: B. Yuen
Date: 12-23-96

Case Number :25143
Site Name: HINCO DUMP (IN)

SDG Number: MEAKN2
Laboratory: AATS

4. MATRIX SPIKE/MATRIX SPIKE DUPLICATE AND LAB CONTROL SAMPLE:

MATRIX SPIKE CRITERIA

INORGANICS

Percent Recovery Limits	
Upper	125.0
Lower	75.0
Extreme lower	30.0

No problems were found for this qualification.

5. LABORATORY AND FIELD DUPLICATE

No problems were found for this qualification.

6. ICP ANALYSIS

DC-295: The following inorganic samples are associated with an ICP serial dilution percent difference which is not in criteria. The serial dilution result is greater than the sample result, indicating a potential negative interference. All samples are flagged "J".

Sodium
MEAKN2, MEAKN3, MEAKN4, MEAKN5, MEAKN6, MEAKN7

7. GFAA ANALYSIS

No GFAA analysis was performed for in this case.

8. SAMPLE RESULTS

All data, except those qualified above, are acceptable.

Reviewed By: B. Ufer
Date: 12-23-96

TAL QUALIFIED SPREADSHEET

Case No: 25143
SDG No: MEAKN2

Site: HIMCO DUMP (IN)
Laboratory: SWL - TULSA

EPA SAMPLE NUMBER:	MEAKN2		MEAKN3		MEAKN4		MEAKN5		MEAKN6	
REGIONAL SAMPLE NUMBER:										
SAMPLE LOCATION:	WT105A		WT111A		WT111A-D		WT106A		UNREADABLE	
SAMPLE TYPE:	Routine Sample		Routine Sample		Routine Sample		Routine Sample		Routine Sample	
MATRIX/ANALYSIS:	Water/LOW		Water/LOW		Water/LOW		Water/LOW		Water/LOW	
DILUTION FACTOR:										
PERCENT SOLID:										
INORG										
Aluminum	17.0	U	280		267		50.8		17.0	U
Antimony	3.0	U	3.0	U	3.0	U	3.0	U	3.0	U
Arsenic	3.0	U	3.7		3.1		5.6		3.0	U
Barium	5.4		105		107		101		1.0	U
Beryllium	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Cadmium	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Calcium	38000		8160		8220		146000		10.0	U
Chromium	1.0	U	1.8		1.5		1.0	U	1.0	U
Cobalt	1.0	U	6.4		6.5		1.0	U	1.0	U
Copper	1.0	U	3.3		3.0		1.0	U	1.0	U
Iron	13.1		4470		4360		Fe 6080		10.0	U
Lead	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Magnesium	10200		2980		2980		Mg 18100		22.0	U
Manganese	5.0		335		333		394		1.0	U
Mercury	0.20	U	0.20	U	0.20	U	0.20	U	0.20	U
Nickel	1.0	U	7.2		7.2		1.8		1.0	U
Potassium	1760		1600		1620		Se 4280		41.0	U
Selenium	4.0	U	4.0	U	4.0	U	4.0	U	4.0	U
Silver	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Sodium	4460	J	3200	J	3270	J	TA 25800	J	153	J
Thallium	2.0	U	3.0		2.6		2.9		2.0	U
Vanadium	1.0	U	2.4		2.4		1.0	U	1.0	U
Zinc	3.6	J	22.2	J	21.2	J	2.9	J	2.5	J
Cyanide										

FILE NAME: MEAKN2 DATE: 12/20/96 TIME: 11:39 CADRE 2.3

Water units are reported in ug/L.
Soil units are reported in mg/Kg.

TAL QUALIFIED SPREADSHEET

Case No: 25143
SDG No: MEAKN2

Site: HIMCO DUMP (IN)
Laboratory: SWL - TULSA

EPA SAMPLE NUMBER:	MEAKN7		MEAKN7D		MEAKN7S		
REGIONAL SAMPLE NUMBER:							
SAMPLE LOCATION:	WT115-A						
SAMPLE TYPE:	Routine Sample		Duplicate Sample		Matrix Spike		
MATRIX/ANALYSIS:	Water/LOW		Water/LOW		Water/LOW		
DILUTION FACTOR:							
PERCENT SOLID:							
INORG							
Aluminum	32.0		24.3		1980		
Antimony	3.0	U	3.0	U	484		
Arsenic	3.0	U	3.0	U	40.6		
Barium	33.3		32.6		1940		
Beryllium	1.0	U	1.0	U	46.9		
Cadmium	1.0	U	1.0	U	46.1		
Calcium	215000		211000				
Chromium	2.9		2.3		184		
Cobalt	1.6		1.4		406		
Copper	1.8		1.3		216		
Iron	2220		2180		3040		
Lead	1.0	U	1.0	U	18.4		
Magnesium	36000		35300				
Manganese	276		271		721		
Mercury	0.20	U	0.20	U	0.80		
Nickel	3.8		3.1		456		
Potassium	6520		6440				
Selenium	4.0	U	4.0	U	10.0		
Silver	1.0	U	1.0	U	47.4		
Sodium	33600	J	33100				
Thallium	2.2		2.0	U	46.2		
Vanadium	7.6		7.3		471		
Zinc	4.1	J	3.4		465		
Cyanide							

FILE NAME: MEAKN2 DATE: 12/20/96 TIME: 11:39 CADRE 2.3 PAGE: 2

Water units are reported in ug/L.
Soil units are reported in mg/kg.

FILE NAME: MEAKN2 DATE: 12/20/96 TIME: 11:39

CRITERIA FILE: REG3193

DATA

	Original
X	Qualified

QUALIFICATIONS PERFORMED

	Quantitation Limit	X	CRDL Standards
	Percent Moisture	X	ICS
X	Holding Time	X	LCS
X	Calibrations	X	Duplicates
X	Matrix Spikes	X	Furnace AA QC
	IPC	X	ICP Serial Dilutions
	Internal Standards	X	Sample Results Verification
	SMC/Surrogates	X	Laboratory Blanks
	System Performance		Field QC
	Sample Cleanup		

PRINT NON-DETECTS

X	Yes
	No

PRINT REJECTED RESULTS

X	Yes
	No

CADRE Data Qualifier Sheet

Qualifiers	Data Qualifier Definitions
U	The analyte was analyzed for, but was not detected above the reported sample quantitation limit.
J	The anlayte was positively identified; the associated numerical value is an approximate concentration of the analyte in the sample.
UJ	The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the action limit of quantitation necessary to accurately and precisely measure the analyte in the sample.
R	The data are unusable. (The compound may or may not be present)

Missing Contents Error Report

SDG NO: MEAKN2 LABORATORY: SWL - TULSA

CASE NO: 25143 AGENCY INPUT FILE: MEAKN2.IAS

FIELD DESCRIPTION	CADRE KEY		
Concentration	Record Type 30	Line 179	Format REAL NUMERIC
Amount Added	Record Type 30	Line 179	Format REAL NUMERIC
Concentration	Record Type 30	Line 181	Format REAL NUMERIC
Amount Added	Record Type 30	Line 181	Format REAL NUMERIC
Concentration	Record Type 30	Line 183	Format REAL NUMERIC
Amount Added	Record Type 30	Line 183	Format REAL NUMERIC
Concentration	Record Type 30	Line 185	Format REAL NUMERIC
Amount Added	Record Type 30	Line 185	Format REAL NUMERIC
Concentration	Record Type 30	Line 187	Format REAL NUMERIC
Amount Added	Record Type 30	Line 187	Format REAL NUMERIC
Concentration	Record Type 30	Line 189	Format REAL NUMERIC
Amount Added	Record Type 30	Line 189	Format REAL NUMERIC
Concentration	Record Type 30	Line 191	Format REAL NUMERIC
Amount Added	Record Type 30	Line 191	Format REAL NUMERIC
Concentration	Record Type 30	Line 193	Format REAL NUMERIC
Amount Added	Record Type 30	Line 193	Format REAL NUMERIC
Concentration	Record Type 30	Line 195	Format REAL NUMERIC
Amount Added	Record Type 30	Line 195	Format REAL NUMERIC
Concentration	Record Type 30	Line 197	Format REAL NUMERIC
Amount Added	Record Type 30	Line 197	Format REAL NUMERIC
Concentration	Record Type 30	Line 199	Format REAL NUMERIC
Amount Added	Record Type 30	Line 199	Format REAL NUMERIC
Concentration	Record Type 30	Line 201	Format REAL NUMERIC
Amount Added	Record Type 30	Line 201	Format REAL NUMERIC
Concentration	Record Type 30	Line 203	Format REAL NUMERIC
Amount Added	Record Type 30	Line 203	Format REAL NUMERIC
Concentration	Record Type 30	Line 205	Format REAL NUMERIC
Amount Added	Record Type 30	Line 205	Format REAL NUMERIC
Concentration	Record Type 30	Line 207	Format REAL NUMERIC
Amount Added	Record Type 30	Line 207	Format REAL NUMERIC
Concentration	Record Type 30	Line 209	Format REAL NUMERIC
Amount Added	Record Type 30	Line 209	Format REAL NUMERIC
Concentration	Record Type 30	Line 211	Format REAL NUMERIC
Amount Added	Record Type 30	Line 211	Format REAL NUMERIC
Concentration	Record Type 30	Line 213	Format REAL NUMERIC
Amount Added	Record Type 30	Line 213	Format REAL NUMERIC
Concentration	Record Type 30	Line 215	Format REAL NUMERIC
Amount Added	Record Type 30	Line 215	Format REAL NUMERIC
Concentration	Record Type 30	Line 217	Format REAL NUMERIC
Amount Added	Record Type 30	Line 217	Format REAL NUMERIC
Concentration	Record Type 30	Line 219	Format REAL NUMERIC
Amount Added	Record Type 30	Line 219	Format REAL NUMERIC
Concentration	Record Type 30	Line 221	Format REAL NUMERIC
Amount Added	Record Type 30	Line 221	Format REAL NUMERIC
Concentration	Record Type 30	Line 226	Format REAL NUMERIC
Concentration	Record Type 30	Line 228	Format REAL NUMERIC
Concentration	Record Type 30	Line 230	Format REAL NUMERIC

Missing Contents Error Report

SDG NO: MEAKN2 LABORATORY: SWL - TULSA

CASE NO: 25143 AGENCY INPUT FILE: MEAKN2.IAS

FIELD DESCRIPTION	CADRE KEY
Concentration	Record Type 30 Line 232 Format REAL NUMERIC
Concentration	Record Type 30 Line 234 Format REAL NUMERIC
Concentration	Record Type 30 Line 236 Format REAL NUMERIC
Concentration	Record Type 30 Line 238 Format REAL NUMERIC
Concentration	Record Type 30 Line 240 Format REAL NUMERIC
Concentration	Record Type 30 Line 242 Format REAL NUMERIC
Concentration	Record Type 30 Line 244 Format REAL NUMERIC
Concentration	Record Type 30 Line 246 Format REAL NUMERIC
Concentration	Record Type 30 Line 248 Format REAL NUMERIC
Concentration	Record Type 30 Line 250 Format REAL NUMERIC
Concentration	Record Type 30 Line 252 Format REAL NUMERIC
Concentration	Record Type 30 Line 254 Format REAL NUMERIC
Concentration	Record Type 30 Line 256 Format REAL NUMERIC
Concentration	Record Type 30 Line 258 Format REAL NUMERIC
Concentration	Record Type 30 Line 260 Format REAL NUMERIC
Concentration	Record Type 30 Line 262 Format REAL NUMERIC
Concentration	Record Type 30 Line 264 Format REAL NUMERIC
Concentration	Record Type 30 Line 266 Format REAL NUMERIC
Concentration	Record Type 30 Line 268 Format REAL NUMERIC
Concentration	Record Type 30 Line 1577 Format REAL NUMERIC
Amount Added	Record Type 30 Line 1577 Format REAL NUMERIC
Concentration	Record Type 30 Line 1582 Format REAL NUMERIC
Concentration	Record Type 30 Line 1587 Format REAL NUMERIC
Concentration	Record Type 30 Line 1592 Format REAL NUMERIC
Concentration	Record Type 30 Line 1597 Format REAL NUMERIC
Concentration	Record Type 30 Line 1602 Format REAL NUMERIC

QC EXCEPTION SUMMARY REPORT

CASE\SAS#: 25143 SITE: Himco Dump (IN) MATRIX: Water WATER SAMPLE SPK: _____

DATA SET: _____ LAB: AATS CONC: Low WATER SAMPLE DUP: _____

LAB QC # MEAKN2 REVIEWED BY: B. Green SOIL SAMPLE SPK: _____

DATE: 12-19-96 SOIL SAMPLE DUP: _____

FORM #		FORM 2	FORM 3	FORM 3	FORM 3	FORM 3	FORM 4	FORM 5	FORM 6	FORM 7	FORM 7	FORM 9	FORM 9	FORM 6	FORM 5	FIELD	FIELD	FIELD	FIELD	COMMENTS
ELEMENT	HOLD TIME	INITIAL CALIB	CONTIN CALIB	CALIB BLANK	PREP WATER BLANK	PREP SOIL BLANK	ICS SR	SOIL SPIKE SR	SOIL DUP RPD	ICB AQ	ICB SOIL	SERIAL DILUTION AQUEOUS	SERIAL DILUTION SOIL	AQ DUP SR	AQ SPIKE SR	BLANK	DUP RPD	BLANK	DUP RPD	
ALUMINUM																				
ANTIMONY																				
ARSENIC																				
BARIUM																				
BERYLLIUM																				
CADMIUM																				
CALCIUM																				
CHROMIUM																				
COBALT																				
COPPER																				
IRON																				
LEAD																				
MAGNESIUM																				
MANGANESE																				
MERCURY																				
NICKEL																				
POTASSIUM																				
SELENIUM																				
SILVER																				
SODIUM												10.3								
THALLIUM																				
TIN																				
VANADIUM																				
ZINC					5.44															
CYANIDE																				

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COVER PAGE - INORGANIC ANALYSES DATA PACKAGE

Name: AMERICAN_ANALYTICAL_____ Contract: 68-D5-0141

Lab Code: AATS__ Case No.: 25143 SAS No.: _____ SDG No.:MEAKN2

SOW No.: ILM04.0

EPA Sample No.	Lab Sample ID
MEAKN2	27646.01
MEAKN3	27646.02
MEAKN4	27646.03
MEAKN5	27646.04
MEAKN6	27646.05
MEAKN7	27646.06
MEAKN7D	27646.06D
MEAKN7S	27646.06S

DEC 17
LAB.
CHICAGO, ILLINOIS 60605

Were ICP interelement corrections applied ? Yes/No YES

Were ICP background corrections applied ? Yes/No YES
If yes - were raw data generated before application of background corrections ? Yes/No NO_

Comments:

The serial dilution for sodium has a percent difference of 10.3 since this rounds down to 10, this does not need an "E" flag on the forms. This does however, appear on the textual defect report as needing an "E" flag.

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package and in the computer-readable data submitted on floppy diskette has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature.

Signature: _____ Name: Deborah J. Beree for... Jason D. Ruckman

Date: December 13, 1996 Title: Inorganic Program Manager

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

MEAKN2 105R

Lab Name: AMERICAN_ANALYTICAL_____ Contract: 68-D5-0141

Lab Code: AATS__ Case No.: 25143_ SAS No.: _____ SDG No.: MEAKN2

Matrix (soil/water): WATER Lab Sample ID: 27646.01

Level (low/med): LOW__ Date Received: 11/15/96

% Solids: __0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L_ ppb

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	17.0	U		P
7440-36-0	Antimony	3.0	U		P
7440-38-2	Arsenic	3.0	U		P
7440-39-3	Barium	5.4	B		P
7440-41-7	Beryllium	1.0	U		P
7440-43-9	Cadmium	1.0	U		P
7440-70-2	Calcium	38000			P
7440-47-3	Chromium	1.0	U		P
7440-48-4	Cobalt	1.0	U		P
7440-50-8	Copper	1.0	U		P
7439-89-6	Iron	13.1	B		P
7439-92-1	Lead	1.0	U		P
7439-95-4	Magnesium	10300			P
7439-96-5	Manganese	5.0	B		P
7439-97-6	Mercury	0.20	U		CV
7440-02-0	Nickel	1.0	U		P
7440-09-7	Potassium	1760	B		P
7782-49-2	Selenium	4.0	U		P
7440-22-4	Silver	1.0	U		P
7440-23-5	Sodium	4460	B	E	P
7440-28-0	Thallium	2.0	U		P
7440-62-2	Vanadium	1.0	U		P
7440-66-6	Zinc	3.6	B		P

By 12-9-96

Color Before: COLORLESS Clarity Before: CLEAR_ Texture: _____

Color After: COLORLESS Clarity After: CLEAR_ Artifacts: _____

Comments:

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

MEAKN3 111A

Lab Name: AMERICAN_ANALYTICAL_____ Contract: 68-D5-0141

Lab Code: AATS__ Case No.: 25143_ SAS No.: _____ SDG No.: MEAKN2

Matrix (soil/water): WATER Lab Sample ID: 27646.02

Level (low/med): LOW__ Date Received: 11/15/96

% Solids: __0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L_

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	280			P
7440-36-0	Antimony	3.0	U		P
7440-38-2	Arsenic	3.7	B		P
7440-39-3	Barium	105	B		P
7440-41-7	Beryllium	1.0	U		P
7440-43-9	Cadmium	1.0	U		P
7440-70-2	Calcium	8160			P
7440-47-3	Chromium	1.7	B		P
7440-48-4	Cobalt	6.4	B		P
7440-50-8	Copper	3.3	B		P
7439-89-6	Iron	4470			P
7439-92-1	Lead	1.0	U		P
7439-95-4	Magnesium	2980	B		P
7439-96-5	Manganese	335			P
7439-97-6	Mercury	0.20	U		CV
7440-02-0	Nickel	7.2	B		P
7440-09-7	Potassium	1600	B		P
7782-49-2	Selenium	4.0	U		P
7440-22-4	Silver	1.0	U		P
7440-23-5	Sodium	3200	B	E	P
7440-28-0	Thallium	3.1	B		P
7440-62-2	Vanadium	2.4	B		P
7440-66-6	Zinc	22.2			P

By 12-19-96

Color Before: COLORLESS Clarity Before: CLEAR_ Texture: _____

Color After: COLORLESS Clarity After: CLEAR_ Artifacts: _____

Comments:

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

MEAKN4 111AD

Lab Name: AMERICAN_ANALYTICAL_____ Contract: 68-D5-0141

Lab Code: AATS__ Case No.: 25143_ SAS No.: _____ SDG No.: MEAKN2

Matrix (soil/water): WATER Lab Sample ID: 27646.03

Level (low/med): LOW__ Date Received: 11/15/96

% Solids: __0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L_

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	267			P
7440-36-0	Antimony	3.0	U		P
7440-38-2	Arsenic	3.1	B		P
7440-39-3	Barium	107	B		P
7440-41-7	Beryllium	1.0	U		P
7440-43-9	Cadmium	1.0	U		P
7440-70-2	Calcium	8220			P
7440-47-3	Chromium	1.5	B		P
7440-48-4	Cobalt	6.5	B		P
7440-50-8	Copper	3.0	B		P
7439-89-6	Iron	4360			P
7439-92-1	Lead	1.0	U		P
7439-95-4	Magnesium	2980	B		P
7439-96-5	Manganese	333			P
7439-97-6	Mercury	0.20	U		CV
7440-02-0	Nickel	7.2	B		P
7440-09-7	Potassium	1620	B		P
7782-49-2	Selenium	4.0	U		P
7440-22-4	Silver	1.0	U		P
7440-23-5	Sodium	3270	B	E	P
7440-28-0	Thallium	2.6	B		P
7440-62-2	Vanadium	2.3	B		P
7440-66-6	Zinc	21.2			P

BY 12-19-96

Color Before: COLORLESS Clarity Before: CLEAR_ Texture: _____

Color After: COLORLESS Clarity After: CLEAR_ Artifacts: _____

Comments:

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

MEAKN5 11C9

Lab Name: AMERICAN_ANALYTICAL_____ Contract: 68-D5-0141

Lab Code: AATS__ Case No.: 25143_ SAS No.: _____ SDG No.: MEAKN2

Matrix (soil/water): WATER Lab Sample ID: 27646.04

Level (low/med): LOW__ Date Received: 11/15/96

% Solids: __0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L_

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	50.8	B		P
7440-36-0	Antimony	3.0	U		P
7440-38-2	Arsenic	5.6	B		P
7440-39-3	Barium	101	B		P
7440-41-7	Beryllium	1.0	U		P
7440-43-9	Cadmium	1.0	U		P
7440-70-2	Calcium	146000			P
7440-47-3	Chromium	1.0	U		P
7440-48-4	Cobalt	1.0	U		P
7440-50-8	Copper	1.0	U		P
7439-89-6	Iron	6080			P
7439-92-1	Lead	1.0	U		P
7439-95-4	Magnesium	18100			P
7439-96-5	Manganese	394			P
7439-97-6	Mercury	0.20	U		CV
7440-02-0	Nickel	1.8	B		P
7440-09-7	Potassium	4280	B		P
7782-49-2	Selenium	4.0	U		P
7440-22-4	Silver	1.0	U		P
7440-23-5	Sodium	25800		E	P
7440-28-0	Thallium	2.9	B		P
7440-62-2	Vanadium	1.0	U		P
7440-66-6	Zinc	2.9	B		P

By 12-19-96

Color Before: COLORLESS Clarity Before: CLEAR_ Texture: _____

Color After: COLORLESS Clarity After: CLEAR_ Artifacts: _____

Comments:

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

MEAKN6 Field Blank

Lab Name: AMERICAN_ANALYTICAL_____ Contract: 68-D5-0141

Lab Code: AATS__ Case No.: 25143_ SAS No.: _____ SDG No.: MEAKN2

Matrix (soil/water): WATER Lab Sample ID: 27646.05

Level (low/med): LOW__ Date Received: 11/15/96

% Solids: __0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L_

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	17.0	U		P
7440-36-0	Antimony	3.0	U		P
7440-38-2	Arsenic	3.0	U		P
7440-39-3	Barium	1.0	U		P
7440-41-7	Beryllium	1.0	U		P
7440-43-9	Cadmium	1.0	U		P
7440-70-2	Calcium	10.0	U		P
7440-47-3	Chromium	1.0	U		P
7440-48-4	Cobalt	1.0	U		P
7440-50-8	Copper	1.0	U		P
7439-89-6	Iron	10.0	U		P
7439-92-1	Lead	1.0	U		P
7439-95-4	Magnesium	22.0	U		P
7439-96-5	Manganese	1.0	U		P
7439-97-6	Mercury	0.20	U		CV
7440-02-0	Nickel	1.0	U		P
7440-09-7	Potassium	41.0	U		P
7782-49-2	Selenium	4.0	U		P
7440-22-4	Silver	1.0	U		P
7440-23-5	Sodium	153	B	E	P
7440-28-0	Thallium	2.0	U		P
7440-62-2	Vanadium	1.0	U		P
7440-66-6	Zinc	2.5	B		P

By 12-19-96

Color Before: COLORLESS Clarity Before: CLEAR_ Texture: _____

Color After: COLORLESS Clarity After: CLEAR_ Artifacts: _____

Comments:

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

MEAKN7 . 115A

Lab Name: AMERICAN_ANALYTICAL_____ Contract: 68-D5-0141

Lab Code: AATS__ Case No.: 25143_ SAS No.: _____ SDG No.: MEAKN2

Matrix (soil/water): WATER Lab Sample ID: 27646.06

Level (low/med): LOW__ Date Received: 11/15/96

% Solids: __0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L_

CAS No.	Analyte	Concentration	C	Q	M	
7429-90-5	Aluminum	32.0	B		P	
7440-36-0	Antimony	3.0	U		P	
7440-38-2	Arsenic	3.0	U		P	
7440-39-3	Barium	33.3	B		P	
7440-41-7	Beryllium	1.0	U		P	
7440-43-9	Cadmium	1.0	U		P	
7440-70-2	Calcium	215000			P	
7440-47-3	Chromium	2.9	B		P	
7440-48-4	Cobalt	1.6	B		P	
7440-50-8	Copper	1.8	B		P	
7439-89-6	Iron	2220			P	
7439-92-1	Lead	1.0	U		P	
7439-95-4	Magnesium	36000			P	
7439-96-5	Manganese	276			P	
7439-97-6	Mercury	0.20	U		CV	
7440-02-0	Nickel	3.8	B		P	
7440-09-7	Potassium	6520			P	
7782-49-2	Selenium	4.0	U		P	
7440-22-4	Silver	1.0	U		P	
7440-23-5	Sodium	33600		E	P	By 12-19-96
7440-28-0	Thallium	2.2	B		P	
7440-62-2	Vanadium	7.6	B		P	
7440-66-6	Zinc	4.1	B		P	

Color Before: COLORLESS Clarity Before: CLEAR_ Texture: _____

Color After: COLORLESS Clarity After: CLEAR_ Artifacts: _____

Comments:

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3
BLANKS

Lab Name: AMERICAN_ANALYTICAL_____ Contract: 68-D5-0141

Lab Code: AATS__ Case No.: 25143_ SAS No.: _____ SDG No.: MEAKN2

Preparation Blank Matrix (soil/water): WATER

Preparation Blank Concentration Units (ug/L or mg/kg): UG/L_

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L) 1	C	2	C	3	C	Prepa-ration Blank	C	M
Aluminum	-17.7	B	17.0	U	-21.0	B	-20.2	B	17.00	U	P
Antimony	3.0	U	3.0	U	3.0	U	3.0	U	3.00	U	P
Arsenic	3.0	U	3.0	U	3.0	U	3.0	U	3.00	U	P
Barium	1.0	U	1.0	U	1.0	U	1.0	U	1.00	U	P
Beryllium	1.0	U	1.0	U	1.0	U	1.0	U	1.00	U	P
Cadmium	1.0	U	1.0	U	1.0	U	1.0	U	1.00	U	P
Calcium	-18.9	B	-13.4	B	-18.2	B	-15.2	B	10.93	B	P
Chromium	1.0	U	1.0	U	1.0	U	1.0	U	1.00	U	P
Cobalt	1.0	U	1.0	U	1.0	U	1.0	U	1.00	U	P
Copper	1.0	U	1.0	U	1.0	U	1.0	U	1.00	U	P
Iron	-13.5	B	10.0	U	10.0	U	-11.9	B	10.00	U	P
Lead	1.0	U	1.0	U	1.0	U	1.0	U	1.67	B	P
Magnesium	-23.8	B	22.0	U	-22.3	B	22.0	U	22.00	U	P
Manganese	1.0	U	1.0	U	1.0	U	1.0	U	1.00	U	P
Mercury	0.2	U	0.2	U	0.2	U			0.20	U	CV
Nickel	1.0	U	1.0	U	1.0	U	1.0	U	1.00	U	P
Potassium	41.0	U	41.0	U	41.0	U	41.0	U	41.00	U	P
Selenium	4.0	U	4.0	U	4.0	U	4.0	U	4.00	U	P
Silver	1.0	U	1.0	U	1.0	U	1.0	U	1.00	U	P
Sodium	36.0	U	36.0	U	36.0	U	36.0	U	36.00	U	P
Thallium	2.0	U	2.0	U	2.0	U	2.0	U	2.00	U	P
Vanadium	1.0	U	1.0	U	1.0	U	1.0	U	1.00	U	P
Zinc	2.0	U	2.0	U	2.0	U	2.0	U	5.44	B	P

- CLP

5A
SPIKE SAMPLE RECOVERY

Name: AMERICAN_ANALYTICAL_____ Contract: 68-D5-0141

Lab Code: AATS__ Case No.: 25143_ SAS No.: _____

Matrix (soil/water): WATER_ Level (l

% Solids for Sample: __0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L_

Analyte	Control Limit %R	Spiked Sample Result (SSR)	C	Sample Result (SR)	C	Spike Added (SA)			
Aluminum	75-125	1984.8690		32.0390	B	2000.00			
Antimony	75-125	483.9300		3.0000	U	500.00			
Arsenic	75-125	40.5920		3.0000	U	40.00	1		
Barium	75-125	1935.1380		33.2710	B	2000.00	9		
Beryllium	75-125	46.8610		1.0000	U	50.00	9		
Cadmium	75-125	46.1360		1.0000	U	50.00	92		
Calcium									
Chromium	75-125	183.9880		2.9120	B	200.00	90.		
Cobalt	75-125	406.2420		1.6090	B	500.00	80.		
Copper	75-125	216.4470		1.7940	B	250.00	85.9		
Iron	75-125	3040.0530		2216.9540		1000.00	82.3		
Lead	75-125	18.4390		1.0000	U	20.00	92.2		
Magnesium									
Manganese	75-125	721.1280		276.0760		500.00	89.0		
Mercury	75-125	0.8030		0.2000	U	1.00	80.3		
Nickel	75-125	455.8870		3.7530	B	500.00	90.4		
Potassium									
Selenium	75-125	9.9930		4.0000	U	10.00	99.9		
Silver	75-125	47.4090		1.0000	U	50.00	94.8		
Sodium									
Thallium	75-125	46.1970		2.1800	B	50.00	88.0		
Vanadium	75-125	471.1080		7.5970	B	500.00	92.7		
Zinc	75-125	465.3190		4.1190	B	500.00	92.2		

Comments:

DUPLICATES

Lab Name: AMERICAN_ANALYTICAL_____ Contract: 68-D5-0141

Lab Code: AATS__ Case No.: 25143_ SAS No.: _____

Matrix (soil/water): WATER Level (

% Solids for Sample: __0.0 % Solids for Du

Concentration Units (ug/L or mg/kg dry weight): UG/

Analyte	Control Limit	Sample (S)	C	Duplicate (D)	C	RP
Aluminum		32.0390	B	24.3280	B	27.
Antimony		3.0000	U	3.0000	U	
Arsenic		3.0000	U	3.0000	U	
Barium		33.2710	B	32.6390	B	1.9
Beryllium		1.0000	U	1.0000	U	
Cadmium		1.0000	U	1.0000	U	
Calcium		215188.1560		211143.6090		1.9
Chromium		2.9120	B	2.2720	B	
Cobalt		1.6090	B	1.3470	B	24.7
Copper		1.7940	B	1.3420	B	17.7
Iron		2216.9540		2178.4520		28.8
Lead		1.0000	U	1.0000	U	1.8
Magnesium		35971.4300		35328.6050		
Manganese		276.0760		271.1490		1.8
Mercury		0.2000	U	0.2000	U	1.8
Nickel		3.7530	B	3.1140	B	
Potassium		6517.5020		6441.4520		18.6
Selenium	5000.0	4.0000	U	4.0000	U	1.2
Silver		1.0000	U	1.0000	U	
Sodium		33606.9920		33083.4140		
Thallium		2.1800	B	2.0000	U	1.6
Vanadium		7.5970	B	7.3170	B	200.0
Zinc		4.1190	B	3.3860	B	3.8
						19.5

U.S. EPA - CLP

9
ICP SERIAL DILUTION

EPA SAMPLE NO.
MEAKN2L

Lab Name: AMERICAN_ANALYTICAL_____ Contract: 68-D5-0141

Lab Code: AATS__ Case No.: 25143_ SAS No.: _____ SDG No.: MEAKN2

Matrix (soil/water): WATER Level (low/med): LOW__

Concentration Units: ug/L

Analyte	Initial Sample Result (I)	C	Serial Dilution Result (S)	C	% Difference	Q	M
Aluminum	17.00	U	85.00	U			P
Antimony	3.00	U	15.00	U			P
Arsenic	3.00	U	15.00	U			P
Barium	5.41	B	5.00	U	100.0		P
Beryllium	1.00	U	5.00	U			P
Cadmium	1.00	U	5.00	U			P
Calcium	38046.19		36023.50		5.3		P
Chromium	1.00	U	5.00	U			P
Cobalt	1.00	U	5.00	U			P
Copper	1.00	U	5.00	U			P
Iron	13.07	B	50.00	U	100.0		P
Lead	1.00	U	5.00	U			P
Magnesium	10258.92		9414.21	B	8.2		P
Manganese	5.02	B	5.33	B	6.2		P
Mercury							NR
Nickel	1.00	U	5.00	U			P
Potassium	1755.48	B	1934.54	B	10.2		P
Selenium	4.00	U	20.00	U			P
Silver	1.00	U	5.00	U			P
Sodium	4459.33	B	4919.11	B	10.3	E	P
Thallium	2.00	U	10.00	U			P
Vanadium	1.00	U	5.00	U			P
Zinc	3.62	B	10.00	U	100.0		P

By 12-19-96

U.S. EPA - CLP

10
Instrument Detection Limits (Quarterly)

Lab Name: AMERICAN_ANALYTICAL_____ Contract: 68-D5-0141

Lab Code: AATS__ Case No.: 25143_ SAS No.: _____ SDG No.: MEAKN2

ICP ID Number: TJA_ET2_____ Date: 10/03/96

Flame AA ID Number : _____

Furnace AA ID Number : _____

Analyte	Wave-length (nm)	Back-ground	CRDL (ug/L)	IDL (ug/L)	M
Aluminum	308.22		200	17.0	P
Antimony	206.83		60	3.0	P
Arsenic	189.04		10	3.0	P
Barium	493.41		200	1.0	P
Beryllium	313.04		5	1.0	P
Cadmium	226.50		5	1.0	P
Calcium	317.93		5000	10.0	P
Chromium	267.72		10	1.0	P
Cobalt	228.61		50	1.0	P
Copper	324.75		25	1.0	P
Iron	271.44		100	10.0	P
Lead	220.35		3	1.0	P
Magnesium	279.08		5000	22.0	P
Manganese	257.61		15	1.0	P
Mercury			0.2		NR
Nickel	231.60		40	1.0	P
Potassium	766.49		5000	41.0	P
Selenium	196.02		5	4.0	P
Silver	328.07		10	1.0	P
Sodium	588.99		5000	36.0	P
Thallium	190.68		10	2.0	P
Vanadium	292.40		50	1.0	P
Zinc	213.86		20	2.0	P

Comments:

U.S. EPA - CLP

10
Instrument Detection Limits (Quarterly)

Lab Name: AMERICAN_ANALYTICAL_____ Contract: 68-D5-0141

Lab Code: AATS__ Case No.: 25143_ SAS No.: _____ SDG No.: MEAKN2

ICP ID Number: _____ Date: 10/03/96

Flame AA ID Number : PS200B_____

Furnace AA ID Number : _____

Analyte	Wave-length (nm)	Back-ground	CRDL (ug/L)	IDL (ug/L)	M
Aluminum			200		NR
Antimony			60		NR
Arsenic			10		NR
Barium			200		NR
Beryllium			5		NR
Cadmium			5		NR
Calcium			5000		NR
Chromium			10		NR
Cobalt			50		NR
Copper			25		NR
Iron			100		NR
Lead			3		NR
Magnesium			5000		NR
Manganese			15		NR
Mercury	254.00		0.2	0.2	CV
Nickel			40		NR
Potassium			5000		NR
Selenium			5		NR
Silver			10		NR
Sodium			5000		NR
Thallium			10		NR
Vanadium			50		NR
Zinc			20		NR

Comments:

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION V

ESD Central Regional Laboratory
Data Tracking Form for Contract Samples

Data Set No: _____ CERCLIS No: IN

Case No: 25143 Site Name Location: Himco Dump

Contractor or EPA Lab: AATS Data User: SF

No. of Samples: 6 Date Sampled or Data Received: 12-17-96

Have Chain-of-Custody records been received? Yes ✓ No ___
Have traffic reports or packing lists been received? Yes ✓ No ___
If no, are traffic report or packing list numbers written on the chain-of-custody record? Yes ✓ No ___
If no, which traffic report or packing list numbers are missing?

_____ _____ _____ _____

_____ _____ _____ _____

Are basic data forms in? Yes ✓ No ___
No of samples claimed: 6 No. of samples received: 6

Received by: Lynette Burnett Date: 12-17-96

Received by LSSS: Lynette Burnett Date: 12-17-96

Review started: 12-~~20~~-19-96 Reviewer Signature: B. Yuen

Total time spent on review: 2 Date review completed: 12-~~26~~-19-96

Copied by: Lynette Burnett Date: 12-29-96

Mailed to user by: Lynette Burnett Date: 12-29-96

DATA USER:
Please fill in the blanks below and return this form to:
Sylvia Griffen, Data mgmt. Coordinator, Region V, 5SCRL

Data received by: _____ Date: _____

Data review received by: _____ Date: _____

Inorganic Data Complete [ ] Suitable for Intended Purpose [ ] ✓ if OK
Organic Data Complete [ ] Suitable for Intended Purpose [ ] ✓ if OK
Dioxin Data Complete [ ] Suitable for Intended Purpose [ ] ✓ if OK
SAS Data Complete [ ] Suitable for Intended Purpose [ ] ✓ if OK

PROBLEMS: Please indicate reasons why data are not suitable for your uses.

_____

_____

Received by Data Mgmt. Coordinator for Files. Data: _____

EPA Inorganic Traffic Report & Chain of Custody Record

United States Environmental Protection Agency
Contract Laboratory Program

(For Inorganic CLP Analysis)

SAS No. (if applicable):

Case No.: 25143

1. Project Code	Account Code	2. Region No.	Sampling Co.	4. Date Shipped	Carrier
97		5	USEPA	11/4/96	Fed Ex

Regional Information	Sampler (Name)	Airbill Number
FAX	Luanne Vandergaal	285436514 6

Non-Superfund Program	Sampler Signature	5. Ship To
	Luanne Vandergaal	American Analytical Tech Serv. 1700 W Albany, Suite C Broken Arrow, OK 74012 ATTN: Chuck Hoover

Site Name	City, State	Site Spill ID
HIMCO DUMP	Elkhart, IN	45

3. Purpose*: Lead — [ ] SF [ ] PRP [ ] ST [ ] FED; Early Action — [ ] CLEM [ ] PA [ ] REM [ ] RI [ ] SI [ ] ESI; Long-Term Action — [X] FS [X] RD [ ] RA [ ] O&M [ ] NPLD

6. Matrix (Enter in Column A): 1. Surface Water 2. Ground Water 3. Leachate 4. Field QC 5. Soil/Sediment 6. Oil (High only) 7. Waste (High only) 8. Other (specify in Column A)

7. Preservative (Enter in Column D): 1. HCl 2. HNO_3 3. NaOH 4. H_2SO_4 5. $K_2CR_2O_7$ 6. Ice only 7. Other (specify in Column D) N. Not preserved

CLP Sample Numbers (from labels)	A Matrix (from Box 6) / Other	B Conc.: Low Med High	C Sample Type: Comp./ Grab	D Preservative (from Box 7) / Other	E – RAS Analysis: Diss. Metals	Total Metals	Cyanide	Low only: NO_2/NO_3	Low only: Fluoride	High only: pH	High only: Conduct.	F Regional Specific Tracking Number or Tag Numbers	G Station Location Identifier	H Mo/Day/ Year/Time Sample Collection	I Corresponding CLP Organic Sample No.	J Sampler Initials	K Field QC Qualifier (B = Blank, S = Spike, D = Duplicate, R = Rinsate, PE = Perform. Eval., — = Not a QC Sample)
MEAKN2	2	L	G	2		✓						5-153684	WT105A	11/3/96/1330	EAXX9	LV	
MEAKN3	2	L	G	2		✓						5-153689	WT111A	11/3/96/1330	EAXY0	LV	
MEAKN4	2	L	G	2		✓						5-153694	WTMA-D	11/3/96/1330	EAXY1	LV	D
MEAKN5	2	L	G	2		✓						5-153699	WT106A	11/3/96/1440	EAXY2	LV	
MEAKN6	4	L	G	2		✓						5-153704	Field Blank	11/3/96/1330	EAXY3	LV	B
MEAKN7	2	L	G	2		✓						5-153715-16	WT115A	11/3/96/1535	EAXY4	LV	

Shipment for Case Complete? (Y/N)	Page	Sample(s) to be Used for Laboratory QC	Additional Sampler Signatures	Chain of Custody Seal Number(s)
Y	1 of 1	MEAKN7		47334 & 47335

CHAIN OF CUSTODY RECORD

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Luanne Vandergaal	11/4/96 1600				
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature)	Date / Time	Remarks: Is custody seal intact? Y/N/none	

A21-012-5 REV. 3/93

DISTRIBUTION: Green - Region Copy; White - Lab Copy for Return to Region; Pink - SMO Copy; Yellow - Lab Copy for Return to SMO

EPA Form 9110-1

SEE REVERSE FOR ADDITIONAL STANDARD INSTRUCTIONS
*SEE REVERSE FOR PURPOSE CODE DEFINITIONS

12-11-96

359371

EPA Inorganic Traffic Report & Chain of Custody Record

United States Environmental Protection Agency
Contract Laboratory Program

(For Inorganic CLP Analysis)

SAS No. (if applicable):

Case No.: 25143

1. Project Code: 99 | Account Code:
2. Region No.: 5 | Sampling Co.: USEPA
4. Date Shipped: 11/4/96 | Carrier: Fed Ex
Regional Information: FAX
Sampler (Name): Luanne Vandergaal
Airbill Number: 225436514 6
Non-Superfund Program:
Sampler Signature: L Vandergaal
5. Ship To: American Analytical Tech Serv. 1700 W Albany, Suite C Broken Arrow, OK 74012
Site Name: HIMCO DUMP
3. Purpose*: Lead: SF, PRP, ST, FED; Early Action: CLEM, PA, REM, RI, SI, ESI; Long-Term Action: FS, RD, RA, O&M, NPLD
City, State: Elkhart, IN | Site Spill ID: 45
ATTN: Chuck Hoover

6. Matrix (Enter in Column A): 1. Surface Water; 2. Ground Water; 3. Leachate; 4. Field QC; 5. Soil/Sediment; 6. Oil (High only); 7. Waste (High only); 8. Other (specify in Column A)

7. Preservative (Enter in Column D): 1. HCl; 2. HNO_3; 3. NaOH; 4. H_2SO_4; 5. $K_2CR_2O_7$; 6. Ice only; 7. Other (specify in Column D); N. Not preserved

CLP Sample Numbers (from labels)	A Matrix (from Box 6) / Other	B Conc.: Low Med High	C Sample Type: Comp./ Grab	D Preservative (from Box 7) / Other	E – RAS Analysis: Diss. Metals	Total Metals	Cyanide	Low only: Fluoride	pH	High only: Conduct.	F Regional Specific Tracking Number or Tag Numbers	G Station Location Identifier	H Mo/Day/ Year/Time Sample Collection	I Corresponding CLP Organic Sample No.	J Sampler Initials	K Field QC Qualifier (B = Blank, S = Spike, D = Duplicate, R = Rinsate, PE = Perform. Eval., — = Not a QC Sample)
MEAKN2	2	L	G	2		✓					5-153684	WT105A	11/3/96/1330	EAXX9	LV	
MEAKN3	2	L	G	2		✓					5-153689	WT111A	11/3/96/1330	EAXY0	LV	
MEAKN4	2	L	G	2		✓					5-153694	WTMA-D	11/3/96/1330	EAXY1	LV	D
MEAKN5	2	L	G	2		✓					5-153699	WT106A	11/3/96/1447	EAXY2	LV	
MEAKN6	4	L	G	2		✓					5-153704	Field Blank	11/3/96/1530	EAXY3	LV	B
MEAKN7	2	L	G	2		✓					5-153715-16	WT115A	11/3/96/1535	EAXY4	LV	

Shipment for Case Complete? (Y/N): Y | Page: 1 of 1 | Sample(s) to be Used for Laboratory QC: MEAKN7 | Additional Sampler Signatures: | Chain of Custody Seal Number(s): 47334 & 47335

CHAIN OF CUSTODY RECORD

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Luanne Vandergaal	11/4/96 1600				
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature)	Date / Time	Remarks: Is custody seal intact? Y/N/none	

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EPA Form 9110-1

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A21-012-5 REV. 3/93

11 11 96

359371

EPA — Organic Traffic Report & Chain of Custody Record

United States Environmental Protection Agency
Contract Laboratory Program

(For Organic CLP Analysis)

Case No. 25743

1. Project Code	Account Code	2. Region No.	Sampling Co.	4. Date Shipped	Carrier
97		5	USEPA	11/14/96	Fed Ex

Regional Information	Sampler (Name)	Airbill Number
FAX	Lianne Vanderpool	285436511 3

Non-Superfund Program	Sampler Signature	5. Ship To
	Lianne Vanderpool	Datachem Laboratories Inc 960 W Leroy Dr Salt Lake City, UT 84123 ATTN: Scott Sawls

Site Name	City, State	Site Spill ID
HIMCO Dump	Elkhart, IN	4J

3. Purpose* — Lead: [X] SF [ ] PRP [ ] ST [ ] FED; Early Action: [ ] CLEM [ ] PA [ ] REM [ ] RI [ ] SI [ ] ESI; Long-Term Action: [ ] FS [X] RD [ ] RA [ ] O&M [ ] NPLD

6. Matrix (Enter in Column A): 1. Surface Water 2. Ground Water 3. Leachate 4. Field QC 5. Soil/Sediment 6. Oil (High only) 7. Waste (High only) 8. Other (Specify in Column A)

7. Preservative (Enter in Column D): 1. HCl 2. HNO3 3. NaHSO4 4. H2SO4 5. Ice only 6. Other (Specify in Column D) N. Not preserved

CLP Sample Numbers (from labels)	A Matrix (from Box 6) Other:	B Conc.: Low Med High	C Sample Type: Comp./ Grab	D Preservative (from Box 7) Other:	E RAS Analysis: VOA	BNA	Pest/PCB	High only ARO/TOX	F Regional Specific Tracking Number or Tag Numbers	G Station Location Identifier	H Mo/Day/ Year/Time Sample Collection	I Corresponding CLP Inorganic Sample No.	J Sampler Initials	K Field QC Qualifier (B = Blank S = Spike D = Duplicate R = Rinsate PE = Perform. Eval — = Not a QC Sample)
EAXX8	4	L	G	1	X				5-153678-79	Trip Blank	11/12/96/1500	NA	LV	B
EAXX9	2	L	|	1	X				5-153680-81	WT105A	11/13/96/1300	MEAKN2	XV	B
EAXX9	2	L	|	5		X			5-153682-83	WT105A	11/13/96/1300	MEAKN2	LV	
EAXY0	2	L	|	1	X				5-153685-86	WT111A	11/13/96/1300	MEAKN3	LV	
EAXY0	2	L	|	5		X			5-153687-88	WT111A	11/13/96/1300	MEAKN3	LV	
EAXY1	2	L	|	1	X				5-153690-91	WT111AD	11/13/96/1300	MEAKN4	LV	D
EAXY1	2	L	|	5		X			5-153692-93	WT111AD	11/13/96/1300	MEAKN4	LV	D
EAXY2	2	L	|	1	X				5-153695-96	WT106A	11/13/96/1447	MEAKN5	LV	
EAXY3	2	L	|	1	X				5-153700-01	Field Blank	11/13/96/1530	MEAKN6	LV	B
EAXY4	2	L	↓	1	X				5-153705-10	WT115A	11/13/96/1535	MEAKN7	LV	

Shipment for Case Complete? (Y/N)	Page	Sample(s) to be Used for Laboratory QC	Additional Sampler Signatures	Chain of Custody Seal Number(s)
Y	1 of 2	EAXY4		47332 & 47333

CHAIN OF CUSTODY RECORD

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Lianne Vanderpool	11/14/96 1600				
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature)	Date / Time	Remarks Is custody seal intact? Y/N/none	

A21-012-15 REV

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EPA Form 9110-2

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*SEE REVERSE FOR PURPOSE CODE DEFINITIONS

365809

Here are the
field data sheet
+ copies of the CLP
Chain of Custody Form
from last week's
sampling.

Luanne

x3-9296

EPA — Organic Traffic Report & Chain of Custody Record

United States Environmental Protection Agency
Contract Laboratory Program

(For Organic CLP Analysis)

SAS No. (If applicable):

Case No.: 25143

1. Project Code	Account Code	2. Region No.	Sampling Co.	4. Date Shipped	Carrier
97		5	USEPA	11/14/96	Fed Ex

Regional Information	Sampler (Name)	Airbill Number
FAX	Luanne Vande-pool	285436511 3

Non-Superfund Program	Sampler Signature	5. Ship To
	Luanne Vandepool	Data Chem Laboratories, Inc 960 W Leroy Dr Salt Lake City, UT 84123 ATTN: Scott Sauls

Site Name	City, State	Site Spill ID
NIMCO Dump	Elkhart, IN	-IJ

3. Purpose*

Lead	Early Action	Long-Term Action
[X] SF	[ ] CLEM	[ ] FS
[ ] PRP	[ ] PA	[X] RD
[ ] ST	[ ] REM	[ ] RA
[ ] FED	[ ] RI	[ ] O&M
	[ ] SI	[ ] NPLD
	[ ] ESI	

6. Matrix (Enter in Column A)
1. Surface Water
2. Ground Water
3. Leachate
4. Field QC
5. Soil/Sediment
6. Oil (High only)
7. Waste (High only)
8. Other (Specify in Column A)

7. Preservative (Enter in Column D)
1. HCl
2. HNO3
3. NaHSO4
4. H2SO4
5. Ice only
6. Other (Specify in Column D)
N. Not preserved

CLP Sample Numbers (from labels)	A Matrix (from Box 6) / Other:	B Conc.: Low Med High	C Sample Type: Comp./ Grab	D Preservative (from Box 7) / Other:	E RAS Analysis: VOA	BNA	Pest/ PCB	High only ARO/ TOX	F Regional Specific Tracking Number or Tag Numbers	G Station Location Identifier	H Mo/Day/ Year/Time Sample Collection	I Corresponding CLP Inorganic Sample No.	J Sampler Initials	K Field QC Qualifier (B = Blank S = Spike D = Duplicate R = Rinsate PE = Perform. Eval. — = Not a QC Sample)
EAXY5	2	L	G	1	X				5-153717-18	WT116A	11/13/96/1655	NA	LV	

Shipment for Case Complete? (Y/N): Y

Page: 2 of 2

Sample(s) to be Used for Laboratory QC:

Additional Sampler Signatures:

Chain of Custody Seal Number(s): 47332 + 47333

CHAIN OF CUSTODY RECORD

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Luanne Vandepool	11/14/96 1600				
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature)	Date / Time	Remarks: Is custody seal intact? Y/N/none	

A21-012-3 REV. 3/93

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EPA Form 9110-2

SEE REVERSE FOR ADDITIONAL STANDARD INSTRUCTIONS
*SEE REVERSE FOR PURPOSE CODE DEFINITIONS

363888

EPA — Organic Traffic Report & Chain of Custody Record

United States Environmental Protection Agency
Contract Laboratory Program

(For Organic CLP Analysis)

SAS No. (if applicable):

Case No.: 25143

1. Project Code	Account Code	2. Region No.	Sampling Co.	4. Date Shipped	Carrier
97		5	USEPA	11/14/96	Fed Ex

Regional Information	Sampler (Name)	Airbill Number
FAX	Luanne Vandepool	285436512 4

Non-Superfund Program	Sampler Signature	5. Ship To
	Luanne Vandepool	Data Chem Laboratories, Inc 960 W Leroy Dr Salt Lake City, Ut 84123 ATTN: Scott Saulls

Site Name	City, State	Site Spill ID
HIMCO DUMP	Elkhart, IN	45

3. Purpose*

Lead	Early Action	Long-Term Action
[X] SF	[ ] CLEM	[ ] FS
[ ] PRP	[ ] PA	[X] RD
[ ] ST	[ ] REM	[ ] RA
[ ] FED	[ ] RI	[ ] O&M
	[ ] SI	[ ] NPLD
	[ ] ESI	

6. Matrix (Enter in Column A)
1. Surface Water
2. Ground Water
3. Leachate
4. Field QC
5. Soil/Sediment
6. Oil (High only)
7. Waste (High only)
8. Other (Specify in Column A)

7. Preservative (Enter in Column D)
1. HCl
2. HNO3
3. NaHSO4
4. H2SO4
5. Ice only
6. Other (Specify in Column D)
N. Not preserved

CLP Sample Numbers (from labels)	A Matrix (from Box 6) Other:	B Conc.: Low Med High	C Sample Type: Comp./ Grab	D Preservative (from Box 7) Other:	E RAS Analysis VOA	BNA	Pest/PCB	High only ARO/TOX	F Regional Specific Tracking Number or Tag Numbers	G Station Location Identifier	H Mo/Day/ Year/Time Sample Collection	I Corresponding CLP Inorganic Sample No.	J Sampler Initials	K Field QC Qualifier (B = Blank S = Spike D = Duplicate R = Rinsate PE = Perform. Eval. — = Not a QC Sample)
EAXY2	2	L	G	5		X			5-153697-98	WT106A	11/13/96/1447	MEAKN5	LV	
EAXY3	2	L	G	5		X			5-153702-03	FieldBlank	11/13/96/1535	MEAKN6	LV	B
EAXY4	2	L	G	5		X			5-153711-14	WT115A	11/13/96/1535	MEAKN7	LV	

Shipment for Case Complete? (Y/N): Y

Page: 1 of 1

Sample(s) to be Used for Laboratory QC: EAXY4

Additional Sampler Signatures:

Chain of Custody Seal Number(s): 47330 & 47331

CHAIN OF CUSTODY RECORD

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Luanne Vandepool	11/14/96 1600				
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature)	Date / Time	Remarks: Is custody seal intact? Y/N/none	

A21-012-3 REV. 3/93

DISTRIBUTION: Blue - Region Copy; White - Lab Copy for Return to Region; Pink - SMO Copy; Yellow - Lab Copy for Return to SMO

*EPA Form 9110-2

SEE REVERSE FOR ADDITIONAL STANDARD INSTRUCTIONS
*SEE REVERSE FOR PURPOSE CODE DEFINITIONS

363889

EPA — Inorganic Traffic Report & Chain of Custody Record

United States Environmental Protection Agency
Contract Laboratory Program

(For Inorganic CLP Analysis)

SAS No. (if applicable):

Case No.: 25143

1. Project Code: 97	Account Code:	2. Region No.: 5	Sampling Co.: USEPA	4. Date Shipped: 11/4/96	Carrier: Fed Ex
Regional Information: FAX		Sampler (Name): Luanne Vandergool		Airbill Number: 285436514 6	
Non-Superfund Program:		Sampler Signature: L Vandergool		5. Ship To: American Analytical Tech Serv. 1700 W Albany, Suite C Broken Arrow, OK 74012	
Site Name: HIMCO DUMP		3. Purpose* — Lead: [X] SF [ ] PRP [ ] ST [ ] FED; Early Action: [ ] CLEM [ ] PA [ ] REM [ ] RI [ ] SI [ ] ESI; Long-Term Action: [ ] FS [X] RD [ ] RA [ ] O&M [ ] NPLD		ATTN: Chuck Hoover	
City, State: Elkhart, IN	Site Spill ID: 4J				

6. Matrix (Enter in Column A): 1. Surface Water; 2. Ground Water; 3. Leachate; 4. Field QC; 5. Soil/Sediment; 6. Oil (High only); 7. Waste (High only); 8. Other (specify in Column A)

7. Preservative (Enter in Column D): 1. HCl; 2. HNO_3; 3. NaOH; 4. H_2SO_4; 5. $K_2CR_2O_7$; 6. Ice only; 7. Other (specify in Column D); N. Not preserved

CLP Sample Numbers (from labels)	A Matrix (from Box 6) / Other:	B Conc.: Low Med High	C Sample Type: Comp./ Grab	D Preservative (from Box 7) / Other:	E – RAS Analysis: Diss. Metals	Total Metals	Cyanide	Low only: NO_2/NO_3	Low only: Fluoride	High only: pH	High only: Conduct.	F Regional Specific Tracking Number or Tag Numbers	G Station Location Identifier	H Mo/Day/ Year/Time Sample Collection	I Corresponding CLP Organic Sample No.	J Sampler Initials	K Field QC Qualifier (B = Blank, S = Spike, D = Duplicate, R = Rinsate, PE = Perform. Eval., N = Not a QC Sample)
MEAKN2	2	L	G	2		✓						5-153684	WT105A	11/13/96/1330	EAXX9	XV	
MEAKN3	2	L	G	2		✓						5-153689	WT111A	11/13/96/1330	EAXY0	XV	
MEAKN4	2	L	G	2		✓						5-153694	WT110A-D	11/13/96/1330	EAXY1	XV	D
MEAKN5	2	L	G	2		✓						5-153699	WT106A	11/13/96/1447	EAXY2	XV	
MEAKN6	4	L	G	2		✓						5-153704	Field Blank	11/13/96/1530	EAXY3	XV	B
MEAKN7	2	L	G	2		✓						5-153715-16	WT115A	11/13/96/1535	EAXY4	XV	

Shipment for Case Complete? (Y/N): Y	Page: 1 of 1	Sample(s) to be Used for Laboratory QC: MEAKN7	Additional Sampler Signatures:	Chain of Custody Seal Number(s): 47334 & 47335

CHAIN OF CUSTODY RECORD

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Luanne Vandergool	11/4/96 1600				
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature)	Date / Time	Remarks: Is custody seal intact? Y/N/none	

A21-012-5 REV. 3/93

DISTRIBUTION: Green - Region Copy; White - Lab Copy for Return to Region; Pink - SMO Copy; Yellow - Lab Copy for Return to SMO

EPA Form 9110-1

SEE REVERSE FOR ADDITIONAL STANDARD INSTRUCTIONS
*SEE REVERSE FOR PURPOSE CODE DEFINITIONS

359371

GROUND-WATER SAMPLING RECORD

Well ID: WT116A
Station #: _____

Facility Name: HIMCO DUMP Date: ___/___/___

Well Depth: 14.3' Depth to Water: 5.05 Well Diameter: 2

Casing Material.: pvc Volume Of Water per Well Volume: 1.12

Sampling Crew: Ballard, Vanderpool, Duwelius, _____

Type of Pump: Fultz Tubing Material: _____ Pump set at _____ ft.

Weather Conditions: _____ NOTES: _____

GROUND-WATER SAMPLING PARAMETERS (others 10%) (opt)

Time	Water Level	Volume Pumped	Pumping Rate	D.O. (ppm)	Temp. (°C)	S.C. (mS/cm)	±.2 pH	Eh (mV)	Turbidity (NTU)
1545									
1556		1 1/2		3.19	8.46	3070	7.14		
1600	12'	2		0.45	10.01	3100	7.12		
Pump off at 1604									
on 1612									
1613		5		1.09	10.49	3100	7.15		
Pump off at 1614									

Filtered: Y or N Filter Size: _____ :m Filter Capacity: _____ Brand: _____

Sampled at: _____ Parameters taken with : _____

Sample delievered to _____ by _____ at _____.

Sample CRL #: _____ OTR #: _____ ITR #: _____ SAS #: _____

Parameters Collected		Number of Bottles	Bottle Lot Number
VOA's	EAXY5	2-40ml	B4206030 ← only
SVOC's		2-80's	A1134020 ← Not collect
Metals		1-1L	C3156040 ← Not collect

After 1 gallon had to lower pump
Pump off 1548 Pump off at 1604

GROUND-WATER SAMPLING RECORD

Well ID: WT115A
Station #: _____

Facility Name: Himco Dump Date: ___/___/___

Well Depth: 19.22+ Depth to Water: 14.75 Well Diameter: 2

Casing Material.: PVC Volume Of Water per Well Volume: .39

Sampling Crew: _____, _____, _____, _____

Type of Pump: F.[illegible] Tubing Material: _____ Pump set at 17 ft.

Weather Conditions: _____ NOTES: _____

Pump started 3:22

GROUND-WATER SAMPLING PARAMETERS

Time	Water Level	Volume Pumped	Pumping Rate	D.O. (ppm)	Temp. (°C)	S.C. (mℓ/cm)	pH	Eh (mV)	Turbidity (NTU)
3:25	14.87	2.5		.35	11.97	1.422	6.8		43
3:28	14.91	4.0		.20	12.25	1.462	6.8		7.4
3:31	14.90	6.0		.21	12.36	1.464	6.8		3.9
3:34	14.91	8.5		.21	12.38	1.468	6.79		3.6
SAMPLE	3:35		VOA						
	3:40		SVOC						
	3:44		METALS						

Filtered: Y or (N) Filter Size: _____ :m Filter Capacity: _____ Brand: _____

Sampled at: _____ Parameters taken with : Hydrolab Scout 2

Sample delievered to _____ by _____ at _____.

Sample CRL #: _____ OTR #: _____ ITR #: _____ SAS #: _____

Parameters Collected	Number of Bottles	Bottle Lot Number
VOA's	2x3	
HSD SVOC's	2x2	
Metals	1x2	

EAXY4
MEAKN7

GROUND-WATER SAMPLING RECORD

Well ID: WT 106A
Station #:

Facility Name: Himco Dump Date: 11/13/96

Well Depth: 18.48 Depth to Water: 11.15 Well Diameter: 2"

Casing Material.: SS Volume Of Water per Well Volume: 1.19

Sampling Crew: R. Dunelius, T. Willoughby, A. Baumann

Type of Pump: Fultz Tubing Material: Teflon Pump set at 14.5 ft.

Weather Conditions: P. Cloudy, Cold NOTES:

GROUND-WATER SAMPLING PARAMETERS

Time	Water Level	Volume Pumped	Pumping Rate	D.O. (ppm)	Temp. (°C)	S.C. (m ℓ/cm)	pH	~~Eh~~ (mV)	Turbidity (NTU)
Start Time @ 1418									
1420	11.21	1		1.81	10.9	906	7.13		Red Color
1422	11.20	2.5		1.20	11.36	918	7.18		Red Color
1427	11.20	5		1.24	11.41	960	7.18		
1429	11.20	6		1.29	11.41	964	7.18		98.5
1431	11.20	8		1.24	11.50	968	7.19		37.4
1434	11.20	10		1.28	11.47	977	7.18		21.3
1437	11.21	12		1.27	11.45	973	7.17		11.10
1441	11.21	14		1.20	11.44	979	7.17		5.6
1446	11.21	16		1.18	11.45	982	7.17		4.88
1453	11.21			1.19	11.5	987	7.16		2.79
1454	Pump Off								

Filtered: Y or (N) Filter Size: ____ :m Filter Capacity: ____ Brand: ____

Sampled at: ____ Parameters taken with: Hydrolab

Sample delievered to ____ by R. Dunelius at 1447

Sample CRL #: ____ OTR #: ____ ITR #: ____ SAS #: ____

Parameters Collected	Number of Bottles	Bottle Lot Number
VOA's	2	B4206030
SVOC's	2	A1134020
Metals	1	C3156040

EAXY2
MEAXN3

GROUND-WATER SAMPLING RECORD

Well ID: WT111A
Station #: _____

Facility Name: HIMCO DUMP Date: 1/13/96
1:04pm

Well Depth: 21.7 Depth to Water: 14.55 Well Diameter: _____

Casing Material.: _____ Volume Of Water per Well Volume: 1.18

Sampling Crew: _____, _____, _____, _____

Type of Pump: _____ Tubing Material: _____ Pump set at _____ ft.

Weather Conditions: _____ NOTES: _____

GROUND-WATER SAMPLING PARAMETERS

Time	Water Level	Volume Pumped	Pumping Rate	D.O. (ppm)	Temp. (°C)	S.C. (mS/cm)	pH	~~Eh~~ opt (mV)	Turbidity (NTU)
1:04pm									
1:23	14.75	3.0	low	.58	12.31	114	5.7		4.05
T 1:26	14.77	4.0		.50	12.43	115	5.67		3.10
sample → 1:27		5½		.55	12.44	113	5.65		2.68
1:41	pump	off.							

Filtered: Y or N Filter Size: _____ :m Filter Capacity: _____ Brand: _____

Sampled at: _____ Parameters taken with : _____

Sample delievered to _____ by _____ at _____.

Sample CRL #: _____ OTR #: _____ ITR #: _____ SAS #: _____

Parameters Collected	Number of Bottles	Bottle Lot Number
DUP VOA's	2, 2	
SVOC's	2, 2	A1085030
Metals	1, 1	C31596040

EAXX7 EAXY1
MEAXN3 MEAKN4

GROUND-WATER SAMPLING RECORD

Well ID: NT105A
Station #:

Facility Name: Himco Dump Date: 11 / 13 / 96

Well Depth: 17.77 ft Depth to Water: 12.1 Well Diameter: 2"

Casing Material: ~~ft~~ PVC Volume Of Water per Well Volume: 1.05

Sampling Crew: R. Duvelius T. Willoughby A. Baumann

Type of Pump: Fultz Tubing Material: Teflon Pump set at 14 ft.

Weather Conditions: P. Cloudy, Flurries, Cold NOTES:

GROUND-WATER SAMPLING PARAMETERS

	Time	Water Level	Volume Pumped	Pumping Rate	D.O. (ppm)	Temp. (°C)	S.C. (m-℧cm)	pH	Eh (mV)	Turbidity (NTU)
Start @	1247									
	1249	12.15	1.5		4.29	11.54	306	7.29		69.8
Pump off	1250									
	1252	12.15	3.0		4.54	11.45	307	7.69		35.5
	1255	12.15	4		4.88	12.03	301	7.81		21.0
	1257	12.15	5		5.04	12.08	300	7.87		9.30
	1258½	12.16	6		5.09	12.18	302	7.87		7.17
	1300	12.16	7		5.07	12.26	303	7.89		3.54
	1302	12.16	8		5.12	12.18	304	7.89		.08

Filtered: Y or (N) Filter Size: _____ :m Filter Capacity: _____ Brand: _____

Sampled at: 1302 Parameters taken with: Hydrolab

Sample delievered to L. Vanderpool by R. Duvelius at 1330

Sample CRL #: _____ OTR #: _____ ITR #: _____ SAS #: _____

Parameters Collected	Number of Bottles	Bottle Lot Number
VOA's	2	B4026030
SVOC's	2	A1085030
Metal	1	C3156040

FEAXX1
MIEAXN2

GROUND-WATER SAMPLING RECORD

Well ID: _____
Station #: _____

Facility Name: _____ Date: ___/___/___

Well Depth: _____ Depth to Water: _____ Well Diameter: _____

Casing Material.: _____ Volume Of Water per Well Volume: _____

Sampling Crew: _____, _____, _____, _____

Type of Pump: _____ Tubing Material: _____ Pump set at _____ ft.

Weather Conditions: _____ NOTES: _____

_____

GROUND-WATER SAMPLING PARAMETERS

Time	Water Level	Volume Pumped	Pumping Rate	D.O. (ppm)	Temp. (°C)	S.C. (m℧/cm)	pH	Eh (mV)	Turbidity (NTU)

Filtered: Y or N Filter Size: _____ :m Filter Capacity: _____ Brand: _____

Sampled at: 15[illegible] (1/12/16) Parameters taken with : _____

Sample delievered to _____ by _____ at _____.

Sample CRL =: _____ OTR =: _____ ITR =: _____ SAS #: _____

Parameters Collected	Number of Bottles	Bottle Lot Number
VOA's	2	E43[illegible]
SVOC's		
Metals		

EA XXX

GROUND-WATER SAMPLING RECORD

Well ID: [illegible]
Station #: _____

Facility Name: [illegible] Date: 11/13/96

Well Depth: _____ Depth to Water: _____ Well Diameter: _____

Casing Material.: _____ Volume Of Water per Well Volume: _____

Sampling Crew: Tim, Richard, Alan, LV

Type of Pump: Fultz Tubing Material: _____ Pump set at _____ ft.

Weather Conditions: _____ NOTES: _____

GROUND-WATER SAMPLING PARAMETERS

Time	Water Level	Volume Pumped	Pumping Rate	D.O. (ppm)	Temp. (°C)	S.C. (m ℒcm)	pH	~~Eh~~ (mV)	Turbidity (NTU)

Filtered: Y or N Filter Size: _____ :m Filter Capacity: _____ Brand: _____

Sampled at: 15 30 Parameters taken with : _____

Sample delievered to _____ by _____ at _____.

Sample CRL #: _____ OTR #: _____ ITR #: _____ SAS #: _____

Parameters Collected	Number of Bottles	Bottle Lot Number
VOA's	2	~~A11~~ B4206030
SVOC's	2	A1134020
Metals	1	C3156940

EAXY3
MEAKN6

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 5 CENTRAL REGIONAL LABORATORY

536 SOUTH CLARK STREET

CHICAGO, ILLINOIS 60605

Date: JUN 12 2000

Subject: Review of Region 5 Data for Himco Dump Code:054J

From: ESAT , Chemist
Region 5 Central Regional Laboratory

To: SF
Gwen Massenburg

Attached are the results for Site: Himco Dump Code:054J
CRL Data Set Number: 20000033
for analyses of : Mercury
Results are reported for sample numbers: 2000SY04S40, 2000SY04S41, 2000SY04S42, 2000SY04S43, 2000SY04S44, 2000SY04S45, 2000SY04S46, 2000SY04S47, 2000SY04S48, 2000SY04S49, 2000SY04S50, 2000SY04S51, 2000SY04S52, 2000SY04S53, 2000SY04S54, 2000SY04S55, 2000SY04S56, 2000SY04S57 and 2000SY04S58

Results Status:
( ) Acceptable for Use
(x) Data Qualified, but Acceptable for use
( ) Data Unacceptable for Use

MW w/o GP Inorganics
Hg, SO4, Br, ICP,
Heavy metals

Sylvia Griffin JUN 12 2000

CRL Data Management Coordinator and Date Received

Date Transmitted: JUN 12 2000

Please have the US EPA project leader fill out the customer survey form on the Region 5 Intranet: http://www.r5intra.epa.gov/crl/qa.html, (← by clicking on this link, or call George Schupp, CRL Sample Coordinator, at 3-1226).

Please sign and date this form below and return it with any comments to:

Sylvia Griffin
Data Management Coordinator
Region 5 Central Regional Laboratory
ML - 10C

Received by and Date

Comments:

Lockheed Martin Services Group
Environmental Services & Technologies Region 5
536 South Clark Street #1050 Chicago, IL 60605
Telephone 312-353-8302 Facsimile 312-353-8307

LOCKHEED MARTIN

Date: June 5, 2000

To: John Morris, EPA WAM

From: Marjorie Mattox, ESAT Chemist

Thru: Ziyad Rajabi, ESAT Team Manager

Copies: John Ganz, ESAT Inorganic Group Leader
Jay Thakkar, ESAT Contract RPO

Ref: TDF# 5104-291
WA# 05-00-4-04
Contract # 68D60002

SUBJECT: Data Set SF20000033: Mercury Analyses of Himco Landfill Site
Using Method **245.2*DNS for water**

Attached is the deliverable for Data Set 20000033, mercury analysis of 19 water samples. Included in the deliverable is the case narrative, QC reports, and raw data. If you have any questions please feel free to contact ESAT.

M. Mattox 6/5/00

Parameter: Mercury
Method: 245.2*DNS
Site: Himco Landfill
Analyst: M. Mattox M. Mattox
Date: June 5, 2000 6-5-00

Data Set: 20000033
TDF: 5104-291
PWO: ESE51034
WAD: 05-00-4-04

NARRATIVE

Nineteen (19) water samples from the Himco Landfill site (data set 20000033) were collected on April 28, 2000 and May 1-3, 2000. The water samples are stated with the sample number and station identification as follows: 2000SY04S40 (WT111A), 2000SY04S41 (WT118B), 2000SY04S42 (WT119A), 2000SY04S43 (WT115A), 2000SY04S44 (WTE2), 2000SY04S45 (WTE1), 2000SY04S46 (WTE3), 2000SY04S47 (WT105A), 2000SY04S48 (WT106A), 2000SY04S49 (WT101C), 2000SY04S50 (WT101A), 2000SY04S51 (WT101A), 2000SY04S52 (WT101B), 2000SY04S53 (WT116A), 2000SY04S54 (WT116A), 2000SY04S55 (WT116B), 2000SY04S56 (WT114A), 2000SY04S57 (WT114B), and 2000SY04S58 (WT114A). The samples were received properly preserved by CRL on May 3, and May 5, 2000. These samples were assigned to ESAT for mercury analysis.

The samples were digested on May 16, 2000 and analyzed on May 17, 2000. This analysis found CCV-CS and DQC-LFB results to be out of control. Redigestion was attempted on May 25, 2000 and May 26, 2000 but was not completed due to problems with the autodigestion unit. The data set was prepared for digestion on May 31, 2000 by adding the acid mixture, potassium permanganate, and potassium persulfate manually. The samples were covered and the autodigestion unit was then used for heating only. The hydroxylamine solution was then manually added. Analysis was attempted on May 31, 2000 also but was not completed until June 1, 2000. Problems which occurred during digestion and analysis can be found in the mercury log book.

All ICB, CCB, ICV-CS, CCV-CS, and duplicate audits were in control. Two of four DQC-LFB results were acceptable, and one of two spike results were acceptable. The results that were not acceptable showed a high bias. All samples are non-detects. However, the samples were not analyzed within holding time and are therefore estimated.

This narrative is stored in
I:\r5crl\vol1\min_nut\mmattox\PSAMercury\Hg Water\20000033\Reports\Hg Narrative.
The spreadsheet is stored in
I:\r5crl\vol1\min_nut\mmattox\PSAMercury\Hg Water\20000033\Reports\Hg Results.
The QC summary is stored in
I:\r5crl\vol1\min_nut\mmattox\PSAMercury\Hg Water\20000033\Reports\Hg QC Summary.

At this time RLIMS is not available, therefore WordPerfect reports were generated. Time must be allotted in the future to enter the data into RLIMS when it does become available.

CRL Data Review Qualification Codes

QUALIFIER	DESCRIPTION
B	This flag is used when the analyte is found in the associated ***B***lank as well as the sample. It indicates possible blank contamination and warns the user to take appropriate action while assessing the data. See the case narrative for a discussion of common lab contaminants and/or the relative concentration of contamination in the samples and blanks for relevance.
D	This flag is used when the analyte concentration results from a required ***D***ilution of the sample, extract or digestate.
E	This flag is used to identify analyte concentrations ***E***xceeding the upper calibration range of the analytical instrument after dilution of the sample, extract or digestate. The reported value is considered to be estimated
J	This flag is used when the analyte is estimated due to quality control limit(s) being exceeded. This flag accompanies all GC/MS tentatively identified compounds (TICs). This flag also applies to a suspected, unidentified interference. This flag is placed on affected detected results as well as non-detected (i.e., "U" flagged) results. (***J*** is the flag used in the Superfund CLP SOW and Data Review Functional Guidelines and is used by CRL for consistency.)
M	This flag is used when the analyte is confirmed to be qualitatively present in the sample, extract or digestate, at or above the CRL ***M***ethod Detection Limit (MDL) but below the CRL reporting limit (RL). This flag applies to all values in this concentration range and indicates the quantitated value is estimated due to its presence in this concentration range.
N	This flag applies to GC/MS Te***N***tatively Identified Compounds (TICs) that have a mass spectral library match.
Q	This flag applies to analyte data that are severely estimated due to quality control and/or ***Q***uantitation problems, but are confirmed to be qualitatively present in the sample. No value is reported with this qualification flag.
R	This flag applies to analyte data that are ***R***ejected and unusable due to severe quality control, quantitation and/or qualitative identification problems. No other qualification flags are reported for this analyte. No value is reported with this qualification flag.
U	This flag in used when the analyte was analyzed but ***U***ndetected in the sample. The CRL RL for the analyte accompanies this flag. As with sample results that are positive, the value is corrected for dry weight, dilution and/or sample weight or volume.

4/11/00

ENVIRONMENTAL PROTECTION AGENCY
REGION V
CENTRAL REGIONAL LABORATORY
FINAL RESULT REPORT FOR THE TEAM: METALS

DIVISION/BRANCH: SUPERFUND **SAMPLING DATE:** 4/28, 5/1-3/2000 **LAB ARRIVAL DATE:** 5/3, 5/5/00 **DUE DATE:** 6/1/2000
DU NUMBER: 50102D **DATASET NUMBER:** 20000033 **STUDY:** Himco Landfill **PRIORITY:** Routine **LABORATORY :**ESAT

	CRL LOG NUMBER	SAMPLE DESCRIPTION	WATER Mercury (ug/l)		
1	2000SY04S40	WT111A	0.1U J		
2	2000SY04S41	WT118B	0.1U J		
3	2000SY04S42	WT119A	0.1U J		
4	2000SY04S43	WT115A	0.1U J		
5	2000SY04S44	WTE2	0.1U J		
6	2000SY04S45	WTE1	0.1U J		
7	2000SY04S46	WTE3	0.1U J		
8	2000SY04S47	WT105A	0.1U J		
9	2000SY04S48	WT106A	0.1U J		
10	2000SY04S49	WT101C	0.1U J		
11	2000SY04S50	WT101A	0.1U J		
12	2000SY04S51	WT101A	0.1U J		
13	2000SY04S52	WT101B	0.1U J		
DATE OF ANALYSIS		6-5-00	6/1/00		
ANALYST		M. Mattox	M. Mattox		

Reviewed by: A. C. Harvey Date: 6/6/00

ENVIRONMENTAL PROTECTION AGENCY
REGION V
CENTRAL REGIONAL LABORATORY
FINAL RESULT REPORT FOR THE TEAM: METALS

DIVISION/BRANCH: SUPERFUND **SAMPLING DATE:** 4/28, 5/1-3/2000 **LAB ARRIVAL DATE:** 5/3, 5/5/00 **DUE DATE:** 6/1/2000
DU NUMBER: 50102D **DATASET NUMBER:** 20000033 **STUDY:** Himco Landfill **PRIORITY:** Routine **LABORATORY :**ESAT

	CRL LOG NUMBER	SAMPLE DESCRIPTION	WATER Mercury (ug/l)		
14	2000SY04S53	WT116A	0.1U J		
15	2000SY04S54	WT116A	0.1U J		
16	2000SY04S55	WT116B	0.1U J		
17	2000SY04S56	WT114A	0.1U J		
18	2000SY04S57	WT114B	0.1U J		
19	2000SY04S58	WT114A	0.1U J		
DATE OF ANALYSIS		6-5-00	6/1/00		
ANALYST		M. Mattox	M. Mattox		

Reviewed by: A. C. Harvey Date: 6/6/00

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 5 CENTRAL REGIONAL LABORATORY

536 SOUTH CLARK STREET

CHICAGO, ILLINOIS 60605

Date: JUN 1 2 2000

Subject: Review of Region 5 Data for Himco Dump Code:054J

From: ESAT , Chemist
Region 5 Central Regional Laboratory

To: Gwen Massenburg

Attached are the results for Site: Himco Dump Code:054J
CRL Data Set Number: 20000033
for analyses of : ICP
Results are reported for sample numbers: 2000SY04S40, 2000SY04S41, 2000SY04S42, 2000SY04S43, 2000SY04S44, 2000SY04S45, 2000SY04S46, 2000SY04S47, 2000SY04S48, 2000SY04S49, 2000SY04S50, 2000SY04S51, 2000SY04S52, 2000SY04S53, 2000SY04S54, 2000SY04S55, 2000SY04S56, 2000SY04S57 and 2000SY04S58

Results Status:
(x) Acceptable for Use for most metals
(x) Data Qualified, but Acceptable for use for metals with attached flags
( ) Data Unacceptable for Use

Sylvia Griffin JUN 12 2000

CRL Data Management Coordinator and Date Received

Date Transmitted: JUN 12 2000

Please have the US EPA project leader fill out the customer survey form on the Region 5 Intranet: http://www.r5intra.epa.gov/crl/qa.html, (← by clicking on this link, or call George Schupp, CRL Sample Coordinator, at 3-1226).

Please sign and date this form below and return it with any comments to:

Sylvia Griffin
Data Management Coordinator
Region 5 Central Regional Laboratory
ML - 10C

Received by and Date

Comments:

Data Review Qualification Codes

QUALIFIER	DESCRIPTION
B	This flag is used when the analyte is found in the associated *B*lank as well as the sample. It indicates possible blank contamination and warns the user to take appropriate action while assessing the data. See the case narrative for a discussion of common lab contaminants and/or the relative concentration of contamination in the samples and blanks for relevance.
D	This flag is used when the analyte concentration results from a required *D*ilution of the sample, extract or digestate.
E	This flag is used to identify analyte concentrations *E*xceeding the upper calibration range of the analytical instrument after dilution of the sample, extract or digestate. The reported value is considered to be estimated
J	This flag is used when the analyte is estimated due to quality control limit(s) being exceeded. This flag accompanies all GC/MS tentatively identified compounds (TICs). This flag also applies to a suspected, unidentified interference. This flag is placed on affected detected results as well as non-detected (i.e., "U" flagged) results. (*J* is the flag used in the Superfund CLP SOW and Data Review Functional Guidelines and is used by CRL for consistency.)
M	This flag is used when the analyte is confirmed to be qualitatively present in the sample, extract or digestate, at or above the CRL *M*ethod Detection Limit (MDL) but below the CRL reporting limit (RL). This flag applies to all values in this concentration range and indicates the quantitated value is estimated due to its presence in this concentration range.
N	This flag applies to GC/MS Te*N*tatively Identified Compounds (TICs) that have a mass spectral library match.
Q	This flag applies to analyte data that are severely estimated due to quality control and/or *Q*uantitation problems, but are confirmed to be qualitatively present in the sample. No value is reported with this qualification flag.
R	This flag applies to analyte data that are *R*ejected and unusable due to severe quality control, quantitation and/or qualitative identification problems. No other qualification flags are reported for this analyte. No value is reported with this qualification flag.
U	This flag in used when the analyte was analyzed but *U*ndetected in the sample. The CRL RL for the analyte accompanies this flag. As with sample results that are positive, the value is corrected for dry weight, dilution and/or sample weight or volume.

Lockheed Martin Services Group
Environmental Services & Technologies Region 5
536 South Clark Street #1050 Chicago, IL 60605
Telephone 312-353-8302 Facsimile 312-353-8307

LOCKHEED MARTIN

Date: June 9, 2000

To: John V. Morris, EPA WAM

From: Richard Dilg, ESAT Chemist RD 6-12-00

Thru: Ziyad Rajabi, ESAT Team Manager

Copies: John Ganz, ESAT Inorganic Group Leader
Jay Thakkar, ESAT Contract RPO

Ref: TDF# 5104-291
WA# 05-00-4-04
Contract # 68D60002

SUBJECT: Data Set SF20000033: ICP Analyses for Himco Dump samples using CRL Method **200.7**

Attached is the deliverable for Data Set SF20000033 ICP analysis of 19 water samples.

If you have any question please feel free to contact ESAT.

RD 6-12-00

Method Number: 200.7
Date Generated: June 9, 2000
Author: R.Dilg,Lockheed-ESAT

Site Name: Himco Dump
Work Unit Number: 05-00-4-04
TDF Number: 5104-291
Charge Number: ESE-51-034
Batch ID No.: 20000033
Parameter: ICP

ICP NARRATIVE

This narrative covers the analysis of 19 water samples from the named site sampled for ICP metals analysis. Sample pH values were checked (see digestion log sheet) and all were found to be properly preserved.

Sample Nos.	Sample Station ID's	Sample collected	Analysis date
2000SY04S40	WT111A	4-28-2000	5-19-2000
2000SY04S41	WT118B	4-28-2000	5-19-2000
2000SY04S42	WT119A	4-28-2000	5-19-2000
2000SY04S43*	WT115A	5-01-2000	5-19-2000
2000SY04S44	WTE2	5-01-2000	5-19-2000
2000SY04S45	WTE1	5-02-2000	5-19-2000
2000SY04S46	WTE3	5-02-2000	5-19-2000
2000SY04S47	WT105A	5-02-2000	5-19-2000
2000SY04S48*	WT106A	5-02-2000	5-19-2000
2000SY04S49*	WT101C	5-03-2000	5-19-2000
2000SY04S50	WT101A	5-03-2000	5-19-2000
2000SY04S51	WT101A	5-03-2000	5-19-2000
2000SY04S52	WT101B	5-03-2000	5-19-2000
2000SY04S53	WT116A	5-03-2000	5-19-2000
2000SY04S54	WT116A	5-03-2000	5-19-2000
2000SY04S55	WT116B	5-03-2000	5-19-2000
2000SY04S56	WT114A	5-03-2000	5-19-2000
2000SY04S57	WT114B	5-03-2000	5-19-2000
2000SY04S58	WT114A	5-03-2000	5-19-2000

* these samples contained brown solids

Routine CRL microwave digestion procedures were used to prepare the water sample for ICP analysis. Digests for 2000S04S43, S48, and S49 were filtered prior to ICP analysis. The sample digests were analyzed using the JY138 ICP unit; the JYSED5 analysis run method was used. ICP analysis results for the water samples were stored to file RUN1181.

ICP RUN RESULTS

One day analyte mdl's were determined on May 16, 2000. Also newly calculated rl values were determined. These values were used in reporting sample analysis results for this data case.

6-12-00

ICP RUN RESULTS (continued)

Because of recently issued CRL SOP's, a newly instituted check audit, the reporting limit (RL) check solution was prepared. Analysis of this check audit solution was performed twice during the analysis run, at the beginning of the run and also at the end.

Also for QA evaluation purposes, mid range and high AQC check audit acceptance criteria used were 100 ± 10 %R for check audits.

The matrix spike dilution factor for 2000SY04S56 was incorrectly entered in the autosampler run information. The factor was corrected after the analysis run using the IEC correction worksheet for the matrix spike for 2000SY04S56.

The following analytes will either not be addressed or only minimally mentioned in this case narrative:

Sn, Tl, As, Se, Sb, Mo, Pb, Cd, Ti, Y, Sr, Li

The following lists the case pertinent out-of-control QC audit check results:

RUN 1181:

Blanks:	Instr blk 1:	Mg383	*	
	Digest blk 1:	Ca315	*	
		Mg383	*	
	Instr blk 2:	Mg383	*	
		Na588	- 11.7	µg/L
	Digest blk 2:	Zn213	16.2	"
		Ca315	*	
	Instr blk 3:	Ca315	*	
		Mg383	*	

* alternate analytes lines used to monitor these audits

AQC's:	AQC 1:	Mg279,	15.92	percent deviation
	AQC 2:	Cr205,	10.64	"
		Zn213,	13.22	"
		Mg279,	15.53	"
	AQC 3:	Zn213,	11.19	"
		Mg279,	15.45	"

FD
6-6-00

ICP RUN RESULTS (continued)

Matrix Spike:	2000SY04S41:	Zn213,	116.2 %R
		Mn257,	116.8 "
		Fe259,	#
		Fe271,	*
		Al308,	*
		Ca315,	#
		Ca393,	*
		Zn481,	*
	2000SY04S56:	Mn257,	#
		Fe259,	#
		Fe271,	*
		Ca315,	#
		Ca393,	*
		Zn481,	*
		Na588,	#

* alternate analytes lines used to monitor these audits
\# audit not valid; sample conc. > 2X spike conc.

Spiked Blank: Zn481, *

* alternate analytes lines used to monitor this audits

RL check Soln: RL 1:
(See paragraph below regarding RL's)
RL 2:

Per a discussion with J. V. Morris, the RL values calculated from the May 16th MDL analysis run were used as reporting limits (instead of the formerly used mdl values) for the sample analysis results for this case.

Presently no "control" actions are associated with the observed RL analyte values actually determined during the analysis run. RL check solution values currently are being analyzed for purposes of generating a benchmark set of values which can be used to monitor the appropriateness of any given RL level of analyte concentration.

AD
6-12-00

ICP RUN RESULTS (continued)

An ambiguously stated flag in SOP HK005 is the "B" flag. Although a "more than 10 times" rule was mentioned for blanks for considering data as useable, it was not clearly stated whether or not the "B" flag should be used. As a matter of fact, to this analyst, from reading the wording used in the SOP the flow or intent seems to imply (but is not specifically stated to do so) to always use the "B" flag regardless of the sample level if a control audit blank is above an MDL level ! This analyst used the "B" flag for those analyte cases where the MDL value was exceeded but the 10 times value was not exceeded.

All Tl, As, Sb, Cd, Pb, and Se results were not reported by ICP. See GFAA results for these analytes.

For Fe, sample the result for 2000SY04S58 was flagged "M" indicating it had a result between the MDL and the RL and is estimated. The remaining Fe sample results are usable.

For Zn, sample results for 2000SY04S40, S43, S48, S53, and S54 are estimated due to possible high bias indicated from middle level check audit value and because possible high bias was indicated from matrix spike recovery data. "J" flags were used. The sample result for 2000SY04S40 was also flagged "M" indicating it had a result between the MDL and the RL value. The sample result for 2000SY04S48 was also flagged "M" indicating it had a result between the MDL and the RL and is estimated. Sample results for 2000SY04S40, S43, and S48 were flagged "B" and are estimated since they may have been affected by possible contamination indicated by blank analysis data. Any remaining Zn sample results are usable.

For Mg, sample results for 2000SY04S40, S43, S44, S47, S56, S57, and S58 are estimated due to possible high bias indicated from the middle check audit values. "J" flags were used. Sample results for 2000SY04S44 and S58 were also flagged "M" indicating they had results between the MDL and the RL value. The remaining Mg sample results are usable.

For Cr, sample results for 2000SYS04S40, S42, S43, S47, S48, S49, and S57 are estimated due to possible high bias indicated from the middle check audit values. "J" flags were used. The sample results for 2000SY04S40, S42, and S57 were also flagged "M" indicating they had results between the MDL and the RL values. The remaining Cr sample results are usable.

For Co, sample results for 2000SYS04S40, S47, S49, S51, S53, S54, and S56 were flagged "M" indicating they had results between the MDL and the RL values and they are estimated. The remaining Co sample results are usable.

JD
6-12-00

ICP RUN RESULTS (continued)

For Ni, sample results for 2000SYS04S40, S43, S48, S49, S53, and S54 were flagged "M" indicating they had results between the MDL and the RL values and they are estimated. The remaining Ni sample results are usable.

For Al, sample results for 2000SYS04S42 and S47 were flagged "M" indicating they had results between the MDL and the RL values and they are estimated. The remaining Al sample results are usable.

For Ba, the sample result for 2000SYS04S58 was flagged "M" indicating it had a result between the MDL and the RL value and it is estimated. The remaining Ba sample results are usable.

For K, the sample result for 2000SYS04S58 was flagged "M" indicating it had a result between the MDL and the RL value and it is estimated. The remaining K sample results are usable.

For Mn, all sample results are estimated due to possible high bias indicated from matrix spike recovery data. "J" flags were used. The sample result for 2000SY04S58 was also flagged "M" indicating it had results between the MDL and the RL values.

For Na, the sample result for 2000SY04S58 was flagged "M" indicating it had a result between the MDL and the RL value; the result is estimated.

Samples 2000SYS04S53 and S54 appear to have been sampled at the same time and could be used as a measure of field "duplicates". Analyte values for the two samples correlate well.

Other Comments

As far as the deliverables are concerned the following were submitted:

- Raw data printouts for RUN 1181
- Analysis run log for RUN 1181
- QA analysis run summaries for the above RUN
- QA lab duplicate and matrix spike summaries
- individual worksheets showing raw and IEC corrected results
- a table showing a list of IEC factors used to correct raw ICP data

The last two items mentioned above were included since the interelement corrections were applied to the ICP values after the actual ICP analysis run. The QA run summaries, QA duplicate and matrix spike summaries, and the sample analysis data for the analytes reported all used results that were interelement corrected. The IEC corrections were made using matrix algebra methods and Lotus spreadsheet software.

RS
6-12-00

R5CRL Files

The following pathways were used for storing analysis information to the R5CRL file server for this data set:

(Vol 3 on 'R5crl')[H:]\metals\Rdilg\20000033\Icp\JY138 Ultrace\Interim Lotus SS data
(Vol 3 on 'R5crl')[H:]\metals\Rdilg\20000033\Icp\JY138 Ultrace\narrative
(Vol 3 on 'R5crl')[H:]\metals\Rdilg\20000033\Icp\JY138 Ultrace\QA and sample reports
(Vol 3 on 'R5crl')[H:]\metals\Rdilg\20000033\Icp\JY138 Ultrace\Raw data

EPA CRL - REGION V
ICP FINAL RESULTS REPORT

REPORT PRODUCED ON: 23-May-00

SAMPLE ORGANIZATION:

SAMPLE BATCH ID: 20000033

LABORATORY: REGION 5 CRL

SAMPLE FACILITY: Himco Dump

SAMPLE: 2000SY04S40

ANALYZED: 19-May-00

STATION: WT111A

COMPOUND	AMOUNT	(Units)
Aluminum	463	(ug/L)
Barium	256	(ug/L)
Beryllium	2 U	(ug/L)
Calcium	113000	(ug/L)
Chromium	2.3 MJ	(ug/L)
Cobalt	12.2 M	(ug/L)
Copper	9.3 U	(ug/L)
Iron	12600	(ug/L)
Magnesium	19100 J	(ug/L)
Manganese	1440 J	(ug/L)
Nickel	8.7 M	(ug/L)
Potassium	8380	(ug/L)
Silver	11.1 U	(ug/L)
Sodium	39400	(ug/L)
Vanadium	5.1 U	(ug/L)
Zinc	18 MJ B	(ug/L)

ANALYZED BY: 6-9-00

EPA CRL - REGION V
ICP FINAL RESULTS REPORT

REPORT PRODUCED ON: 23-May-00

SAMPLE ORGANIZATION:

SAMPLE BATCH ID: 20000033

LABORATORY: REGION 5 CRL

SAMPLE FACILITY: Himco Dump

SAMPLE: 2000SY04S41

ANALYZED: 19-May-00

STATION: WT118B

COMPOUND	AMOUNT	(Units)
Aluminum	118 U	(ug/L)
Barium	93.4	(ug/L)
Beryllium	2 U	(ug/L)
Calcium	193000	(ug/L)
Chromium	6.7 U	(ug/L)
Cobalt	13.2 U	(ug/L)
Copper	9.3 U	(ug/L)
Iron	5790	(ug/L)
Magnesium	20000	(ug/L)
Manganese	126 J	(ug/L)
Nickel	21 U	(ug/L)
Potassium	7800	(ug/L)
Silver	11.1 U	(ug/L)
Sodium	18700	(ug/L)
Vanadium	5.1 U	(ug/L)
Zinc	34.1 U	(ug/L)

ANALYZED BY: 6-9-00

EPA CRL - REGION V
ICP FINAL RESULTS REPORT

REPORT PRODUCED ON: 23-May-00

SAMPLE ORGANIZATION:

SAMPLE BATCH ID: 20000033

LABORATORY: REGION 5 CRL

SAMPLE FACILITY: Himco Dump

SAMPLE: 2000SY04S42

ANALYZED: 19-May-00

STATION: WT119A

COMPOUND	AMOUNT		(Units)
Aluminum	38.3	M	(ug/L)
Barium	94		(ug/L)
Beryllium	2	U	(ug/L)
Calcium	215000		(ug/L)
Chromium	2	MJ	(ug/L)
Cobalt	13.2	U	(ug/L)
Copper	9.3	U	(ug/L)
Iron	2650		(ug/L)
Magnesium	70800		(ug/L)
Manganese	318	J	(ug/L)
Nickel	21	U	(ug/L)
Potassium	22200		(ug/L)
Silver	11.1	U	(ug/L)
Sodium	61100		(ug/L)
Vanadium	5.1	U	(ug/L)
Zinc	34.1	U	(ug/L)

ANALYZED BY: 6-9-00

EPA CRL - REGION V
ICP FINAL RESULTS REPORT

REPORT PRODUCED ON: 23-May-00

SAMPLE ORGANIZATION:

SAMPLE BATCH ID: 20000033

LABORATORY: REGION 5 CRL

SAMPLE FACILITY: Himco Dump

SAMPLE: 2000SY04S43

ANALYZED: 19-May-00

STATION: WT115A

COMPOUND	AMOUNT		(Units)
Aluminum	8860		(ug/L)
Barium	105		(ug/L)
Beryllium	2	U	(ug/L)
Calcium	241000		(ug/L)
Chromium	12.8	J	(ug/L)
Cobalt	13.2	U	(ug/L)
Copper	19.7		(ug/L)
Iron	6500		(ug/L)
Magnesium	12400	J	(ug/L)
Manganese	380	J	(ug/L)
Nickel	11.5	M	(ug/L)
Potassium	4440		(ug/L)
Silver	11.1	U	(ug/L)
Sodium	24600		(ug/L)
Vanadium	14.5		(ug/L)
Zinc	37.7	J B	(ug/L)

ANALYZED BY: RH 6-9-00

EPA CRL - REGION V
ICP FINAL RESULTS REPORT

REPORT PRODUCED ON: 23-May-00

SAMPLE ORGANIZATION:

SAMPLE BATCH ID: 20000033

LABORATORY: REGION 5 CRL

SAMPLE FACILITY: Himco Dump

SAMPLE: 2000SY04S44

ANALYZED: 19-May-00

STATION: WTE2

COMPOUND	AMOUNT	(Units)
Aluminum	118 U	(ug/L)
Barium	2.6 U	(ug/L)
Beryllium	2 U	(ug/L)
Calcium	64 U	(ug/L)
Chromium	6.7 U	(ug/L)
Cobalt	13.2 U	(ug/L)
Copper	9.3 U	(ug/L)
Iron	46.5 U	(ug/L)
Magnesium	3.9 MJ	(ug/L)
Manganese	1.9 U	(ug/L)
Nickel	21 U	(ug/L)
Potassium	217 U	(ug/L)
Silver	11.1 U	(ug/L)
Sodium	37.5 U	(ug/L)
Vanadium	5.1 U	(ug/L)
Zinc	34.1 U	(ug/L)

ANALYZED BY: _____ 6-9-00

EPA CRL - REGION V
ICP FINAL RESULTS REPORT

REPORT PRODUCED ON: 23-May-00

SAMPLE ORGANIZATION:

SAMPLE BATCH ID: 20000033

LABORATORY: REGION 5 CRL

SAMPLE FACILITY: Himco Dump

SAMPLE: 2000SY04S45

ANALYZED: 19-May-00

STATION: WTE1

COMPOUND	AMOUNT	(Units)
Aluminum	118 U	(ug/L)
Barium	43.5	(ug/L)
Beryllium	2 U	(ug/L)
Calcium	174000	(ug/L)
Chromium	6.7 U	(ug/L)
Cobalt	13.2 U	(ug/L)
Copper	9.3 U	(ug/L)
Iron	5150	(ug/L)
Magnesium	35500	(ug/L)
Manganese	204 J	(ug/L)
Nickel	21 U	(ug/L)
Potassium	4120	(ug/L)
Silver	11.1 U	(ug/L)
Sodium	19100	(ug/L)
Vanadium	5.1 U	(ug/L)
Zinc	34.1 U	(ug/L)

ANALYZED BY: _____ 6-9-00

EPA CRL - REGION V
ICP FINAL RESULTS REPORT

REPORT PRODUCED ON: 23-May-00

SAMPLE ORGANIZATION:

SAMPLE BATCH ID: 20000033

LABORATORY: REGION 5 CRL

SAMPLE FACILITY: Himco Dump

SAMPLE: 2000SY04S46

ANALYZED: 19-May-00

STATION: WTE3

COMPOUND	AMOUNT	(Units)
Aluminum	118 U	(ug/L)
Barium	51.3	(ug/L)
Beryllium	2 U	(ug/L)
Calcium	58300	(ug/L)
Chromium	6.7 U	(ug/L)
Cobalt	13.2 U	(ug/L)
Copper	9.3 U	(ug/L)
Iron	2240	(ug/L)
Magnesium	23800	(ug/L)
Manganese	21.1 J	(ug/L)
Nickel	21 U	(ug/L)
Potassium	1810	(ug/L)
Silver	11.1 U	(ug/L)
Sodium	12400	(ug/L)
Vanadium	5.1 U	(ug/L)
Zinc	34.1 U	(ug/L)

ANALYZED BY: _____ 6-9-00

EPA CRL - REGION V
ICP FINAL RESULTS REPORT

REPORT PRODUCED ON: 23-May-00

SAMPLE ORGANIZATION:

SAMPLE BATCH ID: 20000033

LABORATORY: REGION 5 CRL

SAMPLE FACILITY: Himco Dump

SAMPLE: 2000SY04S47

ANALYZED: 19-May-00

STATION: WT105A

COMPOUND	AMOUNT	(Units)
Aluminum	112 M	(ug/L)
Barium	8.1	(ug/L)
Beryllium	2 U	(ug/L)
Calcium	57400	(ug/L)
Chromium	23.9 J	(ug/L)
Cobalt	4.1 M	(ug/L)
Copper	9.3 U	(ug/L)
Iron	407	(ug/L)
Magnesium	16500 J	(ug/L)
Manganese	160 J	(ug/L)
Nickel	73.3	(ug/L)
Potassium	1360	(ug/L)
Silver	11.1 U	(ug/L)
Sodium	7720	(ug/L)
Vanadium	5.1 U	(ug/L)
Zinc	34.1 U	(ug/L)

ANALYZED BY: _____ 6-9-00

EPA CRL - REGION V
ICP FINAL RESULTS REPORT

REPORT PRODUCED ON: 23-May-00

SAMPLE ORGANIZATION:

SAMPLE BATCH ID: 20000033

LABORATORY: REGION 5 CRL

SAMPLE FACILITY: Himco Dump

SAMPLE: 2000SY04S48

ANALYZED: 19-May-00

STATION: WT106A

COMPOUND	AMOUNT		(Units)
Aluminum	3090		(ug/L)
Barium	160		(ug/L)
Beryllium	2	U	(ug/L)
Calcium	175000		(ug/L)
Chromium	21.6	J	(ug/L)
Cobalt	13.2	U	(ug/L)
Copper	11		(ug/L)
Iron	27600		(ug/L)
Magnesium	26800		(ug/L)
Manganese	559	J	(ug/L)
Nickel	11.7	M	(ug/L)
Potassium	4200		(ug/L)
Silver	11.1	U	(ug/L)
Sodium	29300		(ug/L)
Vanadium	5.1	U	(ug/L)
Zinc	31.7	MJ B	(ug/L)

ANALYZED BY: RD 6-9-00

EPA CRL - REGION V
ICP FINAL RESULTS REPORT

REPORT PRODUCED ON: 23-May-00

SAMPLE ORGANIZATION:

SAMPLE BATCH ID: 20000033

LABORATORY: REGION 5 CRL

SAMPLE FACILITY: Himco Dump

SAMPLE: 2000SY04S49

ANALYZED: 19-May-00

STATION: WT101C

COMPOUND	AMOUNT		(Units)
Aluminum	152		(ug/L)
Barium	77.6		(ug/L)
Beryllium	2	U	(ug/L)
Calcium	47900		(ug/L)
Chromium	7.7	J	(ug/L)
Cobalt	4	M	(ug/L)
Copper	9.3	U	(ug/L)
Iron	1380		(ug/L)
Magnesium	20100		(ug/L)
Manganese	20.5	J	(ug/L)
Nickel	7	M	(ug/L)
Potassium	4130		(ug/L)
Silver	11.1	U	(ug/L)
Sodium	36100		(ug/L)
Vanadium	5.1	U	(ug/L)
Zinc	34.1	U	(ug/L)

ANALYZED BY: [signature] 6-9-00

EPA CRL - REGION V
ICP FINAL RESULTS REPORT

REPORT PRODUCED ON: 23-May-00

SAMPLE ORGANIZATION:

SAMPLE BATCH ID: 20000033

LABORATORY: REGION 5 CRL

SAMPLE FACILITY: Himco Dump

SAMPLE: 2000SY04S50

ANALYZED: 19-May-00

STATION: WT101A

COMPOUND	AMOUNT	(Units)
Aluminum	118 U	(ug/L)
Barium	83.1	(ug/L)
Beryllium	2 U	(ug/L)
Calcium	258000	(ug/L)
Chromium	6.7 U	(ug/L)
Cobalt	13.2 U	(ug/L)
Copper	9.3 U	(ug/L)
Iron	16300	(ug/L)
Magnesium	27300	(ug/L)
Manganese	1610 J	(ug/L)
Nickel	21 U	(ug/L)
Potassium	6730	(ug/L)
Silver	11.1 U	(ug/L)
Sodium	66800	(ug/L)
Vanadium	5.1 U	(ug/L)
Zinc	34.1 U	(ug/L)

ANALYZED BY: _____ 6-9-00

EPA CRL - REGION V
ICP FINAL RESULTS REPORT

REPORT PRODUCED ON: 23-May-00

SAMPLE ORGANIZATION:

SAMPLE BATCH ID: 20000033

LABORATORY: REGION 5 CRL

SAMPLE FACILITY: Himco Dump

SAMPLE: 2000SY04S51

ANALYZED: 19-May-00

STATION: WT101A

COMPOUND	AMOUNT		(Units)
Aluminum	118	U	(ug/L)
Barium	82.4		(ug/L)
Beryllium	2	U	(ug/L)
Calcium	242000		(ug/L)
Chromium	6.7	U	(ug/L)
Cobalt	4	M	(ug/L)
Copper	9.3	U	(ug/L)
Iron	16100		(ug/L)
Magnesium	27500		(ug/L)
Manganese	1540	J	(ug/L)
Nickel	21	U	(ug/L)
Potassium	6810		(ug/L)
Silver	11.1	U	(ug/L)
Sodium	65200		(ug/L)
Vanadium	5.1	U	(ug/L)
Zinc	34.1	U	(ug/L)

ANALYZED BY: RL 6-9-00

EPA CRL - REGION V
ICP FINAL RESULTS REPORT

REPORT PRODUCED ON: 23-May-00

SAMPLE ORGANIZATION:

SAMPLE BATCH ID: 20000033

LABORATORY: REGION 5 CRL

SAMPLE FACILITY: Himco Dump

SAMPLE: 2000SY04S52

ANALYZED: 19-May-00

STATION: WT101B

COMPOUND	AMOUNT	(Units)
Aluminum	118 U	(ug/L)
Barium	72.3	(ug/L)
Beryllium	2 U	(ug/L)
Calcium	137000	(ug/L)
Chromium	6.7 U	(ug/L)
Cobalt	13.2 U	(ug/L)
Copper	9.3 U	(ug/L)
Iron	2850	(ug/L)
Magnesium	52800	(ug/L)
Manganese	36 J	(ug/L)
Nickel	21 U	(ug/L)
Potassium	6280	(ug/L)
Silver	11.1 U	(ug/L)
Sodium	43100	(ug/L)
Vanadium	5.1 U	(ug/L)
Zinc	34.1 U	(ug/L)

ANALYZED BY: [signature] 6-9-00

EPA CRL - REGION V
ICP FINAL RESULTS REPORT

REPORT PRODUCED ON: 23-May-00

SAMPLE ORGANIZATION:

SAMPLE BATCH ID: 20000033

LABORATORY: REGION 5 CRL

SAMPLE FACILITY: Himco Dump

SAMPLE: 2000SY04S54

ANALYZED: 19-May-00

STATION: WT116A

COMPOUND	AMOUNT		(Units)
Aluminum	118	U	(ug/L)
Barium	79.6		(ug/L)
Beryllium	2	U	(ug/L)
Calcium	685000		(ug/L)
Chromium	6.7	U	(ug/L)
Cobalt	11.5	M	(ug/L)
Copper	15.5		(ug/L)
Iron	32400		(ug/L)
Magnesium	66100		(ug/L)
Manganese	1800	J	(ug/L)
Nickel	12.2	M	(ug/L)
Potassium	18900		(ug/L)
Silver	11.1	U	(ug/L)
Sodium	160000		(ug/L)
Vanadium	5.1	U	(ug/L)
Zinc	194	J	(ug/L)

ANALYZED BY: [signature] 6-9-00

EPA CRL - REGION V
ICP FINAL RESULTS REPORT

REPORT PRODUCED ON: 23-May-00

SAMPLE ORGANIZATION:

SAMPLE BATCH ID: 20000033

LABORATORY: REGION 5 CRL

SAMPLE FACILITY: Himco Dump

SAMPLE: 2000SY04S54

ANALYZED: 19-May-00

STATION: WT116A

COMPOUND	AMOUNT		(Units)
Aluminum	118	U	(ug/L)
Barium	79.6		(ug/L)
Beryllium	2	U	(ug/L)
Calcium	685000		(ug/L)
Chromium	6.7	U	(ug/L)
Cobalt	11.5	M	(ug/L)
Copper	15.5		(ug/L)
Iron	32400		(ug/L)
Magnesium	66100		(ug/L)
Manganese	1800	J	(ug/L)
Nickel	12.2	M	(ug/L)
Potassium	18900		(ug/L)
Silver	11.1	U	(ug/L)
Sodium	160000		(ug/L)
Vanadium	5.1	U	(ug/L)
Zinc	194	J	(ug/L)

ANALYZED BY: [signature] 6-9-00

EPA CRL - REGION V
ICP FINAL RESULTS REPORT

REPORT PRODUCED ON: 23-May-00

SAMPLE ORGANIZATION:

SAMPLE BATCH ID: 20000033

LABORATORY: REGION 5 CRL

SAMPLE FACILITY: Himco Dump

SAMPLE: 2000SY04S56

ANALYZED: 19-May-00

STATION: WT114A

COMPOUND	AMOUNT	(Units)
Aluminum	118 U	(ug/L)
Barium	101	(ug/L)
Beryllium	2 U	(ug/L)
Calcium	192000	(ug/L)
Chromium	6.7 U	(ug/L)
Cobalt	5.9 M	(ug/L)
Copper	9.3 U	(ug/L)
Iron	6510	(ug/L)
Magnesium	18600 J	(ug/L)
Manganese	276 J	(ug/L)
Nickel	21 U	(ug/L)
Potassium	3390	(ug/L)
Silver	11.1 U	(ug/L)
Sodium	123000	(ug/L)
Vanadium	5.1 U	(ug/L)
Zinc	34.1 U	(ug/L)

ANALYZED BY: RD 6-9-00

EPA CRL - REGION V
ICP FINAL RESULTS REPORT

REPORT PRODUCED ON: 23-May-00

SAMPLE ORGANIZATION:

SAMPLE BATCH ID: 20000033

LABORATORY: REGION 5 CRL

SAMPLE FACILITY: Himco Dump

SAMPLE: 2000SY04S56

ANALYZED: 19-May-00

STATION: WT114A

COMPOUND	AMOUNT	(Units)
Aluminum	118 U	(ug/L)
Barium	101	(ug/L)
Beryllium	2 U	(ug/L)
Calcium	192000	(ug/L)
Chromium	6.7 U	(ug/L)
Cobalt	5.9 M	(ug/L)
Copper	9.3 U	(ug/L)
Iron	6510	(ug/L)
Magnesium	18600 J	(ug/L)
Manganese	276 J	(ug/L)
Nickel	21 U	(ug/L)
Potassium	3390	(ug/L)
Silver	11.1 U	(ug/L)
Sodium	123000	(ug/L)
Vanadium	5.1 U	(ug/L)
Zinc	34.1 U	(ug/L)

ANALYZED BY: RD 6-9-00

EPA CRL - REGION V
ICP FINAL RESULTS REPORT

REPORT PRODUCED ON: 23-May-00

SAMPLE ORGANIZATION:

SAMPLE BATCH ID: 20000033

LABORATORY: REGION 5 CRL

SAMPLE FACILITY: Himco Dump

SAMPLE: 2000SY04S57

ANALYZED: 19-May-00

STATION: WT114B

COMPOUND	AMOUNT		(Units)
Aluminum	118	U	(ug/L)
Barium	69.4		(ug/L)
Beryllium	2	U	(ug/L)
Calcium	108000		(ug/L)
Chromium	3	MJ	(ug/L)
Cobalt	13.2	U	(ug/L)
Copper	9.3	U	(ug/L)
Iron	6320		(ug/L)
Magnesium	17500	J	(ug/L)
Manganese	92.5	J	(ug/L)
Nickel	21	U	(ug/L)
Potassium	2700		(ug/L)
Silver	11.1	U	(ug/L)
Sodium	14100		(ug/L)
Vanadium	5.1	U	(ug/L)
Zinc	34.1	U	(ug/L)

ANALYZED BY: RD 6-9-00

EPA CRL - REGION V
ICP FINAL RESULTS REPORT

REPORT PRODUCED ON: 23-May-00

SAMPLE ORGANIZATION:

SAMPLE BATCH ID: 20000033

LABORATORY: REGION 5 CRL

SAMPLE FACILITY: Himco Dump

SAMPLE: 2000SY04S58

ANALYZED: 19-May-00

STATION: WT114A

COMPOUND	AMOUNT	(Units)
Aluminum	118 U	(ug/L)
Barium	0.8 M	(ug/L)
Beryllium	2 U	(ug/L)
Calcium	140	(ug/L)
Chromium	6.7 U	(ug/L)
Cobalt	13.2 U	(ug/L)
Copper	9.3 U	(ug/L)
Iron	34.1 M	(ug/L)
Magnesium	21.9 MJ	(ug/L)
Manganese	0.8 MJ	(ug/L)
Nickel	21 U	(ug/L)
Potassium	69.9 M	(ug/L)
Silver	11.1 U	(ug/L)
Sodium	36.4 M	(ug/L)
Vanadium	5.1 U	(ug/L)
Zinc	34.1 U	(ug/L)

ANALYZED BY: RD 6-9-00

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 5 CENTRAL REGIONAL LABORATORY

536 SOUTH CLARK STREET

CHICAGO, ILLINOIS 60605

Date: JUN 15 2000

Subject: Review of Region 5 Data for Himco Dump Code:054J

From: ESAT , Chemist
Region 5 Central Regional Laboratory

To: Gwen Massenburg
SR-6J

Attached are the results for Site: Himco Dump Code:054J
CRL Data Set Number: 20000033
for analyses of : Antimony, Arsenic, Cadmium, Lead, Selenium and Thallium
Results are reported for sample numbers: 2000SY04S40, 2000SY04S41, 2000SY04S42, 2000SY04S43, 2000SY04S44, 2000SY04S45, 2000SY04S46, 2000SY04S47, 2000SY04S48, 2000SY04S49, 2000SY04S50, 2000SY04S51, 2000SY04S52, 2000SY04S53, 2000SY04S54, 2000SY04S55, 2000SY04S56, 2000SY04S57 and 2000SY04S58

Results Status:
(x) Acceptable for Use
( ) Data Qualified, but Acceptable for use
( ) Data Unacceptable for Use

Sylvia Griffin JUN 15 2000

CRL Data Management Coordinator and Date Received

Date Transmitted: JUN 15 2000

Please have the US EPA project leader fill out the customer survey form on the Region 5 Intranet: http://www.r5intra.epa.gov/crl/qa.html, (← by clicking on this link, or call George Schupp, CRL Sample Coordinator, at 3-1226).

Please sign and date this form below and return it with any comments to:

Sylvia Griffin
Data Management Coordinator
Region 5 Central Regional Laboratory
ML - 10C

Received by and Date

Comments:

Method: GFAA for Water
Site: Himco Dump
Date: June 14, 2000
Prepared by: Stephen Connet

TDF: 5104-291
PWO: ESE51034
WAD: 05-00-4-04
Data Set: 20000033

NARRATIVE

Nineteen (19) water samples for the Himco Dump site [2000SY04S40 (WT111A), S41 (WT118B), S42 (WT119A), S43 (WT115A), S44 (WTE2), S45 (WTE1), S46 (WTE3), S47 (WT105A), S48 (WT106A), S49 (WT101C), S50 (WT101A), S51 (WT101A), S52 (WT101B), S53 (WT116A), S54 (WT116A), S55 (WT116B), S56 (WT114A), S57 (WT114B), S58 (WT114A)] were sampled on 5/3/00 and were received properly preserved by the CRL on 5/5/00. The samples were submitted for analysis of antimony, arsenic, cadmium, lead, selenium and thallium by GFAA.

The samples were digested following standard CRL GFAA water digestion protocols. The samples were digested on 5/26 (digestion batch 1183).

Due to continuing quality control problems with the SIMAA 6000, all results for arsenic were reported from 5100E using a detection limit of 2 ppb. The duplicate difference for selenium on S56 is greater than the MDL of 2 ug/L. Both values were below the instrument detection limit. All selenium results are non-detects; all selenium results are acceptable. All other QC were within limits; all sample results are acceptable.

Non-detect results are reported to the reporting limit (RL). Results between the method detection limit (MDL) and the RL are reported as the instrument value with an "M" flag.

Analytical results were stored in the following database files:
H:\r5crl\vol3\metals\sconnet\20000033\5100W-Sb\053000 and \053100 for antimony,
H:\r5crl\vol3\metals\sconnet\20000033\5100E-As\060500, \06000 and \061400 for arsenic,
H:\r5crl\vol3\metals\sconnet\20000033\5100E-Cd\060100 for cadmium,
H:\r5crl\vol3\metals\sconnet\20000033\5100E-Pb\060100A and \060200 for lead,
H:\r5crl\vol3\metals\sconnet\20000033\5100W-Se\060100, \060500, \060600 and
H:\r5crl\vol3\metals\sconnet\20000033\5100E-Se\060900 for selenium,
H:\r5crl\vol3\metals\sconnet\20000033\5100E-Tl\053100 for thallium.

This narrative, the QC Summary and Results spreadsheets are stored in:
H:\r5crl\vol3\metals\sconnet\20000033\Reports\GFAA Narrative.wpd
H:\r5crl\vol3\metals\sconnet\20000033\Reports\QCReport.wk4
H:\r5crl\vol3\metals\sconnet\20000033\Reports\GFAA Results.wpd

Since RLIMS was unavailable, the AA metals analysis results are reported in a word-processing spreadsheet only. Time will be necessary in the future to enter all analysis results into RLIMS.

6-14-00

CRL Data Review Qualification Codes

QUALIFIER	DESCRIPTION
B	This flag is used when the analyte is found in the associated ***B***lank as well as the sample. It indicates possible blank contamination and warns the user to take appropriate action while assessing the data. See the case narrative for a discussion of common lab contaminants and/or the relative concentration of contamination in the samples and blanks for relevance.
D	This flag is used when the analyte concentration results from a required ***D***ilution of the sample, extract or digestate.
E	This flag is used to identify analyte concentrations ***E***xceeding the upper calibration range of the analytical instrument after dilution of the sample, extract or digestate. The reported value is considered to be estimated
J	This flag is used when the analyte is estimated due to quality control limit(s) being exceeded. This flag accompanies all GC/MS tentatively identified compounds (TICs). This flag also applies to a suspected, unidentified interference. This flag is placed on affected detected results as well as non-detected (i.e., "U" flagged) results. (***J*** is the flag used in the Superfund CLP SOW and Data Review Functional Guidelines and is used by CRL for consistency.)
M	This flag is used when the analyte is confirmed to be qualitatively present in the sample, extract or digestate, at or above the CRL ***M***ethod Detection Limit (MDL) but below the CRL reporting limit (RL). This flag applies to all values in this concentration range and indicates the quantitated value is estimated due to its presence in this concentration range.
N	This flag applies to GC/MS Te***N***tatively Identified Compounds (TICs) that have a mass spectral library match.
Q	This flag applies to analyte data that are severely estimated due to quality control and/or ***Q***uantitation problems, but are confirmed to be qualitatively present in the sample. No value is reported with this qualification flag.
R	This flag applies to analyte data that are ***R***ejected and unusable due to severe quality control, quantitation and/or qualitative identification problems. No other qualification flags are reported for this analyte. No value is reported with this qualification flag.
U	This flag in used when the analyte was analyzed but ***U***ndetected in the sample. The CRL RL for the analyte accompanies this flag. As with sample results that are positive, the value is corrected for dry weight, dilution and/or sample weight or volume.

4/11/00

ENVIRONMENTAL PROTECTION AGENCY
REGION V
CENTRAL REGIONAL LABORATORY
FINAL RESULT REPORT FOR THE TEAM: METALS

DIVISION/BRANCH: SUPERFUND **SAMPLING DATE:** 5/3/00 **LAB ARRIVAL DATE:** 5/5/00 **DUE DATE:** 6/4/00
DU NUMBER: 50102D **DATASET NUMBER:** 20000033 **STUDY:** Himco Dump **PRIORITY:** Routine **LABORATORY :**ESAT

	CRL LOG NUMBER	SAMPLE DESCRIPTION	WATER Antimony (ug/L)	WATER Arsenic (ug/L)	WATER Cadmium (ug/L)	WATER Lead (ug/L)	WATER Selenium (ug/L)	WATER Thallium (ug/L)
1	2000SY04S40	WT111A	7U	7U	0.2M	7U	7U	4U
2	2000SY04S41	WT118B	7U	7U	0.3U	7U	14UD	4U
3	2000SY04S42	WT119A	7U	6M	0.3U	7U	14UD	4U
4	2000SY04S43	WT115A	7U	7U	0.1M	11	7U	4U
5	2000SY04S44	WTE2	7U	7U	0.3U	7U	7U	4U
6	2000SY04S45	WTE1	7U	7U	0.3U	3M	14UD	4U
7	2000SY04S46	WTE3	7U	5M	0.3U	3M	7U	4U
8	2000SY04S47	WT105A	7U	7U	0.3U	7U	7U	4U
9	2000SY04S48	WT106A	7U	46D	0.1M	6M	7U	4U
10	2000SY04S49	WT101C	7U	10	0.3U	7U	7U	4U
11	2000SY04S50	WT101A	7U	5M	0.3U	7U	7U	4U
12	2000SY04S51	WT101A	7U	14UD	0.3U	7U	7U	4U
13	2000SY04S52	WT101B	7U	7U	0.3U	7U	7U	4U
14	2000SY04S53	WT116A	7U	7U	0.1M	6M	14UD	4U
DATE OF ANALYSIS			5/30-31/00	6/5-6.14/00	6/1/00	6/1-2/00	6/1-9/00	5/31/00
ANALYST		6/14/00	S. Connet	S. Connet	S. Connet	S. Connet	S. Connet	S. Connet

Reviewed by: J. Gary Date: 6/14/2000

ENVIRONMENTAL PROTECTION AGENCY
REGION V
CENTRAL REGIONAL LABORATORY
FINAL RESULT REPORT FOR THE TEAM: METALS

DIVISION/BRANCH: SUPERFUND **SAMPLING DATE:** 5/3/00 **LAB ARRIVAL DATE:** 5/5/00 **DUE DATE:** 6/4/00
DU NUMBER: 50102D **DATASET NUMBER:** 20000033 **STUDY:** Himco Dump **PRIORITY:** Routine **LABORATORY :**ESAT

	CRL LOG NUMBER	SAMPLE DESCRIPTION	WATER Antimony (ug/L)	WATER Arsenic (ug/L)	WATER Cadmium (ug/L)	WATER Lead (ug/L)	WATER Selenium (ug/L)	WATER Thallium (ug/L)
15	2000SY04S54	WT116A	7U	7U	0.1M	13DM	14UD	4U
16	2000SY04S55	WT116B	7U	7U	0.3U	7U	14UD	4U
17	2000SY04S56	WT114A	7U	9	0.3U	7U	21UD	4U
18	2000SY04S57	WT114B	7U	9	0.3U	7U	7U	4U
19	2000SY04S58	WT114A	7U	7U	0.3U	7U	7U	4U
DATE OF ANALYSIS			5/30-31/00	6/5-6/00	6/1/00	6/1-2/00	6/1-9/00	5/31/00
ANALYST		6-14-00	S. Connet	S. Connet	S. Connet	S. Connet	S. Connet	S. Connet

Reviewed by: J. Gary Date: 6/14/2000

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 5 CENTRAL REGIONAL LABORATORY

536 SOUTH CLARK STREET

CHICAGO, ILLINOIS 60605

Date: JUN 0 1 2000

Subject: Review of Region 5 Data for **HIMCO LF**

From: Francis A. Awanya , Chemist Francis A. Awanya
Region 5 Central Regional Laboratory

To: Gwen Massenburg
SR 6J

Attached are the results for Site: **HIMCO LF**
CRL Data Set Number: **20000033**
for analyses of : **Sulfate and Bromide**
Results are reported for sample numbers: **20000SY04S40, 20000SY04S41, 20000SY04S42, 20000SY04S43, 20000SY04S44, 20000SY04S45, 20000SY04S46, 20000SY04S47, 20000SY04S48, 20000SY04S49, 20000SY04S50, 20000SY04S51, 20000SY04S52, 20000SY04S53, 20000SY04S54, 20000SY04S55, 20000SY04S56, 20000SY04S57, and 20000SY04S58.**

Results Status:
(X) Acceptable for Use
(X) Data Qualified, but Acceptable for use **Sulfate 2000SY04S44,49, and S58**.
( ) Data Unacceptable for Use

Sylvia Griffin JUN 0 1 2000

CRL Data Management Coordinator and Date Received

Date Transmitted: JUN 0 1 2000

Please have the US EPA project leader fill out the customer survey form on the Region 5 Intranet: http://www.r5intra.epa.gov/crl/qa.html, (← by clicking on this link, or call George Schupp, CRL Sample Coordinator, at 3-1226).

Please sign and date this form below and return it with any comments to:

Sylvia Griffin
Data Management Coordinator
Region 5 Central Regional Laboratory
ML - 10C

Received by and Date

Comments:

ENVIRONMENTAL PROTECTION AGENCY
REGION V
CENTRAL REGIONAL LABORATORY
FINAL RESULT REPORT FOR THE TEAM: MINERAL/NUTRIENTS

DIVISION/BRANCH: SUPERFUND **SAMPLING DATE:** 04/28/2000 - 05/03/2000 **LAB ARRIVAL DATE:** 05/03/2000 **DUE DATE:** 06/04/2000
DU NUMBER: 50102D **DATA SET NUMBER:** 20000033 **STUDY:** HIMCO LF **PRIORITY:** Routine **LABORATORY :**CRL

	CRL LOG NUMBER	SAMPLE DESCRIPTION	BROMIDE IN WATER (mg Br^-/L)	SULFATE IN WATER (mg SO_4^-/L)			
1	20000SY04S40	WT111A	0.43 M	264 D			
2	20000SY04S41	WT118B	0.20 M	351D			
3	20000SY04S42	WT119A	0.46 M	420 D			
4	20000SY04S43	WT115A	0.62	254 D			
5	20000SY04S44	WTE2	0.014 U	0.16 MJ			
6	20000SY04S45	WTE1	0.12 M	347 D			
7	20000SY04S46	WTE3	0.13 M	57 D			
8	20000SY04S47	WT105A	0.11 M	36 D			
9	20000SY04S48	WT106A	0.42 M	146 D			
10	20000SY04S49	WT101C	0.88 M	0.42 MJ			
11	20000SY04S50	WT101A	0.52 M	218 D			
12	20000SY04S51	WT101A	0.53 M	215 D			
13	20000SY04S52	WT101B	0.34 M	211 D			
DATE OF ANALYSIS			05/25-26/2000	05/24 - 30/2000			
ANALYST			FAA / AR	FAA / AR			

Reviewed by: _____ Date: 05/31/00

ENVIRONMENTAL PROTECTION AGENCY
REGION V
CENTRAL REGIONAL LABORATORY
FINAL RESULT REPORT FOR THE TEAM: MINERAL/NUTRIENTS

DIVISION/BRANCH: SUPERFUND **SAMPLING DATE:** 04/28/2000 - 05/03/2000 **LAB ARRIVAL DATE:** 05/03/2000 **DUE DATE:** 06/04/2000
DU NUMBER: 50102D **DATA SET NUMBER:** 20000032 **STUDY:** HIMCO LF **PRIORITY:** Routine **LABORATORY :**CRL

	CRL LOG NUMBER	SAMPLE DESCRIPTION	BROMIDE IN WATER (mg Br^-/L)	SULFATE IN WATER (mg SO_4^-/L)			
14	20000SY04S53	WT116A	2.38 D	1260 D			
15	20000SY04S54	WT116A	2.42 D	1250 D			
16	20000SY04S55	WT116B	0.32 M	143 D			
17	20000SY04S56	WT114A	0.17 M	177 D			
18	20000SY04S57	WT114B	0.07 M	156 D			
19	20000SY04S58	WT114A	0.014 U	0.11MJ			
DATE OF ANALYSIS			05/25-26/2000	05/24 - 30/2000			
ANALYST			FAA / AR	FAA / AR			

Reviewed by: _____ Date: 5 / 31 / 00

Data Set Number:	*20000033*	**Parameter:**	*Sulfate and Bromide*
Facility Name:	*HIMCO LF*		
Study Name:	*HIMCO LF*		
Date of Narrative:	*06/01/2000*	**Analyst:**	*Francis A. Awanya*
		Signature:	Francis A. Awanya

ANALYSIS CASE NARRATIVE

Twenty one (21) water samples including matrix spike and duplicate samples were collected for the above study between 4/28/2000 and 5/3/2000. The samples arrived at the Central Regional Laboratory (CRL) on 5/03/2000 and 5/05/2000. CRL sample identification numbers (CRL Sample ID) were assigned to those samples. The Station numbers and Locations were obtained from the Analysis Request Form (ARF) and verified with that on the sample tags.

Samples were checked out for sulfate and bromide analysis from the CRL sample custodian on 5/24/2000. The dates of collection, check out, and analysis are contained in Attachment I. They were transferred to the Analytical and Inorganic (A&I) laboratory section of the CRL and kept in a sample storage refrigerator until all analysis were completed. The samples were properly preserved by refrigeration. The samples were not checked out immediately because a previous batch (CRL data set 20000032) was being analyzed. There were matrix interference problems encountered with data set 20000032. This created equipment problems that had to be resolved before the new samples (batch) could be analyzed.

SAMPLE ANALYSIS:

All samples were analyzed for sulfate and bromide using CRL Standard Operating Procedure (CRL.SOP) AIG045 (Method reference 300 A & B, EPA/600/R-93-100). No additional sample preparations were necessary. The instrument was calibrated for high level determination of sulfate and bromide following CRL.SOP AIG045 Part A on 5/22/2000. A new calibration was necessary since a new ion chromatography column was installed. It was calibrated and used for analysis on the same day.

All bromide concentrations and sulfate concentrations for samples 2000SY04S44, 2000SY04S49, and 2000SY04S58 were below the reporting limit of high level determination of the two anions. Sulfate concentrations for sample 2000SY04S47 was within the calibration range. The remaining sulfate sample concentrations exceeded the upper calibration limit. As a result, appropriate sulfate samples were re-analyzed with dilutions as necessary on 5/25/2000.

The instrument was calibrated for low level determination of bromide and the remaining sulfate samples following CRL.SOP AIG045 Part A on 5/25/2000. The instrument ran overnight. Bromide analysis was completed on 5/26/2000.

QUALITY CONTROL (QC):

No data quality objectives were provided by the requestor. Analysis results were evaluated using the QC requirements of CRL.SOP AIG045 (Method reference 300 A & B,

Data Set Number:	*20000033*	**Parameter:**	*Sulfate and Bromide*
Facility Name:	*HIMCO LF*		
Study Name:	*HIMCO LF*		
Date of Narrative:	*06/01/2000*	**Analyst:**	*Francis A. Awanya*
		Signature:	Francis A. Awanya

ANALYSIS CASE NARRATIVE

EPA/600/R-93-100). All the required quality control criteria for the laboratory, method, and system performance audits were evaluated and determined to be within the limits.

Method Blanks (Sulfate)(LRB/ICB): During low level analysis, the laboratory reagent blanks were found to contain 0.075 mg/L of sulfate at the end of analysis. A probable cause is carry over. Sulfate results for samples 2000SY04S44, 2000SY04S49, and 2000SY04S58 could be affected by contamination. The remaining sample results are not affected by carry over contamination. Sulfate concentrations in those samples are more then 10 times the amounts found in the final blanks.

Matrix Spike (Sulfate (Low-Calibration)): Designated MS/MSD samples 2000SY04S41 and 2000SY04S56 contain 351 mg/L and 177 respectively. The matrix spike target for sulfate in the Low calibration analysis is 1 mg/L. The spike recovery is invalid. Sulfate concentrations in those samples greatly exceeded the spike target by more than 50%. The spike recovery for the High Calibration Level analysis was within the limit. All the Bromide spike recoveries were within the limits.

Matrix Spike (Sulfate (High Calibration)): A dilution of matrix spike sample 2000SY04S56 was analyzed on 5/30/2000. This was necessary since the calibration was exceeded. It was not necessary to repeat the sample. The final result was within the limit. A second matrix spike sample 2000SY04S41 analyzed with all the samples on 5/24/2000 was within the limits. All the spike recoveries were within the limits.

SAMPLE RESULTS AND REPORTING:

All the sample results are acceptable for use. The sulfate result for sample 2000SY04S44, 2000SY04S49, and 2000SY04S58 was reported with a MJ flag. The concentration of sulfate in those samples were between the method detection limit (MDL) and the reporting limit (RL). The J flag denotes probable carry over contamination. All the sample results are acceptable for use.

MANUAL PEAK INTEGRATION:

No manual peak integration was used to process the data.

ELECTRONIC DATA:

Electronic data are archived in;
H:\R5CRL\VOL1\MIN_NUT\FAWANYA\20000033\DX500_SYSTEM3_CD20\20000033\..under the following additional folders;
1. All_Other_Analysis, 2. Autosampler_Schedules, 3. Method_used, and 4. Reported_Run_Files.

Data Set Number:	*20000033*	**Parameter:**	*Sulfate and Bromide*
Facility Name:	*HIMCO LF*		
Study Name:	*HIMCO LF*		
Date of Narrative:	*06/01/2000*	**Analyst:**	*Francis A. Awanya*
		Signature:	Francis A. Awanya

ANALYSIS CASE NARRATIVE

The case narrative is contained in folder 20000033.

ATTACHMENT I, Sulfate/Bromide

Date of Collection: 04/28/2000	Date of Arrival: 05/03-05/2000	Checked-Out Date: 05/24/2000	Date of Analysis: 05/24-30/2000
SAMPLE IDENTIFICATION(S):			
2000SY04S40 →	2000SY04S41	2000SY04S42	

Date of Collection: 05/01/2000	Date of Arrival: 05/03/99	Checked-Out Date: 05/24/99	Date of Analysis: 05/24-30/2000
SAMPLE IDENTIFICATION(S):			
2000SY04S43 →	2000SY04S44		

Date of Collection: 05/02/2000	Date of Arrival: 05/03/2000	Checked-Out Date: 05/24/2000	Date of Analysis: 05/24-30/99
SAMPLE IDENTIFICATION(S):			
2000SY04S45 →	2000SY04S46	2000SY04S47	2000SY04S48

Date of Collection: 05/02/2000	Date of Arrival: 05/05/2000	Checked-Out Date: 05/24/2000	Date of Analysis: 05/24-30/2000
SAMPLE IDENTIFICATION(S):			
2000SY04S49 →	2000SY04S50	2000SY04S51	2000SY04S52
2000SY04S53	2000SY04S54	2000SY04S55	2000SY04S56
2000SY04S57	2000SY04S58		

CRL Data Review Qualification Codes

QUALIFIER	DESCRIPTION
B	This flag is used when the analyte is found in the associated ***B***lank as well as the sample. It indicates possible blank contamination and warns the user to take appropriate action while assessing the data. See the case narrative for a discussion of common lab contaminants and/or the relative concentration of contamination in the samples and blanks for relevance.
D	This flag is used when the analyte concentration results from a required ***D***ilution of the sample, extract or digestate.
E	This flag is used to identify analyte concentrations ***E***xceeding the upper calibration range of the analytical instrument after dilution of the sample, extract or digestate. The reported value is considered to be estimated
J	This flag is used when the analyte is estimated due to quality control limit(s) being exceeded. This flag accompanies all GC/MS tentatively identified compounds (TICs). This flag also applies to a suspected, unidentified interference. This flag is placed on affected detected results as well as non-detected (i.e., "U" flagged) results. (***J*** is the flag used in the Superfund CLP SOW and Data Review Functional Guidelines and is used by CRL for consistency.)
M	This flag is used when the analyte is confirmed to be qualitatively present in the sample, extract or digestate, at or above the CRL ***M***ethod Detection Limit (MDL) but below the CRL reporting limit (RL). This flag applies to all values in this concentration range and indicates the quantitated value is estimated due to its presence in this concentration range.
N	This flag applies to GC/MS Te***N***tatively Identified Compounds (TICs) that have a mass spectral library match.
Q	This flag applies to analyte data that are severely estimated due to quality control and/or ***Q***uantitation problems, but are confirmed to be qualitatively present in the sample. No value is reported with this qualification flag.
R	This flag applies to analyte data that are ***R***ejected and unusable due to severe quality control, quantitation and/or qualitative identification problems. No other qualification flags are reported for this analyte. No value is reported with this qualification flag.
U	This flag in used when the analyte was analyzed but ***U***ndetected in the sample. The CRL RL for the analyte accompanies this flag. As with sample results that are positive, the value is corrected for dry weight, dilution and/or sample weight or volume.

4/11/00

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 5 CENTRAL REGIONAL LABORATORY

536 SOUTH CLARK STREET

CHICAGO, ILLINOIS 60605

Date: JUN 0 1 2000

Subject: Review of Region 5 Data for **HIMCO LF**

From: Francis A. Awanya , Chemist Francis A. Awanya
Region 5 Central Regional Laboratory

To:

Attached are the results for Site: **HIMCO LF**
CRL Data Set Number: **20000033**
for analyses of : **Sulfate and Bromide**
Results are reported for sample numbers: **20000SY04S40, 20000SY04S41, 20000SY04S42, 20000SY04S43, 20000SY04S44, 20000SY04S45, 20000SY04S46, 20000SY04S47, 20000SY04S48, 20000SY04S49, 20000SY04S50, 20000SY04S51, 20000SY04S52, 20000SY04S53, 20000SY04S54, 20000SY04S55, 20000SY04S56, 20000SY04S57, and 20000SY04S58.**

Results Status:
(X) Acceptable for Use
(X) Data Qualified, but Acceptable for use **Sulfate 2000SY04S44,49, and S58**.
( ) Data Unacceptable for Use

Sylvia Griffin JUN 0 1 2000

CRL Data Management Coordinator and Date Received

Date Transmitted: JUN 0 1 2000

Please have the US EPA project leader fill out the customer survey form on the Region 5 Intranet: http://www.r5intra.epa.gov/crl/qa.html, (← by clicking on this link, or call George Schupp, CRL Sample Coordinator, at 3-1226).

Please sign and date this form below and return it with any comments to:

Sylvia Griffin
Data Management Coordinator
Region 5 Central Regional Laboratory
ML - 10C

Received by and Date

Comments:

ENVIRONMENTAL PROTECTION AGENCY
REGION V
CENTRAL REGIONAL LABORATORY
FINAL RESULT REPORT FOR THE TEAM: MINERAL/NUTRIENTS

DIVISION/BRANCH: SUPERFUND **SAMPLING DATE:** 04/28/2000 - 05/03/2000 **LAB ARRIVAL DATE:** 05/03/2000 **DUE DATE:** 06/04/2000
DU NUMBER: 50102D **DATA SET NUMBER:** 20000033 **STUDY:** HIMCO LF **PRIORITY:** Routine **LABORATORY :**CRL

	CRL LOG NUMBER	SAMPLE DESCRIPTION	BROMIDE IN WATER (mg Br^-/L)	SULFATE IN WATER (mg $SO_4^=$/L)			
1	20000SY04S40	WT111A	0.43 M	264 D			
2	20000SY04S41	WT118B	0.20 M	351D			
3	20000SY04S42	WT119A	0.46 M	420 D			
4	20000SY04S43	WT115A	0.62	254 D			
5	20000SY04S44	WTE2	0.014 U	0.16 MJ			
6	20000SY04S45	WTE1	0.12 M	347 D			
7	20000SY04S46	WTE3	0.13 M	57 D			
8	20000SY04S47	WT105A	0.11 M	36 D			
9	20000SY04S48	WT106A	0.42 M	146 D			
10	20000SY04S49	WT101C	0.88 M	0.42 MJ			
11	20000SY04S50	WT101A	0.52 M	218 D			
12	20000SY04S51	WT101A	0.53 M	215 D			
13	20000SY04S52	WT101B	0.34 M	211 D			
DATE OF ANALYSIS			05/25-26/2000	05/24 - 30/2000			
ANALYST			FAA / AR	FAA / AR			

Reviewed by: _____ Date: 05/31/00

ENVIRONMENTAL PROTECTION AGENCY
REGION V
CENTRAL REGIONAL LABORATORY
FINAL RESULT REPORT FOR THE TEAM: MINERAL/NUTRIENTS

DIVISION/BRANCH: SUPERFUND **SAMPLING DATE:** 04/28/2000 - 05/03/2000 **LAB ARRIVAL DATE:** 05/03/2000 **DUE DATE:** 06/04/2000
DU NUMBER: 50102D **DATA SET NUMBER:** 20000032 **STUDY:** HIMCO LF **PRIORITY:** Routine **LABORATORY :**CRL

	CRL LOG NUMBER	SAMPLE DESCRIPTION	BROMIDE IN WATER (mg Br^-/L)	SULFATE IN WATER (mg SO_4^-/L)			
14	20000SY04S53	WT116A	2.38 D	1260 D			
15	20000SY04S54	WT116A	2.42 D	1250 D			
16	20000SY04S55	WT116B	0.32 M	143 D			
17	20000SY04S56	WT114A	0.17 M	177 D			
18	20000SY04S57	WT114B	0.07 M	156 D			
19	20000SY04S58	WT114A	0.014 U	0.11MJ			
DATE OF ANALYSIS			05/25-26/2000	05/24 - 30/2000			
ANALYST			FAA / AR	FAA / AR			

Reviewed by: _____ Date: 5 / 31 / 00

Data Set Number:	*20000033*	**Parameter:**	*Sulfate and Bromide*
Facility Name:	*HIMCO LF*		
Study Name:	*HIMCO LF*		
Date of Narrative:	*06/01/2000*	**Analyst:**	*Francis A. Awanya*
		Signature:	Francis A. Awanya

ANALYSIS CASE NARRATIVE

Twenty one (21) water samples including matrix spike and duplicate samples were collected for the above study between 4/28/2000 and 5/3/2000. The samples arrived at the Central Regional Laboratory (CRL) on 5/03/2000 and 5/05/2000. CRL sample identification numbers (CRL Sample ID) were assigned to those samples. The Station numbers and Locations were obtained from the Analysis Request Form (ARF) and verified with that on the sample tags.

Samples were checked out for sulfate and bromide analysis from the CRL sample custodian on 5/24/2000. The dates of collection, check out, and analysis are contained in Attachment I. They were transferred to the Analytical and Inorganic (A&I) laboratory section of the CRL and kept in a sample storage refrigerator until all analysis were completed. The samples were properly preserved by refrigeration. The samples were not checked out immediately because a previous batch (CRL data set 20000032) was being analyzed. There were matrix interference problems encountered with data set 20000032. This created equipment problems that had to be resolved before the new samples (batch) could be analyzed.

SAMPLE ANALYSIS:

All samples were analyzed for sulfate and bromide using CRL Standard Operating Procedure (CRL.SOP) AIG045 (Method reference 300 A & B, EPA/600/R-93-100). No additional sample preparations were necessary. The instrument was calibrated for high level determination of sulfate and bromide following CRL.SOP AIG045 Part A on 5/22/2000. A new calibration was necessary since a new ion chromatography column was installed. It was calibrated and used for analysis on the same day.

All bromide concentrations and sulfate concentrations for samples 2000SY04S44, 2000SY04S49, and 2000SY04S58 were below the reporting limit of high level determination of the two anions. Sulfate concentrations for sample 2000SY04S47 was within the calibration range. The remaining sulfate sample concentrations exceeded the upper calibration limit. As a result, appropriate sulfate samples were re-analyzed with dilutions as necessary on 5/25/2000.

The instrument was calibrated for low level determination of bromide and the remaining sulfate samples following CRL.SOP AIG045 Part A on 5/25/2000. The instrument ran overnight. Bromide analysis was completed on 5/26/2000.

QUALITY CONTROL (QC):

No data quality objectives were provided by the requestor. Analysis results were evaluated using the QC requirements of CRL.SOP AIG045 (Method reference 300 A & B,

Data Set Number:	*20000033*	**Parameter:**	*Sulfate and Bromide*
Facility Name:	*HIMCO LF*		
Study Name:	*HIMCO LF*		
Date of Narrative:	*06/01/2000*	**Analyst:**	*Francis A. Awanya*
		Signature:	Francis A. Awanya

ANALYSIS CASE NARRATIVE

EPA/600/R-93-100). All the required quality control criteria for the laboratory, method, and system performance audits were evaluated and determined to be within the limits.

Method Blanks (Sulfate)(LRB/ICB): During low level analysis, the laboratory reagent blanks were found to contain 0.075 mg/L of sulfate at the end of analysis. A probable cause is carry over. Sulfate results for samples 2000SY04S44, 2000SY04S49, and 2000SY04S58 could be affected by contamination. The remaining sample results are not affected by carry over contamination. Sulfate concentrations in those samples are more then 10 times the amounts found in the final blanks.

Matrix Spike (Sulfate (Low-Calibration)): Designated MS/MSD samples 2000SY04S41 and 2000SY04S56 contain 351 mg/L and 177 respectively. The matrix spike target for sulfate in the Low calibration analysis is 1 mg/L. The spike recovery is invalid. Sulfate concentrations in those samples greatly exceeded the spike target by more than 50%. The spike recovery for the High Calibration Level analysis was within the limit. All the Bromide spike recoveries were within the limits.

Matrix Spike (Sulfate (High Calibration)): A dilution of matrix spike sample 2000SY04S56 was analyzed on 5/30/2000. This was necessary since the calibration was exceeded. It was not necessary to repeat the sample. The final result was within the limit. A second matrix spike sample 2000SY04S41 analyzed with all the samples on 5/24/2000 was within the limits. All the spike recoveries were within the limits.

SAMPLE RESULTS AND REPORTING:

All the sample results are acceptable for use. The sulfate result for sample 2000SY04S44, 2000SY04S49, and 2000SY04S58 was reported with a MJ flag. The concentration of sulfate in those samples were between the method detection limit (MDL) and the reporting limit (RL). The J flag denotes probable carry over contamination. All the sample results are acceptable for use.

MANUAL PEAK INTEGRATION:

No manual peak integration was used to process the data.

ELECTRONIC DATA:

Electronic data are archived in;
H:\R5CRL\VOL1\MIN_NUT\FAWANYA\20000033\DX500_SYSTEM3_CD20\20000033\..under the following additional folders;
1. All_Other_Analysis, 2. Autosampler_Schedules, 3. Method_used, and 4. Reported_Run_Files.

Data Set Number:	*20000033*	**Parameter:**	*Sulfate and Bromide*
Facility Name:	*HIMCO LF*		
Study Name:	*HIMCO LF*		
Date of Narrative:	*06/01/2000*	**Analyst:**	*Francis A. Awanya*
		Signature:	Francis A. Awanya

ANALYSIS CASE NARRATIVE

The case narrative is contained in folder 20000033.

ATTACHMENT I, Sulfate/Bromide

Date of Collection: 04/28/2000	Date of Arrival: 05/03-05/2000	Checked-Out Date: 05/24/2000	Date of Analysis: 05/24-30/2000
SAMPLE IDENTIFICATION(S):			
2000SY04S40 →	2000SY04S41	2000SY04S42	

Date of Collection: 05/01/2000	Date of Arrival: 05/03/99	Checked-Out Date: 05/24/99	Date of Analysis: 05/24-30/2000
SAMPLE IDENTIFICATION(S):			
2000SY04S43 →	2000SY04S44		

Date of Collection: 05/02/2000	Date of Arrival: 05/03/2000	Checked-Out Date: 05/24/2000	Date of Analysis: 05/24-30/99
SAMPLE IDENTIFICATION(S):			
2000SY04S45 →	2000SY04S46	2000SY04S47	2000SY04S48

Date of Collection: 05/02/2000	Date of Arrival: 05/05/2000	Checked-Out Date: 05/24/2000	Date of Analysis: 05/24-30/2000
SAMPLE IDENTIFICATION(S):			
2000SY04S49 →	2000SY04S50	2000SY04S51	2000SY04S52
2000SY04S53	2000SY04S54	2000SY04S55	2000SY04S56
2000SY04S57	2000SY04S58		

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5
77 WEST JACKSON BOULEVARD
CHICAGO, ILLINOIS 60604

MEMORANDUM

DATE: April 4, 2000

SUBJECT: Residential Ground Water Sampling Report

FROM: Gwendolyn Massenburg, RPM
Remedial Response Section #4

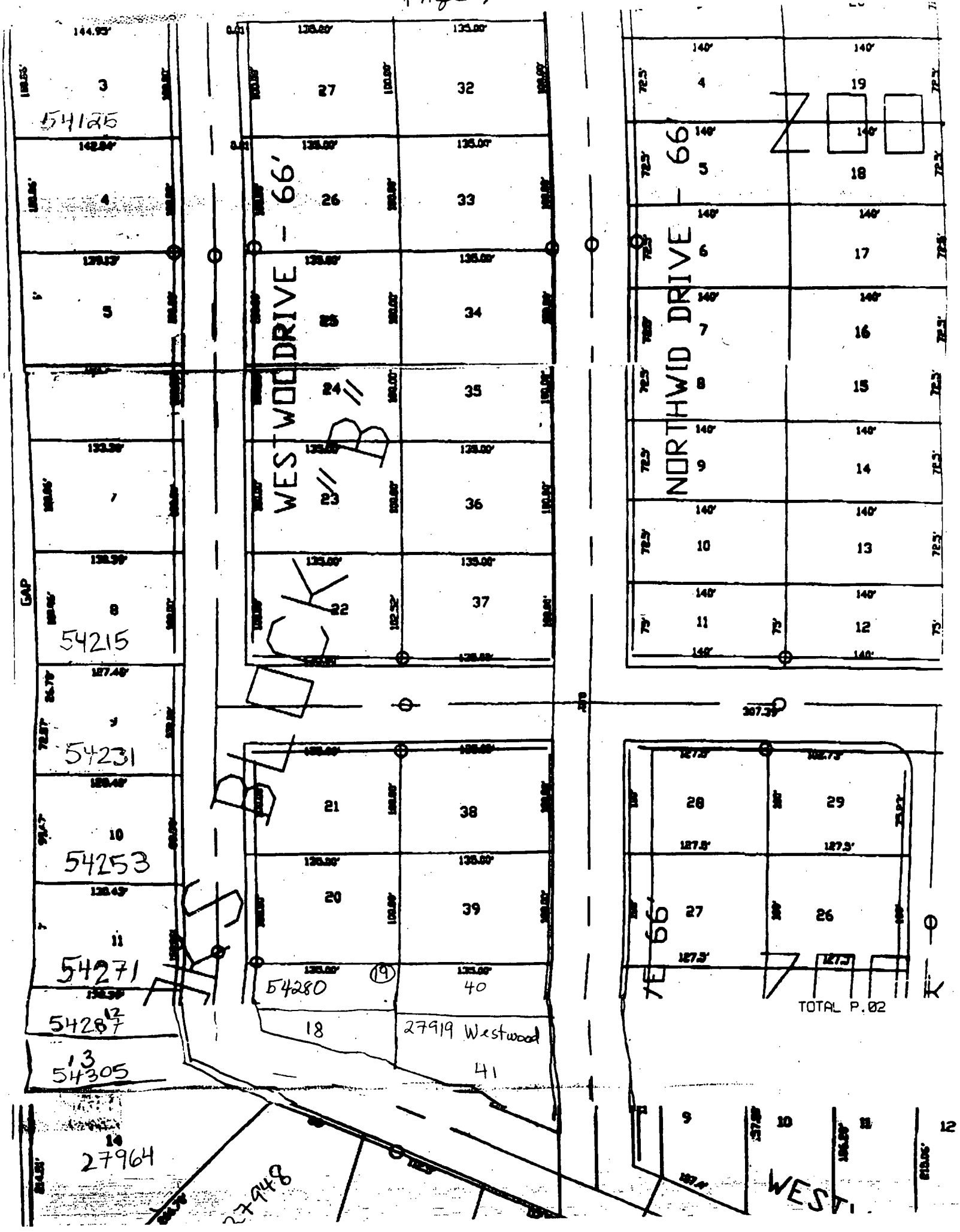
TO: Himco Dump, Elkhart, IN, Site File
EPA ID # IND980500292

US EPA and USGS performed residential ground water sampling on March 15-16, 2000. The residents located closest to Himco Dump ("Site") east and southeast of the Site were sampled for VOCs, SVOCs, Inorganics, Sulfate and Bromide. The residents were asked to disconnect/bypass their water softners from the outside front faucet. The purpose of this sampling investigation was to determine if any of the contaminants found at the Site had actually migrated east and southeast to influence the residences who are using well water and are located adjacent to the Site.
The following information was collected:

DATE	TIME	SAMPLE #	COMMENTS
MARCH 15, 2000	1545	EDCK6 54215	25' jet pump well
MARCH 15, 2000	1615	EDCK1 54253	jet pump well depth unknown high iron/ home owner. Toddler lives here.
MARCH 15, 2000	1635	EDCK0* 54271 visible iron staining by faucet	50' new drilled well pitless adapter, rotten egg smell/ homeower was getting worse
MARCH 15, 2000	1710	EDCK5* reverse osmosis water treatment system 27964	new well, 4/98, to 80', pitless adapter old well 40' with bad iron smell

MARCH 15, 2000	1730	EDCK2* rotten egg smell 27948	4" drilled well, depth unknown, newer well, replaced within 5yrs
MARCH 15, 2000	1800	EDCK4 no one home 27919	assumed no water softner, drilled well pitless adapter
MARCH 15, 2000	1815	EDCK3 54280	replaced the 40' well that had bad iron/rust, 5yrs ago, New well 4"drilled well, 80' water ok now. 6 vehicles on site, vehicle service area
MARCH 15, 2000	1840	EDCJ8 54231	35' well with buried well head, 5' in front of roof peak, used to have 70' well, switched to shallower well due to rust, no taste/ odor. Resident stated she did not feel well, health problems
MARCH 16, 2000	1040	EDCJ5 54287	-----
MARCH 16, 2000	1045	EDCJ9 small child lives here, buys bottle water, well water has bad smell and taste/ owner field dup 54287R	Collected field duplicate here. Water softner is associated with outside faucet, ask resident to have water softner disconnected/by passed. well head not visible, iron staining visible near outside faucet
MARCH 16, 2000	1120 EDCK8-[redacted]	[redacted] 54305	[redacted]
MARCH 16, 2000	1125	[redacted] 54305	collected Matrix spike
MARCH 16, 2000	1130 EDCK8	[redacted] 54305[redacted]	collected matrix spike duplicate
MARCH 16, 2000	1200	EDCJ4 54125	----------

*indicates recently install wells, maybe able to obtain well logs.


WESTWOOD DRIVE - 66'
NORTHWID DRIVE - 66'
GAP
54125
54215
54231
54253
54271
54280
54287
54305
27964
27948
27919 Westwood
TOTAL P.02
WEST

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5
77 WEST JACKSON BOULEVARD
CHICAGO, ILLINOIS 60604

MEMORANDUM

DATE: April 4, 2000

SUBJECT: Residential Ground Water Sampling Report

FROM: Gwendolyn Massenburg, RPM
Remedial Response Section #4

TO: Himco Dump, Elkhart, IN, Site File
EPA ID # IND980500292

US EPA and USGS performed residential ground water sampling on March 15-16, 2000. The residents located closest to Himco Dump ("Site") east and southeast of the Site were sampled for VOCs, SVOCs, Inorganics, Sulfate and Bromide. The residents were asked to disconnect/bypass their water softners from the outside front faucet. The purpose of this sampling investigation was to determine if any of the contaminants found at the Site had actually migrated east and southeast to influence the residences who are using well water and are located adjacent to the Site.
The following information was collected:

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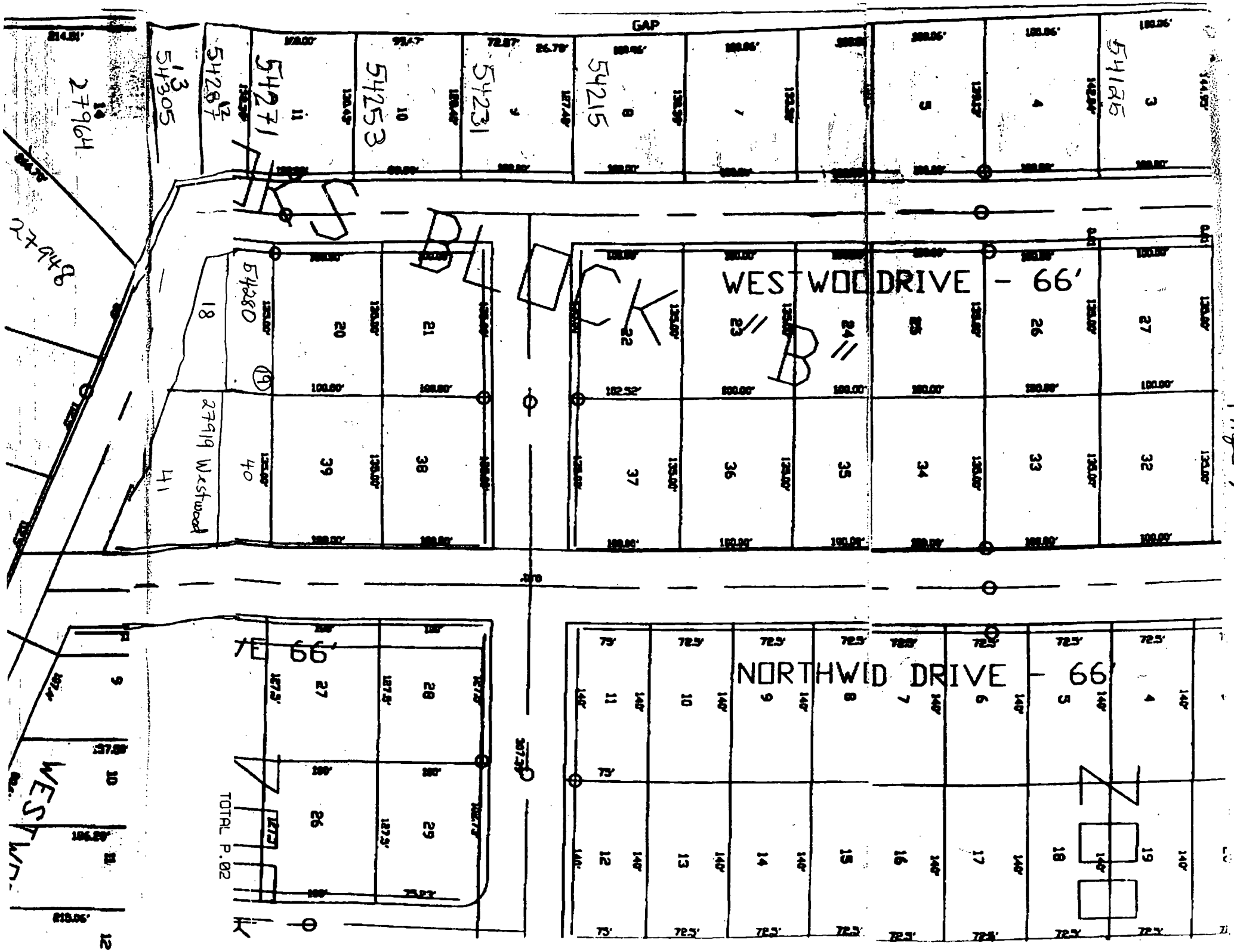
MARCH 16, 2000	1040	EDCJ5 54287	-----
MARCH 16, 2000	1045	EDCJ9 small child lives here, buys bottle water, well water has bad smell and taste/ owner field dup 54287R	Collected field duplicate here. Water softner is associated with outside faucet, ask resident to have water softner disconnected/by passed. well head not visible, iron staining visible near outside faucet
MARCH 16, 2000	1120 EDCK8-[redacted]	[redacted] 54305	[redacted]
MARCH 16, 2000	1125	[redacted] 54305 [redacted]	collected Matrix spike
MARCH 16, 2000	1130 EDCK8	[redacted] 54305 [redacted]	collected matrix spike duplicate
MARCH 16, 2000	1200	EDCJ4 54125	----------

*indicates recently install wells, maybe able to obtain well logs.


GAP
WESTWOOD DRIVE - 66'
NORTHWID DRIVE - 66'
TOTAL P.02
27964
27948
54305
54287
54271
54253
54231
54215
54125
54280
27919 Westwood
WESTWO

Page 1

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 5 CENTRAL REGIONAL LABORATORY

536 SOUTH CLARK STREET

CHICAGO, ILLINOIS 60605

Date: MAY 0 4 2000

Subject: Review of Region 5 Data for **HIMCO LF**

From: Francis A. Awanya , Chemist Francis A. Awanya
Region 5 Central Regional Laboratory

To:

Attached are the results for Site: **HIMCO LF**
CRL Data Set Number: **20000030**
for analyses of : **Sulfate and Bromide**
Results are reported for sample numbers: **2000SY04S01, 2000SY04S02, 2000SY04S03, 2000SY04S04, 2000SY04S05, 2000SY05S06, 2000SY04S07, 2000SY04S08, 2000SY04S09, 2000SY04S10, 2000SY04S11, 2000SY05S12 and 2000SY04S13**.

Results Status:
(X) Acceptable for Use
( ) Data Qualified, but Acceptable for use
( ) Data Unacceptable for Use

Sylvia Griffin MAY 0 4 2000

CRL Data Management Coordinator and Date Received

Date Transmitted: MAY 0 4 2000

Please have the US EPA project leader fill out the customer survey form on the Region 5 Intranet: http://www.r5intra.epa.gov/crl/qa.html, (← by clicking on this link, or call George Schupp, CRL Sample Coordinator, at 3-1226).

Please sign and date this form below and return it with any comments to:

Sylvia Griffin
Data Management Coordinator
Region 5 Central Regional Laboratory
ML - 10C

Received by and Date

Comments:

CRL Data Review Qualification Codes

QUALIFIER	DESCRIPTION
B	This flag is used when the analyte is found in the associated ***B***lank as well as the sample. It indicates possible blank contamination and warns the user to take appropriate action while assessing the data.
D	This flag is used when the analyte concentration results from a required ***D***ilution of the sample, extract or digestate.
E	This flag is used to identify analyte concentrations ***E***xceeding the upper calibration range of the analytical instrument after dilution of the sample, extract or digestate. .The reported value is considered to be estimated
J	This flag is used when the analyte is confirmed to be qualitatively present in the sample, extract or digestate, at or above the CRL reporting limit (RL) but the quantitated value is estimated due to quality control limit(s) being exceeded. This flag accompanies all GC/MS tentatively identified compounds (TICs). This flag also applies to a suspected, unidentified interference. (***J*** is the flag used in the Superfund CLP SOW and Data Review Functional Guidelines and is used by CRL for consistency.)
M	This flag is used when the analyte is confirmed to be qualitatively present in the sample, extract or digestate, at or above the CRL ***M***ethod Detection Limit (MDL) but below the CRL reporting limit (RL). This flag applies to all values in this concentration range and indicates the quantitated value is estimated due to its presence in this concentration range.
N	This flag applies to GC/MS TICs that have ***N***o mass spectral library match.
Q	This flag applies to analyte data that are severely estimated due to quality control and/or ***Q***uantitation problems, but are confirmed to be qualitatively present in the sample. No value is reported with this qualification flag.
R	This flag applies to analyte data that are ***R***ejected and unusable due to severe quality control, quantitation and/or qualitative identification problems. No other qualification flags are reported for this analyte. No value is reported with this qualification flag.
U	This flag in used when the analyte was analyzed but ***U***ndetected in the sample. The CRL RL for the analyte accompanies this flag. As with sample results that are positive, the value is corrected for dry weight, dilution and/or sample weight or volume.

Data Set Number:	*20000030*	**Parameter:**	*Sulfate and Bromide*
Facility Name:	*HIMCO LF*		
Study Name:	*HIMCO LF*		
Date of Narrative:	*05/02/2000*	**Analyst:**	*Francis A. Awanya*
		Signature:	

ANALYSIS CASE NARRATIVE

Thirteen (13) high priority water samples were collected for the above study between 4/17/00 and 4/18/2000. The samples arrived at the Central Regional Laboratory (CRL) on 4/19/2000. CRL sample identification numbers (CRL Sample ID) were assigned to the samples with tag numbers. The Station numbers and Locations were obtained from the tags that were attached to the sample containers as follows;

CRL Sample ID	Tag Number	Station Number and Location
	Bromide/Sulfate	
2000SY04S01	5-068921/5-***068920***	54287 Westwood
2000SY04S02	5-068931/5-***068925***	54280 Westwood
2000SY04S03	5-068930/5-***068932***	54271 Westwood Drive
2000SY04S04	5-068947/5-***068853***	54253 Westwood
2000SY04S05	5-068846/5-***068845***	54231 Westwood Drive
2000SY04S06	5-068934/5-***068940***	54215 Westwood
2000SY04S07	5-068873/5-***068874***	54125 Westwood Drive
2000SY04S08	5-068820/5-***068821***	27919 Westwood Drive
2000SY04S09	5-068830/5-***068865***	27883 Westwood Drive
2000SY04S10	5-068812/5-***068811***	54305 Westwood Drive
2000SY04S11	5-068953/5-***068954***	54305 Westwood Drive
2000SY04S12	5-068883/5-***068882***	27964 Westwood Drive
2000SY04S13	5-068891/5-***068892***	27948 Westwood Drive

The station numbers and locations were also provided on the Analysis Request Form (ARF). All analyses were performed from sample bottles with the bold, underlined, and italicized tag numbers. Samples were checked out for sulfate and bromide analysis from the CRL sample custodian on 4/25/2000. The samples were properly preserved by refrigeration. They were transferred to the Analytical and Inorganic (A&I) laboratory section of the CRL, and kept in a sample storage refrigerator until all other required analyses were completed.

SAMPLE ANALYSIS:

All samples were analyzed for sulfate and bromide using CRL Standard Operating Procedure (CRL.SOP) AIG045 (Method reference 300 A & B, EPA/600/R-93-100). No additional sample preparations were necessary. The instrument was calibrated for high and low level determination of sulfate and bromide following CRL.SOP AIG045 Part A on 3/24/2000 (High Level) and 4/10/2000 (Low Level).

Data Set Number:	*20000030*	**Parameter:**	*Sulfate and Bromide*
Facility Name:	*HIMCO LF*		
Study Name:	*HIMCO LF*		
Date of Narrative:	*05/02/2000*	**Analyst:**	*Francis A. Awanya*
		Signature:	Francis A. Awanya

ANALYSIS CASE NARRATIVE

Bromide analysis began on 4/25/2000 and was completed on 4/26/2000. Sample 2000SY04S13, and the final calibration verification standards were mislabeled on the initial auto-sampler sequence. This was confirmed by re-analysis of the suspected vials beginning with known ones. Old vials were identified as O.C and the new vials with fresh samples were identified as F.C during this verification process. The old vial for sample 2000SY04S13 was analyzed and compared to the result obtained from a vial with fresh sample aliquot. The rest of the samples were properly identified. All the required quality control audits were within the limits. All bromide concentrations were below the reporting limit of the best calibration curve used.

Sulfate analysis began on 4/28/2000 and ended on 5/1/2000. Based on the low level calibration used to analyze for bromide, proper dilutions were made to the sulfate samples. The dilutions were implemented during high level analysis for sulfate so that the sample concentrations would not exceed the upper calibration limit. During the preparation of the auto-sampler sequence, a dilution factor was in advertently applied to the final calibration verification standards and blank. This occurred because the software automatically applies all information entered for a previous sample in the sequence into the field for the next sample. This was confirmed by re-analysis of the suspected vials. The re-analysis began with the sample containing a dilution factor of 5. Then, the correct dilution factor of 1 was applied to the standards and blanks. Dilution factor of 1 is the default. This means that no dilution factor was applied to calculate the final sample or standard results affected. Fresh standards and blank aliquots were also assayed. Throughout this verification process, all the required quality control audits were within the limits.

SAMPLE RESULTS AND REPORTING:

All sulfate results were reported with D flags due to required dilution. The analyte concentrations in those samples exceeded the upper calibration limit. All bromide results were reported with M flags. Bromide concentrations in all the samples were between the method detection limits (MDL) of 0.014 mg/L and the reporting limits (RL) of 0.5 mg/L.

MANUAL PEAK INTEGRATION:

No manual peak integration was used to process the results.

QUALITY CONTROL (QC):

No data quality objectives were provided by the requestor. Analysis results were evaluated using the QC requirements of CRL.SOP AIG045 (Method reference 300 A & B,

Data Set Number:	*20000030*	**Parameter:**	*Sulfate and Bromide*
Facility Name:	*HIMCO LF*		
Study Name:	*HIMCO LF*		
Date of Narrative:	*05/02/2000*	**Analyst:**	*Francis A. Awanya*
		Signature:	

ANALYSIS CASE NARRATIVE

EPA/600/R-93-100). All the required quality control criteria for the laboratory, method, and system performance audits were evaluated and determined to be within the limits.

ELECTRONIC DATA:

Electronic data are archived in;
H:\R5CRL\VOL1\MIN_NUT\FAWANYA\20000030\DX500_SYSTEM3_CD20\20000030\..under the following additional folders;
1. All_Other_Analysis, 2. Autosampler_Schedules, 3. Method_used, and 4. Reported_Run_Files. The case narrative is contained in folder 20000030.

ENVIRONMENTAL PROTECTION AGENCY
REGION V
CENTRAL REGIONAL LABORATORY
FINAL RESULT REPORT FOR THE TEAM: MINERAL/NUTRIENTS

DIVISION/BRANCH: SUPERFUND **SAMPLING DATE:** 04/17 - 18/2000 **LAB ARRIVAL DATE:** 04/19/2000 **DUE DATE:** 05/03/2000
DU NUMBER: 50102D **DATASET NUMBER:** 20000030 **STUDY:** HIMCO LF **PRIORITY:** HIGH **LABORATORY :**CRL

	CRL LOG NUMBER	SAMPLE DESCRIPTION	BROMIDE IN WATER (mg Br^-/L)	SULFATE IN WATER (mg SO_4^-/L)			
1	20000SY04S01	54287 Westwood Drive	0.06 M	142 D			
2	20000SY04S02	54280 Westwood Drive	0.06 M	130 D			
3	20000SY04S03	54271 Westwood Drive	0.06 M	130 D			
4	20000SY04S04	54253 Westwood Drive	0.06 M	153 D			
5	20000SY04S05	54231 Westwood Drive	0.06 M	134 D			
6	20000SY04S06	54215 Westwood Drive	0.06 M	127 D			
7	20000SY04S07	54125 Westwood Drive	0.07 M	132 U			
8	20000SY04S08	27919 Westwood Drive	0.06 M	109 D			
9	20000SY04S09	27883 Westwood Drive	0.06 M	105 D			
10	20000SY04S10	54305 Westwood Drive	0.07 M	152 D			
11	20000SY04S11	54305 Westwood Drive	0.07 M	152 D			
12	20000SY04S12	27964 Westwood Drive	0.06 M	148 D			
13	20000SY04S13	27948 Westwood Drive	0.06 M	142 D			
DATE OF ANALYSIS			04/26/2000	04/28 -05/01/2000			
ANALYST							

Reviewed by: Frann A. Awanya Date: 5/3/2000

Regional Transmittal Form

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION V

DATE:

SUBJECT: Review of Data
Received for Review on 5-10-00

FROM: Stephen L. Ostrodka, Chief (SMF-4J)
Superfund Field Services Section

TO: Data User: USEPA

2nd Round Res Data C original Names filled in Organics

We have reviewed the data for the following case:

SITE NAME: HIMCO LANDFILL (IN)

CASE NUMBER: 27986 SDG NUMBER: EDPK9

Number and Type of Samples: 16 (WATER)

Sample Numbers: EDPK9, EDPL0-9, EDPM0-5

Laboratory: PDP Hrs for Review:

Following are our findings:

CC: Cecilia Moore
Region 5 TPO
Mail Code: SM-5J

LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET

EDPL9

Trip Blank

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDPK9

Lab Sample ID: 6004.012 Date Received: 04/19/00

Lab File ID: F0882 Date Analyzed: 04/22/00

Purge Volume: 20 (mL) Dilution Factor: 1.0

GC Column: DB-624 ID: 0.53 (mm) Length: 60 (m)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
74-87-3	Chloromethane	1	U
74-83-9	Bromomethane	1	U
75-01-4	Vinyl chloride	1	U
75-00-3	Chloroethane	1	U
75-09-2	Methylene chloride	2	U
67-64-1	Acetone	5	U
75-15-0	Carbon disulfide	1	U
75-35-4	1,1-Dichloroethene	1	U
75-34-3	1,1-Dichloroethane	1	U
156-59-2	cis-1,2-Dichloroethene	1	U
156-60-5	trans-1,2-Dichloroethene	1	U
67-66-3	Chloroform	1	U
107-06-2	1,2-Dichloroethane	1	U
78-93-3	2-Butanone	5	U
74-97-5	Bromochloromethane	1	U
71-55-6	1,1,1-Trichloroethane	1	U
56-23-5	Carbon tetrachloride	1	U
75-27-4	Bromodichloromethane	1	U
78-87-5	1,2-Dichloropropane	1	U
10061-01-5	cis-1,3-Dichloropropene	1	U
79-01-6	Trichloroethene	1	U
124-48-1	Dibromochloromethane	1	U
79-00-5	1,1,2-Trichloroethane	1	U
71-43-2	Benzene	1	U
10061-02-6	trans-1,3-Dichloropropene	1	U
75-25-2	Bromoform	1	U
108-10-1	4-Methyl-2-pentanone	5	U
591-78-6	2-Hexanone	5	U
127-18-4	Tetrachloroethene	1	U
79-34-5	1,1,2,2-Tetrachloroethane	1	U
106-93-4	1,2-Dibromoethane	1	U
108-88-3	Toluene	1	U
108-90-7	Chlorobenzene	1	U
100-41-4	Ethylbenzene	1	U
100-42-5	Styrene	1	U
1330-20-7	Xylenes (total)	1	U
541-73-1	1,3-Dichlorobenzene	1	U
106-46-7	1,4-Dichlorobenzene	1	U
95-50-1	1,2-Dichlorobenzene	1	U
96-12-8	1,2-Dibromo-3-chloropropane	1	U
120-82-1	1,2,4-Trichlorobenzene	1	U

1LCE

EPA SAMPLE NO.

LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EDPL9

Trip Blank

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDPK9

Lab Sample ID: 6004.012 Date Received: 04/19/00

Lab File ID: F0882 Date Analyzed: 04/22/00

Purge Volume: 20 (mL) Dilution Factor: 1.0

GC Column: DB-624 ID: 0.53 (mm) Length: 60 (m)

Number TICs found: 0

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC. (ug/L)	Q
1.					
2.					
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LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET

EDPM5

Trip Blank

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDPK9

Lab Sample ID: 6008.003 Date Received: 04/20/00

Lab File ID: F0888 Date Analyzed: 04/22/00

Purge Volume: 20 (mL) Dilution Factor: 1.0

GC Column: DB-624 ID: 0.53 (mm) Length: 60 (m)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
74-87-3	Chloromethane	1	U
74-83-9	Bromomethane	1	U
75-01-4	Vinyl chloride	1	U
75-00-3	Chloroethane	1	U
75-09-2	Methylene chloride	0.9	J
67-64-1	Acetone	5	U
75-15-0	Carbon disulfide	1	U
75-35-4	1,1-Dichloroethene	1	U
75-34-3	1,1-Dichloroethane	1	U
156-59-2	cis-1,2-Dichloroethene	1	U
156-60-5	trans-1,2-Dichloroethene	1	U
67-66-3	Chloroform	1	U
107-06-2	1,2-Dichloroethane	1	U
78-93-3	2-Butanone	5	U
74-97-5	Bromochloromethane	1	U
71-55-6	1,1,1-Trichloroethane	1	U
56-23-5	Carbon tetrachloride	1	U
75-27-4	Bromodichloromethane	1	U
78-87-5	1,2-Dichloropropane	1	U
10061-01-5	cis-1,3-Dichloropropene	1	U
79-01-6	Trichloroethene	1	U
124-48-1	Dibromochloromethane	1	U
79-00-5	1,1,2-Trichloroethane	1	U
71-43-2	Benzene	1	U
10061-02-6	trans-1,3-Dichloropropene	1	U
75-25-2	Bromoform	1	U
108-10-1	4-Methyl-2-pentanone	5	U
591-78-6	2-Hexanone	5	U
127-18-4	Tetrachloroethene	1	U
79-34-5	1,1,2,2-Tetrachloroethane	1	U
106-93-4	1,2-Dibromoethane	1	U
108-88-3	Toluene	1	U
108-90-7	Chlorobenzene	1	U
100-41-4	Ethylbenzene	1	U
100-42-5	Styrene	1	U
1330-20-7	Xylenes (total)	1	U
541-73-1	1,3-Dichlorobenzene	1	U
106-46-7	1,4-Dichlorobenzene	1	U
95-50-1	1,2-Dichlorobenzene	1	U
96-12-8	1,2-Dibromo-3-chloropropane	1	U
120-82-1	1,2,4-Trichlorobenzene	1	U

000165

1LCE

EPA SAMPLE NO.

LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EDPM5

Trip Blank

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDPK9

Lab Sample ID: 6008.003 Date Received: 04/20/00

Lab File ID: F0888 Date Analyzed: 04/22/00

Purge Volume: 20 (mL) Dilution Factor: 1.0

GC Column: DB-624 ID: 0.53 (mm) Length: 60 (m)

Number TICs found: 0

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC. (ug/L)	Q
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LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET

EDPM4

Trip Blank

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDPK9

Lab Sample ID: 6004.014 Date Received: 04/19/00

Lab File ID: F0884 Date Analyzed: 04/22/00

Purge Volume: 20 (mL) Dilution Factor: 1.0

GC Column: DB-624 ID: 0.53 (mm) Length: 60 (m)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
74-87-3	Chloromethane	1	U
74-83-9	Bromomethane	1	U
75-01-4	Vinyl chloride	1	U
75-00-3	Chloroethane	1	U
75-09-2	Methylene chloride	0.5	J
67-64-1	Acetone	5	U
75-15-0	Carbon disulfide	1	U
75-35-4	1,1-Dichloroethene	1	U
75-34-3	1,1-Dichloroethane	1	U
156-59-2	cis-1,2-Dichloroethene	1	U
156-60-5	trans-1,2-Dichloroethene	1	U
67-66-3	Chloroform	1	U
107-06-2	1,2-Dichloroethane	1	U
78-93-3	2-Butanone	5	U
74-97-5	Bromochloromethane	1	U
71-55-6	1,1,1-Trichloroethane	1	U
56-23-5	Carbon tetrachloride	1	U
75-27-4	Bromodichloromethane	1	U
78-87-5	1,2-Dichloropropane	1	U
10061-01-5	cis-1,3-Dichloropropene	1	U
79-01-6	Trichloroethene	1	U
124-48-1	Dibromochloromethane	1	U
79-00-5	1,1,2-Trichloroethane	1	U
71-43-2	Benzene	1	U
10061-02-6	trans-1,3-Dichloropropene	1	U
75-25-2	Bromoform	1	U
108-10-1	4-Methyl-2-pentanone	5	U
591-78-6	2-Hexanone	5	U
127-18-4	Tetrachloroethene	1	U
79-34-5	1,1,2,2-Tetrachloroethane	1	U
106-93-4	1,2-Dibromoethane	1	U
108-88-3	Toluene	1	U
108-90-7	Chlorobenzene	1	U
100-41-4	Ethylbenzene	1	U
100-42-5	Styrene	1	U
1330-20-7	Xylenes (total)	1	U
541-73-1	1,3-Dichlorobenzene	1	U
106-46-7	1,4-Dichlorobenzene	1	U
95-50-1	1,2-Dichlorobenzene	1	U
96-12-8	1,2-Dibromo-3-chloropropane	1	U
120-82-1	1,2,4-Trichlorobenzene	1	U

1LCE

EPA SAMPLE NO.

LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EDPM4

1 Rep Blank

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDPK9

Lab Sample ID: 6004.014 Date Received: 04/19/00

Lab File ID: F0884 Date Analyzed: 04/22/00

Purge Volume: 20 (mL) Dilution Factor: 1.0

GC Column: DB-624 ID: 0.53 (mm) Length: 60 (m)

Number TICs found: 0

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC. (ug/L)	Q
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1LCA

LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VLCS55

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDPK9

Lab Sample ID: FVLCS054 Date Received: _____

Lab File ID: F0893 Date Analyzed: 04/24/00

Purge Volume: 20 (mL) Dilution Factor: 1.0

GC Column: DB-624 ID: 0.53 (mm) Length: 60 (m)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
74-87-3	Chloromethane	1	U
74-83-9	Bromomethane	1	U
75-01-4	Vinyl chloride	5	
75-00-3	Chloroethane	1	U
75-09-2	Methylene chloride	2	U
67-64-1	Acetone	5	U
75-15-0	Carbon disulfide	1	U
75-35-4	1,1-Dichloroethene	1	U
75-34-3	1,1-Dichloroethane	1	U
156-59-2	cis-1,2-Dichloroethene	1	U
156-60-5	trans-1,2-Dichloroethene	1	U
67-66-3	Chloroform	1	U
107-06-2	1,2-Dichloroethane	6	
78-93-3	2-Butanone	5	U
74-97-5	Bromochloromethane	1	U
71-55-6	1,1,1-Trichloroethane	1	U
56-23-5	Carbon tetrachloride	5	
75-27-4	Bromodichloromethane	1	U
78-87-5	1,2-Dichloropropane	5	
10061-01-5	cis-1,3-Dichloropropene	5	
79-01-6	Trichloroethene	5	
124-48-1	Dibromochloromethane	1	U
79-00-5	1,1,2-Trichloroethane	4	
71-43-2	Benzene	5	
10061-02-6	trans-1,3-Dichloropropene	1	U
75-25-2	Bromoform	5	
108-10-1	4-Methyl-2-pentanone	5	U
591-78-6	2-Hexanone	5	U
127-18-4	Tetrachloroethene	5	
79-34-5	1,1,2,2-Tetrachloroethane	1	U
106-93-4	1,2-Dibromoethane	4	
108-88-3	Toluene	1	U
108-90-7	Chlorobenzene	1	U
100-41-4	Ethylbenzene	1	U
100-42-5	Styrene	1	U
1330-20-7	Xylenes (total)	1	U
541-73-1	1,3-Dichlorobenzene	1	U
106-46-7	1,4-Dichlorobenzene	4	
95-50-1	1,2-Dichlorobenzene	1	U
96-12-8	1,2-Dibromo-3-chloropropane	1	U
120-82-1	1,2,4-Trichlorobenzene	1	U

000258

2LCB

LOW CONC. WATER SEMIVOLATILE SURROGATE RECOVERY

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDPK9

	EPA SAMPLE NO.	NBZ %REC #	FBP %REC #	TPH %REC #	PHL %REC #	2FP %REC #	TBP %REC #	OTHER	TOT OUT
01	SBLK27	67	60	94	69	77	83		0
02	SLCS60	81	76	84	85	89	74		0
03	EDPK9	68	63	92	71	79	87		0
04	EDPL0	66	57	63	67	78	64		0
05	EDPL1	56	50	95	57	68	80		0
06	EDPL2	60	54	93	61	71	79		0
07	EDPL3	62	57	70	65	71	68		0
08	EDPL4	59	53	69	60	67	66		0
09	EDPL5	56	49	63	62	64	62		0
10	EDPL6	42	34	59	42	45	48		0
11	EDPL7	60	55	72	61	67	69		0
12	EDPL8	38	30	41	41	45	39		0
13	EDPM0	42	37	48	42	44	48		0
14	EDPM1	81	73	84	94	97	85		0
15	EDPM2	68	60	72	69	72	75		0
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	QC LIMITS %REC
NBZ = Nitrobenzene-d5	(23-120)
FBP = 2-Fluorobiphenyl	(30-115)
TPH = Terphenyl-d14	(18-140)
PHL = Phenol-d5	(15-115)
2FP = 2-Fluorophenol	(15-121)
TBP = 2,4,6-Tribromophenol	(15-130)

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

000269

LOW CONC. WATER SEMIVOLATILE LAB CONTROL SAMPLE RECOVERY

SLCS60

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDPK9

Lab Sample ID: SVOL592 LCS Lot No.:

Lab File ID: H0927 Date Extracted: 04/23/00

LCS Aliquot: 1000 (uL) Date Analyzed: 05/05/00

Concentrated Extract Volume: 1000 (uL) Dilution Factor: 1.0

Injection Volume: 1.0 (uL)

COMPOUND	AMOUNT ADDED (ng)	AMOUNT RECOVERED (ng)	%REC #	QC LIMITS
Phenol	40000	37000	92	40-120
bis(2-Chloroethyl)ether	20000	19000	95	50-110
2-Chlorophenol	40000	38000	95	50-110
N-Nitroso-di-n-propylamine	20000	18000	90	30-110
Hexachloroethane	20000	10000	50	20-110
Isophorone	20000	13000	65	50-110
Naphthalene	20000	17000	85	30-110
4-Chloroaniline	40000	28000	70	10-120
2,4,6-Trichlorophenol	40000	31000	78	40-120
2,4-Dinitrotoluene	20000	12000	60	30-120
Diethylphthalate	20000	14000	70	50-120
N-Nitrosodiphenylamine	20000	11000	55	30-110
Hexachlorobenzene	20000	13000	65	40-120
Benzo(a)pyrene	20000	14000	70	50-120

Column to be used to flag LCS recovery with an asterisk.

* Values outside of QC limits.

LCS Recovery: 0 outside limits out of 14 total.

COMMENTS: _____

4LCB

LOW CONC. WATER SEMIVOLATILE METHOD BLANK SUMMARY

EPA SAMPLE NO.

SBLK27

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDPK9

Lab Sample ID: SVOB700 Date Extracted: 04/23/00

Lab File ID: H0926 Date Analyzed: 05/05/00

Instrument ID: H-HP5973 Time Analyzed: 0043

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES AND LCS:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
01	SLCS60	SVOL592	H0927	05/05/00
02	EDPK9	6004.002	H0928	05/05/00
03	EDPL0	6004.003	H0929	05/05/00
04	EDPL1	6004.004	H0930	05/05/00
05	EDPL2	6004.005	H0931	05/05/00
06	EDPL3	6004.006	H0932	05/05/00
07	EDPL4	6004.007	H0933	05/05/00
08	EDPL5	6004.008	H0937	05/05/00
09	EDPL6	6004.009	H0938	05/05/00
10	EDPL7	6004.010	H0939	05/05/00
11	EDPL8	6004.011	H0940	05/05/00
12	EDPM0	6004.013	H0941	05/05/00
13	EDPM1	6008.001	H0942	05/05/00
14	EDPM2	6008.002	H0943	05/05/00
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COMMENTS: _____

1LCB

EPA SAMPLE NO.

LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SBLK27

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDPK9

Lab Sample ID: SVOB700 Date Received: _____

Lab File ID: H0926 Date Extracted: 04/23/00

Sample Volume: 1000 (mL) Date Analyzed: 05/05/00

Concentrated Extract Volume: 1000 (uL) Dilution Factor: 1.0

Injection Volume: 1.0 (uL)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
108-95-2	Phenol	5	U
111-44-4	bis(2-Chloroethyl)ether	5	U
95-57-8	2-Chlorophenol	5	U
95-48-7	2-Methylphenol	5	U
108-60-1	2,2'-oxybis(1-Chloropropane)	5	U
106-44-5	4-Methylphenol	5	U
621-64-7	N-Nitroso-di-n-propylamine	5	U
67-72-1	Hexachloroethane	5	U
98-95-3	Nitrobenzene	5	U
78-59-1	Isophorone	5	U
88-75-5	2-Nitrophenol	5	U
105-67-9	2,4-Dimethylphenol	5	U
111-91-1	bis(2-Chloroethoxy)methane	5	U
120-83-2	2,4-Dichlorophenol	5	U
91-20-3	Naphthalene	5	U
106-47-8	4-Chloroaniline	5	U
87-68-3	Hexachlorobutadiene	5	U
59-50-7	4-Chloro-3-methylphenol	5	U
91-57-6	2-Methylnaphthalene	5	U
77-47-4	Hexachlorocyclopentadiene	5	U
88-06-2	2,4,6-Trichlorophenol	5	U
95-95-4	2,4,5-Trichlorophenol	20	U
91-58-7	2-Chloronaphthalane	5	U
88-74-4	2-Nitroaniline	20	U
131-11-3	Dimethylphthalate	5	U
208-96-8	Acenaphthylene	5	U
606-20-2	2,6-Dintrotoluene	5	U
99-09-2	3-Nitroaniline	20	U
83-32-9	Acenaphthene	5	U

000534

LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SBLK27

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDPK9

Lab Sample ID: SVOB700 Date Received: _____

Lab File ID: H0926 Date Extracted: 04/23/00

Sample Volume: 1000 (mL) Date Analyzed: 05/05/00

Concentrated Extract Volume: 1000 (uL) Dilution Factor: 1.0

Injection Volume: 1 (uL)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
51-28-5	2,4-Dinitrophenol	20	U
100-02-7	4-Nitrophenol	20	U
132-64-9	Dibenzofuran	5	U
121-14-2	2,4-Dinitrotoluene	5	U
84-66-2	Diethylphthalate	5	U
7005-72-3	4-Chlorophenyl-phenylether	5	U
86-73-7	Fluorene	5	U
100-01-6	4-Nitroaniline	20	U
534-52-1	4,6-Dinitro-2-methylphenol	20	U
86-30-6	N-Nitrosodiphenylamine (1)	5	U
101-55-3	4-Bromophenyl-phenylether	5	U
118-74-1	Hexachlorobenzene	5	U
87-86-5	Pentachlorophenol	20	U
85-01-8	Phenanthrene	5	U
120-12-7	Anthracene	5	U
84-74-2	Di-n-butylphthalate	5	U
206-44-0	Fluoranthene	5	U
129-00-0	Pyrene	5	U
85-68-7	Butylbenzylphthalate	5	U
91-94-1	3,3'-Dichlorobenzidine	5	U
56-55-3	Benzo(a)anthracene	5	U
218-01-9	Chrysene	5	U
117-81-7	bis(2-Ethylhexyl)phthalate	5	U
117-84-0	Di-n-octylphthalate	5	U
205-99-2	Benzo(b)fluoranthene	5	U
207-08-9	Benzo(k)fluoranthene	5	U
50-32-8	Benzo(a)pyrene	5	U
193-39-5	Indeno(1,2,3-cd)Pyrene	5	U
53-70-3	Dibenz(a,h)anthracene	5	U
191-24-2	Benzo(g,h,i)perylene	5	U

(1) - Cannot be separated from Diphenylamine

1LCF

LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

SBLK27

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDPK9

Lab Sample ID: SVOB700 Date Received: _____

Lab File ID: H0926 Date Extracted: 04/23/00

Sample Volume: 1000 (mL) Date Analyzed: 05/05/00

Concentrated Extract Volume: 1000 (uL) Dilution Factor: 1.0

Injection Volume: 1.0 (uL)

Number TICs found: 0

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC. (ug/L)	Q
1.					
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1LCA

EPA SAMPLE NO.

LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET

VLCS54

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDPK9

Lab Sample ID: FVLCS053 Date Received: _____

Lab File ID: F0879 Date Analyzed: 04/21/00

Purge Volume: 20 (mL) Dilution Factor: 1.0

GC Column: DB-624 ID: 0.53 (mm) Length: 60 (m)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
74-87-3	Chloromethane	1	U
74-83-9	Bromomethane	1	U
75-01-4	Vinyl chloride	4	
75-00-3	Chloroethane	1	U
75-09-2	Methylene chloride	2	U
67-64-1	Acetone	5	U
75-15-0	Carbon disulfide	1	U
75-35-4	1,1-Dichloroethene	1	U
75-34-3	1,1-Dichloroethane	1	U
156-59-2	cis-1,2-Dichloroethene	1	U
156-60-5	trans-1,2-Dichloroethene	1	U
67-66-3	Chloroform	1	U
107-06-2	1,2-Dichloroethane	5	
78-93-3	2-Butanone	5	U
74-97-5	Bromochloromethane	1	U
71-55-6	1,1,1-Trichloroethane	1	U
56-23-5	Carbon tetrachloride	5	
75-27-4	Bromodichloromethane	1	U
78-87-5	1,2-Dichloropropane	4	
10061-01-5	cis-1,3-Dichloropropene	4	
79-01-6	Trichloroethene	4	
124-48-1	Dibromochloromethane	1	U
79-00-5	1,1,2-Trichloroethane	4	
71-43-2	Benzene	5	
10061-02-6	trans-1,3-Dichloropropene	1	U
75-25-2	Bromoform	3	
108-10-1	4-Methyl-2-pentanone	5	U
591-78-6	2-Hexanone	5	U
127-18-4	Tetrachloroethene	4	
79-34-5	1,1,2,2-Tetrachloroethane	1	U
106-93-4	1,2-Dibromoethane	4	
108-88-3	Toluene	1	U
108-90-7	Chlorobenzene	1	U
100-41-4	Ethylbenzene	1	U
100-42-5	Styrene	1	U
1330-20-7	Xylenes (total)	1	U
541-73-1	1,3-Dichlorobenzene	1	U
106-46-7	1,4-Dichlorobenzene	4	
95-50-1	1,2-Dichlorobenzene	1	U
96-12-8	1,2-Dibromo-3-chloropropane	1	U
120-82-1	1,2,4-Trichlorobenzene	1	U

EPA SAMPLE NO.

LOW CONC. WATER VOLATILE LAB CONTROL SAMPLE RECOVERY

VLCS54

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDPK9

Lab Sample ID: FVLCS053 LCS Lot No.: 60

Lab File ID: F0879 Date Analyzed: 04/21/00

Purge Volume: 20.0 (mL) Dilution Factor: 1.0

LCS Aliquot: 10.0 (uL)

COMPOUND	AMOUNT ADDED (ng)	AMOUNT RECOVERED (ng)	%REC #	QC LIMITS
Vinyl chloride	100	75	75	60-140
1,2-Dichloroethane	100	99	99	60-140
Carbon tetrachloride	100	91	91	60-140
1,2-Dichloropropane	100	86	86	60-140
Trichloroethene	100	85	85	60-140
1,1,2-Trichloroethane	100	76	76	60-140
Benzene	100	92	92	60-140
cis-1,3-Dichloropropene	100	81	81	60-140
Bromoform	100	70	70	60-140
Tetrachloroethene	100	86	86	60-140
1,2-Dibromoethane	100	74	74	60-140
1,4-Dichlorobenzene	100	77	77	60-140

Column to be used to flag LCS recovery with an asterisk.

* Values outside of QC limits.

LCS Recovery: 0 outside limits out of 12 total.

COMMENTS: _____

EPA SAMPLE NO.

LOW CONC. WATER VOLATILE LAB CONTROL SAMPLE RECOVERY

VLCS55

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDPK9

Lab Sample ID: FVLCS054 LCS Lot No.: 60

Lab File ID: F0893 Date Analyzed: 04/24/00

Purge Volume: 20.0 (mL) Dilution Factor: 1.0

LCS Aliquot: 10.0 (uL)

COMPOUND	AMOUNT ADDED (ng)	AMOUNT RECOVERED (ng)	%REC #	QC LIMITS
Vinyl chloride	100	95	95	60-140
1,2-Dichloroethane	100	117	117	60-140
Carbon tetrachloride	100	93	93	60-140
1,2-Dichloropropane	100	93	93	60-140
Trichloroethene	100	94	94	60-140
1,1,2-Trichloroethane	100	89	89	60-140
Benzene	100	98	98	60-140
cis-1,3-Dichloropropene	100	92	92	60-140
Bromoform	100	97	97	60-140
Tetrachloroethene	100	92	92	60-140
1,2-Dibromoethane	100	86	86	60-140
1,4-Dichlorobenzene	100	89	89	60-140

Column to be used to flag LCS recovery with an asterisk.

* Values outside of QC limits.

LCS Recovery: 0 outside limits out of 12 total.

COMMENTS: _____

LOW CONC. WATER VOLATILE METHOD BLANK SUMMARY

EPA SAMPLE NO.

VBLK54

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDPK9

Lab Sample ID: FVBLK053 Date Analyzed: 04/21/00

Lab File ID: F0878 Time Analyzed: 2303

Instrument ID: F-HP5973

GC Column: DB-624 ID: 0.53 (mm) Length: 60 (m)

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES AND LCS:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
01	VLCS54	FVLCS053	F0879	2352
02	EDPL7	6004.010	F0880	0041
03	EDPL8	6004.011	F0881	0129
04	EDPL9	6004.012	F0882	0218
05	EDPM0	6004.013	F0883	0306
06	EDPM4	6004.014	F0884	0354
07	EDPM1	6008.001	F0885	0442
08	EDPM2	6008.002	F0887	0617
09	EDPM5	6008.003	F0888	0704
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COMMENTS: _____

EPA SAMPLE NO.

LOW CONC. WATER VOLATILE METHOD BLANK SUMMARY

VBLK55

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDPK9

Lab Sample ID: FVBLK054 Date Analyzed: 04/24/00

Lab File ID: F0892 Time Analyzed: 1037

Instrument ID: F-HP5973

GC Column: DB-624 ID: 0.53 (mm) Length: 60 (m)

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES AND LCS:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
01	VLCS55	FVLCS054	F0893	1126
02	EDPK9	6004.002	F0894	1215
03	EDPL1	6004.004	F0896	1406
04	EDPL3	6004.006	F0898	1534
05	EDPL4	6004.007	F0899	1623
06	EDPL5	6004.008	F0900	1712
07	EDPL6	6004.009	F0901	1800
08	EDPL0	6004.003	F0902	1849
09	EDPL2	6004.005	F0903	1939
10	VHBLK01	6004.001	F0904	2028
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COMMENTS: _____

LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VBLK54

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDPK9

Lab Sample ID: FVBLK053 Date Received: _____

Lab File ID: F0878 Date Analyzed: 04/21/00

Purge Volume: 20 (mL) Dilution Factor: 1.0

GC Column: DB-624 ID: 0.53 (mm) Length: 60 (m)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
74-87-3	Chloromethane	1	U
74-83-9	Bromomethane	1	U
75-01-4	Vinyl chloride	1	U
75-00-3	Chloroethane	1	U
75-09-2	Methylene chloride	2	U
67-64-1	Acetone	5	U
75-15-0	Carbon disulfide	1	U
75-35-4	1,1-Dichloroethene	1	U
75-34-3	1,1-Dichloroethane	1	U
156-59-2	cis-1,2-Dichloroethene	1	U
156-60-5	trans-1,2-Dichloroethene	1	U
67-66-3	Chloroform	1	U
107-06-2	1,2-Dichloroethane	1	U
78-93-3	2-Butanone	5	U
74-97-5	Bromochloromethane	1	U
71-55-6	1,1,1-Trichloroethane	1	U
56-23-5	Carbon tetrachloride	1	U
75-27-4	Bromodichloromethane	1	U
78-87-5	1,2-Dichloropropane	1	U
10061-01-5	cis-1,3-Dichloropropene	1	U
79-01-6	Trichloroethene	1	U
124-48-1	Dibromochloromethane	1	U
79-00-5	1,1,2-Trichloroethane	1	U
71-43-2	Benzene	1	U
10061-02-6	trans-1,3-Dichloropropene	1	U
75-25-2	Bromoform	1	U
108-10-1	4-Methyl-2-pentanone	5	U
591-78-6	2-Hexanone	5	U
127-18-4	Tetrachloroethene	1	U
79-34-5	1,1,2,2-Tetrachloroethane	1	U
106-93-4	1,2-Dibromoethane	1	U
108-88-3	Toluene	1	U
108-90-7	Chlorobenzene	1	U
100-41-4	Ethylbenzene	1	U
100-42-5	Styrene	1	U
1330-20-7	Xylenes (total)	1	U
541-73-1	1,3-Dichlorobenzene	1	U
106-46-7	1,4-Dichlorobenzene	1	U
95-50-1	1,2-Dichlorobenzene	1	U
96-12-8	1,2-Dibromo-3-chloropropane	1	U
120-82-1	1,2,4-Trichlorobenzene	1	U

1LCE

EPA SAMPLE NO.

LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

VBLK54

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDPK9

Lab Sample ID: FVBLK053 Date Received: _____

Lab File ID: F0878 Date Analyzed: 04/21/00

Purge Volume: 20 (mL) Dilution Factor: 1.0

GC Column: DB-624 ID: 0.53 (mm) Length: 60 (m)

Number TICs found: 0

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC. (ug/L)	Q
1.					
2.					
3.					
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EPA SAMPLE NO.

LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET

VBLK55

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDPK9

Lab Sample ID: FVBLK054 Date Received: _____

Lab File ID: F0892 Date Analyzed: 04/24/00

Purge Volume: 20 (mL) Dilution Factor: 1.0

GC Column: DB-624 ID: 0.53 (mm) Length: 60 (m)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
74-87-3	Chloromethane	1	U
74-83-9	Bromomethane	1	U
75-01-4	Vinyl chloride	1	U
75-00-3	Chloroethane	1	U
75-09-2	Methylene chloride	2	U
67-64-1	Acetone	5	U
75-15-0	Carbon disulfide	1	U
75-35-4	1,1-Dichloroethene	1	U
75-34-3	1,1-Dichloroethane	1	U
156-59-2	cis-1,2-Dichloroethene	1	U
156-60-5	trans-1,2-Dichloroethene	1	U
67-66-3	Chloroform	1	U
107-06-2	1,2-Dichloroethane	1	U
78-93-3	2-Butanone	5	U
74-97-5	Bromochloromethane	1	U
71-55-6	1,1,1-Trichloroethane	1	U
56-23-5	Carbon tetrachloride	1	U
75-27-4	Bromodichloromethane	1	U
78-87-5	1,2-Dichloropropane	1	U
10061-01-5	cis-1,3-Dichloropropene	1	U
79-01-6	Trichloroethene	1	U
124-48-1	Dibromochloromethane	1	U
79-00-5	1,1,2-Trichloroethane	1	U
71-43-2	Benzene	1	U
10061-02-6	trans-1,3-Dichloropropene	1	U
75-25-2	Bromoform	1	U
108-10-1	4-Methyl-2-pentanone	5	U
591-78-6	2-Hexanone	5	U
127-18-4	Tetrachloroethene	1	U
79-34-5	1,1,2,2-Tetrachloroethane	1	U
106-93-4	1,2-Dibromoethane	1	U
108-88-3	Toluene	1	U
108-90-7	Chlorobenzene	1	U
100-41-4	Ethylbenzene	1	U
100-42-5	Styrene	1	U
1330-20-7	Xylenes (total)	1	U
541-73-1	1,3-Dichlorobenzene	1	U
106-46-7	1,4-Dichlorobenzene	1	U
95-50-1	1,2-Dichlorobenzene	1	U
96-12-8	1,2-Dibromo-3-chloropropane	1	U
120-82-1	1,2,4-Trichlorobenzene	1	U

1LCE

EPA SAMPLE NO.

LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

VBLK55

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDPK9

Lab Sample ID: FVBLK054 Date Received: _____

Lab File ID: F0892 Date Analyzed: 04/24/00

Purge Volume: 20 (mL) Dilution Factor: 1.0

GC Column: DB-624 ID: 0.53 (mm) Length: 60 (m)

Number TICs found: 0

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC. (ug/L)	Q
1.					
2.					
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1LCA

EPA SAMPLE NO.

LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET

VHBLK01

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDPK9

Lab Sample ID: 6004.001 Date Received: 04/19/00

Lab File ID: F0904 Date Analyzed: 04/24/00

Purge Volume: 20 (mL) Dilution Factor: 1.0

GC Column: DB-624 ID: 0.53 (mm) Length: 60 (m)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
74-87-3	Chloromethane	1	U
74-83-9	Bromomethane	1	U
75-01-4	Vinyl chloride	1	U
75-00-3	Chloroethane	1	U
75-09-2	Methylene chloride	2	U
67-64-1	Acetone	5	U
75-15-0	Carbon disulfide	1	U
75-35-4	1,1-Dichloroethene	1	U
75-34-3	1,1-Dichloroethane	1	U
156-59-2	cis-1,2-Dichloroethene	1	U
156-60-5	trans-1,2-Dichloroethene	1	U
67-66-3	Chloroform	1	U
107-06-2	1,2-Dichloroethane	1	U
78-93-3	2-Butanone	5	U
74-97-5	Bromochloromethane	1	U
71-55-6	1,1,1-Trichloroethane	1	U
56-23-5	Carbon tetrachloride	1	U
75-27-4	Bromodichloromethane	1	U
78-87-5	1,2-Dichloropropane	1	U
10061-01-5	cis-1,3-Dichloropropene	1	U
79-01-6	Trichloroethene	1	U
124-48-1	Dibromochloromethane	1	U
79-00-5	1,1,2-Trichloroethane	1	U
71-43-2	Benzene	1	U
10061-02-6	trans-1,3-Dichloropropene	1	U
75-25-2	Bromoform	1	U
108-10-1	4-Methyl-2-pentanone	5	U
591-78-6	2-Hexanone	5	U
127-18-4	Tetrachloroethene	1	U
79-34-5	1,1,2,2-Tetrachloroethane	1	U
106-93-4	1,2-Dibromoethane	1	U
108-88-3	Toluene	1	U
108-90-7	Chlorobenzene	1	U
100-41-4	Ethylbenzene	1	U
100-42-5	Styrene	1	U
1330-20-7	Xylenes (total)	1	U
541-73-1	1,3-Dichlorobenzene	1	U
106-46-7	1,4-Dichlorobenzene	1	U
95-50-1	1,2-Dichlorobenzene	1	U
96-12-8	1,2-Dibromo-3-chloropropane	1	U
120-82-1	1,2,4-Trichlorobenzene	1	U

000239

1LCE

EPA SAMPLE NO.

LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

VHBLK01

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDPK9

Lab Sample ID: 6004.001 Date Received: 04/19/00

Lab File ID: F0904 Date Analyzed: 04/24/00

Purge Volume: 20 (mL) Dilution Factor: 1.0

GC Column: DB-624 ID: 0.53 (mm) Length: 60 (m)

Number TICs found: 0

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC. (ug/L)	Q
1.					
2.					
3.					
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5.					
6.					
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1LCB

LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SLCS60

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDPK9

Lab Sample ID: SVOL592 Date Received: _____

Lab File ID: H0927 Date Extracted: 04/23/00

Sample Volume: 1000 (mL) Date Analyzed: 05/05/00

Concentrated Extract Volume: 1000 (uL) Dilution Factor: 1.0

Injection Volume: 1.0 (uL)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
108-95-2	Phenol	37	
111-44-4	bis(2-Chloroethyl)ether	19	
95-57-8	2-Chlorophenol	38	
95-48-7	2-Methylphenol	5	U
108-60-1	2,2'-oxybis(1-Chloropropane)	5	U
106-44-5	4-Methylphenol	5	U
621-64-7	N-Nitroso-di-n-propylamine	18	
67-72-1	Hexachloroethane	10	
98-95-3	Nitrobenzene	5	U
78-59-1	Isophorone	13	
88-75-5	2-Nitrophenol	5	U
105-67-9	2,4-Dimethylphenol	5	U
111-91-1	bis(2-Chloroethoxy)methane	5	U
120-83-2	2,4-Dichlorophenol	5	U
91-20-3	Naphthalene	17	
106-47-8	4-Chloroaniline	28	
87-68-3	Hexachlorobutadiene	5	U
59-50-7	4-Chloro-3-methylphenol	5	U
91-57-6	2-Methylnaphthalene	5	U
77-47-4	Hexachlorocyclopentadiene	5	U
88-06-2	2,4,6-Trichlorophenol	31	
95-95-4	2,4,5-Trichlorophenol	20	U
91-58-7	2-Chloronaphthalane	5	U
88-74-4	2-Nitroaniline	20	U
131-11-3	Dimethylphthalate	5	U
208-96-8	Acenaphthylene	5	U
606-20-2	2,6-Dintrotoluene	5	U
99-09-2	3-Nitroaniline	20	U
83-32-9	Acenaphthene	5	U

000539

1LCC

LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SLCS60

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDPK9

Lab Sample ID: SVOL592 Date Received: _____

Lab File ID: H0927 Date Extracted: 04/23/00

Sample Volume: 1000 (mL) Date Analyzed: 05/05/00

Concentrated Extract Volume: 1000 (uL) Dilution Factor: 1.0

Injection Volume: 1 (uL)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
51-28-5	2,4-Dinitrophenol	20	U
100-02-7	4-Nitrophenol	20	U
132-64-9	Dibenzofuran	5	U
121-14-2	2,4-Dinitrotoluene	12	
84-66-2	Diethylphthalate	14	
7005-72-3	4-Chlorophenyl-phenylether	5	U
86-73-7	Fluorene	5	U
100-01-6	4-Nitroaniline	20	U
534-52-1	4,6-Dinitro-2-methylphenol	20	U
86-30-6	N-Nitrosodiphenylamine (1)	11	
101-55-3	4-Bromophenyl-phenylether	5	U
118-74-1	Hexachlorobenzene	13	
87-86-5	Pentachlorophenol	20	U
85-01-8	Phenanthrene	5	U
120-12-7	Anthracene	5	U
84-74-2	Di-n-butylphthalate	5	U
206-44-0	Fluoranthene	5	U
129-00-0	Pyrene	5	U
85-68-7	Butylbenzylphthalate	5	U
91-94-1	3,3'-Dichlorobenzidine	5	U
56-55-3	Benzo(a)anthracene	5	U
218-01-9	Chrysene	5	U
117-81-7	bis(2-Ethylhexyl)phthalate	5	U
117-84-0	Di-n-octylphthalate	5	U
205-99-2	Benzo(b)fluoranthene	5	U
207-08-9	Benzo(k)fluoranthene	5	U
50-32-8	Benzo(a)pyrene	14	
193-39-5	Indeno(1,2,3-cd)Pyrene	5	U
53-70-3	Dibenz(a,h)anthracene	5	U
191-24-2	Benzo(g,h,i)perylene	5	U

(1) - Cannot be separated from Diphenylamine

REGION V
ESD Central Regional Laboratory
Data Tracking Form for Contract Samples

Sample Delivery Group: EDPK9 CERCLIS No: _____

Case No: 27986 Site Name/Location: HIMCO LANDFILL

Contractor or EPA Lab: PDP Data User: USEPA

No. of Samples: 16 Date Sampled or Date Received: 5-10-00

Have Chain-of-Custody records been received? Yes ✓ No ____
Have traffic reports or packing lists been received? Yes ✓ No ____
If no, are traffic report or packing list numbers written on the Chain-of-Custody Record?
Yes ____ No ____
If no, which traffic report or packing list numbers are missing?

_____ _____ _____ _____
_____ _____ _____ _____

Are basic data forms in? Yes ✓ No ____
No of samples claimed: 16 No. of samples received: 16

Received by: EVA M. DIXON /ESAT Date: 5-10-00

Received by LSSS: EVA M. DIXON /ESAT Date: 5-10-00

Review started: _____ Reviewer Signature: _____

Total time spent on review: _____ Date review completed: _____

Copied by: _____ Date: _____

Mailed to user by: _____ Date: _____

DATA USER:
Please fill in the blanks below and return this form to:
Sylvia Griffin, Data Mgmt. Coordinator, Region V, ML-10C

Data received by: _____ Date: _____

Data review received by: _____ Date: _____

Inorganic Data Complete	[ ] Suitable for Intended Purpose [ ] ✓ if OK
Organic Data Complete	[ ] Suitable for Intended Purpose [ ] ✓ if OK
Dioxin data Complete	[ ] Suitable for Intended Purpose [ ] ✓ if OK
SAS Data Complete	[ ] Suitable for Intended Purpose [ ] ✓ if OK

PROBLEMS: Please indicate reasons why data are not suitable for your uses.

_____
_____

Received by Data Mgmt. Coordinator for Files. Date: _____

PDP ANALYTICAL SERVICES

1680 Lake Front Circle, Suite B • The Woodlands, TX 77380 • Phone (281)363-2233

Contract No. 68-D7-0004	Case No. 27986	SDG No. EDPK9

SDG NARRATIVE

MAY 1 0 2000

SAMPLE RECEIPT :

04/19/00 @ 09:02 A.M. - Received two shipments consisting of two coolers:Cooler 1 temperature : 4°C. Cooler 2 temperature : 4°C (COC391562, COC391563, COC391564, COC391565)contained the following:

EDPK9 - 2-1L Amber, 3-40mL Voa Vials.
EDPL0 - 2-1L Amber, 3-40mL Voa Vials.
EDPL1 - 2-1L Amber, 3-40mL Voa Vials.
EDPL2 - 2-1L Amber, 3-40mL Voa Vials.
EDPL3 - 2-1L Amber, 3-40mL Voa Vials.
EDPL4 - 2-1L Amber, 3-40mL Voa Vials.
EDPL5 - 2-1L Amber, 3-40mL Voa Vials.
EDPL6 - 2-1L Amber, 3-40mL Voa Vials.
EDPL7 - 2-1L Amber, 3-40mL Voa Vials.
EDPL8 - 2-1L Amber, 3-40mL Voa Vials.
EDPL9 - 2-40mL Voa Vials.
EDPM0 - 2-1L Amber, 3-40mL Voa Vials(1-40mL Voa received broken).
EDPM4 - 2-40mL Voa Vials.

04/20/00 @ 09:04 A.M. - Received one shipment consisting of two coolers:Cooler 1 temperature : 4°C. Cooler 2 temperature : 4°C (COC391566) contained the following:

EDPM1 - 2-1L Amber, 3-40mL Voa Vials.
EDPM2 - 2-1L Amber, 3-40mL Voa Vials.
EDPM5 - 2-40mL Voa Vials.

No other problems were encountered during sample receipt.

VOLATILES:

All samples were analyzed on a HP 5973 GC/MS using a 60 meters long DB-624 column having a 0.53mm ID and 3um film thickness. The trap used was a OV-1/Tenax/Silica Gel (Tekmar #6. Cat 14-1755-003) . A 20 mL purge volume was used for all samples, blanks and standards. The concentrations of the standards and spikes were maintained at the levels required by the Statement of Work (SOW).

The following field samples are analyzed for volatiles in this SDG. The pH of the samples is listed against them.

EDPK9	2.0	EDPL6	2.0	EDPM1	2.0
EDPL0	2.0	EDPL7	2.0	EDPM2	2.0
EDPL1	2.0	EDPL8	2.0	EDPM5	4.0
EDPL2	2.0	EDPL9	2.0		

PDP ANALYTICAL SERVICES
1680 Lake Front Circle, Suite B • The Woodlands, TX 77380 • Phone (281)363-2233

Contract No. 68-D7-0004	Case No. 27986	SDG No. EDPK9

SDG NARRATIVE

EDPL3	2.0	EDPM0	2.0
EDPL4	2.0	EDPM4	2.0
EDPL5	2.0		

Manual integration's were performed for the following samples for the compounds listed against them.

VSTD00158 – Acetone, 2-Hexanone, 1,2-Dibromo-3-chloropropane, 1,2,4-Trichlorobenzene.
VSTD00258 – 1,2-Dibromo-3-chloropropane, 1,2,4-Trichlorobenzene.
VSTD00563 – Bromomethane, Chloroethane, Acetone, Carbon Tetrachloride, Bromoform, 1,2-Dibromo-3-chloropropane.
VBLK77 – 1,4-Difluorobenzene.
EDPK9 – Methylene Chloride, cis-1,2-Dichloroethene.
EDPL1 – 1,1-Dichloroethane.
EDPL6 – 1,1-Dichloroethane.

These manual integration's were necessary because the software failed to accurately integrate the entire peak. In all the above instances, the quantitation reports are flagged with "m". A hard copy printout of the manual integration's along with the scan ranges and initials of the operator is included in the data package .
For those target compounds with low signals that required a manual search for the initial calibration, the analysts has performed the same manual search for every sample analysis to ensure that false negative results are not reported. All peaks in the calibration standards, samples and QC samples are checked manually to ensure that the software has correctly identified and integrated the peaks.

No problems were encountered during sample analysis.

SEMIVOLATILES:

The following samples were extracted using continuous liquid/liquid extraction method on 04/23/00

EDPK9, EDPL0, EDPL1, EDPL2, EDPL3, EDPL4, EDPL5, EDPL6, EDPL7, EDPL8, EDPM0, EDPM1, EDPM2

All samples were analyzed on a HP 5973 GC/MS using a 30 meters long and 0.25mm ID DB-5 column . A 2uL injection was used.

Manual integration's were performed for the following samples for the compounds listed against them.

SSTD00502 – Indeno(1,2,3-cd)pyrene.
SSTD01002 – Indeno(1,2,3-cd)pyrene.
SSTD02002 – Indeno(1,2,3-cd)pyrene
SSTD05002 – Indeno(1,2,3-cd)pyrene.

PDP ANALYTICAL SERVICES

1680 Lake Front Circle, Suite B • The Woodlands, TX 77380 • Phone (281)363-2233

Contract No. 68-D7-0004	Case No. 27986	SDG No. EDPK9

SDG NARRATIVE

SSTD08002 – Benzo(b)fluoranthene, Benzo(k)fluoranthene, Indeno(1,2,3-cd)pyrene.
SSTD02005 – 2,2'-oxybis(1-Chloropropane), Indeno(1,2,3-cd)pyrene.
SSTD02006 – 2,2'-oxybis(1-Chloropropane), Indeno(1,2,3-cd)pyrene.

These manual integration's were necessary because the software failed to accurately integrate the entire peak. In all the above instances, the quantitation reports are flagged with "m". A hard copy printout of the manual integration's along with the scan ranges and initials of the operator is included in the data package .
For those target compounds with low signals that required a manual search for the initial calibration, the analysts has performed the same manual search for every sample analysis to ensure that false negative results are not reported. All peaks in the calibration standards, samples and QC samples are checked manually to ensure that the software has correctly identified and integrated the peaks.

No problems were encountered during sample extraction and sample analysis.

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hard copy data package has been authorized by the laboratory manager or his designee, as verified by the following signature:

Elizabeth A Panico / QC Coordinator
Signature and Title

5/8/00
Date of Signature

Z:\NETDATA\QA\FORMS\CLP\NARR1296.DOC

Sample Delivery Group (SDG)
Traffic Report (TR) Cover Sheet

Lab Name: **PDP Analytical Services** Contract No.: **68-D7-0004**

Lab Code: **PDP** Case No. **27986**
Full Sample Analysis Price in Contract: **$ 525.00**

SDG No./First Sample in SDG: **EDPK9** Sample Receipt Date: **04/19/00**
(Lowest EPA Sample Number in first shipment of samples received under SDG.)

Last Sample in SDG: **EDPM5** Sample Receipt Date: **04/20/00**
(Highest EPA Sample Number in last shipment of samples received under SDG.)

EPA Sample Numbers in the SDG (listed in alphanumeric order)

1.	**EDPK9**	11.	**EDPL9**
2.	**EDPL0**	12.	**EDPM0**
3.	**EDPL1**	13.	**EDPM1**
4.	**EDPL2**	14.	**EDPM2**
5.	**EDPL3**	15.	**EDPM4**
6.	**EDPL4**	16.	**EDPM5**
7.	**EDPL5**		
8.	**EDPL6**		
9.	**EDPL7**		
10.	**EDPL8**		

Note: There are a maximum of 20 field samples in an SDG.

Attach Traffic Reports to this form in alphanumeric order (i.e., the order listed on this form).

S. Smith
Signature

4/26/00
Date

Organic Traffic Report & Chain of Custody Record

EPA United States Environmental Protection Agency
Contract Laboratory Program

(For Organic CLP Analysis)

SDG No.

Case No. 27986

3. Region No. 5 | Sampling Co. USACE | 5. Date Shipped 4/18/00 | Carrier FED EX | 7. Date Received--Received by: 4-19-00 Carlos Pinn

Sampler (Name) Janie E. Carrig | Airbill Number 820134806597 | Laboratory Contract No. 68-D7-0004 | Unit Price 525.00

Sampler Signature Janie E. Carrig | 6. Ship To: PDP Analytical Service, 1680 Lakefront Circle, Suite B, The Woodlands, TX 77380, ATTN: Sean Sundquist | 8. Transfer to: | Date Received

4. Purpose** (Lead: [X] SF, [ ] PRP, [ ] ST, [ ] FED, [ ] BZ; Early Action: [ ] IA, [ ] PA, [ ] REM, [ ] RI, [ ] SI, [ ] ESI; Long-Term Action: [ ] RIFS, [X] RD, [ ] RA, [ ] O&M) | Received by: | Contract Number | Price

CLP Sample Numbers (from labels)	A Matrix (from Box 1) Other: RES. WELL	B Conc.: (Low) Med	C Sample Type: Comp./ Grab	D Preservative (from Box 2) Other:	E RAS Analysis TA (circle one) PR* 7 14 21 VOA	E TA (circle one) PR* 7 14 21 BNA	E TA (circle one) PR* 7 14 21 Pest/ PCB	F Regional Specific Tracking Number or Tag Numbers	G Station Location Identifier	H Mo/Day/ Year/Time Sample Collection	I Corresponding CLP Inorganic Sample No.	J Sampler Initials	K Sample Condition
EDPK9	8	LL	Grab	1	X	—	—	5-068913, 5-068914	54287 Westwood	04/17/00 1550	NA	JC	
EDPK9	8	LL	Grab	5	—	X	—	5-068911, 5-068912	54287 Westwood	04/17/00 1550	NA	JC	
EDPL0	8	LL	Grab	1	X	—	—	5-068928, 5-068929, 5-068923	54280 Westwood	04/17/00 1559	NA	JC	
EDPL0	8	LL	Grab	5	—	X	—	5-068926, 5-068927	54280 Westwood	04/17/00 1559	NA	JC	
EDPL1	8	LL	Grab	1	X	—	—	5-068917, 5-068918, 5-068919	54271 Westwood	04/17/00 1626	NA	JC	
EDPL1	8	LL	Grab	5	—	X	—	5-068915, 5-068916	54271 Westwood	04/17/00 1626	NA	JC	
EDPL4	8	LL	Grab	1	X	—	—	5-068933, 5-068935, 5-068934	54215 Westwood	04/17/00 1744	NA	JC	
EDPL4	8	LL	Grab	5	—	X	—	5-068941, 5-068937	54215 Westwood	04/17/00 1744	NA	JC	
EDPL9	8	LL	Trip	1	X	—	—	5-068954, 5-068996	Trip Blank	04/17/00 1557	NA	JC	

Shipment for Case Complete? (Y/N) N | Page 1 of 2

VOA MS/MSD Required? Y/N Sample #:
BNA MS/MSD Required? Y/N Sample #:
Pest/PCB MS/MSD Required? Y/N Sample #:

Additional Sampler Signatures: Mary Richardson

Chain of Custody Seal Number(s): 22817, 22816

*PR provides 7-day data turnaround in addition to preliminary results. Requests for preliminary results will increase analytical costs.

Chain of Custody Record

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Janie E. Carrig	4-18-00 1000				
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature) Carlos Pinn	Date / Time 4-19-00 9:02	Remarks: Is custody seal intact? Y/N/none Case: 27986 SDG: EDPK9	

Distribution: Blue - Region Copy; White - Lab Copy for Return to SMO; Pink - SMO Copy; Yellow - Lab Copy for Return to Region

See Reverse for Additional Standard Instructions
**See Reverse for Purpose Code Definitions

EPA Form 9110-2 (2/99) CLASS-99-002

201562

EPA United States Environmental Protection Agency
Contract Laboratory Program

Organic Traffic Report & Chain of Custody Record
(For Organic CLP Analysis)

SDG No.

Case No. 27986

1. Matrix (Enter in Column A): 1. Surface Water 2. Ground Water 3. Leachate 4. Field QC 5. Soil/Sediment 6. PE water 7. PE soils 8. Other (specify in Column A)

2. Preservative (Enter in Column D): 1. HCl 2. HNO3 3. NaHSO4 4. H2SO4 5. Ice only 6. CH3OH 7. Other (specify in Column D) N. Not Preserved

3. Region No. 5 | Sampling Co. USACE | 5. Date Shipped 4/18/00 | Carrier FEDEX | 7. Date Received–Received by:

Sampler (Name): Janie E. Carrig | Airbill Number: 820134806597 | Laboratory Contract No. | Unit Price

Sampler Signature: Janie E Carrig | 6. Ship To: PDP Analytical Services, 1680 Lake Front Circle, Suite B, The Woodlands, TX 77380 | 8. Transfer to: | Date Received

4. Purpose**: Lead: SF, PRP, ST, FED, BZ | Early Action: IA, PA, REM, RI, SI, ESI | Long-Term Action: RIFS, RO, RA, O&M | Received by:

ATTN: Sean Sundquist | Contract Number | Price

CLP Sample Numbers (from labels)	A Matrix (from Box 1) Other: RES WELL	B Conc.: Low Med	C Sample Type: Comp./Grab	D Preservative (from Box 2) Other:	E RAS Analysis TA (circle one) PR* 7 14 21 VOA	TA (circle one) PR* 7 14 21 BNA	TA (circle one) PR* 7 14 21 Pest/PCB	F Regional Specific Tracking Number or Tag Numbers	G Station Location Identifier	H Mo/Day/Year/Time Sample Collection	I Corresponding CLP Inorganic Sample No.	J Sampler Initials	K Sample Condition
EDPL2	8	LL	Grab	1	X	—	—	5-068949, 5-068942, 5-068848	54253 Westwood	04/17/00 1639	NA	J	
EDPL2	8	LL	Grab	5	—	X	—	5-068851, 5-068844	54253 Westwood	04/17/00 1639	NA	J	
EDPL3	8	LL	Grab	1	X	—	—	5-068847, 068848, 5-068844	54231 Westwood	04/17/00 1700	NA	J	
EDPL3	8	LL	Grab	5	—	X	—	5-068849, 5-068850	54231 Westwood	04/17/00 1700	NA	J	
E													

Shipment for Case Complete? (Y/N) Y | Page 2 of 2 | VOA MS/MSD Required? Y/N Sample #: | BNA MS/MSD Required? Y/N Sample #: | Pest/PCB MS/MSD Required? Y/N Sample #:

Additional Sampler Signatures: Nancy Johansen | Chain of Custody Seal Number(s): 22817, 22816

*PR provides 7-day data turnaround in addition to preliminary results. Requests for preliminary results will increase analytical costs.

Chain of Custody Record

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Janie E Carrig	4/18/00 1000				
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature)	Date / Time 4-19-00 9:02	Remarks: Is custody seal intact? Y/N/none	CASE: 27986 SDG: EDPK9

Distribution: Blue - Region Copy, White - Lab Copy for Return to SMO, Pink - SMO Copy, Yellow - Lab Copy for Return to Region

See Reverse for Additional Standard Instructions
**See Reverse for Purpose Code Definitions

EPA Form 9110-2 (2/99)

CLASS-99-002

391563

000006

EPA United States Environmental Protection Agency
Contract Laboratory Program

& Chain of Custody Record
(For Organic CLP Analysis)

27986

3. Region No. 5	Sampling Co. USACE	5. Date Shipped 4-18-2000	Carrier FEDEX
Sampler (Name) Janie E. Carrig		Airbill Number 820134806586	
Sampler Signature Janie E Carrig		6. Ship To: ~~USEPA-CRL~~ PDP Analytical Services 1680 Lake Front Circle, Suite The Woodlands, Tx 77380 ATTN: Sean Sundquist	
4. Purpose** Lead: [X] SF [ ] PRP [ ] ST [ ] FEO [ ] BZ	Early Action: [ ] IA [ ] PA [ ] REM [ ] RI [ ] SI [ ] ESI	Long-Term Action: [ ] RIFS [X] RO [ ] RA [ ] O&M	

7. Date Received–Received by: 4-19-00 Carlos Pini
Laboratory Contract No. 68-D7-0004
Unit Price 525.00
8. Transfer to:
Date Received
Received by:
Contract Number
Price

CLP Sample Numbers (from labels)	A Matrix (from Box 1) Other: res. well	B Conc.: Low / Med	C Sample Type: Comp / Grab	D Preservative (from Box 2) Other:	E RAS Analysis TA (circle one) P* 7 14 21 VOA	TA (circle one) P* 7 14 21 BNA	TA (circle one) P* 7 14 21 Pest/PCB	F Regional Specific Tracking Number or Tag Numbers	G Station Location Identifier	H Mo/Day/Year/Time Sample Collection	I Corresponding CLP Inorganic Sample No.	J Sampler Initials	K Sample Condition
EDPL5	8	LL	Grab	1	X	—	—	5-068861, 5-068863, 5-068866	54125 Westwood Drive	04/18/00	N/A		
EDPL5	8	LL	Grab	5	—	X	—	5-068869, 5-068870	54125 Westwood Drive	04/18/00	N/A		
EDPL6	8	LL	Grab	1	X	—	—	5-068816, 5-068814, 5-068815	27919 Westwood Dr	04/18/00	N/A		
EDPL-6	8	LL	Grab	5	—	X	—	5-068817, 5-068818	27919 Westwood Dr	04/18/00	N/A		
EDPL7	8	LL	Grab	1	X	—	—	5-068823, 5-068824, 5-068825	27883 Westwood Drive	04/18/00	N/A		
EDPL7	8	LL	Grab	5	—	X	—	5-068826, 5-068827	~~54305~~ 27883 Westwood Dr	04/18/00	N/A		
EDPL8	8	LL	Grab	1	X	—	—	5-068958, 5-068959, 5-068956	54305 Westwood Dr	04/18/00	N/A		
EDPL8	8	LL	Grab	5	—	X	—	5-068960, 5-068810	54305 Westwood Dr	04/18/00	N/A		
EDPHQ	8	LL	Grab	1	X	—	—	5-068992, 5-068993, 5-068977	54305 Westwood Dr	04/18/00	N/A		
EDPHQ	8	LL	Grab	5	—	X	—	5-068951, 5-068952	54305 Westwood Dr	04/18/00	N/A		

Shipment for Case Complete? (Y/N)	Page 1 of 2	VOA MS/MSD Required? Y/N Sample #:	Additional Sampler Signatures	Chain of Custody Seal Number(s)
		BNA MS/MSD Required? Y/N Sample #:	Mary Johansen	22821, 22822
		Pest/PCB MS/MSD Required? Y/N Sample #:		

*PR provides 7-day data turnaround in addition to preliminary results. Requests for preliminary results will increase analytical costs.

Chain of Custody Record

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Janie E Carrig	4-18-00 1708				
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature) Carlos Pini	Date / Time 4-19-00 9:02	Remarks: Is custody seal intact? Y/N/none	Case: 27986 SDG: EDPK9

Distribution: Blue - Region Copy; White - Lab Copy for Return to SMO; Pink - SMO Copy; Yellow - Lab Copy for Return to Region

See Reverse for Additional Standard Instructions
**See Reverse for Purpose Code Definitions

EPA Form 9110-2 (2/99)

CLASS-99-002

391564

000007

EPA Contract Laboratory Program

Traffic Report and Chain of Custody Record
(For Organic CLP Analysis)

27986

1. Matrix (Enter code in Column A)
2. Preservative (Enter code in Column B)

1. Surface Water
2. Ground Water
3. Leachate
4. Field Blank
5. Soil/Sediment
6. PE Water
7. PE Soil
8. Other (Specify in Column A)

1. HCl
2. HNO3
3. NaHSO4
4. H2SO4
5. Ice only
6. CH3OH
7. Other (Specify in Column D)
N. Not Preserved

3. Region No.	5
Sampling Co.	USACE
5. Date Shipped	4-18-2000
Carrier	FED EX
7. Date Received–Received by:	4-19-00 Carlos Puin
Sampler (Name)	Janie E. Carrig
Airbill Number	
Laboratory Contract No.	68-D7-0004
Unit Price	525.00
Sampler Signature	Janie E Carrig
6. Ship To:	PDP Analytical Services, 1680 Lake Front Circle Suite, The Woodlands, TX 77380, ATTN: Sean Sundquist
8. Transfer to:	
Date Received	
Received by:	
Contract Number	
Price	

4. Purpose**
Lead: [X] SF [ ] PRP [ ] ST [ ] FED [ ] BZ
Early Action: [ ] IA [ ] PA [ ] REM [ ] RI [ ] SI [ ] ESI
Long-Term Action: [ ] RIFS [X] RD [ ] RA [ ] O&M

CLP Sample Numbers (from labels)	A Matrix (from Box 1)	B Conc.	C Sample Type: Comp./ Grab	D Preservative (from Box 2)	E RAS Analysis TA (circle one) P* 7 14 21 VOA	E RAS Analysis TA (circle one) P* 7 14 21 BNA	E RAS Analysis TA (circle one) P* 7 14 21 Pest/ PCB	F Regional Specific Tracking Number or Tag Numbers	G Station Location Identifier	H Mo/Day/ Year/Time Sample Collection	I Corresponding CLP Inorganic Sample No.	J Sampler Initials	K Sample Condition
EDPM4	8 Other: Bos Well	12 Low Med	Grab	1 Other:	X VOA	— BNA	— Pest/ PCB	5-068875, 506876	Trip Blank	04/18/00, 1111	NA	J	

Shipment for Case Complete? (Y/N)

Page 2 of 2

VOA MS/MSD Required? Y(N) Sample #:
BNA MS/MSD Required? Y(N) Sample #:
Pest/PCB MS/MSD Required? Y(N) Sample #:

Additional Sampler Signatures: Tracy Johansen

Chain of Custody Seal Number(s): 22821, 22822

*PR provides 7-day data turnaround in addition to preliminary results. Requests for preliminary results will increase analytical costs.

Chain of Custody Record

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Janie E Carrig	04/18/00 1708				
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature) Carlos Puin	Date / Time 4-19-00 9:02	Remarks: Is custody seal intact? Y/N/none	Case: 27986 SDG: EDPK9

Distribution: Blue - Region Copy; White - Lab Copy for Return to SMO; Pink - SMO Copy; Yellow - Lab Copy for Return to Region

See Reverse for Additional Standard Instructions
**See Reverse for Purpose Code Definitions

EPA Form 9110-2 (2/99)

CLASS-99-002

391565

EPA United States Environmental Protection Agency
Contract Laboratory Program

Organic Traffic Report & Chain of Custody Record
(For Organic CLP Analysis)

SDG No.

Case No. 27986

3. Region No.	5
Sampling Co.	USACE
5. Date Shipped	4/19/2000
Carrier	FED-EX
7. Date Received--Received by:	4-20-00 Carlos Pini
Sampler (Name)	Mary M. Johansen
Airbill Number	820134806564
Laboratory Contract No.	68-D7-0004
Unit Price	525 xx.00
Sampler Signature	Mary M. Johansen
6. Ship To:	PDP Analytical Services, 1680 Lake Front Circle, Suite E, The Woodlands, TX 77380
ATTN:	Sean Sundquist
8. Transfer to:	
Date Received	
Received by:	
Contract Number	
Price	

4. Purpose**: Lead [X] SF [ ] PRP [ ] ST [ ] FED [ ] BZ; Early Action [ ] IA [ ] PA [ ] REM [ ] RI [ ] SI [ ] ESI; Long-Term Action [ ] RIFS [X] RD [ ] RA [ ] O&M

CLP Sample Numbers (from labels)	A Matrix (from Box 1) Other: Res Well	B Conc.: Low Med	C Sample Type: Comp/Grab	D Preservative (from Box 2) Other:	E RAS Analysis TA (circle one) PR* 7 11 21 VOA	TA (circle one) PR* 7 14 21 BNA	TA (circle one) PR* 7 14 21 Pest/PCB	F Regional Specific Tracking Number or Tag Numbers	G Station Location Identifier	H Mo/Day/Year/Time Sample Collection	I Corresponding CLP Inorganic Sample No.	J Sampler Initials	K Sample Condition
EDPM1	8	LL	grab	1	X	—	—	5-068874, 5-068878, 5-068877	27964 Westwood Dr	4/19/00	N/A	MJ	
EDPM1	8	LL	grab	5	—	X	—	5-068880, 5-068881	27964 Westwood Dr	4/19/00	N/A	MJ	
EDPM2	8	LL	grab	1	X	—	—	5-068885, 5-068886, 5-068887	27948 Westwood Dr	4/19/00	N/A	MJ	
EDPM2	8	LL	grab	5	—	X	—	5-068888, 5-068889	27948 Westwood Dr	4/19/00	N/A	MJ	
EDPM5	8	LL	grab	1	X	—	—	5-068893, 5-068894	Trip Blank	4/19/00	N/A	MJ	

MJ

Shipment for Case Complete? (Y/N)	Page 1 of 1	VOA MS/MSD Required? Y/N Sample #:	BNA MS/MSD Required? Y/N Sample #:	Pest/PCB MS/MSD Required? Y/N Sample #:	Additional Sampler Signatures	Chain of Custody Seal Number(s)
					Mary Johansen MJ, Gloria E. Carrey	22827, 22828

*PR provides 7-day data turnaround in addition to preliminary results. Requests for preliminary results will increase analytical costs.

Chain of Custody Record

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Mary Johansen	4/19/00 1600				
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature) Carlos Pini	Date / Time 4-20-00 9:04	Remarks: Is custody seal intact? Y/N/none	Case: 27986 SDG: EDPK9

Distribution: Blue - Region Copy; White - Lab Copy for Return to SMO; Pink - SMO Copy; Yellow - Lab Copy for Return to Region

See Reverse for Additional Standard Instructions
**See Reverse for Purpose Code Definitions

EPA Form 9110-2 (2/99)

CLASS-99-002

LOW CONC. WATER VOLATILE SYSTEM MONITORING COMPOUND RECOVERY

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDPK9

	EPA SAMPLE NO.	BFB %REC #	OTHER	TOT OUT
01	VBLK54	108		0
02	VLCS54	106		0
03	EDPL7	109		0
04	EDPL8	106		0
05	EDPL9	108		0
06	EDPM0	112		0
07	EDPM4	110		0
08	EDPM1	105		0
09	EDPM2	109		0
10	EDPM5	105		0
11	VBLK55	114		0
12	VLCS55	118		0
13	EDPK9	114		0
14	EDPL1	87		0
15	EDPL3	90		0
16	EDPL4	94		0
17	EDPL5	87		0
18	EDPL6	91		0
19	EDPL0	90		0
20	EDPL2	89		0
21	VHBLK01	87		0
22				
23				
24				
25				
26				
27				
28				
29				
30				

QC LIMITS
%REC

BFB = Bromofluorobenzene (80-120)

Column to be used to flag recovery values
* Values outside of contract required QC limits

Pages 1 o 1

EPA United States Environmental Protection Agency
Contract Laboratory Program

Organic Traffic Report & Chain of Custody Record
(For Organic CLP Analysis)

SDG No.

Case No. 27986

1. Matrix	1. Surface Water; 2. Ground Water; 3. Leachate; 4. Fish Oil; 5. Soil/Sediment; 6. PE Water; 7. PE Soil; 8. Other (specify in Column A)
2. Preservative	1. HCl; 2. HNO3; 3. NaHSO4; 4. H2SO4; 5. Ice only; 6. CH3OH; 7. Other (specify in Column D); N. Not Preserved
3. Region No.	5
Sampling Co.	USACE
5. Date Shipped	4/18/00
Carrier	FED EX
7. Date Received--Received by:	4-19-00 Carlos Ruiz
Sampler (Name)	Janie E. Carrig
Airbill Number	820134806597
Laboratory Contract No.	68-D7-0004
Unit Price	525 xx/.00
Sampler Signature	Janie E. Carrig
6. Ship To:	PDP Analytical Service, 1680 Lake Front Circle, Suite B, The Woodlands, TX 77380
ATTN:	Sean Sundquist
8. Transfer to:	
Date Received	
Received by:	
Contract Number	
Price	

4. Purpose**
Lead: [X] SF [ ] PRP [ ] ST [ ] FED [ ] BZ
Early Action: [ ] IA [ ] PA [ ] REM [ ] RI [ ] SI [ ] ESI
Long-Term Action: [ ] RIFS [X] RD [ ] RA [ ] O&M

CLP Sample Numbers (from labels)	A Matrix (from Box 1) Other: RES. WELL	B Conc.: Low Med	C Sample Type: Comp./Grab	D Preservative (from Box 2) Other:	E RAS Analysis TA (circle one) PR* 7 14 21 VOA	TA (circle one) PR* 7 14 21 BNA	TA (circle one) PR* 7 14 21 Pest/PCB	F Regional Specific Tracking Number or Tag Numbers	G Station Location Identifier	H Mo/Day/Year/Time Sample Collection	I Corresponding CLP Inorganic Sample No.	J Sampler Initials	K Sample Condition
EDPK9	8	LL	Grab	1	X	—	—	5-068913, 5-068914, 5-068908	54287 Westwood	04/17/00 1550	NA	J	-
EDPK9	8	LL	Grab	5	—	X	—	5-068911, 5-068912	54287 Westwood	04/17/00 1550	NA	J	-
EDPL0	8	LL	Grab	1	X	—	—	5-068928, 5-068929, 068923	54280 Westwood	04/17/00 1559	NA	J	-
EDPL0	8	LL	Grab	5	—	X	—	5-068926, 5-068927	54280 Westwood	04/17/00 1559	NA	J	-
EDPL1	8	LL	Grab	1	X	—	—	5-068917, 5-068918, 5-068919	54271 Westwood	04/17/00 1626	NA	J	-
EDPL1	8	LL	Grab	5	—	X	—	5-068915, 5-068916	54271 Westwood	04/17/00 1626	NA	J	
EDPL4	8	LL	Grab	1	X	—	—	5-068939, 5-068935, 5-068936	54215 Westwood	04/17/00 1714	NA	J	
EDPL4	8	LL	Grab	5	—	X	—	5-068941, 5-068937	54215 Westwood	04/17/00 1714	NA	J	
EDPL9	8	LL	Grab	1	X	—	—	5-068854, 5-068990	Trip Blank	04/17/00 1559	NA	J	

Shipment for Case Complete? (Y/N)	Page 1 of 2		Additional Sampler Signatures	Chain of Custody Seal Number(s)
		VOA MS/MSD Required? Y/N Sample #:	(Mary Johnson)	22817, 22816
		BNA MS/MSD Required? Y/N Sample #:		
		Pest/PCB MS/MSD Required? Y/N Sample #:		

*PR provides 7-day data turnaround in addition to preliminary results. Requests for preliminary results will increase analytical costs.

Chain of Custody Record

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Janie E. Carrig	4-18-00 1000				
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature) Carlos Ruiz	Date / Time 4-19-00 9:02	Remarks: Is custody seal intact? Y/N/none	Case: 27986 SDG: EDPK9

Distribution: Blue - Region Copy; White - Lab Copy for Return to SMO; Pink - SMO Copy; Yellow - Lab Copy for Return to Region

See Reverse for Additional Standard Instructions
**See Reverse for Purpose Code Definitions

EPA Form 9110-2 (2/99)

CLASS-99-002

Organic Traffic Report & Chain of Custody Record

(For Organic CLP Analysis)

United States Environmental Protection Agency
Contract Laboratory Program

SDG No.

Case No. 27986

3. Region No. 5 | Sampling Co. USACE | 5. Date Shipped 4-18-2000 | Carrier FEDEX | 7. Date Received--Received by: 4-19-00 Carlos Puin

Sampler (Name): Janie E. Carrig | Airbill Number: 820134806586 | Laboratory Contract No. 68-D7-0004 | Unit Price 525.00

Sampler Signature: Janie E Carrig | 6. Ship To: ~~USEPA - CRL~~ PDP Analytical Services, 1680 Lake Front Circle, Suite, The Woodlands, Tx 77380, ATTN: Sean Sundquist | 8. Transfer to: | Date Received

4. Purpose**: Lead [X] SF [ ] PRP [ ] ST [ ] FEO [ ] BZ; Early Action [ ] IA [ ] PA [ ] REM [ ] RI [ ] SI [ ] ESI; Long-Term Action [ ] RIFS [X] RO [ ] RA [ ] O&M

Received by: | Contract Number | Price

CLP Sample Numbers (from labels)	A Matrix (from Box 1) Other:	B Conc.: Lo / Med	C Sample Type: Comp / Grab	D Preservative (from Box 2) Other:	E RAS Analysis TA (circle one) PR* 7 14 21 VOA	E TA (circle one) PR* 7 14 21 BNA	E TA (circle one) PR* 7 14 21 Pest/PCB	F Regional Specific Tracking Number or Tag Numbers	G Station Location Identifier	H Mo/Day/Year/Time Sample Collection	I Corresponding CLP Inorganic Sample No.	J Sampler Initials	K Sample Condition
EDPL5	S	LL	Grab	1	X	—	—	5-068816, 5-068863, 5-068866	54185 Westwood Drive	04/18/00	N/A		
EDPL5	S	LL	Grab	5	—	X	—	5-068869, 5-068870	54185 Westwood Drive	04/18/00	N/A		
EDPL6	S	LL	Grab	1	X	—	—	5-068816 5-068814, 5-068815	27914 Westwood Dr	04/18/00	N/A		
EDPL6	S	LL	Grab	5	—	X	—	5-068817, 5-068818	27919 Westwood Dr	04/18/00	N/A		
EDPL7	S	LL	Grab	1	X	—	—	5-068822, 5-068824 5-068835	27883 Westwood Drive	04/18/00	N/A		
EDPL7	S	LL	Grab	5	—	X	—	5-068826 5-068827	~~54305~~ 27883 Westwood Dr	04/18/00	N/A		
EDPL8	S	LL	Grab	1	X	—	—	5-068958, 5-068959 5-068960	759 54305 Westwood Dr	04/18/00	N/A		
EDPL8	S	LL	Grab	5	—	X	—	5-068960, 5-068810	54305 Westwood Dr	04/18/00	N/A		
EDPM8	S	LL	Grab	1	X	—	—	5-068992, 5-068993 5-068977	54305 Westwood Dr	04/18/00	N/A		
EDPM8	S	LL	Grab	5	—	X	—	5-068951, 5-068952	54305 Westwood Dr	04/18/00	N/A		

Shipment for Case Complete? (Y/N): | Page 1 of 2

VOA MS/MSD Required? Y/N Sample #:
BNA MS/MSD Required? Y/N Sample #:
Pest/PCB MS/MSD Required? Y/N Sample #:

Additional Sampler Signatures: Mary Johnson

Chain of Custody Seal Number(s): 22821, 22822

*PR provides 7-day data turnaround in addition to preliminary results. Requests for preliminary results will increase analytical costs.

Chain of Custody Record

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Janie E Carrig	4-18-00 1708				
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature) Carlos Puin	Date / Time 4-19-00 9:02	Remarks: Is custody seal intact? Y/N/none Case: 27986 SDG: EDPK9	

Distribution: Blue - Region Copy; White - Lab Copy for Return to SMO; Pink - SMD Copy; Yellow - Lab Copy for Return to Region

See Reverse for Additional Standard Instructions
**See Reverse for Purpose Code Definitions

EPA Form 9110-2 (2/99)

CLASS-99-002

EPA United States Environmental Protection Agency
Contract Laboratory Program

Organic Traffic Report & Chain of Custody Record
(For Organic CLP Analysis)

SDG No.

Case No. 27986

3. Region No. 5	Sampling Co. USACE	5. Date Shipped 4/18/00	Carrier FEDEX	7. Date Received--Received by:
Sampler (Name) Janie E. Carrig		Airbill Number 820134806597		Laboratory Contract No. / Unit Price
Sampler Signature Janie E Carrig		6. Ship To: PDP Analytical Services, 1680 Lake Front Circle, Suite B, The Woodlands, TX 77380 ATTN: Sean Sundquist		8. Transfer to: / Date Received
4. Purpose** Lead: SF, PRP, ST, FED, BZ; Early Action: IA, PA, REM, RI, SI, ESI; Long-Term Action: RIFS, RD, RA, O&M				Received by:
				Contract Number / Price

CLP Sample Numbers (from labels)	A Matrix (from Box 1) Other:	B Conc.: Low / Med	C Sample Type: Comp./ Grab	D Preservative (from Box 2) Other:	E RAS Analysis TA (circle one) P* 7 14 21 — VOA	E TA (circle one) R* 7 14 21 — BNA	E TA (circle one) PR* 7 14 21 — Pest/ PCB	F Regional Specific Tracking Number or Tag Numbers	G Station Location Identifier	H Mo/Day/ Year/Time Sample Collection	I Corresponding CLP Inorganic Sample No.	J Sampler Initials	K Sample Condition
EDPL2	S	LL	Grab	1	X	—	—	5-068849, 5-068842, 5-068848	54253 Westwood	04/17/00 1639	NA	JEC	
EDPL2	S	LL	Grab	5	—	X	—	5-068851, 5-068844	54253 Westwood	04/17/00 1639	NA	JEC	
EDPL3	S	LL	Grab	1	X	—	—	5-068847, 068843, 5-068441	54231 Westwood	04/17/00 1700	NA	JEC	
EDPL3	S	LL	Grab	5	—	X	—	5-068849, 5-068850	54231 Westwood	04/17/00 1700	NA	JEC	
E													

Shipment for Case Complete? (Y/N) Y

Page 2 of 2

VOA MS/MSD Required? Y/N Y Sample #:

BNA MS/MSD Required? Y/N Y Sample #:

Pest/PCB MS/MSD Required? Y/N Y Sample #:

Additional Sampler Signatures: Nancy Johnson

Chain of Custody Seal Number(s): 22817, 22816

*PR provides 7-day data turnaround in addition to preliminary results. Requests for preliminary results will increase analytical costs.

Chain of Custody Record

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Janie E Carrig	4/18/00 1000				
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature)	Date / Time	Remarks: Is custody seal intact? (Y)/N/none	
			4-19-00 9102	Case: 27986 SDG: EDPK9	

00591A

Distribution: Blue - Region Copy; White - Lab Copy for Return to SMO; Pink - SMO Copy; Yellow - Lab Copy for Return to Region

See Reverse for Additional Standard Instructions

**See Reverse for Purpose Code Definitions

EPA Form 9110-2 (2/99)

CLASS-99-002

EPA United States Environmental Protection Agency
Contract Laboratory Program

Organic Traffic Report & Chain of Custody Record
(For Organic CLP Analysis)

SDG No.:

Case No.: 27986

3. Region No.: 5	Sampling Co.: USACE
5. Date Shipped: 4-18-2000	Carrier: FED EX
7. Date Received--Received by: 4-19-00 Carlos Pui	
Sampler (Name): Janie E. Carrig	Airbill Number:
Laboratory Contract No.: 68-D7-0004	Unit Price: 525.00
Sampler Signature: Janie E Carrig	6. Ship To: PDP Analytical Services, 1680 Lake Front Circle Suite, The Woodlands, TX 77380
8. Transfer to:	Date Received:
Received by:	
Contract Number:	Price:

4. Purpose**: Lead: [X] SF [ ] PRP [ ] ST [ ] FED [ ] BZ; Early Action: [ ] IA [ ] PA [ ] REM [ ] RI [ ] SI [ ] ESI; Long-Term Action: [ ] RIFS [X] RO [ ] RA [ ] O&M

ATTN: Sean Sundquist

CLP Sample Numbers (from labels)	A Matrix (from Box 1) Other: Res Well	B Conc.: Low Med	C Sample Type: Comp./Grab	D Preservative (from Box 2) Other:	E RAS Analysis: TA (circle one) P* 7 14 21 VOA	TA (circle one) PR* 7 14 21 BNA	TA (circle one) PR* 7 14 21 Pest/PCB	F Regional Specific Tracking Number or Tag Numbers	G Station Location Identifier	H Mo/Day/Year/Time Sample Collection	I Corresponding CLP Inorganic Sample No.	J Sampler Initials	K Sample Condition
EDPM4	8	11	Grab	1	X	—	—	5-068875, 5068876	Trip Blank	04/18/00, 1111	NA	J	

Shipment for Case Complete? (Y/N)	Page 2 of 2	VOA MS/MSD Required? Y/N Sample #:	BNA MS/MSD Required? Y/N Sample #:	Pest/PCB MS/MSD Required? Y/N Sample #:	Additional Sampler Signatures: Mary Johnson	Chain of Custody Seal Number(s): 22821, 22822

*PR provides 7-day data turnaround in addition to preliminary results. Requests for preliminary results will increase analytical costs.

Chain of Custody Record

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Janie E Carrig	4/18/00 1708				
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature) Carlos Pui	Date / Time 4-19-00 9:02	Remarks: Is custody seal intact? Y/N/none	Case: 27986 SDG: EDPK9

Distribution: Blue - Region Copy; White - Lab Copy for Return to SMO; Pink - SMO Copy; Yellow - Lab Copy for Return to Region

See Reverse for Additional Standard Instructions
**See Reverse for Purpose Code Definitions

EPA Form 9110-2 (2/99)

CLASS-99-002

EPA United States Environmental Protection Agency
Contract Laboratory Program

Organic Traffic Report & Chain of Custody Record
(For Organic CLP Analysis)

SDG No.

Case No. 27986

[redacted]

3. Region No. 5 | Sampling Co. USACE

5. Date Shipped 4/19/2000 | Carrier FED-EX

7. Date Received--Received by: 4-20-00 Carlos Rivi

Sampler (Name) Mary M. Johansen

Airbill Number 820134806564

Laboratory Contract No. 68-D7-0004 | Unit Price 525 xx.00

Sampler Signature Mary M Johansen

6. Ship To: PDP Analytical Services, 1680 Lake Front Circle, Suite E, The Woodlands, TX 77380

ATTN: Sean Sundquist

8. Transfer to: | Date Received

Received by:

Contract Number | Price

4. Purpose**
Lead: [X] SF [ ] PRP [ ] ST [ ] FED [ ] BZ
Early Action: [ ] IA [ ] PA [ ] REM [ ] RI [ ] SI [ ] ESI
Long-Term Action: [ ] RIFS [X] RD [ ] RA [ ] O&M

CLP Sample Numbers (from labels)	A Matrix (from Box 1) Other: Tes Wel	B Conc.: Low Med	C Sample Type: Comp / Grab	D Preservative (from Box 2) Other:	E RAS Analysis TA (circle one) PR* 7 14 21 VOA	TA (circle one) PR* 7 14 21 BNA	TA (circle one) PR* 7 14 21 Pest/PCB	F Regional Specific Tracking Number or Tag Numbers	G Station Location Identifier	H Mo/Day/Year/Time Sample Collection	I Corresponding CLP Inorganic Sample No.	J Sampler Initials	K Sample Condition
EDPM1	8	LL	grab	1	X	—	—	5-068894, 5-068878, 5-068877	27964 Westwood	4/19/00	N/A	MJ	
EDPM1	8	LL	grab	5	—	X	—	5-068880, 5-068881	27964 Westwood Dr	4/19/00	N/A	MJ	
EDPM2	8	LL	grab	1	X	—	—	5-068885, 5-068886, 5-068887	27948 Westwood Dr	4/19/00	N/A	MJ	
EDPM2	8	LL	grab	5	—	X	—	5-068888, 5-068889	27948 Westwood Dr	4/19/00	N/A	MJ	
EDPM5	8	LL	grab	1	X	—	—	5-068893, 5-068894	Trip Blank	4/19/00	N/A	MJ	

MJ

Shipment for Case Complete? (Y/N) | Page 1 of 1

VOA MS/MSD Required? Y/N Sample #:
BNA MS/MSD Required? Y/N Sample #:
Pest/PCB MS/MSD Required? Y/N Sample #:

Additional Sampler Signatures: ~~Mary Johansen~~ MJ, [illegible]

Chain of Custody Seal Number(s): 22827, 22828

*PR provides 7-day data turnaround in addition to preliminary results. Requests for preliminary results will increase analytical costs.

Chain of Custody Record

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Mary Johansen	4/19/00 1600				
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature) Carlos Rivi	Date / Time 4-20-00 9:04	Remarks: Is custody seal intact? Y/N/none Case: 27986 SDG: EDPK9	

Distribution: Blue - Region Copy; White - Lab Copy for Return to SMO; Pink - SMO Copy; Yellow - Lab Copy for Return to Region

See Reverse for Additional Standard Instructions
**See Reverse for Purpose Code Definitions

EPA Form 9110-2 (2/99)

CLASS-99-002

00 0593

Regional Transmittal Form

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION V

DATE:

SUBJECT: Review of Data
Received for Review on 5-10-00

2nd Round Res data & names Copy

FROM: Stephen L. Ostrodka, Chief (SMF-4J)
Superfund Field Services Section

TO: Data User: USEPA

Organics

We have reviewed the data for the following case:

SITE NAME: HIMCO LANDFILL (IN)

CASE NUMBER: 27986 SDG NUMBER: EDPK9

Number and Type of Samples: 16 (WATER)

Sample Numbers: EDPK9, EDPL0-9, EDPM0-5

Laboratory: PDP Hrs for Review:

Following are our findings:

CC: Cecilia Moore
Region 5 TPO
Mail Code: SM-5J

1LCA

EPA SAMPLE NO.

LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET

EDPL7

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

27883 GLICK

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDPK9

Lab Sample ID: 6004.010 Date Received: 04/19/00

Lab File ID: F0880 Date Analyzed: 04/22/00

Purge Volume: 20 (mL) Dilution Factor: 1.0

GC Column: DB-624 ID: 0.53 (mm) Length: 60 (m)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
74-87-3	Chloromethane	1	U
74-83-9	Bromomethane	1	U
75-01-4	Vinyl chloride	1	U
75-00-3	Chloroethane	1	U
75-09-2	Methylene chloride	2	U
67-64-1	Acetone	5	U
75-15-0	Carbon disulfide	1	U
75-35-4	1,1-Dichloroethene	1	U
75-34-3	1,1-Dichloroethane	1	U
156-59-2	cis-1,2-Dichloroethene	1	U
156-60-5	trans-1,2-Dichloroethene	1	U
67-66-3	Chloroform	1	U
107-06-2	1,2-Dichloroethane	1	U
78-93-3	2-Butanone	5	U
74-97-5	Bromochloromethane	1	U
71-55-6	1,1,1-Trichloroethane	1	U
56-23-5	Carbon tetrachloride	1	U
75-27-4	Bromodichloromethane	1	U
78-87-5	1,2-Dichloropropane	1	U
10061-01-5	cis-1,3-Dichloropropene	1	U
79-01-6	Trichloroethene	1	U
124-48-1	Dibromochloromethane	1	U
79-00-5	1,1,2-Trichloroethane	1	U
71-43-2	Benzene	1	U
10061-02-6	trans-1,3-Dichloropropene	1	U
75-25-2	Bromoform	1	U
108-10-1	4-Methyl-2-pentanone	5	U
591-78-6	2-Hexanone	5	U
127-18-4	Tetrachloroethene	1	U
79-34-5	1,1,2,2-Tetrachloroethane	1	U
106-93-4	1,2-Dibromoethane	1	U
108-88-3	Toluene	1	U
108-90-7	Chlorobenzene	1	U
100-41-4	Ethylbenzene	1	U
100-42-5	Styrene	1	U
1330-20-7	Xylenes (total)	1	U
541-73-1	1,3-Dichlorobenzene	1	U
106-46-7	1,4-Dichlorobenzene	1	U
95-50-1	1,2-Dichlorobenzene	1	U
96-12-8	1,2-Dibromo-3-chloropropane	1	U
120-82-1	1,2,4-Trichlorobenzene	1	U

000090

1LCB

LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EDPL7

27883

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDPK9

Lab Sample ID: 6004.010 Date Received: 04/19/00

Lab File ID: H0939 Date Extracted: 04/23/00

Sample Volume: 1000 (mL) Date Analyzed: 05/05/00

Concentrated Extract Volume: 1000 (uL) Dilution Factor: 1.0

Injection Volume: 1.0 (uL)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
108-95-2	Phenol	5	U
111-44-4	bis(2-Chloroethyl)ether	5	U
95-57-8	2-Chlorophenol	5	U
95-48-7	2-Methylphenol	5	U
108-60-1	2,2'-oxybis(1-Chloropropane)	5	U
106-44-5	4-Methylphenol	5	U
621-64-7	N-Nitroso-di-n-propylamine	5	U
67-72-1	Hexachloroethane	5	U
98-95-3	Nitrobenzene	5	U
78-59-1	Isophorone	5	U
88-75-5	2-Nitrophenol	5	U
105-67-9	2,4-Dimethylphenol	5	U
111-91-1	bis(2-Chloroethoxy)methane	5	U
120-83-2	2,4-Dichlorophenol	5	U
91-20-3	Naphthalene	5	U
106-47-8	4-Chloroaniline	5	U
87-68-3	Hexachlorobutadiene	5	U
59-50-7	4-Chloro-3-methylphenol	5	U
91-57-6	2-Methylnaphthalene	5	U
77-47-4	Hexachlorocyclopentadiene	5	U
88-06-2	2,4,6-Trichlorophenol	5	U
95-95-4	2,4,5-Trichlorophenol	20	U
91-58-7	2-Chloronaphthalane	5	U
88-74-4	2-Nitroaniline	20	U
131-11-3	Dimethylphthalate	5	U
208-96-8	Acenaphthylene	5	U
606-20-2	2,6-Dintrotoluene	5	U
99-09-2	3-Nitroaniline	20	U
83-32-9	Acenaphthene	5	U

0003396

LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EDPL7

27883

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDPK9

Lab Sample ID: 6004.010 Date Received: 04/19/00

Lab File ID: H0939 Date Extracted: 04/23/00

Sample Volume: 1000 (mL) Date Analyzed: 05/05/00

Concentrated Extract Volume: 1000 (uL) Dilution Factor: 1.0

Injection Volume: 1 (uL)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
51-28-5	2,4-Dinitrophenol	20	U
100-02-7	4-Nitrophenol	20	U
132-64-9	Dibenzofuran	5	U
121-14-2	2,4-Dinitrotoluene	5	U
84-66-2	Diethylphthalate	5	U
7005-72-3	4-Chlorophenyl-phenylether	5	U
86-73-7	Fluorene	5	U
100-01-6	4-Nitroaniline	20	U
534-52-1	4,6-Dinitro-2-methylphenol	20	U
86-30-6	N-Nitrosodiphenylamine (1)	5	U
101-55-3	4-Bromophenyl-phenylether	5	U
118-74-1	Hexachlorobenzene	5	U
87-86-5	Pentachlorophenol	20	U
85-01-8	Phenanthrene	5	U
120-12-7	Anthracene	5	U
84-74-2	Di-n-butylphthalate	5	U
206-44-0	Fluoranthene	5	U
129-00-0	Pyrene	5	U
85-68-7	Butylbenzylphthalate	5	U
91-94-1	3,3'-Dichlorobenzidine	5	U
56-55-3	Benzo(a)anthracene	5	U
218-01-9	Chrysene	5	U
117-81-7	bis(2-Ethylhexyl)phthalate	5	U
117-84-0	Di-n-octylphthalate	5	U
205-99-2	Benzo(b)fluoranthene	5	U
207-08-9	Benzo(k)fluoranthene	5	U
50-32-8	Benzo(a)pyrene	5	U
193-39-5	Indeno(1,2,3-cd)Pyrene	5	U
53-70-3	Dibenz(a,h)anthracene	5	U
191-24-2	Benzo(g,h,i)perylene	5	U

(1) - Cannot be separated from Diphenylamine

1LCE

EPA SAMPLE NO.

LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EDPL7

27883

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDPK9

Lab Sample ID: 6004.010 Date Received: 04/19/00

Lab File ID: F0880 Date Analyzed: 04/22/00

Purge Volume: 20 (mL) Dilution Factor: 1.0

GC Column: DB-624 ID: 0.53 (mm) Length: 60 (m)

Number TICs found: 0

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC. (ug/L)	Q
1.					
2.					
3.					
4.					
5.					
6.					
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EPA SAMPLE NO.

LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

EDPL7

27883

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDPK9

Lab Sample ID: 6004.010 Date Received: 04/19/00

Lab File ID: H0939 Date Extracted: 04/23/00

Sample Volume: 1000 (mL) Date Analyzed: 05/05/00

Concentrated Extract Volume: 1000 (uL) Dilution Factor: 1.0

Injection Volume: 1.0 (uL)

Number TICs found: 0

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC. (ug/L)	Q
1.					
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1LCA

LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EDPL4

54215 Johnson

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDPK9

Lab Sample ID: 6004.007 Date Received: 04/19/00

Lab File ID: F0899 Date Analyzed: 04/24/00

Purge Volume: 20 (mL) Dilution Factor: 1.0

GC Column: DB-624 ID: 0.53 (mm) Length: 60 (m)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
74-87-3	Chloromethane	1	U
74-83-9	Bromomethane	1	U
75-01-4	Vinyl chloride	1	U
75-00-3	Chloroethane	1	U
75-09-2	Methylene chloride	2	U
67-64-1	Acetone	5	U
75-15-0	Carbon disulfide	1	U
75-35-4	1,1-Dichloroethene	1	U
75-34-3	1,1-Dichloroethane	1	U
156-59-2	cis-1,2-Dichloroethene	1	U
156-60-5	trans-1,2-Dichloroethene	1	U
67-66-3	Chloroform	1	U
107-06-2	1,2-Dichloroethane	1	U
78-93-3	2-Butanone	5	U
74-97-5	Bromochloromethane	1	U
71-55-6	1,1,1-Trichloroethane	1	U
56-23-5	Carbon tetrachloride	1	U
75-27-4	Bromodichloromethane	1	U
78-87-5	1,2-Dichloropropane	1	U
10061-01-5	cis-1,3-Dichloropropene	1	U
79-01-6	Trichloroethene	1	U
124-48-1	Dibromochloromethane	1	U
79-00-5	1,1,2-Trichloroethane	1	U
71-43-2	Benzene	1	U
10061-02-6	trans-1,3-Dichloropropene	1	U
75-25-2	Bromoform	1	U
108-10-1	4-Methyl-2-pentanone	5	U
591-78-6	2-Hexanone	5	U
127-18-4	Tetrachloroethene	1	U
79-34-5	1,1,2,2-Tetrachloroethane	1	U
106-93-4	1,2-Dibromoethane	1	U
108-88-3	Toluene	1	U
108-90-7	Chlorobenzene	1	U
100-41-4	Ethylbenzene	1	U
100-42-5	Styrene	1	U
1330-20-7	Xylenes (total)	1	U
541-73-1	1,3-Dichlorobenzene	1	U
106-46-7	1,4-Dichlorobenzene	1	U
95-50-1	1,2-Dichlorobenzene	1	U
96-12-8	1,2-Dibromo-3-chloropropane	1	U
120-82-1	1,2,4-Trichlorobenzene	1	U

1LCB

EPA SAMPLE NO.

LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EDPL4

54215 dup

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDPK9

Lab Sample ID: 6004.007 Date Received: 04/19/00

Lab File ID: H0933 Date Extracted: 04/23/00

Sample Volume: 1000 (mL) Date Analyzed: 05/05/00

Concentrated Extract Volume: 1000 (uL) Dilution Factor: 1.0

Injection Volume: 1.0 (uL)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
108-95-2	Phenol	5	U
111-44-4	bis(2-Chloroethyl)ether	5	U
95-57-8	2-Chlorophenol	5	U
95-48-7	2-Methylphenol	5	U
108-60-1	2,2'-oxybis(1-Chloropropane)	5	U
106-44-5	4-Methylphenol	5	U
621-64-7	N-Nitroso-di-n-propylamine	5	U
67-72-1	Hexachloroethane	5	U
98-95-3	Nitrobenzene	5	U
78-59-1	Isophorone	5	U
88-75-5	2-Nitrophenol	5	U
105-67-9	2,4-Dimethylphenol	5	U
111-91-1	bis(2-Chloroethoxy)methane	5	U
120-83-2	2,4-Dichlorophenol	5	U
91-20-3	Naphthalene	5	U
106-47-8	4-Chloroaniline	5	U
87-68-3	Hexachlorobutadiene	5	U
59-50-7	4-Chloro-3-methylphenol	5	U
91-57-6	2-Methylnaphthalene	5	U
77-47-4	Hexachlorocyclopentadiene	5	U
88-06-2	2,4,6-Trichlorophenol	5	U
95-95-4	2,4,5-Trichlorophenol	20	U
91-58-7	2-Chloronaphthalane	5	U
88-74-4	2-Nitroaniline	20	U
131-11-3	Dimethylphthalate	5	U
208-96-8	Acenaphthylene	5	U
606-20-2	2,6-Dintrotoluene	5	U
99-09-2	3-Nitroaniline	20	U
83-32-9	Acenaphthene	5	U

1LCC

LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EDPL4

54215 dup

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDPK9

Lab Sample ID: 6004.007 Date Received: 04/19/00

Lab File ID: H0933 Date Extracted: 04/23/00

Sample Volume: 1000 (mL) Date Analyzed: 05/05/00

Concentrated Extract Volume: 1000 (uL) Dilution Factor: 1.0

Injection Volume: 1 (uL)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
51-28-5	2,4-Dinitrophenol	20	U
100-02-7	4-Nitrophenol	20	U
132-64-9	Dibenzofuran	5	U
121-14-2	2,4-Dinitrotoluene	5	U
84-66-2	Diethylphthalate	5	U
7005-72-3	4-Chlorophenyl-phenylether	5	U
86-73-7	Fluorene	5	U
100-01-6	4-Nitroaniline	20	U
534-52-1	4,6-Dinitro-2-methylphenol	20	U
86-30-6	N-Nitrosodiphenylamine (1)	5	U
101-55-3	4-Bromophenyl-phenylether	5	U
118-74-1	Hexachlorobenzene	5	U
87-86-5	Pentachlorophenol	20	U
85-01-8	Phenanthrene	5	U
120-12-7	Anthracene	5	U
84-74-2	Di-n-butylphthalate	5	U
206-44-0	Fluoranthene	5	U
129-00-0	Pyrene	5	U
85-68-7	Butylbenzylphthalate	5	U
91-94-1	3,3'-Dichlorobenzidine	5	U
56-55-3	Benzo(a)anthracene	5	U
218-01-9	Chrysene	5	U
117-81-7	bis(2-Ethylhexyl)phthalate	5	U
117-84-0	Di-n-octylphthalate	5	U
205-99-2	Benzo(b)fluoranthene	5	U
207-08-9	Benzo(k)fluoranthene	5	U
50-32-8	Benzo(a)pyrene	5	U
193-39-5	Indeno(1,2,3-cd)Pyrene	5	U
53-70-3	Dibenz(a,h)anthracene	5	U
191-24-2	Benzo(g,h,i)perylene	5	U

(1) - Cannot be separated from Diphenylamine

1LCE

EPA SAMPLE NO.

LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EDPL4

54215 dup

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDPK9

Lab Sample ID: 6004.007 Date Received: 04/19/00

Lab File ID: F0899 Date Analyzed: 04/24/00

Purge Volume: 20 (mL) Dilution Factor: 1.0

GC Column: DB-624 ID: 0.53 (mm) Length: 60 (m)

Number TICs found: 0

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC. (ug/L)	Q
1.					
2.					
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1LCF

EPA SAMPLE NO.

LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

EDPL4

54215 dup

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDPK9

Lab Sample ID: 6004.007 Date Received: 04/19/00

Lab File ID: H0933 Date Extracted: 04/23/00

Sample Volume: 1000 (mL) Date Analyzed: 05/05/00

Concentrated Extract Volume: 1000 (uL) Dilution Factor: 1.0

Injection Volume: 1.0 (uL)

Number TICs found: 0

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC. (ug/L)	Q
1.					
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LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EDPM2

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDPK9

27948 Hankins

Lab Sample ID: 6008.002 Date Received: 04/20/00

Lab File ID: F0887 Date Analyzed: 04/22/00

Purge Volume: 20 (mL) Dilution Factor: 1.0

GC Column: DB-624 ID: 0.53 (mm) Length: 60 (m)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
74-87-3	Chloromethane	1	U
74-83-9	Bromomethane	1	U
75-01-4	Vinyl chloride	1	U
75-00-3	Chloroethane	1	U
75-09-2	Methylene chloride	2	U
67-64-1	Acetone	5	U
75-15-0	Carbon disulfide	1	U
75-35-4	1,1-Dichloroethene	1	U
75-34-3	1,1-Dichloroethane	2	
156-59-2	cis-1,2-Dichloroethene	1	
156-60-5	trans-1,2-Dichloroethene	1	U
67-66-3	Chloroform	1	U
107-06-2	1,2-Dichloroethane	1	U
78-93-3	2-Butanone	5	U
74-97-5	Bromochloromethane	1	U
71-55-6	1,1,1-Trichloroethane	1	U
56-23-5	Carbon tetrachloride	1	U
75-27-4	Bromodichloromethane	1	U
78-87-5	1,2-Dichloropropane	1	U
10061-01-5	cis-1,3-Dichloropropene	1	U
79-01-6	Trichloroethene	1	U
124-48-1	Dibromochloromethane	1	U
79-00-5	1,1,2-Trichloroethane	1	U
71-43-2	Benzene	1	U
10061-02-6	trans-1,3-Dichloropropene	1	U
75-25-2	Bromoform	1	U
108-10-1	4-Methyl-2-pentanone	5	U
591-78-6	2-Hexanone	5	U
127-18-4	Tetrachloroethene	1	U
79-34-5	1,1,2,2-Tetrachloroethane	1	U
106-93-4	1,2-Dibromoethane	1	U
108-88-3	Toluene	1	U
108-90-7	Chlorobenzene	1	U
100-41-4	Ethylbenzene	1	U
100-42-5	Styrene	1	U
1330-20-7	Xylenes (total)	1	U
541-73-1	1,3-Dichlorobenzene	1	U
106-46-7	1,4-Dichlorobenzene	1	U
95-50-1	1,2-Dichlorobenzene	1	U
96-12-8	1,2-Dibromo-3-chloropropane	1	U
120-82-1	1,2,4-Trichlorobenzene	1	U

000143

1LCE

EPA SAMPLE NO.

LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EDPM2

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

27948

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDPK9

Lab Sample ID: 6008.002 Date Received: 04/20/00

Lab File ID: F0887 Date Analyzed: 04/22/00

Purge Volume: 20 (mL) Dilution Factor: 1.0

GC Column: DB-624 ID: 0.53 (mm) Length: 60 (m)

Number TICs found: 3

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC. (ug/L)	Q
1.	000075-43-4	Methane, dichlorofluoro-	5.91	2	JN
2.	000075-43-4	Methane, dichlorofluoro-	5.92	7	JN
3.	000060-29-7	Ethyl ether	6.82	4	JN
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000144

LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EDPM2

27948

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDPK9

Lab Sample ID: 6008.002 Date Received: 04/20/00

Lab File ID: H0943 Date Extracted: 04/23/00

Sample Volume: 1000 (mL) Date Analyzed: 05/05/00

Concentrated Extract Volume: 1000 (uL) Dilution Factor: 1.0

Injection Volume: 1.0 (uL)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
108-95-2	Phenol	5	U
111-44-4	bis(2-Chloroethyl)ether	5	U
95-57-8	2-Chlorophenol	5	U
95-48-7	2-Methylphenol	5	U
108-60-1	2,2'-oxybis(1-Chloropropane)	5	U
106-44-5	4-Methylphenol	5	U
621-64-7	N-Nitroso-di-n-propylamine	5	U
67-72-1	Hexachloroethane	5	U
98-95-3	Nitrobenzene	5	U
78-59-1	Isophorone	5	U
88-75-5	2-Nitrophenol	5	U
105-67-9	2,4-Dimethylphenol	5	U
111-91-1	bis(2-Chloroethoxy)methane	5	U
120-83-2	2,4-Dichlorophenol	5	U
91-20-3	Naphthalene	5	U
106-47-8	4-Chloroaniline	5	U
87-68-3	Hexachlorobutadiene	5	U
59-50-7	4-Chloro-3-methylphenol	5	U
91-57-6	2-Methylnaphthalene	5	U
77-47-4	Hexachlorocyclopentadiene	5	U
88-06-2	2,4,6-Trichlorophenol	5	U
95-95-4	2,4,5-Trichlorophenol	20	U
91-58-7	2-Chloronaphthalane	5	U
88-74-4	2-Nitroaniline	20	U
131-11-3	Dimethylphthalate	5	U
208-96-8	Acenaphthylene	5	U
606-20-2	2,6-Dintrotoluene	5	U
99-09-2	3-Nitroaniline	20	U
83-32-9	Acenaphthene	5	U

LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EDPM2

27948

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDPK9

Lab Sample ID: 6008.002 Date Received: 04/20/00

Lab File ID: H0943 Date Extracted: 04/23/00

Sample Volume: 1000 (mL) Date Analyzed: 05/05/00

Concentrated Extract Volume: 1000 (uL) Dilution Factor: 1.0

Injection Volume: 1 (uL)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
51-28-5	2,4-Dinitrophenol	20	U
100-02-7	4-Nitrophenol	20	U
132-64-9	Dibenzofuran	5	U
121-14-2	2,4-Dinitrotoluene	5	U
84-66-2	Diethylphthalate	5	U
7005-72-3	4-Chlorophenyl-phenylether	5	U
86-73-7	Fluorene	5	U
100-01-6	4-Nitroaniline	20	U
534-52-1	4,6-Dinitro-2-methylphenol	20	U
86-30-6	N-Nitrosodiphenylamine (1)	5	U
101-55-3	4-Bromophenyl-phenylether	5	U
118-74-1	Hexachlorobenzene	5	U
87-86-5	Pentachlorophenol	20	U
85-01-8	Phenanthrene	5	U
120-12-7	Anthracene	5	U
84-74-2	Di-n-butylphthalate	5	U
206-44-0	Fluoranthene	5	U
129-00-0	Pyrene	5	U
85-68-7	Butylbenzylphthalate	5	U
91-94-1	3,3'-Dichlorobenzidine	5	U
56-55-3	Benzo(a)anthracene	5	U
218-01-9	Chrysene	5	U
117-81-7	bis(2-Ethylhexyl)phthalate	5	U
117-84-0	Di-n-octylphthalate	5	U
205-99-2	Benzo(b)fluoranthene	5	U
207-08-9	Benzo(k)fluoranthene	5	U
50-32-8	Benzo(a)pyrene	5	U
193-39-5	Indeno(1,2,3-cd)Pyrene	5	U
53-70-3	Dibenz(a,h)anthracene	5	U
191-24-2	Benzo(g,h,i)perylene	5	U

(1) - Cannot be separated from Diphenylamine

000457

1LCF

EPA SAMPLE NO.

LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

EDPM2

27948

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDPK9

Lab Sample ID: 6008.002 Date Received: 04/20/00

Lab File ID: H0943 Date Extracted: 04/23/00

Sample Volume: 1000 (mL) Date Analyzed: 05/05/00

Concentrated Extract Volume: 1000 (uL) Dilution Factor: 1.0

Injection Volume: 1.0 (uL)

Number TICs found: 0

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC. (ug/L)	Q
1.					
2.					
3.					
4.					
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1LCA

LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EDPM1

27964 Persing

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDPK9

Lab Sample ID: 6008.001 Date Received: 04/20/00

Lab File ID: F0885 Date Analyzed: 04/22/00

Purge Volume: 20 (mL) Dilution Factor: 1.0

GC Column: DB-624 ID: 0.53 (mm) Length: 60 (m)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
74-87-3	Chloromethane	1	U
74-83-9	Bromomethane	1	U
75-01-4	Vinyl chloride	1	U
75-00-3	Chloroethane	1	U
75-09-2	Methylene chloride	2	U
67-64-1	Acetone	5	U
75-15-0	Carbon disulfide	1	U
75-35-4	1,1-Dichloroethene	1	U
75-34-3	1,1-Dichloroethane	3	
156-59-2	cis-1,2-Dichloroethene	1	
156-60-5	trans-1,2-Dichloroethene	1	U
67-66-3	Chloroform	1	U
107-06-2	1,2-Dichloroethane	1	U
78-93-3	2-Butanone	5	U
74-97-5	Bromochloromethane	1	U
71-55-6	1,1,1-Trichloroethane	1	U
56-23-5	Carbon tetrachloride	1	U
75-27-4	Bromodichloromethane	1	U
78-87-5	1,2-Dichloropropane	1	U
10061-01-5	cis-1,3-Dichloropropene	1	U
79-01-6	Trichloroethene	1	U
124-48-1	Dibromochloromethane	1	U
79-00-5	1,1,2-Trichloroethane	1	U
71-43-2	Benzene	1	U
10061-02-6	trans-1,3-Dichloropropene	1	U
75-25-2	Bromoform	1	U
108-10-1	4-Methyl-2-pentanone	5	U
591-78-6	2-Hexanone	5	U
127-18-4	Tetrachloroethene	1	U
79-34-5	1,1,2,2-Tetrachloroethane	1	U
106-93-4	1,2-Dibromoethane	1	U
108-88-3	Toluene	1	U
108-90-7	Chlorobenzene	1	U
100-41-4	Ethylbenzene	1	U
100-42-5	Styrene	1	U
1330-20-7	Xylenes (total)	1	U
541-73-1	1,3-Dichlorobenzene	1	U
106-46-7	1,4-Dichlorobenzene	1	U
95-50-1	1,2-Dichlorobenzene	1	U
96-12-8	1,2-Dibromo-3-chloropropane	1	U
120-82-1	1,2,4-Trichlorobenzene	1	U

1LCE

EPA SAMPLE NO.

LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EDPM1

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

27964

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDPK9

Lab Sample ID: 6008.001 Date Received: 04/20/00

Lab File ID: F0885 Date Analyzed: 04/22/00

Purge Volume: 20 (mL) Dilution Factor: 1.0

GC Column: DB-624 ID: 0.53 (mm) Length: 60 (m)

Number TICs found: 2

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC. (ug/L)	Q
1.	000075-43-4	Methane, dichlorofluoro-	5.91	9	JN
2.	000060-29-7	Ethyl ether	6.82	6	JN
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000132

EPA SAMPLE NO.

LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EDPM1

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

27964

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDPK9

Lab Sample ID: 6008.001 Date Received: 04/20/00

Lab File ID: H0942 Date Extracted: 04/23/00

Sample Volume: 1000 (mL) Date Analyzed: 05/05/00

Concentrated Extract Volume: 1000 (uL) Dilution Factor: 1.0

Injection Volume: 1.0 (uL)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
108-95-2	Phenol	5	U
111-44-4	bis(2-Chloroethyl)ether	5	U
95-57-8	2-Chlorophenol	5	U
95-48-7	2-Methylphenol	5	U
108-60-1	2,2'-oxybis(1-Chloropropane)	5	U
106-44-5	4-Methylphenol	5	U
621-64-7	N-Nitroso-di-n-propylamine	5	U
67-72-1	Hexachloroethane	5	U
98-95-3	Nitrobenzene	5	U
78-59-1	Isophorone	5	U
88-75-5	2-Nitrophenol	5	U
105-67-9	2,4-Dimethylphenol	5	U
111-91-1	bis(2-Chloroethoxy)methane	5	U
120-83-2	2,4-Dichlorophenol	5	U
91-20-3	Naphthalene	5	U
106-47-8	4-Chloroaniline	5	U
87-68-3	Hexachlorobutadiene	5	U
59-50-7	4-Chloro-3-methylphenol	5	U
91-57-6	2-Methylnaphthalene	5	U
77-47-4	Hexachlorocyclopentadiene	5	U
88-06-2	2,4,6-Trichlorophenol	5	U
95-95-4	2,4,5-Trichlorophenol	20	U
91-58-7	2-Chloronaphthalane	5	U
88-74-4	2-Nitroaniline	20	U
131-11-3	Dimethylphthalate	5	U
208-96-8	Acenaphthylene	5	U
606-20-2	2,6-Dintrotoluene	5	U
99-09-2	3-Nitroaniline	20	U
83-32-9	Acenaphthene	5	U

000441

LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EDPM1

27964

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDPK9

Lab Sample ID: 6008.001 Date Received: 04/20/00

Lab File ID: H0942 Date Extracted: 04/23/00

Sample Volume: 1000 (mL) Date Analyzed: 05/05/00

Concentrated Extract Volume: 1000 (uL) Dilution Factor: 1.0

Injection Volume: 1 (uL)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
51-28-5	2,4-Dinitrophenol	20	U
100-02-7	4-Nitrophenol	20	U
132-64-9	Dibenzofuran	5	U
121-14-2	2,4-Dinitrotoluene	5	U
84-66-2	Diethylphthalate	5	U
7005-72-3	4-Chlorophenyl-phenylether	5	U
86-73-7	Fluorene	5	U
100-01-6	4-Nitroaniline	20	U
534-52-1	4,6-Dinitro-2-methylphenol	20	U
86-30-6	N-Nitrosodiphenylamine (1)	5	U
101-55-3	4-Bromophenyl-phenylether	5	U
118-74-1	Hexachlorobenzene	5	U
87-86-5	Pentachlorophenol	20	U
85-01-8	Phenanthrene	5	U
120-12-7	Anthracene	5	U
84-74-2	Di-n-butylphthalate	5	U
206-44-0	Fluoranthene	5	U
129-00-0	Pyrene	5	U
85-68-7	Butylbenzylphthalate	5	U
91-94-1	3,3'-Dichlorobenzidine	5	U
56-55-3	Benzo(a)anthracene	5	U
218-01-9	Chrysene	5	U
117-81-7	bis(2-Ethylhexyl)phthalate	5	U
117-84-0	Di-n-octylphthalate	5	U
205-99-2	Benzo(b)fluoranthene	5	U
207-08-9	Benzo(k)fluoranthene	5	U
50-32-8	Benzo(a)pyrene	5	U
193-39-5	Indeno(1,2,3-cd)Pyrene	5	U
53-70-3	Dibenz(a,h)anthracene	5	U
191-24-2	Benzo(g,h,i)perylene	5	U

(1) - Cannot be separated from Diphenylamine

000442

EPA SAMPLE NO.

LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

EDPM1

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

27964

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDPK9

Lab Sample ID: 6008.001 Date Received: 04/20/00

Lab File ID: H0942 Date Extracted: 04/23/00

Sample Volume: 1000 (mL) Date Analyzed: 05/05/00

Concentrated Extract Volume: 1000 (uL) Dilution Factor: 1.0

Injection Volume: 1.0 (uL)

Number TICs found: 0

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC. (ug/L)	Q
1.					
2.					
3.					
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1LCA

LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EDPM0

54305 Duplicate Anderson

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDPK9

Lab Sample ID: 6004.013 Date Received: 04/19/00

Lab File ID: F0883 Date Analyzed: 04/22/00

Purge Volume: 20 (mL) Dilution Factor: 1.0

GC Column: DB-624 ID: 0.53 (mm) Length: 60 (m)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
74-87-3	Chloromethane	1	U
74-83-9	Bromomethane	1	U
75-01-4	Vinyl chloride	1	U
75-00-3	Chloroethane	1	U
75-09-2	Methylene chloride	2	U
67-64-1	Acetone	5	U
75-15-0	Carbon disulfide	1	U
75-35-4	1,1-Dichloroethene	1	U
75-34-3	1,1-Dichloroethane	4	
156-59-2	cis-1,2-Dichloroethene	2	
156-60-5	trans-1,2-Dichloroethene	1	U
67-66-3	Chloroform	1	U
107-06-2	1,2-Dichloroethane	1	U
78-93-3	2-Butanone	5	U
74-97-5	Bromochloromethane	1	U
71-55-6	1,1,1-Trichloroethane	1	U
56-23-5	Carbon tetrachloride	1	U
75-27-4	Bromodichloromethane	1	U
78-87-5	1,2-Dichloropropane	9	
10061-01-5	cis-1,3-Dichloropropene	1	U
79-01-6	Trichloroethene	1	U
124-48-1	Dibromochloromethane	1	U
79-00-5	1,1,2-Trichloroethane	1	U
71-43-2	Benzene	1	U
10061-02-6	trans-1,3-Dichloropropene	1	U
75-25-2	Bromoform	1	U
108-10-1	4-Methyl-2-pentanone	5	U
591-78-6	2-Hexanone	5	U
127-18-4	Tetrachloroethene	1	U
79-34-5	1,1,2,2-Tetrachloroethane	1	U
106-93-4	1,2-Dibromoethane	1	U
108-88-3	Toluene	1	U
108-90-7	Chlorobenzene	1	U
100-41-4	Ethylbenzene	1	U
100-42-5	Styrene	1	U
1330-20-7	Xylenes (total)	1	U
541-73-1	1,3-Dichlorobenzene	1	U
106-46-7	1,4-Dichlorobenzene	1	U
95-50-1	1,2-Dichlorobenzene	1	U
96-12-8	1,2-Dibromo-3-chloropropane	1	U
120-82-1	1,2,4-Trichlorobenzene	1	U

1LCE

EPA SAMPLE NO.

LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EDPM0

54305 duplicate

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDPK9

Lab Sample ID: 6004.013 Date Received: 04/19/00

Lab File ID: F0883 Date Analyzed: 04/22/00

Purge Volume: 20 (mL) Dilution Factor: 1.0

GC Column: DB-624 ID: 0.53 (mm) Length: 60 (m)

Number TICs found: 2

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC. (ug/L)	Q
1.	000075-43-4	Methane, dichlorofluoro-	5.91	4	JN
2.	000060-29-7	Ethyl ether	6.82	5	JN
3.					
4.					
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1LCB

LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EDPM0

54305 Duplicate

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDPK9

Lab Sample ID: 6004.013 Date Received: 04/19/00

Lab File ID: H0941 Date Extracted: 04/23/00

Sample Volume: 1000 (mL) Date Analyzed: 05/05/00

Concentrated Extract Volume: 1000 (uL) Dilution Factor: 1.0

Injection Volume: 1.0 (uL)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
108-95-2	Phenol	5	U
111-44-4	bis(2-Chloroethyl)ether	5	U
95-57-8	2-Chlorophenol	5	U
95-48-7	2-Methylphenol	5	U
108-60-1	2,2'-oxybis(1-Chloropropane)	5	U
106-44-5	4-Methylphenol	5	U
621-64-7	N-Nitroso-di-n-propylamine	5	U
67-72-1	Hexachloroethane	5	U
98-95-3	Nitrobenzene	5	U
78-59-1	Isophorone	5	U
88-75-5	2-Nitrophenol	5	U
105-67-9	2,4-Dimethylphenol	5	U
111-91-1	bis(2-Chloroethoxy)methane	5	U
120-83-2	2,4-Dichlorophenol	5	U
91-20-3	Naphthalene	5	U
106-47-8	4-Chloroaniline	5	U
87-68-3	Hexachlorobutadiene	5	U
59-50-7	4-Chloro-3-methylphenol	5	U
91-57-6	2-Methylnaphthalene	5	U
77-47-4	Hexachlorocyclopentadiene	5	U
88-06-2	2,4,6-Trichlorophenol	5	U
95-95-4	2,4,5-Trichlorophenol	20	U
91-58-7	2-Chloronaphthalane	5	U
88-74-4	2-Nitroaniline	20	U
131-11-3	Dimethylphthalate	5	U
208-96-8	Acenaphthylene	5	U
606-20-2	2,6-Dintrotoluene	5	U
99-09-2	3-Nitroaniline	20	U
83-32-9	Acenaphthene	5	U

1LCC

LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EDPM0

54305 dup

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDPK9

Lab Sample ID: 6004.013 Date Received: 04/19/00

Lab File ID: H0941 Date Extracted: 04/23/00

Sample Volume: 1000 (mL) Date Analyzed: 05/05/00

Concentrated Extract Volume: 1000 (uL) Dilution Factor: 1.0

Injection Volume: 1 (uL)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
51-28-5	2,4-Dinitrophenol	20	U
100-02-7	4-Nitrophenol	20	U
132-64-9	Dibenzofuran	5	U
121-14-2	2,4-Dinitrotoluene	5	U
84-66-2	Diethylphthalate	5	U
7005-72-3	4-Chlorophenyl-phenylether	5	U
86-73-7	Fluorene	5	U
100-01-6	4-Nitroaniline	20	U
534-52-1	4,6-Dinitro-2-methylphenol	20	U
86-30-6	N-Nitrosodiphenylamine (1)	5	U
101-55-3	4-Bromophenyl-phenylether	5	U
118-74-1	Hexachlorobenzene	5	U
87-86-5	Pentachlorophenol	20	U
85-01-8	Phenanthrene	5	U
120-12-7	Anthracene	5	U
84-74-2	Di-n-butylphthalate	5	U
206-44-0	Fluoranthene	5	U
129-00-0	Pyrene	5	U
85-68-7	Butylbenzylphthalate	5	U
91-94-1	3,3'-Dichlorobenzidine	5	U
56-55-3	Benzo(a)anthracene	5	U
218-01-9	Chrysene	5	U
117-81-7	bis(2-Ethylhexyl)phthalate	5	U
117-84-0	Di-n-octylphthalate	5	U
205-99-2	Benzo(b)fluoranthene	5	U
207-08-9	Benzo(k)fluoranthene	5	U
50-32-8	Benzo(a)pyrene	5	U
193-39-5	Indeno(1,2,3-cd)Pyrene	5	U
53-70-3	Dibenz(a,h)anthracene	5	U
191-24-2	Benzo(g,h,i)perylene	5	U

(1) - Cannot be separated from Diphenylamine

EPA SAMPLE NO.

LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

EDPM0

54305 dup

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDPK9

Lab Sample ID: 6004.013 Date Received: 04/19/00

Lab File ID: H0941 Date Extracted: 04/23/00

Sample Volume: 1000 (mL) Date Analyzed: 05/05/00

Concentrated Extract Volume: 1000 (uL) Dilution Factor: 1.0

Injection Volume: 1.0 (uL)

Number TICs found: 0

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC. (ug/L)	Q
1.					
2.					
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EPA SAMPLE NO.

LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET

EDPL8

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

54305 Anderson

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDPK9

Lab Sample ID: 6004.011 Date Received: 04/19/00

Lab File ID: F0881 Date Analyzed: 04/22/00

Purge Volume: 20 (mL) Dilution Factor: 1.0

GC Column: DB-624 ID: 0.53 (mm) Length: 60 (m)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
74-87-3	Chloromethane	1	U
74-83-9	Bromomethane	1	U
75-01-4	Vinyl chloride	1	U
75-00-3	Chloroethane	1	U
75-09-2	Methylene chloride	2	U
67-64-1	Acetone	5	U
75-15-0	Carbon disulfide	1	U
75-35-4	1,1-Dichloroethene	1	U
75-34-3	1,1-Dichloroethane	3	
156-59-2	cis-1,2-Dichloroethene	2	
156-60-5	trans-1,2-Dichloroethene	1	U
67-66-3	Chloroform	1	U
107-06-2	1,2-Dichloroethane	1	U
78-93-3	2-Butanone	5	U
74-97-5	Bromochloromethane	1	U
71-55-6	1,1,1-Trichloroethane	1	U
56-23-5	Carbon tetrachloride	1	U
75-27-4	Bromodichloromethane	1	U
78-87-5	1,2-Dichloropropane	8	
10061-01-5	cis-1,3-Dichloropropene	1	U
79-01-6	Trichloroethene	1	U
124-48-1	Dibromochloromethane	1	U
79-00-5	1,1,2-Trichloroethane	1	U
71-43-2	Benzene	1	U
10061-02-6	trans-1,3-Dichloropropene	1	U
75-25-2	Bromoform	1	U
108-10-1	4-Methyl-2-pentanone	5	U
591-78-6	2-Hexanone	5	U
127-18-4	Tetrachloroethene	1	U
79-34-5	1,1,2,2-Tetrachloroethane	1	U
106-93-4	1,2-Dibromoethane	1	U
108-88-3	Toluene	1	U
108-90-7	Chlorobenzene	1	U
100-41-4	Ethylbenzene	1	U
100-42-5	Styrene	1	U
1330-20-7	Xylenes (total)	1	U
541-73-1	1,3-Dichlorobenzene	1	U
106-46-7	1,4-Dichlorobenzene	1	U
95-50-1	1,2-Dichlorobenzene	1	U
96-12-8	1,2-Dibromo-3-chloropropane	1	U
120-82-1	1,2,4-Trichlorobenzene	1	U

000095

LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EDPL8

54305

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDPK9

Lab Sample ID: 6004.011 Date Received: 04/19/00

Lab File ID: H0940 Date Extracted: 04/23/00

Sample Volume: 1000 (mL) Date Analyzed: 05/05/00

Concentrated Extract Volume: 1000 (uL) Dilution Factor: 1.0

Injection Volume: 1.0 (uL)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
108-95-2	Phenol	5	U
111-44-4	bis(2-Chloroethyl)ether	5	U
95-57-8	2-Chlorophenol	5	U
95-48-7	2-Methylphenol	5	U
108-60-1	2,2'-oxybis(1-Chloropropane)	5	U
106-44-5	4-Methylphenol	5	U
621-64-7	N-Nitroso-di-n-propylamine	5	U
67-72-1	Hexachloroethane	5	U
98-95-3	Nitrobenzene	5	U
78-59-1	Isophorone	5	U
88-75-5	2-Nitrophenol	5	U
105-67-9	2,4-Dimethylphenol	5	U
111-91-1	bis(2-Chloroethoxy)methane	5	U
120-83-2	2,4-Dichlorophenol	5	U
91-20-3	Naphthalene	5	U
106-47-8	4-Chloroaniline	5	U
87-68-3	Hexachlorobutadiene	5	U
59-50-7	4-Chloro-3-methylphenol	5	U
91-57-6	2-Methylnaphthalene	5	U
77-47-4	Hexachlorocyclopentadiene	5	U
88-06-2	2,4,6-Trichlorophenol	5	U
95-95-4	2,4,5-Trichlorophenol	20	U
91-58-7	2-Chloronaphthalane	5	U
88-74-4	2-Nitroaniline	20	U
131-11-3	Dimethylphthalate	5	U
208-96-8	Acenaphthylene	5	U
606-20-2	2,6-Dintrotoluene	5	U
99-09-2	3-Nitroaniline	20	U
83-32-9	Acenaphthene	5	U

LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EDPL8

54305

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDPK9

Lab Sample ID: 6004.011 Date Received: 04/19/00

Lab File ID: H0940 Date Extracted: 04/23/00

Sample Volume: 1000 (mL) Date Analyzed: 05/05/00

Concentrated Extract Volume: 1000 (uL) Dilution Factor: 1.0

Injection Volume: 1 (uL)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
51-28-5	2,4-Dinitrophenol	20	U
100-02-7	4-Nitrophenol	20	U
132-64-9	Dibenzofuran	5	U
121-14-2	2,4-Dinitrotoluene	5	U
84-66-2	Diethylphthalate	5	U
7005-72-3	4-Chlorophenyl-phenylether	5	U
86-73-7	Fluorene	5	U
100-01-6	4-Nitroaniline	20	U
534-52-1	4,6-Dinitro-2-methylphenol	20	U
86-30-6	N-Nitrosodiphenylamine (1)	5	U
101-55-3	4-Bromophenyl-phenylether	5	U
118-74-1	Hexachlorobenzene	5	U
87-86-5	Pentachlorophenol	20	U
85-01-8	Phenanthrene	5	U
120-12-7	Anthracene	5	U
84-74-2	Di-n-butylphthalate	5	U
206-44-0	Fluoranthene	5	U
129-00-0	Pyrene	5	U
85-68-7	Butylbenzylphthalate	5	U
91-94-1	3,3'-Dichlorobenzidine	5	U
56-55-3	Benzo(a)anthracene	5	U
218-01-9	Chrysene	5	U
117-81-7	bis(2-Ethylhexyl)phthalate	5	U
117-84-0	Di-n-octylphthalate	5	U
205-99-2	Benzo(b)fluoranthene	5	U
207-08-9	Benzo(k)fluoranthene	5	U
50-32-8	Benzo(a)pyrene	5	U
193-39-5	Indeno(1,2,3-cd)Pyrene	5	U
53-70-3	Dibenz(a,h)anthracene	5	U
191-24-2	Benzo(g,h,i)perylene	5	U

(1) - Cannot be separated from Diphenylamine

1LCF EPA SAMPLE NO.

LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

EDPL8

54305

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDPK9

Lab Sample ID: 6004.011 Date Received: 04/19/00

Lab File ID: H0940 Date Extracted: 04/23/00

Sample Volume: 1000 (mL) Date Analyzed: 05/05/00

Concentrated Extract Volume: 1000 (uL) Dilution Factor: 1.0

Injection Volume: 1.0 (uL)

Number TICs found: 0

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC. (ug/L)	Q
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1LCE

EPA SAMPLE NO.

LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EDPL8

54305

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDPK9

Lab Sample ID: 6004.011 Date Received: 04/19/00

Lab File ID: F0881 Date Analyzed: 04/22/00

Purge Volume: 20 (mL) Dilution Factor: 1.0

GC Column: DB-624 ID: 0.53 (mm) Length: 60 (m)

Number TICs found: 1

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC. (ug/L)	Q
1.	000060-29-7	Ethyl ether	6.82	2	JN
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1LCA

LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EDPL6

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDPK9

27919 Roberts

Lab Sample ID: 6004.009 Date Received: 04/19/00

Lab File ID: F0901 Date Analyzed: 04/24/00

Purge Volume: 20 (mL) Dilution Factor: 1.0

GC Column: DB-624 ID: 0.53 (mm) Length: 60 (m)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
74-87-3	Chloromethane	1	U
74-83-9	Bromomethane	1	U
75-01-4	Vinyl chloride	1	U
75-00-3	Chloroethane	1	U
75-09-2	Methylene chloride	2	U
67-64-1	Acetone	5	U
75-15-0	Carbon disulfide	1	U
75-35-4	1,1-Dichloroethene	1	U
75-34-3	1,1-Dichloroethane	0.8	J
156-59-2	cis-1,2-Dichloroethene	0.7	J
156-60-5	trans-1,2-Dichloroethene	1	U
67-66-3	Chloroform	1	U
107-06-2	1,2-Dichloroethane	1	U
78-93-3	2-Butanone	5	U
74-97-5	Bromochloromethane	1	U
71-55-6	1,1,1-Trichloroethane	1	U
56-23-5	Carbon tetrachloride	1	U
75-27-4	Bromodichloromethane	1	U
78-87-5	1,2-Dichloropropane	1	U
10061-01-5	cis-1,3-Dichloropropene	1	U
79-01-6	Trichloroethene	1	U
124-48-1	Dibromochloromethane	1	U
79-00-5	1,1,2-Trichloroethane	1	U
71-43-2	Benzene	1	U
10061-02-6	trans-1,3-Dichloropropene	1	U
75-25-2	Bromoform	1	U
108-10-1	4-Methyl-2-pentanone	5	U
591-78-6	2-Hexanone	5	U
127-18-4	Tetrachloroethene	1	U
79-34-5	1,1,2,2-Tetrachloroethane	1	U
106-93-4	1,2-Dibromoethane	1	U
108-88-3	Toluene	1	U
108-90-7	Chlorobenzene	1	U
100-41-4	Ethylbenzene	1	U
100-42-5	Styrene	1	U
1330-20-7	Xylenes (total)	1	U
541-73-1	1,3-Dichlorobenzene	1	U
106-46-7	1,4-Dichlorobenzene	1	U
95-50-1	1,2-Dichlorobenzene	1	U
96-12-8	1,2-Dibromo-3-chloropropane	1	U
120-82-1	1,2,4-Trichlorobenzene	1	U

000079

1LCB

EPA SAMPLE NO.

LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EDPL6

27919

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDPK9

Lab Sample ID: 6004.009 Date Received: 04/19/00

Lab File ID: H0938 Date Extracted: 04/23/00

Sample Volume: 1000 (mL) Date Analyzed: 05/05/00

Concentrated Extract Volume: 1000 (uL) Dilution Factor: 1.0

Injection Volume: 1.0 (uL)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
108-95-2	Phenol	5	U
111-44-4	bis(2-Chloroethyl)ether	5	U
95-57-8	2-Chlorophenol	5	U
95-48-7	2-Methylphenol	5	U
108-60-1	2,2'-oxybis(1-Chloropropane)	5	U
106-44-5	4-Methylphenol	5	U
621-64-7	N-Nitroso-di-n-propylamine	5	U
67-72-1	Hexachloroethane	5	U
98-95-3	Nitrobenzene	5	U
78-59-1	Isophorone	5	U
88-75-5	2-Nitrophenol	5	U
105-67-9	2,4-Dimethylphenol	5	U
111-91-1	bis(2-Chloroethoxy)methane	5	U
120-83-2	2,4-Dichlorophenol	5	U
91-20-3	Naphthalene	5	U
106-47-8	4-Chloroaniline	5	U
87-68-3	Hexachlorobutadiene	5	U
59-50-7	4-Chloro-3-methylphenol	5	U
91-57-6	2-Methylnaphthalene	5	U
77-47-4	Hexachlorocyclopentadiene	5	U
88-06-2	2,4,6-Trichlorophenol	5	U
95-95-4	2,4,5-Trichlorophenol	20	U
91-58-7	2-Chloronaphthalane	5	U
88-74-4	2-Nitroaniline	20	U
131-11-3	Dimethylphthalate	5	U
208-96-8	Acenaphthylene	5	U
606-20-2	2,6-Dintrotoluene	5	U
99-09-2	3-Nitroaniline	20	U
83-32-9	Acenaphthene	5	U

0003852

1LCC

LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EDPL6

27919

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDPK9

Lab Sample ID: 6004.009 Date Received: 04/19/00

Lab File ID: H0938 Date Extracted: 04/23/00

Sample Volume: 1000 (mL) Date Analyzed: 05/05/00

Concentrated Extract Volume: 1000 (uL) Dilution Factor: 1.0

Injection Volume: 1 (uL)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
51-28-5	2,4-Dinitrophenol	20	U
100-02-7	4-Nitrophenol	20	U
132-64-9	Dibenzofuran	5	U
121-14-2	2,4-Dinitrotoluene	5	U
84-66-2	Diethylphthalate	5	U
7005-72-3	4-Chlorophenyl-phenylether	5	U
86-73-7	Fluorene	5	U
100-01-6	4-Nitroaniline	20	U
534-52-1	4,6-Dinitro-2-methylphenol	20	U
86-30-6	N-Nitrosodiphenylamine (1)	5	U
101-55-3	4-Bromophenyl-phenylether	5	U
118-74-1	Hexachlorobenzene	5	U
87-86-5	Pentachlorophenol	20	U
85-01-8	Phenanthrene	5	U
120-12-7	Anthracene	5	U
84-74-2	Di-n-butylphthalate	5	U
206-44-0	Fluoranthene	5	U
129-00-0	Pyrene	5	U
85-68-7	Butylbenzylphthalate	5	U
91-94-1	3,3'-Dichlorobenzidine	5	U
56-55-3	Benzo(a)anthracene	5	U
218-01-9	Chrysene	5	U
117-81-7	bis(2-Ethylhexyl)phthalate	5	U
117-84-0	Di-n-octylphthalate	5	U
205-99-2	Benzo(b)fluoranthene	5	U
207-08-9	Benzo(k)fluoranthene	5	U
50-32-8	Benzo(a)pyrene	5	U
193-39-5	Indeno(1,2,3-cd)Pyrene	5	U
53-70-3	Dibenz(a,h)anthracene	5	U
191-24-2	Benzo(g,h,i)perylene	5	U

(1) - Cannot be separated from Diphenylamine

1LCE

EPA SAMPLE NO.

LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EDPL6

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

27919

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDPK9

Lab Sample ID: 6004.009 Date Received: 04/19/00

Lab File ID: F0901 Date Analyzed: 04/24/00

Purge Volume: 20 (mL) Dilution Factor: 1.0

GC Column: DB-624 ID: 0.53 (mm) Length: 60 (m)

Number TICs found: 1

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC. (ug/L)	Q
1.	000075-43-4	Methane, dichlorofluoro-	5.91	2	JN
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3.					
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000080

1LCF

EPA SAMPLE NO.

LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

EDPL6

27919

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDPK9

Lab Sample ID: 6004.009 Date Received: 04/19/00

Lab File ID: H0938 Date Extracted: 04/23/00

Sample Volume: 1000 (mL) Date Analyzed: 05/05/00

Concentrated Extract Volume: 1000 (uL) Dilution Factor: 1.0

Injection Volume: 1.0 (uL)

Number TICs found: 0

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC. (ug/L)	Q
1.					
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1LCA

EPA SAMPLE NO.

LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET

EDPL5

54125

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDPK9

High Level

Lab Sample ID: 6004.008 Date Received: 04/19/00

Lab File ID: F0900 Date Analyzed: 04/24/00

Purge Volume: 20 (mL) Dilution Factor: 1.0

GC Column: DB-624 ID: 0.53 (mm) Length: 60 (m)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
74-87-3	Chloromethane	1	U
74-83-9	Bromomethane	1	U
75-01-4	Vinyl chloride	1	U
75-00-3	Chloroethane	1	U
75-09-2	Methylene chloride	2	U
67-64-1	Acetone	5	U
75-15-0	Carbon disulfide	1	U
75-35-4	1,1-Dichloroethene	1	U
75-34-3	1,1-Dichloroethane	1	U
156-59-2	cis-1,2-Dichloroethene	1	U
156-60-5	trans-1,2-Dichloroethene	1	U
67-66-3	Chloroform	1	U
107-06-2	1,2-Dichloroethane	1	U
78-93-3	2-Butanone	5	U
74-97-5	Bromochloromethane	1	U
71-55-6	1,1,1-Trichloroethane	1	U
56-23-5	Carbon tetrachloride	1	U
75-27-4	Bromodichloromethane	1	U
78-87-5	1,2-Dichloropropane	1	U
10061-01-5	cis-1,3-Dichloropropene	1	U
79-01-6	Trichloroethene	1	U
124-48-1	Dibromochloromethane	1	U
79-00-5	1,1,2-Trichloroethane	1	U
71-43-2	Benzene	1	U
10061-02-6	trans-1,3-Dichloropropene	1	U
75-25-2	Bromoform	1	U
108-10-1	4-Methyl-2-pentanone	5	U
591-78-6	2-Hexanone	5	U
127-18-4	Tetrachloroethene	1	U
79-34-5	1,1,2,2-Tetrachloroethane	1	U
106-93-4	1,2-Dibromoethane	1	U
108-88-3	Toluene	1	U
108-90-7	Chlorobenzene	1	U
100-41-4	Ethylbenzene	1	U
100-42-5	Styrene	1	U
1330-20-7	Xylenes (total)	1	U
541-73-1	1,3-Dichlorobenzene	1	U
106-46-7	1,4-Dichlorobenzene	1	U
95-50-1	1,2-Dichlorobenzene	1	U
96-12-8	1,2-Dibromo-3-chloropropane	1	U
120-82-1	1,2,4-Trichlorobenzene	1	U

000071

EPA SAMPLE NO.

LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EDPL5

54215

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDPK9

Lab Sample ID: 6004.008 Date Received: 04/19/00

Lab File ID: H0937 Date Extracted: 04/23/00

Sample Volume: 1000 (mL) Date Analyzed: 05/05/00

Concentrated Extract Volume: 1000 (uL) Dilution Factor: 1.0

Injection Volume: 1.0 (uL)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
108-95-2	Phenol	5	U
111-44-4	bis(2-Chloroethyl)ether	5	U
95-57-8	2-Chlorophenol	5	U
95-48-7	2-Methylphenol	5	U
108-60-1	2,2'-oxybis(1-Chloropropane)	5	U
106-44-5	4-Methylphenol	5	U
621-64-7	N-Nitroso-di-n-propylamine	5	U
67-72-1	Hexachloroethane	5	U
98-95-3	Nitrobenzene	5	U
78-59-1	Isophorone	5	U
88-75-5	2-Nitrophenol	5	U
105-67-9	2,4-Dimethylphenol	5	U
111-91-1	bis(2-Chloroethoxy)methane	5	U
120-83-2	2,4-Dichlorophenol	5	U
91-20-3	Naphthalene	5	U
106-47-8	4-Chloroaniline	5	U
87-68-3	Hexachlorobutadiene	5	U
59-50-7	4-Chloro-3-methylphenol	5	U
91-57-6	2-Methylnaphthalene	5	U
77-47-4	Hexachlorocyclopentadiene	5	U
88-06-2	2,4,6-Trichlorophenol	5	U
95-95-4	2,4,5-Trichlorophenol	20	U
91-58-7	2-Chloronaphthalane	5	U
88-74-4	2-Nitroaniline	20	U
131-11-3	Dimethylphthalate	5	U
208-96-8	Acenaphthylene	5	U
606-20-2	2,6-Dintrotoluene	5	U
99-09-2	3-Nitroaniline	20	U
83-32-9	Acenaphthene	5	U

EPA SAMPLE NO.

LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EDPL5

54215

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDPK9

Lab Sample ID: 6004.008 Date Received: 04/19/00

Lab File ID: H0937 Date Extracted: 04/23/00

Sample Volume: 1000 (mL) Date Analyzed: 05/05/00

Concentrated Extract Volume: 1000 (uL) Dilution Factor: 1.0

Injection Volume: 1 (uL)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
51-28-5	2,4-Dinitrophenol	20	U
100-02-7	4-Nitrophenol	20	U
132-64-9	Dibenzofuran	5	U
121-14-2	2,4-Dinitrotoluene	5	U
84-66-2	Diethylphthalate	5	U
7005-72-3	4-Chlorophenyl-phenylether	5	U
86-73-7	Fluorene	5	U
100-01-6	4-Nitroaniline	20	U
534-52-1	4,6-Dinitro-2-methylphenol	20	U
86-30-6	N-Nitrosodiphenylamine (1)	5	U
101-55-3	4-Bromophenyl-phenylether	5	U
118-74-1	Hexachlorobenzene	5	U
87-86-5	Pentachlorophenol	20	U
85-01-8	Phenanthrene	5	U
120-12-7	Anthracene	5	U
84-74-2	Di-n-butylphthalate	5	U
206-44-0	Fluoranthene	5	U
129-00-0	Pyrene	5	U
85-68-7	Butylbenzylphthalate	5	U
91-94-1	3,3'-Dichlorobenzidine	5	U
56-55-3	Benzo(a)anthracene	5	U
218-01-9	Chrysene	5	U
117-81-7	bis(2-Ethylhexyl)phthalate	5	U
117-84-0	Di-n-octylphthalate	5	U
205-99-2	Benzo(b)fluoranthene	5	U
207-08-9	Benzo(k)fluoranthene	5	U
50-32-8	Benzo(a)pyrene	5	U
193-39-5	Indeno(1,2,3-cd)Pyrene	5	U
53-70-3	Dibenz(a,h)anthracene	5	U
191-24-2	Benzo(g,h,i)perylene	5	U

(1) - Cannot be separated from Diphenylamine

1LCE

EPA SAMPLE NO.

LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EDPL5

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

5 4/25

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDPK9

Lab Sample ID: 6004.008 Date Received: 04/19/00

Lab File ID: F0900 Date Analyzed: 04/24/00

Purge Volume: 20 (mL) Dilution Factor: 1.0

GC Column: DB-624 ID: 0.53 (mm) Length: 60 (m)

Number TICs found: 0

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC. (ug/L)	Q
1.					
2.					
3.					
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000072

EPA SAMPLE NO.

LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

EDPL5

54215

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDPK9

Lab Sample ID: 6004.008 Date Received: 04/19/00

Lab File ID: H0937 Date Extracted: 04/23/00

Sample Volume: 1000 (mL) Date Analyzed: 05/05/00

Concentrated Extract Volume: 1000 (uL) Dilution Factor: 1.0

Injection Volume: 1.0 (uL)

Number TICs found: 0

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC. (ug/L)	Q
1.					
2.					
3.					
4.					
5.					
6.					
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1LCA

LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EDPK9

54287

Hendrickson

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDPK9

Lab Sample ID: 6004.002 Date Received: 04/19/00

Lab File ID: F0894 Date Analyzed: 04/24/00

Purge Volume: 20 (mL) Dilution Factor: 1.0

GC Column: DB-624 ID: 0.53 (mm) Length: 60 (m)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
74-87-3	Chloromethane	1	U
74-83-9	Bromomethane	1	U
75-01-4	Vinyl chloride	1	U
75-00-3	Chloroethane	1	U
75-09-2	Methylene chloride	6	
67-64-1	Acetone	5	U
75-15-0	Carbon disulfide	1	U
75-35-4	1,1-Dichloroethene	1	U
75-34-3	1,1-Dichloroethane	12	
156-59-2	cis-1,2-Dichloroethene	0.8	J
156-60-5	trans-1,2-Dichloroethene	1	U
67-66-3	Chloroform	1	U
107-06-2	1,2-Dichloroethane	1	U
78-93-3	2-Butanone	5	U
74-97-5	Bromochloromethane	1	U
71-55-6	1,1,1-Trichloroethane	1	U
56-23-5	Carbon tetrachloride	1	U
75-27-4	Bromodichloromethane	1	U
78-87-5	1,2-Dichloropropane	1	U
10061-01-5	cis-1,3-Dichloropropene	1	U
79-01-6	Trichloroethene	1	U
124-48-1	Dibromochloromethane	1	U
79-00-5	1,1,2-Trichloroethane	1	U
71-43-2	Benzene	1	U
10061-02-6	trans-1,3-Dichloropropene	1	U
75-25-2	Bromoform	1	U
108-10-1	4-Methyl-2-pentanone	5	U
591-78-6	2-Hexanone	5	U
127-18-4	Tetrachloroethene	1	U
79-34-5	1,1,2,2-Tetrachloroethane	1	U
106-93-4	1,2-Dibromoethane	1	U
108-88-3	Toluene	1	U
108-90-7	Chlorobenzene	1	U
100-41-4	Ethylbenzene	1	U
100-42-5	Styrene	1	U
1330-20-7	Xylenes (total)	1	U
541-73-1	1,3-Dichlorobenzene	1	U
106-46-7	1,4-Dichlorobenzene	1	U
95-50-1	1,2-Dichlorobenzene	1	U
96-12-8	1,2-Dibromo-3-chloropropane	1	U
120-82-1	1,2,4-Trichlorobenzene	1	U

1LCB

LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EDPK9

54287

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDPK9

Lab Sample ID: 6004.002 Date Received: 04/19/00

Lab File ID: H0928 Date Extracted: 04/23/00

Sample Volume: 1000 (mL) Date Analyzed: 05/05/00

Concentrated Extract Volume: 1000 (uL) Dilution Factor: 1.0

Injection Volume: 1.0 (uL)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
108-95-2	Phenol	5	U
111-44-4	bis(2-Chloroethyl)ether	5	U
95-57-8	2-Chlorophenol	5	U
95-48-7	2-Methylphenol	5	U
108-60-1	2,2'-oxybis(1-Chloropropane)	5	U
106-44-5	4-Methylphenol	5	U
621-64-7	N-Nitroso-di-n-propylamine	5	U
67-72-1	Hexachloroethane	5	U
98-95-3	Nitrobenzene	5	U
78-59-1	Isophorone	5	U
88-75-5	2-Nitrophenol	5	U
105-67-9	2,4-Dimethylphenol	5	U
111-91-1	bis(2-Chloroethoxy)methane	5	U
120-83-2	2,4-Dichlorophenol	5	U
91-20-3	Naphthalene	5	U
106-47-8	4-Chloroaniline	5	U
87-68-3	Hexachlorobutadiene	5	U
59-50-7	4-Chloro-3-methylphenol	5	U
91-57-6	2-Methylnaphthalene	5	U
77-47-4	Hexachlorocyclopentadiene	5	U
88-06-2	2,4,6-Trichlorophenol	5	U
95-95-4	2,4,5-Trichlorophenol	20	U
91-58-7	2-Chloronaphthalane	5	U
88-74-4	2-Nitroaniline	20	U
131-11-3	Dimethylphthalate	5	U
208-96-8	Acenaphthylene	5	U
606-20-2	2,6-Dintrotoluene	5	U
99-09-2	3-Nitroaniline	20	U
83-32-9	Acenaphthene	5	U

LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EDPK9

54287

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDPK9

Lab Sample ID: 6004.002 Date Received: 04/19/00

Lab File ID: H0928 Date Extracted: 04/23/00

Sample Volume: 1000 (mL) Date Analyzed: 05/05/00

Concentrated Extract Volume: 1000 (uL) Dilution Factor: 1.0

Injection Volume: 1 (uL)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
51-28-5	2,4-Dinitrophenol	20	U
100-02-7	4-Nitrophenol	20	U
132-64-9	Dibenzofuran	5	U
121-14-2	2,4-Dinitrotoluene	5	U
84-66-2	Diethylphthalate	5	U
7005-72-3	4-Chlorophenyl-phenylether	5	U
86-73-7	Fluorene	5	U
100-01-6	4-Nitroaniline	20	U
534-52-1	4,6-Dinitro-2-methylphenol	20	U
86-30-6	N-Nitrosodiphenylamine (1)	5	U
101-55-3	4-Bromophenyl-phenylether	5	U
118-74-1	Hexachlorobenzene	5	U
87-86-5	Pentachlorophenol	20	U
85-01-8	Phenanthrene	5	U
120-12-7	Anthracene	5	U
84-74-2	Di-n-butylphthalate	5	U
206-44-0	Fluoranthene	5	U
129-00-0	Pyrene	5	U
85-68-7	Butylbenzylphthalate	5	U
91-94-1	3,3'-Dichlorobenzidine	5	U
56-55-3	Benzo(a)anthracene	5	U
218-01-9	Chrysene	5	U
117-81-7	bis(2-Ethylhexyl)phthalate	5	U
117-84-0	Di-n-octylphthalate	5	U
205-99-2	Benzo(b)fluoranthene	5	U
207-08-9	Benzo(k)fluoranthene	5	U
50-32-8	Benzo(a)pyrene	5	U
193-39-5	Indeno(1,2,3-cd)Pyrene	5	U
53-70-3	Dibenz(a,h)anthracene	5	U
191-24-2	Benzo(g,h,i)perylene	5	U

(1) - Cannot be separated from Diphenylamine

000280

1LCE

EPA SAMPLE NO.

LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EDPK9

54287

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDPK9

Lab Sample ID: 6004.002 Date Received: 04/19/00

Lab File ID: F0894 Date Analyzed: 04/24/00

Purge Volume: 20 (mL) Dilution Factor: 1.0

GC Column: DB-624 ID: 0.53 (mm) Length: 60 (m)

Number TICs found: 0

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC. (ug/L)	Q
1.					
2.					
3.					
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EPA SAMPLE NO.

LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

EDPK9

54287

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDPK9

Lab Sample ID: 6004.002 Date Received: 04/19/00

Lab File ID: H0928 Date Extracted: 04/23/00

Sample Volume: 1000 (mL) Date Analyzed: 05/05/00

Concentrated Extract Volume: 1000 (uL) Dilution Factor: 1.0

Injection Volume: 1.0 (uL)

Number TICs found: 0

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC. (ug/L)	Q
1.					
2.					
3.					
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1LCA

LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EDPL0

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

54280

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDPK9

Moore

Lab Sample ID: 6004.003 Date Received: 04/19/00

Lab File ID: F0902 Date Analyzed: 04/24/00

Purge Volume: 20 (mL) Dilution Factor: 1.0

GC Column: DB-624 ID: 0.53 (mm) Length: 60 (m)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
74-87-3	Chloromethane	1	U
74-83-9	Bromomethane	1	U
75-01-4	Vinyl chloride	1	U
75-00-3	Chloroethane	1	U
75-09-2	Methylene chloride	2	U
67-64-1	Acetone	5	U
75-15-0	Carbon disulfide	1	U
75-35-4	1,1-Dichloroethene	1	U
75-34-3	1,1-Dichloroethane	1	U
156-59-2	cis-1,2-Dichloroethene	1	U
156-60-5	trans-1,2-Dichloroethene	1	U
67-66-3	Chloroform	1	U
107-06-2	1,2-Dichloroethane	1	U
78-93-3	2-Butanone	5	U
74-97-5	Bromochloromethane	1	U
71-55-6	1,1,1-Trichloroethane	1	U
56-23-5	Carbon tetrachloride	1	U
75-27-4	Bromodichloromethane	1	U
78-87-5	1,2-Dichloropropane	1	U
10061-01-5	cis-1,3-Dichloropropene	1	U
79-01-6	Trichloroethene	1	U
124-48-1	Dibromochloromethane	1	U
79-00-5	1,1,2-Trichloroethane	1	U
71-43-2	Benzene	1	U
10061-02-6	trans-1,3-Dichloropropene	1	U
75-25-2	Bromoform	1	U
108-10-1	4-Methyl-2-pentanone	5	U
591-78-6	2-Hexanone	5	U
127-18-4	Tetrachloroethene	1	U
79-34-5	1,1,2,2-Tetrachloroethane	1	U
106-93-4	1,2-Dibromoethane	1	U
108-88-3	Toluene	1	U
108-90-7	Chlorobenzene	1	U
100-41-4	Ethylbenzene	1	U
100-42-5	Styrene	1	U
1330-20-7	Xylenes (total)	1	U
541-73-1	1,3-Dichlorobenzene	1	U
106-46-7	1,4-Dichlorobenzene	1	U
95-50-1	1,2-Dichlorobenzene	1	U
96-12-8	1,2-Dibromo-3-chloropropane	1	U
120-82-1	1,2,4-Trichlorobenzene	1	U

000030

LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EDPL0

54280

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDPK9

Lab Sample ID: 6004.003 Date Received: 04/19/00

Lab File ID: H0929 Date Extracted: 04/23/00

Sample Volume: 1000 (mL) Date Analyzed: 05/05/00

Concentrated Extract Volume: 1000 (uL) Dilution Factor: 1.0

Injection Volume: 1.0 (uL)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
108-95-2	Phenol	5	U
111-44-4	bis(2-Chloroethyl)ether	5	U
95-57-8	2-Chlorophenol	5	U
95-48-7	2-Methylphenol	5	U
108-60-1	2,2'-oxybis(1-Chloropropane)	5	U
106-44-5	4-Methylphenol	5	U
621-64-7	N-Nitroso-di-n-propylamine	5	U
67-72-1	Hexachloroethane	5	U
98-95-3	Nitrobenzene	5	U
78-59-1	Isophorone	5	U
88-75-5	2-Nitrophenol	5	U
105-67-9	2,4-Dimethylphenol	5	U
111-91-1	bis(2-Chloroethoxy)methane	5	U
120-83-2	2,4-Dichlorophenol	5	U
91-20-3	Naphthalene	5	U
106-47-8	4-Chloroaniline	5	U
87-68-3	Hexachlorobutadiene	5	U
59-50-7	4-Chloro-3-methylphenol	5	U
91-57-6	2-Methylnaphthalene	5	U
77-47-4	Hexachlorocyclopentadiene	5	U
88-06-2	2,4,6-Trichlorophenol	5	U
95-95-4	2,4,5-Trichlorophenol	20	U
91-58-7	2-Chloronaphthalane	5	U
88-74-4	2-Nitroaniline	20	U
131-11-3	Dimethylphthalate	5	U
208-96-8	Acenaphthylene	5	U
606-20-2	2,6-Dintrotoluene	5	U
99-09-2	3-Nitroaniline	20	U
83-32-9	Acenaphthene	5	U

1LCC

LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EDPL0

54280

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDPK9

Lab Sample ID: 6004.003 Date Received: 04/19/00

Lab File ID: H0929 Date Extracted: 04/23/00

Sample Volume: 1000 (mL) Date Analyzed: 05/05/00

Concentrated Extract Volume: 1000 (uL) Dilution Factor: 1.0

Injection Volume: 1 (uL)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
51-28-5	2,4-Dinitrophenol	20	U
100-02-7	4-Nitrophenol	20	U
132-64-9	Dibenzofuran	5	U
121-14-2	2,4-Dinitrotoluene	5	U
84-66-2	Diethylphthalate	5	U
7005-72-3	4-Chlorophenyl-phenylether	5	U
86-73-7	Fluorene	5	U
100-01-6	4-Nitroaniline	20	U
534-52-1	4,6-Dinitro-2-methylphenol	20	U
86-30-6	N-Nitrosodiphenylamine (1)	5	U
101-55-3	4-Bromophenyl-phenylether	5	U
118-74-1	Hexachlorobenzene	5	U
87-86-5	Pentachlorophenol	20	U
85-01-8	Phenanthrene	5	U
120-12-7	Anthracene	5	U
84-74-2	Di-n-butylphthalate	5	U
206-44-0	Fluoranthene	5	U
129-00-0	Pyrene	5	U
85-68-7	Butylbenzylphthalate	5	U
91-94-1	3,3'-Dichlorobenzidine	5	U
56-55-3	Benzo(a)anthracene	5	U
218-01-9	Chrysene	5	U
117-81-7	bis(2-Ethylhexyl)phthalate	5	U
117-84-0	Di-n-octylphthalate	5	U
205-99-2	Benzo(b)fluoranthene	5	U
207-08-9	Benzo(k)fluoranthene	5	U
50-32-8	Benzo(a)pyrene	5	U
193-39-5	Indeno(1,2,3-cd)Pyrene	5	U
53-70-3	Dibenz(a,h)anthracene	5	U
191-24-2	Benzo(g,h,i)perylene	5	U

(1) - Cannot be separated from Diphenylamine

EPA SAMPLE NO.

LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

EDPL0

54280

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDPK9

Lab Sample ID: 6004.003 Date Received: 04/19/00

Lab File ID: H0929 Date Extracted: 04/23/00

Sample Volume: 1000 (mL) Date Analyzed: 05/05/00

Concentrated Extract Volume: 1000 (uL) Dilution Factor: 1.0

Injection Volume: 1.0 (uL)

Number TICs found: 0

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC. (ug/L)	Q
1.					
2.					
3.					
4.					
5.					
6.					
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30.					

1LCE

EPA SAMPLE NO.

LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EDPL0

54280

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDPK9

Lab Sample ID: 6004.003 Date Received: 04/19/00

Lab File ID: F0902 Date Analyzed: 04/24/00

Purge Volume: 20 (mL) Dilution Factor: 1.0

GC Column: DB-624 ID: 0.53 (mm) Length: 60 (m)

Number TICs found: 0

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC. (ug/L)	Q
1.					
2.					
3.					
4.					
5.					
6.					
7.					
8.					
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1LCA

LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EDPL1

VOA - 54271

Ellis

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDPK9

Lab Sample ID: 6004.004 Date Received: 04/19/00

Lab File ID: F0896 Date Analyzed: 04/24/00

Purge Volume: 20 (mL) Dilution Factor: 1.0

GC Column: DB-624 ID: 0.53 (mm) Length: 60 (m)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
74-87-3	Chloromethane	1	U
74-83-9	Bromomethane	1	U
75-01-4	Vinyl chloride	1	U
75-00-3	Chloroethane	1	U
75-09-2	Methylene chloride	2	U
67-64-1	Acetone	5	U
75-15-0	Carbon disulfide	1	U
75-35-4	1,1-Dichloroethene	1	U
75-34-3	1,1-Dichloroethane	0.8	J
156-59-2	cis-1,2-Dichloroethene	1	U
156-60-5	trans-1,2-Dichloroethene	1	U
67-66-3	Chloroform	1	U
107-06-2	1,2-Dichloroethane	1	U
78-93-3	2-Butanone	5	U
74-97-5	Bromochloromethane	1	U
71-55-6	1,1,1-Trichloroethane	1	U
56-23-5	Carbon tetrachloride	1	U
75-27-4	Bromodichloromethane	1	U
78-87-5	1,2-Dichloropropane	1	U
10061-01-5	cis-1,3-Dichloropropene	1	U
79-01-6	Trichloroethene	1	U
124-48-1	Dibromochloromethane	1	U
79-00-5	1,1,2-Trichloroethane	1	U
71-43-2	Benzene	1	U
10061-02-6	trans-1,3-Dichloropropene	1	U
75-25-2	Bromoform	1	U
108-10-1	4-Methyl-2-pentanone	5	U
591-78-6	2-Hexanone	5	U
127-18-4	Tetrachloroethene	1	U
79-34-5	1,1,2,2-Tetrachloroethane	1	U
106-93-4	1,2-Dibromoethane	1	U
108-88-3	Toluene	1	U
108-90-7	Chlorobenzene	1	U
100-41-4	Ethylbenzene	1	U
100-42-5	Styrene	1	U
1330-20-7	Xylenes (total)	1	U
541-73-1	1,3-Dichlorobenzene	1	U
106-46-7	1,4-Dichlorobenzene	1	U
95-50-1	1,2-Dichlorobenzene	1	U
96-12-8	1,2-Dibromo-3-chloropropane	1	U
120-82-1	1,2,4-Trichlorobenzene	1	U

000035

LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EDPL1

54271

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDPK9

Lab Sample ID: 6004.004 Date Received: 04/19/00

Lab File ID: H0930 Date Extracted: 04/23/00

Sample Volume: 1000 (mL) Date Analyzed: 05/05/00

Concentrated Extract Volume: 1000 (uL) Dilution Factor: 1.0

Injection Volume: 1.0 (uL)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
108-95-2	Phenol	5	U
111-44-4	bis(2-Chloroethyl)ether	5	U
95-57-8	2-Chlorophenol	5	U
95-48-7	2-Methylphenol	5	U
108-60-1	2,2'-oxybis(1-Chloropropane)	5	U
106-44-5	4-Methylphenol	5	U
621-64-7	N-Nitroso-di-n-propylamine	5	U
67-72-1	Hexachloroethane	5	U
98-95-3	Nitrobenzene	5	U
78-59-1	Isophorone	5	U
88-75-5	2-Nitrophenol	5	U
105-67-9	2,4-Dimethylphenol	5	U
111-91-1	bis(2-Chloroethoxy)methane	5	U
120-83-2	2,4-Dichlorophenol	5	U
91-20-3	Naphthalene	5	U
106-47-8	4-Chloroaniline	5	U
87-68-3	Hexachlorobutadiene	5	U
59-50-7	4-Chloro-3-methylphenol	5	U
91-57-6	2-Methylnaphthalene	5	U
77-47-4	Hexachlorocyclopentadiene	5	U
88-06-2	2,4,6-Trichlorophenol	5	U
95-95-4	2,4,5-Trichlorophenol	20	U
91-58-7	2-Chloronaphthalane	5	U
88-74-4	2-Nitroaniline	20	U
131-11-3	Dimethylphthalate	5	U
208-96-8	Acenaphthylene	5	U
606-20-2	2,6-Dintrotoluene	5	U
99-09-2	3-Nitroaniline	20	U
83-32-9	Acenaphthene	5	U

1LCC

LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EDPL1

54271

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDPK9

Lab Sample ID: 6004.004 Date Received: 04/19/00

Lab File ID: H0930 Date Extracted: 04/23/00

Sample Volume: 1000 (mL) Date Analyzed: 05/05/00

Concentrated Extract Volume: 1000 (uL) Dilution Factor: 1.0

Injection Volume: 1 (uL)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
51-28-5	2,4-Dinitrophenol	20	U
100-02-7	4-Nitrophenol	20	U
132-64-9	Dibenzofuran	5	U
121-14-2	2,4-Dinitrotoluene	5	U
84-66-2	Diethylphthalate	5	U
7005-72-3	4-Chlorophenyl-phenylether	5	U
86-73-7	Fluorene	5	U
100-01-6	4-Nitroaniline	20	U
534-52-1	4,6-Dinitro-2-methylphenol	20	U
86-30-6	N-Nitrosodiphenylamine (1)	5	U
101-55-3	4-Bromophenyl-phenylether	5	U
118-74-1	Hexachlorobenzene	5	U
87-86-5	Pentachlorophenol	20	U
85-01-8	Phenanthrene	5	U
120-12-7	Anthracene	5	U
84-74-2	Di-n-butylphthalate	5	U
206-44-0	Fluoranthene	5	U
129-00-0	Pyrene	5	U
85-68-7	Butylbenzylphthalate	5	U
91-94-1	3,3'-Dichlorobenzidine	5	U
56-55-3	Benzo(a)anthracene	5	U
218-01-9	Chrysene	5	U
117-81-7	bis(2-Ethylhexyl)phthalate	5	U
117-84-0	Di-n-octylphthalate	5	U
205-99-2	Benzo(b)fluoranthene	5	U
207-08-9	Benzo(k)fluoranthene	5	U
50-32-8	Benzo(a)pyrene	5	U
193-39-5	Indeno(1,2,3-cd)Pyrene	5	U
53-70-3	Dibenz(a,h)anthracene	5	U
191-24-2	Benzo(g,h,i)perylene	5	U

(1) - Cannot be separated from Diphenylamine

1LCE

EPA SAMPLE NO.

LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EDPL1

54271

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDPK9

Lab Sample ID: 6004.004 Date Received: 04/19/00

Lab File ID: F0896 Date Analyzed: 04/24/00

Purge Volume: 20 (mL) Dilution Factor: 1.0

GC Column: DB-624 ID: 0.53 (mm) Length: 60 (m)

Number TICs found: 0

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC. (ug/L)	Q
1.					
2.					
3.					
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1LCF

EPA SAMPLE NO.

LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

EDPL1

54271

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDPK9

Lab Sample ID: 6004.004 Date Received: 04/19/00

Lab File ID: H0930 Date Extracted: 04/23/00

Sample Volume: 1000 (mL) Date Analyzed: 05/05/00

Concentrated Extract Volume: 1000 (uL) Dilution Factor: 1.0

Injection Volume: 1.0 (uL)

Number TICs found: 0

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC. (ug/L)	Q
1.					
2.					
3.					
4.					
5.					
6.					
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9.					
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30.					

1LCA

EPA SAMPLE NO.

LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET

EDPL2

54953

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDPK9

Duncan

Lab Sample ID: 6004.005 Date Received: 04/19/00

Lab File ID: F0903 Date Analyzed: 04/24/00

Purge Volume: 20 (mL) Dilution Factor: 1.0

GC Column: DB-624 ID: 0.53 (mm) Length: 60 (m)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
74-87-3	Chloromethane	1	U
74-83-9	Bromomethane	1	U
75-01-4	Vinyl chloride	1	U
75-00-3	Chloroethane	1	U
75-09-2	Methylene chloride	2	U
67-64-1	Acetone	5	U
75-15-0	Carbon disulfide	1	U
75-35-4	1,1-Dichloroethene	1	U
75-34-3	1,1-Dichloroethane	1	U
156-59-2	cis-1,2-Dichloroethene	1	U
156-60-5	trans-1,2-Dichloroethene	1	U
67-66-3	Chloroform	1	U
107-06-2	1,2-Dichloroethane	1	U
78-93-3	2-Butanone	5	U
74-97-5	Bromochloromethane	1	U
71-55-6	1,1,1-Trichloroethane	1	U
56-23-5	Carbon tetrachloride	1	U
75-27-4	Bromodichloromethane	1	U
78-87-5	1,2-Dichloropropane	1	U
10061-01-5	cis-1,3-Dichloropropene	1	U
79-01-6	Trichloroethene	1	U
124-48-1	Dibromochloromethane	1	U
79-00-5	1,1,2-Trichloroethane	1	U
71-43-2	Benzene	1	U
10061-02-6	trans-1,3-Dichloropropene	1	U
75-25-2	Bromoform	1	U
108-10-1	4-Methyl-2-pentanone	5	U
591-78-6	2-Hexanone	5	U
127-18-4	Tetrachloroethene	1	U
79-34-5	1,1,2,2-Tetrachloroethane	1	U
106-93-4	1,2-Dibromoethane	1	U
108-88-3	Toluene	1	U
108-90-7	Chlorobenzene	1	U
100-41-4	Ethylbenzene	1	U
100-42-5	Styrene	1	U
1330-20-7	Xylenes (total)	1	U
541-73-1	1,3-Dichlorobenzene	1	U
106-46-7	1,4-Dichlorobenzene	1	U
95-50-1	1,2-Dichlorobenzene	1	U
96-12-8	1,2-Dibromo-3-chloropropane	1	U
120-82-1	1,2,4-Trichlorobenzene	1	U

000047

1LCB

EPA SAMPLE NO.

LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EDPL2

54253

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDPK9

Lab Sample ID: 6004.005 Date Received: 04/19/00

Lab File ID: H0931 Date Extracted: 04/23/00

Sample Volume: 1000 (mL) Date Analyzed: 05/05/00

Concentrated Extract Volume: 1000 (uL) Dilution Factor: 1.0

Injection Volume: 1.0 (uL)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
108-95-2	Phenol	5	U
111-44-4	bis(2-Chloroethyl)ether	5	U
95-57-8	2-Chlorophenol	5	U
95-48-7	2-Methylphenol	5	U
108-60-1	2,2'-oxybis(1-Chloropropane)	5	U
106-44-5	4-Methylphenol	5	U
621-64-7	N-Nitroso-di-n-propylamine	5	U
67-72-1	Hexachloroethane	5	U
98-95-3	Nitrobenzene	5	U
78-59-1	Isophorone	5	U
88-75-5	2-Nitrophenol	5	U
105-67-9	2,4-Dimethylphenol	5	U
111-91-1	bis(2-Chloroethoxy)methane	5	U
120-83-2	2,4-Dichlorophenol	5	U
91-20-3	Naphthalene	5	U
106-47-8	4-Chloroaniline	5	U
87-68-3	Hexachlorobutadiene	5	U
59-50-7	4-Chloro-3-methylphenol	5	U
91-57-6	2-Methylnaphthalene	5	U
77-47-4	Hexachlorocyclopentadiene	5	U
88-06-2	2,4,6-Trichlorophenol	5	U
95-95-4	2,4,5-Trichlorophenol	20	U
91-58-7	2-Chloronaphthalane	5	U
88-74-4	2-Nitroaniline	20	U
131-11-3	Dimethylphthalate	5	U
208-96-8	Acenaphthylene	5	U
606-20-2	2,6-Dintrotoluene	5	U
99-09-2	3-Nitroaniline	20	U
83-32-9	Acenaphthene	5	U

LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EDPL2

04253

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDPK9

Lab Sample ID: 6004.005 Date Received: 04/19/00

Lab File ID: H0931 Date Extracted: 04/23/00

Sample Volume: 1000 (mL) Date Analyzed: 05/05/00

Concentrated Extract Volume: 1000 (uL) Dilution Factor: 1.0

Injection Volume: 1 (uL)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
51-28-5	2,4-Dinitrophenol	20	U
100-02-7	4-Nitrophenol	20	U
132-64-9	Dibenzofuran	5	U
121-14-2	2,4-Dinitrotoluene	5	U
84-66-2	Diethylphthalate	5	U
7005-72-3	4-Chlorophenyl-phenylether	5	U
86-73-7	Fluorene	5	U
100-01-6	4-Nitroaniline	20	U
534-52-1	4,6-Dinitro-2-methylphenol	20	U
86-30-6	N-Nitrosodiphenylamine (1)	5	U
101-55-3	4-Bromophenyl-phenylether	5	U
118-74-1	Hexachlorobenzene	5	U
87-86-5	Pentachlorophenol	20	U
85-01-8	Phenanthrene	5	U
120-12-7	Anthracene	5	U
84-74-2	Di-n-butylphthalate	5	U
206-44-0	Fluoranthene	5	U
129-00-0	Pyrene	5	U
85-68-7	Butylbenzylphthalate	5	U
91-94-1	3,3'-Dichlorobenzidine	5	U
56-55-3	Benzo(a)anthracene	5	U
218-01-9	Chrysene	5	U
117-81-7	bis(2-Ethylhexyl)phthalate	5	U
117-84-0	Di-n-octylphthalate	5	U
205-99-2	Benzo(b)fluoranthene	5	U
207-08-9	Benzo(k)fluoranthene	5	U
50-32-8	Benzo(a)pyrene	5	U
193-39-5	Indeno(1,2,3-cd)Pyrene	5	U
53-70-3	Dibenz(a,h)anthracene	5	U
191-24-2	Benzo(g,h,i)perylene	5	U

(1) - Cannot be separated from Diphenylamine

1LCE

EPA SAMPLE NO.

LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EDPL2

54953

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDPK9

Lab Sample ID: 6004.005 Date Received: 04/19/00

Lab File ID: F0903 Date Analyzed: 04/24/00

Purge Volume: 20 (mL) Dilution Factor: 1.0

GC Column: DB-624 ID: 0.53 (mm) Length: 60 (m)

Number TICs found: 0

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC. (ug/L)	Q
1.					
2.					
3.					
4.					
5.					
6.					
7.					
8.					
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000045

EPA SAMPLE NO.

LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

EDPL2

54253

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDPK9

Lab Sample ID: 6004.005 Date Received: 04/19/00

Lab File ID: H0931 Date Extracted: 04/23/00

Sample Volume: 1000 (mL) Date Analyzed: 05/05/00

Concentrated Extract Volume: 1000 (uL) Dilution Factor: 1.0

Injection Volume: 1.0 (uL)

Number TICs found: 0

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC. (ug/L)	Q
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1LCA

LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EDPL3

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

54231 Randall

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDPK9

Lab Sample ID: 6004.006 Date Received: 04/19/00

Lab File ID: F0898 Date Analyzed: 04/24/00

Purge Volume: 20 (mL) Dilution Factor: 1.0

GC Column: DB-624 ID: 0.53 (mm) Length: 60 (m)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
74-87-3	Chloromethane	1	U
74-83-9	Bromomethane	1	U
75-01-4	Vinyl chloride	1	U
75-00-3	Chloroethane	1	U
75-09-2	Methylene chloride	2	U
67-64-1	Acetone	5	U
75-15-0	Carbon disulfide	1	U
75-35-4	1,1-Dichloroethene	1	U
75-34-3	1,1-Dichloroethane	1	U
156-59-2	cis-1,2-Dichloroethene	1	U
156-60-5	trans-1,2-Dichloroethene	1	U
67-66-3	Chloroform	1	U
107-06-2	1,2-Dichloroethane	1	U
78-93-3	2-Butanone	5	U
74-97-5	Bromochloromethane	1	U
71-55-6	1,1,1-Trichloroethane	1	U
56-23-5	Carbon tetrachloride	1	U
75-27-4	Bromodichloromethane	1	U
78-87-5	1,2-Dichloropropane	1	U
10061-01-5	cis-1,3-Dichloropropene	1	U
79-01-6	Trichloroethene	1	U
124-48-1	Dibromochloromethane	1	U
79-00-5	1,1,2-Trichloroethane	1	U
71-43-2	Benzene	1	U
10061-02-6	trans-1,3-Dichloropropene	1	U
75-25-2	Bromoform	1	U
108-10-1	4-Methyl-2-pentanone	5	U
591-78-6	2-Hexanone	5	U
127-18-4	Tetrachloroethene	1	U
79-34-5	1,1,2,2-Tetrachloroethane	1	U
106-93-4	1,2-Dibromoethane	1	U
108-88-3	Toluene	1	U
108-90-7	Chlorobenzene	1	U
100-41-4	Ethylbenzene	1	U
100-42-5	Styrene	1	U
1330-20-7	Xylenes (total)	1	U
541-73-1	1,3-Dichlorobenzene	1	U
106-46-7	1,4-Dichlorobenzene	1	U
95-50-1	1,2-Dichlorobenzene	1	U
96-12-8	1,2-Dibromo-3-chloropropane	1	U
120-82-1	1,2,4-Trichlorobenzene	1	U

000055

EPA SAMPLE NO.

LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EDPL3

54231

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDPK9

Lab Sample ID: 6004.006 Date Received: 04/19/00

Lab File ID: H0932 Date Extracted: 04/23/00

Sample Volume: 1000 (mL) Date Analyzed: 05/05/00

Concentrated Extract Volume: 1000 (uL) Dilution Factor: 1.0

Injection Volume: 1.0 (uL)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
108-95-2	Phenol	5	U
111-44-4	bis(2-Chloroethyl)ether	5	U
95-57-8	2-Chlorophenol	5	U
95-48-7	2-Methylphenol	5	U
108-60-1	2,2'-oxybis(1-Chloropropane)	5	U
106-44-5	4-Methylphenol	5	U
621-64-7	N-Nitroso-di-n-propylamine	5	U
67-72-1	Hexachloroethane	5	U
98-95-3	Nitrobenzene	5	U
78-59-1	Isophorone	5	U
88-75-5	2-Nitrophenol	5	U
105-67-9	2,4-Dimethylphenol	5	U
111-91-1	bis(2-Chloroethoxy)methane	5	U
120-83-2	2,4-Dichlorophenol	5	U
91-20-3	Naphthalene	5	U
106-47-8	4-Chloroaniline	5	U
87-68-3	Hexachlorobutadiene	5	U
59-50-7	4-Chloro-3-methylphenol	5	U
91-57-6	2-Methylnaphthalene	5	U
77-47-4	Hexachlorocyclopentadiene	5	U
88-06-2	2,4,6-Trichlorophenol	5	U
95-95-4	2,4,5-Trichlorophenol	20	U
91-58-7	2-Chloronaphthalane	5	U
88-74-4	2-Nitroaniline	20	U
131-11-3	Dimethylphthalate	5	U
208-96-8	Acenaphthylene	5	U
606-20-2	2,6-Dintrotoluene	5	U
99-09-2	3-Nitroaniline	20	U
83-32-9	Acenaphthene	5	U

LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EDPL3

54231

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDPK9

Lab Sample ID: 6004.006 Date Received: 04/19/00

Lab File ID: H0932 Date Extracted: 04/23/00

Sample Volume: 1000 (mL) Date Analyzed: 05/05/00

Concentrated Extract Volume: 1000 (uL) Dilution Factor: 1.0

Injection Volume: 1 (uL)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
51-28-5	2,4-Dinitrophenol	20	U
100-02-7	4-Nitrophenol	20	U
132-64-9	Dibenzofuran	5	U
121-14-2	2,4-Dinitrotoluene	5	U
84-66-2	Diethylphthalate	5	U
7005-72-3	4-Chlorophenyl-phenylether	5	U
86-73-7	Fluorene	5	U
100-01-6	4-Nitroaniline	20	U
534-52-1	4,6-Dinitro-2-methylphenol	20	U
86-30-6	N-Nitrosodiphenylamine (1)	5	U
101-55-3	4-Bromophenyl-phenylether	5	U
118-74-1	Hexachlorobenzene	5	U
87-86-5	Pentachlorophenol	20	U
85-01-8	Phenanthrene	5	U
120-12-7	Anthracene	5	U
84-74-2	Di-n-butylphthalate	5	U
206-44-0	Fluoranthene	5	U
129-00-0	Pyrene	5	U
85-68-7	Butylbenzylphthalate	5	U
91-94-1	3,3'-Dichlorobenzidine	5	U
56-55-3	Benzo(a)anthracene	5	U
218-01-9	Chrysene	5	U
117-81-7	bis(2-Ethylhexyl)phthalate	5	U
117-84-0	Di-n-octylphthalate	5	U
205-99-2	Benzo(b)fluoranthene	5	U
207-08-9	Benzo(k)fluoranthene	5	U
50-32-8	Benzo(a)pyrene	5	U
193-39-5	Indeno(1,2,3-cd)Pyrene	5	U
53-70-3	Dibenz(a,h)anthracene	5	U
191-24-2	Benzo(g,h,i)perylene	5	U

(1) - Cannot be separated from Diphenylamine

1LCF

EPA SAMPLE NO.

LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

EDPL3

54231

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDPK9

Lab Sample ID: 6004.006 Date Received: 04/19/00

Lab File ID: H0932 Date Extracted: 04/23/00

Sample Volume: 1000 (mL) Date Analyzed: 05/05/00

Concentrated Extract Volume: 1000 (uL) Dilution Factor: 1.0

Injection Volume: 1.0 (uL)

Number TICs found: 0

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC. (ug/L)	Q
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1LCE

EPA SAMPLE NO.

LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EDPL3

54231

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDPK9

Lab Sample ID: 6004.006 Date Received: 04/19/00

Lab File ID: F0898 Date Analyzed: 04/24/00

Purge Volume: 20 (mL) Dilution Factor: 1.0

GC Column: DB-624 ID: 0.53 (mm) Length: 60 (m)

Number TICs found: 0

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC. (ug/L)	Q
1.					
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ILCA

LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EDPL9

Trip Blank

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDPK9

Lab Sample ID: 6004.012 Date Received: 04/19/00

Lab File ID: F0882 Date Analyzed: 04/22/00

Purge Volume: 20 (mL) Dilution Factor: 1.0

GC Column: DB-624 ID: 0.53 (mm) Length: 60 (m)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
74-87-3	Chloromethane	1	U
74-83-9	Bromomethane	1	U
75-01-4	Vinyl chloride	1	U
75-00-3	Chloroethane	1	U
75-09-2	Methylene chloride	2	U
67-64-1	Acetone	5	U
75-15-0	Carbon disulfide	1	U
75-35-4	1,1-Dichloroethene	1	U
75-34-3	1,1-Dichloroethane	1	U
156-59-2	cis-1,2-Dichloroethene	1	U
156-60-5	trans-1,2-Dichloroethene	1	U
67-66-3	Chloroform	1	U
107-06-2	1,2-Dichloroethane	1	U
78-93-3	2-Butanone	5	U
74-97-5	Bromochloromethane	1	U
71-55-6	1,1,1-Trichloroethane	1	U
56-23-5	Carbon tetrachloride	1	U
75-27-4	Bromodichloromethane	1	U
78-87-5	1,2-Dichloropropane	1	U
10061-01-5	cis-1,3-Dichloropropene	1	U
79-01-6	Trichloroethene	1	U
124-48-1	Dibromochloromethane	1	U
79-00-5	1,1,2-Trichloroethane	1	U
71-43-2	Benzene	1	U
10061-02-6	trans-1,3-Dichloropropene	1	U
75-25-2	Bromoform	1	U
108-10-1	4-Methyl-2-pentanone	5	U
591-78-6	2-Hexanone	5	U
127-18-4	Tetrachloroethene	1	U
79-34-5	1,1,2,2-Tetrachloroethane	1	U
106-93-4	1,2-Dibromoethane	1	U
108-88-3	Toluene	1	U
108-90-7	Chlorobenzene	1	U
100-41-4	Ethylbenzene	1	U
100-42-5	Styrene	1	U
1330-20-7	Xylenes (total)	1	U
541-73-1	1,3-Dichlorobenzene	1	U
106-46-7	1,4-Dichlorobenzene	1	U
95-50-1	1,2-Dichlorobenzene	1	U
96-12-8	1,2-Dibromo-3-chloropropane	1	U
120-82-1	1,2,4-Trichlorobenzene	1	U

1LCE

EPA SAMPLE NO.

LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EDPL9

Trip Blank

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDPK9

Lab Sample ID: 6004.012 Date Received: 04/19/00

Lab File ID: F0882 Date Analyzed: 04/22/00

Purge Volume: 20 (mL) Dilution Factor: 1.0

GC Column: DB-624 ID: 0.53 (mm) Length: 60 (m)

Number TICs found: 0

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC. (ug/L)	Q
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LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EDPM5

Trip Blank

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDPK9

Lab Sample ID: 6008.003 Date Received: 04/20/00

Lab File ID: F0888 Date Analyzed: 04/22/00

Purge Volume: 20 (mL) Dilution Factor: 1.0

GC Column: DB-624 ID: 0.53 (mm) Length: 60 (m)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
74-87-3	Chloromethane	1	U
74-83-9	Bromomethane	1	U
75-01-4	Vinyl chloride	1	U
75-00-3	Chloroethane	1	U
75-09-2	Methylene chloride	0.9	J
67-64-1	Acetone	5	U
75-15-0	Carbon disulfide	1	U
75-35-4	1,1-Dichloroethene	1	U
75-34-3	1,1-Dichloroethane	1	U
156-59-2	cis-1,2-Dichloroethene	1	U
156-60-5	trans-1,2-Dichloroethene	1	U
67-66-3	Chloroform	1	U
107-06-2	1,2-Dichloroethane	1	U
78-93-3	2-Butanone	5	U
74-97-5	Bromochloromethane	1	U
71-55-6	1,1,1-Trichloroethane	1	U
56-23-5	Carbon tetrachloride	1	U
75-27-4	Bromodichloromethane	1	U
78-87-5	1,2-Dichloropropane	1	U
10061-01-5	cis-1,3-Dichloropropene	1	U
79-01-6	Trichloroethene	1	U
124-48-1	Dibromochloromethane	1	U
79-00-5	1,1,2-Trichloroethane	1	U
71-43-2	Benzene	1	U
10061-02-6	trans-1,3-Dichloropropene	1	U
75-25-2	Bromoform	1	U
108-10-1	4-Methyl-2-pentanone	5	U
591-78-6	2-Hexanone	5	U
127-18-4	Tetrachloroethene	1	U
79-34-5	1,1,2,2-Tetrachloroethane	1	U
106-93-4	1,2-Dibromoethane	1	U
108-88-3	Toluene	1	U
108-90-7	Chlorobenzene	1	U
100-41-4	Ethylbenzene	1	U
100-42-5	Styrene	1	U
1330-20-7	Xylenes (total)	1	U
541-73-1	1,3-Dichlorobenzene	1	U
106-46-7	1,4-Dichlorobenzene	1	U
95-50-1	1,2-Dichlorobenzene	1	U
96-12-8	1,2-Dibromo-3-chloropropane	1	U
120-82-1	1,2,4-Trichlorobenzene	1	U

000165

1LCE

EPA SAMPLE NO.

LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EDPM5

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Trip Blank

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDPK9

Lab Sample ID: 6008.003 Date Received: 04/20/00

Lab File ID: F0888 Date Analyzed: 04/22/00

Purge Volume: 20 (mL) Dilution Factor: 1.0

GC Column: DB-624 ID: 0.53 (mm) Length: 60 (m)

Number TICs found: 0

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC. (ug/L)	Q
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LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET

EDPM4

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Trip Blank

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDPK9

Lab Sample ID: 6004.014 Date Received: 04/19/00

Lab File ID: F0884 Date Analyzed: 04/22/00

Purge Volume: 20 (mL) Dilution Factor: 1.0

GC Column: DB-624 ID: 0.53 (mm) Length: 60 (m)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
74-87-3	Chloromethane	1	U
74-83-9	Bromomethane	1	U
75-01-4	Vinyl chloride	1	U
75-00-3	Chloroethane	1	U
75-09-2	Methylene chloride	0.5	J
67-64-1	Acetone	5	U
75-15-0	Carbon disulfide	1	U
75-35-4	1,1-Dichloroethene	1	U
75-34-3	1,1-Dichloroethane	1	U
156-59-2	cis-1,2-Dichloroethene	1	U
156-60-5	trans-1,2-Dichloroethene	1	U
67-66-3	Chloroform	1	U
107-06-2	1,2-Dichloroethane	1	U
78-93-3	2-Butanone	5	U
74-97-5	Bromochloromethane	1	U
71-55-6	1,1,1-Trichloroethane	1	U
56-23-5	Carbon tetrachloride	1	U
75-27-4	Bromodichloromethane	1	U
78-87-5	1,2-Dichloropropane	1	U
10061-01-5	cis-1,3-Dichloropropene	1	U
79-01-6	Trichloroethene	1	U
124-48-1	Dibromochloromethane	1	U
79-00-5	1,1,2-Trichloroethane	1	U
71-43-2	Benzene	1	U
10061-02-6	trans-1,3-Dichloropropene	1	U
75-25-2	Bromoform	1	U
108-10-1	4-Methyl-2-pentanone	5	U
591-78-6	2-Hexanone	5	U
127-18-4	Tetrachloroethene	1	U
79-34-5	1,1,2,2-Tetrachloroethane	1	U
106-93-4	1,2-Dibromoethane	1	U
108-88-3	Toluene	1	U
108-90-7	Chlorobenzene	1	U
100-41-4	Ethylbenzene	1	U
100-42-5	Styrene	1	U
1330-20-7	Xylenes (total)	1	U
541-73-1	1,3-Dichlorobenzene	1	U
106-46-7	1,4-Dichlorobenzene	1	U
95-50-1	1,2-Dichlorobenzene	1	U
96-12-8	1,2-Dibromo-3-chloropropane	1	U
120-82-1	1,2,4-Trichlorobenzene	1	U

1LCE

EPA SAMPLE NO.

LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EDPM4

1 Rep Blank

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDPK9

Lab Sample ID: 6004.014 Date Received: 04/19/00

Lab File ID: F0884 Date Analyzed: 04/22/00

Purge Volume: 20 (mL) Dilution Factor: 1.0

GC Column: DB-624 ID: 0.53 (mm) Length: 60 (m)

Number TICs found: 0

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC. (ug/L)	Q
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LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VLCS55

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDPK9

Lab Sample ID: FVLCS054 Date Received: _____

Lab File ID: F0893 Date Analyzed: 04/24/00

Purge Volume: 20 (mL) Dilution Factor: 1.0

GC Column: DB-624 ID: 0.53 (mm) Length: 60 (m)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
74-87-3	Chloromethane	1	U
74-83-9	Bromomethane	1	U
75-01-4	Vinyl chloride	5	
75-00-3	Chloroethane	1	U
75-09-2	Methylene chloride	2	U
67-64-1	Acetone	5	U
75-15-0	Carbon disulfide	1	U
75-35-4	1,1-Dichloroethene	1	U
75-34-3	1,1-Dichloroethane	1	U
156-59-2	cis-1,2-Dichloroethene	1	U
156-60-5	trans-1,2-Dichloroethene	1	U
67-66-3	Chloroform	1	U
107-06-2	1,2-Dichloroethane	6	
78-93-3	2-Butanone	5	U
74-97-5	Bromochloromethane	1	U
71-55-6	1,1,1-Trichloroethane	1	U
56-23-5	Carbon tetrachloride	5	
75-27-4	Bromodichloromethane	1	U
78-87-5	1,2-Dichloropropane	5	
10061-01-5	cis-1,3-Dichloropropene	5	
79-01-6	Trichloroethene	5	
124-48-1	Dibromochloromethane	1	U
79-00-5	1,1,2-Trichloroethane	4	
71-43-2	Benzene	5	
10061-02-6	trans-1,3-Dichloropropene	1	U
75-25-2	Bromoform	5	
108-10-1	4-Methyl-2-pentanone	5	U
591-78-6	2-Hexanone	5	U
127-18-4	Tetrachloroethene	5	
79-34-5	1,1,2,2-Tetrachloroethane	1	U
106-93-4	1,2-Dibromoethane	4	
108-88-3	Toluene	1	U
108-90-7	Chlorobenzene	1	U
100-41-4	Ethylbenzene	1	U
100-42-5	Styrene	1	U
1330-20-7	Xylenes (total)	1	U
541-73-1	1,3-Dichlorobenzene	1	U
106-46-7	1,4-Dichlorobenzene	4	
95-50-1	1,2-Dichlorobenzene	1	U
96-12-8	1,2-Dibromo-3-chloropropane	1	U
120-82-1	1,2,4-Trichlorobenzene	1	U

000258

2LCB

LOW CONC. WATER SEMIVOLATILE SURROGATE RECOVERY

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDPK9

	EPA SAMPLE NO.	NBZ %REC #	FBP %REC #	TPH %REC #	PHL %REC #	2FP %REC #	TBP %REC #	OTHER	TOT OUT
01	SBLK27	67	60	94	69	77	83		0
02	SLCS60	81	76	84	85	89	74		0
03	EDPK9	68	63	92	71	79	87		0
04	EDPL0	66	57	63	67	78	64		0
05	EDPL1	56	50	95	57	68	80		0
06	EDPL2	60	54	93	61	71	79		0
07	EDPL3	62	57	70	65	71	68		0
08	EDPL4	59	53	69	60	67	66		0
09	EDPL5	56	49	63	62	64	62		0
10	EDPL6	42	34	59	42	45	48		0
11	EDPL7	60	55	72	61	67	69		0
12	EDPL8	38	30	41	41	45	39		0
13	EDPM0	42	37	48	42	44	48		0
14	EDPM1	81	73	84	94	97	85		0
15	EDPM2	68	60	72	69	72	75		0
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	QC LIMITS %REC
NBZ = Nitrobenzene-d5	(23-120)
FBP = 2-Fluorobiphenyl	(30-115)
TPH = Terphenyl-d14	(18-140)
PHL = Phenol-d5	(15-115)
2FP = 2-Fluorophenol	(15-121)
TBP = 2,4,6-Tribromophenol	(15-130)

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

3LCB

LOW CONC. WATER SEMIVOLATILE LAB CONTROL SAMPLE RECOVERY

EPA SAMPLE NO.

SLCS60

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDPK9

Lab Sample ID: SVOL592 LCS Lot No.:

Lab File ID: H0927 Date Extracted: 04/23/00

LCS Aliquot: 1000 (uL) Date Analyzed: 05/05/00

Concentrated Extract Volume: 1000 (uL) Dilution Factor: 1.0

Injection Volume: 1.0 (uL)

COMPOUND	AMOUNT ADDED (ng)	AMOUNT RECOVERED (ng)	%REC #	QC LIMITS
Phenol	40000	37000	92	40-120
bis(2-Chloroethyl)ether	20000	19000	95	50-110
2-Chlorophenol	40000	38000	95	50-110
N-Nitroso-di-n-propylamine	20000	18000	90	30-110
Hexachloroethane	20000	10000	50	20-110
Isophorone	20000	13000	65	50-110
Naphthalene	20000	17000	85	30-110
4-Chloroaniline	40000	28000	70	10-120
2,4,6-Trichlorophenol	40000	31000	78	40-120
2,4-Dinitrotoluene	20000	12000	60	30-120
Diethylphthalate	20000	14000	70	50-120
N-Nitrosodiphenylamine	20000	11000	55	30-110
Hexachlorobenzene	20000	13000	65	40-120
Benzo(a)pyrene	20000	14000	70	50-120

Column to be used to flag LCS recovery with an asterisk.

* Values outside of QC limits.

LCS Recovery: 0 outside limits out of 14 total.

COMMENTS: _____

_____

EPA SAMPLE N

LOW CONC. WATER SEMIVOLATILE METHOD BLANK SUMMARY

SBLK27

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDPK9

Lab Sample ID: SVOB700 Date Extracted: 04/23/00

Lab File ID: H0926 Date Analyzed: 05/05/00

Instrument ID: H-HP5973 Time Analyzed: 0043

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES AND LCS:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
01	SLCS60	SVOL592	H0927	05/05/00
02	EDPK9	6004.002	H0928	05/05/00
03	EDPL0	6004.003	H0929	05/05/00
04	EDPL1	6004.004	H0930	05/05/00
05	EDPL2	6004.005	H0931	05/05/00
06	EDPL3	6004.006	H0932	05/05/00
07	EDPL4	6004.007	H0933	05/05/00
08	EDPL5	6004.008	H0937	05/05/00
09	EDPL6	6004.009	H0938	05/05/00
10	EDPL7	6004.010	H0939	05/05/00
11	EDPL8	6004.011	H0940	05/05/00
12	EDPM0	6004.013	H0941	05/05/00
13	EDPM1	6008.001	H0942	05/05/00
14	EDPM2	6008.002	H0943	05/05/00
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COMMENTS: _____

1LCB

LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SBLK27

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDPK9

Lab Sample ID: SVOB700 Date Received: _____

Lab File ID: H0926 Date Extracted: 04/23/00

Sample Volume: 1000 (mL) Date Analyzed: 05/05/00

Concentrated Extract Volume: 1000 (uL) Dilution Factor: 1.0

Injection Volume: 1.0 (uL)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
108-95-2	Phenol	5	U
111-44-4	bis(2-Chloroethyl)ether	5	U
95-57-8	2-Chlorophenol	5	U
95-48-7	2-Methylphenol	5	U
108-60-1	2,2'-oxybis(1-Chloropropane)	5	U
106-44-5	4-Methylphenol	5	U
621-64-7	N-Nitroso-di-n-propylamine	5	U
67-72-1	Hexachloroethane	5	U
98-95-3	Nitrobenzene	5	U
78-59-1	Isophorone	5	U
88-75-5	2-Nitrophenol	5	U
105-67-9	2,4-Dimethylphenol	5	U
111-91-1	bis(2-Chloroethoxy)methane	5	U
120-83-2	2,4-Dichlorophenol	5	U
91-20-3	Naphthalene	5	U
106-47-8	4-Chloroaniline	5	U
87-68-3	Hexachlorobutadiene	5	U
59-50-7	4-Chloro-3-methylphenol	5	U
91-57-6	2-Methylnaphthalene	5	U
77-47-4	Hexachlorocyclopentadiene	5	U
88-06-2	2,4,6-Trichlorophenol	5	U
95-95-4	2,4,5-Trichlorophenol	20	U
91-58-7	2-Chloronaphthalane	5	U
88-74-4	2-Nitroaniline	20	U
131-11-3	Dimethylphthalate	5	U
208-96-8	Acenaphthylene	5	U
606-20-2	2,6-Dintrotoluene	5	U
99-09-2	3-Nitroaniline	20	U
83-32-9	Acenaphthene	5	U

000534

1LCC

LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SBLK27

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDPK9

Lab Sample ID: SVOB700 Date Received: _____

Lab File ID: H0926 Date Extracted: 04/23/00

Sample Volume: 1000 (mL) Date Analyzed: 05/05/00

Concentrated Extract Volume: 1000 (uL) Dilution Factor: 1.0

Injection Volume: 1 (uL)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
51-28-5	2,4-Dinitrophenol	20	U
100-02-7	4-Nitrophenol	20	U
132-64-9	Dibenzofuran	5	U
121-14-2	2,4-Dinitrotoluene	5	U
84-66-2	Diethylphthalate	5	U
7005-72-3	4-Chlorophenyl-phenylether	5	U
86-73-7	Fluorene	5	U
100-01-6	4-Nitroaniline	20	U
534-52-1	4,6-Dinitro-2-methylphenol	20	U
86-30-6	N-Nitrosodiphenylamine (1)	5	U
101-55-3	4-Bromophenyl-phenylether	5	U
118-74-1	Hexachlorobenzene	5	U
87-86-5	Pentachlorophenol	20	U
85-01-8	Phenanthrene	5	U
120-12-7	Anthracene	5	U
84-74-2	Di-n-butylphthalate	5	U
206-44-0	Fluoranthene	5	U
129-00-0	Pyrene	5	U
85-68-7	Butylbenzylphthalate	5	U
91-94-1	3,3'-Dichlorobenzidine	5	U
56-55-3	Benzo(a)anthracene	5	U
218-01-9	Chrysene	5	U
117-81-7	bis(2-Ethylhexyl)phthalate	5	U
117-84-0	Di-n-octylphthalate	5	U
205-99-2	Benzo(b)fluoranthene	5	U
207-08-9	Benzo(k)fluoranthene	5	U
50-32-8	Benzo(a)pyrene	5	U
193-39-5	Indeno(1,2,3-cd)Pyrene	5	U
53-70-3	Dibenz(a,h)anthracene	5	U
191-24-2	Benzo(g,h,i)perylene	5	U

(1) - Cannot be separated from Diphenylamine

1LCF

EPA SAMPLE NO.

LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

SBLK27

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDPK9

Lab Sample ID: SVOB700 Date Received: _____

Lab File ID: H0926 Date Extracted: 04/23/00

Sample Volume: 1000 (mL) Date Analyzed: 05/05/00

Concentrated Extract Volume: 1000 (uL) Dilution Factor: 1.0

Injection Volume: 1.0 (uL)

Number TICs found: 0

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC. (ug/L)	Q
1.					
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1LCA

EPA SAMPLE NO.

LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET

VLCS54

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDPK9

Lab Sample ID: FVLCS053 Date Received: _____

Lab File ID: F0879 Date Analyzed: 04/21/00

Purge Volume: 20 (mL) Dilution Factor: 1.0

GC Column: DB-624 ID: 0.53 (mm) Length: 60 (m)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
74-87-3	Chloromethane	1	U
74-83-9	Bromomethane	1	U
75-01-4	Vinyl chloride	4	
75-00-3	Chloroethane	1	U
75-09-2	Methylene chloride	2	U
67-64-1	Acetone	5	U
75-15-0	Carbon disulfide	1	U
75-35-4	1,1-Dichloroethene	1	U
75-34-3	1,1-Dichloroethane	1	U
156-59-2	cis-1,2-Dichloroethene	1	U
156-60-5	trans-1,2-Dichloroethene	1	U
67-66-3	Chloroform	1	U
107-06-2	1,2-Dichloroethane	5	
78-93-3	2-Butanone	5	U
74-97-5	Bromochloromethane	1	U
71-55-6	1,1,1-Trichloroethane	1	U
56-23-5	Carbon tetrachloride	5	
75-27-4	Bromodichloromethane	1	U
78-87-5	1,2-Dichloropropane	4	
10061-01-5	cis-1,3-Dichloropropene	4	
79-01-6	Trichloroethene	4	
124-48-1	Dibromochloromethane	1	U
79-00-5	1,1,2-Trichloroethane	4	
71-43-2	Benzene	5	
10061-02-6	trans-1,3-Dichloropropene	1	U
75-25-2	Bromoform	3	
108-10-1	4-Methyl-2-pentanone	5	U
591-78-6	2-Hexanone	5	U
127-18-4	Tetrachloroethene	4	
79-34-5	1,1,2,2-Tetrachloroethane	1	U
106-93-4	1,2-Dibromoethane	4	
108-88-3	Toluene	1	U
108-90-7	Chlorobenzene	1	U
100-41-4	Ethylbenzene	1	U
100-42-5	Styrene	1	U
1330-20-7	Xylenes (total)	1	U
541-73-1	1,3-Dichlorobenzene	1	U
106-46-7	1,4-Dichlorobenzene	4	
95-50-1	1,2-Dichlorobenzene	1	U
96-12-8	1,2-Dibromo-3-chloropropane	1	U
120-82-1	1,2,4-Trichlorobenzene	1	U

000247

EPA SAMPLE NO.

LOW CONC. WATER VOLATILE LAB CONTROL SAMPLE RECOVERY

VLCS54

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDPK9

Lab Sample ID: FVLCS053 LCS Lot No.: 60

Lab File ID: F0879 Date Analyzed: 04/21/00

Purge Volume: 20.0 (mL) Dilution Factor: 1.0

LCS Aliquot: 10.0 (uL)

COMPOUND	AMOUNT ADDED (ng)	AMOUNT RECOVERED (ng)	%REC #	QC LIMITS
Vinyl chloride	100	75	75	60-140
1,2-Dichloroethane	100	99	99	60-140
Carbon tetrachloride	100	91	91	60-140
1,2-Dichloropropane	100	86	86	60-140
Trichloroethene	100	85	85	60-140
1,1,2-Trichloroethane	100	76	76	60-140
Benzene	100	92	92	60-140
cis-1,3-Dichloropropene	100	81	81	60-140
Bromoform	100	70	70	60-140
Tetrachloroethene	100	86	86	60-140
1,2-Dibromoethane	100	74	74	60-140
1,4-Dichlorobenzene	100	77	77	60-140

Column to be used to flag LCS recovery with an asterisk.

* Values outside of QC limits.

LCS Recovery: 0 outside limits out of 12 total.

COMMENTS: _____

_____

EPA SAMPLE NO.

LOW CONC. WATER VOLATILE LAB CONTROL SAMPLE RECOVERY

VLCS55

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDPK9

Lab Sample ID: FVLCS054 LCS Lot No.: 60

Lab File ID: F0893 Date Analyzed: 04/24/00

Purge Volume: 20.0 (mL) Dilution Factor: 1.0

LCS Aliquot: 10.0 (uL)

COMPOUND	AMOUNT ADDED (ng)	AMOUNT RECOVERED (ng)	%REC #	QC LIMITS
Vinyl chloride	100	95	95	60-140
1,2-Dichloroethane	100	117	117	60-140
Carbon tetrachloride	100	93	93	60-140
1,2-Dichloropropane	100	93	93	60-140
Trichloroethene	100	94	94	60-140
1,1,2-Trichloroethane	100	89	89	60-140
Benzene	100	98	98	60-140
cis-1,3-Dichloropropene	100	92	92	60-140
Bromoform	100	97	97	60-140
Tetrachloroethene	100	92	92	60-140
1,2-Dibromoethane	100	86	86	60-140
1,4-Dichlorobenzene	100	89	89	60-140

Column to be used to flag LCS recovery with an asterisk.

* Values outside of QC limits.

LCS Recovery: 0 outside limits out of 12 total.

COMMENTS: _____

_____

EPA SAMPLE NO.

LOW CONC. WATER VOLATILE METHOD BLANK SUMMARY

VBLK54

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDPK9

Lab Sample ID: FVBLK053 Date Analyzed: 04/21/00

Lab File ID: F0878 Time Analyzed: 2303

Instrument ID: F-HP5973

GC Column: DB-624 ID: 0.53 (mm) Length: 60 (m)

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES AND LCS:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
01	VLCS54	FVLCS053	F0879	2352
02	EDPL7	6004.010	F0880	0041
03	EDPL8	6004.011	F0881	0129
04	EDPL9	6004.012	F0882	0218
05	EDPM0	6004.013	F0883	0306
06	EDPM4	6004.014	F0884	0354
07	EDPM1	6008.001	F0885	0442
08	EDPM2	6008.002	F0887	0617
09	EDPM5	6008.003	F0888	0704
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COMMENTS: _____

EPA SAMPLE NO.

LOW CONC. WATER VOLATILE METHOD BLANK SUMMARY

VBLK55

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDPK9

Lab Sample ID: FVBLK054 Date Analyzed: 04/24/00

Lab File ID: F0892 Time Analyzed: 1037

Instrument ID: F-HP5973

GC Column: DB-624 ID: 0.53 (mm) Length: 60 (m)

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES AND LCS:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
01	VLCS55	FVLCS054	F0893	1126
02	EDPK9	6004.002	F0894	1215
03	EDPL1	6004.004	F0896	1406
04	EDPL3	6004.006	F0898	1534
05	EDPL4	6004.007	F0899	1623
06	EDPL5	6004.008	F0900	1712
07	EDPL6	6004.009	F0901	1800
08	EDPL0	6004.003	F0902	1849
09	EDPL2	6004.005	F0903	1939
10	VHBLK01	6004.001	F0904	2028
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COMMENTS: _____

ILCA

EPA SAMPLE NO.

LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET

VBLK54

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDPK9

Lab Sample ID: FVBLK053 Date Received: _____

Lab File ID: F0878 Date Analyzed: 04/21/00

Purge Volume: 20 (mL) Dilution Factor: 1.0

GC Column: DB-624 ID: 0.53 (mm) Length: 60 (m)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
74-87-3	Chloromethane	1	U
74-83-9	Bromomethane	1	U
75-01-4	Vinyl chloride	1	U
75-00-3	Chloroethane	1	U
75-09-2	Methylene chloride	2	U
67-64-1	Acetone	5	U
75-15-0	Carbon disulfide	1	U
75-35-4	1,1-Dichloroethene	1	U
75-34-3	1,1-Dichloroethane	1	U
156-59-2	cis-1,2-Dichloroethene	1	U
156-60-5	trans-1,2-Dichloroethene	1	U
67-66-3	Chloroform	1	U
107-06-2	1,2-Dichloroethane	1	U
78-93-3	2-Butanone	5	U
74-97-5	Bromochloromethane	1	U
71-55-6	1,1,1-Trichloroethane	1	U
56-23-5	Carbon tetrachloride	1	U
75-27-4	Bromodichloromethane	1	U
78-87-5	1,2-Dichloropropane	1	U
10061-01-5	cis-1,3-Dichloropropene	1	U
79-01-6	Trichloroethene	1	U
124-48-1	Dibromochloromethane	1	U
79-00-5	1,1,2-Trichloroethane	1	U
71-43-2	Benzene	1	U
10061-02-6	trans-1,3-Dichloropropene	1	U
75-25-2	Bromoform	1	U
108-10-1	4-Methyl-2-pentanone	5	U
591-78-6	2-Hexanone	5	U
127-18-4	Tetrachloroethene	1	U
79-34-5	1,1,2,2-Tetrachloroethane	1	U
106-93-4	1,2-Dibromoethane	1	U
108-88-3	Toluene	1	U
108-90-7	Chlorobenzene	1	U
100-41-4	Ethylbenzene	1	U
100-42-5	Styrene	1	U
1330-20-7	Xylenes (total)	1	U
541-73-1	1,3-Dichlorobenzene	1	U
106-46-7	1,4-Dichlorobenzene	1	U
95-50-1	1,2-Dichlorobenzene	1	U
96-12-8	1,2-Dibromo-3-chloropropane	1	U
120-82-1	1,2,4-Trichlorobenzene	1	U

1LCE

EPA SAMPLE NO.

LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

VBLK54

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDPK9

Lab Sample ID: FVBLK053 Date Received: _____

Lab File ID: F0878 Date Analyzed: 04/21/00

Purge Volume: 20 (mL) Dilution Factor: 1.0

GC Column: DB-624 ID: 0.53 (mm) Length: 60 (m)

Number TICs found: 0

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC. (ug/L)	Q
1.					
2.					
3.					
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EPA SAMPLE NO.

LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET

VBLK55

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDPK9

Lab Sample ID: FVBLK054 Date Received: _____

Lab File ID: F0892 Date Analyzed: 04/24/00

Purge Volume: 20 (mL) Dilution Factor: 1.0

GC Column: DB-624 ID: 0.53 (mm) Length: 60 (m)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
74-87-3	Chloromethane	1	U
74-83-9	Bromomethane	1	U
75-01-4	Vinyl chloride	1	U
75-00-3	Chloroethane	1	U
75-09-2	Methylene chloride	2	U
67-64-1	Acetone	5	U
75-15-0	Carbon disulfide	1	U
75-35-4	1,1-Dichloroethene	1	U
75-34-3	1,1-Dichloroethane	1	U
156-59-2	cis-1,2-Dichloroethene	1	U
156-60-5	trans-1,2-Dichloroethene	1	U
67-66-3	Chloroform	1	U
107-06-2	1,2-Dichloroethane	1	U
78-93-3	2-Butanone	5	U
74-97-5	Bromochloromethane	1	U
71-55-6	1,1,1-Trichloroethane	1	U
56-23-5	Carbon tetrachloride	1	U
75-27-4	Bromodichloromethane	1	U
78-87-5	1,2-Dichloropropane	1	U
10061-01-5	cis-1,3-Dichloropropene	1	U
79-01-6	Trichloroethene	1	U
124-48-1	Dibromochloromethane	1	U
79-00-5	1,1,2-Trichloroethane	1	U
71-43-2	Benzene	1	U
10061-02-6	trans-1,3-Dichloropropene	1	U
75-25-2	Bromoform	1	U
108-10-1	4-Methyl-2-pentanone	5	U
591-78-6	2-Hexanone	5	U
127-18-4	Tetrachloroethene	1	U
79-34-5	1,1,2,2-Tetrachloroethane	1	U
106-93-4	1,2-Dibromoethane	1	U
108-88-3	Toluene	1	U
108-90-7	Chlorobenzene	1	U
100-41-4	Ethylbenzene	1	U
100-42-5	Styrene	1	U
1330-20-7	Xylenes (total)	1	U
541-73-1	1,3-Dichlorobenzene	1	U
106-46-7	1,4-Dichlorobenzene	1	U
95-50-1	1,2-Dichlorobenzene	1	U
96-12-8	1,2-Dibromo-3-chloropropane	1	U
120-82-1	1,2,4-Trichlorobenzene	1	U

000231

1LCE

EPA SAMPLE NO.

LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

VBLK55

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDPK9

Lab Sample ID: FVBLK054 Date Received: _____

Lab File ID: F0892 Date Analyzed: 04/24/00

Purge Volume: 20 (mL) Dilution Factor: 1.0

GC Column: DB-624 ID: 0.53 (mm) Length: 60 (m)

Number TICs found: 0

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC. (ug/L)	Q
1.					
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1LCA

EPA SAMPLE NO.

LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET

VHBLK01

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDPK9

Lab Sample ID: 6004.001 Date Received: 04/19/00

Lab File ID: F0904 Date Analyzed: 04/24/00

Purge Volume: 20 (mL) Dilution Factor: 1.0

GC Column: DB-624 ID: 0.53 (mm) Length: 60 (m)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
74-87-3	Chloromethane	1	U
74-83-9	Bromomethane	1	U
75-01-4	Vinyl chloride	1	U
75-00-3	Chloroethane	1	U
75-09-2	Methylene chloride	2	U
67-64-1	Acetone	5	U
75-15-0	Carbon disulfide	1	U
75-35-4	1,1-Dichloroethene	1	U
75-34-3	1,1-Dichloroethane	1	U
156-59-2	cis-1,2-Dichloroethene	1	U
156-60-5	trans-1,2-Dichloroethene	1	U
67-66-3	Chloroform	1	U
107-06-2	1,2-Dichloroethane	1	U
78-93-3	2-Butanone	5	U
74-97-5	Bromochloromethane	1	U
71-55-6	1,1,1-Trichloroethane	1	U
56-23-5	Carbon tetrachloride	1	U
75-27-4	Bromodichloromethane	1	U
78-87-5	1,2-Dichloropropane	1	U
10061-01-5	cis-1,3-Dichloropropene	1	U
79-01-6	Trichloroethene	1	U
124-48-1	Dibromochloromethane	1	U
79-00-5	1,1,2-Trichloroethane	1	U
71-43-2	Benzene	1	U
10061-02-6	trans-1,3-Dichloropropene	1	U
75-25-2	Bromoform	1	U
108-10-1	4-Methyl-2-pentanone	5	U
591-78-6	2-Hexanone	5	U
127-18-4	Tetrachloroethene	1	U
79-34-5	1,1,2,2-Tetrachloroethane	1	U
106-93-4	1,2-Dibromoethane	1	U
108-88-3	Toluene	1	U
108-90-7	Chlorobenzene	1	U
100-41-4	Ethylbenzene	1	U
100-42-5	Styrene	1	U
1330-20-7	Xylenes (total)	1	U
541-73-1	1,3-Dichlorobenzene	1	U
106-46-7	1,4-Dichlorobenzene	1	U
95-50-1	1,2-Dichlorobenzene	1	U
96-12-8	1,2-Dibromo-3-chloropropane	1	U
120-82-1	1,2,4-Trichlorobenzene	1	U

1LCE

EPA SAMPLE NO.

LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

VHBLK01

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDPK9

Lab Sample ID: 6004.001 Date Received: 04/19/00

Lab File ID: F0904 Date Analyzed: 04/24/00

Purge Volume: 20 (mL) Dilution Factor: 1.0

GC Column: DB-624 ID: 0.53 (mm) Length: 60 (m)

Number TICs found: 0

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC. (ug/L)	Q
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1LCB

EPA SAMPLE NO.

LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SLCS60

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDPK9

Lab Sample ID: SVOL592 Date Received: _____

Lab File ID: H0927 Date Extracted: 04/23/00

Sample Volume: 1000 (mL) Date Analyzed: 05/05/00

Concentrated Extract Volume: 1000 (uL) Dilution Factor: 1.0

Injection Volume: 1.0 (uL)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
108-95-2	Phenol	37	
111-44-4	bis(2-Chloroethyl)ether	19	
95-57-8	2-Chlorophenol	38	
95-48-7	2-Methylphenol	5	U
108-60-1	2,2'-oxybis(1-Chloropropane)	5	U
106-44-5	4-Methylphenol	5	U
621-64-7	N-Nitroso-di-n-propylamine	18	
67-72-1	Hexachloroethane	10	
98-95-3	Nitrobenzene	5	U
78-59-1	Isophorone	13	
88-75-5	2-Nitrophenol	5	U
105-67-9	2,4-Dimethylphenol	5	U
111-91-1	bis(2-Chloroethoxy)methane	5	U
120-83-2	2,4-Dichlorophenol	5	U
91-20-3	Naphthalene	17	
106-47-8	4-Chloroaniline	28	
87-68-3	Hexachlorobutadiene	5	U
59-50-7	4-Chloro-3-methylphenol	5	U
91-57-6	2-Methylnaphthalene	5	U
77-47-4	Hexachlorocyclopentadiene	5	U
88-06-2	2,4,6-Trichlorophenol	31	
95-95-4	2,4,5-Trichlorophenol	20	U
91-58-7	2-Chloronaphthalane	5	U
88-74-4	2-Nitroaniline	20	U
131-11-3	Dimethylphthalate	5	U
208-96-8	Acenaphthylene	5	U
606-20-2	2,6-Dintrotoluene	5	U
99-09-2	3-Nitroaniline	20	U
83-32-9	Acenaphthene	5	U

000539

1LCC

LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SLCS60

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDPK9

Lab Sample ID: SVOL592 Date Received: _____

Lab File ID: H0927 Date Extracted: 04/23/00

Sample Volume: 1000 (mL) Date Analyzed: 05/05/00

Concentrated Extract Volume: 1000 (uL) Dilution Factor: 1.0

Injection Volume: 1 (uL)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
51-28-5	2,4-Dinitrophenol	20	U
100-02-7	4-Nitrophenol	20	U
132-64-9	Dibenzofuran	5	U
121-14-2	2,4-Dinitrotoluene	12	
84-66-2	Diethylphthalate	14	
7005-72-3	4-Chlorophenyl-phenylether	5	U
86-73-7	Fluorene	5	U
100-01-6	4-Nitroaniline	20	U
534-52-1	4,6-Dinitro-2-methylphenol	20	U
86-30-6	N-Nitrosodiphenylamine (1)	11	
101-55-3	4-Bromophenyl-phenylether	5	U
118-74-1	Hexachlorobenzene	13	
87-86-5	Pentachlorophenol	20	U
85-01-8	Phenanthrene	5	U
120-12-7	Anthracene	5	U
84-74-2	Di-n-butylphthalate	5	U
206-44-0	Fluoranthene	5	U
129-00-0	Pyrene	5	U
85-68-7	Butylbenzylphthalate	5	U
91-94-1	3,3'-Dichlorobenzidine	5	U
56-55-3	Benzo(a)anthracene	5	U
218-01-9	Chrysene	5	U
117-81-7	bis(2-Ethylhexyl)phthalate	5	U
117-84-0	Di-n-octylphthalate	5	U
205-99-2	Benzo(b)fluoranthene	5	U
207-08-9	Benzo(k)fluoranthene	5	U
50-32-8	Benzo(a)pyrene	14	
193-39-5	Indeno(1,2,3-cd)Pyrene	5	U
53-70-3	Dibenz(a,h)anthracene	5	U
191-24-2	Benzo(g,h,i)perylene	5	U

(1) - Cannot be separated from Diphenylamine

REGION V
ESD Central Regional Laboratory
Data Tracking Form for Contract Samples

Sample Delivery Group: EDPK9 CERCLIS No: _____

Case No: 27986 Site Name/Location: HIMCO LANDFILL

Contractor or EPA Lab: PDP Data User: USEPA

No. of Samples: 16 Date Sampled or Date Received: 5-10-00

Have Chain-of-Custody records been received? Yes ✓ No ____
Have traffic reports or packing lists been received? Yes ✓ No ____
If no, are traffic report or packing list numbers written on the Chain-of-Custody Record?
Yes ____ No ____
If no, which traffic report or packing list numbers are missing?

_____ _____ _____ _____
_____ _____ _____ _____

Are basic data forms in? Yes ✓ No ____
No of samples claimed: 16 No. of samples received: 16

Received by: Eva M. Dixon /ESAT Date: 5-10-00

Received by LSSS: Eva M. Dixon /ESAT Date: 5-10-00

Review started: _____ Reviewer Signature: _____

Total time spent on review: _____ Date review completed: _____

Copied by: _____ Date: _____

Mailed to user by: _____ Date: _____

DATA USER:
Please fill in the blanks below and return this form to:
Sylvia Griffin, Data Mgmt. Coordinator, Region V, ML-10C

Data received by: _____ Date: _____

Data review received by: _____ Date: _____

Inorganic Data Complete	[ ] Suitable for Intended Purpose [ ] ✓ if OK
Organic Data Complete	[ ] Suitable for Intended Purpose [ ] ✓ if OK
Dioxin data Complete	[ ] Suitable for Intended Purpose [ ] ✓ if OK
SAS Data Complete	[ ] Suitable for Intended Purpose [ ] ✓ if OK

PROBLEMS: Please indicate reasons why data are not suitable for your uses.

_____
_____

Received by Data Mgmt. Coordinator for Files. Date: _____

PDP ANALYTICAL SERVICES

1680 Lake Front Circle, Suite B • The Woodlands, TX 77380 • Phone (281)363-2233

Contract No. 68-D7-0004	Case No. 27986	SDG No. EDPK9

SDG NARRATIVE

MAY 1 0 2000

SAMPLE RECEIPT :

04/19/00 @ 09:02 A.M. - Received two shipments consisting of two coolers:Cooler 1 temperature : 4°C. Cooler 2 temperature : 4°C (COC391562, COC391563, COC391564, COC391565)contained the following:

EDPK9 - 2-1L Amber, 3-40mL Voa Vials.
EDPL0 - 2-1L Amber, 3-40mL Voa Vials.
EDPL1 - 2-1L Amber, 3-40mL Voa Vials.
EDPL2 - 2-1L Amber, 3-40mL Voa Vials.
EDPL3 - 2-1L Amber, 3-40mL Voa Vials.
EDPL4 - 2-1L Amber, 3-40mL Voa Vials.
EDPL5 - 2-1L Amber, 3-40mL Voa Vials.
EDPL6 - 2-1L Amber, 3-40mL Voa Vials.
EDPL7 - 2-1L Amber, 3-40mL Voa Vials.
EDPL8 - 2-1L Amber, 3-40mL Voa Vials.
EDPL9 - 2-40mL Voa Vials.
EDPM0 - 2-1L Amber, 3-40mL Voa Vials(1-40mL Voa received broken).
EDPM4 - 2-40mL Voa Vials.

04/20/00 @ 09:04 A.M. - Received one shipment consisting of two coolers:Cooler 1 temperature : 4°C. Cooler 2 temperature : 4°C (COC391566) contained the following:

EDPM1 - 2-1L Amber, 3-40mL Voa Vials.
EDPM2 - 2-1L Amber, 3-40mL Voa Vials.
EDPM5 - 2-40mL Voa Vials.

No other problems were encountered during sample receipt.

VOLATILES:

All samples were analyzed on a HP 5973 GC/MS using a 60 meters long DB-624 column having a 0.53mm ID and 3um film thickness. The trap used was a OV-1/Tenax/Silica Gel (Tekmar #6. Cat 14-1755-003) . A 20 mL purge volume was used for all samples, blanks and standards. The concentrations of the standards and spikes were maintained at the levels required by the Statement of Work (SOW).

The following field samples are analyzed for volatiles in this SDG. The pH of the samples is listed against them.

EDPK9	2.0	EDPL6	2.0	EDPM1	2.0
EDPL0	2.0	EDPL7	2.0	EDPM2	2.0
EDPL1	2.0	EDPL8	2.0	EDPM5	4.0
EDPL2	2.0	EDPL9	2.0		

PDP ANALYTICAL SERVICES
1680 Lake Front Circle, Suite B • The Woodlands, TX 77380 • Phone (281)363-2233

Contract No. 68-D7-0004	Case No. 27986	SDG No. EDPK9

SDG NARRATIVE

EDPL3	2.0	EDPM0	2.0
EDPL4	2.0	EDPM4	2.0
EDPL5	2.0		

Manual integration's were performed for the following samples for the compounds listed against them.

VSTD00158 – Acetone, 2-Hexanone, 1,2-Dibromo-3-chloropropane, 1,2,4-Trichlorobenzene.
VSTD00258 – 1,2-Dibromo-3-chloropropane, 1,2,4-Trichlorobenzene.
VSTD00563 – Bromomethane, Chloroethane, Acetone, Carbon Tetrachloride, Bromoform, 1,2-Dibromo-3-chloropropane.
VBLK77 – 1,4-Difluorobenzene.
EDPK9 – Methylene Chloride, cis-1,2-Dichloroethene.
EDPL1 – 1,1-Dichloroethane.
EDPL6 – 1,1-Dichloroethane.

These manual integration's were necessary because the software failed to accurately integrate the entire peak. In all the above instances, the quantitation reports are flagged with "m". A hard copy printout of the manual integration's along with the scan ranges and initials of the operator is included in the data package .
For those target compounds with low signals that required a manual search for the initial calibration, the analysts has performed the same manual search for every sample analysis to ensure that false negative results are not reported. All peaks in the calibration standards, samples and QC samples are checked manually to ensure that the software has correctly identified and integrated the peaks.

No problems were encountered during sample analysis.

SEMIVOLATILES:

The following samples were extracted using continuous liquid/liquid extraction method on 04/23/00

EDPK9, EDPL0, EDPL1, EDPL2, EDPL3, EDPL4, EDPL5, EDPL6, EDPL7, EDPL8, EDPM0, EDPM1, EDPM2

All samples were analyzed on a HP 5973 GC/MS using a 30 meters long and 0.25mm ID DB-5 column . A 2uL injection was used.

Manual integration's were performed for the following samples for the compounds listed against them.

SSTD00502 – Indeno(1,2,3-cd)pyrene.
SSTD01002 – Indeno(1,2,3-cd)pyrene.
SSTD02002 – Indeno(1,2,3-cd)pyrene
SSTD05002 – Indeno(1,2,3-cd)pyrene.

PDP ANALYTICAL SERVICES

1680 Lake Front Circle, Suite B • The Woodlands, TX 77380 • Phone (281)363-2233

Contract No. 68-D7-0004	Case No. 27986	SDG No. EDPK9

SDG NARRATIVE

SSTD08002 – Benzo(b)fluoranthene, Benzo(k)fluoranthene, Indeno(1,2,3-cd)pyrene.
SSTD02005 – 2,2'-oxybis(1-Chloropropane), Indeno(1,2,3-cd)pyrene.
SSTD02006 – 2,2'-oxybis(1-Chloropropane), Indeno(1,2,3-cd)pyrene.

These manual integration's were necessary because the software failed to accurately integrate the entire peak. In all the above instances, the quantitation reports are flagged with "m". A hard copy printout of the manual integration's along with the scan ranges and initials of the operator is included in the data package .
For those target compounds with low signals that required a manual search for the initial calibration, the analysts has performed the same manual search for every sample analysis to ensure that false negative results are not reported. All peaks in the calibration standards, samples and QC samples are checked manually to ensure that the software has correctly identified and integrated the peaks.

No problems were encountered during sample extraction and sample analysis.

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hard copy data package has been authorized by the laboratory manager or his designee, as verified by the following signature:

Elizabeth A Lanier / QC Coordinator
Signature and Title

5/5/00
Date of Signature

Z:\NETDATA\QA\FORMS\CLP\NARR1296.DOC

Sample Delivery Group (SDG)
Traffic Report (TR) Cover Sheet

Lab Name: **PDP Analytical Services** Contract No.: **68-D7-0004**

Lab Code: **PDP** Case No. **27986**
Full Sample Analysis Price in Contract: **$ 525.00**

SDG No./First Sample in SDG: **EDPK9** Sample Receipt Date: **04/19/00**
(Lowest EPA Sample Number in first shipment of samples received under SDG.)

Last Sample in SDG: **EDPM5** Sample Receipt Date: **04/20/00**
(Highest EPA Sample Number in last shipment of samples received under SDG.)

EPA Sample Numbers in the SDG (listed in alphanumeric order)

1.	**EDPK9**	11.	**EDPL9**
2.	**EDPL0**	12.	**EDPM0**
3.	**EDPL1**	13.	**EDPM1**
4.	**EDPL2**	14.	**EDPM2**
5.	**EDPL3**	15.	**EDPM4**
6.	**EDPL4**	16.	**EDPM5**
7.	**EDPL5**		
8.	**EDPL6**		
9.	**EDPL7**		
10.	**EDPL8**		

Note: There are a maximum of 20 field samples in an SDG.

Attach Traffic Reports to this form in alphanumeric order (i.e., the order listed on this form).

S. Smith
Signature

4/26/00
Date

EPA United States Environmental Protection Agency
Contract Laboratory Program

Organic Traffic Report & Chain of Custody Record
(For Organic CLP Analysis)

SDG No.

Case No. 27986

3. Region No.	5
Sampling Co.	USACE
5. Date Shipped	4/18/00
Carrier	FED EX
7. Date Received–Received by:	4-19-00 Carlos Ruiz
Sampler (Name)	Janie E. Carrig
Airbill Number	820134806597
Laboratory Contract No.	68-D7-0004
Unit Price	525 XX/00
Sampler Signature	Janie E Carrig
6. Ship To:	PDP Analytical Service, 1680 Lake Front Circle, Suite B, The Woodlands, TX 77380
ATTN:	Sean Sundquist
8. Transfer to:	
Date Received	
Received by:	
Contract Number	
Price	

4. Purpose**: Lead: [X] SF [ ] PRP [ ] ST [ ] FED [ ] BZ; Early Action: [ ] IA [ ] PA [ ] REM [ ] RI [ ] SI [ ] ESI; Long-Term Action: [ ] RIFS [X] RD [ ] RA [ ] O&M

CLP Sample Numbers (from labels)	A Matrix (from Box 1) Other: RES. WELL	B Conc.: Low Med	C Sample Type: Comp./Grab	D Preservative (from Box 2) Other:	E RAS Analysis TA (circle one) PR* 7 14 21 VOA	TA (circle one) PR* 7 14 21 BNA	TA (circle one) PR* 7 14 21 Pest/PCB	F Regional Specific Tracking Number or Tag Numbers	G Station Location Identifier	H Mo/Day/Year/Time Sample Collection	I Corresponding CLP Inorganic Sample No.	J Sampler Initials	K Sample Condition
EDPK9	8	LL	Grab	1	X	—	—	5-068913, 5-068914, 5-068908	54287 Westwood	04/17/00 1550	NA	J	
EDPK9	8	LL	Grab	5	—	X	—	5-068911, 5-068912	54287 Westwood	04/17/00 1550	NA	J	
EDPL0	8	LL	Grab	1	X	—	—	5-068928, 5-068929, 068923	54280 Westwood	04/17/00 1559	NA	J	
EDPL0	8	LL	Grab	5	—	X	—	5-068926, 5-068927	54280 Westwood	04/17/00 1559	NA	J	
EDPL1	8	LL	Grab	1	X	—	—	5-068917, 5-068918, 5-068919	54271 Westwood	04/17/00 1626	NA	J	
EDPL1	8	LL	Grab	5	—	X	—	5-068915, 5-068916	54271 Westwood	04/17/00 1626	NA	J	
EDPL4	8	LL	Grab	1	X	—	—	5-068939, 5-068935, 5-068936	54215 Westwood	04/17/00 1714	NA	J	
EDPL4	8	LL	Grab	5	—	X	—	5-068941, 5-068937	54215 Westwood	04/17/00 1714	NA	J	
EDPL9	8	LL	Grab	1	X	—	—	5-068854, 5-068990	Trip Blank	04/17/00 1559	NA	J	

Shipment for Case Complete? (Y/N) Y

Page 1 of 2

VOA MS/MSD Required? Y/N Sample #:
BNA MS/MSD Required? Y/N Sample #:
Pest/PCB MS/MSD Required? Y/N Sample #:

Additional Sampler Signatures: Mary Johansen

Chain of Custody Seal Number(s): 22817, 22816

PR provides 7-day data turnaround in addition to preliminary results. Requests for preliminary results will increase analytical costs.

Chain of Custody Record

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Janie E Carrig	4-18-00 1000				
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature) Carlos Ruiz	Date / Time 4-19-00 9:02	Remarks: Is custody seal intact? Y/N/none Case: 27986 SDG: EDPK9	

Distribution: Blue - Region Copy; White - Lab Copy for Return to SMO; Pink - SMO Copy; Yellow - Lab Copy for Return to Region

See Reverse for Additional Standard Instructions
**See Reverse for Purpose Code Definitions

EPA Form 9110-2 (2/99)

CLASS-99-002

201562

EPA United States Environmental Protection Agency
Contract Laboratory Program

Organic Traffic Report & Chain of Custody Record
(For Organic CLP Analysis)

SDG No.

Case No. 27986

1. Matrix (Enter Code) 1. Surface Water 2. Ground Water 3. Leachate 4. Field QC 5. Soil/Sediment 6. PE water 7. PE soil 8. Other (specify in Column A)	2. Preservative (Enter Code) 1. HCl 2. HNO3 3. NaHSO4 4. H2SO4 5. Ice only 6. CH3OH 7. Other (specify in Column D) N. Not Preserved	3. Region No. 5	Sampling Co. USACE
		5. Date Shipped 4/18/00	Carrier FEDEX
		Sampler (Name) Janie E. Carrig	Airbill Number 820134806597
		Sampler Signature Janie E Carrig	6. Ship To: PDP Analytical Services 1680 Lake Front Circle Suite B The Woodlands, TX 77380 ATTN: Sean Sundquist
		4. Purpose** Lead: SF, PRP, ST, FED, BZ; Early Action: IA, PA, REM, RI, SI, ESI; Long-Term Action: RIFS, RD, RA, O&M	

7. Date Received--Received by:
Laboratory Contract No. | Unit Price
8. Transfer to: | Date Received
Received by:
Contract Number | Price

CLP Sample Numbers (from labels)	A Matrix (from Box 1) Other: RES WELL	B Conc.: Low Med	C Sample Type: Comp./Grab	D Preservative (from Box 2) Other:	E RAS Analysis TA (circle one) PR* 7 14 21 VOA	TA (circle one) PR* 7 14 21 BNA	TA (circle one) PR* 7 14 21 Pest/PCB	F Regional Specific Tracking Number or Tag Numbers	G Station Location Identifier	H Mo/Day/Year/Time Sample Collection	I Corresponding CLP Inorganic Sample No.	J Sampler Initials	K Sample Condition
EDPL2	8	LL	Grab	1	X	—	—	5-068949, 5-068942, 5-068948	54253 Westwood	04/17/00 1639	NA	[illegible]	
EDPL2	8	LL	Grab	5	—	X	—	5-068851, 5-068844	54253 Westwood	04/17/00 1639	NA	[illegible]	
EDPL3	8	LL	Grab	1	X	—	—	5-068847, 068848, 5-068944	54231 Westwood	04/17/00 1700	NA	[illegible]	
EDPL3	8	LL	Grab	5	—	X	—	5-068849, 5-068850	54231 Westwood	04/17/00 1700	NA	[illegible]	
E													

Shipment for Case Complete? (Y/N) Y

Page 2 of 2

VOA MS/MSD Required? Y/N Sample #:
BNA MS/MSD Required? Y/N Sample #:
Pest/PCB MS/MSD Required? Y/N Sample #:

Additional Sampler Signatures: [illegible]

Chain of Custody Seal Number(s): 22817, 22816

*PR provides 7-day data turnaround in addition to preliminary results. Requests for preliminary results will increase analytical costs.

Chain of Custody Record

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Janie E Carrig	4/18/00 1000				
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature)	Date / Time 4-19-00 9102	Remarks: Is custody seal intact? Y/N/none	CASE: 27986 SDG: EDPK9

Distribution: Blue - Region Copy; White - Lab Copy for Return to SMO; Pink - SMO Copy; Yellow - Lab Copy for Return to Region

See Reverse for Additional Standard Instructions
**See Reverse for Purpose Code Definitions

EPA Form 9110-2 (2/99)

CLASS-99-002

391563

000006

EPA Contract Laboratory Program

& Chain of Custody Record
(For Organic CLP Analysis)

27986

3. Region No.: 5	Sampling Co.: USACE	5. Date Shipped: 4-18-2000	Carrier: FEDEX
Sampler (Name): Janie E. Carrig		Airbill Number: 820134806586	
Sampler Signature: Janie E Carrig		6. Ship To: ~~USEPA - CRL~~ PDP Analytical Services, 1680 Lake Front Circle, Suite, The Woodlands, Tx 77380, ATTN: Sean Sundquist	

7. Date Received–Receive by: 4-19-00 Carlos Puin

Laboratory Contract No.: 68-D7-0004 | Unit Price: 525.00

8. Transfer to: | Date Received:

Received by:

Contract Number: | Price:

4. Purpose**
- Lead: [X] SF, [ ] PRP, [ ] ST, [ ] FED, [ ] BZ
- Early Action: [ ] IA, [ ] PA, [ ] REM, [ ] RI, [ ] SI, [ ] ESI
- Long-Term Action: [ ] RIFS, [X] RD, [ ] RA, [ ] O&M

CLP Sample Numbers (from labels)	A Matrix (from Box 1) Other:	B Conc.: Low / Med	C Sample Type: Comp. / Grab	D Preservative (from Box 2) Other:	E RAS Analysis TA (circle one) P* 7 14 21 — VOA	E TA (circle one) 7 14 21 — BNA	E TA (circle one) P* 7 14 21 — Pest/PCB	F Regional Specific Tracking Number or Tag Numbers	G Station Location Identifier	H Mo/Day/Year/Time Sample Collection	I Corresponding CLP Inorganic Sample No.	J Sampler Initials	K Sample Condition
EDPL5	S	LL	Grab	1	X	—	—	5-068861, 5-068865, 5-068866	54305 Westwood Drive	04/18/00	N/A		
EDPL5	S	LL	Grab	5	—	X	—	5-068869, 5-068870	54305 Westwood Drive 27919	04/18/00	N/A		
EDPL6	S	LL	Grab	1	X	—	—	5-068813, 5-068814, 5-068815	Westwood Dr	04/18/00	N/A		
EDPL6	S	LL	Grab	5	—	X	—	5-068817, 5-068818	27919 Westwood Dr	04/18/00	N/A		
EDPL7	S	LL	Grab	1	X	—	—	5-068822, 5-068824, 5-068835	27883 Westwood Drive	04/18/00	N/A		
EDPL7	S	LL	Grab	5	—	X	—	5-068826, 5-068827	~~54305~~ 27883 Westwood Dr	04/18/00	N/A		
EDPL8	S	LL	Grab	1	X	—	—	5-068958, 5-068959	759 54305 Westwood Dr	04/18/00	N/A		
EDPL8	S	LL	Grab	5	—	X	—	5-068960, 5-068810	54305 Westwood Dr	04/18/00	N/A		
EDPH8	S	LL	Grab	1	X	—	—	5-068992, 5-068993, 5-068977	54305 Westwood Dr	04/18/00	N/A		
EDPH8	S	LL	Grab	5	—	X	—	5-068951, 5-068952	54305 Westwood Dr	04/18/00	N/A		

Shipment for Case Complete? (Y/N):

Page 1 of 2

VOA MS/MSD Required? Y/N Sample #:

BNA MS/MSD Required? Y/N Sample #:

Pest/PCB MS/MSD Required? Y/N Sample #:

Additional Sampler Signatures: Mary Adamo

Chain of Custody Seal Number(s): 22821, 22827

*PR provides 7-day data turnaround in addition to preliminary results. Requests for preliminary results will increase analytical costs.

Chain of Custody Record

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Janie E Carrig	4-18-00 1708				
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature) Carlos Puin	Date / Time: 4-19-00 9:02	Remarks: Is custody seal intact? (Y)N/none	Case: 27986 SDG: EDPK9

Distribution: Blue - Region Copy; White - Lab Copy for Return to SMO; Pink - SMO Copy; Yellow - Lab Copy for Return to Region

EPA Form 9110-2 (2/99)

See Reverse for Additional Standard Instructions

**See Reverse for Purpose Code Definitions

CLASS-99-002

391564

EPA Contract Laboratory Program

& Chain of Custody Record
(For Organic CLP Analysis)

27986

3. Region No. 5	Sampling Co. USACE	5. Date Shipped 4-18-2000	Carrier FED EX
Sampler (Name) Janie E. Carrig		Airbill Number	
Sampler Signature Janie E Carrig		6. Ship To: PDP Analytical Services 1680 Lake Front Circle Suite The Woodlands, TX 77380 ATTN: Sean Sundquist	
4. Purpose** Lead: [X] SF [ ] PRP [ ] ST [ ] FED [ ] BZ	Early Action: [ ] IA [ ] PA [ ] REM [ ] RI [ ] SI [ ] ESI	Long-Term Action: [ ] RIFS [X] RD [ ] RA [ ] O&M	

7. Date Received--Received by: 4-19-00 Carlos Pinir

Laboratory Contract No. 68-D7-0004 | Unit Price 525.00

8. Transfer to: | Date Received

Received by:

Contract Number | Price

1. Surface Water
2. Ground Water
3. Leachate
4. Field Log
5. Soil/Sediment
6. PE Water
7. PE Soil
8. Other (specify in Column A)

1. HCl
2. HNO3
3. NaHSO4
4. H2SO4
5. Ice only
6. CH3OH
7. Other (specify in Column D)
N. Not Preserved

CLP Sample Numbers (from labels)	A Matrix (from Box 1) Other: Res Well	B Conc.: Low Med	C Sample Type: Comp./Grab	D Preservative (from Box 2) Other:	E RAS Analysis TA (circle one) PR* 7 14 21 VOA	TA (circle one) PR* 7 14 21 BNA	TA (circle one) PR* 7 14 21 Pest/PCB	F Regional Specific Tracking Number or Tag Numbers	G Station Location Identifier	H Mo/Day/Year/Time Sample Collection	I Corresponding CLP Inorganic Sample No.	J Sampler Initials	K Sample Condition
EDPM4	8	12	Grab	1	X	—	—	5-068875, 5068876	Trip Blank	04/18/00, 1111	NA	J	

Shipment for Case Complete? (Y/N)	Page 2 of 2	VOA MS/MSD Required? Y/N Sample #:	BNA MS/MSD Required? Y/N Sample #:	Pest/PCB MS/MSD Required? Y/N Sample #:	Additional Sampler Signatures Mary Johansen	Chain of Custody Seal Number(s) 22821, 22822

*PR provides 7-day data turnaround in addition to preliminary results. Requests for preliminary results will increase analytical costs.

Chain of Custody Record

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Janie E Carrig	04/18/00 1708				
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature) Carlos Pinir	Date / Time 4-19-00 9:02	Remarks: Is custody seal intact? Y/N/none	Case: 27986 SDG: EDPK9

Distribution: Blue - Region Copy; White - Lab Copy for Return to SMO; Pink - SMO Copy; Yellow - Lab Copy for Return to Region

See Reverse for Additional Standard Instructions
**See Reverse for Purpose Code Definitions

EPA Form 9110-2 (2/99)

CLASS-99-002

391565

000005

EPA United States Environmental Protection Agency
Contract Laboratory Program

Organic Traffic Report & Chain of Custody Record
(For Organic CLP Analysis)

SDG No.

Case No. 27986

3. Region No.	5
Sampling Co.	USACE
5. Date Shipped	4/19/2000
Carrier	FED-EX
7. Date Received–Received by:	4-20-00 Carlos Pini
Sampler (Name)	Mary M. Johansen
Airbill Number	820134806564
Laboratory Contract No.	68-D7-0004
Unit Price	525 xx/00
Sampler Signature	Mary M Johansen
6. Ship To:	PDP Analytical Services, 1680 Lake Front Circle, Suite E, The Woodlands, TX 77380
ATTN:	Sean Sundquist
8. Transfer to:	
Date Received	
Received by:	
Contract Number	
Price	

4. Purpose**: Lead [X] SF [ ] PRP [ ] ST [ ] FED [ ] BZ; Early Action [ ] IA [ ] PA [ ] REM [ ] RI [ ] SI [ ] ESI; Long-Term Action [ ] RIFS [X] RD [ ] RA [ ] O&M

CLP Sample Numbers (from labels)	A Matrix (from Box 1) Other: Res well	B Conc.: Low Med	C Sample Type: Comp./Grab	D Preservative (from Box 2) Other:	E RAS Analysis TA (circle one) PS* 7 14 21 VOA	TA (circle one) PS* 7 14 21 BNA	TA (circle one) PS* 7 14 21 Pest/PCB	F Regional Specific Tracking Number or Tag Numbers	G Station Location Identifier	H Mo/Day/Year/Time Sample Collection	I Corresponding CLP Inorganic Sample No.	J Sampler Initials	K Sample Condition
EDPM1	8	LL	grab	1	X	—	—	5-068874, 5-068878, 5-068877	27964 Westwood Dr	4/19/00	N/A	MJ	
EDPM1	8	LL	grab	5	—	X	—	5-068880, 5-068881	27964 Westwood Dr	4/19/00	N/A	MJ	
EDPM2	8	LL	grab	1	X	—	—	5-068885, 5-068886, 5-068887	27948 Westwood Dr	4/19/00	N/A	MJ	
EDPM2	8	LL	grab	5	—	X	—	5-068888, 5-068889	27948 Westwood Dr	4/19/00	N/A	MJ	
EDPM5	8	LL	grab	1	X	—	—	5-068893, 5-068894	Trip Blank	4/19/00	N/A	MJ	

MJ

Shipment for Case Complete? (Y/N)	Page 1 of 1	VOA MS/MSD Required? Y/N Sample #:	BNA MS/MSD Required? Y/N Sample #:	Pest/PCB MS/MSD Required? Y/N Sample #:	Additional Sampler Signatures	Chain of Custody Seal Number(s)
					Mary Johansen MJ, Jackie E Carrag	22827, 22828

PR provides 7-day data turnaround in addition to preliminary results. Requests or preliminary results will increase analytical costs.

Chain of Custody Record

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Mary Johansen	4/19/00 1600				
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature) Carlos Pini	Date / Time 4-20-00 9:04	Remarks: Is custody seal intact? Y/N/none	Case: 27986 SDG: EDPK9

Distribution: Blue - Region Copy; White - Lab Copy for Return to SMO; Pink - SMO Copy; Yellow - Lab Copy for Return to Region

See Reverse for Additional Standard Instructions
**See Reverse for Purpose Code Definitions

EPA Form 9110-2 (2/99)

CLASS-99-002

LOW CONC. WATER VOLATILE SYSTEM MONITORING COMPOUND RECOVERY

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDPK9

	EPA SAMPLE NO.	BFB %REC #	OTHER	TOT OUT
01	VBLK54	108		0
02	VLCS54	106		0
03	EDPL7	109		0
04	EDPL8	106		0
05	EDPL9	108		0
06	EDPM0	112		0
07	EDPM4	110		0
08	EDPM1	105		0
09	EDPM2	109		0
10	EDPM5	105		0
11	VBLK55	114		0
12	VLCS55	118		0
13	EDPK9	114		0
14	EDPL1	87		0
15	EDPL3	90		0
16	EDPL4	94		0
17	EDPL5	87		0
18	EDPL6	91		0
19	EDPL0	90		0
20	EDPL2	89		0
21	VHBLK01	87		0
22				
23				
24				
25				
26				
27				
28				
29				
30				

	QC LIMITS %REC
BFB = Bromofluorobenzene	(80-120)

\# Column to be used to flag recovery values
* Values outside of contract required QC limits

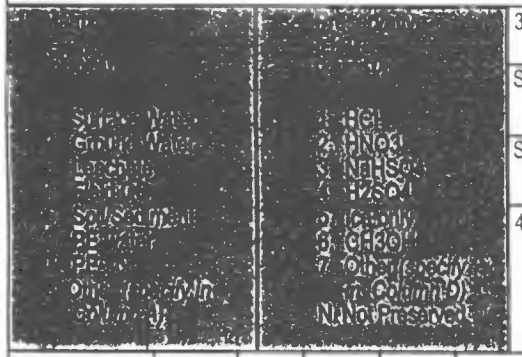
Pages 1 o 1

EPA United States Environmental Protection Agency
Contract Laboratory Program

Organic Traffic Report & Chain of Custody Record
(For Organic CLP Analysis)

SDG No.:

Case No.: 27986



3. Region No.: 5	Sampling Co.: USACE
5. Date Shipped: 4/18/00	Carrier: FED EX
7. Date Received--Received by: 4-19-00 Carlos Pieir	
Sampler (Name): Janie E. Carrig	Airbill Number: 820134806597
Laboratory Contract No.: 68-D7-0004	Unit Price: 525 xx/.00
Sampler Signature: Janie E. Carrig	6. Ship To: PDP Analytical Service, 1680 Lake Front Circle, Suite B, The Woodlands, TX 77380
8. Transfer to:	Date Received:
Received by:	
Contract Number:	Price:

4. Purpose**: Lead: [X] SF [ ] PRP [ ] ST [ ] FED [ ] BZ; Early Action: [ ] IA [ ] PA [ ] REM [ ] RI [ ] SI [ ] ESI; Long-Term Action: [ ] RIFS [X] RD [ ] RA [ ] O&M

ATTN: Sean Sundquist

CLP Sample Numbers (from labels)	A Matrix (from Box 1) Other: RES. WELL	B Conc.: Low Med	C Sample Type: Comp./Grab	D Preservative (from Box 2) Other:	E RAS Analysis TA (circle one) PR* 7 14 21 VOA	TA (circle one) PR* 7 14 21 BNA	TA (circle one) PR* 7 14 21 Pest/PCB	F Regional Specific Tracking Number or Tag Numbers	G Station Location Identifier	H Mo/Day/Year/Time Sample Collection	I Corresponding CLP Inorganic Sample No.	J Sampler Initials	K Sample Condition
EDPK9	8	LL	Grab	1	X	—	—	5-068913, 5-068914, 5-068908	54287 Westwood	04/17/00 1550	NA	J	
EDPK9	8	LL	Grab	5	—	X	—	5-068911, 5-068912	54287 Westwood	04/17/00 1550	NA	J	
EDPL0	8	LL	Grab	1	X	—	—	5-068928, 5-068929, 068923	54280 Westwood	04/17/00 1559	NA	J	
EDPL0	8	LL	Grab	5	—	X	—	5-068926, 5-068927	54280 Westwood	04/17/00 1559	NA	J	
EDPL1	8	LL	Grab	1	X	—	—	5-068917, 5-068918, 5-068919	54271 Westwood	04/17/00 1626	NA	J	
EDPL1	8	LL	Grab	5	—	X	—	5-068915, 5-068916	54271 Westwood	04/17/00 1626	NA	J	
EDPL4	8	LL	Grab	1	X	—	—	5-068939, 5-068935, 5-068936	54215 Westwood	04/17/00 1714	NA	J	
EDPL4	8	LL	Grab	5	—	X	—	5-068941, 5-068937	54215 Westwood	04/17/00 1714	NA	J	
EDPL9	8	LL	Grab	1	X	—	—	5-068854, 5-068990	Trip Blank	04/17/00 1559	NA	J	

Shipment for Case Complete? (Y/N)	Page 1 of 2	VOA MS/MSD Required? Y/N Sample #:	Additional Sampler Signatures	Chain of Custody Seal Number(s)
		BNA MS/MSD Required? Y/N Sample #:	[illegible]	22817, 22816
		Pest/PCB MS/MSD Required? Y/N Sample #:		

*PR provides 7-day data turnaround in addition to preliminary results. Requests for preliminary results will increase analytical costs.

Chain of Custody Record

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Janie E. Carrig	4-18-00 1000				
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature) Carlos Pieir	Date / Time 4-19-00 9:02	Remarks: Is custody seal intact? Y/N/none	Case: 27986 SDG: EDPK9

Distribution: Blue - Region Copy; White - Lab Copy for Return to SMO; Pink - SMO Copy; Yellow - Lab Copy for Return to Region

See Reverse for Additional Standard Instructions
**See Reverse for Purpose Code Definitions

EPA Form 9110-2 (2/99)

CLASS-99-002

0000530

Organic Traffic Report & Chain of Custody Record

EPA United States Environmental Protection Agency Contract Laboratory Program

(For Organic CLP Analysis)

SDG No.

Case No. 27986

[redacted]

3. Region No. 5 | Sampling Co. USACE | 5. Date Shipped 4-18-2000 | Carrier FEDEX | 7. Date Received--Received by: 4-19-00 Carlos Puin

Sampler (Name): Janie E. Carrig | Airbill Number: 820134806586 | Laboratory Contract No. 68-D7-0004 | Unit Price 525.00

Sampler Signature: Janie E Carrig | 6. Ship To: ~~USEPA-CRL~~ PDP Analytical Services, 1680 Lake Front Circle, Suite, The Woodlands, TX 77380, ATTN: Sean Sundquist | 8. Transfer to: | Date Received

4. Purpose** — Lead: [X] SF, [ ] PRP, [ ] ST, [ ] FED, [ ] BZ; Early Action: [ ] IA, [ ] PA, [ ] REM, [ ] RI, [ ] SI, [ ] ESI; Long-Term Action: [ ] RIFS, [X] RD, [ ] RA, [ ] O&M

Received by: | Contract Number | Price

CLP Sample Numbers (from labels)	A Matrix (from Box 1) Other:	B Conc.: Low / Med	C Sample Type: Comp./ Grab	D Preservative (from Box 2) Other:	E RAS Analysis TA (circle one) PR* 7 14 21 VOA	E TA (circle one) PR* 7 14 21 BNA	E TA (circle one) PR* 7 14 21 Pest/ PCB	F Regional Specific Tracking Number or Tag Numbers	G Station Location Identifier	H Mo/Day/ Year/Time Sample Collection	I Corresponding CLP Inorganic Sample No.	J Sampler Initials	K Sample Condition
EDPL5	S	LL	Grab	1	X	—	—	5-068861, 5-068868, 5-068866	54105 Westwood Drive	04/18/00	N/A		
EDPL5	S	LL	Grab	5	—	X	—	5-068869, 5-068870	54105 Westwood Drive	04/18/00	N/A		
EDPL10	S	LL	Grab	1	X	—	—	5-068816, 5-068814, 5-068815	27919 Westwood Dr	04/18/00	N/A		
EDPL6	S	LL	Grab	5	—	X	—	5-068817, 5-068818	27919 Westwood Dr	04/18/00	N/A		
EDPL7	S	LL	Grab	1	X	—	—	5-068822, 5-068824, 5-068825	27883 Westwood Drive	04/18/00	N/A		
EDPL7	S	LL	Grab	5	—	X	—	5-068826, 5-068827	~~54305~~ 27883 Westwood Dr	04/18/00	N/A		
EDPL8	S	LL	Grab	1	X	—	—	5-068958, 5-068759, 5-068960	54305 Westwood Dr	04/18/00	N/A		
EDPL8	S	LL	Grab	5	—	X	—	5-068960, 5-068810	54305 Westwood Dr	04/18/00	N/A		
EDPH8	S	LL	Grab	1	X	—	—	5-068992, 5-068993, 5-068977	54305 Westwood Dr	04/18/00	N/A		
EDPH5	S	LL	Grab	5	—	X	—	5-068951, 5-068952	54305 Westwood Dr	04/18/00	N/A		

Shipment for Case Complete? (Y/N):

Page 1 of 2

VOA MS/MSD Required? Y/N Sample #:

BNA MS/MSD Required? Y/N Sample #:

Pest/PCB MS/MSD Required? Y/N Sample #:

Additional Sampler Signatures: [illegible]

Chain of Custody Seal Number(s): 22821, 22822

*PR provides 7-day data turnaround in addition to preliminary results. Requests for preliminary results will increase analytical costs.

Chain of Custody Record

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Janie E Carrig	4-18-00 1708				
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature) Carlos Puin	Date / Time 4-19-00 9:02	Remarks: Is custody seal intact? Y/N/none	Case: 27986 SDG = EDPK9

Distribution: Blue - Region Copy; White - Lab Copy for Return to SMO; Pink - SMO Copy; Yellow - Lab Copy for Return to Region

See Reverse for Additional Standard Instructions

**See Reverse for Purpose Code Definitions

EPA Form 9110-2 (2/99)

CLASS-99-002

EPA United States Environmental Protection Agency
Contract Laboratory Program

Organic Traffic Report & Chain of Custody Record
(For Organic CLP Analysis)

SDG No.

Case No. 27986

[redacted]

3. Region No. 5 | Sampling Co. USACE | 5. Date Shipped 4/18/00 | Carrier FEDEX | 7. Date Received--Received by:

Sampler (Name): Jane E. Carrig | Airbill Number: 820134806597 | Laboratory Contract No. | Unit Price

Sampler Signature: Jane E Carrig | 6. Ship To: PDP Analytical Services, 1680 Lakefront Circle, Suite B, The Woodlands, TX 77380, ATTN: Sean Sundquist | 8. Transfer to: | Date Received

4. Purpose** — Lead: SF, PRP, ST, FED, BZ; Early Action: IA, PA, REM, RI, SI, ESI; Long-Term Action: RIFS, RD, RA, O&M | Received by:

Contract Number | Price

CLP Sample Numbers (from labels)	A Matrix (from Box 1) Other: AQ WATER	B Conc.: (Low) Med	C Sample Type: Comp./ Grab	D Preservative (from Box 2) Other:	E RAS Analysis: TA (circle one) P* 7 14 21 — VOA	TA (circle one) R* 7 14 21 — BNA	TA (circle one) P* 7 14 21 — Pest/ PCB	F Regional Specific Tracking Number or Tag Numbers	G Station Location Identifier	H Mo/Day/ Year/Time Sample Collection	I Corresponding CLP Inorganic Sample No.	J Sampler Initials	K Sample Condition
EDPL2	8	LL	Grab	1	X	—	—	5-068849, 5-068850, 5-068846	54253 Westwood	04/17/00 1639	NA	JEC	
EDPL2	8	LL	Grab	5	—	X	—	5-068851, 5-068847	54253 Westwood	04/17/00 1631	NA	JEC	
EDPL3	8	LL	Grab	1	X	—	—	5-068847, 068848, 5-068844	54231 Westwood	04/17/00 1700	NA	JEC	
EDPL3	8	LL	Grab	5	X	X	—	5-068849, 5-068850	54231 Westwood	04/17/00 1700	NA	JEC	
E													

Shipment for Case Complete? (Y/N) Y

Page 2 of 2

VOA MS/MSD Required? Y/N Y Sample #: 3

BNA MS/MSD Required? Y/N Y Sample #:

Pest/PCB MS/MSD Required? Y/N Y Sample #:

Additional Sampler Signatures: Mary Jo Iverson

Chain of Custody Seal Number(s): 22817, 22816

*PR provides 7-day data turnaround in addition to preliminary results. Requests for preliminary results will increase analytical costs.

Chain of Custody Record

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Jane E Carrig	4/18/00 1000				
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature)	Date / Time	Remarks: Is custody seal intact? (Y)/N/none	
			4-19-00 9:02		Case: 27986 SDG: EDPK9

Distribution: Blue - Region Copy; White - Lab Copy for Return to SMO; Pink - SMO Copy; Yellow - Lab Copy for Return to Region

See Reverse for Additional Standard Instructions

**See Reverse for Purpose Code Definitions

EPA Form 9110-2 (2/99)

CLASS-99-002

00591A

EPA United States Environmental Protection Agency
Contract Laboratory Program

Organic Traffic Report & Chain of Custody Record
(For Organic CLP Analysis)

SDG No.

Case No. 27986

[redacted]

3. Region No. 5 | Sampling Co. USACE

5. Date Shipped 4-18-2000 | Carrier FED EX

7. Date Received–Received by: 4-19-00 Carlos Pin

Sampler (Name) Janie E. Carrig

Airbill Number

Laboratory Contract No. 68-D7-0004 | Unit Price 525.00

Sampler Signature Janie E Carrig

6. Ship To: PDP Analytical Services
1680 Lake Front Circle Suite
The Woodlands, TX 77380
ATTN: Sean Sundquist

8. Transfer to: | Date Received

Received by:

Contract Number | Price

4. Purpose**
Lead: [X] SF [ ] PRP [ ] ST [ ] FED [ ] BZ
Early Action: [ ] IA [ ] PA [ ] REM [ ] RI [ ] SI [ ] ESI
Long-Term Action: [ ] RIFS [X] RD [ ] RA [ ] O&M

CLP Sample Numbers (from labels)	A Matrix (from Box 1) Other Res Well	B Conc.: Low Med	C Sample Type: Comp./Grab	D Preservative (from Box 2) Other:	E RAS Analysis TA (circle one) PR* 7 14 21 VOA	TA (circle one) PR* 7 14 21 BNA	TA (circle one) PR* 7 14 21 Pest/PCB	F Regional Specific Tracking Number or Tag Numbers	G Station Location Identifier	H Mo/Day/Year/Time Sample Collection	I Corresponding CLP Inorganic Sample No.	J Sampler Initials	K Sample Condition
EDPM4	8	11	Grab	1	X	—	—	5-068875, 5068876	Trip Blank	04/18/00, 1111	NA	J	

Shipment for Case Complete? (Y/N)	Page 2 of 2	VOA MS/MSD Required? Y/N Sample #:	BNA MS/MSD Required? Y/N Sample #:	Pest/PCB MS/MSD Required? Y/N Sample #:	Additional Sampler Signatures	Chain of Custody Seal Number(s)
					Tracy Johnson	22821, 22822

*PR provides 7-day data turnaround in addition to preliminary results. Requests for preliminary results will increase analytical costs.

Chain of Custody Record

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Janie E Carrig	4/18/00 1708				
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature) Carlos Pin	Date / Time 4-19-00 9:02	Remarks: Is custody seal intact? Y/N/none	Case: 27986 SDG: EDPK9

Distribution: Blue - Region Copy; White - Lab Copy for Return to SMD; Pink - SMO Copy; Yellow - Lab Copy for Return to Region

See Reverse for Additional Standard Instructions
**See Reverse for Purpose Code Definitions

EPA Form 9110-2 (2/99)

CLASS-99-002

EPA United States Environmental Protection Agency
Contract Laboratory Program

Organic Traffic Report & Chain of Custody Record
(For Organic CLP Analysis)

SDG No.

Case No. 27986

[redacted]

3. Region No. 5 | Sampling Co. USACE

5. Date Shipped 4/19/2000 | Carrier FED-EX

7. Date Received–Received by: 4-20-00 Carlos Ruiz

Sampler (Name) Mary M. Johansen

Airbill Number 820134806564

Laboratory Contract No. 68-D7-0004 | Unit Price 525 xx.00

Sampler Signature Mary M. Johansen

6. Ship To: PDP Analytical Services
1680 Lake Front Circle, Suite E
The Woodlands, TX 77380
ATTN: Sean Sundquist

8. Transfer to: | Date Received

Received by:

Contract Number | Price

4. Purpose**
Lead: [X] SF [ ] PRP [ ] ST [ ] FED [ ] BZ
Early Action: [ ] IA [ ] PA [ ] REM [ ] RI [ ] SI [ ] ESI
Long-Term Action: [ ] RIFS [X] RD [ ] RA [ ] O&M

CLP Sample Numbers (from labels)	A Matrix (from Box 1) Other: Yes Well	B Conc.: Low Med	C Sample Type: Comp/Grab	D Preservative (from Box 2) Other:	E RAS Analysis TA (circle one) PR* 7 14 21 VOA	TA (circle one) PR* 7 14 21 BNA	TA (circle one) PR* 7 14 21 Pest/PCB	F Regional Specific Tracking Number or Tag Numbers	G Station Location Identifier	H Mo/Day/Year/Time Sample Collection	I Corresponding CLP Inorganic Sample No.	J Sampler Initials	K Sample Condition
EDPM1	8	LL	grab	1	X	—	—	5-068874, 5-068877, 5-068877	27964 Westwood Dr	4/19/00	N/A	MJ	
EDPM1	8	LL	grab	5	—	X	—	5-068880, 5-068881	27964 Westwood Dr	4/19/00	N/A	MJ	
EDPM2	8	LL	grab	1	X	—	—	5-068885, 5-068886, 5-068887	27948 Westwood Dr	4/19/00	N/A	MJ	
EDPM2	8	LL	grab	5	—	X	—	5-068888, 5-068889	27948 Westwood Dr	4/19/00	N/A	MJ	
EDPM5	8	LL	grab	1	X	—	—	5-068893, 5-068894	Trip Blank	4/19/00	N/A	MJ	

MJ

Shipment for Case Complete? (Y/N) | Page 1 of 1

VOA MS/MSD Required? Y/N Sample #:
BNA MS/MSD Required? Y/N Sample #:
Pest/PCB MS/MSD Required? Y/N Sample #:

Additional Sampler Signatures: Mary Johansen MJ, [illegible]

Chain of Custody Seal Number(s): 22827, 22828

*PR provides 7-day data turnaround in addition to preliminary results. Requests for preliminary results will increase analytical costs.

Chain of Custody Record

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Mary Johansen	4/19/00 1600				
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature) Carlos Ruiz	Date / Time 4-20-00 9:04	Remarks: Is custody seal intact? Y/N/none Case: 27986 SDG: EDPK9	

Distribution: Blue - Region Copy; White - Lab Copy for Return to SMO; Pink - SMO Copy; Yellow - Lab Copy for Return to Region

See Reverse for Additional Standard Instructions
**See Reverse for Purpose Code Definitions

EPA Form 9110-2 (2/99)

CLASS-99-002

000593

1LCA

EPA SAMPLE NO.

LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET

EDPL7

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

27883 GLICK

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDPK9

Lab Sample ID: 6004.010 Date Received: 04/19/00

Lab File ID: F0880 Date Analyzed: 04/22/00

Purge Volume: 20 (mL) Dilution Factor: 1.0

GC Column: DB-624 ID: 0.53 (mm) Length: 60 (m)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
74-87-3	Chloromethane	1	U
74-83-9	Bromomethane	1	U
75-01-4	Vinyl chloride	1	U
75-00-3	Chloroethane	1	U
75-09-2	Methylene chloride	2	U
67-64-1	Acetone	5	U
75-15-0	Carbon disulfide	1	U
75-35-4	1,1-Dichloroethene	1	U
75-34-3	1,1-Dichloroethane	1	U
156-59-2	cis-1,2-Dichloroethene	1	U
156-60-5	trans-1,2-Dichloroethene	1	U
67-66-3	Chloroform	1	U
107-06-2	1,2-Dichloroethane	1	U
78-93-3	2-Butanone	5	U
74-97-5	Bromochloromethane	1	U
71-55-6	1,1,1-Trichloroethane	1	U
56-23-5	Carbon tetrachloride	1	U
75-27-4	Bromodichloromethane	1	U
78-87-5	1,2-Dichloropropane	1	U
10061-01-5	cis-1,3-Dichloropropene	1	U
79-01-6	Trichloroethene	1	U
124-48-1	Dibromochloromethane	1	U
79-00-5	1,1,2-Trichloroethane	1	U
71-43-2	Benzene	1	U
10061-02-6	trans-1,3-Dichloropropene	1	U
75-25-2	Bromoform	1	U
108-10-1	4-Methyl-2-pentanone	5	U
591-78-6	2-Hexanone	5	U
127-18-4	Tetrachloroethene	1	U
79-34-5	1,1,2,2-Tetrachloroethane	1	U
106-93-4	1,2-Dibromoethane	1	U
108-88-3	Toluene	1	U
108-90-7	Chlorobenzene	1	U
100-41-4	Ethylbenzene	1	U
100-42-5	Styrene	1	U
1330-20-7	Xylenes (total)	1	U
541-73-1	1,3-Dichlorobenzene	1	U
106-46-7	1,4-Dichlorobenzene	1	U
95-50-1	1,2-Dichlorobenzene	1	U
96-12-8	1,2-Dibromo-3-chloropropane	1	U
120-82-1	1,2,4-Trichlorobenzene	1	U

000090

1LCB

EPA SAMPLE NO.

LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EDPL7

27883

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDPK9

Lab Sample ID: 6004.010 Date Received: 04/19/00

Lab File ID: H0939 Date Extracted: 04/23/00

Sample Volume: 1000 (mL) Date Analyzed: 05/05/00

Concentrated Extract Volume: 1000 (uL) Dilution Factor: 1.0

Injection Volume: 1.0 (uL)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
108-95-2	Phenol	5	U
111-44-4	bis(2-Chloroethyl)ether	5	U
95-57-8	2-Chlorophenol	5	U
95-48-7	2-Methylphenol	5	U
108-60-1	2,2'-oxybis(1-Chloropropane)	5	U
106-44-5	4-Methylphenol	5	U
621-64-7	N-Nitroso-di-n-propylamine	5	U
67-72-1	Hexachloroethane	5	U
98-95-3	Nitrobenzene	5	U
78-59-1	Isophorone	5	U
88-75-5	2-Nitrophenol	5	U
105-67-9	2,4-Dimethylphenol	5	U
111-91-1	bis(2-Chloroethoxy)methane	5	U
120-83-2	2,4-Dichlorophenol	5	U
91-20-3	Naphthalene	5	U
106-47-8	4-Chloroaniline	5	U
87-68-3	Hexachlorobutadiene	5	U
59-50-7	4-Chloro-3-methylphenol	5	U
91-57-6	2-Methylnaphthalene	5	U
77-47-4	Hexachlorocyclopentadiene	5	U
88-06-2	2,4,6-Trichlorophenol	5	U
95-95-4	2,4,5-Trichlorophenol	20	U
91-58-7	2-Chloronaphthalane	5	U
88-74-4	2-Nitroaniline	20	U
131-11-3	Dimethylphthalate	5	U
208-96-8	Acenaphthylene	5	U
606-20-2	2,6-Dintrotoluene	5	U
99-09-2	3-Nitroaniline	20	U
83-32-9	Acenaphthene	5	U

0000396

1LCC

LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EDPL7

27883

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDPK9

Lab Sample ID: 6004.010 Date Received: 04/19/00

Lab File ID: H0939 Date Extracted: 04/23/00

Sample Volume: 1000 (mL) Date Analyzed: 05/05/00

Concentrated Extract Volume: 1000 (uL) Dilution Factor: 1.0

Injection Volume: 1 (uL)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
51-28-5	2,4-Dinitrophenol	20	U
100-02-7	4-Nitrophenol	20	U
132-64-9	Dibenzofuran	5	U
121-14-2	2,4-Dinitrotoluene	5	U
84-66-2	Diethylphthalate	5	U
7005-72-3	4-Chlorophenyl-phenylether	5	U
86-73-7	Fluorene	5	U
100-01-6	4-Nitroaniline	20	U
534-52-1	4,6-Dinitro-2-methylphenol	20	U
86-30-6	N-Nitrosodiphenylamine (1)	5	U
101-55-3	4-Bromophenyl-phenylether	5	U
118-74-1	Hexachlorobenzene	5	U
87-86-5	Pentachlorophenol	20	U
85-01-8	Phenanthrene	5	U
120-12-7	Anthracene	5	U
84-74-2	Di-n-butylphthalate	5	U
206-44-0	Fluoranthene	5	U
129-00-0	Pyrene	5	U
85-68-7	Butylbenzylphthalate	5	U
91-94-1	3,3'-Dichlorobenzidine	5	U
56-55-3	Benzo(a)anthracene	5	U
218-01-9	Chrysene	5	U
117-81-7	bis(2-Ethylhexyl)phthalate	5	U
117-84-0	Di-n-octylphthalate	5	U
205-99-2	Benzo(b)fluoranthene	5	U
207-08-9	Benzo(k)fluoranthene	5	U
50-32-8	Benzo(a)pyrene	5	U
193-39-5	Indeno(1,2,3-cd)Pyrene	5	U
53-70-3	Dibenz(a,h)anthracene	5	U
191-24-2	Benzo(g,h,i)perylene	5	U

(1) - Cannot be separated from Diphenylamine

1LCE

EPA SAMPLE NO.

LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EDPL7

27883

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDPK9

Lab Sample ID: 6004.010 Date Received: 04/19/00

Lab File ID: F0880 Date Analyzed: 04/22/00

Purge Volume: 20 (mL) Dilution Factor: 1.0

GC Column: DB-624 ID: 0.53 (mm) Length: 60 (m)

Number TICs found: 0

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC. (ug/L)	Q
1.					
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
11.					
12.					
13.					
14.					
15.					
16.					
17.					
18.					
19.					
20.					
21.					
22.					
23.					
24.					
25.					
26.					
27.					
28.					
29.					
30.					

EPA SAMPLE NO.

LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

EDPL7

27883

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDPK9

Lab Sample ID: 6004.010 Date Received: 04/19/00

Lab File ID: H0939 Date Extracted: 04/23/00

Sample Volume: 1000 (mL) Date Analyzed: 05/05/00

Concentrated Extract Volume: 1000 (uL) Dilution Factor: 1.0

Injection Volume: 1.0 (uL)

Number TICs found: 0

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC. (ug/L)	Q
1.					
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
11.					
12.					
13.					
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18.					
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20.					
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22.					
23.					
24.					
25.					
26.					
27.					
28.					
29.					
30.					

1LCA

EPA SAMPLE NO.

LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET

EDPL4

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

54215 Johnson

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDPK9

Lab Sample ID: 6004.007 Date Received: 04/19/00

Lab File ID: F0899 Date Analyzed: 04/24/00

Purge Volume: 20 (mL) Dilution Factor: 1.0

GC Column: DB-624 ID: 0.53 (mm) Length: 60 (m)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
74-87-3	Chloromethane	1	U
74-83-9	Bromomethane	1	U
75-01-4	Vinyl chloride	1	U
75-00-3	Chloroethane	1	U
75-09-2	Methylene chloride	2	U
67-64-1	Acetone	5	U
75-15-0	Carbon disulfide	1	U
75-35-4	1,1-Dichloroethene	1	U
75-34-3	1,1-Dichloroethane	1	U
156-59-2	cis-1,2-Dichloroethene	1	U
156-60-5	trans-1,2-Dichloroethene	1	U
67-66-3	Chloroform	1	U
107-06-2	1,2-Dichloroethane	1	U
78-93-3	2-Butanone	5	U
74-97-5	Bromochloromethane	1	U
71-55-6	1,1,1-Trichloroethane	1	U
56-23-5	Carbon tetrachloride	1	U
75-27-4	Bromodichloromethane	1	U
78-87-5	1,2-Dichloropropane	1	U
10061-01-5	cis-1,3-Dichloropropene	1	U
79-01-6	Trichloroethene	1	U
124-48-1	Dibromochloromethane	1	U
79-00-5	1,1,2-Trichloroethane	1	U
71-43-2	Benzene	1	U
10061-02-6	trans-1,3-Dichloropropene	1	U
75-25-2	Bromoform	1	U
108-10-1	4-Methyl-2-pentanone	5	U
591-78-6	2-Hexanone	5	U
127-18-4	Tetrachloroethene	1	U
79-34-5	1,1,2,2-Tetrachloroethane	1	U
106-93-4	1,2-Dibromoethane	1	U
108-88-3	Toluene	1	U
108-90-7	Chlorobenzene	1	U
100-41-4	Ethylbenzene	1	U
100-42-5	Styrene	1	U
1330-20-7	Xylenes (total)	1	U
541-73-1	1,3-Dichlorobenzene	1	U
106-46-7	1,4-Dichlorobenzene	1	U
95-50-1	1,2-Dichlorobenzene	1	U
96-12-8	1,2-Dibromo-3-chloropropane	1	U
120-82-1	1,2,4-Trichlorobenzene	1	U

000063

EPA SAMPLE NO.

LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EDPL4

54215 dup

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDPK9

Lab Sample ID: 6004.007 Date Received: 04/19/00

Lab File ID: H0933 Date Extracted: 04/23/00

Sample Volume: 1000 (mL) Date Analyzed: 05/05/00

Concentrated Extract Volume: 1000 (uL) Dilution Factor: 1.0

Injection Volume: 1.0 (uL)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
108-95-2	Phenol	5	U
111-44-4	bis(2-Chloroethyl)ether	5	U
95-57-8	2-Chlorophenol	5	U
95-48-7	2-Methylphenol	5	U
108-60-1	2,2'-oxybis(1-Chloropropane)	5	U
106-44-5	4-Methylphenol	5	U
621-64-7	N-Nitroso-di-n-propylamine	5	U
67-72-1	Hexachloroethane	5	U
98-95-3	Nitrobenzene	5	U
78-59-1	Isophorone	5	U
88-75-5	2-Nitrophenol	5	U
105-67-9	2,4-Dimethylphenol	5	U
111-91-1	bis(2-Chloroethoxy)methane	5	U
120-83-2	2,4-Dichlorophenol	5	U
91-20-3	Naphthalene	5	U
106-47-8	4-Chloroaniline	5	U
87-68-3	Hexachlorobutadiene	5	U
59-50-7	4-Chloro-3-methylphenol	5	U
91-57-6	2-Methylnaphthalene	5	U
77-47-4	Hexachlorocyclopentadiene	5	U
88-06-2	2,4,6-Trichlorophenol	5	U
95-95-4	2,4,5-Trichlorophenol	20	U
91-58-7	2-Chloronaphthalane	5	U
88-74-4	2-Nitroaniline	20	U
131-11-3	Dimethylphthalate	5	U
208-96-8	Acenaphthylene	5	U
606-20-2	2,6-Dintrotoluene	5	U
99-09-2	3-Nitroaniline	20	U
83-32-9	Acenaphthene	5	U

000353

1LCC

LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EDPL4

54215 dup

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDPK9

Lab Sample ID: 6004.007 Date Received: 04/19/00

Lab File ID: H0933 Date Extracted: 04/23/00

Sample Volume: 1000 (mL) Date Analyzed: 05/05/00

Concentrated Extract Volume: 1000 (uL) Dilution Factor: 1.0

Injection Volume: 1 (uL)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
51-28-5	2,4-Dinitrophenol	20	U
100-02-7	4-Nitrophenol	20	U
132-64-9	Dibenzofuran	5	U
121-14-2	2,4-Dinitrotoluene	5	U
84-66-2	Diethylphthalate	5	U
7005-72-3	4-Chlorophenyl-phenylether	5	U
86-73-7	Fluorene	5	U
100-01-6	4-Nitroaniline	20	U
534-52-1	4,6-Dinitro-2-methylphenol	20	U
86-30-6	N-Nitrosodiphenylamine (1)	5	U
101-55-3	4-Bromophenyl-phenylether	5	U
118-74-1	Hexachlorobenzene	5	U
87-86-5	Pentachlorophenol	20	U
85-01-8	Phenanthrene	5	U
120-12-7	Anthracene	5	U
84-74-2	Di-n-butylphthalate	5	U
206-44-0	Fluoranthene	5	U
129-00-0	Pyrene	5	U
85-68-7	Butylbenzylphthalate	5	U
91-94-1	3,3'-Dichlorobenzidine	5	U
56-55-3	Benzo(a)anthracene	5	U
218-01-9	Chrysene	5	U
117-81-7	bis(2-Ethylhexyl)phthalate	5	U
117-84-0	Di-n-octylphthalate	5	U
205-99-2	Benzo(b)fluoranthene	5	U
207-08-9	Benzo(k)fluoranthene	5	U
50-32-8	Benzo(a)pyrene	5	U
193-39-5	Indeno(1,2,3-cd)Pyrene	5	U
53-70-3	Dibenz(a,h)anthracene	5	U
191-24-2	Benzo(g,h,i)perylene	5	U

(1) - Cannot be separated from Diphenylamine

1LCE

EPA SAMPLE NO.

LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EDPL4

54215 dup

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDPK9

Lab Sample ID: 6004.007 Date Received: 04/19/00

Lab File ID: F0899 Date Analyzed: 04/24/00

Purge Volume: 20 (mL) Dilution Factor: 1.0

GC Column: DB-624 ID: 0.53 (mm) Length: 60 (m)

Number TICs found: 0

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC. (ug/L)	Q
1.					
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
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1LCF EPA SAMPLE NO.

LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

EDPL4

54215 dup

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDPK9

Lab Sample ID: 6004.007 Date Received: 04/19/00

Lab File ID: H0933 Date Extracted: 04/23/00

Sample Volume: 1000 (mL) Date Analyzed: 05/05/00

Concentrated Extract Volume: 1000 (uL) Dilution Factor: 1.0

Injection Volume: 1.0 (uL)

Number TICs found: 0

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC. (ug/L)	Q
1.					
2.					
3.					
4.					
5.					
6.					
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1LCA

LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EDPM2

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDPK9

27948 Hankins

Lab Sample ID: 6008.002 Date Received: 04/20/00

Lab File ID: F0887 Date Analyzed: 04/22/00

Purge Volume: 20 (mL) Dilution Factor: 1.0

GC Column: DB-624 ID: 0.53 (mm) Length: 60 (m)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
74-87-3	Chloromethane	1	U
74-83-9	Bromomethane	1	U
75-01-4	Vinyl chloride	1	U
75-00-3	Chloroethane	1	U
75-09-2	Methylene chloride	2	U
67-64-1	Acetone	5	U
75-15-0	Carbon disulfide	1	U
75-35-4	1,1-Dichloroethene	1	U
75-34-3	1,1-Dichloroethane	2	
156-59-2	cis-1,2-Dichloroethene	1	
156-60-5	trans-1,2-Dichloroethene	1	U
67-66-3	Chloroform	1	U
107-06-2	1,2-Dichloroethane	1	U
78-93-3	2-Butanone	5	U
74-97-5	Bromochloromethane	1	U
71-55-6	1,1,1-Trichloroethane	1	U
56-23-5	Carbon tetrachloride	1	U
75-27-4	Bromodichloromethane	1	U
78-87-5	1,2-Dichloropropane	1	U
10061-01-5	cis-1,3-Dichloropropene	1	U
79-01-6	Trichloroethene	1	U
124-48-1	Dibromochloromethane	1	U
79-00-5	1,1,2-Trichloroethane	1	U
71-43-2	Benzene	1	U
10061-02-6	trans-1,3-Dichloropropene	1	U
75-25-2	Bromoform	1	U
108-10-1	4-Methyl-2-pentanone	5	U
591-78-6	2-Hexanone	5	U
127-18-4	Tetrachloroethene	1	U
79-34-5	1,1,2,2-Tetrachloroethane	1	U
106-93-4	1,2-Dibromoethane	1	U
108-88-3	Toluene	1	U
108-90-7	Chlorobenzene	1	U
100-41-4	Ethylbenzene	1	U
100-42-5	Styrene	1	U
1330-20-7	Xylenes (total)	1	U
541-73-1	1,3-Dichlorobenzene	1	U
106-46-7	1,4-Dichlorobenzene	1	U
95-50-1	1,2-Dichlorobenzene	1	U
96-12-8	1,2-Dibromo-3-chloropropane	1	U
120-82-1	1,2,4-Trichlorobenzene	1	U

000143

1LCE

EPA SAMPLE NO.

LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EDPM2

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

27948

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDPK9

Lab Sample ID: 6008.002 Date Received: 04/20/00

Lab File ID: F0887 Date Analyzed: 04/22/00

Purge Volume: 20 (mL) Dilution Factor: 1.0

GC Column: DB-624 ID: 0.53 (mm) Length: 60 (m)

Number TICs found: 3

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC. (ug/L)	Q
1.	000075-43-4	Methane, dichlorofluoro-	5.91	2	JN
2.	000075-43-4	Methane, dichlorofluoro-	5.92	7	JN
3.	000060-29-7	Ethyl ether	6.82	4	JN
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000144

LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EDPM2

27948

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDPK9

Lab Sample ID: 6008.002 Date Received: 04/20/00

Lab File ID: H0943 Date Extracted: 04/23/00

Sample Volume: 1000 (mL) Date Analyzed: 05/05/00

Concentrated Extract Volume: 1000 (uL) Dilution Factor: 1.0

Injection Volume: 1.0 (uL)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
108-95-2	Phenol	5	U
111-44-4	bis(2-Chloroethyl)ether	5	U
95-57-8	2-Chlorophenol	5	U
95-48-7	2-Methylphenol	5	U
108-60-1	2,2'-oxybis(1-Chloropropane)	5	U
106-44-5	4-Methylphenol	5	U
621-64-7	N-Nitroso-di-n-propylamine	5	U
67-72-1	Hexachloroethane	5	U
98-95-3	Nitrobenzene	5	U
78-59-1	Isophorone	5	U
88-75-5	2-Nitrophenol	5	U
105-67-9	2,4-Dimethylphenol	5	U
111-91-1	bis(2-Chloroethoxy)methane	5	U
120-83-2	2,4-Dichlorophenol	5	U
91-20-3	Naphthalene	5	U
106-47-8	4-Chloroaniline	5	U
87-68-3	Hexachlorobutadiene	5	U
59-50-7	4-Chloro-3-methylphenol	5	U
91-57-6	2-Methylnaphthalene	5	U
77-47-4	Hexachlorocyclopentadiene	5	U
88-06-2	2,4,6-Trichlorophenol	5	U
95-95-4	2,4,5-Trichlorophenol	20	U
91-58-7	2-Chloronaphthalane	5	U
88-74-4	2-Nitroaniline	20	U
131-11-3	Dimethylphthalate	5	U
208-96-8	Acenaphthylene	5	U
606-20-2	2,6-Dintrotoluene	5	U
99-09-2	3-Nitroaniline	20	U
83-32-9	Acenaphthene	5	U

1LCC

LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EDPM2

27948

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDPK9

Lab Sample ID: 6008.002 Date Received: 04/20/00

Lab File ID: H0943 Date Extracted: 04/23/00

Sample Volume: 1000 (mL) Date Analyzed: 05/05/00

Concentrated Extract Volume: 1000 (uL) Dilution Factor: 1.0

Injection Volume: 1 (uL)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
51-28-5	2,4-Dinitrophenol	20	U
100-02-7	4-Nitrophenol	20	U
132-64-9	Dibenzofuran	5	U
121-14-2	2,4-Dinitrotoluene	5	U
84-66-2	Diethylphthalate	5	U
7005-72-3	4-Chlorophenyl-phenylether	5	U
86-73-7	Fluorene	5	U
100-01-6	4-Nitroaniline	20	U
534-52-1	4,6-Dinitro-2-methylphenol	20	U
86-30-6	N-Nitrosodiphenylamine (1)	5	U
101-55-3	4-Bromophenyl-phenylether	5	U
118-74-1	Hexachlorobenzene	5	U
87-86-5	Pentachlorophenol	20	U
85-01-8	Phenanthrene	5	U
120-12-7	Anthracene	5	U
84-74-2	Di-n-butylphthalate	5	U
206-44-0	Fluoranthene	5	U
129-00-0	Pyrene	5	U
85-68-7	Butylbenzylphthalate	5	U
91-94-1	3,3'-Dichlorobenzidine	5	U
56-55-3	Benzo(a)anthracene	5	U
218-01-9	Chrysene	5	U
117-81-7	bis(2-Ethylhexyl)phthalate	5	U
117-84-0	Di-n-octylphthalate	5	U
205-99-2	Benzo(b)fluoranthene	5	U
207-08-9	Benzo(k)fluoranthene	5	U
50-32-8	Benzo(a)pyrene	5	U
193-39-5	Indeno(1,2,3-cd)Pyrene	5	U
53-70-3	Dibenz(a,h)anthracene	5	U
191-24-2	Benzo(g,h,i)perylene	5	U

(1) - Cannot be separated from Diphenylamine

000457

1LCF

EPA SAMPLE NO.

LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

EDPM2

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

27948

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDPK9

Lab Sample ID: 6008.002 Date Received: 04/20/00

Lab File ID: H0943 Date Extracted: 04/23/00

Sample Volume: 1000 (mL) Date Analyzed: 05/05/00

Concentrated Extract Volume: 1000 (uL) Dilution Factor: 1.0

Injection Volume: 1.0 (uL)

Number TICs found: 0

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC. (ug/L)	Q
1.					
2.					
3.					
4.					
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1LCA

LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EDPM1

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDPK9

27964 Persing

Lab Sample ID: 6008.001 Date Received: 04/20/00

Lab File ID: F0885 Date Analyzed: 04/22/00

Purge Volume: 20 (mL) Dilution Factor: 1.0

GC Column: DB-624 ID: 0.53 (mm) Length: 60 (m)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
74-87-3	Chloromethane	1	U
74-83-9	Bromomethane	1	U
75-01-4	Vinyl chloride	1	U
75-00-3	Chloroethane	1	U
75-09-2	Methylene chloride	2	U
67-64-1	Acetone	5	U
75-15-0	Carbon disulfide	1	U
75-35-4	1,1-Dichloroethene	1	U
75-34-3	1,1-Dichloroethane	3	
156-59-2	cis-1,2-Dichloroethene	1	
156-60-5	trans-1,2-Dichloroethene	1	U
67-66-3	Chloroform	1	U
107-06-2	1,2-Dichloroethane	1	U
78-93-3	2-Butanone	5	U
74-97-5	Bromochloromethane	1	U
71-55-6	1,1,1-Trichloroethane	1	U
56-23-5	Carbon tetrachloride	1	U
75-27-4	Bromodichloromethane	1	U
78-87-5	1,2-Dichloropropane	1	U
10061-01-5	cis-1,3-Dichloropropene	1	U
79-01-6	Trichloroethene	1	U
124-48-1	Dibromochloromethane	1	U
79-00-5	1,1,2-Trichloroethane	1	U
71-43-2	Benzene	1	U
10061-02-6	trans-1,3-Dichloropropene	1	U
75-25-2	Bromoform	1	U
108-10-1	4-Methyl-2-pentanone	5	U
591-78-6	2-Hexanone	5	U
127-18-4	Tetrachloroethene	1	U
79-34-5	1,1,2,2-Tetrachloroethane	1	U
106-93-4	1,2-Dibromoethane	1	U
108-88-3	Toluene	1	U
108-90-7	Chlorobenzene	1	U
100-41-4	Ethylbenzene	1	U
100-42-5	Styrene	1	U
1330-20-7	Xylenes (total)	1	U
541-73-1	1,3-Dichlorobenzene	1	U
106-46-7	1,4-Dichlorobenzene	1	U
95-50-1	1,2-Dichlorobenzene	1	U
96-12-8	1,2-Dibromo-3-chloropropane	1	U
120-82-1	1,2,4-Trichlorobenzene	1	U

1LCE

EPA SAMPLE NO.

LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EDPM1

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

27964

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDPK9

Lab Sample ID: 6008.001 Date Received: 04/20/00

Lab File ID: F0885 Date Analyzed: 04/22/00

Purge Volume: 20 (mL) Dilution Factor: 1.0

GC Column: DB-624 ID: 0.53 (mm) Length: 60 (m)

Number TICs found: 2

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC. (ug/L)	Q
1.	000075-43-4	Methane, dichlorofluoro-	5.91	9	JN
2.	000060-29-7	Ethyl ether	6.82	6	JN
3.					
4.					
5.					
6.					
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000132

1LCB

EPA SAMPLE NO.

LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EDPM1

27964

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDPK9

Lab Sample ID: 6008.001 Date Received: 04/20/00

Lab File ID: H0942 Date Extracted: 04/23/00

Sample Volume: 1000 (mL) Date Analyzed: 05/05/00

Concentrated Extract Volume: 1000 (uL) Dilution Factor: 1.0

Injection Volume: 1.0 (uL)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
108-95-2	Phenol	5	U
111-44-4	bis(2-Chloroethyl)ether	5	U
95-57-8	2-Chlorophenol	5	U
95-48-7	2-Methylphenol	5	U
108-60-1	2,2'-oxybis(1-Chloropropane)	5	U
106-44-5	4-Methylphenol	5	U
621-64-7	N-Nitroso-di-n-propylamine	5	U
67-72-1	Hexachloroethane	5	U
98-95-3	Nitrobenzene	5	U
78-59-1	Isophorone	5	U
88-75-5	2-Nitrophenol	5	U
105-67-9	2,4-Dimethylphenol	5	U
111-91-1	bis(2-Chloroethoxy)methane	5	U
120-83-2	2,4-Dichlorophenol	5	U
91-20-3	Naphthalene	5	U
106-47-8	4-Chloroaniline	5	U
87-68-3	Hexachlorobutadiene	5	U
59-50-7	4-Chloro-3-methylphenol	5	U
91-57-6	2-Methylnaphthalene	5	U
77-47-4	Hexachlorocyclopentadiene	5	U
88-06-2	2,4,6-Trichlorophenol	5	U
95-95-4	2,4,5-Trichlorophenol	20	U
91-58-7	2-Chloronaphthalane	5	U
88-74-4	2-Nitroaniline	20	U
131-11-3	Dimethylphthalate	5	U
208-96-8	Acenaphthylene	5	U
606-20-2	2,6-Dintrotoluene	5	U
99-09-2	3-Nitroaniline	20	U
83-32-9	Acenaphthene	5	U

1LCC

EPA SAMPLE NO.

LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EDPM1

27964

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDPK9

Lab Sample ID: 6008.001 Date Received: 04/20/00

Lab File ID: H0942 Date Extracted: 04/23/00

Sample Volume: 1000 (mL) Date Analyzed: 05/05/00

Concentrated Extract Volume: 1000 (uL) Dilution Factor: 1.0

Injection Volume: 1 (uL)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
51-28-5	2,4-Dinitrophenol	20	U
100-02-7	4-Nitrophenol	20	U
132-64-9	Dibenzofuran	5	U
121-14-2	2,4-Dinitrotoluene	5	U
84-66-2	Diethylphthalate	5	U
7005-72-3	4-Chlorophenyl-phenylether	5	U
86-73-7	Fluorene	5	U
100-01-6	4-Nitroaniline	20	U
534-52-1	4,6-Dinitro-2-methylphenol	20	U
86-30-6	N-Nitrosodiphenylamine (1)	5	U
101-55-3	4-Bromophenyl-phenylether	5	U
118-74-1	Hexachlorobenzene	5	U
87-86-5	Pentachlorophenol	20	U
85-01-8	Phenanthrene	5	U
120-12-7	Anthracene	5	U
84-74-2	Di-n-butylphthalate	5	U
206-44-0	Fluoranthene	5	U
129-00-0	Pyrene	5	U
85-68-7	Butylbenzylphthalate	5	U
91-94-1	3,3'-Dichlorobenzidine	5	U
56-55-3	Benzo(a)anthracene	5	U
218-01-9	Chrysene	5	U
117-81-7	bis(2-Ethylhexyl)phthalate	5	U
117-84-0	Di-n-octylphthalate	5	U
205-99-2	Benzo(b)fluoranthene	5	U
207-08-9	Benzo(k)fluoranthene	5	U
50-32-8	Benzo(a)pyrene	5	U
193-39-5	Indeno(1,2,3-cd)Pyrene	5	U
53-70-3	Dibenz(a,h)anthracene	5	U
191-24-2	Benzo(g,h,i)perylene	5	U

(1) - Cannot be separated from Diphenylamine

000442

EPA SAMPLE NO.

EDPM1

LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDPK9

27964

Lab Sample ID: 6008.001 Date Received: 04/20/00

Lab File ID: H0942 Date Extracted: 04/23/00

Sample Volume: 1000 (mL) Date Analyzed: 05/05/00

Concentrated Extract Volume: 1000 (uL) Dilution Factor: 1.0

Injection Volume: 1.0 (uL)

Number TICs found: 0

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC. (ug/L)	Q
1.					
2.					
3.					
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1LCA

LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EDPL8

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

54305 Anderson

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDPK9

Lab Sample ID: 6004.011 Date Received: 04/19/00

Lab File ID: F0881 Date Analyzed: 04/22/00

Purge Volume: 20 (mL) Dilution Factor: 1.0

GC Column: DB-624 ID: 0.53 (mm) Length: 60 (m)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
74-87-3	Chloromethane	1	U
74-83-9	Bromomethane	1	U
75-01-4	Vinyl chloride	1	U
75-00-3	Chloroethane	1	U
75-09-2	Methylene chloride	2	U
67-64-1	Acetone	5	U
75-15-0	Carbon disulfide	1	U
75-35-4	1,1-Dichloroethene	1	U
75-34-3	1,1-Dichloroethane	3	
156-59-2	cis-1,2-Dichloroethene	2	
156-60-5	trans-1,2-Dichloroethene	1	U
67-66-3	Chloroform	1	U
107-06-2	1,2-Dichloroethane	1	U
78-93-3	2-Butanone	5	U
74-97-5	Bromochloromethane	1	U
71-55-6	1,1,1-Trichloroethane	1	U
56-23-5	Carbon tetrachloride	1	U
75-27-4	Bromodichloromethane	1	U
78-87-5	1,2-Dichloropropane	8	
10061-01-5	cis-1,3-Dichloropropene	1	U
79-01-6	Trichloroethene	1	U
124-48-1	Dibromochloromethane	1	U
79-00-5	1,1,2-Trichloroethane	1	U
71-43-2	Benzene	1	U
10061-02-6	trans-1,3-Dichloropropene	1	U
75-25-2	Bromoform	1	U
108-10-1	4-Methyl-2-pentanone	5	U
591-78-6	2-Hexanone	5	U
127-18-4	Tetrachloroethene	1	U
79-34-5	1,1,2,2-Tetrachloroethane	1	U
106-93-4	1,2-Dibromoethane	1	U
108-88-3	Toluene	1	U
108-90-7	Chlorobenzene	1	U
100-41-4	Ethylbenzene	1	U
100-42-5	Styrene	1	U
1330-20-7	Xylenes (total)	1	U
541-73-1	1,3-Dichlorobenzene	1	U
106-46-7	1,4-Dichlorobenzene	1	U
95-50-1	1,2-Dichlorobenzene	1	U
96-12-8	1,2-Dibromo-3-chloropropane	1	U
120-82-1	1,2,4-Trichlorobenzene	1	U

000095

1LCB

EPA SAMPLE NO.

LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EDPL8

54305

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDPK9

Lab Sample ID: 6004.011 Date Received: 04/19/00

Lab File ID: H0940 Date Extracted: 04/23/00

Sample Volume: 1000 (mL) Date Analyzed: 05/05/00

Concentrated Extract Volume: 1000 (uL) Dilution Factor: 1.0

Injection Volume: 1.0 (uL)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
108-95-2	Phenol	5	U
111-44-4	bis(2-Chloroethyl)ether	5	U
95-57-8	2-Chlorophenol	5	U
95-48-7	2-Methylphenol	5	U
108-60-1	2,2'-oxybis(1-Chloropropane)	5	U
106-44-5	4-Methylphenol	5	U
621-64-7	N-Nitroso-di-n-propylamine	5	U
67-72-1	Hexachloroethane	5	U
98-95-3	Nitrobenzene	5	U
78-59-1	Isophorone	5	U
88-75-5	2-Nitrophenol	5	U
105-67-9	2,4-Dimethylphenol	5	U
111-91-1	bis(2-Chloroethoxy)methane	5	U
120-83-2	2,4-Dichlorophenol	5	U
91-20-3	Naphthalene	5	U
106-47-8	4-Chloroaniline	5	U
87-68-3	Hexachlorobutadiene	5	U
59-50-7	4-Chloro-3-methylphenol	5	U
91-57-6	2-Methylnaphthalene	5	U
77-47-4	Hexachlorocyclopentadiene	5	U
88-06-2	2,4,6-Trichlorophenol	5	U
95-95-4	2,4,5-Trichlorophenol	20	U
91-58-7	2-Chloronaphthalane	5	U
88-74-4	2-Nitroaniline	20	U
131-11-3	Dimethylphthalate	5	U
208-96-8	Acenaphthylene	5	U
606-20-2	2,6-Dintrotoluene	5	U
99-09-2	3-Nitroaniline	20	U
83-32-9	Acenaphthene	5	U

1LCC

LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EDPL8

54305

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDPK9

Lab Sample ID: 6004.011 Date Received: 04/19/00

Lab File ID: H0940 Date Extracted: 04/23/00

Sample Volume: 1000 (mL) Date Analyzed: 05/05/00

Concentrated Extract Volume: 1000 (uL) Dilution Factor: 1.0

Injection Volume: 1 (uL)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
51-28-5	2,4-Dinitrophenol	20	U
100-02-7	4-Nitrophenol	20	U
132-64-9	Dibenzofuran	5	U
121-14-2	2,4-Dinitrotoluene	5	U
84-66-2	Diethylphthalate	5	U
7005-72-3	4-Chlorophenyl-phenylether	5	U
86-73-7	Fluorene	5	U
100-01-6	4-Nitroaniline	20	U
534-52-1	4,6-Dinitro-2-methylphenol	20	U
86-30-6	N-Nitrosodiphenylamine (1)	5	U
101-55-3	4-Bromophenyl-phenylether	5	U
118-74-1	Hexachlorobenzene	5	U
87-86-5	Pentachlorophenol	20	U
85-01-8	Phenanthrene	5	U
120-12-7	Anthracene	5	U
84-74-2	Di-n-butylphthalate	5	U
206-44-0	Fluoranthene	5	U
129-00-0	Pyrene	5	U
85-68-7	Butylbenzylphthalate	5	U
91-94-1	3,3'-Dichlorobenzidine	5	U
56-55-3	Benzo(a)anthracene	5	U
218-01-9	Chrysene	5	U
117-81-7	bis(2-Ethylhexyl)phthalate	5	U
117-84-0	Di-n-octylphthalate	5	U
205-99-2	Benzo(b)fluoranthene	5	U
207-08-9	Benzo(k)fluoranthene	5	U
50-32-8	Benzo(a)pyrene	5	U
193-39-5	Indeno(1,2,3-cd)Pyrene	5	U
53-70-3	Dibenz(a,h)anthracene	5	U
191-24-2	Benzo(g,h,i)perylene	5	U

(1) - Cannot be separated from Diphenylamine

000412

1LCF

EPA SAMPLE NO.

LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

EDPL8

54305

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDPK9

Lab Sample ID: 6004.011 Date Received: 04/19/00

Lab File ID: H0940 Date Extracted: 04/23/00

Sample Volume: 1000 (mL) Date Analyzed: 05/05/00

Concentrated Extract Volume: 1000 (uL) Dilution Factor: 1.0

Injection Volume: 1.0 (uL)

Number TICs found: 0

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC. (ug/L)	Q
1.					
2.					
3.					
4.					
5.					
6.					
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27.					
28.					
29.					
30.					

1LCE

EPA SAMPLE NO.

LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EDPL8

54305

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDPK9

Lab Sample ID: 6004.011 Date Received: 04/19/00

Lab File ID: F0881 Date Analyzed: 04/22/00

Purge Volume: 20 (mL) Dilution Factor: 1.0

GC Column: DB-624 ID: 0.53 (mm) Length: 60 (m)

Number TICs found: 1

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC. (ug/L)	Q
1.	000060-29-7	Ethyl ether	6.82	2	JN
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
11.					
12.					
13.					
14.					
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25.					
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27.					
28.					
29.					
30.					

1LCA

EPA SAMPLE NO.

LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET

EDPM0

54305 Duplicate Anderson

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDPK9

Lab Sample ID: 6004.013 Date Received: 04/19/00

Lab File ID: F0883 Date Analyzed: 04/22/00

Purge Volume: 20 (mL) Dilution Factor: 1.0

GC Column: DB-624 ID: 0.53 (mm) Length: 60 (m)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
74-87-3	Chloromethane	1	U
74-83-9	Bromomethane	1	U
75-01-4	Vinyl chloride	1	U
75-00-3	Chloroethane	1	U
75-09-2	Methylene chloride	2	U
67-64-1	Acetone	5	U
75-15-0	Carbon disulfide	1	U
75-35-4	1,1-Dichloroethene	1	U
75-34-3	1,1-Dichloroethane	4	
156-59-2	cis-1,2-Dichloroethene	2	
156-60-5	trans-1,2-Dichloroethene	1	U
67-66-3	Chloroform	1	U
107-06-2	1,2-Dichloroethane	1	U
78-93-3	2-Butanone	5	U
74-97-5	Bromochloromethane	1	U
71-55-6	1,1,1-Trichloroethane	1	U
56-23-5	Carbon tetrachloride	1	U
75-27-4	Bromodichloromethane	1	U
78-87-5	1,2-Dichloropropane	9	
10061-01-5	cis-1,3-Dichloropropene	1	U
79-01-6	Trichloroethene	1	U
124-48-1	Dibromochloromethane	1	U
79-00-5	1,1,2-Trichloroethane	1	U
71-43-2	Benzene	1	U
10061-02-6	trans-1,3-Dichloropropene	1	U
75-25-2	Bromoform	1	U
108-10-1	4-Methyl-2-pentanone	5	U
591-78-6	2-Hexanone	5	U
127-18-4	Tetrachloroethene	1	U
79-34-5	1,1,2,2-Tetrachloroethane	1	U
106-93-4	1,2-Dibromoethane	1	U
108-88-3	Toluene	1	U
108-90-7	Chlorobenzene	1	U
100-41-4	Ethylbenzene	1	U
100-42-5	Styrene	1	U
1330-20-7	Xylenes (total)	1	U
541-73-1	1,3-Dichlorobenzene	1	U
106-46-7	1,4-Dichlorobenzene	1	U
95-50-1	1,2-Dichlorobenzene	1	U
96-12-8	1,2-Dibromo-3-chloropropane	1	U
120-82-1	1,2,4-Trichlorobenzene	1	U

1LCE

EPA SAMPLE NO.

LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EDPM0

54305 duplicate

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDPK9

Lab Sample ID: 6004.013 Date Received: 04/19/00

Lab File ID: F0883 Date Analyzed: 04/22/00

Purge Volume: 20 (mL) Dilution Factor: 1.0

GC Column: DB-624 ID: 0.53 (mm) Length: 60 (m)

Number TICs found: 2

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC. (ug/L)	Q
1.	000075-43-4	Methane, dichlorofluoro-	5.91	4	JN
2.	000060-29-7	Ethyl ether	6.82	5	JN
3.					
4.					
5.					
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1LCB

EPA SAMPLE NO.

LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EDPM0

54305 duplicate

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDPK9

Lab Sample ID: 6004.013 Date Received: 04/19/00

Lab File ID: H0941 Date Extracted: 04/23/00

Sample Volume: 1000 (mL) Date Analyzed: 05/05/00

Concentrated Extract Volume: 1000 (uL) Dilution Factor: 1.0

Injection Volume: 1.0 (uL)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
108-95-2	Phenol	5	U
111-44-4	bis(2-Chloroethyl)ether	5	U
95-57-8	2-Chlorophenol	5	U
95-48-7	2-Methylphenol	5	U
108-60-1	2,2'-oxybis(1-Chloropropane)	5	U
106-44-5	4-Methylphenol	5	U
621-64-7	N-Nitroso-di-n-propylamine	5	U
67-72-1	Hexachloroethane	5	U
98-95-3	Nitrobenzene	5	U
78-59-1	Isophorone	5	U
88-75-5	2-Nitrophenol	5	U
105-67-9	2,4-Dimethylphenol	5	U
111-91-1	bis(2-Chloroethoxy)methane	5	U
120-83-2	2,4-Dichlorophenol	5	U
91-20-3	Naphthalene	5	U
106-47-8	4-Chloroaniline	5	U
87-68-3	Hexachlorobutadiene	5	U
59-50-7	4-Chloro-3-methylphenol	5	U
91-57-6	2-Methylnaphthalene	5	U
77-47-4	Hexachlorocyclopentadiene	5	U
88-06-2	2,4,6-Trichlorophenol	5	U
95-95-4	2,4,5-Trichlorophenol	20	U
91-58-7	2-Chloronaphthalane	5	U
88-74-4	2-Nitroaniline	20	U
131-11-3	Dimethylphthalate	5	U
208-96-8	Acenaphthylene	5	U
606-20-2	2,6-Dintrotoluene	5	U
99-09-2	3-Nitroaniline	20	U
83-32-9	Acenaphthene	5	U

1LCC

LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EDPM0

54305 dup

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDPK9

Lab Sample ID: 6004.013 Date Received: 04/19/00

Lab File ID: H0941 Date Extracted: 04/23/00

Sample Volume: 1000 (mL) Date Analyzed: 05/05/00

Concentrated Extract Volume: 1000 (uL) Dilution Factor: 1.0

Injection Volume: 1 (uL)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
51-28-5	2,4-Dinitrophenol	20	U
100-02-7	4-Nitrophenol	20	U
132-64-9	Dibenzofuran	5	U
121-14-2	2,4-Dinitrotoluene	5	U
84-66-2	Diethylphthalate	5	U
7005-72-3	4-Chlorophenyl-phenylether	5	U
86-73-7	Fluorene	5	U
100-01-6	4-Nitroaniline	20	U
534-52-1	4,6-Dinitro-2-methylphenol	20	U
86-30-6	N-Nitrosodiphenylamine (1)	5	U
101-55-3	4-Bromophenyl-phenylether	5	U
118-74-1	Hexachlorobenzene	5	U
87-86-5	Pentachlorophenol	20	U
85-01-8	Phenanthrene	5	U
120-12-7	Anthracene	5	U
84-74-2	Di-n-butylphthalate	5	U
206-44-0	Fluoranthene	5	U
129-00-0	Pyrene	5	U
85-68-7	Butylbenzylphthalate	5	U
91-94-1	3,3'-Dichlorobenzidine	5	U
56-55-3	Benzo(a)anthracene	5	U
218-01-9	Chrysene	5	U
117-81-7	bis(2-Ethylhexyl)phthalate	5	U
117-84-0	Di-n-octylphthalate	5	U
205-99-2	Benzo(b)fluoranthene	5	U
207-08-9	Benzo(k)fluoranthene	5	U
50-32-8	Benzo(a)pyrene	5	U
193-39-5	Indeno(1,2,3-cd)Pyrene	5	U
53-70-3	Dibenz(a,h)anthracene	5	U
191-24-2	Benzo(g,h,i)perylene	5	U

(1) - Cannot be separated from Diphenylamine

1LCF

EPA SAMPLE NO.

LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

EDPM0

54305 dup

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDPK9

Lab Sample ID: 6004.013 Date Received: 04/19/00

Lab File ID: H0941 Date Extracted: 04/23/00

Sample Volume: 1000 (mL) Date Analyzed: 05/05/00

Concentrated Extract Volume: 1000 (uL) Dilution Factor: 1.0

Injection Volume: 1.0 (uL)

Number TICs found: 0

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC. (ug/L)	Q
1.					
2.					
3.					
4.					
5.					
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1LCA

LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EDPL6

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

27919 Roberts

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDPK9

Lab Sample ID: 6004.009 Date Received: 04/19/00

Lab File ID: F0901 Date Analyzed: 04/24/00

Purge Volume: 20 (mL) Dilution Factor: 1.0

GC Column: DB-624 ID: 0.53 (mm) Length: 60 (m)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
74-87-3	Chloromethane	1	U
74-83-9	Bromomethane	1	U
75-01-4	Vinyl chloride	1	U
75-00-3	Chloroethane	1	U
75-09-2	Methylene chloride	2	U
67-64-1	Acetone	5	U
75-15-0	Carbon disulfide	1	U
75-35-4	1,1-Dichloroethene	1	U
75-34-3	1,1-Dichloroethane	0.8	J
156-59-2	cis-1,2-Dichloroethene	0.7	J
156-60-5	trans-1,2-Dichloroethene	1	U
67-66-3	Chloroform	1	U
107-06-2	1,2-Dichloroethane	1	U
78-93-3	2-Butanone	5	U
74-97-5	Bromochloromethane	1	U
71-55-6	1,1,1-Trichloroethane	1	U
56-23-5	Carbon tetrachloride	1	U
75-27-4	Bromodichloromethane	1	U
78-87-5	1,2-Dichloropropane	1	U
10061-01-5	cis-1,3-Dichloropropene	1	U
79-01-6	Trichloroethene	1	U
124-48-1	Dibromochloromethane	1	U
79-00-5	1,1,2-Trichloroethane	1	U
71-43-2	Benzene	1	U
10061-02-6	trans-1,3-Dichloropropene	1	U
75-25-2	Bromoform	1	U
108-10-1	4-Methyl-2-pentanone	5	U
591-78-6	2-Hexanone	5	U
127-18-4	Tetrachloroethene	1	U
79-34-5	1,1,2,2-Tetrachloroethane	1	U
106-93-4	1,2-Dibromoethane	1	U
108-88-3	Toluene	1	U
108-90-7	Chlorobenzene	1	U
100-41-4	Ethylbenzene	1	U
100-42-5	Styrene	1	U
1330-20-7	Xylenes (total)	1	U
541-73-1	1,3-Dichlorobenzene	1	U
106-46-7	1,4-Dichlorobenzene	1	U
95-50-1	1,2-Dichlorobenzene	1	U
96-12-8	1,2-Dibromo-3-chloropropane	1	U
120-82-1	1,2,4-Trichlorobenzene	1	U

000079

1LCB

LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EDPL6

27919

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDPK9

Lab Sample ID: 6004.009 Date Received: 04/19/00

Lab File ID: H0938 Date Extracted: 04/23/00

Sample Volume: 1000 (mL) Date Analyzed: 05/05/00

Concentrated Extract Volume: 1000 (uL) Dilution Factor: 1.0

Injection Volume: 1.0 (uL)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
108-95-2	Phenol	5	U
111-44-4	bis(2-Chloroethyl)ether	5	U
95-57-8	2-Chlorophenol	5	U
95-48-7	2-Methylphenol	5	U
108-60-1	2,2'-oxybis(1-Chloropropane)	5	U
106-44-5	4-Methylphenol	5	U
621-64-7	N-Nitroso-di-n-propylamine	5	U
67-72-1	Hexachloroethane	5	U
98-95-3	Nitrobenzene	5	U
78-59-1	Isophorone	5	U
88-75-5	2-Nitrophenol	5	U
105-67-9	2,4-Dimethylphenol	5	U
111-91-1	bis(2-Chloroethoxy)methane	5	U
120-83-2	2,4-Dichlorophenol	5	U
91-20-3	Naphthalene	5	U
106-47-8	4-Chloroaniline	5	U
87-68-3	Hexachlorobutadiene	5	U
59-50-7	4-Chloro-3-methylphenol	5	U
91-57-6	2-Methylnaphthalene	5	U
77-47-4	Hexachlorocyclopentadiene	5	U
88-06-2	2,4,6-Trichlorophenol	5	U
95-95-4	2,4,5-Trichlorophenol	20	U
91-58-7	2-Chloronaphthalane	5	U
88-74-4	2-Nitroaniline	20	U
131-11-3	Dimethylphthalate	5	U
208-96-8	Acenaphthylene	5	U
606-20-2	2,6-Dintrotoluene	5	U
99-09-2	3-Nitroaniline	20	U
83-32-9	Acenaphthene	5	U

000352

LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EDPL6

27919

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDPK9

Lab Sample ID: 6004.009 Date Received: 04/19/00

Lab File ID: H0938 Date Extracted: 04/23/00

Sample Volume: 1000 (mL) Date Analyzed: 05/05/00

Concentrated Extract Volume: 1000 (uL) Dilution Factor: 1.0

Injection Volume: 1 (uL)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
51-28-5	2,4-Dinitrophenol	20	U
100-02-7	4-Nitrophenol	20	U
132-64-9	Dibenzofuran	5	U
121-14-2	2,4-Dinitrotoluene	5	U
84-66-2	Diethylphthalate	5	U
7005-72-3	4-Chlorophenyl-phenylether	5	U
86-73-7	Fluorene	5	U
100-01-6	4-Nitroaniline	20	U
534-52-1	4,6-Dinitro-2-methylphenol	20	U
86-30-6	N-Nitrosodiphenylamine (1)	5	U
101-55-3	4-Bromophenyl-phenylether	5	U
118-74-1	Hexachlorobenzene	5	U
87-86-5	Pentachlorophenol	20	U
85-01-8	Phenanthrene	5	U
120-12-7	Anthracene	5	U
84-74-2	Di-n-butylphthalate	5	U
206-44-0	Fluoranthene	5	U
129-00-0	Pyrene	5	U
85-68-7	Butylbenzylphthalate	5	U
91-94-1	3,3'-Dichlorobenzidine	5	U
56-55-3	Benzo(a)anthracene	5	U
218-01-9	Chrysene	5	U
117-81-7	bis(2-Ethylhexyl)phthalate	5	U
117-84-0	Di-n-octylphthalate	5	U
205-99-2	Benzo(b)fluoranthene	5	U
207-08-9	Benzo(k)fluoranthene	5	U
50-32-8	Benzo(a)pyrene	5	U
193-39-5	Indeno(1,2,3-cd)Pyrene	5	U
53-70-3	Dibenz(a,h)anthracene	5	U
191-24-2	Benzo(g,h,i)perylene	5	U

(1) - Cannot be separated from Diphenylamine

1LCE

EPA SAMPLE NO.

LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EDPL6

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

27919

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDPK9

Lab Sample ID: 6004.009 Date Received: 04/19/00

Lab File ID: F0901 Date Analyzed: 04/24/00

Purge Volume: 20 (mL) Dilution Factor: 1.0

GC Column: DB-624 ID: 0.53 (mm) Length: 60 (m)

Number TICs found: 1

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC. (ug/L)	Q
1.	000075-43-4	Methane, dichlorofluoro-	5.91	2	JN
2.					
3.					
4.					
5.					
6.					
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30.					

1LCF

EPA SAMPLE NO.

LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

EDPL6

279/9

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDPK9

Lab Sample ID: 6004.009 Date Received: 04/19/00

Lab File ID: H0938 Date Extracted: 04/23/00

Sample Volume: 1000 (mL) Date Analyzed: 05/05/00

Concentrated Extract Volume: 1000 (uL) Dilution Factor: 1.0

Injection Volume: 1.0 (uL)

Number TICs found: 0

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC. (ug/L)	Q
1.					
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
11.					
12.					
13.					
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1LCA

LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EDPL5

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

54125

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDPK9

High Conc

Lab Sample ID: 6004.008 Date Received: 04/19/00

Lab File ID: F0900 Date Analyzed: 04/24/00

Purge Volume: 20 (mL) Dilution Factor: 1.0

GC Column: DB-624 ID: 0.53 (mm) Length: 60 (m)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
74-87-3	Chloromethane	1	U
74-83-9	Bromomethane	1	U
75-01-4	Vinyl chloride	1	U
75-00-3	Chloroethane	1	U
75-09-2	Methylene chloride	2	U
67-64-1	Acetone	5	U
75-15-0	Carbon disulfide	1	U
75-35-4	1,1-Dichloroethene	1	U
75-34-3	1,1-Dichloroethane	1	U
156-59-2	cis-1,2-Dichloroethene	1	U
156-60-5	trans-1,2-Dichloroethene	1	U
67-66-3	Chloroform	1	U
107-06-2	1,2-Dichloroethane	1	U
78-93-3	2-Butanone	5	U
74-97-5	Bromochloromethane	1	U
71-55-6	1,1,1-Trichloroethane	1	U
56-23-5	Carbon tetrachloride	1	U
75-27-4	Bromodichloromethane	1	U
78-87-5	1,2-Dichloropropane	1	U
10061-01-5	cis-1,3-Dichloropropene	1	U
79-01-6	Trichloroethene	1	U
124-48-1	Dibromochloromethane	1	U
79-00-5	1,1,2-Trichloroethane	1	U
71-43-2	Benzene	1	U
10061-02-6	trans-1,3-Dichloropropene	1	U
75-25-2	Bromoform	1	U
108-10-1	4-Methyl-2-pentanone	5	U
591-78-6	2-Hexanone	5	U
127-18-4	Tetrachloroethene	1	U
79-34-5	1,1,2,2-Tetrachloroethane	1	U
106-93-4	1,2-Dibromoethane	1	U
108-88-3	Toluene	1	U
108-90-7	Chlorobenzene	1	U
100-41-4	Ethylbenzene	1	U
100-42-5	Styrene	1	U
1330-20-7	Xylenes (total)	1	U
541-73-1	1,3-Dichlorobenzene	1	U
106-46-7	1,4-Dichlorobenzene	1	U
95-50-1	1,2-Dichlorobenzene	1	U
96-12-8	1,2-Dibromo-3-chloropropane	1	U
120-82-1	1,2,4-Trichlorobenzene	1	U

000071

EPA SAMPLE NO.

LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EDPL5

54215

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDPK9

Lab Sample ID: 6004.008 Date Received: 04/19/00

Lab File ID: H0937 Date Extracted: 04/23/00

Sample Volume: 1000 (mL) Date Analyzed: 05/05/00

Concentrated Extract Volume: 1000 (uL) Dilution Factor: 1.0

Injection Volume: 1.0 (uL)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
108-95-2	Phenol	5	U
111-44-4	bis(2-Chloroethyl)ether	5	U
95-57-8	2-Chlorophenol	5	U
95-48-7	2-Methylphenol	5	U
108-60-1	2,2'-oxybis(1-Chloropropane)	5	U
106-44-5	4-Methylphenol	5	U
621-64-7	N-Nitroso-di-n-propylamine	5	U
67-72-1	Hexachloroethane	5	U
98-95-3	Nitrobenzene	5	U
78-59-1	Isophorone	5	U
88-75-5	2-Nitrophenol	5	U
105-67-9	2,4-Dimethylphenol	5	U
111-91-1	bis(2-Chloroethoxy)methane	5	U
120-83-2	2,4-Dichlorophenol	5	U
91-20-3	Naphthalene	5	U
106-47-8	4-Chloroaniline	5	U
87-68-3	Hexachlorobutadiene	5	U
59-50-7	4-Chloro-3-methylphenol	5	U
91-57-6	2-Methylnaphthalene	5	U
77-47-4	Hexachlorocyclopentadiene	5	U
88-06-2	2,4,6-Trichlorophenol	5	U
95-95-4	2,4,5-Trichlorophenol	20	U
91-58-7	2-Chloronaphthalane	5	U
88-74-4	2-Nitroaniline	20	U
131-11-3	Dimethylphthalate	5	U
208-96-8	Acenaphthylene	5	U
606-20-2	2,6-Dintrotoluene	5	U
99-09-2	3-Nitroaniline	20	U
83-32-9	Acenaphthene	5	U

LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EDPL5

54215

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDPK9

Lab Sample ID: 6004.008 Date Received: 04/19/00

Lab File ID: H0937 Date Extracted: 04/23/00

Sample Volume: 1000 (mL) Date Analyzed: 05/05/00

Concentrated Extract Volume: 1000 (uL) Dilution Factor: 1.0

Injection Volume: 1 (uL)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
51-28-5	2,4-Dinitrophenol	20	U
100-02-7	4-Nitrophenol	20	U
132-64-9	Dibenzofuran	5	U
121-14-2	2,4-Dinitrotoluene	5	U
84-66-2	Diethylphthalate	5	U
7005-72-3	4-Chlorophenyl-phenylether	5	U
86-73-7	Fluorene	5	U
100-01-6	4-Nitroaniline	20	U
534-52-1	4,6-Dinitro-2-methylphenol	20	U
86-30-6	N-Nitrosodiphenylamine (1)	5	U
101-55-3	4-Bromophenyl-phenylether	5	U
118-74-1	Hexachlorobenzene	5	U
87-86-5	Pentachlorophenol	20	U
85-01-8	Phenanthrene	5	U
120-12-7	Anthracene	5	U
84-74-2	Di-n-butylphthalate	5	U
206-44-0	Fluoranthene	5	U
129-00-0	Pyrene	5	U
85-68-7	Butylbenzylphthalate	5	U
91-94-1	3,3'-Dichlorobenzidine	5	U
56-55-3	Benzo(a)anthracene	5	U
218-01-9	Chrysene	5	U
117-81-7	bis(2-Ethylhexyl)phthalate	5	U
117-84-0	Di-n-octylphthalate	5	U
205-99-2	Benzo(b)fluoranthene	5	U
207-08-9	Benzo(k)fluoranthene	5	U
50-32-8	Benzo(a)pyrene	5	U
193-39-5	Indeno(1,2,3-cd)Pyrene	5	U
53-70-3	Dibenz(a,h)anthracene	5	U
191-24-2	Benzo(g,h,i)perylene	5	U

(1) - Cannot be separated from Diphenylamine

1LCE

EPA SAMPLE NO.

LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EDPL5

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

5 4/25

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDPK9

Lab Sample ID: 6004.008 Date Received: 04/19/00

Lab File ID: F0900 Date Analyzed: 04/24/00

Purge Volume: 20 (mL) Dilution Factor: 1.0

GC Column: DB-624 ID: 0.53 (mm) Length: 60 (m)

Number TICs found: 0

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC. (ug/L)	Q
1.					
2.					
3.					
4.					
5.					
6.					
7.					
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9.					
10.					
11.					
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EPA SAMPLE NO.

LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

EDPL5

54215

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDPK9

Lab Sample ID: 6004.008 Date Received: 04/19/00

Lab File ID: H0937 Date Extracted: 04/23/00

Sample Volume: 1000 (mL) Date Analyzed: 05/05/00

Concentrated Extract Volume: 1000 (uL) Dilution Factor: 1.0

Injection Volume: 1.0 (uL)

Number TICs found: 0

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC. (ug/L)	Q
1.					
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
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1LCA

EPA SAMPLE NO.

LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET

EDPK9

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

54287

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDPK9

Hendrickson

Lab Sample ID: 6004.002 Date Received: 04/19/00

Lab File ID: F0894 Date Analyzed: 04/24/00

Purge Volume: 20 (mL) Dilution Factor: 1.0

GC Column: DB-624 ID: 0.53 (mm) Length: 60 (m)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
74-87-3	Chloromethane	1	U
74-83-9	Bromomethane	1	U
75-01-4	Vinyl chloride	1	U
75-00-3	Chloroethane	1	U
75-09-2	Methylene chloride	6	
67-64-1	Acetone	5	U
75-15-0	Carbon disulfide	1	U
75-35-4	1,1-Dichloroethene	1	U
75-34-3	1,1-Dichloroethane	12	
156-59-2	cis-1,2-Dichloroethene	0.8	J
156-60-5	trans-1,2-Dichloroethene	1	U
67-66-3	Chloroform	1	U
107-06-2	1,2-Dichloroethane	1	U
78-93-3	2-Butanone	5	U
74-97-5	Bromochloromethane	1	U
71-55-6	1,1,1-Trichloroethane	1	U
56-23-5	Carbon tetrachloride	1	U
75-27-4	Bromodichloromethane	1	U
78-87-5	1,2-Dichloropropane	1	U
10061-01-5	cis-1,3-Dichloropropene	1	U
79-01-6	Trichloroethene	1	U
124-48-1	Dibromochloromethane	1	U
79-00-5	1,1,2-Trichloroethane	1	U
71-43-2	Benzene	1	U
10061-02-6	trans-1,3-Dichloropropene	1	U
75-25-2	Bromoform	1	U
108-10-1	4-Methyl-2-pentanone	5	U
591-78-6	2-Hexanone	5	U
127-18-4	Tetrachloroethene	1	U
79-34-5	1,1,2,2-Tetrachloroethane	1	U
106-93-4	1,2-Dibromoethane	1	U
108-88-3	Toluene	1	U
108-90-7	Chlorobenzene	1	U
100-41-4	Ethylbenzene	1	U
100-42-5	Styrene	1	U
1330-20-7	Xylenes (total)	1	U
541-73-1	1,3-Dichlorobenzene	1	U
106-46-7	1,4-Dichlorobenzene	1	U
95-50-1	1,2-Dichlorobenzene	1	U
96-12-8	1,2-Dibromo-3-chloropropane	1	U
120-82-1	1,2,4-Trichlorobenzene	1	U

1LCB

EPA SAMPLE NO.

LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EDPK9

54287

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDPK9

Lab Sample ID: 6004.002 Date Received: 04/19/00

Lab File ID: H0928 Date Extracted: 04/23/00

Sample Volume: 1000 (mL) Date Analyzed: 05/05/00

Concentrated Extract Volume: 1000 (uL) Dilution Factor: 1.0

Injection Volume: 1.0 (uL)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
108-95-2	Phenol	5	U
111-44-4	bis(2-Chloroethyl)ether	5	U
95-57-8	2-Chlorophenol	5	U
95-48-7	2-Methylphenol	5	U
108-60-1	2,2'-oxybis(1-Chloropropane)	5	U
106-44-5	4-Methylphenol	5	U
621-64-7	N-Nitroso-di-n-propylamine	5	U
67-72-1	Hexachloroethane	5	U
98-95-3	Nitrobenzene	5	U
78-59-1	Isophorone	5	U
88-75-5	2-Nitrophenol	5	U
105-67-9	2,4-Dimethylphenol	5	U
111-91-1	bis(2-Chloroethoxy)methane	5	U
120-83-2	2,4-Dichlorophenol	5	U
91-20-3	Naphthalene	5	U
106-47-8	4-Chloroaniline	5	U
87-68-3	Hexachlorobutadiene	5	U
59-50-7	4-Chloro-3-methylphenol	5	U
91-57-6	2-Methylnaphthalene	5	U
77-47-4	Hexachlorocyclopentadiene	5	U
88-06-2	2,4,6-Trichlorophenol	5	U
95-95-4	2,4,5-Trichlorophenol	20	U
91-58-7	2-Chloronaphthalane	5	U
88-74-4	2-Nitroaniline	20	U
131-11-3	Dimethylphthalate	5	U
208-96-8	Acenaphthylene	5	U
606-20-2	2,6-Dintrotoluene	5	U
99-09-2	3-Nitroaniline	20	U
83-32-9	Acenaphthene	5	U

LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EDPK9

54287

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDPK9

Lab Sample ID: 6004.002 Date Received: 04/19/00

Lab File ID: H0928 Date Extracted: 04/23/00

Sample Volume: 1000 (mL) Date Analyzed: 05/05/00

Concentrated Extract Volume: 1000 (uL) Dilution Factor: 1.0

Injection Volume: 1 (uL)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
51-28-5	2,4-Dinitrophenol	20	U
100-02-7	4-Nitrophenol	20	U
132-64-9	Dibenzofuran	5	U
121-14-2	2,4-Dinitrotoluene	5	U
84-66-2	Diethylphthalate	5	U
7005-72-3	4-Chlorophenyl-phenylether	5	U
86-73-7	Fluorene	5	U
100-01-6	4-Nitroaniline	20	U
534-52-1	4,6-Dinitro-2-methylphenol	20	U
86-30-6	N-Nitrosodiphenylamine (1)	5	U
101-55-3	4-Bromophenyl-phenylether	5	U
118-74-1	Hexachlorobenzene	5	U
87-86-5	Pentachlorophenol	20	U
85-01-8	Phenanthrene	5	U
120-12-7	Anthracene	5	U
84-74-2	Di-n-butylphthalate	5	U
206-44-0	Fluoranthene	5	U
129-00-0	Pyrene	5	U
85-68-7	Butylbenzylphthalate	5	U
91-94-1	3,3'-Dichlorobenzidine	5	U
56-55-3	Benzo(a)anthracene	5	U
218-01-9	Chrysene	5	U
117-81-7	bis(2-Ethylhexyl)phthalate	5	U
117-84-0	Di-n-octylphthalate	5	U
205-99-2	Benzo(b)fluoranthene	5	U
207-08-9	Benzo(k)fluoranthene	5	U
50-32-8	Benzo(a)pyrene	5	U
193-39-5	Indeno(1,2,3-cd)Pyrene	5	U
53-70-3	Dibenz(a,h)anthracene	5	U
191-24-2	Benzo(g,h,i)perylene	5	U

(1) - Cannot be separated from Diphenylamine

000280

1LCE

EPA SAMPLE NO.

LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EDPK9

54237

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDPK9

Lab Sample ID: 6004.002 Date Received: 04/19/00

Lab File ID: F0894 Date Analyzed: 04/24/00

Purge Volume: 20 (mL) Dilution Factor: 1.0

GC Column: DB-624 ID: 0.53 (mm) Length: 60 (m)

Number TICs found: 0

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC. (ug/L)	Q
1.					
2.					
3.					
4.					
5.					
6.					
7.					
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1LCF

LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

EDPK9

54287

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDPK9

Lab Sample ID: 6004.002 Date Received: 04/19/00

Lab File ID: H0928 Date Extracted: 04/23/00

Sample Volume: 1000 (mL) Date Analyzed: 05/05/00

Concentrated Extract Volume: 1000 (uL) Dilution Factor: 1.0

Injection Volume: 1.0 (uL)

Number TICs found: 0

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC. (ug/L)	Q
1.					
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
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1LCA

EPA SAMPLE NO.

LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET

EDPL0

54280

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDPK9

Moore

Lab Sample ID: 6004.003 Date Received: 04/19/00

Lab File ID: F0902 Date Analyzed: 04/24/00

Purge Volume: 20 (mL) Dilution Factor: 1.0

GC Column: DB-624 ID: 0.53 (mm) Length: 60 (m)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
74-87-3	Chloromethane	1	U
74-83-9	Bromomethane	1	U
75-01-4	Vinyl chloride	1	U
75-00-3	Chloroethane	1	U
75-09-2	Methylene chloride	2	U
67-64-1	Acetone	5	U
75-15-0	Carbon disulfide	1	U
75-35-4	1,1-Dichloroethene	1	U
75-34-3	1,1-Dichloroethane	1	U
156-59-2	cis-1,2-Dichloroethene	1	U
156-60-5	trans-1,2-Dichloroethene	1	U
67-66-3	Chloroform	1	U
107-06-2	1,2-Dichloroethane	1	U
78-93-3	2-Butanone	5	U
74-97-5	Bromochloromethane	1	U
71-55-6	1,1,1-Trichloroethane	1	U
56-23-5	Carbon tetrachloride	1	U
75-27-4	Bromodichloromethane	1	U
78-87-5	1,2-Dichloropropane	1	U
10061-01-5	cis-1,3-Dichloropropene	1	U
79-01-6	Trichloroethene	1	U
124-48-1	Dibromochloromethane	1	U
79-00-5	1,1,2-Trichloroethane	1	U
71-43-2	Benzene	1	U
10061-02-6	trans-1,3-Dichloropropene	1	U
75-25-2	Bromoform	1	U
108-10-1	4-Methyl-2-pentanone	5	U
591-78-6	2-Hexanone	5	U
127-18-4	Tetrachloroethene	1	U
79-34-5	1,1,2,2-Tetrachloroethane	1	U
106-93-4	1,2-Dibromoethane	1	U
108-88-3	Toluene	1	U
108-90-7	Chlorobenzene	1	U
100-41-4	Ethylbenzene	1	U
100-42-5	Styrene	1	U
1330-20-7	Xylenes (total)	1	U
541-73-1	1,3-Dichlorobenzene	1	U
106-46-7	1,4-Dichlorobenzene	1	U
95-50-1	1,2-Dichlorobenzene	1	U
96-12-8	1,2-Dibromo-3-chloropropane	1	U
120-82-1	1,2,4-Trichlorobenzene	1	U

000030

EPA SAMPLE NO.

LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EDPL0

54280

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDPK9

Lab Sample ID: 6004.003 Date Received: 04/19/00

Lab File ID: H0929 Date Extracted: 04/23/00

Sample Volume: 1000 (mL) Date Analyzed: 05/05/00

Concentrated Extract Volume: 1000 (uL) Dilution Factor: 1.0

Injection Volume: 1.0 (uL)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
108-95-2	Phenol	5	U
111-44-4	bis(2-Chloroethyl)ether	5	U
95-57-8	2-Chlorophenol	5	U
95-48-7	2-Methylphenol	5	U
108-60-1	2,2'-oxybis(1-Chloropropane)	5	U
106-44-5	4-Methylphenol	5	U
621-64-7	N-Nitroso-di-n-propylamine	5	U
67-72-1	Hexachloroethane	5	U
98-95-3	Nitrobenzene	5	U
78-59-1	Isophorone	5	U
88-75-5	2-Nitrophenol	5	U
105-67-9	2,4-Dimethylphenol	5	U
111-91-1	bis(2-Chloroethoxy)methane	5	U
120-83-2	2,4-Dichlorophenol	5	U
91-20-3	Naphthalene	5	U
106-47-8	4-Chloroaniline	5	U
87-68-3	Hexachlorobutadiene	5	U
59-50-7	4-Chloro-3-methylphenol	5	U
91-57-6	2-Methylnaphthalene	5	U
77-47-4	Hexachlorocyclopentadiene	5	U
88-06-2	2,4,6-Trichlorophenol	5	U
95-95-4	2,4,5-Trichlorophenol	20	U
91-58-7	2-Chloronaphthalane	5	U
88-74-4	2-Nitroaniline	20	U
131-11-3	Dimethylphthalate	5	U
208-96-8	Acenaphthylene	5	U
606-20-2	2,6-Dintrotoluene	5	U
99-09-2	3-Nitroaniline	20	U
83-32-9	Acenaphthene	5	U

LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EDPL0

54250

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDPK9

Lab Sample ID: 6004.003 Date Received: 04/19/00

Lab File ID: H0929 Date Extracted: 04/23/00

Sample Volume: 1000 (mL) Date Analyzed: 05/05/00

Concentrated Extract Volume: 1000 (uL) Dilution Factor: 1.0

Injection Volume: 1 (uL)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
51-28-5	2,4-Dinitrophenol	20	U
100-02-7	4-Nitrophenol	20	U
132-64-9	Dibenzofuran	5	U
121-14-2	2,4-Dinitrotoluene	5	U
84-66-2	Diethylphthalate	5	U
7005-72-3	4-Chlorophenyl-phenylether	5	U
86-73-7	Fluorene	5	U
100-01-6	4-Nitroaniline	20	U
534-52-1	4,6-Dinitro-2-methylphenol	20	U
86-30-6	N-Nitrosodiphenylamine (1)	5	U
101-55-3	4-Bromophenyl-phenylether	5	U
118-74-1	Hexachlorobenzene	5	U
87-86-5	Pentachlorophenol	20	U
85-01-8	Phenanthrene	5	U
120-12-7	Anthracene	5	U
84-74-2	Di-n-butylphthalate	5	U
206-44-0	Fluoranthene	5	U
129-00-0	Pyrene	5	U
85-68-7	Butylbenzylphthalate	5	U
91-94-1	3,3'-Dichlorobenzidine	5	U
56-55-3	Benzo(a)anthracene	5	U
218-01-9	Chrysene	5	U
117-81-7	bis(2-Ethylhexyl)phthalate	5	U
117-84-0	Di-n-octylphthalate	5	U
205-99-2	Benzo(b)fluoranthene	5	U
207-08-9	Benzo(k)fluoranthene	5	U
50-32-8	Benzo(a)pyrene	5	U
193-39-5	Indeno(1,2,3-cd)Pyrene	5	U
53-70-3	Dibenz(a,h)anthracene	5	U
191-24-2	Benzo(g,h,i)perylene	5	U

(1) - Cannot be separated from Diphenylamine

EPA SAMPLE NO.

LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

EDPL0

54280

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDPK9

Lab Sample ID: 6004.003 Date Received: 04/19/00

Lab File ID: H0929 Date Extracted: 04/23/00

Sample Volume: 1000 (mL) Date Analyzed: 05/05/00

Concentrated Extract Volume: 1000 (uL) Dilution Factor: 1.0

Injection Volume: 1.0 (uL)

Number TICs found: 0

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC. (ug/L)	Q
1.					
2.					
3.					
4.					
5.					
6.					
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30.					

1LCE

EPA SAMPLE NO.

LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EDPL0

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

54280

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDPK9

Lab Sample ID: 6004.003 Date Received: 04/19/00

Lab File ID: F0902 Date Analyzed: 04/24/00

Purge Volume: 20 (mL) Dilution Factor: 1.0

GC Column: DB-624 ID: 0.53 (mm) Length: 60 (m)

Number TICs found: 0

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC. (ug/L)	Q
1.					
2.					
3.					
4.					
5.					
6.					
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1LCA

LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EDPL1

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

VOA - 54271

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDPK9

Ellis

Lab Sample ID: 6004.004 Date Received: 04/19/00

Lab File ID: F0896 Date Analyzed: 04/24/00

Purge Volume: 20 (mL) Dilution Factor: 1.0

GC Column: DB-624 ID: 0.53 (mm) Length: 60 (m)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
74-87-3	Chloromethane	1	U
74-83-9	Bromomethane	1	U
75-01-4	Vinyl chloride	1	U
75-00-3	Chloroethane	1	U
75-09-2	Methylene chloride	2	U
67-64-1	Acetone	5	U
75-15-0	Carbon disulfide	1	U
75-35-4	1,1-Dichloroethene	1	U
75-34-3	1,1-Dichloroethane	0.8	J
156-59-2	cis-1,2-Dichloroethene	1	U
156-60-5	trans-1,2-Dichloroethene	1	U
67-66-3	Chloroform	1	U
107-06-2	1,2-Dichloroethane	1	U
78-93-3	2-Butanone	5	U
74-97-5	Bromochloromethane	1	U
71-55-6	1,1,1-Trichloroethane	1	U
56-23-5	Carbon tetrachloride	1	U
75-27-4	Bromodichloromethane	1	U
78-87-5	1,2-Dichloropropane	1	U
10061-01-5	cis-1,3-Dichloropropene	1	U
79-01-6	Trichloroethene	1	U
124-48-1	Dibromochloromethane	1	U
79-00-5	1,1,2-Trichloroethane	1	U
71-43-2	Benzene	1	U
10061-02-6	trans-1,3-Dichloropropene	1	U
75-25-2	Bromoform	1	U
108-10-1	4-Methyl-2-pentanone	5	U
591-78-6	2-Hexanone	5	U
127-18-4	Tetrachloroethene	1	U
79-34-5	1,1,2,2-Tetrachloroethane	1	U
106-93-4	1,2-Dibromoethane	1	U
108-88-3	Toluene	1	U
108-90-7	Chlorobenzene	1	U
100-41-4	Ethylbenzene	1	U
100-42-5	Styrene	1	U
1330-20-7	Xylenes (total)	1	U
541-73-1	1,3-Dichlorobenzene	1	U
106-46-7	1,4-Dichlorobenzene	1	U
95-50-1	1,2-Dichlorobenzene	1	U
96-12-8	1,2-Dibromo-3-chloropropane	1	U
120-82-1	1,2,4-Trichlorobenzene	1	U

000035

EPA SAMPLE NO.

LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EDPL1

54271

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDPK9

Lab Sample ID: 6004.004 Date Received: 04/19/00

Lab File ID: H0930 Date Extracted: 04/23/00

Sample Volume: 1000 (mL) Date Analyzed: 05/05/00

Concentrated Extract Volume: 1000 (uL) Dilution Factor: 1.0

Injection Volume: 1.0 (uL)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
108-95-2	Phenol	5	U
111-44-4	bis(2-Chloroethyl)ether	5	U
95-57-8	2-Chlorophenol	5	U
95-48-7	2-Methylphenol	5	U
108-60-1	2,2'-oxybis(1-Chloropropane)	5	U
106-44-5	4-Methylphenol	5	U
621-64-7	N-Nitroso-di-n-propylamine	5	U
67-72-1	Hexachloroethane	5	U
98-95-3	Nitrobenzene	5	U
78-59-1	Isophorone	5	U
88-75-5	2-Nitrophenol	5	U
105-67-9	2,4-Dimethylphenol	5	U
111-91-1	bis(2-Chloroethoxy)methane	5	U
120-83-2	2,4-Dichlorophenol	5	U
91-20-3	Naphthalene	5	U
106-47-8	4-Chloroaniline	5	U
87-68-3	Hexachlorobutadiene	5	U
59-50-7	4-Chloro-3-methylphenol	5	U
91-57-6	2-Methylnaphthalene	5	U
77-47-4	Hexachlorocyclopentadiene	5	U
88-06-2	2,4,6-Trichlorophenol	5	U
95-95-4	2,4,5-Trichlorophenol	20	U
91-58-7	2-Chloronaphthalane	5	U
88-74-4	2-Nitroaniline	20	U
131-11-3	Dimethylphthalate	5	U
208-96-8	Acenaphthylene	5	U
606-20-2	2,6-Dintrotoluene	5	U
99-09-2	3-Nitroaniline	20	U
83-32-9	Acenaphthene	5	U

LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EDPL1

54271

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDPK9

Lab Sample ID: 6004.004 Date Received: 04/19/00

Lab File ID: H0930 Date Extracted: 04/23/00

Sample Volume: 1000 (mL) Date Analyzed: 05/05/00

Concentrated Extract Volume: 1000 (uL) Dilution Factor: 1.0

Injection Volume: 1 (uL)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
51-28-5	2,4-Dinitrophenol	20	U
100-02-7	4-Nitrophenol	20	U
132-64-9	Dibenzofuran	5	U
121-14-2	2,4-Dinitrotoluene	5	U
84-66-2	Diethylphthalate	5	U
7005-72-3	4-Chlorophenyl-phenylether	5	U
86-73-7	Fluorene	5	U
100-01-6	4-Nitroaniline	20	U
534-52-1	4,6-Dinitro-2-methylphenol	20	U
86-30-6	N-Nitrosodiphenylamine (1)	5	U
101-55-3	4-Bromophenyl-phenylether	5	U
118-74-1	Hexachlorobenzene	5	U
87-86-5	Pentachlorophenol	20	U
85-01-8	Phenanthrene	5	U
120-12-7	Anthracene	5	U
84-74-2	Di-n-butylphthalate	5	U
206-44-0	Fluoranthene	5	U
129-00-0	Pyrene	5	U
85-68-7	Butylbenzylphthalate	5	U
91-94-1	3,3'-Dichlorobenzidine	5	U
56-55-3	Benzo(a)anthracene	5	U
218-01-9	Chrysene	5	U
117-81-7	bis(2-Ethylhexyl)phthalate	5	U
117-84-0	Di-n-octylphthalate	5	U
205-99-2	Benzo(b)fluoranthene	5	U
207-08-9	Benzo(k)fluoranthene	5	U
50-32-8	Benzo(a)pyrene	5	U
193-39-5	Indeno(1,2,3-cd)Pyrene	5	U
53-70-3	Dibenz(a,h)anthracene	5	U
191-24-2	Benzo(g,h,i)perylene	5	U

(1) - Cannot be separated from Diphenylamine

1LCE

EPA SAMPLE NO.

LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EDPL1

54271

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDPK9

Lab Sample ID: 6004.004 Date Received: 04/19/00

Lab File ID: F0896 Date Analyzed: 04/24/00

Purge Volume: 20 (mL) Dilution Factor: 1.0

GC Column: DB-624 ID: 0.53 (mm) Length: 60 (m)

Number TICs found: 0

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC. (ug/L)	Q
1.					
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
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000039

1LCF

EPA SAMPLE NO.

LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

EDPL1

54271

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDPK9

Lab Sample ID: 6004.004 Date Received: 04/19/00

Lab File ID: H0930 Date Extracted: 04/23/00

Sample Volume: 1000 (mL) Date Analyzed: 05/05/00

Concentrated Extract Volume: 1000 (uL) Dilution Factor: 1.0

Injection Volume: 1.0 (uL)

Number TICs found: 0

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC. (ug/L)	Q
1.					
2.					
3.					
4.					
5.					
6.					
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1LCA

EPA SAMPLE NO.

LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET

EDPL2

54953

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDPK9

Duncan

Lab Sample ID: 6004.005 Date Received: 04/19/00

Lab File ID: F0903 Date Analyzed: 04/24/00

Purge Volume: 20 (mL) Dilution Factor: 1.0

GC Column: DB-624 ID: 0.53 (mm) Length: 60 (m)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
74-87-3	Chloromethane	1	U
74-83-9	Bromomethane	1	U
75-01-4	Vinyl chloride	1	U
75-00-3	Chloroethane	1	U
75-09-2	Methylene chloride	2	U
67-64-1	Acetone	5	U
75-15-0	Carbon disulfide	1	U
75-35-4	1,1-Dichloroethene	1	U
75-34-3	1,1-Dichloroethane	1	U
156-59-2	cis-1,2-Dichloroethene	1	U
156-60-5	trans-1,2-Dichloroethene	1	U
67-66-3	Chloroform	1	U
107-06-2	1,2-Dichloroethane	1	U
78-93-3	2-Butanone	5	U
74-97-5	Bromochloromethane	1	U
71-55-6	1,1,1-Trichloroethane	1	U
56-23-5	Carbon tetrachloride	1	U
75-27-4	Bromodichloromethane	1	U
78-87-5	1,2-Dichloropropane	1	U
10061-01-5	cis-1,3-Dichloropropene	1	U
79-01-6	Trichloroethene	1	U
124-48-1	Dibromochloromethane	1	U
79-00-5	1,1,2-Trichloroethane	1	U
71-43-2	Benzene	1	U
10061-02-6	trans-1,3-Dichloropropene	1	U
75-25-2	Bromoform	1	U
108-10-1	4-Methyl-2-pentanone	5	U
591-78-6	2-Hexanone	5	U
127-18-4	Tetrachloroethene	1	U
79-34-5	1,1,2,2-Tetrachloroethane	1	U
106-93-4	1,2-Dibromoethane	1	U
108-88-3	Toluene	1	U
108-90-7	Chlorobenzene	1	U
100-41-4	Ethylbenzene	1	U
100-42-5	Styrene	1	U
1330-20-7	Xylenes (total)	1	U
541-73-1	1,3-Dichlorobenzene	1	U
106-46-7	1,4-Dichlorobenzene	1	U
95-50-1	1,2-Dichlorobenzene	1	U
96-12-8	1,2-Dibromo-3-chloropropane	1	U
120-82-1	1,2,4-Trichlorobenzene	1	U

000047

EPA SAMPLE NO.

LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EDPL2

54253

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDPK9

Lab Sample ID: 6004.005 Date Received: 04/19/00

Lab File ID: H0931 Date Extracted: 04/23/00

Sample Volume: 1000 (mL) Date Analyzed: 05/05/00

Concentrated Extract Volume: 1000 (uL) Dilution Factor: 1.0

Injection Volume: 1.0 (uL)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
108-95-2	Phenol	5	U
111-44-4	bis(2-Chloroethyl)ether	5	U
95-57-8	2-Chlorophenol	5	U
95-48-7	2-Methylphenol	5	U
108-60-1	2,2'-oxybis(1-Chloropropane)	5	U
106-44-5	4-Methylphenol	5	U
621-64-7	N-Nitroso-di-n-propylamine	5	U
67-72-1	Hexachloroethane	5	U
98-95-3	Nitrobenzene	5	U
78-59-1	Isophorone	5	U
88-75-5	2-Nitrophenol	5	U
105-67-9	2,4-Dimethylphenol	5	U
111-91-1	bis(2-Chloroethoxy)methane	5	U
120-83-2	2,4-Dichlorophenol	5	U
91-20-3	Naphthalene	5	U
106-47-8	4-Chloroaniline	5	U
87-68-3	Hexachlorobutadiene	5	U
59-50-7	4-Chloro-3-methylphenol	5	U
91-57-6	2-Methylnaphthalene	5	U
77-47-4	Hexachlorocyclopentadiene	5	U
88-06-2	2,4,6-Trichlorophenol	5	U
95-95-4	2,4,5-Trichlorophenol	20	U
91-58-7	2-Chloronaphthalane	5	U
88-74-4	2-Nitroaniline	20	U
131-11-3	Dimethylphthalate	5	U
208-96-8	Acenaphthylene	5	U
606-20-2	2,6-Dintrotoluene	5	U
99-09-2	3-Nitroaniline	20	U
83-32-9	Acenaphthene	5	U

LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EDPL2

54253

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDPK9

Lab Sample ID: 6004.005 Date Received: 04/19/00

Lab File ID: H0931 Date Extracted: 04/23/00

Sample Volume: 1000 (mL) Date Analyzed: 05/05/00

Concentrated Extract Volume: 1000 (uL) Dilution Factor: 1.0

Injection Volume: 1 (uL)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
51-28-5	2,4-Dinitrophenol	20	U
100-02-7	4-Nitrophenol	20	U
132-64-9	Dibenzofuran	5	U
121-14-2	2,4-Dinitrotoluene	5	U
84-66-2	Diethylphthalate	5	U
7005-72-3	4-Chlorophenyl-phenylether	5	U
86-73-7	Fluorene	5	U
100-01-6	4-Nitroaniline	20	U
534-52-1	4,6-Dinitro-2-methylphenol	20	U
86-30-6	N-Nitrosodiphenylamine (1)	5	U
101-55-3	4-Bromophenyl-phenylether	5	U
118-74-1	Hexachlorobenzene	5	U
87-86-5	Pentachlorophenol	20	U
85-01-8	Phenanthrene	5	U
120-12-7	Anthracene	5	U
84-74-2	Di-n-butylphthalate	5	U
206-44-0	Fluoranthene	5	U
129-00-0	Pyrene	5	U
85-68-7	Butylbenzylphthalate	5	U
91-94-1	3,3'-Dichlorobenzidine	5	U
56-55-3	Benzo(a)anthracene	5	U
218-01-9	Chrysene	5	U
117-81-7	bis(2-Ethylhexyl)phthalate	5	U
117-84-0	Di-n-octylphthalate	5	U
205-99-2	Benzo(b)fluoranthene	5	U
207-08-9	Benzo(k)fluoranthene	5	U
50-32-8	Benzo(a)pyrene	5	U
193-39-5	Indeno(1,2,3-cd)Pyrene	5	U
53-70-3	Dibenz(a,h)anthracene	5	U
191-24-2	Benzo(g,h,i)perylene	5	U

(1) - Cannot be separated from Diphenylamine

1LCE

EPA SAMPLE NO.

LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EDPL2

54953

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDPK9

Lab Sample ID: 6004.005 Date Received: 04/19/00

Lab File ID: F0903 Date Analyzed: 04/24/00

Purge Volume: 20 (mL) Dilution Factor: 1.0

GC Column: DB-624 ID: 0.53 (mm) Length: 60 (m)

Number TICs found: 0

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC. (ug/L)	Q
1.					
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
11.					
12.					
13.					
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30.					

EPA SAMPLE NO.

LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

EDPL2

54253

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDPK9

Lab Sample ID: 6004.005 Date Received: 04/19/00

Lab File ID: H0931 Date Extracted: 04/23/00

Sample Volume: 1000 (mL) Date Analyzed: 05/05/00

Concentrated Extract Volume: 1000 (uL) Dilution Factor: 1.0

Injection Volume: 1.0 (uL)

Number TICs found: 0

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC. (ug/L)	Q
1.					
2.					
3.					
4.					
5.					
6.					
7.					
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1LCA

LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EDPL3

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

54231 Randal

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDPK9

Lab Sample ID: 6004.006 Date Received: 04/19/00

Lab File ID: F0898 Date Analyzed: 04/24/00

Purge Volume: 20 (mL) Dilution Factor: 1.0

GC Column: DB-624 ID: 0.53 (mm) Length: 60 (m)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
74-87-3	Chloromethane	1	U
74-83-9	Bromomethane	1	U
75-01-4	Vinyl chloride	1	U
75-00-3	Chloroethane	1	U
75-09-2	Methylene chloride	2	U
67-64-1	Acetone	5	U
75-15-0	Carbon disulfide	1	U
75-35-4	1,1-Dichloroethene	1	U
75-34-3	1,1-Dichloroethane	1	U
156-59-2	cis-1,2-Dichloroethene	1	U
156-60-5	trans-1,2-Dichloroethene	1	U
67-66-3	Chloroform	1	U
107-06-2	1,2-Dichloroethane	1	U
78-93-3	2-Butanone	5	U
74-97-5	Bromochloromethane	1	U
71-55-6	1,1,1-Trichloroethane	1	U
56-23-5	Carbon tetrachloride	1	U
75-27-4	Bromodichloromethane	1	U
78-87-5	1,2-Dichloropropane	1	U
10061-01-5	cis-1,3-Dichloropropene	1	U
79-01-6	Trichloroethene	1	U
124-48-1	Dibromochloromethane	1	U
79-00-5	1,1,2-Trichloroethane	1	U
71-43-2	Benzene	1	U
10061-02-6	trans-1,3-Dichloropropene	1	U
75-25-2	Bromoform	1	U
108-10-1	4-Methyl-2-pentanone	5	U
591-78-6	2-Hexanone	5	U
127-18-4	Tetrachloroethene	1	U
79-34-5	1,1,2,2-Tetrachloroethane	1	U
106-93-4	1,2-Dibromoethane	1	U
108-88-3	Toluene	1	U
108-90-7	Chlorobenzene	1	U
100-41-4	Ethylbenzene	1	U
100-42-5	Styrene	1	U
1330-20-7	Xylenes (total)	1	U
541-73-1	1,3-Dichlorobenzene	1	U
106-46-7	1,4-Dichlorobenzene	1	U
95-50-1	1,2-Dichlorobenzene	1	U
96-12-8	1,2-Dibromo-3-chloropropane	1	U
120-82-1	1,2,4-Trichlorobenzene	1	U

000055

1LCB

EPA SAMPLE NO.

LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EDPL3

54231

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDPK9

Lab Sample ID: 6004.006 Date Received: 04/19/00

Lab File ID: H0932 Date Extracted: 04/23/00

Sample Volume: 1000 (mL) Date Analyzed: 05/05/00

Concentrated Extract Volume: 1000 (uL) Dilution Factor: 1.0

Injection Volume: 1.0 (uL)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
108-95-2	Phenol	5	U
111-44-4	bis(2-Chloroethyl)ether	5	U
95-57-8	2-Chlorophenol	5	U
95-48-7	2-Methylphenol	5	U
108-60-1	2,2'-oxybis(1-Chloropropane)	5	U
106-44-5	4-Methylphenol	5	U
621-64-7	N-Nitroso-di-n-propylamine	5	U
67-72-1	Hexachloroethane	5	U
98-95-3	Nitrobenzene	5	U
78-59-1	Isophorone	5	U
88-75-5	2-Nitrophenol	5	U
105-67-9	2,4-Dimethylphenol	5	U
111-91-1	bis(2-Chloroethoxy)methane	5	U
120-83-2	2,4-Dichlorophenol	5	U
91-20-3	Naphthalene	5	U
106-47-8	4-Chloroaniline	5	U
87-68-3	Hexachlorobutadiene	5	U
59-50-7	4-Chloro-3-methylphenol	5	U
91-57-6	2-Methylnaphthalene	5	U
77-47-4	Hexachlorocyclopentadiene	5	U
88-06-2	2,4,6-Trichlorophenol	5	U
95-95-4	2,4,5-Trichlorophenol	20	U
91-58-7	2-Chloronaphthalane	5	U
88-74-4	2-Nitroaniline	20	U
131-11-3	Dimethylphthalate	5	U
208-96-8	Acenaphthylene	5	U
606-20-2	2,6-Dintrotoluene	5	U
99-09-2	3-Nitroaniline	20	U
83-32-9	Acenaphthene	5	U

EPA SAMPLE NO.

LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EDPL3

54231

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDPK9

Lab Sample ID: 6004.006 Date Received: 04/19/00

Lab File ID: H0932 Date Extracted: 04/23/00

Sample Volume: 1000 (mL) Date Analyzed: 05/05/00

Concentrated Extract Volume: 1000 (uL) Dilution Factor: 1.0

Injection Volume: 1 (uL)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
51-28-5	2,4-Dinitrophenol	20	U
100-02-7	4-Nitrophenol	20	U
132-64-9	Dibenzofuran	5	U
121-14-2	2,4-Dinitrotoluene	5	U
84-66-2	Diethylphthalate	5	U
7005-72-3	4-Chlorophenyl-phenylether	5	U
86-73-7	Fluorene	5	U
100-01-6	4-Nitroaniline	20	U
534-52-1	4,6-Dinitro-2-methylphenol	20	U
86-30-6	N-Nitrosodiphenylamine (1)	5	U
101-55-3	4-Bromophenyl-phenylether	5	U
118-74-1	Hexachlorobenzene	5	U
87-86-5	Pentachlorophenol	20	U
85-01-8	Phenanthrene	5	U
120-12-7	Anthracene	5	U
84-74-2	Di-n-butylphthalate	5	U
206-44-0	Fluoranthene	5	U
129-00-0	Pyrene	5	U
85-68-7	Butylbenzylphthalate	5	U
91-94-1	3,3'-Dichlorobenzidine	5	U
56-55-3	Benzo(a)anthracene	5	U
218-01-9	Chrysene	5	U
117-81-7	bis(2-Ethylhexyl)phthalate	5	U
117-84-0	Di-n-octylphthalate	5	U
205-99-2	Benzo(b)fluoranthene	5	U
207-08-9	Benzo(k)fluoranthene	5	U
50-32-8	Benzo(a)pyrene	5	U
193-39-5	Indeno(1,2,3-cd)Pyrene	5	U
53-70-3	Dibenz(a,h)anthracene	5	U
191-24-2	Benzo(g,h,i)perylene	5	U

(1) - Cannot be separated from Diphenylamine

EPA SAMPLE NO.

LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

EDPL3

54231

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDPK9

Lab Sample ID: 6004.006 Date Received: 04/19/00

Lab File ID: H0932 Date Extracted: 04/23/00

Sample Volume: 1000 (mL) Date Analyzed: 05/05/00

Concentrated Extract Volume: 1000 (uL) Dilution Factor: 1.0

Injection Volume: 1.0 (uL)

Number TICs found: 0

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC. (ug/L)	Q
1.					
2.					
3.					
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1LCE

EPA SAMPLE NO.

LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EDPL3

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

54231

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDPK9

Lab Sample ID: 6004.006 Date Received: 04/19/00

Lab File ID: F0898 Date Analyzed: 04/24/00

Purge Volume: 20 (mL) Dilution Factor: 1.0

GC Column: DB-624 ID: 0.53 (mm) Length: 60 (m)

Number TICs found: 0

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC. (ug/L)	Q
1.					
2.					
3.					
4.					
5.					
6.					
7.					
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EPA CRL - REGION V
ICP FINAL RESULTS REPORT

REPORT PRODUCED ON: 22-Mar-00

SAMPLE ORGANIZATION:

SAMPLE BATCH ID: 20000024

LABORATORY: REGION 5 CRL

SAMPLE FACILITY: Himco Dump

SAMPLE: 2000SY01S05

ANALYZED: 21-Mar-00

STATION: 54215 Westwood

COMPOUND	AMOUNT		(Units)
Aluminum	26 U		(ug/L)
Barium	32.8		(ug/L)
Beryllium	1.6 U	J	(ug/L)
Calcium	91800	J	(ug/L)
Chromium	3.4 U	J	(ug/L)
Cobalt	10.1 U		(ug/L)
Copper	14.2 M		(ug/L)
Iron	22.4 U		(ug/L)
Magnesium	19800	J	(ug/L)
Manganese	3.2 U		(ug/L)
Nickel	21.4 M		(ug/L)
Potassium	4650		(ug/L)
Silver	6.8 U		(ug/L)
Sodium	126000		(ug/L)
Vanadium	3.9 U		(ug/L)
Zinc	96.5	J	(ug/L)

ANALYZED BY: [signature] 3-22-00

LOW CONC WATER VOLATILE ORGANICS ANALYSIS DATA SHEET

EDCK6

Lab Name: ENVIROSYSTEMS Contract: 68-D7-0005

Lab Code: ENVSYS Case No.: 27876 SAS No.: SDG No.: EDCJ8

Lab Sample ID: 00030909 Date Received: 03/17/00

Lab File ID: 030909 Date Analyzed: 03/22/00

Purge Volume: 25.00 (ml) Dilution Factor: 1.0

GC Column: RTX-502.2 ID: 0.530 (mm) Length: 105 (m)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
74-87-3	Chloromethane	1	U
74-83-9	Bromomethane	1	U
75-01-4	Vinyl chloride	1	U
75-00-3	Chloroethane	1	U
75-09-2	Methylene chloride	2	U
67-64-1	Acetone	5	U
75-15-0	Carbon disulfide	1	U
75-35-4	1,1-Dichloroethene	1	U
75-34-3	1,1-Dichloroethane	1	U
156-59-2	cis-1,2-Dichloroethene	1	U
156-60-5	trans-1,2-Dichloroethene	1	U
67-66-3	Chloroform	1	U
107-06-2	1,2-Dichloroethane	1	U
78-93-3	2-Butanone	5	U
74-97-5	Bromochloromethane	1	U
71-55-6	1,1,1-Trichloroethane	1	U
56-23-5	Carbon tetrachloride	1	U
75-27-4	Bromodichloromethane	1	U
78-87-5	1,2-Dichloropropane	1	U
10061-01-5	cis-1,3-Dichloropropene	1	U
79-01-6	Trichloroethene	1	U
124-48-1	Dibromochloromethane	1	U
79-00-5	1,1,2-Trichloroethane	1	U
71-43-2	Benzene	1	U
10061-02-6	trans-1,3-Dichloropropene	1	U
75-25-2	Bromoform	1	U
108-10-1	4-Methyl-2-pentanone	5	U
591-78-6	2-Hexanone	5	U
127-18-4	Tetrachloroethene	1	U
79-34-5	1,1,2,2-Tetrachloroethane	1	U
106-93-4	1,2-Dibromoethane	1	U
108-88-3	Toluene	1	U
108-90-7	Chlorobenzene	1	U
100-41-4	Ethylbenzene	1	U
100-42-5	Styrene	1	U
1330-20-7	Xylenes (total)	1	U
541-73-1	1,3-Dichlorobenzene	1	U
106-46-7	1,4-Dichlorobenzene	1	U
95-50-1	1,2-Dichlorobenzene	1	U
96-12-8	1,2-Dibromo-3-chloropropane	1	U
120-82-1	1,2,4-Trichlorobenzene	1	U

TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: ENVIROSYSTEMS Contract: [illegible] EDCJ8

Lab Code: ENVSYS Case No: 27876 SAS No: SDG No: EDCJ8

Lab Sample ID: 00030909 Date Received: 03/17/00

Lab File ID: 030909 Date Analyzed: 03/22/00

Purge Volume: 25.00 (ml) Dilution Factor: 1.0

GC Column: RTX-502.2 ID: 0.530 (mm) Length: 105 (m)

Number TICs found: 0

CAS NUMBER	COMPOUND NAME	RT	EST. CONC. (ug/L)	Q

LOW CONC WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EDCK6

Lab Name: ENVIROSYSTEMS Contract: 68-D7-0005

Lab Code: ENVSYS Case No.: 27876 SAS No.: SDG No.: EDCJ8

Lab Sample ID: 00030909 **Date Received:** 03/17/00

Lab File ID: S030909 **Date Extracted:** 03/23/00

Sample volume: 1000 (ml) Date Analyzed: 03/29/00

Concentrated Extract Volume: 1000 (ul) Dilution Factor: 1.0

Injection Volume: 1.0 (ul) pH: 6.0

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
108-95-2	Phenol	5	U
111-44-4	bis(2-Chloroethyl)Ether	5	U
95-57-8	2-Chlorophenol	5	U
95-48-7	2-Methylphenol	5	U
108-60-1	2,2'-oxybis(1-Chloropropane)	5	U
106-44-5	4-Methylphenol	5	U
621-64-7	N-Nitroso-Di-n-Propylamine	5	U
67-72-1	Hexachloroethane	5	U
98-95-3	Nitrobenzene	5	U
78-59-1	Isophorone	5	U
88-75-5	2-Nitrophenol	5	U
105-67-9	2,4-Dimethylphenol	5	U
111-91-1	bis(2-Chloroethoxy)Methane	5	U
120-83-2	2,4-Dichlorophenol	5	U
91-20-3	Naphthalene	5	U
106-47-8	4-Chloroaniline	5	U
87-68-3	Hexachlorobutadiene	5	U
59-50-7	4-Chloro-3-Methylphenol	5	U
91-57-6	2-Methylnaphthalene	5	U
77-47-4	Hexachlorocyclopentadiene	5	U
88-06-2	2,4,6-Trichlorophenol	5	U
95-95-4	2,4,5-Trichlorophenol	20	U
91-58-7	2-Chloronaphthalene	5	U
88-74-4	2-Nitroaniline	20	U
131-11-3	Dimethylphthalate	5	U
208-96-8	Acenaphthylene	5	U
606-20-2	2,6-Dinitrotoluene	5	U
99-09-2	3-Nitroaniline	20	U
83-32-9	Acenaphthene	5	U

1LCC

LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO

EDCK6

Lab Name: ENVIROSYSTEMS Contract: 68-D7-0005

Lab Code: ENVSYS Case No.: 27876 SAS No.: SDG No.: EDCJ8

Lab Sample ID: 00030909 Date Received: 03/17/00

Lab File ID: S030909 Date Extracted: 03/23/00

Sample volume: 1000 (ml) Date Analyzed: 03/29/00

Concentrated Extract Volume: 1000 (ul) Dilution Factor: 1.0

Injection Volume: 1.0 (ul) pH: 6.0

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
51-28-5	2,4-Dinitrophenol	20	U
100-02-7	4-Nitrophenol	20	U
132-64-9	Dibenzofuran	5	U
121-14-2	2,4-Dinitrotoluene	5	U
84-66-2	Diethylphthalate	5	U
7005-72-3	4-Chlorophenyl-phenylether	5	U
86-73-7	Fluorene	5	U
100-01-6	4-Nitroaniline	20	U
534-52-1	4,6-Dinitro-2-methylphenol	20	U
86-30-6	N-Nitrosodiphenylamine (1)	5	U
101-55-3	4-Bromophenyl-phenylether	5	U
118-74-1	Hexachlorobenzene	5	U
87-86-5	Pentachlorophenol	20	U
85-01-8	Phenanthrene	5	U
120-12-7	Anthracene	5	U
84-74-2	Di-n-Butylphthalate	5	U
206-44-0	Fluoranthene	5	U
129-00-0	Pyrene	5	U
85-68-7	Butylbenzylphthalate	5	U
91-94-1	3,3'-Dichlorobenzidine	5	U
56-55-3	Benzo(a)Anthracene	5	U
218-01-9	Chrysene	5	U
117-81-7	bis(2-Ethylhexyl)Phthalate	5	U
117-84-0	Di-n-octylphthalate	5	U
205-99-2	Benzo(b)Fluoranthene	5	U
207-08-9	Benzo(k)Fluoranthene	5	U
50-32-8	Benzo(a)Pyrene	5	U
193-39-5	Indeno(1,2,3-cd)Pyrene	5	U
53-70-3	Dibenz(a,h)Anthracene	5	U
191-24-2	Benzo(g,h,i)Perylene	5	U

(1) - Cannot be separated from Diphenylamine

1LCF

LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO

EDCK6

Lab Name: ENVIROSYSTEMS Contract: 68-D7-0005

Lab Code: ENVSYS Case No.: 27876 SAS No.: SDG No.: EDCJ8

Lab Sample ID: 00030909 Date Received: 03/17/00

Lab File ID: S030909 Date Extracted: 03/23/00

Sample volume: 1000 (ml) Date Analyzed: 03/29/00

Concentrated Extract Volume: 1000 (ul) Dilution Factor: 1.0

Injection Volume: 1.0 (ul) pH: 6.0

Number TICs found: 0

CAS NUMBER	COMPOUND NAME	RT	EST. CONC. (ug/L)	Q

EPA CRL - REGION V
ICP FINAL RESULTS REPORT

REPORT PRODUCED ON: 22-Mar-00

SAMPLE ORGANIZATION:

SAMPLE BATCH ID: 20000024

LABORATORY: REGION 5 CRL

SAMPLE FACILITY: Himco Dump

SAMPLE: 2000SY01S04

ANALYZED: 21-Mar-00

STATION: 54271 Westwood

COMPOUND	AMOUNT			(Units)
Aluminum	26	U		(ug/L)
Barium	50.4			(ug/L)
Beryllium	1.6	U	J	(ug/L)
Calcium	101000		J	(ug/L)
Chromium	3.4	U	J	(ug/L)
Cobalt	10.1	U		(ug/L)
Copper	7.3	M		(ug/L)
Iron	104		B J	(ug/L)
Magnesium	21700			(ug/L)
Manganese	359			(ug/L)
Nickel	19.4	U		(ug/L)
Potassium	1790			(ug/L)
Silver	6.8	U		(ug/L)
Sodium	22600			(ug/L)
Vanadium	3.9	U		(ug/L)
Zinc	17.4	M	J	(ug/L)

ANALYZED BY: [signature] 3-22-00

EDCJ8

Lab Name: ENVIROSYSTEMS Contract: 68-D7-0008

Lab Code: ENVSYS Case No: 27876 SAS No: SDG No: EDCJ8

Lab Sample ID: 00030903 Date Received: 03/17/00

Lab File ID: 030903 Date Analyzed: 03/22/00

Purge Volume: 25.00 (ml) Dilution Factor: 1.0

GC Column: RTX 502.2 ID: 0.530 (mm) Length: 105 (m)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
74-87-3	Chloromethane	1	U
74-83-9	Bromomethane	1	U
75-01-4	Vinyl chloride	1	U
75-00-3	Chloroethane	1	U
75-09-2	Methylene chloride	2	U
67-64-1	Acetone	5	U
75-15-0	Carbon disulfide	1	U
75-35-4	1,1-Dichloroethene	1	U
75-34-3	1,1-Dichloroethane	0.61	J
156-59-2	cis-1,2-Dichloroethene	1	U
156-60-5	trans-1,2-Dichloroethene	1	U
67-66-3	Chloroform	1	U
107-06-2	1,2-Dichloroethane	1	U
78-93-3	2-Butanone	5	U
74-97-5	Bromochloromethane	1	U
71-55-6	1,1,1-Trichloroethane	1	U
56-23-5	Carbon tetrachloride	1	U
75-27-4	Bromodichloromethane	1	U
78-87-5	1,2-Dichloropropane	1	U
10061-01-5	cis-1,3-Dichloropropene	1	U
79-01-6	Trichloroethene	1	U
124-48-1	Dibromochloromethane	1	U
79-00-5	1,1,2-Trichloroethane	1	U
71-43-2	Benzene	1	U
10061-02-6	trans-1,3-Dichloropropene	1	U
75-25-2	Bromoform	1	U
108-10-1	4-Methyl-2-pentanone	5	U
591-78-6	2-Hexanone	5	U
127-18-4	Tetrachloroethene	1	U
79-34-5	1,1,2,2-Tetrachloroethane	1	U
106-93-4	1,2-Dibromoethane	1	U
108-88-3	Toluene	1	U
108-90-7	Chlorobenzene	1	U
100-41-4	Ethylbenzene	1	U
100-42-5	Styrene	1	U
1330-20-7	Xylenes (total)	1	U
541-73-1	1,3-Dichlorobenzene	1	U
106-46-7	1,4-Dichlorobenzene	1	U
95-50-1	1,2-Dichlorobenzene	1	U
96-12-8	1,2-Dibromo-3-chloropropane	1	U
120-82-1	1,2,4-Trichlorobenzene	1	U

1LCB

LOW CONC WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EDCK0

Lab Name: ENVIROSYSTEMS Contract: 68-D7-0005

Lab Code: ENVSYS Case No.: 27876 SAS No.: SDG No.: EDCJ8

Lab Sample ID: 00030903 Date Received: 03/17/00

Lab File ID: S030903 Date Extracted: 03/22/00

Sample volume: 1000 (ml) Date Analyzed: 03/28/00

Concentrated Extract Volume: 1000 (ul) Dilution Factor: 1.0

Injection Volume: 1.0 (ul) pH: 7.0

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
108-95-2	Phenol	5	U
111-44-4	bis(2-Chloroethyl)Ether	5	U
95-57-8	2-Chlorophenol	5	U
95-48-7	2-Methylphenol	5	U
108-60-1	2,2'-oxybis(1-Chloropropane)	5	U
106-44-5	4-Methylphenol	5	U
621-64-7	N-Nitroso-Di-n-Propylamine	5	U
67-72-1	Hexachloroethane	5	U
98-95-3	Nitrobenzene	5	U
78-59-1	Isophorone	5	U
88-75-5	2-Nitrophenol	5	U
105-67-9	2,4-Dimethylphenol	5	U
111-91-1	bis(2-Chloroethoxy)Methane	5	U
120-83-2	2,4-Dichlorophenol	5	U
91-20-3	Naphthalene	5	U
106-47-8	4-Chloroaniline	5	U
87-68-3	Hexachlorobutadiene	5	U
59-50-7	4-Chloro-3-Methylphenol	5	U
91-57-6	2-Methylnaphthalene	5	U
77-47-4	Hexachlorocyclopentadiene	5	U
88-06-2	2,4,6-Trichlorophenol	5	U
95-95-4	2,4,5-Trichlorophenol	20	U
91-58-7	2-Chloronaphthalene	5	U
88-74-4	2-Nitroaniline	20	U
131-11-3	Dimethylphthalate	5	U
208-96-8	Acenaphthylene	5	U
606-20-2	2,6-Dinitrotoluene	5	U
99-09-2	3-Nitroaniline	20	U
83-32-9	Acenaphthene	5	U

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1LCC

LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EDCKO

Lab Name: ENVIROSYSTEMS Contract: 68-D7-0005

Lab Code: ENVSYS Case No.: 27876 SAS No.: SDG No.: EDCJ8

Lab Sample ID: 00030903 Date Received: 03/17/00

Lab File ID: S030903 Date Extracted: 03/22/00

Sample volume: 1000 (ml) Date Analyzed: 03/28/00

Concentrated Extract Volume: 1000 (ul) Dilution Factor: 1.0

Injection Volume: 1.0 (ul) pH: 7.0

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
51-28-5	2,4-Dinitrophenol	20	U
100-02-7	4-Nitrophenol	20	U
132-64-9	Dibenzofuran	5	U
121-14-2	2,4-Dinitrotoluene	5	U
84-66-2	Diethylphthalate	5	U
7005-72-3	4-Chlorophenyl-phenylether	5	U
86-73-7	Fluorene	5	U
100-01-6	4-Nitroaniline	20	U
534-52-1	4,6-Dinitro-2-methylphenol	20	U
86-30-6	N-Nitrosodiphenylamine (1)	5	U
101-55-3	4-Bromophenyl-phenylether	5	U
118-74-1	Hexachlorobenzene	5	U
87-86-5	Pentachlorophenol	20	U
85-01-8	Phenanthrene	5	U
120-12-7	Anthracene	5	U
84-74-2	Di-n-Butylphthalate	5	U
206-44-0	Fluoranthene	5	U
129-00-0	Pyrene	5	U
85-68-7	Butylbenzylphthalate	5	U
91-94-1	3,3'-Dichlorobenzidine	5	U
56-55-3	Benzo(a)Anthracene	5	U
218-01-9	Chrysene	5	U
117-81-7	bis(2-Ethylhexyl)Phthalate	5	U
117-84-0	Di-n-octylphthalate	5	U
205-99-2	Benzo(b)Fluoranthene	5	U
207-08-9	Benzo(k)Fluoranthene	5	U
50-32-8	Benzo(a)Pyrene	5	U
193-39-5	Indeno(1,2,3-cd)Pyrene	5	U
53-70-3	Dibenz(a,h)Anthracene	5	U
191-24-2	Benzo(g,h,i)Perylene	5	U

(1) - Cannot be separated from Diphenylamine

1LCF

LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO

EDCKO

Lab Name: ENVIROSYSTEMS Contract: 68-D7-0005

Lab Code: ENVSYS Case No.: 27876 SAS No.: SDG No.: EDCJ8

Lab Sample ID: 00030903 Date Received: 03/17/00

Lab File ID: S030903 Date Extracted: 03/22/00

Sample volume: 1000 (ml) Date Analyzed: 03/28/00

Concentrated Extract Volume: 1000 (ul) Dilution Factor: 1.0

Injection Volume: 1.0 (ul) pH: 7.0

Number TICs found: 0

CAS NUMBER	COMPOUND NAME	RT	EST. CONC. (ug/L)	Q

EPA CRL - REGION V
ICP FINAL RESULTS REPORT

REPORT PRODUCED ON: 22-Mar-00

SAMPLE ORGANIZATION:

SAMPLE BATCH ID: 20000024

LABORATORY: REGION 5 CRL

SAMPLE FACILITY: Himco Dump

SAMPLE: 2000SY01S03

ANALYZED: 21-Mar-00

STATION: 54253 Westwood

COMPOUND	AMOUNT			(Units)
Aluminum	26	U		(ug/L)
Barium	128			(ug/L)
Beryllium	1.6	U	J	(ug/L)
Calcium	91500		J	(ug/L)
Chromium	3.4	U	J	(ug/L)
Cobalt	10.1	U		(ug/L)
Copper	7.3	M		(ug/L)
Iron	1670			(ug/L)
Magnesium	26500			(ug/L)
Manganese	213			(ug/L)
Nickel	19.4	U		(ug/L)
Potassium	1330			(ug/L)
Silver	6.8	U		(ug/L)
Sodium	14500			(ug/L)
Vanadium	3.9	U		(ug/L)
Zinc	44.3	M	J	(ug/L)

ANALYZED BY: _____ 3-22-00

LOW CONC WATER VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EDCJ8

Lab Name: ENVIROSYSTEMS Contract: 68-D7-0005

Lab Code: ENVSYS Case No.: 27876 SAS No.: SDG No.: EDCJ8

Lab Sample ID: 00030904 Date Received: 03/17/00

Lab File ID: 030904 Date Analyzed: 03/22/00

Purge Volume: 25.00 (ml) Dilution Factor: 1.0

GC Column: RTX-502.2 ID: 0.530 (mm) Length: 105 (m)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
74-87-3	Chloromethane	1	U
74-83-9	Bromomethane	1	U
75-01-4	Vinyl chloride	1	U
75-00-3	Chloroethane	1	U
75-09-2	Methylene chloride	2	U
67-64-1	Acetone	5	U
75-15-0	Carbon disulfide	1	U
75-35-4	1,1-Dichloroethene	1	U
75-34-3	1,1-Dichloroethane	1	U
156-59-2	cis-1,2-Dichloroethene	1	U
156-60-5	trans-1,2-Dichloroethene	1	U
67-66-3	Chloroform	1	U
107-06-2	1,2-Dichloroethane	0.6	J
78-93-3	2-Butanone	5	U
74-97-5	Bromochloromethane	1	U
71-55-6	1,1,1-Trichloroethane	1	U
56-23-5	Carbon tetrachloride	1	U
75-27-4	Bromodichloromethane	1	U
78-87-5	1,2-Dichloropropane	1	U
10061-01-5	cis-1,3-Dichloropropene	1	U
79-01-6	Trichloroethene	1	U
124-48-1	Dibromochloromethane	1	U
79-00-5	1,1,2-Trichloroethane	1	U
71-43-2	Benzene	1	U
10061-02-6	trans-1,3-Dichloropropene	1	U
75-25-2	Bromoform	1	U
108-10-1	4-Methyl-2-pentanone	5	U
591-78-6	2-Hexanone	5	U
127-18-4	Tetrachloroethene	1	U
79-34-5	1,1,2,2-Tetrachloroethane	1	U
106-93-4	1,2-Dibromoethane	1	U
108-88-3	Toluene	1	U
108-90-7	Chlorobenzene	1	U
100-41-4	Ethylbenzene	1	U
100-42-5	Styrene	1	U
1330-20-7	Xylenes (total)	1	U
541-73-1	1,3-Dichlorobenzene	1	U
106-46-7	1,4-Dichlorobenzene	1	U
95-50-1	1,2-Dichlorobenzene	1	U
96-12-8	1,2-Dibromo-3-chloropropane	1	U
120-82-1	1,2,4-Trichlorobenzene	1	U

EDCA1

Lab Name: ENVIROSYSTEMS Contract: [illegible]

Lab Code: ENVSYS Case No.: 27876 SAS No.: SDG No.: EDCJ8

Lab Sample ID: 00030904 Date Received: 03/17/00

Lab File ID: 030904 Date Analyzed: 03/22/00

Purge Volume: 25.00 (ml) Dilution Factor: 1.0

GC Column: RTX-502.2 ID: 0.530 (mm) Length: 105 (m)

Number TICs found: 0

CAS NUMBER	COMPOUND NAME	RT	EST. CONC. (ug/L)	Q

LOW SOMC WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EDCK1

Lab Name: ENVIROSYSTEMS Contract: 68-D7-0005

Lab Code: ENVSYS Case No.: 27876 SAS No.: SDG No.: EDCJ8

Lab Sample ID: 00030904 Date Received: 03/17/00

Lab File ID: S030904 Date Extracted: 03/22/00

Sample volume: 1000 (ml) Date Analyzed: 03/28/00

Concentrated Extract Volume: 1000 (ul) Dilution Factor: 1.0

Injection Volume: 1.0 (ul) pH: 6.0

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
108-95-2	Phenol	5	U
111-44-4	bis(2-Chloroethyl)Ether	5	U
95-57-8	2-Chlorophenol	5	U
95-48-7	2-Methylphenol	5	U
108-60-1	2,2'-oxybis(1-Chloropropane)	5	U
106-44-5	4-Methylphenol	5	U
621-64-7	N-Nitroso-Di-n-Propylamine	5	U
67-72-1	Hexachloroethane	5	U
98-95-3	Nitrobenzene	5	U
78-59-1	Isophorone	5	U
88-75-5	2-Nitrophenol	5	U
105-67-9	2,4-Dimethylphenol	5	U
111-91-1	bis(2-Chloroethoxy)Methane	5	U
120-83-2	2,4-Dichlorophenol	5	U
91-20-3	Naphthalene	5	U
106-47-8	4-Chloroaniline	5	U
87-68-3	Hexachlorobutadiene	5	U
59-50-7	4-Chloro-3-Methylphenol	5	U
91-57-6	2-Methylnaphthalene	5	U
77-47-4	Hexachlorocyclopentadiene	5	U
88-06-2	2,4,6-Trichlorophenol	5	U
95-95-4	2,4,5-Trichlorophenol	20	U
91-58-7	2-Chloronaphthalene	5	U
88-74-4	2-Nitroaniline	20	U
131-11-3	Dimethylphthalate	5	U
208-96-8	Acenaphthylene	5	U
606-20-2	2,6-Dinitrotoluene	5	U
99-09-2	3-Nitroaniline	20	U
83-32-9	Acenaphthene	5	U

1LCC

LOW CONC WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO

EDCK1

Lab Name: ENVIROSYSTEMS Contract: 68-D7-0005

Lab Code: ENVSYS Case No.: 27876 SAS No.: SDG No.: EDCJ8

Lab Sample ID: 00030904 Date Received: 03/17/00

Lab File ID: S030904 Date Extracted: 03/22/00

Sample volume: 1000 (ml) Date Analyzed: 03/28/00

Concentrated Extract Volume: 1000 (ul) Dilution Factor: 1.0

Injection Volume: 1.0 (ul) pH: 6.0

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
51-28-5	2,4-Dinitrophenol	20	U
100-02-7	4-Nitrophenol	20	U
132-64-9	Dibenzofuran	5	U
121-14-2	2,4-Dinitrotoluene	5	U
84-66-2	Diethylphthalate	5	U
7005-72-3	4-Chlorophenyl-phenylether	5	U
86-73-7	Fluorene	5	U
100-01-6	4-Nitroaniline	20	U
534-52-1	4,6-Dinitro-2-methylphenol	20	U
86-30-6	N-Nitrosodiphenylamine (1)	5	U
101-55-3	4-Bromophenyl-phenylether	5	U
118-74-1	Hexachlorobenzene	5	U
87-86-5	Pentachlorophenol	20	U
85-01-8	Phenanthrene	5	U
120-12-7	Anthracene	5	U
84-74-2	Di-n-Butylphthalate	5	U
206-44-0	Fluoranthene	5	U
129-00-0	Pyrene	5	U
85-68-7	Butylbenzylphthalate	5	U
91-94-1	3,3'-Dichlorobenzidine	5	U
56-55-3	Benzo(a)Anthracene	5	U
218-01-9	Chrysene	5	U
117-81-7	bis(2-Ethylhexyl)Phthalate	5	U
117-84-0	Di-n-octylphthalate	5	U
205-99-2	Benzo(b)Fluoranthene	5	U
207-08-9	Benzo(k)Fluoranthene	5	U
50-32-8	Benzo(a)Pyrene	5	U
193-39-5	Indeno(1,2,3-cd)Pyrene	5	U
53-70-3	Dibenz(a,h)Anthracene	5	U
191-24-2	Benzo(g,h,i)Perylene	5	U

(1) - Cannot be separated from Diphenylamine

EPA CRL - REGION V
ICP FINAL RESULTS REPORT

REPORT PRODUCED ON: 22-Mar-00

SAMPLE ORGANIZATION:

SAMPLE BATCH ID: 20000024

LABORATORY: REGION 5 CRL

SAMPLE FACILITY: Himco Dump

SAMPLE: 2000SY01S13

ANALYZED: 21-Mar-00

STATION: 54125 Westwood

COMPOUND	AMOUNT			(Units)
Aluminum	26	U		(ug/L)
Barium	108			(ug/L)
Beryllium	1.6	U	J	(ug/L)
Calcium	100000		J	(ug/L)
Chromium	3.6	M	J	(ug/L)
Cobalt	10.1	U		(ug/L)
Copper	5.8	M		(ug/L)
Iron	885			(ug/L)
Magnesium	21500			(ug/L)
Manganese	284			(ug/L)
Nickel	19.4	U		(ug/L)
Potassium	1790			(ug/L)
Silver	6.8	U		(ug/L)
Sodium	17600			(ug/L)
Vanadium	3.9	U		(ug/L)
Zinc	10.3	U		(ug/L)

ANALYZED BY: _____ 3-22-00

1LCA

LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EDCJ4

Lab Name: ENVIROSYSTEMS Contract: 68-D7-0005

Lab Code: ENVSYS Case No.: 27876 SAS No.: SDG No.: EDCJ8

Lab Sample ID: 00030920 Date Received: 03/18/00

Lab File ID: 030920 Date Analyzed: 03/22/00

Purge Volume: 25.00 (ml) Dilution Factor: 1.0

GC Column: RTX-502.2 ID: 0.530 (mm) Length: 105 (m)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
74-87-3	Chloromethane	1	U
74-83-9	Bromomethane	1	U
75-01-4	Vinyl chloride	1	U
75-00-3	Chloroethane	1	U
75-09-2	Methylene chloride	2	U
67-64-1	Acetone	5	U
75-15-0	Carbon disulfide	1	U
75-35-4	1,1-Dichloroethene	1	U
75-34-3	1,1-Dichloroethane	1	U
156-59-2	cis-1,2-Dichloroethene	1	U
156-60-5	trans-1,2-Dichloroethene	1	U
67-66-3	Chloroform	1	U
107-06-2	1,2-Dichloroethane	1	U
78-93-3	2-Butanone	5	U
74-97-5	Bromochloromethane	1	U
71-55-6	1,1,1-Trichloroethane	1	U
56-23-5	Carbon tetrachloride	1	U
75-27-4	Bromodichloromethane	1	U
78-87-5	1,2-Dichloropropane	1	U
10061-01-5	cis-1,3-Dichloropropene	1	U
79-01-6	Trichloroethene	1	U
124-48-1	Dibromochloromethane	1	U
79-00-5	1,1,2-Trichloroethane	1	U
71-43-2	Benzene	1	U
10061-02-6	trans-1,3-Dichloropropene	1	U
75-25-2	Bromoform	1	U
108-10-1	4-Methyl-2-pentanone	5	U
591-78-6	2-Hexanone	5	U
127-18-4	Tetrachloroethene	1	U
79-34-5	1,1,2,2-Tetrachloroethane	1	U
106-93-4	1,2-Dibromoethane	1	U
108-88-3	Toluene	1	U
108-90-7	Chlorobenzene	1	U
100-41-4	Ethylbenzene	1	U
100-42-5	Styrene	1	U
1330-20-7	Xylenes (total)	1	U
541-73-1	1,3-Dichlorobenzene	1	U
106-46-7	1,4-Dichlorobenzene	1	U
95-50-1	1,2-Dichlorobenzene	1	U
96-12-8	1,2-Dibromo-3-chloropropane	1	U
120-82-1	1,2,4-Trichlorobenzene	1	U

ILCE

LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

EDCJ4

Lab Name: ENVIROSYSTEMS Contract: 68-D7-0005

Lab Code: ENVSYS Case No.: 27876 SAS No.: SDG No.: EDCJ8

Lab Sample ID: 00030920 Date Received: 03/18/00

Lab File ID: 030920 Date Analyzed: 03/22/00

Purge Volume: 25.00 (ml) Dilution Factor: 1.0

GC Column: RTX-502.2 ID: 0.530 (mm) Length: 105 (m)

Number TICs found: 0

CAS NUMBER	COMPOUND NAME	RT	EST. CONC. (ug/L)	Q

0 0026

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LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EDCJ4

Lab Name: ENVIROSYSTEMS Contract: 68-D7-0005

Lab Code: ENVSYS Case No.: 27876 SAS No.: SDG No.: EDCJ8

Lab Sample ID: 00030920 Date Received: 03/18/00

Lab File ID: S030920 Date Extracted: 03/23/00

Sample volume: 1000 (ml) Date Analyzed: 03/29/00

Concentrated Extract Volume: 1000 (ul) Dilution Factor: 1.0

Injection Volume: 1.0 (ul) pH: 7.0

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
51-28-5	2,4-Dinitrophenol	20	U
100-02-7	4-Nitrophenol	20	U
132-64-9	Dibenzofuran	5	U
121-14-2	2,4-Dinitrotoluene	5	U
84-66-2	Diethylphthalate	5	U
7005-72-3	4-Chlorophenyl-phenylether	5	U
86-73-7	Fluorene	5	U
100-01-6	4-Nitroaniline	20	U
534-52-1	4,6-Dinitro-2-methylphenol	20	U
86-30-6	N-Nitrosodiphenylamine (1)	5	U
101-55-3	4-Bromophenyl-phenylether	5	U
118-74-1	Hexachlorobenzene	5	U
87-86-5	Pentachlorophenol	20	U
85-01-8	Phenanthrene	5	U
120-12-7	Anthracene	5	U
84-74-2	Di-n-Butylphthalate	5	U
206-44-0	Fluoranthene	5	U
129-00-0	Pyrene	5	U
85-68-7	Butylbenzylphthalate	5	U
91-94-1	3,3'-Dichlorobenzidine	5	U
56-55-3	Benzo(a)Anthracene	5	U
218-01-9	Chrysene	5	U
117-81-7	bis(2-Ethylhexyl)Phthalate	5	U
117-84-0	Di-n-octylphthalate	5	U
205-99-2	Benzo(b)Fluoranthene	5	U
207-08-9	Benzo(k)Fluoranthene	5	U
50-32-8	Benzo(a)Pyrene	5	U
193-39-5	Indeno(1,2,3-cd)Pyrene	5	U
53-70-3	Dibenz(a,h)Anthracene	5	U
191-24-2	Benzo(g,h,i)Perylene	5	U

(1) - Cannot be separated from Diphenylamine

1LCB

LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EDCJ4

Lab Name: ENVIROSYSTEMS Contract: 68-D7-0005

Lab Code: ENVSYS Case No.: 27876 SAS No.: SDG No.: EDCJ8

Lab Sample ID: 00030920 Date Received: 03/18/00

Lab File ID: S030920 Date Extracted: 03/23/00

Sample volume: 1000 (ml) Date Analyzed: 03/29/00

Concentrated Extract Volume: 1000 (ul) Dilution Factor: 1.0

Injection Volume: 1.0 (ul) pH: 7.0

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
108-95-2	Phenol	5	U
111-44-4	bis(2-Chloroethyl)Ether	5	U
95-57-8	2-Chlorophenol	5	U
95-48-7	2-Methylphenol	5	U
108-60-1	2,2'-oxybis(1-Chloropropane)	5	U
106-44-5	4-Methylphenol	5	U
621-64-7	N-Nitroso-Di-n-Propylamine	5	U
67-72-1	Hexachloroethane	5	U
98-95-3	Nitrobenzene	5	U
78-59-1	Isophorone	5	U
88-75-5	2-Nitrophenol	5	U
105-67-9	2,4-Dimethylphenol	5	U
111-91-1	bis(2-Chloroethoxy)Methane	5	U
120-83-2	2,4-Dichlorophenol	5	U
91-20-3	Naphthalene	5	U
106-47-8	4-Chloroaniline	5	U
87-68-3	Hexachlorobutadiene	5	U
59-50-7	4-Chloro-3-Methylphenol	5	U
91-57-6	2-Methylnaphthalene	5	U
77-47-4	Hexachlorocyclopentadiene	5	U
88-06-2	2,4,6-Trichlorophenol	5	U
95-95-4	2,4,5-Trichlorophenol	20	U
91-58-7	2-Chloronaphthalene	5	U
88-74-4	2-Nitroaniline	20	U
131-11-3	Dimethylphthalate	5	U
208-96-8	Acenaphthylene	5	U
606-20-2	2,6-Dinitrotoluene	5	U
99-09-2	3-Nitroaniline	20	U
83-32-9	Acenaphthene	5	U

1LCF

LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

EDCJ4

Lab Name: ENVIROSYSTEMS Contract: 68-D7-0005

Lab Code: ENVSYS Case No.: 27876 SAS No.: SDG No.: EDCJ8

Lab Sample ID: 00030920 Date Received: 03/18/00

Lab File ID: S030920 Date Extracted: 03/23/00

Sample volume: 1000 (ml) Date Analyzed: 03/29/00

Concentrated Extract Volume: 1000 (ul) Dilution Factor: 1.0

Injection Volume: 1.0 (ul) pH: 7.0

Number TICs found: 0

CAS NUMBER	COMPOUND NAME	RT	EST. CONC. (ug/L)	Q

EPA CRL - REGION V
ICP FINAL RESULTS REPORT

REPORT PRODUCED ON: 22-Mar-00

SAMPLE ORGANIZATION: SAMPLE BATCH ID: 20000024

LABORATORY: REGION 5 CRL SAMPLE FACILITY: Himco Dump

SAMPLE: 2000SY01S12 ANALYZED: 21-Mar-00

STATION: 54287 Westwood

COMPOUND	AMOUNT			(Units)
Aluminum	26	U		(ug/L)
Barium	63.8			(ug/L)
Beryllium	1.6	U	J	(ug/L)
Calcium	93300		J	(ug/L)
Chromium	3.4	U	J	(ug/L)
Cobalt	10.5	M	J	(ug/L)
Copper	7.3	M		(ug/L)
Iron	5050			(ug/L)
Magnesium	21500			(ug/L)
Manganese	63.1			(ug/L)
Nickel	19.4	U		(ug/L)
Potassium	1150			(ug/L)
Silver	6.8	U		(ug/L)
Sodium	14900			(ug/L)
Vanadium	3.9	U		(ug/L)
Zinc	18.9	M	J	(ug/L)

ANALYZED BY: [signature] 3-22-00

ILCA

LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EDCJ5

Lab Name: ENVIROSYSTEMS Contract: 68-D7-0005

Lab Code: ENVSYS Case No.: 27876 SAS No.: SDG No.: EDCJ8

Lab Sample ID: 00030921 Date Received: 03/18/00

Lab File ID: 030921 Date Analyzed: 03/22/00

Purge Volume: 25.00 (ml) Dilution Factor: 1.0

GC Column: RTX-502.2 ID: 0.530 (mm) Length: 105 (m)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
74-87-3	Chloromethane	1	U
74-83-9	Bromomethane	1	U
75-01-4	Vinyl chloride	1	U
75-00-3	Chloroethane	1	U
75-09-2	Methylene chloride	2	U
67-64-1	Acetone	5	U
75-15-0	Carbon disulfide	1	U
75-35-4	1,1-Dichloroethene	1	U
75-34-3	1,1-Dichloroethane	7	
156-59-2	cis-1,2-Dichloroethene	0.5	J
156-60-5	trans-1,2-Dichloroethene	1	U
67-66-3	Chloroform	1	U
107-06-2	1,2-Dichloroethane	0.7	J
78-93-3	2-Butanone	5	U
74-97-5	Bromochloromethane	1	U
71-55-6	1,1,1-Trichloroethane	1	U
56-23-5	Carbon tetrachloride	1	U
75-27-4	Bromodichloromethane	1	U
78-87-5	1,2-Dichloropropane	1	U
10061-01-5	cis-1,3-Dichloropropene	1	U
79-01-6	Trichloroethene	1	U
124-48-1	Dibromochloromethane	1	U
79-00-5	1,1,2-Trichloroethane	1	U
71-43-2	Benzene	0.4	J
10061-02-6	trans-1,3-Dichloropropene	1	U
75-25-2	Bromoform	1	U
108-10-1	4-Methyl-2-pentanone	5	U
591-78-6	2-Hexanone	5	U
127-18-4	Tetrachloroethene	1	U
79-34-5	1,1,2,2-Tetrachloroethane	1	U
106-93-4	1,2-Dibromoethane	1	U
108-88-3	Toluene	1	U
108-90-7	Chlorobenzene	1	U
100-41-4	Ethylbenzene	1	U
100-42-5	Styrene	1	U
1330-20-7	Xylenes (total)	1	U
541-73-1	1,3-Dichlorobenzene	1	U
106-46-7	1,4-Dichlorobenzene	1	U
95-50-1	1,2-Dichlorobenzene	1	U
96-12-8	1,2-Dibromo-3-chloropropane	1	U
120-82-1	1,2,4-Trichlorobenzene	1	U

1LCE

LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO

EDCJ5

Lab Name: ENVIROSYSTEMS Contract: 68-D7-0005

Lab Code: ENVSYS Case No.: 27876 SAS No.: SDG No.: EDCJ8

Lab Sample ID: 00030921 Date Received: 03/18/00

Lab File ID: 030921 Date Analyzed: 03/22/00

Purge Volume: 25.00 (ml) Dilution Factor: 1.0

GC Column: RTX-502.2 ID: 0.530 (mm) Length: 105 (m)

Number TICs found: 0

CAS NUMBER	COMPOUND NAME	RT	EST. CONC. (ug/L)	Q

1LCB

LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO

EDCJ5

Lab Name: ENVIROSYSTEMS Contract: 68-D7-0005

Lab Code: ENVSYS Case No.: 27876 SAS No.: SDG No.: EDCJ8

Lab Sample ID: 00030921 Date Received: 03/18/00

Lab File ID: S030921 Date Extracted: 03/23/00

Sample volume: 1000 (ml) Date Analyzed: 03/29/00

Concentrated Extract Volume: 1000 (ul) Dilution Factor: 1.0

Injection Volume: 1.0 (ul) pH: 7.0

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
108-95-2	Phenol	5	U
111-44-4	bis(2-Chloroethyl)Ether	5	U
95-57-8	2-Chlorophenol	5	U
95-48-7	2-Methylphenol	5	U
108-60-1	2,2'-oxybis(1-Chloropropane)	5	U
106-44-5	4-Methylphenol	5	U
621-64-7	N-Nitroso-Di-n-Propylamine	5	U
67-72-1	Hexachloroethane	5	U
98-95-3	Nitrobenzene	5	U
78-59-1	Isophorone	5	U
88-75-5	2-Nitrophenol	5	U
105-67-9	2,4-Dimethylphenol	5	U
111-91-1	bis(2-Chloroethoxy)Methane	5	U
120-83-2	2,4-Dichlorophenol	5	U
91-20-3	Naphthalene	5	U
106-47-8	4-Chloroaniline	5	U
87-68-3	Hexachlorobutadiene	5	U
59-50-7	4-Chloro-3-Methylphenol	5	U
91-57-6	2-Methylnaphthalene	5	U
77-47-4	Hexachlorocyclopentadiene	5	U
88-06-2	2,4,6-Trichlorophenol	5	U
95-95-4	2,4,5-Trichlorophenol	20	U
91-58-7	2-Chloronaphthalene	5	U
88-74-4	2-Nitroaniline	20	U
131-11-3	Dimethylphthalate	5	U
208-96-8	Acenaphthylene	5	U
606-20-2	2,6-Dinitrotoluene	5	U
99-09-2	3-Nitroaniline	20	U
83-32-9	Acenaphthene	5	U

1LCC

LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EDCJ5

Lab Name: ENVIROSYSTEMS Contract: 68-D7-0005

Lab Code: ENVSYS Case No.: 27876 SAS No.: SDG No.: EDCJ8

Lab Sample ID: 00030921 Date Received: 03/18/00

Lab File ID: S030921 Date Extracted: 03/23/00

Sample volume: 1000 (ml) Date Analyzed: 03/29/00

Concentrated Extract Volume: 1000 (ul) Dilution Factor: 1.0

Injection Volume: 1.0 (ul) pH: 7.0

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
51-28-5	2,4-Dinitrophenol	20	U
100-02-7	4-Nitrophenol	20	U
132-64-9	Dibenzofuran	5	U
121-14-2	2,4-Dinitrotoluene	5	U
84-66-2	Diethylphthalate	5	U
7005-72-3	4-Chlorophenyl-phenylether	5	U
86-73-7	Fluorene	5	U
100-01-6	4-Nitroaniline	20	U
534-52-1	4,6-Dinitro-2-methylphenol	20	U
86-30-6	N-Nitrosodiphenylamine (1)	5	U
101-55-3	4-Bromophenyl-phenylether	5	U
118-74-1	Hexachlorobenzene	5	U
87-86-5	Pentachlorophenol	20	U
85-01-8	Phenanthrene	5	U
120-12-7	Anthracene	5	U
84-74-2	Di-n-Butylphthalate	5	U
206-44-0	Fluoranthene	5	U
129-00-0	Pyrene	5	U
85-68-7	Butylbenzylphthalate	5	U
91-94-1	3,3'-Dichlorobenzidine	5	U
56-55-3	Benzo(a)Anthracene	5	U
218-01-9	Chrysene	5	U
117-81-7	bis(2-Ethylhexyl)Phthalate	5	U
117-84-0	Di-n-octylphthalate	5	U
205-99-2	Benzo(b)Fluoranthene	5	U
207-08-9	Benzo(k)Fluoranthene	5	U
50-32-8	Benzo(a)Pyrene	5	U
193-39-5	Indeno(1,2,3-cd)Pyrene	5	U
53-70-3	Dibenz(a,h)Anthracene	5	U
191-24-2	Benzo(g,h,i)Perylene	5	U

(1) - Cannot be separated from Diphenylamine

1LCF

LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

EDCJ5

Lab Name: ENVIROSYSTEMS Contract: 68-D7-0005

Lab Code: ENVSYS Case No.: 27876 SAS No.: SDG No.: EDCJ8

Lab Sample ID: 00030921 Date Received: 03/18/00

Lab File ID: S030921 Date Extracted: 03/23/00

Sample volume: 1000 (ml) Date Analyzed: 03/29/00

Concentrated Extract Volume: 1000 (ul) Dilution Factor: 1.0

Injection Volume: 1.0 (ul) pH: 7.0

Number TICs found: 0

CAS NUMBER	COMPOUND NAME	RT	EST. CONC. (ug/L)	Q

EPA CRL - REGION V
ICP FINAL RESULTS REPORT

REPORT PRODUCED ON: 22-Mar-00

SAMPLE ORGANIZATION:

SAMPLE BATCH ID: 20000024

LABORATORY: REGION 5 CRL

SAMPLE FACILITY: Himco Dump

SAMPLE: 2000SY01R12 dup

ANALYZED: 21-Mar-00

STATION: 54287 Westwood

COMPOUND	AMOUNT	(Units)	MCL (ug/L)
Aluminum	26 U	(ug/L)	50 to 200
Barium	64.5	(ug/L)	2000 A
Beryllium	1.6 U J	(ug/L)	4.0
Calcium	92300 J	(ug/L)	none
Chromium	3.4 U J	(ug/L)	100
Cobalt	10.1 U	(ug/L)	none
Copper	4 U	(ug/L)	1000
Iron	5030	(ug/L)	300 B
Magnesium	22000	(ug/L)	none
Manganese	59.6	(ug/L)	50 C
Nickel	19.4 U	(ug/L)	40
Potassium	1160	(ug/L)	none
Silver	6.8 U	(ug/L)	50
Sodium	14700	(ug/L)	20,000 D
Vanadium	3.9 U	(ug/L)	none
Zinc	14.2 M J	(ug/L)	5000 E

ANALYZED BY: [signature] 3-22-00

* Note: All values are given in micrograms per liter, also known as parts per billion.

A U.S. EPA's Office of Drinking Water has proposed this value, but it is not final.

B There is no MCL for iron, but U.S. EPA has set a standard of 300 micrograms per liter to prevent discoloration and taste problems associated with levels of iron above this value.

C There is no MCL for manganese, but U.S. EPA has set a standard of 50 micrograms per liter to prevent discoloration and taste problems associated with levels of manganese above this value.

D There is no MCL for sodium, but the U.S. EPA's Office of Drinking Water advises that a level of 20,000 micrograms per liter or less protects against human health effects from sodium.

E There is no MCL for zinc, but U.S. EPA has set a standard of 5,000 micrograms per liter to prevent taste problems associated with levels of zinc above this value.

ILCA

LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EDCJ9

Lab Name: ENVIROSYSTEMS Contract: 68-D7-0005

Lab Code: ENVSYS Case No.: 27876 SAS No.: SDG No.: EDCJ8

Lab Sample ID: 00030922 Date Received: 03/18/00

Lab File ID: 030922 Date Analyzed: 03/22/00

Purge Volume: 25.00 (ml) Dilution Factor: 1.0

GC Column: RTX-502.2 ID: 0.530 (mm) Length: 105 (m)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q	MCL (ug/L)
74-87-3	Chloromethane	1	U	
74-83-9	Bromomethane	1	U	
75-01-4	Vinyl chloride	1	U	
75-00-3	Chloroethane	1	U	
75-09-2	Methylene chloride	2	U	
67-64-1	Acetone	5	U	
75-15-0	Carbon disulfide	1	U	
75-35-4	1,1-Dichloroethene	1	U	
75-34-3	1,1-Dichloroethane	7		none
156-59-2	cis-1,2-Dichloroethene	0.5	J	70
156-60-5	trans-1,2-Dichloroethene	1	U	
67-66-3	Chloroform	1	U	
107-06-2	1,2-Dichloroethane	1	U	
78-93-3	2-Butanone	5	U	
74-97-5	Bromochloromethane	1	U	
71-55-6	1,1,1-Trichloroethane	1	U	
56-23-5	Carbon tetrachloride	1	U	
75-27-4	Bromodichloromethane	1	U	
78-87-5	1,2-Dichloropropane	1	U	
10061-01-5	cis-1,3-Dichloropropene	1	U	
79-01-6	Trichloroethene	1	U	
124-48-1	Dibromochloromethane	1	U	
79-00-5	1,1,2-Trichloroethane	1	U	
71-43-2	Benzene	0.4	J	5
10061-02-6	trans-1,3-Dichloropropene	1	U	
75-25-2	Bromoform	1	U	
108-10-1	4-Methyl-2-pentanone	5	U	
591-78-6	2-Hexanone	5	U	
127-18-4	Tetrachloroethene	1	U	
79-34-5	1,1,2,2-Tetrachloroethane	1	U	
106-93-4	1,2-Dibromoethane	1	U	
108-88-3	Toluene	1	U	
108-90-7	Chlorobenzene	1	U	
100-41-4	Ethylbenzene	1	U	
100-42-5	Styrene	1	U	
1330-20-7	Xylenes (total)	1	U	
541-73-1	1,3-Dichlorobenzene	1	U	
106-46-7	1,4-Dichlorobenzene	1	U	
95-50-1	1,2-Dichlorobenzene	1	U	
96-12-8	1,2-Dibromo-3-chloropropane	1	U	
120-82-1	1,2,4-Trichlorobenzene	1	U	

0.0055

ILCE

LOW CONC WATER VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO

EDCJ9

Lab Name: ENVIROSYSTEMS Contract: 68-D7-0005

Lab Code: ENVSYS Case No.: 27876 SAS No.: SDG No.: EDCJ8

Lab Sample ID: 00030922 Date Received: 03/18/00

Lab File ID: 030922 Date Analyzed: 03/22/00

Purge Volume: 25.00 (ml) Dilution Factor: 1.0

GC Column: RTX-502.2 ID: 0.530 (mm) Length: 105 (m)

Number TICs found: 0

CAS NUMBER	COMPOUND NAME	RT	EST. CONC. (ug/L)	Q

0 0056

ILCB

LOW CONC WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO

EDCJ9

Name: ENVIROSYSTEMS Contract: 68-D7-0005

Code: ENVSYS Case No.: 27876 SAS No.: SDG No.: EDCJ8

Lab Sample ID: 00030922 Date Received: 03/18/00

Lab File ID: S030922 Date Extracted: 03/23/00

Sample volume: 1000 (ml) Date Analyzed: 03/29/00

Concentrated Extract Volume: 1000 (ul) Dilution Factor: 1.0

Injection Volume: 1.0 (ul) pH: 7.0

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
108-95-2	Phenol	5	U
111-44-4	bis(2-Chloroethyl)Ether	5	U
95-57-8	2-Chlorophenol	5	U
95-48-7	2-Methylphenol	5	U
108-60-1	2,2'-oxybis(1-Chloropropane)	5	U
106-44-5	4-Methylphenol	5	U
621-64-7	N-Nitroso-Di-n-Propylamine	5	U
67-72-1	Hexachloroethane	5	U
98-95-3	Nitrobenzene	5	U
78-59-1	Isophorone	5	U
88-75-5	2-Nitrophenol	5	U
105-67-9	2,4-Dimethylphenol	5	U
111-91-1	bis(2-Chloroethoxy)Methane	5	U
120-83-2	2,4-Dichlorophenol	5	U
91-20-3	Naphthalene	5	U
106-47-8	4-Chloroaniline	5	U
87-68-3	Hexachlorobutadiene	5	U
59-50-7	4-Chloro-3-Methylphenol	5	U
91-57-6	2-Methylnaphthalene	5	U
77-47-4	Hexachlorocyclopentadiene	5	U
88-06-2	2,4,6-Trichlorophenol	5	U
95-95-4	2,4,5-Trichlorophenol	20	U
91-58-7	2-Chloronaphthalene	5	U
88-74-4	2-Nitroaniline	20	U
131-11-3	Dimethylphthalate	5	U
208-96-8	Acenaphthylene	5	U
606-20-2	2,6-Dinitrotoluene	5	U
99-09-2	3-Nitroaniline	20	U
83-32-9	Acenaphthene	5	U

1LCC

LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EDCJ9

Lab Name: ENVIROSYSTEMS Contract: 68-D7-0005

Lab Code: ENVSYS Case No.: 27876 SAS No.: SDG No.: EDCJ8

Lab Sample ID: 00030922 Date Received: 03/18/00

Lab File ID: S030922 Date Extracted: 03/23/00

Sample volume: 1000 (ml) Date Analyzed: 03/29/00

Concentrated Extract Volume: 1000 (ul) Dilution Factor: 1.0

Injection Volume: 1.0 (ul) pH: 7.0

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
51-28-5	2,4-Dinitrophenol	20	U
100-02-7	4-Nitrophenol	20	U
132-64-9	Dibenzofuran	5	U
121-14-2	2,4-Dinitrotoluene	5	U
84-66-2	Diethylphthalate	5	U
7005-72-3	4-Chlorophenyl-phenylether	5	U
86-73-7	Fluorene	5	U
100-01-6	4-Nitroaniline	20	U
534-52-1	4,6-Dinitro-2-methylphenol	20	U
86-30-6	N-Nitrosodiphenylamine (1)	5	U
101-55-3	4-Bromophenyl-phenylether	5	U
118-74-1	Hexachlorobenzene	5	U
87-86-5	Pentachlorophenol	20	U
85-01-8	Phenanthrene	5	U
120-12-7	Anthracene	5	U
84-74-2	Di-n-Butylphthalate	5	U
206-44-0	Fluoranthene	5	U
129-00-0	Pyrene	5	U
85-68-7	Butylbenzylphthalate	5	U
91-94-1	3,3'-Dichlorobenzidine	5	U
56-55-3	Benzo(a)Anthracene	5	U
218-01-9	Chrysene	5	U
117-81-7	bis(2-Ethylhexyl)Phthalate	5	U
117-84-0	Di-n-octylphthalate	5	U
205-99-2	Benzo(b)Fluoranthene	5	U
207-08-9	Benzo(k)Fluoranthene	5	U
50-32-8	Benzo(a)Pyrene	5	U
193-39-5	Indeno(1,2,3-cd)Pyrene	5	U
53-70-3	Dibenz(a,h)Anthracene	5	U
191-24-2	Benzo(g,h,i)Perylene	5	U

(1) - Cannot be separated from Diphenylamine

0.0374

1LCF

LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

EDCJ9

Lab Name: ENVIROSYSTEMS Contract: 68-D7-0005

Lab Code: ENVSYS Case No.: 27876 SAS No.: SDG No.: EDCJ8

Lab Sample ID: 00030922 Date Received: 03/18/00

Lab File ID: S030922 Date Extracted: 03/23/00

Sample volume: 1000 (ml) Date Analyzed: 03/29/00

Concentrated Extract Volume: 1000 (ul) Dilution Factor: 1.0

Injection Volume: 1.0 (ul) pH: 7.0

Number TICs found: 0

CAS NUMBER	COMPOUND NAME	RT	EST. CONC. (ug/L)	Q

0:0375

EPA CRL - REGION V
ICP FINAL RESULTS REPORT

REPORT PRODUCED ON: 22-Mar-00

SAMPLE ORGANIZATION:

SAMPLE BATCH ID: 20000024

LABORATORY: REGION 5 CRL

SAMPLE FACILITY: Himco Dump

SAMPLE: 2000SY01S11

ANALYZED: 21-Mar-00

STATION: 54305 Westwood

COMPOUND	AMOUNT		(Units)
Aluminum	26 U		(ug/L)
Barium	60.4		(ug/L)
Beryllium	1.6 U	J	(ug/L)
Calcium	177000	J	(ug/L)
Chromium	3.4 U	J	(ug/L)
Cobalt	10.1 U		(ug/L)
Copper	4 U		(ug/L)
Iron	2170		(ug/L)
Magnesium	18200	J	(ug/L)
Manganese	1560		(ug/L)
Nickel	19.4 U		(ug/L)
Potassium	5270		(ug/L)
Silver	6.8 U		(ug/L)
Sodium	44400		(ug/L)
Vanadium	3.9 U		(ug/L)
Zinc	17.4 M	J	(ug/L)

ANALYZED BY: _____ 3-22-00

LOW CONC WATER VOLATILE ORGANICS ANALYSIS DATA SHEET

EDCK8

Lab Name ENVIROSYSTEMS Contract 68-D7-0005

Lab Code ENVSYS Case No 27876 SAS No SDG No EDCJ8

Lab Sample ID: 00030923 Date Received: 03/18/00

Lab File ID: 030923 Date Analyzed: 03/23/00

Purge Volume: 25.00 (ml) Dilution Factor: 1.0

GC Column: RTX-502.2 ID: 0.530 (mm) Length: 105 (m)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
74-87-3	Chloromethane	1	U
74-83-9	Bromomethane	1	U
75-01-4	Vinyl chloride	0.9	J
75-00-3	Chloroethane	1	U
75-09-2	Methylene chloride	2	U
67-64-1	Acetone	5	U
75-15-0	Carbon disulfide	1	U
75-35-4	1,1-Dichloroethene	1	U
75-34-3	1,1-Dichloroethane	3	
156-59-2	cis-1,2-Dichloroethene	2	
156-60-5	trans-1,2-Dichloroethene	1	U
67-66-3	Chloroform	1	U
107-06-2	1,2-Dichloroethane	0.6	J
78-93-3	2-Butanone	5	U
74-97-5	Bromochloromethane	1	U
71-55-6	1,1,1-Trichloroethane	1	U
56-23-5	Carbon tetrachloride	1	U
75-27-4	Bromodichloromethane	1	U
78-87-5	1,2-Dichloropropane	10	
10061-01-5	cis-1,3-Dichloropropene	1	U
79-01-6	Trichloroethene	1	U
124-48-1	Dibromochloromethane	1	U
79-00-5	1,1,2-Trichloroethane	1	U
71-43-2	Benzene	0.4	J
10061-02-6	trans-1,3-Dichloropropene	1	U
75-25-2	Bromoform	1	U
108-10-1	4-Methyl-2-pentanone	5	U
591-78-6	2-Hexanone	5	U
127-18-4	Tetrachloroethene	1	U
79-34-5	1,1,2,2-Tetrachloroethane	1	U
106-93-4	1,2-Dibromoethane	1	U
108-88-3	Toluene	1	U
108-90-7	Chlorobenzene	1	U
100-41-4	Ethylbenzene	1	U
100-42-5	Styrene	1	U
1330-20-7	Xylenes (total)	1	U
541-73-1	1,3-Dichlorobenzene	1	U
106-46-7	1,4-Dichlorobenzene	1	U
95-50-1	1,2-Dichlorobenzene	1	U
96-12-8	1,2-Dibromo-3-chloropropane	1	U
120-82-1	1,2,4-Trichlorobenzene	1	U

EDCW8

Lab Name: ENVIROSYSTEMS Contract: 68-D7-0005

Lab Code: ENVSYS Case No: 27876 SAS No: SDG No: EDCJ8

Lab Sample ID: 00030923 Date Received: 03/18/00

Lab File ID: 030923 Date Analyzed: 03/23/00

Purge Volume: 25.00 (ml) Dilution Factor: 1.0

GC Column: RTX-502.2 ID: 0.530 (mm) Length: 105 (m)

Number TICs found: 1

CAS NUMBER	COMPOUND NAME	RT	EST. CONC. (ug/L)	Q
1.	UNKNOWN	7.25	5	J

1LCB

LOW CONC WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EDCK8

Lab Name: ENVIROSYSTEMS Contract: 68-D7-0005

Lab Code: ENVSYS Case No.: 27876 SAS No.: SDG No.: EDCJ8

Lab Sample ID: 00030923 Date Received: 03/18/00

Lab File ID: S030923 Date Extracted: 03/23/00

Sample volume: 1000 (ml) Date Analyzed: 03/29/00

Concentrated Extract Volume: 1000 (ul) Dilution Factor: 1.0

Injection Volume: 1.0 (ul) pH: 7.0

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
108-95-2	Phenol	5	U
111-44-4	bis(2-Chloroethyl)Ether	5	U
95-57-8	2-Chlorophenol	5	U
95-48-7	2-Methylphenol	5	U
108-60-1	2,2'-oxybis(1-Chloropropane)	5	U
106-44-5	4-Methylphenol	5	U
621-64-7	N-Nitroso-Di-n-Propylamine	5	U
67-72-1	Hexachloroethane	5	U
98-95-3	Nitrobenzene	5	U
78-59-1	Isophorone	5	U
88-75-5	2-Nitrophenol	5	U
105-67-9	2,4-Dimethylphenol	5	U
111-91-1	bis(2-Chloroethoxy)Methane	5	U
120-83-2	2,4-Dichlorophenol	5	U
91-20-3	Naphthalene	5	U
106-47-8	4-Chloroaniline	5	U
87-68-3	Hexachlorobutadiene	5	U
59-50-7	4-Chloro-3-Methylphenol	5	U
91-57-6	2-Methylnaphthalene	5	U
77-47-4	Hexachlorocyclopentadiene	5	U
88-06-2	2,4,6-Trichlorophenol	5	U
95-95-4	2,4,5-Trichlorophenol	20	U
91-58-7	2-Chloronaphthalene	5	U
88-74-4	2-Nitroaniline	20	U
131-11-3	Dimethylphthalate	5	U
208-96-8	Acenaphthylene	5	U
606-20-2	2,6-Dinitrotoluene	5	U
99-09-2	3-Nitroaniline	20	U
83-32-9	Acenaphthene	5	U

1LCC

LOW CONC WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO

EDCK8

Lab Name: ENVIROSYSTEMS Contract: 68-D7-0005

Lab Code: ENVSYS Case No.: 27876 SAS No.: SDG No.: EDCJ8

Lab Sample ID: 00030923 Date Received: 03/18/00

Lab File ID: S030923 Date Extracted: 03/23/00

Sample volume: 1000 (ml) Date Analyzed: 03/29/00

Concentrated Extract Volume: 1000 (ul) Dilution Factor: 1.0

Injection Volume: 1.0 (ul) pH: 7.0

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
51-28-5	2,4-Dinitrophenol	20	U
100-02-7	4-Nitrophenol	20	U
132-64-9	Dibenzofuran	5	U
121-14-2	2,4-Dinitrotoluene	5	U
84-66-2	Diethylphthalate	5	U
7005-72-3	4-Chlorophenyl-phenylether	5	U
86-73-7	Fluorene	5	U
100-01-6	4-Nitroaniline	20	U
534-52-1	4,6-Dinitro-2-methylphenol	20	U
86-30-6	N-Nitrosodiphenylamine (1)	5	U
101-55-3	4-Bromophenyl-phenylether	5	U
118-74-1	Hexachlorobenzene	5	U
87-86-5	Pentachlorophenol	20	U
85-01-8	Phenanthrene	5	U
120-12-7	Anthracene	5	U
84-74-2	Di-n-Butylphthalate	5	U
206-44-0	Fluoranthene	5	U
129-00-0	Pyrene	5	U
85-68-7	Butylbenzylphthalate	5	U
91-94-1	3,3'-Dichlorobenzidine	5	U
56-55-3	Benzo(a)Anthracene	5	U
218-01-9	Chrysene	5	U
117-81-7	bis(2-Ethylhexyl)Phthalate	5	U
117-84-0	Di-n-octylphthalate	5	U
205-99-2	Benzo(b)Fluoranthene	5	U
207-08-9	Benzo(k)Fluoranthene	5	U
50-32-8	Benzo(a)Pyrene	5	U
193-39-5	Indeno(1,2,3-cd)Pyrene	5	U
53-70-3	Dibenz(a,h)Anthracene	5	U
191-24-2	Benzo(g,h,i)Perylene	5	U

(1) - Cannot be separated from Diphenylamine

1L0F

LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO

EDCK8

Lab Name: ENVIROSYSTEMS Contract: 68-D7-0005

Lab Code: ENVSYS Case No.: 27876 SAS No.: SDG No.: EDCJ8

Lab Sample ID: 00030923 Date Received: 03/18/00

Lab File ID: S030923 Date Extracted: 03/23/00

Sample volume: 1000 (ml) Date Analyzed: 03/29/00

Concentrated Extract Volume: 1000 (ul) Dilution Factor: 1.0

Injection Volume: 1.0 (ul) pH: 7.0

Number TICs found: 0

CAS NUMBER	COMPOUND NAME	RT	EST. CONC. (ug/L)	Q

EPA CRL - REGION V
ICP FINAL RESULTS REPORT

REPORT PRODUCED ON: 22-Mar-00

SAMPLE ORGANIZATION:

SAMPLE BATCH ID: 20000024

LABORATORY: REGION 5 CRL

SAMPLE FACILITY: Himco Dump

SAMPLE: 2000SY01S09

ANALYZED: 21-Mar-00

STATION: 54280 Westwood

COMPOUND	AMOUNT			(Units)
Aluminum	26	U		(ug/L)
Barium	72.8			(ug/L)
Beryllium	1.6	U	J	(ug/L)
Calcium	105000		J	(ug/L)
Chromium	3.4	U	J	(ug/L)
Cobalt	10.1	U		(ug/L)
Copper	26.1	M		(ug/L)
Iron	22.4	U		(ug/L)
Magnesium	20200			(ug/L)
Manganese	355			(ug/L)
Nickel	19.4	U		(ug/L)
Potassium	2580			(ug/L)
Silver	6.8	U		(ug/L)
Sodium	65400			(ug/L)
Vanadium	3.9	U		(ug/L)
Zinc	31.5	M	J	(ug/L)

ANALYZED BY: [signature] 3-22-00

LOW CONC WATER VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EDCK3

Lab Name: ENVIROSYSTEMS Contract: 68-D7-0005

Lab Code: ENVSYS Case No.: 27876 SAS No.: SDG No.: EDCJ8

Lab Sample ID: 00030906 Date Received: 03/17/00

Lab File ID: 030906 Date Analyzed: 03/22/00

Purge Volume: 25.00 (ml) Dilution Factor: 1.0

GC Column: RTX-502.2 ID: 0.530 (mm) Length: 105 (m)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
74-87-3	Chloromethane	1	U
74-83-9	Bromomethane	1	U
75-01-4	Vinyl chloride	1	U
75-00-3	Chloroethane	1	U
75-09-2	Methylene chloride	2	U
67-64-1	Acetone	5	U
75-15-0	Carbon disulfide	1	U
75-35-4	1,1-Dichloroethene	1	U
75-34-3	1,1-Dichloroethane	1	U
156-59-2	cis-1,2-Dichloroethene	1	U
156-60-5	trans-1,2-Dichloroethene	1	U
67-66-3	Chloroform	1	U
107-06-2	1,2-Dichloroethane	1	U
78-93-3	2-Butanone	5	U
74-97-5	Bromochloromethane	1	U
71-55-6	1,1,1-Trichloroethane	1	U
56-23-5	Carbon tetrachloride	1	U
75-27-4	Bromodichloromethane	1	U
78-87-5	1,2-Dichloropropane	1	U
10061-01-5	cis-1,3-Dichloropropene	1	U
79-01-6	Trichloroethene	1	U
124-48-1	Dibromochloromethane	1	U
79-00-5	1,1,2-Trichloroethane	1	U
71-43-2	Benzene	1	U
10061-02-6	trans-1,3-Dichloropropene	1	U
75-25-2	Bromoform	1	U
108-10-1	4-Methyl-2-pentanone	5	U
591-78-6	2-Hexanone	5	U
127-18-4	Tetrachloroethene	1	U
79-34-5	1,1,2,2-Tetrachloroethane	1	U
106-93-4	1,2-Dibromoethane	1	U
108-88-3	Toluene	1	U
108-90-7	Chlorobenzene	1	U
100-41-4	Ethylbenzene	1	U
100-42-5	Styrene	1	U
1330-20-7	Xylenes (total)	1	U
541-73-1	1,3-Dichlorobenzene	1	U
106-46-7	1,4-Dichlorobenzene	1	U
95-50-1	1,2-Dichlorobenzene	1	U
96-12-8	1,2-Dibromo-3-chloropropane	1	U
120-82-1	1,2,4-Trichlorobenzene	1	U

WATER VOLATILE ORGANIC ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EDCK3

Lab Name: ENVIROSYSTEMS Contract: 68-D7-0005

Lab Code: ENVSYS Case No.: 27876 SAS No.: SDG No.: EDCJ8

Lab Sample ID: 00030906 Date Received: 03/17/00

Lab File ID: 030906 Date Analyzed: 03/22/00

Purge Volume: 25.00 (ml) Dilution Factor: 1.0

GC Column: RTX-502.2 ID: 0.530 (mm) Length: 105 (m)

Number TICs found: 0

CAS NUMBER	COMPOUND NAME	RT	EST. CONC. (ug/L)	Q

1LCB

LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO

EDCK3

Lab Name: ENVIROSYSTEMS Contract: 68-D7-0005

Lab Code: ENVSYS Case No.: 27876 SAS No.: SDG No.: EDCJ8

Lab Sample ID: 00030906 Date Received: 03/17/00

Lab File ID: S030906 Date Extracted: 03/22/00

Sample volume: 1000 (ml) Date Analyzed: 03/28/00

Concentrated Extract Volume: 1000 (ul) Dilution Factor: 1.0

Injection Volume: 1.0 (ul) pH: 7.0

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
108-95-2	Phenol	5	U
111-44-4	bis(2-Chloroethyl)Ether	5	U
95-57-8	2-Chlorophenol	5	U
95-48-7	2-Methylphenol	5	U
108-60-1	2,2'-oxybis(1-Chloropropane)	5	U
106-44-5	4-Methylphenol	5	U
621-64-7	N-Nitroso-Di-n-Propylamine	5	U
67-72-1	Hexachloroethane	5	U
98-95-3	Nitrobenzene	5	U
78-59-1	Isophorone	5	U
88-75-5	2-Nitrophenol	5	U
105-67-9	2,4-Dimethylphenol	5	U
111-91-1	bis(2-Chloroethoxy)Methane	5	U
120-83-2	2,4-Dichlorophenol	5	U
91-20-3	Naphthalene	5	U
106-47-8	4-Chloroaniline	5	U
87-68-3	Hexachlorobutadiene	5	U
59-50-7	4-Chloro-3-Methylphenol	5	U
91-57-6	2-Methylnaphthalene	5	U
77-47-4	Hexachlorocyclopentadiene	5	U
88-06-2	2,4,6-Trichlorophenol	5	U
95-95-4	2,4,5-Trichlorophenol	20	U
91-58-7	2-Chloronaphthalene	5	U
88-74-4	2-Nitroaniline	20	U
131-11-3	Dimethylphthalate	5	U
208-96-8	Acenaphthylene	5	U
606-20-2	2,6-Dinitrotoluene	5	U
99-09-2	3-Nitroaniline	20	U
83-32-9	Acenaphthene	5	U

1LCC

LOW CONC WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO

EDCK3

Lab Name: ENVIROSYSTEMS Contract: 68-D7-0005

Lab Code: ENVSYS Case No.: 27876 SAS No.: SDG No.: EDCJ8

Lab Sample ID: 00030906 Date Received: 03/17/00

Lab File ID: S030906 Date Extracted: 03/22/00

Sample volume: 1000 (ml) Date Analyzed: 03/28/00

Concentrated Extract Volume: 1000 (ul) Dilution Factor: 1.0

Injection Volume: 1.0 (ul) pH: 7.0

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
51-28-5	2,4-Dinitrophenol	20	U
100-02-7	4-Nitrophenol	20	U
132-64-9	Dibenzofuran	5	U
121-14-2	2,4-Dinitrotoluene	5	U
84-66-2	Diethylphthalate	5	U
7005-72-3	4-Chlorophenyl-phenylether	5	U
86-73-7	Fluorene	5	U
100-01-6	4-Nitroaniline	20	U
534-52-1	4,6-Dinitro-2-methylphenol	20	U
86-30-6	N-Nitrosodiphenylamine (1)	5	U
101-55-3	4-Bromophenyl-phenylether	5	U
118-74-1	Hexachlorobenzene	5	U
87-86-5	Pentachlorophenol	20	U
85-01-8	Phenanthrene	5	U
120-12-7	Anthracene	5	U
84-74-2	Di-n-Butylphthalate	5	U
206-44-0	Fluoranthene	5	U
129-00-0	Pyrene	5	U
85-68-7	Butylbenzylphthalate	5	U
91-94-1	3,3'-Dichlorobenzidine	5	U
56-55-3	Benzo(a)Anthracene	5	U
218-01-9	Chrysene	5	U
117-81-7	bis(2-Ethylhexyl)Phthalate	5	U
117-84-0	Di-n-octylphthalate	5	U
205-99-2	Benzo(b)Fluoranthene	5	U
207-08-9	Benzo(k)Fluoranthene	5	U
50-32-8	Benzo(a)Pyrene	5	U
193-39-5	Indeno(1,2,3-cd)Pyrene	5	U
53-70-3	Dibenz(a,h)Anthracene	5	U
191-24-2	Benzo(g,h,i)Perylene	5	U

(1) - Cannot be separated from Diphenylamine

ILCF

LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

EDCK3

Lab Name: ENVIROSYSTEMS Contract: 68-D7-0005

Lab Code: ENVSYS Case No.: 27876 SAS No.: SDG No.: EDCJ8

Lab Sample ID: 00030906 Date Received: 03/17/00

Lab File ID: S030906 Date Extracted: 03/22/00

Sample volume: 1000 (ml) Date Analyzed: 03/28/00

Concentrated Extract Volume: 1000 (ul) Dilution Factor: 1.0

Injection Volume: 1.0 (ul) pH: 7.0

Number TICs found: 0

CAS NUMBER	COMPOUND NAME	RT	EST. CONC. (ug/L)	Q

EPA CRL - REGION V
ICP FINAL RESULTS REPORT

REPORT PRODUCED ON: 29-Mar-00

SAMPLE ORGANIZATION:

SAMPLE BATCH ID: 20000024

LABORATORY: REGION 5 CRL

SAMPLE FACILITY: Himco Dump

SAMPLE: 2000SY01S08

ANALYZED: 21-Mar-00

STATION: 27919 Westwood

COMPOUND	AMOUNT			(Units)
Aluminum	26	U		(ug/L)
Barium	28.1			(ug/L)
Beryllium	1.6	U	J	(ug/L)
Calcium	103000		J	(ug/L)
Chromium	3.4	U	J	(ug/L)
Cobalt	10.1	U		(ug/L)
Copper	9	M		(ug/L)
Iron	51.1	M	B J	(ug/L)
Magnesium	19000		J	(ug/L)
Manganese	146			(ug/L)
Nickel	19.4	U		(ug/L)
Potassium	3660			(ug/L)
Silver	6.8	U		(ug/L)
Sodium	56700			(ug/L)
Vanadium	3.9	U		(ug/L)
Zinc	20.5	M	J	(ug/L)

ANALYZED BY: _____ 3-29-00

ILCA
LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EDCK4

Lab Name: ENVIROSYSTEMS Contract: 68-D7-0005

Lab Code: ENVSYS Case No.: 27876 SAS No.: SDG No.: EDCJ8

Lab Sample ID: 00030907 Date Received: 03/17/00

Lab File ID: 030907 Date Analyzed: 03/22/00

Purge Volume: 25.00 (ml) Dilution Factor: 1.0

GC Column: RTX-502.2 ID: 0.530 (mm) Length: 105 (m)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
74-87-3	Chloromethane	1	U
74-83-9	Bromomethane	1	U
75-01-4	Vinyl chloride	1	U
75-00-3	Chloroethane	1	U
75-09-2	Methylene chloride	2	U
67-64-1	Acetone	5	U
75-15-0	Carbon disulfide	1	U
75-35-4	1,1-Dichloroethene	1	U
75-34-3	1,1-Dichloroethane	0.5	J
156-59-2	cis-1,2-Dichloroethene	0.6	J
156-60-5	trans-1,2-Dichloroethene	1	U
67-66-3	Chloroform	0.4	J
107-06-2	1,2-Dichloroethane	1	U
78-93-3	2-Butanone	5	U
74-97-5	Bromochloromethane	1	U
71-55-6	1,1,1-Trichloroethane	1	U
56-23-5	Carbon tetrachloride	1	U
75-27-4	Bromodichloromethane	1	U
78-87-5	1,2-Dichloropropane	1	U
10061-01-5	cis-1,3-Dichloropropene	1	U
79-01-6	Trichloroethene	1	U
124-48-1	Dibromochloromethane	1	U
79-00-5	1,1,2-Trichloroethane	1	U
71-43-2	Benzene	1	U
10061-02-6	trans-1,3-Dichloropropene	1	U
75-25-2	Bromoform	1	U
108-10-1	4-Methyl-2-pentanone	5	U
591-78-6	2-Hexanone	5	U
127-18-4	Tetrachloroethene	1	U
79-34-5	1,1,2,2-Tetrachloroethane	1	U
106-93-4	1,2-Dibromoethane	1	U
108-88-3	Toluene	1	U
108-90-7	Chlorobenzene	1	U
100-41-4	Ethylbenzene	1	U
100-42-5	Styrene	1	U
1330-20-7	Xylenes (total)	1	U
541-73-1	1,3-Dichlorobenzene	1	U
106-46-7	1,4-Dichlorobenzene	1	U
95-50-1	1,2-Dichlorobenzene	1	U
96-12-8	1,2-Dibromo-3-chloropropane	1	U
120-82-1	1,2,4-Trichlorobenzene	1	U

LOW CONC WATER VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

EDCK4

Lab Name: ENVIROSYSTEMS Contract: 68-D7-0005

Lab Code: ENVSYS Case No.: 27876 SAS No.: SDG No.: EDCJ8

Lab Sample ID: 00030907 Date Received: 03/17/00

Lab File ID: 030907 Date Analyzed: 03/22/00

Purge Volume: 25.00 (ml) Dilution Factor: 1.0

GC Column: RTX-502.2 ID: 0.530 (mm) Length: 105 (m)

Number TICs found: 0

CAS NUMBER	COMPOUND NAME	RT	EST. CONC. (ug/L)	Q

ILCB

LOW CONC WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EDCK4

Lab Name: ENVIROSYSTEMS Contract: 68-D7-0005

Lab Code: ENVSYS Case No.: 27876 SAS No.: SDG No.: EDCJ8

Lab Sample ID: 00030907 Date Received: 03/17/00

Lab File ID: S030907 Date Extracted: 03/22/00

Sample volume: 1000 (ml) Date Analyzed: 03/28/00

Concentrated Extract Volume: 1000 (ul) Dilution Factor: 1.0

Injection Volume: 1.0 (ul) pH: 7.0

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
108-95-2	Phenol	5	U
111-44-4	bis(2-Chloroethyl)Ether	5	U
95-57-8	2-Chlorophenol	5	U
95-48-7	2-Methylphenol	5	U
108-60-1	2,2'-oxybis(1-Chloropropane)	5	U
106-44-5	4-Methylphenol	5	U
621-64-7	N-Nitroso-Di-n-Propylamine	5	U
67-72-1	Hexachloroethane	5	U
98-95-3	Nitrobenzene	5	U
78-59-1	Isophorone	5	U
88-75-5	2-Nitrophenol	5	U
105-67-9	2,4-Dimethylphenol	5	U
111-91-1	bis(2-Chloroethoxy)Methane	5	U
120-83-2	2,4-Dichlorophenol	5	U
91-20-3	Naphthalene	5	U
106-47-8	4-Chloroaniline	5	U
87-68-3	Hexachlorobutadiene	5	U
59-50-7	4-Chloro-3-Methylphenol	5	U
91-57-6	2-Methylnaphthalene	5	U
77-47-4	Hexachlorocyclopentadiene	5	U
88-06-2	2,4,6-Trichlorophenol	5	U
95-95-4	2,4,5-Trichlorophenol	20	U
91-58-7	2-Chloronaphthalene	5	U
88-74-4	2-Nitroaniline	20	U
131-11-3	Dimethylphthalate	5	U
208-96-8	Acenaphthylene	5	U
606-20-2	2,6-Dinitrotoluene	5	U
99-09-2	3-Nitroaniline	20	U
83-32-9	Acenaphthene	5	U

1LCC

LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EDCK4

Lab Name: ENVIROSYSTEMS Contract: 68-D7-0005

Lab Code: ENVSYS Case No.: 27876 SAS No.: SDG No.: EDCJ8

Lab Sample ID: 00030907 Date Received: 03/17/00

Lab File ID: S030907 Date Extracted: 03/22/00

Sample volume: 1000 (ml) Date Analyzed: 03/28/00

Concentrated Extract Volume: 1000 (ul) Dilution Factor: 1.0

Injection Volume: 1.0 (ul) pH: 7.0

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
51-28-5	2,4-Dinitrophenol	20	U
100-02-7	4-Nitrophenol	20	U
132-64-9	Dibenzofuran	5	U
121-14-2	2,4-Dinitrotoluene	5	U
84-66-2	Diethylphthalate	5	U
7005-72-3	4-Chlorophenyl-phenylether	5	U
86-73-7	Fluorene	5	U
100-01-6	4-Nitroaniline	20	U
534-52-1	4,6-Dinitro-2-methylphenol	20	U
86-30-6	N-Nitrosodiphenylamine (1)	5	U
101-55-3	4-Bromophenyl-phenylether	5	U
118-74-1	Hexachlorobenzene	5	U
87-86-5	Pentachlorophenol	20	U
85-01-8	Phenanthrene	5	U
120-12-7	Anthracene	5	U
84-74-2	Di-n-Butylphthalate	5	U
206-44-0	Fluoranthene	5	U
129-00-0	Pyrene	5	U
85-68-7	Butylbenzylphthalate	5	U
91-94-1	3,3'-Dichlorobenzidine	5	U
56-55-3	Benzo(a)Anthracene	5	U
218-01-9	Chrysene	5	U
117-81-7	bis(2-Ethylhexyl)Phthalate	5	U
117-84-0	Di-n-octylphthalate	5	U
205-99-2	Benzo(b)Fluoranthene	5	U
207-08-9	Benzo(k)Fluoranthene	5	U
50-32-8	Benzo(a)Pyrene	5	U
193-39-5	Indeno(1,2,3-cd)Pyrene	5	U
53-70-3	Dibenz(a,h)Anthracene	5	U
191-24-2	Benzo(g,h,i)Perylene	5	U

(1) - Cannot be separated from Diphenylamine

1LCF

EPA SAMPLE NO.

LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EDCK4

Lab Name: ENVIROSYSTEMS Contract: 68-D7-0005

Lab Code: ENVSYS Case No.: 27876 SAS No.: SDG No.: EDCJ8

Lab Sample ID: 00030907 Date Received: 03/17/00

Lab File ID: S030907 Date Extracted: 03/22/00

Sample volume: 1000 (ml) Date Analyzed: 03/28/00

Concentrated Extract Volume: 1000 (ul) Dilution Factor: 1.0

Injection Volume: 1.0 (ul) pH: 7.0

Number TICs found: 0

CAS NUMBER	COMPOUND NAME	RT	EST. CONC. (ug/L)	Q

Regional Transmittal Form

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION V

DATE:

SUBJECT: Review of Data
Received for Review on 5-23-00

FROM: Stephen L. Ostrodka, Chief (SMF-4J)
Superfund Field Services Section

TO: Data User: USEPA

We have reviewed the data for the following case:

SITE NAME: Himco Dump (IN)

CASE NUMBER: 27986 SDG NUMBER: E00FL

Number and Type of Samples: 19 (WATER)

Sample Numbers: E00FL, E00FF, E00FG-H, E00FJ, E00F4-6, E01TP-Q, ECFN2-6, ECFN8-9, ECFP1

Laboratory: PDP Hrs for Review:

Following are our findings:

CC: Cecilia Moore
Region 5 TPO
Mail Code: SM-5J

PDP ANALYTICAL SERVICES

1680 Lake Front Circle, Suite B • The Woodlands, TX 77380 • Phone (281)363-2233

Contract No. 68-D7-0004	Case No. 27986	SDG No. E00FL

SDG NARRATIVE

MAY 2 3 2000

SAMPLE RECEIPT :

05/03/00 @ 09:02 A.M. - Received two shipments consisting of two coolers:Cooler 1 temperature : 3°C. Cooler 2 temperature : 3°C. (COC391530, COC391537) contained the following:

E00FL - 2-40mL Voa Vials.
E00FF - 2-1L amber, 3-40mL Voa Vials.
E00FG - 2-1L amber, 3-40mL Voa Vials.
E00FH - 2-1L amber, 3-40mL Voa Vials.
E00FJ - 2-1L amber, 3-40mL Voa Vials.
E00FK - 2-1L amber, 3-40mL Voa Vials.
E00F4 - 2-1L amber, 3-40mL Voa Vials.

No other problems were encountered during sample receipt.

04/29/00 @ 09:14 A.M. - Received two shipments consisting of two coolers:Cooler 1 temperature : 4°C. Cooler 2 temperature : 4°C. (COC391538, COC391536, COC391558, COC391559) contained the following:

E00F5 - 2-1L amber, 3-40mL Voa Vials.
E00F6 - 2-40mL Voa Vials.
ECFN2 - 2-1L amber, 3-40mL Voa Vials.
ECFN3 - 2-1L amber, 3-40mL Voa Vials.
ECFN4 - 2-1L amber, 3-40mL Voa Vials.
ECFN5 - 2-1L amber, 3-40mL Voa Vials.
ECFN6 - 2-1L amber, 3-40mL Voa Vials.
ECFN8 - 2-1L amber, 3-40mL Voa Vials.
ECFN9 - 2-40mL Voa Vials.
ECFN2 - 2-1L amber, 3-40mL Voa Vials.
E01TP - 2-1L amber, 3-40mL Voa Vials.
E01TQ - 2-1L amber, 3-40mL Voa Vials.
ECFP1 - 2-1L amber, 3-40mL Voa Vials.

No other problems were encountered during sample receipt.

VOLATILES:

All samples were analyzed on a HP 5973 and HP5972 GC/MS using a 60 meters long DB-624 column having a 0.53mm ID and 3um film thickness. The trap used was a OV-1/Tenax/Silica Gel (Tekmar #6. Cat 14-1755-003) . A 20 mL purge volume was used for all samples, blanks and standards. The concentrations of the standards and spikes were maintained at the levels required by the Statement of Work (SOW).

PDP ANALYTICAL SERVICES

1680 Lake Front Circle, Suite B • The Woodlands, TX 77380 • Phone (281)363-2233

Contract No. 68-D7-0004	Case No. 27986	SDG No. E00FL

SDG NARRATIVE

The following field samples are analyzed for volatiles in this SDG. The pH of the samples is listed against them.

E00FF	2.0	ECFN2	2.0	ECFP1	2.0
E00FL	2.0	ECFN3	2.0		
E00FG	2.0	ECFN4	2.0		
E00FH	2.0	ECFN5	2.0		
E00FJ	2.0	ECFN6	2.0		
E00FK	2.0	ECFN8	2.0		
E00F4	7.0	ECFN9	2.0		
E00F5	2.0	E01TP	2.0		
E00F6	2.0	E01TQ	2.0		

Manual integration's were performed for the following samples for the compounds listed against them.

VSTD00178 – Vinyl Chloride, Bromomethane, Chloroethane, 1,1-Dichloroethene, Carbon Disulfide, Acetone, Methylene Chloride, trans-1,2-Dichloroethene, cis-1,2-Dichloroethene, 2-Butanone, Bromochloromethane, 1,2-Dichloroethane, Carbon Tetrachloride, 1,2-Dichloropropane, cis-1,3-Dichloropropene, 4-Methyl-2-pentanone, 1,1,2-Trichloroethane, Tetrachloroethene, 2-Hexanone, 1,2-Dibromoethane, Dibromochloromethane, 1,1,2,2-Tetrachloroethane, Bromoform, 1,2-Dibromo-3-chloropropane, 1,2,4-Trichlorobenzene.

VSTD00278 – Vinyl Chloride, Chloroethane, Acetone, Methylene Chloride, trans-1,2-Dichloroethene, 1,1-Dichloroethane, 2-Butanone, Bromochloromethane, 1,2-Dichloroethane, 1,1,1-Trichloroethane, Dibromochloromethane, 1,1,2,2-Tetrachloroethane, Bromoform, 1,2-Dibromo-3-chloropropane, 1,2,4-Trichlorobenzene.

VSTD00578 – Vinyl Chloride, Bromomethane, Chloroethane, Acetone, Methylene Chloride, 2-Butanone, Bromochloromethane, 1,2-Dibromo-3-chloropropane, 1,2,4-Trichlorobenzene.

VSTD01078 – Acetone, Methylene Chloride, 1,2-Dibromo-3-chloropropane, 1,2,4-Trichlorobenzene.

VSTD02578 – Vinyl Chloride, Chloroethane.

VSTD00144 – Chloroethane.

VSTD00579 – Vinyl Chloride, Bromomethane, Chloroethane, Acetone, Methylene Chloride, 1,1-Dichloroethane, Bromochloromethane, Dibromochloromethane, 1,3-Dichlorobenzene, 1,2-Dibromo-3-chloropropane, 1,2,4-Trichlorobenzene.

VBLK66 – 1,4-Dichlorobenzene-d4.

VLCS65 – Vinyl Chloride, 1,2-Dibromoethane.

VLCS66 – Vinyl Chloride.

E00F4 – 4-Bromofluorobenzene, Chloroethane, 1,1-Dichloroethane, cis-1,2-Dichloroethene.

E00FF – cis-1,2-Dichloroethene, Trichloroethene.

E00FJ – Bromodichloromethane, Bromoform.

E00FL – Methylene Chloride.

PDP ANALYTICAL SERVICES

1680 Lake Front Circle, Suite B • The Woodlands, TX 77380 • Phone (281)363-2233

Contract No. 68-D7-0004	Case No. 27986	SDG No. E00FL

SDG NARRATIVE

These manual integration's were necessary because the software failed to accurately integrate the entire peak. In all the above instances, the quantitation reports are flagged with "m". A hard copy printout of the manual integration's along with the scan ranges and initials of the operator is included in the data package .
For those target compounds with low signals that required a manual search for the initial calibration, the analysts has performed the same manual search for every sample analysis to ensure that false negative results are not reported. All peaks in the calibration standards, samples and QC samples are checked manually to ensure that the software has correctly identified and integrated the peaks.

No problems were encountered during sample analysis.

SEMIVOLATILES:

The following samples were extracted using continuous liquid/liquid extraction method on 05/05/00

E00FF, E00FG, E00FH, E00FJ, E00FK, E00F4

The following samples were extracted using continuous liquid/liquid extraction method on 05/09/00

E00F5, ECFN2, ECFN3, ECFN4, ECFN5, ECFN6, ECFN8, E01TP, E01TQ, ECFP1

All samples were analyzed on a HP 5973 GC/MS using a 30 meters long and 0.25mm ID DB-5 column . A 2uL injection was used.

Manual integration's were performed for the following samples for the compounds listed against them.

SSTD00502 – Indeno(1,2,3-cd)pyrene.
SSTD01002 – Indeno(1,2,3-cd)pyrene.
SSTD02002 – Indeno(1,2,3-cd)pyrene.
SSTD05002 – Indeno(1,2,3-cd)pyrene.
SSTD08002 – Benzo(b)fluoranthene, Benzo(k)fluoranthene, Indeno(1,2,3-cd)pyrene.
SSTD02009 – 2,2'-oxybis(1-Chloropropane).
SSTD02011 – Phenol, bis-(2-Chloroethyl)ether, 2-Methylphenol, 2,2'-oxybis(1-Chloropropane), 4-Methylphenol, 4-Chloroaniline, Di-n-butylphthalate, Butylbenzylphthalate, Di-n-octylphthalate, Indeno(1,2,3-cd)pyrene.
SSTD02012 – Phenol, 2,2'-oxybis(1-Chloropropane), 4-Methylphenol, 4-Chloroaniline, Pentachlorophenol.
SLCS73 – Hexachloroethane, 4-Chloroaniline.

These manual integration's were necessary because the software failed to accurately integrate the entire peak. In all the above instances, the quantitation reports are flagged with "m". A hard copy printout of the manual integration's along with the scan ranges and initials of the operator is included in the data package .

PDP ANALYTICAL SERVICES

1680 Lake Front Circle, Suite B • The Woodlands, TX 77380 • Phone (281)363-2233

Contract No. 68-D7-0004	Case No. 27986	SDG No. E00FL

SDG NARRATIVE

For those target compounds with low signals that required a manual search for the initial calibration, the analysts has performed the same manual search for every sample analysis to ensure that false negative results are not reported. All peaks in the calibration standards, samples and QC samples are checked manually to ensure that the software has correctly identified and integrated the peaks.

No problems were encountered during sample extraction and sample analysis.

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hard copy data package has been authorized by the laboratory manager or his designee, as verified by the following signature:

Elizabeth A Lario / QC Coordinator
Signature and Title

5/24/00
Date of Signature

Z:\NETDATA\QA\FORMS\CLP\NARR1296.DOC

EPA United States Environmental Protection Agency
Contract Laboratory Program

Organic Traffic Report & Chain of Custody Record
(For Organic CLP Analysis)

SDG No.

Case No. 27986

1. Matrix (Enter in Column A)	2. Preservative (Enter in Column D)
1. Surface Water	1. HCl
2. Ground Water	2. HNO3
3. Leachate	3. NaHSO4
4. Field QC	4. H2SO4
5. Soil/Sediment	5. Ice only
6. PE water	6. CH3OH
7. PE soil	7. Other (specify in Column D)
8. Other (specify in Column A)	N. Not Preserved

3. Region No.: 5
Sampling Co.: USACE Omaha
5. Date Shipped: [illegible]
Carrier: FED-EX
7. Date Received--Received by: 5-3-00 Carlos Ruiz

Sampler (Name): Jamie E. Carrig
Airbill Number: 818029405565
Laboratory Contract No.: 68-D7-0004
Unit Price: 525.xx/.00

Sampler Signature: Jamie E. Carrig
6. Ship To: PDP Analytical Services, 1680 Lakefront Circle Suite, The Woodlands, TX 77380
ATTN: Sean Sundquist
8. Transfer to:
Date Received
Received by:
Contract Number
Price

4. Purpose**
Lead: [X] SF [X] PRP [ ] ST [ ] FED [ ] BZ
Early Action: [ ] IA [ ] PA [ ] REM [ ] RI [ ] SI [ ] ESI
Long-Term Action: [ ] RIFS [X] RD [ ] RA [ ] O&M

CLP Sample Numbers (from labels)	A Matrix (from Box 1) Other:	B Conc.: Low Med	C Sample Type: Comp./Grab	D Preservative (from Box 2) Other:	E RAS Analysis TA (circle one) PR* 7 14 21 VOA	TA (circle one) PR* 7 14 21 BNA	TA (circle one) PR* 7 14 21 Pest/PCB	F Regional Specific Tracking Number or Tag Numbers	G Station Location Identifier	H Mo/Day/Year/Time Sample Collection	I Corresponding CLP Inorganic Sample No.	J Sampler Initials	K Sample Condition
E00FL	2	LL	Grab	1	X	—	—	5-068674, -675	WT115	05/01/00 0800	NA		
E00FF	2	LL	Grab	1	X	—	—	5-068650, 5-068779, -780	WT115A	05/01/00/1313	NA		
E00FF	2	LL	Grab	5	—	X	—	5-068652, -653	WT115A	05/01/00/1313	NA		
E00FG	2	LL	Grab	1	X	—	—	5-068656, -657, -658	WTE2	05/01/00/1428	NA		
E00FG	2	LL	Grab	5	—	X	—	5-068659, -660	WTE2	05/01/00/1428	NA		
E00FH	2	LL	Grab	1	X	—	—	5-068664, -665, -666	WTE1	05/02/00/1052	NA		
E00FH	2	LL	Grab	5	—	X	—	5-068667, -668	WTE1	05/02/00/1052	NA		
E00FJ	2	LL	Grab	1	X	—	—	5-068[illegible], -670	WTE3	[illegible]	NA		
E00FJ	2	LL	Grab	5	—	X	—	5-068[illegible], -677	WTE3	[illegible]	NA		
E00FK	2	LL	Grab	1	X			5-068[illegible], -686, 5-068672	WT105A	05/02/00/1050	NA		

Shipment for Case Complete? (Y/N): Y
Page 1 of 2
VOA MS/MSD Required? Y/N Sample #:
BNA MS/MSD Required? Y/N Sample #:
Pest/PCB MS/MSD Required? Y/N Sample #:
Additional Sampler Signatures: [signature]
Chain of Custody Seal Number(s): [illegible]

*PR provides 7-day data turnaround in addition to preliminary results. Requests for preliminary results will increase analytical costs.

Chain of Custody Record

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
[signature]	05/02/00 1800				
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature) Carlos Ruiz	Date / Time 5-3-00 9:02	Remarks: Is custody seal intact? Y/N/none	Case: 27986 SDG: E00FL

Distribution: Blue - Region Copy; White - Lab Copy for Return to SMO; Pink - SMO Copy; Yellow - Lab Copy for Return to Region

See Reverse for Additional Standard Instructions
**See Reverse for Purpose Code Definitions

EPA Form 9110-2 (2/99)

CLASS-99-002

9000006

Organic Traffic Report & Chain of Custody Record

EPA — United States Environmental Protection Agency, Contract Laboratory Program

(For Organic CLP Analysis)

SDG No.

Case No. 27986

1. Matrix (Enter in Column A): 1. Surface Water; 2. Ground Water; 3. Leachate; 4. Field QC; 5. Soil/Sediment; 6. PE-water; 7. PE-soil; 8. Other (specify in Column A)

Preservative (Enter in Column D): 1. HCl; 2. HNO3; 3. NaHSO4; 4. H2SO4; 5. Ice only; 6. CH3OH; 7. Other (specify in Column D); N. Not Preserved

3. Region No.: 5 — Sampling Co.: [illegible]

5. Date Shipped: 05/02/00 — Carrier: FedEx

7. Date Received--Received by: 5-3-00 Carlos Pinn

Sampler (Name): Jane E. Carig

Airbill Number: 818029405565

Laboratory Contract No.: 68-D7-0004 — Unit Price: 525 XX.00

Sampler Signature: [signature]

6. Ship To: 2200 Analytical Services, 1620 Rockwell Circle Suite 100, Woodlands, TX 77380

ATTN: Dean Sundquist

8. Transfer to: — Date Received:

Received by:

Contract Number — Price

4. Purpose**: Lead: [X] SF, [ ] PRP, [ ] ST, [ ] FED, [ ] BZ; Early Action: [ ] IA, [ ] PA, [ ] REM, [ ] RI, [ ] SI, [ ] ESI; Long-Term Action: [ ] RIFS, [X] RD, [ ] RA, [ ] O&M

CLP Sample Numbers (from labels)	A Matrix (from Box 1) Other:	B Conc.: Low Med	C Sample Type: Comp./ Grab	D Preservative (from Box 2) Other:	E RAS Analysis TA (circle one) P * 7 14 21 — VOA	E TA (circle one) * 7 14 21 — BNA	E TA (circle one) * 7 14 21 — Pest/ PCB	F Regional Specific Tracking Number or Tag Numbers	G Station Location Identifier	H Mo/Day/ Year/Time Sample Collection	I Corresponding CLP Inorganic Sample No.	J Sampler Initials	K Sample Condition
[illegible]	2	LL	Grab	5	—	X	—	[illegible]	MTBSA	[illegible]	NA	[illegible]	
[illegible]	2	LL	Grab	1	X	—	—	[illegible]	MTBSA	[illegible]	NA	JC	
[illegible]	2	LL	Grab	5	—	X	—	5486688, -689	MTBSA	[illegible]	NA	JC	
[illegible]	[illegible]						— Am I no matrix —						

Shipment for Case Complete? (Y/N): [illegible]

Page 2 of 2

VOA MS/MSD Required? Y/N Sample #:

BNA MS/MSD Required? Y/N Sample #:

Pest/PCB MS/MSD Required? Y/N Sample #:

Additional Sampler Signatures: [signature]

Chain of Custody Seal Number(s): [illegible]

*PR provides 7-day data turnaround in addition to preliminary results. Requests for preliminary results will increase analytical costs.

Chain of Custody Record

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
[signature]	5/2/00 1800				
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature) Carlos Pinn	Date / Time 5-3-00 9:02	Remarks: Is custody seal intact? (Y)N/none Case: 27986 SDG: E00FBL	

Distribution: Blue - Region Copy; White - Lab Copy for Return to SMO; Pink - SMO Copy; Yellow - Lab Copy for Return to Region

See Reverse for Additional Standard Instructions

**See Reverse for Purpose Code Definitions

EPA Form 9110-2 (2/99)

CLASS-99-002

00000007

201527

EPA United States Environmental Protection Agency
Contract Laboratory Program

Organic Traffic Report & Chain of Custody Record
(For Organic CLP Analysis)

SDG No.

Case No. 27986

1. Matrix (Check in Column A): 1. Surface Water 2. Ground Water 3. Leachate 4. Field QC 5. Soil/Sediment 6. PE-water 7. PE-soil 8. Other (specify in Column A)

2. Preservative (Enter in Column D): 1. HCl 2. HNO3 3. NaHSO4 4. H2SO4 5. Ice only 6. CH3OH 7. Other (specify in Column D) N. Not Preserved

3. Region No. 5 | Sampling Co. USACE Omaha | 5. Date Shipped 05/02/00 | Carrier FED-EX

Sampler (Name) Janie E. Carrig | Airbill Number 818029405565

Sampler Signature Janie E Carrig

4. Purpose** Lead: [X] SF [ ] PRP [ ] ST [ ] FED [ ] BZ | Early Action: [ ] IA [ ] PA [ ] REM [ ] RI [ ] SI [ ] ESI | Long-Term Action: [ ] RIFS [X] RD [ ] RA [ ] O&M

6. Ship To: PDP Analytical Services
1680 Lakefront Circle Suite
The Woodlands, TX 77380
ATTN: Sean Sundquist

7. Date Received--Received by: 5-3-00 Carlos Ruiz

Laboratory Contract No. 68-D7-0004 | Unit Price 525.00

8. Transfer to: | Date Received

Received by:

Contract Number | Price

CLP Sample Numbers (from labels)	A Matrix (from Box 1) Other:	B Conc.: Low Med	C Sample Type: Comp./Grab	D Preservative (from Box 2) Other:	E RAS Analysis TA (circle one) * 7 14 21 VOA	TA (circle one) * 7 14 21 BNA	TA (circle one) * 7 14 21 Pest/PCB	F Regional Specific Tracking Number or Tag Numbers	G Station Location Identifier	H Mo/Day/Year/Time Sample Collection	I Corresponding CLP Inorganic Sample No.	J Sampler Initials	K Sample Condition
E00FL	2	LL	Grab	1	X	—	—	5-068674, -675	WT115	05/01/00 0800	NA	J	
E00FF	2	LL	Grab	1	X	—	—	5-068650 5-068779, -780	WT115A	05/01/00/1313	NA	J	
E00FF	2	LL	Grab	5	—	X	—	5-068652, -653	WT115A	05/01/00/1313	NA	J	
E00FG	2	LL	Grab	1	X	—	—	5-068656, -657, -658	WTE2	05/01/00/1428	NA	J	
E00FG	2	LL	Grab	5	—	X	—	5-068659, -660	WTE2	05/01/00/1428	NA	J	
E00FH	2	LL	Grab	1	X	—	—	5-068664, -665, -666	WTE1	05/02/00/1052	NA	J	
E00FH	2	LL	Grab	5	—	X	—	5-068667, -668	WTE1	05/02/00/1052	NA	J	
E00FJ	2	LL	Grab	1	X	—	—	5-068694, -695 5-068670	WTE3	05/02/00/1201	NA	J	
E00FJ	2	LL	Grab	5	—	X	—	5-068696, -697	WTE3	05/02/00/1201	NA	J	
E00FK	2	LL	Grab	1	X			5-068674, 5-068386 5-068672	WT105A	05/02/00/1338	NA	J	

Shipment for Case Complete? (Y/N) Y | Page 1 of 2

VOA MS/MSD Required? Y/N Sample #:
BNA MS/MSD Required? Y/N Sample #:
Pest/PCB MS/MSD Required? Y/N Sample #:

Additional Sampler Signatures: [signature]

Chain of Custody Seal Number(s): 21915, 21916

*PR provides 7-day data turnaround in addition to preliminary results. Requests for preliminary results will increase analytical costs.

Chain of Custody Record

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Janie E Carrig	05/02/00 1800				
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature) Carlos Ruiz	Date / Time 5-3-00 9:02	Remarks: Is custody seal intact? Y/N/none	Case: 27986 SDG: E00FL

0000883

Distribution: Blue - Region Copy; White - Lab Copy for Return to SMO; Pink - SMO Copy; Yellow - Lab Copy for Return to Region

See Reverse for Additional Standard Instructions
**See Reverse for Purpose Code Definitions

EPA Form 9110-2 (2/99)

CLASS-99-002

EPA United States Environmental Protection Agency
Contract Laboratory Program

Organic Traffic Report & Chain of Custody Record
(For Organic CLP Analysis)

SDG No.

Case No. 27986

1. Matrix (Enter in Column A)
1. Surface Water
2. Ground Water
3. Leachate
4. Field QC
5. Soil/Sediment
6. PE-water
7. PE-soil
8. Other (specify in Column A)

2. Preservative (Enter in Column D)
1. HCl
2. HNO3
3. NaHSO4
4. H2SO4
5. Ice only
6. CH3OH
7. Other (specify in Column D)
N. Not Preserved

3. Region No. 5
Sampling Co. USACE-Omaha
5. Date Shipped 05/02/00
Carrier FED EX
7. Date Received--Received by: 5-3-00 Carlos Pirin

Sampler (Name) Janie E. Carrig
Airbill Number 818029405565
Laboratory Contract No. 68-D7-0004
Unit Price 525 xx/.00

Sampler Signature Janie E Carrig
6. Ship To: PDP Analytical Services
1680 Lake Front Circle, Suite
The Woodlands, TX 77380
ATTN: Sean Sundquist
8. Transfer to:
Date Received
Received by:
Contract Number
Price

4. Purpose**
Lead: [X] SF [ ] PRP [ ] ST [ ] FED [ ] BZ
Early Action: [ ] IA [ ] PA [ ] REM [ ] RI [ ] SI [ ] ESI
Long-Term Action: [ ] RIFS [X] RD [ ] RA [ ] O&M

CLP Sample Numbers (from labels)	A Matrix (from Box 1) Other:	B Conc.: Low, Med	C Sample Type: Comp./Grab	D Preservative (from Box 2) Other:	E RAS Analysis TA (circle one) PR* 7 14 21 VOA	TA (circle one) PR* 7 14 21 BNA	TA (circle one) PR* 7 14 21 Pest/PCB	F Regional Specific Tracking Number or Tag Numbers	G Station Location Identifier	H Mo/Day/Year/Time Sample Collection	I Corresponding CLP Inorganic Sample No.	J Sampler Initials	K Sample Condition
E00FK	2	LL	Grab	5	—	X	—	5-068590, 5-068683	WT105A	05/02/00/1338	NA	J	
E00F4	2	LL	Grab	1	X	—	—	5-068686-687, 5-068612	WT106A	05/02/00/1558	NA	J	
E00F4	2	LL	Grab	5	—	X	—	5-068688, -689	WT106A	05/02/00/1558	NA	J	
							— And no more —						

Shipment for Case Complete? (Y/N) Y
Page 2 of 2
VOA MS/MSD Required? Y/N Sample #:
BNA MS/MSD Required? Y/N Sample #:
Pest/PCB MS/MSD Required? Y/N Sample #:
Additional Sampler Signatures: Richard Grabowski
Chain of Custody Seal Number(s): 21915, 21916

*PR provides 7-day data turnaround in addition to preliminary results. Requests for preliminary results will increase analytical costs.

Chain of Custody Record

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Janie E Carrig	05/02/00 1800				
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature) Carlos Pirin	Date / Time 5-3-00 9:02	Remarks: Is custody seal intact? (Y)N/none	Case: 27986 SDG: E00FFL

Distribution: Blue - Region Copy; White - Lab Copy for Return to SMO; Pink - SMO Copy; Yellow - Lab Copy for Return to Region

See Reverse for Additional Standard Instructions
**See Reverse for Purpose Code Definitions

EPA Form 9110-2 (2/99)

CLASS-99-002

4880000

EPA United States Environmental Protection Agency
Contract Laboratory Program

Organic Traffic Report & Chain of Custody Record
(For Organic CLP Analysis)

SDG No.

Case No. 27986

1. Matrix (Enter in Column A)
1. Surface Water
2. Ground Water
3. Leachate
4. Field QC
5. Soil/Sediment
6. PE-water
7. PE-soil
8. Other (specify in Column A)

2. Preservative (Enter in Column D)
1. HCl
2. HNO3
3. NaHSO4
4. H2SO4
5. Ice only
6. CH3OH
7. Other (specify in Column D)
N. Not Preserved

3. Region No. 5
Sampling Co. USACE-CINMA
5. Date Shipped 05/04/00
Carrier FEDEX
7. Date Received--Received by: 5-5-00 Carlos Pinn

Sampler (Name) Janie E. Carrig
Airbill Number 818029405543
Laboratory Contract No. 68-D7-0004
Unit Price 525 xx/.00

Sampler Signature Janie E Carrig
6. Ship To: PDP Analytical Services
1680 Lake Front Circle, Suite
The Woodlands, TX 77380
ATTN: Sean Sundquist
8. Transfer to:
Date Received
Received by:
Contract Number
Price

4. Purpose**
Lead: [X] SF [ ] PRP [ ] ST [ ] FED [ ] BZ
Early Action: [ ] IA [ ] PA [ ] REM [ ] RI [ ] SI [ ] ESI
Long-Term Action: [ ] RIFS [X] RD [ ] RA [ ] O&M

CLP Sample Numbers (from labels)	A Matrix (from Box 1) Other:	B Conc.: Low Med	C Sample Type: Comp./Grab	D Preservative (from Box 2) Other:	E RAS Analysis TA (circle one) PR* 7 14 21 VOA	TA (circle one) PR* 7 14 21 BNA	TA (circle one) PR* 7 14 21 Pest/PCB	F Regional Specific Tracking Number or Tag Numbers	G Station Location Identifier	H Mo/Day/Year/Time Sample Collection	I Corresponding CLP Inorganic Sample No.	J Sampler Initials	K Sample Condition
EOOF5	2	LL	Grab	1	X	—	—	5-068198, 5-068463, 5-068691	WT101C	05/03/00/0839	NA	J	
EOOF5	2	LL	Grab	5	—	X	—	5-068199, 5-068201	WT101C	05/03/00/0839	NA	J	
EOOF6	2	LL	Grab	1	X	—	—	5-068571, 5068572	WT101A	05/03/00/0802	NA	J	
EECFN2	2	LL	Grab	1	X	—	—	5-068359, -360, 361	WT101A	05/03/00/0950	NA	J	
EECFN2	2	LL	Grab	5	—	X	—	5-068362, -363	WT101A	05/03/00/0950	NA	J	
EECFN3	2	LL	Grab	1	X	—	—	5-068677, -678, -679	WT101A	05/03/00/0950	NA	J	
EECFN3	2	LL	Grab	5	—	X	—	5-068680, -681	WT101A	05/03/00/0950	NA	J	
EECFN4	2	LL	Grab	1	X	—	—	5-068412, -413, -414	WT101B	05/03/00/1107	NA	J	
EECFN4	2	LL	Grab	5	—	X	—	5-068415, -416	WT101B	05/03/00/1107	NA	J	
EECFN5	2	LL	Grab	1	X	—	—	5-068464, 5-068402, -421	WT116A	05/03/00/1425	NA	J	

Shipment for Case Complete? (Y/N) Y
Page 1 of 2
VOA MS/MSD Required? Y/N Sample #:
BNA MS/MSD Required? Y/N Sample #:
Pest/PCB MS/MSD Required? Y/N Sample #:
Additional Sampler Signatures: Richard Grabowski
Chain of Custody Seal Number(s): 21921, 21922

*PR provides 7-day data turnaround in addition to preliminary results. Requests for preliminary results will increase analytical costs.

Chain of Custody Record

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
J E Carrig	05/04/00 1300				
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature) Carlos Pinn	Date / Time 5-5-00 9:05	Remarks: Is custody seal intact? Y/N/none Case: 27986 SDG: EOOFL	

Distribution: Blue - Region Copy; White - Lab Copy for Return to SMO; Pink - SMO Copy; Yellow - Lab Copy for Return to Region

See Reverse for Additional Standard Instructions
**See Reverse for Purpose Code Definitions

EPA Form 9110-2 (2/99)

CLASS-99-002

0000885

EPA United States Environmental Protection Agency
Contract Laboratory Program

Organic Traffic Report & Chain of Custody Record
(For Organic CLP Analysis)

SDG No.

Case No. 27986

1. Matrix (Enter in Column A)
1. Surface Water
2. Ground Water
3. Leachate
4. Field QC
5. Soil/Sediment
6. PE water
7. PE soil
8. Other (specify in Column A)

2. Preservative (Enter in Column D)
1. HCl
2. HNO3
3. NaHSO4
4. H2SO4
5. Ice only
6. CH3OH
7. Other (specify in Column D)
N. Not Preserved

3. Region No. 5 | Sampling Co. USACE-Omaha | 5. Date Shipped 05/04/00 | Carrier FEDEX

Sampler (Name) Janie E. Carrig | Airbill Number 818029405521

Sampler Signature Janie E Carrig

4. Purpose** Lead: [X] SF [ ] PRP [ ] ST [ ] FED [ ] BZ | Early Action: [ ] IA [ ] PA [ ] REM [ ] RI [ ] SI [ ] ESI | Long-Term Action: [ ] RIFS [X] RD [ ] RA [ ] O&M

6. Ship To: PDP Analytical Services
1680 Lake Front Circle Suite
The Woodlands, TX 77380
ATTN: Sean Sundquist

7. Date Received–Received by: 5-5-00 Carlos Pinn

Laboratory Contract No. 68-D7-0004 | Unit Price 525.00

8. Transfer to: | Date Received

Received by:

Contract Number | Price

CLP Sample Numbers (from labels)	A Matrix (from Box 1) Other:	B Conc.: Low Med	C Sample Type: Comp/Grab	D Preservative (from Box 2) Other:	E RAS Analysis TA (circle one) P* 7 14 21 VOA	TA (circle one) PR* 7 14 21 BNA	TA (circle one) PR* 7 14 21 Pest/PCB	F Regional Specific Tracking Number or Tag Numbers	G Station Location Identifier	H Mo/Day/Year/Time Sample Collection	I Corresponding CLP Inorganic Sample No.	J Sampler Initials	K Sample Condition
EECFN6	2	LL	Grab	1	X	—	—	5-068587, -588, -589	WT116A	05/03/00/1425	N/A	J	
EECFN6	2	LL	Grab	5	—	X	—	5-068425, -426	WT116A	05/03/00/1425	N/A	J	
EECFN8	2	LL	Grab	1	X	—	—	5-068348, -349, 5-068410	WT116B	05/03/00/1503	NA	J	
EECFN8	2	LL	Grab	5	—	X	—	5-068350, 5-068554	WT116B	05/03/00/1503	NA	J	
EECFN9	2	LL	Grab	1	X	—	—	5-068573, -574	WT116B	05/03/00/1500	NA	J	
EECFN10	2	LL	Grab	1	X	—	—	5-068557, -558, -559	WT114A	05/03/00/1722	NA	J	
EECFN10	2	LL	Grab	5	—	X	—	5-068560, -561	WT114A	05/03/00/1722	NA	J	
EECFN11	2	LL	Grab	1	X	—	—	5-068564, -565, -566	WT114B	05/03/00/1812	NA	J	
EECFN11	2	LL	Grab	5	—	X	—	5-068567, -568	WT114B	05/03/00/1812	NA	J	
EECFP1	2	LL	Grab	1	X	—	—	5-068577, 578, 579	WT114A	05/03/00/1820	NA	J	

Shipment for Case Complete? (Y/N) Y | Page 1 of 2

VOA MS/MSD Required? Y/N Sample #:
BNA MS/MSD Required? Y/N Sample #:
Pest/PCB MS/MSD Required? Y/N Sample #:

Additional Sampler Signatures: [signature]

Chain of Custody Seal Number(s): 21923, 21924

*PR provides 7-day data turnaround in addition to preliminary results. Requests for preliminary results will increase analytical costs.

Chain of Custody Record

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Janie E Carrig	05/04/00 1300				
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature) Carlos Pinn	Date / Time 5-5-00 9:05	Remarks: Is custody seal intact? Y/N/none Case: 27986 SDG: E00FL	

Distribution: Blue - Region Copy; White - Lab Copy for Return to SMO; Pink - SMO Copy; Yellow - Lab Copy for Return to Region

See Reverse for Additional Standard Instructions
**See Reverse for Purpose Code Definitions

EPA Form 9110-2 (2/99)

CLASS-99-002

9880000

Organic Traffic Report & Chain of Custody Record

EPA — United States Environmental Protection Agency, Contract Laboratory Program

(For Organic CLP Analysis)

SDG No.

Case No. 27986

1. Matrix (Enter in Column A)
   1. Surface Water
   2. Ground Water
   3. Leachate
   4. Field QC
   5. Soil/Sediment
   6. PE-water
   7. PE-soil
   8. Other (specify in Column A)

2. Preservative (Enter in Column D)
   1. HCl
   2. HNO3
   3. NaHSO4
   4. H2SO4
   5. Ice only
   6. CH3OH
   7. Other (specify in Column D)
   N. Not Preserved

3. Region No.: 5
Sampling Co.: USACE-Omaha
5. Date Shipped:
Carrier: FED EX
7. Date Received--Receive by: 5-5-00 Carlos Puin

Sampler (Name): Janie E. Carrig
Airbill Number: 818029405543
Laboratory Contract No.: 68-D7-0004
Unit Price: 525.00 XX

Sampler Signature: Janie E. Carrig
6. Ship To: PDP Analytical Services, 1680 Lakefront Circle Suite, The Woodlands, TX 77380
ATTN: Sean Sundquist
8. Transfer to:
Date Received

4. Purpose**
Lead: [X] SF [ ] PRP [ ] ST [ ] FED [ ] BZ
Early Action: [ ] IA [ ] PA [ ] REM [ ] RI [ ] SI [ ] ESI
Long-Term Action: [ ] RIFS [X] RD [X] RA [ ] O&M

Received by:
Contract Number
Price

CLP Sample Numbers (from labels)	A Matrix (from Box 1) Other:	B Conc.: Low / Med	C Sample Type: Comp / Grab	D Preservative (from Box 2) Other:	E RAS Analysis TA (circle one) P* 7 14 21 — VOA	E RAS Analysis TA (circle one) Pr* 7 14 21 — BNA	E RAS Analysis TA (circle one) P* 7 14 21 — Pest/PCB	F Regional Specific Tracking Number or Tag Numbers	G Station Location Identifier	H Mo/Day/Year/Time Sample Collection	I Corresponding CLP Inorganic Sample No.	J Sampler Initials	K Sample Condition
EECFN5	2	LL	Grab	5	—	X	—	5-068421, -422	UT116A	05/03/00/1425	N/A	JC	
							— And no more —						

Shipment for Case Complete? (Y/N): Y
Page: 2 of 2

VOA MS/MSD Required? Y/N: Sample #:
BNA MS/MSD Required? Y/N: Sample #:
Pest/PCB MS/MSD Required? Y/N: Sample #:

Additional Sampler Signatures: Richard Grabowski

Chain of Custody Seal Number(s): 21921, 21922

*PR provides 7-day data turnaround in addition to preliminary results. Requests for preliminary results will increase analytical costs.

Chain of Custody Record

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature) Carlos Puin	Date / Time 5-5-00 19:05	Remarks: Is custody seal intact? Y/N/none	Case: 27986 SDG: E00FL

Distribution: Blue - Region Copy; White - Lab Copy for Return to SMO; Pink - SMO Copy; Yellow - Lab Copy for Return to Region

See Reverse for Additional Standard Instructions

**See Reverse for Purpose Code Definitions

EPA Form 9110-2 (2/99)

CLASS-99-002

EPA United States Environmental Protection Agency
Contract Laboratory Program

Organic Traffic Report & Chain of Custody Record
(For Organic CLP Analysis)

SDG No.

Case No. 27986

1. Matrix (Enter in Column A)
1. Surface Water
2. Ground Water
3. Leachate
4. Field QC
5. Soil/Sediment
6. PE-water
7. PE-soil
8. Other (specify in Column A)

2. Preservative (Enter in Column D)
1. HCl
2. HNO3
3. NaHSO4
4. H2SO4
5. Ice only
6. CH3OH
7. Other (specify in Column D)
N. Not Preserved

3. Region No.: 5
Sampling Co.: USACE - Omaha
5. Date Shipped: 05/04/00
Carrier: FEDEX
7. Date Received--Received by: 5-5-00 Carla Finn

Sampler (Name): Janie E. Carrig
Airbill Number: 818029405521
Laboratory Contract No.: 68-D7-0004
Unit Price: 525.00

Sampler Signature: Janie E Carrig
6. Ship To: PDP Analytical Services
11680 Lake Front Circle
Suite B
The Woodlands, TX 77380
ATTN: Sean Sundquist
8. Transfer to:
Date Received
Received by:
Contract Number
Price

4. Purpose**
Lead: SF, PRP, ST, FED, BZ
Early Action: IA, PA, REM, RI, SI, ESI
Long-Term Action: RIFS, RD, RA, O&M

CLP Sample Numbers (from labels)	A Matrix (from Box 1) Other:	B Conc.: Low Med	C Sample Type: Comp./ Grab	D Preservative (from Box 2) Other:	E RAS Analysis TA (circle one) P * 7 14 21 VOA	E RAS Analysis TA (circle one) * 7 14 21 BNA	E RAS Analysis TA (circle one) * 7 14 21 Pest/ PCB	F Regional Specific Tracking Number or Tag Numbers	G Station Location Identifier	H Mo/Day/ Year/Time Sample Collection	I Corresponding CLP Inorganic Sample No.	J Sampler Initials	K Sample Condition
EECFP1	2	LL	Grab	5	—	X	—	5-048580,-581	WT114A	05/03/00 1820	NA	J	
							- and no more. -						

Shipment for Case Complete? (Y/N)
Page 2 of 2
VOA MS/MSD Required? Y/N Sample #:
BNA MS/MSD Required? Y/N Sample #:
Pest/PCB MS/MSD Required? Y/N Sample #:
Additional Sampler Signatures
Chain of Custody Seal Number(s): 21923, 21924

*PR provides 7-day data turnaround in addition to preliminary results. Requests for preliminary results will increase analytical costs.

Chain of Custody Record

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Janie E Carrig	05/04/00 1300				
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature) Carla Finn	Date / Time 5-5-00 9:05	Remarks: Is custody seal intact? Y/N/none	Case: 27986 SDG: E00FL

8880000

Distribution: Blue - Region Copy; White - Lab Copy for Return to SMO; Pink - SMO Copy; Yellow - Lab Copy for Return to Region

See Reverse for Additional Standard Instructions
**See Reverse for Purpose Code Definitions

EPA Form 9110-2 (2/99)

CLASS-99-002

201550

EPA United States Environmental Protection Agency
Contract Laboratory Program

Organic Traffic Report & Chain of Custody Record
(For Organic CLP Analysis)

SDG No.

Case No. 27986

1. Matrix (Enter in Column A)	2. Preservative (Enter in Column D)
1. Surface Water	1. HCl
2. Ground Water	2. HNO3
3. Leachate	3. NaHSO4
4. Field QC	4. H2SO4
5. Soil/Sediment	5. Ice only
6. PE-water	6. CH3OH
7. PE-soil	7. Other (specify in Column D)
8. Other (specify in Column A)	N. Not Preserved

3. Region No.: 5
Sampling Co.: USACE-OMAHA
5. Date Shipped: 05/04/00
Carrier: FEDEX
7. Date Received--Received by: 5-5-00 Carlos Pirir
Sampler (Name): Jamie E. Carrig
Airbill Number: 818029405543
Laboratory Contract No.: 68-D7-0004
Unit Price: 525 xx/.00
Sampler Signature: Jamie E. Carrig
6. Ship To: IPDP Analytical Services, 1680 Lakefront Circle, Suite, The Woodlands, TX 77380
ATTN: Sean Sundquist
8. Transfer to:
Date Received
Received by:
Contract Number
Price

4. Purpose**
Lead: [X] SF [ ] PRP [ ] ST [ ] FED [ ] BZ
Early Action: [ ] IA [ ] PA [ ] REM [ ] RI [ ] SI [ ] ESI
Long-Term Action: [ ] RIFS [X] RD [ ] RA [ ] O&M

CLP Sample Numbers (from labels)	A Matrix (from Box 1) Other:	B Conc.: Low Med	C Sample Type: Comp./Grab	D Preservative (from Box 2) Other:	E RAS Analysis TA (circle one) PR* 7 14 21 VOA	TA (circle one) PR* 7 14 21 BNA	TA (circle one) PR* 7 14 21 Pest/PCB	F Regional Specific Tracking Number or Tag Numbers	G Station Location Identifier	H Mo/Day/Year/Time Sample Collection	I Corresponding CLP Inorganic Sample No.	J Sampler Initials	K Sample Condition
EC0F5	2	LL	Grab	1	X	—	—	5-068198, 5-068[illegible], 5-068691	WT101C	05/03/00/0839	NA	J	
[illegible]	2	LL	Grab	5	—	X	—	5-068[illegible], 5-068201	WT101C	05/03/00/0839	NA	J	
EC0F6	2	LL	Grab	1	X	—	—	5-068[illegible], 5-068[illegible]	WT101A	05/03/00/0852	NA	J	
[illegible]	2	LL	[illegible]	1	X	—	—	[illegible]	WT101A	05/03/00/0950	NA	J	
[illegible]	2	LL	[illegible]	5	—	X	—	5-068362, -363	WT101A	05/03/00/0950	NA	J	
EECFN3	2	LL	Grab	1	X	—	—	5-068677, -678, -679	WT101A	05/03/00/0950	NA	J	
EECFN3	2	LL	Grab	5	—	X	—	5-068680, -681	WT101A	05/03/00/0950	NA	J	
EECFN4	2	LL	Grab	1	X	—	—	5-068412, -413, -414	WT101B	05/03/00/1107	NA	J	
EECFN4	2	LL	Grab	5	—	X	—	5-068415, -416	WT101B	05/03/00/1107	NA	J	
EECFN5	2	LL	Grab	1	X	—	—	5-068464, 5-068402, -401	WT116A	05/03/00/1125	NA	J	

Shipment for Case Complete? (Y/N): Y
Page 1 of 2
VOA MS/MSD Required? Y/N Sample #:
BNA MS/MSD Required? Y/N Sample #:
Pest/PCB MS/MSD Required? Y/N Sample #:
Additional Sampler Signatures: [signature]
Chain of Custody Seal Number(s): 21921, [illegible]

*PR provides 7-day data turnaround in addition to preliminary results. Requests for preliminary results will increase analytical costs.

Chain of Custody Record

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
[signature]	05/04/00 1300				
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature) Carlos Pirir	Date / Time 5-5-00 9:05	Remarks: Is custody seal intact? Y/N/none Case: 27986 SDG: EOOFL	

Distribution: Blue - Region Copy; White - Lab Copy for Return to SMO; Pink - SMO Copy; Yellow - Lab Copy for Return to Region

See Reverse for Additional Standard Instructions
**See Reverse for Purpose Code Definitions

EPA Form 9110-2 (2/99)

CLASS-99-002

8000000

201520

EPA United States Environmental Protection Agency
Contract Laboratory Program

Organic Traffic Report & Chain of Custody Record
(For Organic CLP Analysis)

SDG No.

Case No. [illegible]

1. Matrix (Enter in Column A)
1. Surface Water
2. Ground Water
3. Leachate
4. Field QC
5. Soil/Sediment
6. PE-water
7. PE-soil
8. Other (specify in Column A)

2. Preservative (Enter in Column D)
1. HCl
2. HNO3
3. NaHSO4
4. H2SO4
5. Ice only
6. CH3OH
7. Other (specify in Column D)
N. Not Preserved

3. Region No. 5 | Sampling Co. USACE Omaha

5. Date Shipped 05/04/00 | Carrier FEDEX

7. Date Received--Received by: 5-5-00 Carlos Pinn

Sampler (Name) Janie E. Carrig

Airbill Number 818029405521

Laboratory Contract No. 68-D7-0004 | Unit Price 525.xx/.00

Sampler Signature Janie E. Carrig

6. Ship To: PDC Analytical Services
1680 Lake Front Circle Suite
The Woodlands, TX 77380
ATTN: Sean Sundquist

8. Transfer to: | Date Received

Received by:

Contract Number | Price

4. Purpose**
Lead: [X] SF [ ] PRP [ ] ST [ ] FED [ ] BZ
Early Action: [ ] IA [ ] PA [ ] REM [ ] RI [ ] SI [ ] ESI
Long-Term Action: [ ] RIFS [X] RD [ ] RA [ ] O&M

CLP Sample Numbers (from labels)	A Matrix (from Box 1) Other:	B Conc.: Low Med	C Sample Type: Comp./Grab	D Preservative (from Box 2) Other:	E RAS Analysis TA (circle one) PR* 7 14 21 VOA	TA (circle one) PR* 7 14 21 BNA	TA (circle one) PR* 7 14 21 Pest/PCB	F Regional Specific Tracking Number or Tag Numbers	G Station Location Identifier	H Mo/Day/Year/Time Sample Collection	I Corresponding CLP Inorganic Sample No.	J Sampler Initials	K Sample Condition
EECFN6	2	LL	Grab	1	X	—	—	5068587, -588, -589	WT116A	05/03/00/1425	N/A	[illegible]	
EECFN6	2	LL	Grab	5	—	X	—	5068465, -426	WT116A	05/03/00/1425	N/A	[illegible]	
EECFN8	2	LL	Grab	1	X	—	—	5068348, -349, 5068410	WT116B	05/03/00/1503	N/A	[illegible]	
EECFN8	2	LL	Grab	5	—	X	—	5068350, 5068554	WT116B	05/03/00/1503	N/A	[illegible]	
EECFN9	2	LL	Grab	1	X	—	—	5068573, -574	WT116B	05/03/00/1500	N/A	[illegible]	
EECFN10	2	LL	Grab	1	X	—	—	5068557, -558, -559	WT114A	05/03/00/1722	N/A	[illegible]	
EECFN10	2	LL	Grab	5	—	X	—	5068560, -561	WT114A	05/03/00/1722	N/A	[illegible]	
EECFN11	2	LL	Grab	1	X	—	—	5068561, [illegible]	WT114B	05/03/00/1812	N/A	[illegible]	
EECFN11	2	LL	Grab	5	—	X	—	5068567, -568	WT114B	05/03/00/1812	N/A	[illegible]	
EECFN12	2	LL	Grab	1	X	—	—	5068577, -578, 5[illegible]	WT114A	05/03/00/1720	N/A	[illegible]	

Shipment for Case Complete? (Y/N) Y

Page 1 of 2

VOA MS/MSD Required? Y/N Sample #:
BNA MS/MSD Required? Y/N Sample #:
Pest/PCB MS/MSD Required? Y/N Sample #:

Additional Sampler Signatures [signature]

Chain of Custody Seal Number(s) 21123, 21124

*PR provides 7-day data turnaround in addition to preliminary results. Requests for preliminary results will increase analytical costs.

Chain of Custody Record

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Janie E. Carrig	05/04/00 1300				
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature) Carlos Pinn	Date / Time 5-5-00 9:05	Remarks: Is custody seal intact? Y/N/none Case: 27986 SDG: E00FL	

Distribution: Blue - Region Copy; White - Lab Copy for Return to SMO; Pink - SMO Copy; Yellow - Lab Copy for Return to Region

See Reverse for Additional Standard Instructions
**See Reverse for Purpose Code Definitions

EPA Form 9110-2 (2/99)

CLASS-99-002

0000009

EPA United States Environmental Protection Agency
Contract Laboratory Program

Organic Traffic Report & Chain of Custody Record
(For Organic CLP Analysis)

SDG No.

Case No. 27986

1. Matrix (Enter in Column A): 1. Surface Water 2. Ground Water 3. Leachate 4. Field QC 5. Soil/Sediment 6. PE-water 7. PE-soil 8. Other (specify in Column A)

2. Preservative (Enter in Column D): 1. HCl 2. HNO3 3. NaHSO4 4. H2SO4 5. Ice only 6. CH3OH 7. Other (specify in Column D) N. Not Preserved

3. Region No. 5 | Sampling Co. USACE-Omaha

Sampler (Name) Janie E. Carrig

Sampler Signature Janie E. Carrig

4. Purpose**: Lead [X] SF [ ] PRP [ ] ST [ ] FED [ ] BZ; Early Action [ ] IA [ ] PA [ ] REM [ ] RI [ ] SI [ ] ESI; Long-Term Action [ ] RIFS [X] RD [ ] RA [ ] O&M

5. Date Shipped | Carrier FED EX

Airbill Number 818029405543

6. Ship To: PDP Analytical Services, 1680 Lake Front Circle Suite, The Woodlands, TX 77380

ATTN: Sean Sundquist

7. Date Received--Received by: 5-5-00 Carlos Pinn

Laboratory Contract No. 68-D7-0004 | Unit Price 525.xx/.00

8. Transfer to: | Date Received

Received by:

Contract Number | Price

CLP Sample Numbers (from labels)	A Matrix (from Box 1) Other:	B Conc.: Low Med	C Sample Type: Comp./Grab	D Preservative (from Box 2) Other:	E RAS Analysis: TA (circle one) PR* 7 14 21 VOA	TA (circle one) PR* 7 14 21 BNA	TA (circle one) PR* 7 14 21 Pest/PCB	F Regional Specific Tracking Number or Tag Numbers	G Station Location Identifier	H Mo/Day/Year/Time Sample Collection	I Corresponding CLP Inorganic Sample No.	J Sampler Initials	K Sample Condition
EECPN5	2	LL	Grab	5	—	X	—	5-068421, -422	[illegible]	[illegible]/1425	N/A	[illegible]	
							— And no more —						

Shipment for Case Complete? (Y/N) Y | Page 2 of 2

VOA MS/MSD Required? Y/N Sample #:
BNA MS/MSD Required? Y/N Sample #:
Pest/PCB MS/MSD Required? Y/N Sample #:

Additional Sampler Signatures: [signature]

Chain of Custody Seal Number(s): [illegible]

*PR provides 7-day data turnaround in addition to preliminary results. Requests for preliminary results will increase analytical costs.

Chain of Custody Record

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature) Carlos Pinn	Date / Time 5-5-00 19:05	Remarks: Is custody seal intact? Y/N/none	Case: 27986 SDG: E00FL

Distribution: Blue - Region Copy; White - Lab Copy for Return to SMO; Pink - SMO Copy; Yellow - Lab Copy for Return to Region

See Reverse for Additional Standard Instructions
**See Reverse for Purpose Code Definitions

EPA Form 9110-2 (2/99)

CLASS-99-002

0000010

201558

EPA United States Environmental Protection Agency
Contract Laboratory Program

Organic Traffic Report & Chain of Custody Record
(For Organic CLP Analysis)

SDG No.

Case No. 27986

1. Matrix (Enter in Column A)
1. Surface Water
2. Ground Water
3. Leachate
4. Field QC
5. Soil/Sediment
6. PE-water
7. PE-soil
8. Other (specify in Column A)

2. Preservative (Enter in Column D)
1. HCl
2. HNO3
3. NaHSO4
4. H2SO4
5. Ice only
6. CH3OH
7. Other (specify in Column D)
N. Not Preserved

3. Region No. 5
Sampling Co. USACE Omaha

5. Date Shipped 05/04/00
Carrier FEDEX

7. Date Received--Received by: 5-5-00 Carlos Pirir

Sampler (Name) Janie E. Carrig

Airbill Number 818029405521

Laboratory Contract No. 68-D7-0004
Unit Price 525 xx.00

Sampler Signature Janie E. Carrig

6. Ship To: PDP Analytical Services
1430 Lake Front Circle
Suite B
The Woodlands, TX 77380
ATTN: Sean Sundquist

8. Transfer to:
Date Received
Received by:
Contract Number
Price

4. Purpose**
Lead: [X] SF [ ] PRP [ ] ST [ ] FED [ ] BZ
Early Action: [ ] IA [ ] PA [ ] REM [ ] RI [ ] SI [ ] ESI
Long-Term Action: [ ] RIFS [X] RD [ ] RA [ ] O&M

CLP Sample Numbers (from labels)	A Matrix (from Box 1) Other:	B Conc.: Low Med	C Sample Type: Comp./Grab	D Preservative (from Box 2) Other:	E RAS Analysis TA (circle one) PR* 7 14 21 VOA	TA (circle one) PR* 7 14 21 BNA	TA (circle one) PR* 7 14 21 Pest/PCB	F Regional Specific Tracking Number or Tag Numbers	G Station Location Identifier	H Mo/Day/Year/Time Sample Collection	I Corresponding CLP Inorganic Sample No.	J Sampler Initials	K Sample Condition
CEFP1	2	LL	Grab	5	—	x	—	S-068580, -581	WT114A	05/03/00 1820	NA	[illegible]	
							- And no more -						

Shipment for Case Complete? (Y/N) Y
Page 2 of 2
VOA MS/MSD Required? Y/N Sample #:
BNA MS/MSD Required? Y/N Sample #:
Pest/PCB MS/MSD Required? Y/N Sample #:

Additional Sampler Signatures [signature]

Chain of Custody Seal Number(s) 21923, 21924

*PR provides 7-day data turnaround in addition to preliminary results. Requests for preliminary results will increase analytical costs.

Chain of Custody Record

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
[signature]	5/04/00 1300				
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature) Carlos Pirir	Date / Time 5-5-00 9:05	Remarks: Is custody seal intact? Y/N/none	Case: 27986 SDG: E00FL

Distribution: Blue - Region Copy; White - Lab Copy for Return to SMO; Pink - SMO Copy; Yellow - Lab Copy for Return to Region

See Reverse for Additional Standard Instructions
**See Reverse for Purpose Code Definitions

EPA Form 9110-2 (2/99)

CLASS-99-002

0000011

LOW CONC. WATER VOLATILE SYSTEM MONITORING COMPOUND RECOVERY

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: E00FL

	EPA SAMPLE NO.	BFB %REC #	OTHER	TOT OUT
01	VBLK65	89		0
02	VLCS65	90		0
03	E00FF	88		0
04	E00FL	91		0
05	E00FG	91		0
06	VBLK66	90		0
07	VLCS66	80		0
08	E00FH	91		0
09	E00FJ	91		0
10	E00FK	92		0
11	E00F4	91		0
12	VBLK02	94		0
13	VLCS02	96		0
14	E00F5	99		0
15	E00F6	95		0
16	ECFN2	100		0
17	ECFN3	94		0
18	ECFN4	91		0
19	ECFN5	106		0
20	ECFN6	97		0
21	VBLK03	98		0
22	VLCS03	94		0
23	ECFN8	92		0
24	ECFN9	94		0
25	E01TP	96		0
26	E01TQ	92		0
27	ECFP1	86		0
28	VHBLK01	94		0
29				
30				

QC LIMITS
%REC

BFB = Bromofluorobenzene (80-120)

Column to be used to flag recovery values
* Values outside of contract required QC limits

LOW CONC. WATER VOLATILE LAB CONTROL SAMPLE RECOVERY

EPA SAMPLE NO.

VLCS65

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: E00FL

Lab Sample ID: FVLCS069 LCS Lot No.: 60

Lab File ID: F1143 Date Analyzed: 05/05/00

Purge Volume: 20.0 (mL) Dilution Factor: 1.0

LCS Aliquot: 10.0 (uL)

COMPOUND	AMOUNT ADDED (ng)	AMOUNT RECOVERED (ng)	%REC #	QC LIMITS
Vinyl chloride	100	90	90	60-140
1,2-Dichloroethane	100	133	133	60-140
Carbon tetrachloride	100	125	125	60-140
1,2-Dichloropropane	100	125	125	60-140
Trichloroethene	100	121	121	60-140
1,1,2-Trichloroethane	100	125	125	60-140
Benzene	100	122	122	60-140
cis-1,3-Dichloropropene	100	116	116	60-140
Bromoform	100	138	138	60-140
Tetrachloroethene	100	118	118	60-140
1,2-Dibromoethane	100	111	111	60-140
1,4-Dichlorobenzene	100	120	120	60-140

Column to be used to flag LCS recovery with an asterisk.

* Values outside of QC limits.

LCS Recovery: 0 outside limits out of 12 total.

COMMENTS: _____

3LCA

LOW CONC. WATER VOLATILE LAB CONTROL SAMPLE RECOVERY

EPA SAMPLE NO.

VLCS66

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: E00FL

Lab Sample ID: FVLCS070 LCS Lot No.: 60

Lab File ID: F1165 Date Analyzed: 05/08/00

Purge Volume: 20.0 (mL) Dilution Factor: 1.0

LCS Aliquot: 10.0 (uL)

COMPOUND	AMOUNT ADDED (ng)	AMOUNT RECOVERED (ng)	%REC #	QC LIMITS
Vinyl chloride	100	89	89	60-140
1,2-Dichloroethane	100	131	131	60-140
Carbon tetrachloride	100	121	121	60-140
1,2-Dichloropropane	100	122	122	60-140
Trichloroethene	100	125	125	60-140
1,1,2-Trichloroethane	100	119	119	60-140
Benzene	100	126	126	60-140
cis-1,3-Dichloropropene	100	130	130	60-140
Bromoform	100	136	136	60-140
Tetrachloroethene	100	115	115	60-140
1,2-Dibromoethane	100	106	106	60-140
1,4-Dichlorobenzene	100	124	124	60-140

Column to be used to flag LCS recovery with an asterisk.

* Values outside of QC limits.

LCS Recovery: 0 outside limits out of 12 total.

COMMENTS: _____

_____

3LCA

LOW CONC. WATER VOLATILE LAB CONTROL SAMPLE RECOVERY

EPA SAMPLE NO.

VLCS02

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: E00FL

Lab Sample ID: EVLCS02 LCS Lot No.: 60

Lab File ID: E0866 Date Analyzed: 05/11/00

Purge Volume: 20.0 (mL) Dilution Factor: 1.0

LCS Aliquot: 10.0 (uL)

COMPOUND	AMOUNT ADDED (ng)	AMOUNT RECOVERED (ng)	%REC #	QC LIMITS
Vinyl chloride	100	94	94	60-140
1,2-Dichloroethane	100	105	105	60-140
Carbon tetrachloride	100	98	98	60-140
1,2-Dichloropropane	100	103	103	60-140
Trichloroethene	100	102	102	60-140
1,1,2-Trichloroethane	100	104	104	60-140
Benzene	100	102	102	60-140
cis-1,3-Dichloropropene	100	97	97	60-140
Bromoform	100	105	105	60-140
Tetrachloroethene	100	98	98	60-140
1,2-Dibromoethane	100	103	103	60-140
1,4-Dichlorobenzene	100	97	97	60-140

Column to be used to flag LCS recovery with an asterisk.

* Values outside of QC limits.

LCS Recovery: 0 outside limits out of 12 total.

COMMENTS: _____

_____

LOW CONC. WATER VOLATILE LAB CONTROL SAMPLE RECOVERY

EPA SAMPLE NO.

VLCS03

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: E00FL

Lab Sample ID: EVLCS03 LCS Lot No.: 60

Lab File ID: E0883 Date Analyzed: 05/12/00

Purge Volume: 20.0 (mL) Dilution Factor: 1.0

LCS Aliquot: 10.0 (uL)

COMPOUND	AMOUNT ADDED (ng)	AMOUNT RECOVERED (ng)	%REC #	QC LIMITS
Vinyl chloride	100	79	79	60-140
1,2-Dichloroethane	100	104	104	60-140
Carbon tetrachloride	100	108	108	60-140
1,2-Dichloropropane	100	106	106	60-140
Trichloroethene	100	103	103	60-140
1,1,2-Trichloroethane	100	105	105	60-140
Benzene	100	107	107	60-140
cis-1,3-Dichloropropene	100	99	99	60-140
Bromoform	100	103	103	60-140
Tetrachloroethene	100	103	103	60-140
1,2-Dibromoethane	100	101	101	60-140
1,4-Dichlorobenzene	100	100	100	60-140

Column to be used to flag LCS recovery with an asterisk.

* Values outside of QC limits.

LCS Recovery: 0 outside limits out of 12 total.

COMMENTS: _____

LOW CONC. WATER VOLATILE METHOD BLANK SUMMARY

EPA SAMPLE NO.

VBLK65

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: E00FL

Lab Sample ID: FVBLK069 Date Analyzed: 05/05/00

Lab File ID: F1142 Time Analyzed: 1702

Instrument ID: F-HP5973

GC Column: DB-624 ID: 0.53 (mm) Length: 60 (m)

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES AND LCS:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
01	VLCS65	FVLCS069	F1143	1750
02	E00FF	6050.003	F1144	1839
03	E00FL	6050.002	F1145	1928
04	E00FG	6050.004	F1146	2016
05				
06				
07				
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COMMENTS: _____

LOW CONC. WATER VOLATILE METHOD BLANK SUMMARY

EPA SAMPLE NO.

VBLK66

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: E00FL

Lab Sample ID: FVBLK070 Date Analyzed: 05/08/00

Lab File ID: F1164 Time Analyzed: 1339

Instrument ID: F-HP5973

GC Column: DB-624 ID: 0.53 (mm) Length: 60 (m)

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES AND LCS:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
01	VLCS66	FVLCS070	F1165	1433
02	E00FH	6050.005	F1166	1520
03	E00FJ	6050.006	F1167	1608
04	E00FK	6050.007	F1168	1656
05	E00F4	6050.008	F1169	1744
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COMMENTS: _____

LOW CONC. WATER VOLATILE METHOD BLANK SUMMARY

EPA SAMPLE NO.

VBLK02

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: E00FL

Lab Sample ID: EVBLK02 Date Analyzed: 05/11/00

Lab File ID: E0865 Time Analyzed: 1105

Instrument ID: E-HP5972

GC Column: DB-624 ID: 0.53 (mm) Length: 60 (m)

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES AND LCS:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
01	VLCS02	EVLCS02	E0866	1156
02	E00F5	6066.001	E0870	1511
03	E00F6	6066.002	E0871	1603
04	ECFN2	6066.003	E0872	1652
05	ECFN3	6066.004	E0873	1743
06	ECFN4	6066.005	E0874	1833
07	ECFN5	6066.006	E0875	1924
08	ECFN6	6066.007	E0876	2013
09				
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COMMENTS: _____

LOW CONC. WATER VOLATILE METHOD BLANK SUMMARY

EPA SAMPLE NO.

VBLK03

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: E00FL

Lab Sample ID: EVBLK03 Date Analyzed: 05/11/00

Lab File ID: E0881 Time Analyzed: 2333

Instrument ID: E-HP5972

GC Column: DB-624 ID: 0.53 (mm) Length: 60 (m)

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES AND LCS:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
01	VLCS03	EVLCS03	E0883	0113
02	ECFN8	6066.008	E0885	0252
03	ECFN9	6066.009	E0886	0341
04	E01TP	6066.010	E0887	0431
05	E01TQ	6066.011	E0888	0520
06	ECFP1	6066.012	E0889	0610
07	VHBLK01	6050.001	E0890	0659
08				
09				
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COMMENTS: _____

1LCA

LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

E00F4

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: E00FL

Lab Sample ID: 6050.008 Date Received: 05/03/00

Lab File ID: F1169 Date Analyzed: 05/08/00

Purge Volume: 20 (mL) Dilution Factor: 1.0

GC Column: DB-624 ID: 0.53 (mm) Length: 60 (m)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
74-87-3	Chloromethane	1	U
74-83-9	Bromomethane	1	U
75-01-4	Vinyl chloride	1	U
75-00-3	Chloroethane	0.6	J
75-09-2	Methylene chloride	2	U
67-64-1	Acetone	5	U
75-15-0	Carbon disulfide	1	U
75-35-4	1,1-Dichloroethene	1	U
75-34-3	1,1-Dichloroethane	0.9	J
156-59-2	cis-1,2-Dichloroethene	1	
156-60-5	trans-1,2-Dichloroethene	1	U
67-66-3	Chloroform	1	U
107-06-2	1,2-Dichloroethane	1	U
78-93-3	2-Butanone	5	U
74-97-5	Bromochloromethane	1	U
71-55-6	1,1,1-Trichloroethane	1	U
56-23-5	Carbon tetrachloride	1	U
75-27-4	Bromodichloromethane	1	U
78-87-5	1,2-Dichloropropane	1	U
10061-01-5	cis-1,3-Dichloropropene	1	U
79-01-6	Trichloroethene	0.6	J
124-48-1	Dibromochloromethane	1	U
79-00-5	1,1,2-Trichloroethane	1	U
71-43-2	Benzene	1	U
10061-02-6	trans-1,3-Dichloropropene	1	U
75-25-2	Bromoform	1	U
108-10-1	4-Methyl-2-pentanone	5	U
591-78-6	2-Hexanone	5	U
127-18-4	Tetrachloroethene	1	U
79-34-5	1,1,2,2-Tetrachloroethane	1	U
106-93-4	1,2-Dibromoethane	1	U
108-88-3	Toluene	1	U
108-90-7	Chlorobenzene	1	U
100-41-4	Ethylbenzene	1	U
100-42-5	Styrene	1	U
1330-20-7	Xylenes (total)	1	U
541-73-1	1,3-Dichlorobenzene	1	U
106-46-7	1,4-Dichlorobenzene	1	U
95-50-1	1,2-Dichlorobenzene	1	U
96-12-8	1,2-Dibromo-3-chloropropane	1	U
120-82-1	1,2,4-Trichlorobenzene	1	U

1LCE

EPA SAMPLE NO.

LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

E00F4

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: E00FL

Lab Sample ID: 6050.008 Date Received: 05/03/00

Lab File ID: F1169 Date Analyzed: 05/08/00

Purge Volume: 20 (mL) Dilution Factor: 1.0

GC Column: DB-624 ID: 0.53 (mm) Length: 60 (m)

Number TICs found: 2

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC. (ug/L)	Q
1.	000075-43-4	Methane, dichlorofluoro-	5.91	40	JN
2.	000060-29-7	Ethyl ether	6.82	9	JN
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LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

E00F5

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: E00FL

Lab Sample ID: 6066.001 Date Received: 05/05/00

Lab File ID: E0870 Date Analyzed: 05/11/00

Purge Volume: 20 (mL) Dilution Factor: 1.0

GC Column: DB-624 ID: 0.53 (mm) Length: 60 (m)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
74-87-3	Chloromethane	1	U
74-83-9	Bromomethane	1	U
75-01-4	Vinyl chloride	1	U
75-00-3	Chloroethane	1	U
75-09-2	Methylene chloride	2	U
67-64-1	Acetone	5	U
75-15-0	Carbon disulfide	1	U
75-35-4	1,1-Dichloroethene	1	U
75-34-3	1,1-Dichloroethane	1	U
156-59-2	cis-1,2-Dichloroethene	1	U
156-60-5	trans-1,2-Dichloroethene	1	U
67-66-3	Chloroform	1	U
107-06-2	1,2-Dichloroethane	1	U
78-93-3	2-Butanone	5	U
74-97-5	Bromochloromethane	1	U
71-55-6	1,1,1-Trichloroethane	1	U
56-23-5	Carbon tetrachloride	1	U
75-27-4	Bromodichloromethane	1	U
78-87-5	1,2-Dichloropropane	1	U
10061-01-5	cis-1,3-Dichloropropene	1	U
79-01-6	Trichloroethene	1	U
124-48-1	Dibromochloromethane	1	U
79-00-5	1,1,2-Trichloroethane	1	U
71-43-2	Benzene	1	U
10061-02-6	trans-1,3-Dichloropropene	1	U
75-25-2	Bromoform	1	U
108-10-1	4-Methyl-2-pentanone	5	U
591-78-6	2-Hexanone	5	U
127-18-4	Tetrachloroethene	1	U
79-34-5	1,1,2,2-Tetrachloroethane	1	U
106-93-4	1,2-Dibromoethane	1	U
108-88-3	Toluene	1	U
108-90-7	Chlorobenzene	1	U
100-41-4	Ethylbenzene	1	U
100-42-5	Styrene	1	U
1330-20-7	Xylenes (total)	1	U
541-73-1	1,3-Dichlorobenzene	1	U
106-46-7	1,4-Dichlorobenzene	1	U
95-50-1	1,2-Dichlorobenzene	1	U
96-12-8	1,2-Dibromo-3-chloropropane	1	U
120-82-1	1,2,4-Trichlorobenzene	1	U

1LCE

EPA SAMPLE NO.

LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

E00F5

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: E00FL

Lab Sample ID: 6066.001 Date Received: 05/05/00

Lab File ID: E0870 Date Analyzed: 05/11/00

Purge Volume: 20 (mL) Dilution Factor: 1.0

GC Column: DB-624 ID: 0.53 (mm) Length: 60 (m)

Number TICs found: 0

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC. (ug/L)	Q
1.					
2.					
3.					
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1LCA

LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

E00F6

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: E00FL

Lab Sample ID: 6066.002 Date Received: 05/05/00

Lab File ID: E0871 Date Analyzed: 05/11/00

Purge Volume: 20 (mL) Dilution Factor: 1.0

GC Column: DB-624 ID: 0.53 (mm) Length: 60 (m)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
74-87-3	Chloromethane	1	U
74-83-9	Bromomethane	1	U
75-01-4	Vinyl chloride	1	U
75-00-3	Chloroethane	1	U
75-09-2	Methylene chloride	2	
67-64-1	Acetone	5	U
75-15-0	Carbon disulfide	1	U
75-35-4	1,1-Dichloroethene	1	U
75-34-3	1,1-Dichloroethane	1	U
156-59-2	cis-1,2-Dichloroethene	1	U
156-60-5	trans-1,2-Dichloroethene	1	U
67-66-3	Chloroform	1	U
107-06-2	1,2-Dichloroethane	1	U
78-93-3	2-Butanone	5	U
74-97-5	Bromochloromethane	1	U
71-55-6	1,1,1-Trichloroethane	1	U
56-23-5	Carbon tetrachloride	1	U
75-27-4	Bromodichloromethane	1	U
78-87-5	1,2-Dichloropropane	1	U
10061-01-5	cis-1,3-Dichloropropene	1	U
79-01-6	Trichloroethene	1	U
124-48-1	Dibromochloromethane	1	U
79-00-5	1,1,2-Trichloroethane	1	U
71-43-2	Benzene	1	U
10061-02-6	trans-1,3-Dichloropropene	1	U
75-25-2	Bromoform	1	U
108-10-1	4-Methyl-2-pentanone	5	U
591-78-6	2-Hexanone	5	U
127-18-4	Tetrachloroethene	1	U
79-34-5	1,1,2,2-Tetrachloroethane	1	U
106-93-4	1,2-Dibromoethane	1	U
108-88-3	Toluene	1	U
108-90-7	Chlorobenzene	1	U
100-41-4	Ethylbenzene	1	U
100-42-5	Styrene	1	U
1330-20-7	Xylenes (total)	1	U
541-73-1	1,3-Dichlorobenzene	1	U
106-46-7	1,4-Dichlorobenzene	1	U
95-50-1	1,2-Dichlorobenzene	1	U
96-12-8	1,2-Dibromo-3-chloropropane	1	U
120-82-1	1,2,4-Trichlorobenzene	1	U

1LCE

EPA SAMPLE NO.

LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

E00F6

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: E00FL

Lab Sample ID: 6066.002 Date Received: 05/05/00

Lab File ID: E0871 Date Analyzed: 05/11/00

Purge Volume: 20 (mL) Dilution Factor: 1.0

GC Column: DB-624 ID: 0.53 (mm) Length: 60 (m)

Number TICs found: 0

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC. (ug/L)	Q
1.					
2.					
3.					
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1LCA

LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

E00FF

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: E00FL

Lab Sample ID: 6050.003 Date Received: 05/03/00

Lab File ID: F1144 Date Analyzed: 05/05/00

Purge Volume: 20 (mL) Dilution Factor: 1.0

GC Column: DB-624 ID: 0.53 (mm) Length: 60 (m)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
74-87-3	Chloromethane	1	U
74-83-9	Bromomethane	1	U
75-01-4	Vinyl chloride	1	U
75-00-3	Chloroethane	1	U
75-09-2	Methylene chloride	2	U
67-64-1	Acetone	5	U
75-15-0	Carbon disulfide	1	U
75-35-4	1,1-Dichloroethene	1	U
75-34-3	1,1-Dichloroethane	1	U
156-59-2	cis-1,2-Dichloroethene	0.5	J
156-60-5	trans-1,2-Dichloroethene	1	U
67-66-3	Chloroform	1	U
107-06-2	1,2-Dichloroethane	1	U
78-93-3	2-Butanone	5	U
74-97-5	Bromochloromethane	1	U
71-55-6	1,1,1-Trichloroethane	1	U
56-23-5	Carbon tetrachloride	1	U
75-27-4	Bromodichloromethane	1	U
78-87-5	1,2-Dichloropropane	1	U
10061-01-5	cis-1,3-Dichloropropene	1	U
79-01-6	Trichloroethene	0.6	J
124-48-1	Dibromochloromethane	1	U
79-00-5	1,1,2-Trichloroethane	1	U
71-43-2	Benzene	1	
10061-02-6	trans-1,3-Dichloropropene	1	U
75-25-2	Bromoform	1	U
108-10-1	4-Methyl-2-pentanone	5	U
591-78-6	2-Hexanone	5	U
127-18-4	Tetrachloroethene	0.8	J
79-34-5	1,1,2,2-Tetrachloroethane	1	U
106-93-4	1,2-Dibromoethane	1	U
108-88-3	Toluene	1	U
108-90-7	Chlorobenzene	1	U
100-41-4	Ethylbenzene	1	U
100-42-5	Styrene	1	U
1330-20-7	Xylenes (total)	1	U
541-73-1	1,3-Dichlorobenzene	1	U
106-46-7	1,4-Dichlorobenzene	1	U
95-50-1	1,2-Dichlorobenzene	1	U
96-12-8	1,2-Dibromo-3-chloropropane	1	U
120-82-1	1,2,4-Trichlorobenzene	1	U

1LCE

EPA SAMPLE NO.

LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

E00FF

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: E00FL

Lab Sample ID: 6050.003 Date Received: 05/03/00

Lab File ID: F1144 Date Analyzed: 05/05/00

Purge Volume: 20 (mL) Dilution Factor: 1.0

GC Column: DB-624 ID: 0.53 (mm) Length: 60 (m)

Number TICs found: 0

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC. (ug/L)	Q
1.					
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3.					
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1LCA

EPA SAMPLE NO.

LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET

E00FG

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: E00FL

Lab Sample ID: 6050.004 Date Received: 05/03/00

Lab File ID: F1146 Date Analyzed: 05/05/00

Purge Volume: 20 (mL) Dilution Factor: 1.0

GC Column: DB-624 ID: 0.53 (mm) Length: 60 (m)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
74-87-3	Chloromethane	1	U
74-83-9	Bromomethane	1	U
75-01-4	Vinyl chloride	1	U
75-00-3	Chloroethane	1	U
75-09-2	Methylene chloride	2	U
67-64-1	Acetone	5	U
75-15-0	Carbon disulfide	1	U
75-35-4	1,1-Dichloroethene	1	U
75-34-3	1,1-Dichloroethane	1	U
156-59-2	cis-1,2-Dichloroethene	1	U
156-60-5	trans-1,2-Dichloroethene	1	U
67-66-3	Chloroform	1	U
107-06-2	1,2-Dichloroethane	1	U
78-93-3	2-Butanone	5	U
74-97-5	Bromochloromethane	1	U
71-55-6	1,1,1-Trichloroethane	1	U
56-23-5	Carbon tetrachloride	1	U
75-27-4	Bromodichloromethane	1	U
78-87-5	1,2-Dichloropropane	1	U
10061-01-5	cis-1,3-Dichloropropene	1	U
79-01-6	Trichloroethene	1	U
124-48-1	Dibromochloromethane	1	U
79-00-5	1,1,2-Trichloroethane	1	U
71-43-2	Benzene	1	U
10061-02-6	trans-1,3-Dichloropropene	1	U
75-25-2	Bromoform	1	U
108-10-1	4-Methyl-2-pentanone	5	U
591-78-6	2-Hexanone	5	U
127-18-4	Tetrachloroethene	1	U
79-34-5	1,1,2,2-Tetrachloroethane	1	U
106-93-4	1,2-Dibromoethane	1	U
108-88-3	Toluene	1	U
108-90-7	Chlorobenzene	1	U
100-41-4	Ethylbenzene	1	U
100-42-5	Styrene	1	U
1330-20-7	Xylenes (total)	1	U
541-73-1	1,3-Dichlorobenzene	1	U
106-46-7	1,4-Dichlorobenzene	1	U
95-50-1	1,2-Dichlorobenzene	1	U
96-12-8	1,2-Dibromo-3-chloropropane	1	U
120-82-1	1,2,4-Trichlorobenzene	1	U

1LCE

EPA SAMPLE NO.

LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

E00FG

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: E00FL

Lab Sample ID: 6050.004 Date Received: 05/03/00

Lab File ID: F1146 Date Analyzed: 05/05/00

Purge Volume: 20 (mL) Dilution Factor: 1.0

GC Column: DB-624 ID: 0.53 (mm) Length: 60 (m)

Number TICs found: 0

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC. (ug/L)	Q
1.					
2.					
3.					
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5.					
6.					
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1LCA

LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

E00FH

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: E00FL

Lab Sample ID: 6050.005 Date Received: 05/03/00

Lab File ID: F1166 Date Analyzed: 05/08/00

Purge Volume: 20 (mL) Dilution Factor: 1.0

GC Column: DB-624 ID: 0.53 (mm) Length: 60 (m)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
74-87-3	Chloromethane	1	U
74-83-9	Bromomethane	1	U
75-01-4	Vinyl chloride	1	U
75-00-3	Chloroethane	1	U
75-09-2	Methylene chloride	2	U
67-64-1	Acetone	5	U
75-15-0	Carbon disulfide	1	U
75-35-4	1,1-Dichloroethene	1	U
75-34-3	1,1-Dichloroethane	1	U
156-59-2	cis-1,2-Dichloroethene	1	U
156-60-5	trans-1,2-Dichloroethene	1	U
67-66-3	Chloroform	1	U
107-06-2	1,2-Dichloroethane	1	U
78-93-3	2-Butanone	5	U
74-97-5	Bromochloromethane	1	U
71-55-6	1,1,1-Trichloroethane	1	U
56-23-5	Carbon tetrachloride	1	U
75-27-4	Bromodichloromethane	1	U
78-87-5	1,2-Dichloropropane	1	U
10061-01-5	cis-1,3-Dichloropropene	1	U
79-01-6	Trichloroethene	1	U
124-48-1	Dibromochloromethane	1	U
79-00-5	1,1,2-Trichloroethane	1	U
71-43-2	Benzene	1	U
10061-02-6	trans-1,3-Dichloropropene	1	U
75-25-2	Bromoform	1	U
108-10-1	4-Methyl-2-pentanone	5	U
591-78-6	2-Hexanone	5	U
127-18-4	Tetrachloroethene	1	U
79-34-5	1,1,2,2-Tetrachloroethane	1	U
106-93-4	1,2-Dibromoethane	1	U
108-88-3	Toluene	1	U
108-90-7	Chlorobenzene	1	U
100-41-4	Ethylbenzene	1	U
100-42-5	Styrene	1	U
1330-20-7	Xylenes (total)	1	U
541-73-1	1,3-Dichlorobenzene	1	U
106-46-7	1,4-Dichlorobenzene	1	U
95-50-1	1,2-Dichlorobenzene	1	U
96-12-8	1,2-Dibromo-3-chloropropane	1	U
120-82-1	1,2,4-Trichlorobenzene	1	U

1LCE

EPA SAMPLE NO.

LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

E00FH

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: E00FL

Lab Sample ID: 6050.005 Date Received: 05/03/00

Lab File ID: F1166 Date Analyzed: 05/08/00

Purge Volume: 20 (mL) Dilution Factor: 1.0

GC Column: DB-624 ID: 0.53 (mm) Length: 60 (m)

Number TICs found: 1

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC. (ug/L)	Q
1.	000060-29-7	Ethyl ether	6.82	4	JN
2.					
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LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

E00FJ

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: E00FL

Lab Sample ID: 6050.006 Date Received: 05/03/00

Lab File ID: F1167 Date Analyzed: 05/08/00

Purge Volume: 20 (mL) Dilution Factor: 1.0

GC Column: DB-624 ID: 0.53 (mm) Length: 60 (m)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
74-87-3	Chloromethane	1	U
74-83-9	Bromomethane	1	U
75-01-4	Vinyl chloride	1	U
75-00-3	Chloroethane	1	U
75-09-2	Methylene chloride	2	U
67-64-1	Acetone	5	U
75-15-0	Carbon disulfide	1	U
75-35-4	1,1-Dichloroethene	1	U
75-34-3	1,1-Dichloroethane	1	U
156-59-2	cis-1,2-Dichloroethene	1	U
156-60-5	trans-1,2-Dichloroethene	1	U
67-66-3	Chloroform	3	
107-06-2	1,2-Dichloroethane	1	U
78-93-3	2-Butanone	5	U
74-97-5	Bromochloromethane	1	U
71-55-6	1,1,1-Trichloroethane	1	U
56-23-5	Carbon tetrachloride	1	U
75-27-4	Bromodichloromethane	2	
78-87-5	1,2-Dichloropropane	1	U
10061-01-5	cis-1,3-Dichloropropene	1	U
79-01-6	Trichloroethene	1	U
124-48-1	Dibromochloromethane	2	
79-00-5	1,1,2-Trichloroethane	1	U
71-43-2	Benzene	1	U
10061-02-6	trans-1,3-Dichloropropene	1	U
75-25-2	Bromoform	1	
108-10-1	4-Methyl-2-pentanone	5	U
591-78-6	2-Hexanone	5	U
127-18-4	Tetrachloroethene	1	U
79-34-5	1,1,2,2-Tetrachloroethane	1	U
106-93-4	1,2-Dibromoethane	1	U
108-88-3	Toluene	1	U
108-90-7	Chlorobenzene	1	U
100-41-4	Ethylbenzene	1	U
100-42-5	Styrene	1	U
1330-20-7	Xylenes (total)	1	U
541-73-1	1,3-Dichlorobenzene	1	U
106-46-7	1,4-Dichlorobenzene	1	U
95-50-1	1,2-Dichlorobenzene	1	U
96-12-8	1,2-Dibromo-3-chloropropane	1	U
120-82-1	1,2,4-Trichlorobenzene	1	U

1LCE

EPA SAMPLE NO.

LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

E00FJ

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: E00FL

Lab Sample ID: 6050.006 Date Received: 05/03/00

Lab File ID: F1167 Date Analyzed: 05/08/00

Purge Volume: 20 (mL) Dilution Factor: 1.0

GC Column: DB-624 ID: 0.53 (mm) Length: 60 (m)

Number TICs found: 0

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC. (ug/L)	Q
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1LCA

EPA SAMPLE NO.

LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET

E00FK

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: E00FL

Lab Sample ID: 6050.007 Date Received: 05/03/00

Lab File ID: F1168 Date Analyzed: 05/08/00

Purge Volume: 20 (mL) Dilution Factor: 1.0

GC Column: DB-624 ID: 0.53 (mm) Length: 60 (m)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
74-87-3	Chloromethane	1	U
74-83-9	Bromomethane	1	U
75-01-4	Vinyl chloride	1	U
75-00-3	Chloroethane	1	U
75-09-2	Methylene chloride	2	U
67-64-1	Acetone	5	U
75-15-0	Carbon disulfide	1	U
75-35-4	1,1-Dichloroethene	1	U
75-34-3	1,1-Dichloroethane	1	U
156-59-2	cis-1,2-Dichloroethene	1	U
156-60-5	trans-1,2-Dichloroethene	1	U
67-66-3	Chloroform	1	U
107-06-2	1,2-Dichloroethane	1	U
78-93-3	2-Butanone	5	U
74-97-5	Bromochloromethane	1	U
71-55-6	1,1,1-Trichloroethane	1	U
56-23-5	Carbon tetrachloride	1	U
75-27-4	Bromodichloromethane	1	U
78-87-5	1,2-Dichloropropane	1	U
10061-01-5	cis-1,3-Dichloropropene	1	U
79-01-6	Trichloroethene	1	U
124-48-1	Dibromochloromethane	1	U
79-00-5	1,1,2-Trichloroethane	1	U
71-43-2	Benzene	1	U
10061-02-6	trans-1,3-Dichloropropene	1	U
75-25-2	Bromoform	1	U
108-10-1	4-Methyl-2-pentanone	5	U
591-78-6	2-Hexanone	5	U
127-18-4	Tetrachloroethene	1	U
79-34-5	1,1,2,2-Tetrachloroethane	1	U
106-93-4	1,2-Dibromoethane	1	U
108-88-3	Toluene	1	U
108-90-7	Chlorobenzene	1	U
100-41-4	Ethylbenzene	1	U
100-42-5	Styrene	1	U
1330-20-7	Xylenes (total)	1	U
541-73-1	1,3-Dichlorobenzene	1	U
106-46-7	1,4-Dichlorobenzene	1	U
95-50-1	1,2-Dichlorobenzene	1	U
96-12-8	1,2-Dibromo-3-chloropropane	1	U
120-82-1	1,2,4-Trichlorobenzene	1	U

1LCE

EPA SAMPLE NO.

LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

E00FK

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: E00FL

Lab Sample ID: 6050.007 Date Received: 05/03/00

Lab File ID: F1168 Date Analyzed: 05/08/00

Purge Volume: 20 (mL) Dilution Factor: 1.0

GC Column: DB-624 ID: 0.53 (mm) Length: 60 (m)

Number TICs found: 0

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC. (ug/L)	Q
1.					
2.					
3.					
4.					
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LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

E00FL

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: E00FL

Lab Sample ID: 6050.002 Date Received: 05/03/00

Lab File ID: F1145 Date Analyzed: 05/05/00

Purge Volume: 20 (mL) Dilution Factor: 1.0

GC Column: DB-624 ID: 0.53 (mm) Length: 60 (m)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
74-87-3	Chloromethane	1	U
74-83-9	Bromomethane	1	U
75-01-4	Vinyl chloride	1	U
75-00-3	Chloroethane	1	U
75-09-2	Methylene chloride	0.9	J
67-64-1	Acetone	5	U
75-15-0	Carbon disulfide	1	U
75-35-4	1,1-Dichloroethene	1	U
75-34-3	1,1-Dichloroethane	1	U
156-59-2	cis-1,2-Dichloroethene	1	U
156-60-5	trans-1,2-Dichloroethene	1	U
67-66-3	Chloroform	1	U
107-06-2	1,2-Dichloroethane	1	U
78-93-3	2-Butanone	5	U
74-97-5	Bromochloromethane	1	U
71-55-6	1,1,1-Trichloroethane	1	U
56-23-5	Carbon tetrachloride	1	U
75-27-4	Bromodichloromethane	1	U
78-87-5	1,2-Dichloropropane	1	U
10061-01-5	cis-1,3-Dichloropropene	1	U
79-01-6	Trichloroethene	1	U
124-48-1	Dibromochloromethane	1	U
79-00-5	1,1,2-Trichloroethane	1	U
71-43-2	Benzene	1	U
10061-02-6	trans-1,3-Dichloropropene	1	U
75-25-2	Bromoform	1	U
108-10-1	4-Methyl-2-pentanone	5	U
591-78-6	2-Hexanone	5	U
127-18-4	Tetrachloroethene	1	U
79-34-5	1,1,2,2-Tetrachloroethane	1	U
106-93-4	1,2-Dibromoethane	1	U
108-88-3	Toluene	1	U
108-90-7	Chlorobenzene	1	U
100-41-4	Ethylbenzene	1	U
100-42-5	Styrene	1	U
1330-20-7	Xylenes (total)	1	U
541-73-1	1,3-Dichlorobenzene	1	U
106-46-7	1,4-Dichlorobenzene	1	U
95-50-1	1,2-Dichlorobenzene	1	U
96-12-8	1,2-Dibromo-3-chloropropane	1	U
120-82-1	1,2,4-Trichlorobenzene	1	U

1LCE

EPA SAMPLE NO.

LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

E00FL

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: E00FL

Lab Sample ID: 6050.002 Date Received: 05/03/00

Lab File ID: F1145 Date Analyzed: 05/05/00

Purge Volume: 20 (mL) Dilution Factor: 1.0

GC Column: DB-624 ID: 0.53 (mm) Length: 60 (m)

Number TICs found: 0

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC. (ug/L)	Q
1.					
2.					
3.					
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1LCA

LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

E01TP

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: E00FL

Lab Sample ID: 6066.010 Date Received: 05/05/00

Lab File ID: E0887 Date Analyzed: 05/12/00

Purge Volume: 20 (mL) Dilution Factor: 1.0

GC Column: DB-624 ID: 0.53 (mm) Length: 60 (m)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
74-87-3	Chloromethane	1	U
74-83-9	Bromomethane	1	U
75-01-4	Vinyl chloride	1	U
75-00-3	Chloroethane	1	U
75-09-2	Methylene chloride	2	U
67-64-1	Acetone	5	U
75-15-0	Carbon disulfide	1	U
75-35-4	1,1-Dichloroethene	1	U
75-34-3	1,1-Dichloroethane	3	
156-59-2	cis-1,2-Dichloroethene	1	U
156-60-5	trans-1,2-Dichloroethene	1	U
67-66-3	Chloroform	1	U
107-06-2	1,2-Dichloroethane	1	U
78-93-3	2-Butanone	5	U
74-97-5	Bromochloromethane	1	U
71-55-6	1,1,1-Trichloroethane	1	U
56-23-5	Carbon tetrachloride	1	U
75-27-4	Bromodichloromethane	1	U
78-87-5	1,2-Dichloropropane	1	U
10061-01-5	cis-1,3-Dichloropropene	1	U
79-01-6	Trichloroethene	1	U
124-48-1	Dibromochloromethane	1	U
79-00-5	1,1,2-Trichloroethane	1	U
71-43-2	Benzene	1	U
10061-02-6	trans-1,3-Dichloropropene	1	U
75-25-2	Bromoform	1	U
108-10-1	4-Methyl-2-pentanone	5	U
591-78-6	2-Hexanone	5	U
127-18-4	Tetrachloroethene	1	U
79-34-5	1,1,2,2-Tetrachloroethane	1	U
106-93-4	1,2-Dibromoethane	1	U
108-88-3	Toluene	1	U
108-90-7	Chlorobenzene	1	U
100-41-4	Ethylbenzene	1	U
100-42-5	Styrene	1	U
1330-20-7	Xylenes (total)	1	U
541-73-1	1,3-Dichlorobenzene	1	U
106-46-7	1,4-Dichlorobenzene	1	U
95-50-1	1,2-Dichlorobenzene	1	U
96-12-8	1,2-Dibromo-3-chloropropane	1	U
120-82-1	1,2,4-Trichlorobenzene	1	U

1LCE

EPA SAMPLE NO.

LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

E01TP

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: E00FL

Lab Sample ID: 6066.010 Date Received: 05/05/00

Lab File ID: E0887 Date Analyzed: 05/12/00

Purge Volume: 20 (mL) Dilution Factor: 1.0

GC Column: DB-624 ID: 0.53 (mm) Length: 60 (m)

Number TICs found: 1

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC. (ug/L)	Q
1.	000075-43-4	Methane, dichlorofluoro-	4.51	2	JN
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LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

E01TQ

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: E00FL

Lab Sample ID: 6066.011 Date Received: 05/05/00

Lab File ID: E0888 Date Analyzed: 05/12/00

Purge Volume: 20 (mL) Dilution Factor: 1.0

GC Column: DB-624 ID: 0.53 (mm) Length: 60 (m)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
74-87-3	Chloromethane	1	U
74-83-9	Bromomethane	1	U
75-01-4	Vinyl chloride	1	U
75-00-3	Chloroethane	1	U
75-09-2	Methylene chloride	2	U
67-64-1	Acetone	5	U
75-15-0	Carbon disulfide	1	U
75-35-4	1,1-Dichloroethene	1	U
75-34-3	1,1-Dichloroethane	1	U
156-59-2	cis-1,2-Dichloroethene	1	U
156-60-5	trans-1,2-Dichloroethene	1	U
67-66-3	Chloroform	1	U
107-06-2	1,2-Dichloroethane	1	U
78-93-3	2-Butanone	5	U
74-97-5	Bromochloromethane	1	U
71-55-6	1,1,1-Trichloroethane	1	U
56-23-5	Carbon tetrachloride	1	U
75-27-4	Bromodichloromethane	1	U
78-87-5	1,2-Dichloropropane	1	U
10061-01-5	cis-1,3-Dichloropropene	1	U
79-01-6	Trichloroethene	1	U
124-48-1	Dibromochloromethane	1	U
79-00-5	1,1,2-Trichloroethane	1	U
71-43-2	Benzene	1	U
10061-02-6	trans-1,3-Dichloropropene	1	U
75-25-2	Bromoform	1	U
108-10-1	4-Methyl-2-pentanone	5	U
591-78-6	2-Hexanone	5	U
127-18-4	Tetrachloroethene	1	U
79-34-5	1,1,2,2-Tetrachloroethane	1	U
106-93-4	1,2-Dibromoethane	1	U
108-88-3	Toluene	1	U
108-90-7	Chlorobenzene	1	U
100-41-4	Ethylbenzene	1	U
100-42-5	Styrene	1	U
1330-20-7	Xylenes (total)	1	U
541-73-1	1,3-Dichlorobenzene	1	U
106-46-7	1,4-Dichlorobenzene	1	U
95-50-1	1,2-Dichlorobenzene	1	U
96-12-8	1,2-Dibromo-3-chloropropane	1	U
120-82-1	1,2,4-Trichlorobenzene	1	U

1LCE

EPA SAMPLE NO.

LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

E01TQ

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: E00FL

Lab Sample ID: 6066.011 Date Received: 05/05/00

Lab File ID: E0888 Date Analyzed: 05/12/00

Purge Volume: 20 (mL) Dilution Factor: 1.0

GC Column: DB-624 ID: 0.53 (mm) Length: 60 (m)

Number TICs found: 2

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC. (ug/L)	Q
1.	000075-43-4	Methane, dichlorofluoro-	4.52	5	JN
2.	000060-29-7	Ethyl ether	5.15	2	JN
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LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

ECFN2

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: E00FL

Lab Sample ID: 6066.003 Date Received: 05/05/00

Lab File ID: E0872 Date Analyzed: 05/11/00

Purge Volume: 20 (mL) Dilution Factor: 1.0

GC Column: DB-624 ID: 0.53 (mm) Length: 60 (m)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
74-87-3	Chloromethane	1	U
74-83-9	Bromomethane	1	U
75-01-4	Vinyl chloride	1	U
75-00-3	Chloroethane	1	U
75-09-2	Methylene chloride	2	U
67-64-1	Acetone	5	U
75-15-0	Carbon disulfide	1	U
75-35-4	1,1-Dichloroethene	1	U
75-34-3	1,1-Dichloroethane	8	
156-59-2	cis-1,2-Dichloroethene	1	U
156-60-5	trans-1,2-Dichloroethene	1	U
67-66-3	Chloroform	1	U
107-06-2	1,2-Dichloroethane	1	U
78-93-3	2-Butanone	5	U
74-97-5	Bromochloromethane	1	U
71-55-6	1,1,1-Trichloroethane	1	U
56-23-5	Carbon tetrachloride	1	U
75-27-4	Bromodichloromethane	1	U
78-87-5	1,2-Dichloropropane	1	U
10061-01-5	cis-1,3-Dichloropropene	1	U
79-01-6	Trichloroethene	1	U
124-48-1	Dibromochloromethane	1	U
79-00-5	1,1,2-Trichloroethane	1	U
71-43-2	Benzene	2	
10061-02-6	trans-1,3-Dichloropropene	1	U
75-25-2	Bromoform	1	U
108-10-1	4-Methyl-2-pentanone	5	U
591-78-6	2-Hexanone	5	U
127-18-4	Tetrachloroethene	1	U
79-34-5	1,1,2,2-Tetrachloroethane	1	U
106-93-4	1,2-Dibromoethane	1	U
108-88-3	Toluene	1	U
108-90-7	Chlorobenzene	1	U
100-41-4	Ethylbenzene	1	U
100-42-5	Styrene	1	U
1330-20-7	Xylenes (total)	1	U
541-73-1	1,3-Dichlorobenzene	1	U
106-46-7	1,4-Dichlorobenzene	1	U
95-50-1	1,2-Dichlorobenzene	1	U
96-12-8	1,2-Dibromo-3-chloropropane	1	U
120-82-1	1,2,4-Trichlorobenzene	1	U

1LCE

EPA SAMPLE NO.

LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

ECFN2

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: E00FL

Lab Sample ID: 6066.003 Date Received: 05/05/00

Lab File ID: E0872 Date Analyzed: 05/11/00

Purge Volume: 20 (mL) Dilution Factor: 1.0

GC Column: DB-624 ID: 0.53 (mm) Length: 60 (m)

Number TICs found: 3

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC. (ug/L)	Q
1.	000593-70-4	Methane, chlorofluoro-	3.26	4	JN
2.	000075-43-4	Methane, dichlorofluoro-	4.58	4	JN
3.	000060-29-7	Ethyl ether	5.22	6	JN
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LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

ECFN3

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: E00FL

Lab Sample ID: 6066.004 Date Received: 05/05/00

Lab File ID: E0873 Date Analyzed: 05/11/00

Purge Volume: 20 (mL) Dilution Factor: 1.0

GC Column: DB-624 ID: 0.53 (mm) Length: 60 (m)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
74-87-3	Chloromethane	1	U
74-83-9	Bromomethane	1	U
75-01-4	Vinyl chloride	1	U
75-00-3	Chloroethane	2	
75-09-2	Methylene chloride	2	U
67-64-1	Acetone	5	U
75-15-0	Carbon disulfide	1	U
75-35-4	1,1-Dichloroethene	1	U
75-34-3	1,1-Dichloroethane	8	
156-59-2	cis-1,2-Dichloroethene	1	U
156-60-5	trans-1,2-Dichloroethene	1	U
67-66-3	Chloroform	1	U
107-06-2	1,2-Dichloroethane	1	U
78-93-3	2-Butanone	5	U
74-97-5	Bromochloromethane	1	U
71-55-6	1,1,1-Trichloroethane	1	U
56-23-5	Carbon tetrachloride	1	U
75-27-4	Bromodichloromethane	1	U
78-87-5	1,2-Dichloropropane	1	U
10061-01-5	cis-1,3-Dichloropropene	1	U
79-01-6	Trichloroethene	1	U
124-48-1	Dibromochloromethane	1	U
79-00-5	1,1,2-Trichloroethane	1	U
71-43-2	Benzene	2	
10061-02-6	trans-1,3-Dichloropropene	1	U
75-25-2	Bromoform	1	U
108-10-1	4-Methyl-2-pentanone	5	U
591-78-6	2-Hexanone	5	U
127-18-4	Tetrachloroethene	1	U
79-34-5	1,1,2,2-Tetrachloroethane	1	U
106-93-4	1,2-Dibromoethane	1	U
108-88-3	Toluene	1	U
108-90-7	Chlorobenzene	1	U
100-41-4	Ethylbenzene	1	U
100-42-5	Styrene	1	U
1330-20-7	Xylenes (total)	1	U
541-73-1	1,3-Dichlorobenzene	1	U
106-46-7	1,4-Dichlorobenzene	1	U
95-50-1	1,2-Dichlorobenzene	1	U
96-12-8	1,2-Dibromo-3-chloropropane	1	U
120-82-1	1,2,4-Trichlorobenzene	1	U

1LCE

EPA SAMPLE NO.

LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

ECFN3

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: E00FL

Lab Sample ID: 6066.004 Date Received: 05/05/00

Lab File ID: E0873 Date Analyzed: 05/11/00

Purge Volume: 20 (mL) Dilution Factor: 1.0

GC Column: DB-624 ID: 0.53 (mm) Length: 60 (m)

Number TICs found: 4

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC. (ug/L)	Q
1.	000593-70-4	Methane, chlorofluoro-	3.24	4	JN
2.	000075-43-4	Methane, dichlorofluoro-	4.57	3	JN
3.	000060-29-7	Ethyl ether	5.21	2	JN
4.	000060-29-7	Ethyl ether	5.22	3	JN
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LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

ECFN4

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: E00FL

Lab Sample ID: 6066.005 Date Received: 05/05/00

Lab File ID: E0874 Date Analyzed: 05/11/00

Purge Volume: 20 (mL) Dilution Factor: 1.0

GC Column: DB-624 ID: 0.53 (mm) Length: 60 (m)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
74-87-3	Chloromethane	1	U
74-83-9	Bromomethane	1	U
75-01-4	Vinyl chloride	1	U
75-00-3	Chloroethane	2	
75-09-2	Methylene chloride	2	U
67-64-1	Acetone	5	U
75-15-0	Carbon disulfide	1	U
75-35-4	1,1-Dichloroethene	1	U
75-34-3	1,1-Dichloroethane	1	U
156-59-2	cis-1,2-Dichloroethene	1	U
156-60-5	trans-1,2-Dichloroethene	1	U
67-66-3	Chloroform	1	U
107-06-2	1,2-Dichloroethane	1	U
78-93-3	2-Butanone	5	U
74-97-5	Bromochloromethane	1	U
71-55-6	1,1,1-Trichloroethane	1	U
56-23-5	Carbon tetrachloride	1	U
75-27-4	Bromodichloromethane	1	U
78-87-5	1,2-Dichloropropane	1	U
10061-01-5	cis-1,3-Dichloropropene	1	U
79-01-6	Trichloroethene	1	U
124-48-1	Dibromochloromethane	1	U
79-00-5	1,1,2-Trichloroethane	1	U
71-43-2	Benzene	1	U
10061-02-6	trans-1,3-Dichloropropene	1	U
75-25-2	Bromoform	1	U
108-10-1	4-Methyl-2-pentanone	5	U
591-78-6	2-Hexanone	5	U
127-18-4	Tetrachloroethene	1	U
79-34-5	1,1,2,2-Tetrachloroethane	1	U
106-93-4	1,2-Dibromoethane	1	U
108-88-3	Toluene	1	U
108-90-7	Chlorobenzene	1	U
100-41-4	Ethylbenzene	1	U
100-42-5	Styrene	1	U
1330-20-7	Xylenes (total)	1	U
541-73-1	1,3-Dichlorobenzene	1	U
106-46-7	1,4-Dichlorobenzene	1	U
95-50-1	1,2-Dichlorobenzene	1	U
96-12-8	1,2-Dibromo-3-chloropropane	1	U
120-82-1	1,2,4-Trichlorobenzene	1	U

1LCE

EPA SAMPLE NO.

LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

ECFN4

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: E00FL

Lab Sample ID: 6066.005 Date Received: 05/05/00

Lab File ID: E0874 Date Analyzed: 05/11/00

Purge Volume: 20 (mL) Dilution Factor: 1.0

GC Column: DB-624 ID: 0.53 (mm) Length: 60 (m)

Number TICs found: 2

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC. (ug/L)	Q
1.	000593-70-4	Methane, chlorofluoro-	3.25	4	JN
2.	1000221-95-9	Ethene, ethyloxy-	5.23	4	JN
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LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

ECFN5

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: E00FL

Lab Sample ID: 6066.006 Date Received: 05/05/00

Lab File ID: E0875 Date Analyzed: 05/11/00

Purge Volume: 20 (mL) Dilution Factor: 1.0

GC Column: DB-624 ID: 0.53 (mm) Length: 60 (m)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
74-87-3	Chloromethane	1	U
74-83-9	Bromomethane	1	U
75-01-4	Vinyl chloride	1	
75-00-3	Chloroethane	1	U
75-09-2	Methylene chloride	2	U
67-64-1	Acetone	5	U
75-15-0	Carbon disulfide	1	U
75-35-4	1,1-Dichloroethene	1	U
75-34-3	1,1-Dichloroethane	8	
156-59-2	cis-1,2-Dichloroethene	1	
156-60-5	trans-1,2-Dichloroethene	1	U
67-66-3	Chloroform	1	U
107-06-2	1,2-Dichloroethane	1	U
78-93-3	2-Butanone	5	U
74-97-5	Bromochloromethane	1	U
71-55-6	1,1,1-Trichloroethane	1	U
56-23-5	Carbon tetrachloride	1	U
75-27-4	Bromodichloromethane	1	U
78-87-5	1,2-Dichloropropane	1	
10061-01-5	cis-1,3-Dichloropropene	1	U
79-01-6	Trichloroethene	1	U
124-48-1	Dibromochloromethane	1	U
79-00-5	1,1,2-Trichloroethane	1	U
71-43-2	Benzene	1	U
10061-02-6	trans-1,3-Dichloropropene	1	U
75-25-2	Bromoform	1	U
108-10-1	4-Methyl-2-pentanone	5	U
591-78-6	2-Hexanone	5	U
127-18-4	Tetrachloroethene	1	U
79-34-5	1,1,2,2-Tetrachloroethane	1	U
106-93-4	1,2-Dibromoethane	1	U
108-88-3	Toluene	1	U
108-90-7	Chlorobenzene	1	U
100-41-4	Ethylbenzene	1	U
100-42-5	Styrene	1	U
1330-20-7	Xylenes (total)	1	U
541-73-1	1,3-Dichlorobenzene	1	U
106-46-7	1,4-Dichlorobenzene	1	U
95-50-1	1,2-Dichlorobenzene	1	U
96-12-8	1,2-Dibromo-3-chloropropane	1	U
120-82-1	1,2,4-Trichlorobenzene	1	U

1LCE

EPA SAMPLE NO.

LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

ECFN5

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: E00FL

Lab Sample ID: 6066.006 Date Received: 05/05/00

Lab File ID: E0875 Date Analyzed: 05/11/00

Purge Volume: 20 (mL) Dilution Factor: 1.0

GC Column: DB-624 ID: 0.53 (mm) Length: 60 (m)

Number TICs found: 2

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC. (ug/L)	Q
1.	000075-43-4	Methane, dichlorofluoro-	4.55	7	JN
2.	000060-29-7	Ethyl ether	5.19	8	JN
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1LCA

EPA SAMPLE NO.

LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET

ECFN6

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: E00FL

Lab Sample ID: 6066.007 Date Received: 05/05/00

Lab File ID: E0876 Date Analyzed: 05/11/00

Purge Volume: 20 (mL) Dilution Factor: 1.0

GC Column: DB-624 ID: 0.53 (mm) Length: 60 (m)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
74-87-3	Chloromethane	1	U
74-83-9	Bromomethane	1	U
75-01-4	Vinyl chloride	1	
75-00-3	Chloroethane	1	U
75-09-2	Methylene chloride	2	U
67-64-1	Acetone	5	U
75-15-0	Carbon disulfide	1	U
75-35-4	1,1-Dichloroethene	1	U
75-34-3	1,1-Dichloroethane	7	
156-59-2	cis-1,2-Dichloroethene	1	
156-60-5	trans-1,2-Dichloroethene	1	U
67-66-3	Chloroform	1	U
107-06-2	1,2-Dichloroethane	1	U
78-93-3	2-Butanone	5	U
74-97-5	Bromochloromethane	1	U
71-55-6	1,1,1-Trichloroethane	1	U
56-23-5	Carbon tetrachloride	1	U
75-27-4	Bromodichloromethane	1	U
78-87-5	1,2-Dichloropropane	1	
10061-01-5	cis-1,3-Dichloropropene	1	U
79-01-6	Trichloroethene	1	U
124-48-1	Dibromochloromethane	1	U
79-00-5	1,1,2-Trichloroethane	1	U
71-43-2	Benzene	1	U
10061-02-6	trans-1,3-Dichloropropene	1	U
75-25-2	Bromoform	1	U
108-10-1	4-Methyl-2-pentanone	5	U
591-78-6	2-Hexanone	5	U
127-18-4	Tetrachloroethene	1	U
79-34-5	1,1,2,2-Tetrachloroethane	1	U
106-93-4	1,2-Dibromoethane	1	U
108-88-3	Toluene	1	U
108-90-7	Chlorobenzene	1	U
100-41-4	Ethylbenzene	1	U
100-42-5	Styrene	1	U
1330-20-7	Xylenes (total)	1	U
541-73-1	1,3-Dichlorobenzene	1	U
106-46-7	1,4-Dichlorobenzene	1	U
95-50-1	1,2-Dichlorobenzene	1	U
96-12-8	1,2-Dibromo-3-chloropropane	1	U
120-82-1	1,2,4-Trichlorobenzene	1	U

1LCE

EPA SAMPLE NO.

LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

ECFN6

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: E00FL

Lab Sample ID: 6066.007 Date Received: 05/05/00

Lab File ID: E0876 Date Analyzed: 05/11/00

Purge Volume: 20 (mL) Dilution Factor: 1.0

GC Column: DB-624 ID: 0.53 (mm) Length: 60 (m)

Number TICs found: 2

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC. (ug/L)	Q
1.	000075-43-4	Methane, dichlorofluoro-	4.53	6	JN
2.	000060-29-7	Ethyl ether	5.17	7	JN
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1LCA

LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

ECFN8

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: E00FL

Lab Sample ID: 6066.008 Date Received: 05/05/00

Lab File ID: E0885 Date Analyzed: 05/12/00

Purge Volume: 20 (mL) Dilution Factor: 1.0

GC Column: DB-624 ID: 0.53 (mm) Length: 60 (m)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
74-87-3	Chloromethane	1	U
74-83-9	Bromomethane	1	U
75-01-4	Vinyl chloride	1	U
75-00-3	Chloroethane	1	U
75-09-2	Methylene chloride	2	U
67-64-1	Acetone	5	U
75-15-0	Carbon disulfide	1	U
75-35-4	1,1-Dichloroethene	1	U
75-34-3	1,1-Dichloroethane	1	U
156-59-2	cis-1,2-Dichloroethene	1	U
156-60-5	trans-1,2-Dichloroethene	1	U
67-66-3	Chloroform	1	U
107-06-2	1,2-Dichloroethane	1	U
78-93-3	2-Butanone	5	U
74-97-5	Bromochloromethane	1	U
71-55-6	1,1,1-Trichloroethane	1	U
56-23-5	Carbon tetrachloride	1	U
75-27-4	Bromodichloromethane	1	U
78-87-5	1,2-Dichloropropane	1	U
10061-01-5	cis-1,3-Dichloropropene	1	U
79-01-6	Trichloroethene	1	U
124-48-1	Dibromochloromethane	1	U
79-00-5	1,1,2-Trichloroethane	1	U
71-43-2	Benzene	1	U
10061-02-6	trans-1,3-Dichloropropene	1	U
75-25-2	Bromoform	1	U
108-10-1	4-Methyl-2-pentanone	5	U
591-78-6	2-Hexanone	5	U
127-18-4	Tetrachloroethene	1	U
79-34-5	1,1,2,2-Tetrachloroethane	1	U
106-93-4	1,2-Dibromoethane	1	U
108-88-3	Toluene	1	U
108-90-7	Chlorobenzene	1	U
100-41-4	Ethylbenzene	1	U
100-42-5	Styrene	1	U
1330-20-7	Xylenes (total)	1	U
541-73-1	1,3-Dichlorobenzene	1	U
106-46-7	1,4-Dichlorobenzene	1	U
95-50-1	1,2-Dichlorobenzene	1	U
96-12-8	1,2-Dibromo-3-chloropropane	1	U
120-82-1	1,2,4-Trichlorobenzene	1	U

1LCE

EPA SAMPLE NO.

LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

ECFN8

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: E00FL

Lab Sample ID: 6066.008 Date Received: 05/05/00

Lab File ID: E0885 Date Analyzed: 05/12/00

Purge Volume: 20 (mL) Dilution Factor: 1.0

GC Column: DB-624 ID: 0.53 (mm) Length: 60 (m)

Number TICs found: 2

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC. (ug/L)	Q
1.	000593-70-4	Methane, chlorofluoro-	3.22	3	JN
2.	000060-29-7	Ethyl ether	5.16	6	JN
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LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

ECFN9

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: E00FL

Lab Sample ID: 6066.009 Date Received: 05/05/00

Lab File ID: E0886 Date Analyzed: 05/12/00

Purge Volume: 20 (mL) Dilution Factor: 1.0

GC Column: DB-624 ID: 0.53 (mm) Length: 60 (m)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
74-87-3	Chloromethane	1	U
74-83-9	Bromomethane	1	U
75-01-4	Vinyl chloride	1	U
75-00-3	Chloroethane	1	U
75-09-2	Methylene chloride	2	
67-64-1	Acetone	5	U
75-15-0	Carbon disulfide	1	U
75-35-4	1,1-Dichloroethene	1	U
75-34-3	1,1-Dichloroethane	1	U
156-59-2	cis-1,2-Dichloroethene	1	U
156-60-5	trans-1,2-Dichloroethene	1	U
67-66-3	Chloroform	1	U
107-06-2	1,2-Dichloroethane	1	U
78-93-3	2-Butanone	5	U
74-97-5	Bromochloromethane	1	U
71-55-6	1,1,1-Trichloroethane	1	U
56-23-5	Carbon tetrachloride	1	U
75-27-4	Bromodichloromethane	1	U
78-87-5	1,2-Dichloropropane	1	U
10061-01-5	cis-1,3-Dichloropropene	1	U
79-01-6	Trichloroethene	1	U
124-48-1	Dibromochloromethane	1	U
79-00-5	1,1,2-Trichloroethane	1	U
71-43-2	Benzene	1	U
10061-02-6	trans-1,3-Dichloropropene	1	U
75-25-2	Bromoform	1	U
108-10-1	4-Methyl-2-pentanone	5	U
591-78-6	2-Hexanone	5	U
127-18-4	Tetrachloroethene	1	U
79-34-5	1,1,2,2-Tetrachloroethane	1	U
106-93-4	1,2-Dibromoethane	1	U
108-88-3	Toluene	1	U
108-90-7	Chlorobenzene	1	U
100-41-4	Ethylbenzene	1	U
100-42-5	Styrene	1	U
1330-20-7	Xylenes (total)	1	U
541-73-1	1,3-Dichlorobenzene	1	U
106-46-7	1,4-Dichlorobenzene	1	U
95-50-1	1,2-Dichlorobenzene	1	U
96-12-8	1,2-Dibromo-3-chloropropane	1	U
120-82-1	1,2,4-Trichlorobenzene	1	U

1LCE

EPA SAMPLE NO.

LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

ECFN9

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: E00FL

Lab Sample ID: 6066.009 Date Received: 05/05/00

Lab File ID: E0886 Date Analyzed: 05/12/00

Purge Volume: 20 (mL) Dilution Factor: 1.0

GC Column: DB-624 ID: 0.53 (mm) Length: 60 (m)

Number TICs found: 0

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC. (ug/L)	Q
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LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

ECFP1

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: E00FL

Lab Sample ID: 6066.012 Date Received: 05/05/00

Lab File ID: E0889 Date Analyzed: 05/12/00

Purge Volume: 20 (mL) Dilution Factor: 1.0

GC Column: DB-624 ID: 0.53 (mm) Length: 60 (m)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
74-87-3	Chloromethane	1	U
74-83-9	Bromomethane	1	U
75-01-4	Vinyl chloride	1	U
75-00-3	Chloroethane	1	U
75-09-2	Methylene chloride	2	U
67-64-1	Acetone	5	U
75-15-0	Carbon disulfide	1	U
75-35-4	1,1-Dichloroethene	1	U
75-34-3	1,1-Dichloroethane	1	U
156-59-2	cis-1,2-Dichloroethene	1	U
156-60-5	trans-1,2-Dichloroethene	1	U
67-66-3	Chloroform	1	U
107-06-2	1,2-Dichloroethane	1	U
78-93-3	2-Butanone	5	U
74-97-5	Bromochloromethane	1	U
71-55-6	1,1,1-Trichloroethane	1	U
56-23-5	Carbon tetrachloride	1	U
75-27-4	Bromodichloromethane	1	U
78-87-5	1,2-Dichloropropane	1	U
10061-01-5	cis-1,3-Dichloropropene	1	U
79-01-6	Trichloroethene	1	U
124-48-1	Dibromochloromethane	1	U
79-00-5	1,1,2-Trichloroethane	1	U
71-43-2	Benzene	1	U
10061-02-6	trans-1,3-Dichloropropene	1	U
75-25-2	Bromoform	1	U
108-10-1	4-Methyl-2-pentanone	5	U
591-78-6	2-Hexanone	5	U
127-18-4	Tetrachloroethene	1	U
79-34-5	1,1,2,2-Tetrachloroethane	1	U
106-93-4	1,2-Dibromoethane	1	U
108-88-3	Toluene	1	U
108-90-7	Chlorobenzene	1	U
100-41-4	Ethylbenzene	1	U
100-42-5	Styrene	1	U
1330-20-7	Xylenes (total)	1	U
541-73-1	1,3-Dichlorobenzene	1	U
106-46-7	1,4-Dichlorobenzene	1	U
95-50-1	1,2-Dichlorobenzene	1	U
96-12-8	1,2-Dibromo-3-chloropropane	1	U
120-82-1	1,2,4-Trichlorobenzene	1	U

1LCE

EPA SAMPLE NO.

LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

ECFP1

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: E00FL

Lab Sample ID: 6066.012 Date Received: 05/05/00

Lab File ID: E0889 Date Analyzed: 05/12/00

Purge Volume: 20 (mL) Dilution Factor: 1.0

GC Column: DB-624 ID: 0.53 (mm) Length: 60 (m)

Number TICs found: 0

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC. (ug/L)	Q
1.					
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
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1LCA

EPA SAMPLE NO.

LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET

VBLK65

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: E00FL

Lab Sample ID: FVBLK069 Date Received: _____

Lab File ID: F1142 Date Analyzed: 05/05/00

Purge Volume: 20 (mL) Dilution Factor: 1.0

GC Column: DB-624 ID: 0.53 (mm) Length: 60 (m)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
74-87-3	Chloromethane	1	U
74-83-9	Bromomethane	1	U
75-01-4	Vinyl chloride	1	U
75-00-3	Chloroethane	1	U
75-09-2	Methylene chloride	2	U
67-64-1	Acetone	5	U
75-15-0	Carbon disulfide	1	U
75-35-4	1,1-Dichloroethene	1	U
75-34-3	1,1-Dichloroethane	1	U
156-59-2	cis-1,2-Dichloroethene	1	U
156-60-5	trans-1,2-Dichloroethene	1	U
67-66-3	Chloroform	1	U
107-06-2	1,2-Dichloroethane	1	U
78-93-3	2-Butanone	5	U
74-97-5	Bromochloromethane	1	U
71-55-6	1,1,1-Trichloroethane	1	U
56-23-5	Carbon tetrachloride	1	U
75-27-4	Bromodichloromethane	1	U
78-87-5	1,2-Dichloropropane	1	U
10061-01-5	cis-1,3-Dichloropropene	1	U
79-01-6	Trichloroethene	1	U
124-48-1	Dibromochloromethane	1	U
79-00-5	1,1,2-Trichloroethane	1	U
71-43-2	Benzene	1	U
10061-02-6	trans-1,3-Dichloropropene	1	U
75-25-2	Bromoform	1	U
108-10-1	4-Methyl-2-pentanone	5	U
591-78-6	2-Hexanone	5	U
127-18-4	Tetrachloroethene	1	U
79-34-5	1,1,2,2-Tetrachloroethane	1	U
106-93-4	1,2-Dibromoethane	1	U
108-88-3	Toluene	1	U
108-90-7	Chlorobenzene	1	U
100-41-4	Ethylbenzene	1	U
100-42-5	Styrene	1	U
1330-20-7	Xylenes (total)	1	U
541-73-1	1,3-Dichlorobenzene	1	U
106-46-7	1,4-Dichlorobenzene	1	U
95-50-1	1,2-Dichlorobenzene	1	U
96-12-8	1,2-Dibromo-3-chloropropane	1	U
120-82-1	1,2,4-Trichlorobenzene	1	U

1LCE

EPA SAMPLE NO.

LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

VBLK65

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: E00FL

Lab Sample ID: FVBLK069 Date Received: _____

Lab File ID: F1142 Date Analyzed: 05/05/00

Purge Volume: 20 (mL) Dilution Factor: 1.0

GC Column: DB-624 ID: 0.53 (mm) Length: 60 (m)

Number TICs found: 0

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC. (ug/L)	Q
1.					
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
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1LCA

EPA SAMPLE NO.

LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET

VBLK66

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: E00FL

Lab Sample ID: FVBLK070 Date Received: _____

Lab File ID: F1164 Date Analyzed: 05/08/00

Purge Volume: 20 (mL) Dilution Factor: 1.0

GC Column: DB-624 ID: 0.53 (mm) Length: 60 (m)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
74-87-3	Chloromethane	1	U
74-83-9	Bromomethane	1	U
75-01-4	Vinyl chloride	1	U
75-00-3	Chloroethane	1	U
75-09-2	Methylene chloride	2	U
67-64-1	Acetone	5	U
75-15-0	Carbon disulfide	1	U
75-35-4	1,1-Dichloroethene	1	U
75-34-3	1,1-Dichloroethane	1	U
156-59-2	cis-1,2-Dichloroethene	1	U
156-60-5	trans-1,2-Dichloroethene	1	U
67-66-3	Chloroform	1	U
107-06-2	1,2-Dichloroethane	1	U
78-93-3	2-Butanone	5	U
74-97-5	Bromochloromethane	1	U
71-55-6	1,1,1-Trichloroethane	1	U
56-23-5	Carbon tetrachloride	1	U
75-27-4	Bromodichloromethane	1	U
78-87-5	1,2-Dichloropropane	1	U
10061-01-5	cis-1,3-Dichloropropene	1	U
79-01-6	Trichloroethene	1	U
124-48-1	Dibromochloromethane	1	U
79-00-5	1,1,2-Trichloroethane	1	U
71-43-2	Benzene	1	U
10061-02-6	trans-1,3-Dichloropropene	1	U
75-25-2	Bromoform	1	U
108-10-1	4-Methyl-2-pentanone	5	U
591-78-6	2-Hexanone	5	U
127-18-4	Tetrachloroethene	1	U
79-34-5	1,1,2,2-Tetrachloroethane	1	U
106-93-4	1,2-Dibromoethane	1	U
108-88-3	Toluene	1	U
108-90-7	Chlorobenzene	1	U
100-41-4	Ethylbenzene	1	U
100-42-5	Styrene	1	U
1330-20-7	Xylenes (total)	1	U
541-73-1	1,3-Dichlorobenzene	1	U
106-46-7	1,4-Dichlorobenzene	1	U
95-50-1	1,2-Dichlorobenzene	1	U
96-12-8	1,2-Dibromo-3-chloropropane	1	U
120-82-1	1,2,4-Trichlorobenzene	1	U

1LCE

EPA SAMPLE NO.

LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

VBLK66

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: E00FL

Lab Sample ID: FVBLK070 Date Received: _____

Lab File ID: F1164 Date Analyzed: 05/08/00

Purge Volume: 20 (mL) Dilution Factor: 1.0

GC Column: DB-624 ID: 0.53 (mm) Length: 60 (m)

Number TICs found: 0

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC. (ug/L)	Q
1.					
2.					
3.					
4.					
5.					
6.					
7.					
8.					
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EPA SAMPLE NO.

LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET

VBLK02

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: E00FL

Lab Sample ID: EVBLK02 Date Received: _____

Lab File ID: E0865 Date Analyzed: 05/11/00

Purge Volume: 20 (mL) Dilution Factor: 1.0

GC Column: DB-624 ID: 0.53 (mm) Length: 60 (m)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
74-87-3	Chloromethane	1	U
74-83-9	Bromomethane	1	U
75-01-4	Vinyl chloride	1	U
75-00-3	Chloroethane	1	U
75-09-2	Methylene chloride	2	U
67-64-1	Acetone	5	U
75-15-0	Carbon disulfide	1	U
75-35-4	1,1-Dichloroethene	1	U
75-34-3	1,1-Dichloroethane	1	U
156-59-2	cis-1,2-Dichloroethene	1	U
156-60-5	trans-1,2-Dichloroethene	1	U
67-66-3	Chloroform	1	U
107-06-2	1,2-Dichloroethane	1	U
78-93-3	2-Butanone	5	U
74-97-5	Bromochloromethane	1	U
71-55-6	1,1,1-Trichloroethane	1	U
56-23-5	Carbon tetrachloride	1	U
75-27-4	Bromodichloromethane	1	U
78-87-5	1,2-Dichloropropane	1	U
10061-01-5	cis-1,3-Dichloropropene	1	U
79-01-6	Trichloroethene	1	U
124-48-1	Dibromochloromethane	1	U
79-00-5	1,1,2-Trichloroethane	1	U
71-43-2	Benzene	1	U
10061-02-6	trans-1,3-Dichloropropene	1	U
75-25-2	Bromoform	1	U
108-10-1	4-Methyl-2-pentanone	5	U
591-78-6	2-Hexanone	5	U
127-18-4	Tetrachloroethene	1	U
79-34-5	1,1,2,2-Tetrachloroethane	1	U
106-93-4	1,2-Dibromoethane	1	U
108-88-3	Toluene	1	U
108-90-7	Chlorobenzene	1	U
100-41-4	Ethylbenzene	1	U
100-42-5	Styrene	1	U
1330-20-7	Xylenes (total)	1	U
541-73-1	1,3-Dichlorobenzene	1	U
106-46-7	1,4-Dichlorobenzene	1	U
95-50-1	1,2-Dichlorobenzene	1	U
96-12-8	1,2-Dibromo-3-chloropropane	1	U
120-82-1	1,2,4-Trichlorobenzene	1	U

1LCE

EPA SAMPLE NO.

LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

VBLK02

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: E00FL

Lab Sample ID: EVBLK02 Date Received: _____

Lab File ID: E0865 Date Analyzed: 05/11/00

Purge Volume: 20 (mL) Dilution Factor: 1.0

GC Column: DB-624 ID: 0.53 (mm) Length: 60 (m)

Number TICs found: 0

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC. (ug/L)	Q
1.					
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
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LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VBLK03

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: E00FL

Lab Sample ID: EVBLK03 Date Received: _____

Lab File ID: E0881 Date Analyzed: 05/11/00

Purge Volume: 20 (mL) Dilution Factor: 1.0

GC Column: DB-624 ID: 0.53 (mm) Length: 60 (m)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
74-87-3	Chloromethane	1	U
74-83-9	Bromomethane	1	U
75-01-4	Vinyl chloride	1	U
75-00-3	Chloroethane	1	U
75-09-2	Methylene chloride	2	U
67-64-1	Acetone	5	U
75-15-0	Carbon disulfide	1	U
75-35-4	1,1-Dichloroethene	1	U
75-34-3	1,1-Dichloroethane	1	U
156-59-2	cis-1,2-Dichloroethene	1	U
156-60-5	trans-1,2-Dichloroethene	1	U
67-66-3	Chloroform	1	U
107-06-2	1,2-Dichloroethane	1	U
78-93-3	2-Butanone	5	U
74-97-5	Bromochloromethane	1	U
71-55-6	1,1,1-Trichloroethane	1	U
56-23-5	Carbon tetrachloride	1	U
75-27-4	Bromodichloromethane	1	U
78-87-5	1,2-Dichloropropane	1	U
10061-01-5	cis-1,3-Dichloropropene	1	U
79-01-6	Trichloroethene	1	U
124-48-1	Dibromochloromethane	1	U
79-00-5	1,1,2-Trichloroethane	1	U
71-43-2	Benzene	1	U
10061-02-6	trans-1,3-Dichloropropene	1	U
75-25-2	Bromoform	1	U
108-10-1	4-Methyl-2-pentanone	5	U
591-78-6	2-Hexanone	5	U
127-18-4	Tetrachloroethene	1	U
79-34-5	1,1,2,2-Tetrachloroethane	1	U
106-93-4	1,2-Dibromoethane	1	U
108-88-3	Toluene	1	U
108-90-7	Chlorobenzene	1	U
100-41-4	Ethylbenzene	1	U
100-42-5	Styrene	1	U
1330-20-7	Xylenes (total)	1	U
541-73-1	1,3-Dichlorobenzene	1	U
106-46-7	1,4-Dichlorobenzene	1	U
95-50-1	1,2-Dichlorobenzene	1	U
96-12-8	1,2-Dibromo-3-chloropropane	1	U
120-82-1	1,2,4-Trichlorobenzene	1	U

1LCE

EPA SAMPLE NO.

LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

VBLK03

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: E00FL

Lab Sample ID: EVBLK03 Date Received: _____

Lab File ID: E0881 Date Analyzed: 05/11/00

Purge Volume: 20 (mL) Dilution Factor: 1.0

GC Column: DB-624 ID: 0.53 (mm) Length: 60 (m)

Number TICs found: 0

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC. (ug/L)	Q
1.					
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
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LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VHBLK01

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: E00FL

Lab Sample ID: 6050.001 Date Received: 05/03/00

Lab File ID: E0890 Date Analyzed: 05/12/00

Purge Volume: 20 (mL) Dilution Factor: 1.0

GC Column: DB-624 ID: 0.53 (mm) Length: 60 (m)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
74-87-3	Chloromethane	1	U
74-83-9	Bromomethane	1	U
75-01-4	Vinyl chloride	1	U
75-00-3	Chloroethane	1	U
75-09-2	Methylene chloride	2	U
67-64-1	Acetone	5	U
75-15-0	Carbon disulfide	1	U
75-35-4	1,1-Dichloroethene	1	U
75-34-3	1,1-Dichloroethane	1	U
156-59-2	cis-1,2-Dichloroethene	1	U
156-60-5	trans-1,2-Dichloroethene	1	U
67-66-3	Chloroform	1	U
107-06-2	1,2-Dichloroethane	1	U
78-93-3	2-Butanone	5	U
74-97-5	Bromochloromethane	1	U
71-55-6	1,1,1-Trichloroethane	1	U
56-23-5	Carbon tetrachloride	1	U
75-27-4	Bromodichloromethane	1	U
78-87-5	1,2-Dichloropropane	1	U
10061-01-5	cis-1,3-Dichloropropene	1	U
79-01-6	Trichloroethene	1	U
124-48-1	Dibromochloromethane	1	U
79-00-5	1,1,2-Trichloroethane	1	U
71-43-2	Benzene	1	U
10061-02-6	trans-1,3-Dichloropropene	1	U
75-25-2	Bromoform	1	U
108-10-1	4-Methyl-2-pentanone	5	U
591-78-6	2-Hexanone	5	U
127-18-4	Tetrachloroethene	1	U
79-34-5	1,1,2,2-Tetrachloroethane	1	U
106-93-4	1,2-Dibromoethane	1	U
108-88-3	Toluene	1	U
108-90-7	Chlorobenzene	1	U
100-41-4	Ethylbenzene	1	U
100-42-5	Styrene	1	U
1330-20-7	Xylenes (total)	1	U
541-73-1	1,3-Dichlorobenzene	1	U
106-46-7	1,4-Dichlorobenzene	1	U
95-50-1	1,2-Dichlorobenzene	1	U
96-12-8	1,2-Dibromo-3-chloropropane	1	U
120-82-1	1,2,4-Trichlorobenzene	1	U

1LCE

EPA SAMPLE NO.

LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

VHBLK01

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: E00FL

Lab Sample ID: 6050.001 Date Received: 05/03/00

Lab File ID: E0890 Date Analyzed: 05/12/00

Purge Volume: 20 (mL) Dilution Factor: 1.0

GC Column: DB-624 ID: 0.53 (mm) Length: 60 (m)

Number TICs found: 0

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC. (ug/L)	Q
1.					
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
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1LCA

LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VLCS65

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: E00FL

Lab Sample ID: FVLCS069 Date Received: _____

Lab File ID: F1143 Date Analyzed: 05/05/00

Purge Volume: 20 (mL) Dilution Factor: 1.0

GC Column: DB-624 ID: 0.53 (mm) Length: 60 (m)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
74-87-3	Chloromethane	1	U
74-83-9	Bromomethane	1	U
75-01-4	Vinyl chloride	4	
75-00-3	Chloroethane	1	U
75-09-2	Methylene chloride	2	U
67-64-1	Acetone	5	U
75-15-0	Carbon disulfide	1	U
75-35-4	1,1-Dichloroethene	1	U
75-34-3	1,1-Dichloroethane	1	U
156-59-2	cis-1,2-Dichloroethene	1	U
156-60-5	trans-1,2-Dichloroethene	1	U
67-66-3	Chloroform	1	U
107-06-2	1,2-Dichloroethane	7	
78-93-3	2-Butanone	5	U
74-97-5	Bromochloromethane	1	U
71-55-6	1,1,1-Trichloroethane	1	U
56-23-5	Carbon tetrachloride	6	
75-27-4	Bromodichloromethane	1	U
78-87-5	1,2-Dichloropropane	6	
10061-01-5	cis-1,3-Dichloropropene	6	
79-01-6	Trichloroethene	6	
124-48-1	Dibromochloromethane	1	U
79-00-5	1,1,2-Trichloroethane	6	
71-43-2	Benzene	6	
10061-02-6	trans-1,3-Dichloropropene	1	U
75-25-2	Bromoform	7	
108-10-1	4-Methyl-2-pentanone	5	U
591-78-6	2-Hexanone	5	U
127-18-4	Tetrachloroethene	6	
79-34-5	1,1,2,2-Tetrachloroethane	1	U
106-93-4	1,2-Dibromoethane	6	
108-88-3	Toluene	1	U
108-90-7	Chlorobenzene	1	U
100-41-4	Ethylbenzene	1	U
100-42-5	Styrene	1	U
1330-20-7	Xylenes (total)	1	U
541-73-1	1,3-Dichlorobenzene	1	U
106-46-7	1,4-Dichlorobenzene	6	
95-50-1	1,2-Dichlorobenzene	1	U
96-12-8	1,2-Dibromo-3-chloropropane	1	U
120-82-1	1,2,4-Trichlorobenzene	1	U

1LCA

LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VLCS02

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: E00FL

Lab Sample ID: EVLCS02 Date Received: _____

Lab File ID: E0866 Date Analyzed: 05/11/00

Purge Volume: 20 (mL) Dilution Factor: 1.0

GC Column: DB-624 ID: 0.53 (mm) Length: 60 (m)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
74-87-3	Chloromethane	1	U
74-83-9	Bromomethane	1	U
75-01-4	Vinyl chloride	5	
75-00-3	Chloroethane	1	U
75-09-2	Methylene chloride	2	U
67-64-1	Acetone	5	U
75-15-0	Carbon disulfide	1	U
75-35-4	1,1-Dichloroethene	1	U
75-34-3	1,1-Dichloroethane	1	U
156-59-2	cis-1,2-Dichloroethene	1	U
156-60-5	trans-1,2-Dichloroethene	1	U
67-66-3	Chloroform	1	U
107-06-2	1,2-Dichloroethane	5	
78-93-3	2-Butanone	5	U
74-97-5	Bromochloromethane	1	U
71-55-6	1,1,1-Trichloroethane	1	U
56-23-5	Carbon tetrachloride	5	
75-27-4	Bromodichloromethane	1	U
78-87-5	1,2-Dichloropropane	5	
10061-01-5	cis-1,3-Dichloropropene	5	
79-01-6	Trichloroethene	5	
124-48-1	Dibromochloromethane	1	U
79-00-5	1,1,2-Trichloroethane	5	
71-43-2	Benzene	5	
10061-02-6	trans-1,3-Dichloropropene	1	U
75-25-2	Bromoform	5	
108-10-1	4-Methyl-2-pentanone	5	U
591-78-6	2-Hexanone	5	U
127-18-4	Tetrachloroethene	5	
79-34-5	1,1,2,2-Tetrachloroethane	1	U
106-93-4	1,2-Dibromoethane	5	
108-88-3	Toluene	1	U
108-90-7	Chlorobenzene	1	U
100-41-4	Ethylbenzene	1	U
100-42-5	Styrene	1	U
1330-20-7	Xylenes (total)	1	U
541-73-1	1,3-Dichlorobenzene	5	
106-46-7	1,4-Dichlorobenzene	5	
95-50-1	1,2-Dichlorobenzene	1	U
96-12-8	1,2-Dibromo-3-chloropropane	1	U
120-82-1	1,2,4-Trichlorobenzene	1	U

LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VLCS03

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: E00FL

Lab Sample ID: EVLCS03 Date Received: _____

Lab File ID: E0883 Date Analyzed: 05/12/00

Purge Volume: 20 (mL) Dilution Factor: 1.0

GC Column: DB-624 ID: 0.53 (mm) Length: 60 (m)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
74-87-3	Chloromethane	1	U
74-83-9	Bromomethane	1	U
75-01-4	Vinyl chloride	4	
75-00-3	Chloroethane	1	U
75-09-2	Methylene chloride	2	U
67-64-1	Acetone	5	U
75-15-0	Carbon disulfide	1	U
75-35-4	1,1-Dichloroethene	1	U
75-34-3	1,1-Dichloroethane	1	U
156-59-2	cis-1,2-Dichloroethene	1	U
156-60-5	trans-1,2-Dichloroethene	1	U
67-66-3	Chloroform	1	U
107-06-2	1,2-Dichloroethane	5	
78-93-3	2-Butanone	5	U
74-97-5	Bromochloromethane	1	U
71-55-6	1,1,1-Trichloroethane	1	U
56-23-5	Carbon tetrachloride	5	
75-27-4	Bromodichloromethane	1	U
78-87-5	1,2-Dichloropropane	5	
10061-01-5	cis-1,3-Dichloropropene	5	
79-01-6	Trichloroethene	5	
124-48-1	Dibromochloromethane	1	U
79-00-5	1,1,2-Trichloroethane	5	
71-43-2	Benzene	5	
10061-02-6	trans-1,3-Dichloropropene	1	U
75-25-2	Bromoform	5	
108-10-1	4-Methyl-2-pentanone	5	U
591-78-6	2-Hexanone	5	U
127-18-4	Tetrachloroethene	5	
79-34-5	1,1,2,2-Tetrachloroethane	1	U
106-93-4	1,2-Dibromoethane	5	
108-88-3	Toluene	1	U
108-90-7	Chlorobenzene	1	U
100-41-4	Ethylbenzene	1	U
100-42-5	Styrene	1	U
1330-20-7	Xylenes (total)	1	U
541-73-1	1,3-Dichlorobenzene	5	
106-46-7	1,4-Dichlorobenzene	5	
95-50-1	1,2-Dichlorobenzene	1	U
96-12-8	1,2-Dibromo-3-chloropropane	1	U
120-82-1	1,2,4-Trichlorobenzene	1	U

2LCB

LOW CONC. WATER SEMIVOLATILE SURROGATE RECOVERY

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: E00FL

	EPA SAMPLE NO.	NBZ %REC #	FBP %REC #	TPH %REC #	PHL %REC #	2FP %REC #	TBP %REC #	OTHER	TOT OUT
01	SBLK44	85	82	104	85	89	89		0
02	SLCS73	76	74	100	81	79	89		0
03	E00FF	91	66	22	94	84	90		0
04	E00FG	83	82	96	71	71	95		0
05	E00FH	86	83	98	90	79	94		0
06	E00FJ	82	80	93	77	70	88		0
07	E00FK	81	71	93	79	79	82		0
08	E00F4	88	81	33	95	91	93		0
09	SBLK47	82	70	91	80	82	85		0
10	SLCS76	78	72	94	80	72	83		0
11	E00F5	79	71	90	67	74	88		0
12	ECFN2	67	67	78	70	63	86		0
13	ECFN3	66	60	71	70	64	82		0
14	ECFN4	63	60	79	63	63	77		0
15	ECFN5	84	71	52	91	76	88		0
16	ECFN6	70	66	41	63	63	82		0
17	ECFN8	67	62	82	62	64	84		0
18	E01TP	95	84	85	79	96	97		0
19	E01TQ	89	83	92	81	93	92		0
20	ECFP1	76	72	90	72	75	90		0
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30									

QC LIMITS
%REC

NBZ = Nitrobenzene-d5 (23-120)
FBP = 2-Fluorobiphenyl (30-115)
TPH = Terphenyl-d14 (18-140)
PHL = Phenol-d5 (15-115)
2FP = 2-Fluorophenol (15-121)
TBP = 2,4,6-Tribromophenol (15-130)

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

3LCB

LOW CONC. WATER SEMIVOLATILE LAB CONTROL SAMPLE RECOVERY

EPA SAMPLE NO.

SLCS73

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: E00FL

Lab Sample ID: SVOL605 LCS Lot No.:

Lab File ID: H1031 Date Extracted: 05/05/00

LCS Aliquot: 1000 (uL) Date Analyzed: 05/16/00

Concentrated Extract Volume: 1000 (uL) Dilution Factor: 1.0

Injection Volume: 1.0 (uL)

COMPOUND	AMOUNT ADDED (ng)	AMOUNT RECOVERED (ng)	%REC #	QC LIMITS
Phenol	40000	30000	75	40-120
bis(2-Chloroethyl)ether	20000	16000	80	50-110
2-Chlorophenol	40000	30000	75	50-110
N-Nitroso-di-n-propylamine	20000	16000	80	30-110
Hexachloroethane	20000	10000	50	20-110
Isophorone	20000	12000	60	50-110
Naphthalene	20000	15000	75	30-110
4-Chloroaniline	40000	22000	55	10-120
2,4,6-Trichlorophenol	40000	32000	80	40-120
2,4-Dinitrotoluene	20000	11000	55	30-120
Diethylphthalate	20000	14000	70	50-120
N-Nitrosodiphenylamine	20000	10000	50	30-110
Hexachlorobenzene	20000	12000	60	40-120
Benzo(a)pyrene	20000	16000	80	50-120

Column to be used to flag LCS recovery with an asterisk.

* Values outside of QC limits.

LCS Recovery: 0 outside limits out of 14 total.

COMMENTS: _____

3LCB

LOW CONC. WATER SEMIVOLATILE LAB CONTROL SAMPLE RECOVERY

EPA SAMPLE NO.

SLCS76

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: E00FL

Lab Sample ID: SVOL608 LCS Lot No.:

Lab File ID: H1039 Date Extracted: 05/09/00

LCS Aliquot: 1000 (uL) Date Analyzed: 05/16/00

Concentrated Extract Volume: 1000 (uL) Dilution Factor: 1.0

Injection Volume: 1.0 (uL)

COMPOUND	AMOUNT ADDED (ng)	AMOUNT RECOVERED (ng)	%REC #	QC LIMITS
Phenol	40000	30000	75	40-120
bis(2-Chloroethyl)ether	20000	17000	85	50-110
2-Chlorophenol	40000	30000	75	50-110
N-Nitroso-di-n-propylamine	20000	19000	95	30-110
Hexachloroethane	20000	10000	50	20-110
Isophorone	20000	11000	55	50-110
Naphthalene	20000	15000	75	30-110
4-Chloroaniline	40000	27000	68	10-120
2,4,6-Trichlorophenol	40000	30000	75	40-120
2,4-Dinitrotoluene	20000	11000	55	30-120
Diethylphthalate	20000	13000	65	50-120
N-Nitrosodiphenylamine	20000	12000	60	30-110
Hexachlorobenzene	20000	12000	60	40-120
Benzo(a)pyrene	20000	15000	75	50-120

Column to be used to flag LCS recovery with an asterisk.

* Values outside of QC limits.

LCS Recovery: 0 outside limits out of 14 total.

COMMENTS: _____

LOW CONC. WATER SEMIVOLATILE METHOD BLANK SUMMARY

EPA SAMPLE NO.

SBLK44

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: E00FL

Lab Sample ID: SVOB717 Date Extracted: 05/05/00

Lab File ID: H1030 Date Analyzed: 05/16/00

Instrument ID: H-HP5973 Time Analyzed: 1311

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES AND LCS:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
01	SLCS73	SVOL605	H1031	05/16/00
02	E00FF	6050.003	H1032	05/16/00
03	E00FG	6050.004	H1033	05/16/00
04	E00FH	6050.005	H1034	05/16/00
05	E00FJ	6050.006	H1035	05/16/00
06	E00FK	6050.007	H1036	05/16/00
07	E00F4	6050.008	H1037	05/16/00
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COMMENTS: _____

LOW CONC. WATER SEMIVOLATILE METHOD BLANK SUMMARY

EPA SAMPLE NO.

SBLK47

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: E00FL

Lab Sample ID: SVOB720 Date Extracted: 05/09/00

Lab File ID: H1038 Date Analyzed: 05/16/00

Instrument ID: H-HP5973 Time Analyzed: 1917

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES AND LCS:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
01	SLCS76	SVOL608	H1039	05/16/00
02	E00F5	6066.001	H1040	05/16/00
03	ECFN2	6066.003	H1041	05/16/00
04	ECFN3	6066.004	H1042	05/16/00
05	ECFN4	6066.005	H1043	05/16/00
06	ECFN5	6066.006	H1044	05/16/00
07	ECFN6	6066.007	H1047	05/17/00
08	ECFN8	6066.008	H1048	05/17/00
09	E01TP	6066.010	H1049	05/17/00
10	E01TQ	6066.011	H1050	05/17/00
11	ECFP1	6066.012	H1051	05/17/00
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COMMENTS: _____

1LCB

LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

E00F4

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: E00FL

Lab Sample ID: 6050.008 Date Received: 05/03/00

Lab File ID: H1037 Date Extracted: 05/05/00

Sample Volume: 1000 (mL) Date Analyzed: 05/16/00

Concentrated Extract Volume: 1000 (uL) Dilution Factor: 1.0

Injection Volume: 1.0 (uL)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
108-95-2	Phenol	5	U
111-44-4	bis(2-Chloroethyl)ether	5	U
95-57-8	2-Chlorophenol	5	U
95-48-7	2-Methylphenol	5	U
108-60-1	2,2'-oxybis(1-Chloropropane)	5	U
106-44-5	4-Methylphenol	5	U
621-64-7	N-Nitroso-di-n-propylamine	5	U
67-72-1	Hexachloroethane	5	U
98-95-3	Nitrobenzene	5	U
78-59-1	Isophorone	5	U
88-75-5	2-Nitrophenol	5	U
105-67-9	2,4-Dimethylphenol	5	U
111-91-1	bis(2-Chloroethoxy)methane	5	U
120-83-2	2,4-Dichlorophenol	5	U
91-20-3	Naphthalene	5	U
106-47-8	4-Chloroaniline	5	U
87-68-3	Hexachlorobutadiene	5	U
59-50-7	4-Chloro-3-methylphenol	5	U
91-57-6	2-Methylnaphthalene	5	U
77-47-4	Hexachlorocyclopentadiene	5	U
88-06-2	2,4,6-Trichlorophenol	5	U
95-95-4	2,4,5-Trichlorophenol	20	U
91-58-7	2-Chloronaphthalane	5	U
88-74-4	2-Nitroaniline	20	U
131-11-3	Dimethylphthalate	5	U
208-96-8	Acenaphthylene	5	U
606-20-2	2,6-Dintrotoluene	5	U
99-09-2	3-Nitroaniline	20	U
83-32-9	Acenaphthene	5	U

LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

E00F4

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: E00FL

Lab Sample ID: 6050.008 Date Received: 05/03/00

Lab File ID: H1037 Date Extracted: 05/05/00

Sample Volume: 1000 (mL) Date Analyzed: 05/16/00

Concentrated Extract Volume: 1000 (uL) Dilution Factor: 1.0

Injection Volume: 1 (uL)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
51-28-5	2,4-Dinitrophenol	20	U
100-02-7	4-Nitrophenol	20	U
132-64-9	Dibenzofuran	5	U
121-14-2	2,4-Dinitrotoluene	5	U
84-66-2	Diethylphthalate	3	J
7005-72-3	4-Chlorophenyl-phenylether	5	U
86-73-7	Fluorene	5	U
100-01-6	4-Nitroaniline	20	U
534-52-1	4,6-Dinitro-2-methylphenol	20	U
86-30-6	N-Nitrosodiphenylamine (1)	5	U
101-55-3	4-Bromophenyl-phenylether	5	U
118-74-1	Hexachlorobenzene	5	U
87-86-5	Pentachlorophenol	20	U
85-01-8	Phenanthrene	5	U
120-12-7	Anthracene	5	U
84-74-2	Di-n-butylphthalate	5	U
206-44-0	Fluoranthene	5	U
129-00-0	Pyrene	5	U
85-68-7	Butylbenzylphthalate	5	U
91-94-1	3,3'-Dichlorobenzidine	5	U
56-55-3	Benzo(a)anthracene	5	U
218-01-9	Chrysene	5	U
117-81-7	bis(2-Ethylhexyl)phthalate	47	
117-84-0	Di-n-octylphthalate	5	U
205-99-2	Benzo(b)fluoranthene	5	U
207-08-9	Benzo(k)fluoranthene	5	U
50-32-8	Benzo(a)pyrene	5	U
193-39-5	Indeno(1,2,3-cd)Pyrene	5	U
53-70-3	Dibenz(a,h)anthracene	5	U
191-24-2	Benzo(g,h,i)perylene	5	U

(1) - Cannot be separated from Diphenylamine

EPA SAMPLE NO.

LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

E00F4

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: E00FL

Lab Sample ID: 6050.008 Date Received: 05/03/00

Lab File ID: H1037 Date Extracted: 05/05/00

Sample Volume: 1000 (mL) Date Analyzed: 05/16/00

Concentrated Extract Volume: 1000 (uL) Dilution Factor: 1.0

Injection Volume: 1.0 (uL)

Number TICs found: 0

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC. (ug/L)	Q
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LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

E00F5

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: E00FL

Lab Sample ID: 6066.001 Date Received: 05/05/00

Lab File ID: H1040 Date Extracted: 05/09/00

Sample Volume: 1000 (mL) Date Analyzed: 05/16/00

Concentrated Extract Volume: 1000 (uL) Dilution Factor: 1.0

Injection Volume: 1.0 (uL)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
108-95-2	Phenol	5	U
111-44-4	bis(2-Chloroethyl)ether	5	U
95-57-8	2-Chlorophenol	5	U
95-48-7	2-Methylphenol	5	U
108-60-1	2,2'-oxybis(1-Chloropropane)	5	U
106-44-5	4-Methylphenol	5	U
621-64-7	N-Nitroso-di-n-propylamine	5	U
67-72-1	Hexachloroethane	5	U
98-95-3	Nitrobenzene	5	U
78-59-1	Isophorone	5	U
88-75-5	2-Nitrophenol	5	U
105-67-9	2,4-Dimethylphenol	5	U
111-91-1	bis(2-Chloroethoxy)methane	5	U
120-83-2	2,4-Dichlorophenol	5	U
91-20-3	Naphthalene	5	U
106-47-8	4-Chloroaniline	5	U
87-68-3	Hexachlorobutadiene	5	U
59-50-7	4-Chloro-3-methylphenol	5	U
91-57-6	2-Methylnaphthalene	5	U
77-47-4	Hexachlorocyclopentadiene	5	U
88-06-2	2,4,6-Trichlorophenol	5	U
95-95-4	2,4,5-Trichlorophenol	20	U
91-58-7	2-Chloronaphthalane	5	U
88-74-4	2-Nitroaniline	20	U
131-11-3	Dimethylphthalate	5	U
208-96-8	Acenaphthylene	5	U
606-20-2	2,6-Dintrotoluene	5	U
99-09-2	3-Nitroaniline	20	U
83-32-9	Acenaphthene	5	U

1LCC

LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

E00F5

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: E00FL

Lab Sample ID: 6066.001 Date Received: 05/05/00

Lab File ID: H1040 Date Extracted: 05/09/00

Sample Volume: 1000 (mL) Date Analyzed: 05/16/00

Concentrated Extract Volume: 1000 (uL) Dilution Factor: 1.0

Injection Volume: 1 (uL)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
51-28-5	2,4-Dinitrophenol	20	U
100-02-7	4-Nitrophenol	20	U
132-64-9	Dibenzofuran	5	U
121-14-2	2,4-Dinitrotoluene	5	U
84-66-2	Diethylphthalate	5	U
7005-72-3	4-Chlorophenyl-phenylether	5	U
86-73-7	Fluorene	5	U
100-01-6	4-Nitroaniline	20	U
534-52-1	4,6-Dinitro-2-methylphenol	20	U
86-30-6	N-Nitrosodiphenylamine (1)	5	U
101-55-3	4-Bromophenyl-phenylether	5	U
118-74-1	Hexachlorobenzene	5	U
87-86-5	Pentachlorophenol	20	U
85-01-8	Phenanthrene	5	U
120-12-7	Anthracene	5	U
84-74-2	Di-n-butylphthalate	5	U
206-44-0	Fluoranthene	5	U
129-00-0	Pyrene	5	U
85-68-7	Butylbenzylphthalate	5	U
91-94-1	3,3'-Dichlorobenzidine	5	U
56-55-3	Benzo(a)anthracene	5	U
218-01-9	Chrysene	5	U
117-81-7	bis(2-Ethylhexyl)phthalate	2	J
117-84-0	Di-n-octylphthalate	5	U
205-99-2	Benzo(b)fluoranthene	5	U
207-08-9	Benzo(k)fluoranthene	5	U
50-32-8	Benzo(a)pyrene	5	U
193-39-5	Indeno(1,2,3-cd)Pyrene	5	U
53-70-3	Dibenz(a,h)anthracene	5	U
191-24-2	Benzo(g,h,i)perylene	5	U

(1) - Cannot be separated from Diphenylamine

EPA SAMPLE NO.

LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

E00F5

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: E00FL

Lab Sample ID: 6066.001 Date Received: 05/05/00

Lab File ID: H1040 Date Extracted: 05/09/00

Sample Volume: 1000 (mL) Date Analyzed: 05/16/00

Concentrated Extract Volume: 1000 (uL) Dilution Factor: 1.0

Injection Volume: 1.0 (uL)

Number TICs found: 0

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC. (ug/L)	Q
1.					
2.					
3.					
4.					
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LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

E00FF

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: E00FL

Lab Sample ID: 6050.003 Date Received: 05/03/00

Lab File ID: H1032 Date Extracted: 05/05/00

Sample Volume: 1000 (mL) Date Analyzed: 05/16/00

Concentrated Extract Volume: 1000 (uL) Dilution Factor: 1.0

Injection Volume: 1.0 (uL)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
108-95-2	Phenol	5	U
111-44-4	bis(2-Chloroethyl)ether	5	U
95-57-8	2-Chlorophenol	5	U
95-48-7	2-Methylphenol	5	U
108-60-1	2,2'-oxybis(1-Chloropropane)	5	U
106-44-5	4-Methylphenol	5	U
621-64-7	N-Nitroso-di-n-propylamine	5	U
67-72-1	Hexachloroethane	5	U
98-95-3	Nitrobenzene	5	U
78-59-1	Isophorone	5	U
88-75-5	2-Nitrophenol	5	U
105-67-9	2,4-Dimethylphenol	5	U
111-91-1	bis(2-Chloroethoxy)methane	5	U
120-83-2	2,4-Dichlorophenol	5	U
91-20-3	Naphthalene	5	U
106-47-8	4-Chloroaniline	5	U
87-68-3	Hexachlorobutadiene	5	U
59-50-7	4-Chloro-3-methylphenol	5	U
91-57-6	2-Methylnaphthalene	5	U
77-47-4	Hexachlorocyclopentadiene	5	U
88-06-2	2,4,6-Trichlorophenol	5	U
95-95-4	2,4,5-Trichlorophenol	20	U
91-58-7	2-Chloronaphthalane	5	U
88-74-4	2-Nitroaniline	20	U
131-11-3	Dimethylphthalate	5	U
208-96-8	Acenaphthylene	5	U
606-20-2	2,6-Dintrotoluene	5	U
99-09-2	3-Nitroaniline	20	U
83-32-9	Acenaphthene	5	U

1LCC

LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

E00FF

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: E00FL

Lab Sample ID: 6050.003 Date Received: 05/03/00

Lab File ID: H1032 Date Extracted: 05/05/00

Sample Volume: 1000 (mL) Date Analyzed: 05/16/00

Concentrated Extract Volume: 1000 (uL) Dilution Factor: 1.0

Injection Volume: 1 (uL)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
51-28-5	2,4-Dinitrophenol	20	U
100-02-7	4-Nitrophenol	20	U
132-64-9	Dibenzofuran	5	U
121-14-2	2,4-Dinitrotoluene	5	U
84-66-2	Diethylphthalate	2	J
7005-72-3	4-Chlorophenyl-phenylether	5	U
86-73-7	Fluorene	5	U
100-01-6	4-Nitroaniline	20	U
534-52-1	4,6-Dinitro-2-methylphenol	20	U
86-30-6	N-Nitrosodiphenylamine (1)	5	U
101-55-3	4-Bromophenyl-phenylether	5	U
118-74-1	Hexachlorobenzene	5	U
87-86-5	Pentachlorophenol	20	U
85-01-8	Phenanthrene	5	U
120-12-7	Anthracene	5	U
84-74-2	Di-n-butylphthalate	5	U
206-44-0	Fluoranthene	5	U
129-00-0	Pyrene	5	U
85-68-7	Butylbenzylphthalate	5	U
91-94-1	3,3'-Dichlorobenzidine	5	U
56-55-3	Benzo(a)anthracene	5	U
218-01-9	Chrysene	5	U
117-81-7	bis(2-Ethylhexyl)phthalate	18	
117-84-0	Di-n-octylphthalate	5	U
205-99-2	Benzo(b)fluoranthene	5	U
207-08-9	Benzo(k)fluoranthene	5	U
50-32-8	Benzo(a)pyrene	5	U
193-39-5	Indeno(1,2,3-cd)Pyrene	5	U
53-70-3	Dibenz(a,h)anthracene	5	U
191-24-2	Benzo(g,h,i)perylene	5	U

(1) - Cannot be separated from Diphenylamine

1LCF

EPA SAMPLE NO.

LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

E00FF

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: E00FL

Lab Sample ID: 6050.003 Date Received: 05/03/00

Lab File ID: H1032 Date Extracted: 05/05/00

Sample Volume: 1000 (mL) Date Analyzed: 05/16/00

Concentrated Extract Volume: 1000 (uL) Dilution Factor: 1.0

Injection Volume: 1.0 (uL)

Number TICs found: 0

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC. (ug/L)	Q
1.					
2.					
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1LCB

LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

E00FG

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: E00FL

Lab Sample ID: 6050.004 Date Received: 05/03/00

Lab File ID: H1033 Date Extracted: 05/05/00

Sample Volume: 1000 (mL) Date Analyzed: 05/16/00

Concentrated Extract Volume: 1000 (uL) Dilution Factor: 1.0

Injection Volume: 1.0 (uL)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
108-95-2	Phenol	5	U
111-44-4	bis(2-Chloroethyl)ether	5	U
95-57-8	2-Chlorophenol	5	U
95-48-7	2-Methylphenol	5	U
108-60-1	2,2'-oxybis(1-Chloropropane)	5	U
106-44-5	4-Methylphenol	5	U
621-64-7	N-Nitroso-di-n-propylamine	5	U
67-72-1	Hexachloroethane	5	U
98-95-3	Nitrobenzene	5	U
78-59-1	Isophorone	5	U
88-75-5	2-Nitrophenol	5	U
105-67-9	2,4-Dimethylphenol	5	U
111-91-1	bis(2-Chloroethoxy)methane	5	U
120-83-2	2,4-Dichlorophenol	5	U
91-20-3	Naphthalene	5	U
106-47-8	4-Chloroaniline	5	U
87-68-3	Hexachlorobutadiene	5	U
59-50-7	4-Chloro-3-methylphenol	5	U
91-57-6	2-Methylnaphthalene	5	U
77-47-4	Hexachlorocyclopentadiene	5	U
88-06-2	2,4,6-Trichlorophenol	5	U
95-95-4	2,4,5-Trichlorophenol	20	U
91-58-7	2-Chloronaphthalane	5	U
88-74-4	2-Nitroaniline	20	U
131-11-3	Dimethylphthalate	5	U
208-96-8	Acenaphthylene	5	U
606-20-2	2,6-Dintrotoluene	5	U
99-09-2	3-Nitroaniline	20	U
83-32-9	Acenaphthene	5	U

LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

E00FG

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: E00FL

Lab Sample ID: 6050.004 Date Received: 05/03/00

Lab File ID: H1033 Date Extracted: 05/05/00

Sample Volume: 1000 (mL) Date Analyzed: 05/16/00

Concentrated Extract Volume: 1000 (uL) Dilution Factor: 1.0

Injection Volume: 1 (uL)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
51-28-5	2,4-Dinitrophenol	20	U
100-02-7	4-Nitrophenol	20	U
132-64-9	Dibenzofuran	5	U
121-14-2	2,4-Dinitrotoluene	5	U
84-66-2	Diethylphthalate	3	J
7005-72-3	4-Chlorophenyl-phenylether	5	U
86-73-7	Fluorene	5	U
100-01-6	4-Nitroaniline	20	U
534-52-1	4,6-Dinitro-2-methylphenol	20	U
86-30-6	N-Nitrosodiphenylamine (1)	5	U
101-55-3	4-Bromophenyl-phenylether	5	U
118-74-1	Hexachlorobenzene	5	U
87-86-5	Pentachlorophenol	20	U
85-01-8	Phenanthrene	5	U
120-12-7	Anthracene	5	U
84-74-2	Di-n-butylphthalate	5	U
206-44-0	Fluoranthene	5	U
129-00-0	Pyrene	5	U
85-68-7	Butylbenzylphthalate	5	U
91-94-1	3,3'-Dichlorobenzidine	5	U
56-55-3	Benzo(a)anthracene	5	U
218-01-9	Chrysene	5	U
117-81-7	bis(2-Ethylhexyl)phthalate	33	
117-84-0	Di-n-octylphthalate	5	U
205-99-2	Benzo(b)fluoranthene	5	U
207-08-9	Benzo(k)fluoranthene	5	U
50-32-8	Benzo(a)pyrene	5	U
193-39-5	Indeno(1,2,3-cd)Pyrene	5	U
53-70-3	Dibenz(a,h)anthracene	5	U
191-24-2	Benzo(g,h,i)perylene	5	U

(1) - Cannot be separated from Diphenylamine

EPA SAMPLE NO.

LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

E00FG

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: E00FL

Lab Sample ID: 6050.004 Date Received: 05/03/00

Lab File ID: H1033 Date Extracted: 05/05/00

Sample Volume: 1000 (mL) Date Analyzed: 05/16/00

Concentrated Extract Volume: 1000 (uL) Dilution Factor: 1.0

Injection Volume: 1.0 (uL)

Number TICs found: 0

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC. (ug/L)	Q
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LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

E00FH

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: E00FL

Lab Sample ID: 6050.005 Date Received: 05/03/00

Lab File ID: H1034 Date Extracted: 05/05/00

Sample Volume: 1000 (mL) Date Analyzed: 05/16/00

Concentrated Extract Volume: 1000 (uL) Dilution Factor: 1.0

Injection Volume: 1.0 (uL)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
108-95-2	Phenol	5	U
111-44-4	bis(2-Chloroethyl)ether	5	U
95-57-8	2-Chlorophenol	5	U
95-48-7	2-Methylphenol	5	U
108-60-1	2,2'-oxybis(1-Chloropropane)	5	U
106-44-5	4-Methylphenol	5	U
621-64-7	N-Nitroso-di-n-propylamine	5	U
67-72-1	Hexachloroethane	5	U
98-95-3	Nitrobenzene	5	U
78-59-1	Isophorone	5	U
88-75-5	2-Nitrophenol	5	U
105-67-9	2,4-Dimethylphenol	5	U
111-91-1	bis(2-Chloroethoxy)methane	5	U
120-83-2	2,4-Dichlorophenol	5	U
91-20-3	Naphthalene	5	U
106-47-8	4-Chloroaniline	5	U
87-68-3	Hexachlorobutadiene	5	U
59-50-7	4-Chloro-3-methylphenol	5	U
91-57-6	2-Methylnaphthalene	5	U
77-47-4	Hexachlorocyclopentadiene	5	U
88-06-2	2,4,6-Trichlorophenol	5	U
95-95-4	2,4,5-Trichlorophenol	20	U
91-58-7	2-Chloronaphthalane	5	U
88-74-4	2-Nitroaniline	20	U
131-11-3	Dimethylphthalate	5	U
208-96-8	Acenaphthylene	5	U
606-20-2	2,6-Dintrotoluene	5	U
99-09-2	3-Nitroaniline	20	U
83-32-9	Acenaphthene	5	U

LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

E00FH

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: E00FL

Lab Sample ID: 6050.005 Date Received: 05/03/00

Lab File ID: H1034 Date Extracted: 05/05/00

Sample Volume: 1000 (mL) Date Analyzed: 05/16/00

Concentrated Extract Volume: 1000 (uL) Dilution Factor: 1.0

Injection Volume: 1 (uL)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
51-28-5	2,4-Dinitrophenol	20	U
100-02-7	4-Nitrophenol	20	U
132-64-9	Dibenzofuran	5	U
121-14-2	2,4-Dinitrotoluene	5	U
84-66-2	Diethylphthalate	3	J
7005-72-3	4-Chlorophenyl-phenylether	5	U
86-73-7	Fluorene	5	U
100-01-6	4-Nitroaniline	20	U
534-52-1	4,6-Dinitro-2-methylphenol	20	U
86-30-6	N-Nitrosodiphenylamine (1)	5	U
101-55-3	4-Bromophenyl-phenylether	5	U
118-74-1	Hexachlorobenzene	5	U
87-86-5	Pentachlorophenol	20	U
85-01-8	Phenanthrene	5	U
120-12-7	Anthracene	5	U
84-74-2	Di-n-butylphthalate	5	U
206-44-0	Fluoranthene	5	U
129-00-0	Pyrene	5	U
85-68-7	Butylbenzylphthalate	4	J
91-94-1	3,3'-Dichlorobenzidine	5	U
56-55-3	Benzo(a)anthracene	5	U
218-01-9	Chrysene	5	U
117-81-7	bis(2-Ethylhexyl)phthalate	19	
117-84-0	Di-n-octylphthalate	4	J
205-99-2	Benzo(b)fluoranthene	5	U
207-08-9	Benzo(k)fluoranthene	5	U
50-32-8	Benzo(a)pyrene	5	U
193-39-5	Indeno(1,2,3-cd)Pyrene	5	U
53-70-3	Dibenz(a,h)anthracene	5	U
191-24-2	Benzo(g,h,i)perylene	5	U

(1) - Cannot be separated from Diphenylamine

EPA SAMPLE NO.

LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

E00FH

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: E00FL

Lab Sample ID: 6050.005 Date Received: 05/03/00

Lab File ID: H1034 Date Extracted: 05/05/00

Sample Volume: 1000 (mL) Date Analyzed: 05/16/00

Concentrated Extract Volume: 1000 (uL) Dilution Factor: 1.0

Injection Volume: 1.0 (uL)

Number TICs found: 0

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC. (ug/L)	Q
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LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

E00FJ

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: E00FL

Lab Sample ID: 6050.006 Date Received: 05/03/00

Lab File ID: H1035 Date Extracted: 05/05/00

Sample Volume: 1000 (mL) Date Analyzed: 05/16/00

Concentrated Extract Volume: 1000 (uL) Dilution Factor: 1.0

Injection Volume: 1.0 (uL)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
108-95-2	Phenol	5	U
111-44-4	bis(2-Chloroethyl)ether	5	U
95-57-8	2-Chlorophenol	5	U
95-48-7	2-Methylphenol	5	U
108-60-1	2,2'-oxybis(1-Chloropropane)	5	U
106-44-5	4-Methylphenol	5	U
621-64-7	N-Nitroso-di-n-propylamine	5	U
67-72-1	Hexachloroethane	5	U
98-95-3	Nitrobenzene	5	U
78-59-1	Isophorone	5	U
88-75-5	2-Nitrophenol	5	U
105-67-9	2,4-Dimethylphenol	5	U
111-91-1	bis(2-Chloroethoxy)methane	5	U
120-83-2	2,4-Dichlorophenol	5	U
91-20-3	Naphthalene	5	U
106-47-8	4-Chloroaniline	5	U
87-68-3	Hexachlorobutadiene	5	U
59-50-7	4-Chloro-3-methylphenol	5	U
91-57-6	2-Methylnaphthalene	5	U
77-47-4	Hexachlorocyclopentadiene	5	U
88-06-2	2,4,6-Trichlorophenol	5	U
95-95-4	2,4,5-Trichlorophenol	20	U
91-58-7	2-Chloronaphthalane	5	U
88-74-4	2-Nitroaniline	20	U
131-11-3	Dimethylphthalate	5	U
208-96-8	Acenaphthylene	5	U
606-20-2	2,6-Dintrotoluene	5	U
99-09-2	3-Nitroaniline	20	U
83-32-9	Acenaphthene	5	U

1LCC

LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

E00FJ

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: E00FL

Lab Sample ID: 6050.006 Date Received: 05/03/00

Lab File ID: H1035 Date Extracted: 05/05/00

Sample Volume: 1000 (mL) Date Analyzed: 05/16/00

Concentrated Extract Volume: 1000 (uL) Dilution Factor: 1.0

Injection Volume: 1 (uL)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
51-28-5	2,4-Dinitrophenol	20	U
100-02-7	4-Nitrophenol	20	U
132-64-9	Dibenzofuran	5	U
121-14-2	2,4-Dinitrotoluene	5	U
84-66-2	Diethylphthalate	2	J
7005-72-3	4-Chlorophenyl-phenylether	5	U
86-73-7	Fluorene	5	U
100-01-6	4-Nitroaniline	20	U
534-52-1	4,6-Dinitro-2-methylphenol	20	U
86-30-6	N-Nitrosodiphenylamine (1)	5	U
101-55-3	4-Bromophenyl-phenylether	5	U
118-74-1	Hexachlorobenzene	5	U
87-86-5	Pentachlorophenol	20	U
85-01-8	Phenanthrene	5	U
120-12-7	Anthracene	5	U
84-74-2	Di-n-butylphthalate	5	U
206-44-0	Fluoranthene	5	U
129-00-0	Pyrene	5	U
85-68-7	Butylbenzylphthalate	5	U
91-94-1	3,3'-Dichlorobenzidine	5	U
56-55-3	Benzo(a)anthracene	5	U
218-01-9	Chrysene	5	U
117-81-7	bis(2-Ethylhexyl)phthalate	35	
117-84-0	Di-n-octylphthalate	5	U
205-99-2	Benzo(b)fluoranthene	5	U
207-08-9	Benzo(k)fluoranthene	5	U
50-32-8	Benzo(a)pyrene	5	U
193-39-5	Indeno(1,2,3-cd)Pyrene	5	U
53-70-3	Dibenz(a,h)anthracene	5	U
191-24-2	Benzo(g,h,i)perylene	5	U

(1) - Cannot be separated from Diphenylamine

1LCF

EPA SAMPLE NO.

LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

E00FJ

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: E00FL

Lab Sample ID: 6050.006 Date Received: 05/03/00

Lab File ID: H1035 Date Extracted: 05/05/00

Sample Volume: 1000 (mL) Date Analyzed: 05/16/00

Concentrated Extract Volume: 1000 (uL) Dilution Factor: 1.0

Injection Volume: 1.0 (uL)

Number TICs found: 0

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC. (ug/L)	Q
1.					
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LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

E00FK

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: E00FL

Lab Sample ID: 6050.007 Date Received: 05/03/00

Lab File ID: HI036 Date Extracted: 05/05/00

Sample Volume: 1000 (mL) Date Analyzed: 05/16/00

Concentrated Extract Volume: 1000 (uL) Dilution Factor: 1.0

Injection Volume: 1.0 (uL)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
108-95-2	Phenol	5	U
111-44-4	bis(2-Chloroethyl)ether	5	U
95-57-8	2-Chlorophenol	5	U
95-48-7	2-Methylphenol	5	U
108-60-1	2,2'-oxybis(1-Chloropropane)	5	U
106-44-5	4-Methylphenol	5	U
621-64-7	N-Nitroso-di-n-propylamine	5	U
67-72-1	Hexachloroethane	5	U
98-95-3	Nitrobenzene	5	U
78-59-1	Isophorone	5	U
88-75-5	2-Nitrophenol	5	U
105-67-9	2,4-Dimethylphenol	5	U
111-91-1	bis(2-Chloroethoxy)methane	5	U
120-83-2	2,4-Dichlorophenol	5	U
91-20-3	Naphthalene	5	U
106-47-8	4-Chloroaniline	5	U
87-68-3	Hexachlorobutadiene	5	U
59-50-7	4-Chloro-3-methylphenol	5	U
91-57-6	2-Methylnaphthalene	5	U
77-47-4	Hexachlorocyclopentadiene	5	U
88-06-2	2,4,6-Trichlorophenol	5	U
95-95-4	2,4,5-Trichlorophenol	20	U
91-58-7	2-Chloronaphthalane	5	U
88-74-4	2-Nitroaniline	20	U
131-11-3	Dimethylphthalate	5	U
208-96-8	Acenaphthylene	5	U
606-20-2	2,6-Dintrotoluene	5	U
99-09-2	3-Nitroaniline	20	U
83-32-9	Acenaphthene	5	U

1LCC

LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

E00FK

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: E00FL

Lab Sample ID: 6050.007 Date Received: 05/03/00

Lab File ID: H1036 Date Extracted: 05/05/00

Sample Volume: 1000 (mL) Date Analyzed: 05/16/00

Concentrated Extract Volume: 1000 (uL) Dilution Factor: 1.0

Injection Volume: 1 (uL)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
51-28-5	2,4-Dinitrophenol	20	U
100-02-7	4-Nitrophenol	20	U
132-64-9	Dibenzofuran	5	U
121-14-2	2,4-Dinitrotoluene	5	U
84-66-2	Diethylphthalate	3	J
7005-72-3	4-Chlorophenyl-phenylether	5	U
86-73-7	Fluorene	5	U
100-01-6	4-Nitroaniline	20	U
534-52-1	4,6-Dinitro-2-methylphenol	20	U
86-30-6	N-Nitrosodiphenylamine (1)	5	U
101-55-3	4-Bromophenyl-phenylether	5	U
118-74-1	Hexachlorobenzene	5	U
87-86-5	Pentachlorophenol	20	U
85-01-8	Phenanthrene	5	U
120-12-7	Anthracene	5	U
84-74-2	Di-n-butylphthalate	5	U
206-44-0	Fluoranthene	5	U
129-00-0	Pyrene	5	U
85-68-7	Butylbenzylphthalate	5	U
91-94-1	3,3'-Dichlorobenzidine	5	U
56-55-3	Benzo(a)anthracene	5	U
218-01-9	Chrysene	5	U
117-81-7	bis(2-Ethylhexyl)phthalate	17	
117-84-0	Di-n-octylphthalate	5	U
205-99-2	Benzo(b)fluoranthene	5	U
207-08-9	Benzo(k)fluoranthene	5	U
50-32-8	Benzo(a)pyrene	5	U
193-39-5	Indeno(1,2,3-cd)Pyrene	5	U
53-70-3	Dibenz(a,h)anthracene	5	U
191-24-2	Benzo(g,h,i)perylene	5	U

(1) - Cannot be separated from Diphenylamine

1LCF

EPA SAMPLE NO.

LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

E00FK

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: E00FL

Lab Sample ID: 6050.007 Date Received: 05/03/00

Lab File ID: H1036 Date Extracted: 05/05/00

Sample Volume: 1000 (mL) Date Analyzed: 05/16/00

Concentrated Extract Volume: 1000 (uL) Dilution Factor: 1.0

Injection Volume: 1.0 (uL)

Number TICs found: 0

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC. (ug/L)	Q
1.					
2.					
3.					
4.					
5.					
6.					
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1LCB

LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

E01TP

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: E00FL

Lab Sample ID: 6066.010 Date Received: 05/05/00

Lab File ID: H1049 Date Extracted: 05/09/00

Sample Volume: 1000 (mL) Date Analyzed: 05/17/00

Concentrated Extract Volume: 1000 (uL) Dilution Factor: 1.0

Injection Volume: 1.0 (uL)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
108-95-2	Phenol	5	U
111-44-4	bis(2-Chloroethyl)ether	5	U
95-57-8	2-Chlorophenol	5	U
95-48-7	2-Methylphenol	5	U
108-60-1	2,2'-oxybis(1-Chloropropane)	5	U
106-44-5	4-Methylphenol	5	U
621-64-7	N-Nitroso-di-n-propylamine	5	U
67-72-1	Hexachloroethane	5	U
98-95-3	Nitrobenzene	5	U
78-59-1	Isophorone	5	U
88-75-5	2-Nitrophenol	5	U
105-67-9	2,4-Dimethylphenol	5	U
111-91-1	bis(2-Chloroethoxy)methane	5	U
120-83-2	2,4-Dichlorophenol	5	U
91-20-3	Naphthalene	5	U
106-47-8	4-Chloroaniline	5	U
87-68-3	Hexachlorobutadiene	5	U
59-50-7	4-Chloro-3-methylphenol	5	U
91-57-6	2-Methylnaphthalene	5	U
77-47-4	Hexachlorocyclopentadiene	5	U
88-06-2	2,4,6-Trichlorophenol	5	U
95-95-4	2,4,5-Trichlorophenol	20	U
91-58-7	2-Chloronaphthalane	5	U
88-74-4	2-Nitroaniline	20	U
131-11-3	Dimethylphthalate	5	U
208-96-8	Acenaphthylene	5	U
606-20-2	2,6-Dintrotoluene	5	U
99-09-2	3-Nitroaniline	20	U
83-32-9	Acenaphthene	5	U

1LCC

LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

E01TP

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: E00FL

Lab Sample ID: 6066.010 Date Received: 05/05/00

Lab File ID: H1049 Date Extracted: 05/09/00

Sample Volume: 1000 (mL) Date Analyzed: 05/17/00

Concentrated Extract Volume: 1000 (uL) Dilution Factor: 1.0

Injection Volume: 1 (uL)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
51-28-5	2,4-Dinitrophenol	20	U
100-02-7	4-Nitrophenol	20	U
132-64-9	Dibenzofuran	5	U
121-14-2	2,4-Dinitrotoluene	5	U
84-66-2	Diethylphthalate	1	J
7005-72-3	4-Chlorophenyl-phenylether	5	U
86-73-7	Fluorene	5	U
100-01-6	4-Nitroaniline	20	U
534-52-1	4,6-Dinitro-2-methylphenol	20	U
86-30-6	N-Nitrosodiphenylamine (1)	5	U
101-55-3	4-Bromophenyl-phenylether	5	U
118-74-1	Hexachlorobenzene	5	U
87-86-5	Pentachlorophenol	20	U
85-01-8	Phenanthrene	5	U
120-12-7	Anthracene	5	U
84-74-2	Di-n-butylphthalate	5	U
206-44-0	Fluoranthene	5	U
129-00-0	Pyrene	5	U
85-68-7	Butylbenzylphthalate	5	U
91-94-1	3,3'-Dichlorobenzidine	5	U
56-55-3	Benzo(a)anthracene	5	U
218-01-9	Chrysene	5	U
117-81-7	bis(2-Ethylhexyl)phthalate	2	J
117-84-0	Di-n-octylphthalate	5	U
205-99-2	Benzo(b)fluoranthene	5	U
207-08-9	Benzo(k)fluoranthene	5	U
50-32-8	Benzo(a)pyrene	5	U
193-39-5	Indeno(1,2,3-cd)Pyrene	5	U
53-70-3	Dibenz(a,h)anthracene	5	U
191-24-2	Benzo(g,h,i)perylene	5	U

(1) - Cannot be separated from Diphenylamine

EPA SAMPLE NO.

LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

E01TP

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: E00FL

Lab Sample ID: 6066.010 Date Received: 05/05/00

Lab File ID: H1049 Date Extracted: 05/09/00

Sample Volume: 1000 (mL) Date Analyzed: 05/17/00

Concentrated Extract Volume: 1000 (uL) Dilution Factor: 1.0

Injection Volume: 1.0 (uL)

Number TICs found: 0

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC. (ug/L)	Q
1.					
2.					
3.					
4.					
5.					
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1LCB

LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

E01TQ

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: E00FL

Lab Sample ID: 6066.011 Date Received: 05/05/00

Lab File ID: H1050 Date Extracted: 05/09/00

Sample Volume: 1000 (mL) Date Analyzed: 05/17/00

Concentrated Extract Volume: 1000 (uL) Dilution Factor: 1.0

Injection Volume: 1.0 (uL)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
108-95-2	Phenol	5	U
111-44-4	bis(2-Chloroethyl)ether	5	U
95-57-8	2-Chlorophenol	5	U
95-48-7	2-Methylphenol	5	U
108-60-1	2,2'-oxybis(1-Chloropropane)	5	U
106-44-5	4-Methylphenol	5	U
621-64-7	N-Nitroso-di-n-propylamine	5	U
67-72-1	Hexachloroethane	5	U
98-95-3	Nitrobenzene	5	U
78-59-1	Isophorone	5	U
88-75-5	2-Nitrophenol	5	U
105-67-9	2,4-Dimethylphenol	5	U
111-91-1	bis(2-Chloroethoxy)methane	5	U
120-83-2	2,4-Dichlorophenol	5	U
91-20-3	Naphthalene	5	U
106-47-8	4-Chloroaniline	5	U
87-68-3	Hexachlorobutadiene	5	U
59-50-7	4-Chloro-3-methylphenol	5	U
91-57-6	2-Methylnaphthalene	5	U
77-47-4	Hexachlorocyclopentadiene	5	U
88-06-2	2,4,6-Trichlorophenol	5	U
95-95-4	2,4,5-Trichlorophenol	20	U
91-58-7	2-Chloronaphthalane	5	U
88-74-4	2-Nitroaniline	20	U
131-11-3	Dimethylphthalate	5	U
208-96-8	Acenaphthylene	5	U
606-20-2	2,6-Dintrotoluene	5	U
99-09-2	3-Nitroaniline	20	U
83-32-9	Acenaphthene	5	U

LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

E01TQ

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: E00FL

Lab Sample ID: 6066.011 Date Received: 05/05/00

Lab File ID: H1050 Date Extracted: 05/09/00

Sample Volume: 1000 (mL) Date Analyzed: 05/17/00

Concentrated Extract Volume: 1000 (uL) Dilution Factor: 1.0

Injection Volume: 1 (uL)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
51-28-5	2,4-Dinitrophenol	20	U
100-02-7	4-Nitrophenol	20	U
132-64-9	Dibenzofuran	5	U
121-14-2	2,4-Dinitrotoluene	5	U
84-66-2	Diethylphthalate	5	U
7005-72-3	4-Chlorophenyl-phenylether	5	U
86-73-7	Fluorene	5	U
100-01-6	4-Nitroaniline	20	U
534-52-1	4,6-Dinitro-2-methylphenol	20	U
86-30-6	N-Nitrosodiphenylamine (1)	5	U
101-55-3	4-Bromophenyl-phenylether	5	U
118-74-1	Hexachlorobenzene	5	U
87-86-5	Pentachlorophenol	20	U
85-01-8	Phenanthrene	5	U
120-12-7	Anthracene	5	U
84-74-2	Di-n-butylphthalate	5	U
206-44-0	Fluoranthene	5	U
129-00-0	Pyrene	5	U
85-68-7	Butylbenzylphthalate	5	U
91-94-1	3,3'-Dichlorobenzidine	5	U
56-55-3	Benzo(a)anthracene	5	U
218-01-9	Chrysene	5	U
117-81-7	bis(2-Ethylhexyl)phthalate	1	J
117-84-0	Di-n-octylphthalate	5	U
205-99-2	Benzo(b)fluoranthene	5	U
207-08-9	Benzo(k)fluoranthene	5	U
50-32-8	Benzo(a)pyrene	5	U
193-39-5	Indeno(1,2,3-cd)Pyrene	5	U
53-70-3	Dibenz(a,h)anthracene	5	U
191-24-2	Benzo(g,h,i)perylene	5	U

(1) - Cannot be separated from Diphenylamine

1LCF

EPA SAMPLE NO.

LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

E01TQ

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: E00FL

Lab Sample ID: 6066.011 Date Received: 05/05/00

Lab File ID: H1050 Date Extracted: 05/09/00

Sample Volume: 1000 (mL) Date Analyzed: 05/17/00

Concentrated Extract Volume: 1000 (uL) Dilution Factor: 1.0

Injection Volume: 1.0 (uL)

Number TICs found: 0

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC. (ug/L)	Q
1.					
2.					
3.					
4.					
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1LCB

EPA SAMPLE NO.

LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

ECFN2

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: E00FL

Lab Sample ID: 6066.003 Date Received: 05/05/00

Lab File ID: H1041 Date Extracted: 05/09/00

Sample Volume: 1000 (mL) Date Analyzed: 05/16/00

Concentrated Extract Volume: 1000 (uL) Dilution Factor: 1.0

Injection Volume: 1.0 (uL)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
108-95-2	Phenol	5	U
111-44-4	bis(2-Chloroethyl)ether	5	U
95-57-8	2-Chlorophenol	5	U
95-48-7	2-Methylphenol	5	U
108-60-1	2,2'-oxybis(1-Chloropropane)	5	U
106-44-5	4-Methylphenol	5	U
621-64-7	N-Nitroso-di-n-propylamine	5	U
67-72-1	Hexachloroethane	5	U
98-95-3	Nitrobenzene	5	U
78-59-1	Isophorone	5	U
88-75-5	2-Nitrophenol	5	U
105-67-9	2,4-Dimethylphenol	5	U
111-91-1	bis(2-Chloroethoxy)methane	5	U
120-83-2	2,4-Dichlorophenol	5	U
91-20-3	Naphthalene	5	U
106-47-8	4-Chloroaniline	5	U
87-68-3	Hexachlorobutadiene	5	U
59-50-7	4-Chloro-3-methylphenol	5	U
91-57-6	2-Methylnaphthalene	5	U
77-47-4	Hexachlorocyclopentadiene	5	U
88-06-2	2,4,6-Trichlorophenol	5	U
95-95-4	2,4,5-Trichlorophenol	20	U
91-58-7	2-Chloronaphthalane	5	U
88-74-4	2-Nitroaniline	20	U
131-11-3	Dimethylphthalate	5	U
208-96-8	Acenaphthylene	5	U
606-20-2	2,6-Dintrotoluene	5	U
99-09-2	3-Nitroaniline	20	U
83-32-9	Acenaphthene	5	U

LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

ECFN2

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: E00FL

Lab Sample ID: 6066.003 Date Received: 05/05/00

Lab File ID: H1041 Date Extracted: 05/09/00

Sample Volume: 1000 (mL) Date Analyzed: 05/16/00

Concentrated Extract Volume: 1000 (uL) Dilution Factor: 1.0

Injection Volume: 1 (uL)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
51-28-5	2,4-Dinitrophenol	20	U
100-02-7	4-Nitrophenol	20	U
132-64-9	Dibenzofuran	5	U
121-14-2	2,4-Dinitrotoluene	5	U
84-66-2	Diethylphthalate	3	J
7005-72-3	4-Chlorophenyl-phenylether	5	U
86-73-7	Fluorene	5	U
100-01-6	4-Nitroaniline	20	U
534-52-1	4,6-Dinitro-2-methylphenol	20	U
86-30-6	N-Nitrosodiphenylamine (1)	5	U
101-55-3	4-Bromophenyl-phenylether	5	U
118-74-1	Hexachlorobenzene	5	U
87-86-5	Pentachlorophenol	20	U
85-01-8	Phenanthrene	5	U
120-12-7	Anthracene	5	U
84-74-2	Di-n-butylphthalate	5	U
206-44-0	Fluoranthene	5	U
129-00-0	Pyrene	5	U
85-68-7	Butylbenzylphthalate	5	U
91-94-1	3,3'-Dichlorobenzidine	5	U
56-55-3	Benzo(a)anthracene	5	U
218-01-9	Chrysene	5	U
117-81-7	bis(2-Ethylhexyl)phthalate	8	
117-84-0	Di-n-octylphthalate	5	U
205-99-2	Benzo(b)fluoranthene	5	U
207-08-9	Benzo(k)fluoranthene	5	U
50-32-8	Benzo(a)pyrene	5	U
193-39-5	Indeno(1,2,3-cd)Pyrene	5	U
53-70-3	Dibenz(a,h)anthracene	5	U
191-24-2	Benzo(g,h,i)perylene	5	U

(1) - Cannot be separated from Diphenylamine

1LCF

EPA SAMPLE NO.

LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

ECFN2

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: E00FL

Lab Sample ID: 6066.003 Date Received: 05/05/00

Lab File ID: H1041 Date Extracted: 05/09/00

Sample Volume: 1000 (mL) Date Analyzed: 05/16/00

Concentrated Extract Volume: 1000 (uL) Dilution Factor: 1.0

Injection Volume: 1.0 (uL)

Number TICs found: 1

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC. (ug/L)	Q
1.	000934-34-	2(3H)-Benzothiazolone	21.01	23	JN
2.					
3.					
4.					
5.					
6.					
7.					
8.					
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30.					

1LCB

LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

ECFN3

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: E00FL

Lab Sample ID: 6066.004 Date Received: 05/05/00

Lab File ID: H1042 Date Extracted: 05/09/00

Sample Volume: 1000 (mL) Date Analyzed: 05/16/00

Concentrated Extract Volume: 1000 (uL) Dilution Factor: 1.0

Injection Volume: 1.0 (uL)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
108-95-2	Phenol	5	U
111-44-4	bis(2-Chloroethyl)ether	5	U
95-57-8	2-Chlorophenol	5	U
95-48-7	2-Methylphenol	5	U
108-60-1	2,2'-oxybis(1-Chloropropane)	5	U
106-44-5	4-Methylphenol	5	U
621-64-7	N-Nitroso-di-n-propylamine	5	U
67-72-1	Hexachloroethane	5	U
98-95-3	Nitrobenzene	5	U
78-59-1	Isophorone	5	U
88-75-5	2-Nitrophenol	5	U
105-67-9	2,4-Dimethylphenol	5	U
111-91-1	bis(2-Chloroethoxy)methane	5	U
120-83-2	2,4-Dichlorophenol	5	U
91-20-3	Naphthalene	5	U
106-47-8	4-Chloroaniline	5	U
87-68-3	Hexachlorobutadiene	5	U
59-50-7	4-Chloro-3-methylphenol	5	U
91-57-6	2-Methylnaphthalene	5	U
77-47-4	Hexachlorocyclopentadiene	5	U
88-06-2	2,4,6-Trichlorophenol	5	U
95-95-4	2,4,5-Trichlorophenol	20	U
91-58-7	2-Chloronaphthalane	5	U
88-74-4	2-Nitroaniline	20	U
131-11-3	Dimethylphthalate	5	U
208-96-8	Acenaphthylene	5	U
606-20-2	2,6-Dintrotoluene	5	U
99-09-2	3-Nitroaniline	20	U
83-32-9	Acenaphthene	5	U

1LCC

LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

ECFN3

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: E00FL

Lab Sample ID: 6066.004 Date Received: 05/05/00

Lab File ID: H1042 Date Extracted: 05/09/00

Sample Volume: 1000 (mL) Date Analyzed: 05/16/00

Concentrated Extract Volume: 1000 (uL) Dilution Factor: 1.0

Injection Volume: 1 (uL)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
51-28-5	2,4-Dinitrophenol	20	U
100-02-7	4-Nitrophenol	20	U
132-64-9	Dibenzofuran	5	U
121-14-2	2,4-Dinitrotoluene	5	U
84-66-2	Diethylphthalate	4	J
7005-72-3	4-Chlorophenyl-phenylether	5	U
86-73-7	Fluorene	5	U
100-01-6	4-Nitroaniline	20	U
534-52-1	4,6-Dinitro-2-methylphenol	20	U
86-30-6	N-Nitrosodiphenylamine (1)	5	U
101-55-3	4-Bromophenyl-phenylether	5	U
118-74-1	Hexachlorobenzene	5	U
87-86-5	Pentachlorophenol	20	U
85-01-8	Phenanthrene	5	U
120-12-7	Anthracene	5	U
84-74-2	Di-n-butylphthalate	5	U
206-44-0	Fluoranthene	5	U
129-00-0	Pyrene	5	U
85-68-7	Butylbenzylphthalate	5	U
91-94-1	3,3'-Dichlorobenzidine	5	U
56-55-3	Benzo(a)anthracene	5	U
218-01-9	Chrysene	5	U
117-81-7	bis(2-Ethylhexyl)phthalate	4	J
117-84-0	Di-n-octylphthalate	5	U
205-99-2	Benzo(b)fluoranthene	5	U
207-08-9	Benzo(k)fluoranthene	5	U
50-32-8	Benzo(a)pyrene	5	U
193-39-5	Indeno(1,2,3-cd)Pyrene	5	U
53-70-3	Dibenz(a,h)anthracene	5	U
191-24-2	Benzo(g,h,i)perylene	5	U

(1) - Cannot be separated from Diphenylamine

EPA SAMPLE NO.

LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

ECFN3

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: E00FL

Lab Sample ID: 6066.004 Date Received: 05/05/00

Lab File ID: H1042 Date Extracted: 05/09/00

Sample Volume: 1000 (mL) Date Analyzed: 05/16/00

Concentrated Extract Volume: 1000 (uL) Dilution Factor: 1.0

Injection Volume: 1.0 (uL)

Number TICs found: 1

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC. (ug/L)	Q
1.	000934-34-	2(3H)-Benzothiazolone	22.95	21	JN
2.					
3.					
4.					
5.					
6.					
7.					
8.					
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10.					
11.					
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1LCB

LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

ECFN4

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: E00FL

Lab Sample ID: 6066.005 Date Received: 05/05/00

Lab File ID: H1043 Date Extracted: 05/09/00

Sample Volume: 1000 (mL) Date Analyzed: 05/16/00

Concentrated Extract Volume: 1000 (uL) Dilution Factor: 1.0

Injection Volume: 1.0 (uL)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
108-95-2	Phenol	5	U
111-44-4	bis(2-Chloroethyl)ether	5	U
95-57-8	2-Chlorophenol	5	U
95-48-7	2-Methylphenol	5	U
108-60-1	2,2'-oxybis(1-Chloropropane)	5	U
106-44-5	4-Methylphenol	5	U
621-64-7	N-Nitroso-di-n-propylamine	5	U
67-72-1	Hexachloroethane	5	U
98-95-3	Nitrobenzene	5	U
78-59-1	Isophorone	5	U
88-75-5	2-Nitrophenol	5	U
105-67-9	2,4-Dimethylphenol	5	U
111-91-1	bis(2-Chloroethoxy)methane	5	U
120-83-2	2,4-Dichlorophenol	5	U
91-20-3	Naphthalene	5	U
106-47-8	4-Chloroaniline	5	U
87-68-3	Hexachlorobutadiene	5	U
59-50-7	4-Chloro-3-methylphenol	5	U
91-57-6	2-Methylnaphthalene	5	U
77-47-4	Hexachlorocyclopentadiene	5	U
88-06-2	2,4,6-Trichlorophenol	5	U
95-95-4	2,4,5-Trichlorophenol	20	U
91-58-7	2-Chloronaphthalane	5	U
88-74-4	2-Nitroaniline	20	U
131-11-3	Dimethylphthalate	5	U
208-96-8	Acenaphthylene	5	U
606-20-2	2,6-Dintrotoluene	5	U
99-09-2	3-Nitroaniline	20	U
83-32-9	Acenaphthene	5	U

LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

ECFN4

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: E00FL

Lab Sample ID: 6066.005 Date Received: 05/05/00

Lab File ID: H1043 Date Extracted: 05/09/00

Sample Volume: 1000 (mL) Date Analyzed: 05/16/00

Concentrated Extract Volume: 1000 (uL) Dilution Factor: 1.0

Injection Volume: 1 (uL)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
51-28-5	2,4-Dinitrophenol	20	U
100-02-7	4-Nitrophenol	20	U
132-64-9	Dibenzofuran	5	U
121-14-2	2,4-Dinitrotoluene	5	U
84-66-2	Diethylphthalate	2	J
7005-72-3	4-Chlorophenyl-phenylether	5	U
86-73-7	Fluorene	5	U
100-01-6	4-Nitroaniline	20	U
534-52-1	4,6-Dinitro-2-methylphenol	20	U
86-30-6	N-Nitrosodiphenylamine (1)	5	U
101-55-3	4-Bromophenyl-phenylether	5	U
118-74-1	Hexachlorobenzene	5	U
87-86-5	Pentachlorophenol	20	U
85-01-8	Phenanthrene	5	U
120-12-7	Anthracene	5	U
84-74-2	Di-n-butylphthalate	5	U
206-44-0	Fluoranthene	5	U
129-00-0	Pyrene	5	U
85-68-7	Butylbenzylphthalate	5	U
91-94-1	3,3'-Dichlorobenzidine	5	U
56-55-3	Benzo(a)anthracene	5	U
218-01-9	Chrysene	5	U
117-81-7	bis(2-Ethylhexyl)phthalate	2	J
117-84-0	Di-n-octylphthalate	5	U
205-99-2	Benzo(b)fluoranthene	5	U
207-08-9	Benzo(k)fluoranthene	5	U
50-32-8	Benzo(a)pyrene	5	U
193-39-5	Indeno(1,2,3-cd)Pyrene	5	U
53-70-3	Dibenz(a,h)anthracene	5	U
191-24-2	Benzo(g,h,i)perylene	5	U

(1) - Cannot be separated from Diphenylamine

1LCF

EPA SAMPLE NO.

LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

ECFN4

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: E00FL

Lab Sample ID: 6066.005 Date Received: 05/05/00

Lab File ID: H1043 Date Extracted: 05/09/00

Sample Volume: 1000 (mL) Date Analyzed: 05/16/00

Concentrated Extract Volume: 1000 (uL) Dilution Factor: 1.0

Injection Volume: 1.0 (uL)

Number TICs found: 0

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC. (ug/L)	Q
1.					
2.					
3.					
4.					
5.					
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1LCB

EPA SAMPLE NO.

LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

ECFN5

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: E00FL

Lab Sample ID: 6066.006 Date Received: 05/05/00

Lab File ID: H1044 Date Extracted: 05/09/00

Sample Volume: 1000 (mL) Date Analyzed: 05/16/00

Concentrated Extract Volume: 1000 (uL) Dilution Factor: 1.0

Injection Volume: 1.0 (uL)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
108-95-2	Phenol	5	U
111-44-4	bis(2-Chloroethyl)ether	5	U
95-57-8	2-Chlorophenol	5	U
95-48-7	2-Methylphenol	5	U
108-60-1	2,2'-oxybis(1-Chloropropane)	5	U
106-44-5	4-Methylphenol	5	U
621-64-7	N-Nitroso-di-n-propylamine	5	U
67-72-1	Hexachloroethane	5	U
98-95-3	Nitrobenzene	5	U
78-59-1	Isophorone	5	U
88-75-5	2-Nitrophenol	5	U
105-67-9	2,4-Dimethylphenol	5	U
111-91-1	bis(2-Chloroethoxy)methane	5	U
120-83-2	2,4-Dichlorophenol	5	U
91-20-3	Naphthalene	5	U
106-47-8	4-Chloroaniline	5	U
87-68-3	Hexachlorobutadiene	5	U
59-50-7	4-Chloro-3-methylphenol	5	U
91-57-6	2-Methylnaphthalene	5	U
77-47-4	Hexachlorocyclopentadiene	5	U
88-06-2	2,4,6-Trichlorophenol	5	U
95-95-4	2,4,5-Trichlorophenol	20	U
91-58-7	2-Chloronaphthalane	5	U
88-74-4	2-Nitroaniline	20	U
131-11-3	Dimethylphthalate	5	U
208-96-8	Acenaphthylene	5	U
606-20-2	2,6-Dintrotoluene	5	U
99-09-2	3-Nitroaniline	20	U
83-32-9	Acenaphthene	5	U

LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

ECFN5

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: E00FL

Lab Sample ID: 6066.006 Date Received: 05/05/00

Lab File ID: H1044 Date Extracted: 05/09/00

Sample Volume: 1000 (mL) Date Analyzed: 05/16/00

Concentrated Extract Volume: 1000 (uL) Dilution Factor: 1.0

Injection Volume: 1 (uL)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
51-28-5	2,4-Dinitrophenol	20	U
100-02-7	4-Nitrophenol	20	U
132-64-9	Dibenzofuran	5	U
121-14-2	2,4-Dinitrotoluene	5	U
84-66-2	Diethylphthalate	5	U
7005-72-3	4-Chlorophenyl-phenylether	5	U
86-73-7	Fluorene	5	U
100-01-6	4-Nitroaniline	20	U
534-52-1	4,6-Dinitro-2-methylphenol	20	U
86-30-6	N-Nitrosodiphenylamine (1)	5	U
101-55-3	4-Bromophenyl-phenylether	5	U
118-74-1	Hexachlorobenzene	5	U
87-86-5	Pentachlorophenol	20	U
85-01-8	Phenanthrene	5	U
120-12-7	Anthracene	5	U
84-74-2	Di-n-butylphthalate	5	U
206-44-0	Fluoranthene	5	U
129-00-0	Pyrene	5	U
85-68-7	Butylbenzylphthalate	5	U
91-94-1	3,3'-Dichlorobenzidine	5	U
56-55-3	Benzo(a)anthracene	5	U
218-01-9	Chrysene	5	U
117-81-7	bis(2-Ethylhexyl)phthalate	7	
117-84-0	Di-n-octylphthalate	5	U
205-99-2	Benzo(b)fluoranthene	5	U
207-08-9	Benzo(k)fluoranthene	5	U
50-32-8	Benzo(a)pyrene	5	U
193-39-5	Indeno(1,2,3-cd)Pyrene	5	U
53-70-3	Dibenz(a,h)anthracene	5	U
191-24-2	Benzo(g,h,i)perylene	5	U

(1) - Cannot be separated from Diphenylamine

1LCF

EPA SAMPLE NO.

LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

ECFN5

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: E00FL

Lab Sample ID: 6066.006 Date Received: 05/05/00

Lab File ID: H1044 Date Extracted: 05/09/00

Sample Volume: 1000 (mL) Date Analyzed: 05/16/00

Concentrated Extract Volume: 1000 (uL) Dilution Factor: 1.0

Injection Volume: 1.0 (uL)

Number TICs found: 0

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC. (ug/L)	Q
1.					
2.					
3.					
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1LCB

EPA SAMPLE NO.

LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

ECFN6

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: E00FL

Lab Sample ID: 6066.007 Date Received: 05/05/00

Lab File ID: H1047 Date Extracted: 05/09/00

Sample Volume: 1000 (mL) Date Analyzed: 05/17/00

Concentrated Extract Volume: 1000 (uL) Dilution Factor: 1.0

Injection Volume: 1.0 (uL)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
108-95-2	Phenol	5	U
111-44-4	bis(2-Chloroethyl)ether	5	U
95-57-8	2-Chlorophenol	5	U
95-48-7	2-Methylphenol	5	U
108-60-1	2,2'-oxybis(1-Chloropropane)	5	U
106-44-5	4-Methylphenol	5	U
621-64-7	N-Nitroso-di-n-propylamine	5	U
67-72-1	Hexachloroethane	5	U
98-95-3	Nitrobenzene	5	U
78-59-1	Isophorone	5	U
88-75-5	2-Nitrophenol	5	U
105-67-9	2,4-Dimethylphenol	5	U
111-91-1	bis(2-Chloroethoxy)methane	5	U
120-83-2	2,4-Dichlorophenol	5	U
91-20-3	Naphthalene	5	U
106-47-8	4-Chloroaniline	5	U
87-68-3	Hexachlorobutadiene	5	U
59-50-7	4-Chloro-3-methylphenol	5	U
91-57-6	2-Methylnaphthalene	5	U
77-47-4	Hexachlorocyclopentadiene	5	U
88-06-2	2,4,6-Trichlorophenol	5	U
95-95-4	2,4,5-Trichlorophenol	20	U
91-58-7	2-Chloronaphthalane	5	U
88-74-4	2-Nitroaniline	20	U
131-11-3	Dimethylphthalate	5	U
208-96-8	Acenaphthylene	5	U
606-20-2	2,6-Dintrotoluene	5	U
99-09-2	3-Nitroaniline	20	U
83-32-9	Acenaphthene	5	U

LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

ECFN6

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: E00FL

Lab Sample ID: 6066.007 Date Received: 05/05/00

Lab File ID: H1047 Date Extracted: 05/09/00

Sample Volume: 1000 (mL) Date Analyzed: 05/17/00

Concentrated Extract Volume: 1000 (uL) Dilution Factor: 1.0

Injection Volume: 1 (uL)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
51-28-5	2,4-Dinitrophenol	20	U
100-02-7	4-Nitrophenol	20	U
132-64-9	Dibenzofuran	5	U
121-14-2	2,4-Dinitrotoluene	5	U
84-66-2	Diethylphthalate	4	J
7005-72-3	4-Chlorophenyl-phenylether	5	U
86-73-7	Fluorene	5	U
100-01-6	4-Nitroaniline	20	U
534-52-1	4,6-Dinitro-2-methylphenol	20	U
86-30-6	N-Nitrosodiphenylamine (1)	5	U
101-55-3	4-Bromophenyl-phenylether	5	U
118-74-1	Hexachlorobenzene	5	U
87-86-5	Pentachlorophenol	20	U
85-01-8	Phenanthrene	5	U
120-12-7	Anthracene	5	U
84-74-2	Di-n-butylphthalate	5	U
206-44-0	Fluoranthene	5	U
129-00-0	Pyrene	5	U
85-68-7	Butylbenzylphthalate	5	U
91-94-1	3,3'-Dichlorobenzidine	5	U
56-55-3	Benzo(a)anthracene	5	U
218-01-9	Chrysene	5	U
117-81-7	bis(2-Ethylhexyl)phthalate	2	J
117-84-0	Di-n-octylphthalate	5	U
205-99-2	Benzo(b)fluoranthene	5	U
207-08-9	Benzo(k)fluoranthene	5	U
50-32-8	Benzo(a)pyrene	5	U
193-39-5	Indeno(1,2,3-cd)Pyrene	5	U
53-70-3	Dibenz(a,h)anthracene	5	U
191-24-2	Benzo(g,h,i)perylene	5	U

(1) - Cannot be separated from Diphenylamine

1LCF

EPA SAMPLE NO.

LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

ECFN6

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: E00FL

Lab Sample ID: 6066.007 Date Received: 05/05/00

Lab File ID: H1047 Date Extracted: 05/09/00

Sample Volume: 1000 (mL) Date Analyzed: 05/17/00

Concentrated Extract Volume: 1000 (uL) Dilution Factor: 1.0

Injection Volume: 1.0 (uL)

Number TICs found: 0

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC. (ug/L)	Q
1.					
2.					
3.					
4.					
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1LCB

LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

ECFN8

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: E00FL

Lab Sample ID: 6066.008 Date Received: 05/05/00

Lab File ID: H1048 Date Extracted: 05/09/00

Sample Volume: 1000 (mL) Date Analyzed: 05/17/00

Concentrated Extract Volume: 1000 (uL) Dilution Factor: 1.0

Injection Volume: 1.0 (uL)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
108-95-2	Phenol	5	U
111-44-4	bis(2-Chloroethyl)ether	5	U
95-57-8	2-Chlorophenol	5	U
95-48-7	2-Methylphenol	5	U
108-60-1	2,2'-oxybis(1-Chloropropane)	5	U
106-44-5	4-Methylphenol	5	U
621-64-7	N-Nitroso-di-n-propylamine	5	U
67-72-1	Hexachloroethane	5	U
98-95-3	Nitrobenzene	5	U
78-59-1	Isophorone	5	U
88-75-5	2-Nitrophenol	5	U
105-67-9	2,4-Dimethylphenol	5	U
111-91-1	bis(2-Chloroethoxy)methane	5	U
120-83-2	2,4-Dichlorophenol	5	U
91-20-3	Naphthalene	5	U
106-47-8	4-Chloroaniline	5	U
87-68-3	Hexachlorobutadiene	5	U
59-50-7	4-Chloro-3-methylphenol	5	U
91-57-6	2-Methylnaphthalene	5	U
77-47-4	Hexachlorocyclopentadiene	5	U
88-06-2	2,4,6-Trichlorophenol	5	U
95-95-4	2,4,5-Trichlorophenol	20	U
91-58-7	2-Chloronaphthalane	5	U
88-74-4	2-Nitroaniline	20	U
131-11-3	Dimethylphthalate	5	U
208-96-8	Acenaphthylene	5	U
606-20-2	2,6-Dintrotoluene	5	U
99-09-2	3-Nitroaniline	20	U
83-32-9	Acenaphthene	5	U

1LCC

LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

ECFN8

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: E00FL

Lab Sample ID: 6066.008 Date Received: 05/05/00

Lab File ID: H1048 Date Extracted: 05/09/00

Sample Volume: 1000 (mL) Date Analyzed: 05/17/00

Concentrated Extract Volume: 1000 (uL) Dilution Factor: 1.0

Injection Volume: 1 (uL)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
51-28-5	2,4-Dinitrophenol	20	U
100-02-7	4-Nitrophenol	20	U
132-64-9	Dibenzofuran	5	U
121-14-2	2,4-Dinitrotoluene	5	U
84-66-2	Diethylphthalate	2	J
7005-72-3	4-Chlorophenyl-phenylether	5	U
86-73-7	Fluorene	5	U
100-01-6	4-Nitroaniline	20	U
534-52-1	4,6-Dinitro-2-methylphenol	20	U
86-30-6	N-Nitrosodiphenylamine (1)	5	U
101-55-3	4-Bromophenyl-phenylether	5	U
118-74-1	Hexachlorobenzene	5	U
87-86-5	Pentachlorophenol	20	U
85-01-8	Phenanthrene	5	U
120-12-7	Anthracene	5	U
84-74-2	Di-n-butylphthalate	5	U
206-44-0	Fluoranthene	5	U
129-00-0	Pyrene	5	U
85-68-7	Butylbenzylphthalate	5	U
91-94-1	3,3'-Dichlorobenzidine	5	U
56-55-3	Benzo(a)anthracene	5	U
218-01-9	Chrysene	5	U
117-81-7	bis(2-Ethylhexyl)phthalate	2	J
117-84-0	Di-n-octylphthalate	5	U
205-99-2	Benzo(b)fluoranthene	5	U
207-08-9	Benzo(k)fluoranthene	5	U
50-32-8	Benzo(a)pyrene	5	U
193-39-5	Indeno(1,2,3-cd)Pyrene	5	U
53-70-3	Dibenz(a,h)anthracene	5	U
191-24-2	Benzo(g,h,i)perylene	5	U

(1) - Cannot be separated from Diphenylamine

EPA SAMPLE NO.

LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

ECFN8

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: E00FL

Lab Sample ID: 6066.008 Date Received: 05/05/00

Lab File ID: H1048 Date Extracted: 05/09/00

Sample Volume: 1000 (mL) Date Analyzed: 05/17/00

Concentrated Extract Volume: 1000 (uL) Dilution Factor: 1.0

Injection Volume: 1.0 (uL)

Number TICs found: 0

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC. (ug/L)	Q
1.					
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
11.					
12.					
13.					
14.					
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16.					
17.					
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27.					
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1LCB

LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

ECFP1

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: E00FL

Lab Sample ID: 6066.012 Date Received: 05/05/00

Lab File ID: H1051 Date Extracted: 05/09/00

Sample Volume: 1000 (mL) Date Analyzed: 05/17/00

Concentrated Extract Volume: 1000 (uL) Dilution Factor: 1.0

Injection Volume: 1.0 (uL)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
108-95-2	Phenol	5	U
111-44-4	bis(2-Chloroethyl)ether	5	U
95-57-8	2-Chlorophenol	5	U
95-48-7	2-Methylphenol	5	U
108-60-1	2,2'-oxybis(1-Chloropropane)	5	U
106-44-5	4-Methylphenol	5	U
621-64-7	N-Nitroso-di-n-propylamine	5	U
67-72-1	Hexachloroethane	5	U
98-95-3	Nitrobenzene	5	U
78-59-1	Isophorone	5	U
88-75-5	2-Nitrophenol	5	U
105-67-9	2,4-Dimethylphenol	5	U
111-91-1	bis(2-Chloroethoxy)methane	5	U
120-83-2	2,4-Dichlorophenol	5	U
91-20-3	Naphthalene	5	U
106-47-8	4-Chloroaniline	5	U
87-68-3	Hexachlorobutadiene	5	U
59-50-7	4-Chloro-3-methylphenol	5	U
91-57-6	2-Methylnaphthalene	5	U
77-47-4	Hexachlorocyclopentadiene	5	U
88-06-2	2,4,6-Trichlorophenol	5	U
95-95-4	2,4,5-Trichlorophenol	20	U
91-58-7	2-Chloronaphthalane	5	U
88-74-4	2-Nitroaniline	20	U
131-11-3	Dimethylphthalate	5	U
208-96-8	Acenaphthylene	5	U
606-20-2	2,6-Dintrotoluene	5	U
99-09-2	3-Nitroaniline	20	U
83-32-9	Acenaphthene	5	U

1LCC

LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

ECFP1

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: E00FL

Lab Sample ID: 6066.012 Date Received: 05/05/00

Lab File ID: H1051 Date Extracted: 05/09/00

Sample Volume: 1000 (mL) Date Analyzed: 05/17/00

Concentrated Extract Volume: 1000 (uL) Dilution Factor: 1.0

Injection Volume: 1 (uL)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
51-28-5	2,4-Dinitrophenol	20	U
100-02-7	4-Nitrophenol	20	U
132-64-9	Dibenzofuran	5	U
121-14-2	2,4-Dinitrotoluene	5	U
84-66-2	Diethylphthalate	1	J
7005-72-3	4-Chlorophenyl-phenylether	5	U
86-73-7	Fluorene	5	U
100-01-6	4-Nitroaniline	20	U
534-52-1	4,6-Dinitro-2-methylphenol	20	U
86-30-6	N-Nitrosodiphenylamine (1)	5	U
101-55-3	4-Bromophenyl-phenylether	5	U
118-74-1	Hexachlorobenzene	5	U
87-86-5	Pentachlorophenol	20	U
85-01-8	Phenanthrene	5	U
120-12-7	Anthracene	5	U
84-74-2	Di-n-butylphthalate	5	U
206-44-0	Fluoranthene	5	U
129-00-0	Pyrene	5	U
85-68-7	Butylbenzylphthalate	5	U
91-94-1	3,3'-Dichlorobenzidine	5	U
56-55-3	Benzo(a)anthracene	5	U
218-01-9	Chrysene	5	U
117-81-7	bis(2-Ethylhexyl)phthalate	2	J
117-84-0	Di-n-octylphthalate	5	U
205-99-2	Benzo(b)fluoranthene	5	U
207-08-9	Benzo(k)fluoranthene	5	U
50-32-8	Benzo(a)pyrene	5	U
193-39-5	Indeno(1,2,3-cd)Pyrene	5	U
53-70-3	Dibenz(a,h)anthracene	5	U
191-24-2	Benzo(g,h,i)perylene	5	U

(1) - Cannot be separated from Diphenylamine

EPA SAMPLE NO.

LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

ECFP1

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: E00FL

Lab Sample ID: 6066.012 Date Received: 05/05/00

Lab File ID: H1051 Date Extracted: 05/09/00

Sample Volume: 1000 (mL) Date Analyzed: 05/17/00

Concentrated Extract Volume: 1000 (uL) Dilution Factor: 1.0

Injection Volume: 1.0 (uL)

Number TICs found: 0

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC. (ug/L)	Q
1.					
2.					
3.					
4.					
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1LCB

LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SBLK44

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: E00FL

Lab Sample ID: SVOB717 Date Received: _____

Lab File ID: H1030 Date Extracted: 05/05/00

Sample Volume: 1000 (mL) Date Analyzed: 05/16/00

Concentrated Extract Volume: 1000 (uL) Dilution Factor: 1.0

Injection Volume: 1.0 (uL)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
108-95-2	Phenol	5	U
111-44-4	bis(2-Chloroethyl)ether	5	U
95-57-8	2-Chlorophenol	5	U
95-48-7	2-Methylphenol	5	U
108-60-1	2,2'-oxybis(1-Chloropropane)	5	U
106-44-5	4-Methylphenol	5	U
621-64-7	N-Nitroso-di-n-propylamine	5	U
67-72-1	Hexachloroethane	5	U
98-95-3	Nitrobenzene	5	U
78-59-1	Isophorone	5	U
88-75-5	2-Nitrophenol	5	U
105-67-9	2,4-Dimethylphenol	5	U
111-91-1	bis(2-Chloroethoxy)methane	5	U
120-83-2	2,4-Dichlorophenol	5	U
91-20-3	Naphthalene	5	U
106-47-8	4-Chloroaniline	5	U
87-68-3	Hexachlorobutadiene	5	U
59-50-7	4-Chloro-3-methylphenol	5	U
91-57-6	2-Methylnaphthalene	5	U
77-47-4	Hexachlorocyclopentadiene	5	U
88-06-2	2,4,6-Trichlorophenol	5	U
95-95-4	2,4,5-Trichlorophenol	20	U
91-58-7	2-Chloronaphthalane	5	U
88-74-4	2-Nitroaniline	20	U
131-11-3	Dimethylphthalate	5	U
208-96-8	Acenaphthylene	5	U
606-20-2	2,6-Dintrotoluene	5	U
99-09-2	3-Nitroaniline	20	U
83-32-9	Acenaphthene	5	U

LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SBLK44

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: E00FL

Lab Sample ID: SVOB717 Date Received: _____

Lab File ID: H1030 Date Extracted: 05/05/00

Sample Volume: 1000 (mL) Date Analyzed: 05/16/00

Concentrated Extract Volume: 1000 (uL) Dilution Factor: 1.0

Injection Volume: 1 (uL)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
51-28-5	2,4-Dinitrophenol	20	U
100-02-7	4-Nitrophenol	20	U
132-64-9	Dibenzofuran	5	U
121-14-2	2,4-Dinitrotoluene	5	U
84-66-2	Diethylphthalate	5	U
7005-72-3	4-Chlorophenyl-phenylether	5	U
86-73-7	Fluorene	5	U
100-01-6	4-Nitroaniline	20	U
534-52-1	4,6-Dinitro-2-methylphenol	20	U
86-30-6	N-Nitrosodiphenylamine (1)	5	U
101-55-3	4-Bromophenyl-phenylether	5	U
118-74-1	Hexachlorobenzene	5	U
87-86-5	Pentachlorophenol	20	U
85-01-8	Phenanthrene	5	U
120-12-7	Anthracene	5	U
84-74-2	Di-n-butylphthalate	5	U
206-44-0	Fluoranthene	5	U
129-00-0	Pyrene	5	U
85-68-7	Butylbenzylphthalate	5	U
91-94-1	3,3'-Dichlorobenzidine	5	U
56-55-3	Benzo(a)anthracene	5	U
218-01-9	Chrysene	5	U
117-81-7	bis(2-Ethylhexyl)phthalate	5	U
117-84-0	Di-n-octylphthalate	5	U
205-99-2	Benzo(b)fluoranthene	5	U
207-08-9	Benzo(k)fluoranthene	5	U
50-32-8	Benzo(a)pyrene	5	U
193-39-5	Indeno(1,2,3-cd)Pyrene	5	U
53-70-3	Dibenz(a,h)anthracene	5	U
191-24-2	Benzo(g,h,i)perylene	5	U

(1) - Cannot be separated from Diphenylamine

1LCF

EPA SAMPLE NO.

LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

SBLK44

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: E00FL

Lab Sample ID: SVOB717 Date Received: _____

Lab File ID: H1030 Date Extracted: 05/05/00

Sample Volume: 1000 (mL) Date Analyzed: 05/16/00

Concentrated Extract Volume: 1000 (uL) Dilution Factor: 1.0

Injection Volume: 1.0 (uL)

Number TICs found: 0

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC. (ug/L)	Q
1.					
2.					
3.					
4.					
5.					
6.					
7.					
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30.					

LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SBLK47

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: E00FL

Lab Sample ID: SVOB720 Date Received: _____

Lab File ID: H1038 Date Extracted: 05/09/00

Sample Volume: 1000 (mL) Date Analyzed: 05/16/00

Concentrated Extract Volume: 1000 (uL) Dilution Factor: 1.0

Injection Volume: 1.0 (uL)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
108-95-2	Phenol	5	U
111-44-4	bis(2-Chloroethyl)ether	5	U
95-57-8	2-Chlorophenol	5	U
95-48-7	2-Methylphenol	5	U
108-60-1	2,2'-oxybis(1-Chloropropane)	5	U
106-44-5	4-Methylphenol	5	U
621-64-7	N-Nitroso-di-n-propylamine	5	U
67-72-1	Hexachloroethane	5	U
98-95-3	Nitrobenzene	5	U
78-59-1	Isophorone	5	U
88-75-5	2-Nitrophenol	5	U
105-67-9	2,4-Dimethylphenol	5	U
111-91-1	bis(2-Chloroethoxy)methane	5	U
120-83-2	2,4-Dichlorophenol	5	U
91-20-3	Naphthalene	5	U
106-47-8	4-Chloroaniline	5	U
87-68-3	Hexachlorobutadiene	5	U
59-50-7	4-Chloro-3-methylphenol	5	U
91-57-6	2-Methylnaphthalene	5	U
77-47-4	Hexachlorocyclopentadiene	5	U
88-06-2	2,4,6-Trichlorophenol	5	U
95-95-4	2,4,5-Trichlorophenol	20	U
91-58-7	2-Chloronaphthalane	5	U
88-74-4	2-Nitroaniline	20	U
131-11-3	Dimethylphthalate	5	U
208-96-8	Acenaphthylene	5	U
606-20-2	2,6-Dintrotoluene	5	U
99-09-2	3-Nitroaniline	20	U
83-32-9	Acenaphthene	5	U

1LCC

LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SBLK47

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: E00FL

Lab Sample ID: SVOB720 Date Received: _____

Lab File ID: H1038 Date Extracted: 05/09/00

Sample Volume: 1000 (mL) Date Analyzed: 05/16/00

Concentrated Extract Volume: 1000 (uL) Dilution Factor: 1.0

Injection Volume: 1 (uL)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
51-28-5	2,4-Dinitrophenol	20	U
100-02-7	4-Nitrophenol	20	U
132-64-9	Dibenzofuran	5	U
121-14-2	2,4-Dinitrotoluene	5	U
84-66-2	Diethylphthalate	5	U
7005-72-3	4-Chlorophenyl-phenylether	5	U
86-73-7	Fluorene	5	U
100-01-6	4-Nitroaniline	20	U
534-52-1	4,6-Dinitro-2-methylphenol	20	U
86-30-6	N-Nitrosodiphenylamine (1)	5	U
101-55-3	4-Bromophenyl-phenylether	5	U
118-74-1	Hexachlorobenzene	5	U
87-86-5	Pentachlorophenol	20	U
85-01-8	Phenanthrene	5	U
120-12-7	Anthracene	5	U
84-74-2	Di-n-butylphthalate	5	U
206-44-0	Fluoranthene	5	U
129-00-0	Pyrene	5	U
85-68-7	Butylbenzylphthalate	5	U
91-94-1	3,3'-Dichlorobenzidine	5	U
56-55-3	Benzo(a)anthracene	5	U
218-01-9	Chrysene	5	U
117-81-7	bis(2-Ethylhexyl)phthalate	5	U
117-84-0	Di-n-octylphthalate	5	U
205-99-2	Benzo(b)fluoranthene	5	U
207-08-9	Benzo(k)fluoranthene	5	U
50-32-8	Benzo(a)pyrene	5	U
193-39-5	Indeno(1,2,3-cd)Pyrene	5	U
53-70-3	Dibenz(a,h)anthracene	5	U
191-24-2	Benzo(g,h,i)perylene	5	U

(1) - Cannot be separated from Diphenylamine

EPA SAMPLE NO.

LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

SBLK47

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: E00FL

Lab Sample ID: SVOB720 Date Received: _____

Lab File ID: H1038 Date Extracted: 05/09/00

Sample Volume: 1000 (mL) Date Analyzed: 05/16/00

Concentrated Extract Volume: 1000 (uL) Dilution Factor: 1.0

Injection Volume: 1.0 (uL)

Number TICs found: 0

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC. (ug/L)	Q
1.					
2.					
3.					
4.					
5.					
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1LCB

LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SLCS73

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: E00FL

Lab Sample ID: SVOL605 Date Received: _____

Lab File ID: H1031 Date Extracted: 05/05/00

Sample Volume: 1000 (mL) Date Analyzed: 05/16/00

Concentrated Extract Volume: 1000 (uL) Dilution Factor: 1.0

Injection Volume: 1.0 (uL)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
108-95-2	Phenol	30	
111-44-4	bis(2-Chloroethyl)ether	16	
95-57-8	2-Chlorophenol	30	
95-48-7	2-Methylphenol	5	U
108-60-1	2,2'-oxybis(1-Chloropropane)	5	U
106-44-5	4-Methylphenol	5	U
621-64-7	N-Nitroso-di-n-propylamine	16	
67-72-1	Hexachloroethane	10	
98-95-3	Nitrobenzene	5	U
78-59-1	Isophorone	12	
88-75-5	2-Nitrophenol	5	U
105-67-9	2,4-Dimethylphenol	5	U
111-91-1	bis(2-Chloroethoxy)methane	5	U
120-83-2	2,4-Dichlorophenol	5	U
91-20-3	Naphthalene	15	
106-47-8	4-Chloroaniline	22	
87-68-3	Hexachlorobutadiene	5	U
59-50-7	4-Chloro-3-methylphenol	5	U
91-57-6	2-Methylnaphthalene	5	U
77-47-4	Hexachlorocyclopentadiene	5	U
88-06-2	2,4,6-Trichlorophenol	32	
95-95-4	2,4,5-Trichlorophenol	20	U
91-58-7	2-Chloronaphthalane	5	U
88-74-4	2-Nitroaniline	20	U
131-11-3	Dimethylphthalate	5	U
208-96-8	Acenaphthylene	5	U
606-20-2	2,6-Dintrotoluene	5	U
99-09-2	3-Nitroaniline	20	U
83-32-9	Acenaphthene	5	U

LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SLCS73

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: E00FL

Lab Sample ID: SVOL605 Date Received: _____

Lab File ID: H1031 Date Extracted: 05/05/00

Sample Volume: 1000 (mL) Date Analyzed: 05/16/00

Concentrated Extract Volume: 1000 (uL) Dilution Factor: 1.0

Injection Volume: 1 (uL)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
51-28-5	2,4-Dinitrophenol	20	U
100-02-7	4-Nitrophenol	20	U
132-64-9	Dibenzofuran	5	U
121-14-2	2,4-Dinitrotoluene	11	
84-66-2	Diethylphthalate	14	
7005-72-3	4-Chlorophenyl-phenylether	5	U
86-73-7	Fluorene	5	U
100-01-6	4-Nitroaniline	20	U
534-52-1	4,6-Dinitro-2-methylphenol	20	U
86-30-6	N-Nitrosodiphenylamine (1)	10	
101-55-3	4-Bromophenyl-phenylether	5	U
118-74-1	Hexachlorobenzene	12	
87-86-5	Pentachlorophenol	20	U
85-01-8	Phenanthrene	5	U
120-12-7	Anthracene	5	U
84-74-2	Di-n-butylphthalate	5	U
206-44-0	Fluoranthene	5	U
129-00-0	Pyrene	5	U
85-68-7	Butylbenzylphthalate	5	U
91-94-1	3,3'-Dichlorobenzidine	5	U
56-55-3	Benzo(a)anthracene	5	U
218-01-9	Chrysene	5	U
117-81-7	bis(2-Ethylhexyl)phthalate	5	U
117-84-0	Di-n-octylphthalate	5	U
205-99-2	Benzo(b)fluoranthene	5	U
207-08-9	Benzo(k)fluoranthene	5	U
50-32-8	Benzo(a)pyrene	16	
193-39-5	Indeno(1,2,3-cd)Pyrene	5	U
53-70-3	Dibenz(a,h)anthracene	5	U
191-24-2	Benzo(g,h,i)perylene	5	U

(1) - Cannot be separated from Diphenylamine

LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SLCS76

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: E00FL

Lab Sample ID: SVOL608 Date Received: _____

Lab File ID: H1039 Date Extracted: 05/09/00

Sample Volume: 1000 (mL) Date Analyzed: 05/16/00

Concentrated Extract Volume: 1000 (uL) Dilution Factor: 1.0

Injection Volume: 1.0 (uL)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
108-95-2	Phenol	30	
111-44-4	bis(2-Chloroethyl)ether	17	
95-57-8	2-Chlorophenol	30	
95-48-7	2-Methylphenol	5	U
108-60-1	2,2'-oxybis(1-Chloropropane)	5	U
106-44-5	4-Methylphenol	5	U
621-64-7	N-Nitroso-di-n-propylamine	19	
67-72-1	Hexachloroethane	10	
98-95-3	Nitrobenzene	5	U
78-59-1	Isophorone	11	
88-75-5	2-Nitrophenol	5	U
105-67-9	2,4-Dimethylphenol	5	U
111-91-1	bis(2-Chloroethoxy)methane	5	U
120-83-2	2,4-Dichlorophenol	5	U
91-20-3	Naphthalene	15	
106-47-8	4-Chloroaniline	27	
87-68-3	Hexachlorobutadiene	5	U
59-50-7	4-Chloro-3-methylphenol	5	U
91-57-6	2-Methylnaphthalene	5	U
77-47-4	Hexachlorocyclopentadiene	5	U
88-06-2	2,4,6-Trichlorophenol	30	
95-95-4	2,4,5-Trichlorophenol	20	U
91-58-7	2-Chloronaphthalane	5	U
88-74-4	2-Nitroaniline	20	U
131-11-3	Dimethylphthalate	5	U
208-96-8	Acenaphthylene	5	U
606-20-2	2,6-Dintrotoluene	5	U
99-09-2	3-Nitroaniline	20	U
83-32-9	Acenaphthene	5	U

1LCC

LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SLCS76

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: E00FL

Lab Sample ID: SVOL608 Date Received: _____

Lab File ID: H1039 Date Extracted: 05/09/00

Sample Volume: 1000 (mL) Date Analyzed: 05/16/00

Concentrated Extract Volume: 1000 (uL) Dilution Factor: 1.0

Injection Volume: 1 (uL)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
51-28-5	2,4-Dinitrophenol	20	U
100-02-7	4-Nitrophenol	20	U
132-64-9	Dibenzofuran	5	U
121-14-2	2,4-Dinitrotoluene	11	
84-66-2	Diethylphthalate	13	
7005-72-3	4-Chlorophenyl-phenylether	5	U
86-73-7	Fluorene	5	U
100-01-6	4-Nitroaniline	20	U
534-52-1	4,6-Dinitro-2-methylphenol	20	U
86-30-6	N-Nitrosodiphenylamine (1)	12	
101-55-3	4-Bromophenyl-phenylether	5	U
118-74-1	Hexachlorobenzene	12	
87-86-5	Pentachlorophenol	20	U
85-01-8	Phenanthrene	5	U
120-12-7	Anthracene	5	U
84-74-2	Di-n-butylphthalate	5	U
206-44-0	Fluoranthene	5	U
129-00-0	Pyrene	5	U
85-68-7	Butylbenzylphthalate	5	U
91-94-1	3,3'-Dichlorobenzidine	5	U
56-55-3	Benzo(a)anthracene	5	U
218-01-9	Chrysene	5	U
117-81-7	bis(2-Ethylhexyl)phthalate	5	U
117-84-0	Di-n-octylphthalate	5	U
205-99-2	Benzo(b)fluoranthene	5	U
207-08-9	Benzo(k)fluoranthene	5	U
50-32-8	Benzo(a)pyrene	15	
193-39-5	Indeno(1,2,3-cd)Pyrene	5	U
53-70-3	Dibenz(a,h)anthracene	5	U
191-24-2	Benzo(g,h,i)perylene	5	U

(1) - Cannot be separated from Diphenylamine

Regional Transmittal Form

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION V

DATE:

SUBJECT: Review of Data
Received for Review on 5-19-00

FROM: Stephen L. Ostrodka, Chief (SMF-4J)
Superfund Field Services Section
for Stephen Ostrodka
Richard L Byrnes
6/27/00

TO: Data User: USEPA

We have reviewed the data for the following case:

SITE NAME: HIMCO LANDFILL (IN)

CASE NUMBER: 27986 SDG NUMBER: EDCF6

Number and Type of Samples: 18 (WATER)

Sample Numbers: EDCF6-9, EDCG1, EDCG3, EDPM3, EDPM6-8
EDPN0-7

Laboratory: PDP Hrs for Review: 12.5

Following are our findings:

the data are usable and acceptable with the qualifications described in the attached narrative.

Richard L Byrnes

MW & GP
VOCs + SVOCs
2000

CC: Cecilia Moore
Region 5 TPO
Mail Code: SM-5J

NARRATIVE

LABORATORY: PDP ANALYTICAL SRVs. Page of

SDG: EDCF6 **CASE: 27986**

SITE: HIMCO LANDFILL

This review covers eighteen (18) low concentration water samples, numbered EDCF6 - EDCF9, EDCG1, EDCG3, EDPM3, EDPM6 - EDPM8, and EDPN0 - EDPN7, were collected on 04/25/2000. The PDP Analytical Services, of Woodland, TX received the samples on 04/27/2000, in good condition. The samples were analyzed for low concentration VOAs and SVOAs. Samples EDPM8 and EDCG1 are identified as Trip Blanks and were analyzed for VOA. All samples were analyzed per CLP SOW OLC02.1.

Laboratory Control Samples (LCS) Identified as VLCS94, VLCS 5 and VLCS97 (VOA) and SLCS69 (SVOA) were analyzed in place of matrix spike/matrix spike duplicate (MS/MSD) samples.

Samples EDPM8 and EDCG1 were identified as Trip Blanks and sample.

The VOA samples were analyzed within the holding time of fourteen (14) days for preserved water samples and the SVOA samples were extracted within the required holding time of seven days. The analysis of the semivolatile extracts were performed within forty (40) days. Therefore, the results for the VOA and SVOA fractions are acceptable.

The reviewer's narrative and data qualifiers are noted in the following pages.

Reviewed by: W. Ira Wilson__Lockheed Martin/ESAT

Date:__June 16 , 2000

NARRATIVE

LABORATORY: PDP ANALYTICAL SRVs.

SDG: EDCF6 CASE: 27986

SITE: HIMCO LANDFILL

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

1. HOLDING TIME

This review covers eighteen (18) low concentration water samples, numbered EDCF6 - EDCF9, EDCG1, EDCG3, EDPM3, EDPM6 - EDPM8 and EDPN0 - EDPN7, were collected on 04/25/2000. The PDP Analytical Services, of Woodland, TX received the samples on 04/27/2000 in good condition. The samples were analyzed for low concentration VOAs and SVOAs. Samples EDPM8 and EDCG1 are identified as Trip Blanks and were analyzed for VOA only. All samples were analyzed per CLP SOW OLC02.1.

The VOA samples were analyzed within the holding time of fourteen (14) days for preserved water samples; therefore, the results are acceptable.

The SVOA samples were extracted within the holding time of seven (7) days. The extracts were promptly analyzed within the required 40 days criteria. Therefore; the results are acceptable.

2. GC/MS TUNING AND GC PERFORMANCE

GC/MS tuning complied with the mass list and ion abundance criteria for BFB and DFTPP.

3. CALIBRATION

Initial and continuing calibration standards of VOA and SVOA were evaluated for the Target Compounds List (TCL) and outliers were recorded on the outlier forms included as a part of this narrative.

4. METHOD BLANK

Blanks VBLK95 and VBLK97 are the low concentration water Volatile Method Blanks. The Method Blanks were clean, no TCLs or TICs reported. Blank VHBLK01 is identified as a Holding Blank sample

Reviewed by: W. Ira Wilson__Lockheed Martin/ESAT

Date:__June 16 , 2000

which was also clean.

Blank SBLK37 is the low conc. water Semivolatile Method Blank. Blank SBLK37 reported no TCLs and no TICs.

Please refer to Form-IV LCV and Form-IV LCSV for a list of associated samples.

5. SURROGATE RECOVERY AND SYSTEM MONITORING COMPOUNDS

The low concentration recovery of the system monitoring spikir Compound (BFB = Bromofluorobenzene) for the volatile analysis and the surrogate compounds for the semivolatile analysis met the required QC limits for all samples; therefore, all results are acceptable.

6. MATRIX SPIKE/MSD SAMPLES

A Laboratory Control (LCS) Samples identified as VLCS94, VLCS95 and VLCS97 (for volatiles) and SLCS69 (for semivolatiles) were used in place of a matrix spike/matrix spike duplicate sample for the low concentration analysis. All spike recoveries were within the QC limits; therefore, the results are acceptable.

7. FIELD BLANK AND FIELD DUPLICATE

Samples EDPM8 and EDCG1 were identified as Trip Blanks and analyzed for volatiles only. The sample EDPM8 reported a detectable amount of Methylene Chloride (0.6µg/L) and no TICs. Volatile sample EDCG1 reported a detectable amount of Methylene Chloride (3µg/L) and Acetone (4µg/L), and no TICs.

8. INTERNAL STANDARDS

The internal standard retention times and area counts for the low concentration volatile and semivolatile samples were within the required QC limits; therefore, the results are acceptable.

Reviewed by: W. Ira Wilson Lockheed Martin/ESAT

Date: June 16 , 2000

9. COMPOUND IDENTIFICATION

Target compounds and TICs were correctly identified by "best fit" library search method.

10. COMPOUND QUANTITATION AND REPORTED DETECTION LIMITS

VOA and SVOA Target Compounds (TCLs) and Tentative Identified Compounds (TICs) were properly quantitated; therefore, the results are acceptable.

11. SYSTEM PERFORMANCE

GC/MS baseline indicated acceptable performance.

GC baseline for pest/PCB analysis indicated acceptable performance.

12. ADDITIONAL INFORMATION

None.

Reviewed by: W. Ira Wilson__Lockheed Martin/ESAT

Date:__June 16 , 2000

CALIBRATION OUTLIERS
LOW CONCENTRATION WATER VOLATILE TCL COMPOUNDS
(page 1 of 1)

CASE\SAS#: 27981
COLUMN: DB624
HEATED PURGE(Y/N):

LABORATORY: EPA Analytical
SITENAME: Hinco

Instrument#: G-HP5973		Initial cal.			Contin. cal.			Contin. Cal.			Contin. Cal.			Contin. Cal.		
Date/Time:		4/25/00-1052			4/27/00-1724			4/25/00-0610			5/1/00-2341					
	#	rf	%rsd		rf	%d		rf	%d		rf	%d		rf	%d	
Chloromethane	0.01															
Bromethane	0.10															
Vinyl chloride	0.10															
Chloroethane	0.01															
Methylene chloride	0.01															
Acetone	0.01															
Carbon disulfide	0.01															
1,1-Dichloroethene	0.10															
1,1-Dichloroethane	0.20															
cis-1,2-Dichloroethene	0.10															
trans-1,2-Dichloroethene	0.10															
Chlroform	0.20															
1,2-Dichloroethane	0.10															
2-Butanone	0.01															
Bromochloromethane	0.05															
1,1,1-Trichloroethane	0.10															
Carbon tetrachloride	0.10															
Bmodichloromethane	0.20															
1,2-Dichloropropane	0.01															
cis-1,3-Dichloropropene	0.20															
Trichloroethene	0.30															
Dibromochloromethane	0.10															
1,1,2-trichloroethane	0.10															
Benzene	0.40															
trans-1,3-Dichloropropene	0.10															
Bromoform	0.05	0.154			0.169			0.244	29.1	J	0.237	25.4	J			
4-Methyl-2-Pentanone	0.01															
2-Hexanone	0.01															
Tetrachloroethene	0.10															
1,1,2,2-Tetrachloroethane	0.10															
1,2-Dibromoethane	0.10															
Toluene	0.40															
Chlorobenzene	0.50															
Ethylbenzene	0.10															
Styrene	0.30															
Xylene (total)	0.30															
1,2-Dibromo-3-chloropropane	0.10															
1,3-Dichlorobenzene	0.40															
1,4-Dichlorobenzene	0.40															
1,2-Dichlorobenzene	0.40															
1,2,4-Trichlorobenzene	0.40															
4-Bromofluorobenzene	0.20															

Samples affected:					
		VBLK94	VBLK95	VBLK97	
		VLCS94	VLCS95	VLCS97	
		EDPM3	EDCFL-9	VHBLK01	
		EDPM8	EDPN1,7,12		
		EDPM6	EDPN4		
		EDCG1	EDPN0		
		EDPM7			
		EDPN3,5,6			
		EDCG3			
		EDPN7			

Reviewer's Init./Date: 6/15/00

J/R= All positive results are estimated "J" and non-detected results are unusable "R"
* = These flags should be applied to the analytes on the sample data sheets
# = Minimum Relative Response Factor

CALIBRATION OUTLIER
LOW CONCENTRATION WATER SEMIVOLATILE TCL COMPOUNDS
(Page 1 of 2)

CASE\SAS#: 27986 LABORATORY: PDP Analytical
COLUMN: _____ SITE NAME: Himco

Instrument# HP5973		Initial Cal.			Contin. Cal.			Contin. Cal.			Contin. Cal.			Contin. Cal.		
Date/Time:		5/2/00 - 1033			5/11/00 - 1131			5/12/00 - 0001								
	#	rf	%rsd	*	rf	%d	*	rf	%d	*	rf	%d	*	rf	%d	*
Phenol	0.80															
bis(2-chloroethyl) Ether	0.70															
2-Chlorophenol	0.70															
2-Methylphenol	0.70															
2,2'-Oxybis(1-chl-propane)	0.01															
4-Methylphenol	0.60															
N-nitroso-di-n-propylamine	0.50															
Hexachloroethane	0.30															
Nitrobenzene	0.20															
Isophorone	0.40															
2-Nitrophenol	0.10															
2,4-Dimethylphenol	0.20															
bis-(2-chloroethoxyl)methane	0.30															
2,4-Dichlorophenol	0.20															
1,2,4-Trichlorobenzene	0.20															
Naphthalene	0.70															
4-Chloroaniline	0.01															
Hexachlorobutadiene	0.01															
4-Chloro-3-methylphenol	0.20															
2-Methylnaphthalene	0.40															
Hexachlorocyclopentadiene	0.01															
2,4,6-Trichlorophenol	0.20															
2,4,5-Trichlorophenol	0.20															
2-Chloronaphthalene	0.80															
2-Nitroaniline	0.01															
Dimethyl phthlate	0.01															
Acenaphthylene	1.30															
2,6-Dinitrotoluene	0.20															
3-Nitroaniline	0.01															
Acenaphthene	0.30															
2,4-Dinitrophenol	0.01	0.104			0.107			0.147	40.7	J						
4-Nitrophenol	0.01	0.233			0.264			0.292	25.2	J						
Dibenzofuran	0.80															
2,4-Dinitrotoluene	0.20															

Affected samples:
SBLK37 EDPN0
SLCS64 EDCG3
EDPM3, M6, M7
EDPN5-N7
EDCF6-F9
EDPN1, N2
EDPN4

Reviewer's Init/Date: 6/15/00

J/R = All positive results are estimated "J" and non-detected results are unusable "R"

* = These flags should be applied to the analytes on the sample data sheets.
# = Minimum Relative Response Factor

CALIBRATION OUTLIER
LOW CONCENTRATION WATER SEMIVOLATILE TCL COMPOUNDS
(Page 2 of 2)

CASE\SAS#: 27986
COLUMN: _____

LABORATORY: PDP Analytical Sv.
SITE NAME: Himco

Instrument# HP5973		Initial Cal.			Contin. Cal.			Contin. Cal.			Contin. Cal.			Contin. Cal.		
Date/Time:		5/4/00-1033			5/11/00-1131			5/12/00-0001								
	#	rf	%rsd	*	rf	%d	*	rf	%d	*	rf	%d	*	rf	%d	*
Diethylphthalate	0.01															
4-Chlorophenyl-phenylether	0.40															
Fluorene	0.90															
4-Nitroaniline	0.01															
4,6-Dinitro-2-methylphenol	0.01															
N-nitrosodiphenylamine	0.01															
4-Bromophenyl-phenylether	0.10															
Hexachlorobenzene	0.10															
Pentachlorophenol	0.05															
Phenanthrene	0.70															
Anthracene	0.70															
Di-n-butylphthalate	0.01															
Fluoranthene	0.60															
Pyrene	0.60															
Butylbenzylphthalate	0.01															
3,3'-Dichlorobenzidine	0.01															
Benzo(a)anthracene	0.80															
Chrysene	0.70															
bis(2-Ethylhexyl)phthalate	0.01															
Di-n-octyl phthalate	0.01															
Benzo(b)fluoranthene	0.70															
Benzo(k)fluoranthene	0.70															
Benzo(a)pyrene	0.70															
Indeno(1,2,3-cd)pyrene	0.50															
Dibenz(a,h)anthrancene	0.40															
Benzo(g,h,i)perylene	0.50															
Nitrobenzene-d5	0.01															
2-Fluorobiphenyl	0.70															
Terphenyl-d14	0.50															
Phenol-d5	0.80															
2-Fluorophenol	0.60															
2,4,6-Tribromophenol	0.01															

Reviewer's Init/Date: 6/15/00

J/R = All positive results are estimated "J" and non-detected results are unusable "R"

* = These flags should be applied to the analytes on the sample data sheets.
# = Minimum Relative Response Factor

ORGANIC DATA QUALIFIER DEFINITIONS

For the purpose of defining the flagging nomenclature used in this document, the following code letters and associated definitions are provided:

VALUE - when/if the result of a value is greater than or equal to the Contract Required Quantitation Limit (CRQL).

U Indicates that the compound was analyzed for, but not detected. The sample quantitation limit corrected for dilution and percent moisture is reported.

J Indicates an estimated value. This flag is used either when estimating a concentration for a tentatively identified compound or when the data indicates the presence of a compound where the result is less than the sample quantitation limit, but greater than zero. The flag is also used to indicate a reported result having an associated QC problem.

R Indicates the data are unusable. (NOTE: The analyte may or may not be present.)

N Indicates presumptive evidence of a compound. This flag is only used for a tentatively identified compound, where the identification is based on a mass spectral library search.

P Indicates a pesticide/Aroclor target analyte when there is greater than 25% difference for the detected concentrations between the two GC columns. The lower of the two results is reported.

C Indicates pesticide results that have been confirmed by GC/MS.

B Indicates the analyte is detected in the associated blank as well as in the sample.

E Indicates compounds whose concentrations exceed the calibration range of the instrument.

D Indicates an identified compound in an analysis has been diluted. This flag alerts the data user to any differences between the concentrations reported in the two analysis.

A Indicates tentatively identified compounds that are suspected to be aldol condensation products.

G Indicates the TCLP Matrix Spike Recovery was greater than the upper limit of the analytical method.

L Indicates the TCLP Matrix Spike Recovery was less than the lower limit of the analytical method.

T Indicates the analyte is found in the associated TCLP extraction blank as well as in the sample.

X,Y,Z are reserved for laboratory defined flags.

EPA United States Environmental Protection Agency
Contract Laboratory Program

Organic Traffic Report & Chain of Custody Record
(For Organic CLP Analysis)

SDG No.

Case No. [illegible]

1. Matrix (Enter in Column A)
1. Surface Water
2. Ground Water
3. Leachate
4. Field QC
5. Soil/Sediment
6. PE-water
7. PE-soil
8. Other (specify in Column A)

2. Preservative (Enter in Column D)
1. HCl
2. HNO3
3. NaHSO4
4. H2SO4
5. Ice only
6. CH3OH
7. Other (specify in Column D)
N. Not Preserved

3. Region No. 5 | Sampling Co. [illegible]

5. Date Shipped [illegible] | Carrier [illegible]

7. Date Received--Received by: 4-27-00 Carlos Vieira

Sampler (Name) [illegible]

Airbill Number [illegible]

Laboratory Contract No. 68-D7-0004 | Unit Price 525.00

Sampler Signature [illegible]

6. Ship To: [illegible]

ATTN: [illegible]

8. Transfer to: | Date Received

Received by:

Contract Number | Price

4. Purpose**
Lead: SF, PRP, ST, FED, BZ
Early Action: IA, PA, REM, RI, SI, ESI
Long-Term Action: RIFS, RD, RA, O&M

CLP Sample Numbers (from labels)	A Matrix (from Box 1) Other	B Conc.: Low Med	C Sample Type: Comp./Grab	D Preservative (from Box 2) Other	E RAS Analysis TA (circle one) PR* 7 14 21 VOA	TA (circle one) PR* 7 14 21 BNA	TA (circle one) PR* 7 14 21 Pest/PCB	F Regional Specific Tracking Number or Tag Numbers	G Station Location Identifier	H Mo/Day/Year/Time Sample Collection	I Corresponding CLP Inorganic Sample No.	J Sampler Initials	K Sample Condition
[illegible]	[illegible]	LL		1	X	—	—	[illegible]	[illegible]	[illegible]	[illegible]		
[illegible]		[illegible]	[illegible]	5	—	X	—	[illegible]	[illegible]	[illegible]	[illegible]		
[illegible]		[illegible]	[illegible]		X	—		[illegible]	[illegible]	[illegible]	[illegible]		
[illegible]		[illegible]	[illegible]	[illegible]	—	X		[illegible]	[illegible]	[illegible]	[illegible]		
[illegible]		[illegible]	[illegible]		X	—	—	[illegible]	[illegible]	[illegible]	[illegible]		
[illegible]	[illegible]	[illegible]	[illegible]	5	—	X	—	[illegible]	[illegible]	[illegible]	[illegible]		
[illegible]	[illegible]	[illegible]	[illegible]	1	X	—	—	[illegible]	[illegible]	[illegible]	[illegible]		
[illegible]		[illegible]	[illegible]	1	X	—	—	[illegible]	[illegible]	[illegible]	[illegible]		
[illegible]		[illegible]	[illegible]	5	—	X		[illegible]	[illegible]	[illegible]	[illegible]		
—		—			—	—	—	—	—	—			

Shipment for Case Complete? (Y/N) Y

Page 1 of 2

VOA MS/MSD Required? Y/N Sample #:
BNA MS/MSD Required? Y/N Sample #:
Pest/PCB MS/MSD Required? Y/N Sample #:

Additional Sampler Signatures [illegible]

Chain of Custody Seal Number(s) [illegible]

*PR provides 7-day data turnaround in addition to preliminary results. Requests for preliminary results will increase analytical costs.

Chain of Custody Record

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
[illegible]	[illegible]				
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature) Carlos Vieira	Date / Time 4-27-00 9:38	Remarks: Is custody seal intact? Y/N/none	Case: 27986 SDG: EDCF6

0802

Distribution: Blue - Region Copy, White - Lab Copy for Return to SMO, Pink - SMO Copy, Yellow - Lab Copy for Return to Region

See Reverse for Additional Standard Instructions
**See Reverse for Purpose Code Definitions

EPA Form 9110-2 (2/99)

CLASS 99-002

Organic Traffic Report & Chain of Custody Record
(For Organic CLP Analysis)

United States Environmental Protection Agency
Contract Laboratory Program

SDG No.

Case No. 27986

1. Matrix (Enter in Column A)
1. Surface Water
2. Ground Water
3. Leachate
4. Field QC
5. Soil/Sediment
6. PE-water
7. PE-soil
8. Other (specify in Column A)

2. Preservative (Enter in Column B)
1. HCl
2. HNO3
3. NaHSO4
4. H2SO4
5. Ice only
6. CH3OH
7. Other (specify in Column D)
N. Not Preserved

3. Region No. 5	Sampling Co. [illegible]	5. Date Shipped 4/26/00	Carrier [illegible]
7. Date Received--Received by: 4-27-00 Carlos Pirir			
Sampler (Name) [illegible]		Airbill Number [illegible]	
Laboratory Contract No. 68-D7-0004	Unit Price 525.00		
Sampler Signature [illegible]		6. Ship To: PLM Analytical Services [illegible]	
8. Transfer to:	Date Received		
4. Purpose** Lead: [X] SF, [ ] PRP, [ ] ST, [ ] FED, [ ] BZ; Early Action: [ ] IA, [ ] PA, [ ] REM, [ ] RI, [ ] SI, [ ] ESI; Long-Term Action: [ ] RIFS, [X] RD, [ ] RA, [ ] O&M		ATTN: [illegible]	Received by:
Contract Number	Price		

CLP Sample Numbers (from labels)	A Matrix (from Box 1) Other	B Conc.: Low Med	C Sample Type: Comp./ Grab	D Preservative (from Box 2) Other	E RAS Analysis TA (circle one) PR* 7 14 21 VOA	E RAS Analysis TA (circle one) PR* 7 14 21 BNA	E RAS Analysis TA (circle one) PR* 7 14 21 Pest/PCB	F Regional Specific Tracking Number or Tag Numbers	G Station Location Identifier	H Mo/Day/Year/Time Sample Collection	I Corresponding CLP Inorganic Sample No.	J Sampler Initials	K Sample Condition
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	X	—	—	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	—	X	—	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	

Shipment for Case Complete? (Y/N)

Page 2 of 2

VOA MS/MSD Required? Y/N Sample #:
BNA MS/MSD Required? Y/N Sample #:
Pest/PCB MS/MSD Required? Y/N Sample #:

Additional Sampler Signatures

Chain of Custody Seal Number(s)

*PR provides 7-day data turnaround in addition to preliminary results. Requests for preliminary results will increase analytical costs.

Chain of Custody Record

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
[illegible]	4/26/00 [illegible]				
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature) Carlos Pirir	Date / Time 4-27-00 9:38	Remarks: Is custody seal intact? Y/N/none	CASE: 27986 SDG: EDCF6

3080

Distribution: Blue - Region Copy; White - Lab Copy for Return to SMO; Pink - SMO Copy; Yellow - Lab Copy for Return to Region

See Reverse for Additional Standard Instructions
**See Reverse for Purpose Code Definitions

EPA Form 9110-2 (2/99)

CLASS 99 002

Organic Traffic Report & Chain of Custody Record

EPA — United States Environmental Protection Agency, Contract Laboratory Program

(For Organic CLP Analysis)

SDG No.

Case No.

1. Matrix (Enter in Column A)
   1. Surface Water
   2. Ground Water
   3. Leachate
   4. Field QC
   5. Soil/Sediment
   6. PE-water
   7. PE-soil
   8. Other (specify in Column A)

2. Preservative (Enter in Column D)
   1. HCl
   2. HNO3
   3. NaHSO4
   4. H2SO4
   5. Ice only
   6. CH3OH
   7. Other (specify in Column D)
   N. Not Preserved

3. Region No.

Sampling Co.

5. Date Shipped

Carrier

7. Date Received--Received by: 4-27-00 Carlos Finn

Sampler (Name)

Airbill Number

Laboratory Contract No. 68-D7-0004

Unit Price 525.00**

Sampler Signature

6. Ship To:

8. Transfer to:

Date Received

4. Purpose**
   Lead: SF, PRP, ST, FED, BZ
   Early Action: IA, PA, REM, RI, SI, ESI
   Long-Term Action: RIFS, RD, RA, O&M

Received by:

ATTN:

Contract Number

Price

CLP Sample Numbers (from labels)	A Matrix (from Box 1) Other	B Conc.: Low Med	C Sample Type: Comp./ Grab	D Preservative (from Box 2) Other:	E RAS Analysis TA (circle one) PR* 7 14 21 VOA	E RAS Analysis TA (circle one) PR* 7 14 21 BNA	E RAS Analysis TA (circle one) PR* 7 14 21 Pest/ PCB	F Regional Specific Tracking Number or Tag Numbers	G Station Location Identifier	H Mo/Day/ Year/Time Sample Collection	I Corresponding CLP Inorganic Sample No.	J Sampler Initials	K Sample Condition

Shipment for Case Complete? (Y/N)

Page 1 of 2

VOA MS/MSD Required? Y/N Sample #:

BNA MS/MSD Required? Y/N Sample #:

Pest/PCB MS/MSD Required? Y/N Sample #:

Additional Sampler Signatures

Chain of Custody Seal Number(s)

*PR provides 7-day data turnaround in addition to preliminary results. Requests for preliminary results will increase analytical costs.

Chain of Custody Record

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature) Carlos Finn	Date / Time 4-27-00 9:38	Remarks: Is custody seal intact? Y/N/none	Case: 27486 SDG: EDCF6

Distribution: Blue - Region Copy; White - Lab Copy for Return to SMO; Pink - SMO Copy; Yellow - Lab Copy for Return to Region

See Reverse for Additional Standard Instructions

**See Reverse for Purpose Code Definitions

EPA Form 9110-2 (2/99)

CLASS 9110-2

Organic Traffic Report & Chain of Custody Record

(For Organic CLP Analysis)

United States Environmental Protection Agency
Contract Laboratory Program

SDG No.

Case No.

1. Matrix (Enter in Column A)
   1. Surface Water
   2. Ground Water
   3. Leachate
   4. Field QC
   5. Soil/Sediment
   6. PE-water
   7. PE-soil
   8. Other (specify in Column A)

2. Preservative (Enter in Column D)
   1. HCl
   2. HNO3
   3. NaHSO4
   4. H2SO4
   5. Ice only
   6. CH3OH
   7. Other (specify in Column D)
   N. Not Preserved

3. Region No.

Sampling Co.

5. Date Shipped

Carrier

7. Date Received--Received by: 4-27-00 Carla Fiori

Sampler (Name)

Airbill Number

Laboratory Contract No. 68-D7-0004

Unit Price 525.00

Sampler Signature

4. Purpose**
   Lead: [X] SF [ ] PRP [ ] ST [ ] FED [ ] BZ
   Early Action: [ ] IA [ ] PA [ ] REM [ ] RI [ ] SI [ ] ESI
   Long-Term Action: [ ] RIFS [X] RD [ ] RA [ ] O&M

6. Ship To:

ATTN:

8. Transfer to:

Date Received

Received by:

Contract Number

Price

CLP Sample Numbers (from labels)	A Matrix (from Box 1) Other	B Conc.: Low Med	C Sample Type: Comp./ Grab	D Preservative (from Box 2) Other:	E RAS Analysis TA (circle one) PR* 7 14 21 VOA	E RAS Analysis TA (circle one) PR* 7 14 21 BNA	E RAS Analysis TA (circle one) PR* 7 14 21 Pest/ PCB	F Regional Specific Tracking Number or Tag Numbers	G Station Location Identifier	H Mo/Day/ Year/Time Sample Collection	I Corresponding CLP Inorganic Sample No.	J Sampler Initials	K Sample Condition

Shipment for Case Complete? (Y/N)

Page ___ of ___

VOA MS/MSD Required? Y/N Sample #:

BNA MS/MSD Required? Y/N Sample #:

Pest/PCB MS/MSD Required? Y/N Sample #:

Additional Sampler Signatures

Chain of Custody Seal Number(s)

*PR provides 7-day data turnaround in addition to preliminary results. Requests for preliminary results will increase analytical costs.

Chain of Custody Record

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature) Carla Fiori	Date / Time 4-27-00 9:38	Remarks: Is custody seal intact? Y/N/none Case: 27986 SDG: EDCF6	

5080

Distribution: Blue - Region Copy; White - Lab Copy for Return to SMO; Pink - SMO Copy; Yellow - Lab Copy for Return to Region

See Reverse for Additional Standard Instructions

**See Reverse for Purpose Code Definitions

EPA Form 9110-2 (2/99)

CLASS-99 002

Organic Traffic Report & Chain of Custody Record

(For Organic CLP Analysis)

United States Environmental Protection Agency
Contract Laboratory Program

SDG No.

Case No.

1. Matrix (Enter in Column A)
1. Surface Water
2. Ground Water
3. Leachate
4. Field QC
5. Soil/Sediment
6. PE-water
7. PE-soil
8. Other (specify in Column A)

2. Preservative (Enter in Column D)
1. HCl
2. HNO_3
3. $NaHSO_4$
4. H_2SO_4
5. Ice only
6. CH_3OH
7. Other (specify in Column D)
N. Not Preserved

3. Region No. | Sampling Co.

5. Date Shipped | Carrier

7. Date Received--Received by: 4-27-00 Carlos Finn

Sampler (Name): Lee R. Watson

Airbill Number

Laboratory Contract No.: 68-D7-0004 | Unit Price: 525.00

Sampler Signature: Lee R Watson

6. Ship To:

8. Transfer to: | Date Received

Received by:

4. Purpose**
Lead: [x] SF [ ] PRP [ ] ST [ ] FED [ ] BZ
Early Action: [ ] IA [ ] PA [ ] REM [ ] RI [ ] SI [ ] ESI
Long-Term Action: [ ] RIFS [x] RD [ ] RA [ ] O&M

ATTN:

Contract Number | Price

CLP Sample Numbers (from labels)	A Matrix (from Box 1) Other	B Conc.: Low Med	C Sample Type: Comp./ Grab	D Preser-vative (from Box 2) Other:	E RAS Analysis TA (circle one) PR* 7 14 21 VOA	E RAS Analysis TA (circle one) PR* 7 14 21 BNA	E RAS Analysis TA (circle one) PR* 7 14 21 Pest/ PCB	F Regional Specific Tracking Number or Tag Numbers	G Station Location Identifier	H Mo/Day/ Year/Time Sample Collection	I Corresponding CLP Inorganic Sample No.	J Sampler Initials	K Sample Condition

Shipment for Case Complete? (Y/N)

Page 1 of 1

VOA MS/MSD Required? Y/N Sample #:
BNA MS/MSD Required? Y/N Sample #:
Pest/PCB MS/MSD Required? Y/N Sample #:

Additional Sampler Signatures

Chain of Custody Seal Number(s)

*PR provides 7-day data turnaround in addition to preliminary results. Requests for preliminary results will increase analytical costs.

Chain of Custody Record

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature) Carlos Finn	Date / Time 4-27-00 9:32	Remark Is custody seal intact? Y/N/none Case: 27486 SDG: EDCF6	

9080

Distribution: Blue - Region Copy; White - Lab Copy for Return to SMO; Pink - SMO Copy; Yellow - Lab Copy for Return to Region

See Reverse for Additional Standard Instructions
**See Reverse for Purpose Code Definitions

EPA Form 9110-2 (2/99)

CLASS 99 ONLY

EPA United States Environmental Protection Agency
Contract Laboratory Program

Organic Traffic Report & Chain of Custody Record
(For Organic CLP Analysis)

SDG No.

Case No.

1. Matrix (Enter in Column A)
1. Surface Water
2. Ground Water
3. Leachate
4. Field QC
5. Soil/Sediment
6. PE-water
7. PE-soil
8. Other (specify in Column A)

2. Preservative (Enter in Column B)
1. HCl
2. HNO3
3. NaHSO4
4. H2SO4
5. Ice only
6. CH3OH
7. Other (specify in Column B)
N. Not Preserved

3. Region No. 5 | Sampling Co. [illegible]

5. Date Shipped [illegible] | Carrier

7. Date Received--Received by: 4-27-00 Carlos Pieri

Sampler (Name) [illegible]

Airbill Number [illegible]

Laboratory Contract No. 68-D7-0004 | Unit Price 525 xx/00

Sampler Signature [illegible]

6. Ship To: [illegible] Analytical Service [illegible] Circle [illegible] Rounds, TX, 1173[illegible]

ATTN: [illegible]

8. Transfer to: | Date Received

Received by:

Contract Number | Price

4. Purpose**
Lead: [x] SF [ ] PRP [ ] ST [ ] FED [ ] BZ
Early Action: [ ] IA [ ] PA [ ] REM [ ] RI [ ] SI [ ] ESI
Long-Term Action: [ ] RIFS [x] RD [ ] RA [ ] O&M

CLP Sample Numbers (from labels)	A Matrix (from Box 1) Other	B Conc.: Low/Med	C Sample Type: Comp./Grab	D Preservative (from Box 2) Other	E RAS Analysis TA (circle one) PR* 7 14 21 VOA	TA (circle one) PR* 7 14 21 BNA	TA (circle one) PR* 7 14 21 Pest/PCB	F Regional Specific Tracking Number or Tag Numbers	G Station Location Identifier	H Mo/Day/Year/Time Sample Collection	I Corresponding CLP Inorganic Sample No.	J Sampler Initials	K Sample Condition
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	X	--	--	[illegible]	[illegible]	[illegible]/0925	[illegible]		
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		--		[illegible]	[illegible]	[illegible]/0925	[illegible]		

Shipment for Case Complete? (Y/N) | Page ___ of ___

VOA MS/MSD Required? Y/N Sample #:
BNA MS/MSD Required? Y/N Sample #:
Pest/PCB MS/MSD Required? Y/N Sample #:

Additional Sampler Signatures

Chain of Custody Seal Number(s)

*PR provides 7-day data turnaround in addition to preliminary results. Requests for preliminary results will increase analytical costs.

Chain of Custody Record

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
[illegible]	[illegible]				
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature) Carlos Pieri	Date / Time 4-27-00 9:38	Remarks: Is custody seal intact? Y/N/none	Case: 27986 SDG: EDCF6

Distribution: Blue - Region Copy; White - Lab Copy for Return to SMO; Pink - SMO Copy; Yellow - Lab Copy for Return to Region

See Reverse for Additional Standard Instructions
**See Reverse for Purpose Code Definitions

EPA Form 9110-2 (2/99)

CLASS 99-002

0807

EPA Organic Traffic Report & Chain of Custody Record

United States Environmental Protection Agency
Contract Laboratory Program

(For Organic CLP Analysis)

SDG No.

Case No.

1. Matrix (Enter in Column A)
   1. Surface Water
   2. Ground Water
   3. Leachate
   4. Field QC
   5. Soil/Sediment
   6. PE-water
   7. PE-soil
   8. Other (specify in Column A)

2. Preservative (Enter in Column D)
   1. HCl
   2. HNO3
   3. NaHSO4
   4. H2SO4
   5. Ice only
   6. CH3OH
   7. Other (specify in Column D)
   N. Not Preserved

3. Region No. | Sampling Co.

5. Date Shipped | Carrier

7. Date Received--Received by: 4-27-00 Carlos Tirri

Sampler (Name)

Airbill Number

Laboratory Contract No. 68-D7-0004 | Unit Price 525.00

Sampler Signature

6. Ship To:

8. Transfer to: | Date Received

Received by:

4. Purpose** Lead: SF, PRP, ST, FED, BZ | Early Action: IA, PA, REM, RI, SI, ESI | Long-Term Action: RIFS, RD, RA, O&M

ATTN:

Contract Number | Price

CLP Sample Numbers (from labels)	A Matrix (from Box 1) Other:	B Conc.: Low Med	C Sample Type: Comp./ Grab	D Preservative (from Box 2) Other:	E RAS Analysis TA (circle one) PR* 7 14 21 VOA	E RAS Analysis TA (circle one) PR* 7 14 21 BNA	E RAS Analysis TA (circle one) PR* 7 14 21 Pest/ PCB	F Regional Specific Tracking Number or Tag Numbers	G Station Location Identifier	H Mo/Day/ Year/Time Sample Collection	I Corresponding CLP Inorganic Sample No.	J Sampler Initials	K Sample Condition

Shipment for Case Complete? (Y/N)

Page 1 of 2

VOA MS/MSD Required? Y/N Sample #:

BNA MS/MSD Required? Y/N Sample #:

Pest/PCB MS/MSD Required? Y/N Sample #:

Additional Sampler Signatures

Chain of Custody Seal Number(s)

*PR provides 7-day data turnaround in addition to preliminary results. Requests for preliminary results will increase analytical costs.

Chain of Custody Record

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature) Carlos Tirri	Date / Time 4-27-00 9:38	Remarks: Is custody seal intact? Y/N/none	Case: 27986 SDG: EDCF6

Distribution: Blue - Region Copy; White - Lab Copy for Return to SMO; Pink - SMO Copy; Yellow - Lab Copy for Return to Region

See Reverse for Additional Standard Instructions

**See Reverse for Purpose Code Definitions

EPA Form 9110-2 (2/99)

CLASS-99-002

391570

EPA United States Environmental Protection Agency
Contract Laboratory Program

Organic Traffic Report & Chain of Custody Record
(For Organic CLP Analysis)

SDG No.

Case No. [illegible]

1. Matrix (Enter in Column A) 1. Surface Water 2. Ground Water 3. Leachate 4. Field QC 5. Soil/Sediment 6. PE-water 7. PE-soil 8. Other (specify in Column A)	2. Preservative (Enter in Column D) 1. HCl 2. HNO3 3. NaHSO4 4. H2SO4 5. Ice only 6. CH3OH 7. Other (specify in Column D) N. Not Preserved	3. Region No. [illegible]	Sampling Co. [illegible]	5. Date Shipped [illegible]
		Sampler (Name) [illegible]	Airbill Number 8201 248 96 742	6. Ship To: PDD Analytical Service, [illegible] Front Circle, Suite B, [illegible] Woodlands, TX [illegible]
		Sampler Signature [illegible]		ATTN: [illegible]
		4. Purpose** Lead: [X] SF, [ ] PRP, [ ] ST, [ ] FEO, [ ] BZ; Early Action: [ ] IA, [ ] PA, [ ] REM, [ ] RI, [ ] SI, [ ] ESI; Long Term Action: [ ] RIFS, [X] RD, [ ] RA, [ ] O&M		

Carrier [illegible]	7. Date Received--Received by: 4-27-00 Carlos Picin		
Laboratory Contract No. 68-D7-0004	Unit Price 525.00		
8. Transfer to:	Date Received		
Received by:			
Contract Number	Price		

CLP Sample Numbers (from labels)	A Matrix (from Box 1) Other	B Conc. Low Med	C Sample Type: Comp./Grab	D Preservative (from Box 2) Other	E RAS Analysis TA (circle one) PR* 7 14 21 VOA	TA (circle one) PR* 7 14 21 BNA	TA (circle one) PR* 7 14 21 Pest/PCB	F Regional Specific Tracking Number or Tag Numbers	G Station Location Identifier	H Mo/Day/Year/Time Sample Collection	I Corresponding CLP Inorganic Sample No.	J Sampler Initials	K Sample Condition
[illegible]	[illegible]	[illegible]	[illegible]	1	X	—	—	[illegible]	[illegible]	[illegible]	[illegible]		
[illegible]	[illegible]	[illegible]	[illegible]	5	—	X		[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	

Shipment for Case Complete? (Y/N)	Page 2 of 2	VOA MS/MSD Required? Y/N Sample #: BNA MS/MSD Required? Y/N Sample #: Pest/PCB MS/MSD Required? Y/N Sample #:	Additional Sampler Signatures [illegible]	Chain of Custody Seal Number(s) [illegible]

*PR provides 7-day data turnaround in addition to preliminary results. Requests for preliminary results will increase analytical costs.

Chain of Custody Record

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
[illegible]	4/26/00 1600				
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature) Carlos Picin	Date / Time 4-27-00 9:38	Remarks: Is custody seal intact? Y/N/none CASE: 27986 SDG: EDCF6	

Distribution: Blue - Region Copy; White - Lab Copy for Return to SMO; Pink - SMO Copy; Yellow - Lab Copy for Return to Region

See Reverse for Additional Standard Instructions
**See Reverse for Purpose Code Definitions

EPA Form 9110-2 (2/99)

CLASS-99-002

391567

EPA United States Environmental Protection Agency Contract Laboratory Program

Organic Traffic Report & Chain of Custody Record

(For Organic CLP Analysis)

SDG No.

Case No.

1. Matrix (Enter in Column A)
   1. Surface Water
   2. Ground Water
   3. Leachate
   4. Field QC
   5. Soil/Sediment
   6. PE-water
   7. PE-soil
   8. Other (specify in Column A)

2. Preservative (Enter in Column B)
   1. HCl
   2. HNO3
   3. NaHSO4
   4. H2SO4
   5. Ice only
   6. CH3OH
   7. Other (specify in Column D)
   N. Not Preserved

3. Region No. | Sampling Co.

Sampler (Name)

Sampler Signature

4. Purpose**
   Lead: [ ] SF [ ] PRP [ ] ST [ ] FED [ ] BZ
   Early Action: [ ] IA [ ] PA [ ] REM [ ] RI [ ] SI [ ] ESI
   Long-Term Action: [ ] RIFS [X] RD [ ] RA [ ] O&M

5. Date Shipped | Carrier

Airbill Number

6. Ship To:

ATTN:

7. Date Received--Received by: 4-27-00 Carlos Finn

Laboratory Contract No. 68-D7-0004 | Unit Price 525.00 XX

8. Transfer to: | Date Received

Received by:

Contract Number | Price

CLP Sample Numbers (from labels)	A Matrix (from Box 1) Other	B Conc.: Low Med	C Sample Type: Comp./ Grab	D Preservative (from Box 2) Other:	E RAS Analysis TA (circle one) PR* 7 14 21 VOA	E RAS Analysis TA (circle one) PR* 7 14 21 BNA	E RAS Analysis TA (circle one) PR* 7 14 21 Pest/ PCB	F Regional Specific Tracking Number or Tag Numbers	G Station Location Identifier	H Mo/Day/ Year/Time Sample Collection	I Corresponding CLP Inorganic Sample No.	J Sampler Initials	K Sample Condition

Shipment for Case Complete? (Y/N)

Page ___ of ___

VOA MS/MSD Required? Y/N Sample #:

BNA MS/MSD Required? Y/N Sample #:

Pest/PCB MS/MSD Required? Y/N Sample #:

Additional Sampler Signatures

Chain of Custody Seal Number(s)

*PR provides 7-day data turnaround in addition to preliminary results. Requests for preliminary results will increase analytical costs.

Chain of Custody Record

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature) Carlos Finn	Date / Time 4-27-00 9:38	Remarks: Is custody seal intact? Y/N/none	Case: 27986 SDG: EDCF6

Distribution: Blue - Region Copy; White - Lab Copy for Return to SMO; Pink - SMO Copy; Yellow - Lab Copy for Return to Region

See Reverse for Additional Standard Instructions

**See Reverse for Purpose Code Definitions

EPA Form 9110-2 (2/99)

CLASS-99-002

391571

PDP ANALYTICAL SERVICES

1680 Lake Front Circle, Suite B • The Woodlands, TX 77380 • Phone (281)363-2233

Contract No. 68-D7-0004	Case No. 27986	SDG No. EDCF6

SDG NARRATIVE

MAY 1 9 2000

SAMPLE RECEIPT :

04/27/00 @ 09:38 A.M. - Received three shipments consisting of three coolers:Cooler 1 temperature : 4°C. Cooler 2 temperature : 4°C. Cooler 3 temperature : 4°C. (COC391570, COC391567, COC391571, COC391575, COC391569, COC391535)contained the following:

EDPM3 - 2-1L amber, 3-40mL Voa Vials.
EDPM6 - 2-1L amber, 3-40mL Voa Vials.
EDPM7 - 2-1L amber, 3-40mL Voa Vials.
EDPM8 - 2-40mL Voa Vials.
EDPN5 - 2-1L amber, 3-40mL Voa Vials.
EDPN6 - 2-1L amber, 3-40mL Voa Vials.
EDPN7 - 2-1L amber, 3-40mL Voa Vials.
EDCF6 - 2-1L amber, 3-40mL Voa Vials.
EDCF7 - 2-1L amber, 3-40mL Voa Vials.
EDCF8 - 2-1L amber, 3-40mL Voa Vials.
EDCG1 - 2-40mL Voa Vials.
EDCF9 - 2-1L amber, 3-40mL Voa Vials.
EDPN1 - 2-1L amber, 3-40mL Voa Vials.
EDPN2 - 2-1L amber, 3-40mL Voa Vials.
EDPN3 - 2-40mL Voa Vials.
EDPN4 - 2-1L amber, 3-40mL Voa Vials.
EDPN0 - 2-1L amber, 3-40mL Voa Vials.
EDCG3 - 2-1L amber, 3-40mL Voa Vials.

No other problems were encountered during sample receipt.

VOLATILES:

All samples were analyzed on a HP 5973 GC/MS using a 60 meters long DB-624 column having a 0.53mm ID and 3um film thickness. The trap used was a OV-1/Tenax/Silica Gel (Tekmar #6. Cat 14-1755-003) . A 20 mL purge volume was used for all samples, blanks and standards. The concentrations of the standards and spikes were maintained at the levels required by the Statement of Work (SOW).

The following field samples are analyzed for volatiles in this SDG. The pH of the samples is listed against them.

EDPM3	2.0	EDPN7	2.0
EDPM8	5.0	EDCF6	2.0
EDPM6	2.0	EDCF7	2.0
EDCG1	2.0	EDCF8	2.0
EDPM7	2.0	EDCF9	2.0

2LCA

LOW CONC. WATER VOLATILE SYSTEM MONITORING COMPOUND RECOVERY

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDCF6

	EPA SAMPLE NO.	BFB %REC #	OTHER	TOT OUT
01	VBLK94	101		0
02	VLCS94	100		0
03	EDPM3	99		0
04	EDPM8	98		0
05	EDPM6	103		0
06	EDCG1	104		0
07	EDPM7	104		0
08	EDPN3	104		0
09	EDPN5	106		0
10	EDCG3	103		0
11	EDPN6	104		0
12	VIBLK01	104		0
13	EDPN7	105		0
14	VBLK95	99		0
15	VLCS95	97		0
16	EDCF6	101		0
17	VIBLK03	100		0
18	EDCF7	100		0
19	VIBLK04	100		0
20	EDCF8	101		0
21	VIBLK05	101		0
22	EDCF9	101		0
23	VIBLK06	102		0
24	EDPN1	102		0
25	EDPN2	101		0
26	EDPN4	102		0
27	EDPN0	102		0
28	VBLK97	108		0
29	VLCS97	106		0
30	VHBLK01	110		0

	QC LIMITS %REC
BFB = Bromofluorobenzene	(80-120)

Column to be used to flag recovery values
* Values outside of contract required QC limits

3LCA

LOW CONC. WATER VOLATILE LAB CONTROL SAMPLE RECOVERY

EPA SAMPLE NO.

VLCS94

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDCF6

Lab Sample ID: GVLCS058 LCS Lot No.: 60

Lab File ID: G0892 Date Analyzed: 04/27/00

Purge Volume: 20.0 (mL) Dilution Factor: 1.0

LCS Aliquot: 10.0 (uL)

COMPOUND	AMOUNT ADDED (ng)	AMOUNT RECOVERED (ng)	%REC #	QC LIMITS
Vinyl chloride	100	72	72	60-140
1,2-Dichloroethane	100	97	97	60-140
Carbon tetrachloride	100	89	89	60-140
1,2-Dichloropropane	100	91	91	60-140
Trichloroethene	100	89	89	60-140
1,1,2-Trichloroethane	100	89	89	60-140
Benzene	100	93	93	60-140
cis-1,3-Dichloropropene	100	90	90	60-140
Bromoform	100	87	87	60-140
Tetrachloroethene	100	82	82	60-140
1,2-Dibromoethane	100	83	83	60-140
1,4-Dichlorobenzene	100	78	78	60-140

Column to be used to flag LCS recovery with an asterisk.

* Values outside of QC limits.

LCS Recovery: 0 outside limits out of 12 total.

COMMENTS: _____

3LCA

LOW CONC. WATER VOLATILE LAB CONTROL SAMPLE RECOVERY

EPA SAMPLE NO.

VLCS95

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDCF6

Lab Sample ID: GVLCS059 LCS Lot No.: 60

Lab File ID: G0909 Date Analyzed: 04/28/00

Purge Volume: 20.0 (mL) Dilution Factor: 1.0

LCS Aliquot: 10.0 (uL)

COMPOUND	AMOUNT ADDED (ng)	AMOUNT RECOVERED (ng)	%REC #	QC LIMITS
Vinyl chloride	100	72	72	60-140
1,2-Dichloroethane	100	84	84	60-140
Carbon tetrachloride	100	87	87	60-140
1,2-Dichloropropane	100	85	85	60-140
Trichloroethene	100	87	87	60-140
1,1,2-Trichloroethane	100	81	81	60-140
Benzene	100	91	91	60-140
cis-1,3-Dichloropropene	100	82	82	60-140
Bromoform	100	72	72	60-140
Tetrachloroethene	100	84	84	60-140
1,2-Dibromoethane	100	74	74	60-140
1,4-Dichlorobenzene	100	69	69	60-140

Column to be used to flag LCS recovery with an asterisk.

* Values outside of QC limits.

LCS Recovery: 0 outside limits out of 12 total.

COMMENTS: _____

3LCA

LOW CONC. WATER VOLATILE LAB CONTROL SAMPLE RECOVERY

EPA SAMPLE NO.

VLCS97

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDCF6

Lab Sample ID: GVLCS061 LCS Lot No.: 60

Lab File ID: G0942 Date Analyzed: 05/02/00

Purge Volume: 20.0 (mL) Dilution Factor: 1.0

LCS Aliquot: 10.0 (uL)

COMPOUND	AMOUNT ADDED (ng)	AMOUNT RECOVERED (ng)	%REC #	QC LIMITS
Vinyl chloride	100	80	80	60-140
1,2-Dichloroethane	100	97	97	60-140
Carbon tetrachloride	100	86	86	60-140
1,2-Dichloropropane	100	87	87	60-140
Trichloroethene	100	88	88	60-140
1,1,2-Trichloroethane	100	85	85	60-140
Benzene	100	94	94	60-140
cis-1,3-Dichloropropene	100	82	82	60-140
Bromoform	100	71	71	60-140
Tetrachloroethene	100	84	84	60-140
1,2-Dibromoethane	100	74	74	60-140
1,4-Dichlorobenzene	100	69	69	60-140

Column to be used to flag LCS recovery with an asterisk.

* Values outside of QC limits.

LCS Recovery: 0 outside limits out of 12 total.

COMMENTS: _____

EPA SAMPLE NO.

VBLK94

LOW CONC. WATER VOLATILE METHOD BLANK SUMMARY

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDCF6

Lab Sample ID: GVBLK058 Date Analyzed: 04/27/00

Lab File ID: G0891 Time Analyzed: 1819

Instrument ID: G-HP5973

GC Column: DB-624 ID: 0.53 (mm) Length: 60 (m)

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES AND LCS:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
01	VLCS94	GVLCS058	G0892	1907
02	EDPM3	6033.002	G0893	1954
03	EDPM8	6033.005	G0894	2042
04	EDPM6	6033.003	G0895	2129
05	EDCG1	6033.012	G0896	2216
06	EDPM7	6033.004	G0897	2303
07	EDPN3	6033.016	G0898	2351
08	EDPN5	6033.006	G0899	0038
09	EDCG3	6033.019	G0900	0124
10	EDPN6	6033.007	G0901	0211
11	VIBLK01	VIBLK01	G0902	0258
12	EDPN7	6033.008	G0903	0345
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COMMENTS: _____

4LCA

LOW CONC. WATER VOLATILE METHOD BLANK SUMMARY

EPA SAMPLE NO.

VBLK95

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDCF6

Lab Sample ID: GVBLK059 Date Analyzed: 04/28/00

Lab File ID: G0908 Time Analyzed: 0657

Instrument ID: G-HP5973

GC Column: DB-624 ID: 0.53 (mm) Length: 60 (m)

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES AND LCS:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
01	VLCS95	GVLCS059	G0909	0744
02	EDCF6	6033.009	G0910	0831
03	VIBLK03	VIBLK03	G0911	0917
04	EDCF7	6033.010	G0912	1004
05	VIBLK04	VIBLK04	G0913	1051
06	EDCF8	6033.011	G0914	1138
07	VIBLK05	VIBLK05	G0915	1225
08	EDCF9	6033.013	G0916	1312
09	VIBLK06	VIBLK06	G0917	1359
10	EDPN1	6033.014	G0918	1447
11	EDPN2	6033.015	G0919	1534
12	EDPN4	6033.017	G0920	1621
13	EDPN0	6033.018	G0921	1708
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COMMENTS: _____

4LCA

LOW CONC. WATER VOLATILE METHOD BLANK SUMMARY

EPA SAMPLE NO.

VBLK97

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDCF6

Lab Sample ID: GVBLK061 Date Analyzed: 05/02/00

Lab File ID: G0941 Time Analyzed: 0028

Instrument ID: G-HP5973

GC Column: DB-624 ID: 0.53 (mm) Length: 60 (m)

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES AND LCS:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
01	VLCS97	GVLCS061	G0942	0114
02	VHBLK01	6033.001	G0944	0248
03				
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COMMENTS: _____

1LCA

LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VBLK95

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDCF6

Lab Sample ID: GVBLK059 Date Received: _____

Lab File ID: G0908 Date Analyzed: 04/28/00

Purge Volume: 20 (mL) Dilution Factor: 1.0

GC Column: DB-624 ID: 0.53 (mm) Length: 60 (m)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
74-87-3	Chloromethane	1	U
74-83-9	Bromomethane	1	U
75-01-4	Vinyl chloride	1	U
75-00-3	Chloroethane	1	U
75-09-2	Methylene chloride	2	U
67-64-1	Acetone	5	U
75-15-0	Carbon disulfide	1	U
75-35-4	1,1-Dichloroethene	1	U
75-34-3	1,1-Dichloroethane	1	U
156-59-2	cis-1,2-Dichloroethene	1	U
156-60-5	trans-1,2-Dichloroethene	1	U
67-66-3	Chloroform	1	U
107-06-2	1,2-Dichloroethane	1	U
78-93-3	2-Butanone	5	U
74-97-5	Bromochloromethane	1	U
71-55-6	1,1,1-Trichloroethane	1	U
56-23-5	Carbon tetrachloride	1	U
75-27-4	Bromodichloromethane	1	U
78-87-5	1,2-Dichloropropane	1	U
10061-01-5	cis-1,3-Dichloropropene	1	U
79-01-6	Trichloroethene	1	U
124-48-1	Dibromochloromethane	1	U
79-00-5	1,1,2-Trichloroethane	1	U
71-43-2	Benzene	1	U
10061-02-6	trans-1,3-Dichloropropene	1	U
75-25-2	Bromoform	1	U
108-10-1	4-Methyl-2-pentanone	5	U
591-78-6	2-Hexanone	5	U
127-18-4	Tetrachloroethene	1	U
79-34-5	1,1,2,2-Tetrachloroethane	1	U
106-93-4	1,2-Dibromoethane	1	U
108-88-3	Toluene	1	U
108-90-7	Chlorobenzene	1	U
100-41-4	Ethylbenzene	1	U
100-42-5	Styrene	1	U
1330-20-7	Xylenes (total)	1	U
541-73-1	1,3-Dichlorobenzene	1	U
106-46-7	1,4-Dichlorobenzene	1	U
95-50-1	1,2-Dichlorobenzene	1	U
96-12-8	1,2-Dibromo-3-chloropropane	1	U
120-82-1	1,2,4-Trichlorobenzene	1	U

1LCE

EPA SAMPLE NO.

LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

VBLK95

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDCF6

Lab Sample ID: GVBLK059 Date Received: _____

Lab File ID: G0908 Date Analyzed: 04/28/00

Purge Volume: 20 (mL) Dilution Factor: 1.0

GC Column: DB-624 ID: 0.53 (mm) Length: 60 (m)

Number TICs found: 0

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC. (ug/L)	Q
1.					
2.					
3.					
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1LCA

LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VBLK97

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDCF6

Lab Sample ID: GVBLK061 Date Received: _____

Lab File ID: G0941 Date Analyzed: 05/02/00

Purge Volume: 20 (mL) Dilution Factor: 1.0

GC Column: DB-624 ID: 0.53 (mm) Length: 60 (m)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
74-87-3	Chloromethane	1	U
74-83-9	Bromomethane	1	U
75-01-4	Vinyl chloride	1	U
75-00-3	Chloroethane	1	U
75-09-2	Methylene chloride	2	U
67-64-1	Acetone	5	U
75-15-0	Carbon disulfide	1	U
75-35-4	1,1-Dichloroethene	1	U
75-34-3	1,1-Dichloroethane	1	U
156-59-2	cis-1,2-Dichloroethene	1	U
156-60-5	trans-1,2-Dichloroethene	1	U
67-66-3	Chloroform	1	U
107-06-2	1,2-Dichloroethane	1	U
78-93-3	2-Butanone	5	U
74-97-5	Bromochloromethane	1	U
71-55-6	1,1,1-Trichloroethane	1	U
56-23-5	Carbon tetrachloride	1	U
75-27-4	Bromodichloromethane	1	U
78-87-5	1,2-Dichloropropane	1	U
10061-01-5	cis-1,3-Dichloropropene	1	U
79-01-6	Trichloroethene	1	U
124-48-1	Dibromochloromethane	1	U
79-00-5	1,1,2-Trichloroethane	1	U
71-43-2	Benzene	1	U
10061-02-6	trans-1,3-Dichloropropene	1	U
75-25-2	Bromoform	1	U
108-10-1	4-Methyl-2-pentanone	5	U
591-78-6	2-Hexanone	5	U
127-18-4	Tetrachloroethene	1	U
79-34-5	1,1,2,2-Tetrachloroethane	1	U
106-93-4	1,2-Dibromoethane	1	U
108-88-3	Toluene	1	U
108-90-7	Chlorobenzene	1	U
100-41-4	Ethylbenzene	1	U
100-42-5	Styrene	1	U
1330-20-7	Xylenes (total)	1	U
541-73-1	1,3-Dichlorobenzene	1	U
106-46-7	1,4-Dichlorobenzene	1	U
95-50-1	1,2-Dichlorobenzene	1	U
96-12-8	1,2-Dibromo-3-chloropropane	1	U
120-82-1	1,2,4-Trichlorobenzene	1	U

0260

1LCE

EPA SAMPLE NO.

LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

VBLK97

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDCF6

Lab Sample ID: GVBLK061 Date Received: _____

Lab File ID: G0941 Date Analyzed: 05/02/00

Purge Volume: 20 (mL) Dilution Factor: 1.0

GC Column: DB-624 ID: 0.53 (mm) Length: 60 (m)

Number TICs found: 0

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC. (ug/L)	Q
1.					
2.					
3.					
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1LCA

EPA SAMPLE NO.

LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET

VHBLK01

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDCF6

Lab Sample ID: 6033.001 Date Received: 04/27/00

Lab File ID: G0944 Date Analyzed: 05/02/00

Purge Volume: 20 (mL) Dilution Factor: 1.0

GC Column: DB-624 ID: 0.53 (mm) Length: 60 (m)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
74-87-3	Chloromethane	1	U
74-83-9	Bromomethane	1	U
75-01-4	Vinyl chloride	1	U
75-00-3	Chloroethane	1	U
75-09-2	Methylene chloride	2	U
67-64-1	Acetone	5	U
75-15-0	Carbon disulfide	1	U
75-35-4	1,1-Dichloroethene	1	U
75-34-3	1,1-Dichloroethane	1	U
156-59-2	cis-1,2-Dichloroethene	1	U
156-60-5	trans-1,2-Dichloroethene	1	U
67-66-3	Chloroform	1	U
107-06-2	1,2-Dichloroethane	1	U
78-93-3	2-Butanone	5	U
74-97-5	Bromochloromethane	1	U
71-55-6	1,1,1-Trichloroethane	1	U
56-23-5	Carbon tetrachloride	1	U
75-27-4	Bromodichloromethane	1	U
78-87-5	1,2-Dichloropropane	1	U
10061-01-5	cis-1,3-Dichloropropene	1	U
79-01-6	Trichloroethene	1	U
124-48-1	Dibromochloromethane	1	U
79-00-5	1,1,2-Trichloroethane	1	U
71-43-2	Benzene	1	U
10061-02-6	trans-1,3-Dichloropropene	1	U
75-25-2	Bromoform	1	U
108-10-1	4-Methyl-2-pentanone	5	U
591-78-6	2-Hexanone	5	U
127-18-4	Tetrachloroethene	1	U
79-34-5	1,1,2,2-Tetrachloroethane	1	U
106-93-4	1,2-Dibromoethane	1	U
108-88-3	Toluene	1	U
108-90-7	Chlorobenzene	1	U
100-41-4	Ethylbenzene	1	U
100-42-5	Styrene	1	U
1330-20-7	Xylenes (total)	1	U
541-73-1	1,3-Dichlorobenzene	1	U
106-46-7	1,4-Dichlorobenzene	1	U
95-50-1	1,2-Dichlorobenzene	1	U
96-12-8	1,2-Dibromo-3-chloropropane	1	U
120-82-1	1,2,4-Trichlorobenzene	1	U

1LCE

EPA SAMPLE NO.

LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

VHBLK01

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDCF6

Lab Sample ID: 6033.001 Date Received: 04/27/00

Lab File ID: G0944 Date Analyzed: 05/02/00

Purge Volume: 20 (mL) Dilution Factor: 1.0

GC Column: DB-624 ID: 0.53 (mm) Length: 60 (m)

Number TICs found: 0

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC. (ug/L)	Q
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1LCA

LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EDCF6

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDCF6

Lab Sample ID: 6033.009 Date Received: 04/27/00

Lab File ID: G0910 Date Analyzed: 04/28/00

Purge Volume: 20 (mL) Dilution Factor: 1.0

GC Column: DB-624 ID: 0.53 (mm) Length: 60 (m)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
74-87-3	Chloromethane	1	U
74-83-9	Bromomethane	1	U
75-01-4	Vinyl chloride	1	U
75-00-3	Chloroethane	1	U
75-09-2	Methylene chloride	2	U
67-64-1	Acetone	5	U
75-15-0	Carbon disulfide	1	U
75-35-4	1,1-Dichloroethene	1	U
75-34-3	1,1-Dichloroethane	1	U
156-59-2	cis-1,2-Dichloroethene	1	U
156-60-5	trans-1,2-Dichloroethene	1	U
67-66-3	Chloroform	1	U
107-06-2	1,2-Dichloroethane	1	U
78-93-3	2-Butanone	5	U
74-97-5	Bromochloromethane	1	U
71-55-6	1,1,1-Trichloroethane	1	U
56-23-5	Carbon tetrachloride	1	U
75-27-4	Bromodichloromethane	1	U
78-87-5	1,2-Dichloropropane	2	
10061-01-5	cis-1,3-Dichloropropene	1	U
79-01-6	Trichloroethene	0.5	J
124-48-1	Dibromochloromethane	1	U
79-00-5	1,1,2-Trichloroethane	1	U
71-43-2	Benzene	1	U
10061-02-6	trans-1,3-Dichloropropene	1	U
75-25-2	Bromoform	1	U
108-10-1	4-Methyl-2-pentanone	5	U
591-78-6	2-Hexanone	5	U
127-18-4	Tetrachloroethene	1	U
79-34-5	1,1,2,2-Tetrachloroethane	1	U
106-93-4	1,2-Dibromoethane	1	U
108-88-3	Toluene	1	U
108-90-7	Chlorobenzene	1	U
100-41-4	Ethylbenzene	1	U
100-42-5	Styrene	1	U
1330-20-7	Xylenes (total)	1	U
541-73-1	1,3-Dichlorobenzene	1	U
106-46-7	1,4-Dichlorobenzene	1	U
95-50-1	1,2-Dichlorobenzene	1	U
96-12-8	1,2-Dibromo-3-chloropropane	1	U
120-82-1	1,2,4-Trichlorobenzene	1	U

1LCE

EPA SAMPLE NO.

LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EDCF6

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDCF6

Lab Sample ID: 6033.009 Date Received: 04/27/00

Lab File ID: G0910 Date Analyzed: 04/28/00

Purge Volume: 20 (mL) Dilution Factor: 1.0

GC Column: DB-624 ID: 0.53 (mm) Length: 60 (m)

Number TICs found: 0

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC. (ug/L)	Q
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LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EDCF7

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDCF6

Lab Sample ID: 6033.010 Date Received: 04/27/00

Lab File ID: G0912 Date Analyzed: 04/28/00

Purge Volume: 20 (mL) Dilution Factor: 1.0

GC Column: DB-624 ID: 0.53 (mm) Length: 60 (m)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
74-87-3	Chloromethane	1	U
74-83-9	Bromomethane	1	U
75-01-4	Vinyl chloride	1	U
75-00-3	Chloroethane	1	U
75-09-2	Methylene chloride	2	U
67-64-1	Acetone	5	U
75-15-0	Carbon disulfide	1	U
75-35-4	1,1-Dichloroethene	1	U
75-34-3	1,1-Dichloroethane	1	
156-59-2	cis-1,2-Dichloroethene	1	U
156-60-5	trans-1,2-Dichloroethene	1	U
67-66-3	Chloroform	1	U
107-06-2	1,2-Dichloroethane	1	U
78-93-3	2-Butanone	5	U
74-97-5	Bromochloromethane	1	U
71-55-6	1,1,1-Trichloroethane	1	U
56-23-5	Carbon tetrachloride	1	U
75-27-4	Bromodichloromethane	1	U
78-87-5	1,2-Dichloropropane	1	U
10061-01-5	cis-1,3-Dichloropropene	1	U
79-01-6	Trichloroethene	1	U
124-48-1	Dibromochloromethane	1	U
79-00-5	1,1,2-Trichloroethane	1	U
71-43-2	Benzene	1	U
10061-02-6	trans-1,3-Dichloropropene	1	U
75-25-2	Bromoform	1	U
108-10-1	4-Methyl-2-pentanone	5	U
591-78-6	2-Hexanone	5	U
127-18-4	Tetrachloroethene	1	U
79-34-5	1,1,2,2-Tetrachloroethane	1	U
106-93-4	1,2-Dibromoethane	1	U
108-88-3	Toluene	1	U
108-90-7	Chlorobenzene	1	U
100-41-4	Ethylbenzene	1	U
100-42-5	Styrene	1	U
1330-20-7	Xylenes (total)	1	U
541-73-1	1,3-Dichlorobenzene	1	U
106-46-7	1,4-Dichlorobenzene	1	U
95-50-1	1,2-Dichlorobenzene	1	U
96-12-8	1,2-Dibromo-3-chloropropane	1	U
120-82-1	1,2,4-Trichlorobenzene	1	U

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EPA SAMPLE NO.

LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EDCF7

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDCF6

Lab Sample ID: 6033.010 Date Received: 04/27/00

Lab File ID: G0912 Date Analyzed: 04/28/00

Purge Volume: 20 (mL) Dilution Factor: 1.0

GC Column: DB-624 ID: 0.53 (mm) Length: 60 (m)

Number TICs found: 0

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC. (ug/L)	Q
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LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EDCF8

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDCF6

Lab Sample ID: 6033.011 Date Received: 04/27/00

Lab File ID: G0914 Date Analyzed: 04/28/00

Purge Volume: 20 (mL) Dilution Factor: 1.0

GC Column: DB-624 ID: 0.53 (mm) Length: 60 (m)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
74-87-3	Chloromethane	1	U
74-83-9	Bromomethane	1	U
75-01-4	Vinyl chloride	1	U
75-00-3	Chloroethane	1	l
75-09-2	Methylene chloride	2	U
67-64-1	Acetone	5	U
75-15-0	Carbon disulfide	0.6	J
75-35-4	1,1-Dichloroethene	1	U
75-34-3	1,1-Dichloroethane	5	
156-59-2	cis-1,2-Dichloroethene	1	U
156-60-5	trans-1,2-Dichloroethene	1	U
67-66-3	Chloroform	1	U
107-06-2	1,2-Dichloroethane	1	U
78-93-3	2-Butanone	5	U
74-97-5	Bromochloromethane	1	U
71-55-6	1,1,1-Trichloroethane	1	U
56-23-5	Carbon tetrachloride	1	U
75-27-4	Bromodichloromethane	1	U
78-87-5	1,2-Dichloropropane	1	U
10061-01-5	cis-1,3-Dichloropropene	1	U
79-01-6	Trichloroethene	1	U
124-48-1	Dibromochloromethane	1	U
79-00-5	1,1,2-Trichloroethane	1	U
71-43-2	Benzene	1	
10061-02-6	trans-1,3-Dichloropropene	1	U
75-25-2	Bromoform	1	U
108-10-1	4-Methyl-2-pentanone	5	U
591-78-6	2-Hexanone	5	U
127-18-4	Tetrachloroethene	1	U
79-34-5	1,1,2,2-Tetrachloroethane	1	U
106-93-4	1,2-Dibromoethane	1	U
108-88-3	Toluene	1	U
108-90-7	Chlorobenzene	1	U
100-41-4	Ethylbenzene	1	U
100-42-5	Styrene	1	U
1330-20-7	Xylenes (total)	1	U
541-73-1	1,3-Dichlorobenzene	1	U
106-46-7	1,4-Dichlorobenzene	1	U
95-50-1	1,2-Dichlorobenzene	1	U
96-12-8	1,2-Dibromo-3-chloropropane	1	U
120-82-1	1,2,4-Trichlorobenzene	1	U

1LCA

LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EDCF9

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDCF6

Lab Sample ID: 6033.013 Date Received: 04/27/00

Lab File ID: G0916 Date Analyzed: 04/28/00

Purge Volume: 20 (mL) Dilution Factor: 1.0

GC Column: DB-624 ID: 0.53 (mm) Length: 60 (m)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
74-87-3	Chloromethane	1	U
74-83-9	Bromomethane	1	U
75-01-4	Vinyl chloride	1	U
75-00-3	Chloroethane	2	
75-09-2	Methylene chloride	2	U
67-64-1	Acetone	5	U
75-15-0	Carbon disulfide	1	U
75-35-4	1,1-Dichloroethene	1	U
75-34-3	1,1-Dichloroethane	0.8	J
156-59-2	cis-1,2-Dichloroethene	1	U
156-60-5	trans-1,2-Dichloroethene	1	U
67-66-3	Chloroform	1	U
107-06-2	1,2-Dichloroethane	1	U
78-93-3	2-Butanone	5	U
74-97-5	Bromochloromethane	1	U
71-55-6	1,1,1-Trichloroethane	1	U
56-23-5	Carbon tetrachloride	1	U
75-27-4	Bromodichloromethane	1	U
78-87-5	1,2-Dichloropropane	1	U
10061-01-5	cis-1,3-Dichloropropene	1	U
79-01-6	Trichloroethene	1	U
124-48-1	Dibromochloromethane	1	U
79-00-5	1,1,2-Trichloroethane	1	U
71-43-2	Benzene	1	U
10061-02-6	trans-1,3-Dichloropropene	1	U
75-25-2	Bromoform	1	U
108-10-1	4-Methyl-2-pentanone	5	U
591-78-6	2-Hexanone	5	U
127-18-4	Tetrachloroethene	1	U
79-34-5	1,1,2,2-Tetrachloroethane	1	U
106-93-4	1,2-Dibromoethane	1	U
108-88-3	Toluene	1	U
108-90-7	Chlorobenzene	1	U
100-41-4	Ethylbenzene	1	U
100-42-5	Styrene	1	U
1330-20-7	Xylenes (total)	1	U
541-73-1	1,3-Dichlorobenzene	1	U
106-46-7	1,4-Dichlorobenzene	1	U
95-50-1	1,2-Dichlorobenzene	1	U
96-12-8	1,2-Dibromo-3-chloropropane	1	U
120-82-1	1,2,4-Trichlorobenzene	1	U

1LCE

LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

EDCF9

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDCF6

Lab Sample ID: 6033.013 Date Received: 04/27/00

Lab File ID: G0916 Date Analyzed: 04/28/00

Purge Volume: 20 (mL) Dilution Factor: 1.0

GC Column: DB-624 ID: 0.53 (mm) Length: 60 (m)

Number TICs found: 1

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC. (ug/L)	Q
1.	000060-29-7	Ethyl ether	6.91	4	JN
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LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EDCG1

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDCF6

Lab Sample ID: 6033.012 Date Received: 04/27/00

Lab File ID: G0896 Date Analyzed: 04/27/00

Purge Volume: 20 (mL) Dilution Factor: 1.0

GC Column: DB-624 ID: 0.53 (mm) Length: 60 (m)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
74-87-3	Chloromethane	1	U
74-83-9	Bromomethane	1	U
75-01-4	Vinyl chloride	1	U
75-00-3	Chloroethane	1	U
75-09-2	Methylene chloride	3	
67-64-1	Acetone	4	J
75-15-0	Carbon disulfide	1	U
75-35-4	1,1-Dichloroethene	1	U
75-34-3	1,1-Dichloroethane	1	U
156-59-2	cis-1,2-Dichloroethene	1	U
156-60-5	trans-1,2-Dichloroethene	1	U
67-66-3	Chloroform	1	U
107-06-2	1,2-Dichloroethane	1	U
78-93-3	2-Butanone	5	U
74-97-5	Bromochloromethane	1	U
71-55-6	1,1,1-Trichloroethane	1	U
56-23-5	Carbon tetrachloride	1	U
75-27-4	Bromodichloromethane	1	U
78-87-5	1,2-Dichloropropane	1	U
10061-01-5	cis-1,3-Dichloropropene	1	U
79-01-6	Trichloroethene	1	U
124-48-1	Dibromochloromethane	1	U
79-00-5	1,1,2-Trichloroethane	1	U
71-43-2	Benzene	1	U
10061-02-6	trans-1,3-Dichloropropene	1	U
75-25-2	Bromoform	1	U
108-10-1	4-Methyl-2-pentanone	5	U
591-78-6	2-Hexanone	5	U
127-18-4	Tetrachloroethene	1	U
79-34-5	1,1,2,2-Tetrachloroethane	1	U
106-93-4	1,2-Dibromoethane	1	U
108-88-3	Toluene	1	U
108-90-7	Chlorobenzene	1	U
100-41-4	Ethylbenzene	1	U
100-42-5	Styrene	1	U
1330-20-7	Xylenes (total)	1	U
541-73-1	1,3-Dichlorobenzene	1	U
106-46-7	1,4-Dichlorobenzene	1	U
95-50-1	1,2-Dichlorobenzene	1	U
96-12-8	1,2-Dibromo-3-chloropropane	1	U
120-82-1	1,2,4-Trichlorobenzene	1	U

1LCE

EPA SAMPLE NO.

LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EDCG1

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDCF6

Lab Sample ID: 6033.012 Date Received: 04/27/00

Lab File ID: G0896 Date Analyzed: 04/27/00

Purge Volume: 20 (mL) Dilution Factor: 1.0

GC Column: DB-624 ID: 0.53 (mm) Length: 60 (m)

Number TICs found: 0

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC. (ug/L)	Q
1.					
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LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EDCG3

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDCF6

Lab Sample ID: 6033.019 Date Received: 04/27/00

Lab File ID: G0900 Date Analyzed: 04/28/00

Purge Volume: 20 (mL) Dilution Factor: 1.0

GC Column: DB-624 ID: 0.53 (mm) Length: 60 (m)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
74-87-3	Chloromethane	1	U
74-83-9	Bromomethane	1	U
75-01-4	Vinyl chloride	1	U
75-00-3	Chloroethane	1	U
75-09-2	Methylene chloride	2	U
67-64-1	Acetone	5	U
75-15-0	Carbon disulfide	1	U
75-35-4	1,1-Dichloroethene	1	U
75-34-3	1,1-Dichloroethane	1	U
156-59-2	cis-1,2-Dichloroethene	1	U
156-60-5	trans-1,2-Dichloroethene	1	U
67-66-3	Chloroform	1	U
107-06-2	1,2-Dichloroethane	1	U
78-93-3	2-Butanone	5	U
74-97-5	Bromochloromethane	1	U
71-55-6	1,1,1-Trichloroethane	1	U
56-23-5	Carbon tetrachloride	1	U
75-27-4	Bromodichloromethane	1	U
78-87-5	1,2-Dichloropropane	1	U
10061-01-5	cis-1,3-Dichloropropene	1	U
79-01-6	Trichloroethene	1	U
124-48-1	Dibromochloromethane	1	U
79-00-5	1,1,2-Trichloroethane	1	U
71-43-2	Benzene	1	U
10061-02-6	trans-1,3-Dichloropropene	1	U
75-25-2	Bromoform	1	U
108-10-1	4-Methyl-2-pentanone	5	U
591-78-6	2-Hexanone	5	U
127-18-4	Tetrachloroethene	1	U
79-34-5	1,1,2,2-Tetrachloroethane	1	U
106-93-4	1,2-Dibromoethane	1	U
108-88-3	Toluene	1	U
108-90-7	Chlorobenzene	1	U
100-41-4	Ethylbenzene	1	U
100-42-5	Styrene	1	U
1330-20-7	Xylenes (total)	1	U
541-73-1	1,3-Dichlorobenzene	1	U
106-46-7	1,4-Dichlorobenzene	1	U
95-50-1	1,2-Dichlorobenzene	1	U
96-12-8	1,2-Dibromo-3-chloropropane	1	U
120-82-1	1,2,4-Trichlorobenzene	1	U

1LCE

EPA SAMPLE NO.

LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EDCG3

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDCF6

Lab Sample ID: 6033.019 Date Received: 04/27/00

Lab File ID: G0900 Date Analyzed: 04/28/00

Purge Volume: 20 (mL) Dilution Factor: 1.0

GC Column: DB-624 ID: 0.53 (mm) Length: 60 (m)

Number TICs found: 0

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC. (ug/L)	Q
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LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EDPM3

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDCF6

Lab Sample ID: 6033.002 Date Received: 04/27/00

Lab File ID: G0893 Date Analyzed: 04/27/00

Purge Volume: 20 (mL) Dilution Factor: 1.0

GC Column: DB-624 ID: 0.53 (mm) Length: 60 (m)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
74-87-3	Chloromethane	1	U
74-83-9	Bromomethane	1	U
75-01-4	Vinyl chloride	1	U
75-00-3	Chloroethane	2	
75-09-2	Methylene chloride	2	U
67-64-1	Acetone	5	U
75-15-0	Carbon disulfide	1	U
75-35-4	1,1-Dichloroethene	1	U
75-34-3	1,1-Dichloroethane	0.8	J
156-59-2	cis-1,2-Dichloroethene	1	U
156-60-5	trans-1,2-Dichloroethene	1	U
67-66-3	Chloroform	1	U
107-06-2	1,2-Dichloroethane	1	U
78-93-3	2-Butanone	5	U
74-97-5	Bromochloromethane	1	U
71-55-6	1,1,1-Trichloroethane	1	U
56-23-5	Carbon tetrachloride	1	U
75-27-4	Bromodichloromethane	1	U
78-87-5	1,2-Dichloropropane	0.5	J
10061-01-5	cis-1,3-Dichloropropene	1	U
79-01-6	Trichloroethene	1	U
124-48-1	Dibromochloromethane	1	U
79-00-5	1,1,2-Trichloroethane	1	U
71-43-2	Benzene	1	
10061-02-6	trans-1,3-Dichloropropene	1	U
75-25-2	Bromoform	1	U
108-10-1	4-Methyl-2-pentanone	5	U
591-78-6	2-Hexanone	5	U
127-18-4	Tetrachloroethene	1	U
79-34-5	1,1,2,2-Tetrachloroethane	1	U
106-93-4	1,2-Dibromoethane	1	U
108-88-3	Toluene	1	U
108-90-7	Chlorobenzene	1	U
100-41-4	Ethylbenzene	1	U
100-42-5	Styrene	1	U
1330-20-7	Xylenes (total)	1	U
541-73-1	1,3-Dichlorobenzene	1	U
106-46-7	1,4-Dichlorobenzene	1	U
95-50-1	1,2-Dichlorobenzene	1	U
96-12-8	1,2-Dibromo-3-chloropropane	1	U
120-82-1	1,2,4-Trichlorobenzene	1	U

1LCE

EPA SAMPLE NO.

LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EDPM3

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDCF6

Lab Sample ID: 6033.002 Date Received: 04/27/00

Lab File ID: G0893 Date Analyzed: 04/27/00

Purge Volume: 20 (mL) Dilution Factor: 1.0

GC Column: DB-624 ID: 0.53 (mm) Length: 60 (m)

Number TICs found: 2

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC. (ug/L)	Q
1.	000075-43-4	Methane, dichlorofluoro-	6.13	2	JN
2.	000060-29-7	Ethyl ether	6.92	5	JN
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LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EDPM6

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDCF6

Lab Sample ID: 6033.003 Date Received: 04/27/00

Lab File ID: G0895 Date Analyzed: 04/27/00

Purge Volume: 20 (mL) Dilution Factor: 1.0

GC Column: DB-624 ID: 0.53 (mm) Length: 60 (m)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
74-87-3	Chloromethane	1	U
74-83-9	Bromomethane	1	U
75-01-4	Vinyl chloride	1	U
75-00-3	Chloroethane	1	U
75-09-2	Methylene chloride	2	U
67-64-1	Acetone	5	U
75-15-0	Carbon disulfide	0.5	J
75-35-4	1,1-Dichloroethene	1	U
75-34-3	1,1-Dichloroethane	1	U
156-59-2	cis-1,2-Dichloroethene	1	U
156-60-5	trans-1,2-Dichloroethene	1	U
67-66-3	Chloroform	1	U
107-06-2	1,2-Dichloroethane	1	U
78-93-3	2-Butanone	5	U
74-97-5	Bromochloromethane	1	U
71-55-6	1,1,1-Trichloroethane	1	U
56-23-5	Carbon tetrachloride	1	U
75-27-4	Bromodichloromethane	1	U
78-87-5	1,2-Dichloropropane	1	U
10061-01-5	cis-1,3-Dichloropropene	1	U
79-01-6	Trichloroethene	1	U
124-48-1	Dibromochloromethane	1	U
79-00-5	1,1,2-Trichloroethane	1	U
71-43-2	Benzene	2	
10061-02-6	trans-1,3-Dichloropropene	1	U
75-25-2	Bromoform	1	U
108-10-1	4-Methyl-2-pentanone	5	U
591-78-6	2-Hexanone	5	U
127-18-4	Tetrachloroethene	1	U
79-34-5	1,1,2,2-Tetrachloroethane	1	U
106-93-4	1,2-Dibromoethane	1	U
108-88-3	Toluene	1	U
108-90-7	Chlorobenzene	1	U
100-41-4	Ethylbenzene	1	U
100-42-5	Styrene	1	U
1330-20-7	Xylenes (total)	1	U
541-73-1	1,3-Dichlorobenzene	1	U
106-46-7	1,4-Dichlorobenzene	1	U
95-50-1	1,2-Dichlorobenzene	1	U
96-12-8	1,2-Dibromo-3-chloropropane	1	U
120-82-1	1,2,4-Trichlorobenzene	1	U

1LCE

EPA SAMPLE NO.

LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EDPM6

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDCF6

Lab Sample ID: 6033.003 Date Received: 04/27/00

Lab File ID: G0895 Date Analyzed: 04/27/00

Purge Volume: 20 (mL) Dilution Factor: 1.0

GC Column: DB-624 ID: 0.53 (mm) Length: 60 (m)

Number TICs found: 1

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC. (ug/L)	Q
1.	000060-29-7	Ethyl ether	6.91	6	JN
2.					
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1LCA

LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EDPM7

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDCF6

Lab Sample ID: 6033.004 Date Received: 04/27/00

Lab File ID: G0897 Date Analyzed: 04/27/00

Purge Volume: 20 (mL) Dilution Factor: 1.0

GC Column: DB-624 ID: 0.53 (mm) Length: 60 (m)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
74-87-3	Chloromethane	1	U
74-83-9	Bromomethane	1	U
75-01-4	Vinyl chloride	1	U
75-00-3	Chloroethane	1	U
75-09-2	Methylene chloride	2	U
67-64-1	Acetone	5	U
75-15-0	Carbon disulfide	0.6	J
75-35-4	1,1-Dichloroethene	1	U
75-34-3	1,1-Dichloroethane	1	U
156-59-2	cis-1,2-Dichloroethene	1	U
156-60-5	trans-1,2-Dichloroethene	1	U
67-66-3	Chloroform	1	U
107-06-2	1,2-Dichloroethane	1	U
78-93-3	2-Butanone	5	U
74-97-5	Bromochloromethane	1	U
71-55-6	1,1,1-Trichloroethane	1	U
56-23-5	Carbon tetrachloride	1	U
75-27-4	Bromodichloromethane	1	U
78-87-5	1,2-Dichloropropane	1	U
10061-01-5	cis-1,3-Dichloropropene	1	U
79-01-6	Trichloroethene	1	U
124-48-1	Dibromochloromethane	1	U
79-00-5	1,1,2-Trichloroethane	1	U
71-43-2	Benzene	1	U
10061-02-6	trans-1,3-Dichloropropene	1	U
75-25-2	Bromoform	1	U
108-10-1	4-Methyl-2-pentanone	5	U
591-78-6	2-Hexanone	5	U
127-18-4	Tetrachloroethene	1	U
79-34-5	1,1,2,2-Tetrachloroethane	1	U
106-93-4	1,2-Dibromoethane	1	U
108-88-3	Toluene	1	U
108-90-7	Chlorobenzene	1	U
100-41-4	Ethylbenzene	1	U
100-42-5	Styrene	1	U
1330-20-7	Xylenes (total)	1	U
541-73-1	1,3-Dichlorobenzene	1	U
106-46-7	1,4-Dichlorobenzene	1	U
95-50-1	1,2-Dichlorobenzene	1	U
96-12-8	1,2-Dibromo-3-chloropropane	1	U
120-82-1	1,2,4-Trichlorobenzene	1	U

1LCE

EPA SAMPLE NO.

LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EDPM7

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDCF6

Lab Sample ID: 6033.004 Date Received: 04/27/00

Lab File ID: G0897 Date Analyzed: 04/27/00

Purge Volume: 20 (mL) Dilution Factor: 1.0

GC Column: DB-624 ID: 0.53 (mm) Length: 60 (m)

Number TICs found: 1

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC. (ug/L)	Q
1.	000060-29-7	Ethyl ether	6.91	5	JN
2.					
3.					
4.					
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1LCA

LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EDPM8

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDCF6

Lab Sample ID: 6033.005 Date Received: 04/27/00

Lab File ID: G0894 Date Analyzed: 04/27/00

Purge Volume: 20 (mL) Dilution Factor: 1.0

GC Column: DB-624 ID: 0.53 (mm) Length: 60 (m)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
74-87-3	Chloromethane	1	U
74-83-9	Bromomethane	1	U
75-01-4	Vinyl chloride	1	U
75-00-3	Chloroethane	1	U
75-09-2	Methylene chloride	0.6	J
67-64-1	Acetone	5	U
75-15-0	Carbon disulfide	1	U
75-35-4	1,1-Dichloroethene	1	U
75-34-3	1,1-Dichloroethane	1	U
156-59-2	cis-1,2-Dichloroethene	1	U
156-60-5	trans-1,2-Dichloroethene	1	U
67-66-3	Chloroform	1	U
107-06-2	1,2-Dichloroethane	1	U
78-93-3	2-Butanone	5	U
74-97-5	Bromochloromethane	1	U
71-55-6	1,1,1-Trichloroethane	1	U
56-23-5	Carbon tetrachloride	1	U
75-27-4	Bromodichloromethane	1	U
78-87-5	1,2-Dichloropropane	1	U
10061-01-5	cis-1,3-Dichloropropene	1	U
79-01-6	Trichloroethene	1	U
124-48-1	Dibromochloromethane	1	U
79-00-5	1,1,2-Trichloroethane	1	U
71-43-2	Benzene	1	U
10061-02-6	trans-1,3-Dichloropropene	1	U
75-25-2	Bromoform	1	U
108-10-1	4-Methyl-2-pentanone	5	U
591-78-6	2-Hexanone	5	U
127-18-4	Tetrachloroethene	1	U
79-34-5	1,1,2,2-Tetrachloroethane	1	U
106-93-4	1,2-Dibromoethane	1	U
108-88-3	Toluene	1	U
108-90-7	Chlorobenzene	1	U
100-41-4	Ethylbenzene	1	U
100-42-5	Styrene	1	U
1330-20-7	Xylenes (total)	1	U
541-73-1	1,3-Dichlorobenzene	1	U
106-46-7	1,4-Dichlorobenzene	1	U
95-50-1	1,2-Dichlorobenzene	1	U
96-12-8	1,2-Dibromo-3-chloropropane	1	U
120-82-1	1,2,4-Trichlorobenzene	1	U

1LCE

EPA SAMPLE NO.

LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EDPM8

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDCF6

Lab Sample ID: 6033.005 Date Received: 04/27/00

Lab File ID: G0894 Date Analyzed: 04/27/00

Purge Volume: 20 (mL) Dilution Factor: 1.0

GC Column: DB-624 ID: 0.53 (mm) Length: 60 (m)

Number TICs found: 0

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC. (ug/L)	Q
1.					
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3.					
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1LCA

LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EDPN0

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDCF6

Lab Sample ID: 6033.018 Date Received: 04/27/00

Lab File ID: G0921 Date Analyzed: 04/28/00

Purge Volume: 20 (mL) Dilution Factor: 1.0

GC Column: DB-624 ID: 0.53 (mm) Length: 60 (m)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
74-87-3	Chloromethane	1	U
74-83-9	Bromomethane	1	U
75-01-4	Vinyl chloride	1	U
75-00-3	Chloroethane	1	U
75-09-2	Methylene chloride	2	U
67-64-1	Acetone	43	
75-15-0	Carbon disulfide	1	U
75-35-4	1,1-Dichloroethene	1	U
75-34-3	1,1-Dichloroethane	1	U
156-59-2	cis-1,2-Dichloroethene	1	U
156-60-5	trans-1,2-Dichloroethene	1	U
67-66-3	Chloroform	15	
107-06-2	1,2-Dichloroethane	1	U
78-93-3	2-Butanone	11	
74-97-5	Bromochloromethane	1	U
71-55-6	1,1,1-Trichloroethane	1	U
56-23-5	Carbon tetrachloride	1	U
75-27-4	Bromodichloromethane	6	
78-87-5	1,2-Dichloropropane	1	U
10061-01-5	cis-1,3-Dichloropropene	1	U
79-01-6	Trichloroethene	1	U
124-48-1	Dibromochloromethane	3	
79-00-5	1,1,2-Trichloroethane	1	U
71-43-2	Benzene	1	U
10061-02-6	trans-1,3-Dichloropropene	1	U
75-25-2	Bromoform	1	U
108-10-1	4-Methyl-2-pentanone	5	U
591-78-6	2-Hexanone	5	U
127-18-4	Tetrachloroethene	1	U
79-34-5	1,1,2,2-Tetrachloroethane	1	U
106-93-4	1,2-Dibromoethane	1	U
108-88-3	Toluene	1	U
108-90-7	Chlorobenzene	1	U
100-41-4	Ethylbenzene	1	U
100-42-5	Styrene	1	U
1330-20-7	Xylenes (total)	1	U
541-73-1	1,3-Dichlorobenzene	1	U
106-46-7	1,4-Dichlorobenzene	1	U
95-50-1	1,2-Dichlorobenzene	1	U
96-12-8	1,2-Dibromo-3-chloropropane	1	U
120-82-1	1,2,4-Trichlorobenzene	1	U

1LCE

EPA SAMPLE NO.

LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EDPN0

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDCF6

Lab Sample ID: 6033.018 Date Received: 04/27/00

Lab File ID: G0921 Date Analyzed: 04/28/00

Purge Volume: 20 (mL) Dilution Factor: 1.0

GC Column: DB-624 ID: 0.53 (mm) Length: 60 (m)

Number TICs found: 1

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC. (ug/L)	Q
1.	000110-82-7	Cyc hexane	13.77	7	JN
2.					
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1LCA

LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EDPN1

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDCF6

Lab Sample ID: 6033.014 Date Received: 04/27/00

Lab File ID: G0918 Date Analyzed: 04/28/00

Purge Volume: 20 (mL) Dilution Factor: 1.0

GC Column: DB-624 ID: 0.53 (mm) Length: 60 (m)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
74-87-3	Chloromethane	1	U
74-83-9	Bromomethane	1	U
75-01-4	Vinyl chloride	1	U
75-00-3	Chloroethane	1	U
75-09-2	Methylene chloride	2	U
67-64-1	Acetone	5	U
75-15-0	Carbon disulfide	1	U
75-35-4	1,1-Dichloroethene	1	U
75-34-3	1,1-Dichloroethane	1	U
156-59-2	cis-1,2-Dichloroethene	1	U
156-60-5	trans-1,2-Dichloroethene	1	U
67-66-3	Chloroform	1	U
107-06-2	1,2-Dichloroethane	1	U
78-93-3	2-Butanone	5	U
74-97-5	Bromochloromethane	1	U
71-55-6	1,1,1-Trichloroethane	1	U
56-23-5	Carbon tetrachloride	1	U
75-27-4	Bromodichloromethane	1	U
78-87-5	1,2-Dichloropropane	1	U
10061-01-5	cis-1,3-Dichloropropene	1	U
79-01-6	Trichloroethene	1	U
124-48-1	Dibromochloromethane	1	U
79-00-5	1,1,2-Trichloroethane	1	U
71-43-2	Benzene	1	U
10061-02-6	trans-1,3-Dichloropropene	1	U
75-25-2	Bromoform	1	U
108-10-1	4-Methyl-2-pentanone	5	U
591-78-6	2-Hexanone	5	U
127-18-4	Tetrachloroethene	1	U
79-34-5	1,1,2,2-Tetrachloroethane	1	U
106-93-4	1,2-Dibromoethane	1	U
108-88-3	Toluene	1	U
108-90-7	Chlorobenzene	1	U
100-41-4	Ethylbenzene	1	U
100-42-5	Styrene	1	U
1330-20-7	Xylenes (total)	1	U
541-73-1	1,3-Dichlorobenzene	1	U
106-46-7	1,4-Dichlorobenzene	1	U
95-50-1	1,2-Dichlorobenzene	1	U
96-12-8	1,2-Dibromo-3-chloropropane	1	U
120-82-1	1,2,4-Trichlorobenzene	1	U

1LCE

EPA SAMPLE NO.

LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EDPN1

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDCF6

Lab Sample ID: 6033.014 Date Received: 04/27/00

Lab File ID: G0918 Date Analyzed: 04/28/00

Purge Volume: 20 (mL) Dilution Factor: 1.0

GC Column: DB-624 ID: 0.53 (mm) Length: 60 (m)

Number TICs found: 0

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC. (ug/L)	Q
1.					
2.					
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1LCA

LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EDPN2

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDCF6

Lab Sample ID: 6033.015 Date Received: 04/27/00

Lab File ID: G0919 Date Analyzed: 04/28/00

Purge Volume: 20 (mL) Dilution Factor: 1.0

GC Column: DB-624 ID: 0.53 (mm) Length: 60 (m)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
74-87-3	Chloromethane	1	U
74-83-9	Bromomethane	1	U
75-01-4	Vinyl chloride	1	U
75-00-3	Chloroethane	1	U
75-09-2	Methylene chloride	2	U
67-64-1	Acetone	5	U
75-15-0	Carbon disulfide	1	U
75-35-4	1,1-Dichloroethene	1	U
75-34-3	1,1-Dichloroethane	1	U
156-59-2	cis-1,2-Dichloroethene	1	U
156-60-5	trans-1,2-Dichloroethene	1	U
67-66-3	Chloroform	1	U
107-06-2	1,2-Dichloroethane	1	U
78-93-3	2-Butanone	5	U
74-97-5	Bromochloromethane	1	U
71-55-6	1,1,1-Trichloroethane	1	U
56-23-5	Carbon tetrachloride	1	U
75-27-4	Bromodichloromethane	1	U
78-87-5	1,2-Dichloropropane	1	U
10061-01-5	cis-1,3-Dichloropropene	1	U
79-01-6	Trichloroethene	1	U
124-48-1	Dibromochloromethane	1	U
79-00-5	1,1,2-Trichloroethane	1	U
71-43-2	Benzene	1	U
10061-02-6	trans-1,3-Dichloropropene	1	U
75-25-2	Bromoform	1	U
108-10-1	4-Methyl-2-pentanone	5	U
591-78-6	2-Hexanone	5	U
127-18-4	Tetrachloroethene	1	U
79-34-5	1,1,2,2-Tetrachloroethane	1	U
106-93-4	1,2-Dibromoethane	1	U
108-88-3	Toluene	1	U
108-90-7	Chlorobenzene	1	U
100-41-4	Ethylbenzene	1	U
100-42-5	Styrene	1	U
1330-20-7	Xylenes (total)	1	U
541-73-1	1,3-Dichlorobenzene	1	U
106-46-7	1,4-Dichlorobenzene	1	U
95-50-1	1,2-Dichlorobenzene	1	U
96-12-8	1,2-Dibromo-3-chloropropane	1	U
120-82-1	1,2,4-Trichlorobenzene	1	U

1LCE

EPA SAMPLE NO.

LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EDPN2

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDCF6

Lab Sample ID: 6033.015 Date Received: 04/27/00

Lab File ID: G0919 Date Analyzed: 04/28/00

Purge Volume: 20 (mL) Dilution Factor: 1.0

GC Column: DB-624 ID: 0.53 (mm) Length: 60 (m)

Number TICs found: 0

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC. (ug/L)	Q
1.					
2.					
3.					
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5.					
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1LCA

LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EDPN3

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDCF6

Lab Sample ID: 6033.016 Date Received: 04/27/00

Lab File ID: G0898 Date Analyzed: 04/27/00

Purge Volume: 20 (mL) Dilution Factor: 1.0

GC Column: DB-624 ID: 0.53 (mm) Length: 60 (m)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
74-87-3	Chloromethane	1	U
74-83-9	Bromomethane	1	U
75-01-4	Vinyl chloride	1	U
75-00-3	Chloroethane	1	U
75-09-2	Methylene chloride	1	J
67-64-1	Acetone	5	U
75-15-0	Carbon disulfide	1	U
75-35-4	1,1-Dichloroethene	1	U
75-34-3	1,1-Dichloroethane	1	U
156-59-2	cis-1,2-Dichloroethene	1	U
156-60-5	trans-1,2-Dichloroethene	1	U
67-66-3	Chloroform	1	U
107-06-2	1,2-Dichloroethane	1	U
78-93-3	2-Butanone	5	U
74-97-5	Bromochloromethane	1	U
71-55-6	1,1,1-Trichloroethane	1	U
56-23-5	Carbon tetrachloride	1	U
75-27-4	Bromodichloromethane	1	U
78-87-5	1,2-Dichloropropane	1	U
10061-01-5	cis-1,3-Dichloropropene	1	U
79-01-6	Trichloroethene	1	U
124-48-1	Dibromochloromethane	1	U
79-00-5	1,1,2-Trichloroethane	1	U
71-43-2	Benzene	1	U
10061-02-6	trans-1,3-Dichloropropene	1	U
75-25-2	Bromoform	1	U
108-10-1	4-Methyl-2-pentanone	5	U
591-78-6	2-Hexanone	5	U
127-18-4	Tetrachloroethene	1	U
79-34-5	1,1,2,2-Tetrachloroethane	1	U
106-93-4	1,2-Dibromoethane	1	U
108-88-3	Toluene	1	U
108-90-7	Chlorobenzene	1	U
100-41-4	Ethylbenzene	1	U
100-42-5	Styrene	1	U
1330-20-7	Xylenes (total)	1	U
541-73-1	1,3-Dichlorobenzene	1	U
106-46-7	1,4-Dichlorobenzene	1	U
95-50-1	1,2-Dichlorobenzene	1	U
96-12-8	1,2-Dibromo-3-chloropropane	1	U
120-82-1	1,2,4-Trichlorobenzene	1	U

0150

1LCE

EPA SAMPLE NO.

LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EDPN3

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDCF6

Lab Sample ID: 6033.016 Date Received: 04/27/00

Lab File ID: G0898 Date Analyzed: 04/27/00

Purge Volume: 20 (mL) Dilution Factor: 1.0

GC Column: DB-624 ID: 0.53 (mm) Length: 60 (m)

Number TICs found: 0

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC. (ug/L)	Q
1.					
2.					
3.					
4.					
5.					
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1LCA

LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EDPN4

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDCF6

Lab Sample ID: 6033.017 Date Received: 04/27/00

Lab File ID: G0920 Date Analyzed: 04/28/00

Purge Volume: 20 (mL) Dilution Factor: 1.0

GC Column: DB-624 ID: 0.53 (mm) Length: 60 (m)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
74-87-3	Chloromethane	1	U
74-83-9	Bromomethane	1	U
75-01-4	Vinyl chloride	1	U
75-00-3	Chloroethane	1	U
75-09-2	Methylene chloride	2	U
67-64-1	Acetone	5	U
75-15-0	Carbon disulfide	1	U
75-35-4	1,1-Dichloroethene	1	U
75-34-3	1,1-Dichloroethane	1	U
156-59-2	cis-1,2-Dichloroethene	1	U
156-60-5	trans-1,2-Dichloroethene	1	U
67-66-3	Chloroform	1	U
107-06-2	1,2-Dichloroethane	1	U
78-93-3	2-Butanone	5	U
74-97-5	Bromochloromethane	1	U
71-55-6	1,1,1-Trichloroethane	1	U
56-23-5	Carbon tetrachloride	1	U
75-27-4	Bromodichloromethane	1	U
78-87-5	1,2-Dichloropropane	1	U
10061-01-5	cis-1,3-Dichloropropene	1	U
79-01-6	Trichloroethene	1	U
124-48-1	Dibromochloromethane	1	U
79-00-5	1,1,2-Trichloroethane	1	U
71-43-2	Benzene	1	U
10061-02-6	trans-1,3-Dichloropropene	1	U
75-25-2	Bromoform	1	U
108-10-1	4-Methyl-2-pentanone	5	U
591-78-6	2-Hexanone	5	U
127-18-4	Tetrachloroethene	1	U
79-34-5	1,1,2,2-Tetrachloroethane	1	U
106-93-4	1,2-Dibromoethane	1	U
108-88-3	Toluene	1	U
108-90-7	Chlorobenzene	1	U
100-41-4	Ethylbenzene	1	U
100-42-5	Styrene	1	U
1330-20-7	Xylenes (total)	1	U
541-73-1	1,3-Dichlorobenzene	1	U
106-46-7	1,4-Dichlorobenzene	1	U
95-50-1	1,2-Dichlorobenzene	1	U
96-12-8	1,2-Dibromo-3-chloropropane	1	U
120-82-1	1,2,4-Trichlorobenzene	1	U

1LCE

LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

EDPN4

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDCF6

Lab Sample ID: 6033.017 Date Received: 04/27/00

Lab File ID: G0920 Date Analyzed: 04/28/00

Purge Volume: 20 (mL) Dilution Factor: 1.0

GC Column: DB-624 ID: 0.53 (mm) Length: 60 (m)

Number TICs found: 0

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC. (ug/L)	Q
1.					
2.					
3.					
4.					
5.					
6.					
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1LCA

LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EDPN5

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDCF6

Lab Sample ID: 6033.006 Date Received: 04/27/00

Lab File ID: G0899 Date Analyzed: 04/28/00

Purge Volume: 20 (mL) Dilution Factor: 1.0

GC Column: DB-624 ID: 0.53 (mm) Length: 60 (m)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
74-87-3	Chloromethane	1	U
74-83-9	Bromomethane	1	U
75-01-4	Vinyl chloride	1	U
75-00-3	Chloroethane	1	U
75-09-2	Methylene chloride	2	U
67-64-1	Acetone	5	U
75-15-0	Carbon disulfide	1	U
75-35-4	1,1-Dichloroethene	1	U
75-34-3	1,1-Dichloroethane	1	
156-59-2	cis-1,2-Dichloroethene	1	U
156-60-5	trans-1,2-Dichloroethene	1	U
67-66-3	Chloroform	1	U
107-06-2	1,2-Dichloroethane	1	U
78-93-3	2-Butanone	5	U
74-97-5	Bromochloromethane	1	U
71-55-6	1,1,1-Trichloroethane	1	U
56-23-5	Carbon tetrachloride	1	U
75-27-4	Bromodichloromethane	1	U
78-87-5	1,2-Dichloropropane	1	U
10061-01-5	cis-1,3-Dichloropropene	1	U
79-01-6	Trichloroethene	1	U
124-48-1	Dibromochloromethane	1	U
79-00-5	1,1,2-Trichloroethane	1	U
71-43-2	Benzene	1	U
10061-02-6	trans-1,3-Dichloropropene	1	U
75-25-2	Bromoform	1	U
108-10-1	4-Methyl-2-pentanone	5	U
591-78-6	2-Hexanone	5	U
127-18-4	Tetrachloroethene	1	U
79-34-5	1,1,2,2-Tetrachloroethane	1	U
106-93-4	1,2-Dibromoethane	1	U
108-88-3	Toluene	1	U
108-90-7	Chlorobenzene	1	U
100-41-4	Ethylbenzene	1	U
100-42-5	Styrene	1	U
1330-20-7	Xylenes (total)	1	U
541-73-1	1,3-Dichlorobenzene	1	U
106-46-7	1,4-Dichlorobenzene	1	U
95-50-1	1,2-Dichlorobenzene	1	U
96-12-8	1,2-Dibromo-3-chloropropane	1	U
120-82-1	1,2,4-Trichlorobenzene	1	U

1LCE

EPA SAMPLE NO.

LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EDPN5

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDCF6

Lab Sample ID: 6033.006 Date Received: 04/27/00

Lab File ID: G0899 Date Analyzed: 04/28/00

Purge Volume: 20 (mL) Dilution Factor: 1.0

GC Column: DB-624 ID: 0.53 (mm) Length: 60 (m)

Number TICs found: 0

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC. (ug/L)	Q
1.					
2.					
3.					
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1LCA

LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EDPN6

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDCF6

Lab Sample ID: 6033.007 Date Received: 04/27/00

Lab File ID: G0901 Date Analyzed: 04/28/00

Purge Volume: 20 (mL) Dilution Factor: 1.0

GC Column: DB-624 ID: 0.53 (mm) Length: 60 (m)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
74-87-3	Chloromethane	1	U
74-83-9	Bromomethane	1	U
75-01-4	Vinyl chloride	1	U
75-00-3	Chloroethane	1	U
75-09-2	Methylene chloride	2	U
67-64-1	Acetone	5	U
75-15-0	Carbon disulfide	1	U
75-35-4	1,1-Dichloroethene	1	U
75-34-3	1,1-Dichloroethane	4	
156-59-2	cis-1,2-Dichloroethene	1	
156-60-5	trans-1,2-Dichloroethene	1	U
67-66-3	Chloroform	1	U
107-06-2	1,2-Dichloroethane	1	U
78-93-3	2-Butanone	5	U
74-97-5	Bromochloromethane	1	U
71-55-6	1,1,1-Trichloroethane	1	U
56-23-5	Carbon tetrachloride	1	U
75-27-4	Bromodichloromethane	1	U
78-87-5	1,2-Dichloropropane	2	
10061-01-5	cis-1,3-Dichloropropene	1	U
79-01-6	Trichloroethene	1	U
124-48-1	Dibromochloromethane	1	U
79-00-5	1,1,2-Trichloroethane	1	U
71-43-2	Benzene	1	
10061-02-6	trans-1,3-Dichloropropene	1	U
75-25-2	Bromoform	1	U
108-10-1	4-Methyl-2-pentanone	5	U
591-78-6	2-Hexanone	5	U
127-18-4	Tetrachloroethene	1	U
79-34-5	1,1,2,2-Tetrachloroethane	1	U
106-93-4	1,2-Dibromoethane	1	U
108-88-3	Toluene	1	U
108-90-7	Chlorobenzene	1	U
100-41-4	Ethylbenzene	1	U
100-42-5	Styrene	1	U
1330-20-7	Xylenes (total)	1	U
541-73-1	1,3-Dichlorobenzene	1	U
106-46-7	1,4-Dichlorobenzene	1	U
95-50-1	1,2-Dichlorobenzene	1	U
96-12-8	1,2-Dibromo-3-chloropropane	1	U
120-82-1	1,2,4-Trichlorobenzene	1	U

1LCE

EPA SAMPLE NO.

LOW CONC: WATER VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EDPN6

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDCF6

Lab Sample ID: 6033.007 Date Received: 04/27/00

Lab File ID: G0901 Date Analyzed: 04/28/00

Purge Volume: 20 (mL) Dilution Factor: 1.0

GC Column: DB-624 ID: 0.53 (mm) Length: 60 (m)

Number TICs found: 2

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC. (ug/L)	Q
1.	000075-43-4	Methane, dichlorofluoro-	6.13	9	JN
2.	000060-29-7	Ethyl ether	6.92	5	JN
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1LCA

LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EDPN7

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDCF6

Lab Sample ID: 6033.008 Date Received: 04/27/00

Lab File ID: G0903 Date Analyzed: 04/28/00

Purge Volume: 20 (mL) Dilution Factor: 1.0

GC Column: DB-624 ID: 0.53 (mm) Length: 60 (m)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
74-87-3	Chloromethane	1	U
74-83-9	Bromomethane	1	U
75-01-4	Vinyl chloride	1	U
75-00-3	Chloroethane	1	U
75-09-2	Methylene chloride	2	U
67-64-1	Acetone	5	U
75-15-0	Carbon disulfide	0.5	J
75-35-4	1,1-Dichloroethene	1	U
75-34-3	1,1-Dichloroethane	1	
156-59-2	cis-1,2-Dichloroethene	0.7	J
156-60-5	trans-1,2-Dichloroethene	1	U
67-66-3	Chloroform	1	U
107-06-2	1,2-Dichloroethane	1	U
78-93-3	2-Butanone	5	U
74-97-5	Bromochloromethane	1	U
71-55-6	1,1,1-Trichloroethane	1	U
56-23-5	Carbon tetrachloride	1	U
75-27-4	Bromodichloromethane	1	U
78-87-5	1,2-Dichloropropane	1	U
10061-01-5	cis-1,3-Dichloropropene	1	U
79-01-6	Trichloroethene	1	U
124-48-1	Dibromochloromethane	1	U
79-00-5	1,1,2-Trichloroethane	1	U
71-43-2	Benzene	0.9	J
10061-02-6	trans-1,3-Dichloropropene	1	U
75-25-2	Bromoform	1	U
108-10-1	4-Methyl-2-pentanone	5	U
591-78-6	2-Hexanone	5	U
127-18-4	Tetrachloroethene	1	U
79-34-5	1,1,2,2-Tetrachloroethane	1	U
106-93-4	1,2-Dibromoethane	1	U
108-88-3	Toluene	1	U
108-90-7	Chlorobenzene	1	U
100-41-4	Ethylbenzene	1	U
100-42-5	Styrene	1	U
1330-20-7	Xylenes (total)	1	U
541-73-1	1,3-Dichlorobenzene	1	U
106-46-7	1,4-Dichlorobenzene	1	U
95-50-1	1,2-Dichlorobenzene	1	U
96-12-8	1,2-Dibromo-3-chloropropane	1	U
120-82-1	1,2,4-Trichlorobenzene	1	U

1LCE

EPA SAMPLE NO.

LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EDPN7

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDCF6

Lab Sample ID: 6033.008 Date Received: 04/27/00

Lab File ID: G0903 Date Analyzed: 04/28/00

Purge Volume: 20 (mL) Dilution Factor: 1.0

GC Column: DB-624 ID: 0.53 (mm) Length: 60 (m)

Number TICs found: 2

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC. (ug/L)	Q
1.	000075-43-4	Methane, dichlorofluoro-	6.13	4	JN
2.	000060-29-7	Ethyl ether	6.91	5	JN
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1LCA

LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VLCS94

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDCF6

Lab Sample ID: GVLCS058 Date Received: _____

Lab File ID: G0892 Date Analyzed: 04/27/00

Purge Volume: 20 (mL) Dilution Factor: 1.0

GC Column: DB-624 ID: 0.53 (mm) Length: 60 (m)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
74-87-3	Chloromethane	1	U
74-83-9	Bromomethane	1	U
75-01-4	Vinyl chloride	4	
75-00-3	Chloroethane	1	U
75-09-2	Methylene chloride	2	U
67-64-1	Acetone	5	U
75-15-0	Carbon disulfide	1	U
75-35-4	1,1-Dichloroethene	1	U
75-34-3	1,1-Dichloroethane	1	U
156-59-2	cis-1,2-Dichloroethene	1	U
156-60-5	trans-1,2-Dichloroethene	1	U
67-66-3	Chloroform	1	U
107-06-2	1,2-Dichloroethane	5	
78-93-3	2-Butanone	5	U
74-97-5	Bromochloromethane	1	U
71-55-6	1,1,1-Trichloroethane	1	U
56-23-5	Carbon tetrachloride	4	
75-27-4	Bromodichloromethane	1	U
78-87-5	1,2-Dichloropropane	5	
10061-01-5	cis-1,3-Dichloropropene	5	
79-01-6	Trichloroethene	4	
124-48-1	Dibromochloromethane	1	U
79-00-5	1,1,2-Trichloroethane	4	
71-43-2	Benzene	5	
10061-02-6	trans-1,3-Dichloropropene	1	U
75-25-2	Bromoform	4	
108-10-1	4-Methyl-2-pentanone	5	U
591-78-6	2-Hexanone	5	U
127-18-4	Tetrachloroethene	4	
79-34-5	1,1,2,2-Tetrachloroethane	1	U
106-93-4	1,2-Dibromoethane	4	
108-88-3	Toluene	1	U
108-90-7	Chlorobenzene	1	U
100-41-4	Ethylbenzene	1	U
100-42-5	Styrene	1	U
1330-20-7	Xylenes (total)	1	U
541-73-1	1,3-Dichlorobenzene	1	U
106-46-7	1,4-Dichlorobenzene	4	
95-50-1	1,2-Dichlorobenzene	1	U
96-12-8	1,2-Dibromo-3-chloropropane	1	U
120-82-1	1,2,4-Trichlorobenzene	1	U

1LCA

LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VLCS97

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDCF6

Lab Sample ID: GVLCS061 Date Received: _____

Lab File ID: G0942 Date Analyzed: 05/02/00

Purge Volume: 20 (mL) Dilution Factor: 1.0

GC Column: DB-624 ID: 0.53 (mm) Length: 60 (m)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
74-87-3	Chloromethane	1	U
74-83-9	Bromomethane	1	U
75-01-4	Vinyl chloride	4	
75-00-3	Chloroethane	1	U
75-09-2	Methylene chloride	2	U
67-64-1	Acetone	5	U
75-15-0	Carbon disulfide	1	U
75-35-4	1,1-Dichloroethene	1	U
75-34-3	1,1-Dichloroethane	1	U
156-59-2	cis-1,2-Dichloroethene	1	U
156-60-5	trans-1,2-Dichloroethene	1	U
67-66-3	Chloroform	1	U
107-06-2	1,2-Dichloroethane	5	
78-93-3	2-Butanone	5	U
74-97-5	Bromochloromethane	1	U
71-55-6	1,1,1-Trichloroethane	1	U
56-23-5	Carbon tetrachloride	4	
75-27-4	Bromodichloromethane	1	U
78-87-5	1,2-Dichloropropane	4	
10061-01-5	cis-1,3-Dichloropropene	4	
79-01-6	Trichloroethene	4	
124-48-1	Dibromochloromethane	1	U
79-00-5	1,1,2-Trichloroethane	4	
71-43-2	Benzene	5	
10061-02-6	trans-1,3-Dichloropropene	1	U
75-25-2	Bromoform	4	
108-10-1	4-Methyl-2-pentanone	5	U
591-78-6	2-Hexanone	5	U
127-18-4	Tetrachloroethene	4	
79-34-5	1,1,2,2-Tetrachloroethane	1	U
106-93-4	1,2-Dibromoethane	4	
108-88-3	Toluene	1	U
108-90-7	Chlorobenzene	1	U
100-41-4	Ethylbenzene	1	U
100-42-5	Styrene	1	U
1330-20-7	Xylenes (total)	1	U
541-73-1	1,3-Dichlorobenzene	1	U
106-46-7	1,4-Dichlorobenzene	3	
95-50-1	1,2-Dichlorobenzene	1	U
96-12-8	1,2-Dibromo-3-chloropropane	1	U
120-82-1	1,2,4-Trichlorobenzene	1	U

2LCB

LOW CONC. WATER SEMIVOLATILE SURROGATE RECOVERY

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDCF6

	EPA SAMPLE NO.	NBZ %REC	#	FBP %REC	#	TPH %REC	#	PHL %REC	#	2FP %REC	#	TBP %REC	#	OTHER	TOT OUT
01	SBLK37	69		67		86		64		67		74			0
02	SLCS69	79		82		95		75		83		83			0
03	EDPM3	53		51		42		53		53		62			0
04	EDPM6	73		70		55		74		69		83			0
05	EDPM7	52		51		45		49		48		61			0
06	EDPN5	33		30		49		31		30		45			0
07	EDPN6	56		51		59		54		54		62			0
08	EDPN7	75		74		58		73		72		86			0
09	EDCF6	77		75		79		74		76		86			0
10	EDCF7	74		71		70		66		67		75			0
11	EDCF8	75		70		53		72		74		78			0
12	EDCF9	66		62		59		63		65		73			0
13	EDPN1	75		76		94		74		78		85			0
14	EDPN2	88		86		92		83		92		92			0
15	EDPN4	66		65		73		62		63		70			0
16	EDPN0	75		76		103		36		76		91			0
17	EDCG3	80		82		94		72		83		95			0
18															
19															
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24															
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26															
27															
28															
29															
30															

	QC LIMITS %REC
NBZ = Nitrobenzene-d5	(23-120)
FBP = 2-Fluorobiphenyl	(30-115)
TPH = Terphenyl-d14	(18-140)
PHL = Phenol-d5	(15-115)
2FP = 2-Fluorophenol	(15-121)
TBP = 2,4,6-Tribromophenol	(15-130)

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

3LCB

LOW CONC. WATER SEMIVOLATILE LAB CONTROL SAMPLE RECOVERY

EPA SAMPLE NO.

SLCS69

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDCF6

Lab Sample ID: SVOL601 LCS Lot No.:

Lab File ID: H0992 Date Extracted: 05/01/00

LCS Aliquot: 1000 (uL) Date Analyzed: 05/11/00

Concentrated Extract Volume: 1000 (uL) Dilution Factor: 1.0

Injection Volume: 1.0 (uL)

COMPOUND	AMOUNT ADDED (ng)	AMOUNT RECOVERED (ng)	%REC #	QC LIMITS
Phenol	40000	34000	85	40-120
bis(2-Chloroethyl)ether	20000	17000	85	50-110
2-Chlorophenol	40000	36000	90	50-110
N-Nitroso-di-n-propylamine	20000	18000	90	30-110
Hexachloroethane	20000	10000	50	20-110
Isophorone	20000	13000	65	50-110
Naphthalene	20000	17000	85	30-110
4-Chloroaniline	40000	30000	75	10-120
2,4,6-Trichlorophenol	40000	38000	95	40-120
2,4-Dinitrotoluene	20000	13000	65	30-120
Diethylphthalate	20000	14000	70	50-120
N-Nitrosodiphenylamine	20000	12000	60	30-110
Hexachlorobenzene	20000	15000	75	40-120
Benzo(a)pyrene	20000	17000	85	50-120

Column to be used to flag LCS recovery with an asterisk.

* Values outside of QC limits.

LCS Recovery: 0 outside limits out of 14 total.

COMMENTS: _____

4LCB

LOW CONC. WATER SEMIVOLATILE METHOD BLANK SUMMARY

EPA SAMPLE NO.

SBLK37

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDCF6

Lab Sample ID: SVOB710 Date Extracted: 05/01/00

Lab File ID: H0991 Date Analyzed: 05/11/00

Instrument ID: H-HP5973 Time Analyzed: 1214

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES AND LCS:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
01	SLCS69	SVOL601	H0992	05/11/00
02	EDPM3	6033.002	H0993	05/11/00
03	EDPM6	6033.003	H0994	05/11/00
04	EDPM7	6033.004	H0995	05/11/00
05	EDPN5	6033.006	H0996	05/11/00
06	EDPN6	6033.007	H0997	05/11/00
07	EDPN7	6033.008	H0998	05/11/00
08	EDCF6	6033.009	H0999	05/11/00
09	EDCF7	6033.010	H1000	05/11/00
10	EDCF8	6033.011	H1001	05/11/00
11	EDCF9	6033.013	H1002	05/11/00
12	EDPN1	6033.014	H1003	05/11/00
13	EDPN2	6033.015	H1004	05/11/00
14	EDPN4	6033.017	H1005	05/11/00
15	EDPN0	6033.018	H1008	05/12/00
16	EDCG3	6033.019	H1009	05/12/00
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COMMENTS: _____

1LCB

LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SBLK37

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDCF6

Lab Sample ID: SVOB710 Date Received: _____

Lab File ID: H0991 Date Extracted: 05/01/00

Sample Volume: 1000 (mL) Date Analyzed: 05/11/00

Concentrated Extract Volume: 1000 (uL) Dilution Factor: 1.0

Injection Volume: 1.0 (uL)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
108-95-2	Phenol	5	U
111-44-4	bis(2-Chloroethyl)ether	5	U
95-57-8	2-Chlorophenol	5	U
95-48-7	2-Methylphenol	5	U
108-60-1	2,2'-oxybis(1-Chloropropane)	5	U
106-44-5	4-Methylphenol	5	U
621-64-7	N-Nitroso-di-n-propylamine	5	U
67-72-1	Hexachloroethane	5	U
98-95-3	Nitrobenzene	5	U
78-59-1	Isophorone	5	U
88-75-5	2-Nitrophenol	5	U
105-67-9	2,4-Dimethylphenol	5	U
111-91-1	bis(2-Chloroethoxy)methane	5	U
120-83-2	2,4-Dichlorophenol	5	U
91-20-3	Naphthalene	5	U
106-47-8	4-Chloroaniline	5	U
87-68-3	Hexachlorobutadiene	5	U
59-50-7	4-Chloro-3-methylphenol	5	U
91-57-6	2-Methylnaphthalene	5	U
77-47-4	Hexachlorocyclopentadiene	5	U
88-06-2	2,4,6-Trichlorophenol	5	U
95-95-4	2,4,5-Trichlorophenol	20	U
91-58-7	2-Chloronaphthalane	5	U
88-74-4	2-Nitroaniline	20	U
131-11-3	Dimethylphthalate	5	U
208-96-8	Acenaphthylene	5	U
606-20-2	2,6-Dintrotoluene	5	U
99-09-2	3-Nitroaniline	20	U
83-32-9	Acenaphthene	5	U

1LCC

LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SBLK37

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDCF6

Lab Sample ID: SVOB710 Date Received: _____

Lab File ID: H0991 Date Extracted: 05/01/00

Sample Volume: 1000 (mL) Date Analyzed: 05/11/00

Concentrated Extract Volume: 1000 (uL) Dilution Factor: 1.0

Injection Volume: 1 (uL)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
51-28-5	2,4-Dinitrophenol	20	U
100-02-7	4-Nitrophenol	20	U
132-64-9	Dibenzofuran	5	U
121-14-2	2,4-Dinitrotoluene	5	U
84-66-2	Diethylphthalate	5	U
7005-72-3	4-Chlorophenyl-phenylether	5	U
86-73-7	Fluorene	5	U
100-01-6	4-Nitroaniline	20	U
534-52-1	4,6-Dinitro-2-methylphenol	20	U
86-30-6	N-Nitrosodiphenylamine (1)	5	U
101-55-3	4-Bromophenyl-phenylether	5	U
118-74-1	Hexachlorobenzene	5	U
87-86-5	Pentachlorophenol	20	U
85-01-8	Phenanthrene	5	U
120-12-7	Anthracene	5	U
84-74-2	Di-n-butylphthalate	5	U
206-44-0	Fluoranthene	5	U
129-00-0	Pyrene	5	U
85-68-7	Butylbenzylphthalate	5	U
91-94-1	3,3'-Dichlorobenzidine	5	U
56-55-3	Benzo(a)anthracene	5	U
218-01-9	Chrysene	5	U
117-81-7	bis(2-Ethylhexyl)phthalate	5	U
117-84-0	Di-n-octylphthalate	5	U
205-99-2	Benzo(b)fluoranthene	5	U
207-08-9	Benzo(k)fluoranthene	5	U
50-32-8	Benzo(a)pyrene	5	U
193-39-5	Indeno(1,2,3-cd)Pyrene	5	U
53-70-3	Dibenz(a,h)anthracene	5	U
191-24-2	Benzo(g,h,i)perylene	5	U

(1) - Cannot be separated from Diphenylamine

1LCF

EPA SAMPLE NO.

LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

SBLK37

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDCF6

Lab Sample ID: SVOB710 Date Received: _____

Lab File ID: H0991 Date Extracted: 05/01/00

Sample Volume: 1000 (mL) Date Analyzed: 05/11/00

Concentrated Extract Volume: 1000 (uL) Dilution Factor: 1.0

Injection Volume: 1.0 (uL)

Number TICs found: 0

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC. (ug/L)	Q
1.					
2.					
3.					
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1LCB

LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EDCF6

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDCF6

Lab Sample ID: 6033.009 Date Received: 04/27/00

Lab File ID: H0999 Date Extracted: 05/01/00

Sample Volume: 1000 (mL) Date Analyzed: 05/11/00

Concentrated Extract Volume: 1000 (uL) Dilution Factor: 1.0

Injection Volume: 1.0 (uL)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
108-95-2	Phenol	5	U
111-44-4	bis(2-Chloroethyl)ether	5	U
95-57-8	2-Chlorophenol	5	U
95-48-7	2-Methylphenol	5	U
108-60-1	2,2'-oxybis(1-Chloropropane)	5	U
106-44-5	4-Methylphenol	5	U
621-64-7	N-Nitroso-di-n-propylamine	5	U
67-72-1	Hexachloroethane	5	U
98-95-3	Nitrobenzene	5	U
78-59-1	Isophorone	5	U
88-75-5	2-Nitrophenol	5	U
105-67-9	2,4-Dimethylphenol	5	U
111-91-1	bis(2-Chloroethoxy)methane	5	U
120-83-2	2,4-Dichlorophenol	5	U
91-20-3	Naphthalene	5	U
106-47-8	4-Chloroaniline	5	U
87-68-3	Hexachlorobutadiene	5	U
59-50-7	4-Chloro-3-methylphenol	5	U
91-57-6	2-Methylnaphthalene	5	U
77-47-4	Hexachlorocyclopentadiene	5	U
88-06-2	2,4,6-Trichlorophenol	5	U
95-95-4	2,4,5-Trichlorophenol	20	U
91-58-7	2-Chloronaphthalane	5	U
88-74-4	2-Nitroaniline	20	U
131-11-3	Dimethylphthalate	5	U
208-96-8	Acenaphthylene	5	U
606-20-2	2,6-Dintrotoluene	5	U
99-09-2	3-Nitroaniline	20	U
83-32-9	Acenaphthene	5	U

1LCC

LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EDCF6

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDCF6

Lab Sample ID: 6033.009 Date Received: 04/27/00

Lab File ID: H0999 Date Extracted: 05/01/00

Sample Volume: 1000 (mL) Date Analyzed: 05/11/00

Concentrated Extract Volume: 1000 (uL) Dilution Factor: 1.0

Injection Volume: 1 (uL)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
51-28-5	2,4-Dinitrophenol	20	U
100-02-7	4-Nitrophenol	20	U
132-64-9	Dibenzofuran	5	U
121-14-2	2,4-Dinitrotoluene	5	U
84-66-2	Diethylphthalate	5	U
7005-72-3	4-Chlorophenyl-phenylether	5	U
86-73-7	Fluorene	5	U
100-01-6	4-Nitroaniline	20	U
534-52-1	4,6-Dinitro-2-methylphenol	20	U
86-30-6	N-Nitrosodiphenylamine (1)	5	U
101-55-3	4-Bromophenyl-phenylether	5	U
118-74-1	Hexachlorobenzene	5	U
87-86-5	Pentachlorophenol	20	U
85-01-8	Phenanthrene	5	U
120-12-7	Anthracene	5	U
84-74-2	Di-n-butylphthalate	5	U
206-44-0	Fluoranthene	5	U
129-00-0	Pyrene	5	U
85-68-7	Butylbenzylphthalate	5	U
91-94-1	3,3'-Dichlorobenzidine	5	U
56-55-3	Benzo(a)anthracene	5	U
218-01-9	Chrysene	5	U
117-81-7	bis(2-Ethylhexyl)phthalate	5	U
117-84-0	Di-n-octylphthalate	5	U
205-99-2	Benzo(b)fluoranthene	5	U
207-08-9	Benzo(k)fluoranthene	5	U
50-32-8	Benzo(a)pyrene	5	U
193-39-5	Indeno(1,2,3-cd)Pyrene	5	U
53-70-3	Dibenz(a,h)anthracene	5	U
191-24-2	Benzo(g,h,i)perylene	5	U

(1) - Cannot be separated from Diphenylamine

1LCF

EPA SAMPLE NO.

LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

EDCF6

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDCF6

Lab Sample ID: 6033.009 Date Received: 04/27/00

Lab File ID: H0999 Date Extracted: 05/01/00

Sample Volume: 1000 (mL) Date Analyzed: 05/11/00

Concentrated Extract Volume: 1000 (uL) Dilution Factor: 1.0

Injection Volume: 1.0 (uL)

Number TICs found: 0

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC. (ug/L)	Q
1.					
2.					
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1LCB

LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EDCF7

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDCF6

Lab Sample ID: 6033.010 Date Received: 04/27/00

Lab File ID: H1000 Date Extracted: 05/01/00

Sample Volume: 1000 (mL) Date Analyzed: 05/11/00

Concentrated Extract Volume: 1000 (uL) Dilution Factor: 1.0

Injection Volume: 1.0 (uL)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
108-95-2	Phenol	5	U
111-44-4	bis(2-Chloroethyl)ether	5	U
95-57-8	2-Chlorophenol	5	U
95-48-7	2-Methylphenol	5	U
108-60-1	2,2'-oxybis(1-Chloropropane)	5	U
106-44-5	4-Methylphenol	5	U
621-64-7	N-Nitroso-di-n-propylamine	5	U
67-72-1	Hexachloroethane	5	U
98-95-3	Nitrobenzene	5	U
78-59-1	Isophorone	5	U
88-75-5	2-Nitrophenol	5	U
105-67-9	2,4-Dimethylphenol	5	U
111-91-1	bis(2-Chloroethoxy)methane	5	U
120-83-2	2,4-Dichlorophenol	5	U
91-20-3	Naphthalene	5	U
106-47-8	4-Chloroaniline	5	U
87-68-3	Hexachlorobutadiene	5	U
59-50-7	4-Chloro-3-methylphenol	5	U
91-57-6	2-Methylnaphthalene	5	U
77-47-4	Hexachlorocyclopentadiene	5	U
88-06-2	2,4,6-Trichlorophenol	5	U
95-95-4	2,4,5-Trichlorophenol	20	U
91-58-7	2-Chloronaphthalane	5	U
88-74-4	2-Nitroaniline	20	U
131-11-3	Dimethylphthalate	5	U
208-96-8	Acenaphthylene	5	U
606-20-2	2,6-Dintrotoluene	5	U
99-09-2	3-Nitroaniline	20	U
83-32-9	Acenaphthene	5	U

1LCC

LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EDCF7

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDCF6

Lab Sample ID: 6033.010 Date Received: 04/27/00

Lab File ID: H1000 Date Extracted: 05/01/00

Sample Volume: 1000 (mL) Date Analyzed: 05/11/00

Concentrated Extract Volume: 1000 (uL) Dilution Factor: 1.0

Injection Volume: 1 (uL)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
51-28-5	2,4-Dinitrophenol	20	U
100-02-7	4-Nitrophenol	20	U
132-64-9	Dibenzofuran	5	U
121-14-2	2,4-Dinitrotoluene	5	U
84-66-2	Diethylphthalate	5	U
7005-72-3	4-Chlorophenyl-phenylether	5	U
86-73-7	Fluorene	5	U
100-01-6	4-Nitroaniline	20	U
534-52-1	4,6-Dinitro-2-methylphenol	20	U
86-30-6	N-Nitrosodiphenylamine (1)	5	U
101-55-3	4-Bromophenyl-phenylether	5	U
118-74-1	Hexachlorobenzene	5	U
87-86-5	Pentachlorophenol	20	U
85-01-8	Phenanthrene	5	U
120-12-7	Anthracene	5	U
84-74-2	Di-n-butylphthalate	5	U
206-44-0	Fluoranthene	5	U
129-00-0	Pyrene	5	U
85-68-7	Butylbenzylphthalate	5	U
91-94-1	3,3'-Dichlorobenzidine	5	U
56-55-3	Benzo(a)anthracene	5	U
218-01-9	Chrysene	5	U
117-81-7	bis(2-Ethylhexyl)phthalate	5	U
117-84-0	Di-n-octylphthalate	5	U
205-99-2	Benzo(b)fluoranthene	5	U
207-08-9	Benzo(k)fluoranthene	5	U
50-32-8	Benzo(a)pyrene	5	U
193-39-5	Indeno(1,2,3-cd)Pyrene	5	U
53-70-3	Dibenz(a,h)anthracene	5	U
191-24-2	Benzo(g,h,i)perylene	5	U

(1) - Cannot be separated from Diphenylamine

1LCC

LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EDCF8

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDCF6

Lab Sample ID: 6033.011 Date Received: 04/27/00

Lab File ID: H1001 Date Extracted: 05/01/00

Sample Volume: 1000 (mL) Date Analyzed: 05/11/00

Concentrated Extract Volume: 1000 (uL) Dilution Factor: 1.0

Injection Volume: 1 (uL)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
51-28-5	2,4-Dinitrophenol	20	U
100-02-7	4-Nitrophenol	20	U
132-64-9	Dibenzofuran	5	U
121-14-2	2,4-Dinitrotoluene	5	U
84-66-2	Diethylphthalate	5	U
7005-72-3	4-Chlorophenyl-phenylether	5	U
86-73-7	Fluorene	5	U
100-01-6	4-Nitroaniline	20	U
534-52-1	4,6-Dinitro-2-methylphenol	20	U
86-30-6	N-Nitrosodiphenylamine (1)	5	U
101-55-3	4-Bromophenyl-phenylether	5	U
118-74-1	Hexachlorobenzene	5	U
87-86-5	Pentachlorophenol	20	U
85-01-8	Phenanthrene	5	U
120-12-7	Anthracene	5	U
84-74-2	Di-n-butylphthalate	5	U
206-44-0	Fluoranthene	5	U
129-00-0	Pyrene	5	U
85-68-7	Butylbenzylphthalate	5	U
91-94-1	3,3'-Dichlorobenzidine	5	U
56-55-3	Benzo(a)anthracene	5	U
218-01-9	Chrysene	5	U
117-81-7	bis(2-Ethylhexyl)phthalate	5	U
117-84-0	Di-n-octylphthalate	5	U
205-99-2	Benzo(b)fluoranthene	5	U
207-08-9	Benzo(k)fluoranthene	5	U
50-32-8	Benzo(a)pyrene	5	U
193-39-5	Indeno(1,2,3-cd)Pyrene	5	U
53-70-3	Dibenz(a,h)anthracene	5	U
191-24-2	Benzo(g,h,i)perylene	5	U

(1) - Cannot be separated from Diphenylamine

1LCF

EPA SAMPLE NO.

LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

EDCF8

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDCF6

Lab Sample ID: 6033.011 Date Received: 04/27/00

Lab File ID: H1001 Date Extracted: 05/01/00

Sample Volume: 1000 (mL) Date Analyzed: 05/11/00

Concentrated Extract Volume: 1000 (uL) Dilution Factor: 1.0

Injection Volume: 1.0 (uL)

Number TICs found: 0

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC. (ug/L)	Q
1.					
2.					
3.					
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1LCB

LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EDCF9

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS NO.: _____ SDG No.: EDCF6

Lab Sample ID: 6033.013 Date Received: 04/27/00

Lab File ID: H1002 Date Extracted: 05/01/00

Sample Volume: 1000 (mL) Date Analyzed: 05/11/00

Concentrated Extract Volume: 1000 (uL) Dilution Factor: 1.0

Injection Volume: 1.0 (uL)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
108-95-2	Phenol	5	U
111-44-4	bis(2-Chloroethyl)ether	5	U
95-57-8	2-Chlorophenol	5	U
95-48-7	2-Methylphenol	5	U
108-60-1	2,2'-oxybis(1-Chloropropane)	5	U
106-44-5	4-Methylphenol	5	U
621-64-7	N-Nitroso-di-n-propylamine	5	U
67-72-1	Hexachloroethane	5	U
98-95-3	Nitrobenzene	5	U
78-59-1	Isophorone	5	U
88-75-5	2-Nitrophenol	5	U
105-67-9	2,4-Dimethylphenol	5	U
111-91-1	bis(2-Chloroethoxy)methane	5	U
120-83-2	2,4-Dichlorophenol	5	U
91-20-3	Naphthalene	5	U
106-47-8	4-Chloroaniline	5	U
87-68-3	Hexachlorobutadiene	5	U
59-50-7	4-Chloro-3-methylphenol	5	U
91-57-6	2-Methylnaphthalene	5	U
77-47-4	Hexachlorocyclopentadiene	5	U
88-06-2	2,4,6-Trichlorophenol	5	U
95-95-4	2,4,5-Trichlorophenol	20	U
91-58-7	2-Chloronaphthalane	5	U
88-74-4	2-Nitroaniline	20	U
131-11-3	Dimethylphthalate	5	U
208-96-8	Acenaphthylene	5	U
606-20-2	2,6-Dintrotoluene	5	U
99-09-2	3-Nitroaniline	20	U
83-32-9	Acenaphthene	5	U

1LCC

LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EDCF9

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDCF6

Lab Sample ID: 6033.013 Date Received: 04/27/00

Lab File ID: H1002 Date Extracted: 05/01/00

Sample Volume: 1000 (mL) Date Analyzed: 05/11/00

Concentrated Extract Volume: 1000 (uL) Dilution Factor: 1.0

Injection Volume: 1 (uL)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
51-28-5	2,4-Dinitrophenol	20	U
100-02-7	4-Nitrophenol	20	U
132-64-9	Dibenzofuran	5	U
121-14-2	2,4-Dinitrotoluene	5	U
84-66-2	Diethylphthalate	5	U
7005-72-3	4-Chlorophenyl-phenylether	5	U
86-73-7	Fluorene	5	U
100-01-6	4-Nitroaniline	20	U
534-52-1	4,6-Dinitro-2-methylphenol	20	U
86-30-6	N-Nitrosodiphenylamine (1)	5	U
101-55-3	4-Bromophenyl-phenylether	5	U
118-74-1	Hexachlorobenzene	5	U
87-86-5	Pentachlorophenol	20	U
85-01-8	Phenanthrene	5	U
120-12-7	Anthracene	5	U
84-74-2	Di-n-butylphthalate	5	U
206-44-0	Fluoranthene	5	U
129-00-0	Pyrene	5	U
85-68-7	Butylbenzylphthalate	5	U
91-94-1	3,3'-Dichlorobenzidine	5	U
56-55-3	Benzo(a)anthracene	5	U
218-01-9	Chrysene	5	U
117-81-7	bis(2-Ethylhexyl)phthalate	4	J
117-84-0	Di-n-octylphthalate	5	U
205-99-2	Benzo(b)fluoranthene	5	U
207-08-9	Benzo(k)fluoranthene	5	U
50-32-8	Benzo(a)pyrene	5	U
193-39-5	Indeno(1,2,3-cd)Pyrene	5	U
53-70-3	Dibenz(a,h)anthracene	5	U
191-24-2	Benzo(g,h,i)perylene	5	U

(1) - Cannot be separated from Diphenylamine

1LCF

EPA SAMPLE NO.

LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

EDCF9

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDCF6

Lab Sample ID: 6033.013 Date Received: 04/27/00

Lab File ID: H1002 Date Extracted: 05/01/00

Sample Volume: 1000 (mL) Date Analyzed: 05/11/00

Concentrated Extract Volume: 1000 (uL) Dilution Factor: 1.0

Injection Volume: 1.0 (uL)

Number TICs found: 0

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC. (ug/L)	Q
1.					
2.					
3.					
4.					
5.					
6.					
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1LCC

LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EDCG3

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDCF6

Lab Sample ID: 6033.019 Date Received: 04/27/00

Lab File ID: H1009 Date Extracted: 05/01/00

Sample Volume: 1000 (mL) Date Analyzed: 05/12/00

Concentrated Extract Volume: 1000 (uL) Dilution Factor: 1.0

Injection Volume: 1 (uL)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
51-28-5	2,4-Dinitrophenol	20	U
100-02-7	4-Nitrophenol	20	U
132-64-9	Dibenzofuran	5	U
121-14-2	2,4-Dinitrotoluene	5	U
84-66-2	Diethylphthalate	5	U
7005-72-3	4-Chlorophenyl-phenylether	5	U
86-73-7	Fluorene	5	U
100-01-6	4-Nitroaniline	20	U
534-52-1	4,6-Dinitro-2-methylphenol	20	U
86-30-6	N-Nitrosodiphenylamine (1)	5	U
101-55-3	4-Bromophenyl-phenylether	5	U
118-74-1	Hexachlorobenzene	5	U
87-86-5	Pentachlorophenol	20	U
85-01-8	Phenanthrene	5	U
120-12-7	Anthracene	5	U
84-74-2	Di-n-butylphthalate	5	U
206-44-0	Fluoranthene	5	U
129-00-0	Pyrene	5	U
85-68-7	Butylbenzylphthalate	5	U
91-94-1	3,3'-Dichlorobenzidine	5	U
56-55-3	Benzo(a)anthracene	5	U
218-01-9	Chrysene	5	U
117-81-7	bis(2-Ethylhexyl)phthalate	5	U
117-84-0	Di-n-octylphthalate	5	U
205-99-2	Benzo(b)fluoranthene	5	U
207-08-9	Benzo(k)fluoranthene	5	U
50-32-8	Benzo(a)pyrene	5	U
193-39-5	Indeno(1,2,3-cd)Pyrene	5	U
53-70-3	Dibenz(a,h)anthracene	5	U
191-24-2	Benzo(g,h,i)perylene	5	U

(1) - Cannot be separated from Diphenylamine

1LCF

EPA SAMPLE NO.

LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

EDCG3

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDCF6

Lab Sample ID: 6033.019 Date Received: 04/27/00

Lab File ID: H1009 Date Extracted: 05/01/00

Sample Volume: 1000 (mL) Date Analyzed: 05/12/00

Concentrated Extract Volume: 1000 (uL) Dilution Factor: 1.0

Injection Volume: 1.0 (uL)

Number TICs found: 0

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC. (ug/L)	Q
1.					
2.					
3.					
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1LCB

LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EDPM3

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDCF6

Lab Sample ID: 6033.002 Date Received: 04/27/00

Lab File ID: H0993 Date Extracted: 05/01/00

Sample Volume: 1000 (mL) Date Analyzed: 05/11/00

Concentrated Extract Volume: 1000 (uL) Dilution Factor: 1.0

Injection Volume: 1.0 (uL)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
108-95-2	Phenol	5	U
111-44-4	bis(2-Chloroethyl)ether	5	U
95-57-8	2-Chlorophenol	5	U
95-48-7	2-Methylphenol	5	U
108-60-1	2,2'-oxybis(1-Chloropropane)	5	U
106-44-5	4-Methylphenol	5	U
621-64-7	N-Nitroso-di-n-propylamine	5	U
67-72-1	Hexachloroethane	5	U
98-95-3	Nitrobenzene	5	U
78-59-1	Isophorone	5	U
88-75-5	2-Nitrophenol	5	U
105-67-9	2,4-Dimethylphenol	5	U
111-91-1	bis(2-Chloroethoxy)methane	5	U
120-83-2	2,4-Dichlorophenol	5	U
91-20-3	Naphthalene	5	U
106-47-8	4-Chloroaniline	5	U
87-68-3	Hexachlorobutadiene	5	U
59-50-7	4-Chloro-3-methylphenol	5	U
91-57-6	2-Methylnaphthalene	5	U
77-47-4	Hexachlorocyclopentadiene	5	U
88-06-2	2,4,6-Trichlorophenol	5	U
95-95-4	2,4,5-Trichlorophenol	20	U
91-58-7	2-Chloronaphthalane	5	U
88-74-4	2-Nitroaniline	20	U
131-11-3	Dimethylphthalate	5	U
208-96-8	Acenaphthylene	5	U
606-20-2	2,6-Dintrotoluene	5	U
99-09-2	3-Nitroaniline	20	U
83-32-9	Acenaphthene	5	U

1LCC

LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EDPM3

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDCF6

Lab Sample ID: 6033.002 Date Received: 04/27/00

Lab File ID: H0993 Date Extracted: 05/01/00

Sample Volume: 1000 (mL) Date Analyzed: 05/11/00

Concentrated Extract Volume: 1000 (uL) Dilution Factor: 1.0

Injection Volume: 1 (uL)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
51-28-5	2,4 Dinitrophenol	20	U
100-02-7	4-Nitrophenol	20	U
132-64-9	Dibenzofuran	5	U
121-14-2	2,4-Dinitrotoluene	5	U
84-66-2	Diethylphthalate	5	U
7005-72-3	4-Chlorophenyl-phenylether	5	U
86-73-7	Fluorene	5	U
100-01-6	4-Nitroaniline	20	U
534-52-1	4,6-Dinitro-2-methylphenol	20	U
86-30-6	N-Nitrosodiphenylamine (1)	5	U
101-55-3	4-Bromophenyl-phenylether	5	U
118-74-1	Hexachlorobenzene	5	U
87-86-5	Pentachlorophenol	20	U
85-01-8	Phenanthrene	5	U
120-12-7	Anthracene	5	U
84-74-2	Di-n-butylphthalate	5	U
206-44-0	Fluoranthene	5	U
129-00-0	Pyrene	5	U
85-68-7	Butylbenzylphthalate	5	U
91-94-1	3,3'-Dichlorobenzidine	5	U
56-55-3	Benzo(a)anthracene	5	U
218-01-9	Chrysene	5	U
117-81-7	bis(2-Ethylhexyl)phthalate	5	
117-84-0	Di-n-octylphthalate	5	U
205-99-2	Benzo(b)fluoranthene	5	U
207-08-9	Benzo(k)fluoranthene	5	U
50-32-8	Benzo(a)pyrene	5	U
193-39-5	Indeno(1,2,3-cd)Pyrene	5	U
53-70-3	Dibenz(a,h)anthracene	5	U
191-24-2	Benzo(g,h,i)perylene	5	U

(1) - Cannot be separated from Diphenylamine

1LCF

EPA SAMPLE NO.

LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

EDPM3

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDCF6

Lab Sample ID: 6033.002 Date Received: 04/27/00

Lab File ID: H0993 Date Extracted: 05/01/00

Sample Volume: 1000 (mL) Date Analyzed: 05/11/00

Concentrated Extract Volume: 1000 (uL) Dilution Factor: 1.0

Injection Volume: 1.0 (uL)

Number TICs found: 0

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC. (ug/L)	Q
1.					
2.					
3.					
4.					
5.					
6.					
7.					
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1LCB

LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EDPM6

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDCF6

Lab Sample ID: 6033.003 Date Received: 04/27/00

Lab File ID: H0994 Date Extracted: 05/01/00

Sample Volume: 1000 (mL) Date Analyzed: 05/11/00

Concentrated Extract Volume: 1000 (uL) Dilution Factor: 1.0

Injection Volume: 1.0 (uL)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
108-95-2	Phenol	5	U
111-44-4	bis(2-Chloroethyl)ether	5	U
95-57-8	2-Chlorophenol	5	U
95-48-7	2-Methylphenol	5	U
108-60-1	2,2'-oxybis(1-Chloropropane)	5	U
106-44-5	4-Methylphenol	5	U
621-64-7	N-Nitroso-di-n-propylamine	5	U
67-72-1	Hexachloroethane	5	U
98-95-3	Nitrobenzene	5	U
78-59-1	Isophorone	5	U
88-75-5	2-Nitrophenol	5	U
105-67-9	2,4-Dimethylphenol	5	U
111-91-1	bis(2-Chloroethoxy)methane	5	U
120-83-2	2,4-Dichlorophenol	5	U
91-20-3	Naphthalene	5	U
106-47-8	4-Chloroaniline	5	U
87-68-3	Hexachlorobutadiene	5	U
59-50-7	4-Chloro-3-methylphenol	5	U
91-57-6	2-Methylnaphthalene	5	U
77-47-4	Hexachlorocyclopentadiene	5	U
88-06-2	2,4,6-Trichlorophenol	5	U
95-95-4	2,4,5-Trichlorophenol	20	U
91-58-7	2-Chloronaphthalane	5	U
88-74-4	2-Nitroaniline	20	U
131-11-3	Dimethylphthalate	5	U
208-96-8	Acenaphthylene	5	U
606-20-2	2,6-Dintrotoluene	5	U
99-09-2	3-Nitroaniline	20	U
83-32-9	Acenaphthene	5	U

1LCF

EPA SAMPLE NO.

LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

EDPM6

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDCF6

Lab Sample ID: 6033.003 Date Received: 04/27/00

Lab File ID: H0994 Date Extracted: 05/01/00

Sample Volume: 1000 (mL) Date Analyzed: 05/11/00

Concentrated Extract Volume: 1000 (uL) Dilution Factor: 1.0

Injection Volume: 1.0 (uL)

Number TICs found: 1

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC. (ug/L)	Q
1.	000050-06-	Phenobarbital	23.12	19	[illegible]
2.					
3.					
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1LCB

LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EDPM7

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDCF6

Lab Sample ID: 6033.004 Date Received: 04/27/00

Lab File ID: H0995 Date Extracted: 05/01/00

Sample Volume: 1000 (mL) Date Analyzed: 05/11/00

Concentrated Extract Volume: 1000 (uL) Dilution Factor: 1.0

Injection Volume: 1.0 (uL)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
108-95-2	Phenol	5	
111-44-4	bis(2-Chloroethyl)ether	5	U
95-57-8	2-Chlorophenol	5	U
95-48-7	2-Methylphenol	5	U
108-60-1	2,2'-oxybis(1-Chloropropane)	5	U
106-44-5	4-Methylphenol	5	U
621-64-7	N-Nitroso-di-n-propylamine	5	U
67-72-1	Hexachloroethane	5	U
98-95-3	Nitrobenzene	5	U
78-59-1	Isophorone	5	U
88-75-5	2-Nitrophenol	5	U
105-67-9	2,4-Dimethylphenol	5	U
111-91-1	bis(2-Chloroethoxy)methane	5	U
120-83-2	2,4-Dichlorophenol	5	U
91-20-3	Naphthalene	5	U
106-47-8	4-Chloroaniline	5	U
87-68-3	Hexachlorobutadiene	5	U
59-50-7	4-Chloro-3-methylphenol	5	U
91-57-6	2-Methylnaphthalene	5	U
77-47-4	Hexachlorocyclopentadiene	5	U
88-06-2	2,4,6-Trichlorophenol	5	U
95-95-4	2,4,5-Trichlorophenol	20	U
91-58-7	2-Chloronaphthalane	5	U
88-74-4	2-Nitroaniline	20	U
131-11-3	Dimethylphthalate	5	U
208-96-8	Acenaphthylene	5	U
606-20-2	2,6-Dintrotoluene	5	U
99-09-2	3-Nitroaniline	20	U
83-32-9	Acenaphthene	5	U

1LCC

LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EDPM7

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDCF6

Lab Sample ID: 6033.004 Date Received: 04/27/00

Lab File ID: H0995 Date Extracted: 05/01/00

Sample Volume: 1000 (mL) Date Analyzed: 05/11/00

Concentrated Extract Volume: 1000 (uL) Dilution Factor: 1.0

Injection Volume: 1 (uL)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
51-28-5	2,4-Dinitrophenol	20	U
100-02-7	4-Nitrophenol	20	U
132-64-9	Dibenzofuran	5	U
121-14-2	2,4-Dinitrotoluene	5	U
84-66-2	Diethylphthalate	5	U
7005-72-3	4-Chlorophenyl-phenylether	5	U
86-73-7	Fluorene	5	U
100-01-6	4-Nitroaniline	20	U
534-52-1	4,6-Dinitro-2-methylphenol	20	U
86-30-6	N-Nitrosodiphenylamine (1)	5	U
101-55-3	4-Bromophenyl-phenylether	5	U
118-74-1	Hexachlorobenzene	5	U
87-86-5	Pentachlorophenol	20	U
85-01-8	Phenanthrene	5	U
120-12-7	Anthracene	5	U
84-74-2	Di-n-butylphthalate	5	U
206-44-0	Fluoranthene	5	U
129-00-0	Pyrene	5	U
85-68-7	Butylbenzylphthalate	5	U
91-94-1	3,3'-Dichlorobenzidine	5	U
56-55-3	Benzo(a)anthracene	5	U
218-01-9	Chrysene	5	U
117-81-7	bis(2-Ethylhexyl)phthalate	4	J
117-84-0	Di-n-octylphthalate	5	U
205-99-2	Benzo(b)fluoranthene	5	U
207-08-9	Benzo(k)fluoranthene	5	U
50-32-8	Benzo(a)pyrene	5	U
193-39-5	Indeno(1,2,3-cd)Pyrene	5	U
53-70-3	Dibenz(a,h)anthracene	5	U
191-24-2	Benzo(g,h,i)perylene	5	U

(1) - Cannot be separated from Diphenylamine

1LCF

EPA SAMPLE NO.

LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

EDPM7

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDCF6

Lab Sample ID: 6033.004 Date Received: 04/27/00

Lab File ID: H0995 Date Extracted: 05/01/00

Sample Volume: 1000 (mL) Date Analyzed: 05/11/00

Concentrated Extract Volume: 1000 (uL) Dilution Factor: 1.0

Injection Volume: 1.0 (uL)

Number TICs found: 0

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC. (ug/L)	Q
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1LCB

LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EDPN0

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDCF6

Lab Sample ID: 6033.018 Date Received: 04/27/00

Lab File ID: H1008 Date Extracted: 05/01/00

Sample Volume: 1000 (mL) Date Analyzed: 05/12/00

Concentrated Extract Volume: 1000 (uL) Dilution Factor: 1.0

Injection Volume: 1.0 (uL)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
108-95-2	Phenol	5	U
111-44-4	bis(2-Chloroethyl)ether	5	U
95-57-8	2-Chlorophenol	5	U
95-48-7	2-Methylphenol	5	U
108-60-1	2,2'-oxybis(1-Chloropropane)	5	U
106-44-5	4-Methylphenol	5	U
621-64-7	N-Nitroso-di-n-propylamine	5	U
67-72-1	Hexachloroethane	5	U
98-95-3	Nitrobenzene	5	U
78-59-1	Isophorone	5	U
88-75-5	2-Nitrophenol	5	U
105-67-9	2,4-Dimethylphenol	5	U
111-91-1	bis(2-Chloroethoxy)methane	5	U
120-83-2	2,4-Dichlorophenol	5	U
91-20-3	Naphthalene	5	U
106-47-8	4-Chloroaniline	5	U
87-68-3	Hexachlorobutadiene	5	U
59-50-7	4-Chloro-3-methylphenol	5	U
91-57-6	2-Methylnaphthalene	5	U
77-47-4	Hexachlorocyclopentadiene	5	U
88-06-2	2,4,6-Trichlorophenol	5	U
95-95-4	2,4,5-Trichlorophenol	20	U
91-58-7	2-Chloronaphthalane	5	U
88-74-4	2-Nitroaniline	20	U
131-11-3	Dimethylphthalate	5	U
208-96-8	Acenaphthylene	5	U
606-20-2	2,6-Dintrotoluene	5	U
99-09-2	3-Nitroaniline	20	U
83-32-9	Acenaphthene	5	U

1LCC

LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EDPN0

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDCF6

Lab Sample ID: 6033.018 Date Received: 04/27/00

Lab File ID: H1008 Date Extracted: 05/01/00

Sample Volume: 1000 (mL) Date Analyzed: 05/12/00

Concentrated Extract Volume: 1000 (uL) Dilution Factor: 1.0

Injection Volume: 1 (uL)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
51-28-5	2,4 Dinitrophenol	20	U
100-02-7	4-Nitrophenol	20	U
132-64-9	Dibenzofuran	5	U
121-14-2	2,4-Dinitrotoluene	5	U
84-66-2	Diethylphthalate	5	U
7005-72-3	4-Chlorophenyl-phenylether	5	U
86-73-7	Fluorene	5	U
100-01-6	4-Nitroaniline	20	U
534-52-1	4,6-Dinitro-2-methylphenol	20	U
86-30-6	N-Nitrosodiphenylamine (1)	5	U
101-55-3	4-Bromophenyl-phenylether	5	U
118-74-1	Hexachlorobenzene	5	U
87-86-5	Pentachlorophenol	20	U
85-01-8	Phenanthrene	5	U
120-12-7	Anthracene	5	U
84-74-2	Di-n-butylphthalate	5	U
206-44-0	Fluoranthene	5	U
129-00-0	Pyrene	5	U
85-68-7	Butylbenzylphthalate	5	U
91-94-1	3,3'-Dichlorobenzidine	5	U
56-55-3	Benzo(a)anthracene	5	U
218-01-9	Chrysene	5	U
117-81-7	bis(2-Ethylhexyl)phthalate	5	U
117-84-0	Di-n-octylphthalate	5	U
205-99-2	Benzo(b)fluoranthene	5	U
207-08-9	Benzo(k)fluoranthene	5	U
50-32-8	Benzo(a)pyrene	5	U
193-39-5	Indeno(1,2,3-cd)Pyrene	5	U
53-70-3	Dibenz(a,h)anthracene	5	U
191-24-2	Benzo(g,h,i)perylene	5	U

(1) - Cannot be separated from Diphenylamine

1LCF

EPA SAMPLE NO.

LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

EDPN0

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDCF6

Lab Sample ID: 6033.018 Date Received: 04/27/00

Lab File ID: H1008 Date Extracted: 05/01/00

Sample Volume: 1000 (mL) Date Analyzed: 05/12/00

Concentrated Extract Volume: 1000 (uL) Dilution Factor: 1.0

Injection Volume: 1.0 (uL)

Number TICs found: 0

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC. (ug/L)	Q
1.					
2.					
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1LCB

LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EDPN1

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDCF6

Lab Sample ID: 6033.014 Date Received: 04/27/00

Lab File ID: H1003 Date Extracted: 05/01/00

Sample Volume: 1000 (mL) Date Analyzed: 05/11/00

Concentrated Extract Volume: 1000 (uL) Dilution Factor: 1.0

Injection Volume: 1.0 (uL)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
108-95-2	Phenol	5	U
111-44-4	bis(2-Chloroethyl)ether	5	U
95-57-8	2-Chlorophenol	5	U
95-48-7	2-Methylphenol	5	U
108-60-1	2,2'-oxybis(1-Chloropropane)	5	U
106-44-5	4-Methylphenol	5	U
621-64-7	N-Nitroso-di-n-propylamine	5	U
67-72-1	Hexachloroethane	5	U
98-95-3	Nitrobenzene	5	U
78-59-1	Isophorone	5	U
88-75-5	2-Nitrophenol	5	U
105-67-9	2,4-Dimethylphenol	5	U
111-91-1	bis(2-Chloroethoxy)methane	5	U
120-83-2	2,4-Dichlorophenol	5	U
91-20-3	Naphthalene	5	U
106-47-8	4-Chloroaniline	5	U
87-68-3	Hexachlorobutadiene	5	U
59-50-7	4-Chloro-3-methylphenol	5	U
91-57-6	2-Methylnaphthalene	5	U
77-47-4	Hexachlorocyclopentadiene	5	U
88-06-2	2,4,6-Trichlorophenol	5	U
95-95-4	2,4,5-Trichlorophenol	20	U
91-58-7	2-Chloronaphthalane	5	U
88-74-4	2-Nitroaniline	20	U
131-11-3	Dimethylphthalate	5	U
208-96-8	Acenaphthylene	5	U
606-20-2	2,6-Dintrotoluene	5	U
99-09-2	3-Nitroaniline	20	U
83-32-9	Acenaphthene	5	U

1LCC

LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EDPN1

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004.

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDCF6

Lab Sample ID: 6033.014 Date Received: 04/27/00

Lab File ID: H1003 Date Extracted: 05/01/00

Sample Volume: 1000 (mL) Date Analyzed: 05/11/00

Concentrated Extract Volume: 1000 (uL) Dilution Factor: 1.0

Injection Volume: 1 (uL)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
51-28-5	2,4-Dinitrophenol	2^	U
100-02-7	4-Nitrophenol	20	U
132-64-9	Dibenzofuran	5	U
121-14-2	2,4-Dinitrotoluene	5	U
84-66-2	Diethylphthalate	5	U
7005-72-3	4-Chlorophenyl-phenylether	5	U
86-73-7	Fluorene	5	U
100-01-6	4-Nitroaniline	20	U
534-52-1	4,6-Dinitro-2-methylphenol	20	U
86-30-6	N-Nitrosodiphenylamine (1)	5	U
101-55-3	4-Bromophenyl-phenylether	5	U
118-74-1	Hexachlorobenzene	5	U
87-86-5	Pentachlorophenol	20	U
85-01-8	Phenanthrene	5	U
120-12-7	Anthracene	5	U
84-74-2	Di-n-butylphthalate	5	U
206-44-0	Fluoranthene	5	U
129-00-0	Pyrene	5	U
85-68-7	Butylbenzylphthalate	5	U
91-94-1	3,3'-Dichlorobenzidine	5	U
56-55-3	Benzo(a)anthracene	5	U
218-01-9	Chrysene	5	U
117-81-7	bis(2-Ethylhexyl)phthalate	2	J
117-84-0	Di-n-octylphthalate	5	U
205-99-2	Benzo(b)fluoranthene	5	U
207-08-9	Benzo(k)fluoranthene	5	U
50-32-8	Benzo(a)pyrene	5	U
193-39-5	Indeno(1,2,3-cd)Pyrene	5	U
53-70-3	Dibenz(a,h)anthracene	5	U
191-24-2	Benzo(g,h,i)perylene	5	U

(1) - Cannot be separated from Diphenylamine

1LCF

EPA SAMPLE NO.

LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

EDPN1

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDCF6

Lab Sample ID: 6033.014 Date Received: 04/27/00

Lab File ID: H1003 Date Extracted: 05/01/00

Sample Volume: 1000 (mL) Date Analyzed: 05/11/00

Concentrated Extract Volume: 1000 (uL) Dilution Factor: 1.0

Injection Volume: 1.0 (uL)

Number TICs found: 0

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC. (ug/L)	Q
1.					
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LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EDPN2

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDCF6

Lab Sample ID: 6033.015 Date Received: 04/27/00

Lab File ID: H1004 Date Extracted: 05/01/00

Sample Volume: 1000 (mL) Date Analyzed: 05/11/00

Concentrated Extract Volume: 1000 (uL) Dilution Factor: 1.0

Injection Volume: 1.0 (uL)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
108-95-2	Phenol	5	U
111-44-4	bis(2-Chloroethyl)ether	5	U
95-57-8	2-Chlorophenol	5	U
95-48-7	2-Methylphenol	5	U
108-60-1	2,2'-oxybis(1-Chloropropane)	5	U
106-44-5	4-Methylphenol	5	U
621-64-7	N-Nitroso-di-n-propylamine	5	U
67-72-1	Hexachloroethane	5	U
98-95-3	Nitrobenzene	5	U
78-59-1	Isophorone	5	U
88-75-5	2-Nitrophenol	5	U
105-67-9	2,4-Dimethylphenol	5	U
111-91-1	bis(2-Chloroethoxy)methane	5	U
120-83-2	2,4-Dichlorophenol	5	U
91-20-3	Naphthalene	5	U
106-47-8	4-Chloroaniline	5	U
87-68-3	Hexachlorobutadiene	5	U
59-50-7	4-Chloro-3-methylphenol	5	U
91-57-6	2-Methylnaphthalene	5	U
77-47-4	Hexachlorocyclopentadiene	5	U
88-06-2	2,4,6-Trichlorophenol	5	U
95-95-4	2,4,5-Trichlorophenol	20	U
91-58-7	2-Chloronaphthalane	5	U
88-74-4	2-Nitroaniline	20	U
131-11-3	Dimethylphthalate	5	U
208-96-8	Acenaphthylene	5	U
606-20-2	2,6-Dintrotoluene	5	U
99-09-2	3-Nitroaniline	20	U
83-32-9	Acenaphthene	5	U

1LCC

LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EDPN2

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDCF6

Lab Sample ID: 6033.015 Date Received: 04/27/00

Lab File ID: H1004 Date Extracted: 05/01/00

Sample Volume: 1000 (mL) Date Analyzed: 05/11/00

Concentrated Extract Volume: 1000 (uL) Dilution Factor: 1.0

Injection Volume: 1 (uL)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
51-28-5	2,4-Dinitrophenol	20	U
100-02-7	4-Nitrophenol	20	U
132-64-9	Dibenzofuran	5	U
121-14-2	2,4-Dinitrotoluene	5	U
84-66-2	Diethylphthalate	5	U
7005-72-3	4-Chlorophenyl-phenylether	5	U
86-73-7	Fluorene	5	U
100-01-6	4-Nitroaniline	20	U
534-52-1	4,6-Dinitro-2-methylphenol	20	U
86-30-6	N-Nitrosodiphenylamine (1)	5	U
101-55-3	4-Bromophenyl-phenylether	5	U
118-74-1	Hexachlorobenzene	5	U
87-86-5	Pentachlorophenol	20	U
85-01-8	Phenanthrene	5	U
120-12-7	Anthracene	5	U
84-74-2	Di-n-butylphthalate	5	U
206-44-0	Fluoranthene	5	U
129-00-0	Pyrene	5	U
85-68-7	Butylbenzylphthalate	5	U
91-94-1	3,3'-Dichlorobenzidine	5	U
56-55-3	Benzo(a)anthracene	5	U
218-01-9	Chrysene	5	U
117-81-7	bis(2-Ethylhexyl)phthalate	5	U
117-84-0	Di-n-octylphthalate	5	U
205-99-2	Benzo(b)fluoranthene	5	U
207-08-9	Benzo(k)fluoranthene	5	U
50-32-8	Benzo(a)pyrene	5	U
193-39-5	Indeno(1,2,3-cd)Pyrene	5	U
53-70-3	Dibenz(a,h)anthracene	5	U
191-24-2	Benzo(g,h,i)perylene	5	U

(1) - Cannot be separated from Diphenylamine

1LCF

EPA SAMPLE NO.

LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

EDPN2

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDCF6

Lab Sample ID: 6033.015 Date Received: 04/27/00

Lab File ID: H1004 Date Extracted: 05/01/00

Sample Volume: 1000 (mL) Date Analyzed: 05/11/00

Concentrated Extract Volume: 1000 (uL) Dilution Factor: 1.0

Injection Volume: 1.0 (uL)

Number TICs found: 0

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC. (ug/L)	Q
1.					
2.					
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1LCB

LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EDPN4

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDCF6

Lab Sample ID: 6033.017 Date Received: 04/27/00

Lab File ID: H1005 Date Extracted: 05/01/00

Sample Volume: 1000 (mL) Date Analyzed: 05/11/00

Concentrated Extract Volume: 1000 (uL) Dilution Factor: 1.0

Injection Volume: 1.0 (uL)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
108-95-2	Phenol	5	U
111-44-4	bis(2-Chloroethyl)ether	5	U
95-57-8	2-Chlorophenol	5	U
95-48-7	2-Methylphenol	5	U
108-60-1	2,2'-oxybis(1-Chloropropane)	5	U
106-44-5	4-Methylphenol	5	U
621-64-7	N-Nitroso-di-n-propylamine	5	U
67-72-1	Hexachloroethane	5	U
98-95-3	Nitrobenzene	5	U
78-59-1	Isophorone	5	U
88-75-5	2-Nitrophenol	5	U
105-67-9	2,4-Dimethylphenol	5	U
111-91-1	bis(2-Chloroethoxy)methane	5	U
120-83-2	2,4-Dichlorophenol	5	U
91-20-3	Naphthalene	5	U
106-47-8	4-Chloroaniline	5	U
87-68-3	Hexachlorobutadiene	5	U
59-50-7	4-Chloro-3-methylphenol	5	U
91-57-6	2-Methylnaphthalene	5	U
77-47-4	Hexachlorocyclopentadiene	5	U
88-06-2	2,4,6-Trichlorophenol	5	U
95-95-4	2,4,5-Trichlorophenol	20	U
91-58-7	2-Chloronaphthalane	5	U
88-74-4	2-Nitroaniline	20	U
131-11-3	Dimethylphthalate	5	U
208-96-8	Acenaphthylene	5	U
606-20-2	2,6-Dintrotoluene	5	U
99-09-2	3-Nitroaniline	20	U
83-32-9	Acenaphthene	5	U

1LCC

LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EDPN4

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDCF6

Lab Sample ID: 6033.017 Date Received: 04/27/00

Lab File ID: H1005 Date Extracted: 05/01/00

Sample Volume: 1000 (mL) Date Analyzed: 05/11/00

Concentrated Extract Volume: 1000 (uL) Dilution Factor: 1.0

Injection Volume: 1 (uL)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
51-28-5	2,4-Dinitrophenol	20	U
100-02-7	4-Nitrophenol	20	U
132-64-9	Dibenzofuran	5	U
121-14-2	2,4-Dinitrotoluene	5	U
84-66-2	Diethylphthalate	5	U
7005-72-3	4-Chlorophenyl-phenylether	5	U
86-73-7	Fluorene	5	U
100-01-6	4-Nitroaniline	20	U
534-52-1	4,6-Dinitro-2-methylphenol	20	U
86-30-6	N-Nitrosodiphenylamine (1)	5	U
101-55-3	4-Bromophenyl-phenylether	5	U
118-74-1	Hexachlorobenzene	5	U
87-86-5	Pentachlorophenol	20	U
85-01-8	Phenanthrene	5	U
120-12-7	Anthracene	5	U
84-74-2	Di-n-butylphthalate	5	U
206-44-0	Fluoranthene	5	U
129-00-0	Pyrene	5	U
85-68-7	Butylbenzylphthalate	5	U
91-94-1	3,3'-Dichlorobenzidine	5	U
56-55-3	Benzo(a)anthracene	5	U
218-01-9	Chrysene	5	U
117-81-7	bis(2-Ethylhexyl)phthalate	5	U
117-84-0	Di-n-octylphthalate	5	U
205-99-2	Benzo(b)fluoranthene	5	U
207-08-9	Benzo(k)fluoranthene	5	U
50-32-8	Benzo(a)pyrene	5	U
193-39-5	Indeno(1,2,3-cd)Pyrene	5	U
53-70-3	Dibenz(a,h)anthracene	5	U
191-24-2	Benzo(g,h,i)perylene	5	U

(1) - Cannot be separated from Diphenylamine

1LCF

EPA SAMPLE NO.

LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

EDPN4

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDCF6

Lab Sample ID: 6033.017 Date Received: 04/27/00

Lab File ID: H1005 Date Extracted: 05/01/00

Sample Volume: 1000 (mL) Date Analyzed: 05/11/00

Concentrated Extract Volume: 1000 (uL) Dilution Factor: 1.0

Injection Volume: 1.0 (uL)

Number TICs found: 0

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC. (ug/L)	Q
1.					
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1LCB

LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EDPN5

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDCF6

Lab Sample ID: 6033.006 Date Received: 04/27/00

Lab File ID: H0996 Date Extracted: 05/01/00

Sample Volume: 1000 (mL) Date Analyzed: 05/11/00

Concentrated Extract Volume: 1000 (uL) Dilution Factor: 1.0

Injection Volume: 1.0 (uL)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
108-95-2	Phenol	5	U
111-44-4	bis(2-Chloroethyl)ether	5	U
95-57-8	2-Chlorophenol	5	U
95-48-7	2-Methylphenol	5	U
108-60-1	2,2'-oxybis(1-Chloropropane)	5	U
106-44-5	4-Methylphenol	5	U
621-64-7	N-Nitroso-di-n-propylamine	5	U
67-72-1	Hexachloroethane	5	U
98-95-3	Nitrobenzene	5	U
78-59-1	Isophorone	5	U
88-75-5	2-Nitrophenol	5	U
105-67-9	2,4-Dimethylphenol	5	U
111-91-1	bis(2-Chloroethoxy)methane	5	U
120-83-2	2,4-Dichlorophenol	5	U
91-20-3	Naphthalene	5	U
106-47-8	4-Chloroaniline	5	U
87-68-3	Hexachlorobutadiene	5	U
59-50-7	4-Chloro-3-methylphenol	5	U
91-57-6	2-Methylnaphthalene	5	U
77-47-4	Hexachlorocyclopentadiene	5	U
88-06-2	2,4,6-Trichlorophenol	5	U
95-95-4	2,4,5-Trichlorophenol	20	U
91-58-7	2-Chloronaphthalane	5	U
88-74-4	2-Nitroaniline	20	U
131-11-3	Dimethylphthalate	5	U
208-96-8	Acenaphthylene	5	U
606-20-2	2,6-Dintrotoluene	5	U
99-09-2	3-Nitroaniline	20	U
83-32-9	Acenaphthene	5	U

1LCC

LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EDPN5

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDCF6

Lab Sample ID: 6033.006 Date Received: 04/27/00

Lab File ID: H0996 Date Extracted: 05/01/00

Sample Volume: 1000 (mL) Date Analyzed: 05/11/00

Concentrated Extract Volume: 1000 (uL) Dilution Factor: 1.0

Injection Volume: 1 (uL)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
51-28-5	2,4-Dinitrophenol	20	U
100-02-7	4-Nitrophenol	20	U
132-64-9	Dibenzofuran	5	U
121-14-2	2,4-Dinitrotoluene	5	U
84-66-2	Diethylphthalate	5	U
7005-72-3	4-Chlorophenyl-phenylether	5	U
86-73-7	Fluorene	5	U
100-01-6	4-Nitroaniline	20	U
534-52-1	4,6-Dinitro-2-methylphenol	20	U
86-30-6	N-Nitrosodiphenylamine (1)	5	U
101-55-3	4-Bromophenyl-phenylether	5	U
118-74-1	Hexachlorobenzene	5	U
87-86-5	Pentachlorophenol	20	U
85-01-8	Phenanthrene	5	U
120-12-7	Anthracene	5	U
84-74-2	Di-n-butylphthalate	5	U
206-44-0	Fluoranthene	5	U
129-00-0	Pyrene	5	U
85-68-7	Butylbenzylphthalate	5	U
91-94-1	3,3'-Dichlorobenzidine	5	U
56-55-3	Benzo(a)anthracene	5	U
218-01-9	Chrysene	5	U
117-81-7	bis(2-Ethylhexyl)phthalate	5	U
117-84-0	Di-n-octylphthalate	5	U
205-99-2	Benzo(b)fluoranthene	5	U
207-08-9	Benzo(k)fluoranthene	5	U
50-32-8	Benzo(a)pyrene	5	U
193-39-5	Indeno(1,2,3-cd)Pyrene	5	U
53-70-3	Dibenz(a,h)anthracene	5	U
191-24-2	Benzo(g,h,i)perylene	5	U

(1) - Cannot be separated from Diphenylamine

1LCF

EPA SAMPLE NO.

LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

EDPN5

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDCF6

Lab Sample ID: 6033.006 Date Received: 04/27/00

Lab File ID: H0996 Date Extracted: 05/01/00

Sample Volume: 1000 (mL) Date Analyzed: 05/11/00

Concentrated Extract Volume: 1000 (uL) Dilution Factor: 1.0

Injection Volume: 1.0 (uL)

Number TICs found: 0

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC. (ug/L)	Q
1.					
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LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EDPN6

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDCF6

Lab Sample ID: 6033.007 Date Received: 04/27/00

Lab File ID: H0997 Date Extracted: 05/01/00

Sample Volume: 1000 (mL) Date Analyzed: 05/11/00

Concentrated Extract Volume: 1000 (uL) Dilution Factor: 1.0

Injection Volume: 1.0 (uL)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
108-95-2	Phenol	5	U
111-44-4	bis(2-Chloroethyl)ether	5	U
95-57-8	2-Chlorophenol	5	U
95-48-7	2-Methylphenol	5	U
108-60-1	2,2'-oxybis(1-Chloropropane)	5	U
106-44-5	4-Methylphenol	5	U
621-64-7	N-Nitroso-di-n-propylamine	5	U
67-72-1	Hexachloroethane	5	U
98-95-3	Nitrobenzene	5	U
78-59-1	Isophorone	5	U
88-75-5	2-Nitrophenol	5	U
105-67-9	2,4-Dimethylphenol	5	U
111-91-1	bis(2-Chloroethoxy)methane	5	U
120-83-2	2,4-Dichlorophenol	5	U
91-20-3	Naphthalene	5	U
106-47-8	4-Chloroaniline	5	U
87-68-3	Hexachlorobutadiene	5	U
59-50-7	4-Chloro-3-methylphenol	5	U
91-57-6	2-Methylnaphthalene	5	U
77-47-4	Hexachlorocyclopentadiene	5	U
88-06-2	2,4,6-Trichlorophenol	5	U
95-95-4	2,4,5-Trichlorophenol	20	U
91-58-7	2-Chloronaphthalane	5	U
88-74-4	2-Nitroaniline	20	U
131-11-3	Dimethylphthalate	5	U
208-96-8	Acenaphthylene	5	U
606-20-2	2,6-Dintrotoluene	5	U
99-09-2	3-Nitroaniline	20	U
83-32-9	Acenaphthene	5	U

1LCC

LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EDPN6

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDCF6

Lab Sample ID: 6033.007 Date Received: 04/27/00

Lab File ID: H0997 Date Extracted: 05/01/00

Sample Volume: 1000 (mL) Date Analyzed: 05/11/00

Concentrated Extract Volume: 1000 (uL) Dilution Factor: 1.0

Injection Volume: 1 (uL)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
51-28-5	2,4-Dinitrophenol	20	U
100-02-7	4-Nitrophenol	20	U
132-64-9	Dibenzofuran	5	U
121-14-2	2,4-Dinitrotoluene	5	U
84-66-2	Diethylphthalate	5	U
7005-72-3	4-Chlorophenyl-phenylether	5	U
86-73-7	Fluorene	5	U
100-01-6	4-Nitroaniline	20	U
534-52-1	4,6-Dinitro-2-methylphenol	20	U
86-30-6	N-Nitrosodiphenylamine (1)	5	U
101-55-3	4-Bromophenyl-phenylether	5	U
118-74-1	Hexachlorobenzene	5	U
87-86-5	Pentachlorophenol	20	U
85-01-8	Phenanthrene	5	U
120-12-7	Anthracene	5	U
84-74-2	Di-n-butylphthalate	5	U
206-44-0	Fluoranthene	5	U
129-00-0	Pyrene	5	U
85-68-7	Butylbenzylphthalate	5	U
91-94-1	3,3'-Dichlorobenzidine	5	U
56-55-3	Benzo(a)anthracene	5	U
218-01-9	Chrysene	5	U
117-81-7	bis(2-Ethylhexyl)phthalate	5	U
117-84-0	Di-n-octylphthalate	5	U
205-99-2	Benzo(b)fluoranthene	5	U
207-08-9	Benzo(k)fluoranthene	5	U
50-32-8	Benzo(a)pyrene	5	U
193-39-5	Indeno(1,2,3-cd)Pyrene	5	U
53-70-3	Dibenz(a,h)anthracene	5	U
191-24-2	Benzo(g,h,i)perylene	5	U

(1) - Cannot be separated from Diphenylamine

1LCF

EPA SAMPLE NO.

LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

EDPN6

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDCF6

Lab Sample ID: 6033.007 Date Received: 04/27/00

Lab File ID: H0997 Date Extracted: 05/01/00

Sample Volume: 1000 (mL) Date Analyzed: 05/11/00

Concentrated Extract Volume: 1000 (uL) Dilution Factor: 1.0

Injection Volume: 1.0 (uL)

Number TICs found: 0

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC. (ug/L)	Q
1.					
2.					
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LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EDPN7

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDCF6

Lab Sample ID: 6033.008 Date Received: 04/27/00

Lab File ID: H0998 Date Extracted: 05/01/00

Sample Volume: 1000 (mL) Date Analyzed: 05/11/00

Concentrated Extract Volume: 1000 (uL) Dilution Factor: 1.0

Injection Volume: 1.0 (uL)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
108-95-2	Phenol	5	U
111-44-4	bis(2-Chloroethyl)ether	5	U
95-57-8	2-Chlorophenol	5	U
95-48-7	2-Methylphenol	5	U
108-60-1	2,2'-oxybis(1-Chloropropane)	5	U
106-44-5	4-Methylphenol	5	U
621-64-7	N-Nitroso-di-n-propylamine	5	U
67-72-1	Hexachloroethane	5	U
98-95-3	Nitrobenzene	5	U
78-59-1	Isophorone	5	U
88-75-5	2-Nitrophenol	5	U
105-67-9	2,4-Dimethylphenol	5	U
111-91-1	bis(2-Chloroethoxy)methane	5	U
120-83-2	2,4-Dichlorophenol	5	U
91-20-3	Naphthalene	5	U
106-47-8	4-Chloroaniline	5	U
87-68-3	Hexachlorobutadiene	5	U
59-50-7	4-Chloro-3-methylphenol	5	U
91-57-6	2-Methylnaphthalene	5	U
77-47-4	Hexachlorocyclopentadiene	5	U
88-06-2	2,4,6-Trichlorophenol	5	U
95-95-4	2,4,5-Trichlorophenol	20	U
91-58-7	2-Chloronaphthalane	5	U
88-74-4	2-Nitroaniline	20	U
131-11-3	Dimethylphthalate	5	U
208-96-8	Acenaphthylene	5	U
606-20-2	2,6-Dintrotoluene	5	U
99-09-2	3-Nitroaniline	20	U
83-32-9	Acenaphthene	5	U

1LCC

LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EDPN7

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDCF6

Lab Sample ID: 6033.008 Date Received: 04/27/00

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Sample Volume: 1000 (mL) Date Analyzed: 05/11/00

Concentrated Extract Volume: 1000 (uL) Dilution Factor: 1.0

Injection Volume: 1 (uL)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
51-28-5	2,4-Dinitrophenol	20	U
100-02-7	4-Nitrophenol	20	U
132-64-9	Dibenzofuran	5	U
121-14-2	2,4-Dinitrotoluene	5	U
84-66-2	Diethylphthalate	5	U
7005-72-3	4-Chlorophenyl-phenylether	5	U
86-73-7	Fluorene	5	U
100-01-6	4-Nitroaniline	20	U
534-52-1	4,6-Dinitro-2-methylphenol	20	U
86-30-6	N-Nitrosodiphenylamine (1)	5	U
101-55-3	4-Bromophenyl-phenylether	5	U
118-74-1	Hexachlorobenzene	5	U
87-86-5	Pentachlorophenol	20	U
85-01-8	Phenanthrene	5	U
120-12-7	Anthracene	5	U
84-74-2	Di-n-butylphthalate	5	U
206-44-0	Fluoranthene	5	U
129-00-0	Pyrene	5	U
85-68-7	Butylbenzylphthalate	5	U
91-94-1	3,3'-Dichlorobenzidine	5	U
56-55-3	Benzo(a)anthracene	5	U
218-01-9	Chrysene	5	U
117-81-7	bis(2-Ethylhexyl)phthalate	2	J
117-84-0	Di-n-octylphthalate	5	U
205-99-2	Benzo(b)fluoranthene	5	U
207-08-9	Benzo(k)fluoranthene	5	U
50-32-8	Benzo(a)pyrene	5	U
193-39-5	Indeno(1,2,3-cd)Pyrene	5	U
53-70-3	Dibenz(a,h)anthracene	5	U
191-24-2	Benzo(g,h,i)perylene	5	U

(1) - Cannot be separated from Diphenylamine

MW Historical Data

MEMORANDUM

DATE: August 15, 2000

TO: Gwen Massenburg, Region V EPA

FROM: Janie Carrig, Project Chemist
US Army Corps of Engineers – Omaha District

SUBJECT: HIMCO Dump Superfund Site, Elkhart, IN
Summary tables of constituents detected in ground water for the years 1990-2000

The attached tables summarize the constituents detected in each monitoring well located on or within approximately 1000 feet of the landfill. The individual wells are presented on separate sheets for ease in reading. Adding qualifier definitions for each page became cumbersome and time consuming, as did compiling multiple wells on one sheet. I don't believe either activity added value so did not pursue. NR means, "Not Reported and NS represents "Not Sampled". In hindsight, one acronym should have been used to avoid confusion. Either way, no data is available where NS or NR are presented.

If you have any questions, comments or would like something changed on the data tables please feel free to call or email me at:

Janie Carrig
Phone:402-221-7754 (fax 7848)
email: janie.e.carrig@usace.army.mil.

Regards,

Janie

HISTORICAL SUMMARY OF GROUND WATER DETECTIONS
1990-2000
HIMCO DUMP SUPERFUND SITE, ELKHART, IN

	WT01				
Date sampled	12/3/1990		1995		4/26/2000
TOTAL METALS (µg/L)					
Aluminum	36.0	U	115	J	NS
Antimony	48.5	B	12.8	U	NS
Barium	54.0	B	74.3	J	NS
Calcium	88000		104000		NS
Iron	122	J	21.6	J	NS
Magnesium	24300		26100		NS
Manganese	147		205		NS
Potassium	1170	U	1950	J	NS
Selenium	2.3	BJ	3.6	U	NS
Sodium	8680		12500	J	NS
Vanadium	6.4	U	6.9	J	NS
Zinc	10.0	UJ	2.1	J	NS
MISC INORGANICS					
Bromide (µg Br^-/L)	100	U	NR		NS
Sulfate (mg SO_4/L)	140	J	NR		NS
VOLATILE ORGANICS (µg/L)					
Methylene Chloride	5	U	5	J	NS
SEMIVOLATILE ORGANICS (µg/L)					
bis(2-Ethylhexyl)phthalate	10	U	13		NS
PESTICIDES/PCB (µg/L)					
	ND		ND		NS

HISTORICAL SUMMARY OF GROUND WATER DETECTIONS
1990-2000
HIMCO DUMP SUPERFUND SITE, ELKHART, IN

	WT102A											
Date sampled	11/28/1990		1/7/1991		9/24/1991		1995		10/19/1998		4/25/2000	
TOTAL METALS (µg/L)												
Aluminum	32.7	BJ	81.8	B	165	BJ	268		27.6	J	118	U
Antimony	30.0	U	37.0	U	13.00	U	21.7	J	42.2	UJ	2	U
Barium	66	B	60.3	B	57	B	53.3	J	47.3	J	46.7	
Beryllium	1.20	B	3.1	BJ	1.00	U	1.3	J	0.60	UJ	2	U
Calcium	211000		181000		165000		157000		17100	J	173000	
Chromium	5.0	U	6.5	BJ	2.80	B	23.9		20.3	J	17.8	J
Cobalt	7.0	U	5.0	U	3.00	U	13.1	J	7.8	UJ	4.1	J
Copper	6.9	BJ	16.7	BJ	6.00	U	17.9	J	4.1	UJ	9.3	U
Iron	57	BJ	123		60.80	B	39.0	J	96.8	J	115	B
Lead	2.2	BJ	1.0	UJ	1.00	U	1.7	U	0.50	UJ	2	U
Magnesium	25100		22500		20300		15900		16600	J	18800	J
Manganese	38.1		23.0		9.20	B	30.2		61.5	J	86.7	
Nickel	6.0	U	20.0	U	7.00	U	40.6		73.0	J	45.4	J
Potassium	2110.0	B	2000	B	2120	B	2070	J	1610	J	2060	
Silver	5.0	U	5.0	UJ	2.00	UJ	19.5		6.1	J	11.1	U
Sodium	48600		41900		50700	J	52300	J	48000	J	100000	
Vanadium	3.0	U	4.0	U	2.00	U	26.5	J	12.3	UJ	5.1	U
Zinc	9.0	U	24.1	J	6.00	U	4.1	J	3.2	UJ	34.1	U
Cyanide	10.0	UR	10.0	U	10.00	U	10.0	U	8.5	J	NS	
MISC INORGANICS												
Bromide (µg Br^-/L)	100	U	100		100	U	NR		NR		60	J
Sulfate (mg SO_4/L)	430		360	J	338	J	NR		NR		202	D
VOLATILE ORGANICS (µg/L)												
Methylene Chloride	1	BJ	19	J	10	U	10	U	10	U	2	U
Acetone	2	BJ	10	UJ	10	UJ	10	U	10	U	5	U
SEMIVOLATILE ORGANICS (µg/L)												
bis(2-Ethylhexyl)phthalate	NR		NR		NR		0.4	JBU	3	J	5	U
PESTICIDES/PCB (µg/L)												
	ND		ND	J	ND		ND		NS		NS	

HISTORICAL SUMMARY OF GROUND WATER DETECTIONS
1990-2000
HIMCO DUMP SUPERFUND SITE, ELKHART, IN

	WT101C									
Date sampled	1/9/1991		9/23/1991		1/1/1995		10/21/1998		5/3/2000	
TOTAL METALS (µg/L)										
Aluminum	6980		758	J	NR		26.0	U	152	
Arsenic	3.0	U	9.1	BJ	NR		3.6	J	10	
Barium	170	B	116	B	NR		91.2	J	77.6	
Beryllium	2.1	BJ	1.0	U	NR		0.60	U	2	U
Calcium	121000		101000		NR		377000		47900	
Chromium	14.0	J	7.7	B	NR		13.1		7.7	J
Cobalt	5.2	B	3.0	U	NR		7.8	U	4	J
Copper	10.7	BJ	6.0	U	NR		4.1	U	9.3	U
Iron	7890		3200		NR		28100		1380	
Lead	4.5	J	2.9	B	NR		0.50	U	7	U
Magnesium	50400		41500.0		NR		14700		20100	
Manganese	279		193		NR		3080		20.5	J
Nickel	21.1	B	7.0	U	NR		28.3	U	7	J
Potassium	4300	B	1640	B	NR		3630	J	4130	
Sodium	33100		36200	J	NR		35800		36100	
Vanadium	8.4	B	3.0	B	NR		12.3	U	5.1	U
Zinc	70.3		32.8	U	NR		3.2	U	34.1	U
Cyanide	10.0	U	10.0	U	NR		17.9	J		
MISC INORGANICS										
Bromide (µg Br^-/L)	900		940.00		NR		NR		880	J
Sulfate (mg SO_4/L)	810	J	10.0	UJ	NR		NR		0.42	J
VOLATILE ORGANICS (µg/L)										
Chloroethane	10	U	10	UJ	6	J	10	U	1	U
Methylene Chloride	10	U	10	U	1	J	10	U	2	U
SEMIVOLATILE ORGANICS (µg/L)										
Dimethylphthalate	NR		NR		10	U	7	J	5	U
Diethylphthalate	NR		NR		10	U	19	J	5	U
bis(2-Ethylhexyl)phthalate	NR		NR		0.6	JB	10	UJ	2	J
PESTICIDES/PCB (µg/L)	ND		ND		ND		NR		NS	

HISTORICAL SUMMARY OF GROUND WATER DETECTIONS
1990-2000
HIMCO DUMP SUPERFUND SITE, ELKHART, IN

	WT101B									
	1/9/1991		9/23/1991		1995		10/21/1998		5/3/2000	
TOTAL METALS (µg/L)										
Aluminum	516		168	BJ	206		26.0	U	118	U
Arsenic	7.1	B	3.8	B	3.8	U	3.6	J	7.0	U
Barium	192	B	218		184	J	91.2	J	72.3	
Beryllium	2.8	BJ	1.00	U	1.1	J	0.60	U	2.0	U
Calcium	88100		83500		126000		377000		137000	
Chromium	4.0	U	2.8	B	20.6		13.1		6.7	U
Cobalt	5.0	U	3.0	U	9.6	J	7.8	U	13.2	U
Copper	8.8	BJ	6.00	BJ	16.0	J	4.1	U	9.3	U
Iron	592		1400		3080		28100		2850	
Lead	1.1	BJ	1.0	UJ	1.7	U	0.50	U	7.0	U
Magnesium	31000		33000		47300		14700		52800	
Manganese	87.4		76.4		49.3		3080		36	J
Nickel	20.0	U	7.0	U	14.4	J	28.3	U	21	U
Potassium	28900		13900		5110		3630	J	6280	
Selenium	4.0	UJ	4.0	UJ	3.6	U	3.0	R	7.0	U
Silver	5.0	UJ	2.0	UJ	18.2		5.3	U	11.1	U
Sodium	76100		43100	J	47400	J	35800		43100	
Vanadium	11.2	B	2.0	U	17.8	J	12.3	U	5.1	U
Zinc	13.4	BJ	6.0	U	2.6	J	3.2	U	34.1	U
MISC INORGANICS										
Bromide (µg Br^-/L)	400		480.00		NR		NR		340	J
Sulfate (mg SO_4/L)	140	J	124	J	NR		NR		211	D
VOLATILE ORGANICS (µg/L)										
Chloroethane	12		16	J	6	J	10	U	2	
Methylene Chloride	10	U	10	U	1	J	10	U	2	U
SEMIVOLATILE ORGANICS (µg/L)										
Dimethylphthalate	10	U	NR		10	U	7	J	5	U
Diethylphthalate	10	U	NR		10	U	19	J	2	J
bis(2-Ethylhexyl)phthalate	10	U	NR		0.6	JB	10	UJ	5	U
PESTICIDES/PCB (µg/L)	ND		ND		ND		NS		NS	

HISTORICAL SUMMARY OF GROUND WATER DETECTIONS
1990-2000
HIMCO DUMP SUPERFUND SITE, ELKHART, IN

	WT101A									
Date sampled	11/28/1990		1995		10/21/1998		5/3/2000		5/3/2000 Dup	
TOTAL METALS (µg/L)										
Aluminum	29	BJ	321		26	U	118	U	118	U
Arsenic	9.0	B	7.8	J	4	J	5.0	J	14	UD
Barium	49	B	116	J	91	J	83		82	
Cadmium	3.00	U	1.10	J	4.60	U	0.30	U	0.30	U
Calcium	202000		249000		377000		258000		242000	
Chromium	5.00	U	4.0	U	13		6.7	U	6.70	U
Cobalt	7.00	U	11	J	7.80	U	13		4.00	J
Copper	4.0	BJ	1.7	U	4.10	U	9.30	U	9.30	U
Iron	24600	J	12700		28100		16300		16100	
Magnesium	7440		25200		14700		27300		27500	
Manganese	1950		1060		3080		1610	J	1540	J
Nickel	6.00	U	24	J	28	U	21	U	21	U
Potassium	5000	B	8060		3630	J	6730		6810	
Selenium	2.00	UJ	3.6	U	3.00	R	7.00	U	7.0	U
Sodium	35400		44100	J	35800		66800		65200	
Vanadium	3.00	U	21	J	12	U	4.00	U	5.1	U
Zinc	9.0	J	1.8	J	3.2	U	4.00	U	34	U
Cyanide	10	UR	10	U	18	J	NS		NS	
MISC INORGANICS										
Bromide (µg Br^-/L)	1		NR		NR		1	J	1	J
Sulfate (mg SO_4/L)	150		NR		NR		218	D	215	D
VOLATILE ORGANICS (µg/L)										
Chloroethane	10	U	10	U	10	U	1	U	2	
Methylene Chloride	2	BJ	1	J	10	U	2	U	2	U
1,1-Dichloroethane	3	J	5	J	10	U	8		8	
Benzene	3	J	10	U	10	U	2		2	
SEMIVOLATILE ORGANICS (µg/L)										
Dimethylphthalate	NR		10	U	7	J	5	U	5	U
Diethylphthalate	NR		11	U	19	J	3	J	4	J
bis(2-Ethylhexyl)phthalate	NR		5	JB	10	UJ	8		4	J
PESTICIDES/PCB (µg/L)	ND		ND		ND		NS		NS	

HISTORICAL SUMMARY OF GROUND WATER DETECTIONS
1990-2000
HIMCO DUMP SUPERFUND SITE, ELKHART, IN

	WT102B							
Date sampled	1/7/1991		9/24/1991		1995		4/25/2000	
TOTAL METALS (µg/L)								
Aluminum	25.0	U	139	BJ	161	J	118	U
Antimony	37.0	U	13.0	U	29.7	J	2	U
Arsenic	3.0	U	2.0	UJ	4.8	J	6	J
Barium	103	B	85	B	91.0	J	103	
Calcium	68700		62400		61200		75800	
Chromium	4.0	U	2.0	U	4.0	U	24.2	J
Cobalt	5.0	U	3.0	U	12.4	J	13.2	U
Copper	4.9	BJ	6.00	U	1.7	U	9.3	U
Iron	15.0	U	71	B	490		1580	
Lead	1.2	BJ	1.0	UJ	1.7	U	2	U
Magnesium	21300		19400		20400		22300	
Manganese	124		118		87.3		91.9	
Nickel	20.0	U	7.0	U	9.5	U	8.1	J
Potassium	1420	B	1690	B	1870	J	1840	
Silver	5.0	UJ	2.0	UJ	2.5	U	3.4	J
Sodium	26100		26900	J	27800	J	25900	
Thallium	3.0	U	3.0	U	5.7	J	1	U
Vanadium	4.0	U	2.0	U	13.2	J	1.9	J
Zinc	12.1	BJ	6.0	U	3.5	J	34.1	U
MISC INORGANICS								
Bromide (µg Br^-/L)	200		100	U	NR		80	J
Sulfate (mg SO_4/L)	64	J	430		NR		58	D
VOLATILE ORGANICS (µg/L)								
Methylene Chloride	16	J	1	BJ	10	U	2	U
Acetone			2	BJ	10	U	5	U
SEMIVOLATILE ORGANICS (µg/L)								
bis(2-Ethylhexyl)phthalate	3	J	NR		0.4	JBU	5	U
PESTICIDES/PCB (µg/L)	ND		ND		ND		NS	

HISTORICAL SUMMARY OF GROUND WATER DETECTIONS
1990-2000
HIMCO DUMP SUPERFUND SITE, ELKHART, IN

	WT102C					
Date sampled	1/9/1991		9/24/1991		4/25/2000	
TOTAL METALS (µg/L)						
Aluminum	1130		171	BJ	500	
Arsenic	3.0	U	2.0	UJ	3	J
Barium	100	B	63	B	104	
Beryllium	4.5	BJ	1.0	U	2	U
Calcium	71400		50700		129000	
Chromium	23.8	J	2.0	U	26.8	J
Cobalt	7.3	B	3.0	U	13.2	U
Copper	8.8	BJ	6.0	U	4	JB
Iron	1680		89	B	2210	
Lead	1.8	BJ	1.0	UJ	2	J
Magnesium	24800		16200		45600	
Manganese	231		170		288	
Nickel	20.0	U	7.0	U	23.7	J
Potassium	1290	B	902	B	1970	
Sodium	3180	B	7230	J	6060	
Vanadium	7.5	B	2.0	U	3.2	J
Zinc	24.7	J	6.0	U	13.5	JB
MISC INORGANICS						
Bromide (µg Br^-/L)	100		110.00		140	J
Sulfate (mg SO_4/L)	35	J	50.0	J	36	
VOLATILE ORGANICS (µg/L)	ND		ND		ND	
SEMIVOLATILE ORGANICS (µg/L)	NR		NR		2	J
PESTICIDES/PCB (µg/L)	ND		ND		NS	

HISTORICAL SUMMARY OF GROUND WATER DETECTIONS
1990-2000
HIMCO DUMP SUPERFUND SITE, ELKHART, IN

	WT103A			
Date sampled	11/28/1990		9/24/1991	
TOTAL METALS (µg/L)				
Aluminum	56	BJ	1710	J
Arsenic	2.2	B	3.9	B
Barium	33	B	80	B
Calcium	86400		361000	
Chromium	5.0	U	7.9	B
Cobalt	7.0	U	9.5	B
Copper	10.7	BJ	16.6	B
Iron	126	J	6890	
Lead	2.0	U	28.1	
Magnesium	21300		78000	
Manganese	95		759	
Nickel	6.0	U	9.9	B
Potassium	1380	B	2100	B
Silver	6.9	B	2.0	UJ
Sodium	12000		12900	J
Vanadium	3.0	U	12.5	B
Zinc	9.0	U	60	
MISC INORGANICS				
Bromide (µg Br^-/L)	100	U	210	
Sulfate (mg SO_4/L)	170		199	J
VOLATILE ORGANICS (µg/L)				
Chloromethane	10	U	10	UR
Bromomethane	10	U	10	UR
Vinyl Chloride	10	U	10	UR
Methylene Chloride	1	BJ	10	U
SEMIVOLATILE ORGANICS (µg/L)	ND		NR	
PESTICIDES/PCB (µg/L)	ND		ND	

HISTORICAL SUMMARY OF GROUND WATER DETECTIONS
1990-2000
HIMCO DUMP SUPERFUND SITE, ELKHART, IN

	WT104A			
Date sampled	11/28/1990		9/24/1991	
TOTAL METALS (µg/L)				
Aluminum	669	J	1460	J
Barium	14	B	24	B
Calcium	17100		30600	
Chromium	5.0	U	3.4	B
Cobalt	7.0	U	3.1	B
Iron	664	J	2100	
Lead	2.0	U	6.8	J
Magnesium	3550	B	6720	
Manganese	15		66	
Nickel	6.0	U	7.1	B
Potassium	639	B	1090	B
Sodium	1970	B	3380	BJ
Vanadium	3.0	U	3.8	B
Zinc	9.0	U	24.6	
MISC INORGANICS				
Bromide (µg Br^-/L)	100	U	110	
Sulfate (mg SO_4/L)	5.9		11.7	J
VOLATILE ORGANICS (µg/L)				
Chloromethane	10	U	10	UR
Bromomethane	10	U	10	UR
Vinyl Chloride	10	U	10	UR
Methylene Chloride	2.0	BJ	10	U
SEMIVOLATILE ORGANICS (µg/L)				
bis(2-Ethylhexyl)phthalate	10	U	10	
PESTICIDES/PCB (µg/L)	ND		ND	

HISTORICAL SUMMARY OF GROUND WATER DETECTIONS
1990-2000
HIMCO DUMP SUPERFUND SITE, ELKHART, IN

	WT105A									
Date sampled	11/2[illegible]1990		1/8/1991		9/25/1991		11/26/1996		5/2/2000	
TOTAL METALS (µg/L)										
Aluminum	81	BJ	224		114	B	17.0	U	112	J
Barium	18.2	B	22.0	U	8.2	B	5.4		8.1	
Beryllium	1.0	U	3.1	BJ	1.0	U	1.00	U	2	U
Calcium	39900		37200		32800		38000		57400	
Chromium	5.0	U	13.0	J	2.0	U	1.0	U	23.9	J
Cobalt	7.0	U	5.7	B	3.0	U	1.0	U	4.1	J
Copper	8.0	BJ	9.8	BJ	6.0	U	0	U	9.3	U
Iron	196	J	555		29.4	BJ	13.1		407	
Lead	2.0	U	1.1	BJ	1.3	B	1.00	U	7	U
Magnesium	11900		10700		8650		10200		16500	J
Manganese	63.8		50.4		26.5		5.0		160	J
Nickel	6.0	U	20.0	U	7.0	U	1	U	73.3	
Potassium	2860	B	2490	B	1580	B	1760		1360	
Sodium	10300		8010		3930	B	4460	J	7720	
Zinc	9.5	BJ	23.6	J	6.0	U	3.6	J	34.1	U
MISC INORGANICS										
Bromide (µg Br^-/L)	200.0		100	U	480		NR		110	J
Sulfate (mg SO_4/L)	30		22	J	26.7	J	NR		36	D
VOLATILE ORGANICS (µg/L)										
Methylene Chloride	1	BJ	7	U	10	U	10	U	2	U
SEMIVOLATILE ORGANICS (µg/L)										
Diethylphthalate	10	U	10	U	10	U	10	U	3	J
bis(2-Ethylhexyl)phthalate	10	U	10	U	10	U	10	U	17	
PESTICIDES/PCB (µg/L)	ND		ND		ND		NR		NS	

HISTORICAL SUMMARY OF GROUND WATER DETECTIONS
1990-2000
HIMCO DUMP SUPERFUND SITE, ELKHART, IN

	WT106A											
Date sampled	11/27/1990		1/8/1991		9/23/1991		9/25/1991		11/13/1996		5/2/2000	
TOTAL METALS (µg/L)												
Aluminum	31.0	BJ	256		2190	J	132	B	51		3090	
Arsenic	4.5	B	3.0	U	11.2		3.9	B	5.6		46.0	D
Barium	128	B	118	B	71	B	110	B	101		160	
Beryllium	1.0	U	4.2	BJ	1.0	U	1.0	U	1.0	U	2.0	U
Cadmium	3.0	U	4.0	U	1.3	B	1.0	U	1.0	U	0.1	J
Calcium	111000		112000		242000		102000		146000		175000	
Chromium	5.0	U	5.4	BJ	8.4	B	2.0	U	1.0	U	21.6	J
Cobalt	7.0	U	6.3	B	11.4	B	3.0	U	1.0	U	13.2	U
Copper	4.7	BJ	9.8	BJ	6.0	U	6.0	U	1.0	U	11.0	
Iron	4070	J	3820		33000		3610		6080		27600	
Lead	2.0	U	6.5	J	33.0		1.0	UJ	1.0	U	6.0	J
Magnesium	19200		20000		23300		17800		18100		26800	
Manganese	238.0		220		3590.0		247.0		394		559	J
Nickel	6.0	U	20.0	U	24.2	B	7.0	U	1.8		11.7	J
Potassium	4810	B	3620	B	4920	B	4540		4280		4200	
Selenium	2.6	BJ	4.0	UJ	4.0	UJ	4.0	U	4.0	U	7.0	U
Sodium	37200		32800		21400	J	27700		25800	J	29300	
Thallium	10.0	UJ	3.0	U	3.0	U	5.0	UJ	2.9		4.0	U
Vanadium	3.0	U	4.0	U	11.9	B	2.0	U	1.0	U	5.1	U
Zinc	9.0	U	28.9	J	81.4		6.0	J	2.9	J	31.7	JB
MISC INORGANICS												
Bromide (µg Br^-/L)	800		600		790		120.0		NR		420	J
Sulfate (mg SO_4/L)	56		54	J	225	J	108	J	NR		146	D
VOLATILE ORGANICS (µg/L)												
Chloroethane	2	J	10	U	10	UJ	10	UJ	10	U	0.6	J
Methylene Chloride	3	BJ	7	U	10	U	10	U	10	U	2	U
1,1-Dichloroethane	5	U	5	U	3	J	10	U	10	U	0.9	J
cis-1,2-Dichloroethene	NR		NR		NR		NR		NR		1	
total 1,2-Dichloroethene	6		5	J	10	UJ	5	J	3	J	NR	
Trichloroethene	5	U	5	U	10	U	10	U	10	U	0.6	J
Benzene	5	U	5	U	3	J	10	U	10	U	1	U
SEMIVOLATILE ORGANICS (µg/L)												
Diethylphthalate	10	U	10	U	20		10	U	10	U	3	J
bis(2-Ethylhexyl)phthalate	10	U	10	U	10	U	10	U	10	U	47	
PESTICIDES/PCB (µg/L)	ND		ND		ND		ND		NR		NS	

HISTORICAL SUMMARY OF GROUND WATER DETECTIONS
1990-2000
HIMCO DUMP SUPERFUND SITE, ELKHART, IN

	WT111A							
Date sampled	9/25/1991		1995		11/13/1996		4/28/2000	
TOTAL METALS (µg/L)								
Aluminum	421		450		280.0		463	
Arsenic	4.0	BJ	3.8	U	3.7		7	U
Barium	109	B	103	J	105		256	
Cadmium	1.0	U	1.1	U	1	U	0.2	J
Calcium	15400		6170		8160		113000	
Chromium	2.0	U	4.0	U	1.8		2.3	J
Cobalt	3.9	B	11.9	J	6.4		12.2	J
Copper	6.0	U	1.7	U	3.3		9.3	U
Iron	3650		1760		4470		12600	
Lead	1.5	BJ	1.7	U	1.00	U	7	U
Magnesium	6350		2520	J	2980		19100	J
Manganese	498		201		335		1440	J
Nickel	12.1	B	16.0	J	7.2		8.7	J
Potassium	3210	B	1690	J	1600		8380	
Sodium	19600		2560	J	3200		39400	
Thallium	5.0	UJ	4.7	U	3.0		4	U
Vanadium	5.3	BJ	11.9	J	2.4		5.1	U
Zinc	17.0	B	17.5	J	22.2	J	18	JB
MISC INORGANICS								
Bromide (µg Br^-/L)	100.00	U	NR		NR		400.0	J
Sulfate (mg SO_4/L)	91.0	J	NR		NR		264.0	D
VOLATILE ORGANICS (µg/L)								
Methylene Chloride			5	J	ND		2	U
1,1-Dichloroethane							1	
Benzene	1	J	10	U	10	U	1	U
SEMIVOLATILE ORGANICS (µg/L)								
bis(2-Ethylhexyl)phthalate	10	U	0.3	J	10	U	5	U
PESTICIDES/PCB (µg/L)								
alpha-BHC	ND		0.012	JP	NR		NS	

HISTORICAL SUMMARY OF GROUND WATER DETECTIONS
1990-2000
HIMCO DUMP SUPERFUND SITE, ELKHART, IN

	WT112A					
Date sampled	1995		10/20/1998		4/27/2000	
Barium	NR		36.6	J	28.6	
Calcium	NR		19000	J	247000	
Chromium	NR		7.5	J	6.7	U
Iron	NR		11.7	UJ	23.3	JB
Magnesium	NR		14000	J	17000	J
Manganese	NR		6.7	J	0.7	J
Potassium	NR		1330	J	1700	
Sodium	NR		13300	J	13800	
Vanadium	NR		12.3	UJ	2.3	J
Cyanide	NR		7.3	J	NS	
MISC INORGANICS						
Bromide (µg Br^-/L)	NR		NR		40	J
Sulfate (mg SO_4/L)	NR		NR		434	D
VOLATILE ORGANICS (µg/L)	ND		ND		ND	
SEMIVOLATILE ORGANICS (µg/L)						
Diethylphthalate	0.4	B	10	U	5	U
bis(2-Ethylhexyl)phthalate	0.8	B	10	U	39	
PESTICIDES/PCB (µg/L)	ND		NR		NS	

HISTORICAL SUMMARY OF GROUND WATER DETECTIONS
1990-2000
HIMCO DUMP SUPERFUND SITE, ELKHART, IN

	WT112B					
Date sampled	1995		4/27/2000		4/27/2000 Dup	
TOTAL METALS (µg/L)						
Aluminum	169	J	118	U	118	U
Arsenic	3.8	U	5	J	4	J
Barium	35.1	J	86.7		86	
Calcium	179000		81800		79900	
Iron	15.0	J	1180		1220	
Magnesium	15200		21000		20900	
Manganese	4.0	J	93.1		94.5	
Nickel	10	J	21	U	21	U
Potassium	2000	J	1320		1380	
Sodium	12300	J	22800		23300	
Vanadium	9.6	J	5.1	U	5.1	U
Zinc	7.7	J	34.1	U	34.1	U
MISC INORGANICS						
Bromide (µg Br^-/L)	NR		70	J	70	J
Sulfate (mg SO_4/L)	NR		56		56	
VOLATILE ORGANICS (µg/L)	ND		ND		ND	
SEMIVOLATILE ORGANICS (µg/L)						
bis(2-Ethylhexyl)phthalate	2	JBU	5	U	5	U
PESTICIDES/PCB (µg/L)	ND		NS		NS	

HISTORICAL SUMMARY OF GROUND WATER DETECTIONS
1990-2000
HIMCO DUMP SUPERFUND SITE, ELKHART, IN

	WT113A			
Date sampled	1995		4/26/2000	
TOTAL METALS (µg/L)				
Aluminum	161	J	118	U
Barium	14.3	J	13.8	
Cadmium	1.1	U	0.1	J
Calcium	45700		64300	
Cobalt	6.9	J	13.2	U
Copper	1.7	U	4.2	JB
Iron	4.7	J	59.8	B
Magnesium	11400		16500	J
Manganese	2.3	J	3.1	
Potassium	1200	J	1210	
Sodium	6340	J	14200	
Vanadium	11.1	J	5.1	U
Zinc	5.0	J	34.1	U
MISC INORGANICS				
Bromide (µg Br^-/L)	NR		140	U
Sulfate (mg SO_4/L)	NR		24	
VOLATILE ORGANICS (µg/L)	ND		ND	
SEMIVOLATILE ORGANICS (µg/L)				
Diethylphthalate	0.6	JBU	5	U
bis(2-Ethylhexyl)phthalate	0.3	JBU	5	U
PESTICIDES/PCB (µg/L)	ND		NS	

HISTORICAL SUMMARY OF GROUND WATER DETECTIONS
1990-2000
HIMCO DUMP SUPERFUND SITE, ELKHART, IN

	WT113B			
Date sampled	1995		4/26/2000	
TOTAL METALS (µg/L)				
Aluminum	80.5	J	118	U
Arsenic	3.8	U	3	J
Barium	78.1	J	68.4	
Calcium	93300		101000	
Chromium	5.6	J	6.7	U
Copper	3.7	J	9.3	U
Iron	703		1210	
Magnesium	23000		21400	
Manganese	148		97.6	
Potassium	1900	J	2040	
Silver	4.9	J	11.1	U
Sodium	13300	J	15300	
Thallium	5.0	J	1	U
Zinc	3.5	J	34.1	U
MISC INORGANICS				
Bromide (µg Br^-/L)	NR		60	J
Sulfate (mg SO_4/L)	NR		131	D
VOLATILE ORGANICS (µg/L)	ND		ND	
SEMIVOLATILE ORGANICS (µg/L)				
Diethylphthalate	0.4	JB	5	U
bis(2-Ethylhexyl)phthalate	0.2	JB	5	U
PESTICIDES/PCB (µg/L)	ND		NS	

HISTORICAL SUMMARY OF GROUND WATER DETECTIONS
1990-2000
HIMCO DUMP SUPERFUND SITE, ELKHART, IN

	WT114A					
Date sampled	1/1/1995		10/20/1998		5/3/2000	
TOTAL METALS (µg/L)						
Aluminum	145	J	26.0	UJ	118	U
Arsenic	23.3		24.3	J	9	
Barium	237		238	J	101	
Beryllium	0.40	U	0.60	J	2	U
Cadmium	1.7	J	4.6	UJ	0.3	U
Calcium	243000		27000	J	192000	
Chromium	4.0	U	12.0	J	6.7	U
Cobalt	13.8	J	11.9	J	5.9	J
Iron	19000		17900	J	6510	
Magnesium	23400		24800	J	18600	J
Manganese	393		306	J	276	J
Nickel	19.0	J	23.8	UJ	21	U
Potassium	5110		6640	J	3390	
Sodium	122000	J	47100	J	123000	
Thallium	6.7	J	0.40	UJ	4	U
Vanadium	10.4	J	12.3	UJ	5.1	U
Zinc	7.6	J	3.2	J	34.1	U
Cyanide	10.0	U	7.8	J	NS	
MISC INORGANICS						
Bromide (µg Br^-/L)	NR		NR		170	J
Sulfate (mg SO_4/L)	NR		NR		177	D
VOLATILE ORGANICS (µg/L)						
Carbon Disulfide	0.7	J	10	U	1	U
1,1-Dichloroethane	5	J	4	J	3	
Benzene	2	J	10	UJ	1	U
SEMIVOLATILE ORGANICS (µg/L)						
Diethylphthalate	2	JB	2	J	1	J
bis(2-Ethylhexyl)phthalate	0.9	JB	10	U	2	J
PESTICIDES/PCB (µg/L)	ND		NR		NS	

HISTORICAL SUMMARY OF GROUND WATER DETECTIONS
1990-2000
HIMCO DUMP SUPERFUND SITE, ELKHART, IN

	WT114B			
Date sampled	1995		5/3/2000	
TOTAL METALS				
Aluminum	230		118	U
Arsenic	18.5		9	
Barium	194	J	69.4	
Calcium	219000		108000	
Chromium	4.0	U	3	J
Cobalt	11.1	J	13.2	U
Iron	13300		6320	
Magnesium	30500		17500	J
Manganese	182		92.5	J
Nickel	19.7	J	21	U
Potassium	5110		2700	
Sodium	30100	J	14100	
Vanadium	23.2	J	5.1	U
Zinc	4.5	J	34.1	U
Cyanide	11.4		NS	
MISC INORGANICS				
Bromide (µg Br^-/L)	NR		70	J
Sulfate (mg SO_4/L)	NR		156	D
VOLATILE ORGANICS				
Carbon Disulfide	2	J	1	U
1,1-Dichloroethane	1	J	1	U
cis-1,2-Dichloroethene	NR		1	U
total 1,2-Dichloroethene	1	J	NR	
SEMIVOLATILE ORGANICS				
Butylbenzylphthalate	0.2	J		
bis(2-Ethylhexyl)phthalate	0.6	JB	1	J
PESTICIDES/PCB				
alpha-BHC	0.012	J	NS	

HISTORICAL SUMMARY OF GROUND WATER DETECTIONS
1990-2000
HIMCO DUMP SUPERFUND SITE, ELKHART, IN

	WT115A							
Date sampled	1/1/1995		11/13/1996		10/21/1998		5/1/2000	
TOTAL METALS (µg/L)								
Aluminum	132	J	32.0		94.1	J	8860	
Barium	50.1	J	33.3		33.5	J	105	
Cadmium	1.1	U	1	U	4.6	U	0.1	J
Calcium	197000		215000		293000		241000	
Chromium	4.0	U	2.9		10.4		12.8	J
Cobalt	5.9	U	1.6		7.8	U	13.2	U
Copper	1.7	U	1.8		4.1	U	19.7	
Iron	1360		2220		4590		6500	
Lead	1.7	U	1.00	U	0.50	U	11	
Magnesium	27200		36000		20300		12400	J
Manganese	413		276		513		380	J
Nickel	9.5	U	3.8		28.3	U	11.5	J
Potassium	5580		6520		3580	J	4440	
Sodium	43600	J	33600	J	12100		24600	
Thallium	5.3	J	2.20		0.40	U	4	U
Vanadium	4.5	U	7.6		12.3	U	14.5	
Zinc	31.1	B	4.1	J	3.7	J	37.7	JB
Cyanide	10.0	U	NR		12.4	J	NS	
MISC INORGANICS								
Bromide (µg Br^-/L)	NR		NR		NR		600	J
Sulfate (mg SO_4/L)	NR		NR		NR		254	D
VOLATILE ORGANICS								
Methylene Chloride	1	J	10	U	10	U	2	U
cis-1,2-Dichloroethene	NR		NR		NR		0.5	J
total 1,2-Dichloroethene	10	U	10	U	10	U	NR	
Trichloroethene	10	U	10	U	10	U	0.6	J
Benzene	1	J	2	J	10	U	1	
Tetrachloroethene	10	U	10	U	10	U	0.8	J
SEMIVOLATILE ORGANICS								
Diethylphthalate							2	J
bis(2-Ethylhexyl)phthalate	0.4	J	10	U	10	UJ	18	
PESTICIDES/PCB (µg/L)	ND		NR		NR		NS	

HISTORICAL SUMMARY OF GROUND WATER DETECTIONS
1990-2000
HIMCO DUMP SUPERFUND SITE, ELKHART, IN

Location ID	MW-1A		MW-1A		MW-1A		MW-1A		MW-1A	
Date Sampled	[illegible]		11/13/1995		10/[illegible]/1998		5/3/2000		5/3/2000	
TOTAL METALS (µg/L)										
Aluminum	393		NR		58.0	J	118	U	118	U
Arsenic	3.8	U	NR		1.0	J	7	U	7	U
Barium	136	J	NR		192	J	79.9		79.6	
Cadmium	1.1	U	NR		4.6	UJ	0.1	J	0.1	J
Calcium	518000		NR		60900	J	666000		685000	
Chromium	7.1	J	NR		7.0	UJ	6.7	U	6.7	U
Cobalt	5.9	U	NR		7.8	UJ	11.2	J	11.5	J
Copper	1.7	U	NR		4.1	UJ	15.8		15.5	
Iron	5710		NR		4490	J	31900		32400	
Lead	1.7	U	NR		0.50	UJ	6	J	13	JD
Magnesium	53500		NR		52700	J	66900		66100	
Manganese	670		NR		662	J	1810	J	1800	J
Mercury	0.20	U	NR		0.10	J	0.1	UJ	0.1	UJ
Nickel	9.5	U	NR		28.3	UJ	13.3	J	12.2	J
Potassium	36000		NR		25200	J	19600		18900	
Selenium	3.6	U	NR		6.0	R	14	DU	14	UD
Sodium	195000	J	NR		179000	J	161000		160000	
Thallium	4.7	J	NR		0.40	UJ	4	U	4	U
Zinc	45.4		NR		3.2	UJ	178	J	194	J
MISC INORGANICS										
Bromide (µg Br^-/L)	NS		NS		NS		2380	D	2420	D
Sulfate (mg SO_4/L)	NS		NS		NS		1260	D	1250	D
VOLATILE ORGANICS (µg/L)										
Vinyl Chloride	10	U	10	U	10	U	1		1	
1,1-Dichloroethane	7	J	5	J	5	J	8		7	
cis-1,2-Dichloroethene	NR		NR		NR		1		1	
total 1,2-Dichloroethene	1	J	0.4	J	10	U	NR		NR	
1,2-Dichloropropane	4	J	2	J	10	U	1		1	
Trichloroethene	0.9		0.5	J	10	U	1	U	1	U
Benzene	15		7	J	10	U	1	U	1	U
Ethylbenzene	0.7	J	10	U	10	U	1	U	1	U
SEMIVOLATILE ORGANICS (µg/L)										
Naphthalene	0.4	J	NR		10	U	5	U	5	U
Acenaphthylene	3	J	NR		10	U	5	U	5	U
Dibenzofuran	2	J	NR		10	U	5	U	5	U
Diethylphthalate	10	U	NR		10	U	5	U	4	J
Fluorene	3	J	NR		10	U	5	U	5	U
Anthracene	0.3	J	NR		10	U	5	U	5	U
bis(2-Ethylhexyl)phthalate	15	B	NR		2	J	7		2	J
Carbazole	6	J	NR		10	U	5	U	5	U
PESTICIDES/PCB (µg/L)	ND		NS		NS		NS		NS	

HISTORICAL SUMMARY OF GROUND WATER DETECTIONS
1990-2000
HIMCO DUMP SUPERFUND SITE, ELKHART, IN

	WT116B			
Date sampled	1995		5/3/2000	
TOTAL METALS (µg/L)				
Aluminum	40.4	J	118	U
Barium	174	J	135	
Calcium	184000		203000	
Iron	2740		3710	
Magnesium	35200		22900	
Manganese	203		206	J
Potassium	7080	J	5780	
Silver	2.5		11.1	U
Sodium	43200	J	23500	
Vanadium	4.5	J	5.1	U
MISC INORGANICS				
Bromide (µg Br^-/L)	NR		320	J
Sulfate (mg SO_4/L)	NR		143	D
VOLATILE ORGANICS (µg/L)				
Carbon Disulfide	2	J	1	U
SEMIVOLATILE ORGANICS (µg/L)				
Diethylphthalate			2	J
bis(2-Ethylhexyl)phthalate	2	JBU	2	J
PESTICIDES/PCB (µg/L)	ND		NS	

HISTORICAL SUMMARY OF GROUND WATER DETECTIONS
1990-2000
HIMCO DUMP SUPERFUND SITE, ELKHART, IN

	WT117A			
Date sampled	1995		4/27/2000	
TOTAL METALS (µg/L)				
Aluminum	NR		827	
Barium	NR		41.3	
Calcium	NR		70900	
Chromium	NR		9.3	J
Copper	NR		3.2	JB
Iron	NR		508	
Magnesium	NR		12000	J
Manganese	NR		206	
Nickel	NR		7.5	J
Potassium	NR		2180	
Selenium	NR		4	UD
Sodium	NR		5110	
Vanadium	NR		3.1	J
Cyanide	NR		NS	
MISC INORGANICS				
Bromide (µg Br^-/L)	NR		60	J
Sulfate (mg SO_4/L)	NR		169	D
VOLATILE ORGANICS (µg/L)				
Methylene Chloride	1	J	2	U
SEMIVOLATILE ORGANICS (µg/L)				
bis(2-Ethylhexyl)phthalate	0.3	B	7	
PESTICIDES/PCB (µg/L)				
	ND		NS	

HISTORICAL SUMMARY OF GROUND WATER DETECTIONS
1990-2000
HIMCO DUMP SUPERFUND SITE, ELKHART, IN

	WT117B			
Date sampled	1995		4/27/2000	
TOTAL METALS (µg/L)				
Barium	NR		35.9	
Calcium	NR		179000	
Iron	NR		2280	
Magnesium	NR		24200	
Manganese	NR		71.7	
Potassium	NR		1790	
Sodium	NR		17100	
Cyanide	NR		NS	
MISC INORGANICS				
Bromide (µg Br^-/L)	NR		70	J
Sulfate (mg SO_4/L)	NR		318	D
VOLATILE ORGANICS (µg/L)				
Methylene Chloride	1	J	2	U
SEMIVOLATILE ORGANICS (µg/L)				
bis(2-Ethylhexyl)phthalate	0.8	JBU		
PESTICIDES/PCB (µg/L)	ND		NS	

HISTORICAL SUMMARY OF GROUND WATER DETECTIONS
1990-2000
HIMCO DUMP SUPERFUND SITE, ELKHART, IN

	WT118B			
Date sampled	1995		4/28/2000	
TOTAL METALS (µg/L)				
Aluminum	229		118	U
Barium	347		93.4	
Beryllium	0.92	J	2	U
Calcium	306000		193000	
Chromium	14.4		6.7	U
Cobalt	12.9	J	13.2	U
Copper	7.9	J	9.3	U
Iron	8680		5790	
Magnesium	29600		20000	
Manganese	76.9		126	J
Nickel	20.2	J	21	U
Potassium	16300		7800	
Silver	10.9		11.1	U
Sodium	69900	J	18700	
Thallium	8.0	J	4	U
Vanadium	18.8	J	5.1	U
Zinc	6.3	J	34.1	U
MISC INORGANICS				
Bromide (µg Br^-/L)	NR		200	J
Sulfate (mg SO_4/L)	NR		351	D
VOLATILE ORGANICS (µg/L)				
Methylene Chloride	0.9	J	2	U
1,1-Dichloroethane			2	
SEMIVOLATILE ORGANICS (µg/L)				
bis(2-Ethylhexyl)phthalate	3	J	5	U
PESTICIDES/PCB (µg/L)	ND		NS	

HISTORICAL SUMMARY OF GROUND WATER DETECTIONS
1990-2000
HIMCO DUMP SUPERFUND SITE, ELKHART, IN

	WT119A			
Date sampled	10/22/1998		4/28/2000	
TOTAL METALS (µg/L)				
Aluminum	258	J	38.3	J
Antimony	43.2	J	7	U
Arsenic	5.8	J	6	J
Barium	78.3		94	
Calcium	143000		215000	
Chromium	7.8		2	J
Copper	5.4		9.3	U
Iron	1690		2650	
Lead	3.4	J	7	U
Magnesium	44800		70800	
Manganese	279		318	J
Potassium	11500	J	22200	
Selenium	6.0	J	14	UD
Sodium	69100		61100	
Cyanide	12	J	NS	
MISC INORGANICS				
Bromide (µg Br^-/L)	NR		460	J
Sulfate (mg SO_4/L)	NR		420	D
VOLATILE ORGANICS (µg/L)				
1,1-Dichloroethane	10	U	3	
SEMIVOLATILE ORGANICS (µg/L)	ND		ND	
PESTICIDES/PCB (µg/L)	NR		NS	

HISTORICAL SUMMARY OF GROUND WATER DETECTIONS
1990-2000
HIMCO DUMP SUPERFUND SITE, ELKHART, IN

	WTB1			
Date sampled	12/4/1990		4/26/2000	
TOTAL METALS (µg/L)				
Aluminum	347		118	U
Barium	116	B	122	
Calcium	51700		52500	
Chromium	6.0	U	2.4	J
Copper	11.2	B	9.3	U
Iron	903	J	527	
Lead	10.2	J	2	U
Magnesium	20900		20900	
Manganese	51.0		40.1	
Nickel	25.0	U	8.3	J
Potassium	1950	B	2100	
Sodium	51200		55100	
Zinc	71.4	J	36.9	JB
MISC INORGANICS				
Bromide (µg Br^-/L)	200	U	180	J
Sulfate (mg SO_4/L)	44	UJ	60	J
VOLATILE ORGANICS (µg/L)	ND		ND	
SEMIVOLATILE ORGANICS (µg/L)	ND		ND	
PESTICIDES/PCB (µg/L)	ND		NS	

HISTORICAL SUMMARY OF GROUND WATER DETECTIONS
1990-2000
HIMCO DUMP SUPERFUND SITE, ELKHART, IN

	WTB2			
Date sampled	12/4/1990		9/26/1991	
TOTAL METALS				
Aluminum	695		6930	
Arsenic	3.0	U	5.30	BJ
Barium	22.5	B	124.0	B
Calcium	71100		138000	
Chromium	20.9		24.60	
Cobalt	12.5	U	25.40	B
Copper	8.7	B	31.0	
Iron	1240	J	17200	
Lead	20.0	UJ	91.20	
Magnesium	11000		32900	
Manganese	99.9		1870	
Nickel	25.0	U	47.50	
Potassium	942	U	1730	B
Selenium	2.4	BJ	4.00	U
Sodium	4040	B	5490	
Vanadium	8.5	U	26.8	B
Zinc	13.9	BJ	79.0	
MISC INORGANICS				
Bromide (µg Br^-/L)	100	U	100	U
Sulfate (mg SO_4/L)	94	J	160	J
VOLATILE ORGANICS (µg/L)	ND		ND	
SEMIVOLATILE ORGANICS (µg/L)				
Naphthalene	10	U	2	J
bis(2-Ethylhexyl)phthalate	10	U	6	J
PESTICIDES/PCB (µg/L)	ND		ND	

HISTORICAL SUMMARY OF GROUND WATER DETECTIONS
1990-2000
HIMCO DUMP SUPERFUND SITE, ELKHART, IN

	WTB3					
	12/5/1990		9/26/1991		4/26/2000	
TOTAL METALS (µg/L)						
Aluminum	47.9	B	120	B	118	U
Antimony	48.7	B	13.0	U	2.0	U
Arsenic	5.8	B	4.0	B	5.0	J
Barium	63.6	B	57.2	B	60.2	
Calcium	131000		127000		96800	
Copper	4.8	B	6.0	U	9.3	U
Iron	707	J	594		426	
Lead	20.0	UR	3.5	J	2	U
Magnesium	41400		38000		27900	
Manganese	445	J	383		356	
Potassium	1370	B	755	BJ	1290	
Selenium	3.1	B	4.0	U	2.0	U
Silver	7.7	BJ	2.0	U	11.1	U
Sodium	11600		13400		20300	
Vanadium	14.1	BJ	2.0	U	5.1	U
Zinc	19.2	BJ	7.4	B	34.1	U
MISC INORGANICS						
Bromide (µg Br^-/L)	100	U	100		80	J
Sulfate (mg SO_4/L)	300	R	281	J	132	D
VOLATILE ORGANICS (µg/L)						
Chloromethane	10	U	5	J	1	U
Acetone	10	UJ	27		5	U
Chloroform	5	U	26		1	U
Bromodichloromethane	5	U	7	J	1	U
Dibromochloromethane	5	U	2	J	1	U
SEMIVOLATILE ORGANICS (µg/L)						
bis(2-Ethylhexyl)phthalate	2	JBU	2	JBU	6	
PESTICIDES/PCB (µg/L)	ND		ND		NS	

HISTORICAL SUMMARY OF GROUND WATER DETECTIONS
1990-2000
HIMCO DUMP SUPERFUND SITE, ELKHART, IN

	WTB4					
Date sampled	12/11/1990		9/26/1991		4/26/2000	
TOTAL METALS (µg/L)						
Aluminum	126	B	145	B	118	U
Antimony	36.0	B	13.0	U	2	U
Barium	40.4	B	35	B	37	
Calcium	55500		59900		69400	
Copper	32.1		6.0	U	9.3	U
Iron	802	J	356		415	B
Lead	58.0	J	6.5		2	U
Magnesium	18500		18000		21200	
Manganese	251	J	154		206	
Potassium	1190	B	787	BJ	759	
Silver	9.0	BJ	2.0	U	11.1	U
Sodium	4210	B	4920	B	4600	
Vanadium	8.5	BJ	2.0	U	5.1	U
Zinc	35.4	J	8.8	B	34.1	U
MISC INORGANICS						
Bromide (µg Br^-/L)	100	U	100	U	110	J
Sulfate (mg SO_4/L)	38	J	49.0	J	38	D
VOLATILE ORGANICS (µg/L)						
Chloroform	4	J	23		1	U
Bromodichloromethane	2	J	7	J	1	U
Dibromochloromethane	5	U	2	J	1	U
SEMIVOLATILE ORGANICS (µg/L)						
bis(2-Ethylhexyl)phthalate	32		3	J	5	U
PESTICIDES/PCB (µg/L)	ND		ND		NS	

HISTORICAL SUMMARY OF GROUND WATER DETECTIONS
1990-2000
HIMCO DUMP SUPERFUND SITE, ELKHART, IN

	CP1	
Date sampled	12/3/1990	
TOTAL METALS (µg/L)		
Barium	27.8	B
Calcium	111000	
Iron	284	J
Magnesium	13700	
Manganese	8.5	B
Mercury	1.0	J
Sodium	12000	
Vanadium	5.2	B
Zinc	219	J
MISC INORGANICS		
Bromide (µg Br^-/L)	100	U
Sulfate (mg SO_4/L)	190	
VOLATILE ORGANICS (µg/L)	ND	
SEMIVOLATILE ORGANICS (µg/L)	ND	
PESTICIDES/PCB (µg/L)	ND	

HISTORICAL SUMMARY OF GROUND WATER DETECTIONS
1990-2000
HIMCO DUMP SUPERFUND SITE, ELKHART, IN

	WTE1			
Date sampled	1995		5/2/2000	
TOTAL METALS (µg/L)				
Barium	NR		43.5	
Calcium	NR		174000	
Iron	NR		5150	
Lead	NR		3	J
Magnesium	NR		35500	
Manganese	NR		204	J
Potassium	NR		4120	
Sodium	NR		19100	
Cyanide	NR		NS	
MISC INORGANICS				
Bromide (µg Br^-/L)	NR		120	J
Sulfate (mg SO_4/L)	NR		347	D
VOLATILE ORGANICS (µg/L)				
Methylene Chloride	2	J	2	U
SEMIVOLATILE ORGANICS (µg/L)				
Diethylphthalate	10	U	3	J
bis(2-Ethylhexyl)phthalate	0.2	JBU	19	
PESTICIDES/PCB (µg/L)	ND		NS	

HISTORICAL SUMMARY OF GROUND WATER DETECTIONS
1990-2000
HIMCO DUMP SUPERFUND SITE, ELKHART, IN

	WTE2			
Date sampled	12/12/1990		9/25/1991	
TOTAL METALS (µg/L)				
Aluminum	113000		25500	
Antimony	36.2	B	13.0	U
Arsenic	54.5		4.3	B
Barium	250		116	B
Beryllium	5.4		1.3	B
Calcium	28200		33700	
Chromium	133		45	
Cobalt	28.6	B	9.6	B
Copper	139		80	
Iron	39300	J	5490	
Lead	106	J	105	
Magnesium	16300		9380	
Manganese	265	J	115	
Mercury	0.40		0.20	U
Nickel	111		37	B
Potassium	5110		3160	B
Selenium	33.0		4.0	UJ
Silver	18.4	J	2.0	U
Sodium	2400	B	3520	B
Vanadium	106		36	B
Zinc	399	J	162	
MISC INORGANICS				
Bromide (µg Br^-/L)	200		4100	
Sulfate (mg SO_4/L)	13	J	15.3	J
VOLATILE ORGANICS (µg/L)				
Chloroform	5	U	2	J
2-Hexanone	0.7	J	10	UJ
SEMIVOLATILE ORGANICS (µg/L)				
bis(2-Ethylhexyl)phthalate	11	UJ	16	
PESTICIDES/PCB (µg/L)	ND		ND	

HISTORICAL SUMMARY OF GOUND WATER DETECTIONS
1990-2000
HIMCO DUMP SUPERFUND SITE, ELKHART, IN

	WTE3			
Date sampled	12/12/1990		5/2/2000	
TOTAL METALS (µg/L)				
Aluminum	138	B	118	U
Antimony	47.9	B	7.0	U
Arsenic	4.7	B	5.0	J
Barium	222		51.3	
Calcium	97100		58300	
Iron	3140	J	2240	
Lead	2.0	UR	3.0	J
Magnesium	38200		23800	
Manganese	21.7	J	21.1	J
Potassium	1790	B	1810	
Selenium	2.5	B	7.0	U
Silver	11.2	J	11.1	U
Sodium	90700		12400	
Vanadium	12.0	BJ	5.1	U
Zinc	17.2	BJ	34.1	U
MISC INORGANICS				
Bromide (µg Br^-/L)	1900		130	J
Sulfate (mg SO_4/L)	110	J	57	D
VOLATILE ORGANICS (µg/L)				
Chloroform	10	U	3	
Bromodichloromethane	10	U	2	
Dibromochloromethane	10	U	2	
Bromoform	10	U	1	
2-Hexanone	0.7	J	5	U
SEMIVOLATILE ORGANICS (µg/L)				
Diethylphthalate	10	U	2	J
bis(2-Ethylhexyl)phthalate	10	U	35	
PESTICIDES/PCB (µg/L)	ND		NS	

HISTORICAL SUMMARY OF GROUND WATER DETECTIONS
1990-2000
HIMCO DUMP SUPERFUND SITES, ELKHART, IN

	F1	
Date Sampled	12/13/1990	
TOTAL METALS (µg/L)		
Aluminum	66.1	B
Barium	26.0	B
Calcium	26900	
Copper	5.0	B
Iron	374	J
Lead	10.2	J
Magnesium	6100	
Manganese	86.7	J
Potassium	1240	B
Silver	9.3	BJ
Sodium	5740	
Vanadium	6.1	BJ
Zinc	81.0	J
MISC INORGANICS		
Bromide (µg Br^-/L)	200	
Sulfate (mg SO_4/L)	15	J
VOLATILE ORGANICS (µg/L)	ND	
SEMIVOLATILE ORGANICS (µg/L)	ND	
PESTICIDES/PCB (µg/L)	ND	

HISTORICAL SUMMARY OF GROUND WATER DETECTIONS
1990-2000
HIMCO DUMP SUPERFUND SITE, ELKHART, IN

	F2	
Date sampled	12/11/1990	
TOTAL METALS (µg/L)		
Aluminum	140	B
Antimony	32.2	B
Arsenic	8.0	B
Barium	56.3	B
Calcium	53900	
Iron	2500	J
Lead	2.0	UR
Magnesium	17900	
Manganese	34.2	J
Potassium	901	B
Selenium	2.0	B
Silver	7.2	BJ
Sodium	4110	B
Thallium	3.0	UJ
Vanadium	8.7	BJ
MISC INORGANICS		
Bromide (µg Br^-/L)	300	
Sulfate (mg SO_4/L)	18	J
VOLATILE ORGANICS (µg/L)		
Trichloroethene	0.6	J
SEMIVOLATILE ORGANICS (µg/L)	ND	
PESTICIDES/PCB (µg/L)	ND	

HISTORICAL SUMMARY OF GROUND WATER DETECTIONS
1990-2000
HIMCO DUMP SUPERFUND SITE, ELKHART, IN

	F3	
Date sampled	12/13/1990	
TOTAL METALS (µg/L)		
Aluminum	267	
Antimony	34.6	B
Arsenic	11.7	
Barium	84.2	B
Calcium	50800	
Iron	555	J
Lead	3.5	J
Magnesium	20700	
Manganese	32.0	J
Potassium	1360	B
Silver	10.6	J
Sodium	15500	
Vanadium	8.2	BJ
MISC INORGANICS		
Bromide (µg Br^-/L)	200	
Sulfate (mg SO_4/L)	45.0	UJ
VOLATILE ORGANICS (µg/L)	ND	
SEMIVOLATILE ORGANICS (µg/L)	ND	
PESTICIDES/PCB (µg/L)	ND	

HISTORICAL SUMMARY OF GROUND WATER DETECTIONS
1990-2000
HIMCO DUMP SUPERFUND SITE, ELKHART, IN

	WTG1			
Date sampled	12/4/1990		4/27/2000	
TOTAL METALS (µg/L)				
Aluminum	92.6	B	118	U
Arsenic	4.1	B	2	U
Barium	59.0	B	79.1	
Calcium	71000		94300	
Copper	10.4	B	9.3	U
Iron	1130	J	1010	
Lead	24.0	BJ	2	U
Magnesium	20500		24300	
Manganese	50.2	J	52.7	
Nickel	25.0	U	7	J
Potassium	2460	B	1430	
Sodium	6120		13800	
Vanadium	8.0	BJ	5.1	U
Zinc	25.9	J	34.1	U
MISC INORGANICS				
Bromide (µg Br^-/L)	100	U	50	J
Sulfate (mg SO_4/L)	64	J	59	D
VOLATILE ORGANICS (µg/L)				
Acetone	39	BJ	5	U
SEMIVOLATILE ORGANICS (µg/L)				
bis(2-Ethylhexyl)phthalate	10	U	4	J
PESTICIDES/PCB (µg/L)	ND		NS	

HISTORICAL SUMMARY OF GROUND WATER DETECTIONS
1990-2000
HIMCO DUMP SUPERFUND SITE, ELKHART, IN

	WTG3			
Date sampled	12/13/1990		4/27/2000	
TOTAL METALS (µg/L)				
Aluminum	NR		36.7	J
Arsenic	NR		10	
Barium	NR		79.4	
Calcium	NR		76400	
Iron	NR		1150	
Magnesium	NR		23500	
Manganese	NR		21.8	
Nickel	NR		8.1	J
Potassium	NR		1260	
Selenium	NR		4.0	J
Sodium	NR		18400	
Cyanide	NR		NS	
MISC INORGANICS				
Bromide (µg Br^-/L)	100		60	M
Sulfate (mg SO_4/L)	NR		32	
VOLATILE ORGANICS (µg/L)				
Chloroform	3	J	1	U
Bromodichloromethane	2	J	1	U
Dibromochloromethane	1	J	1	U
4-Methyl-2-pentanone	1	J	5	U
2-Hexanone	1	J	5	U
Tetrachloroethene	0.6	J	1	U
Toluene	0.6	J	1	U
SEMIVOLATILE ORGANICS (µg/L)				
Dimethylphthalate	9	J	5	U
Diethylphthalate	38	J	5	U
bis(2-Ethylhexyl)phthalate	3	J	19	
PESTICIDES/PCB (µg/L)	ND		NS	

HISTORICAL SUMMARY OF GROUND WATER DETECTIONS
1990-2000
HIMCO DUMP SUPERFUND SITE, ELKHART, IN

	M1			
Date sampled	12/5/1990		9/26/1991	
TOTAL METALS (µg/L)				
Antimony	46.8	B	13.0	UJ
Arsenic	5.1	B	2.00	UJ
Barium	75	B	82	B
Cadmium	5.0	U	2.40	BJ
Calcium	145000		163000	
Iron	6300	J	7280	
Lead	2.0	UR	4.00	J
Magnesium	30600		32800	
Manganese	82.2	J	106.00	
Potassium	5750		6520	
Selenium	3.4	B	4.0	UJ
Silver	11.6	J	2.0	U
Sodium	24200		26400	
Vanadium	12.1	BJ	3.5	B
Zinc	538	J	1240	
MISC INORGANICS				
Bromide (µg Br^-/L)	200		200	
Sulfate (mg SO_4/L)	240	R	285	J
VOLATILE ORGANICS (µg/L)				
Chloroform	5	U	2	J
SEMIVOLATILE ORGANICS (µg/L)				
bis(2-Ethylhexyl)phthalate	11	UJ	3	J
PESTICIDES/PCB (µg/L)	ND		ND	

HISTORICAL SUMMARY OF GROUND WATER DETECTIONS
1990-2000
HIMCO DUMP SUPERFUND SITE, ELKHART, IN

	M2			
Date sampled	12/3/1990		9/25/1991	
TOTAL METALS (µg/L)				
Aluminum	61.7	B	489	
Arsenic	3.0	U	8.5	B
Barium	164	B	209	
Cadmium	5.0	UJ	3.0	BJ
Calcium	116000		165000	
Chromium	6.0	U	8.8	B
Copper	5.0	B	49	
Iron	8830	J	78500	
Lead	20.0	UJ	96.10	
Magnesium	7230		7930	
Manganese	404		403	
Mercury	0.20	J	0.20	U
Nickel	25.0	U	25.60	B
Potassium	4850	B	5510	
Sodium	44500		53800	
Vanadium	12.2	U	20.20	B
Zinc	25.7	J	148	
MISC INORGANICS				
Bromide (µg Br^-/L)	3500		100	U
Sulfate (mg SO_4/L)	6	J	37.6	J
VOLATILE ORGANICS (µg/L)				
Chloromethane	10	UJ	10	UR
Bromomethane	10	U	10	UR
Vinyl Chloride	10	U	10	UR
SEMIVOLATILE ORGANICS (µg/L)				
Phenol	10	U	2	J
bis(2-Ethylhexyl)phthalate	10	U	110	
PESTICIDES/PCB (µg/L)	ND		ND	

HISTORICAL SUMMARY OF GROUND WATER DETECTIONS
1990-2000
HIMCO DUMP SUPERFUND SITE, ELKHART, IN

	N1	
Date sampled	11/29/1990	
TOTAL METALS		
Aluminum	63	BJ
Barium	65	B
Calcium	43000	
Copper	3.7	BJ
Iron	165	J
Lead	3.5	
Magnesium	12900	
Manganese	126	
Potassium	3950	B
Sodium	11400	
Thallium	2.0	UJ
Cyanide	10	UR
MISC INORGANICS		
Bromide (µg Br^-/L)	100	U
Sulfate (mg SO_4/L)	25	
VOLATILE ORGANICS		
Methylene Chloride	3	BJ
Acetone	9	J
SEMIVOLATILE ORGANICS	ND	
PESTICIDES/PCB	ND	

HISTORICAL SUMMARY OF GROUND WATER DETECTIONS
1990-2000
HIMCO DUMP SUPERFUND SITE, ELKHART, IN

	P01			
Date sampled	9/23/1991		9/26/1991	
TOTAL METALS (µg/L)				
Aluminum	3130.00	J	362	J
Arsenic	24.20		2.00	U
Barium	113.00	B	41.20	B
Cadmium	1.00	U	2.20	BJ
Calcium	213000.00		182000	
Chromium	10.30		3.5	B
Cobalt	5.00	B	3.00	U
Copper	6.00	U	46.50	
Iron	13100.00		1910	
Lead	32.10		210.00	J
Magnesium	16700.00		17500	
Manganese	447.00		39.70	
Potassium	8640.00		2530	B
Sodium	52300.00	J	13900	
Thallium	3.00	U	5.00	UJ
Vanadium	11.00	B	5.50	B
Zinc	24.70		13600	
MISC INORGANICS				
Bromide (µg Br^-/L)	870		210	
Sulfate (mg SO_4/L)	214	J	284	J
VOLATILE ORGANICS (µg/L)				
Chloromethane	10	UR	10	U
Bromomethane	10	UR	10	U
Vinyl Chloride	10	UR	10	U
1,1-Dichloroethane	3	J	10	U
Chloroform	10	U	6	J
Benzene	1	J	10	U
SEMIVOLATILE ORGANICS (µg/L)				
bis(2-Ethylhexyl)phthalate	3	J	29	
PESTICIDES/PCB (µg/L)	ND		ND	

HISTORICAL SUMMARY OF GROUND WATER DETECTIONS
1990-2000
HIMCO DUMP SUPERFUND SITE, ELKHART, IN

	Q1	
Date sampled	11/29/1990	
TOTAL METALS (µg/L)		
Aluminum	1630	J
Arsenic	1.0	B
Barium	510	
Beryllium	1.2	B
Calcium	106000	
Copper	14.50	BJ
Iron	6250	J
Lead	8.8	
Magnesium	41400	
Manganese	173	
Potassium	12800	
Silver	5.0	U
Sodium	76000	
Vanadium	4.7	B
Zinc	28.4	J
Cyanide	10	UR
MISC INORGANICS		
Bromide (µg Br^-/L)	1100	
Sulfate (mg SO_4/L)	160	
VOLATILE ORGANICS (µg/L)		
Acetone	17	B
SEMIVOLATILE ORGANICS (µg/L)		
Phenol	NR	
PESTICIDES/PCB (µg/L)		
	ND	

MEMORANDUM

DATE: August 15, 2000

TO: Gwen Massenburg, Region V EPA

FROM: Janie Carrig, Project Chemist
US Army Corps of Engineers – Omaha District

SUBJECT: HIMCO Dump Superfund Site, Elkhart, IN
Summary tables of constituents detected in ground water for the years 1990-2000

Attached are replacement pages for above referenced submittal.

If you have any questions, comments or would like something changed on the data tables please feel free to call or email me at:

Janie Carrig
Phone:402-221-7754 (fax 7848)
email: janie.e.carrig@usace.army.mil.

Regards,

Janie

HISTORICAL SUMMARY OF GROUND WATER DETECTIONS
1990-2000
HIMCO DUMP SUPERFUND SITE, ELKHART, IN

	WT101A									
Date sampled	11/28/1990		1995		10/21/1998		5/3/2000		5/3/2000 Dup	
TOTAL METALS (µg/L)										
Aluminum	29	BJ	321		26	U	118	U	118	U
Arsenic	9.0	B	7.8	J	4	J	5.0	J	14	UD
Barium	49	B	116	J	91	J	83		82	
Cadmium	3.00	U	1.10	J	4.60	U	0.30	U	0.30	U
Calcium	202000		249000		377000		258000		242000	
Chromium	5.00	U	4.0	U	13		6.7	U	6.70	U
Cobalt	7.00	U	11	J	7.80	U	13		4.00	J
Copper	4.0	BJ	1.7	U	4.10	U	9.30	U	9.30	U
Iron	24600	J	12700		28100		16300		16100	
Magnesium	7440		25200		14700		27300		27500	
Manganese	1950		1060		3080		1610	J	1540	J
Nickel	6.00	U	24	J	28	U	21	U	21	U
Potassium	5000	B	8060		3630	J	6730		6810	
Selenium	2.00	UJ	3.6	U	3.00	R	7.00	U	7.0	U
Sodium	35400		44100	J	35800		66800		65200	
Vanadium	3.00	U	21	J	12	U	4.00	U	5.1	U
Zinc	9.0	J	1.8	J	3.2	U	4.00	U	34	U
Cyanide	10	UR	10	U	18	J	NS		NS	
MISC INORGANICS										
Bromide (µg Br^-/L)	1000		NR		NR		520	J	530	J
Sulfate (mg SO_4/L)	150		NR		NR		218	D	215	D
VOLATILE ORGANICS (µg/L)										
Chloroethane	10	U	10	U	10	U	1	U	2	
Methylene Chloride	2	BJ	1	J	10	U	2	U	2	U
1,1-Dichloroethane	3	J	5	J	10	U	8		8	
Benzene	3	J	10	U	10	U	2		2	
SEMIVOLATILE ORGANICS (µg/L)										
Dimethylphthalate	NR		10	U	7	J	5	U	5	U
Diethylphthalate	NR		11	U	19	J	3	J	4	J
bis(2-Ethylhexyl)phthalate	NR		5	JB	10	UJ	8		4	J
PESTICIDES/PCB (µg/L)	ND		ND		ND		NS		NS	

HISTORICAL SUMMARY OF GROUND WATER DETECTIONS
1990-2000
HIMCO DUMP SUPERFUND SITE, ELKHART, IN

	WT102A											
Date sampled	11/28/1990		1/7/1991		9/24/1991		1995		10/19/1998		4/25/2000	
TOTAL METALS (µg/L)												
Aluminum	32.7	BJ	81.8	B	165	BJ	268		27.6	J	118	U
Antimony	30.0	U	37.0	U	13.00	U	21.7	J	42.2	UJ	2	U
Barium	66	B	60.3	B	57	B	53.3	J	47.3	J	46.7	
Beryllium	1.20	B	3.1	BJ	1.00	U	1.3	J	0.60	UJ	2	U
Calcium	211000		181000		165000		157000		17100	J	173000	
Chromium	5.0	U	6.5	BJ	2.80	B	23.9		20.3	J	17.8	J
Cobalt	7.0	U	5.0	U	3.00	U	13.1	J	7.8	UJ	4.1	J
Copper	6.9	BJ	16.7	BJ	6.00	U	17.9	J	4.1	UJ	9.3	U
Iron	57	BJ	123		60.80	B	39.0	J	96.8	J	115	B
Lead	2.2	BJ	1.0	UJ	1.00	U	1.7	U	0.50	UJ	2	U
Magnesium	25100		22500		20300		15900		16600	J	18800	J
Manganese	38.1		23.0		9.20	B	30.2		61.5	J	86.7	
Nickel	6.0	U	20.0	U	7.00	U	40.6		73.0	J	45.4	J
Potassium	2110.0	B	2000	B	2120	B	2070	J	1610	J	2060	
Silver	5.0	U	5.0	UJ	2.00	UJ	19.5		6.1	J	11.1	U
Sodium	48600		41900		50700	J	52300	J	48000	J	100000	
Vanadium	3.0	U	4.0	U	2.00	U	26.5	J	12.3	UJ	5.1	U
Zinc	9.0	U	24.1	J	6.00	U	4.1	J	3.2	UJ	34.1	U
Cyanide	10.0	UR	10.0	U	10.00	U	10.0	U	8.5	J	NS	
MISC INORGANICS												
Bromide (µg Br^-/L)	100	U	100		100	U	NR		NR		60	J
Sulfate (mg SO_4/L)	430		360	J	338	J	NR		NR		202	D
VOLATILE ORGANICS (µg/L)												
Methylene Chloride	1	BJ	19	J	10	U	10	U	10	U	2	U
Acetone	2	BJ	10	UJ	10	UJ	10	U	10	U	5	U
SEMIVOLATILE ORGANICS (µg/L)												
bis(2-Ethylhexyl)phthalate	NR		NR		NR		0.4	JBU	3	J	5	U
PESTICIDES/PCB (µg/L)	ND		ND		ND		ND		NS		NS	

HISTORICAL SUMMARY OF GROUND WATER DETECTIONS
1990-2000
HIMCO DUMP SUPERFUND SITE, ELKHART, IN

	WT102B							
Date sampled	1/7/1991		9/24/1991		1995		4/25/2000	
TOTAL METALS (µg/L)								
Aluminum	25.0	U	139	BJ	161	J	118	U
Antimony	37.0	U	13.0	U	29.7	J	2	U
Arsenic	3.0	U	2.0	UJ	4.8	J	6	J
Barium	103	B	85	B	91.0	J	103	
Calcium	68700		62400		61200		75800	
Chromium	4.0	U	2.0	U	4.0	U	24.2	J
Cobalt	5.0	U	3.0	U	12.4	J	13.2	U
Copper	4.9	BJ	6.00	U	1.7	U	9.3	U
Iron	15.0	U	71	B	490		1580	
Lead	1.2	BJ	1.0	UJ	1.7	U	2	U
Magnesium	21300		19400		20400		22300	
Manganese	124		118		87.3		91.9	
Nickel	20.0	U	7.0	U	9.5	U	8.1	J
Potassium	1420	B	1690	B	1870	J	1840	
Silver	5.0	UJ	2.0	UJ	2.5	U	3.4	J
Sodium	26100		26900	J	27800	J	25900	
Thallium	3.0	U	3.0	U	5.7	J	1	U
Vanadium	4.0	U	2.0	U	13.2	J	1.9	J
Zinc	12.1	BJ	6.0	U	3.5	J	34.1	U
MISC INORGANICS								
Bromide (µg Br^-/L)	200		100	U	NR		80	J
Sulfate (mg SO_4/L)	64	J	430		NR		58	D
VOLATILE ORGANICS (µg/L)								
Methylene Chloride	16	J	1	BJ	10	U	2	U
Acetone	10	U	2	BJ	10	U	5	U
SEMIVOLATILE ORGANICS (µg/L)								
bis(2-Ethylhexyl)phthalate	3	J	NR		0.4	JBU	5	U
PESTICIDES/PCB (µg/L)	ND		ND		ND		NS	

HISTORICAL SUMMARY OF GROUND WATER DETECTIONS
1990-2000
HIMCO DUMP SUPERFUND SITE, ELKHART, IN

	WT105A									
Date sampled	11/29/1990		1/8/1991		9/25/1991		11/26/1996		5/2/2000	
TOTAL METALS (µg/L)										
Aluminum	81	BJ	224		114	B	17.0	U	112	J
Barium	18.2	B	22.0	U	8.2	B	5.4		8.1	
Beryllium	1.0	U	3.1	BJ	1.0	U	1.00	U	2	U
Calcium	39900		37200		32800		38000		57400	
Chromium	5.0	U	13.0	J	2.0	U	1.0	U	23.9	J
Cobalt	7.0	U	5.7	B	3.0	U	1.0	U	4.1	J
Copper	8.0	BJ	9.8	BJ	6.0	U	0	U	9.3	U
Iron	196	J	555		29.4	BJ	13.1		407	
Lead	2.0	U	1.1	BJ	1.3	B	1.00	U	7	U
Magnesium	11900		10700		8650		10200		16500	J
Manganese	63.8		50.4		26.5		5.0		160	J
Nickel	6.0	U	20.0	U	7.0	U	1	U	73.3	
Potassium	2860	B	2490	B	1580	B	1760		1360	
Sodium	10300		8010		3930	B	4460	J	7720	
Zinc	9.5	BJ	23.6	J	6.0	U	3.6	J	34.1	U
MISC INORGANICS										
Bromide (µg Br^-/L)	200		100	U	480		NR		110	J
Sulfate (mg SO_4/L)	30		22	J	26.7	J	NR		36	D
VOLATILE ORGANICS (µg/L)										
Methylene Chloride	1	BJ	7	U	10	U	10	U	2	U
SEMIVOLATILE ORGANICS (µg/L)										
Diethylphthalate	10	U	10	U	10	U	10	U	3	J
bis(2-Ethylhexyl)phthalate	10	U	10	U	10	U	10	U	17	
PESTICIDES/PCB (µg/L)	ND		ND		ND		NR		NS	

HISTORICAL SUMMARY OF GROUND WATER DETECTIONS
1990-2000
HIMCO DUMP SUPERFUND SITE, ELKHART, IN

	WT111A							
Date sampled	9/25/1991		1995		11/13/1996		4/28/2000	
TOTAL METALS (µg/L)								
Aluminum	421		450		280.0		463	
Arsenic	4.0	BJ	3.8	U	3.7		7	U
Barium	109	B	103	J	105		256	
Cadmium	1.0	U	1.1	U	1	U	0.2	J
Calcium	15400		6170		8160		113000	
Chromium	2.0	U	4.0	U	1.8		2.3	J
Cobalt	3.9	B	11.9	J	6.4		12.2	J
Copper	6.0	U	1.7	U	3.3		9.3	U
Iron	3650		1760		4470		12600	
Lead	1.5	BJ	1.7	U	1.00	U	7	U
Magnesium	6350		2520	J	2980		19100	J
Manganese	498		201		335		1440	J
Nickel	12.1	B	16.0	J	7.2		8.7	J
Potassium	3210	B	1690	J	1600		8380	
Sodium	19600		2560	J	3200		39400	
Thallium	5.0	UJ	4.7	U	3.0		4	U
Vanadium	5.3	BJ	11.9	J	2.4		5.1	U
Zinc	17.0	B	17.5	J	22.2	J	18	JB
MISC INORGANICS								
Bromide (µg Br/L)	100.00	U	NR		NR		400.0	J
Sulfate (mg SO_4/L)	91.0	J	NR		NR		264.0	D
VOLATILE ORGANICS (µg/L)								
Methylene Chloride	10	UR	5	J	ND		2	U
1,1-Dichloroethane	10	UR	10	U	10	U	1	
Benzene	1	J	10	U	10	U	1	U
SEMIVOLATILE ORGANICS (µg/L)								
bis(2-Ethylhexyl)phthalate	10	U	0.3	J	10	U	5	U
PESTICIDES/PCB (µg/L)								
alpha-BHC	ND		0.012	JP	NR		NS	

HISTORICAL SUMMARY OF GROUND WATER DETECTIONS
1990-2000
HIMCO DUMP SUPERFUND SITE, ELKHART, IN

	WT118B			
Date sampled	1995		4/28/2000	
TOTAL METALS (µg/L)				
Aluminum	229		118	U
Barium	347		93.4	
Beryllium	0.92	J	2	U
Calcium	306000		193000	
Chromium	14.4		6.7	U
Cobalt	12.9	J	13.2	U
Copper	7.9	J	9.3	U
Iron	8680		5790	
Magnesium	29600		20000	
Manganese	76.9		126	J
Nickel	20.2	J	21	U
Potassium	16300		7800	
Silver	10.9		11.1	U
Sodium	69900	J	18700	
Thallium	8.0	J	4	U
Vanadium	18.8	J	5.1	U
Zinc	6.3	J	34.1	U
MISC INORGANICS				
Bromide (µg Br^-/L)	NR		200	J
Sulfate (mg SO_4/L)	NR		351	D
VOLATILE ORGANICS (µg/L)				
Methylene Chloride	0.9	J	2	U
1,1-Dichloroethane	10	U	2	
SEMIVOLATILE ORGANICS (µg/L)				
bis(2-Ethylhexyl)phthalate	3	J	5	U
PESTICIDES/PCB (µg/L)	ND		NS	

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 5 CENTRAL REGIONAL LABORATORY

536 SOUTH CLARK STREET

CHICAGO, ILLINOIS 60605

Date: MAR 2 7 2002

Subject: Review of Region 5 Data for **HIMCO LF**

From: Francis A. Awanya, Chemist FAA
Region 5 Central Regional Laboratory

To: Gwen Massenburg
SR-6J

Attached are the results for Site: **HIMCO LF**
CRL Data Set Number: **20010009**
for analyses of : **Sulfate, Bromide, and Chloride**
Results are reported for sample number **2001SK01S01, 2001SK01S02, 2001SK01D02, 2001SK01S03, and 2001SK01S04**.
This transmittal corrects sample descriptions in the narrative and report form as follows. 2001SK01S01 to read 1st RES WELL and for 2001SK01R01 to read METHOD BLANK.

Results Status:
(X) Acceptable for Use:
( ) Data Qualified, but Acceptable for use:
( ) Data Unacceptable for Use

Sylvia Griffin MAR 2 7 2002

CRL Data Management Coordinator and Date Received

Date Transmitted: MAR 2 7 2002

Please have the US EPA project leader fill out the customer survey form on the Region 5 Intranet: http://www.r5intra.epa.gov/crl/qa.html, (← by clicking on this link, or call George Schupp, CRL Sample Coordinator, at 3-1226).

Please sign and date this form below and return it with any comments to:

Sylvia Griffin
Data Management Coordinator
Region 5 Central Regional Laboratory
ML - 10C

Received by and Date

Comments:

Data Set Number:	*20010009*	**Parameter:**	*Bromide, Sulfate, and Chloride*
Facility Name:	*HIMCO LF*		
Study Name:	*HIMCO LF*		
Date of Narrative:	*01/03/2001*	**Analyst:**	*Francis A. Awanya*
		Signature:	FAA

ANALYSIS CASE NARRATIVE

Six (6) routine water samples were collected for the above study between 11/15/2000 and 11/16/2000. The samples arrived at the Central Regional Laboratory (CRL) on 11/17/2000. CRL sample identification numbers (CRL Sample ID) were assigned to the samples. The sample descriptions or station numbers were obtained from the Analysis Request Form (ARF). The following samples were received for analysis;

CRL Sample ID	Sample Description
2001SK01S01	1st RES WELL
2001SK01R01	METHOD BLANK
2001SK01S02	2nd RES WELL MS/MSD
2001SK01D02	DUPLICATE
2001SK01S03	MW116A
2001SK01S04	101A

Samples were checked out for bromide, sulfate, and chloride analysis from the CRL sample custodian on 12/12/2000. The samples were properly preserved by refrigeration. They were transferred to the Analytical and Inorganic (A&I) laboratory section of the CRL, and kept in a sample storage refrigerator until all other required analyses were completed.

SAMPLE ANALYSIS:

All samples were analyzed for bromide, sulfate and chloride using CRL Standard Operating Procedure (CRL.SOP) AIG045 (Method reference 300 A & B, EPA/600/R-93-100). No additional sample preparation was necessary. The instrument was calibrated on 12/13/2000, and samples analysis was completed between 12/13-14/2000. Analyses were completed within the required holding times.

QUALITY CONTROL (QC):

Analysis results were evaluated using the QC requirements of CRL.SOP AIG045 (Method reference 300 A & B, EPA/600/R-93-100). Required quality control criteria for the laboratory, method, and system performance audits were evaluated and determined to be within the limits with the following exception.

Bromide: The concentrations of bromide found in sample 2001SK01S03 (3.75 mg Br^-/L), exceeded the upper calibration standard (2.0 mg Br^-/L). This was not detected in time for the analysis to be repeated within the holding time. A "J" flag is applied to the bromide result for

Data Set Number:	*20010009*	**Parameter:**	*Bromide, Sulfate, and Chloride*
Facility Name:	*HIMCO LF*		
Study Name:	*HIMCO LF*		
Date of Narrative:	*01/03/2001*	**Analyst:**	*Francis A. Awanya*
		Signature:	

ANALYSIS CASE NARRATIVE

sample 2001SK01S03. Bromide concentrations in this sample should be considered estimated. A review of the peak areas indicated that the results were within the instrument linear range for the low-level calibration. The data is acceptable for use with qualification as noted.

SAMPLE RESULTS AND REPORTING:

Sulfate and Chloride: A "U" flag was applied to sulfate and chloride results for sample 2001SK01R01. Sulfate and chloride concentrations in the sample were found to be below detection. "D" flags were assigned to all remaining sulfate and chloride results. Assay concentrations exceeded the upper calibration standard and sample dilutions were required.

Bromide: "U" flags were applied to bromide results for samples 2001SK01R01 and 2001SK01S02. Bromide concentrations found in those samples were below detection. "M" flags were applied to bromide results for samples 2001SK01S01, D02, and S04. The concentrations of bromide in those samples were found to be above detection but below the reporting limit. A "J" flag was applied to bromide result for sample 2001SK01S03.

A code defining all flags is attached with the data transmittal form.

MANUAL PEAK INTEGRATION:

No manual peak integration was used to process the results.

ELECTRONIC DATA:

Electronic data are archived in;
H:\\R5crl\VOL1\MIN_NUT\FAWANYA\DX500_SYSTEM3_CD20\20010009\..under the following additional folders;
1. Autosample_Schedules, 2. Datafiles 3. Method_files 4.Narrative.

ENVIRONMENTAL PROTECTION AGENCY
REGION V
CENTRAL REGIONAL LABORATORY
FINAL RESULT REPORT FOR THE TEAM: MINERAL/NUTRIENTS

DIVISION/BRANCH: SUPERFUND **SAMPLING DATE:** 11/15 - 16/2000 **LAB ARRIVAL DATE:** 11/17/2000 **DUE DATE:** 12/18/2000
DU NUMBER: 50102D **DATASET NUMBER:** 20010009 **STUDY:** HIMCO LF **PRIORITY:** Routine **LABORATORY :**CRL

	CRL LOG	SAMPLE DESCRIPTION	BROMIDE IN WATER (mg Br^-/L)	SULFATE IN WATER (mg $SO_4^=$/L)	CHLORIDE IN WATER (mg Cl^-/L)		
1	2001SK01S01	1st RES WELL	0.04 M	79.3 D	96.5 D		
2	2001SK01R01	METHOD BLANK	0.014 U	0.025 U	0.050 U		
3	2001SK01S02	2nd RES WELL	0.014 U	105 D	99.9 D		
4	2001SK01D02	DUPLICATE	0.03 M	104 D	98.4 D		
5	2001SK01S03	MW116A	3.75 J	1020 D	26.0 D		
6	2001SK01S04	101A	0.32 M	177 D	27.2 D		
DATE OF ANALYSIS			12/13/2000	12/13-14/2000	12/13-14/2000		
ANALYST			FAA	FAA	FAA		

Reviewed by: ES **Date:** 3/27/02

Memorandum

Date: August 25, 2000

To: Gwen Massenburg

From: Janie Carrig

Subject HIMCO Dump Superfund Site - Report Preparation Data Needs

The following list is what is needed to prepare the data evalution chapter and provide a clean, precise data package for the *Supplemental Ground Water Investigation and Phase 2 Soil Gas Investigation Technical Report.*

ORGANIC DATA ANALYZED BY CLP:

Residential Sampling- March 2000- HIMCO DUMP Case Number: 27876:

CLP SDG: EDCJ8
Methods: Volatiles: EDCK0-FORM I-TIC
Semivolatiles: EDCK1-FORM I-TIC.

Residential, MW, and Geoprobe Sampling-April 2000-HIMCO DUMP Case Number: 27986:

✓ CLP SDG: EDPK9 check this one
Data validation narrative is missing.
Methods: Volatiles: VLCS54 and VLCS55-FORM I-TIC

Semivolatiles: SLCS60-FORM I LCSV- TIC.

CLP SDG: EDCF6
Methods: Volatiles: EDCF8-FORM I LCV- TIC.

Semivolatiles: EDPN7-FORM I LCSV- TIC.
EDCG3-FORM I LCSV-1 (phenol through acenaphthene results).
EDPM6-FORM I LCSV-2 (2,4-dinitrophenol through benzo (g,h,i)perylene results).

CLP SDG: EDCG0
Methods: Semivolatiles: SLCS70-FORM I LCSV-2 (2,4-dinitrophenol through benzo

(g,h,i)perylene results) and FORM I LCSV- TIC.

CLP SDG: E00FL
Methods: Semivolatiles: SLCS73-FORM I LCSV- TIC. for this one
SLCS76-All three pages of the FORM I.

INORGANIC DATA ANALYZED BY CRL - HIMCO DUMP Code: 054J:

Residential Sampling- March 2000- HIMCO DUMP:

CRL Data Set Number: 20000024:
I have the tabulated sample results and the case narratives for the data set except as noted below. I do not have the data validation reports, quality control results, chain of custody forms, or the raw data for the entire data set.

For inclusion in the report I need the items listed below as well as results for all quality control samples (spikes, spike duplicates, blanks, laboratory control samples). For the purpose of the report, tabulated results are sufficient, raw data is not needed. Also needed are the chain of custody forms completed by the laboratory upon receipt of the samples. I can not tell if a qualified chemist, other than the individuals directly involved in the analysis of the sample or second line review, has reviewed or validated the data.

Methods: ICP: Need case narrative.
Graphite Furnace (Antimony, Arsenic Cadmium, Lead, Selenium, and Thallium)
Mercury
Sulfate and Bromide: Need tabulated results.)

Residential, MW, and Geoprobe Sampling - April 2000:

I have the case narrative (which appears to have been prepared by the laboratory), the tabulated sample results, and the chain of custody forms as completed in the field for the inorganic data sets listed below. I do not have data validation reports, quality control results, chain of custody forms completed by the laboratory upon receipt of the samples, or the raw data.

For inclusion in the report I need the data from the analysis of all quality control samples (spikes, spike duplicates, blanks, laboratory control samples) analyzed in the data set in addition to the sample results I already have. For the purpose of the report, tabulated results are sufficient, raw data is not needed. Also needed are the chain of custody forms completed by the laboratory upon receipt of the samples. I can not tell if a qualified chemist, other than the individuals directly involved in the analysis of the sample or second line review, has reviewed or validated the data.

CRL Data Set Number: 20000030
Methods: ICP

Graphite Furnace (Antimony, Arsenic Cadmium, Lead, Selenium, and Thallium)
Mercury
Sulfate and Bromide

CRL Data Set Number: 20000032
Methods: ICP
Graphite Furnace (Antimony, Arsenic Cadmium, Lead, Selenium, and Thallium)
Mercury
Sulfate and Bromide

CRL Data Set Number: 20000033
Methods: ICP
Graphite Furnace (Antimony, Arsenic Cadmium, Lead, Selenium, and Thallium)
Mercury
Sulfate and Bromide

This information may be sent to:
Regular Mail:
US Army Engineer District
CENWO-ED-GC (Attention: Janie E. Carrig)
215 North 17th Street
Omaha, NE 68102-4978

FED-EX:
US Army Engineer District
CENWO-ED-GC (Attention: Janie E. Carrig)
2 Central Park Plaza-Ninth Floor
222 South 15th Street
Omaha, NE 68102

If there is anything else I can do please don't hesitate.
Janie Carrig
Phone: 402-221-7754
email: janie.e.carrig@usace.army.mil

Regards,

Janie

1LCA

LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EDCL4

Lab Name: ENVIROSYSTEMS Contract: 68-D7-0005

Lab Code: ENVSYS Case No.: 27876 SAS No.: SDG No.: EDCJ8

Lab Sample ID: 00030924 Date Received: 03/18/00

Lab File ID: 030924 Date Analyzed: 03/23/00

Purge Volume: 25.00 (ml) Dilution Factor: 1.0

GC Column: RTX-502.2 ID: 0.530 (mm) Length: 105 (m)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
74-87-3	Chloromethane	1	U
74-83-9	Bromomethane	1	U
75-01-4	Vinyl chloride	1	U
75-00-3	Chloroethane	1	U
75-09-2	Methylene chloride	2	U
67-64-1	Acetone	5	U
75-15-0	Carbon disulfide	1	U
75-35-4	1,1-Dichloroethene	1	U
75-34-3	1,1-Dichloroethane	1	U
156-59-2	cis-1,2-Dichloroethene	1	U
156-60-5	trans-1,2-Dichloroethene	1	U
67-66-3	Chloroform	1	U
107-06-2	1,2-Dichloroethane	0.6	J
78-93-3	2-Butanone	5	U
74-97-5	Bromochloromethane	1	U
71-55-6	1,1,1-Trichloroethane	1	U
56-23-5	Carbon tetrachloride	1	U
75-27-4	Bromodichloromethane	1	U
78-87-5	1,2-Dichloropropane	1	U
10061-01-5	cis-1,3-Dichloropropene	1	U
79-01-6	Trichloroethene	1	U
124-48-1	Dibromochloromethane	1	U
79-00-5	1,1,2-Trichloroethane	1	U
71-43-2	Benzene	1	U
10061-02-6	trans-1,3-Dichloropropene	1	U
75-25-2	Bromoform	1	U
108-10-1	4-Methyl-2-pentanone	5	U
591-78-6	2-Hexanone	5	U
127-18-4	Tetrachloroethene	1	U
79-34-5	1,1,2,2-Tetrachloroethane	1	U
106-93-4	1,2-Dibromoethane	1	U
108-88-3	Toluene	1	U
108-90-7	Chlorobenzene	1	U
100-41-4	Ethylbenzene	1	U
100-42-5	Styrene	1	U
1330-20-7	Xylenes (total)	1	U
541-73-1	1,3-Dichlorobenzene	1	U
106-46-7	1,4-Dichlorobenzene	1	U
95-50-1	1,2-Dichlorobenzene	1	U
96-12-8	1,2-Dibromo-3-chloropropane	1	U
120-82-1	1,2,4-Trichlorobenzene	1	U

1LCE

EPA SAMPLE NO.

LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EDCL4

Lab Name: ENVIROSYSTEMS Contract: 68-D7-0005

Lab Code: ENVSYS Case No.: 27876 SAS No.: SDG No.: EDCJ8

Lab Sample ID: 00030924 Date Received: 03/18/00

Lab File ID: 030924 Date Analyzed: 03/23/00

Purge Volume: 25.00 (ml) Dilution Factor: 1.0

GC Column: RTX-502.2 ID: 0.530 (mm) Length: 105 (m)

Number TICs found: 0

CAS NUMBER	COMPOUND NAME	RT	EST. CONC. (ug/L)	Q

0 0208

1LCE

EPA SAMPLE NO.

LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EDCL3

Lab Name: ENVIROSYSTEMS Contract: 68-D7-0005

Lab Code: ENVSYS Case No.: 27876 SAS No.: SDG No.: EDCJ8

Lab Sample ID: 00030914 Date Received: 03/17/00

Lab File ID: 030914 Date Analyzed: 03/22/00

Purge Volume: 25.00 (ml) Dilution Factor: 1.0

GC Column: RTX-502.2 ID: 0.530 (mm) Length: 105 (m)

Number TICs found: 0

CAS NUMBER	COMPOUND NAME	RT	EST. CONC. (ug/L)	Q

0 0202

1LCE

EPA SAMPLE NO.

LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EDCK0

Lab Name: ENVIROSYSTEMS Contract: 68-D7-0005

Lab Code: ENVSYS Case No.: 27876 SAS No.: SDG No.: EDCJ8

Lab Sample ID: 00030903 Date Received: 03/17/00

Lab File ID: 030903 Date Analyzed: 03/22/00

Purge Volume: 25.00 (ml) Dilution Factor: 1.0

GC Column: RTX-502.2 ID: 0.530 (mm) Length: 105 (m)

Number TICs found: 0

CAS NUMBER	COMPOUND NAME	RT	EST. CONC. (ug/L)	Q

1LCF

LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

EDCK1

Lab Name: ENVIROSYSTEMS Contract: 68-D7-0005

Lab Code: ENVSYS Case No.: 27876 SAS No.: SDG No.: EDCJ8

Lab Sample ID: 00030904 Date Received: 03/17/00

Lab File ID: S030904 Date Extracted: 03/22/00

Sample volume: 1000 (ml) Date Analyzed: 03/28/00

Concentrated Extract Volume: 1000 (ul) Dilution Factor: 1.0

Injection Volume: 1.0 (ul) pH: 6.0

Number TICs found: 0

CAS NUMBER	COMPOUND NAME	RT	EST. CONC. (ug/L)	Q

01401

1LCA

LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EDCL4

Lab Name: ENVIROSYSTEMS Contract: 68-D7-0005

Lab Code: ENVSYS Case No.: 27876 SAS No.: SDG No.: EDCJ8

Lab Sample ID: 00030924 Date Received: 03/18/00

Lab File ID: 030924 Date Analyzed: 03/23/00

Purge Volume: 25.00 (ml) Dilution Factor: 1.0

GC Column: RTX-502.2 ID: 0.530 (mm) Length: 105 (m)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
74-87-3	Chloromethane	1	U
74-83-9	Bromomethane	1	U
75-01-4	Vinyl chloride	1	U
75-00-3	Chloroethane	1	U
75-09-2	Methylene chloride	2	U
67-64-1	Acetone	5	U
75-15-0	Carbon disulfide	1	U
75-35-4	1,1-Dichloroethene	1	U
75-34-3	1,1-Dichloroethane	1	U
156-59-2	cis-1,2-Dichloroethene	1	U
156-60-5	trans-1,2-Dichloroethene	1	U
67-66-3	Chloroform	1	U
107-06-2	1,2-Dichloroethane	0.6	J
78-93-3	2-Butanone	5	U
74-97-5	Bromochloromethane	1	U
71-55-6	1,1,1-Trichloroethane	1	U
56-23-5	Carbon tetrachloride	1	U
75-27-4	Bromodichloromethane	1	U
78-87-5	1,2-Dichloropropane	1	U
10061-01-5	cis-1,3-Dichloropropene	1	U
79-01-6	Trichloroethene	1	U
124-48-1	Dibromochloromethane	1	U
79-00-5	1,1,2-Trichloroethane	1	U
71-43-2	Benzene	1	U
10061-02-6	trans-1,3-Dichloropropene	1	U
75-25-2	Bromoform	1	U
108-10-1	4-Methyl-2-pentanone	5	U
591-78-6	2-Hexanone	5	U
127-18-4	Tetrachloroethene	1	U
79-34-5	1,1,2,2-Tetrachloroethane	1	U
106-93-4	1,2-Dibromoethane	1	U
108-88-3	Toluene	1	U
108-90-7	Chlorobenzene	1	U
100-41-4	Ethylbenzene	1	U
100-42-5	Styrene	1	U
1330-20-7	Xylenes (total)	1	U
541-73-1	1,3-Dichlorobenzene	1	U
106-46-7	1,4-Dichlorobenzene	1	U
95-50-1	1,2-Dichlorobenzene	1	U
96-12-8	1,2-Dibromo-3-chloropropane	1	U
120-82-1	1,2,4-Trichlorobenzene	1	U

1LCE

EPA SAMPLE NO.

LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EDCL4

Lab Name: ENVIROSYSTEMS Contract: 68-D7-0005

Lab Code: ENVSYS Case No.: 27876 SAS No.: SDG No.: EDCJ8

Lab Sample ID: 00030924 Date Received: 03/18/00

Lab File ID: 030924 Date Analyzed: 03/23/00

Purge Volume: 25.00 (ml) Dilution Factor: 1.0

GC Column: RTX-502.2 ID: 0.530 (mm) Length: 105 (m)

Number TICs found: 0

CAS NUMBER	COMPOUND NAME	RT	EST. CONC. (ug/L)	Q

0 11208

1LCE

EPA SAMPLE NO.

LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EDCL3

Lab Name: ENVIROSYSTEMS Contract: 68-D7-0005

Lab Code: ENVSYS Case No.: 27876 SAS No.: SDG No.: EDCJ8

Lab Sample ID: 00030914 Date Received: 03/17/00

Lab File ID: 030914 Date Analyzed: 03/22/00

Purge Volume: 25.00 (ml) Dilution Factor: 1.0

GC Column: RTX-502.2 ID: 0.530 (mm) Length: 105 (m)

Number TICs found: 0

CAS NUMBER	COMPOUND NAME	RT	EST. CONC. (ug/L)	Q

11202

1LCE

EPA SAMPLE NO.

LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EDCKO

Lab Name: ENVIROSYSTEMS Contract: 68-D7-0005

Lab Code: ENVSYS Case No.: 27876 SAS No.: SDG No.: EDCJ8

Lab Sample ID: 00030903 Date Received: 03/17/00

Lab File ID: 030903 Date Analyzed: 03/22/00

Purge Volume: 25.00 (ml) Dilution Factor: 1.0

GC Column: RTX-502.2 ID: 0.530 (mm) Length: 105 (m)

Number TICs found: 0

CAS NUMBER	COMPOUND NAME	RT	EST. CONC. (ug/L)	Q

1LCF

LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

EDCK1

Lab Name: ENVIROSYSTEMS Contract: 68-D7-0005

Lab Code: ENVSYS Case No.: 27876 SAS No.: SDG No.: EDCJ8

Lab Sample ID: 00030904 Date Received: 03/17/00

Lab File ID: S030904 Date Extracted: 03/22/00

Sample volume: 1000 (ml) Date Analyzed: 03/28/00

Concentrated Extract Volume: 1000 (ul) Dilution Factor: 1.0

Injection Volume: 1.0 (ul) pH: 6.0

Number TICs found: 0

CAS NUMBER	COMPOUND NAME	RT	EST. CONC. (ug/L)	Q

01401

12/92

Attachment 5

Risk Assessment Issue Paper for:
Provisional RfD for Iron
(CASRN 7439-89-6)

PROVISIONAL RfD

We have reviewed the data for deriving an oral RfD for iron. A number of reviews were used to evaluate the toxicity database for iron (Elinder, 1990; Gilman et al., 1980; Bothwell et al., 1979; Jacobs, 1977). Deriving a risk assessment value for an essential element poses a special problem in that the dose adversity curve is "U-shaped". Thus, the risk value must be protective against deficiency as well as toxicity. An explicit assumption in this analysis is that the oral RfD for iron should have value that is between the National Academy of Science (NAS) derived Recommended Daily Allowance (RDA) and the lowest adverse effect level.

In humans and other animals, the level of iron in the body is regulated primarily through changes in the amount of iron absorbed by the gastrointestinal mucosa. However, the excessive accumulation of iron in the body resulting from chronic ingestion of high levels of iron can not be prevented by intestinal regulation of absorption (NAS, 1989). Normally, 2-15% of ingested dietary iron is absorbed (Elinder, 1990). The absorption of dietary iron is influenced by body stores, by the amount and chemical nature of iron in ingested food, and by a variety of dietary factors that increase or decrease the availability of iron for absorption. Absorption of ingested non-dietary iron (e.g., soil) also will be influenced by the physical and chemical form of the iron. In humans, iron from animal sources is more effectively absorbed (10-25%) than iron from vegetables and grains (1-10%) (Elinder, 1990). The presence of high levels of phosphate, cobalt, copper, zinc and other trace elements in the gastrointestinal tract would decrease the absorption of iron. Approximately 0.01% of the body burden of iron is excreted daily; and the elimination half-time of iron from the body is 10-20 years. Humans do not have a mechanism to increase the excretion of absorbed iron in response to elevated body levels.

The RDAs for iron levels considered adequate for the maintenance of good health of practically all healthy people in the United States, are presented below (NAS, 1989). Because of differences in physiological needs, the iron RDAs are age and sex specific.

Age or Physiologic Status	RDA (mg/day)
Infants	
0-6 months	6
6 month-1 year	10
Children	
1-10 years	10
Males	
11-18 years	12
19-51+ years	10
Females	
11-50 years	15
51+ years	10
Pregnant	30
Lactating	15

Numerous estimates of average dietary iron intakes in the United States have been published. Looker et al. (1988) analyzed data collected from 10,515 people examined in the second National Health and Nutrition Examination Survey (NHANES II); NHANES II was conducted between 1976 and 1980. Below is a summary of the NHANES II data on dietary iron intake for men and women of various ages; "user" and "nonuser" refers to use of dietary iron supplements:

Age	16-24 years		25-44 years		45-64 years		65-74 years	
	user	nonuser	user	nonuser	user	nonuser	user	nonuser
Men	18.7	17.4	16.6	16.6	15.9	15.6	15.2	13.4
Women	10.4	10.1	11.3	10.7	11.0	10.3	10.9	10.0

Case reports of acute and chronic toxicity of iron have been reported in the literature. Acute iron toxicity is most often reported in small children accidently swallowing iron supplements. As reviewed by Elinder (1990), severe poisoning has been observed following the ingestion of > 500 mg of iron. The most frequently reported effect is abdominal pain and vomiting due to ulceration of the gastrointestinal mucosa. Metabolic acidosis and liver damage with hepatitis have also been reported in these children.

Iron overload (a term used to indicate an increase in tissue iron levels) has been seen following chronic ingestion of high levels of iron; in individuals with primary idiopathic hemochromatosis, a genetic disorder resulting in excessive iron absorption; in individuals with abnormalities of hemoglobin synthesis, e.g., sideroblastic anemia and thalassemia; and in individuals receiving frequent blood transfusions. The latter 3 groups represent sensitive subpopulations.

A number of reports involving chronic toxicity of iron have also been reported in the literature. During iron overload, excess

iron is stored as hemosiderin. The highest concentration of hemosiderin are in the liver and pancreas parenchymal cells, endocrine organs, and heart. Liver cirrhosis observed during iron overload is probably the result of increased hemosiderin in the liver. Excessive pancreatic iron deposits may be associated with fibrosis and diabetes (Jacobs, 1977).

Most of the data on chronic iron toxicity resulting from excess dietary levels has been obtained from studies of the Bantus of South Africa. In the Bantu region, the excessive dietary intake is due to home-brewed Kaffir beer and contamination of food from cooking vessels (Elinder, 1990). The acidity of the beer (pH 3-3.5) and the alcohol in the beer are believed to increase the bioavailability of the iron. Malnutrition, also reported in the Bantus, may play a role in the etiology of the disease. Excessive hemosiderin deposits in the liver have been observed in 89% of the Bantu men; 10% exhibited liver cirrhosis. The Bantu men consume approximately 50-100 mg Fe/day (Elinder, 1990).

Ethiopia has the highest per capita intake of iron; daily intakes range from 98-1218 mg Fe/day. However, there is no reported increase in iron overload. The lack of health effects associated with this high intake of iron is probably due to the low bioavailability of iron in the Ethiopian diet (Roe, 1966).

Attempts to develop an animal model for iron overload have been unsuccessful. Liver cirrhosis and pancreatic fibrosis have not been observed in animal feeding studies (Bothwell et al., 1979). Studies in which iron was parenterally administered to animals are not applicable for the derivation of an oral RfD for iron because parenteral routes bypass the mechanisms that regulate absorption of iron from the gastrointestinal tract. However, it is worth noting that liver cirrhosis has only been observed in one parenteral animal study. Liver cirrhosis was reported in 5/6 dogs receiving intravenous or intramuscular injections of iron for 35-47 months (Lisboa, 1971).

The available data (as assessed from the cited secondary sources) suggests that in order to protect against the adverse health effects associated with iron deficiency, the RfD should be at least 30 mg/day (RDA for pregnant women). The lower limit of the toxic dose range has not been identified. Finch and Monsen (1972) stated that it is unlikely that deleterious effects of daily intakes of between 25 and 75 mg Fe/day will be seen in healthy individuals. However, the basis of this conclusion was not discussed. The results of studies of Bantu populations indicate that intakes exceeding 50 mg/day may be toxic to humans, however, confounding variables such as malnutrition, coexposure to ethanol, and the acidity of the Kaffir beer preclude the use of these data for risk assessment. Much higher intakes (100 - 1000 mg/day) of certain forms of iron can be tolerated as indicated by the studies of populations in Ethiopia. If the assumption is made that the

recommended dietary allowance for iron would be protective for the adverse health effects associated with iron deficiency and iron overload, then the RfD could be based on the recommended dietary allowance for iron. A list of the recommended dietary allowances for iron are presented below:

Table 1. RDAs for Iron

AGE OR PHYSIO-LOGICAL STATUS	BODY WEIGHT[1] (KG)	RDA (mg/day)	RDA (mg/kg/day)
Infants			
0-6 month	6	6	1.0
6 month-1 year	9	10	1.0
Children			
1-10 years	21	10	0.5
Males			
11-18 years	56	12	0.2
19-51 years	76	10	0.1
Females			
11-50 years	60	15	0.3
51+ years	65	10	0.2
Pregnant	70[2]	30	0.4
Lactating	60[3]	15	0.3

[1] Body weight data from NAS (1989)
[2] NAS (1989) did not report body weight data for pregnant women, it was assumed that women gained 25-30 lbs. (11-13 kg) during pregnancy, thus the U.S. EPA (1987) default value for adult body weight was used.
[3] NAS (1989) did not report body weight data for lactating women, body weight data for women aged 11-50 years were used.

As indicated in the table, the highest dietary iron requirement (per kg body weight) is 1.0 mg/kg/day for infants. However, if the RfD was based on this RDA, it may not be protective against the toxicological effects of iron overload in adults. An

RfD of 1.0 mg/kg/day is equivalent to a daily intake of 70 mg in a 70 kg adult. Whereas, a RfD of 0.5 mg/kg/day (based on the RDA for children) would be protective against the toxic effects associated with iron deficiency (in individuals over 1 year of age) and iron overload. Because the memo from Region IX states that the site is relatively inaccessible, infants may not be a population of concern. Thus, it is recommended that an interim RfD of 0.5 mg/kg/day be used for this particular site. It should be noted that this RfD may not protect infants from the adverse health effects associated with iron deficiency. In addition, this RfD would not protect individuals with inherited metabolic disorders of iron metabolism (e.g., primary idiopathic hemochromatosis). It would also be highly conservative if applied to exposure scenarios involving to forms of iron having a low bioavailability.

REFERENCES:

Bothwell, T.H., R.W. Charlton, J.D. Cook, and C.A. Finch. 1979. Iron Metabolism in Man. Oxford: Blackwell Scientific Publications.

Elinder, C.-G. 1986. Iron. In: Friberg, L., G.F. Nordberg, and V. Vouk, ed. Handbook of the Toxicology of Metals, 2nd ed. Amsterdam: Elsevier Science Publishers B.V.

Finch, C.A. 1980. Drugs Effective in Iron-Deficiency and other Hypochromic Anemias. In: Gilman, A.G., L.S. Goodman, and A. Gilman, ed. New York, NY: Macmillian Publishers Co., Inc.

Finch, C.A. and E.R. Monsen. 1972. Iron nutrition and the fortification of food with iron. J. Am. Med. Assoc. 219:1462-1465.

Jacobs, A. 1977. Iron overload-clinical and pathologic aspects. Semin. Hematol. 14:89-113.

Lisboa, P.E. 1971. Experimental hepatic cirrhosis in dogs caused by chronic massive iron overload. Gut. 12:363-368.

Looker, A., C.T. Sempos, C. Johnson, and E.A. Yetley. 1988. Vitamin-mineral supplement use: association with dietary intake and iron status of adults. J. Am. Diet. Assoc. 88:808-814.

NAS 1989. Recommended Dietary Allowances, 10th edition. National Academy of Science, National Research Council, Food and Nutrition Board. Washington, D.C.: National Academy Press.

Roe, D.A. 1966. Nutrient toxicity with excessive intake. II. Mineral overload. N.Y.S. J. Med. 66:1233-1237.

U.S. EPA. 1985. 40 CFR Parts 141 and 142. Federal Register 50:46967-46968.

U.S. EPA. 1987. Recommendations for and Documentation of Biological Values for Use in Risk Assessment. Prepared by Environmental Criteria and Assessment Office, Office of Health and Environmental Assessment, Cincinnati OH for Office of Solid Waste and Emergency Response, Washington DC. EPA 600/6-87/008.

EXHIBIT 6-11

RESIDENTIAL EXPOSURE: INGESTION OF CHEMICALS IN DRINKING WATER [a]

(AND BEVERAGES MADE USING DRINKING WATER)

Equation:

$$\text{Intake (mg/kg-day)} = \frac{\text{CW x IR x EF x ED}}{\text{BW x AT}}$$

Where:

CW = Chemical Concentration in Water (mg/liter)
IR = Ingestion Rate (liters/day)
EF = Exposure Frequency (days/year)
ED = Exposure Duration (years)
BW = Body Weight (kg)
AT = Averaging Time (period over which exposure is averaged — days)

Variable Values:

CW: Site-specific measured or modeled value

IR: 2 liters/day (adult, 90th percentile; EPA 1989d)
1.4 liters/day (adult, average; EPA 1989d)
Age-specific values (EPA 1989d)

EF: Pathway-specific value (for residents, usually daily — 365 days/year)

ED: 70 years (lifetime; by convention)
30 years (national upper-bound time (90th percentile) at one residence; EPA 1989d)
9 years (national median time (50th percentile) at one residence; EPA 1989d)

BW: 70 kg (adult, average; EPA 1989d)
Age-specific values (EPA 1985a, 1989d)

AT: Pathway-specific period of exposure for noncarcinogenic effects (i.e., ED x 365 days/year), and 70 year lifetime for carcinogenic effects (i.e., 70 years x 365 days/year).

[a] *See Section 6.4.1 and 6.6.1 for a discussion of which variable values should be used to calculate the reasonable maximum exposure. In general, combine 95th or 90th percentile values for contact rate and exposure frequency and duration variables.*

Additional intake from water at 5 mg/l:

$$\text{Intake (mg/kg-day)} = \frac{5\text{ mg/l} \times 2\text{ l/d} \times 365\text{ d} \times 30\text{ yr}}{70\text{ kg} \times 365\text{ d} \times 30\text{ yr}}$$

$$= 0.14\text{ (mg/kg-day)}$$

Compare with intakes on page 24 (enter table x BW)

EPA CRL - REGION V
ICP FINAL RESULTS REPORT

REPORT PRODUCED ON: 22-Mar-00

SAMPLE ORGANIZATION:

SAMPLE BATCH ID: 20000024

LABORATORY: REGION 5 CRL

SAMPLE FACILITY: Himco Dump

SAMPLE: 2000SY01R12

ANALYZED: 21-Mar-00

STATION: 54287 Westwood

COMPOUND	AMOUNT			(Units)
Aluminum	26	U		(ug/L)
Barium	64.5			(ug/L)
Beryllium	1.6	U	J	(ug/L)
Calcium	92300		J	(ug/L)
Chromium	3.4	U	J	(ug/L)
Cobalt	10.1	U		(ug/L)
Copper	4	U		(ug/L)
Iron	5030			(ug/L)
Magnesium	22000			(ug/L)
Manganese	59.6			(ug/L)
Nickel	19.4	U		(ug/L)
Potassium	1160			(ug/L)
Silver	6.8	U		(ug/L)
Sodium	14700			(ug/L)
Vanadium	3.9	U		(ug/L)
Zinc	14.2	M	J	(ug/L)

ANALYZED BY: _____ 3-22-00

EPA CRL - REGION V
ICP FINAL RESULTS REPORT

REPORT PRODUCED ON: 22-Mar-00

SAMPLE ORGANIZATION:

SAMPLE BATCH ID: 20000024

LABORATORY: REGION 5 CRL

SAMPLE FACILITY: Himco Dump

SAMPLE: 2000SY01S13

ANALYZED: 21-Mar-00

STATION: 54125 Westwood

COMPOUND	AMOUNT			(Units)
Aluminum	26	U		(ug/L)
Barium	108			(ug/L)
Beryllium	1.6	U	J	(ug/L)
Calcium	100000		J	(ug/L)
Chromium	3.6	M	J	(ug/L)
Cobalt	10.1	U		(ug/L)
Copper	5.8	M		(ug/L)
Iron	885			(ug/L)
Magnesium	21500			(ug/L)
Manganese	284			(ug/L)
Nickel	19.4	U		(ug/L)
Potassium	1790			(ug/L)
Silver	6.8	U		(ug/L)
Sodium	17600			(ug/L)
Vanadium	3.9	U		(ug/L)
Zinc	10.3	U		(ug/L)

ANALYZED BY: _____ 3-22-00

EPA CRL - REGION V
ICP FINAL RESULTS REPORT

REPORT PRODUCED ON: 22-Mar-00

SAMPLE ORGANIZATION:

SAMPLE BATCH ID: 20000024

LABORATORY: REGION 5 CRL

SAMPLE FACILITY: Himco Dump

SAMPLE: 2000SY01S14

ANALYZED: 21-Mar-00

STATION: E-3

COMPOUND	AMOUNT			(Units)
Aluminum	133			(ug/L)
Barium	38.8			(ug/L)
Beryllium	1.6	U	J	(ug/L)
Calcium	73400		J	(ug/L)
Chromium	5.1	M	J	(ug/L)
Cobalt	10.1	U		(ug/L)
Copper	4	U		(ug/L)
Iron	2500			(ug/L)
Magnesium	29200			(ug/L)
Manganese	39			(ug/L)
Nickel	19.4	U		(ug/L)
Potassium	1700			(ug/L)
Silver	6.8	U		(ug/L)
Sodium	11900			(ug/L)
Vanadium	3.9	U		(ug/L)
Zinc	10.3	U		(ug/L)

ANALYZED BY: 3-22-00

Sylvia Griffin APR 04 2000

CRL Data Management Coordinator and Date Received

Date Transmitted: APR 04 2000

Please have the US EPA project leader fill out the customer survey form on the Region 5 Intranet: http://www.r5intra.epa.gov/crl/qa.html, (← by clicking on this link, or call George Schupp, CRL Sample Coordinator, at 3-1226).

Please sign and date this form below and return it with any comments to:

Sylvia Griffin
Data Management Coordinator
Region 5 Central Regional Laboratory
ML - 10C

Received by and Date

Comments:

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 5 CENTRAL REGIONAL LABORATORY

536 SOUTH CLARK STREET

CHICAGO, ILLINOIS 60605

Date: APR 1 9 2000

Subject: Review of Region 5 Data for **HIMCO LF**

From: Francis A. Awanya , Chemist FAA
Region 5 Central Regional Laboratory

To: SF

Attached are the results for Site: **HIMCO LF**
CRL Data Set Number: **20000026**
for analyses of : **Sulfate and Bromide**
Results are reported for sample numbers: **2000SY03S01, 200SY03S02, 2000SY03S03, 200SY03S04, 2000SY03S05, 200SY03S06, 2000SY03S07, 200SY03S08, 2000SY03S09, 200SY03S10, and 2000SY03S11**.

Results Status:
(X) Acceptable for Use
( ) Data Qualified, but Acceptable for use
( ) Data Unacceptable for Use

Sylvia Griffin APR 2000

CRL Data Management Coordinator and Date Received

Date Transmitted: APR 19 2000

Please have the US EPA project leader fill out the customer survey form on the Region 5 Intranet: http://www.r5intra.epa.gov/crl/qa.html, (← by clicking on this link, or call George Schupp, CRL Sample Coordinator, at 3-1226).

Please sign and date this form below and return it with any comments to:

Sylvia Griffin
Data Management Coordinator
Region 5 Central Regional Laboratory
ML - 10C

Received by and Date

Comments:

Data Set Number:	*20000026*	**Parameter:**	*Sulfate and Bromide*
Facility Name:	*HIMCO LF*		
Study Name:	*HIMCO LF*		
Date of Narrative:	*04 14 2000*	**Analyst:**	*Francis A. Awanya*
		Signature:	Francis A. Awanya

ANALYSIS CASE NARRATIVE

Eleven (11) high priority water samples were collected for the above study between 3/15/00 and 3/16/2000. The samples arrived at the Central Regional Laboratory (CRL) on 3/22/2000. CRL sample identification numbers (CRL Sample ID) were assigned to the samples with tag numbers. The Station numbers and Locations were obtained from the tags that were attached to the sample containers. Samples information is tabulated as follows;

CRL Sample ID	Tag Number	Station Number and Location
2000SY03S01	5-065001	27919/EDCK4
2000SY03S02	5-065002	27948/EDCK2
2000SY03S03	5-065003	B - 3
2000SY03S04	5-065004	54271/EDCK0
2000SY03S05	5-065005	J - 1
2000SY03S06	5-065006	E - 3
2000SY03S07	5-065007	B - 1
2000SY03S08	5-065008	B - 4
2000SY03S09	5-065009	EDCK1/54253
2000SY03S10	5-065010	54280/EDCK3
2000SY03S11	5-065011	54305/EDCJ7

Additional descriptive information was not provided with the Analysis Request Form (ARF). Samples were checked out for sulfate and bromide analysis from the CRL sample custodian on 3/24/2000. The samples were properly preserved by refrigeration. They were transferred to the Analytical and Inorganic (A&I) laboratory section of the CRL and kept in a sample storage refrigerator until all analysis were completed.

SAMPLE ANALYSIS:

All samples were analyzed for sulfate and bromide using CRL Standard Operating Procedure (CRL SOP) AIG045 (Method reference 300 A & B, EPA/600/R-93-100). No additional sample preparations were necessary. The instrument was calibrated for high level determination of sulfate and bromide following CRL SOP AIG045 Part A on 3/24/2000. It was used for analysis on the same day. All bromide concentrations were below the reporting limit of the calibration curve used. Where as all sulfate concentrations, with the exception of sample 2000SY03S07 and 2000SY03S08, exceeded the upper calibration limit. As a result, appropriate

Data Set Number:	*20000026*	**Parameter:**	*Sulfate and Bromide*
Facility Name:	*HIMCO LF*		
Study Name:	*HIMCO LF*		
Date of Narrative:	*04 14 2000*	**Analyst:**	*Francis A. Awanya*
		Signature:	Francis A. Awanya

ANALYSIS CASE NARRATIVE

sulfate samples were re-analyzed with dilutions as necessary on 3/27/2000 and a different curve was used to complete bromide analysis. The instrument was calibrated for low level determination of bromide following CRL.SOP AIG045 Part A on 4/10/2000. Bromide analysis was completed on the same day.

QUALITY CONTROL (QC):

No data quality objectives were provided by the requestor. Analysis results were evaluated using the QC requirements of CRL.SOP AIG045 (Method reference 300 A & B, EPA/600/R-93-100). All the required quality control criteria for the laboratory, method, and system performance audits were evaluated and determined to be within the limits.

Matrix spike (Sulfate): Recovery results obtained for spiked sample 2000SY03S01(63.58 mg/L), exceeded the upper calibration range. The upper limit of calibration is 56.25 mg/L. However, the calculated spike recovery value of 102.2% was within the SOP limit of 100 ± 20%.

To evaluate the accuracy of the initial recovery result, the spike was re-prepared from the same sample in exact fashion and assayed on 04/07/2000. The same calibration used to analyze the initial spike was utilized and verified for this analysis. All required QC audits results were within the limits. Sulfate results obtained on this day for spike sample 2000SY03S01 (62.39 mg SO_4 /L), exceeded the upper calibration range. A two-fold dilution of the spiked sample was also made and analyzed within the same instrument run. Sulfate results obtained for this dilution was 61.74 mg/L. This finding indicates that the original recovery result is acceptable for use without further qualifications.

Method Blanks(LRB/ICB): The method blanks assayed at the beginning of each analysis on 3/24/2000 and 3/27/2000 were found to contain 3.51 mg/L and 3.67 mg/L of sulfate respectively. No sulfate was found in the blanks assayed at the end of the determination. Instrument response for those blanks were well below the reporting limit (15 mg/L) for the high calibration range. The resulting blank concentrations may be inaccurate, but do not indicate contamination. All samples below this reporting limit (15 mg/L) were analyzed and reported from the low calibration range. The reporting limit for this range is 0.75 mg/L. The method detection limit (MDL) is 0.025 mg/L. No sulfate was detected in any of the blanks.

Laboratory Fortified Blanks (LFBs): The LFBs were not analyzed on the days that the samples were assayed in both the low and high level analysis. They were determined on a different date using the same method and calibration as the samples. All the required QC audits were also assayed. The QC results were within the limits. The LFB was analyzed to complement the

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 5 CENTRAL REGIONAL LABORATORY

536 SOUTH CLARK STREET

CHICAGO, ILLINOIS 60605

Date: APR 19 2000

Subject: Review of Region 5 Data for Himco Dump

From: ESAT , Chemist
Region 5 Central Regional Laboratory

To: SF

Attached are the results for Site: Himco Dump Code: 054J
CRL Data Set Number: 20000024
for analyses of : Antimony, Arsenic, Cadmium, Lead, Selenium and Thallium
Results are reported for sample numbers: 2000SY01S01, 2000SY01S02, 2000SY01S03, 2000SY01S04, 2000SY01S05, 2000SY01S06, 2000SY01S07, 2000SY01S08, 2000SY01S09, 2000SY01S10, 2000SY01S11, 2000SY01S12, 2000SY01S13, 2000SY01S14 and 2000SY01R12

Results Status:
(x) Acceptable for Use
( ) Data Qualified, but Acceptable for use
( ) Data Unacceptable for Use

Sylvia Griffin APR 1 9 2000

CRL Data Management Coordinator and Date Received

Date Transmitted: APR 1 9 2000

Please have the US EPA project leader fill out the customer survey form on the Region 5 Intranet: http://www.r5intra.epa.gov/crl/qa.html, (← by clicking on this link, or call George Schupp, CRL Sample Coordinator, at 3-1226).

Please sign and date this form below and return it with any comments to:

Sylvia Griffin
Data Management Coordinator
Region 5 Central Regional Laboratory
ML - 10C

Received by and Date

Comments:

Method: GFAA for Water
Site: Himco Dump
Date: April 6, 2000
Prepared by: Stephen Connet

TDF: 5104-284
PWO: ESE51024
WAD: 05-00-4-04
Data Set: 20000024

NARRATIVE

Fifteen (15) water samples for the Himco Dump site [2000SY01S01 (B-1), S02 (B-3), S03 (54253 Westwood), S04 (54271 Westwood), S05 (54215 Westwood), S06 (27964 Westwood), S07 (27948 Westwood), S08 (27919 Westwood), S09 (54280 Westwood), S10 (54231 Westwood), S11 (54305 Westwood), S12 (54287 Westwood), R12 (54287 Westwood), S13 (54125 Westwood), S14 (E-3 or E3)] were sampled on 3/15-16/00 and were received properly preserved by the CRL on 3/16/00. The samples were submitted for analysis of antimony, arsenic, cadmium, lead, selenium and thallium by GFAA.

The samples were digested following standard CRL GFAA water digestion protocols. The samples were digested on 3/20, 3/23 and 3/27 (digestion batch 1164). 3/23 redigestion was performed due to suspected cadmium contamination; 3/27 redigestion was performed due to lead contamination.

Due to problems with the SIMAA 6000, all results for arsenic were reported from 5100E using a detection limit of 2 ppb. The second digest was used for antimony due to low spike recovery for the second matrix spike in the first digest. Spike recoveries for the second digest were acceptable. All QC were within limits; all sample results are acceptable.

Analytical results were stored in the following database files:
H:\r5crl\vol3\metals\sconnet\20000024\5100W-Sb\040500 for antimony,
H:\r5crl\vol3\metals\sconnet\20000024\5100E-As\032400 for arsenic,
H:\r5crl\vol3\metals\sconnet\20000024\5100E-Cd\032300B for cadmium,
H:\r5crl\vol3\metals\sconnet\20000024\5100E-Pb\032800 for lead,
H:\r5crl\vol3\metals\sconnet\20000024\5100W-Se\032400A and
H:\r5crl\vol3\metals\sconnet\20000024\5100E-Se\032800A for selenium,
H:\r5crl\vol3\metals\sconnet\20000024\5100W-Tl\032300B and \032400 for thallium.

This narrative, the QC limits sheet, QC Summary and Results spreadsheets are stored in:
H:\r5crl\vol3\metals\sconnet\20000024\Reports\GFAA Narrative.
H:\r5crl\vol3\metals\sconnet\20000024\Reports\QC Limits.
H:\r5crl\vol3\metals\sconnet\20000024\Reports\QCSummry.
H:\r5crl\vol3\metals\sconnet\20000024\Reports\GFAA Results.

Since RLIMS was unavailable, the AA metals analysis results are reported in a word-processing spreadsheet only. Time will be necessary in the future to enter all analysis results into RLIMS.

4-6-00

ATTACHMENT 1

CRL Data Review Qualification Codes

QUALIFIER	DESCRIPTION
B	This flag is used when the analyte is found in the associated ***B***lank as well as the sample. It indicates possible blank contamination and warns the user to take appropriate action while assessing the data.
D	This flag is used when the analyte concentration results from a required ***D***ilution of the sample, extract or digestate.
E	This flag is used to identify analyte concentrations ***E***xceeding the upper calibration range of the analytical instrument after dilution of the sample, extract or digestate. The reported value is considered to be estimated
J	This flag is used when the analyte is confirmed to be qualitatively present in the sample, extract or digestate, at or above the CRL reporting limit (RL) but the quantitated value is estimated due to quality control limit(s) being exceeded. This flag accompanies all GC/MS tentatively identified compounds (TICs). This flag also applies to a suspected, unidentified interference. (***J*** is the flag used in the Superfund CLP SOW and Data Review Functional Guidelines and is used by CRL for consistency.)
M	This flag is used when the analyte is confirmed to be qualitatively present in the sample, extract or digestate, at or above the CRL ***M***ethod Detection Limit (MDL) but below the CRL reporting limit (RL). This flag applies to all values in this concentration range and indicates the quantitated value is estimated due to its presence in this concentration range.
N	This flag applies to GC/MS TICs that have ***N***o mass spectral library match.
Q	This flag applies to analyte data that are severely estimated due to quality control and/or ***Q***uantitation problems, but are confirmed to be qualitatively present in the sample. No value is reported with this qualification flag.
R	This flag applies to analyte data that are ***R***ejected and unusable due to severe quality control, quantitation and/or qualitative identification problems. No other qualification flags are reported for this analyte. No value is reported with this qualification flag.
U	This flag in used when the analyte was analyzed but ***U***ndetected in the sample. The CRL RL for the analyte accompanies this flag. As with sample results that are positive, the value is corrected for dry weight, dilution and/or sample weight or volume.

ENVIRONMENTAL PROTECTION AGENCY
REGION V
CENTRAL REGIONAL LABORATORY
FINAL RESULT REPORT FOR THE TEAM: METALS

DIVISION/BRANCH: SUPERFUND SAMPLING DATE: 3/15-16/00 LAB ARRIVAL DATE: 3/16/00 DUE DATE: 3/30/00
DU NUMBER: 50102D DATASET NUMBER: 20000024 STUDY: Himco Dump PRIORITY: Routine LABORATORY :ESAT

	CRL LOG NUMBER	SAMPLE DESCRIPTION	WATER Antimony (ug/L)	WATER Arsenic (ug/L)	WATER Cadmium (ug/L)	WATER Lead (ug/L)	WATER Selenium (ug/L)	WATER Thallium (ug/L)
1	2000SY01S01	B-1	2U	2U	0.1U	3M	2U	1U
2	2000SY01S02	B-3	2U	5M	0.1U	2U	2U	1U
3	2000SY01S03	54253 Westwood	2U	5M	0.1U	2U	2U	1U
4	2000SY01S04	54271 Westwood	2U	2U	0.1U	2U	2U	1U
5	2000SY01S05	54215 Westwood	2U	4UD	0.1U	2U	2U	1U
6	2000SY01S06	27964 Westwood	2U	6DM	0.1U	2U	2U	1U
7	2000SY01S07	27948 Westwood	2U	7	0.1U	2U	2U	1U
8	2000SY01S08	27919 Westwood	2U	2U	0.1U	2U	2U	1U
9	2000SY01S09	54280 Westwood	2U	2U	0.1U	2U	2U	1U
10	2000SY01S10	54231 Westwood	2U	2U	0.1U	2U	2U	1U
11	2000SY01S11	54305 Westwood	2U	4UD	0.1U	2U	2U	1U
12	2000SY01S12	54287 Westwood	2U	7	0.1U	2U	2U	1U
13	2000SY01R12	54287 Westwood	2U	8DM	0.1U	2U	2U	1U
14	2000SY01S13	54125 Westwood	2U	2M	0.1U	2U	2U	1U
15	2000SY01S14	E-3 (E3)	2U	7	0.1U	2U	2U	1U
DATE OF ANALYSIS			4/5/00	3/24/00	3/23/00	3/28/00	3/24,28/00	3/23-24/00
ANALYST		4-6-00	S. Connet	S. Connet	S. Connet	S. Connet	S. Connet	S. Connet

Reviewed by: J. Gary Date: 4/17/2000

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 5 CENTRAL REGIONAL LABORATORY

536 SOUTH CLARK STREET

CHICAGO, ILLINOIS 60605

Date: APR 19 2000

Subject: Review of Region 5 Data for Himco Dump

From: ESAT , Chemist
Region 5 Central Regional Laboratory

To: SF

Attached are the results for Site: Himco Dump Code: 054J
CRL Data Set Number: 20000024
for analyses of : Mercury
Results are reported for sample numbers: 2000SY01S01, 2000SY01S02, 2000SY01S03, 2000SY01S04, 2000SY01S05, 2000SY01S06, 2000SY01S07, 2000SY01S08, 2000SY01S09, 2000SY01S10, 2000SY01S11, 2000SY01S12, 2000SY01S13, 2000SY01S14 and 2000SY01R12

Results Status:
(x) Acceptable for Use
( ) Data Qualified, but Acceptable for use
( ) Data Unacceptable for Use

Sylvia Griffin APR 19 2000

CRL Data Management Coordinator and Date Received

Date Transmitted: APR 19 2000

Please have the US EPA project leader fill out the customer survey form on the Region 5 Intranet: http://www.r5intra.epa.gov/crl/qa.html, (← by clicking on this link, or call George Schupp, CRL Sample Coordinator, at 3-1226).

Please sign and date this form below and return it with any comments to:

Sylvia Griffin
Data Management Coordinator
Region 5 Central Regional Laboratory
ML - 10C

Received by and Date

Comments:

Parameter: Mercury
Method: 245.2*DNS
Site: Himco Dump
Analyst: M. Mattox M. Mattox
Date: April 19, 2000 4-19-00

Data Set: 20000024
TDF: 5104-284
PWO: ESE51024
WAD: 05-00-4-04

NARRATIVE

Fifteen (15) water samples from the Himco Dump site (data set 20000024) were collected on March 15 and 16, 2000. The water samples are stated with the sample number and station identification as follows: 2000SY01S01 (B-1), 2000SY01S02 (B-3), 2000SY01S03 (54253 Westwood), 2000SY01S04 (54271 Westwood), 2000SY01S05 (54215 Westwood), 2000SY01S06 (27964 Westwood), 2000SY01S07 (27948 Westwood), 2000SY01S08 (27919 Westwood), 2000SY01S09 (54280 Westwood), 2000SY01S10 (54231 Westwood), 2000SY01S11 (54305 Westwood), 2000SY01S12 (54287 Westwood), 2000SY01R12 (54287 Westwood), 2000SY01S13 (54125 Westwood), and 2000SY01S14 (E-3). The samples were received properly preserved by CRL on March 16, 2000. These samples were assigned to ESAT for mercury analysis.

The samples were digested on 4/4/00 and analyzed on 4/5/00. The first analytical run is used to report results. The remaining part of the run has been provided for information only. This portion had modifications which can be found in the mercury log book.

All sample results are acceptable; the initial DQC-LFB was within range and the final DQC-LFB was slightly high with a recovery of 114%. All other QC audits were in control. Because the samples are non-detects, all water sample results are acceptable. It is possible that the bias was due to a condensate build-up in the drying tube. To investigate this the run was repeated. The calibration and initial QC were very close to the values obtained in the initial run. Just prior to analyzing the final QC the drying unit was removed and dried. The final QC was run and the same DQC-LFB that was run in the previous run showed a result that was also very close to the end result from the original run, but the difference was enough for the result to be in control. This run data is provided for information only.

An MDL sample set was also digested and analyzed. The values obtained were well below the concentration of the standard and will be redigested at a lower concentration on another date.

Between 3/23/00 and 4/5/00 several attempts were made to digest and analyze this sample set. Some problems occurred with the digestion unit and analyzer as the analysis was attempted. A record of problems which occurred can be found in the mercury log book. The analyst worked closely with the CRL staff to resolve the problems.

This narrative is stored in
I:\r5crl\coll\min_nut\mmattox\PSAMercury\Hg Water\20000024\Reports\Hg Narrative.
The spreadsheet is stored in
I:\r5crl\coll\min_nut\mmattox\PSAMercury\Hg Water\20000024\Reports\Hg Results.
The QC summary is stored in
I:\r5crl\coll\min_nut\mmattox\PSAMercury\Hg Water\20000024\Reports\Hg QC Summary.

At this time RLIMS is not available, therefore WordPerfect reports were generated. Time must be allotted in the future to enter the data into RLIMS when it does become available.

M. Mattox 4-19-00

ATTACHMENT 1

CRL Data Review Qualification Codes

QUALIFIER	DESCRIPTION
B	This flag is used when the analyte is found in the associated ***B***lank as well as the sample. It indicates possible blank contamination and warns the user to take appropriate action while assessing the data.
D	This flag is used when the analyte concentration results from a required ***D***ilution of the sample, extract or digestate.
E	This flag is used to identify analyte concentrations ***E***xceeding the upper calibration range of the analytical instrument after dilution of the sample, extract or digestate. The reported value is considered to be estimated
J	This flag is used when the analyte is confirmed to be qualitatively present in the sample, extract or digestate, at or above the CRL reporting limit (RL) but the quantitated value is estimated due to quality control limit(s) being exceeded. This flag accompanies all GC/MS tentatively identified compounds (TICs). This flag also applies to a suspected, unidentified interference. (***J*** is the flag used in the Superfund CLP SOW and Data Review Functional Guidelines and is used by CRL for consistency.)
M	This flag is used when the analyte is confirmed to be qualitatively present in the sample, extract or digestate, at or above the CRL ***M***ethod Detection Limit (MDL) but below the CRL reporting limit (RL). This flag applies to all values in this concentration range and indicates the quantitated value is estimated due to its presence in this concentration range.
N	This flag applies to GC/MS TICs that have ***N***o mass spectral library match.
Q	This flag applies to analyte data that are severely estimated due to quality control and/or ***Q***uantitation problems, but are confirmed to be qualitatively present in the sample. No value is reported with this qualification flag.
R	This flag applies to analyte data that are ***R***ejected and unusable due to severe quality control, quantitation and/or qualitative identification problems. No other qualification flags are reported for this analyte. No value is reported with this qualification flag.
U	This flag in used when the analyte was analyzed but ***U***ndetected in the sample. The CRL RL for the analyte accompanies this flag. As with sample results that are positive, the value is corrected for dry weight, dilution and/or sample weight or volume.

ENVIRONMENTAL PROTECTION AGENCY
REGION V
CENTRAL REGIONAL LABORATORY
FINAL RESULT REPORT FOR THE TEAM: METALS

DIVISION/BRANCH: SUPERFUND SAMPLING DATE: 3/15-16-00 LAB ARRIVAL DATE: 3/16/00 DUE DATE: 3/30/00
DU NUMBER: TFA DATASET NUMBER: 20000024 STUDY: Himco Landfill PRIORITY: Routine LABORATORY :ESAT

	CRL LOG NUMBER	SAMPLE DESCRIPTION	WATER Mercury (ug/l)		
1	2000SY01S01	B-1	0.2U		
2	2000SY01S02	B-3	0.2U		
3	2000SY01S03	54253 Westwood	0.2U		
4	2000SY01S04	54271 Westwood	0.2U		
5	2000SY01S05	54215 Westwood	0.2U		
6	2000SY01S06	27964 Westwood	0.2U		
7	2000SY01S07	27948 Westwood	0.2U		
8	2000SY01SO8	27919 Westwood	0.2U		
9	2000SY01S09	54280 Westwood	0.2U		
10	2000SY01S10	54231 Westwood	0.2U		
11	2000SY01S11	54305 Westwood	0.2U		
12	2000SY01S12	54287 Westwood	0.2U		
DATE OF ANALYSIS		4-11-00	04/05/00		
ANALYST		M. Mattox	M. Mattox		

Reviewed by: _____ Date: 4/12/00

ENVIRONMENTAL PROTECTION AGENCY
REGION V
CENTRAL REGIONAL LABORATORY
FINAL RESULT REPORT FOR THE TEAM: METALS

DIVISION/BRANCH: SUPERFUND SAMPLING DATE: 3/15-16-00 LAB ARRIVAL DATE: 3/16/00 DUE DATE: 3/30/00
DU NUMBER: TFA DATASET NUMBER: 20000024 STUDY: Himco Landfill PRIORITY: Routine LABORATORY: ESAT

	CRL LOG NUMBER	SAMPLE DESCRIPTION	WATER Mercury (ug/l)		
13	2000SY01R12	54287 Westwood	0.2U		
14	2000SY01S13	54125 Westwood	0.2U		
15	2000SY01S14	E-3	0.2U		
DATE OF ANALYSIS		4-11-00	04/05/00		
ANALYST		M. Mattox	M. Mattox		

Reviewed by: _____ Date: 4/12/00

EPA CRL - REGION V
ICP FINAL RESULTS REPORT

REPORT PRODUCED ON: 29-Mar-00

SAMPLE ORGANIZATION:

SAMPLE BATCH ID: 20000024

LABORATORY: REGION 5 CRL

SAMPLE FACILITY: Himco Dump

SAMPLE: 2000SY01S06

ANALYZED: 21-Mar-00

STATION: 27964 Westwood

COMPOUND	AMOUNT			(Units)
Aluminum	26	U		(ug/L)
Barium	113			(ug/L)
Beryllium	1.6	U	J	(ug/L)
Calcium	113000		J	(ug/L)
Chromium	3.4	U	J	(ug/L)
Cobalt	10.1	U		(ug/L)
Copper	11.9	M		(ug/L)
Iron	5860			(ug/L)
Magnesium	16100		J	(ug/L)
Manganese	73			(ug/L)
Nickel	19.4	U		(ug/L)
Potassium	2610			(ug/L)
Silver	6.8	U		(ug/L)
Sodium	13500			(ug/L)
Vanadium	3.9	U		(ug/L)
Zinc	19	M	J	(ug/L)

ANALYZED BY: 3-29-00

EDCK5

Lab Name: ENVIROSYSTEMS Contract: 68-D7-0005

Lab Code: ENVSYS Case No.: 27876 SAS No.: SDG No.: EDCJ8

Lab Sample ID: 00030908 Date Received: 03/17/00

Lab File ID: 030908 Date Analyzed: 03/22/00

Purge Volume: 25.00 (ml) Dilution Factor: 1.0

GC Column: RTX-502.2 ID: 0.530 (mm) Length: 105 (m)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
74-87-3	Chloromethane	1	U
74-83-9	Bromomethane	1	U
75-01-4	Vinyl chloride	1	U
75-00-3	Chloroethane	1	U
75-09-2	Methylene chloride	2	U
67-64-1	Acetone	5	U
75-15-0	Carbon disulfide	1	U
75-35-4	1,1-Dichloroethene	1	U
75-34-3	1,1-Dichloroethane	2	
156-59-2	cis-1,2-Dichloroethene	0.8	J
156-60-5	trans-1,2-Dichloroethene	1	U
67-66-3	Chloroform	1	U
107-06-2	1,2-Dichloroethane	1	U
78-93-3	2-Butanone	5	U
74-97-5	Bromochloromethane	1	U
71-55-6	1,1,1-Trichloroethane	1	U
56-23-5	Carbon tetrachloride	1	U
75-27-4	Bromodichloromethane	1	U
78-87-5	1,2-Dichloropropane	1	U
10061-01-5	cis-1,3-Dichloropropene	1	U
79-01-6	Trichloroethene	1	U
124-48-1	Dibromochloromethane	1	U
79-00-5	1,1,2-Trichloroethane	1	U
71-43-2	Benzene	1	U
10061-02-6	trans-1,3-Dichloropropene	1	U
75-25-2	Bromoform	1	U
108-10-1	4-Methyl-2-pentanone	5	U
591-78-6	2-Hexanone	5	U
127-18-4	Tetrachloroethene	1	U
79-34-5	1,1,2,2-Tetrachloroethane	1	U
106-93-4	1,2-Dibromoethane	1	U
108-88-3	Toluene	1	U
108-90-7	Chlorobenzene	1	U
100-41-4	Ethylbenzene	1	U
100-42-5	Styrene	1	U
1330-20-7	Xylenes (total)	1	U
541-73-1	1,3-Dichlorobenzene	1	U
106-46-7	1,4-Dichlorobenzene	1	U
95-50-1	1,2-Dichlorobenzene	1	U
96-12-8	1,2-Dibromo-3-chloropropane	1	U
120-82-1	1,2,4-Trichlorobenzene	1	U

TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: ENVIROSYSTEMS Contract: 68-D7-0005 EDCJ8

Lab Code: ENVSYS Case No: 27876 SAS No: SDG No: EDCJ8

Lab Sample ID: 00030908 Date Received: 03/17/00

Lab File ID: 030908 Date Analyzed: 03/22/00

Purge Volume: 25.00 (ml) Dilution Factor: 1.0

GC Column: RTX-502.2 ID: 0.530 (mm) Length: 105 (m)

Number TICs found: 2

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC. (ug/L)	Q
1	75-43-4	METHANE, DICHLORODFLUORO	6.22	3	JN
2		UNKNOWN	7.30	4	J

1LCB

LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO

EDCK5

Lab Name: ENVIROSYSTEMS Contract: 68-D7-0005

Lab Code: ENVSYS Case No.: 27876 SAS No.: SDG No.: EDCJ8

Lab Sample ID: 00030908 Date Received: 03/17/00

Lab File ID: S030908 Date Extracted: 03/23/00

Sample volume: 1000 (ml) Date Analyzed: 03/29/00

Concentrated Extract Volume: 1000 (ul) Dilution Factor: 1.0

Injection Volume: 1.0 (ul) pH: 6.0

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
108-95-2	Phenol	5	U
111-44-4	bis(2-Chloroethyl)Ether	5	U
95-57-8	2-Chlorophenol	5	U
95-48-7	2-Methylphenol	5	U
108-60-1	2,2'-oxybis(1-Chloropropane)	5	U
106-44-5	4-Methylphenol	5	U
621-64-7	N-Nitroso-Di-n-Propylamine	5	U
67-72-1	Hexachloroethane	5	U
98-95-3	Nitrobenzene	5	U
78-59-1	Isophorone	5	U
88-75-5	2-Nitrophenol	5	U
105-67-9	2,4-Dimethylphenol	5	U
111-91-1	bis(2-Chloroethoxy)Methane	5	U
120-83-2	2,4-Dichlorophenol	5	U
91-20-3	Naphthalene	5	U
106-47-8	4-Chloroaniline	5	U
87-68-3	Hexachlorobutadiene	5	U
59-50-7	4-Chloro-3-Methylphenol	5	U
91-57-6	2-Methylnaphthalene	5	U
77-47-4	Hexachlorocyclopentadiene	5	U
88-06-2	2,4,6-Trichlorophenol	5	U
95-95-4	2,4,5-Trichlorophenol	20	U
91-58-7	2-Chloronaphthalene	5	U
88-74-4	2-Nitroaniline	20	U
131-11-3	Dimethylphthalate	5	U
208-96-8	Acenaphthylene	5	U
606-20-2	2,6-Dinitrotoluene	5	U
99-09-2	3-Nitroaniline	20	U
83-32-9	Acenaphthene	5	U

1LCC

LOW CONC WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO

EDCK5

Lab Name: ENVIROSYSTEMS Contract: 68-D7-0005

Lab Code: ENVSYS Case No.: 27876 SAS No.: SDG No.: EDCJ8

Lab Sample ID: 00030908 Date Received: 03/17/00

Lab File ID: S030908 Date Extracted: 03/23/00

Sample volume: 1000 (ml) Date Analyzed: 03/29/00

Concentrated Extract Volume: 1000 (ul) Dilution Factor: 1.0

Injection Volume: 1.0 (ul) pH: 6.0

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
51-28-5	2,4-Dinitrophenol	20	U
100-02-7	4-Nitrophenol	20	U
132-64-9	Dibenzofuran	5	U
121-14-2	2,4-Dinitrotoluene	5	U
84-66-2	Diethylphthalate	5	U
7005-72-3	4-Chlorophenyl-phenylether	5	U
86-73-7	Fluorene	5	U
100-01-6	4-Nitroaniline	20	U
534-52-1	4,6-Dinitro-2-methylphenol	20	U
86-30-6	N-Nitrosodiphenylamine (1)	5	U
101-55-3	4-Bromophenyl-phenylether	5	U
118-74-1	Hexachlorobenzene	5	U
87-86-5	Pentachlorophenol	20	U
85-01-8	Phenanthrene	5	U
120-12-7	Anthracene	5	U
84-74-2	Di-n-Butylphthalate	5	U
206-44-0	Fluoranthene	5	U
129-00-0	Pyrene	5	U
85-68-7	Butylbenzylphthalate	5	U
91-94-1	3,3'-Dichlorobenzidine	5	U
56-55-3	Benzo(a)Anthracene	5	U
218-01-9	Chrysene	5	U
117-81-7	bis(2-Ethylhexyl)Phthalate	5	U
117-84-0	Di-n-octylphthalate	5	U
205-99-2	Benzo(b)Fluoranthene	5	U
207-08-9	Benzo(k)Fluoranthene	5	U
50-32-8	Benzo(a)Pyrene	5	U
193-39-5	Indeno(1,2,3-cd)Pyrene	5	U
53-70-3	Dibenz(a,h)Anthracene	5	U
191-24-2	Benzo(g,h,i)Perylene	5	U

(1) - Cannot be separated from Diphenylamine

011452

1LCF

LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

EDCK5

Lab Name: ENVIROSYSTEMS Contract: 68-D7-0005

Lab Code: ENVSYS Case No.: 27876 SAS No.: SDG No.: EDCJ8

Lab Sample ID: 00030908 Date Received: 03/17/00

Lab File ID: S030908 Date Extracted: 03/23/00

Sample volume: 1000 (ml) Date Analyzed: 03/29/00

Concentrated Extract Volume: 1000 (ul) Dilution Factor: 1.0

Injection Volume: 1.0 (ul) pH: 6.0

Number TICs found: 0

CAS NUMBER	COMPOUND NAME	RT	EST. CONC. (ug/L)	Q

EPA CRL - REGION V
ICP FINAL RESULTS REPORT

REPORT PRODUCED ON: 29-Mar-00

SAMPLE ORGANIZATION:

SAMPLE BATCH ID: 20000024

LABORATORY: REGION 5 CRL

SAMPLE FACILITY: Himco Dump

SAMPLE: 2000SY01S07

ANALYZED: 21-Mar-00

STATION: 27948 Westwood

COMPOUND	AMOUNT			(Units)
Aluminum	26	U		(ug/L)
Barium	102			(ug/L)
Beryllium	1.6	U	J	(ug/L)
Calcium	122000		J	(ug/L)
Chromium	3.5	M	J	(ug/L)
Cobalt	10.1	U		(ug/L)
Copper	4.1	M		(ug/L)
Iron	6120			(ug/L)
Magnesium	16000		J	(ug/L)
Manganese	72.3			(ug/L)
Nickel	19.4	U		(ug/L)
Potassium	2870			(ug/L)
Silver	6.8	U		(ug/L)
Sodium	33200			(ug/L)
Vanadium	3.9	U		(ug/L)
Zinc	30.1	M	J	(ug/L)

ANALYZED BY: _____ 3-29-00

LOW CONC WATER VOLATILE ORGANICS ANALYSIS DATA SHEET

EDCK2

Lab Name: ENVIROSYSTEMS Contract: 68-D7-0005

Lab Code: ENVSYS Case No.: 27876 SAS No.: SDG No.: EDCJ8

Lab Sample ID: 00030905 Date Received: 03/17/00

Lab File ID: 030905 Date Analyzed: 03/22/00

Purge Volume: 25.00 (ml) Dilution Factor: 1.0

GC Column: RTX-502.2 ID: 0.530 (mm) Length: 105 (m)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
74-87-3	Chloromethane	1	U
74-83-9	Bromomethane	1	U
75-01-4	Vinyl chloride	0.7	J
75-00-3	Chloroethane	1	U
75-09-2	Methylene chloride	2	U
67-64-1	Acetone	5	U
75-15-0	Carbon disulfide	1	U
75-35-4	1,1-Dichloroethene	1	U
75-34-3	1,1-Dichloroethane	2	
156-59-2	cis-1,2-Dichloroethene	1	
156-60-5	trans-1,2-Dichloroethene	1	U
67-66-3	Chloroform	1	U
107-06-2	1,2-Dichloroethane	1	U
78-93-3	2-Butanone	5	U
74-97-5	Bromochloromethane	1	U
71-55-6	1,1,1-Trichloroethane	1	U
56-23-5	Carbon tetrachloride	1	U
75-27-4	Bromodichloromethane	1	U
78-87-5	1,2-Dichloropropane	1	U
10061-01-5	cis-1,3-Dichloropropene	1	U
79-01-6	Trichloroethene	1	U
124-48-1	Dibromochloromethane	1	U
79-00-5	1,1,2-Trichloroethane	1	U
71-43-2	Benzene	1	U
10061-02-6	trans-1,3-Dichloropropene	1	U
75-25-2	Bromoform	1	U
108-10-1	4-Methyl-2-pentanone	5	U
591-78-6	2-Hexanone	5	U
127-18-4	Tetrachloroethene	1	U
79-34-5	1,1,2,2-Tetrachloroethane	1	U
106-93-4	1,2-Dibromoethane	1	U
108-88-3	Toluene	1	U
108-90-7	Chlorobenzene	1	U
100-41-4	Ethylbenzene	1	U
100-42-5	Styrene	1	U
1330-20-7	Xylenes (total)	1	U
541-73-1	1,3-Dichlorobenzene	1	U
106-46-7	1,4-Dichlorobenzene	1	U
95-50-1	1,2-Dichlorobenzene	1	U
96-12-8	1,2-Dibromo-3-chloropropane	1	U
120-82-1	1,2,4-Trichlorobenzene	1	U

EDCK2

Lab Name: ENVIROSYSTEMS Contract: 68-D7-0035

Lab Code: ENVSYS Case No: 27876 SAS No: SDG No: EDCJ8

Lab Sample ID: 00030905 Date Received: 03/17/00

Lab File ID: 030905 Date Analyzed: 03/22/00

Purge Volume: 25.00 (ml) Dilution Factor: 1.0

GC Column: RTX-502.2 ID: 0.530 (mm) Length: 105 (m)

Number TICs found: 2

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC. (ug/L)	Q
1.	75-43-4	METHANE, DICHLORODFLUORO-	6.20	3	JN
2.		UNKNOWN	7.27	4	J

LOW CONC WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE No.: EDCK2

Lab Name: ENVIROSYSTEMS Contract: 68-D7-0005

Lab Code: ENVSYS Case No.: 27876 SAS No.: SDG No.: EDCJ8

Lab Sample ID: 00030905 Date Received: 03/17/00

Lab File ID: S030905 Date Extracted: 03/22/00

Sample volume: 1000 (ml) Date Analyzed: 03/28/00

Concentrated Extract Volume: 1000 (ul) Dilution Factor: 1.0

Injection Volume: 1.0 (ul) pH: 7.0

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
108-95-2	Phenol	5	U
111-44-4	bis(2-Chloroethyl)Ether	5	U
95-57-8	2-Chlorophenol	5	U
95-48-7	2-Methylphenol	5	U
108-60-1	2,2'-oxybis(1-Chloropropane)	5	U
106-44-5	4-Methylphenol	5	U
621-64-7	N-Nitroso-Di-n-Propylamine	5	U
67-72-1	Hexachloroethane	5	U
98-95-3	Nitrobenzene	5	U
78-59-1	Isophorone	5	U
88-75-5	2-Nitrophenol	5	U
105-67-9	2,4-Dimethylphenol	5	U
111-91-1	bis(2-Chloroethoxy)Methane	5	U
120-83-2	2,4-Dichlorophenol	5	U
91-20-3	Naphthalene	5	U
106-47-8	4-Chloroaniline	5	U
87-68-3	Hexachlorobutadiene	5	U
59-50-7	4-Chloro-3-Methylphenol	5	U
91-57-6	2-Methylnaphthalene	5	U
77-47-4	Hexachlorocyclopentadiene	5	U
88-06-2	2,4,6-Trichlorophenol	5	U
95-95-4	2,4,5-Trichlorophenol	20	U
91-58-7	2-Chloronaphthalene	5	U
88-74-4	2-Nitroaniline	20	U
131-11-3	Dimethylphthalate	5	U
208-96-8	Acenaphthylene	5	U
606-20-2	2,6-Dinitrotoluene	5	U
99-09-2	3-Nitroaniline	20	U
83-32-9	Acenaphthene	5	U

1LCC

LOW CONC WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO

EDCK2

Lab Name: ENVIROSYSTEMS Contract: 68-D7-0005

Lab Code: ENVSYS Case No.: 27876 SAS No.: SDG No.: EDCJ8

Lab Sample ID: 00030905 Date Received: 03/17/00

Lab File ID: S030905 Date Extracted: 03/22/00

Sample volume: 1000 (ml) Date Analyzed: 03/28/00

Concentrated Extract Volume: 1000 (ul) Dilution Factor: 1.0

Injection Volume: 1.0 (ul) pH: 7.0

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
51-28-5	2,4-Dinitrophenol	20	U
100-02-7	4-Nitrophenol	20	U
132-64-9	Dibenzofuran	5	U
121-14-2	2,4-Dinitrotoluene	5	U
84-66-2	Diethylphthalate	5	U
7005-72-3	4-Chlorophenyl-phenylether	5	U
86-73-7	Fluorene	5	U
100-01-6	4-Nitroaniline	20	U
534-52-1	4,6-Dinitro-2-methylphenol	20	U
86-30-6	N-Nitrosodiphenylamine (1)	5	U
101-55-3	4-Bromophenyl-phenylether	5	U
118-74-1	Hexachlorobenzene	5	U
87-86-5	Pentachlorophenol	20	U
85-01-8	Phenanthrene	5	U
120-12-7	Anthracene	5	U
84-74-2	Di-n-Butylphthalate	5	U
206-44-0	Fluoranthene	5	U
129-00-0	Pyrene	5	U
85-68-7	Butylbenzylphthalate	5	U
91-94-1	3,3'-Dichlorobenzidine	5	U
56-55-3	Benzo(a)Anthracene	5	U
218-01-9	Chrysene	5	U
117-81-7	bis(2-Ethylhexyl)Phthalate	5	U
117-84-0	Di-n-octylphthalate	5	U
205-99-2	Benzo(b)Fluoranthene	5	U
207-08-9	Benzo(k)Fluoranthene	5	U
50-32-8	Benzo(a)Pyrene	5	U
193-39-5	Indeno(1,2,3-cd)Pyrene	5	U
53-70-3	Dibenz(a,h)Anthracene	5	U
191-24-2	Benzo(g,h,i)Perylene	5	U

(1) - Cannot be separated from Diphenylamine

1D

LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

EDCK2

Lab Name: ENVIROSYSTEMS Contract: 68-D7-0005

Lab Code: ENVSYS Case No.: 27876 SAS No.: SDG No.: EDCJ8

Lab Sample ID: 00030905 Date Received: 03/17/00

Lab File ID: S030905 Date Extracted: 03/22/00

Sample volume: 1000 (ml) Date Analyzed: 03/28/00

Concentrated Extract Volume: 1000 (ul) Dilution Factor: 1.0

Injection Volume: 1.0 (ul) pH: 7.0

Number TICs found: 0

CAS NUMBER	COMPOUND NAME	RT	EST. CONC. (ug/L)	Q

EPA CRL - REGION V
ICP FINAL RESULTS REPORT

REPORT PRODUCED ON: 22-Mar-00

SAMPLE ORGANIZATION:

SAMPLE BATCH ID: 20000024

LABORATORY: REGION 5 CRL

SAMPLE FACILITY: Himco Dump

SAMPLE: 2000SY01S10

ANALYZED: 21-Mar-00

STATION: 54231 Westwood

COMPOUND	AMOUNT			(Units)
Aluminum	26	U		(ug/L)
Barium	43.5			(ug/L)
Beryllium	1.6	U	J	(ug/L)
Calcium	115000		J	(ug/L)
Chromium	3.4	U	J	(ug/L)
Cobalt	14	M	J	(ug/L)
Copper	6.1	M		(ug/L)
Iron	25.3	M	B J	(ug/L)
Magnesium	20800			(ug/L)
Manganese	3.2	U		(ug/L)
Nickel	19.4	U		(ug/L)
Potassium	4300			(ug/L)
Silver	6.8	U		(ug/L)
Sodium	82500			(ug/L)
Vanadium	3.9	U		(ug/L)
Zinc	160		J	(ug/L)

ANALYZED BY: _____ 3-22-00

ILCA

LOW CONC WATER VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO

EDCJ8

Lab Name: ENVIROSYSTEMS Contract: 68-D7-0005

Lab Code: ENVSYS Case No.: 27876 SAS No.: SDG No.: EDCJ8

Lab Sample ID: 00030902 Date Received: 03/17/00

Lab File ID: 030902 Date Analyzed: 03/22/00

Purge Volume: 25.00 (ml) Dilution Factor: 1.0

GC Column: RTX-502.2 ID: 0.530 (mm) Length: 105 (m)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
74-87-3	Chloromethane	1	U
74-83-9	Bromomethane	1	U
75-01-4	Vinyl chloride	1	U
75-00-3	Chloroethane	1	U
75-09-2	Methylene chloride	2	U
67-64-1	Acetone	5	U
75-15-0	Carbon disulfide	1	U
75-35-4	1,1-Dichloroethene	1	U
75-34-3	1,1-Dichloroethane	1	U
156-59-2	cis-1,2-Dichloroethene	1	U
156-60-5	trans-1,2-Dichloroethene	1	U
67-66-3	Chloroform	1	U
107-06-2	1,2-Dichloroethane	1	U
78-93-3	2-Butanone	5	U
74-97-5	Bromochloromethane	1	U
71-55-6	1,1,1-Trichloroethane	1	U
56-23-5	Carbon tetrachloride	1	U
75-27-4	Bromodichloromethane	1	U
78-87-5	1,2-Dichloropropane	1	U
10061-01-5	cis-1,3-Dichloropropene	1	U
79-01-6	Trichloroethene	1	U
124-48-1	Dibromochloromethane	1	U
79-00-5	1,1,2-Trichloroethane	1	U
71-43-2	Benzene	1	U
10061-02-6	trans-1,3-Dichloropropene	1	U
75-25-2	Bromoform	1	U
108-10-1	4-Methyl-2-pentanone	5	U
591-78-6	2-Hexanone	5	U
127-18-4	Tetrachloroethene	1	U
79-34-5	1,1,2,2-Tetrachloroethane	1	U
106-93-4	1,2-Dibromoethane	1	U
108-88-3	Toluene	1	U
108-90-7	Chlorobenzene	1	U
100-41-4	Ethylbenzene	1	U
100-42-5	Styrene	1	U
1330-20-7	Xylenes (total)	1	U
541-73-1	1,3-Dichlorobenzene	1	U
106-46-7	1,4-Dichlorobenzene	1	U
95-50-1	1,2-Dichlorobenzene	1	U
96-12-8	1,2-Dibromo-3-chloropropane	1	U
120-82-1	1,2,4-Trichlorobenzene	1	U

ILCE

LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO

EDCJ8

Lab Name: ENVIROSYSTEMS Contract: 68-D7-0005

Lab Code: ENVSYS Case No.: 27876 SAS No.: SDG No.: EDCJ8

Lab Sample ID: 00030902 Date Received: 03/17/00

Lab File ID: 030902 Date Analyzed: 03/22/00

Purge Volume: 25.00 (ml) Dilution Factor: 1.0

GC Column: RTX-502.2 ID: 0.530 (mm) Length: 105 (m)

Number TICs found: 0

CAS NUMBER	COMPOUND NAME	RT	EST. CONC. (ug/L)	Q

1LC2

LOW CONC WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO

EDCJ8

Lab Name: ENVIROSYSTEMS Contract 68-D7-0005

Lab Code: ENVSYS Case No.: 27876 SAS No.: SDG No.: EDCJ8

Lab Sample ID: 00030902 Date Received: 03/17/00

Lab File ID: S030902 Date Extracted: 03/22/00

Sample volume: 1000 (ml) Date Analyzed: 03/28/00

Concentrated Extract Volume: 1000 (ul) Dilution Factor: 1.0

Injection Volume: 1.0 (ul) pH: 7.0

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
108-95-2	Phenol	5	U
111-44-4	bis(2-Chloroethyl)Ether	5	U
95-57-8	2-Chlorophenol	5	U
95-48-7	2-Methylphenol	5	U
108-60-1	2,2'-oxybis(1-Chloropropane)	5	U
106-44-5	4-Methylphenol	5	U
621-64-7	N-Nitroso-Di-n-Propylamine	5	U
67-72-1	Hexachloroethane	5	U
98-95-3	Nitrobenzene	5	U
78-59-1	Isophorone	5	U
88-75-5	2-Nitrophenol	5	U
105-67-9	2,4-Dimethylphenol	5	U
111-91-1	bis(2-Chloroethoxy)Methane	5	U
120-83-2	2,4-Dichlorophenol	5	U
91-20-3	Naphthalene	5	U
106-47-8	4-Chloroaniline	5	U
87-68-3	Hexachlorobutadiene	5	U
59-50-7	4-Chloro-3-Methylphenol	5	U
91-57-6	2-Methylnaphthalene	5	U
77-47-4	Hexachlorocyclopentadiene	5	U
88-06-2	2,4,6-Trichlorophenol	5	U
95-95-4	2,4,5-Trichlorophenol	20	U
91-58-7	2-Chloronaphthalene	5	U
88-74-4	2-Nitroaniline	20	U
131-11-3	Dimethylphthalate	5	U
208-96-8	Acenaphthylene	5	U
606-20-2	2,6-Dinitrotoluene	5	U
99-09-2	3-Nitroaniline	20	U
83-32-9	Acenaphthene	5	U

1LCC

LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EDCJ8

Lab Name: ENVIROSYSTEMS Contract: 68-D7-0005

Lab Code: ENVSYS Case No.: 27876 SAS No.: SDG No.: EDCJ8

Lab Sample ID: 00030902 Date Received: 03/17/00

Lab File ID: S030902 Date Extracted: 03/22/00

Sample volume: 1000 (ml) Date Analyzed: 03/28/00

Concentrated Extract Volume: 1000 (ul) Dilution Factor: 1.0

Injection Volume: 1.0 (ul) pH: 7.0

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
51-28-5	2,4-Dinitrophenol	20	U
100-02-7	4-Nitrophenol	20	U
132-64-9	Dibenzofuran	5	U
121-14-2	2,4-Dinitrotoluene	5	U
84-66-2	Diethylphthalate	5	U
7005-72-3	4-Chlorophenyl-phenylether	5	U
86-73-7	Fluorene	5	U
100-01-6	4-Nitroaniline	20	U
534-52-1	4,6-Dinitro-2-methylphenol	20	U
86-30-6	N-Nitrosodiphenylamine (1)	5	U
101-55-3	4-Bromophenyl-phenylether	5	U
118-74-1	Hexachlorobenzene	5	U
87-86-5	Pentachlorophenol	20	U
85-01-8	Phenanthrene	5	U
120-12-7	Anthracene	5	U
84-74-2	Di-n-Butylphthalate	5	U
206-44-0	Fluoranthene	5	U
129-00-0	Pyrene	5	U
85-68-7	Butylbenzylphthalate	5	U
91-94-1	3,3'-Dichlorobenzidine	5	U
56-55-3	Benzo(a)Anthracene	5	U
218-01-9	Chrysene	5	U
117-81-7	bis(2-Ethylhexyl)Phthalate	5	U
117-84-0	Di-n-octylphthalate	5	U
205-99-2	Benzo(b)Fluoranthene	5	U
207-08-9	Benzo(k)Fluoranthene	5	U
50-32-8	Benzo(a)Pyrene	5	U
193-39-5	Indeno(1,2,3-cd)Pyrene	5	U
53-70-3	Dibenz(a,h)Anthracene	5	U
191-24-2	Benzo(g,h,i)Perylene	5	U

(1) - Cannot be separated from Diphenylamine

ILCF

LOW CONC WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

EDCJ8

Lab Name: ENVIROSYSTEMS Contract: 68-D7-0005

Lab Code: ENVSYS Case No.: 27876 SAS No.: SDG No.: EDCJ8

Lab Sample ID: 00030902 Date Received: 03/17/00

Lab File ID: S030902 Date Extracted: 03/22/00

Sample volume: 1000 (ml) Date Analyzed: 03/28/00

Concentrated Extract Volume: 1000 (ul) Dilution Factor: 1.0

Injection Volume: 1.0 (ul) pH: 7.0

Number TICs found: 0

CAS NUMBER	COMPOUND NAME	RT	EST. CONC. (ug/L)	Q

CRL Data Review Qualification Codes

QUALIFIER	DESCRIPTION
B	This flag is used when the analyte is found in the associated ***B***lank as well as the sample. It indicates possible blank contamination and warns the user to take appropriate action while assessing the data.
D	This flag is used when the analyte concentration results from a required ***D***ilution of the sample, extract or digestate.
E	This flag is used to identify analyte concentrations ***E***xceeding the upper calibration range of the analytical instrument after dilution of the sample, extract or digestate. The reported value is considered to be estimated
J	This flag is used when the analyte is confirmed to be qualitatively present in the sample, extract or digestate, at or above the CRL reporting limit (RL) but the quantitated value is estimated due to quality control limit(s) being exceeded. This flag accompanies all GC/MS tentatively identified compounds (TICs). This flag also applies to a suspected, unidentified interference. (*J* is the flag used in the Superfund CLP SOW and Data Review Functional Guidelines and is used by CRL for consistency.)
M	This flag is used when the analyte is confirmed to be qualitatively present in the sample, extract or digestate, at or above the CRL ***M***ethod Detection Limit (MDL) but below the CRL reporting limit (RL). This flag applies to all values in this concentration range and indicates the quantitated value is estimated due to its presence in this concentration range.
N	This flag applies to GC/MS TICs that have ***N***o mass spectral library match.
Q	This flag applies to analyte data that are severely estimated due to quality control and/or ***Q***uantitation problems, but are confirmed to be qualitatively present in the sample. No value is reported with this qualification flag.
R	This flag applies to analyte data that are ***R***ejected and unusable due to severe quality control, quantitation and/or qualitative identification problems. No other qualification flags are reported for this analyte. No value is reported with this qualification flag.
U	This flag in used when the analyte was analyzed but ***U***ndetected in the sample. The CRL RL for the analyte accompanies this flag. As with sample results that are positive, the value is corrected for dry weight, dilution and/or sample weight or volume.

Gwen,
Here is a comparison of the Sulfate analyzed by CRL & by me with a Hach Spectrophotometer. Note, we are in the ballpark! The Hach meter was reading ~ 15-20% higher.

ENVIRONMENTAL PROTECTION AGENCY
REGION V
CENTRAL REGIONAL LABORATORY
FINAL RESULT REPORT FOR THE TEAM: MINERAL/NUTRIENTS

DIVISION/BRANCH: SUPERFUND **SAMPLING DATE:** 03/15 - 16/2000 **LAB ARRIVAL DATE:** 03/22/2000 **DUE DATE:** 04/21/2000
DU NUMBER: 50102D **DATASET NUMBER:** 20000026 **STUDY:** HIMCO LF **PRIORITY:** Routine **LABORATORY :**CRL

	CRL LOG NUMBER	SAMPLE DESCRIPTION	BROMIDE IN WATER (mg Br^-/L)	CRL SULFATE IN WATER (mg SO_4^-/L)
1	2000SY03S01	27919/EDCK4	0.06 M	132 D
2	2000SY03S02	27948/EDCK2	0.06 M	146 D
3	2000SY03S03	B - 3	0.08 M	126 D
4	2000SY03S04	54271/EDCK0	0.05 M	138 D
5	2000SY03S05	J - 1	0.16 M	114 D
6	2000SY03S06	E - 3	0.16 M	126 D
7	2000SY03S07	B - 1	0.18 M	0.025 U
8	2000SY03S08	B - 4	0.11 M	46.1
9	2000SY03S09	EDCK1/54253	0.06 M	154 D
10	2000SY03S10	54280/EDCK3	0.06 M	133 D
11	2000SY03S11	54305/EDCJ7	0.07 M	171 D
DATE OF ANALYSIS			04/10/2000	03/27/2000
ANALYST				

Reviewed by: _____ Date: 04/14/2000

Hach Field Sulfate Data

148

137.5

150

(143) Duplicate sample

Himco Grd H_2O Sample analysis
One Full set
1st Sampling Event for Residences next (east) of Himco

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 5 CENTRAL REGIONAL LABORATORY

536 SOUTH CLARK STREET

CHICAGO, ILLINOIS 60605

Complete Reg # / Sampling Organics & Inorganics

Date: APR 04 2000

Subject: Review of Region 5 Data for Himco Dump

From: ESAT , Chemist
Region 5 Central Regional Laboratory

To:

Attached are the results for Site: Himco Dump Code: 054J
CRL Data Set Number: 20000024
for analyses of : ICP
Results are reported for sample numbers: 2000SY01S01, 2000SY01S02, 2000SY01S03, 2000SY01S04, 2000SY01S05, 2000SY01S06, 2000SY01S07, 2000SY01S08, 2000SY01S09, 2000SY01S10, 2000SY01S11, 2000SY01S12, 2000SY01S13, 2000SY01S14 and 2000SY01R12

Results Status:
(x) Acceptable for Use
( ) Data Qualified, but Acceptable for use
( ) Data Unacceptable for Use

CRL Data Review Qualification Codes

QUALIFIER	DESCRIPTION
B	This flag is used when the analyte is found in the associated ***B***lank as well as the sample. It indicates possible blank contamination and warns the user to take appropriate action while assessing the data.
D	This flag is used when the analyte concentration results from a required ***D***ilution of the sample, extract or digestate.
E	This flag is used to identify analyte concentrations ***E***xceeding the upper calibration range of the analytical instrument after dilution of the sample, extract or digestate. The reported value is considered to be estimated
J	This flag is used when the analyte is confirmed to be qualitatively present in the sample, extract or digestate, at or above the CRL reporting limit (RL) but the quantitated value is estimated due to quality control limit(s) being exceeded. This flag accompanies all GC/MS tentatively identified compounds (TICs). This flag also applies to a suspected, unidentified interference. (*J* is the flag used in the Superfund CLP SOW and Data Review Functional Guidelines and is used by CRL for consistency.)
M	This flag is used when the analyte is confirmed to be qualitatively present in the sample, extract or digestate, at or above the CRL ***M***ethod Detection Limit (MDL) but below the CRL reporting limit (RL). This flag applies to all values in this concentration range and indicates the quantitated value is estimated due to its presence in this concentration range.
N	This flag applies to GC/MS Te***N***tatively Identified Compounds (TICs) that have a mass spectral library match.
Q	This flag applies to analyte data that are severely estimated due to quality control and/or ***Q***uantitation problems, but are confirmed to be qualitatively present in the sample. No value is reported with this qualification flag.
R	This flag applies to analyte data that are ***R***ejected and unusable due to severe quality control, quantitation and/or qualitative identification problems. No other qualification flags are reported for this analyte. No value is reported with this qualification flag.
U	This flag in used when the analyte was analyzed but ***U***ndetected in the sample. The CRL RL for the analyte accompanies this flag. As with sample results that are positive, the value is corrected for dry weight, dilution and/or sample weight or volume.

EPA CRL - REGION V
ICP FINAL RESULTS REPORT

REPORT PRODUCED ON: 22-Mar-00

SAMPLE ORGANIZATION:

SAMPLE BATCH ID: 20000024

LABORATORY: REGION 5 CRL

SAMPLE FACILITY: Himco Dump

SAMPLE: 2000SY01S01

ANALYZED: 21-Mar-00

STATION: B-1

COMPOUND	AMOUNT			(Units)
Aluminum	26	U		(ug/L)
Barium	118			(ug/L)
Beryllium	1.6	U	J	(ug/L)
Calcium	57200		J	(ug/L)
Chromium	3.4	U	J	(ug/L)
Cobalt	10.1	U		(ug/L)
Copper	4	U		(ug/L)
Iron	509			(ug/L)
Magnesium	22000			(ug/L)
Manganese	40.4			(ug/L)
Nickel	19.4	U		(ug/L)
Potassium	2080			(ug/L)
Silver	6.8	U		(ug/L)
Sodium	50700			(ug/L)
Vanadium	3.9	U		(ug/L)
Zinc	22.2	M	J	(ug/L)

ANALYZED BY: _____ 3-22-00

EPA CRL - REGION V
ICP FINAL RESULTS REPORT

REPORT PRODUCED ON: 22-Mar-00

SAMPLE ORGANIZATION:

SAMPLE BATCH ID: 20000024

LABORATORY: REGION 5 CRL

SAMPLE FACILITY: Himco Dump

SAMPLE: 2000SY01S02

ANALYZED: 21-Mar-00

STATION: B-3

COMPOUND	AMOUNT			(Units)
Aluminum	26	U		(ug/L)
Barium	61.8			(ug/L)
Beryllium	1.6	U	J	(ug/L)
Calcium	87600		J	(ug/L)
Chromium	3.4	U	J	(ug/L)
Cobalt	10.1	U		(ug/L)
Copper	4	U		(ug/L)
Iron	418			(ug/L)
Magnesium	27200			(ug/L)
Manganese	299			(ug/L)
Nickel	19.4	U		(ug/L)
Potassium	1240			(ug/L)
Silver	6.8	U		(ug/L)
Sodium	19700			(ug/L)
Vanadium	3.9	U		(ug/L)
Zinc	10.3	U		(ug/L)

ANALYZED BY: _____ 3-22-00

EPA CRL - REGION V
ICP FINAL RESULTS REPORT

REPORT PRODUCED ON: 22-Mar-00

SAMPLE ORGANIZATION:

SAMPLE BATCH ID: 20000024

LABORATORY: REGION 5 CRL

SAMPLE FACILITY: Himco Dump

SAMPLE: 2000SY01S03

ANALYZED: 21-Mar-00

STATION: 54253 Westwood

COMPOUND	AMOUNT			(Units)
Aluminum	26	U		(ug/L)
Barium	128			(ug/L)
Beryllium	1.6	U	J	(ug/L)
Calcium	91500		J	(ug/L)
Chromium	3.4	U	J	(ug/L)
Cobalt	10.1	U		(ug/L)
Copper	7.3	M		(ug/L)
Iron	1670			(ug/L)
Magnesium	26500			(ug/L)
Manganese	213			(ug/L)
Nickel	19.4	U		(ug/L)
Potassium	1330			(ug/L)
Silver	6.8	U		(ug/L)
Sodium	14500			(ug/L)
Vanadium	3.9	U		(ug/L)
Zinc	44.3	M	J	(ug/L)

ANALYZED BY: _____ 3-22-00

EPA CRL - REGION V
ICP FINAL RESULTS REPORT

REPORT PRODUCED ON: 22-Mar-00

SAMPLE ORGANIZATION:

SAMPLE BATCH ID: 20000024

LABORATORY: REGION 5 CRL

SAMPLE FACILITY: Himco Dump

SAMPLE: 2000SY01S04

ANALYZED: 21-Mar-00

STATION: 54271 Westwood

COMPOUND	AMOUNT			(Units)
Aluminum	26	U		(ug/L)
Barium	50.4			(ug/L)
Beryllium	1.6	U	J	(ug/L)
Calcium	101000		J	(ug/L)
Chromium	3.4	U	J	(ug/L)
Cobalt	10.1	U		(ug/L)
Copper	7.3	M		(ug/L)
Iron	104		B J	(ug/L)
Magnesium	21700			(ug/L)
Manganese	359			(ug/L)
Nickel	19.4	U		(ug/L)
Potassium	1790			(ug/L)
Silver	6.8	U		(ug/L)
Sodium	22600			(ug/L)
Vanadium	3.9	U		(ug/L)
Zinc	17.4	M	J	(ug/L)

ANALYZED BY: _____ 3-22-00

EPA CRL - REGION V
ICP FINAL RESULTS REPORT

REPORT PRODUCED ON: 22-Mar-00

SAMPLE ORGANIZATION: | SAMPLE BATCH ID: 20000024

LABORATORY: REGION 5 CRL | SAMPLE FACILITY: Himco Dump

SAMPLE: 2000SY01S05 | ANALYZED: 21-Mar-00

STATION: 54215 Westwood

COMPOUND	AMOUNT			(Units)
Aluminum	26	U		(ug/L)
Barium	32.8			(ug/L)
Beryllium	1.6	U	J	(ug/L)
Calcium	91800		J	(ug/L)
Chromium	3.4	U	J	(ug/L)
Cobalt	10.1	U		(ug/L)
Copper	14.2	M		(ug/L)
Iron	22.4	U		(ug/L)
Magnesium	19800		J	(ug/L)
Manganese	3.2	U		(ug/L)
Nickel	21.4	M		(ug/L)
Potassium	4650			(ug/L)
Silver	6.8	U		(ug/L)
Sodium	126000			(ug/L)
Vanadium	3.9	U		(ug/L)
Zinc	96.5		J	(ug/L)

ANALYZED BY: [signature] 3-22-00

EPA CRL - REGION V
ICP FINAL RESULTS REPORT

REPORT PRODUCED ON: 29-Mar-00

SAMPLE ORGANIZATION:

SAMPLE BATCH ID: 20000024

LABORATORY: REGION 5 CRL

SAMPLE FACILITY: Himco Dump

SAMPLE: 2000SY01S06

ANALYZED: 21-Mar-00

STATION: 27964 Westwood

COMPOUND	AMOUNT			(Units)
Aluminum	26	U		(ug/L)
Barium	113			(ug/L)
Beryllium	1.6	U	J	(ug/L)
Calcium	113000		J	(ug/L)
Chromium	3.4	U	J	(ug/L)
Cobalt	10.1	U		(ug/L)
Copper	11.9	M		(ug/L)
Iron	5860			(ug/L)
Magnesium	16100		J	(ug/L)
Manganese	73			(ug/L)
Nickel	19.4	U		(ug/L)
Potassium	2610			(ug/L)
Silver	6.8	U		(ug/L)
Sodium	13500			(ug/L)
Vanadium	3.9	U		(ug/L)
Zinc	19	M	J	(ug/L)

ANALYZED BY: 3-29-00

EPA CRL - REGION V
ICP FINAL RESULTS REPORT

REPORT PRODUCED ON: 29-Mar-00

SAMPLE ORGANIZATION:

SAMPLE BATCH ID: 20000024

LABORATORY: REGION 5 CRL

SAMPLE FACILITY: Himco Dump

SAMPLE: 2000SY01S07

ANALYZED: 21-Mar-00

STATION: 27948 Westwood

COMPOUND	AMOUNT			(Units)
Aluminum	26	U		(ug/L)
Barium	102			(ug/L)
Beryllium	1.6	U	J	(ug/L)
Calcium	122000		J	(ug/L)
Chromium	3.5	M	J	(ug/L)
Cobalt	10.1	U		(ug/L)
Copper	4.1	M		(ug/L)
Iron	6120			(ug/L)
Magnesium	16000		J	(ug/L)
Manganese	72.3			(ug/L)
Nickel	19.4	U		(ug/L)
Potassium	2870			(ug/L)
Silver	6.8	U		(ug/L)
Sodium	33200			(ug/L)
Vanadium	3.9	U		(ug/L)
Zinc	30.1	M	J	(ug/L)

ANALYZED BY: _____ 3-29-00

EPA CRL - REGION V
ICP FINAL RESULTS REPORT

REPORT PRODUCED ON: 29-Mar-00

SAMPLE ORGANIZATION:

SAMPLE BATCH ID: 20000024

LABORATORY: REGION 5 CRL

SAMPLE FACILITY: Himco Dump

SAMPLE: 2000SY01S08

ANALYZED: 21-Mar-00

STATION: 27919 Westwood

COMPOUND	AMOUNT			(Units)
Aluminum	26	U		(ug/L)
Barium	28.1			(ug/L)
Beryllium	1.6	U	J	(ug/L)
Calcium	103000		J	(ug/L)
Chromium	3.4	U	J	(ug/L)
Cobalt	10.1	U		(ug/L)
Copper	9	M		(ug/L)
Iron	51.1	M	B J	(ug/L)
Magnesium	19000		J	(ug/L)
Manganese	146			(ug/L)
Nickel	19.4	U		(ug/L)
Potassium	3660			(ug/L)
Silver	6.8	U		(ug/L)
Sodium	56700			(ug/L)
Vanadium	3.9	U		(ug/L)
Zinc	20.5	M	J	(ug/L)

ANALYZED BY: _____ 3-29-00

EPA CRL - REGION V
ICP FINAL RESULTS REPORT

REPORT PRODUCED ON: 22-Mar-00

SAMPLE ORGANIZATION: | SAMPLE BATCH ID: 20000024

LABORATORY: REGION 5 CRL | SAMPLE FACILITY: Himco Dump

SAMPLE: 2000SY01S09 | ANALYZED: 21-Mar-00

STATION: 54280 Westwood

COMPOUND	AMOUNT			(Units)
Aluminum	26	U		(ug/L)
Barium	72.8			(ug/L)
Beryllium	1.6	U	J	(ug/L)
Calcium	105000		J	(ug/L)
Chromium	3.4	U	J	(ug/L)
Cobalt	10.1	U		(ug/L)
Copper	26.1	M		(ug/L)
Iron	22.4	U		(ug/L)
Magnesium	20200			(ug/L)
Manganese	355			(ug/L)
Nickel	19.4	U		(ug/L)
Potassium	2580			(ug/L)
Silver	6.8	U		(ug/L)
Sodium	65400			(ug/L)
Vanadium	3.9	U		(ug/L)
Zinc	31.5	M	J	(ug/L)

ANALYZED BY: _____ 3-22-00

EPA CRL - REGION V
ICP FINAL RESULTS REPORT

REPORT PRODUCED ON: 22-Mar-00

SAMPLE ORGANIZATION:

SAMPLE BATCH ID: 20000024

LABORATORY: REGION 5 CRL

SAMPLE FACILITY: Himco Dump

SAMPLE: 2000SY01S10

ANALYZED: 21-Mar-00

STATION: 54231 Westwood

COMPOUND	AMOUNT			(Units)
Aluminum	26	U		(ug/L)
Barium	43.5			(ug/L)
Beryllium	1.6	U	J	(ug/L)
Calcium	115000		J	(ug/L)
Chromium	3.4	U	J	(ug/L)
Cobalt	14	M	J	(ug/L)
Copper	6.1	M		(ug/L)
Iron	25.3	M	B J	(ug/L)
Magnesium	20800			(ug/L)
Manganese	3.2	U		(ug/L)
Nickel	19.4	U		(ug/L)
Potassium	4300			(ug/L)
Silver	6.8	U		(ug/L)
Sodium	82500			(ug/L)
Vanadium	3.9	U		(ug/L)
Zinc	160		J	(ug/L)

ANALYZED BY: _____ 3-22-00

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 5 CENTRAL REGIONAL LABORATORY

536 SOUTH CLARK STREET

CHICAGO, ILLINOIS 60605

Date: APR 19 2000

Subject: Review of Region 5 Data for Himco Dump

From: ESAT , Chemist
Region 5 Central Regional Laboratory

To: SF

Attached are the results for Site: Himco Dump Code: 054J
CRL Data Set Number: 20000024
for analyses of : Mercury
Results are reported for sample numbers: 2000SY01S01, 2000SY01S02, 2000SY01S03, 2000SY01S04, 2000SY01S05, 2000SY01S06, 2000SY01S07, 2000SY01S08, 2000SY01S09, 2000SY01S10, 2000SY01S11, 2000SY01S12, 2000SY01S13, 2000SY01S14 and 2000SY01R12

Results Status:
(x) Acceptable for Use
( ) Data Qualified, but Acceptable for use
( ) Data Unacceptable for Use

Sylvia Griffin APR 19 2000

CRL Data Management Coordinator and Date Received

Date Transmitted: APR 19 2000

Please have the US EPA project leader fill out the customer survey form on the Region 5 Intranet: http://www.r5intra.epa.gov/crl/qa.html, (← by clicking on this link, or call George Schupp, CRL Sample Coordinator, at 3-1226).

Please sign and date this form below and return it with any comments to:

Sylvia Griffin
Data Management Coordinator
Region 5 Central Regional Laboratory
ML - 10C

Received by and Date

Comments:

Parameter: Mercury
Method: 245.2*DNS
Site: Himco Dump
Analyst: M. Mattox M. Mattox
Date: April 19, 2000 4-19-00

Data Set: 20000024
TDF: 5104-284
PWO: ESE51024
WAD: 05-00-4-04

NARRATIVE

Fifteen (15) water samples from the Himco Dump site (data set 20000024) were collected on March 15 and 16, 2000. The water samples are stated with the sample number and station identification as follows: 2000SY01S01 (B-1), 2000SY01S02 (B-3), 2000SY01S03 (54253 Westwood), 2000SY01S04 (54271 Westwood), 2000SY01S05 (54215 Westwood), 2000SY01S06 (27964 Westwood), 2000SY01S07 (27948 Westwood), 2000SY01S08 (27919 Westwood), 2000SY01S09 (54280 Westwood), 2000SY01S10 (54231 Westwood), 2000SY01S11 (54305 Westwood), 2000SY01S12 (54287 Westwood), 2000SY01R12 (54287 Westwood), 2000SY01S13 (54125 Westwood), and 2000SY01S14 (E-3). The samples were received properly preserved by CRL on March 16, 2000. These samples were assigned to ESAT for mercury analysis.

The samples were digested on 4/4/00 and analyzed on 4/5/00. The first analytical run is used to report results. The remaining part of the run has been provided for information only. This portion had modifications which can be found in the mercury log book.

All sample results are acceptable; the initial DQC-LFB was within range and the final DQC-LFB was slightly high with a recovery of 114%. All other QC audits were in control. Because the samples are non-detects, all water sample results are acceptable. It is possible that the bias was due to a condensate build-up in the drying tube. To investigate this the run was repeated. The calibration and initial QC were very close to the values obtained in the initial run. Just prior to analyzing the final QC the drying unit was removed and dried. The final QC was run and the same DQC-LFB that was run in the previous run showed a result that was also very close to the end result from the original run, but the difference was enough for the result to be in control. This run data is provided for information only.

An MDL sample set was also digested and analyzed. The values obtained were well below the concentration of the standard and will be redigested at a lower concentration on another date.

Between 3/23/00 and 4/5/00 several attempts were made to digest and analyze this sample set. Some problems occurred with the digestion unit and analyzer as the analysis was attempted. A record of problems which occurred can be found in the mercury log book. The analyst worked closely with the CRL staff to resolve the problems.

This narrative is stored in
I:\r5crl\col1\min_nut\mmattox\PSAMercury\Hg Water\20000024\Reports\Hg Narrative.
The spreadsheet is stored in
I:\r5crl\col1\min_nut\mmattox\PSAMercury\Hg Water\20000024\Reports\Hg Results.
The QC summary is stored in
I:\r5crl\col1\min_nut\mmattox\PSAMercury\Hg Water\20000024\Reports\Hg QC Summary.

At this time RLIMS is not available, therefore WordPerfect reports were generated. Time must be allotted in the future to enter the data into RLIMS when it does become available.

M. Mattox 4-19-00

ATTACHMENT 1

CRL Data Review Qualification Codes

QUALIFIER	DESCRIPTION
B	This flag is used when the analyte is found in the associated ***B***lank as well as the sample. It indicates possible blank contamination and warns the user to take appropriate action while assessing the data.
D	This flag is used when the analyte concentration results from a required ***D***ilution of the sample, extract or digestate.
E	This flag is used to identify analyte concentrations ***E***xceeding the upper calibration range of the analytical instrument after dilution of the sample, extract or digestate. The reported value is considered to be estimated
J	This flag is used when the analyte is confirmed to be qualitatively present in the sample, extract or digestate, at or above the CRL reporting limit (RL) but the quantitated value is estimated due to quality control limit(s) being exceeded. This flag accompanies all GC/MS tentatively identified compounds (TICs). This flag also applies to a suspected, unidentified interference. (*J* is the flag used in the Superfund CLP SOW and Data Review Functional Guidelines and is used by CRL for consistency.)
M	This flag is used when the analyte is confirmed to be qualitatively present in the sample, extract or digestate, at or above the CRL ***M***ethod Detection Limit (MDL) but below the CRL reporting limit (RL). This flag applies to all values in this concentration range and indicates the quantitated value is estimated due to its presence in this concentration range.
N	This flag applies to GC/MS TICs that have ***N***o mass spectral library match.
Q	This flag applies to analyte data that are severely estimated due to quality control and/or ***Q***uantitation problems, but are confirmed to be qualitatively present in the sample. No value is reported with this qualification flag.
R	This flag applies to analyte data that are ***R***ejected and unusable due to severe quality control, quantitation and/or qualitative identification problems. No other qualification flags are reported for this analyte. No value is reported with this qualification flag.
U	This flag in used when the analyte was analyzed but ***U***ndetected in the sample. The CRL RL for the analyte accompanies this flag. As with sample results that are positive, the value is corrected for dry weight, dilution and/or sample weight or volume.

ENVIRONMENTAL PROTECTION AGENCY
REGION V
CENTRAL REGIONAL LABORATORY
FINAL RESULT REPORT FOR THE TEAM: METALS

DIVISION/BRANCH: SUPERFUND SAMPLING DATE: 3/15-16-00 LAB ARRIVAL DATE: 3/16/00 DUE DATE: 3/30/00
DU NUMBER: TFA DATASET NUMBER: 20000024 STUDY: Himco Landfill PRIORITY: Routine LABORATORY :ESAT

	CRL LOG NUMBER	SAMPLE DESCRIPTION	WATER Mercury (ug/l)		
1	2000SY01S01	B-1	0.2U		
2	2000SY01S02	B-3	0.2U		
3	2000SY01S03	54253 Westwood	0.2U		
4	2000SY01S04	54271 Westwood	0.2U		
5	2000SY01S05	54215 Westwood	0.2U		
6	2000SY01S06	27964 Westwood	0.2U		
7	2000SY01S07	27948 Westwood	0.2U		
8	2000SY01SO8	27919 Westwood	0.2U		
9	2000SY01S09	54280 Westwood	0.2U		
10	2000SY01S10	54231 Westwood	0.2U		
11	2000SY01S11	54305 Westwood	0.2U		
12	2000SY01S12	54287 Westwood	0.2U		
DATE OF ANALYSIS		4-11-00	04/05/00		
ANALYST		M. Mattox	M. Mattox		

Reviewed by: _____ Date: 4/12/00

ENVIRONMENTAL PROTECTION AGENCY
REGION V
CENTRAL REGIONAL LABORATORY
FINAL RESULT REPORT FOR THE TEAM: METALS

DIVISION/BRANCH: SUPERFUND **SAMPLING DATE:** 3/15-16-00 **LAB ARRIVAL DATE:** 3/16/00 **DUE DATE:** 3/30/00
DU NUMBER: TFA **DATASET NUMBER:** 20000024 **STUDY:** Himco Landfill **PRIORITY:** Routine **LABORATORY :** ESAT

	CRL LOG NUMBER	SAMPLE DESCRIPTION	WATER Mercury (ug/l)		
13	2000SY01R12	54287 Westwood	0.2U		
14	2000SY01S13	54125 Westwood	0.2U		
15	2000SY01S14	E-3	0.2U		
DATE OF ANALYSIS		4-11-00	04/05/00		
ANALYST		M. Mattox	M. Mattox		

Reviewed by: _____ Date: 4/12/00

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 5 CENTRAL REGIONAL LABORATORY

536 SOUTH CLARK STREET

CHICAGO, ILLINOIS 60605

Date: APR 19 2000

Subject: Review of Region 5 Data for Himco Dump

From: ESAT , Chemist
Region 5 Central Regional Laboratory

To: SF

Attached are the results for Site: Himco Dump Code: 054J
CRL Data Set Number: 20000024
for analyses of : Mercury
Results are reported for sample numbers: 2000SY01S01, 2000SY01S02, 2000SY01S03, 2000SY01S04, 2000SY01S05, 2000SY01S06, 2000SY01S07, 2000SY01S08, 2000SY01S09, 2000SY01S10, 2000SY01S11, 2000SY01S12, 2000SY01S13, 2000SY01S14 and 2000SY01R12

Results Status:
(x) Acceptable for Use
( ) Data Qualified, but Acceptable for use
( ) Data Unacceptable for Use

Sylvia Griffin APR 19 2000

CRL Data Management Coordinator and Date Received

Date Transmitted: APR 19 2000

Please have the US EPA project leader fill out the customer survey form on the Region 5 Intranet: http://www.r5intra.epa.gov/crl/qa.html, (← by clicking on this link, or call George Schupp, CRL Sample Coordinator, at 3-1226).

Please sign and date this form below and return it with any comments to:

Sylvia Griffin
Data Management Coordinator
Region 5 Central Regional Laboratory
ML - 10C

Received by and Date

Comments:

Parameter: Mercury
Method: 245.2*DNS
Site: Himco Dump
Analyst: M. Mattox M. Mattox
Date: April 19, 2000 4-19-00

Data Set: 20000024
TDF: 5104-284
PWO: ESE51024
WAD: 05-00-4-04

NARRATIVE

Fifteen (15) water samples from the Himco Dump site (data set 20000024) were collected on March 15 and 16, 2000. The water samples are stated with the sample number and station identification as follows: 2000SY01S01 (B-1), 2000SY01S02 (B-3), 2000SY01S03 (54253 Westwood), 2000SY01S04 (54271 Westwood), 2000SY01S05 (54215 Westwood), 2000SY01S06 (27964 Westwood), 2000SY01S07 (27948 Westwood), 2000SY01S08 (27919 Westwood), 2000SY01S09 (54280 Westwood), 2000SY01S10 (54231 Westwood), 2000SY01S11 (54305 Westwood), 2000SY01S12 (54287 Westwood), 2000SY01R12 (54287 Westwood), 2000SY01S13 (54125 Westwood), and 2000SY01S14 (E-3). The samples were received properly preserved by CRL on March 16, 2000. These samples were assigned to ESAT for mercury analysis.

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This narrative is stored in
I:\r5crl\coll\min_nut\mmattox\PSAMercury\Hg Water\20000024\Reports\Hg Narrative.
The spreadsheet is stored in
I:\r5crl\coll\min_nut\mmattox\PSAMercury\Hg Water\20000024\Reports\Hg Results.
The QC summary is stored in
I:\r5crl\coll\min_nut\mmattox\PSAMercury\Hg Water\20000024\Reports\Hg QC Summary.

At this time RLIMS is not available, therefore WordPerfect reports were generated. Time must be allotted in the future to enter the data into RLIMS when it does become available.

M. Mattox 4-19-00

ATTACHMENT 1

CRL Data Review Qualification Codes

QUALIFIER	DESCRIPTION
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E	This flag is used to identify analyte concentrations ***E***xceeding the upper calibration range of the analytical instrument after dilution of the sample, extract or digestate. .The reported value is considered to be estimated
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M	This flag is used when the analyte is confirmed to be qualitatively present in the sample, extract or digestate, at or above the CRL ***M***ethod Detection Limit (MDL) but below the CRL reporting limit (RL). This flag applies to all values in this concentration range and indicates the quantitated value is estimated due to its presence in this concentration range.
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ENVIRONMENTAL PROTECTION AGENCY
REGION V
CENTRAL REGIONAL LABORATORY
FINAL RESULT REPORT FOR THE TEAM: METALS

DIVISION/BRANCH: SUPERFUND SAMPLING DATE: 3/15-16-00 LAB ARRIVAL DATE: 3/16/00 DUE DATE: 3/30/00
DU NUMBER: TFA DATASET NUMBER: 20000024 STUDY: Himco Landfill PRIORITY: Routine LABORATORY: ESAT

	CRL LOG NUMBER	SAMPLE DESCRIPTION	WATER Mercury (ug/l)		
1	2000SY01S01	B-1	0.2U		
2	2000SY01S02	B-3	0.2U		
3	2000SY01S03	54253 Westwood	0.2U		
4	2000SY01S04	54271 Westwood	0.2U		
5	2000SY01S05	54215 Westwood	0.2U		
6	2000SY01S06	27964 Westwood	0.2U		
7	2000SY01S07	27948 Westwood	0.2U		
8	2000SY01SO8	27919 Westwood	0.2U		
9	2000SY01S09	54280 Westwood	0.2U		
10	2000SY01S10	54231 Westwood	0.2U		
11	2000SY01S11	54305 Westwood	0.2U		
12	2000SY01S12	54287 Westwood	0.2U		
DATE OF ANALYSIS		4-11-00	04/05/00		
ANALYST		M. Mattox	M. Mattox		

Reviewed by: _____ Date: 4/12/00

ENVIRONMENTAL PROTECTION AGENCY
REGION V
CENTRAL REGIONAL LABORATORY
FINAL RESULT REPORT FOR THE TEAM: METALS

DIVISION/BRANCH: SUPERFUND **SAMPLING DATE:** 3/15-16-00 **LAB ARRIVAL DATE:** 3/16/00 **DUE DATE:** 3/30/00
DU NUMBER: TFA **DATASET NUMBER:** 20000024 **STUDY:** Himco Landfill **PRIORITY:** Routine **LABORATORY :** ESAT

	CRL LOG NUMBER	SAMPLE DESCRIPTION	WATER Mercury (ug/l)		
13	2000SY01R12	54287 Westwood	0.2U		
14	2000SY01S13	54125 Westwood	0.2U		
15	2000SY01S14	E-3	0.2U		
DATE OF ANALYSIS		4-11-00	04/05/00		
ANALYST		M. Mattox	M. Mattox		

Reviewed by: _____ Date: 4/12/00

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 5 CENTRAL REGIONAL LABORATORY

536 SOUTH CLARK STREET

CHICAGO, ILLINOIS 60605

Date: APR 1 9 2000

Subject: Review of Region 5 Data for **HIMCO LF**

From: Francis A. Awanya, Chemist FAA
Region 5 Central Regional Laboratory

To: SF

Attached are the results for Site: **HIMCO LF**
CRL Data Set Number: **20000026**
for analyses of: **Sulfate and Bromide**
Results are reported for sample numbers: **2000SY03S01, 200SY03S02, 2000SY03S03, 200SY03S04, 2000SY03S05, 200SY03S06, 2000SY03S07, 200SY03S08, 2000SY03S09, 200SY03S10, and 2000SY03S11**.

Results Status:
(X) Acceptable for Use
( ) Data Qualified, but Acceptable for use
( ) Data Unacceptable for Use

Sylvia Griffin APR [illegible] 2000

CRL Data Management Coordinator and Date Received

Date Transmitted: APR 1 9 2000

Please have the US EPA project leader fill out the customer survey form on the Region 5 Intranet: http://www.r5intra.epa.gov/crl/qa.html, (← by clicking on this link, or call George Schupp, CRL Sample Coordinator, at 3-1226).

Please sign and date this form below and return it with any comments to:

Sylvia Griffin
Data Management Coordinator
Region 5 Central Regional Laboratory
ML - 10C

Received by and Date

Comments:

Data Set Number:	*20000026*	**Parameter:**	*Sulfate and Bromide*
Facility Name:	*HIMCO LF*		
Study Name:	*HIMCO LF*		
Date of Narrative:	*04/14/2000*	**Analyst:**	*Francis A. Awanya*
		Signature:	Fran A. Awanya

ANALYSIS CASE NARRATIVE

Eleven (11) high priority water samples were collected for the above study between 3/15/00 and 3/16/2000. The samples arrived at the Central Regional Laboratory (CRL) on 3/22/2000. CRL sample identification numbers (CRL Sample ID) were assigned to the samples with tag numbers. The Station numbers and Locations were obtained from the tags that were attached to the sample containers. Samples information is tabulated as follows;

CRL Sample ID	Tag Number	Station Number and Location
2000SY03S01	5-065001	27919/EDCK4
2000SY03S02	5-065002	27948/EDCK2
2000SY03S03	5-065003	B - 3
2000SY03S04	5-065004	54271/EDCK0
2000SY03S05	5-065005	J - 1
2000SY03S06	5-065006	E - 3
2000SY03S07	5-065007	B - 1
2000SY03S08	5-065008	B - 4
2000SY03S09	5-065009	EDCK1/54253
2000SY03S10	5-065010	54280/EDCK3
2000SY03S11	5-065011	54305/EDCJ7

Additional descriptive information was not provided with the Analysis Request Form (ARF). Samples were checked out for sulfate and bromide analysis from the CRL sample custodian on 3/24/2000. The samples were properly preserved by refrigeration. They were transferred to the Analytical and Inorganic (A&I) laboratory section of the CRL and kept in a sample storage refrigerator until all analysis were completed.

SAMPLE ANALYSIS:

All samples were analyzed for sulfate and bromide using CRL Standard Operating Procedure (CRL.SOP) AIG045 (Method reference 300 A & B, EPA/600/R-93-100). No additional sample preparations were necessary. The instrument was calibrated for high level determination of sulfate and bromide following CRL.SOP AIG045 Part A on 3/24/2000. It was used for analysis on the same day. All bromide concentrations were below the reporting limit of the calibration curve used. Where as all sulfate concentrations, with the exception of sample 2000SY03S07 and 2000SY03S08, exceeded the upper calibration limit. As a result, appropriate

Data Set Number:	*20000026*	**Parameter:**	*Sulfate and Bromide*
Facility Name:	*HIMCO LF*		
Study Name:	*HIMCO LF*		
Date of Narrative:	*04 14 2000*	**Analyst:**	*Francis A. Awanya*
		Signature:	Francis A. Awanya

ANALYSIS CASE NARRATIVE

sulfate samples were re-analyzed with dilutions as necessary on 3/27/2000 and a different curve was used to complete bromide analysis. The instrument was calibrated for low level determination of bromide following CRL.SOP AIG045 Part A on 4/10/2000. Bromide analysis was completed on the same day.

QUALITY CONTROL (QC):

No data quality objectives were provided by the requestor. Analysis results were evaluated using the QC requirements of CRL.SOP AIG045 (Method reference 300 A & B, EPA/600/R-93-100). All the required quality control criteria for the laboratory, method, and system performance audits were evaluated and determined to be within the limits.

Matrix spike (Sulfate): Recovery results obtained for spiked sample 2000SY03S01(63.58 mg/L), exceeded the upper calibration range. The upper limit of calibration is 56.25 mg/L. However, the calculated spike recovery value of 102.2% was within the SOP limit of 100 ± 20%.

To evaluate the accuracy of the initial recovery result, the spike was re-prepared from the same sample in exact fashion and assayed on 04/07/2000. The same calibration used to analyze the initial spike was utilized and verified for this analysis. All required QC audits results were within the limits. Sulfate results obtained on this day for spike sample 2000SY03S01 (62.39 mg $SO_4^{=}$/L), exceeded the upper calibration range. A two-fold dilution of the spiked sample was also made and analyzed within the same instrument run. Sulfate results obtained for this dilution was 61.74 mg/L. This finding indicates that the original recovery result is acceptable for use without further qualifications.

Method Blanks(LRB/ICB): The method blanks assayed at the beginning of each analysis on 3/24/2000 and 3/27/2000 were found to contain 3.51 mg/L and 3.67 mg/L of sulfate respectively. No sulfate was found in the blanks assayed at the end of the determination. Instrument response for those blanks were well below the reporting limit (15 mg/L) for the high calibration range. The resulting blank concentrations may be inaccurate, but do not indicate contamination. All samples below this reporting limit (15 mg/L) were analyzed and reported from the low calibration range. The reporting limit for this range is 0.75 mg/L. The method detection limit (MDL) is 0.025 mg/L. No sulfate was detected in any of the blanks.

Laboratory Fortified Blanks (LFBs): The LFBs were not analyzed on the days that the samples were assayed in both the low and high level analysis. They were determined on a different date using the same method and calibration as the samples. All the required QC audits were also assayed. The QC results were within the limits. The LFB was analyzed to complement the

Data Set Number:	*20000026*	**Parameter:**	*Sulfate and Bromide*
Facility Name:	*HIMCO LF*		
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		Signature:	Francis A. Awanya

ANALYSIS CASE NARRATIVE

evaluation of spike recoveries. In the future, it will be assayed at the same time as the samples. The spike recoveries for the samples were within the limits on the day of analysis. All the LFB recoveries were within the limits as well. Hence, the sample results are acceptable for use without any qualifications.

SAMPLE RESULTS AND REPORTING:

All the sample results are acceptable for use. The sulfate result for sample 2000SY03S07 was reported with a U flag because its concentration was less than detection. Sulfate concentrations for the remaining samples were reported with D flags due to required dilution. All bromide results were reported with M flags. Concentrations of bromide in all samples were between the method detection limits (MDL) and the reporting limit (RL).

MANUAL PEAK INTEGRATION:

No manual peak integration was used to process the data.

ELECTRONIC DATA:

Electronic data are archived in;
H:\R5CRL\VOL1\MIN_NUT\FAWANYA\990069\DX500_SYSTEM3_CD20\20000026\..under the following additional folders;
1. All_Other_Analysis, 2. Autosampler_Schedules, 3. Method_used, and 4. Reported_Run_Files. The case narrative is contained in folder 20000026.

CRL Data Review Qualification Codes

QUALIFIER	DESCRIPTION
B	This flag is used when the analyte is found in the associated *B*lank as well as the sample. It indicates possible blank contamination and warns the user to take appropriate action while assessing the data.
D	This flag is used when the analyte concentration results from a required *D*ilution of the sample, extract or digestate.
E	This flag is used to identify analyte concentrations *E*xceeding the upper calibration range of the analytical instrument after dilution of the sample, extract or digestate. The reported value is considered to be estimated
J	This flag is used when the analyte is confirmed to be qualitatively present in the sample, extract or digestate, at or above the CRL reporting limit (RL) but the quantitated value is estimated due to quality control limit(s) being exceeded. This flag accompanies all GC/MS tentatively identified compounds (TICs). This flag also applies to a suspected, unidentified interference. (*J* is the flag used in the Superfund CLP SOW and Data Review Functional Guidelines and is used by CRL for consistency.)
M	This flag is used when the analyte is confirmed to be qualitatively present in the sample, extract or digestate, at or above the CRL *M*ethod Detection Limit (MDL) but below the CRL reporting limit (RL). This flag applies to all values in this concentration range and indicates the quantitated value is estimated due to its presence in this concentration range.
N	This flag applies to GC/MS TICs that have *N*o mass spectral library match.
Q	This flag applies to analyte data that are severely estimated due to quality control and/or *Q*uantitation problems, but are confirmed to be qualitatively present in the sample. No value is reported with this qualification flag.
R	This flag applies to analyte data that are *R*ejected and unusable due to severe quality control, quantitation and/or qualitative identification problems. No other qualification flags are reported for this analyte. No value is reported with this qualification flag.
U	This flag in used when the analyte was analyzed but *U*ndetected in the sample. The CRL RL for the analyte accompanies this flag. As with sample results that are positive, the value is corrected for dry weight, dilution and/or sample weight or volume.

ENVIRONMENTAL PROTECTION AGENCY
REGION V
CENTRAL REGIONAL LABORATORY
FINAL RESULT REPORT FOR THE TEAM: MINERAL/NUTRIENTS

DIVISION/BRANCH: SUPERFUND SAMPLING DATE: 03/15 - 16/2000 LAB ARRIVAL DATE: 03/22/2000 DUE DATE: 04/21/2000
DU NUMBER: 50102D DATASET NUMBER: 20000026 STUDY: HIMCO LF PRIORITY: Routine LABORATORY :CRL

	CRL LOG NUMBER	SAMPLE DESCRIPTION	BROMIDE IN WATER (mg Br^-/L)	SULFATE IN WATER (mg SO_4^-/L)	Well screen depth in ft		
1	2000SY03S01	27919/EDCK4	0.06 M	132 D	[illegible] ?		
2	2000SY03S02	27948/EDCK2	0.06 M	146 D	Never used ?		
3	2000SY03S03	B - 3	0.08 M	126 D	135'		
4	2000SY03S04	54271/EDCK0	0.05 M	138 D	50'		
5	2000SY03S05	J - 1	0.16 M	114 D	40'		
6	2000SY03S06	E - 3	0.16 M	126 D	176.0'		
7	2000SY03S07	B - 1	0.18 M	0.025 U	473.0'		
8	2000SY03S08	B - 4	0.11 M	46.1	173.0'		
9	2000SY03S09	EDCK1/54253	0.06 M	154 D	?		
10	2000SY03S10	54280/EDCK3	0.06 M	133 D	80'		
11	2000SY03S11	54305/EDCJ7	0.07 M	171 D	?		
DATE OF ANALYSIS			04/10/2000	03/27/2000			
ANALYST							

Reviewed by: [signature] Date: 04/14/2000

		VOC	SVOC
• EDCK6	54215	✓ N/A	✓ N/A
• EDCK1	54253	✓ N/A	✓ N/A
• EDCK0	54271	✓ N/A	✓ N/A
No tic ↑ info			
• EDCK5	27964	1,1 Dichloro ethane 2 µg/L 2 TICs	✓ N/A
• EDCK2	27948 ✓	1,1 Dichloro ethane 2 µg/L cis-1-2 Dichloroethene 1 µg/L ✱ TIC (2)	✓ N/A
• EDCK4	27919 ✓	1,1 Ethane 0.5J 0.4J Chloroform 0.6J 1,2DCE	✓ N/A
• EDCK3	54280 ✓ N/A		✓ N/A
• EDCJ8	54231 ✓ N/A	(7 µg/L) 1,1 Dichloroethane	✓ N/A
• EDCJ5	54287 ✓	7 µg/L 1,1. DCEthane	✓ N/A
• EDCJ9	54287R ✓		✓ N/A
EDCJ7	54305		
EDCK8	54305 MS ✓		✓ N/A
EDCK8 Dup	54305 MSD		
EDCK7	54425 ✓ N/A		✓ N/A
• EDCJ4			2,4 Dinitrotoluene 10 µg/L Benzopyrene 12 µg/L Hexachlorobenzene 14 µg/L Nitrosodiphenyl-amine Phenol Chlorophyn
? SLCS06			

EDCM2 ——— J-3
EDCM3 ——— B2

Clarke, F. W., 1924, The composition of the river and lake waters of the United States:

U.S. Geological Survey Professional Paper 135, 199 p.

Davis, L. G., Turner, A. K., and Melhorn, W. N., 1969, Analysis of ground-water use, replenishment, and aquifer characteristics in Bartholomew County, Indiana: Lafayette, Ind., Purdue University, Water Resources Research Center Technical Report No. 3, 83 p.

Klaer, F. H., Jr., Davis, G. E., and Kingsbury, T. M., 1951, Ground-water resources of the Columbus area, Bartholomew County, Indiana: U.S. Geological Survey Open-File Report, 37 p.

Klaer, F. H., Jr., and Kingsbury, T. M., 1948, Provisional report on the ground-water resources of the Columbus area, Indiana: U.S. Geological Survey Open-File Report, 29 p.

Lohr, E. W., and Love, S. K., 1954, The industrial utility of public water supplies in the United States, 1952, part I, States east of the Mississippi River: U.S. Geological Survey Water-Supply Paper 1299, 639 p. (See p. 173-196 for Indiana.)

Martin, Jeffrey D., Crawford, Charles G., Frey, Jeffrey W., and Hodgkins, Glenn A., 1996, Water-quality assessment of the White River Basin, Indiana: Analysis of selected information on nutrients, 1980-92: U.S. Geological Survey Water-Resources Investigations Report 96-4192, 91 p.

Nyman, D. J., and Watkins, F. A., Jr. 1965, Ground-water appraisal of the Flatrock River Basin and Downeyville Reservoir site, Indiana: U.S. Geological Survey Open-File Report, 6 p.

Planert, Michael, 1976, Digital model analysis to predict water levels in a well field near Columbus, Indiana: U.S. Geological Survey Water Resources Investigation 76-63, 15 p., 7 illus., 1 table, 4 refs.

Planert, Michael, and Tucci, Patrick, 1979, Effects of pumping on ground-water levels near Taylorsville, Bartholomew County, Indiana: U.S. Geological Survey Water Resources Investigations 79-20, 22 p., 12 illus., 7 refs.

Schnoebelen, Douglas J., 1992, Selected hydrologic data for the regional carbonate bedrock and glacial aquifers in eastern and central Indiana: U.S. Geological Survey Open-File Report 91-517, 105 p.

Scott, R. C., and Barker, F. B., 1962, Data on uranium and radium in ground water in the United States, 1954 to 1957: U.S. Geological Survey Professional Paper 426, 115 p.

Watkins, F. A., Jr., 1964, Ground-water appraisal of Clifty Creek Basin and Clifty Creek Reservoir site Indiana: U.S. Geological Survey Open-File Report, 10 p.

Watkins, F. A., Jr., and Heisel, J. E., 1970, Electrical-analog-model study of water resources of the Columbus area, Bartholomew County, Indiana: U.S. Geological Survey Water-Supply Paper 1981, 22 p.

Wilber, W. G., Peters, J. G., and Crawford, C. G., 1979, A one-dimensional, steady-state, dissolved-oxygen model and waste-load assimilation study for East Fork White River, Bartholomew County, Indiana: U.S. Geological Survey Open-File Report 79-1072, 64 p.

BENTON COUNTY

Clarke, F. W., 1924, The composition of the river and lake waters of the United States: U.S. Geological Survey Professional Paper 135, 199 p.

Glatfelter, Dale R., and Chin, Edwin H., 1988, Floods of March 1982 in Indiana, Ohio, Michigan, and Illinois: U.S. Geological Survey Professional Paper 1467, 36 p.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 5 CENTRAL REGIONAL LABORATORY

536 SOUTH CLARK STREET

CHICAGO, ILLINOIS 60605

Date: APR 19 2000

Subject: Review of Region 5 Data for Himco Dump

From: ESAT , Chemist
Region 5 Central Regional Laboratory

To: SF

Attached are the results for Site: Himco Dump Code: 054J
CRL Data Set Number: 20000024
for analyses of : Antimony, Arsenic, Cadmium, Lead, Selenium and Thallium
Results are reported for sample numbers: 2000SY01S01, 2000SY01S02, 2000SY01S03, 2000SY01S04, 2000SY01S05, 2000SY01S06, 2000SY01S07, 2000SY01S08, 2000SY01S09, 2000SY01S10, 2000SY01S11, 2000SY01S12, 2000SY01S13, 2000SY01S14 and 2000SY01R12

Results Status:
(x) Acceptable for Use
( ) Data Qualified, but Acceptable for use
( ) Data Unacceptable for Use

Sylvia Griffin APR [illegible] 2000

CRL Data Management Coordinator and Date Received

Date Transmitted: APR 1 9 2000

Please have the US EPA project leader fill out the customer survey form on the Region 5 Intranet: http://www.r5intra.epa.gov/crl/qa.html, (← by clicking on this link, or call George Schupp, CRL Sample Coordinator, at 3-1226).

Please sign and date this form below and return it with any comments to:

Sylvia Griffin
Data Management Coordinator
Region 5 Central Regional Laboratory
ML - 10C

Received by and Date

Comments:

Method: GFAA for Water
Site: Himco Dump
Date: April 6, 2000
Prepared by: Stephen Connet

TDF: 5104-284
PWO: ESE51024
WAD: 05-00-4-04
Data Set: 20000024

NARRATIVE

Fifteen (15) water samples for the Himco Dump site [2000SY01S01 (B-1), S02 (B-3), S03 (54253 Westwood), S04 (54271 Westwood), S05 (54215 Westwood), S06 (27964 Westwood), S07 (27948 Westwood), S08 (27919 Westwood), S09 (54280 Westwood), S10 (54231 Westwood), S11 (54305 Westwood), S12 (54287 Westwood), R12 (54287 Westwood), S13 (54125 Westwood), S14 (E-3 or E3)] were sampled on 3/15-16/00 and were received properly preserved by the CRL on 3/16/00. The samples were submitted for analysis of antimony, arsenic, cadmium, lead, selenium and thallium by GFAA.

The samples were digested following standard CRL GFAA water digestion protocols. The samples were digested on 3/20, 3/23 and 3/27 (digestion batch 1164). 3/23 redigestion was performed due to suspected cadmium contamination; 3/27 redigestion was performed due to lead contamination.

Due to problems with the SIMAA 6000, all results for arsenic were reported from 5100E using a detection limit of 2 ppb. The second digest was used for antimony due to low spike recovery for the second matrix spike in the first digest. Spike recoveries for the second digest were acceptable. All QC were within limits; all sample results are acceptable.

Analytical results were stored in the following database files:
H:\r5crl\vol3\metals\sconnet\20000024\5100W-Sb\040500 for antimony,
H:\r5crl\vol3\metals\sconnet\20000024\5100E-As\032400 for arsenic,
H:\r5crl\vol3\metals\sconnet\20000024\5100E-Cd\032300B for cadmium,
H:\r5crl\vol3\metals\sconnet\20000024\5100E-Pb\032800 for lead,
H:\r5crl\vol3\metals\sconnet\20000024\5100W-Se\032400A and
H:\r5crl\vol3\metals\sconnet\20000024\5100E-Se\032800A for selenium,
H:\r5crl\vol3\metals\sconnet\20000024\5100W-Tl\032300B and \032400 for thallium.

This narrative, the QC limits sheet, QC Summary and Results spreadsheets are stored in:
H:\r5crl\vol3\metals\sconnet\20000024\Reports\GFAA Narrative.
H:\r5crl\vol3\metals\sconnet\20000024\Reports\QC Limits.
H:\r5crl\vol3\metals\sconnet\20000024\Reports\QCSummry.
H:\r5crl\vol3\metals\sconnet\20000024\Reports\GFAA Results.

Since RLIMS was unavailable, the AA metals analysis results are reported in a word-processing spreadsheet only. Time will be necessary in the future to enter all analysis results into RLIMS.

4-6-00

ATTACHMENT 1

CRL Data Review Qualification Codes

QUALIFIER	DESCRIPTION
B	This flag is used when the analyte is found in the associated ***B***lank as well as the sample. It indicates possible blank contamination and warns the user to take appropriate action while assessing the data.
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ENVIRONMENTAL PROTECTION AGENCY
REGION V
CENTRAL REGIONAL LABORATORY
FINAL RESULT REPORT FOR THE TEAM: METALS

DIVISION/BRANCH: SUPERFUND SAMPLING DATE: 3/15-16/00 LAB ARRIVAL DATE: 3/16/00 DUE DATE: 3/30/00
DU NUMBER: 50102D DATASET NUMBER: 20000024 STUDY: Himco Dump PRIORITY: Routine LABORATORY: ESAT

	CRL LOG NUMBER	SAMPLE DESCRIPTION	WATER Antimony (ug/L)	WATER Arsenic (ug/L)	WATER Cadmium (ug/L)	WATER Lead (ug/L)	WATER Selenium (ug/L)	WATER Thallium (ug/L)
1	2000SY01S01	B-1	2U	2U	0.1U	3M	2U	1U
2	2000SY01S02	B-3	2U	5M	0.1U	2U	2U	1U
3	2000SY01S03	54253 Westwood	2U	5M	0.1U	2U	2U	1U
4	2000SY01S04	54271 Westwood	2U	2U	0.1U	2U	2U	1U
5	2000SY01S05	54215 Westwood	2U	4UD	0.1U	2U	2U	1U
6	2000SY01S06	27964 Westwood	2U	6DM	0.1U	2U	2U	1U
7	2000SY01S07	27948 Westwood	2U	7	0.1U	2U	2U	1U
8	2000SY01S08	27919 Westwood	2U	2U	0.1U	2U	2U	1U
9	2000SY01S09	54280 Westwood	2U	2U	0.1U	2U	2U	1U
10	2000SY01S10	54231 Westwood	2U	2U	0.1U	2U	2U	1U
11	2000SY01S11	54305 Westwood	2U	4UD	0.1U	2U	2U	1U
12	2000SY01S12	54287 Westwood	2U	7	0.1U	2U	2U	1U
13	2000SY01R12	54287 Westwood	2U	8DM	0.1U	2U	2U	1U
14	2000SY01S13	54125 Westwood	2U	2M	0.1U	2U	2U	1U
15	2000SY01S14	E-3 (E3)	2U	7	0.1U	2U	2U	1U
DATE OF ANALYSIS			4/5/00	3/24/00	3/23/00	3/28/00	3/24,28/00	3/23-24/00
ANALYST		4.6-00	S. Connet	S. Connet	S. Connet	S. Connet	S. Connet	S. Connet

Reviewed by: J. Sam Date: 4/17/2000

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 5 CENTRAL REGIONAL LABORATORY

536 SOUTH CLARK STREET

CHICAGO, ILLINOIS 60605

Date: APR 19 2000

Subject: Review of Region 5 Data for **HIMCO LF**

From: Francis A. Awanya , Chemist FAA
Region 5 Central Regional Laboratory

To: SF

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CRL Data Set Number: **20000026**
for analyses of : **Sulfate and Bromide**
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Results Status:
(X) Acceptable for Use
( ) Data Qualified, but Acceptable for use
( ) Data Unacceptable for Use

Sylvia Griffin APR [illegible] 2000

CRL Data Management Coordinator and Date Received

Date Transmitted: APR 1 9 2000

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Please sign and date this form below and return it with any comments to:

Sylvia Griffin
Data Management Coordinator
Region 5 Central Regional Laboratory
ML - 10C

Received by and Date

Comments:

Data Set Number:	*20000026*	**Parameter:**	*Sulfate and Bromide*
Facility Name:	*HIMCO LF*		
Study Name:	*HIMCO LF*		
Date of Narrative:	*04/14/2000*	**Analyst:**	*Francis A. Awanya*
		Signature:	Francis A. Awanya

ANALYSIS CASE NARRATIVE

Eleven (11) high priority water samples were collected for the above study between 3/15/00 and 3/16/2000. The samples arrived at the Central Regional Laboratory (CRL) on 3/22/2000. CRL sample identification numbers (CRL Sample ID) were assigned to the samples with tag numbers. The Station numbers and Locations were obtained from the tags that were attached to the sample containers. Samples information is tabulated as follows;

CRL Sample ID	Tag Number	Station Number and Location
2000SY03S01	5-065001	27919/EDCK4
2000SY03S02	5-065002	27948/EDCK2
2000SY03S03	5-065003	B - 3
2000SY03S04	5-065004	54271/EDCK0
2000SY03S05	5-065005	J - 1
2000SY03S06	5-065006	E - 3
2000SY03S07	5-065007	B - 1
2000SY03S08	5-065008	B - 4
2000SY03S09	5-065009	EDCK1/54253
2000SY03S10	5-065010	54280/EDCK3
2000SY03S11	5-065011	54305/EDCJ7

Additional descriptive information was not provided with the Analysis Request Form (ARF). Samples were checked out for sulfate and bromide analysis from the CRL sample custodian on 3/24/2000. The samples were properly preserved by refrigeration. They were transferred to the Analytical and Inorganic (A&I) laboratory section of the CRL and kept in a sample storage refrigerator until all analysis were completed.

SAMPLE ANALYSIS:

All samples were analyzed for sulfate and bromide using CRL Standard Operating Procedure (CRL.SOP) AIG045 (Method reference 300 A & B, EPA/600/R-93-100). No additional sample preparations were necessary. The instrument was calibrated for high level determination of sulfate and bromide following CRL.SOP AIG045 Part A on 3/24/2000. It was used for analysis on the same day. All bromide concentrations were below the reporting limit of the calibration curve used. Where as all sulfate concentrations, with the exception of sample 2000SY03S07 and 2000SY03S08, exceeded the upper calibration limit. As a result, appropriate

Data Set Number:	*20000026*	**Parameter:**	*Sulfate and Bromide*
Facility Name:	*HIMCO LF*		
Study Name:	*HIMCO LF*		
Date of Narrative:	*04 14 2000*	**Analyst:**	*Francis A. Awanya*
		Signature:	Francis A. Awanya

ANALYSIS CASE NARRATIVE

sulfate samples were re-analyzed with dilutions as necessary on 3/27/2000 and a different curve was used to complete bromide analysis. The instrument was calibrated for low level determination of bromide following CRL.SOP AIG045 Part A on 4/10/2000. Bromide analysis was completed on the same day.

QUALITY CONTROL (QC):

No data quality objectives were provided by the requestor. Analysis results were evaluated using the QC requirements of CRL.SOP AIG045 (Method reference 300 A & B, EPA/600/R-93-100). All the required quality control criteria for the laboratory, method, and system performance audits were evaluated and determined to be within the limits.

Matrix spike (Sulfate): Recovery results obtained for spiked sample 2000SY03S01(63.58 mg/L), exceeded the upper calibration range. The upper limit of calibration is 56.25 mg/L. However, the calculated spike recovery value of 102.2% was within the SOP limit of 100 ± 20%.

To evaluate the accuracy of the initial recovery result, the spike was re-prepared from the same sample in exact fashion and assayed on 04/07/2000. The same calibration used to analyze the initial spike was utilized and verified for this analysis. All required QC audits results were within the limits. Sulfate results obtained on this day for spike sample 2000SY03S01 (62.39 mg SO_4^-/L), exceeded the upper calibration range. A two-fold dilution of the spiked sample was also made and analyzed within the same instrument run. Sulfate results obtained for this dilution was 61.74 mg/L. This finding indicates that the original recovery result is acceptable for use without further qualifications.

Method Blanks(LRB/ICB): The method blanks assayed at the beginning of each analysis on 3/24/2000 and 3/27/2000 were found to contain 3.51 mg/L and 3.67 mg/L of sulfate respectively. No sulfate was found in the blanks assayed at the end of the determination. Instrument response for those blanks were well below the reporting limit (15 mg/L) for the high calibration range. The resulting blank concentrations may be inaccurate, but do not indicate contamination. All samples below this reporting limit (15 mg/L) were analyzed and reported from the low calibration range. The reporting limit for this range is 0.75 mg/L. The method detection limit (MDL) is 0.025 mg/L. No sulfate was detected in any of the blanks.

Laboratory Fortified Blanks (LFBs): The LFBs were not analyzed on the days that the samples were assayed in both the low and high level analysis. They were determined on a different date using the same method and calibration as the samples. All the required QC audits were also assayed. The QC results were within the limits. The LFB was analyzed to complement the

Data Set Number:	*20000026*	**Parameter:**	*Sulfate and Bromide*
Facility Name:	*HIMCO LF*		
Study Name:	*HIMCO LF*		
Date of Narrative:	*04/14/2000*	**Analyst:**	*Francis A. Awanya*
		Signature:	Francis A. Awanya

ANALYSIS CASE NARRATIVE

evaluation of spike recoveries. In the future, it will be assayed at the same time as the samples. The spike recoveries for the samples were within the limits on the day of analysis. All the LFB recoveries were within the limits as well. Hence, the sample results are acceptable for use without any qualifications.

SAMPLE RESULTS AND REPORTING:

All the sample results are acceptable for use. The sulfate result for sample 2000SY03S07 was reported with a U flag because its concentration was less than detection. Sulfate concentrations for the remaining samples were reported with D flags due to required dilution. All bromide results were reported with M flags. Concentrations of bromide in all samples were between the method detection limits (MDL) and the reporting limit (RL).

MANUAL PEAK INTEGRATION:

No manual peak integration was used to process the data.

ELECTRONIC DATA:

Electronic data are archived in;
H:\R5CRL\VOL1\MIN_NUT\FAWANYA\990069\DX500_SYSTEM3_CD20\20000026\..under the following additional folders;
1. All_Other_Analysis, 2. Autosampler_Schedules, 3. Method_used, and 4. Reported_Run_Files. The case narrative is contained in folder 20000026.

CRL Data Review Qualification Codes

QUALIFIER	DESCRIPTION
B	This flag is used when the analyte is found in the associated *B*lank as well as the sample. It indicates possible blank contamination and warns the user to take appropriate action while assessing the data.
D	This flag is used when the analyte concentration results from a required *D*ilution of the sample, extract or digestate.
E	This flag is used to identify analyte concentrations *E*xceeding the upper calibration range of the analytical instrument after dilution of the sample, extract or digestate. The reported value is considered to be estimated
J	This flag is used when the analyte is confirmed to be qualitatively present in the sample, extract or digestate, at or above the CRL reporting limit (RL) but the quantitated value is estimated due to quality control limit(s) being exceeded. This flag accompanies all GC/MS tentatively identified compounds (TICs). This flag also applies to a suspected, unidentified interference. (*J* is the flag used in the Superfund CLP SOW and Data Review Functional Guidelines and is used by CRL for consistency.)
M	This flag is used when the analyte is confirmed to be qualitatively present in the sample, extract or digestate, at or above the CRL *M*ethod Detection Limit (MDL) but below the CRL reporting limit (RL). This flag applies to all values in this concentration range and indicates the quantitated value is estimated due to its presence in this concentration range.
N	This flag applies to GC/MS TICs that have *N*o mass spectral library match.
Q	This flag applies to analyte data that are severely estimated due to quality control and/or *Q*uantitation problems, but are confirmed to be qualitatively present in the sample. No value is reported with this qualification flag.
R	This flag applies to analyte data that are *R*ejected and unusable due to severe quality control, quantitation and/or qualitative identification problems. No other qualification flags are reported for this analyte. No value is reported with this qualification flag.
U	This flag in used when the analyte was analyzed but *U*ndetected in the sample. The CRL RL for the analyte accompanies this flag. As with sample results that are positive, the value is corrected for dry weight, dilution and/or sample weight or volume.

ENVIRONMENTAL PROTECTION AGENCY
REGION V
CENTRAL REGIONAL LABORATORY
FINAL RESULT REPORT FOR THE TEAM: MINERAL/NUTRIENTS

DIVISION/BRANCH: SUPERFUND SAMPLING DATE: 03/15 - 16/2000 LAB ARRIVAL DATE: 03/22/2000 DUE DATE: 04/21/2000
DU NUMBER: 50102D DATASET NUMBER: 20000026 STUDY: HIMCO LF PRIORITY: Routine LABORATORY :CRL

	CRL LOG NUMBER	SAMPLE DESCRIPTION	BROMIDE IN WATER (mg Br^-/L)	SULFATE IN WATER (mg SO_4^{2-}/L)	Well screen depth in ft		
1	2000SY03S01	27919/EDCK4	0.06 M	132 D	[illegible] ?		
2	2000SY03S02	27948/EDCK2	0.06 M	146 D	Never Well ?		
3	2000SY03S03	B - 3	0.08 M	126 D	135'		
4	2000SY03S04	54271/EDCK0	0.05 M	138 D	50'		
5	2000SY03S05	J - 1	0.16 M	114 D	40'		
6	2000SY03S06	E - 3	0.16 M	126 D	176.0'		
7	2000SY03S07	B - 1	0.18 M	0.025 U	473.0'		
8	2000SY03S08	B - 4	0.11 M	46.1	173.0'		
9	2000SY03S09	EDCK1/54253	0.06 M	154 D	?		
10	2000SY03S10	54280/EDCK3	0.06 M	133 D	80'		
11	2000SY03S11	54305/EDCJ7	0.07 M	171 D	?		
DATE OF ANALYSIS			04/10/2000	03/27/2000			
ANALYST							

Reviewed by: [signature] Date: 04/14/2000

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 5 CENTRAL REGIONAL LABORATORY

536 SOUTH CLARK STREET

CHICAGO, ILLINOIS 60605

Date: APR 1 9 2000

Subject: Review of Region 5 Data for **HIMCO LF**

From: Francis A. Awanya , Chemist FAA
Region 5 Central Regional Laboratory

To: SF

Attached are the results for Site: **HIMCO LF**
CRL Data Set Number: **20000026**
for analyses of : **Sulfate and Bromide**
Results are reported for sample numbers: **2000SY03S01, 200SY03S02, 2000SY03S03, 200SY03S04, 2000SY03S05, 200SY03S06, 2000SY03S07, 200SY03S08, 2000SY03S09, 200SY03S10, and 2000SY03S11**.

Results Status:
(X) Acceptable for Use
( ) Data Qualified, but Acceptable for use
( ) Data Unacceptable for Use

Sylvia Griffin APR 19 2000

CRL Data Management Coordinator and Date Received

Date Transmitted: APR 19 2000

Please have the US EPA project leader fill out the customer survey form on the Region 5 Intranet: http://www.r5intra.epa.gov/crl/qa.html, (← by clicking on this link, or call George Schupp, CRL Sample Coordinator, at 3-1226).

Please sign and date this form below and return it with any comments to:

Sylvia Griffin
Data Management Coordinator
Region 5 Central Regional Laboratory
ML - 10C

Received by and Date

Comments:

Data Set Number:	*20000026*	**Parameter:**	*Sulfate and Bromide*
Facility Name:	*HIMCO LF*		
Study Name:	*HIMCO LF*		
Date of Narrative:	*04/14/2000*	**Analyst:**	*Francis A. Awanya*
		Signature:	Francis A. Awanya

ANALYSIS CASE NARRATIVE

Eleven (11) high priority water samples were collected for the above study between 3/15/00 and 3/16/2000. The samples arrived at the Central Regional Laboratory (CRL) on 3/22/2000. CRL sample identification numbers (CRL Sample ID) were assigned to the samples with tag numbers. The Station numbers and Locations were obtained from the tags that were attached to the sample containers. Samples information is tabulated as follows;

CRL Sample ID	Tag Number	Station Number and Location
2000SY03S01	5-065001	27919/EDCK4
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2000SY03S05	5-065005	J - 1
2000SY03S06	5-065006	E - 3
2000SY03S07	5-065007	B - 1
2000SY03S08	5-065008	B - 4
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2000SY03S10	5-065010	54280/EDCK3
2000SY03S11	5-065011	54305/EDCJ7

Additional descriptive information was not provided with the Analysis Request Form (ARF). Samples were checked out for sulfate and bromide analysis from the CRL sample custodian on 3/24/2000. The samples were properly preserved by refrigeration. They were transferred to the Analytical and Inorganic (A&I) laboratory section of the CRL and kept in a sample storage refrigerator until all analysis were completed.

SAMPLE ANALYSIS:

All samples were analyzed for sulfate and bromide using CRL Standard Operating Procedure (CRL.SOP) AIG045 (Method reference 300 A & B, EPA/600/R-93-100). No additional sample preparations were necessary. The instrument was calibrated for high level determination of sulfate and bromide following CRL.SOP AIG045 Part A on 3/24/2000. It was used for analysis on the same day. All bromide concentrations were below the reporting limit of the calibration curve used. Where as all sulfate concentrations, with the exception of sample 2000SY03S07 and 2000SY03S08, exceeded the upper calibration limit. As a result, appropriate

Data Set Number:	*20000026*	**Parameter:**	*Sulfate and Bromide*
Facility Name:	*HIMCO LF*		
Study Name:	*HIMCO LF*		
Date of Narrative:	*04 14 2000*	**Analyst:**	*Francis A. Awanya*
		Signature:	Francis A. Awanya

ANALYSIS CASE NARRATIVE

sulfate samples were re-analyzed with dilutions as necessary on 3/27/2000 and a different curve was used to complete bromide analysis. The instrument was calibrated for low level determination of bromide following CRL.SOP AIG045 Part A on 4/10/2000. Bromide analysis was completed on the same day.

QUALITY CONTROL (QC):

No data quality objectives were provided by the requestor. Analysis results were evaluated using the QC requirements of CRL.SOP AIG045 (Method reference 300 A & B, EPA/600/R-93-100). All the required quality control criteria for the laboratory, method, and system performance audits were evaluated and determined to be within the limits.

Matrix spike (Sulfate): Recovery results obtained for spiked sample 2000SY03S01(63.58 mg/L), exceeded the upper calibration range. The upper limit of calibration is 56.25 mg/L. However, the calculated spike recovery value of 102.2% was within the SOP limit of 100 ± 20%.

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Data Set Number:	*20000026*	**Parameter:**	*Sulfate and Bromide*
Facility Name:	*HIMCO LF*		
Study Name:	*HIMCO LF*		
Date of Narrative:	*04/14/2000*	**Analyst:**	*Francis A. Awanya*
		Signature:	Francis A. Awanya

ANALYSIS CASE NARRATIVE

evaluation of spike recoveries. In the future, it will be assayed at the same time as the samples. The spike recoveries for the samples were within the limits on the day of analysis. All the LFB recoveries were within the limits as well. Hence, the sample results are acceptable for use without any qualifications.

SAMPLE RESULTS AND REPORTING:

All the sample results are acceptable for use. The sulfate result for sample 2000SY03S07 was reported with a U flag because its concentration was less than detection. Sulfate concentrations for the remaining samples were reported with D flags due to required dilution. All bromide results were reported with M flags. Concentrations of bromide in all samples were between the method detection limits (MDL) and the reporting limit (RL).

MANUAL PEAK INTEGRATION:

No manual peak integration was used to process the data.

ELECTRONIC DATA:

Electronic data are archived in;
H:\R5CRL\VOL1\MIN_NUT\FAWANYA\990069\DX500_SYSTEM3_CD20\20000026\..under the following additional folders;
1. All_Other_Analysis, 2. Autosampler_Schedules, 3. Method_used, and 4. Reported_Run_Files. The case narrative is contained in folder 20000026.

CRL Data Review Qualification Codes

QUALIFIER	DESCRIPTION
B	This flag is used when the analyte is found in the associated *B*lank as well as the sample. It indicates possible blank contamination and warns the user to take appropriate action while assessing the data.
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E	This flag is used to identify analyte concentrations *E*xceeding the upper calibration range of the analytical instrument after dilution of the sample, extract or digestate. The reported value is considered to be estimated
J	This flag is used when the analyte is confirmed to be qualitatively present in the sample, extract or digestate, at or above the CRL reporting limit (RL) but the quantitated value is estimated due to quality control limit(s) being exceeded. This flag accompanies all GC/MS tentatively identified compounds (TICs). This flag also applies to a suspected, unidentified interference. (*J* is the flag used in the Superfund CLP SOW and Data Review Functional Guidelines and is used by CRL for consistency.)
M	This flag is used when the analyte is confirmed to be qualitatively present in the sample, extract or digestate, at or above the CRL *M*ethod Detection Limit (MDL) but below the CRL reporting limit (RL). This flag applies to all values in this concentration range and indicates the quantitated value is estimated due to its presence in this concentration range.
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U	This flag in used when the analyte was analyzed but *U*ndetected in the sample. The CRL RL for the analyte accompanies this flag. As with sample results that are positive, the value is corrected for dry weight, dilution and/or sample weight or volume.

ENVIRONMENTAL PROTECTION AGENCY
REGION V
CENTRAL REGIONAL LABORATORY
FINAL RESULT REPORT FOR THE TEAM: MINERAL/NUTRIENTS

DIVISION/BRANCH: SUPERFUND SAMPLING DATE: 03/15 - 16/2000 LAB ARRIVAL DATE: 03/22/2000 DUE DATE: 04/21/2000
DU NUMBER: 50102D DATASET NUMBER: 20000026 STUDY: HIMCO LF PRIORITY: Routine LABORATORY :CRL

	CRL LOG NUMBER	SAMPLE DESCRIPTION	BROMIDE IN WATER (mg Br^-/L)	SULFATE IN WATER (mg SO_4^-/L)	Well screen depth in ft		
1	2000SY03S01	27919/EDCK4	0.06 M	132 D	?		
2	2000SY03S02	27948/EDCK2	0.06 M	146 D	Never Used ?		
3	2000SY03S03	B - 3	0.08 M	126 D	135'		
4	2000SY03S04	54271/EDCK0	0.05 M	138 D	50'		
5	2000SY03S05	J - 1	0.16 M	114 D	40'		
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7	2000SY03S07	B - 1	0.18 M	0.025 U	473.0'		
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11	2000SY03S11	54305/EDCJ7	0.07 M	171 D	?		
DATE OF ANALYSIS			04/10/2000	03/27/2000			
ANALYST							

Reviewed by: _____ Date: 04/14/2000

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 5 CENTRAL REGIONAL LABORATORY

536 SOUTH CLARK STREET

CHICAGO, ILLINOIS 60605

Date: APR 1 9 2000

Subject: Review of Region 5 Data for **HIMCO LF**

From: Francis A. Awanya , Chemist FAA
Region 5 Central Regional Laboratory

To: SF

Attached are the results for Site: **HIMCO LF**
CRL Data Set Number: **20000026**
for analyses of : **Sulfate and Bromide**
Results are reported for sample numbers: **2000SY03S01, 200SY03S02, 2000SY03S03, 200SY03S04, 2000SY03S05, 200SY03S06, 2000SY03S07, 200SY03S08, 2000SY03S09, 200SY03S10, and 2000SY03S11**.

Results Status:
(X) Acceptable for Use
( ) Data Qualified, but Acceptable for use
( ) Data Unacceptable for Use

Sylvia Griffin APR 1 9 2000

CRL Data Management Coordinator and Date Received

Date Transmitted: APR 1 9 2000

Please have the US EPA project leader fill out the customer survey form on the Region 5 Intranet: http://www.r5intra.epa.gov/crl/qa.html, (← by clicking on this link, or call George Schupp, CRL Sample Coordinator, at 3-1226).

Please sign and date this form below and return it with any comments to:

Sylvia Griffin
Data Management Coordinator
Region 5 Central Regional Laboratory
ML - 10C

Received by and Date

Comments:

Data Set Number:	*20000026*	**Parameter:**	*Sulfate and Bromide*
Facility Name:	*HIMCO LF*		
Study Name:	*HIMCO LF*		
Date of Narrative:	*04/14/2000*	**Analyst:**	*Francis A. Awanya*
		Signature:	Francis A. Awanya

ANALYSIS CASE NARRATIVE

Eleven (11) high priority water samples were collected for the above study between 3/15/00 and 3/16/2000. The samples arrived at the Central Regional Laboratory (CRL) on 3/22/2000. CRL sample identification numbers (CRL Sample ID) were assigned to the samples with tag numbers. The Station numbers and Locations were obtained from the tags that were attached to the sample containers. Samples information is tabulated as follows;

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2000SY03S08	5-065008	B - 4
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Additional descriptive information was not provided with the Analysis Request Form (ARF). Samples were checked out for sulfate and bromide analysis from the CRL sample custodian on 3/24/2000. The samples were properly preserved by refrigeration. They were transferred to the Analytical and Inorganic (A&I) laboratory section of the CRL and kept in a sample storage refrigerator until all analysis were completed.

SAMPLE ANALYSIS:

All samples were analyzed for sulfate and bromide using CRL Standard Operating Procedure (CRL.SOP) AIG045 (Method reference 300 A & B, EPA/600/R-93-100). No additional sample preparations were necessary. The instrument was calibrated for high level determination of sulfate and bromide following CRL.SOP AIG045 Part A on 3/24/2000. It was used for analysis on the same day. All bromide concentrations were below the reporting limit of the calibration curve used. Where as all sulfate concentrations, with the exception of sample 2000SY03S07 and 2000SY03S08, exceeded the upper calibration limit. As a result, appropriate

Data Set Number:	*20000026*	**Parameter:**	*Sulfate and Bromide*
Facility Name:	*HIMCO LF*		
Study Name:	*HIMCO LF*		
Date of Narrative:	*04 14 2000*	**Analyst:**	*Francis A. Awanya*
		Signature:	Francis A. Awanya

ANALYSIS CASE NARRATIVE

sulfate samples were re-analyzed with dilutions as necessary on 3/27/2000 and a different curve was used to complete bromide analysis. The instrument was calibrated for low level determination of bromide following CRL.SOP AIG045 Part A on 4/10/2000. Bromide analysis was completed on the same day.

QUALITY CONTROL (QC):

No data quality objectives were provided by the requestor. Analysis results were evaluated using the QC requirements of CRL.SOP AIG045 (Method reference 300 A & B, EPA/600/R-93-100). All the required quality control criteria for the laboratory, method, and system performance audits were evaluated and determined to be within the limits.

Matrix spike (Sulfate): Recovery results obtained for spiked sample 2000SY03S01(63.58 mg/L), exceeded the upper calibration range. The upper limit of calibration is 56.25 mg/L. However, the calculated spike recovery value of 102.2% was within the SOP limit of 100 ± 20%.

To evaluate the accuracy of the initial recovery result, the spike was re-prepared from the same sample in exact fashion and assayed on 04/07/2000. The same calibration used to analyze the initial spike was utilized and verified for this analysis. All required QC audits results were within the limits. Sulfate results obtained on this day for spike sample 2000SY03S01 (62.39 mg SO_4/L), exceeded the upper calibration range. A two-fold dilution of the spiked sample was also made and analyzed within the same instrument run. Sulfate results obtained for this dilution was 61.74 mg/L. This finding indicates that the original recovery result is acceptable for use without further qualifications.

Method Blanks(LRB/ICB): The method blanks assayed at the beginning of each analysis on 3/24/2000 and 3/27/2000 were found to contain 3.51 mg/L and 3.67 mg/L of sulfate respectively. No sulfate was found in the blanks assayed at the end of the determination. Instrument response for those blanks were well below the reporting limit (15 mg/L) for the high calibration range. The resulting blank concentrations may be inaccurate, but do not indicate contamination. All samples below this reporting limit (15 mg/L) were analyzed and reported from the low calibration range. The reporting limit for this range is 0.75 mg/L. The method detection limit (MDL) is 0.025 mg/L. No sulfate was detected in any of the blanks.

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Facility Name:	*HIMCO LF*		
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Date of Narrative:	*04/14/2000*	**Analyst:**	*Francis A. Awanya*
		Signature:	Francis A. Awanya

ANALYSIS CASE NARRATIVE

evaluation of spike recoveries. In the future, it will be assayed at the same time as the samples. The spike recoveries for the samples were within the limits on the day of analysis. All the LFB recoveries were within the limits as well. Hence, the sample results are acceptable for use without any qualifications.

SAMPLE RESULTS AND REPORTING:

All the sample results are acceptable for use. The sulfate result for sample 2000SY03S07 was reported with a U flag because its concentration was less than detection. Sulfate concentrations for the remaining samples were reported with D flags due to required dilution. All bromide results were reported with M flags. Concentrations of bromide in all samples were between the method detection limits (MDL) and the reporting limit (RL).

MANUAL PEAK INTEGRATION:

No manual peak integration was used to process the data.

ELECTRONIC DATA:

Electronic data are archived in;
H:\R5CRL\VOL1\MIN_NUT\FAWANYA\990069\DX500_SYSTEM3_CD20\20000026\..under the following additional folders;
1. All_Other_Analysis, 2. Autosampler_Schedules, 3. Method_used, and 4. Reported_Run_Files. The case narrative is contained in folder 20000026.

CRL Data Review Qualification Codes

QUALIFIER	DESCRIPTION
B	This flag is used when the analyte is found in the associated *B*lank as well as the sample. It indicates possible blank contamination and warns the user to take appropriate action while assessing the data.
D	This flag is used when the analyte concentration results from a required *D*ilution of the sample, extract or digestate.
E	This flag is used to identify analyte concentrations *E*xceeding the upper calibration range of the analytical instrument after dilution of the sample, extract or digestate. The reported value is considered to be estimated
J	This flag is used when the analyte is confirmed to be qualitatively present in the sample, extract or digestate, at or above the CRL reporting limit (RL) but the quantitated value is estimated due to quality control limit(s) being exceeded. This flag accompanies all GC/MS tentatively identified compounds (TICs). This flag also applies to a suspected, unidentified interference. (*J* is the flag used in the Superfund CLP SOW and Data Review Functional Guidelines and is used by CRL for consistency.)
M	This flag is used when the analyte is confirmed to be qualitatively present in the sample, extract or digestate, at or above the CRL *M*ethod Detection Limit (MDL) but below the CRL reporting limit (RL). This flag applies to all values in this concentration range and indicates the quantitated value is estimated due to its presence in this concentration range.
N	This flag applies to GC/MS TICs that have *N*o mass spectral library match.
Q	This flag applies to analyte data that are severely estimated due to quality control and/or *Q*uantitation problems, but are confirmed to be qualitatively present in the sample. No value is reported with this qualification flag.
R	This flag applies to analyte data that are *R*ejected and unusable due to severe quality control, quantitation and/or qualitative identification problems. No other qualification flags are reported for this analyte. No value is reported with this qualification flag.
U	This flag in used when the analyte was analyzed but *U*ndetected in the sample. The CRL RL for the analyte accompanies this flag. As with sample results that are positive, the value is corrected for dry weight, dilution and/or sample weight or volume.

ENVIRONMENTAL PROTECTION AGENCY
REGION V
CENTRAL REGIONAL LABORATORY
FINAL RESULT REPORT FOR THE TEAM: MINERAL/NUTRIENTS

DIVISION/BRANCH: SUPERFUND SAMPLING DATE: 03/15 - 16/2000 LAB ARRIVAL DATE: 03/22/2000 DUE DATE: 04/21/2000
DU NUMBER: 50102D DATASET NUMBER: 20000026 STUDY: HIMCO LF PRIORITY: Routine LABORATORY :CRL

	CRL LOG NUMBER	SAMPLE DESCRIPTION	BROMIDE IN WATER (mg Br^-/L)	SULFATE IN WATER (mg SO_4^-/L)	Well screen depth in ft		
1	2000SY03S01	27919/EDCK4	0.06 M	132 D	?		
2	2000SY03S02	27948/EDCK2	0.06 M	146 D	Never Wet?		
3	2000SY03S03	B - 3	0.08 M	126 D	135'		
4	2000SY03S04	54271/EDCK0	0.05 M	138 D	50'		
5	2000SY03S05	J - 1	0.16 M	114 D	40'		
6	2000SY03S06	E - 3	0.16 M	126 D	176.0'		
7	2000SY03S07	B - 1	0.18 M	0.025 U	473.0'		
8	2000SY03S08	B - 4	0.11 M	46.1	173.0'		
9	2000SY03S09	EDCK1/54253	0.06 M	154 D	?		
10	2000SY03S10	54280/EDCK3	0.06 M	133 D	80'		
11	2000SY03S11	54305/EDCJ7	0.07 M	171 D	?		
DATE OF ANALYSIS			04/10/2000	03/27/2000			
ANALYST							

Reviewed by: _____ Date: 04/14/2000

HIMCO DUMP SITE PRP LIST FOR
NOTICE LETTERS FOR RA
UPDATED 6/24/2003

AACOA Company
727 Randolph
Elkhart, IN 46514

Parker Hannifin
c/o Martha Connell
a/k/a Bower Manufacturing
6035 Parkland Blvd
Cleveland, OH 44120

CTS Corporation
c/o Elizabeth Bottorff Ahlemann
Senior Counsel
905 West Boulevard North
Elkhart, IN 46514

Crosbie Foundry, Inc.
1600 Mishawaka Street
Elkhart, IN 46514-1898

Domore System Division
28652 Phillips Street
Elkhart, IN 46514

Hermaseal Company Inc.
c/o Dykema Gossett
55 East Monroe St. Suite 3050
Chicago, IL 60603

CLD Corporation
c/o Burnham & Beyler, LLP, CPA
P.O. Box 853
Elkhart, IN 46514

Eaz-Lift Spring Corporation
1318 W. Bristol Street
Elkhart, IN 46514

Foamex Products, Inc.
603 Industrial Parkway
Elkhart, IN 46514

Glascoat of Midwest
720 Collins Road
Elkhart, IN 46514

Henkels & McCoy, Inc.
1800 Johnson Street
Elkhart, IN 46514

Himco Waste-Away Inc.
C/O Charles Himes Jr.
1224 Strong Avenue
Elkhart, IN 46514

L & J Press Corporation
P. O. Box 339
Elkhart, IN 46515

LaBour Pump Co.
1607 Sterling Avenue
Elkhart, IN 46516

Selmer Division
600 Industrial Parkway
Elkhart, IN 46516

Triangle Products
2111 Industrial Parkway
Elkhart, IN 46515

Truth Publishing
421 S. Second Street
Elkhart, IN 46516

Himco Waste-Away Inc.
C/O Richard Paulen
Barnes & Thornburg
301 South Main Street Suite 305
Elkhart, IN 46516

Universal Forest Prod. #1
50415 Harber
Granger, IN 46530

Excel Industries, Inc.
W.C. Blanton, Esq
Blackwell, Sanders, Peper, & Martin, LLP
2300 Main Street, Suite 1000
Kansas City, MO 64113

Valley Machine Prod. Inc.
1840 Borneman Avenue
Elkhart, IN 46517

Indiana & Michigan Power Co.
c/o American Electric Power
1 Riverside Plaza
Columbus, OH 43215-2372

Conrail Corporation
6 Penn Center
Philadelphia, PA 19103

Elkhart General Hospital
600 East Boulevard
Elkhart, IN 46514-2499

Bayer Corporation
1884 Miles Avenue
Elkhart, IN 46515-0040

Alonzo Craft
1616 Locust Pl. #101
Elkhart, IN 46514

Miles Laboratories, Inc
C/O Reed Oslan
Kirkland & Ellis
200 E. Randolph
Chicago, IL 60601

Bayer Corporation
Armstrong WT Company
1000 Industrial Pkwy
Elkhart, IN 46516

Durakool, Inc.
c/o Dykema Gossett
55 East Monroe St Suite 3050
Chicago, IL 60603

ESI Meats
605 Kesco Drive
Bristol, IN 46507

Gaska Tape, Inc.
P.O. Box 1968
Elkhart, IN 46517

Hartson-Kennedy Co., Inc.
P.O. Box 3095
Marion, In 46953

Himes, Jr., Charles
707 Wildwood Avenue
Elkhart, In 46514

Kampco Steel Products
5733 County Road 3
Elkhart, IN 46517

Lithotone, Inc.
1313 West Hively
Elkhart, In 46517

North American Phillips
Risa Weinstock
100 E. 42nd Street
New York, NY 10017-5599

Miles Laboratories, Inc.
Attn: Richard W.Winchell, Esq.
1127 Myrtle Street
Elkhart, IN 46515

Lindsay P. Howard, Esquire
Babst, Calland, Clements & Zomnir, P.C.
Two Gateway Center, 8th Floor
Pittsburgh, PA 15222

Walerko Tool & Engineering
1935 West Lusher Street
Elkhart, IN 46517

White Hall Laboratories
1919 Superior Street
Elkhart, IN 46514

Accra Pac. Inc.
ATTN: John Wingard
P.O. Box 2988
Elkhart, IN 46515-2988

CG Conn Ltd.
c/o United Musical Instruments
USA Inc.
1000 Industrial Pkwy
Elkhart, IN 46516-5581

Continental Can
c/o C T Corporation System
36 S. Pennsylvania Street Suite 700
Indianapolis, IN 46204

E. K. Blessing Co., Inc.
1301 W. Beardsley Ave.
Elkhart, IN 46514-1895

Easco Aluminum
23841 Reedy Dr.
Elkhart, IN 46514-8315

Elcona Homes Corp.
2200 Middlebury St.
Elkhart, IN 46516-5518

Elkhart Brass Mfg. Co., Inc
1302 W. Beardsley Ave.
Elkhart, IN 46514-1891

Franklin Press, Inc.
56850-B Elk Park Dr.
Elkhart, IN 46516-1450

Goshen Implements Inc.
64358 US Hwy. 33
Goshen, IN 46526-9291

Kropf Manufacturing Co., Inc.
58647 St. Rd. 15
Elkhart, IN

Liberty Homes, Inc.
1101 Eisenhower Dr.
Goshen, IN 46526-5309

Mor-Ryde, Inc.
1966 Moyer Ave.
Elkhart, IN 46514

Cequent Towing Products
P.O. Box 3000
Goshen, IN 46528

Vincent Bach Corp.
600 S. Industrial Pky
Elkhart, IN 46516

Wells Cargo, Inc.
1503 W. McNaughton Ave.
Elkhart, IN 46514-2243

American Plastics of Elkhart Inc.
Plant #2
US Hwy 20 W.
Elkhart, IN

Elixir Industries
Broadway Elkhart
640 Collins Road
Elkhart, IN 46516

Champion Motor Homes
(formerly Titan Homes)
58277 State Rd. 19
Elkhart, IN

Journey Custom Motor Homes Inc.
27365 Co. Rd. 6
Elkhart, IN

Yellowstone, Inc.
22400 Mishawaka St.
Elkhart, IN

Excell Industries, Inc.
c/o Jacqueline A. Simmons
Ice Miller Donadio & Ryan
One American Square, Box 82001
Indianapolis, IN 46282

Henkels & McCoy, Inc.
c/o Jennifer Berke
Kelly, McLaughlin & Foster
260 South Broad Street
Philadelphia, PA 19102-5092

Riblet Products
11555 Harter Drive
Middlebury, IN 46540

Selmer Division
c/o James V. Woodsmall
Warrick, Weaver & Boyn
121 West Franklin Street
Elkhart, IN 46516-3284

Hermaseal Company, Inc.
Durakool, Inc.
American Electronic Components, Inc.
cc: Lisa A. Wurster Esq.
Legal Counsel
Dana Corporation
P.O. Box 1000
4500 Dorr Street
Toledo, OH 43697-1000

MEMORANDUM

DATE: August 15, 2000

TO: Gwen Massenburg, Region V EPA

FROM: Janie Carrig, Project Chemist
US Army Corps of Engineers – Omaha District

SUBJECT: HIMCO Dump Superfund Site, Elkhart, IN
Summary tables of constituents detected in ground water for the years 1990-2000

The attached tables summarize the constituents detected in each monitoring well located on or within approximately 1000 feet of the landfill. The individual wells are presented on separate sheets for ease in reading. Adding qualifier definitions for each page became cumbersome and time consuming, as did compiling multiple wells on one sheet. I don't believe either activity added value so did not pursue. NR means, "Not Reported and NS represents "Not Sampled". In hindsight, one acronym should have been used to avoid confusion. Either way, no data is available where NS or NR are presented.

If you have any questions, comments or would like something changed on the data tables please feel free to call or email me at:

Janie Carrig
Phone:402-221-7754 (fax 7848)
email: janie.e.carrig@usace.army.mil.

Regards,

Janie

HISTORICAL SUMMARY OF GROUND WATER DETECTIONS
1990-2000
HIMCO DUMP SUPERFUND SITE, ELKHART, IN

	WT01				
Date sampled	12/3/1990		1995		4/26/2000
TOTAL METALS (µg/L)					
Aluminum	36.0	U	115	J	NS
Antimony	48.5	B	12.8	U	NS
Barium	54.0	B	74.3	J	NS
Calcium	88000		104000		NS
Iron	122	J	21.6	J	NS
Magnesium	24300		26100		NS
Manganese	147		205		NS
Potassium	1170	U	1950	J	NS
Selenium	2.3	BJ	3.6	U	NS
Sodium	8680		12500	J	NS
Vanadium	6.4	U	6.9	J	NS
Zinc	10.0	UJ	2.1	J	NS
MISC INORGANICS					
Bromide (µg Br^-/L)	100	U	NR		NS
Sulfate (mg SO_4/L)	140	J	NR		NS
VOLATILE ORGANICS (µg/L)					
Methylene Chloride	5	U	5	J	NS
SEMIVOLATILE ORGANICS (µg/L)					
bis(2-Ethylhexyl)phthalate	10	U	13		NS
PESTICIDES/PCB (µg/L)	ND		ND		NS

HISTORICAL SUMMARY OF GROUND WATER DETECTIONS
1990-2000
HIMCO DUMP SUPERFUND SITE, ELKHART, IN

	WT101A									
Date sampled	11/28/1990		1995		10/21/1998		5/3/2000		5/3/2000 Dup	
TOTAL METALS (µg/L)										
Aluminum	29	BJ	321		26	U	118	U	118	U
Arsenic	9.0	B	7.8	J	4	J	5.0	J	14	UD
Barium	49	B	116	J	91	J	83		82	
Cadmium	3.00	U	1.10	J	4.60	U	0.30	U	0.30	U
Calcium	202000		249000		377000		258000		242000	
Chromium	5.00	U	4.0	U	13		6.7	U	6.70	U
Cobalt	7.00	U	11	J	7.80	U	13		4.00	J
Copper	4.0	BJ	1.7	U	4.10	U	9.30	U	9.30	U
Iron	24600	J	12700		28100		16300		16100	
Magnesium	7440		25200		14700		27300		27500	
Manganese	1950		1060		3080		1610	J	1540	J
Nickel	6.00	U	24	J	28	U	21	U	21	U
Potassium	5000	B	8060		3630	J	6730		6810	
Selenium	2.00	UJ	3.6	U	3.00	R	7.00	U	7.0	U
Sodium	35400		44100	J	35800		66800		65200	
Vanadium	3.00	U	21	J	12	U	4.00	U	5.1	U
Zinc	9.0	J	1.8	J	3.2	U	4.00	U	34	U
Cyanide	10	UR	10	U	18	J	NS		NS	
MISC INORGANICS										
Bromide (µg Br^-/L)	1		NR		NR		1	J	1	J
Sulfate (mg SO_4/L)	150		NR		NR		218	D	215	D
VOLATILE ORGANICS (µg/L)										
Chloroethane	10	U	10	U	10	U	1	U	2	
Methylene Chloride	2	BJ	1	J	10	U	2	U	2	U
1,1-Dichloroethane	3	J	5	J	10	U	8		8	
Benzene	3	J	10	U	10	U	2		2	
SEMIVOLATILE ORGANICS (µg/L)										
Dimethylphthalate	NR		10	U	7	J	5	U	5	U
Diethylphthalate	NR		11	U	19	J	3	J	4	J
bis(2-Ethylhexyl)phthalate	NR		5	JB	10	UJ	8		4	J
PESTICIDES/PCB (µg/L)	ND		ND		ND		NS		NS	

HISTORICAL SUMMARY OF GROUND WATER DETECTIONS
1990-2000
HIMCO DUMP SUPERFUND SITE, ELKHART, IN

	WT101B									
	1/9/1991		9/23/1991		1995		10/21/1998		5/3/2000	
TOTAL METALS (µg/L)										
Aluminum	516		168	BJ	206		26.0	U	118	U
Arsenic	7.1	B	3.8	B	3.8	U	3.6	J	7.0	U
Barium	192	B	218		184	J	91.2	J	72.3	
Beryllium	2.8	BJ	1.00	U	1.1	J	0.60	U	2.0	U
Calcium	88100		83500		126000		377000		137000	
Chromium	4.0	U	2.8	B	20.6		13.1		6.7	U
Cobalt	5.0	U	3.0	U	9.6	J	7.8	U	13.2	U
Copper	8.8	BJ	6.00	BJ	16.0	J	4.1	U	9.3	U
Iron	592		1400		3080		28100		2850	
Lead	1.1	BJ	1.0	UJ	1.7	U	0.50	U	7.0	U
Magnesium	31000		33000		47300		14700		52800	
Manganese	87.4		76.4		49.3		3080		36	J
Nickel	20.0	U	7.0	U	14.4	J	28.3	U	21	U
Potassium	28900		13900		5110		3630	J	6280	
Selenium	4.0	UJ	4.0	UJ	3.6	U	3.0	R	7.0	U
Silver	5.0	UJ	2.0	UJ	18.2		5.3	U	11.1	U
Sodium	76100		43100	J	47400	J	35800		43100	
Vanadium	11.2	B	2.0	U	17.8	J	12.3	U	5.1	U
Zinc	13.4	BJ	6.0	U	2.6	J	3.2	U	34.1	U
MISC INORGANICS										
Bromide (µg Br^-/L)	400		480.00		NR		NR		340	J
Sulfate (mg SO_4/L)	140	J	124	J	NR		NR		211	D
VOLATILE ORGANICS (µg/L)										
Chloroethane	12		16	J	6	J	10	U	2	
Methylene Chloride	10	U	10	U	1	J	10	U	2	U
SEMIVOLATILE ORGANICS (µg/L)										
Dimethylphthalate	10	U	NR		10	U	7	J	5	U
Diethylphthalate	10	U	NR		10	U	19	J	2	J
bis(2-Ethylhexyl)phthalate	10	U	NR		0.6	JB	10	UJ	5	U
PESTICIDES/PCB (µg/L)	ND		ND		ND		NS		NS	

HISTORICAL SUMMARY OF GROUND WATER DETECTIONS
1990-2000
HIMCO DUMP SUPERFUND SITE, ELKHART, IN

	WT101C									
Date sampled	1/9/1991		9/23/1991		1/1/1995		10/21/1998		5/3/2000	
TOTAL METALS (µg/L)										
Aluminum	6980		758	J	NR		26.0	U	152	
Arsenic	3.0	U	9.1	BJ	NR		3.6	J	10	
Barium	170	B	116	B	NR		91.2	J	77.6	
Beryllium	2.1	BJ	1.0	U	NR		0.60	U	2	U
Calcium	121000		101000		NR		377000		47900	
Chromium	14.0	J	7.7	B	NR		13.1		7.7	J
Cobalt	5.2	B	3.0	U	NR		7.8	U	4	J
Copper	10.7	BJ	6.0	U	NR		4.1	U	9.3	U
Iron	7890		3200		NR		28100		1380	
Lead	4.5	J	2.9	B	NR		0.50	U	7	U
Magnesium	50400		41500.0		NR		14700		20100	
Manganese	279		193		NR		3080		20.5	J
Nickel	21.1	B	7.0	U	NR		28.3	U	7	J
Potassium	4300	B	1640	B	NR		3630	J	4130	
Sodium	33100		36200	J	NR		35800		36100	
Vanadium	8.4	B	3.0	B	NR		12.3	U	5.1	U
Zinc	70.3		32.8	U	NR		3.2	U	34.1	U
Cyanide	10.0	U	10.0	U	NR		17.9	J		
MISC INORGANICS										
Bromide (µg Br^-/L)	900		940.00		NR		NR		880	J
Sulfate (mg SO_4/L)	810	J	10.0	UJ	NR		NR		0.42	J
VOLATILE ORGANICS (µg/L)										
Chloroethane	10	U	10	UJ	6	J	10	U	1	U
Methylene Chloride	10	U	10	U	1	J	10	U	2	U
SEMIVOLATILE ORGANICS (µg/L)										
Dimethylphthalate	NR		NR		10	U	7	J	5	U
Diethylphthalate	NR		NR		10	U	19	J	5	U
bis(2-Ethylhexyl)phthalate	NR		NR		0.6	JB	10	UJ	2	J
PESTICIDES/PCB (µg/L)	ND		ND		ND		NR		NS	

HISTORICAL SUMMARY OF GROUND WATER DETECTIONS
1990-2000
HIMCO DUMP SUPERFUND SITE, ELKHART, IN

	WM-1											
Date sampled	11/28/1990		7/7/1991		9/24/1991		1995		10/19/1998		4/2/2000	
TOTAL METALS (µg/L)												
Aluminum	32.7	BJ	81.8	B	165	BJ	268		27.6	J	118	U
Antimony	30.0	U	37.0	U	13.00	U	21.7	J	42.2	UJ	2	U
Barium	66	B	60.3	B	57	B	53.3	J	47.3	J	46.7	
Beryllium	1.20	B	3.1	BJ	1.00	U	1.3	J	0.60	UJ	2	U
Calcium	211000		181000		165000		157000		17100	J	173000	
Chromium	5.0	U	6.5	BJ	2.80	B	23.9		20.3	J	17.8	J
Cobalt	7.0	U	5.0	U	3.00	U	13.1	J	7.8	UJ	4.1	J
Copper	6.9	BJ	16.7	BJ	6.00	U	17.9	J	4.1	UJ	9.3	U
Iron	57	BJ	123		60.80	B	39.0	J	96.8	J	115	B
Lead	2.2	BJ	1.0	UJ	1.00	U	1.7	U	0.50	UJ	2	U
Magnesium	25100		22500		20300		15900		16600	J	18800	J
Manganese	38.1		23.0		9.20	B	30.2		61.5	J	86.7	
Nickel	6.0	U	20.0	U	7.00	U	40.6		73.0	J	45.4	J
Potassium	2110.0	B	2000	B	2120	B	2070	J	1610	J	2060	
Silver	5.0	U	5.0	UJ	2.00	UJ	19.5		6.1	J	11.1	U
Sodium	48600		41900		50700	J	52300	J	48000	J	100000	
Vanadium	3.0	U	4.0	U	2.00	U	26.5	J	12.3	UJ	5.1	U
Zinc	9.0	U	24.1	J	6.00	U	4.1	J	3.2	UJ	34.1	U
Cyanide	10.0	UR	10.0	U	10.00	U	10.0	U	8.5	J	NS	
MISC INORGANICS												
Bromide (µg Br^-/L)	100	U	100		100	U	NR		NR		60	J
Sulfate (mg SO_4/L)	430		360	J	338	J	NR		NR		202	D
VOLATILE ORGANICS (µg/L)												
Methylene Chloride	1	BJ	19	J	10	U	10	U	10	U	2	U
Acetone	2	BJ	10	UJ	10	UJ	10	U	10	U	5	U
SEMIVOLATILE ORGANICS (µg/L)												
bis(2-Ethylhexyl)phthalate	NR		NR		NR		0.4	JBU	3	J	5	U
PESTICIDES/PCB (µg/L)												
	ND		ND	J	ND		ND		NS		NS	

HISTORICAL SUMMARY OF GROUND WATER DETECTIONS
1990-2000
HIMCO DUMP SUPERFUND SITE, ELKHART, IN

	WT102B							
Date sampled	1/7/1991		9/24/1991		1995		4/25/2000	
TOTAL METALS (µg/L)								
Aluminum	25.0	U	139	BJ	161	J	118	U
Antimony	37.0	U	13.0	U	29.7	J	2	U
Arsenic	3.0	U	2.0	UJ	4.8	J	6	J
Barium	103	B	85	B	91.0	J	103	
Calcium	68700		62400		61200		75800	
Chromium	4.0	U	2.0	U	4.0	U	24.2	J
Cobalt	5.0	U	3.0	U	12.4	J	13.2	U
Copper	4.9	BJ	6.00	U	1.7	U	9.3	U
Iron	15.0	U	71	B	490		1580	
Lead	1.2	BJ	1.0	UJ	1.7	U	2	U
Magnesium	21300		19400		20400		22300	
Manganese	124		118		87.3		91.9	
Nickel	20.0	U	7.0	U	9.5	U	8.1	J
Potassium	1420	B	1690	B	1870	J	1840	
Silver	5.0	UJ	2.0	UJ	2.5	U	3.4	J
Sodium	26100		26900	J	27800	J	25900	
Thallium	3.0	U	3.0	U	5.7	J	1	U
Vanadium	4.0	U	2.0	U	13.2	J	1.9	J
Zinc	12.1	BJ	6.0	U	3.5	J	34.1	U
MISC INORGANICS								
Bromide (µg Br^-/L)	200		100	U	NR		80	J
Sulfate (mg SO_4/L)	64	J	430		NR		58	D
VOLATILE ORGANICS (µg/L)								
Methylene Chloride	16	J	1	BJ	10	U	2	U
Acetone			2	BJ	10	U	5	U
SEMIVOLATILE ORGANICS (µg/L)								
bis(2-Ethylhexyl)phthalate	3	J	NR		0.4	JBU	5	U
PESTICIDES/PCB (µg/L)	ND		ND		ND		NS	

HISTORICAL SUMMARY OF GROUND WATER DETECTIONS
1990-2000
HIMCO DUMP SUPERFUND SITE, ELKHART, IN

	WT102C					
Date sampled	1/9/1991		9/24/1991		4/25/2000	
TOTAL METALS (µg/L)						
Aluminum	1130		171	BJ	500	
Arsenic	3.0	U	2.0	UJ	3	J
Barium	100	B	63	B	104	
Beryllium	4.5	BJ	1.0	U	2	U
Calcium	71400		50700		129000	
Chromium	23.8	J	2.0	U	26.8	J
Cobalt	7.3	B	3.0	U	13.2	U
Copper	8.8	BJ	6.0	U	4	JB
Iron	1680		89	B	2210	
Lead	1.8	BJ	1.0	UJ	2	J
Magnesium	24800		16200		45600	
Manganese	231		170		288	
Nickel	20.0	U	7.0	U	23.7	J
Potassium	1290	B	902	B	1970	
Sodium	3180	B	7230	J	6060	
Vanadium	7.5	B	2.0	U	3.2	J
Zinc	24.7	J	6.0	U	13.5	JB
MISC INORGANICS						
Bromide (µg Br^-/L)	100		110.00		140	J
Sulfate (mg SO_4/L)	35	J	50.0	J	36	
VOLATILE ORGANICS (µg/L)	ND		ND		ND	
SEMIVOLATILE ORGANICS (µg/L)	NR		NR		2	J
PESTICIDES/PCB (µg/L)	ND		ND		NS	

HISTORICAL SUMMARY OF GROUND WATER DETECTIONS
1990-2000
HIMCO DUMP SUPERFUND SITE, ELKHART, IN

	WT103A			
Date sampled	11/28/1990		9/24/1991	
TOTAL METALS (µg/L)				
Aluminum	56	BJ	1710	J
Arsenic	2.2	B	3.9	B
Barium	33	B	80	B
Calcium	86400		361000	
Chromium	5.0	U	7.9	B
Cobalt	7.0	U	9.5	B
Copper	10.7	BJ	16.6	B
Iron	126	J	6890	
Lead	2.0	U	28.1	
Magnesium	21300		78000	
Manganese	95		759	
Nickel	6.0	U	9.9	B
Potassium	1380	B	2100	B
Silver	6.9	B	2.0	UJ
Sodium	12000		12900	J
Vanadium	3.0	U	12.5	B
Zinc	9.0	U	60	
MISC INORGANICS				
Bromide (µg Br^-/L)	100	U	210	
Sulfate (mg SO_4/L)	170		199	J
VOLATILE ORGANICS (µg/L)				
Chloromethane	10	U	10	UR
Bromomethane	10	U	10	UR
Vinyl Chloride	10	U	10	UR
Methylene Chloride	1	BJ	10	U
SEMIVOLATILE ORGANICS (µg/L)	ND		NR	
PESTICIDES/PCB (µg/L)	ND		ND	

HISTORICAL SUMMARY OF GROUND WATER DETECTIONS
1990-2000
HIMCO DUMP SUPERFUND SITE, ELKHART, IN

	WT104A			
Date sampled	11/28/1990		9/24/1991	
TOTAL METALS (µg/L)				
Aluminum	669	J	1460	J
Barium	14	B	24	B
Calcium	17100		30600	
Chromium	5.0	U	3.4	B
Cobalt	7.0	U	3.1	B
Iron	664	J	2100	
Lead	2.0	U	6.8	J
Magnesium	3550	B	6720	
Manganese	15		66	
Nickel	6.0	U	7.1	B
Potassium	639	B	1090	B
Sodium	1970	B	3380	BJ
Vanadium	3.0	U	3.8	B
Zinc	9.0	U	24.6	
MISC INORGANICS				
Bromide (µg Br^-/L)	100	U	110	
Sulfate (mg SO_4/L)	5.9		11.7	J
VOLATILE ORGANICS (µg/L)				
Chloromethane	10	U	10	UR
Bromomethane	10	U	10	UR
Vinyl Chloride	10	U	10	UR
Methylene Chloride	2.0	BJ	10	U
SEMIVOLATILE ORGANICS (µg/L)				
bis(2-Ethylhexyl)phthalate	10	U	10	
PESTICIDES/PCB (µg/L)	ND		ND	

HISTORICAL SUMMARY OF GROUND WATER DETECTIONS
1990-2000
HIMCO DUMP SUPERFUND SITE, ELKHART, IN

	WT105A									
Date sampled	11/28/1990		1/8/1991		9/25/1991		11/26/1996		5/2/2000	
TOTAL METALS (µg/L)										
Aluminum	81	BJ	224		114	B	17.0	U	112	J
Barium	18.2	B	22.0	U	8.2	B	5.4		8.1	
Beryllium	1.0	U	3.1	BJ	1.0	U	1.00	U	2	U
Calcium	39900		37200		32800		38000		57400	
Chromium	5.0	U	13.0	J	2.0	U	1.0	U	23.9	J
Cobalt	7.0	U	5.7	B	3.0	U	1.0	U	4.1	J
Copper	8.0	BJ	9.8	BJ	6.0	U	0	U	9.3	U
Iron	196	J	555		29.4	BJ	13.1		407	
Lead	2.0	U	1.1	BJ	1.3	B	1.00	U	7	U
Magnesium	11900		10700		8650		10200		16500	J
Manganese	63.8		50.4		26.5		5.0		160	J
Nickel	6.0	U	20.0	U	7.0	U	1	U	73.3	
Potassium	2860	B	2490	B	1580	B	1760		1360	
Sodium	10300		8010		3930	B	4460	J	7720	
Zinc	9.5	BJ	23.6	J	6.0	U	3.6	J	34.1	U
MISC INORGANICS										
Bromide (µg Br^-/L)	200.0		100	U	480		NR		110	J
Sulfate (mg SO_4/L)	30		22	J	26.7	J	NR		36	D
VOLATILE ORGANICS (µg/L)										
Methylene Chloride	1	BJ	7	U	10	U	10	U	2	U
SEMIVOLATILE ORGANICS (µg/L)										
Diethylphthalate	10	U	10	U	10	U	10	U	3	J
bis(2-Ethylhexyl)phthalate	10	U	10	U	10	U	10	U	17	
PESTICIDES/PCB (µg/L)	ND		ND		ND		NR		NS	

HISTORICAL SUMMARY OF GROUND WATER DETECTIONS
1990-2000
HIMCO DUMP SUPERFUND SITE, ELKHART, IN

	WT106A											
Date sampled	11/27/1990		1/8/1991		9/23/1991		9/25/1991		11/13/1996		5/2/2000	
TOTAL METALS (µg/L)												
Aluminum	31.0	BJ	256		2190	J	132	B	51		3090	
Arsenic	4.5	B	3.0	U	11.2		3.9	B	5.6		46.0	D
Barium	128	B	118	B	71	B	110	B	101		160	
Beryllium	1.0	U	4.2	BJ	1.0	U	1.0	U	1.0	U	2.0	U
Cadmium	3.0	U	4.0	U	1.3	B	1.0	U	1.0	U	0.1	J
Calcium	111000		112000		242000		102000		146000		175000	
Chromium	5.0	U	5.4	BJ	8.4	B	2.0	U	1.0	U	21.6	J
Cobalt	7.0	U	6.3	B	11.4	B	3.0	U	1.0	U	13.2	U
Copper	4.7	BJ	9.8	BJ	6.0	U	6.0	U	1.0	U	11.0	
Iron	4070	J	3820		33000		3610		6080		27600	
Lead	2.0	U	6.5	J	33.0		1.0	UJ	1.0	U	6.0	J
Magnesium	19200		20000		23300		17800		18100		26800	
Manganese	238.0		220		3590.0		247.0		394		559	J
Nickel	6.0	U	20.0	U	24.2	B	7.0	U	1.8		11.7	J
Potassium	4810	B	3620	B	4920	B	4540		4280		4200	
Selenium	2.6	BJ	4.0	UJ	4.0	UJ	4.0	U	4.0	U	7.0	U
Sodium	37200		32800		21400	J	27700		25800	J	29300	
Thallium	10.0	UJ	3.0	U	3.0	U	5.0	UJ	2.9		4.0	U
Vanadium	3.0	U	4.0	U	11.9	B	2.0	U	1.0	U	5.1	U
Zinc	9.0	U	28.9	J	81.4		6.0	J	2.9	J	31.7	JB
MISC INORGANICS												
Bromide (µg Br^-/L)	800		600		790		120.0		NR		420	J
Sulfate (mg SO_4/L)	56		54	J	225	J	108	J	NR		146	D
VOLATILE ORGANICS (µg/L)												
Chloroethane	2	J	10	U	10	UJ	10	UJ	10	U	0.6	J
Methylene Chloride	3	BJ	7	U	10	U	10	U	10	U	2	U
1,1-Dichloroethane	5	U	5	U	3	J	10	U	10	U	0.9	J
cis-1,2-Dichloroethene	NR		NR		NR		NR		NR		1	
total 1,2-Dichloroethene	6		5	J	10	UJ	5	J	3	J	NR	
Trichloroethene	5	U	5	U	10	U	10	U	10	U	0.6	J
Benzene	5	U	5	U	3	J	10	U	10	U	1	U
SEMIVOLATILE ORGANICS (µg/L)												
Diethylphthalate	10	U	10	U	20		10	U	10	U	3	J
bis(2-Ethylhexyl)phthalate	10	U	10	U	10	U	10	U	10	U	47	
PESTICIDES/PCB (µg/L)	ND		ND		ND		ND		NR		NS	

HISTORICAL SUMMARY OF GROUND WATER DETECTIONS
1990-2000
HIMCO DUMP SUPERFUND SITE, ELKHART, IN

	WT111A							
Date sampled	9/25/1991		1995		11/13/1996		4/28/2000	
TOTAL METALS (µg/L)								
Aluminum	421		450		280.0		463	
Arsenic	4.0	BJ	3.8	U	3.7		7	U
Barium	109	B	103	J	105		256	
Cadmium	1.0	U	1.1	U	1	U	0.2	J
Calcium	15400		6170		8160		113000	
Chromium	2.0	U	4.0	U	1.8		2.3	J
Cobalt	3.9	B	11.9	J	6.4		12.2	J
Copper	6.0	U	1.7	U	3.3		9.3	U
Iron	3650		1760		4470		12600	
Lead	1.5	BJ	1.7	U	1.00	U	7	U
Magnesium	6350		2520	J	2980		19100	J
Manganese	498		201		335		1440	J
Nickel	12.1	B	16.0	J	7.2		8.7	J
Potassium	3210	B	1690	J	1600		8380	
Sodium	19600		2560	J	3200		39400	
Thallium	5.0	UJ	4.7	U	3.0		4	U
Vanadium	5.3	BJ	11.9	J	2.4		5.1	U
Zinc	17.0	B	17.5	J	22.2	J	18	JB
MISC INORGANICS								
Bromide (µg Br^-/L)	100.00	U	NR		NR		400.0	J
Sulfate (mg SO_4/L)	91.0	J	NR		NR		264.0	D
VOLATILE ORGANICS (µg/L)								
Methylene Chloride			5	J	ND		2	U
1,1-Dichloroethane							1	
Benzene	1	J	10	U	10	U	1	U
SEMIVOLATILE ORGANICS (µg/L)								
bis(2-Ethylhexyl)phthalate	10	U	0.3	J	10	U	5	U
PESTICIDES/PCB (µg/L)								
alpha-BHC	ND		0.012	JP	NR		NS	

HISTORICAL SUMMARY OF GROUND WATER DETECTIONS
1990-2000
HIMCO DUMP SUPERFUND SITE, ELKHART, IN

	WT112A					
Date sampled	1995		10/20/1998		4/27/2000	
Barium	NR		36.6	J	28.6	
Calcium	NR		19000	J	247000	
Chromium	NR		7.5	J	6.7	U
Iron	NR		11.7	UJ	23.3	JB
Magnesium	NR		14000	J	17000	J
Manganese	NR		6.7	J	0.7	J
Potassium	NR		1330	J	1700	
Sodium	NR		13300	J	13800	
Vanadium	NR		12.3	UJ	2.3	J
Cyanide	NR		7.3	J	NS	
MISC INORGANICS						
Bromide (µg Br^-/L)	NR		NR		40	J
Sulfate (mg SO_4/L)	NR		NR		434	D
VOLATILE ORGANICS (µg/L)	ND		ND		ND	
SEMIVOLATILE ORGANICS (µg/L)						
Diethylphthalate	0.4	B	10	U	5	U
bis(2-Ethylhexyl)phthalate	0.8	B	10	U	39	
PESTICIDES/PCB (µg/L)	ND		NR		NS	

HISTORICAL SUMMARY OF GROUND WATER DETECTIONS
1990-2000
HIMCO DUMP SUPERFUND SITE, ELKHART, IN

	WT112B					
Date sampled	1995		4/27/2000		4/27/2000 Dup	
TOTAL METALS (µg/L)						
Aluminum	169	J	118	U	118	U
Arsenic	3.8	U	5	J	4	J
Barium	35.1	J	86.7		86	
Calcium	179000		81800		79900	
Iron	15.0	J	1180		1220	
Magnesium	15200		21000		20900	
Manganese	4.0	J	93.1		94.5	
Nickel	10	J	21	U	21	U
Potassium	2000	J	1320		1380	
Sodium	12300	J	22800		23300	
Vanadium	9.6	J	5.1	U	5.1	U
Zinc	7.7	J	34.1	U	34.1	U
MISC INORGANICS						
Bromide (µg Br^-/L)	NR		70	J	70	J
Sulfate (mg SO_4/L)	NR		56		56	
VOLATILE ORGANICS (µg/L)	ND		ND		ND	
SEMIVOLATILE ORGANICS (µg/L)						
bis(2-Ethylhexyl)phthalate	2	JBU	5	U	5	U
PESTICIDES/PCB (µg/L)	ND		NS		NS	

HISTORICAL SUMMARY OF GROUND WATER DETECTIONS
1990-2000
HIMCO DUMP SUPERFUND SITE, ELKHART, IN

	WT113A			
Date sampled	1995		4/26/2000	
TOTAL METALS (µg/L)				
Aluminum	161	J	118	U
Barium	14.3	J	13.8	
Cadmium	1.1	U	0.1	J
Calcium	45700		64300	
Cobalt	6.9	J	13.2	U
Copper	1.7	U	4.2	JB
Iron	4.7	J	59.8	B
Magnesium	11400		16500	J
Manganese	2.3	J	3.1	
Potassium	1200	J	1210	
Sodium	6340	J	14200	
Vanadium	11.1	J	5.1	U
Zinc	5.0	J	34.1	U
MISC INORGANICS				
Bromide (µg Br^-/L)	NR		140	U
Sulfate (mg SO_4/L)	NR		24	
VOLATILE ORGANICS (µg/L)	ND		ND	
SEMIVOLATILE ORGANICS (µg/L)				
Diethylphthalate	0.6	JBU	5	U
bis(2-Ethylhexyl)phthalate	0.3	JBU	5	U
PESTICIDES/PCB (µg/L)	ND		NS	

HISTORICAL SUMMARY OF GROUND WATER DETECTIONS
1990-2000
HIMCO DUMP SUPERFUND SITE, ELKHART, IN

	WT113B			
Date sampled	1995		4/26/2000	
TOTAL METALS (µg/L)				
Aluminum	80.5	J	118	U
Arsenic	3.8	U	3	J
Barium	78.1	J	68.4	
Calcium	93300		101000	
Chromium	5.6	J	6.7	U
Copper	3.7	J	9.3	U
Iron	703		1210	
Magnesium	23000		21400	
Manganese	148		97.6	
Potassium	1900	J	2040	
Silver	4.9	J	11.1	U
Sodium	13300	J	15300	
Thallium	5.0	J	1	U
Zinc	3.5	J	34.1	U
MISC INORGANICS				
Bromide (µg Br^-/L)	NR		60	J
Sulfate (mg SO_4/L)	NR		131	D
VOLATILE ORGANICS (µg/L)	ND		ND	
SEMIVOLATILE ORGANICS (µg/L)				
Diethylphthalate	0.4	JB	5	U
bis(2-Ethylhexyl)phthalate	0.2	JB	5	U
PESTICIDES/PCB (µg/L)	ND		NS	

HISTORICAL SUMMARY OF GROUND WATER DETECTIONS
1990-2000
HIMCO DUMP SUPERFUND SITE, ELKHART, IN

	WT114A					
Date sampled	1/1/1995		10/20/1998		5/3/2000	
TOTAL METALS (µg/L)						
Aluminum	145	J	26.0	UJ	118	U
Arsenic	23.3		24.3	J	9	
Barium	237		238	J	101	
Beryllium	0.40	U	0.60	J	2	U
Cadmium	1.7	J	4.6	UJ	0.3	U
Calcium	243000		27000	J	192000	
Chromium	4.0	U	12.0	J	6.7	U
Cobalt	13.8	J	11.9	J	5.9	J
Iron	19000		17900	J	6510	
Magnesium	23400		24800	J	18600	J
Manganese	393		306	J	276	J
Nickel	19.0	J	23.8	UJ	21	U
Potassium	5110		6640	J	3390	
Sodium	122000	J	47100	J	123000	
Thallium	6.7	J	0.40	UJ	4	U
Vanadium	10.4	J	12.3	UJ	5.1	U
Zinc	7.6	J	3.2	J	34.1	U
Cyanide	10.0	U	7.8	J	NS	
MISC INORGANICS						
Bromide (µg Br^-/L)	NR		NR		170	J
Sulfate (mg SO_4/L)	NR		NR		177	D
VOLATILE ORGANICS (µg/L)						
Carbon Disulfide	0.7	J	10	U	1	U
1,1-Dichloroethane	5	J	4	J	3	
Benzene	2	J	10	UJ	1	U
SEMIVOLATILE ORGANICS (µg/L)						
Diethylphthalate	2	JB	2	J	1	J
bis(2-Ethylhexyl)phthalate	0.9	JB	10	U	2	J
PESTICIDES/PCB (µg/L)	ND		NR		NS	

HISTORICAL SUMMARY OF GROUND WATER DETECTIONS
1990-2000
HIMCO DUMP SUPERFUND SITE, ELKHART, IN

	WT114B			
Date sampled	1995		5/3/2000	
TOTAL METALS				
Aluminum	230		118	U
Arsenic	18.5		9	
Barium	194	J	69.4	
Calcium	219000		108000	
Chromium	4.0	U	3	J
Cobalt	11.1	J	13.2	U
Iron	13300		6320	
Magnesium	30500		17500	J
Manganese	182		92.5	J
Nickel	19.7	J	21	U
Potassium	5110		2700	
Sodium	30100	J	14100	
Vanadium	23.2	J	5.1	U
Zinc	4.5	J	34.1	U
Cyanide	11.4		NS	
MISC INORGANICS				
Bromide (µg Br^-/L)	NR		70	J
Sulfate (mg SO_4/L)	NR		156	D
VOLATILE ORGANICS				
Carbon Disulfide	2	J	1	U
1,1-Dichloroethane	1	J	1	U
cis-1,2-Dichloroethene	NR		1	U
total 1,2-Dichloroethene	1	J	NR	
SEMIVOLATILE ORGANICS				
Butylbenzylphthalate	0.2	J		
bis(2-Ethylhexyl)phthalate	0.6	JB	1	J
PESTICIDES/PCB				
alpha-BHC	0.012	J	NS	

HISTORICAL SUMMARY OF GROUND WATER DETECTIONS
1990-2000
HIMCO DUMP SUPERFUND SITE, ELKHART, IN

	WT115A							
Date sampled	1/1/1995		11/13/1996		10/21/1998		5/1/2000	
TOTAL METALS (µg/L)								
Aluminum	132	J	32.0		94.1	J	8860	
Barium	50.1	J	33.3		33.5	J	105	
Cadmium	1.1	U	1	U	4.6	U	0.1	J
Calcium	197000		215000		293000		241000	
Chromium	4.0	U	2.9		10.4		12.8	J
Cobalt	5.9	U	1.6		7.8	U	13.2	U
Copper	1.7	U	1.8		4.1	U	19.7	
Iron	1360		2220		4590		6500	
Lead	1.7	U	1.00	U	0.50	U	11	
Magnesium	27200		36000		20300		12400	J
Manganese	413		276		513		380	J
Nickel	9.5	U	3.8		28.3	U	11.5	J
Potassium	5580		6520		3580	J	4440	
Sodium	43600	J	33600	J	12100		24600	
Thallium	5.3	J	2.20		0.40	U	4	U
Vanadium	4.5	U	7.6		12.3	U	14.5	
Zinc	31.1	B	4.1	J	3.7	J	37.7	JB
Cyanide	10.0	U	NR		12.4	J	NS	
MISC INORGANICS								
Bromide (µg Br^-/L)	NR		NR		NR		600	J
Sulfate (mg SO_4/L)	NR		NR		NR		254	D
VOLATILE ORGANICS								
Methylene Chloride	1	J	10	U	10	U	2	U
cis-1,2-Dichloroethene	NR		NR		NR		0.5	J
total 1,2-Dichloroethene	10	U	10	U	10	U	NR	
Trichloroethene	10	U	10	U	10	U	0.6	J
Benzene	1	J	2	J	10	U	1	
Tetrachloroethene	10	U	10	U	10	U	0.8	J
SEMIVOLATILE ORGANICS								
Diethylphthalate							2	J
bis(2-Ethylhexyl)phthalate	0.4	J	10	U	10	UJ	18	
PESTICIDES/PCB (µg/L)	ND		NR		NR		NS	

HISTORICAL SUMMARY OF GROUND WATER DETECTIONS
1990-2000
HIMCO DUMP SUPERFUND SITE, ELKHART, IN

	WT116A									
Date sampled	1/1/1995		11/13/1996		10/21/1998		5/3/2000			
TOTAL METALS (µg/L)										
Aluminum	393		NR		58.0	J	118	U	118	U
Arsenic	3.8	U	NR		1.0	J	7	U	7	U
Barium	136	J	NR		192	J	79.9		79.6	
Cadmium	1.1	U	NR		4.6	UJ	0.1	J	0.1	J
Calcium	518000		NR		60900	J	666000		685000	
Chromium	7.1	J	NR		7.0	UJ	6.7	U	6.7	U
Cobalt	5.9	U	NR		7.8	UJ	11.2	J	11.5	J
Copper	1.7	U	NR		4.1	UJ	15.8		15.5	
Iron	5710		NR		4490	J	31900		32400	
Lead	1.7	U	NR		0.50	UJ	6	J	13	JD
Magnesium	53500		NR		52700	J	66900		66100	
Manganese	670		NR		662	J	1810	J	1800	J
Mercury	0.20	U	NR		0.10	J	0.1	UJ	0.1	UJ
Nickel	9.5	U	NR		28.3	UJ	13.3	J	12.2	J
Potassium	36000		NR		25200	J	19600		18900	
Selenium	3.6	U	NR		6.0	R	14	DU	14	UD
Sodium	195000	J	NR		179000	J	161000		160000	
Thallium	4.7	J	NR		0.40	UJ	4	U	4	U
Zinc	45.4		NR		3.2	UJ	178	J	194	J
MISC INORGANICS										
Bromide (µg Br^-/L)	NS		NS		NS		2380	D	2420	D
Sulfate (mg SO_4/L)	NS		NS		NS		1260	D	1250	D
VOLATILE ORGANICS (µg/L)										
Vinyl Chloride	10	U	10	U	10	U	1		1	
1,1-Dichloroethane	7	J	5	J	5	J	8		7	
cis-1,2-Dichloroethene	NR		NR		NR		1		1	
total 1,2-Dichloroethene	1	J	0.4	J	10	U	NR		NR	
1,2-Dichloropropane	4	J	2	J	10	U	1		1	
Trichloroethene	0.9		0.5	J	10	U	1	U	1	U
Benzene	15		7	J	10	U	1	U	1	U
Ethylbenzene	0.7	J	10	U	10	U	1	U	1	U
SEMIVOLATILE ORGANICS (µg/L)										
Naphthalene	0.4	J	NR		10	U	5	U	5	U
Acenaphthylene	3	J	NR		10	U	5	U	5	U
Dibenzofuran	2	J	NR		10	U	5	U	5	U
Diethylphthalate	10	U	NR		10	U	5	U	4	J
Fluorene	3	J	NR		10	U	5	U	5	U
Anthracene	0.3	J	NR		10	U	5	U	5	U
bis(2-Ethylhexyl)phthalate	15	B	NR		2	J	7		2	J
Carbazole	6	J	NR		10	U	5	U	5	U
PESTICIDES/PCB (µg/L)	ND		NS		NS		NS		NS	

HISTORICAL SUMMARY OF GROUND WATER DETECTIONS
1990-2000
HIMCO DUMP SUPERFUND SITE, ELKHART, IN

	WT116B			
Date sampled	1995		5/3/2000	
TOTAL METALS (µg/L)				
Aluminum	40.4	J	118	U
Barium	174	J	135	
Calcium	184000		203000	
Iron	2740		3710	
Magnesium	35200		22900	
Manganese	203		206	J
Potassium	7080	J	5780	
Silver	2.5		11.1	U
Sodium	43200	J	23500	
Vanadium	4.5	J	5.1	U
MISC INORGANICS				
Bromide (µg Br^-/L)	NR		320	J
Sulfate (mg SO_4/L)	NR		143	D
VOLATILE ORGANICS (µg/L)				
Carbon Disulfide	2	J	1	U
SEMIVOLATILE ORGANICS (µg/L)				
Diethylphthalate			2	J
bis(2-Ethylhexyl)phthalate	2	JBU	2	J
PESTICIDES/PCB (µg/L)	ND		NS	

HISTORICAL SUMMARY OF GROUND WATER DETECTIONS
1990-2000
HIMCO DUMP SUPERFUND SITE, ELKHART, IN

	WT117A			
Date sampled	1995		4/27/2000	
TOTAL METALS (µg/L)				
Aluminum	NR		827	
Barium	NR		41.3	
Calcium	NR		70900	
Chromium	NR		9.3	J
Copper	NR		3.2	JB
Iron	NR		508	
Magnesium	NR		12000	J
Manganese	NR		206	
Nickel	NR		7.5	J
Potassium	NR		2180	
Selenium	NR		4	UD
Sodium	NR		5110	
Vanadium	NR		3.1	J
Cyanide	NR		NS	
MISC INORGANICS				
Bromide (µg Br^-/L)	NR		60	J
Sulfate (mg SO_4/L)	NR		169	D
VOLATILE ORGANICS (µg/L)				
Methylene Chloride	1	J	2	U
SEMIVOLATILE ORGANICS (µg/L)				
bis(2-Ethylhexyl)phthalate	0.3	B	7	
PESTICIDES/PCB (µg/L)				
	ND		NS	

HISTORICAL SUMMARY OF GROUND WATER DETECTIONS
1990-2000
HIMCO DUMP SUPERFUND SITE, ELKHART, IN

	WT117B			
Date sampled	1995		4/27/2000	
TOTAL METALS (µg/L)				
Barium	NR		35.9	
Calcium	NR		179000	
Iron	NR		2280	
Magnesium	NR		24200	
Manganese	NR		71.7	
Potassium	NR		1790	
Sodium	NR		17100	
Cyanide	NR		NS	
MISC INORGANICS				
Bromide (µg Br^-/L)	NR		70	J
Sulfate (mg SO_4/L)	NR		318	D
VOLATILE ORGANICS (µg/L)				
Methylene Chloride	1	J	2	U
SEMIVOLATILE ORGANICS (µg/L)				
bis(2-Ethylhexyl)phthalate	0.8	JBU		
PESTICIDES/PCB (µg/L)	ND		NS	

HISTORICAL SUMMARY OF GROUND WATER DETECTIONS
1990-2000
HIMCO DUMP SUPERFUND SITE, ELKHART, IN

	WT118B			
Date sampled	1995		4/28/2000	
TOTAL METALS (µg/L)				
Aluminum	229		118	U
Barium	347		93.4	
Beryllium	0.92	J	2	U
Calcium	306000		193000	
Chromium	14.4		6.7	U
Cobalt	12.9	J	13.2	U
Copper	7.9	J	9.3	U
Iron	8680		5790	
Magnesium	29600		20000	
Manganese	76.9		126	J
Nickel	20.2	J	21	U
Potassium	16300		7800	
Silver	10.9		11.1	U
Sodium	69900	J	18700	
Thallium	8.0	J	4	U
Vanadium	18.8	J	5.1	U
Zinc	6.3	J	34.1	U
MISC INORGANICS				
Bromide (µg Br^-/L)	NR		200	J
Sulfate (mg SO_4/L)	NR		351	D
VOLATILE ORGANICS (µg/L)				
Methylene Chloride	0.9	J	2	U
1,1-Dichloroethane			2	
SEMIVOLATILE ORGANICS (µg/L)				
bis(2-Ethylhexyl)phthalate	3	J	5	U
PESTICIDES/PCB (µg/L)	ND		NS	

HISTORICAL SUMMARY OF GROUND WATER DETECTIONS
1990-2000
HIMCO DUMP SUPERFUND SITE, ELKHART, IN

	WT119A			
Date sampled	10/22/1998		4/28/2000	
TOTAL METALS (µg/L)				
Aluminum	258	J	38.3	J
Antimony	43.2	J	7	U
Arsenic	5.8	J	6	J
Barium	78.3		94	
Calcium	143000		215000	
Chromium	7.8		2	J
Copper	5.4		9.3	U
Iron	1690		2650	
Lead	3.4	J	7	U
Magnesium	44800		70800	
Manganese	279		318	J
Potassium	11500	J	22200	
Selenium	6.0	J	14	UD
Sodium	69100		61100	
Cyanide	12	J	NS	
MISC INORGANICS				
Bromide (µg Br^-/L)	NR		460	J
Sulfate (mg SO_4/L)	NR		420	D
VOLATILE ORGANICS (µg/L)				
1,1-Dichloroethane	10	U	3	
SEMIVOLATILE ORGANICS (µg/L)	ND		ND	
PESTICIDES/PCB (µg/L)	NR		NS	

HISTORICAL SUMMARY OF GROUND WATER DETECTIONS
1990-2000
HIMCO DUMP SUPERFUND SITE, ELKHART, IN

	WTB1			
Date sampled	12/4/1990		4/26/2000	
TOTAL METALS (µg/L)				
Aluminum	347		118	U
Barium	116	B	122	
Calcium	51700		52500	
Chromium	6.0	U	2.4	J
Copper	11.2	B	9.3	U
Iron	903	J	527	
Lead	10.2	J	2	U
Magnesium	20900		20900	
Manganese	51.0		40.1	
Nickel	25.0	U	8.3	J
Potassium	1950	B	2100	
Sodium	51200		55100	
Zinc	71.4	J	36.9	JB
MISC INORGANICS				
Bromide (µg Br^-/L)	200	U	180	J
Sulfate (mg SO_4/L)	44	UJ	60	J
VOLATILE ORGANICS (µg/L)	ND		ND	
SEMIVOLATILE ORGANICS (µg/L)	ND		ND	
PESTICIDES/PCB (µg/L)	ND		NS	

HISTORICAL SUMMARY OF GROUND WATER DETECTIONS
1990-2000
HIMCO DUMP SUPERFUND SITE, ELKHART, IN

	WTB2			
Date sampled	12/4/1990		9/26/1991	
TOTAL METALS				
Aluminum	695		6930	
Arsenic	3.0	U	5.30	BJ
Barium	22.5	B	124.0	B
Calcium	71100		138000	
Chromium	20.9		24.60	
Cobalt	12.5	U	25.40	B
Copper	8.7	B	31.0	
Iron	1240	J	17200	
Lead	20.0	UJ	91.20	
Magnesium	11000		32900	
Manganese	99.9		1870	
Nickel	25.0	U	47.50	
Potassium	942	U	1730	B
Selenium	2.4	BJ	4.00	U
Sodium	4040	B	5490	
Vanadium	8.5	U	26.8	B
Zinc	13.9	BJ	79.0	
MISC INORGANICS				
Bromide (µg Br^-/L)	100	U	100	U
Sulfate (mg SO_4/L)	94	J	160	J
VOLATILE ORGANICS (µg/L)	ND		ND	
SEMIVOLATILE ORGANICS (µg/L)				
Naphthalene	10	U	2	J
bis(2-Ethylhexyl)phthalate	10	U	6	J
PESTICIDES/PCB (µg/L)	ND		ND	

HISTORICAL SUMMARY OF GROUND WATER DETECTIONS
1990-2000
HIMCO DUMP SUPERFUND SITE, ELKHART, IN

	WTB3					
	12/5/1990		9/26/1991		4/26/2000	
TOTAL METALS (µg/L)						
Aluminum	47.9	B	120	B	118	U
Antimony	48.7	B	13.0	U	2.0	U
Arsenic	5.8	B	4.0	B	5.0	J
Barium	63.6	B	57.2	B	60.2	
Calcium	131000		127000		96800	
Copper	4.8	B	6.0	U	9.3	U
Iron	707	J	594		426	
Lead	20.0	UR	3.5	J	2	U
Magnesium	41400		38000		27900	
Manganese	445	J	383		356	
Potassium	1370	B	755	BJ	1290	
Selenium	3.1	B	4.0	U	2.0	U
Silver	7.7	BJ	2.0	U	11.1	U
Sodium	11600		13400		20300	
Vanadium	14.1	BJ	2.0	U	5.1	U
Zinc	19.2	BJ	7.4	B	34.1	U
MISC INORGANICS						
Bromide (µg Br^-/L)	100	U	100		80	J
Sulfate (mg SO_4/L)	300	R	281	J	132	D
VOLATILE ORGANICS (µg/L)						
Chloromethane	10	U	5	J	1	U
Acetone	10	UJ	27		5	U
Chloroform	5	U	26		1	U
Bromodichloromethane	5	U	7	J	1	U
Dibromochloromethane	5	U	2	J	1	U
SEMIVOLATILE ORGANICS (µg/L)						
bis(2-Ethylhexyl)phthalate	2	JBU	2	JBU	6	
PESTICIDES/PCB (µg/L)	ND		ND		NS	

HISTORICAL SUMMARY OF GROUND WATER DETECTIONS
1990-2000
HIMCO DUMP SUPERFUND SITE, ELKHART, IN

	WTB4					
Date sampled	12/11/1990		9/26/1991		4/26/2000	
TOTAL METALS (µg/L)						
Aluminum	126	B	145	B	118	U
Antimony	36.0	B	13.0	U	2	U
Barium	40.4	B	35	B	37	
Calcium	55500		59900		69400	
Copper	32.1		6.0	U	9.3	U
Iron	802	J	356		415	B
Lead	58.0	J	6.5		2	U
Magnesium	18500		18000		21200	
Manganese	251	J	154		206	
Potassium	1190	B	787	BJ	759	
Silver	9.0	BJ	2.0	U	11.1	U
Sodium	4210	B	4920	B	4600	
Vanadium	8.5	BJ	2.0	U	5.1	U
Zinc	35.4	J	8.8	B	34.1	U
MISC INORGANICS						
Bromide (µg Br^-/L)	100	U	100	U	110	J
Sulfate (mg SO_4/L)	38	J	49.0	J	38	D
VOLATILE ORGANICS (µg/L)						
Chloroform	4	J	23		1	U
Bromodichloromethane	2	J	7	J	1	U
Dibromochloromethane	5	U	2	J	1	U
SEMIVOLATILE ORGANICS (µg/L)						
bis(2-Ethylhexyl)phthalate	32		3	J	5	U
PESTICIDES/PCB (µg/L)	ND		ND		NS	

HISTORICAL SUMMARY OF GROUND WATER DETECTIONS
1990-2000
HIMCO DUMP SUPERFUND SITE, ELKHART, IN

	CP1	
Date sampled	12/3/1990	
TOTAL METALS (µg/L)		
Barium	27.8	B
Calcium	111000	
Iron	284	J
Magnesium	13700	
Manganese	8.5	B
Mercury	1.0	J
Sodium	12000	
Vanadium	5.2	B
Zinc	219	J
MISC INORGANICS		
Bromide (µg Br^-/L)	100	U
Sulfate (mg SO_4/L)	190	
VOLATILE ORGANICS (µg/L)	ND	
SEMIVOLATILE ORGANICS (µg/L)	ND	
PESTICIDES/PCB (µg/L)	ND	

HISTORICAL SUMMARY OF GROUND WATER DETECTIONS
1990-2000
HIMCO DUMP SUPERFUND SITE, ELKHART, IN

	WTE1			
Date sampled	1995		5/2/2000	
TOTAL METALS (µg/L)				
Barium	NR		43.5	
Calcium	NR		174000	
Iron	NR		5150	
Lead	NR		3	J
Magnesium	NR		35500	
Manganese	NR		204	J
Potassium	NR		4120	
Sodium	NR		19100	
Cyanide	NR		NS	
MISC INORGANICS				
Bromide (µg Br^-/L)	NR		120	J
Sulfate (mg SO_4/L)	NR		347	D
VOLATILE ORGANICS (µg/L)				
Methylene Chloride	2	J	2	U
SEMIVOLATILE ORGANICS (µg/L)				
Diethylphthalate	10	U	3	J
bis(2-Ethylhexyl)phthalate	0.2	JBU	19	
PESTICIDES/PCB (µg/L)	ND		NS	

HISTORICAL SUMMARY OF GROUND WATER DETECTIONS
1990-2000
HIMCO DUMP SUPERFUND SITE, ELKHART, IN

	WTE2			
Date sampled	12/12/1990		9/25/1991	
TOTAL METALS (µg/L)				
Aluminum	113000		25500	
Antimony	36.2	B	13.0	U
Arsenic	54.5		4.3	B
Barium	250		116	B
Beryllium	5.4		1.3	B
Calcium	28200		33700	
Chromium	133		45	
Cobalt	28.6	B	9.6	B
Copper	139		80	
Iron	39300	J	5490	
Lead	106	J	105	
Magnesium	16300		9380	
Manganese	265	J	115	
Mercury	0.40		0.20	U
Nickel	111		37	B
Potassium	5110		3160	B
Selenium	33.0		4.0	UJ
Silver	18.4	J	2.0	U
Sodium	2400	B	3520	B
Vanadium	106		36	B
Zinc	399	J	162	
MISC INORGANICS				
Bromide (µg Br^-/L)	200		4100	
Sulfate (mg SO_4/L)	13	J	15.3	J
VOLATILE ORGANICS (µg/L)				
Chloroform	5	U	2	J
2-Hexanone	0.7	J	10	UJ
SEMIVOLATILE ORGANICS (µg/L)				
bis(2-Ethylhexyl)phthalate	11	UJ	16	
PESTICIDES/PCB (µg/L)	ND		ND	

HISTORICAL SUMMARY OF GOUND WATER DETECTIONS
1990-2000
HIMCO DUMP SUPERFUND SITE, ELKHART, IN

	WTE3			
Date sampled	12/12/1990		5/2/2000	
TOTAL METALS (µg/L)				
Aluminum	138	B	118	U
Antimony	47.9	B	7.0	U
Arsenic	4.7	B	5.0	J
Barium	222		51.3	
Calcium	97100		58300	
Iron	3140	J	2240	
Lead	2.0	UR	3.0	J
Magnesium	38200		23800	
Manganese	21.7	J	21.1	J
Potassium	1790	B	1810	
Selenium	2.5	B	7.0	U
Silver	11.2	J	11.1	U
Sodium	90700		12400	
Vanadium	12.0	BJ	5.1	U
Zinc	17.2	BJ	34.1	U
MISC INORGANICS				
Bromide (µg Br^-/L)	1900		130	J
Sulfate (mg SO_4/L)	110	J	57	D
VOLATILE ORGANICS (µg/L)				
Chloroform	10	U	3	
Bromodichloromethane	10	U	2	
Dibromochloromethane	10	U	2	
Bromoform	10	U	1	
2-Hexanone	0.7	J	5	U
SEMIVOLATILE ORGANICS (µg/L)				
Diethylphthalate	10	U	2	J
bis(2-Ethylhexyl)phthalate	10	U	35	
PESTICIDES/PCB (µg/L)	ND		NS	

HISTORICAL SUMMARY OF GROUND WATER DETECTIONS
1990-2000
HIMCO DUMP SUPERFUND SITES, ELKHART, IN

	F1	
Date Sampled	12/13/1990	
TOTAL METALS (µg/L)		
Aluminum	66.1	B
Barium	26.0	B
Calcium	26900	
Copper	5.0	B
Iron	374	J
Lead	10.2	J
Magnesium	6100	
Manganese	86.7	J
Potassium	1240	B
Silver	9.3	BJ
Sodium	5740	
Vanadium	6.1	BJ
Zinc	81.0	J
MISC INORGANICS		
Bromide (µg Br^-/L)	200	
Sulfate (mg SO_4/L)	15	J
VOLATILE ORGANICS (µg/L)	ND	
SEMIVOLATILE ORGANICS (µg/L)	ND	
PESTICIDES/PCB (µg/L)	ND	

HISTORICAL SUMMARY OF GROUND WATER DETECTIONS
1990-2000
HIMCO DUMP SUPERFUND SITE, ELKHART, IN

	F2	
Date sampled	12/11/1990	
TOTAL METALS (µg/L)		
Aluminum	140	B
Antimony	32.2	B
Arsenic	8.0	B
Barium	56.3	B
Calcium	53900	
Iron	2500	J
Lead	2.0	UR
Magnesium	17900	
Manganese	34.2	J
Potassium	901	B
Selenium	2.0	B
Silver	7.2	BJ
Sodium	4110	B
Thallium	3.0	UJ
Vanadium	8.7	BJ
MISC INORGANICS		
Bromide (µg Br^-/L)	300	
Sulfate (mg SO_4/L)	18	J
VOLATILE ORGANICS (µg/L)		
Trichloroethene	0.6	J
SEMIVOLATILE ORGANICS (µg/L)	ND	
PESTICIDES/PCB (µg/L)	ND	

HISTORICAL SUMMARY OF GROUND WATER DETECTIONS
1990-2000
HIMCO DUMP SUPERFUND SITE, ELKHART, IN

	F3	
Date sampled	12/13/1990	
TOTAL METALS (µg/L)		
Aluminum	267	
Antimony	34.6	B
Arsenic	11.7	
Barium	84.2	B
Calcium	50800	
Iron	555	J
Lead	3.5	J
Magnesium	20700	
Manganese	32.0	J
Potassium	1360	B
Silver	10.6	J
Sodium	15500	
Vanadium	8.2	BJ
MISC INORGANICS		
Bromide (µg Br^-/L)	200	
Sulfate (mg SO_4/L)	45.0	UJ
VOLATILE ORGANICS (µg/L)	ND	
SEMIVOLATILE ORGANICS (µg/L)	ND	
PESTICIDES/PCB (µg/L)	ND	

HISTORICAL SUMMARY OF GROUND WATER DETECTIONS
1990-2000
HIMCO DUMP SUPERFUND SITE, ELKHART, IN

	WTG1			
Date sampled	12/4/1990		4/27/2000	
TOTAL METALS (µg/L)				
Aluminum	92.6	B	118	U
Arsenic	4.1	B	2	U
Barium	59.0	B	79.1	
Calcium	71000		94300	
Copper	10.4	B	9.3	U
Iron	1130	J	1010	
Lead	24.0	BJ	2	U
Magnesium	20500		24300	
Manganese	50.2	J	52.7	
Nickel	25.0	U	7	J
Potassium	2460	B	1430	
Sodium	6120		13800	
Vanadium	8.0	BJ	5.1	U
Zinc	25.9	J	34.1	U
MISC INORGANICS				
Bromide (µg Br^-/L)	100	U	50	J
Sulfate (mg SO_4/L)	64	J	59	D
VOLATILE ORGANICS (µg/L)				
Acetone	39	BJ	5	U
SEMIVOLATILE ORGANICS (µg/L)				
bis(2-Ethylhexyl)phthalate	10	U	4	J
PESTICIDES/PCB (µg/L)	ND		NS	

HISTORICAL SUMMARY OF GROUND WATER DETECTIONS
1990-2000
HIMCO DUMP SUPERFUND SITE, ELKHART, IN

	WTG3			
Date sampled	12/13/1990		4/27/2000	
TOTAL METALS (µg/L)				
Aluminum	NR		36.7	J
Arsenic	NR		10	
Barium	NR		79.4	
Calcium	NR		76400	
Iron	NR		1150	
Magnesium	NR		23500	
Manganese	NR		21.8	
Nickel	NR		8.1	J
Potassium	NR		1260	
Selenium	NR		4.0	J
Sodium	NR		18400	
Cyanide	NR		NS	
MISC INORGANICS				
Bromide (µg Br^-/L)	100		60	M
Sulfate (mg SO_4/L)	NR		32	
VOLATILE ORGANICS (µg/L)				
Chloroform	3	J	1	U
Bromodichloromethane	2	J	1	U
Dibromochloromethane	1	J	1	U
4-Methyl-2-pentanone	1	J	5	U
2-Hexanone	1	J	5	U
Tetrachloroethene	0.6	J	1	U
Toluene	0.6	J	1	U
SEMIVOLATILE ORGANICS (µg/L)				
Dimethylphthalate	9	J	5	U
Diethylphthalate	38	J	5	U
bis(2-Ethylhexyl)phthalate	3	J	19	
PESTICIDES/PCB (µg/L)	ND		NS	

HISTORICAL SUMMARY OF GROUND WATER DETECTIONS
1990-2000
HIMCO DUMP SUPERFUND SITE, ELKHART, IN

	M1			
Date sampled	12/5/1990		9/26/1991	
TOTAL METALS (µg/L)				
Antimony	46.8	B	13.0	UJ
Arsenic	5.1	B	2.00	UJ
Barium	75	B	82	B
Cadmium	5.0	U	2.40	BJ
Calcium	145000		163000	
Iron	6300	J	7280	
Lead	2.0	UR	4.00	J
Magnesium	30600		32800	
Manganese	82.2	J	106.00	
Potassium	5750		6520	
Selenium	3.4	B	4.0	UJ
Silver	11.6	J	2.0	U
Sodium	24200		26400	
Vanadium	12.1	BJ	3.5	B
Zinc	538	J	1240	
MISC INORGANICS				
Bromide (µg Br^-/L)	200		200	
Sulfate (mg SO_4/L)	240	R	285	J
VOLATILE ORGANICS (µg/L)				
Chloroform	5	U	2	J
SEMIVOLATILE ORGANICS (µg/L)				
bis(2-Ethylhexyl)phthalate	11	UJ	3	J
PESTICIDES/PCB (µg/L)	ND		ND	

HISTORICAL SUMMARY OF GROUND WATER DETECTIONS
1990-2000
HIMCO DUMP SUPERFUND SITE, ELKHART, IN

	M2			
Date sampled	12/3/1990		9/25/1991	
TOTAL METALS (µg/L)				
Aluminum	61.7	B	489	
Arsenic	3.0	U	8.5	B
Barium	164	B	209	
Cadmium	5.0	UJ	3.0	BJ
Calcium	116000		165000	
Chromium	6.0	U	8.8	B
Copper	5.0	B	49	
Iron	8830	J	78500	
Lead	20.0	UJ	96.10	
Magnesium	7230		7930	
Manganese	404		403	
Mercury	0.20	J	0.20	U
Nickel	25.0	U	25.60	B
Potassium	4850	B	5510	
Sodium	44500		53800	
Vanadium	12.2	U	20.20	B
Zinc	25.7	J	148	
MISC INORGANICS				
Bromide (µg Br^-/L)	3500		100	U
Sulfate (mg SO_4/L)	6	J	37.6	J
VOLATILE ORGANICS (µg/L)				
Chloromethane	10	UJ	10	UR
Bromomethane	10	U	10	UR
Vinyl Chloride	10	U	10	UR
SEMIVOLATILE ORGANICS (µg/L)				
Phenol	10	U	2	J
bis(2-Ethylhexyl)phthalate	10	U	110	
PESTICIDES/PCB (µg/L)	ND		ND	

HISTORICAL SUMMARY OF GROUND WATER DETECTIONS
1990-2000
HIMCO DUMP SUPERFUND SITE, ELKHART, IN

	N1	
Date sampled	11/29/1990	
TOTAL METALS		
Aluminum	63	BJ
Barium	65	B
Calcium	43000	
Copper	3.7	BJ
Iron	165	J
Lead	3.5	
Magnesium	12900	
Manganese	126	
Potassium	3950	B
Sodium	11400	
Thallium	2.0	UJ
Cyanide	10	UR
MISC INORGANICS		
Bromide (µg Br^-/L)	100	U
Sulfate (mg SO_4/L)	25	
VOLATILE ORGANICS		
Methylene Chloride	3	BJ
Acetone	9	J
SEMIVOLATILE ORGANICS	ND	
PESTICIDES/PCB	ND	

HISTORICAL SUMMARY OF GROUND WATER DETECTIONS
1990-2000
HIMCO DUMP SUPERFUND SITE, ELKHART, IN

	PC1			
Date sampled	9/28/1991		9/25/1991	
TOTAL METALS (µg/L)				
Aluminum	3130.00	J	362	J
Arsenic	24.20		2.00	U
Barium	113.00	B	41.20	B
Cadmium	1.00	U	2.20	BJ
Calcium	213000.00		182000	
Chromium	10.30		3.5	B
Cobalt	5.00	B	3.00	U
Copper	6.00	U	46.50	
Iron	13100.00		1910	
Lead	32.10		210.00	J
Magnesium	16700.00		17500	
Manganese	447.00		39.70	
Potassium	8640.00		2530	B
Sodium	52300.00	J	13900	
Thallium	3.00	U	5.00	UJ
Vanadium	11.00	B	5.50	B
Zinc	24.70		13600	
MISC INORGANICS				
Bromide (µg Br^-/L)	870		210	
Sulfate (mg SO_4/L)	214	J	284	J
VOLATILE ORGANICS (µg/L)				
Chloromethane	10	UR	10	U
Bromomethane	10	UR	10	U
Vinyl Chloride	10	UR	10	U
1,1-Dichloroethane	3	J	10	U
Chloroform	10	U	6	J
Benzene	1	J	10	U
SEMIVOLATILE ORGANICS (µg/L)				
bis(2-Ethylhexyl)phthalate	3	J	29	
PESTICIDES/PCB (µg/L)	ND		ND	

HISTORICAL SUMMARY OF GROUND WATER DETECTIONS
1990-2000
HIMCO DUMP SUPERFUND SITE, ELKHART, IN

	Q1	
Date sampled	11/29/1990	
TOTAL METALS (µg/L)		
Aluminum	1630	J
Arsenic	1.0	B
Barium	510	
Beryllium	1.2	B
Calcium	106000	
Copper	14.50	BJ
Iron	6250	J
Lead	8.8	
Magnesium	41400	
Manganese	173	
Potassium	12800	
Silver	5.0	U
Sodium	76000	
Vanadium	4.7	B
Zinc	28.4	J
Cyanide	10	UR
MISC INORGANICS		
Bromide (µg Br^-/L)	1100	
Sulfate (mg SO_4/L)	160	
VOLATILE ORGANICS (µg/L)		
Acetone	17	B
SEMIVOLATILE ORGANICS (µg/L)		
Phenol	NR	
PESTICIDES/PCB (µg/L)		
	ND	

MEMORANDUM

DATE: August 15, 2000

TO: Gwen Massenburg, Region V EPA

FROM: Janie Carrig, Project Chemist
US Army Corps of Engineers – Omaha District

SUBJECT: HIMCO Dump Superfund Site, Elkhart, IN
Summary tables of constituents detected in ground water for the years 1990-2000

Attached are replacement pages for above referenced submittal.

If you have any questions, comments or would like something changed on the data tables please feel free to call or email me at:

Janie Carrig
Phone:402-221-7754 (fax 7848)
email: janie.e.carrig@usace.army.mil.

Regards,

Janie

HISTORICAL SUMMARY OF GROUND WATER DETECTIONS
1990-2000
HIMCO DUMP SUPERFUND SITE, ELKHART, IN

	WT101A									
Date sampled	11/28/1990		1995		10/21/1998		5/3/2000		5/3/2000 Dup	
TOTAL METALS (µg/L)										
Aluminum	29	BJ	321		26	U	118	U	118	U
Arsenic	9.0	B	7.8	J	4	J	5.0	J	14	UD
Barium	49	B	116	J	91	J	83		82	
Cadmium	3.00	U	1.10	J	4.60	U	0.30	U	0.30	U
Calcium	202000		249000		377000		258000		242000	
Chromium	5.00	U	4.0	U	13		6.7	U	6.70	U
Cobalt	7.00	U	11	J	7.80	U	13		4.00	J
Copper	4.0	BJ	1.7	U	4.10	U	9.30	U	9.30	U
Iron	24600	J	12700		28100		16300		16100	
Magnesium	7440		25200		14700		27300		27500	
Manganese	1950		1060		3080		1610	J	1540	J
Nickel	6.00	U	24	J	28	U	21	U	21	U
Potassium	5000	B	8060		3630	J	6730		6810	
Selenium	2.00	UJ	3.6	U	3.00	R	7.00	U	7.0	U
Sodium	35400		44100	J	35800		66800		65200	
Vanadium	3.00	U	21	J	12	U	4.00	U	5.1	U
Zinc	9.0	J	1.8	J	3.2	U	4.00	U	34	U
Cyanide	10	UR	10	U	18	J	NS		NS	
MISC INORGANICS										
Bromide (µg Br^-/L)	1000		NR		NR		520	J	530	J
Sulfate (mg SO_4/L)	150		NR		NR		218	D	215	D
VOLATILE ORGANICS (µg/L)										
Chloroethane	10	U	10	U	10	U	1	U	2	
Methylene Chloride	2	BJ	1	J	10	U	2	U	2	U
1,1-Dichloroethane	3	J	5	J	10	U	8		8	
Benzene	3	J	10	U	10	U	2		2	
SEMIVOLATILE ORGANICS (µg/L)										
Dimethylphthalate	NR		10	U	7	J	5	U	5	U
Diethylphthalate	NR		11	U	19	J	3	J	4	J
bis(2-Ethylhexyl)phthalate	NR		5	JB	10	UJ	8		4	J
PESTICIDES/PCB (µg/L)	ND		ND		ND		NS		NS	

HISTORICAL SUMMARY OF GROUND WATER DETECTIONS
1990-2000
HIMCO DUMP SUPERFUND SITE, ELKHART, IN

	WT102A											
Date sampled	11/28/1990		1/7/1991		9/24/1991		1995		10/19/1998		4/25/2000	
TOTAL METALS (µg/L)												
Aluminum	32.7	BJ	81.8	B	165	BJ	268		27.6	J	118	U
Antimony	30.0	U	37.0	U	13.00	U	21.7	J	42.2	UJ	2	U
Barium	66	B	60.3	B	57	B	53.3	J	47.3	J	46.7	
Beryllium	1.20	B	3.1	BJ	1.00	U	1.3	J	0.60	UJ	2	U
Calcium	211000		181000		165000		157000		17100	J	173000	
Chromium	5.0	U	6.5	BJ	2.80	B	23.9		20.3	J	17.8	J
Cobalt	7.0	U	5.0	U	3.00	U	13.1	J	7.8	UJ	4.1	J
Copper	6.9	BJ	16.7	BJ	6.00	U	17.9	J	4.1	UJ	9.3	U
Iron	57	BJ	123		60.80	B	39.0	J	96.8	J	115	B
Lead	2.2	BJ	1.0	UJ	1.00	U	1.7	U	0.50	UJ	2	U
Magnesium	25100		22500		20300		15900		16600	J	18800	J
Manganese	38.1		23.0		9.20	B	30.2		61.5	J	86.7	
Nickel	6.0	U	20.0	U	7.00	U	40.6		73.0	J	45.4	J
Potassium	2110.0	B	2000	B	2120	B	2070	J	1610	J	2060	
Silver	5.0	U	5.0	UJ	2.00	UJ	19.5		6.1	J	11.1	U
Sodium	48600		41900		50700	J	52300	J	48000	J	100000	
Vanadium	3.0	U	4.0	U	2.00	U	26.5	J	12.3	UJ	5.1	U
Zinc	9.0	U	24.1	J	6.00	U	4.1	J	3.2	UJ	34.1	U
Cyanide	10.0	UR	10.0	U	10.00	U	10.0	U	8.5	J	NS	
MISC INORGANICS												
Bromide (µg Br^-/L)	100	U	100		100	U	NR		NR		60	J
Sulfate (mg SO_4/L)	430		360	J	338	J	NR		NR		202	D
VOLATILE ORGANICS (µg/L)												
Methylene Chloride	1	BJ	19	J	10	U	10	U	10	U	2	U
Acetone	2	BJ	10	UJ	10	UJ	10	U	10	U	5	U
SEMIVOLATILE ORGANICS (µg/L)												
bis(2-Ethylhexyl)phthalate	NR		NR		NR		0.4	JBU	3	J	5	U
PESTICIDES/PCB (µg/L)	ND		ND		ND		ND		NS		NS	

HISTORICAL SUMMARY OF GROUND WATER DETECTIONS
1990-2000
HIMCO DUMP SUPERFUND SITE, ELKHART, IN

	WT102B							
Date sampled	1/7/1991		9/24/1991		1995		4/25/2000	
TOTAL METALS (µg/L)								
Aluminum	25.0	U	139	BJ	161	J	118	U
Antimony	37.0	U	13.0	U	29.7	J	2	U
Arsenic	3.0	U	2.0	UJ	4.8	J	6	J
Barium	103	B	85	B	91.0	J	103	
Calcium	68700		62400		61200		75800	
Chromium	4.0	U	2.0	U	4.0	U	24.2	J
Cobalt	5.0	U	3.0	U	12.4	J	13.2	U
Copper	4.9	BJ	6.00	U	1.7	U	9.3	U
Iron	15.0	U	71	B	490		1580	
Lead	1.2	BJ	1.0	UJ	1.7	U	2	U
Magnesium	21300		19400		20400		22300	
Manganese	124		118		87.3		91.9	
Nickel	20.0	U	7.0	U	9.5	U	8.1	J
Potassium	1420	B	1690	B	1870	J	1840	
Silver	5.0	UJ	2.0	UJ	2.5	U	3.4	J
Sodium	26100		26900	J	27800	J	25900	
Thallium	3.0	U	3.0	U	5.7	J	1	U
Vanadium	4.0	U	2.0	U	13.2	J	1.9	J
Zinc	12.1	BJ	6.0	U	3.5	J	34.1	U
MISC INORGANICS								
Bromide (µg Br^-/L)	200		100	U	NR		80	J
Sulfate (mg SO_4/L)	64	J	430		NR		58	D
VOLATILE ORGANICS (µg/L)								
Methylene Chloride	16	J	1	BJ	10	U	2	U
Acetone	10	U	2	BJ	10	U	5	U
SEMIVOLATILE ORGANICS (µg/L)								
bis(2-Ethylhexyl)phthalate	3	J	NR		0.4	JBU	5	U
PESTICIDES/PCB (µg/L)	ND		ND		ND		NS	

HISTORICAL SUMMARY OF GROUND WATER DETECTIONS
1990-2000
HIMCO DUMP SUPERFUND SITE, ELKHART, IN

	WT105A									
Date sampled	11/29/1990		1/8/1991		9/25/1991		11/26/1996		5/2/2000	
TOTAL METALS (µg/L)										
Aluminum	81	BJ	224		114	B	17.0	U	112	J
Barium	18.2	B	22.0	U	8.2	B	5.4		8.1	
Beryllium	1.0	U	3.1	BJ	1.0	U	1.00	U	2	U
Calcium	39900		37200		32800		38000		57400	
Chromium	5.0	U	13.0	J	2.0	U	1.0	U	23.9	J
Cobalt	7.0	U	5.7	B	3.0	U	1.0	U	4.1	J
Copper	8.0	BJ	9.8	BJ	6.0	U	0	U	9.3	U
Iron	196	J	555		29.4	BJ	13.1		407	
Lead	2.0	U	1.1	BJ	1.3	B	1.00	U	7	U
Magnesium	11900		10700		8650		10200		16500	J
Manganese	63.8		50.4		26.5		5.0		160	J
Nickel	6.0	U	20.0	U	7.0	U	1	U	73.3	
Potassium	2860	B	2490	B	1580	B	1760		1360	
Sodium	10300		8010		3930	B	4460	J	7720	
Zinc	9.5	BJ	23.6	J	6.0	U	3.6	J	34.1	U
MISC INORGANICS										
Bromide (µg Br^-/L)	200		100	U	480		NR		110	J
Sulfate (mg SO_4/L)	30		22	J	26.7	J	NR		36	D
VOLATILE ORGANICS (µg/L)										
Methylene Chloride	1	BJ	7	U	10	U	10	U	2	U
SEMIVOLATILE ORGANICS (µg/L)										
Diethylphthalate	10	U	10	U	10	U	10	U	3	J
bis(2-Ethylhexyl)phthalate	10	U	10	U	10	U	10	U	17	
PESTICIDES/PCB (µg/L)	ND		ND		ND		NR		NS	

HISTORICAL SUMMARY OF GROUND WATER DETECTIONS
1990-2000
HIMCO DUMP SUPERFUND SITE, ELKHART, IN

	WT111A							
Date sampled	9/25/1991		1995		11/13/1996		4/28/2000	
TOTAL METALS (µg/L)								
Aluminum	421		450		280.0		463	
Arsenic	4.0	BJ	3.8	U	3.7		7	U
Barium	109	B	103	J	105		256	
Cadmium	1.0	U	1.1	U	1	U	0.2	J
Calcium	15400		6170		8160		113000	
Chromium	2.0	U	4.0	U	1.8		2.3	J
Cobalt	3.9	B	11.9	J	6.4		12.2	J
Copper	6.0	U	1.7	U	3.3		9.3	U
Iron	3650		1760		4470		12600	
Lead	1.5	BJ	1.7	U	1.00	U	7	U
Magnesium	6350		2520	J	2980		19100	J
Manganese	498		201		335		1440	J
Nickel	12.1	B	16.0	J	7.2		8.7	J
Potassium	3210	B	1690	J	1600		8380	
Sodium	19600		2560	J	3200		39400	
Thallium	5.0	UJ	4.7	U	3.0		4	U
Vanadium	5.3	BJ	11.9	J	2.4		5.1	U
Zinc	17.0	B	17.5	J	22.2	J	18	JB
MISC INORGANICS								
Bromide (µg Br^-/L)	100.00	U	NR		NR		400.0	J
Sulfate (mg SO_4/L)	91.0	J	NR		NR		264.0	D
VOLATILE ORGANICS (µg/L)								
Methylene Chloride	10	UR	5	J	ND		2	U
1,1-Dichloroethane	10	UR	10	U	10	U	1	
Benzene	1	J	10	U	10	U	1	U
SEMIVOLATILE ORGANICS (µg/L)								
bis(2-Ethylhexyl)phthalate	10	U	0.3	J	10	U	5	U
PESTICIDES/PCB (µg/L)								
alpha-BHC	ND		0.012	JP	NR		NS	

HISTORICAL SUMMARY OF GROUND WATER DETECTIONS
1990-2000
HIMCO DUMP SUPERFUND SITE, ELKHART, IN

	WT118B			
Date sampled	1995		4/28/2000	
TOTAL METALS (µg/L)				
Aluminum	229		118	U
Barium	347		93.4	
Beryllium	0.92	J	2	U
Calcium	306000		193000	
Chromium	14.4		6.7	U
Cobalt	12.9	J	13.2	U
Copper	7.9	J	9.3	U
Iron	8680		5790	
Magnesium	29600		20000	
Manganese	76.9		126	J
Nickel	20.2	J	21	U
Potassium	16300		7800	
Silver	10.9		11.1	U
Sodium	69900	J	18700	
Thallium	8.0	J	4	U
Vanadium	18.8	J	5.1	U
Zinc	6.3	J	34.1	U
MISC INORGANICS				
Bromide (µg Br^-/L)	NR		200	J
Sulfate (mg SO_4/L)	NR		351	D
VOLATILE ORGANICS (µg/L)				
Methylene Chloride	0.9	J	2	U
1,1-Dichloroethane	10	U	2	
SEMIVOLATILE ORGANICS (µg/L)				
bis(2-Ethylhexyl)phthalate	3	J	5	U
PESTICIDES/PCB (µg/L)	ND		NS	

MEMORANDUM

DATE: March 22, 1999

TO: Gwen Massenburg SR-6J

FROM: Greg Herring

REFERENCE: IAG DW96947722-01-5

SUBJECT: Himco Dump Superfund Site, Supplemental Field Investigation/Risk Assessment Analytical Data Package Summary for the Construction Debris Area

Gwen,

Attached is four copies of the Analytical Data for soil, ground water and soil vapor samples collected during the Fall 1998 Supplemental Field Investigation. The Analytical Data Package contains the following:

1. Table 2.1, Occurrence, Distribution and Selection of Chemicals of Potential Concern Himco Dump Superfund Site/Construction Debris Area, **'95 and '98 Combined Shallow Aquifer Data Set for Ground Water**.

2. Table 2.1, Occurrence, Distribution and Selection of Chemicals of Potential Concern Himco Dump Superfund Site/Construction Debris Area, **Surface Soil Data**.

3. Table 2.1, Occurrence, Distribution and Selection of Chemicals of Potential Concern Himco Dump Superfund Site/Construction Debris Area, **Total Soil Data**.

4. Table, Summary of Chemicals Detected in Ground Water, Fall 1998, Himco Dump Superfund Site.

5. Table, Summary of Chemicals Detected in Active Soil Vapor Samples, Fall 1998, Himco Dump Superfund Site.

6. Table, Summary of Chemicals Detected in Soil, Fall 1998, Himco Dump Superfund Site.

7. Figure 2-1, Supplemental Field Investigation/Risk Assessment, Himco Dump Superfund Site Final Soil Boring Sampling Locations (1 full size copy).

8. Figure 2-2, Supplemental Field Investigation/Risk Assessment, Himco Dump Superfund Site Final Monitoring Well Sampling Locations (1 half size copy).

9. Figure 2-3, Supplemental Field Investigation/Risk Assessment, Himco Dump Superfund Site Final Soil Gas Sampling Locations (1 full size copy).

Please call me at (402) 221-7712 if you have questions.

Greg

TABLE 2.1
OCCURRENCE, DISTRIBUTION AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN -DRAFT
Himco Dump Superfund Site/Construction Debris Area, '95 and '98 Combined Shallow Aquifer Data Set for Ground Water

Scenario Timeframe: Current/Future
Medium: Ground Water
Exposure Medium: Ground Water
Exposure Point: Tap Water/Water Vapor

Chemical	(1) Minimum Concentration	Minimum Qualifier	(1) Maximum Concentration	Maximum Qualifier	Units	Location of Maximum Concentration	Detection Frequency	Range of Quantitation Limits	Concentration Used for Screening (max)	(2) Background Value	(3) Screening Toxicity Value	Potential ARAR/TBC Value	Potential ARAR/TBC Source	COPC Flag	(4) Rationale for Contaminant Deletion or Selection
Inorganics															
Aluminum	58	J	393		ug/L	WT116A95	7/9	26.0-200	393	119.4	3700 N	50	SMCL	no	BSL
Anitmony	20.4	J	43.2	J	ug/L	WT119A98	2/9	12.8-42.2	43.2	17.6	1.5 N	6	MCL	yes	ASL
Arsenic	1.0	J	24.3	J	ug/L	WT114A98	6/9	0.90-3.8	24.3	1.2	0.045 C	50	MCL	yes	ASL
Barium	33.5	J	238	J	ug/L	WT114A98	9/9	200?	238	43.1	260 N	2000	MCL	no	BSL
Beryllium	0.4		0.6	J	ug/L	WT114A98	2/9	0.40-0.60	0.6	0.5	7.3 N	4	MCL	no	BKG
Cadmium	1.1		1.7	J	ug/L	WT114A95	3/9	1.1-4.6	1.7	1.5	1.8 N	5	MCL	no	BSL
Calcium	27000	J	546000		ug/L	WT116A95	9/9	5000	546000	93025	800 mg/day			yes	>NUT
Chromium	7.1	J	13.1		ug/L	WT101A98	5/9	4.0-7.0	13.1	13.4	18 N	100	MCL	no	BKG
Cobalt	10.9	J	13.8	J	ug/L	WT114A95	3/9	5.9-7.8	13.8	6	220 N			no	BSL
Copper	1.7		5.4		ug/L	WT119A98	2/9	1.7-4.1	5.4	5.8	140 N	1300	MCL	no	BKG
Iron	1360		28100		ug/L	WT101A98	9/9	11.7-100	28100	39.2	10 mg/day	300	SMCL	yes	>NUT
Lead	3.4	J	3.4	J	ug/L	WT119A98	1/9	0.5-1.7	3.4	0.6	0.4 N	15	MCL	yes	ASL
Magnesium	14700		55400		ug/L	WT116A95	9/9	5000	55400	15425	170 mg/day			no	NUT
Menganese	279		3080		ug/L	WT101A98	9/9	15	3080	25.6	170 N			yes	ASL
Mercury	0.1	J	0.1	J	ug/L	multiple	1/9	0.10-0.20	0.1	0.1	1.1 N	2	MCL	no	BKG
Nickel	9.7	J	23.8	J	ug/L	WT101A95	3/9	28.3	23.8	33.9	73 N	100	MCL	no	BSL

(1) Minimum/maximum detected concentration from '95 and '98 combined ground water data.

(2) The arithmetric mean of upgrodient well-pair WT102A/WT112A based on '95/'98 combined ground water data.
Constituents not detected were replaced by one-half the quantitation limit.

(3) Risk-Based Concentration Table, May 1, 1998, U.S. EPA Region IX, (Cancer benchmark value = 1E-06, HQ=0.1)

(4) Rationale Codes
Selection Reason: Infrequent Detection but Associated Historically (HIST)
Frequent Detection (FD)
Toxicity Information Available (TX)
Above Screening Levels (ASL)
Quantitation Limit is greater than Risk-Besed Concentration (QL>RBC)
Deletion Reason: Infrequent Detection (IFD)
Background Levels (BKG)
No Toxicity Information (NTX)
Essential Nutrient (NUT)
Below Screening Level (BSL)

Definitions:
N/A = Not Applicable
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TABLE 2.1
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Himco Dump Superfund Site/Construction Debris Area, '95 and '98 Combined Shallow Aquifer Data Set for Ground Water

Scenario Timeframe: Current/Future
Medium: Ground Water
Exposure Medium: Ground Water
Exposure Point: Tap Water/Water Vapor

Chemical	(1) Minimum Concentration	Minimum Qualifier	(1) Maximum Concentration	Maximum Qualifier	Units	Location of Maximum Concentration	Detection Frequency	Range of Quantitation Limits	Concentration Used for Screening (Max)	(2) Background Value	(3) Screening Toxicity Value	Potential ARAR/TBC Value	Potential ARAR/TBC Source	COPC Flag	(4) Rationale for Contaminant Deletion or Selection
Potassium	3580	J	38000		ug/L	WT116A95	9/9	5000	38000	1752.5	5850 mg/day			no	NUT
Selenium	6.0	J	6.0	J	ug/L	WT119A98	1/6	3.6-6.0	6.0	2	18 N	50	MCL	no	BSL
Silver	2.5		2.5		ug/L	WT116A95	1/9	2.5-5.3	2.5	7.4	18 N	100	SMCL	no	BKG
Sodium	12100		201000	J	ug/L	WT116A95	9/9	5000	201000	31475	10,000 mg/day			na	NUT
Thallium	5.3	J	6.7	J	ug/L	WT114A95	3/9	0.40-4.7	6.7	2.5	0.29 N	2	MCL	yes	ASL
Vanadium	10.4	J	20.9	J	ug/L	WT101A95	3/9	4.5-12.3	20.9	12.1	26 N			no	BSL
Zinc	1.8	J	45.4		ug/L	WT116A95	8/9	0.90-3.2	45.4	3.8	1100 N	5000	SMCL	no	BSL
Cyanide	7.8		31.9		ug/L	WT116A98	5/9	10.0-10.0	31.9	6.5	73 N			no	BSL
Volatile Organics															
Chloromethane	ND		ND		ug/L		0/9	10.0-10.0	ND	ND	1.5 C			yes	QL>RBC
Bromomethane	ND		ND		ug/L		0/9	10.0-10.0	ND	ND	0.87 N			yes	QL>RBC
Vinyl Chloride	ND		ND		ug/L		0/9	10.0-10.0	ND	ND	2 C	2	MCL	yes	QL>RBC
Methylene Chloride	0.7	J	1.0	J	ug/L	WY115A95	2/9	10.0-10.0	1.0	ND	4.3 C			no	BSL
Carbon Disulfide	0.7	J	0.7	J	ug/L	WT114A95	1/9	10.0-10.0	0.7	ND	100 N			no	BSL
1,1-Dichloroethene	ND		ND		ug/L		0/9	10.0-10.0	ND	ND	0.046 C	7	MCL	yes	QL>RBC
1,1-Dichloroethane	4.0	J	7.0	J	ug/L	WT116A95	5/9	10.0-10.0	7.0	ND	81 N			no	BSL
total 1,2-Dichloroethene	1.0	J	1.0	J	ug/L	WT116A95	1/9	10.0-10.0	1.0	ND	6.1 N	100	MCL	no	BSL

(1) Minimum/maximum detected concentration from '95 and '96 combined ground water data.

(2) The arithmetric mean of upgradient well-pair WT102A/WT112A based on '95/'98 combined ground water data. Constituents not detected were replaced by one-half the quantitation limit.

(3) Risk-Based Concentration Table, May 1, 1998, U.S. EPA Region IX, (Cancer benchmark value = 1E-06, HQ=0.1)

(4) Rationale Codes

Selection Reason:
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- Frequent Detection (FD)
- Toxicity Information Available (TX)
- Above Screening Levels (ASL)
- Quantitation Limit is greater than Risk-Based Concentration (QL>RBC)

Deletion Reason:
- Infraquent Detection (IFD)
- Background Levels (BKG)
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Scenario Timeframe: Current/Future
Medium: Ground Water
Exposure Medium: Ground Water
Exposure Point: Tap Water/Water Vapor

Chemical	Minimum Concentration (1)	Minimum Qualifier	Maximum Concentration (1)	Maximum Qualifier	Units	Location of Maximum Concentration	Detection Frequency	Range of Quantitation Limits	Concentration Used for Screening (Max)	Background Value (2)	Screening Toxicity Value (3)	Potential ARAR/TBC Value	Potential ARAR/TBC Source	COPC Flag	Rationale for Contaminant Deletion or Selection (4)
Chloroform	ND		ND		ug/L		0/9	10.0-10.0	ND	ND	0.16 C	100	MCL	yes	QL>RBC
1,2-Dichloroethane	ND		ND		ug/L		0/9	10.0-10.0	ND	ND	0.12 C	5	MCL	yes	QL>RBC
Carbon Tetrachloride	ND		ND		ug/L		0/9	10.0-10.0	ND	ND	0.17 C	5	MCL	yes	QL>RBC
Bromodichloromethane	ND		ND		ug/L		0/9	10.0-10.0	ND	ND	0.18 C	100	MCL	yes	QL>RBC
1,2-Dichloropropane	4.0	J	4.0	J	ug/L	WT116A95	1/9	10.0-10.0	4.0	ND	0.16 C	5	MCL	yes	ASL
cis-1,3-Dichloropropene	ND		ND		ug/L		0/9	10.0-10.0	ND	ND	0.081 C			yes	QL>RBC
Trichloroethane	0.9	J	0.9	J	ug/L	WT116A95	1/9	10.0-10.0	0.9	ND	1.6 C	5	MCL	no	BSL
Dibromochloromethane	ND		ND		ug/L		0/9	10.0-10.0	ND	ND	1.0 C			yes	QL>RBC
1,1,2-Trichloroethane	ND		ND		ug/L		0/9	10.0-10.0	ND	ND	0.20 C	5	MCL	yes	QL>RBC
Benzene	1.0	J	15		ug/L	WT116A95	3/9	10.0-10.0	15	ND	0.39 C	5	MCL	yes	ASL
trans-1,3-Dichloropropene	ND		ND		ug/L		0/9	10.0-10.0	ND	ND	0.081 C			yes	QL>RBC
Bromoform	ND		ND		ug/L		0/9	10.0-10.0	ND	ND	8.5 C	100	MCL	yes	QL>RBC
Tetrachloroethene	ND		ND		ug/L		0/9	10.0-10.0	ND	ND	1.1 C	5	MCL	yes	QL>RBC
1,1,2,2-Tetrachloroethane	ND		ND		ug/L		0/9	10.0-10.0	ND	ND	0.055 C			yes	QL>RBC
Chlorobenzene	ND		ND		ug/L		0/9	10.0-10.0	ND	ND	3.9 N			yes	QL>RBC
Ethylbenzene	0.7	J	0.7	J	ug/L	WT116A95	1/9	10.0-10.0	0.7	ND	130 N	700	MCL	no	BSL

(1) Minimum/maximum detected concentration from '95 and '98 combined ground water data.

(2) The arithmetic mean of upgredient well-pair WT102A/WT112A based on '95/'98 combined ground water data. Constituents not detected ware replaced by one-half the quantitation limit.

(3) Risk-Based Concentration Table, May 1, 1998, U.S. EPA Region IX, (Cancer benchmark value = 1E-06, HQ=0.1)

(4) Rationale Codes

Selection Reason:
- Infrequent Detection but Associated Historically (HIST)
- Frequent Detection (FD)
- Toxicity Information Available (TX)
- Above Screening Levels (ASL)
- Quantitation Limit is greater than Risk-Based Concentration (QL>RBC)

Deletion Reason:
- Infrequent Detection (IFD)
- Background Levels (BKG)
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Definitions:
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Scenario Timeframe: Current/Future
Medium: Ground Water
Exposure Medium: Ground Water
Exposure Point: Tap Water/Water Vapor

Chemical	(1) Minimum Concentration	Minimum Qualifier	(1) Maximum Concentration	Maximum Qualifier	Units	Location of Maximum Concentration	Detection Frequency	Range of Quantitation Limits	Concentration Used for Screening (max)	(2) Background Value	(3) Screening Toxicity Value	Potential ARAR/TBC Value	Potential ARAR/TBC Source	COPC Flag	(4) Rationale for Contaminant Deletion or Selection
Semivolatile Organics															
bis(2-Chloroethyl)ether	ND		ND		ug/l		0/9	10.0-10.0	ND	ND	0.0098 C			yes	QL>RBC
2-Chlorophenol	ND		ND		ug/l		0/9	10.0-10.0	ND	ND	3.8 N			yes	QL>RBC
1,3-Dichlorobenzene	ND		ND		ug/l		0/9	10.0-10.0	ND	ND	1.7 N	600	MCL	yes	QL>RBC
1,4-Dichlorobenzene	ND		ND		ug/l		0/9	10.0-10.0	ND	ND	0.047 C	600	MCL	yes	QL>RBC
2,2'-Oxybis(1-chloropropane)	ND		ND		ug/l		0/9	10.0-10.0	ND	ND	0.27 C			yes	QL>RBC
N-Nitroso-di-n-propylamine	ND		ND		ug/l		0/9	10.0-10.0	ND	ND	0.0096 C			yes	QL>RBC
Hexachloroethane	ND		ND		ug/l		0/9	10.0-10.0	ND	ND	4.8 C			yes	QL>RBC
Nitrobenzene	ND		ND		ug/l		0/9	10.0-10.0	ND	ND	0.34 N			yes	QL>RBC
2-Nitrophenol	ND		ND		ug/l		0/9	10.0-10.0	ND	ND	none			no	NTX
bis(2-Chloroethoxy)methane	ND		ND		ug/l		0/9	10.0-10.0	ND	ND	none			no	NTX
Naphthalene	0.4	J	0.4	J	ug/l	WT116A95	1/9	10.0-10.0	0.4	ND	0.62 N			no	BSL
Hexachlorobutadiene	ND		ND		ug/l		0/9	10.0-10.0	ND	ND	0.86 C			yes	QL>RBC
4-Chloro-3-methylphenol	ND		ND		ug/l		0/9	10.0-10.0	ND	ND	none			no	NTX
2-Methylnaphthalene	0.5	J	0.5	J	ug/L	WT116A95	1/9	10.0-10.0	0.5	ND	150 N (II*)			no	BSL
2,4,6-Trichlorophenol	ND		ND		ug/L		0/9	10.0-10.0	ND	ND	6.1 C			yes	QL>RBC
2-Nitroaniline	ND		ND		ug/L		0/9	25.0-26.0	ND	ND	0.22 N			yes	QL>RBC

(1) Minimum/maximum detected concentration from '95 and '98 combined ground water date.

(2) The arithmetric mean of upgradient well-pair WT102A/WT112A based on '95/'98 combined ground water data. Constituents not detected were replaced by one-half the quantitation limit.

(3) Risk-Based Concentration Table, May 1, 1998, U.S. EPA Region IX, (Cancer benchmark value = 1E-06, HQ=0.1), or Risk-Based Concentration Table, April 1, 1998, U.S. EPA Region III, (Cancer benchmark value = 1E-06, HQ=0.1)

(4) Rationale Codes

Selection Reason:
- Infrequent Detection but Associated Historically (HIST)
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Deletion Reason:
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Scenario Timeframe: Current/Future
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Chemical	(1) Minimum Concentration	Minimum Qualifier	(1) Maximum Concentration	Maximum Qualifier	Units	Location of Maximum Concentration	Detection Frequency	Range of Quantitation Limits	Concentration Used for Screening (max)	(2) Background Value	(3) Screening Toxicity Value	Potential ARAR/TBC Value	Potential ARAR/TBC Source	COPC Flag	(4) Rationale for Contaminant Deletion or Selection
Dimethylphthalate	7.0	J	7.0	J	ug/L	WT101A98	1/9	10.0-10.0	7.0	ND	37000 N			no	BSL
Acenaphthylene	ND		ND		ug/L		0/9	10.0-10.0	ND	ND	none			no	NTX
2,6-Dinitrotoluene	ND		ND		ug/L		0/9	10.0-10.0	ND	ND	3.7 C			yes	QL>RBC
3-Nitroaniline	ND		ND		ug/L		0/9	25.0-26.0	ND	ND	none			no	NTX
Acenaphthene	3.0	J	3.0	J	ug/L	WT116A95	1/9	10.0-10.0	3.0	ND	37 N			no	BSL
2,4-Dinitrophenol	ND		ND		ug/L		0/9	25.0-26.0	ND	ND	7.3 N			yes	QL>RBC
Dibenzofuran	2.0	J	2.0	J	ug/L	WT116A95	1/9	10.0-10.0	2.0	ND	2.4 N			no	BSL
2,4-Dinitrotoluene	ND		ND		ug/L		0/9	10.0-10.0	ND	ND	7.3 N			yes	QL>RBC
Diethylphthalate	0.2	J	19	J	ug/L	WT101A98	4/9	10.0-10.0	19	3.9	29000 N			no	BSL
4-Chlorophenyl-phenylether	ND		ND		ug/L		0/9	10.0-10.0	ND	ND	none			no	NTX
Fluorene	3.0	J	3.0	J	ug/L	WT116A95	1/9	10.0-10.0	3.0	ND	24 N			no	BSL
4-Nitroaniline	ND		ND		ug/L		0/9	25.0-26.0	ND	ND	none			no	NTX
4,6-Dinitro-2-methylphenyl	ND		ND		ug/L		0/9	25.0-26.0	ND	ND	0.37 N (III*)			yes	QL>RBC
4-Bromophenyl-phenylether	ND		ND		ug/L		0/9	10.0-10.0	ND	ND	none			no	NTX
Hexachlorobenzene	ND		ND		ug/L		0/9	10.0-10.0	ND	ND	0.042 C			yes	QL>RBC
Pentachlorophenol	ND		ND		ug/L		0/9	25.0-26.0	ND	ND	0.56 C	1	MCL	yes	QL>RBC
Phenanthrene	0.2	J	0.2	J	ug/L	WT116A95	1/9	10.0-10.0	0.2	ND	none	1	MCL	no	NTX

(1) Minimum/maximum detected concentration from '95 and '98 combined ground water data.

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Chemical	(1) Minimum Concentration	Minimum Qualifier	(1) Maximum Concentration	Maximum Qualifier	Units	Location of Maximum Concentration	Detection Frequency	Range of Quantitation Limits	Concentration Used for Screening (max)	(2) Background Value	(3) Screening Toxicity Value	Potential ARAR/TBC Value	Potential ARAR/TBC Source	COPC Flag	(4) Rationale for Contaminant Deletion or Selection
Anthracene	0.3	J	0.3	J	ug/L	WT116A95	1/9	10.0-10.0	0.3	ND	180 C			no	BSL
Carbazole	6.0	J	6.0	J	ug/L	WT116A95	1/9	10.0-10.0	6.0	ND	3.4 C			yes	ASL
3-3'-Dichlorobenzidine	ND		ND		ug/L		0/9	10.0-10.0	ND	ND	0.15 C			yes	QL>RBC
Benzo(a)anthracene	ND		ND		ug/L		0/9	10.0-10.0	ND	ND	0.092 C			yes	QL>RBC
Chrysene	ND		ND		ug/L		0/9	10.0-10.0	ND	ND	9.2 C			yes	QL>RBC
bis(2-Ethylhexyl)phthalate	0.4	J	15	J	ug/L	WT116A95	5/9	10.0-10.0	15	2.3	4.8 C			yes	ASL
Benzo(b)fluoranthene	ND		ND		ug/L		0/9	10.0-10.0	ND	ND	0.092 C			yes	QL>RBC
Benzo(k)fluoranthene	ND		ND		ug/L		0/9	10.0-10.0	ND	ND	0.92			yes	QL>RBC
Benzo(a)pyrene	ND		ND		ug/L		0/9	10.0-10.0	ND	ND	0.0092 C	0.2	MCL	yes	QL>RBC
Indeno(1,2,3-cd)pyrene	ND		ND		ug/L		0/9	10.0-10.0	ND	ND	0.092 C			yes	QL>RBC
Dibenz(a,h)anthracene	ND		ND		ug/L		0/9	10.0-10.0	ND	ND	0.0092 C			yes	QL>RBC
Benzo(g,h,i)perylene	ND		ND		ug/L		0/9	10.0-10.0	ND	ND	none			no	NTX

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TABLE 2.1
OCCURRENCE, DISTRIBUTION ANO SELECTION OF CHEMICALS OF POTENTIAL CONCERN -DRAFT
Himco Dump Superfund Site/Construction Debris Area, Surface Soil Data

Scenario Timeframe: Current/Future
Medium: Surface Soil
Exposure Medium: Surface Soil
Exposure Point: Ingestion/Dermal Contact

Chemical	(1) Minimum Concentration	Minimum Qualifier	(1) Maximum Concentration	Maximum Qualifier	Units	Location of Maximum Concentration	Detection Frequency	Range of Quantitation Limits	Concentration Used for Screening (max)	(2) Background Value	(3) Screening Toxicity Value	Potential ARAR/TBC Value	Potential ARAR/TBC Source	COPC Flag	(4) Rationale for Contaminant Deletion or Selection
Inorganics															
Aluminum	2260		5670		mg/kg	SB10-0.5	18/18	10.0	5670	3920	7500 N			no	BSL
Anitmony	13.1	J	13.1	J	mg/kg	SB07-0.5	1/18	8.7-11.2	13	ND	3 N			yes	ASL
Arsenic	0.83	J	12.5	J	mg/kg	SB11-0.5	18/18	10.0	12.5	1.1	0.038 C			yes	ASL
Barium	13		172		mg/kg	SB20-0.5	18/18	1	172	35.5	520 N			no	BSL
Beryllium	0.10	J	0.6	J	mg/kg	SB15-0.5	9/18	0.10-0.20	0.6	0.27	15 N			no	BSL
Cadmium	1.0		1.2		mg/kg	multiple	7/18	0.90-1.0	1.2	ND	3.7 N			no	BSL
Calcium	710	J	69200	J	mg/kg	SB20-0.5	18/18	20	69200	386	800mg/day			no	NUT
Chromium	4.8		25.1		mg/kg	SB20-0.5	18/18	10	25.1	4.5	210 C			no	BSL
Cobalt	2.8	J	5.1	J	mg/kg	SB15-0.5	15/18	20	5.1	3.3	330 N			no	BSL
Copper	3.8	J	2,110		mg/kg	SB14-0.5	18/18	25	2,110	3.8	280 N			yes	ASL
Iron	3450		26000		mg/kg	SB15-0.5	18/18	10	26000	4690	10mg/day			no	NUT
Lead	5.2		695	J	mg/kg	SB15-0.5	18/18	0.5	695	7	400			yes	ASL
Magnesium	697	J	9940	J	mg/kg	SB20-0.5	18/18	20	9940	440	170mg/day			no	NUT
Manganese	58.7		592		mg/kg	SB20-0.5	18/18	1	592	70	310 N			yes	ASL
Mercury	0.05	J	27.9		mg/kg	SB20-0.5	12/18	0.05-0.06	27.9	NO	2.2 N			yes	ASL
Nickel	6.0		21	J	mg/kg	SB15-0.5	11/18	5.9-16.5	21	6.5	150 N			no	BSL

(1) Minimum/maximum detected concentration from '98 Construction Debris Area surface soil (0-0.5') data.
(2) The minimum detected concentration from '92 Himco Dump RI/FS background surface soil (0-2') data.
(3) Risk-Based Concentration Table, May 1, 1998, U.S. EPA Region IX, (Cancer benchmark value = 1E-06, HQ=0.1)
(4) Rationale Codes
Selection Reason: Infrequent Detection but Associated Historically (HIST)
Frequent Detection (FD)
Toxicity Information Available (TX)
Above Screening Levels (ASL)
Quantitation Limit is greater than Risk-Based Concentration (QL>RBC)
Deletion Reason: Infrequent Detection (IFO)
Background Levels (BKG)
No Toxicity Information (NTX)
Essential Nutrient (NUT)
Below Screening Level (BSL)

Definitions:
N/A = Not Applicable
SQL = Sample Quantitation Limit
COPC = Chemical of Potential Concern
ARAR/TBC = Applicable or Relevant and Appropriate Requirement/To Be Considered
NO = Not Detected
MCL = Federal Maximum Contaminant Level
SMCL = Secondary Maximum Contaminant Level
J = Estimated Value
C = Carcinogenic
N = Non-Carcinogenic
RBC = Risk-Based Concentration

TABLE 2.1
OCCURRENCE, DISTRIBUTION AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN -DRAFT
Himco Dump Superfund Site/Construction Debris Area, Surface Soil Data

Scenario Timeframe: Current/Future
Medium: Surface Soil
Exposure Medium: Surface Soil
Exposure Point: Ingestion/Dermal Contact

Chemical	(1) Minimum Concentration	Minimum Qualifier	(1) Maximum Concentration	Maximum Qualifier	Units	Location of Maximum Concentration	Detection Frequency	Range of Quantitation Limits	Concentration Used for Screening (Max)	(2) Background Value	(3) Screening Toxicity Value	Potential ARAR/TBC Value	Potential ARAR/TBC Source	COPC Flag	(4) Rationale for Contaminant Deletion or Selection
Potassium	210		539	J	mg/kg	SB18-0.5	13/18	125-192	539	115	5850mg/day			no	NUT
Selenium	0.6		1.0	J	mg/kg	SB19-0.5	5/18	010-0.12	1	0.25	37 N			no	BSL
Silver	1.9		1.9		mg/kg	SB20-0.5	1/18	0.90-1.2	1.9	ND	37 N			no	BSL
Sodium	20.4	J	127		mg/kg	SB11-0.5	18/18	500	127	ND	10000mg/day			no	NUT
Thallium	0.1		0.1		mg/kg	multiple	3/18	0.09-0.40	0.1	ND	0.6 N			no	BSL
Vanadium	6.5	J	12.8		mg/kg	SB20-0.5	18/18	1.0	12.8	10.4	52 N			no	BSL
Zinc	15.5		427		mg/kg	SB15-0.5	18/18	2.0	427	8.4	2200 N			no	BSL
Cyanide	0.05	J	4.2		mg/kg	SB10-0.5	17/18	0.1	4.2	ND	27 N			no	BSL
Volatile Organics															
Methylene Chloride	0.034		0.034		mg/kg	SB03-0.5	1/18	10.0-20.0	0.034		8.5 C			no	BSL
Acetone	0.002	J	0.003	J	mg/kg	SB17-0.5	4/18	10.0-11.0	0.003		140 N			no	BSL
Semivolatile Organics															
bis(2-Chloroethyl)ether	ND		ND		mg/kg		0/18	0.340-0.370	ND		0.18 C			yes	QL>RBC
bis(2-Chloroethoxy)methan	ND		ND		mg/kg		0/18	0.350-0.400	ND		none			no	NTX
4-Chloro-3-methylphenol	ND		ND		mg/kg		0/18	0.350-0.400	ND		none			no	NTX
2-Nitroaniline	ND		ND		mg/kg		0/18	0.880-1.0	ND		0.33 N			yes	QL>RBC
Acenaphthylene	0.096	J	0.096	J	mg/kg	SB19-0.5	1/18	0.350-0.400	0.096		none			no	NTX

(1) Minimum/maximum detected concentration from '98 Construction Debris Area surface soil (0-0.5') data.
(2) The minimum detected concentration from '92 Himco Dump RI/FS background surface soil (0-2') data.
(3) Risk-Based Concentration Table, May 1, 1998, U.S. EPA Region IX, (Cancer benchmark value = 1E-06, HQ=0.1)
(4) Rationale Codes

Selection Reason:
- Infrequent Detection but Associated Historically (HIST)
- Frequent Detection (FD)
- Toxicity Information Available (TX)
- Above Screening Levels (ASL)
- Quantitation Limit is greater than Risk-Based Concentration (QL>RBC)

Deletion Reason:
- Infrequent Detection (IFD)
- Background Levels (BKG)
- No Toxicity Information (NTX)
- Essential Nutrient (NUT)
- Below Screening Level (BSL)

Definitions:
- N/A = Not Applicable
- SQL = Sample Quantitation Limit
- CDPC = Chemical of Potential Concern
- ARAR/TBC = Applicable or Relevant and Appropriate Requirement/To Be Considered
- ND = Not Detected
- MCL = Federal Maximum Contaminant Level
- SMCL = Secondary Maximum Contaminant Level
- J = Estimated Value
- C = Carcinogenic
- N = Non-Carcinogenic
- RBC = Risk-Based Concentration

TABLE 2.1
OCCURRENCE, DISTRIBUTION AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN -DRAFT
Himco Dump Superfund Site/Construction Debris Area, Surface Soil Data

Scenario Timeframe: Current/Future
Medium: Surface Soil
Exposure Medium: Surface Soil
Exposure Point: Ingestion/Dermal Contact

Chemical	(1) Minimum Concentration	Minimum Qualifier	(1) Maximum Concentration	Maximum Qualifier	Units	Location of Maximum Concentration	Detection Frequency	Range of Quantitation Limits	Concentration Used for Screening (max)	(2) Background Value	(3) Screening Toxicity Value	Potential ARAR/TBC Value	Potential ARAR/TBC Source	COPC Flag	(4) Rationale for Contaminant Deletion or Selection
3-Nitroaniline	ND		ND		mg/kg		0/18	0.880-1.0	ND		none			no	NTX
Acenaphthene	0.073	J	0.180	J	mg/kg	SB20-0.5	2/18	0.350-0.400	0.180		260 N			no	BSL
4-Chlorophenyl-phenylether	ND		ND		mg/kg		0/18	0.350-0.400	ND		none			no	NTX
4-Nitroaniline	ND		ND		mg/kg		0/18	0.880-1.0	ND		none			no	NTX
4,6-Dinitro-2-methylphenyl	ND		ND		mg/kg		0/18	0.880-1.0	ND		0.78 N			yes	QL>RBC
4-Bromophenyl-phenylether	ND		ND		mg/kg		0/18	0.350-0.400	ND		none			no	NTX
Hexachlorobenzene	ND		ND		mg/kg		0/18	0.350-0.400	ND		0.28 C			yes	QL>RBC
Phenanthrene	0.037	J	0.460		mg/kg	SB20-0.5	8/18	0.350-0.400	0.460		none			no	NTX
Anthracene	0.059	J	0.110	J	mg/kg	SB20-0.5	5/18	0.350-0.400	0.110		1400 C			no	BSL
Carbazole	0.037	J	0.064		mg/kg	SB17-0.5	4/18	0.350-0.400	0.064		22C			no	BSL
Di-n-butylphthalate	0.095	J	0.095	J	mg/kg	SB19-0.5	1/18	0.350-0.400	0.095		550 N			no	BSL
Fluoranthene	0.059	J	1.2		mg/kg	SB20-0.5	10/18	0.350-0.400	1.2		200 N			no	BSL
Pyrene	0.064	J	1.2		mg/kg	SB20-0.5	10/18	0.350-0.400	1.2		15 N			no	BSL
Butylbenzylphthalate	0.054	J	0.054	J	mg/kg	SB14-0.5	1/18	0.350-0.400	0.054		930 Sat			no	BSL
Benzo(a)anthracene	0.039	J	0.780		mg/kg	SB20-0.5	9/18	0.270-0.350	0.780		0.56 C			yes	ASL
Chrysene	0.047	J	0.880		mg/kg	SB20-0.5	9/18	0.270-0.350	0.880		56 C			no	BSL

(1) Minimum/maximum detected concentration from '98 Construction Debris Area surface soil (0-0.5') data.
(2) The minimum detected concentration from '92 Himco Dump RI/FS background surface soil (0-2') data.
(3) Risk-Based Concentration Table, May 1, 1998, U.S. EPA Region IX, (Cancer benchmark value = 1E-06, HQ=0.1),
(4) Rationale Codes

Selection Reason:
- Infrequent Detection but Associated Historically (HIST)
- Frequent Detection (FD)
- Toxicity Information Available (TX)
- Above Screening Levels (ASL)
- Quantitation Limit is greater than Risk-Based Concentration (QL>RBC)

Deletion Reason:
- Infrequent Detection (IFD)
- Background Levels (BKG)
- No Toxicity Information (NTX)
- Essential Nutrient (NUT)
- Below Screening Level (BSL)

Definitions:
- N/A = Not Applicable
- SQL = Sample Quantitation Limit
- COPC = Chemical of Potential Concern
- ARAR/TBC = Applicable or Relevant and Appropriate Requirement/To Be Considered
- ND = Not Detected
- MCL = Federal Maximum Contaminant Level
- SMCL = Secondary Maximum Contaminant Level
- J = Estimated Value
- C = Carcinoganic
- N = Non-Carcinogenic
- Sat = Soil Saturation
- RBC = Risk-Based Concentration

TABLE 2.1
OCCURRENCE, DISTRIBUTION AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN -DRAFT
Himco Dump Superfund Site/Construction Debris Area, Surface Soil Data

Scenario Timeframe: Current/Future
Medium: Surface Soil
Exposure Medium: Surface Soil
Exposure Point: Ingestion/Dermal Contact

Chemical	Minimum Concentration (1)	Minimum Qualifier	Maximum Concentration (1)	Maximum Qualifier	Units	Location of Maximum Concentration	Detection Frequency	Range of Quantitation Limits	Concentration Used for Screening (max)	Background Value (2)	Screening Toxicity Value (3)	Potential ARAR/TBC Value	Potential ARAR/TBC Source	COPC Flag	Rationale for Contaminant Deletion or Selection (4)
bis(2-Ethylhexyl)phthalate	0.042	J	0.690	J	mg/kg	SB07-0.5	12/18	0.370	0.690		32 C			no	BSL
Di-n-octylphthalate	0.070	J	0.120	J	mg/kg	SB20-0.5	2/18	0.350-0.400	0.120		110 N			no	BSL
Benzo(b)fluoranthene	0.044	J	1.6		mg/kg	SB15-0.5	10/18	0.350-0.400	1.6		0.056 C			yes	ASL
Benzo(k)fluoranthene	0.050	J	1.2		mg/kg	SB20-0.5	7/18	0.350-0.400	1.2		5.6 C			no	BSL
Benzo(a)pyrene	0.053	J	1.3		mg/kg	SB20-0.5	10/18	0.350-0.400	1.3		0.056 C			yes	ASL
Indeno(1,2,3-cd)pyrene	0.041	J	1.2		mg/kg	multiple	10/18	0.350-0.400	1.2		0.56 C			yes	ASL
Dibenz(a,h)anthracene	0.058	J	0.450		mg/kg	SB20-0.5	6/18	0.350-0.400	0.450		0.056 C			yes	ASL
Benzo(g,h,I)perylene	0.039	J	1.5		mg/kg	SB15-0.5	12/18	0.350-0.400	1.5		none			no	NTX

(1) Minimum/maximum detected concentration from '98 Construction Debris Area surface soil (0-0.5') data.
(2) The minimum detected concentration from '92 Himco Dump RI/FS background surface soil (0-2') data.
(3) Risk-Based Concentration Table, May 1, 1998, U.S. EPA Region IX, (Cancer benchmark value = 1E-06, HQ=0.1)
(4) Rationale Codes

Selection Reason:
- Infrequent Detection but Associated Historically (HIST)
- Frequent Detection (FD)
- Toxicity Information Available (TX)
- Above Screening Levels (ASL)
- Quantitation Limit is greater than Risk-Based Concentration (QL>RBC)

Deletion Reason:
- Infrequent Detection (iFD)
- Background Levels (BKG)
- No Toxicity Information (NTX)
- Essential Nutrient (NUT)
- Below Screening Level (BSL)

Definitions:
- N/A = Not Applicable
- SQL = Sample Quantitation Limit
- COPC = Chemical of Potential Concern
- ARAR/TBC = Applicable or Relevant and Appropriate Requirement/To Be Considered
- ND = Not Detected
- MCL = Federal Maximum Contaminant Level
- SMCL = Secondary Maximum Contaminant Level
- J = Estimated Value
- C = Carcinogenic
- N = Non-Carcinogenic
- RBC = Risk-Based Concentration

TABLE 2.1
OCCURRENCE, DISTRIBUTION AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN -DRAFT
Himco Dump Superfund Site/Construction Debris Area, Total Soil Data

Scenario Timeframe: Current/Future
Medium: Total Soil
Exposure Medium: Soil/Dust-Volatilization
Exposure Point: Ingestion/Dermal Contact/Inhalation

Chemical	(1) Minimum Concentration	Minimum Qualifier	(1) Maximum Concentration	Maximum Qualifier	Units	Location of Maximum Concentration	Detection Frequency	Range of Quantitation Limits	Concentration Used for Screening (max)	(2) Background Value	(3) Screening Toxicity Value	Potential ARAR/TBC Value	Potential ARAR/TBC Source	COPC Flag	(4) Rationale for Contaminant Deletion or Selection
Inorganics															
Aluminum	1360		8860		mg/kg	SB16-6	47/47	10.0	8860	3920	7500 N			yes	ASL
Anitmony	4.3		13.1	J	mg/kg	SB07-0.5	2/47	8.6-13.8	13.1	ND	3 N			yes	ASL
Arsenic	0.55	J	12.5	J	mg/kg	SB11-0.5	47/47	0.5	12.5	1.1	0.038 C			yes	ASL
Barium	7.8		444		mg/kg	SB19-2	47/47	1	444	35.5	520 N			no	BSL
Beryllium	0.10	J	0.9	J	mg/kg	SB16-6	23/47	0.10-0.70	0.9	0.27	15 N			no	BSL
Cadmium	1		2		mg/kg	SB15-6	14/47	0.90-1.2	2	ND	3.7 N			no	BSL
Calcium	361	J	85900	J	mg/kg	SB16-6	47/47	20	85900	386	800mg/day			no	NUT
Chromium	3.3		25.1		mg/kg	SB20-0.5	47/47	1	25.1	4.5	210 C			no	BSL
Cobalt	1.9	J	10.8		mg/kg	SB15-6	40/47	1.7-3.4	10.8	3.3	330 N			no	BSL
Copper	3.1	J	2,220		mg/kg	SB15-6	47/47	2	2,220	3.8	280 N			yes	ASL
Iron	1330		26000		mg/kg	SB15-0.5	47/47	10	26000	4690	10mg/day			no	NUT
Lead	5.2		695	J	mg/kg	SB15-0.5	47/47	0.5	695	7	400			yes	ASL
Magnesium	333	J	22600		mg/kg	SB15-6	47/47	20	22600	440	170mg/day			no	NUT
Manganese	14.8		1410		mg/kg	SB15-6	47/47	1	1410	70	310 N			yes	ASL
Mercury	0.05	J	27.9		mg/kg	SB20-0.5	28/47	0.05-0.06	27.9	ND	2.2 N			yes	ASL
Nickel	6		298		mg/kg	SB15-6	28/47	5.8-16.5	298	6.5	150 N			yes	ASL

(1) Minimum/maximum detected concentration from '98 Construction Debris Area soil data (all depths).
(2) The minimum detected concentration from '92 Himco Dump RI/FS background surface soil (0-2') data.
(3) Risk-Based Concentration Table, May 1, 1998, U.S. EPA Region IX, (Cancer benchmark value = 1E-06, HQ=0.1)
(4) Rationale Codes
Selection Reason: Infrequent Detection but Associated Historically (HIST)
Frequent Detection (FD)
Toxicity Information Available (TX)
Above Screening Levels (ASL)
Quantitation Limit is greater than Risk-Based Concentration (QL>RBC)
Deletion Reason: Infrequent Detection (IFD)
Background Levels (BKG)
No Toxicity Information (NTX)
Essential Nutrient (NUT)
Below Screening Level (BSL)

Definitions:
N/A = Not Applicable
SQL = Sample Quantitation Limit
COPC = Chemical of Potential Concern
ARAR/TBC = Applicable or Relevant and Appropriate Requirement/To Be Considered
ND = Not Detected
MCL = Federal Maximum Contaminant Level
SMCL = Secondary Maximum Contaminant Level
J = Estimated Value
C = Carcinogenic
N = Non-Carcinogenic
RBC = Risk-Based Concentration

TABLE 2.1
OCCURRENCE, DISTRIBUTION AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN -DRAFT
Himco Dump Superfund Site/Construction Debris Area, Total Soil Data

Scenario Timeframe: Current/Future
Medium: Total Soil
Exposure Medium: Soil/Dust-Volatilization
Exposure Point: Ingestion/Dermal Contact/Inhalation

Chemical	(1) Minimum Concentration	Minimum Qualifier	(1) Maximum Concentration	Maximum Qualifier	Units	Location of Maximum Concentration	Detection Frequency	Range of Quantitation Limits	Concentration Used for Screening (Max)	(2) Background Value	(3) Screening Toxicity Value	Potential ARAR/TBC Value	Potential ARAR/TBC Source	COPC Flag	(4) Rationale for Contaminant Deletion or Selection
Potassium	210	J	586	J	mg/kg	SB19-6	35/47	125-198	586	115	5850mg/day			no	NUT
Selenium	0.6	J	1.6	J	mg/kg	SB19-2	12/47	0.10-0.60	1.6	0.25	37 N			no	BSL
Silver	1		3.1		mg/kg	SB20-2	5/47	0.80-1.40	3.1	ND	37 N			no	BSL
Sodium	20.4	J	525		mg/kg	SB04-2	46/47	16.8	525	ND	10000mg/day			no	BSL
Thallium	0.1	J	0.5		mg/kg	SB16-2	5/47	0.08-0.40	0.5	ND	0.6 N			no	BSL
Vanadium	3.7	J	18		mg/kg	SB18-2	47/47	1	18	10.4	52 N			no	BSL
Zinc	10		1120		mg/kg	SB15-6	47/47	2	1120	8.4	2200 N			no	BSL
Cyanide	0.05	J	4.9		mg/kg	SB10-2	42/47	0.10-0.11	4.9	ND	27 N			no	BSL
Volatile Organics															
Methylene Chloride	0.034		0.075		mg/kg	SB19-2	3/47	0.010-0.024	0.075		8.5 C			no	BSL
Acetone	0.002	J	0.022		mg/kg	SB15-2	10/47	0.010-0.013	0.022		140 N			no	BSL
Carbon Disulfide	0.002	J	0.002	J	mg/kg	SB16-6	1/47	0.010-0.015	0.002		35 N			no	BSL
1,1-Dichloroethane	0.002	J	0.002	J	mg/kg	SB16-6	1/47	0.010-0.015	0.002		57 N			no	BSL
Benzene	0.004	J	0.004	J	mg/kg	SB16-6	1/47	0.010-0.015	0.004		0.62 C			no	BSL
Ethylbenzene	0.014		0.014		mg/kg	SB16-6	1/46	0.010-0.015	0.014		230 Sat			no	BSL
Xylene	0.009	J	0.009	J	mg/kg	SB16-6	1/46	0.010-0.015	0.009		210 Sat			no	BSL

(1) Minimum/maximum detected concentration from '98 Construction Debris Area soil data (all depths).
(2) The minimum detected concentration from '92 Himco Dump RI/FS background surface soil (0-2') data.
(3) Risk-Based Concentration Table, May 1, 1998, U.S. EPA Region IX, (Cancer benchmark value = 1E-06, HQ=0.1)
(4) Rationale Codes

Selection Reason:
- Infrequent Detection but Associated Historically (HIST)
- Frequent Detection (FD)
- Toxicity Information Available (TX)
- Above Screening Levels (ASL)
- Quanitation Limit is greater than Risk-Based Concentration (QL>RBC)

Deletion Reason:
- Infrequent Detection (IFD)
- Background Levels (BKG)
- No Toxicity Information (NTX)
- Essential Nutrient (NUT)
- Below Screening Level (BSL)

Definitions:
- N/A = Not Applicable
- SQL = Sample Quantitation Limit
- COPC = Chemical of Potential Concern
- ARAR/TBC = Applicable or Relevant and Appropriate Requirement/To Be Considered
- ND = Not Detected
- MCL = Federal Maximum Contaminant Level
- SMCL = Secondary Maximum Contaminant Level
- J = Estimated Value
- C = Carcinogenic
- N = Non-Carcinogenic
- Sat = Soil Saturation
- RBC = Risk-Based Concentration

TABLE 2.1
OCCURRENCE, DISTRIBUTIDN AND SELECTIDN DF CHEMICALS DF POTENTIAL CONCERN -DRAFT
Himco Dump Superfund Site/Construction Debris Area, Total Soil Data

Scenario Timeframe: Current/Future
Medium: Total Soil
Exposure Medium: Soil/Dust-Volatilization
Exposure Point: Ingestion/Dermal Contact/Inhalation

Chemical	(1) Minimum Concentration	Minimum Qualifier	(1) Maximum Concentration	Maximum Qualifier	Units	Location of Maximum Concentration	Detection Frequency	Range of Quantitation Limits	Concentration Used for Screening (max)	(2) Background Value	(3) Screening Toxicity Value	Potential ARAR/TBC Value	Potential ARAR/TBC Source	COPC Flag	(4) Rationale for Contaminant Deletion or Selection
Semivolatile Organics															
bis(2-Chloroethyl)ether	ND		ND		mg/kg		0/47	0.330-0.690	ND		0.18 C			yes	QL>RBC
1,2-Dichlorobenzene	0.098	J	0.098	J	mg/kg	SB16-6	1/47	0.330-0.690	0.098		370 Sat			no	BSL
4-Methylphenol	0.050	J	0.050	J	mg/kg	SB20-2	1/47	0.330-0.690	0.050		39 N(III*)			no	BSL
N-Nitroso-di-n-propylamine	ND		ND		mg/kg		0/47	0.330-0.690	ND		0.063 C			yes	QL>RBC
2-Nitrophenol	ND		ND		mg/kg		0/47	0.330-0.870	ND		none			no	NTX
bis(2-Chloroethoxy)methane	ND		ND		mg/kg		0/47	0.330-0.690	ND		none			no	NTX
Naphthalene	0.038	J	2.2		mg/kg	SB20-6	6/47	0.330-0.690	2.2		5.5 N			no	BSL
4-Chloro-3-methylphenol	ND		ND		mg/kg		0/47	0.330-0.690	ND		none			no	NTX
2-Methylnaphthalene	0.048	J	1.0		mg/kg	SB20-6	3/47	0.330-0.690	1.0		310 N(III*)			no	BSL
2-Nitroaniline	ND		ND		mg/kg		0/47	0.340-1.7	ND		0.33 N			yes	QL>RBC
Acenaphthylene	0.067	J	2.3		mg/kg	SB20-6	6/47	0.330-0.690	2.3		none			no	NTX
3-Nitroaniline	ND		ND		mg/kg		0/47	0.390-1.7	ND		none			no	NTX
Acenaphthene	0.037	J	0.890		mg/kg	SB20-6	6/47	0.330-0.690	0.890		260 N			no	BSL
Dibenzofuran	0.078	J	1.5		mg/kg	SB20-6	3/47	0.330-0.690	1.5		21 N			no	BSL

(1) Minimum/maximum detected concentration from '98 Construction Debris Area soil data (all depths).
(2) The minimum detected concentration from '92 Himco Dump RI/FS background surface soil (0-2') data.
(3) Risk-Based Concentration Table, May 1, 1998, U.S. EPA Region IX, (Cancer benchmark value = 1E-06, HQ=0.1),
or Risk-Based Concentration Table, April 1, 1998, U.S. EPA Region III, (Cancer benchmark value = 1E-06, HQ=0.1)
(4) Rationale Codes

Selection Reason:
- Infrequent Detection but Associated Historically (HIST)
- Frequent Detection (FD)
- Toxicity Information Available (TX)
- Above Screening Levels (ASL)
- Quanitation Limit is greater than Risk-Based Concentration (QL>RBC)

Deletion Reason:
- Infrequent Detection (IFD)
- Background Levels (BKG)
- No Toxicity Information (NTX)
- Essential Nutrient (NUT)
- Below Screening Level (BSL)

Definitions:
- N/A = Not Applicable
- SQL = Sample Quantitation Limit
- CDPC = Chemical of Potential Concern
- ARAR/TBC = Applicable or Relevant and Appropriate Requirement/To Be Considered
- ND = Not Detected
- MCL = Federal Maximum Contaminant Level
- SMCL = Secondary Maximum Contaminant Level
- J = Estimated Value
- C = Carcinogenic
- N = Non-Carcinogenic
- Sat = Soil Saturation
- RBC = Risk-Based Concentration

TABLE 2.1
OCCURRENCE, DISTRIBUTION AND SELECTION DF CHEMICALS OF POTENTIAL CONCERN -DRAFT
Himco Dump Superfund Site/Construction Debris Area, Total Soil Data

Scenario Timeframe: Current/Future
Medium: Total Soil
Exposure Medium: Soil/Dust-Volatilization
Exposure Point: Ingestion/Dermal Contact/Inhalation

Chemical	(1) Minimum Concentration	Minimum Qualifier	(1) Maximum Concentration	Maximum Qualifier	Units	Location of Maximum Concentration	Detection Frequency	Range of Quantitation Limits	Concentration Used for Screening (max)	(2) Background Value	(3) Screening Toxicity Value	Potential ARAR/TBC Value	Potential ARAR/TBC Source	COPC Flag	(4) Rationale for Contaminant Deletion or Selection
Diethylphthalate	0.064	J	0.064	J	mg/kg	SB-16-6	1/47	0.330-0.690	0.064		4400 N			no	BSL
4-Chlorophenyl-phenylether	ND		ND		mg/kg		0/47	0.330-0.690	ND		none			no	NTX
Fluorene	0.044	J	2.5		mg/kg	SB20-6	5/47	0.330-0.690	2.5		180 N			no	BSL
4-Nitroaniline	ND		ND		mg/kg		0/47	0.830-1.7	ND		none			no	NTX
4,6-Dinitro-2-methylphenyl	ND		ND		mg/kg		0/47	0.830-1.7	ND		0.78 N			yes	QL>RBC
4-Bromophenyl-phenylether	ND		ND		mg/kg		0/47	0.330-0.690	ND		none			no	NTX
Hexachlorobenzene	ND		ND		mg/kg		0/47	0.330-0.690	ND		0.28 C			yes	QL>RBC
Phenanthrene	0.037	J	18.0		mg/kg	SB20-6	21/47	0.340-0.690	18.0		none			no	NTX
Anthracene	0.041	J	4.9	J	mg/kg	SB20-6	13/47	0.340-0.690	4.9		1400 C			no	BSL
Carbazole	0.037	J	1.5		mg/kg	SB20-6	9/47	0.330-0.690	1.5		22 C			no	BSL
Di-n-butylphthalate	0.037	J	0.095	J	mg/kg	SB19-0.5	2/47	0.330-0.690	0.095		550 N			no	BSL
Fluoranthene	0.043	J	29.0		mg/kg	SB20-6	26/47	0.350-0.690	29.0		200 N			no	BSL
Pyrene	0.040	J	21.0		mg/kg	SB20-6	26/47	0.340-0.690	21.0		15 N			yes	ASL
Butylbenzylphthalate	0.054	J	0.06	J	mg/kg	SB16-6	8/47	0.330-0.690	0.06		930 Sat			no	BSL
Benzo(a)anthracene	0.039	J	9.7		mg/kg	SB20-6	23/47	0.340-0.690	9.7		0.56 C			yes	ASL
Chrysene	0.047	J	9.7		mg/kg	SB20-6	23/47	0.340-0.690	9.7		56 C			no	BSL

(1) Minimum/maximum detected concentration from '98 Construction Debris Area soil data (all depths).
(2) The minimum detected concentration from '92 Himco Dump RI/FS background surface soil (0-2') data.
(3) Risk-Based Concentration Table; May 1, 1998, U.S. EPA Region IX, (Cancer benchmark value = 1E-06, HQ=0.1)
(4) Rationale Codes
Selection Reason: Infrequent Detection but Associated Historically (HIST)
Frequent Detection (FD)
Toxicity Information Available (TX)
Above Screening Levels (ASL)
Quanitation Limit is greater than Risk-Based Concentration (QL>RBC)
Deletion Reason: Infrequent Detection (IFD)
Background Levels (BKG)
No Toxicity Informetion (NTX)
Essential Nutrient (NUT)
Below Screening Level (BSL)

Definitions:
N/A = Not Applicable
SQL = Sample Quantitation Limit
COPC = Chemical of Potential Concern
ARAR/TBC = Applicable or Relevant and Appropriate Requirement/To Be Considered
ND = Not Detected
MCL = Federal Maximum Contaminant Level
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J = Estimated Value
C = Carcinogenic
N = Non-Carcinogenic
Sat = Soil Saturation
RBC = Risk-Based Concentration

TABLE 2.1
OCCURRENCE, DISTRIBUTIDN AND SELECTIDN OF CHEMICALS OF POTENTIAL CONCERN -DRAFT
Himco Dump Superfund Site/Construction Debris Area, Total Soil Data

Scenario Timeframe: Current/Future
Medium: Total Soil
Exposure Medium: Soil/Dust-Volatilization
Exposure Point: Ingestion/Dermal Contact/Inhalation

Chemical	Minimum Concentration (1)	Minimum Qualifier	Maximum Concentration (1)	Maximum Qualifier	Units	Location of Maximum Concentration	Detection Frequency	Range of Quantitation Limits	Concentration Used for Screening (max)	Background Value (2)	Screening Toxicity Value (3)	Potential ARAR/TBC Value	Potential ARAR/TBC Source	COPC Flag	Rationale for Contaminant Deletion or Selection (4)
bis(2-Ethylhexyl)phthalate	0.037	J	30.0		mg/kg	SB14-6	32/47	0.330-1.5	30.0		32 C			no	BSL
Di-n-octylphthalete	0.070	J	0.130	J	mg/kg	SB19-6	3/47	0.330-0.690	0.130		110 N			no	BSL
Benzo(b)fluoranthene	0.038	J	9.7		mg/kg	SB20-6	26/47	0.340-0.690	9.7		0.056 C			yes	ASL
Benzo(k)fluoranthene	0.038	J	10.0		mg/kg	SB20-6	19/47	0.340-0.690	10.0		5.6 C			yes	ASL
Benzo(a)pyrene	0.053	J	11.0		mg/kg	SB20-6	24/47	0.340-0.690	11.0		0.056 C			yes	ASL
Indeno(1,2,3-cd)pyrene	0.041	J	6.4		mg/kg	SB20-6	24/47	0.340-0.690	6.4		0.56 C			yes	ASL
Dibenz(a,h)anthracene	0.043	J	2.0		mg/kg	SB20-6	16/27	0.340-0.690	2.0		0.056 C			yes	ASL
Benzo(g,h,i)perylene	0.038	J	7.1		mg/kg	SB20-6	29/47	0.340-0.690	7.1		none			no	NTX

(1) Minimum/maximum detected concentration from '98 Construction Debris Area soil data (all depths).
(2) The minimum detected concentration from '92 Himco Dump RI/FS background surface soil (0-2') data.
(3) Risk-Based Concentration Table, May 1, 1998, U.S. EPA Region IX, (Cancer benchmark value = 1E-06, HQ=0.1)
(4) Rationale Codes
Selection Reason: Infrequent Detection but Associated Historically (HIST)
Frequent Detection (FD)
Toxicity Information Available (TX)
Above Screening Levels (ASL)
Quanitation Limit is greater than Risk-Based Concentration (QL>RBC)
Deletion Reason: Infrequent Detection (IFD)
Background Levels (BKG)
No Toxicity Information (NTX)
Essential Nutrient (NUT)
Below Screening Lavel (BSL)

Definitions:
N/A = Not Applicable
SQL = Sample Quantitation Limit
COPC = Chemical of Potential Concern
ARAR/TBC = Applicable or Relevant and Appropriate Requirement/To Be Considered
ND = Not Detected
MCL = Federal Maximum Contaminant Level
SMCL = Secondary Maximum Contaminant Level
J = Estimated Value
C = Carcinogenic
N = Non-Carcinogenic
RBC = Risk-Basad Concentration

SUMMARY OF CHEMICALS DETECTED IN GROUND WATER
FALL 1998
HIMCO DUMP SUPERFUND SITE

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V
1	Sample location	WT101A			WT101A duplicate			WT102A			WT112A			WT114A			WT115A			WT116A		
2	Date sampled	10/21/98			10/21/98			10/19/98			10/20/98			10/20/98			10/21/98			10/21/98		
3	Units	µg/L			µg/L			µg/L			µg/L			µg/L			µg/L			µg/L		
4		Result	RL	Qual	Result	RL	Qual	Result	RL	Qual	Result	RL	Qual	Result	RL	Qual	Result	RL	Qual	Result	RL	Qual
5	**TOTAL METALS**																					
6	Aluminum	<	26.0		<	26.0		27.6		J	<	26.0	J	<	26.0	J	94.1		J	58.0		J
7	Antimony	<	42.2		<	42.2		<	42.2	J	<	42.2	J	<	42.2	J	<	42.2		<	42.2	J
8	Arsenic	3.6		J	3.3		J	<	0.90	J	<	0.90	J	24.3		J	0.90			1.0		J
9	Barium	91.2		J	85.5		J	47.3		J	36.6		J	238		J	<	33.5	J	192		J
10	Beryllium	<	0.60		<	0.60		<	0.60	J	<	0.60	J	0.60		J	<	0.60		<	0.60	J
11	Calcium	377000			361000			17100		J	19000		J	27000		J	293000			60900		J
12	Chromium	13.1			11.3			20.3		J	7.5		J	12.0		J	10.4			<	7.0	J
13	Cobalt	<	7.8		<	7.8		<	7.8	J	<	7.8	J	11.9		J	<	7.8		<	7.8	J
14	Copper	<	4.1		<	4.1		<	4.1	J	<	4.1	J	<	4.1	J	<	4.1		<	4.1	J
15	Iron	28100			26900			96.8		J	<	11.7	J	17900		J	4590			4490		J
16	Lead	<	0.50		<	0.50		<	0.50	J	<	0.50	J	<	0.50	J	<	0.50		<	0.50	J
17	Magnesium	14700			13900			16600		J	14000		J	24800		J	20300			52700		J
18	Manganese	3080			2940			61.5		J	6.7		J	306		J	513			662		J
19	Mercury	<	0.10		<	0.10		0.10		J	<	0.10	J	<	0.10	J	<	0.10		0.10		J
20	Nickel	<	28.3		<	28.3		73.0		J	<	23.8	J	<	23.8	J	<	28.3		<	28.3	J
21	Potassium	3630		J	3630		J	1610		J	1330		J	6640		J	3580		J	25200		J
22	Selenium	3.0		R	3.0		R	<	6.0	J	<	6.0	J	<	6.0	J	3.0		R	6.0		R
23	Silver	<	5.3		<	5.3		6.1		J	<	5.3	J	<	5.3	J	<	5.3		<	5.3	J
24	Sodium	35800			33100			48000		J	13300		J	47100		J	12100			<	179000	J
25	Thallium	<	0.40		<	0.40		<	0.40	J	<	0.40	J	<	0.40	J	<	0.40		<	0.40	J
26	Zinc	<	3.2		<	3.2		<	3.2	J	<	3.2	J	3.2		J	3.7		J	<	3.2	J
27	Cyanide	17.9		J	14.4		J	8.5		J	7.3		J	7.8		J	12.4		J	31.9		
28																						
29	**VOLATILE ORGANICS**																					
30	1,1-Dichloroethane	<	10		<	10		<	10		<	10		4		J	<	10		5		J
31																						
32	**SEMIVOLATILE ORGANICS**																					
33	Diethylphthalate	19		J	9		J	<	10		<	10		2		J	<	10	J	<	10	
34	bis(2-Ethylhexyl)phthalate	<	10	J	<	10		3		J	<	10		<	10		<	10	J	2		J

RL=Reporting Limit (For this data set the Reporting Limit is the Contract Required Quantitation Limit)
J=Estimated Value
R=Rejected Value (The data value is unusable.)

SUMMARY OF CHEMICALS DETECTED IN GROUND WATER
FALL 1998
HIMCO DUMP SUPERFUND SITE

	A	W	X	Y	Z	AA	AB	AC	AD
1	Sample location	WT119A			WT119A dup				
2	Date sampled	10/22/98			10/22/98				
3	Units	µg/L			µg/L				
4		Result	RL	Qual	Result	RL	Qual		
5	**TOTAL METALS**								
6	Aluminum	258		J	249		J		
7	Antimony	43.2		J	<	42.2			
8	Arsenic	5.8		J	5.3				
9	Barium	78.3			76.0				
10	Beryllium	<	0.60	J	<	0.60	J		
11	Calcium	143000			142000				
12	Chromium	7.8			<	7.0			
13	Cobalt	<	7.8		<	7.8			
14	Copper	5.4			4.9				
15	Iron	1690			1690				
16	Lead	3.4		J	2.4		J		
17	Magnesium	44800			44500				
18	Manganese	279			278				
19	Mercury	<	0.10		<	0.10			
20	Nickel	<	28.3		<	28.3			
21	Potassium	11500		J	11200		J		
22	Selenium	6.0		J	6.0		J		
23	Silver	<	5.3		<	5.3			
24	Sodium	69100			68200				
25	Thallium	<	0.40		<	0.40			
26	Zinc	<	4.9		<	4.9			
27	Cyanide	12		J	15.2				
28									
29	**VOLATILE ORGANICS**								
30	1,1-Dichloroethane	<	10		<	10			
31									
32	**SEMIVOLATILE ORGANICS**								
33	Diethylphthalate	<	10		<	10			
34	bis(2-Ethylhexyl)phthalate	<	10		<	10			

RL=Reporting Limit (For this data set the Reporting Limit is the Contract Required Quantitation Limit)
J=Estimated Value
R=Rejected Value (The data value is unusable.)

SUMMARY OF CHEMICALS DETECTED IN SOIL
Fall 1998
HIMCO DUMP SUPERFUND SITE

Sample location	SB03-0.5			SB03-2			SB04-0.5			SB04-2		
Date sampled	10/12/98			10/12/98			10/19/98			10/19/98		
Units	mg/kg			mg/kg			mg/kg			mg/kg		
	Result	RL	Qual.	Result	RL	Qual.	Result	RL	Qual.	Result	RL	Qual.
TOTAL METALS												
Aluminum	4080			3960			3340			5130		
Antimony	<	11.5	J	<	11.3	J	<	9.0		<	9.0	
Arsenic	1.6			1.3			1.00		J	1.1		J
Barium	27.9			21.9			21.2			39.5		
Beryllium	<	0.20		<	0.20		0.10		J	0.20		J
Cadmium	<	1.0		1.0			<	1.0		<	1.0	
Calcium	1670		J	480		J	1020			1530		
Chromium	5.2		J	5.3		J	4.8			6.4		
Cobalt	<	3.4		<	3.4		<	1.7		<	1.7	
Copper	15.9		J	4.3			3.8		J	3.3		J
Iron	3450			2530			4120			5070		
Lead	9.8			11.7			8.1		J	7.8		J
Magnesium	697		J	333		J	724			833		
Manganese	58.7			14.8			69.9			86.2		
Mercury	<	0.06		<	0.06		0.05		J	0.05		J
Nickel	<	8.4		<	8.2		<	6.1		<	6.0	
Potassium	253		J	<	127		<	198		288		J
Selenium	0.80		J	0.90		J	<	0.10		<	0.10	
Silver	<	0.90		<	0.90		<	1.1		<	1.1	
Sodium	20.4		J	39.0		J	34.5		J	525		
Thallium	<	0.40		<	0.40		<	0.08		<	0.08	
Vanadium	7.8			5.7		J	7.0		J	9.4		J
Zinc	26.0			14.4			15.6			17.3		
Cyanide	0.05		J	0.2		J	<	0.10		0.10		J
VOLATILE ORGANICS												
Units	µg/kg			µg/kg			µg/kg			µg/kg		
Methylene Chloride	34			<	18		<	11		<	11	
Acetone	2		J	2		J	<	11		<	11	
Carbon Disulfide	<	11		<	11		<	11		<	11	
1,1-Dichloroethane	<	11		<	11		<	11		<	11	
Benzene	<	11		<	11		<	11		<	11	
Ethylbenzene	<	11		<	11		<	11		<	11	
Xylene (total)	<	11		<	11		<	11		<	11	

RL = Reporting Limit (For this data set the Reporting Limit is the Contract Required Quantitation Limit)
J= Estimated Value

SUMMARY OF CHEMICALS DETECTED IN SOIL
Fall 1998
HIMCO DUMP SUPERFUND SITE

Sample location	SB03-0.5			SB03-2			SB04-0.5			SB04-2		
Date sampled	10/12/98			10/12/98			10/19/98			10/19/98		
	Result	RL	Qual.	Result	RL	Qual.	Result	RL	Qual.	Result	RL	Qual.
SEMIVOLATILE ORGANICS												
Units	µg/kg			µg/kg			µg/kg			µg/kg		
1,2-Dichlorobenzene	<	360		<	360		<	350		<	350	
4-Methylphenol	<	360		<	360		<	350		<	350	
Naphthalene	<	360		<	360		<	350		<	350	
2-Methylnaphthalene	<	360		<	360		<	350		<	350	
Acenaphthylene	<	360		<	360		<	350		<	350	
Acenaphthene	<	360		<	360		<	350		<	350	
Dibenzofuran	<	360		<	360		<	350		<	350	
Diethylphthalate	<	360		<	360		<	350		<	350	
Fluorene	<	360		<	360		<	350		<	350	
Phenanthrene	<	360		<	360		<	350		<	350	
Anthracene	<	360		<	360		<	350		<	350	
Carbazole	<	360	J	<	360	J	<	350		<	350	
Di-n-butylphthalate	<	360		<	360		<	350		<	350	
Fluoranthene	<	360		<	360		<	350		<	350	
Pyrene	<	360		<	360		<	350		<	350	
Butylbenzylphthalate	<	360		<	360		<	350		<	350	
Benzo(a)anthracene	<	360		<	360		<	350		<	350	
Chrysene	<	360		<	360		<	350		<	350	
bis(2-Ethylhexyl)phthalate	140		J	<	360	J	<	350		<	350	
Di-n-octylphthalate	<	360		<	360		<	350		<	350	
Benzo(b)fluoranthene	<	360		<	360		<	350		<	350	
Benzo(k)fluoranthene	<	360		<	360		<	350		<	350	
Benzo(a)pyrene	<	360		<	360		<	350		<	350	
Indeno(1,2,3-cd)pyrene	<	360		<	360		<	350		<	350	
Dibenz(a,h)anthracene	<	360		<	360		<	350		<	350	
Benzo(g,h,i)perylene	<	360		<	360		61		J	50		J

RL = Reporting Limit (For this data set the Reporting Limit is the Contract Required Quantitation Limit)
J= Estimated Value

SUMMARY OF CHEMICALS DETECTED IN SOIL
Fall 1998
HIMCO DUMP SUPERFUND SITE

Sample location	SB04-6			SB05-0.5			SB05-2			SB06-0.5		
Date sampled	10/19/98			10/19/98			10/19/98			10/19/98		
Units	mg/kg			mg/kg			mg/kg			mg/kg		
	Result	RL	Qual.	Result	RL	Qual.	Result	RL	Qual.	Result	RL	Qual.
TOTAL METALS												
Aluminum	3340			2580			3070			4220		
Antimony	<	10.3		<	8.9		<	8.8		<	9.4	
Arsenic	0.60		J	1.2		J	0.60		J	2.1		J
Barium	18.7			44.7			34.5			51.8		
Beryllium	<	0.10		0.20		J	0.30		J	<	0.10	
Cadmium	<	1.1		1.1			<	1.0		<	1.0	
Calcium	2070			5460			4180			1750		
Chromium	5.1			7.0			8.3			4.5		
Cobalt	<	1.9		3.2		J	3.1		J	3.3		J
Copper	3.1		J	16.4			17.1			20.4		
Iron	2570			4590			4360			6200		
Lead	6.2		J	56.9			22.3			13.4		J
Magnesium	346			2390			2050			746		
Manganese	58.1			109			66.4			337		
Mercury	<	0.06		0.08		J	0.06		J	<	0.06	
Nickel	<	6.9		6.2		J	12.3		J	9.6		J
Potassium	<	227		<	195		419		J	219		J
Selenium	<	0.10		<	0.10		<	0.10		<	0.10	
Silver	<	1.3		<	1.1		<	1.1		<	1.2	
Sodium	110		J	50.2		J	50.6		J	24.8		J
Thallium	<	0.1		<	0.08		<	0.08		<	0.09	
Vanadium	3.7		J	8.3		J	9.2		J	8.5		J
Zinc	10.0			72.9			52.4			52.3		
Cyanide	0.20		J	0.30		J	0.20		J	0.30		J
VOLATILE ORGANICS												
Units	µg/kg			µg/kg			µg/kg			µg/kg		
Methylene Chloride	<	13		<	11		<	10		<	11	
Acetone	<	13		<	11		<	10		<	11	
Carbon Disulfide	<	13		<	11		<	10		<	11	
1,1-Dichloroethane	<	13		<	11		<	10		<	11	
Benzene	<	13		<	11		<	10		<	11	
Ethylbenzene	<	13		<	11		<	10		<	11	
Xylene (total)	<	13		<	11		<	10		<	11	

RL = Reporting Limit (For this data set the Reporting Limit is the Contract Required Quantitation Limit)
J= Estimated Value

SUMMARY OF CHEMICALS DETECTED IN SOIL
Fall 1998
HIMCO DUMP SUPERFUND SITE

Sample location	SB04-6			SB05-0.5			SB05-2			SB06-0.5		
Date sampled	10/19/98			10/19/98			10/19/98			10/19/98		
	Result	RL	Qual.	Result	RL	Qual.	Result	RL	Qual.	Result	RL	Qual.
SEMIVOLATILE ORGANICS												
Units		µg/kg			µg/kg			µg/kg			µg/kg	
1,2-Dichlorobenzene	<	420		<	350		<	340		<	360	
4-Methylphenol	<	420		<	350		<	340		<	360	
Naphthalene	<	420		<	350		<	340		<	360	
2-Methylnaphthalene	<	420		<	350		<	340		<	360	
Acenaphthylene	<	420		<	350		<	340		<	360	
Acenaphthene	<	420		<	350	J	<	340		<	360	
Dibenzofuran	<	420		<	350		<	340		<	360	
Diethylphthalate	<	420		<	350		<	340		<	360	
Fluorene	<	420		<	350		<	340		<	360	
Phenanthrene	<	420		46		J	140		J	<	360	
Anthracene	<	420		<	350		<	340		<	360	
Carbazole	<	420		<	350		<	340		<	360	
Di-n-butylphthalate	<	420	J	<	350		<	340		<	360	J
Fluoranthene	<	420		130		J	210		J	<	360	
Pyrene	<	420		140		J	210		J	<	360	
Butylbenzylphthalate	<	420		<	350		<	340		<	360	
Benzo(a)anthracene	<	420		75	75	J	120		J	<	360	
Chrysene	<	420		84	84	J	110		J	<	360	
bis(2-Ethylhexyl)phthalate	<	420		<	350		420			<	360	
Di-n-octylphthalate	<	420		<	350		<	340		<	360	
Benzo(b)fluoranthene	<	420		110		J	140		J	<	360	
Benzo(k)fluoranthene	<	420		<	350		38		J	<	360	
Benzo(a)pyrene	<	420		89	89	J	110		J	<	360	
Indeno(1,2,3-cd)pyrene	<	420		79		J	62		J	<	360	
Dibenz(a,h)anthracene	<	420		<	350		<	340		<	360	
Benzo(g,h,i)perylene	74		J	110		J	78		J	<	360	

RL = Reporting Limit (For this data set the Reporting Limit is the Contract Required Quantitation Limit)
J= Estimated Value

SUMMARY OF CHEMICALS DETECTED IN SOIL
Fall 1998
HIMCO DUMP SUPERFUND SITE

Sample location	SB06-0.5 Dup			SB06-2			SB07-0.5			SB07-2		
Date sampled	10/19/98			10/19/98			10/21/98			10/21/98		
Units	mg/kg			mg/kg			mg/kg			mg/kg		
	Result	RL	Qual.	Result	RL	Qual.	Result	RL	Qual.	Result	RL	Qual.
TOTAL METALS												
Aluminum	3000			2770			3100			1730		
Antimony	<	9.4		<	9.0		13.1		J	<	8.7	J
Arsenic	1.4		J	1.1		J	2.3		J	0.70		J
Barium	47.7			40.4			13.0			7.8		
Beryllium	<	0.10		0.30		J	0.20		J	0.10		J
Cadmium	<	1.0		<	1.0		<	1.0		<	0.90	
Calcium	1660			728			1320			2140		
Chromium	5.5			4.6			6.0			5.1		
Cobalt	1.9		J	2.8		J	4.0			1.9		
Copper	19.9			22.6			7.4			6.4		
Iron	4800			3660			5240			4390		
Lead	17.2		J	9.4		J	5.2			6.5		S*
Magnesium	598			470			1140			1160		
Manganese	296			227			133			44.7		
Mercury	<	0.06		<	0.05		<	0.05		<	0.05	
Nickel	7.0		J	<	6.0		6.0			<	5.8	
Potassium	<	205		227		J	234			226		
Selenium	<	0.10		<	0.10		<	0.10	J	<	0.10	J
Silver	<	1.2		<	1.1		<	1.1		<	1.1	
Sodium	<	18.1		32.6		J	41.6			<	16.8	
Thallium	<	0.09		<	0.08		0.10		J	<	0.08	J
Vanadium	7.0		J	5.2		J	8.1			4.7		
Zinc	45.0			41.0			20.2			40.0		
Cyanide	<	0.10		<	0.10		0.20		J	<	0.10	J
VOLATILE ORGANICS												
Units	µg/kg			µg/kg			µg/kg			µg/kg		
Methylene Chloride	<	11		<	11		<	10		<	10	
Acetone	<	11		<	11		<	10		<	10	
Carbon Disulfide	<	11		<	11		<	10		<	10	
1,1-Dichloroethane	<	11		<	11		<	10		<	10	
Benzene	<	11		<	11		<	10		<	10	
Ethylbenzene	<	11		<	11		<	10		<	10	
Xylene (total)	<	11		<	11		<	10		<	10	

RL = Reporting Limit (For this data set the Reporting Limit is the Contract Required Quantitation Limit)
J= Estimated Value

SUMMARY OF CHEMICALS DETECTED IN SOIL
Fall 1998
HIMCO DUMP SUPERFUND SITE

Sample location	SB06-0.5 Dup			SB06-2			SB07-0.5			SB07-2		
Date sampled	10/19/98			10/19/98			10/21/98			10/21/98		
	Result	RL	Qual.	Result	RL	Qual.	Result	RL	Qual.	Result	RL	Qual.
SEMIVOLATILE ORGANICS												
Units		µg/kg			µg/kg			µg/kg			µg/kg	
1,2-Dichlorobenzene	<	370		<	350		<	340		<	340	
4-Methylphenol	<	370		<	350		<	340		<	340	
Naphthalene	<	370		<	350		<	340		<	340	
2-Methylnaphthalene	<	370		<	350		<	340		<	340	
Acenaphthylene	<	370		<	350		<	340		<	340	
Acenaphthene	<	370		<	350		<	340	J	<	340	
Dibenzofuran	<	370		<	350		<	340		<	340	
Diethylphthalate	<	370		<	350		<	340		<	340	
Fluorene	<	370		<	350		<	340		<	340	
Phenanthrene	<	370		<	350		<	340		<	340	
Anthracene	<	370		<	350		<	340		<	340	
Carbazole	<	370		<	350		<	340		<	340	
Di-n-butylphthalate	<	370	J	<	350	J	<	340	J	<	340	J
Fluoranthene	<	370		<	350		<	340		<	340	
Pyrene	<	370		<	350		<	340	J	<	340	
Butylbenzylphthalate	<	370		<	350		<	340		<	340	
Benzo(a)anthracene	<	370		<	350		<	340		<	340	
Chrysene	<	370		<	350		<	340		<	340	
bis(2-Ethylhexyl)phthalate	<	370		460			690		J	700		J
Di-n-octylphthalate	<	370		<	350		<	340	J	<	340	J
Benzo(b)fluoranthene	<	370		<	350		<	340		<	340	
Benzo(k)fluoranthene	<	370		<	350		<	340		<	340	
Benzo(a)pyrene	<	370		<	350		<	340		<	340	
Indeno(1,2,3-cd)pyrene	<	370		<	350		<	340		<	340	
Dibenz(a,h)anthracene	<	370		<	350		<	340		<	340	
Benzo(g,h,i)perylene	250		J	<	350		<	340		<	340	

RL = Reporting Limit (For this data set the Reporting Limit is the Contract Required Quantitation Limit)
J= Estimated Value

SUMMARY OF CHEMICALS DETECTED IN SOIL
Fall 1998
HIMCO DUMP SUPERFUND SITE

Sample location	SB08-0.5			SB08-2			SB09-0.5			SB09-0.5 Dup		
Date sampled	10/20/98			10/20/98			10/21/98			10/21/98		
Units	mg/kg			mg/kg			mg/kg			mg/kg		
	Result	RL	Qual.	Result	RL	Qual.	Result	RL	Qual.	Result	RL	Qual.
TOTAL METALS												
Aluminum	3150			1900			2480			2500		
Antimony	<	8.7		<	8.6		<	9.0		<	8.9	
Arsenic	1.1		J	0.55		J	1.1		J	1.7		J
Barium	14.8		J	126			14.1		J	13.4		J
Beryllium	<	0.12		<	0.12		<	0.13		<	0.13	
Cadmium	<	0.95		<	0.94		<	0.98		<	0.97	
Calcium	953		J	<	6060		19600			2650		
Chromium	5.3			5.3			5.7			5.4		
Cobalt	3.3		J	1.9		J	3.1		J	2.8		J
Copper	5.3			5.1		J	9.2			9.1		
Iron	4680			2590			4750			4610		
Lead	5.4			6.9		J	6.7			6.7		
Magnesium	919		J	1040			2380			1410		
Manganese	105			35.8			172			144		
Mercury	0.05		J	<	0.05		<	0.05		0.06		J
Nickel	<	5.9		6.7		J	7.0		J	9.5		
Potassium	<	192		<	190		264		J	<	196	
Selenium	<	0.12		<	0.12		<	0.13		<	0.13	J
Silver	<	1.1		<	1.1		<	1.1		<	1.1	
Sodium	29.9		J	32.7		J	36.2		J	37.6		J
Thallium	<	0.08		<	0.08		<	0.09		<	0.08	
Vanadium	10.0		J			J	7.2		J	8.8		J
Zinc	15.5						26.2			22.2		
Cyanide	0.92		J			J	0.56		J	0.37		J
VOLATILE ORGANICS												
Units	µg/kg			µg/kg			µg/kg			µg/kg		
Methylene Chloride	<	10		<	10		<	11		<	10	
Acetone	<	10		<	10		<	11		<	10	
Carbon Disulfide	<	10		<	10		<	11		<	10	
1,1-Dichloroethane	<	10		<	10		<	11		<	10	
Benzene	<	10		<	10		<	11		<	10	
Ethylbenzene	<	10		<	10		<	11		<	10	
Xylene (total)	<	10		<	10		<	11		<	10	

RL = Reporting Limit (For this data set the Reporting Limit is the Contract Required Quantitation Limit)
J= Estimated Value

SUMMARY OF CHEMICALS DETECTED IN SOIL
Fall 1998
HIMCO DUMP SUPERFUND SITE

Sample location	SB08-0.5			SB08-2			SB09-0.5			SB09-0.5 Dup		
Date sampled	10/20/98			10/20/98			10/21/98			10/21/98		
	Result	RL	Qual.	Result	RL	Qual.	Result	RL	Qual.	Result	RL	Qual.
SEMIVOLATILE ORGANICS												
Units		µg/kg			µg/kg			µg/kg			µg/kg	
1,2-Dichlorobenzene	<	350		<	340		<	350		<	350	
4-Methylphenol	<	350		<	340		<	350		<	350	
Naphthalene	<	350		<	340		<	350		<	350	
2-Methylnaphthalene	<	350		<	340		<	350		<	350	
Acenaphthylene	<	350		<	340		<	350		<	350	
Acenaphthene	<	350		<	340		<	350		<	350	
Dibenzofuran	<	350		<	340		<	350		<	350	
Diethylphthalate	<	350		<	340		<	350		<	350	
Fluorene	<	350		<	340		<	350		<	350	
Phenanthrene	<	350		<	340		<	350		<	350	
Anthracene	<	350		<	340		<	350		<	350	
Carbazole	<	350		<	340		<	350		<	350	
Di-n-butylphthalate	<	350		<	340		<	350	J	<	350	J
Fluoranthene	<	350		<	340		<	350		<	350	
Pyrene	<	350		<	340		<	350		<	350	
Butylbenzylphthalate	<	350		<	340		<	350		<	350	
Benzo(a)anthracene	<	350		<	340		<	350		<	350	
Chrysene	<	350		<	340		<	350		<	350	
bis(2-Ethylhexyl)phthalate	<	360		<	1500		440		J	470		J
Di-n-octylphthalate	<	350		<	340		<	350	J	<	350	J
Benzo(b)fluoranthene	<	350		<	340		<	350		<	350	
Benzo(k)fluoranthene	<	350		<	340		<	350		<	350	
Benzo(a)pyrene	<	350		<	340		<	350		<	350	
Indeno(1,2,3-cd)pyrene	<	350		<	340		<	350		<	350	
Dibenz(a,h)anthracene	<	350		<	340		<	350		<	350	
Benzo(g,h,i)perylene	<	350		<	340		<	350		<	350	

RL = Reporting Limit (For this data set the Reporting Limit is the Contract Required Quantitation Limit)
J= Estimated Value

SUMMARY OF CHEMICALS DETECTED IN SOIL
Fall 1998
HIMCO DUMP SUPERFUND SITE

Sample location	SB09			SB10-0.5			SB10-0.5 Dup			SB10-2		
Date sampled	10/21/98			10/20/98			10/20/98			10/20/98		
Units	mg/kg			mg/kg			mg/kg			mg/kg		
	Result	RL	Qual.	Result	RL	Qual.	Result	RL	Qual.	Result	RL	Qual.
TOTAL METALS												
Aluminum	2120			4230			5670			3610		
Antimony	<	8.8		<	9.1		<	9.2		<	8.9	
Arsenic	0.80		J	1.5		J	1.4		J	1.2		J
Barium	12.1		J	51.7			55.1			48.7		
Beryllium	<	0.13		<	0.13		<	0.13		<	0.13	
Cadmium	<	0.96		<	0.99		1.2			<	0.97	
Calcium	12600			586		J	710		J	361		J
Chromium	5.2			5.5			7.0			5.5		
Cobalt	2.8		J	3.4		J	3.3		J	3.1		J
Copper	8.0			35.1			37.2			38.1		
Iron	3620			4780			5330			4290		
Lead	6.0			21.1		J	28.9		J	16.3		J
Magnesium	3500			559		J	766		J	503		J
Manganese	62.6			317			319			169		
Mercury	<	0.05		<	0.05		0.07		J	<	0.05	
Nickel	<	5.9		8.1		J	8.1		J	<	6.0	
Potassium	<	194		<	200		297		J	238		J
Selenium	<	0.13	J	<	0.13		<	0.13		<	0.13	
Silver	<	1.1		<	1.1		<	1.1		<	1.1	
Sodium	32.6		J	34.3		J	45.5		J	39.3		J
Thallium	<	0.08		<	0.09		<	0.09		<	0.08	
Vanadium	7.6		J	10.1		J	10.4		J	9.5		J
Zinc	24.1			58.3			68.9			50.1		
Cyanide	0.58		J	4.2			0.58		J	4.9		
VOLATILE ORGANICS												
Units	µg/kg			µg/kg			µg/kg			µg/kg		
Methylene Chloride	<	10		<	11		<	11		<	10	
Acetone	<	10		<	11		<	11		<	10	
Carbon Disulfide	<	10		<	11		<	11		<	10	
1,1-Dichloroethane	<	10		<	11		<	11		<	10	
Benzene	<	10		<	11		<	11		<	10	
Ethylbenzene	<	10		<	11		<	11		<	10	
Xylene (total)	<	10		<	11		<	11		<	10	

RL = Reporting Limit (For this data set the Reporting Limit is the Contract Required Quantitation Limit)
J= Estimated Value

SUMMARY OF CHEMICALS DETECTED IN SOIL
Fall 1998
HIMCO DUMP SUPERFUND SITE

Sample location	SB09			SB10-0.5			SB10-0.5 Dup			SB10-2		
Date sampled	10/21/98			10/20/98			10/20/98			10/20/98		
	Result	RL	Qual.	Result	RL	Qual.	Result	RL	Qual.	Result	RL	Qual.
SEMIVDLATILE ORGANICS												
Units		µg/kg			µg/kg			µg/kg			µg/kg	
1,2-Dichlorobenzene	<	350		<	360		<	360		<	340	
4-Methylphenol	<	350		<	360		<	360		<	340	
Naphthalene	<	350		<	360		<	360		<	340	
2-Methylnaphthalene	<	350		<	360		<	360		<	340	
Acenaphthylene	<	350		<	360		<	360		<	340	
Acenaphthene	<	350		<	360		<	360		<	340	
Dibenzofuran	<	350		<	360		<	360		<	340	
Diethylphthalate	<	350		<	360		<	360		<	340	
Fluorene	<	350		<	360		<	360		<	340	
Phenanthrene	<	350		<	360		<	360		<	340	
Anthracene	<	350		<	360		<	360		<	340	
Carbazole	<	350		<	360		<	360		<	340	
Di-n-butylphthalate	<	350	J	<	360		<	360		<	340	
Fluoranthene	<	350		<	360		<	360		<	340	
Pyrene	<	350		<	360		<	360		<	340	
Butylbenzylphthalate	<	350		<	360		<	360		<	340	
Benzo(a)anthracene	<	350		<	360		<	360		<	340	
Chrysene	<	350		<	360		<	360		<	340	
bis(2-Ethylhexyl)phthalate	2600		J	140		J	150		J	71		J
Di-n-octylphthalate	<	350	J	56		J	70		J	<	340	
Benzo(b)fluoranthene	<	350		<	360		<	360		<	340	
Benzo(k)fluoranthene	<	350		<	360		<	360		<	340	
Benzo(a)pyrene	<	350		<	360		<	360		<	340	
Indeno(1,2,3-cd)pyrene	<	350		<	360		<	360		<	340	
Dibenz(a,h)anthracene	<	350		<	360		<	360		<	340	
Benzo(g,h,i)perylene	<	350		<	360		<	360		<	340	

RL = Reporting Limit (For this data set the Reporting Limit is the Contract Required Quantitation Limit)
J= Estimated Value

SUMMARY OF CHEMICALS DETECTED IN SOIL
Fall 1998
HIMCO DUMP SUPERFUND SITE

Sample location	SB10-6			SB11-0.5			SB11-2			SB11-6		
Date sampled	10/20/98			10/21/98			10/21/98			10/21/98		
Units	mg/kg			mg/kg			mg/kg			mg/kg		
	Result	RL	Qual.	Result	RL	Qual.	Result	RL	Qual.	Result	RL	Qual.
TOTAL METALS												
Aluminum	3320			4740			3360			4270		
Antimony	<	9.0		<	8.9	J	9.2		J	<	8.8	J
Arsenic	0.64		J	12.5		J	4.7		J	2.8		J
Barium	24.7		J	102			57.0			55.8		
Beryllium	<	0.13		0.50		J	0.20		J	0.20		J
Cadmium	<	0.99		1.1			<	1.0		<	1.0	
Calcium	535		J	21900			26400			7620		
Chromium	7.6			12.6			9.2			17.2		
Cobalt	<	1.7		3.2			3.4			6.8		
Copper	12.7			149			46.1			45.9		
Iron	1330			11100			8820			21200		
Lead	8.0		S	160		J	92.9		J	186		J
Magnesium	678		J	5950			11400			2580		
Manganese	86.6			492			278			398		
Mercury	<	0.05		0.20			0.20			0.20		
Nickel	<	6.1		12.0			<	5.9		10.0		
Potassium	<	198		462			287			377		
Selenium	<	0.13		<	0.10	J	<	0.10	J	<	0.10	J
Silver	<	1.1		<	1.1		<	1.1		<	1.1	
Sodium	29.8		J	127			54.7			49.1		
Thallium	0.09			0.10			<	0.08		<	0.08	
Vanadium	<	10.9		11.3			8.9			11.3		
Zinc	24.9			294			136			109		
Cyanide	0.16		J	0.40		J	<	0.10	J	0.30		J
VOLATILE ORGANICS												
Units	µg/kg			µg/kg			µg/kg			µg/kg		
Methylene Chloride	<	11		<	11		<	10		<	10	
Acetone	<	11		<	11		<	10		<	10	
Carbon Disulfide	<	11		<	11		<	10		<	10	
1,1-Dichloroethane	<	11		<	11		<	10		<	10	
Benzene	<	11		<	11		<	10		<	10	
Ethylbenzene	<	11		<	11		<	10		<	10	
Xylene (total)	<	11		<	11		<	10		<	10	

RL = Reporting Limit (For this data set the Reporting Limit is the Contract Required Quantitation Limit)
J= Estimated Value

SUMMARY OF CHEMICALS DETECTED IN SOIL
Fall 1998
HIMCO DUMP SUPERFUND SITE

Sample location	SB10-6			SB11-0.5			SB11-2			SB11-6		
Date sampled	10/20/98			10/21/98			10/21/98			10/21/98		
	Result	RL	Qual.	Result	RL	Qual.	Result	RL	Qual.	Result	RL	Qual.
SEMIVOLATILE ORGANICS												
Units	µg/kg			µg/kg			µg/kg			µg/kg		
1,2-Dichlorobenzene	<	350		<	360		<	340		<	340	
4-Methylphenol	<	350		<	360		<	340		<	340	
Naphthalene	<	350		<	360		<	340		<	340	
2-Methylnaphthalene	<	350		<	360		<	340		<	340	
Acenaphthylene	<	350		<	360		<	340		<	340	
Acenaphthene	<	350		<	360		160		J	<	340	
Dibenzofuran	<	350		<	360		78		J	<	340	
Diethylphthalate	<	350		<	360		<	340		<	340	
Fluorene	<	350		<	360		160		J	<	340	
Phenanthrene	<	350		<	200	J	3300			<	340	
Anthracene	<	350		<	360		460			<	340	
Carbazole	<	350		<	360		210		J	<	340	
Di-n-butylphthalate	<	350		<	360	J	<	340		<	340	J
Fluoranthene	<	350		400			4600			51		J
Pyrene	<	350		470			3800			<	340	
Butylbenzylphthalate	<	350		<	360		<	340		<	340	
Benzo(a)anthracene	<	350		280		J	1500			42		J
Chrysene	<	350		320		J	1400			51		J
bis(2-Ethylhexyl)phthalate	<	350		42		J	74		J	39		J
Di-n-octylphthalate	<	350		<	360	J	<	340	J	<	340	J
Benzo(b)fluoranthene	<	350		560			1900			75		J
Benzo(k)fluoranthene	<	350		150		J	560			<	340	
Benzo(a)pyrene	<	350		430			1500			57		J
Indeno(1,2,3-cd)pyrene	<	350		540			490			48		J
Dibenz(a,h)anthracene	<	350		140		J	130		J	<	340	
Benzo(g,h,i)perylene	<	350		710			470			63		J

RL = Reporting Limit (For this data set the Reporting Limit is the Contract Required Quantitation Limit)
J= Estimated Value

SUMMARY OF CHEMICALS DETECTED IN SOIL
Fall 1998
HIMCO DUMP SUPERFUND SITE

Sample location	SB12-0.5			SB12-2			SB12-6			SB13-0.5		
Date sampled	10/20/98			10/20/98			10/20/98			10/20/98		
Units	mg/kg			mg/kg			mg/kg			mg/kg		
	Result	RL	Qual.	Result	RL	Qual.	Result	RL	Qual.	Result	RL	Qual.
TOTAL METALS												
Aluminum	2260			1360			2280			3900		
Antimony	<	8.8		<	8.7		<	8.8		<	9.4	
Arsenic	1.1		J	0.70		J	0.9		J	2.1		J
Barium	13.8		J	8.0		J	14.2		J	65.8		
Beryllium	0.25		J	<	0.12		<	0.13		0.30		J
Cadmium	<	0.96		<	0.95		<	0.96		1.2		
Calcium	1060			2990			1510			9970		
Chromium	5.1			3.3			6.3			8.5		
Cobalt	2.8		J	3.5		J	3.4		J	3.2		J
Copper	6.2			4.6		J	12.5			18.9		
Iron	4080			2470			4570			5970		
Lead	6.1		J	5.4			7.1		J	167		
Magnesium	853		J	1920			1140			1550		
Manganese	128			47.4			52.9			326		
Mercury	<	0.05		<	0.05		<	0.05		0.10		J
Nickel	<	5.9		<	5.9		<	5.9		8.8		J
Potassium	<	193		<	192		<	194		423		J
Selenium	<	0.12		<	0.12		0.13			<	0.10	
Silver	<	1.1		<	1.1		<	1.1		<	1.2	
Sodium	38.2		J	30.5		J	61.5		J	48.6		J
Thallium	<	0.08		<	0.08		<	0.08		<	0.09	
Vanadium	6.5		J	5.6		J	9.2		J	8.5		J
Zinc	22.8			15.1			38.9			109		
Cyanide	0.17		J	0.18		J	0.25		J	0.50		J
VOLATILE ORGANICS												
Units		µg/kg			µg/kg			µg/kg			µg/kg	
Methylene Chloride	<	10		<	10		<	10		<	11	J
Acetone	<	10		<	10		<	10		<	11	J
Carbon Disulfide	<	10		<	10		<	10		<	11	J
1,1-Dichloroethane	<	10		<	10		<	10		<	11	J
Benzene	<	10		<	10		<	10		<	11	J
Ethylbenzene	<	10		<	10		<	10			11	R
Xylene (total)	<	10		<	10		<	10			11	R

RL = Reporting Limit (For this data set the Reporting Limit is the Contract Required Quantitation Limit)
J= Estimated Value

SUMMARY OF CHEMICALS DETECTED IN SOIL
Fall 1998
HIMCO DUMP SUPERFUND SITE

Sample location	SB12-0.5			SB12-2			SB12-6			SB13-0.5		
Date sampled	10/20/98			10/20/98			10/20/98			10/20/98		
	Result	RL	Qual.	Result	RL	Qual.	Result	RL	Qual.	Result	RL	Qual.
SEMIVOLATILE ORGANICS												
Units		µg/kg			µg/kg			µg/kg			µg/kg	
1,2-Dichlorobenzene	<	350		<	340		<	690		<	370	
4-Methylphenol	<	350		<	340		<	690		<	370	
Naphthalene	<	350		<	340		<	690		<	370	
2-Methylnaphthalene	<	350		<	340		<	690		<	370	
Acenaphthylene	<	350		<	340		<	690		<	370	
Acenaphthene	<	350		<	340		<	690		<	370	
Dibenzofuran	<	350		<	340		<	690		<	370	
Diethylphthalate	<	350		<	340		<	690		<	370	
Fluorene	<	350		<	340		<	690		<	370	
Phenanthrene	<	350		<	340		<	690		<	370	
Anthracene	<	350		<	340		<	690		<	370	
Carbazole	<	350		<	340		<	690		<	370	
Di-n-butylphthalate	<	350		<	340		<	690		<	370	
Fluoranthene	<	350		<	340		<	690		100		J
Pyrene	<	350		<	340		<	690		110		J
Butylbenzylphthalate	<	350		<	340		<	690		<	370	
Benzo(a)anthracene	<	350		<	340		<	690		64		J
Chrysene	<	350		<	340		<	690		72		J
bis(2-Ethylhexyl)phthalate	440			290		J	3400			160		J
Di-n-octylphthalate	<	350		<	340		<	690		<	370	
Benzo(b)fluoranthene	<	350		<	340		<	690		93		J
Benzo(k)fluoranthene	<	350		<	340		<	690		370		
Benzo(a)pyrene	<	350		<	340		<	690		66		J
Indeno(1,2,3-cd)pyrene	<	350		<	340		<	690		57		J
Dibenz(a,h)anthracene	<	350		<	340		<	690		370		
Benzo(g,h,i)perylene	<	350		<	340		<	690		81		J

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J= Estimated Value

SUMMARY OF CHEMICALS DETECTED IN SOIL
Fall 1998
HIMCO DUMP SUPERFUND SITE

Sample location	SB13-2			SB13-6			SB14-0.5			SB14-2		
Date sampled	10/20/98			10/20/98			10/20/98			10/20/98		
Units	mg/kg			mg/kg			mg/kg			mg/kg		
	Result	RL	Qual.	Result	RL	Qual.	Result	RL	Qual.	Result	RL	Qual.
TOTAL METALS												
Aluminum	3980			3220			4120			4500		
Antimony	<	9.2		<	9.1		<	11.2		<	8.8	
Arsenic	0.90		J	0.90		J	0.83		J	1.1		J
Barium	35.7			33.6			115			36.2		J
Beryllium	0.20		J	0.30		J	0.33		J	<	71.3	
Cadmium	1.3			<	1.0		<	1.2		<	106.4	
Calcium	9300			12000			32700			2840		
Chromium	14.2			12.9			14.6			6.7		
Cobalt	3.9		J	3.3		J	4.3		J	3.0		J
Copper	14.4			17.0			2110			18.7		
Iron	9180			11300			9410			4680		
Lead	58.7			45.6		J	191		J	19.6		J
Magnesium	3060			3000			3880			1180		
Manganese	203			220			539			170		
Mercury	0.08		J	0.10		J	0.25		J	0.06		J
Nickel	12.0		J	15.4		J	8.0		J	<	5.9	
Potassium	310		J	279		J	278		J	277		J
Selenium	<	0.10	J	0.10			<	0.16	J	<	0.13	
Silver	<	1.1		<	1.1		<	1.4		<	1.1	
Sodium	54.7		J	74.3		J	83.7		J	40.5		J
Thallium	<	0.09		<	0.09		<	0.11		<	0.08	
Vanadium	9.8		J	6.0		J	11.3		J	9.9		J
Zinc	175			90.9			161			49.8		
Cyanide	0.30		J	0.90		J	0.14		J	0.12		J
VOLATILE ORGANICS												
Units	µg/kg			µg/kg			µg/kg			µg/kg		
Methylene Chloride	<	10		<	11		<	12		<	10	
Acetone	<	10		<	11		<	12		<	10	
Carbon Disulfide	<	10		<	11		<	12		<	10	
1,1-Dichloroethane	<	10		<	11		<	12		<	10	
Benzene	<	10		<	11		<	12		<	10	
Ethylbenzene	<	10		<	11		<	12		<	10	
Xylene (total)	<	10		<	11		<	12		<	10	

RL = Reporting Limit (For this data set the Reporting Limit is the Contract Required Quantitation Limit)
J= Estimated Value

SUMMARY OF CHEMICALS DETECTED IN SOIL
Fall 1998
HIMCO DUMP SUPERFUND SITE

Sample location	SB13-2			SB13-6			SB14-0.5			SB14-2		
Date sampled	10/20/98			10/20/98			10/20/98			10/20/98		
	Result	RL	Qual.	Result	RL	Qual.	Result	RL	Qual.	Result	RL	Qual.
SEMIVOLATILE ORGANICS												
Units		µg/kg			µg/kg			µg/kg			µg/kg	
1,2-Dichlorobenzene	<	350		<	360		<	400		<	340	
4-Methylphenol	<	350		<	360		<	400		<	340	
Naphthalene	<	350		<	360		<	400		<	340	
2-Methylnaphthalene	<	350		<	360		<	400		<	340	
Acenaphthylene	<	350		<	360		<	400		<	340	
Acenaphthene	<	350		<	360		<	400		<	340	
Dibenzofuran	<	350		<	360		<	400		<	340	
Diethylphthalate	<	350		<	360		<	400		<	340	
Fluorene	<	350		<	360		<	400		<	340	
Phenanthrene	<	350		<	360		<	400		<	340	
Anthracene	<	350		<	360		<	400		<	340	
Carbazole	<	350		<	360		<	400		<	340	
Di-n-butylphthalate	<	350		<	360		<	400		<	340	
Fluoranthene	<	350		43		J	59		J	<	340	
Pyrene	<	350		44		J	64		J	40		J
Butylbenzylphthalate	<	350		<	360		54		J	<	340	
Benzo(a)anthracene	<	350		<	360		41		J	<	340	
Chrysene	<	350		<	360		59		J	<	340	
bis(2-Ethylhexyl)phthalate	150		J	960			190		J	2900		
Di-n-octylphthalate	<	350		<	360		<	400		<	340	
Benzo(b)fluoranthene	<	350		38		J	82		J	<	340	
Benzo(k)fluoranthene	<	350		<	360		400			<	340	
Benzo(a)pyrene	<	350		<	360		53		J	<	340	
Indeno(1,2,3-cd)pyrene	<	350		<	360		48		J	<	340	
Dibenz(a,h)anthracene	<	350		<	360		400			<	340	
Benzo(g,h,i)perylene	<	350		<	360		86		J	<	340	

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J= Estimated Value

SUMMARY OF CHEMICALS DETECTED IN SOIL
Fall 1998
HIMCO DUMP SUPERFUND SITE

Sample location	SB14-6			SB15-0.5			SB15-2			SB15-6		
Date sampled	10/20/98			10/19/98			10/19/98			10/19/98		
Units	mg/kg			mg/kg			mg/kg			mg/kg		
	Result	RL	Qual.	Result	RL	Qual.	Result	RL	Qual.	Result	RL	Qual.
TOTAL METALS												
Aluminum	2630			3470			2860			8750		
Antimony	<	9.5		<	9.8		<	9.1		<	9.4	
Arsenic	0.60		J	6.0		J	4.4		J	7.0		J
Barium	43.7		J	102			133			112		
Beryllium	<	0.14		0.60		J	0.50		J	0.80		J
Cadmium	<	1.0		1.1			1.2			2.0		
Calcium	9350			16400			26800			31700		
Chromium	15.5			12.9			14.0			17.9		
Cobalt	3.0		J	5.1		J	5		J	10.8		
Copper	25.3			113			283			2220		
Iron	3920			26000			19400			13500		
Lead	127		J	695		J	287			231		J
Magnesium	1650			4810			5420			22600		
Manganese	184			514			399			1410		
Mercury	0.11		J	0.40			0.50			0.10		J
Nickel	9.8			21.0		J	23.7		J	298		
Potassium	210		J	363		J	385		J	566		J
Selenium	<	0.14		<	0.10		<	0.10		<	0.10	J
Silver	<	1.2		1.2			2.0			<	1.2	
Sodium	43.0		J	<	65.0	J	60.9		J	184		J
Thallium	<	0.09		0.10			<	0.08		<	0.09	
Vanadium	8.0		J	11.1		J	10.2		J	17.1		
Zinc	249			427			465			1120		
Cyanide	<	0.11		1.1		J	0.90		J	4.7		
VOLATILE ORGANICS												
Units	µg/kg			µg/kg			µg/kg			µg/kg		
Methylene Chloride	<	11		<	11		<	11		<	10	
Acetone	<	11		<	11		22			<	10	
Carbon Disulfide	<	11		<	11		<	11		<	10	
1,1-Dichloroethane	<	11		<	11		<	11		<	10	
Benzene	<	11		<	11		<	11		<	10	
Ethylbenzene	<	11		<	11		<	11		<	10	
Xylene (total)	<	11		<	11		<	11		<	10	

RL = Reporting Limit (For this data set the Reporting Limit is the Contract Required Quantitation Limit)
J= Estimated Value

SUMMARY OF CHEMICALS DETECTED IN SOIL
Fall 1998
HIMCO DUMP SUPERFUND SITE

Sample location	SB14-6			SB15-0.5			SB15-2			SB15-6		
Date sampled	10/20/98			10/19/98			10/19/98			10/19/98		
	Result	RL	Qual.	Result	RL	Qual.	Result	RL	Qual.	Result	RL	Qual.
SEMIVOLATILE ORGANICS												
Units		µg/kg			µg/kg			µg/kg			µg/kg	
1,2-Dichlorobenzene	<	370		<	370		<	350		<	330	
4-Methylphenol	<	370		<	370		<	350		<	330	
Naphthalene		120	J	<	370		<	350			38	J
2-Methylnaphthalene	<	370		<	370		<	350		<	330	
Acenaphthylene	<	370		<	370		<	350		67		J
Acenaphthene	<	370		73		J	<	350		<	330	
Dibenzofuran	<	370		<	370		<	350		<	330	
Diethylphthalate	<	370		<	370		<	350		<	330	
Fluorene	<	370		<	370		<	350		<	330	
Phenanthrene	<	370		360		J	280		J	170		J
Anthracene	<	370		63		J	53		J	41		J
Carbazole	<	370		37		J	<	350		<	330	
Di-n-butylphthalate	<	370		<	370	J	<	350	J	<	330	
Fluoranthene	44		J	730			450			360		
Pyrene		53	J	900			540			430		
Butylbenzylphthalate	<	370		<	370		<	350		<	330	
Benzo(a)anthracene	<	370		620			260		J	250		J
Chrysene	<	370		760			270		J	260		J
bis(2-Ethylhexyl)phthalate	30000			<	370		<	350		<	330	
Di-n-octylphthalate	<	370		<	370		<	350		<	330	
Benzo(b)fluoranthene	52		J	1600			390			490		
Benzo(k)fluoranthene	<	370		400			140		J	140		J
Benzo(a)pyrene	<	370		1000			290		J	430		
Indeno(1,2,3-cd)pyrene	<	370		1200			230		J	400		
Dibenz(a,h)anthracene	<	370		320		J	57		J	99		J
Benzo(g,h,i)perylene	38		J	1500			310		J	550		

RL = Reporting Limit (For this data set the Reporting Limit is the Contract Required Quantitation Limit)
J= Estimated Value

SUMMARY OF CHEMICALS DETECTED IN SOIL
Fall 1998
HIMCO DUMP SUPERFUND SITE

Sample location	SB16-05			SB16-2			SB16-6			SB16-6 Dup		
Date sampled	10/15/98			10/15/98			10/15/98			10/15/98		
Units	mg/kg			mg/kg			mg/kg			mg/kg		
	Result	RL	Qual.	Result	RL	Qual.	Result	RL	Qual.	Result	RL	Qual.
TOTAL METALS												
Aluminum	3340			4600			4820			8860		
Antimony	<	10.7	J	<	10.7	J	<	12.8	J	<	13.3	J
Arsenic	3.9			3.8			4.7			5.5		
Barium	32.5			55.5			54.3			95.7		
Beryllium	<	0.20		<	0.20		0.80		J	0.90		J
Cadmium	<	0.90		<	0.90		<	1.10		<	1.10	
Calcium	14000		J	14800		J	41200			85900		J
Chromium	7.9		J	9.6			13.1		J	11.3		
Cobalt	4.8		J	4.3		J	3.8		J	<	4.0	
Copper	16.4			49.0			18.3			18.9		
Iron	8530			7460			10800			16600		
Lead	17.6			32.2			28.2			26.6		
Magnesium	4860		J	3530		J	5460		J	7860		J
Manganese	298			294			228			588		
Mercury	<	0.05		<	0.05		<	0:06		<	0.06	
Nickel	10.8			8.8			11.8			12.1		
Potassium	289		J	318		J	283		J	450		J
Selenium	0.60		J	0.70		J	1.4		J	1.3		J
Silver	<	0.80		<	0.80		<	1.0		<	1.1	
Sodium	29.8		J	78.0			219			378		
Thallium	<	0.40		0.50			0.50			<	0.50	
Vanadium	9.9			11.9			<	14.4		15.1		
Zinc	66.5			109			78.0			78.6		
Cyanide	0.10		J	0.08		J	1.0			0.50		
VOLATILE ORGANICS												
Units	µg/kg			µg/kg			µg/kg			µg/kg		
Methylene Chloride	<	18		<	24		<	13		<	25	
Acetone	2		J	<	10	J	<	12	J	<	14	
Carbon Disulfide	<	11		<	10		<	12		2		J
1,1-Dichloroethane	<	11		<	10		1		J	2		J
Benzene	<	11		<	10		3		J	4		J
Ethylbenzene	<	11		<	10		12			14		
Xylene (total)	<	11		<	10		7		J	9		J

RL = Reporting Limit (For this data set the Reporting Limit is the Contract Required Quantitation Limit)
J= Estimated Value

SUMMARY OF CHEMICALS DETECTED IN SOIL
Fall 1998
HIMCO DUMP SUPERFUND SITE

Sample location	SB16-05			SB16-2			SB16-6			SB16-6 Dup		
Date sampled	10/15/98			10/15/98			10/15/98			10/15/98		
	Result	RL	Qual.	Result	RL	Qual.	Result	RL	Qual.	Result	RL	Qual.
SEMIVOLATILE ORGANICS												
Units		µg/kg			µg/kg			µg/kg			µg/kg	
1,2-Dichlorobenzene	<	350		<	350		98		J	63		J
4-Methylphenol	<	350		<	350		<	410		<	390	
Naphthalene	<	350		<	350		120		J	130		J
2-Methylnaphthalene	<	350		<	350		<	410		<	390	
Acenaphthylene	<	350		<	350		<	410		<	390	
Acenaphthene	<	350		<	350		<	410		<	390	
Dibenzofuran	<	350		<	350		<	410		<	390	
Diethylphthalate	<	350		<	350		64		J	46		J
Fluorene	<	350		<	350		<	410		<	390	
Phenanthrene	37		J	100		J	270		J	250		J
Anthracene	<	350		<	350		53		J	57		J
Carbazole	<	350		<	350		<	410		<	390	
Di-n-butylphthalate	<	350		<	350		<	410		390		
Fluoranthene	91		J	210		J	710			<	660	
Pyrene	76		J	190		J	670			610		
Butylbenzylphthalate	<	350	J	<	350	J	60		J	<	390	J
Benzo(a)anthracene	39		J	100		J	400		J	350		J
Chrysene	47		J	110		J	450			400		
bis(2-Ethylhexyl)phthalate	410		J	160		J	270		J	120		J
Di-n-octylphthalate	<	350	J	<	350	J	<	410	J	<	390	J
Benzo(b)fluoranthene	44		J	120		J	750			430		
Benzo(k)fluoranthene	50		J	120		J	900			440		
Benzo(a)pyrene	53		J	120		J	530			450		
Indeno(1,2,3-cd)pyrene	41		J	82		J	380		J	360		J
Dibenz(a,h)anthracene	350			43		J	160		J	150		J
Benzo(g,h,i)perylene	39		J	89		J	280		J	250		J

RL = Reporting Limit (For this data set the Reporting Limit is the Contract Required Quantitation Limit)
J= Estimated Value

SUMMARY OF CHEMICALS DETECTED IN SOIL
Fall 1998
HIMCO DUMP SUPERFUND SITE

Sample location	SB17-0.5			SB17-2			SB18-0.5			SB18-2		
Date sampled	10/15/98			10/15/98			10/19/98			10/19/98		
Units	mg/kg			mg/kg			mg/kg			mg/kg		
	Result	RL	Qual.	Result	RL	Qual.	Result	RL	Qual.	Result	RL	Qual.
TOTAL METALS												
Aluminum	3230			5110			4320			6200		
Antimony	<	11.0	J	<	10.9	J	<	9.5		<	9.2	
Arsenic	1.5			2.7			1.5		J	4.8		J
Barium	29.7			37.4			81.1			89.8		
Beryllium	<	0.20		<	0.20		0.40		J	0.20		J
Cadmium	1.0			<	0.90		1.0			1.2		
Calcium	6220		J	<	18900	J	4230			13000		
Chromium	6.3		J	9.5			10.5			19.8		
Cobalt	<	3.3		4.3		J	4.5		J	5.9		J
Copper	63.9			11.9			41.7			25.6		
Iron	3760			6680			8960			15000		
Lead	19.9			10.9			67.4			83.4		
Magnesium	1440		J	4450		J	1810			4440		
Manganese	73.3			192			474			513		
Mercury	<	0.05		<	0.05		0.30			0.10		J
Nickel	<	8.1		8.0			<	6.4		15.0		J
Potassium	<	125		283		J	539		J	210		J
Selenium	0.80		J	0.80		J	<	0.10		<	0.10	
Silver	<	0.90		<	0.90		<	1.2		<	1.2	
Sodium	27.4		J	65.4			75.7		J	78.2		J
Thallium	<	0.40		<	0.40		<	0.09		<	0.09	
Vanadium	6.9			10.4			11.2		J	18.0		
Zinc	54.0			26.6			103			160		
Cyanide	0.06		J	0.60			0.50		J	1.5		J
VOLATILE ORGANICS												
Units	µg/kg			µg/kg			µg/kg			µg/kg		
Methylene Chloride	<	20		<	10		<	11		<	11	
Acetone	3		J	<	10	J	<	11		<	11	
Carbon Disulfide	<	11		<	10		<	11		<	11	
1,1-Dichloroethane	<	11		<	10		<	11		<	11	
Benzene	<	11		<	10		<	11		<	11	
Ethylbenzene	<	11		<	10		<	11		<	11	
Xylene (total)	<	11		<	10		<	11		<	11	

RL = Reporting Limit (For this data set the Reporting Limit is the Contract Required Quantitation Limit)
J= Estimated Value

SUMMARY OF CHEMICALS DETECTED IN SOIL
Fall 1998
HIMCO DUMP SUPERFUND SITE

Sample location	SB17-0.5			SB17-2			SB18-0.5			SB18-2		
Date sampled	10/15/98			10/15/98			10/19/98			10/19/98		
	Result	RL	Qual.	Result	RL	Qual.	Result	RL	Qual.	Result	RL	Qual.
SEMIVOLATILE ORGANICS												
Units		µg/kg			µg/kg			µg/kg			µg/kg	
1,2-Dichlorobenzene	<	360		<	350		<	370		<	360	
4-Methylphenol	<	360		<	350		<	370		<	360	
Naphthalene	<	360		<	350		<	370		50		J
2-Methylnaphthalene	<	360		<	350		<	370		48		J
Acenaphthylene	<	360		<	350		<	370		83		J
Acenaphthene	<	360	J	<	350		<	370		37		J
Dibenzofuran	<	360		<	350		<	370		<	360	
Diethylphthalate	<	360		<	350		<	370		<	360	
Fluorene	<	360		<	350		<	370		44		J
Phenanthrene	380			83		J	320		J	590		
Anthracene	59		J	<	350		67		J	130		J
Carbazole	64		J	<	350		46		J	49		J
Di-n-butylphthalate	<	360		<	350		<	370		<	360	
Fluoranthene	760			150		J	510			1200		
Pyrene	510		J	120		J	470			1500		
Butylbenzylphthalate	<	360	J	<	350	J	<	370		<	360	
Benzo(a)anthracene	260		J	66		J	<	270		770		
Chrysene	330		J	76		J	<	270		780		
bis(2-Ethylhexyl)phthalate	51		J	36		J	<	370		<	360	
Di-n-octylphthalate	<	360	J	<	350	J	<	370		<	360	
Benzo(b)fluoranthene	280		J	55		J	410			1000		
Benzo(k)fluoranthene	340		J	77		J	89		J	340		J
Benzo(a)pyrene	280		J	62		J	280		J	900		
Indeno(1,2,3-cd)pyrene	270		J	58		J	200		J	720		
Dibenz(a,h)anthracene	120		J	350			58		J	200		J
Benzo(g,h,i)perylene	220		J	47		J	240		J	820		

RL = Reporting Limit (For this data set the Reporting Limit is the Contract Required Quantitation Limit)
J= Estimated Value

SUMMARY OF CHEMICALS DETECTED IN SOIL
Fall 1998
HIMCO DUMP SUPERFUND SITE

Sample location	SB18-6			SB19-0.5			SB19-2			SB19-6		
Date sampled	10/19/98			10/15/98			10/15/98			10/15/98		
Units	mg/kg			mg/kg			mg/kg			mg/kg		
	Result	RL	Qual.	Result	RL	Qual.	Result	RL	Qual.	Result	RL	Qual.
TOTAL METALS												
Aluminum	5540			4120			4090			5210		
Antimony	<	10.6		<	11.2	J	<	11.4	J	<	13.8	J
Arsenic	3.4		J	3.4			6.1			4.6		
Barium	130			53.5			444			168		
Beryllium	0.30		J	<	0.20		<	0.20		<	0.20	
Cadmium	<	1.2		<	1.0		<	1.0		<	1.2	
Calcium	14300			5070		J	21700		J	70500		J
Chromium	11.1			6.9		J	13.1			14.3		
Cobalt	5.7		J	5.0		J	4.9		J	5.4		J
Copper	36.0			50.6			113			48.8		
Iron	7950			6700			9130			11200		
Lead	88.9			49.8			172			131		
Magnesium	3470			2050		J	5220		J	12600		J
Manganese	312			373			286			250		
Mercury	0.09		J	0.06			0.20			0.10		
Nickel	9.4		J	13.5			14.7			11.3		
Potassium	328		J	210		J	370		J	586		J
Selenium	<	0.20		1.0		J	1.6		J	<	0.60	
Silver	<	1.3		<	0.90		1.0			<	1.1	
Sodium	87.1		J	36.2		J	86.3			344		
Thallium	<	0.10		<	0.40		<	0.40		<	0.50	
Vanadium	16.1			<	10.1		12.7			12.7		
Zinc	182			81.6			434			307		
Cyanide	0.40		J	0.10		J	0.90			0.60		
VOLATILE ORGANICS												
Units	µg/kg			µg/kg			µg/kg			µg/kg		
Methylene Chloride	<	11		<	19		75			57		
Acetone	<	11		2		J	4		J	7		J
Carbon Disulfide	<	11		<	11		<	11		<	15	
1,1-Dichloroethane	<	11		<	11		<	11		<	15	
Benzene	<	11		<	11		<	11		<	15	
Ethylbenzene	<	11		<	11		<	11		<	15	
Xylene (total)	<	11		<	11		<	11		<	15	

RL = Reporting Limit (For this data set the Reporting Limit is the Contract Required Quantitation Limit)
J= Estimated Value

SUMMARY OF CHEMICALS DETECTED IN SOIL
Fall 1998
HIMCO DUMP SUPERFUND SITE

Sample location	SB18-6			SB19-0.5			SB19-2			SB19-6		
Date sampled	10/19/98			10/15/98			10/15/98			10/15/98		
	Result	RL	Qual.	Result	RL	Qual.	Result	RL	Qual.	Result	RL	Qual.
SEMIVOLATILE ORGANICS												
Units		µg/kg			µg/kg			µg/kg			µg/kg	
1,2-Dichlorobenzene	<	370		<	360		<	370		<	490	
4-Methylphenol	<	370		<	360		<	370		<	490	
Naphthalene	<	370		<	360		<	370		<	490	
2-Methylnaphthalene	<	370		<	360		<	370		<	490	
Acenaphthylene	<	370		96		J	290		J	<	490	
Acenaphthene	<	370		<	360		<	370		<	490	
Dibenzofuran	<	370		<	360		<	370		<	490	
Diethylphthalate	<	370		<	360		<	370		<	490	
Fluorene	<	370		<	360		71		J	<	490	
Phenanthrene	86		J	160		J	450			190		J
Anthracene	<	370		76		J	170		J	<	490	
Carbazole	<	370		<	360		49		J	<	490	
Di-n-butylphthalate	<	370		95		J	37		J	<	490	
Fluoranthene	130		J	490			1700			490		
Pyrene	170		J	530			1900			420		J
Butylbenzylphthalate	<	370		<	360	J	<	370	J	<	490	J
Benzo(a)anthracene	77		J	310		J	1100			330		J
Chrysene	100		J	300		J	970			380		J
bis(2-Ethylhexyl)phthalate	<	370		73		J	160		J	170		J
Di-n-octylphthalate	<	370		<	360	J	<	370	J	130		J
Benzo(b)fluoranthene	100		J	380			1700			690		
Benzo(k)fluoranthene	370			360			2100			830		
Benzo(a)pyrene	89		J	430			1400			480		J
Indeno(1,2,3-cd)pyrene	54		J	370			1100			410		J
Dibenz(a,h)anthracene	370			130		J	360		J	140		J
Benzo(g,h,i)perylene	93		J	340		J	940			400		J

RL = Reporting Limit (For this data set the Reporting Limit is the Contract Required Quantitation Limit)
J= Estimated Value

SUMMARY OF CHEMICALS DETECTED IN SOIL
Fall 1998
HIMCO DUMP SUPERFUND SITE

Sample location	SB20-0.5			SB20-2			SB20-6		
Date sampled	10/15/98			10/15/98			10/16/98		
Units	mg/kg			mg/kg			mg/kg		
	Result	RL	Qual.	Result	RL	Qual.	Result	RL	Qual.
TOTAL METALS									
Aluminum	3950			4870			3420		
Antimony	<	11.1	J	<	11.1	J	<	10.9	J
Arsenic	5.8			10.8			8.1		
Barium	172			201			72.2		
Beryllium	<	0.20		<	0.70		0.7		J
Cadmium	<	1.0		1.1			<	0.9	
Calcium	69200		J	24900		J	28700		J
Chromium	25.1			14.0			11.1		
Cobalt	4.9		J	5.4		J	6		J
Copper	242			664			54.4		
Iron	8700			20600			11500		
Lead	161			238			105		
Magnesium	9940		J	7730		J	8990		J
Manganese	592			454			200		
Mercury	27.9			4.5			1.2		
Nickel	<	16.5		22.3			11		
Potassium	404		J	483		J	339		J
Selenium	0.60		J	1.3		J	0.7		J
Silver	1.9			3.1			1.1		
Sodium	105			184			92.5		
Thallium	<	0.40		0.50			<	0.4	
Vanadium	12.8			15.8			12.9		
Zinc	324			537			121		
Cyanide	3.3			4.3			1.2		
VOLATILE ORGANICS									
Units	µg/kg			µg/kg			µg/kg		
Methylene Chloride	<	13		<	17		<	11	
Acetone	<	11	J	2		J	2		J
Carbon Disulfide	<	11		<	11		<	11	
1,1-Dichloroethane	<	11		<	11		<	11	
Benzene	<	11		<	11		<	11	
Ethylbenzene	<	11		<	11		<	11	
Xylene (total)	<	11		<	11		<	11	

RL = Reporting Limit.(For this data set the Reporting Limit is the Contract Required Quantitation Limit)
J= Estimated Value

SUMMARY OF CHEMICALS DETECTED IN SOIL
Fall 1998
HIMCO DUMP SUPERFUND SITE

Sample location	SB20-0.5			SB20-2			SB20-6		
Date sampled	10/15/98			10/15/98			10/16/98		
	Result	RL	Qual.	Result	RL	Qual.	Result	RL	Qual.
SEMIVOLATILE ORGANICS									
Units	µg/kg			µg/kg			µg/kg		
1,2-Dichlorobenzene	<	360		<	360		<	350	
4-Methylphenol	<	360		50		J	<	350	
Naphthalene	<	360		290		J	2200		
2-Methylnaphthalene	<	360		160		J	1000		
Acenaphthylene	<	360		140		J	2300		
Acenaphthene	180		J	220		J	890		
Dibenzofuran	<	360		170		J	1500		
Diethylphthalate	<	360		<	360		<	350	
Fluorene	<	360		250		J	2500		
Phenanthrene	460			1900			18000		
Anthracene	110		J	450			4900		J
Carbazole	58		J	280		J	1500		
Di-n-butylphthalate	<	360		<	360		<	350	
Fluoranthene	1200			2100			29000		
Pyrene	1200			2500			21000		
Butylbenzylphthalate	<	360	J	<	360	J	<	350	J
Benzo(a)anthracene	780			1700			9700		
Chrysene	880			1400			9700		
bis(2-Ethylhexyl)phthalate	90		J	62		J	81		J
Di-n-octylphthalate	120		J	<	360		<	350	J
Benzo(b)fluoranthene	1200			2800			9700		
Benzo(k)fluoranthene	1200			1200			10000		
Benzo(a)pyrene	1300			1700			11000		
Indeno(1,2,3-cd)pyrene	1200			1200			6400		
Dibenz(a,h)anthracene	450			450			2000		
Benzo(g,h,i)perylene	1000			1100			7100		

RL = Reporting Limit (For this data set the Reporting Limit is the Contract Required Quantitation Limit)
J= Estimated Value

SUMMARY OF CHEMICALS DETECTED IN ACTIVE SOIL VAPOR SAMPLES
FALL 1998
HIMCO DUMP SUPERFUND SITE

Sample Location	TT-11		TT-12		TT-13		TT-14			TT-14 Duplicate	
Units	µg/m³		µg/m³		µg/m³		µg/m³			µg/m³	
Analyte	Result	RL	Result	RL	Result	RL	Result	RL	Qual	Result	RL
Vinyl Chloride	<	0.26	<	0.24	<	33	77.31		J	104.59	
Bromomethane	<	0.52	<	0.48	<	66	1.00			<	63.70
Chloroethane	<	0.26	<	0.24	198.11321		35.93			<	31.80
1,1-Dichloroethene	<	0.26	<	0.24	<	33	6.82			<	31.80
Carbon Disulfide	1.17		<	0.24	<	33	86.40		J	131.88	
Acetone	<	2.6	<	2.4	<	330	<	2.30		<	318.00
Methylene Chloride	<	0.26	<	0.24	<	33	6.82		J	<	31.80
trans-1,2-Dichloroethene	<	0.26	<	0.24	<	33	11.82			<	31.80
1,1-Dichloroethane	<	0.26	<	0.24	471.70		500.23		J	2364.71	
2-Butanone	<	2.6	<	2.4	<	330	<	2.30		<	318.00
Chloroform	<	0.26	<	0.24	<	33	<	0.23		<	31.80
1,1,1-Trichloroethane	<	0.26	<	0.24	<	33	245.57		J	300.14	
Carbon Tetrachloride	<	0.26	<	0.24	<	33	40.02			<	31.80
Benzene	1.83		1.44		466.98		181.90		J	195.54	
1,2-Dichloroethane	<	0.26	<	0.24	<	33	<	0.23		<	31.80
Trichloroethene	<	0.26	<	0.24	<	33	268.30		J	268.30	
1,2-Dichloropropane	<	0.26	<	0.24	<	33	24.56			<	31.80
trans-1,3-Dichloropropene	<	0.26	<	0.24	<	33	<	0.23		<	31.80
Toluene	<	0.26	<	0.24	226.41509		95.50		J	90.95	
cis-1,3-Dichloropropene	<	0.26	<	0.24	<	33	<	0.23		<	31.80
Tetrachloroethene	<	0.26	<	0.24	<	33	227.38		J	254.66	
2-Hexanone	<	0.26	<	0.24	<	33	<	0.23		<	31.80
Chlorobenzene	<	0.26	<	0.24	<	33	10.91			<	31.80
Ethyl Benzene	<	0.26	0.5388415		3066.04		418.37		J	341.06	
m,p-Xylene	<	0.26	1.26		7075.47		727.60		J	395.63	
o-Xylene	<	0.26	<	0.24	221.70		391.09		J	318.33	
Styrene	<	0.26	<	0.24	<	33	12.73			<	31.80
cis-1,2-Dichloroethene	<	0.26	<	0.24	<	33	286.49		J	245.57	

Notes
J=Estimated value
NR=Not Measured

SUMMARY OF CHEMICALS DETECTED IN ACTIVE SOIL VAPOR SAMPLES
FALL 1998
HIMCO DUMP SUPERFUND SITE

Sample Location	TT-15		TT-16		TT-17		TT-18		TT-19		
Units	µg/m³		µg/m³		µg/m³		µg/m³		µg/m³		
Analyte	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Qual
Vinyl Chloride	<	0.47	61.06		20.39		175.12		18047.2		J
Bromomethane	<	0.94	<	1.83	<	16.12	<	59.91	<	157.3	
Chloroethane	<	0.47	<	3.62	<	8.06	<	29.95	<	78.7	
1,1-Dichloroethene	<	0.47	<	1.83	<	8.06	69.124424		134.19713		
Carbon Disulfide	<	2.77	4.70		18.97		921.66		2776.49		
Acetone	<	4.70	<	18.30	<	80.60	<	299.50	<	787.0	
Methylene Chloride	<	0.47	<	1.83	<	8.06	<	29.95	786.67		
trans-1,2-Dichloroethene	<	0.47	4.5561296		<	8.06	<	29.95	<	78.7	
1,1-Dichloroethane	<	0.47	89.24		56.90		<	29.95	<	78.7	
2-Butanone	<	4.70	<	18.30	<	80.60	<	299.50	<	787.0	
Chloroform	<	0.47	<	1.83	<	8.06	<	29.95	<	78.7	
1,1,1-Trichloroethane	<	0.47	<	1.83	40.30	8.06	<	29.95	<	78.7	
Carbon Tetrachloride	<	0.47	<	1.83	<	8.06	<	29.95	<	78.7	
Benzene	<	2.07	187.88		37.46	8.06	198.16	29.95	<	78.7	
1,2-Dichloroethane	<	0.47	<	1.83	<	8.06	<	29.95	<	78.7	
Trichloroethene	<	0.47	13.62		9.48	8.06	341.01	29.95	<	78.7	
1,2-Dichloropropane	<	0.47	17.85		13.75		<	29.95	<	78.7	
trans-1,3-Dichloropropene	<	0.47	<	1.83	<	8.06	<	29.95	<	78.7	
Toluene	0.89		5.64		35.09		239.63		<	78.7	
cis-1,3-Dichloropropene	<	0.47	<	1.83	<	8.06	<	29.95	<	78.7	
Tetrachloroethene	<	0.47	<	1.83	NR		460.83		<	78.7	
2-Hexanone	<	0.47	<	1.83	NR		<	29.95	<	78.7	
Chlorobenzene	<	0.47	<	1.83	NR		50.69		<	78.7	
Ethyl Benzene	1.08		<	1.83	NR		3179.72		148.07959		
m,p-Xylene	1.41		2.40		NR		1705.07		92.549745		
o-Xylene	0.52		<	1.83	NR		599.08		<	78.7	
Styrene	<	0.47	<	1.83	NR		<	29.95	<	78.7	
cis-1,2-Dichloroethene	<	0.47	17.38		<	8.06	64.52		555.29847		

Notes
J=Estimated value
NR=Not Measured

SUMMARY OF CHEMICALS DETECTED IN ACTIVE SOIL VAPOR SAMPLES
FALL 1998
HIMCO DUMP SUPERFUND SITE

Sample Location	TT-20		TT-21		TT-22			TT-23		TT-24	
Units	µg/m³		µg/m³		µg/m³			µg/m³		µg/m³	
Analyte	Result	RL	Result	RL	Result	RL	Qual	Result	RL	Result	RL
Vinyl Chloride	<	0.15	NR		0.15			<	0.12	<	0.12
Bromomethane	<	0.3	NR		<	0.26		<	0.24	<	0.24
Chloroethane	<	0.15	NR		0.56			<	0.12	<	0.12
1,1-Dichloroethene	<	0.15	NR		<	0.13		<	0.12	<	0.12
Carbon Disulfide	<	0.15	NR		0.30			<	0.12	<	0.12
Acetone	1.51		NR		3.71			1.51		1.19	
Methylene Chloride	0.57		NR		<	0.13		<	0.12	<	0.12
trans-1,2-Dichloroethene	<	0.15	NR		0.39			<	0.12	<	0.12
1,1-Dichloroethane	<	0.15	NR		46.38		J	<	0.12	<	0.12
2-Butanone	<	1.5	NR		<	1.30		<	1.17	<	1.16
Chloroform	<	0.15	NR		1.46	0.13		0.30	0.12	0.61	0.12
1,1,1-Trichloroethane	<	0.15	NR		4.87	0.13		0.28	0.12	0.22	0.12
Carbon Tetrachloride	<	0.15	NR		0.13	0.13		0.12	0.12	<	0.12
Benzene	0.36	0.15	NR		0.93	0.13		<	0.12	<	0.12
1,2-Dichloroethane	<	0.15	NR		<	0.13		<	0.12	<	0.12
Trichloroethene	<	0.15	NR		3.48	0.13		<	0.12	<	0.12
1,2-Dichloropropane	<	0.15	NR		<	0.13		<	0.12	<	0.12
trans-1,3-Dichloropropene	<	0.15	NR		0.18	0.13		<	0.12	<	0.12
Toluene	1.30		NR		0.28			<	0.12	<	0.12
cis-1,3-Dichloropropene	<	0.15	NR		0.14			<	0.12	<	0.12
Tetrachloroethene	<	0.15	NR		301.48		J	11.62		0.202514	
2-Hexanone	<	0.15	NR		<	0.13		<	0.12	<	0.12
Chlorobenzene	<	0.15	NR		<	0.13		<	0.12	<	0.12
Ethyl Benzene	0.16		NR		<	0.13		<	0.12	<	0.12
m,p-Xylene	0.54		NR		0.30			<	0.12	<	0.12
o-Xylene	0.18		NR		<	0.13		<	0.12	<	0.12
Styrene	0.54		NR		0.67			<	0.12	<	0.12
cis-1,2-Dichloroethene	<	0.15	NR		<	0.13		<	0.12	<	0.12

Notes
J=Estimated value
NR=Not Measured

SUMMARY OF CHEMICALS DETECTED IN ACTIVE SOIL VAPOR SAMPLES
FALL 1998
HIMCO DUMP SUPERFUND SITE

Sample Location	TT-25		TT-26			TT-26 (Duplicate)		TT-27		TT-28	
Units	µg/m³		µg/m³			µg/m³		µg/m³		µg/m³	
Analyte	Result	RL	Result	RL	Qual	Result	RL	Result	RL	Result	RL
Vinyl Chloride	<	0.115	21614.468		J	23214.29		<	30.76	<	2.36
Bromomethane	<	0.23	<	149.98		<	848.21	66.287879		<	4.71
Chloroethane	<	0.115	<	74.99		<	424.12	<	30.76	<	2.36
1,1-Dichloroethene	<	0.115	313.18924			<	424.12	<	30.76	<	2.36
Carbon Disulfide	0.12		3043.67			6250.00		<	30.76	7.07	2.36
Acetone	2.53		<	749.89		<	4241.07	<	307.76	<	23.56
Methylene Chloride	<	0.115	<	74.99		<	424.12	<	30.76	<	2.36
trans-1,2-Dichloroethene	<	0.115	<	74.99		<	424.12	<	30.76	<	2.36
1,1-Dichloroethane	<	0.115	441.1116			<	424.12	<	30.76	<	2.36
2-Butanone	<	1.15	<	749.89		<	4241.07	<	307.76	<	23.56
Chloroform	<	0.115	277.90	74.99		<	424.12	<	30.76	<	2.36
1,1,1-Trichloroethane	0.25	0.115	<	74.99		<	424.12	<	30.76	<	2.36
Carbon Tetrachloride	<	0.115	<	74.99		<	424.12	<	30.76	<	2.36
Benzene	<	0.115	220.5558	74.99		<	424.12	<	30.76	103.68	
1,2-Dichloroethane	<	0.115	<	74.99		<	424.12	<	30.76	<	2.36
Trichloroethene	<	0.115	14997.794	74.99	J	21429	424.12	90	30.76	14.137606	
1,2-Dichloropropane	<	0.115	<	74.99		<	424.12	<	30.76	<	2.36
trans-1,3-Dichloropropene	<	0.115	<	74.99		<	424.12	<	30.76	<	2.36
Toluene	<	0.115	10586.678			13392.86		<	30.76	6.60	
cis-1,3-Dichloropropene	<	0.115	<	74.99		<	424.12	<	30.76	<	2.36
Tetrachloroethene	1.0824505		43670.049		J	80357.143		4024.6212		61.262959	
2-Hexanone	<	0.115	<	74.99		<	424.12	<	30.76	<	2.36
Chlorobenzene	<	0.115	<	74.99		<	424.12	<	30.76	<	2.36
Ethyl Benzene	<	0.115	10145.6			15178.57		<	30.76	51.84	
m,p-Xylene	<	0.115	5734.45			8482.14		<	30.76	51.84	
o-Xylene	<	0.115	1411.56			1964.29		<	30.76	30.63	
Styrene	<	0.115	361.71			<	424.12	<	30.76	2.64	
cis-1,2-Dichloroethene	<	0.115	1940.89			1741.07		<	30.76	5.66	

Notes
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NR=Not Measured

SUMMARY OF CHEMICALS DETECTED IN ACTIVE SOIL VAPOR SAMPLES
FALL 1998
HIMCO DUMP SUPERFUND SITE

Sample Location	TT-29		TT-30		TT-31		TT-32			TT-33	
Units	µg/m³		µg/m³		µg/m³		µg/m³			µg/m³	
Analyte	Result	RL	Result	RL	Result	RL	Result	RL	Qual	Result	RL
Vinyl Chloride	<	0.30	<	0.31	<	0.31	17.87			<	3.44
Bromomethane	<	0.60	<	0.62	<	0.62	<	1.88		<	6.89
Chloroethane	<	0.30	<	0.31	<	0.31	2.73			3.76	
1,1-Dichloroethene	<	0.30	0.45		0.31		1.79			<	3.44
Carbon Disulfide	<	1.47	<	0.95	<	1.06	9.87			7.35	
Acetone	<	2.98	<	3.09	<	3.08	<	9.40		<	34.43
Methylene Chloride	<	0.30	<	0.31	<	0.31	<	0.94		<	3.44
trans-1,2-Dichloroethene	<	0.30	0.52		0.45		4.04			6.89	
1,1-Dichloroethane	<	0.30	<	0.31	<	0.31	362.01		J	9.18	
2-Butanone	<	2.98	<	3.09	<	3.08	<	9.40		<	34.43
Chloroform	<	0.30	<	0.31	<	0.31	<	0.94		<	3.44
1,1,1-Trichloroethane	7.35	0.30	<	0.31	<	0.31	<	0.94		<	3.44
Carbon Tetrachloride	<	0.30	<	0.31	<	0.31	<	0.94		<	3.44
Benzene	1.52		1.86		2.02		40.90			211.20	
1,2-Dichloroethane	<	0.30	<	0.31	<	0.31	1.69			<	3.44
Trichloroethene	<	0.30	<	0.31	<	0.31	16.46			8.72	
1,2-Dichloropropane	<	0.30	<	0.31	<	0.31	9.87			<	3.44
trans-1,3-Dichloropropene	<	0.30	<	0.31	<	0.31	<	0.94		<	3.44
Toluene	0.33		0.67		0.67		4.00			20.20	
cis-1,3-Dichloropropene	<	0.30	<	0.31	<	0.31	<	0.94		<	3.44
Tetrachloroethene	224.97704		<	0.31	<	0.31	1.6925247			<	3.44
2-Hexanone	<	0.30	<	0.31	<	0.31	<	0.94		<	3.44
Chlorobenzene	<	0.30	<	0.31	<	0.31	10.813352			17.906336	
Ethyl Benzene	<	0.30	0.81		0.63		1.79	0.94		22.04	
m,p-Xylene	0.51	0.30	1.52		1.25		4.51	0.94		64.28	
o-Xylene	<	0.30	0.76		0.53		4.70	0.94		4.59	
Styrene	<	0.30	<	0.31	<	0.31	<	0.94		<	3.44
cis-1,2-Dichloroethene	<	0.30	0.44		0.33		8.93	0.94		9.18	

Notes
J=Estimated value
NR=Not Measured

SUMMARY OF CHEMICALS DETECTED IN ACTIVE SOIL VAPOR SAMPLES
FALL 1998
HIMCO DUMP SUPERFUND SITE

Sample Location	TT-34			TT-35		TT-36		TT-37			TT-38	
Units	µg/m³			µg/m³		µg/m³		µg/m³			µg/m³	
	Result	RL	Qual	Result	RL	Result	RL	Result	RL	Qual	Result	RL
Analyte												
Vinyl Chloride	216.90			<	0.22	<	0.22	<	0.22		<	0.23
Bromomethane	<	8.96		<	0.44	<	0.44	<	0.44		<	0.45
Chloroethane	5.66			<	0.22	<	0.22	<	0.22		<	0.23
1,1-Dichloroethene	<	4.48		<	0.22	<	0.22	<	0.22		<	0.23
Carbon Disulfide	29.23			1.25		<	0.22	0.61			0.63	
Acetone	<	44.79		<	2.23	<	2.22	<	2.18		<	2.26
Methylene Chloride	<	4.48		<	0.22	<	0.22	<	0.22		<	0.23
trans-1,2-Dichloroethene	20.74			<	0.22	<	0.22	<	0.22		<	0.23
1,1-Dichloroethane	47.15			<	0.22	<	0.22	<	0.22		<	0.23
2-Butanone	<	44.79		<	2.23	<	2.22	<	2.18		<	2.26
Chloroform	<	4.48		<	0.22	<	0.22	<	0.22		<	0.23
1,1,1-Trichloroethane	<	4.48		<	0.22	0.32		0.83			0.68	
Carbon Tetrachloride	<	4.48		<	0.22	<	0.22	<	0.22		<	0.23
Benzene	754.36			<	0.22	<	0.22	<	0.22		<	0.23
1,2-Dichloroethane	<	4.48		<	0.22	<	0.22	<	0.22		<	0.23
Trichloroethene	43.38			<	0.22	<	0.22	<	0.22		<	0.23
1,2-Dichloropropane	<	4.48		<	0.22	<	0.22	<	0.22		<	0.23
trans-1,3-Dichloropropene	<	4.48		<	0.22	<	0.22	<	0.22		<	0.23
Toluene	188.59			<	0.45	<	0.23	<	0.41		<	0.35
cis-1,3-Dichloropropene	<	4.48		<	0.22	<	0.22	<	0.22		<	0.23
Tetrachloroethene	377.18058			0.76		2.67		126.75		J	14.00	
2-Hexanone	<	4.48		1.78		<	0.22	<	0.22		<	0.23
Chlorobenzene	<	4.48		<	0.22	<	0.22	<	0.22		<	0.23
Ethyl Benzene	1037.25		J	<	0.22	<	0.22	<	0.22		<	0.23
m,p-Xylene	895.80			<	0.22	<	0.22	<	0.22		<	0.23
o-Xylene	339.46			<	0.22	<	0.22	<	0.22		<	0.23
Styrene	<	4.48		<	0.22	<	0.22	<	0.22		<	0.23
cis-1,2-Dichloroethene	38.19			<	0.22	<	0.22	<	0.22		<	0.23

Notes
J=Estimated value
NR=Not Measured

SUMMARY OF CHEMICALS DETECTED IN ACTIVE SOIL VAPOR SAMPLES
FALL 1998
HIMCO DUMP SUPERFUND SITE

Sample Location	TT-39			TT-39 (Dup)			TT-40			TT-41	
Units	µg/m³			µg/m³			µg/m³			µg/m³	
Analyte	Result	RL	Qual	Result	RL	Qual	Result	RL	Qual	Result	RL
Vinyl Chloride	<	0.22		<	0.22		<	0.23		<	0.2
Bromomethane	<	0.44		<	0.44		<	0.45		<	0.41
Chloroethane	<	0.22		<	0.22		<	0.23		<	0.2
1,1-Dichloroethene	<	0.22		<	0.22		0.50			<	0.2
Carbon Disulfide	0.45			0.26			0.72			1.27	
Acetone	<	2.23		<	2.22		<	2.26		<	2.04
Methylene Chloride	<	0.22		<	0.22		1.45			<	0.2
trans-1,2-Dichloroethene	<	0.22		<	0.22		2.54			<	0.2
1,1-Dichloroethane	<	0.22		<	0.22		4.16			<	0.2
2-Butanone	<	2.23		<	2.22		<	2.26		<	2.04
Chloroform	<	0.22		<	0.22		2.90			<	0.2
1,1,1-Trichloroethane	0.76			0.67			9.05			0.26	
Carbon Tetrachloride	<	0.22		<	0.22		<	0.23		<	0.2
Benzene	<	0.22		<	0.22		1.13			<	0.2
1,2-Dichloroethane	<	0.22		<	0.22		<	0.23		<	0.2
Trichloroethene	<	0.22		<	0.22		76.96		J	<	0.2
1,2-Dichloropropane	<	0.22		<	0.22		<	0.23		<	0.2
trans-1,3-Dichloropropene	<	0.22		<	0.22		<	0.23		<	0.2
Toluene	2.37			0.71			2.49			0.36	
cis-1,3-Dichloropropene	<	0.22		<	0.22		<	0.23		<	0.2
Tetrachloroethene	107.24		J	88.97		J	1131.73		J	<	0.2
2-Hexanone	<	0.22		<	0.22		<	0.23		<	0.2
Chlorobenzene	<	0.22		<	0.22		<	0.23		<	0.2
Ethyl Benzene	<	0.22		<	0.22		0.63			<	0.2
m,p-Xylene	<	0.22		<	0.22		0.91			<	0.2
o-Xylene	<	0.22		<	0.22		0.38			<	0.2
Styrene	<	0.22		<	0.22		<	0.23		<	0.2
cis-1,2-Dichloroethene	<	0.22		<	0.22		7.70			<	0.2

Notes
J=Estimated value
NR=Not Measured

SUMMARY OF CHEMICALS DETECTED IN ACTIVE SOIL VAPOR SAMPLES
FALL 1998
HIMCO DUMP SUPERFUND SITE

Sample Location	TT-42		TT-43		TT-44		TT-45			TT-46	
Units	µg/m³		µg/m³		µg/m³		µg/m³			µg/m³	
Analyte	Result	RL	Result	RL	Result	RL	Result	RL	Qual	Result	RL
Vinyl Chloride	<	0.22	<	0.22	<	0.23	<	0.22		<	0.22
Bromomethane	0.609		<	0.44	<	0.45	<	0.43		<	0.45
Chloroethane	<	0.22	<	0.22	<	0.23	<	0.22		<	0.22
1,1-Dichloroethene	<	0.22	<	0.22	<	0.23	<	0.22		<	0.22
Carbon Disulfide	0.23		0.61		0.28		0.57			1.35	
Acetone	<	2.17	<	2.18	<	2.27	<	2.17		2.34	
Methylene Chloride	<	0.22	<	0.22	<	0.23	<	0.22		<	0.22
trans-1,2-Dichloroethene	<	0.22	<	0.22	<	0.23	<	0.22		<	0.22
1,1-Dichloroethane	<	0.22	<	0.22	<	0.23	2.57			1.53	
2-Butanone	<	2.17	<	2.18	<	2.27	<	2.17		<	2.25
Chloroform	1.6100957		<	0.22	<	0.23	1.04			1.67	
1,1,1-Trichloroethane	0.25		0.22		<	0.23	100.00		J	5.86	
Carbon Tetrachloride	<	0.22	<	0.22	<	0.23	<	0.22		<	0.22
Benzene	<	0.22	<	0.22	<	0.23	<	0.22		0.27	
1,2-Dichloroethane	<	0.22	<	0.22	<	0.23	<	0.22		<	0.22
Trichloroethene	<	0.22	<	0.22	<	0.23	1.57			0.28	
1,2-Dichloropropane	<	0.22	<	0.22	<	0.23	<	0.22		<	0.22
trans-1,3-Dichloropropene	<	0.22	<	0.22	<	0.23	<	0.22		<	0.22
Toluene	0.87		0.70		0.73		0.42			3.65	
cis-1,3-Dichloropropene	<	0.22	<	0.22	<	0.23	<	0.22		<	0.22
Tetrachloroethene	1.04		10.03		1.41		1.22			7.21	
2-Hexanone	<	0.22	<	0.22	<	0.23	<	0.22		<	0.22
Chlorobenzene	<	0.22	<	0.22	<	0.23	<	0.22		<	0.22
Ethyl Benzene	<	0.22	<	0.22	<	0.23	<	0.22		0.30	
m,p-Xylene	<	0.22	<	0.22	<	0.23	<	0.22		0.54	
o-Xylene	<	0.22	<	0.22	<	0.23	<	0.22		<	0.22
Styrene	<	0.22	<	0.22	<	0.23	<	0.22		<	0.22
cis-1,2-Dichloroethene	<	0.22	<	0.22	<	0.23	<	0.22		<	0.22

Notes
J=Estimated value
NR=Not Measured

SUMMARY OF CHEMICALS DETECTED IN ACTIVE SOIL VAPOR SAMPLES
FALL 1998
HIMCO DUMP SUPERFUND SITE

Sample Location	TT-46 (Duplicate)		TT-47			TT-48		TT-49			TT-50	
Units	µg/m³		µg/m³			µg/m³		µg/m³			µg/m³	
Analyte	Result	RL	Result	RL	Qual	Result	RL	Result	RL	Qual	Result	RL
Vinyl Chloride	<	0.22	<	0.23		<	0.22	<	0.21		<	0.21
Bromomethane	<	0.45	0.63			<	0.43	0.81			<	0.43
Chloroethane	<	0.22	<	0.23		<	0.22	4.28			<	0.21
1,1-Dichloroethene	<	0.22	<	0.23		<	0.22	0.56			<	0.21
Carbon Disulfide	0.63		1.22			1.08		1.16			0.25	
Acetone	<	2.23	<	2.26		<	2.16	<	2.14		<	2.13
Methylene Chloride	<	0.22	<	0.23		<	0.22	<	0.21		<	0.21
trans-1,2-Dichloroethene	<	0.22	<	0.23		<	0.22	0.51			<	0.21
1,1-Dichloroethane	0.94		6.79			4.75		282.66		J	0.32	
2-Butanone	<	2.23	<	2.26		<	2.16	<	2.14		<	2.13
Chloroform	1.03		2.40			0.22		<	0.21		<	0.21
1,1,1-Trichloroethane	3.39		67.87		J	6.04		7.28			0.27	
Carbon Tetrachloride	<	0.22	<	0.23		<	0.22	<	0.21		<	0.21
Benzene	<	0.22	<	0.23		0.99		6.00			0.22	
1,2-Dichloroethane	<	0.22	<	0.23		<	0.22	0.38			<	0.21
Trichloroethene	<	0.22	<	0.23		2.76		40.26			1.02	
1,2-Dichloropropane	<	0.22	<	0.23		<	0.22	4.71			<	0.21
trans-1,3-Dichloropropene	<	0.22	<	0.23		<	0.22	<	0.21		<	0.21
Toluene	0.80		1.22			6.91		1.24			0.40	
cis-1,3-Dichloropropene	<	0.22	<	0.23		<	0.22	<	0.21		<	0.21
Tetrachloroethene	5.36		2.04			4.75		38.54			2.09	
2-Hexanone	<	0.22	<	0.23		<	0.22	<	0.21		<	0.21
Chlorobenzene	<	0.22	<	0.23		<	0.22	<	0.21		<	0.21
Ethyl Benzene	<	0.22	<	0.23		0.37		6.00			<	0.21
m,p-Xylene	<	0.22	<	0.23		<	0.22	9.42			<	0.21
o-Xylene	<	0.22	<	0.23		<	0.22	3.55			<	0.21
Styrene	<	0.22	<	0.23		<	0.22	<	0.21		<	0.21
cis-1,2-Dichloroethene	<	0.22	<	0.23		<	0.22	2.83			<	0.21

Notes
J=Estimated value
NR=Not Measured

SUMMARY OF CHEMICALS DETECTED IN ACTIVE SOIL VAPOR SAMPLES
FALL 1998
HIMCO DUMP SUPERFUND SITE

Sample Location	TT-51		TT-52		TT-53	
Units	µg/m³		µg/m³		µg/m³	
Analyte	Result	RL	Result	RL	Result	RL
Vinyl Chloride	<	0.23	<	0.23	<	0.22
Bromomethane	<	0.45	<	0.45	<	0.45
Chloroethane	<	0.23	<	0.45	<	0.22
1,1-Dichloroethene	<	0.23	<	0.23	<	0.22
Carbon Disulfide	0.44		0.50		<	0.22
Acetone	<	2.25	<	2.27	<	2.24
Methylene Chloride	<	0.23	<	0.23	<	0.22
trans-1,2-Dichloroethene	<	0.23	<	0.23	<	0.22
1,1-Dichloroethane	9.02		<	0.23	<	0.22
2-Butanone	<	2.25	<	2.27	<	2.24
Chloroform	<	0.23	<	0.23	<	0.22
1,1,1-Trichloroethane	0.37		<	0.23	<	0.22
Carbon Tetrachloride	<	0.23	<	0.23	<	0.22
Benzene	0.45		<	0.23	<	0.22
1,2-Dichloroethane	<	0.23	<	0.23	<	0.22
Trichloroethene	<	0.23	<	0.23	<	0.22
1,2-Dichloropropane	<	0.23	<	0.23	<	0.22
trans-1,3-Dichloropropene	<	0.23	<	0.23	<	0.22
Toluene	0.45		<	0.23	<	0.22
cis-1,3-Dichloropropene	<	0.23	<	0.23	<	0.22
Tetrachloroethene	1.85		<	0.23	<	0.22
2-Hexanone	<	0.23	<	0.23	<	0.22
Chlorobenzene	<	0.23	<	0.23	<	0.22
Ethyl Benzene	<	0.23	<	0.23	<	0.22
m,p-Xylene	<	0.23	<	0.23	<	0.22
o-Xylene	<	0.23	<	0.23	<	0.22
Styrene	<	0.23	<	0.23	<	0.22
cis-1,2-Dichloroethene	<	0.23	<	0.23	<	0.22

Notes
J=Estimated value
NR=Not Measured

MEMORANDUM

DATE: March 22, 1999

TO: Gwen Massenburg SR-6J

FROM: Greg Herring

REFERENCE: IAG DW96947722-01-5

SUBJECT: Himco Dump Superfund Site, Supplemental Field Investigation/Risk Assessment Analytical Data Package Summary for the Construction Debris Area

Gwen,

Attached is four copies of the Analytical Data for soil, ground water and soil vapor samples collected during the Fall 1998 Supplemental Field Investigation. The Analytical Data Package contains the following:

1. Table 2.1, Occurrence, Distribution and Selection of Chemicals of Potential Concern Himco Dump Superfund Site/Construction Debris Area, **'95 and '98 Combined Shallow Aquifer Data Set for Ground Water.**

2. Table 2.1, Occurrence, Distribution and Selection of Chemicals of Potential Concern Himco Dump Superfund Site/Construction Debris Area, **Surface Soil Data**.

3. Table 2.1, Occurrence, Distribution and Selection of Chemicals of Potential Concern Himco Dump Superfund Site/Construction Debris Area, **Total Soil Data**.

4. Table, Summary of Chemicals Detected in Ground Water, Fall 1998, Himco Dump Superfund Site.

5. Table, Summary of Chemicals Detected in Active Soil Vapor Samples, Fall 1998, Himco Dump Superfund Site.

6. Table, Summary of Chemicals Detected in Soil, Fall 1998, Himco Dump Superfund Site.

7. Figure 2-1, Supplemental Field Investigation/Risk Assessment, Himco Dump Superfund Site Final Soil Boring Sampling Locations (1 full size copy).

8. Figure 2-2, Supplemental Field Investigation/Risk Assessment, Himco Dump Superfund Site Final Monitoring Well Sampling Locations (1 half size copy).

9. Figure 2-3, Supplemental Field Investigation/Risk Assessment, Himco Dump Superfund Site Final Soil Gas Sampling Locations (1 full size copy).

Please call me at (402) 221-7712 if you have questions.

Greg

SUMMARY OF CHEMICALS DETECTED IN GROUND WATER
FALL 1998
HIMCO DUMP SUPERFUND SITE

Sample location	WT101A			WT101A duplicate			WT102A			WT112A			WT114A			WT115A			WT116A		
Date sampled	10/21/98			10/21/98			10/19/98			10/20/98			10/20/98			10/21/98			10/21/98		
Units	µg/L			µg/L			µg/L			µg/L			µg/L			µg/L			µg/L		
	Result	RL	Qual	Result	RL	Qual	Result	RL	Qual	Result	RL	Qual	Result	RL	Qual	Result	RL	Qual	Result	RL	Qual
TOTAL METALS																					
Aluminum	<	26.0		<	26.0		27.6		J	<	26.0	J	<	26.0	J	94.1		J	58.0		J
Antimony	<	42.2		<	42.2		<	42.2	J	<	42.2	J	<	42.2	J	<	42.2		<	42.2	J
Arsenic	3.6		J	3.3		J	<	0.90	J	<	0.90	J	24.3		J	0.90			1.0		J
Barium	91.2		J	85.5		J	47.3		J	36.6		J	238		J	<	33.5	J	192		J
Beryllium	<	0.60		<	0.60		<	0.60	J	<	0.60	J	0.60		J	<	0.60		<	0.60	J
Calcium	377000			361000			17100		J	19000		J	27000		J	293000			60900		J
Chromium	13.1			11.3			20.3		J	7.5		J	12.0		J	10.4			<	7.0	J
Cobalt	<	7.8		<	7.8		<	7.8	J	<	7.8	J	11.9		J	<	7.8		<	7.8	J
Copper	<	4.1		<	4.1		<	4.1	J	<	4.1	J	<	4.1	J	<	4.1		<	4.1	J
Iron	28100			26900			96.8		J	<	11.7	J	17900		J	4590			4490		J
Lead	<	0.50		<	0.50		<	0.50	J	<	0.50	J	<	0.50	J	<	0.50		<	0.50	J
Magnesium	14700			13900			16600		J	14000		J	24800		J	20300			52700		J
Manganese	3080			2940			61.5		J	6.7		J	306		J	513			662		J
Mercury	<	0.10		<	0.10		0.10		J	<	0.10	J	<	0.10	J	<	0.10		0.10		J
Nickel	<	28.3		<	28.3		73.0		J	<	23.8	J	<	23.8	J	<	28.3		<	28.3	J
Potassium	3630		J	3630		J	1610		J	1330		J	6640		J	3580		J	25200		J
Selenium	3.0		R	3.0		R	<	6.0	J	<	6.0	J	<	6.0	J	3.0		R	6.0		R
Silver	<	5.3		<	5.3		6.1		J	<	5.3	J	<	5.3	J	<	5.3		<	5.3	J
Sodium	35800			33100			48000		J	13300		J	47100		J	12100			<	179000	J
Thallium	<	0.40		<	0.40		<	0.40	J	<	0.40	J	<	0.40	J	<	0.40		<	0.40	J
Zinc	<	3.2		<	3.2		<	3.2	J	<	3.2	J	3.2		J	3.7		J	<	3.2	J
Cyanide	17.9		J	14.4		J	8.5		J	7.3		J	7.8		J	12.4		J	31.9		
VOLATILE ORGANICS																					
1,1-Dichloroethane	<	10		<	10		<	10		<	10		4		J	<	10		5	J	
SEMIVOLATILE ORGANICS																					
Diethylphthalate		19	J		9	J	<	10		<	10			2	J	<	10	J	10	U	
bis(2-Ethylhexyl)phthalate	<	10	J	<	10			3	J	<	10		<	10		<	10	J	2	J	

RL=Reporting Limit (For this data set the Reporting Limit is the Contract Required Quantitation Limit)
J=Estimated Value
R=Rejected Value (The data value is unusable.)

SUMMARY OF CHEMICALS DETECTED IN GROUND WATER
FALL 1998
HIMCO DUMP SUPERFUND SITE

Sample location	WT119A			WT119A dup		
Date sampled	10/22/98			10/22/98		
Units	µg/L			µg/L		
	Result	RL	Qual	Result	RL	Qual
TOTAL METALS						
Aluminum	258		J	249		J
Antimony	43.2		J	<	42.2	
Arsenic	5.8		J	5.3		
Barium	78.3			76.0		
Beryllium	<	0.60	J	<	0.60	J
Calcium	143000			142000		
Chromium	7.8			<	7.0	
Cobalt	<	7.8		<	7.8	
Copper	5.4			4.9		
Iron	1690			1690		
Lead	3.4		J	2.4		J
Magnesium	44800			44500		
Manganese	279			278		
Mercury	<	0.10		<	0.10	
Nickel	<	28.3		<	28.3	
Potassium	11500		J	11200		J
Selenium	6.0		J	6.0		J
Silver	<	5.3		<	5.3	
Sodium	69100			68200		
Thallium	<	0.40		<	0.40	
Zinc	<	4.9		<	4.9	
Cyanide	12		J	15.2		
VOLATILE ORGANICS						
1,1-Dichloroethane	<	10		<	10	
SEMIVOLATILE ORGANICS						
Diethylphthalate	<	10		<	10	
bis(2-Ethylhexyl)phthalate	<	10		<	10	

RL=Reporting Limit (For this data set the Reporting Limit is the Contract Required Quantitation Limit)
J=Estimated Value
R=Rejected Value (The data value is unusable.)

SUMMARY OF CHEMICALS DETECTED IN SOIL
Fall 1998
HIMCO DUMP SUPERFUND SITE

Sample location	SB03-0.5			SB03-2			SB04-0.5			SB04-2		
Date sampled	10/12/98			10/12/98			10/19/98			10/19/98		
Units	mg/kg			mg/kg			mg/kg			mg/kg		
	Result	RL	Qual.	Result	RL	Qual.	Result	RL	Qual.	Result	RL	Qual.
TOTAL METALS												
Aluminum	4080			3960			3340			5130		
Antimony	<	11.5	J	<	11.3	J	<	9.0		<	9.0	
Arsenic	1.6			1.3			1.00		J	1.1		J
Barium	27.9			21.9			21.2			39.5		
Beryllium	<	0.20		<	0.20		0.10		J	0.20		J
Cadmium	<	1.0		1.0			<	1.0		<	1.0	
Calcium	1670		J	480		J	1020			1530		
Chromium	5.2		J	5.3		J	4.8			6.4		
Cobalt	<	3.4		<	3.4		<	1.7		<	1.7	
Copper	15.9		J	4.3			3.8		J	3.3		J
Iron	3450			2530			4120			5070		
Lead	9.8			11.7			8.1		J	7.8		J
Magnesium	697		J	333		J	724			833		
Manganese	58.7			14.8			69.9			86.2		
Mercury	<	0.06		<	0.06		0.05		J	0.05		J
Nickel	<	8.4		<	8.2		<	6.1		<	6.0	
Potassium	253		J	<	127		<	198		288		J
Selenium	0.80		J	0.90		J	<	0.10		<	0.10	
Silver	<	0.90		<	0.90		<	1.1		<	1.1	
Sodium	20.4		J	39.0		J	34.5		J	525		
Thallium	<	0.40		<	0.40		<	0.08		<	0.08	
Vanadium	7.8			5.7		J	7.0		J	9.4		J
Zinc	26.0			14.4			15.6			17.3		
Cyanide	0.05		J	0.2		J	<	0.10		0.10		J
VOLATILE ORGANICS												
Units		µg/kg			µg/kg			µg/kg			µg/kg	
Methylene Chloride	34			<	18		<	11		<	11	
Acetone	2		J	2		J	<	11		<	11	
Carbon Disulfide	<	11		<	11		<	11		<	11	
1,1-Dichloroethane	<	11		<	11		<	11		<	11	
Benzene	<	11		<	11		<	11		<	11	
Ethylbenzene	<	11		<	11		<	11		<	11	
Xylene (total)	<	11		<	11		<	11		<	11	

RL = Reporting Limit (For this data set the Reporting Limit is the Contract Required Quantitation Limit)
J= Estimated Value

SUMMARY OF CHEMICALS DETECTED IN SOIL
Fall 1998
HIMCO DUMP SUPERFUND SITE

Sample location	SB03-0.5			SB03-2			SB04-0.5			SB04-2		
Date sampled	10/12/98			10/12/98			10/19/98			10/19/98		
	Result	RL	Qual.	Result	RL	Qual.	Result	RL	Qual.	Result	RL	Qual.
SEMIVOLATILE ORGANICS												
Units		µg/kg			µg/kg			µg/kg			µg/kg	
1,2-Dichlorobenzene	<	360		<	360		<	350		<	350	
4-Methylphenol	<	360		<	360		<	350		<	350	
Naphthalene	<	360		<	360		<	350		<	350	
2-Methylnaphthalene	<	360		<	360		<	350		<	350	
Acenaphthylene	<	360		<	360		<	350		<	350	
Acenaphthene	<	360		<	360		<	350		<	350	
Dibenzofuran	<	360		<	360		<	350		<	350	
Diethylphthalate	<	360		<	360		<	350		<	350	
Fluorene	<	360		<	360		<	350		<	350	
Phenanthrene	<	360		<	360		<	350		<	350	
Anthracene	<	360		<	360		<	350		<	350	
Carbazole	<	360	J	<	360	J	<	350		<	350	
Di-n-butylphthalate	<	360		<	360		<	350		<	350	
Fluoranthene	<	360		<	360		<	350		<	350	
Pyrene	<	360		<	360		<	350		<	350	
Butylbenzylphthalate	<	360		<	360		<	350		<	350	
Benzo(a)anthracene	<	360		<	360		<	350		<	350	
Chrysene	<	360		<	360		<	350		<	350	
bis(2-Ethylhexyl)phthalate	140		J	<	360	J	<	350		<	350	
Di-n-octylphthalate	<	360		<	360		<	350		<	350	
Benzo(b)fluoranthene	<	360		<	360		<	350		<	350	
Benzo(k)fluoranthene	<	360		<	360		<	350		<	350	
Benzo(a)pyrene	<	360		<	360		<	350		<	350	
Indeno(1,2,3-cd)pyrene	<	360		<	360		<	350		<	350	
Dibenz(a,h)anthracene	<	360		<	360		<	350		<	350	
Benzo(g,h,i)perylene	<	360		<	360		61		J	50		J

RL = Reporting Limit (For this data set the Reporting Limit is the Contract Required Quantitation Limit)
J= Estimated Value

SUMMARY OF CHEMICALS DETECTED IN SOIL
Fall 1998
HIMCO DUMP SUPERFUND SITE

Sample location	SB04-6			SB05-0.5			SB05-2			SB06-0.5		
Date sampled	10/19/98			10/19/98			10/19/98			10/19/98		
Units	mg/kg			mg/kg			mg/kg			mg/kg		
	Result	RL	Qual.	Result	RL	Qual.	Result	RL	Qual.	Result	RL	Qual.
TOTAL METALS												
Aluminum	3340			2580			3070			4220		
Antimony	<	10.3		<	8.9		<	8.8		<	9.4	
Arsenic	0.60		J	1.2		J	0.60		J	2.1		J
Barium	18.7			44.7			34.5			51.8		
Beryllium	<	0.10		0.20		J	0.30		J	<	0.10	
Cadmium	<	1.1		1.1			<	1.0		<	1.0	
Calcium	2070			5460			4180			1750		
Chromium	5.1			7.0			8.3			4.5		
Cobalt	<	1.9		3.2		J	3.1		J	3.3		J
Copper	3.1		J	16.4			17.1			20.4		
Iron	2570			4590			4360			6200		
Lead	6.2		J	56.9			22.3			13.4		J
Magnesium	346			2390			2050			746		
Manganese	58.1			109			66.4			337		
Mercury	<	0.06		0.08		J	0.06		J	<	0.06	
Nickel	<	6.9		6.2		J	12.3		J	9.6		J
Potassium	<	227		<	195		419		J	219		J
Selenium	<	0.10		<	0.10		<	0.10		<	0.10	
Silver	<	1.3		<	1.1		<	1.1		<	1.2	
Sodium	110		J	50.2		J	50.6		J	24.8		J
Thallium	<	0.1		<	0.08		<	0.08		<	0.09	
Vanadium	3.7		J	8.3		J	9.2		J	8.5		J
Zinc	10.0			72.9			52.4			52.3		
Cyanide	0.20		J	0.30		J	0.20		J	0.30		J
VOLATILE ORGANICS												
Units		µg/kg			µg/kg			µg/kg			µg/kg	
Methylene Chloride	<	13		<	11		<	10		<	11	
Acetone	<	13		<	11		<	10		<	11	
Carbon Disulfide	<	13		<	11		<	10		<	11	
1,1-Dichloroethane	<	13		<	11		<	10		<	11	
Benzene	<	13		<	11		<	10		<	11	
Ethylbenzene	<	13		<	11		<	10		<	11	
Xylene (total)	<	13		<	11		<	10		<	11	

RL = Reporting Limit (For this data set the Reporting Limit is the Contract Required Quantitation Limit)
J= Estimated Value

SUMMARY OF CHEMICALS DETECTED IN SOIL
Fall 1998
HIMCO DUMP SUPERFUND SITE

Sample location	SB04-6			SB05-0.5			SB05-2			SB06-0.5		
Date sampled	10/19/98			10/19/98			10/19/98			10/19/98		
	Result	RL	Qual.	Result	RL	Qual.	Result	RL	Qual.	Result	RL	Qual.
SEMIVOLATILE ORGANICS												
Units		µg/kg			µg/kg			µg/kg			µg/kg	
1,2-Dichlorobenzene	<	420		<	350		<	340		<	360	
4-Methylphenol	<	420		<	350		<	340		<	360	
Naphthalene	<	420		<	350		<	340		<	360	
2-Methylnaphthalene	<	420		<	350		<	340		<	360	
Acenaphthylene	<	420		<	350		<	340		<	360	
Acenaphthene	<	420		<	350	J	<	340		<	360	
Dibenzofuran	<	420		<	350		<	340		<	360	
Diethylphthalate	<	420		<	350		<	340		<	360	
Fluorene	<	420		<	350		<	340		<	360	
Phenanthrene	<	420		46		J	140		J	<	360	
Anthracene	<	420		<	350		<	340		<	360	
Carbazole	<	420		<	350		<	340		<	360	
Di-n-butylphthalate	<	420	J	<	350		<	340		<	360	J
Fluoranthene	<	420		130		J	210		J	<	360	
Pyrene	<	420		140		J	210		J	<	360	
Butylbenzylphthalate	<	420		<	350		<	340		<	360	
Benzo(a)anthracene	<	420		75	75	J	120		J	<	360	
Chrysene	<	420		84	84	J	110		J	<	360	
bis(2-Ethylhexyl)phthalate	<	420		<	350		420			<	360	
Di-n-octylphthalate	<	420		<	350		<	340		<	360	
Benzo(b)fluoranthene	<	420		110		J	140		J	<	360	
Benzo(k)fluoranthene	<	420		<	350		38		J	<	360	
Benzo(a)pyrene	<	420		89	89	J	110		J	<	360	
Indeno(1,2,3-cd)pyrene	<	420		79		J	62		J	<	360	
Dibenz(a,h)anthracene	<	420		<	350		<	340		<	360	
Benzo(g,h,i)perylene	74		J	110		J	78		J	<	360	

RL = Reporting Limit (For this data set the Reporting Limit is the Contract Required Quantitation Limit)
J= Estimated Value

SUMMARY OF CHEMICALS DETECTED IN SOIL
Fall 1998
HIMCO DUMP SUPERFUND SITE

Sample location	SB06-0.5 Dup			SB06-2			SB07-0.5			SB07-2		
Date sampled	10/19/98			10/19/98			10/21/98			10/21/98		
Units	mg/kg			mg/kg			mg/kg			mg/kg		
	Result	RL	Qual.	Result	RL	Qual.	Result	RL	Qual.	Result	RL	Qual.
TOTAL METALS												
Aluminum	3000			2770			3100			1730		
Antimony	<	9.4		<	9.0		13.1		J	<	8.7	J
Arsenic	1.4		J	1.1		J	2.3		J	0.70		J
Barium	47.7			40.4			13.0			7.8		
Beryllium	<	0.10		0.30		J	0.20		J	0.10		J
Cadmium	<	1.0		<	1.0		<	1.0		<	0.90	
Calcium	1660			728			1320			2140		
Chromium	5.5			4.6			6.0			5.1		
Cobalt	1.9		J	2.8		J	4.0			1.9		
Copper	19.9			22.6			7.4			6.4		
Iron	4800			3660			5240			4390		
Lead	17.2		J	9.4		J	5.2			6.5		S*
Magnesium	598			470			1140			1160		
Manganese	296			227			133			44.7		
Mercury	<	0.06		<	0.05		<	0.05		<	0.05	
Nickel	7.0		J	<	6.0		6.0			<	5.8	
Potassium	<	205		227		J	234			226		
Selenium	<	0.10		<	0.10		<	0.10	J	<	0.10	J
Silver	<	1.2		<	1.1		<	1.1		<	1.1	
Sodium	<	18.1		32.6		J	41.6			<	16.8	
Thallium	<	0.09		<	0.08		0.10		J	<	0.08	J
Vanadium	7.0		J	5.2		J	8.1			4.7		
Zinc	45.0			41.0			20.2			40.0		
Cyanide	<	0.10		<	0.10		0.20		J	<	0.10	J
VOLATILE ORGANICS												
Units		µg/kg			µg/kg			µg/kg			µg/kg	
Methylene Chloride	<	11		<	11		<	10		<	10	
Acetone	<	11		<	11		<	10		<	10	
Carbon Disulfide	<	11		<	11		<	10		<	10	
1,1-Dichloroethane	<	11		<	11		<	10		<	10	
Benzene	<	11		<	11		<	10		<	10	
Ethylbenzene	<	11		<	11		<	10		<	10	
Xylene (total)	<	11		<	11		<	10		<	10	

RL = Reporting Limit (For this data set the Reporting Limit is the Contract Required Quantitation Limit)
J= Estimated Value

SUMMARY OF CHEMICALS DETECTED IN SOIL
Fall 1998
HIMCO DUMP SUPERFUND SITE

Sample location	SB06-0.5 Dup			SB06-2			SB07-0.5			SB07-2		
Date sampled	10/19/98			10/19/98			10/21/98			10/21/98		
	Result	RL	Qual.	Result	RL	Qual.	Result	RL	Qual.	Result	RL	Qual.
SEMIVOLATILE ORGANICS												
Units		µg/kg			µg/kg			µg/kg			µg/kg	
1,2-Dichlorobenzene	<	370		<	350		<	340		<	340	
4-Methylphenol	<	370		<	350		<	340		<	340	
Naphthalene	<	370		<	350		<	340		<	340	
2-Methylnaphthalene	<	370		<	350		<	340		<	340	
Acenaphthylene	<	370		<	350		<	340		<	340	
Acenaphthene	<	370		<	350		<	340	J	<	340	
Dibenzofuran	<	370		<	350		<	340		<	340	
Diethylphthalate	<	370		<	350		<	340		<	340	
Fluorene	<	370		<	350		<	340		<	340	
Phenanthrene	<	370		<	350		<	340		<	340	
Anthracene	<	370		<	350		<	340		<	340	
Carbazole	<	370		<	350		<	340		<	340	
Di-n-butylphthalate	<	370	J	<	350	J	<	340	J	<	340	J
Fluoranthene	<	370		<	350		<	340		<	340	
Pyrene	<	370		<	350		<	340	J	<	340	
Butylbenzylphthalate	<	370		<	350		<	340		<	340	
Benzo(a)anthracene	<	370		<	350		<	340		<	340	
Chrysene	<	370		<	350		<	340		<	340	
bis(2-Ethylhexyl)phthalate	<	370		460			690		J	700		J
Di-n-octylphthalate	<	370		<	350		<	340	J	<	340	J
Benzo(b)fluoranthene	<	370		<	350		<	340		<	340	
Benzo(k)fluoranthene	<	370		<	350		<	340		<	340	
Benzo(a)pyrene	<	370		<	350		<	340		<	340	
Indeno(1,2,3-cd)pyrene	<	370		<	350		<	340		<	340	
Dibenz(a,h)anthracene	<	370		<	350		<	340		<	340	
Benzo(g,h,i)perylene	250		J	<	350		<	340		<	340	

RL = Reporting Limit (For this data set the Reporting Limit is the Contract Required Quantitation Limit)
J= Estimated Value

SUMMARY OF CHEMICALS DETECTED IN SOIL
Fall 1998
HIMCO DUMP SUPERFUND SITE

Sample location	SB08-0.5			SB08-2			SB09-0.5			SB09-0.5 Dup		
Date sampled	10/20/98			10/20/98			10/21/98			10/21/98		
Units	mg/kg			mg/kg			mg/kg			mg/kg		
	Result	RL	Qual.	Result	RL	Qual.	Result	RL	Qual.	Result	RL	Qual.
TOTAL METALS												
Aluminum	3150			1900			2480			2500		
Antimony	<	8.7		<	8.6		<	9.0		<	8.9	
Arsenic	1.1		J	0.55		J	1.1		J	1.7		J
Barium	14.8		J	126			14.1		J	13.4		J
Beryllium	<	0.12		<	0.12		<	0.13		<	0.13	
Cadmium	<	0.95		0.94			<	0.98		<	0.97	
Calcium	953		J	<	6060		19600			2650		
Chromium	5.3			5.3			5.7			5.4		
Cobalt	3.3		J	1.9		J	3.1		J	2.8		J
Copper	5.3			5.1		J	9.2			9.1		
Iron	4680			2590			4750			4610		
Lead	5.4			6.9		J	6.7			6.7		
Magnesium	919		J	1040			2380			1410		
Manganese	105			35.8			172			144		
Mercury	0.05		J	<	0.05		<	0.05		0.06		J
Nickel	<	5.9		6.7		J	7.0		J	9.5		
Potassium	<	192		<	190		264		J	<	196	
Selenium	<	0.12		<	0.12		<	0.13		<	0.13	J
Silver	<	1.1		<	1.1		<	1.1		<	1.1	
Sodium	29.9		J	32.7		J	36.2		J	37.6		J
Thallium	<	0.08		<	0.08		<	0.09		<	0.08	
Vanadium	10.0		J			J	7.2		J	8.8		J
Zinc	15.5						26.2			22.2		
Cyanide	0.92		J			J	0.56		J	0.37		J
VOLATILE ORGANICS												
Units		µg/kg			µg/kg			µg/kg			µg/kg	
Methylene Chloride	<	10		<	10		<	11		<	10	
Acetone	<	10		<	10		<	11		<	10	
Carbon Disulfide	<	10		<	10		<	11		<	10	
1,1-Dichloroethane	<	10		<	10		<	11		<	10	
Benzene	<	10		<	10		<	11		<	10	
Ethylbenzene	<	10		<	10		<	11		<	10	
Xylene (total)	<	10		<	10		<	11		<	10	

RL = Reporting Limit (For this data set the Reporting Limit is the Contract Required Quantitation Limit)
J= Estimated Value

SUMMARY OF CHEMICALS DETECTED IN SOIL
Fall 1998
HIMCO DUMP SUPERFUND SITE

Sample location	SB08-0.5			SB08-2			SB09-0.5			SB09-0.5 Dup		
Date sampled	10/20/98			10/20/98			10/21/98			10/21/98		
	Result	RL	Qual.	Result	RL	Qual.	Result	RL	Qual.	Result	RL	Qual.
SEMIVOLATILE ORGANICS												
Units		µg/kg			µg/kg			µg/kg			µg/kg	
1,2-Dichlorobenzene	<	350		<	340		<	350		<	350	
4-Methylphenol	<	350		<	340		<	350		<	350	
Naphthalene	<	350		<	340		<	350		<	350	
2-Methylnaphthalene	<	350		<	340		<	350		<	350	
Acenaphthylene	<	350		<	340		<	350		<	350	
Acenaphthene	<	350		<	340		<	350		<	350	
Dibenzofuran	<	350		<	340		<	350		<	350	
Diethylphthalate	<	350		<	340		<	350		<	350	
Fluorene	<	350		<	340		<	350		<	350	
Phenanthrene	<	350		<	340		<	350		<	350	
Anthracene	<	350		<	340		<	350		<	350	
Carbazole	<	350		<	340		<	350		<	350	
Di-n-butylphthalate	<	350		<	340		<	350	J	<	350	J
Fluoranthene	<	350		<	340		<	350		<	350	
Pyrene	<	350		<	340		<	350		<	350	
Butylbenzylphthalate	<	350		<	340		<	350		<	350	
Benzo(a)anthracene	<	350		<	340		<	350		<	350	
Chrysene	<	350		<	340		<	350		<	350	
bis(2-Ethylhexyl)phthalate	<	360		<	1500		440		J	470		J
Di-n-octylphthalate	<	350		<	340		<	350	J	<	350	J
Benzo(b)fluoranthene	<	350		<	340		<	350		<	350	
Benzo(k)fluoranthene	<	350		<	340		<	350		<	350	
Benzo(a)pyrene	<	350		<	340		<	350		<	350	
Indeno(1,2,3-cd)pyrene	<	350		<	340		<	350		<	350	
Dibenz(a,h)anthracene	<	350		<	340		<	350		<	350	
Benzo(g,h,i)perylene	<	350		<	340		<	350		<	350	

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J= Estimated Value

SUMMARY OF CHEMICALS DETECTED IN SOIL
Fall 1998
HIMCO DUMP SUPERFUND SITE

Sample location	SB09			SB10-0.5			SB10-0.5 Dup			SB10-2		
Date sampled	10/21/98			10/20/98			10/20/98			10/20/98		
Units	mg/kg			mg/kg			mg/kg			mg/kg		
	Result	RL	Qual.	Result	RL	Qual.	Result	RL	Qual.	Result	RL	Qual.
TOTAL METALS												
Aluminum	2120			4230			5670			3610		
Antimony	<	8.8		<	9.1		<	9.2		<	8.9	
Arsenic	0.80		J	1.5		J	1.4		J	1.2		J
Barium	12.1		J	51.7			55.1			48.7		
Beryllium	<	0.13		<	0.13		<	0.13		<	0.13	
Cadmium	<	0.96		<	0.99		1.2			<0.97		
Calcium	12600			586		J	710		J	361		J
Chromium	5.2			5.5			7.0			5.5		
Cobalt	2.8		J	3.4		J	3.3		J	3.1		J
Copper	8.0			35.1			37.2			38.1		
Iron	3620			4780			5330			4290		
Lead	6.0			21.1		J	28.9		J	16.3		J
Magnesium	3500			559		J	766		J	503		J
Manganese	62.6			317			319			169		
Mercury	<	0.05		<	0.05		0.07		J	<	0.05	
Nickel	<	5.9		8.1		J	8.1		J	<	6.0	
Potassium	<	194		<	200		297		J	238		J
Selenium	<	0.13	J	<	0.13		<	0.13		<	0.13	
Silver	<	1.1		<	1.1		<	1.1		<	1.1	
Sodium	32.6		J	34.3		J	45.5		J	39.3		J
Thallium	<	0.08		<	0.09		<	0.09		<	0.08	
Vanadium	7.6		J	10.1		J	10.4		J	9.5		J
Zinc	24.1			58.3			68.9			50.1		
Cyanide	0.58		J	4.2			0.58		J	4.9		
VOLATILE ORGANICS												
Units		µg/kg			µg/kg			µg/kg			µg/kg	
Methylene Chloride	<	10		<	11		<	11		<	10	
Acetone	<	10		<	11		<	11		<	10	
Carbon Disulfide	<	10		<	11		<	11		<	10	
1,1-Dichloroethane	<	10		<	11		<	11		<	10	
Benzene	<	10		<	11		<	11		<	10	
Ethylbenzene	<	10		<	11		<	11		<	10	
Xylene (total)	<	10		<	11		<	11		<	10	

RL = Reporting Limit (For this data set the Reporting Limit is the Contract Required Quantitation Limit)
J= Estimated Value

SUMMARY OF CHEMICALS DETECTED IN SOIL
Fall 1998
HIMCO DUMP SUPERFUND SITE

Sample location	SB09			SB10-0.5			SB10-0.5 Dup			SB10-2		
Date sampled	10/21/98			10/20/98			10/20/98			10/20/98		
	Result	RL	Qual.	Result	RL	Qual.	Result	RL	Qual.	Result	RL	Qual.
SEMIVOLATILE ORGANICS												
Units		µg/kg			µg/kg			µg/kg			µg/kg	
1,2-Dichlorobenzene	<	350		<	360		<	360		<	340	
4-Methylphenol	<	350		<	360		<	360		<	340	
Naphthalene	<	350		<	360		<	360		<	340	
2-Methylnaphthalene	<	350		<	360		<	360		<	340	
Acenaphthylene	<	350		<	360		<	360		<	340	
Acenaphthene	<	350		<	360		<	360		<	340	
Dibenzofuran	<	350		<	360		<	360		<	340	
Diethylphthalate	<	350		<	360		<	360		<	340	
Fluorene	<	350		<	360		<	360		<	340	
Phenanthrene	<	350		<	360		<	360		<	340	
Anthracene	<	350		<	360		<	360		<	340	
Carbazole	<	350		<	360		<	360		<	340	
Di-n-butylphthalate	<	350	J	<	360		<	360		<	340	
Fluoranthene	<	350		<	360		<	360		<	340	
Pyrene	<	350		<	360		<	360		<	340	
Butylbenzylphthalate	<	350		<	360		<	360		<	340	
Benzo(a)anthracene	<	350		<	360		<	360		<	340	
Chrysene	<	350		<	360		<	360		<	340	
bis(2-Ethylhexyl)phthalate	2600		J	140		J	150		J	71		J
Di-n-octylphthalate	<	350	J	56		J	70		J	<	340	
Benzo(b)fluoranthene	<	350		<	360		<	360		<	340	
Benzo(k)fluoranthene	<	350		<	360		<	360		<	340	
Benzo(a)pyrene	<	350		<	360		<	360		<	340	
Indeno(1,2,3-cd)pyrene	<	350		<	360		<	360		<	340	
Dibenz(a,h)anthracene	<	350		<	360		<	360		<	340	
Benzo(g,h,i)perylene	<	350		<	360		<	360		<	340	

RL = Reporting Limit (For this data set the Reporting Limit is the Contract Required Quantitation Limit)
J= Estimated Value

SUMMARY OF CHEMICALS DETECTED IN SOIL
Fall 1998
HIMCO DUMP SUPERFUND SITE

Sample location	SB10-6			SB11-0.5			SB11-2			SB11-6		
Date sampled	10/20/98			10/21/98			10/21/98			10/21/98		
Units	mg/kg			mg/kg			mg/kg			mg/kg		
	Result	RL	Qual.	Result	RL	Qual.	Result	RL	Qual.	Result	RL	Qual.
TOTAL METALS												
Aluminum	3320			4740			3360			4270		
Antimony	<	9.0		<	8.9	J	9.2		J	<	8.8	J
Arsenic	0.64		J	12.5		J	4.7		J	2.8		J
Barium	24.7		J	102			57.0			55.8		
Beryllium	<	0.13		0.50		J	0.20		J	0.20		J
Cadmium	<	0.99		1.1			<	1.0		<	1.0	
Calcium	535		J	21900			26400			7620		
Chromium	7.6			12.6			9.2			17.2		
Cobalt	<	1.7		3.2			3.4			6.8		
Copper	12.7			149			46.1			45.9		
Iron	1330			11100			8820			21200		
Lead	8.0		S	160		J	92.9		J	186		J
Magnesium	678		J	5950			11400			2580		
Manganese	86.6			492			278			398		
Mercury	<	0.05		0.20			0.20			0.20		
Nickel	<	6.1		12.0			<	5.9		10.0		
Potassium	<	198		462			287			377		
Selenium	<	0.13		<	0.10	J	<	0.10	J	<	0.10	J
Silver	<	1.1		<	1.1		<	1.1		<	1.1	
Sodium	29.8		J	127			54.7			49.1		
Thallium	0.09			0.10			<	0.08		<	0.08	
Vanadium	<	10.9		11.3			8.9			11.3		
Zinc	24.9			294			136			109		
Cyanide	0.16		J	0.40		J	<	0.10	J	0.30		J
VOLATILE ORGANICS												
Units		µg/kg			µg/kg			µg/kg			µg/kg	
Methylene Chloride	<	11		<	11		<	10		<	10	
Acetone	<	11		<	11		<	10		<	10	
Carbon Disulfide	<	11		<	11		<	10		<	10	
1,1-Dichloroethane	<	11		<	11		<	10		<	10	
Benzene	<	11		<	11		<	10		<	10	
Ethylbenzene	<	11		<	11		<	10		<	10	
Xylene (total)	<	11		<	11		<	10		<	10	

RL = Reporting Limit (For this data set the Reporting Limit is the Contract Required Quantitation Limit)
J= Estimated Value

SUMMARY OF CHEMICALS DETECTED IN SOIL
Fall 1998
HIMCO DUMP SUPERFUND SITE

Sample location	SB10-6			SB11-0.5			SB11-2			SB11-6		
Date sampled	10/20/98			10/21/98			10/21/98			10/21/98		
	Result	RL	Qual.	Result	RL	Qual.	Result	RL	Qual.	Result	RL	Qual.
SEMIVOLATILE ORGANICS												
Units		µg/kg			µg/kg			µg/kg			µg/kg	
1,2-Dichlorobenzene	<	350		<	360		<	340		<	340	
4-Methylphenol	<	350		<	360		<	340		<	340	
Naphthalene	<	350		<	360		<	340		<	340	
2-Methylnaphthalene	<	350		<	360		<	340		<	340	
Acenaphthylene	<	350		<	360		<	340		<	340	
Acenaphthene	<	350		<	360		160		J	<	340	
Dibenzofuran	<	350		<	360		78		J	<	340	
Diethylphthalate	<	350		<	360		<	340		<	340	
Fluorene	<	350		<	360		160		J	<	340	
Phenanthrene	<	350		<	200	J	3300			<	340	
Anthracene	<	350		<	360		460			<	340	
Carbazole	<	350		<	360		210		J	<	340	
Di-n-butylphthalate	<	350		<	360	J	<	340		<	340	J
Fluoranthene	<	350		400			4600			51		J
Pyrene	<	350		470			3800			<	340	
Butylbenzylphthalate	<	350		<	360		<	340		<	340	
Benzo(a)anthracene	<	350		280		J	1500			42		J
Chrysene	<	350		320		J	1400			51		J
bis(2-Ethylhexyl)phthalate	<	350		42		J	74		J	39		J
Di-n-octylphthalate	<	350		<	360	J	<	340	J	<	340	J
Benzo(b)fluoranthene	<	350		560			1900			75		J
Benzo(k)fluoranthene	<	350		150		J	560			<	340	
Benzo(a)pyrene	<	350		430			1500			57		J
Indeno(1,2,3-cd)pyrene	<	350		540			490			48		J
Dibenz(a,h)anthracene	<	350		140		J	130		J	<	340	
Benzo(g,h,i)perylene	<	350		710			470			63		J

RL = Reporting Limit (For this data set the Reporting Limit is the Contract Required Quantitation Limit)
J= Estimated Value

SUMMARY OF CHEMICALS DETECTED IN SOIL
Fall 1998
HIMCO DUMP SUPERFUND SITE

Sample location	SB12-0.5			SB12-2			SB12-6			SB13-0.5		
Date sampled	10/20/98			10/20/98			10/20/98			10/20/98		
Units	mg/kg			mg/kg			mg/kg			mg/kg		
	Result	RL	Qual.	Result	RL	Qual.	Result	RL	Qual.	Result	RL	Qual.
TOTAL METALS												
Aluminum	2260			1360			2280			3900		
Antimony	<	8.8		<	8.7		<	8.8		<	9.4	
Arsenic	1.1		J	0.70		J	0.9		J	2.1		J
Barium	13.8		J	8.0		J	14.2		J	65.8		
Beryllium	0.25		J	<	0.12		<	0.13		0.30		J
Cadmium	<	0.96		<	0.95		<	0.96		1.2		
Calcium	1060			2990			1510			9970		
Chromium	5.1			3.3			6.3			8.5		
Cobalt	2.8		J	3.5		J	3.4		J	3.2		J
Copper	6.2			4.6		J	12.5			18.9		
Iron	4080			2470			4570			5970		
Lead	6.1		J	5.4			7.1		J	167		
Magnesium	853		J	1920			1140			1550		
Manganese	128			47.4			52.9			326		
Mercury	<	0.05		<	0.05		<	0.05		0.10		J
Nickel	<	5.9		<	5.9		<	5.9		8.8		J
Potassium	<	193		<	192		<	194		423		J
Selenium	<	0.12		<	0.12		0.13			<	0.10	
Silver	<	1.1		<	1.1		<	1.1		<	1.2	
Sodium	38.2		J	30.5		J	61.5		J	48.6		J
Thallium	<	0.08		<	0.08		<	0.08		<	0.09	
Vanadium	6.5		J	5.6		J	9.2		J	8.5		J
Zinc	22.8			15.1			38.9			109		
Cyanide	0.17		J	0.18		J	0.25		J	0.50		J
VOLATILE ORGANICS												
Units		µg/kg			µg/kg			µg/kg			µg/kg	
Methylene Chloride	<	10		<	10		<	10		<	11	J
Acetone	<	10		<	10		<	10		<	11	J
Carbon Disulfide	<	10		<	10		<	10		<	11	J
1,1-Dichloroethane	<	10		<	10		<	10		<	11	J
Benzene	<	10		<	10		<	10		<	11	J
Ethylbenzene	<	10		<	10		<	10			11	R
Xylene (total)	<	10		<	10		<	10			11	R

RL = Reporting Limit (For this data set the Reporting Limit is the Contract Required Quantitation Limit)
J= Estimated Value

SUMMARY OF CHEMICALS DETECTED IN SOIL
Fall 1998
HIMCO DUMP SUPERFUND SITE

Sample location	SB12-0.5			SB12-2			SB12-6			SB13-0.5		
Date sampled	10/20/98			10/20/98			10/20/98			10/20/98		
	Result	RL	Qual.	Result	RL	Qual.	Result	RL	Qual.	Result	RL	Qual.
SEMIVOLATILE ORGANICS												
Units		µg/kg			µg/kg			µg/kg			µg/kg	
1,2-Dichlorobenzene	<	350		<	340		<	690		<	370	
4-Methylphenol	<	350		<	340		<	690		<	370	
Naphthalene	<	350		<	340		<	690		<	370	
2-Methylnaphthalene	<	350		<	340		<	690		<	370	
Acenaphthylene	<	350		<	340		<	690		<	370	
Acenaphthene	<	350		<	340		<	690		<	370	
Dibenzofuran	<	350		<	340		<	690		<	370	
Diethylphthalate	<	350		<	340		<	690		<	370	
Fluorene	<	350		<	340		<	690		<	370	
Phenanthrene	<	350		<	340		<	690		<	370	
Anthracene	<	350		<	340		<	690		<	370	
Carbazole	<	350		<	340		<	690		<	370	
Di-n-butylphthalate	<	350		<	340		<	690		<	370	
Fluoranthene	<	350		<	340		<	690		100		J
Pyrene	<	350		<	340		<	690		110		J
Butylbenzylphthalate	<	350		<	340		<	690		<	370	
Benzo(a)anthracene	<	350		<	340		<	690		64		J
Chrysene	<	350		<	340		<	690		72		J
bis(2-Ethylhexyl)phthalate	440			290		J	3400			160		J
Di-n-octylphthalate	<	350		<	340		<	690		<	370	
Benzo(b)fluoranthene	<	350		<	340		<	690		93		J
Benzo(k)fluoranthene	<	350		<	340		<	690		370		
Benzo(a)pyrene	<	350		<	340		<	690		66		J
Indeno(1,2,3-cd)pyrene	<	350		<	340		<	690		57		J
Dibenz(a,h)anthracene	<	350		<	340		<	690		370		
Benzo(g,h,i)perylene	<	350		<	340		<	690		81		J

RL = Reporting Limit (For this data set the Reporting Limit is the Contract Required Quantitation Limit)
J= Estimated Value

SUMMARY OF CHEMICALS DETECTED IN SOIL
Fall 1998
HIMCO DUMP SUPERFUND SITE

Sample location	SB13-2			SB13-6			SB14-0.5			SB14-2		
Date sampled	10/20/98			10/20/98			10/20/98			10/20/98		
Units	mg/kg			mg/kg			mg/kg			mg/kg		
	Result	RL	Qual.	Result	RL	Qual.	Result	RL	Qual.	Result	RL	Qual.
TOTAL METALS												
Aluminum	3980			3220			4120			4500		
Antimony	<	9.2		<	9.1		<	11.2		<	8.8	
Arsenic	0.90		J	0.90		J	0.83		J	1.1		J
Barium	35.7			33.6			115			36.2		J
Beryllium	0.20		J	0.30		J	0.33		J	<	71.3	
Cadmium	1.3			<	1.0		<	1.2		<	106.4	
Calcium	9300			12000			32700			2840		
Chromium	14.2			12.9			14.6			6.7		
Cobalt	3.9		J	3.3		J	4.3		J	3.0		J
Copper	14.4			17.0			2110			18.7		
Iron	9180			11300			9410			4680		
Lead	58.7			45.6		J	191		J	19.6		J
Magnesium	3060			3000			3880			1180		
Manganese	203			220			539			170		
Mercury	0.08		J	0.10		J	0.25		J	0.06		J
Nickel	12.0		J	15.4		J	8.0		J	<	5.9	
Potassium	310		J	279		J	278		J	277		J
Selenium	<	0.10	J	0.10			<	0.16	J	<	0.13	
Silver	<	1.1		<	1.1		<	1.4		<	1.1	
Sodium	54.7		J	74.3		J	83.7		J	40.5		J
Thallium	<	0.09		<	0.09		<	0.11		<	0.08	
Vanadium	9.8		J	6.0		J	11.3		J	9.9		J
Zinc	175			90.9			161			49.8		
Cyanide	0.30		J	0.90		J	0.14		J	0.12		J
VOLATILE ORGANICS												
Units		µg/kg			µg/kg			µg/kg			µg/kg	
Methylene Chloride	<	10		<	11		<	12		<	10	
Acetone	<	10		<	11		<	12		<	10	
Carbon Disulfide	<	10		<	11		<	12		<	10	
1,1-Dichloroethane	<	10		<	11		<	12		<	10	
Benzene	<	10		<	11		<	12		<	10	
Ethylbenzene	<	10		<	11		<	12		<	10	
Xylene (total)	<	10		<	11		<	12		<	10	

RL = Reporting Limit (For this data set the Reporting Limit is the Contract Required Quantitation Limit)
J= Estimated Value

SUMMARY OF CHEMICALS DETECTED IN SOIL
Fall 1998
HIMCO DUMP SUPERFUND SITE

Sample location	SB13-2			SB13-6			SB14-0.5			SB14-2		
Date sampled	10/20/98			10/20/98			10/20/98			10/20/98		
	Result	RL	Qual.	Result	RL	Qual.	Result	RL	Qual.	Result	RL	Qual.
SEMIVOLATILE ORGANICS												
Units		µg/kg			µg/kg			µg/kg			µg/kg	
1,2-Dichlorobenzene	<	350		<	360		<	400		<	340	
4-Methylphenol	<	350		<	360		<	400		<	340	
Naphthalene	<	350		<	360		<	400		<	340	
2-Methylnaphthalene	<	350		<	360		<	400		<	340	
Acenaphthylene	<	350		<	360		<	400		<	340	
Acenaphthene	<	350		<	360		<	400		<	340	
Dibenzofuran	<	350		<	360		<	400		<	340	
Diethylphthalate	<	350		<	360		<	400		<	340	
Fluorene	<	350		<	360		<	400		<	340	
Phenanthrene	<	350		<	360		<	400		<	340	
Anthracene	<	350		<	360		<	400		<	340	
Carbazole	<	350		<	360		<	400		<	340	
Di-n-butylphthalate	<	350		<	360		<	400		<	340	
Fluoranthene	<	350		43		J	59		J	<	340	
Pyrene	<	350		44		J	64		J	40		J
Butylbenzylphthalate	<	350		<	360		54		J	<	340	
Benzo(a)anthracene	<	350		<	360		41		J	<	340	
Chrysene	<	350		<	360		59		J	<	340	
bis(2-Ethylhexyl)phthalate	150		J	960			190		J	2900		
Di-n-octylphthalate	<	350		<	360		<	400		<	340	
Benzo(b)fluoranthene	<	350		38		J	82		J	<	340	
Benzo(k)fluoranthene	<	350		<	360		400			<	340	
Benzo(a)pyrene	<	350		<	360		53		J	<	340	
Indeno(1,2,3-cd)pyrene	<	350		<	360		48		J	<	340	
Dibenz(a,h)anthracene	<	350		<	360		400			<	340	
Benzo(g,h,i)perylene	<	350		<	360		86		J	<	340	

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J= Estimated Value

SUMMARY OF CHEMICALS DETECTED IN SOIL
Fall 1998
HIMCO DUMP SUPERFUND SITE

Sample location	SB14-6			SB15-0.5			SB15-2			SB15-6		
Date sampled	10/20/98			10/19/98			10/19/98			10/19/98		
Units	mg/kg			mg/kg			mg/kg			mg/kg		
	Result	RL	Qual.	Result	RL	Qual.	Result	RL	Qual.	Result	RL	Qual.
TOTAL METALS												
Aluminum	2630			3470			2860			8750		
Antimony	<	9.5		<	9.8		<	9.1		<	9.4	
Arsenic	0.60		J	6.0		J	4.4		J	7.0		J
Barium	43.7		J	102			133			112		
Beryllium	<	0.14		0.60		J	0.50		J	0.80		J
Cadmium	<	1.0		1.1			1.2			2.0		
Calcium	9350			16400			26800			31700		
Chromium	15.5			12.9			14.0			17.9		
Cobalt	3.0		J	5.1		J	5		J	10.8		
Copper	25.3			113			283			2220		
Iron	3920			26000			19400			13500		
Lead	127		J	695		J	287			231		J
Magnesium	1650			4810			5420			22600		
Manganese	184			514			399			1410		
Mercury	0.11		J	0.40			0.50			0.10		J
Nickel	9.8			21.0		J	23.7		J	298		
Potassium	210		J	363		J	385		J	566		J
Selenium	<	0.14		<	0.10		<	0.10		<	0.10	J
Silver	<	1.2		1.2			2.0			<	1.2	
Sodium	43.0		J	<	65.0	J	60.9		J	184		J
Thallium	<	0.09		0.10			<	0.08		<	0.09	
Vanadium	8.0		J	11.1		J	10.2		J	17.1		
Zinc	249			427			465			1120		
Cyanide	<	0.11		1.1		J	0.90		J	4.7		
VOLATILE ORGANICS												
Units		µg/kg			µg/kg			µg/kg			µg/kg	
Methylene Chloride	<	11		<	11		<	11		<	10	
Acetone	<	11		<	11		22			<	10	
Carbon Disulfide	<	11		<	11		<	11		<	10	
1,1-Dichloroethane	<	11		<	11		<	11		<	10	
Benzene	<	11		<	11		<	11		<	10	
Ethylbenzene	<	11		<	11		<	11		<	10	
Xylene (total)	<	11		<	11		<	11		<	10	

RL = Reporting Limit (For this data set the Reporting Limit is the Contract Required Quantitation Limit)
J= Estimated Value

SUMMARY OF CHEMICALS DETECTED IN SOIL
Fall 1998
HIMCO DUMP SUPERFUND SITE

Sample location	SB14-6			SB15-0.5			SB15-2			SB15-6		
Date sampled	10/20/98			10/19/98			10/19/98			10/19/98		
	Result	RL	Qual.	Result	RL	Qual.	Result	RL	Qual.	Result	RL	Qual.
SEMIVOLATILE ORGANICS												
Units		µg/kg			µg/kg			µg/kg			µg/kg	
1,2-Dichlorobenzene	<	370		<	370		<	350		<	330	
4-Methylphenol	<	370		<	370		<	350		<	330	
Naphthalene		120	J	<	370		<	350			38	J
2-Methylnaphthalene	<	370		<	370		<	350		<	330	
Acenaphthylene	<	370		<	370		<	350		67		J
Acenaphthene	<	370		73		J	<	350		<	330	
Dibenzofuran	<	370		<	370		<	350		<	330	
Diethylphthalate	<	370		<	370		<	350		<	330	
Fluorene	<	370		<	370		<	350		<	330	
Phenanthrene	<	370		360		J	280		J	170		J
Anthracene	<	370		63		J	53		J	41		J
Carbazole	<	370		37		J	<	350		<	330	
Di-n-butylphthalate	<	370		<	370	J	<	350	J	<	330	
Fluoranthene	44		J	730			450			360		
Pyrene		53	J	900			540			430		
Butylbenzylphthalate	<	370		<	370		<	350		<	330	
Benzo(a)anthracene	<	370		620			260		J	250		J
Chrysene	<	370		760			270		J	260		J
bis(2-Ethylhexyl)phthalate	30000			<	370		<	350		<	330	
Di-n-octylphthalate	<	370		<	370		<	350		<	330	
Benzo(b)fluoranthene	52		J	1600			390			490		
Benzo(k)fluoranthene	<	370		400			140		J	140		J
Benzo(a)pyrene	<	370		1000			290		J	430		
Indeno(1,2,3-cd)pyrene	<	370		1200			230		J	400		
Dibenz(a,h)anthracene	<	370		320		J	57		J	99		J
Benzo(g,h,i)perylene	38		J	1500			310		J	550		

RL = Reporting Limit (For this data set the Reporting Limit is the Contract Required Quantitation Limit)
J= Estimated Value

SUMMARY OF CHEMICALS DETECTED IN SOIL
Fall 1998
HIMCO DUMP SUPERFUND SITE

Sample location	SB16-05			SB16-2			SB16-6			SB16-6 Dup		
Date sampled	10/15/98			10/15/98			10/15/98			10/15/98		
Units	mg/kg			mg/kg			mg/kg			mg/kg		
	Result	RL	Qual.	Result	RL	Qual.	Result	RL	Qual.	Result	RL	Qual.
TOTAL METALS												
Aluminum	3340			4600			4820			8860		
Antimony	<	10.7	J	<	10.7	J	<	12.8	J	<	13.3	J
Arsenic	3.9			3.8			4.7			5.5		
Barium	32.5			55.5			54.3			95.7		
Beryllium	<	0.20		<	0.20		0.80		J	0.90		J
Cadmium	<	0.90		<	0.90		<	1.10		<	1.10	
Calcium	14000		J	14800		J	41200			85900		J
Chromium	7.9		J	9.6			13.1		J	11.3		
Cobalt	4.8		J	4.3		J	3.8		J	<	4.0	
Copper	16.4			49.0			18.3			18.9		
Iron	8530			7460			10800			16600		
Lead	17.6			32.2			28.2			26.6		
Magnesium	4860		J	3530		J	5460		J	7860		J
Manganese	298			294			228			588		
Mercury	<	0.05		<	0.05		<	0.06		<	0.06	
Nickel	10.8			8.8			11.8			12.1		
Potassium	289		J	318		J	283		J	450		J
Selenium	0.60		J	0.70		J	1.4		J	1.3		J
Silver	<	0.80		<	0.80		<	1.0		<	1.1	
Sodium	29.8		J	78.0			219			378		
Thallium	<	0.40		0.50			0.50			<	0.50	
Vanadium	9.9			11.9			<	14.4		15.1		
Zinc	66.5			109			78.0			78.6		
Cyanide	0.10		J	0.08		J	1.0			0.50		
VOLATILE ORGANICS												
Units		µg/kg			µg/kg			µg/kg			µg/kg	
Methylene Chloride	<	18		<	24		<	13		<	25	
Acetone	2		J	<	10	J	<	12	J	<	14	
Carbon Disulfide	<	11		<	10		<	12		2		J
1,1-Dichloroethane	<	11		<	10		1		J	2		J
Benzene	<	11		<	10		3		J	4		J
Ethylbenzene	<	11		<	10		12			14		
Xylene (total)	<	11		<	10		7		J	9		J

RL = Reporting Limit (For this data set the Reporting Limit is the Contract Required Quantitation Limit)
J= Estimated Value

SUMMARY OF CHEMICALS DETECTED IN SOIL
Fall 1998
HIMCO DUMP SUPERFUND SITE

Sample location	SB16-05			SB16-2			SB16-6			SB16-6 Dup		
Date sampled	10/15/98			10/15/98			10/15/98			10/15/98		
	Result	RL	Qual.	Result	RL	Qual.	Result	RL	Qual.	Result	RL	Qual.
SEMIVOLATILE ORGANICS												
Units		µg/kg			µg/kg			µg/kg			µg/kg	
1,2-Dichlorobenzene	<	350		<	350		98		J	63		J
4-Methylphenol	<	350		<	350		<	410		<	390	
Naphthalene	<	350		<	350		120		J	130		J
2-Methylnaphthalene	<	350		<	350		<	410		<	390	
Acenaphthylene	<	350		<	350		<	410		<	390	
Acenaphthene	<	350		<	350		<	410		<	390	
Dibenzofuran	<	350		<	350		<	410		<	390	
Diethylphthalate	<	350		<	350		64		J	46		J
Fluorene	<	350		<	350		<	410		<	390	
Phenanthrene	37		J	100		J	270		J	250		J
Anthracene	<	350		<	350		53		J	57		J
Carbazole	<	350		<	350		<	410		<	390	
Di-n-butylphthalate	<	350		<	350		<	410		390		
Fluoranthene	91		J	210		J	710			<	660	
Pyrene	76		J	190		J	670			610		
Butylbenzylphthalate	<	350	J	<	350	J	60		J	<	390	J
Benzo(a)anthracene	39		J	100		J	400		J	350		J
Chrysene	47		J	110		J	450			400		
bis(2-Ethylhexyl)phthalate	410		J	160		J	270		J	120		J
Di-n-octylphthalate	<	350	J	<	350	J	<	410	J	<	390	J
Benzo(b)fluoranthene	44		J	120		J	750			430		
Benzo(k)fluoranthene	50		J	120		J	900			440		
Benzo(a)pyrene	53		J	120		J	530			450		
Indeno(1,2,3-cd)pyrene	41		J	82		J	380		J	360		J
Dibenz(a,h)anthracene	350			43		J	160		J	150		J
Benzo(g,h,i)perylene	39		J	89		J	280		J	250		J

RL = Reporting Limit (For this data set the Reporting Limit is the Contract Required Quantitation Limit)
J= Estimated Value

SUMMARY OF CHEMICALS DETECTED IN SOIL
Fall 1998
HIMCO DUMP SUPERFUND SITE

Sample location	SB17-0.5			SB17-2			SB18-0.5			SB18-2		
Date sampled	10/15/98			10/15/98			10/19/98			10/19/98		
Units	mg/kg			mg/kg			mg/kg			mg/kg		
	Result	RL	Qual.	Result	RL	Qual.	Result	RL	Qual.	Result	RL	Qual.
TOTAL METALS												
Aluminum	3230			5110			4320			6200		
Antimony	<	11.0	J	<	10.9	J	<	9.5		<	9.2	
Arsenic	1.5			2.7			1.5		J	4.8		J
Barium	29.7			37.4			81.1			89.8		
Beryllium	<	0.20		<	0.20		0.40		J	0.20		J
Cadmium	1.0			<	0.90		1.0			1.2		
Calcium	6220		J	<	18900	J	4230			13000		
Chromium	6.3		J	9.5			10.5			19.8		
Cobalt	<	3.3		4.3		J	4.5		J	5.9		J
Copper	63.9			11.9			41.7			25.6		
Iron	3760			6680			8960			15000		
Lead	19.9			10.9			67.4			83.4		
Magnesium	1440		J	4450		J	1810			4440		
Manganese	73.3			192			474			513		
Mercury	<	0.05		<	0.05		0.30			0.10		J
Nickel	<	8.1		8.0			<	6.4		15.0		J
Potassium	<	125		283		J	539		J	210		J
Selenium	0.80		J	0.80		J	<	0.10		<	0.10	
Silver	<	0.90		<	0.90		<	1.2		<	1.2	
Sodium	27.4		J	65.4			75.7		J	78.2		J
Thallium	<	0.40		<	0.40		<	0.09		<	0.09	
Vanadium	6.9			10.4			11.2		J	18.0		
Zinc	54.0			26.6			103			160		
Cyanide	0.06		J	0.60			0.50		J	1.5		J
VOLATILE ORGANICS												
Units		µg/kg			µg/kg			µg/kg			µg/kg	
Methylene Chloride	<	20		<	10		<	11		<	11	
Acetone	3		J	<	10	J	<	11		<	11	
Carbon Disulfide	<	11		<	10		<	11		<	11	
1,1-Dichloroethane	<	11		<	10		<	11		<	11	
Benzene	<	11		<	10		<	11		<	11	
Ethylbenzene	<	11		<	10		<	11		<	11	
Xylene (total)	<	11		<	10		<	11		<	11	

RL = Reporting Limit (For this data set the Reporting Limit is the Contract Required Quantitation Limit)
J= Estimated Value

SUMMARY OF CHEMICALS DETECTED IN SOIL
Fall 1998
HIMCO DUMP SUPERFUND SITE

Sample location	SB17-0.5			SB17-2			SB18-0.5			SB18-2		
Date sampled	10/15/98			10/15/98			10/19/98			10/19/98		
	Result	RL	Qual.	Result	RL	Qual.	Result	RL	Qual.	Result	RL	Qual.
SEMIVOLATILE ORGANICS												
Units		µg/kg			µg/kg			µg/kg			µg/kg	
1,2-Dichlorobenzene	<	360		<	350		<	370		<	360	
4-Methylphenol	<	360		<	350		<	370		<	360	
Naphthalene	<	360		<	350		<	370		50		J
2-Methylnaphthalene	<	360		<	350		<	370		48		J
Acenaphthylene	<	360		<	350		<	370		83		J
Acenaphthene	<	360	J	<	350		<	370		37		J
Dibenzofuran	<	360		<	350		<	370		<	360	
Diethylphthalate	<	360		<	350		<	370		<	360	
Fluorene	<	360		<	350		<	370		44		J
Phenanthrene	380			83		J	320		J	590		
Anthracene	59		J	<	350		67		J	130		J
Carbazole	64		J	<	350		46		J	49		J
Di-n-butylphthalate	<	360		<	350		<	370		<	360	
Fluoranthene	760			150		J	510			1200		
Pyrene	510		J	120		J	470			1500		
Butylbenzylphthalate	<	360	J	<	350	J	<	370		<	360	
Benzo(a)anthracene	260		J	66		J	<	270		770		
Chrysene	330		J	76		J	<	270		780		
bis(2-Ethylhexyl)phthalate	51		J	36		J	<	370		<	360	
Di-n-octylphthalate	<	360	J	<	350	J	<	370		<	360	
Benzo(b)fluoranthene	280		J	55		J	410			1000		
Benzo(k)fluoranthene	340		J	77		J	89		J	340		J
Benzo(a)pyrene	280		J	62		J	280		J	900		
Indeno(1,2,3-cd)pyrene	270		J	58		J	200		J	720		
Dibenz(a,h)anthracene	120		J	350			58		J	200		J
Benzo(g,h,i)perylene	220		J	47		J	240		J	820		

RL = Reporting Limit (For this data set the Reporting Limit is the Contract Required Quantitation Limit)
J= Estimated Value

SUMMARY OF CHEMICALS DETECTED IN SOIL
Fall 1998
HIMCO DUMP SUPERFUND SITE

Sample location	SB18-6			SB19-0.5			SB19-2			SB19-6		
Date sampled	10/19/98			10/15/98			10/15/98			10/15/98		
Units	mg/kg			mg/kg			mg/kg			mg/kg		
	Result	RL	Qual.	Result	RL	Qual.	Result	RL	Qual.	Result	RL	Qual.
TOTAL METALS												
Aluminum	5540			4120			4090			5210		
Antimony	<	10.6		<	11.2	J	<	11.4	J	<	13.8	J
Arsenic	3.4		J	3.4			6.1			4.6		
Barium	130			53.5			444			168		
Beryllium	0.30		J	<	0.20		<	0.20		<	0.20	
Cadmium	<	1.2		<	1.0		<	1.0		<	1.2	
Calcium	14300			5070		J	21700		J	70500		J
Chromium	11.1			6.9		J	13.1			14.3		
Cobalt	5.7		J	5.0		J	4.9		J	5.4		J
Copper	36.0			50.6			113			48.8		
Iron	7950			6700			9130			11200		
Lead	88.9			49.8			172			131		
Magnesium	3470			2050		J	5220		J	12600		J
Manganese	312			373			286			250		
Mercury	0.09		J	0.06			0.20			0.10		
Nickel	9.4		J	13.5			14.7			11.3		
Potassium	328		J	210		J	370		J	586		J
Selenium	<	0.20		1.0		J	1.6		J	<	0.60	
Silver	<	1.3		<	0.90		1.0			<	1.1	
Sodium	87.1		J	36.2		J	86.3			344		
Thallium	<	0.10		<	0.40		<	0.40		<	0.50	
Vanadium	16.1			<	10.1		12.7			12.7		
Zinc	182			81.6			434			307		
Cyanide	0.40		J	0.10		J	0.90			0.60		
VOLATILE ORGANICS												
Units		µg/kg			µg/kg			µg/kg			µg/kg	
Methylene Chloride	<	11		<	19		75			57		
Acetone	<	11		2		J	4		J	7		J
Carbon Disulfide	<	11		<	11		<	11		<	15	
1,1-Dichloroethane	<	11		<	11		<	11		<	15	
Benzene	<	11		<	11		<	11		<	15	
Ethylbenzene	<	11		<	11		<	11		<	15	
Xylene (total)	<	11		<	11		<	11		<	15	

RL = Reporting Limit (For this data set the Reporting Limit is the Contract Required Quantitation Limit)
J= Estimated Value

SUMMARY OF CHEMICALS DETECTED IN SOIL
Fall 1998
HIMCO DUMP SUPERFUND SITE

Sample location	SB18-6			SB19-0.5			SB19-2			SB19-6		
Date sampled	10/19/98			10/15/98			10/15/98			10/15/98		
	Result	RL	Qual.	Result	RL	Qual.	Result	RL	Qual.	Result	RL	Qual.
SEMIVOLATILE ORGANICS												
Units		µg/kg			µg/kg			µg/kg			µg/kg	
1,2-Dichlorobenzene	<	370		<	360		<	370		<	490	
4-Methylphenol	<	370		<	360		<	370		<	490	
Naphthalene	<	370		<	360		<	370		<	490	
2-Methylnaphthalene	<	370		<	360		<	370		<	490	
Acenaphthylene	<	370		96		J	290		J	<	490	
Acenaphthene	<	370		<	360		<	370		<	490	
Dibenzofuran	<	370		<	360		<	370		<	490	
Diethylphthalate	<	370		<	360		<	370		<	490	
Fluorene	<	370		<	360		71		J	<	490	
Phenanthrene	86		J	160		J	450			190		J
Anthracene	<	370		76		J	170		J	<	490	
Carbazole	<	370		<	360		49		J	<	490	
Di-n-butylphthalate	<	370		95		J	37		J	<	490	
Fluoranthene	130		J	490			1700			490		
Pyrene	170		J	530			1900			420		J
Butylbenzylphthalate	<	370		<	360	J	<	370	J	<	490	J
Benzo(a)anthracene	77		J	310		J	1100			330		J
Chrysene	100		J	300		J	970			380		J
bis(2-Ethylhexyl)phthalate	<	370		73		J	160		J	170		J
Di-n-octylphthalate	<	370		<	360	J	<	370	J	130		J
Benzo(b)fluoranthene	100		J	380			1700			690		
Benzo(k)fluoranthene	370			360			2100			830		
Benzo(a)pyrene	89		J	430			1400			480		J
Indeno(1,2,3-cd)pyrene	54		J	370			1100			410		J
Dibenz(a,h)anthracene	370			130		J	360		J	140		J
Benzo(g,h,i)perylene	93		J	340		J	940			400		J

RL = Reporting Limit (For this data set the Reporting Limit is the Contract Required Quantitation Limit)
J= Estimated Value

SUMMARY OF CHEMICALS DETECTED IN SOIL
Fall 1998
HIMCO DUMP SUPERFUND SITE

Sample location	SB20-0.5			SB20-2			SB20-6		
Date sampled	10/15/98			10/15/98			10/16/98		
Units	mg/kg			mg/kg			mg/kg		
	Result	RL	Qual.	Result	RL	Qual.	Result	RL	Qual.
TOTAL METALS									
Aluminum	3950			4870			3420		
Antimony	<	11.1	J	<	11.1	J	<	10.9	J
Arsenic	5.8			10.8			8.1		
Barium	172			201			72.2		
Beryllium	<	0.20		<	0.70		0.7		J
Cadmium	<	1.0		1.1			<	0.9	
Calcium	69200		J	24900		J	28700		J
Chromium	25.1			14.0			11.1		
Cobalt	4.9		J	5.4		J	6		J
Copper	242			664			54.4		
Iron	8700			20600			11500		
Lead	161			238			105		
Magnesium	9940		J	7730		J	8990		J
Manganese	592			454			200		
Mercury	27.9			4.5			1.2		
Nickel	<	16.5		22.3			11		
Potassium	404		J	483		J	339		J
Selenium	0.60		J	1.3		J	0.7		J
Silver	1.9			3.1			1.1		
Sodium	105			184			92.5		
Thallium	<	0.40		0.50			<	0.4	
Vanadium	12.8			15.8			12.9		
Zinc	324			537			121		
Cyanide	3.3			4.3			1.2		
VOLATILE ORGANICS									
Units		µg/kg			µg/kg			µg/kg	
Methylene Chloride	<	13		<	17		<	11	
Acetone	<	11	J	2		J	2		J
Carbon Disulfide	<	11		<	11		<	11	
1,1-Dichloroethane	<	11		<	11		<	11	
Benzene	<	11		<	11		<	11	
Ethylbenzene	<	11		<	11		<	11	
Xylene (total)	<	11		<	11		<	11	

RL = Reporting Limit (For this data set the Reporting Limit is the Contract Required Quantitation Limit)
J= Estimated Value

SUMMARY OF CHEMICALS DETECTED IN SOIL
Fall 1998
HIMCO DUMP SUPERFUND SITE

Sample location	SB20-0.5			SB20-2			SB20-6		
Date sampled	10/15/98			10/15/98			10/16/98		
	Result	RL	Qual.	Result	RL	Qual.	Result	RL	Qual.
SEMIVOLATILE ORGANICS									
Units		µg/kg			µg/kg			µg/kg	
1,2-Dichlorobenzene	<	360		<	360		<	350	
4-Methylphenol	<	360		50		J	<	350	
Naphthalene	<	360		290		J	2200		
2-Methylnaphthalene	<	360		160		J	1000		
Acenaphthylene	<	360		140		J	2300		
Acenaphthene	180		J	220		J	890		
Dibenzofuran	<	360		170		J	1500		
Diethylphthalate	<	360		<	360		<	350	
Fluorene	<	360		250		J	2500		
Phenanthrene	460			1900			18000		
Anthracene	110		J	450			4900		J
Carbazole	58		J	280		J	1500		
Di-n-butylphthalate	<	360		<	360		<	350	
Fluoranthene	1200			2100			29000		
Pyrene	1200			2500			21000		
Butylbenzylphthalate	<	360	J	<	360	J	<	350	J
Benzo(a)anthracene	780			1700			9700		
Chrysene	880			1400			9700		
bis(2-Ethylhexyl)phthalate	90		J	62		J	81		J
Di-n-octylphthalate	120		J	<	360		<	350	J
Benzo(b)fluoranthene	1200			2800			9700		
Benzo(k)fluoranthene	1200			1200			10000		
Benzo(a)pyrene	1300			1700			11000		
Indeno(1,2,3-cd)pyrene	1200			1200			6400		
Dibenz(a,h)anthracene	450			450			2000		
Benzo(g,h,i)perylene	1000			1100			7100		

RL = Reporting Limit (For this data set the Reporting Limit is the Contract Required Quantitation Limit)
J= Estimated Value

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 5 CENTRAL REGIONAL LABORATORY

536 SOUTH CLARK STREET

CHICAGO, ILLINOIS 60605

Date: DEC 1 9 2000

Subject: Review of Region 5 Data for HIMCO Landfill

From: Roger Rudinsky , Chemist RR
Region 5 Central Regional Laboratory

To: Gwen Massenburg
SR-6J

Attached are the results for Site: HIMCO Landfill
CRL Data Set Number: 20010009
for analyses of : ABNs
Results are reported for sample numbers: (List of sample numbers) 2001SK01S01- 2001SK01S04 2001SK01S02MS, 2001SK01S02MSD, 2001SK01R01 and 2001SK01D02.

Results Status:
(X) Acceptable for Use

(X) Data Qualified, but Acceptable for use - For the compound data qualified UJ or J, please see the attached case narrative.

( ) Data Unacceptable for Use

Grnd H2O Sampling Reslelt
Nov. 2000 Westwood Dr, Northwood Dr,
MW 101A, MW 116A Sampled by USGS need
human effective Compound Results from USGS

Sylvia Griffin DEC 1 9 2000

CRL Data Management Coordinator and Date Received

Date Transmitted: DEC 1 9 2000

Please have the US EPA project leader fill out the customer survey form on the Region 5 Intranet: http://www.r5intra.epa.gov/crl/qa.html, (← by clicking on this link, or call George Schupp, CRL Sample Coordinator, at 3-1226).

Please sign and date this form below and return it with any comments to:

Sylvia Griffin
Data Management Coordinator
Region 5 Central Regional Laboratory
ML - 10C

Received by and Date

Comments:

2001 0009 50102D

ENVIRONMENTAL PROTECTION AGENCY
FOR THE TEAM: TOXIC SUBSTANCES

DIVISION/BRANCH SUPERFUND SAMPLE DATE 11/15-16/2000 LAB ARRIVAL DATE 11/17/00 DUE DATE 12/18/00

DU NUMBER 50102D DATA SET NUMBER 2001WW1 STUDY HTMCULANDFILL PRIORITY N CONTRACTOR N

CRL LOG NUMBER	SAMPLE DESCRIPTION	WATER VOLATILE ORGANICS SCAN UG/L TOX 17684	WATER ABN ORGANICS SCAN UG/L TOX 17674	SEDIMENTS SOLIDS VOLATILE ORGANICS SCAN MG/KG (DRY) TOX 215622	SEDIMENTS SOLIDS ABN ORGANICS SCAN MG/KG (DRY) TOX 215722
2001SK01R01	5-056876-877-878 METHOD BLANK	X			
2001SK01R02	5-056873-874-875 TRIP BLANK	X			
2001SK01S01	5-056859-860-861 1ST ROS WELL	X			
2001SK01S02	5-056837-38-39-40-41-42-43 2ND ROSWELL MS/MSD	X			
2001SK01D02	5-056831-832-835 DUPLICATE OF S02	X			
2001SK01S03	MW116A 5-056816-1718	X			
2001SK01S04	101A 5-056807-08-09	X			
2001SK01R01	METHOD BLANK 5-056-881		X		
2001SK01S01	1ST ROSWELL 5056804		X		
2001SK01S02	5-056834-835-836 2ND ROS WELL MS/MSD		X		
2001SK01D02	DUPLICATE OF S02 5-056829		X		
2001SK01S03	MW116A 5-056819		X		
2001SK01S04	101A 5-056812		X		

CASE NARRATIVE

DATE: December 18, 2000

PROJECT NAME: HIMCO LANDFILL - CRL Case #: 20010009
Analysis of Acid/Base/Neutrals
Organic Analytes (ABN)

ANALYST: Roger Rudinsky, Chemist RR

REVIEWERS: Babu Paruchuri, Chemist BP

I. CASE DESCRIPTION:

The laboratory received 8 water samples from the subject site for ABN analysis. In addition to the routine target parameters, the laboratory analyzed the site samples for 2-hydroxybenzothiazole.

The samples were extracted by continuous liquid liquid and analyzed by GC/MS technique.

These samples were received at the laboratory in good condition.

II. INSTRUMENT QUALITY CONTROLS:

1. **Instrument Performance Check:** The samples were analyzed on December 4th, 15th and 16th. IPCs using DFTPP were made on GC/MS to determine if EPA tuning criteria were met. The QC criteria are the same as those found in the Clean Water Act(CWA - NPDES SOP).All ions were within specifications.

2. **Initial Calibration Check:** An acceptable five point initial calibration (IC) curve (QC Criteria for IC: %RSD should be $\leq$ 35%) is required for all target compounds before samples can be analyzed. Two IC curves were generated to analyze the site samples.

The first initial calibration data collected on December 4th was acceptable for all of the compounds except hexachlorocyclopentadiene, 3-nitroaniline and 2,4-dinitrophenol.

Two calibration points were dropped for benzoic acid, and pentachlorophenol. One calibration point was dropped for carbazole and 4-nitrophenol.

The Reporting Limits were changed to reflect the change resulting from dropping points.

The second initial calibration data collected on December 15th was acceptable for 2-hydroxybenzothiazole.

3. **Continuing Calibration Check:** An acceptable continuing calibration (CC - QC Criteria for CC: %D should be < 20%) is required for all target compounds before samples can be analyzed. Four CC check standards were analyzed to analyze the site samples.

The first continuing calibration data file (1C120402) was acceptable for all of the compounds except benzoic acid.

The second continuing calibration data file (1C120417) was acceptable for all of the compounds except benzoic acid, hexachlorocyclopentadiene, 2,4-dinitrophenol, 4-nitrophenol, pentachlorophenol and 3,3'-dichlorobenzidine.

The third and fourth continuing calibration data files were acceptable for 2-hydroxybenzothiazole.

4. **Internal Standard (IS) Area and Retention Time Summary:**

All samples met the internal standard (IS) area QC requirements. (QC Criteria for IS Area: internal standard areas of the samples should be - 50% to + 200% of the corresponding IS areas of the daily calibration standard).

All samples met the internal standard (IS) RT QC requirements. (QC Criteria for RT: RT of the IS compounds in the samples should be within 30 seconds of the daily calibration standard IS compounds).

III. METHOD QUALITY CONTROL:

1. **Method Blank Results:** On the day of extraction, a Lab Blank (reagents spiked with surrogates) was extracted and analyzed to check the extraction apparatus and GC/MS systems for laboratory contamination (see Form I ABN). If TCLs were detected in the Method Blank samples, data for the affected batch of samples were qualified B(B = found in Method Blank) if the same TCLs were also detected in the site samples. The blank contained small amounts of di-n-butyl-phthalate and bis(2-Ethylhexyl)phthalate.

2. **Surrogate Spike Compound Results:** The surrogate spike compound recovery data that was outside the QC limits was

S1 for 2001SK01S04.

No corrective action is taken unless two or more of the surrogates are outside acceptance ranges. In addition two or more of the outliers must be from the same fraction acid or base/neutral for any data qualification to occur. When this happens all detects are flagged with a 'J' and all non-detects with a 'UJ'. The acid surrogates are S1,S2 and S5. In the case where one surrogate is high and one is low and both are from the same fraction only detected compounds are given the "J" flag.

3. **Matrix Spike/Matrix Spike Duplicate (MS/MSD) Results:**

2001SK01S02 was used for MS/MSDs for the water samples.

2-Chlorophenol had low recoveries for both MS and MSD.
4-Nitrophenol had high recoveries for both MS and MSD.

For 4-Nitrophenol any positives for this compound will be qualified with a "J" flag.

For 2-Chlorophenol any non-detects will be give a "UJ" flag in any sample.

2-Hydroxybenzothiazole had recoveries of 104% and 106% with a %RPD of 2% for the MS and MSD samples, respectively.

4. **Laboratory Control Sample (LCS):** On the day of extraction Laboratory Control Samples (LCS and LCS Duplicate) were extracted and analyzed with the site samples.

In keeping with the new QC plan this pair of samples was not used for any data qualification since the MS/MSD appears to be a good indicator of target compound recovery precision.

5. **Performance Evaluation Sample (PES):** Not applicable.

IV. SAMPLE RESULTS:

We have discovered that the GC/MS column we are using is not capable of separating 3-methylphenol and 4-methylphenol. We have ordered a new column that will be capable of this for future analysis.

We have noticed that the concentration of one of our surrogates Phenol-D5 in our standard mixes obtained from Supelco is greater now than in previous batches.The concentration of this surrogate in our standard mix is 85

ng/ul now. Previously the concentration was 50 ng/ul.

In almost all cases manual integration was performed for the following reasons:

(1) The manual integration was performed because the entire compound peak area was not integrated by the software. The spectra of both before and after may or may not be identical depending on co-eluting peaks.

(2) The software selected the wrong peak for integration.

The manual integrations for the initial calibration standards will be found in the City of Pontiac package - data set number 20010007.

In addition to the usual ABN target compounds we analyzed for 2-hydroxybenzothiazole. For this compound the laboratory has not yet conducted method validation studies. Therefore, the site sample data were qualified estimated UJ for non-detects and J for detects.

The laboratory generated data of acceptable quality.

CRL Data Review Qualification Codes

QUALIFIER	DESCRIPTION
B	This flag is used when the analyte is found in the associated ***B***lank as well as the sample. It indicates possible blank contamination and warns the user to take appropriate action while assessing the data. See the case narrative for a discussion of common lab contaminants and/or the relative concentration of contamination in the samples and blanks for relevance.
D	This flag is used when the analyte concentration results from a required ***D***ilution of the sample, extract or digestate.
E	This flag is used to identify analyte concentrations ***E***xceeding the upper calibration range of the analytical instrument after dilution of the sample, extract or digestate. The reported value is considered to be estimated
J	This flag is used when the analyte is estimated due to quality control limit(s) being exceeded. This flag accompanies all GC/MS tentatively identified compounds (TICs). This flag also applies to a suspected, unidentified interference. This flag is placed on affected detected results as well as non-detected (i.e., "U" flagged) results. (***J*** is the flag used in the Superfund CLP SOW and Data Review Functional Guidelines and is used by CRL for consistency.)
M	This flag is used when the analyte is confirmed to be qualitatively present in the sample, extract or digestate, at or above the CRL ***M***ethod Detection Limit (MDL) but below the CRL reporting limit (RL). This flag applies to all values in this concentration range and indicates the quantitated value is estimated due to its presence in this concentration range.
N	This flag applies to GC/MS Te***N***tatively Identified Compounds (TICs) that have a mass spectral library match.
Q	This flag applies to analyte data that are severely estimated due to quality control and/or ***Q***uantitation problems, but are confirmed to be qualitatively present in the sample. No value is reported with this qualification flag.
R	This flag applies to analyte data that are ***R***ejected and unusable due to severe quality control, quantitation and/or qualitative identification problems. No other qualification flags are reported for this analyte. No value is reported with this qualification flag.
U	This flag in used when the analyte was analyzed but ***U***ndetected in the sample. The CRL RL for the analyte accompanies this flag. As with sample results that are positive, the value is corrected for dry weight, dilution and/or sample weight or volume.

4/11/00

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B BLANK WATER

Lab Name: HIMCO LANDFILL Contract: ML-10C

Lab Code: USEPA-R5 Case No.: 20010009 SAS No.: _____ SDG No.: GCMS026

Matrix: (soil/water) WATER Lab Sample ID: MB BLANK WATE

Sample wt/vol: 1000 (g/ml) ML Lab File ID: 1C120420.D

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

% Moisture: _____ decanted:(Y/N) N Date Extracted: 11/21/00

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 12/05/00

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
111-44-4	bis(2-Chloroethyl)ether	5	U
108-95-2	Phenol	5	U
95-57-8	2-Chlorophenol	5	U J
541-73-1	1,3-Dichlorobenzene	5	U
106-46-7	1,4-Dichlorobenzene	5	U
95-50-1	1,2-Dichlorobenzene	5	U
100-51-6	Benzyl alcohol	5	U
95-48-7	2-Methylphenol	5	U
106-44-5	4-Methylphenol	5	U
108-60-1	bis(2-chloroisopropyl)ether	5	U
67-72-1	Hexachloroethane	5	U
621-64-7	N-Nitroso-di-n-propylamine	5	U
98-95-3	Nitrobenzene	5	U
78-59-1	Isophorone	5	U
88-75-5	2-Nitrophenol	5	U
105-67-9	2,4-Dimethylphenol	5	U
65-80-0	Benzoic acid	25	U J
111-91-1	bis(2-Chloroethoxy)methane	5	U
120-83-2	2,4-Dichlorophenol	5	U
120-82-1	1,2,4-Trichlorobenzene	5	U
91-20-3	Naphthalene	5	U
106-47-8	4-Chloroaniline	5	U
87-68-3	Hexachlorobutadiene	5	U
59-50-7	4-Chloro-3-methylphenol	5	U
91-57-6	2-Methylnaphthalene	5	U
77-47-4	Hexachlorocyclopentadiene	25	U J
88-06-2	2,4,6-Trichlorophenol	5	U
95-95-4	2,4,5-Trichlorophenol	5	U
91-58-7	2-Chloronaphthalene	5	U
88-74-4	2-Nitroaniline	5	U
208-96-8	Acenaphthylene	5	U
131-11-3	Dimethylphthalate	5	U
606-20-2	2,6-Dinitrotoluene	5	U
83-32-9	Acenaphthene	5	U
99-09-2	3-Nitroaniline	25	U J
51-28-5	2,4-Dinitrophenol	25	U J
132-64-9	Dibenzofuran	5	U

RR 12/6/00

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B BLANK WATER

Lab Name: HIMCO LANDFILL Contract: ML-10C

Lab Code: USEPA-R5 Case No.: 20010009 SAS No.: _____ SDG No.: GCMS026

Matrix: (soil/water) WATER Lab Sample ID: MB BLANK WATE

Sample wt/vol: 1000 (g/ml) ML Lab File ID: 1C120420.D

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

% Moisture: _____ decanted:(Y/N) N Date Extracted: 11/21/00

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 12/05/00

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

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

CAS NO:	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
121-14-2	2,4-Dinitrotoluene	5	U
100-02-7	4-Nitrophenol	25	U J
86-73-7	Fluorene	5	U
7005-72-3	4-Chlorophenyl-phenylether	5	U
84-66-2	Diethylphthalate	5	U
100-01-6	4-Nitroaniline	25	U
534-52-1	4,6-Dinitro-2-methylphenol	25	U
86-30-6	n-Nitrosodiphenylamine	5	U
101-55-3	4-Bromophenyl-phenylether	5	U
118-74-1	Hexachlorobenzene	5	U
87-86-5	Pentachlorophenol	25	U J
85-01-8	Phenanthrene	5	U
120-12-7	Anthracene	5	U
86-74-8	Carbazole	5	U
84-74-2	Di-n-butylphthalate	4	J M
206-44-0	Fluoranthene	5	U
129-00-0	Pyrene	5	U
85-68-7	Butylbenzylphthalate	5	U
91-94-1	3,3'-Dichlorobenzidine	25	U J
56-55-3	Benzo[a]anthracene	5	U
218-01-9	Chrysene	5	U
117-81-7	bis(2-Ethylhexyl)phthalate	3	J M
117-84-0	Di-n-octylphthalate	5	U
205-99-2	Benzo[b]fluoranthene	5	U
207-08-9	Benzo[k]fluoranthene	5	U
50-32-8	Benzo[a]pyrene	5	U
193-39-5	Indeno[1,2,3-cd]pyrene	5	U
53-70-3	Dibenz[a,h]anthracene	5	U
191-24-2	Benzo[g,h,i]perylene	5	U
	2-HYDROXY BENZOTHIAZOLE	10	U J

RR 12/6/00

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET EPA SAMPLE NO.

TENTATIVELY IDENTIFIED COMPOUNDS

B BLANK WATER

Lab Name: HIMCO LANDFILL Contract: ML-10C

Lab Code: USEPA-R5 Case No.: 20010009 SAS No.: _____ SDG No.: GCMS026

Matrix: (soil/water) WATER Lab Sample ID: MB BLANK WATE

Sample wt/vol: 1000 (g/ml) ML Lab File ID: 1C120420.D

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

% Moisture: _____ decanted: (Y/N) N Date Extracted: 11/21/00

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 12/05/00

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

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

CONCENTRATION UNITS:

Number TICs found: 0 (ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

1B

EPA SAMPLE NO.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

R01 WATER

Lab Name: HIMCO LANDFILL Contract: ML-10C

Lab Code: USEPA-R5 Case No.: 20010009 SAS No.: _____ SDG No.: GCMS026

Matrix: (soil/water) WATER Lab Sample ID: R01 WATER

Sample wt/vol: 1050 (g/ml) ML Lab File ID: 1C120423.D

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

% Moisture: _____ decanted:(Y/N) N Date Extracted: 11/21/00

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 12/05/00

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
111-44-4	bis(2-Chloroethyl)ether	5	U
108-95-2	Phenol	5	U
95-57-8	2-Chlorophenol	5	U J
541-73-1	1,3-Dichlorobenzene	5	U
106-46-7	1,4-Dichlorobenzene	5	U
95-50-1	1,2-Dichlorobenzene	5	U
100-51-6	Benzyl alcohol	5	U
95-48-7	2-Methylphenol	5	U
106-44-5	4-Methylphenol	5	U
108-60-1	bis(2-chloroisopropyl)ether	5	U
67-72-1	Hexachloroethane	5	U
621-64-7	N-Nitroso-di-n-propylamine	5	U
98-95-3	Nitrobenzene	5	U
78-59-1	Isophorone	5	U
88-75-5	2-Nitrophenol	5	U
105-67-9	2,4-Dimethylphenol	5	U
65-80-0	Benzoic acid	24	U J
111-91-1	bis(2-Chloroethoxy)methane	5	U
120-83-2	2,4-Dichlorophenol	5	U
120-82-1	1,2,4-Trichlorobenzene	5	U
91-20-3	Naphthalene	5	U
106-47-8	4-Chloroaniline	5	U
87-68-3	Hexachlorobutadiene	5	U
59-50-7	4-Chloro-3-methylphenol	5	U
91-57-6	2-Methylnaphthalene	5	U
77-47-4	Hexachlorocyclopentadiene	24	U J
88-06-2	2,4,6-Trichlorophenol	5	U
95-95-4	2,4,5-Trichlorophenol	5	U
91-58-7	2-Chloronaphthalene	5	U
88-74-4	2-Nitroaniline	5	U
208-96-8	Acenaphthylene	5	U
131-11-3	Dimethylphthalate	5	U
606-20-2	2,6-Dinitrotoluene	5	U
83-32-9	Acenaphthene	5	U
99-09-2	3-Nitroaniline	24	U J
51-28-5	2,4-Dinitrophenol	24	U J
132-64-9	Dibenzofuran	5	U

RR 12/6/00

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

R01 WATER

Lab Name: HIMCO LANDFILL Contract: ML-10C

Lab Code: USEPA-R5 Case No.: 20010009 SAS No.: _____ SDG No.: GCMS026

Matrix: (soil/water) WATER Lab Sample ID: R01 WATER

Sample wt/vol: 1050 (g/ml) ML Lab File ID: 1C120423.D

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

% Moisture: _____ decanted:(Y/N) N Date Extracted: 11/21/00

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 12/05/00

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
121-14-2	2,4-Dinitrotoluene	5	U
100-02-7	4-Nitrophenol	24	U J
86-73-7	Fluorene	5	U
7005-72-3	4-Chlorophenyl-phenylether	5	U
84-66-2	Diethylphthalate	5	U
100-01-6	4-Nitroaniline	24	U
534-52-1	4,6-Dinitro-2-methylphenol	24	U
86-30-6	n-Nitrosodiphenylamine	5	U
101-55-3	4-Bromophenyl-phenylether	5	U
118-74-1	Hexachlorobenzene	5	U
87-86-5	Pentachlorophenol	24	U J
85-01-8	Phenanthrene	5	U
120-12-7	Anthracene	5	U
86-74-8	Carbazole	5	U
84-74-2	Di-n-butylphthalate	3	∅B M
206-44-0	Fluoranthene	5	U
129-00-0	Pyrene	5	U
85-68-7	Butylbenzylphthalate	5	U
91-94-1	3,3'-Dichlorobenzidine	24	U J
56-55-3	Benzo[a]anthracene	5	U
218-01-9	Chrysene	5	U
117-81-7	bis(2-Ethylhexyl)phthalate	3	∅B M
117-84-0	Di-n-octylphthalate	5	U
205-99-2	Benzo[b]fluoranthene	5	U
207-08-9	Benzo[k]fluoranthene	5	U
50-32-8	Benzo[a]pyrene	5	U
193-39-5	Indeno[1,2,3-cd]pyrene	5	U
53-70-3	Dibenz[a,h]anthracene	5	U
191-24-2	Benzo[g,h,i]perylene	5	U
	2-HYDROXY BENZO THIAZOLE	10	U J

RR 12/6/00

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET EPA SAMPLE NO.

TENTATIVELY IDENTIFIED COMPOUNDS

R01 WATER

Lab Name: HIMCO LANDFILL Contract: ML-10C

Lab Code: USEPA-R5 Case No.: 20010009 SAS No.: SDG No.: GCMS026

Matrix: (soil/water) WATER Lab Sample ID: R01 WATER

Sample wt/vol: 1050 (g/ml) ML Lab File ID: 1C120423.D

Level: (low/med) LOW Date Received:

% Moisture: decanted: (Y/N) N Date Extracted: 11/21/00

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 12/05/00

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH:

CONCENTRATION UNITS:

Number TICs found: 0 (ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

1B

EPA SAMPLE NO.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

S01 WATER

Lab Name: HIMCO LANDFILL Contract: ML-10C

Lab Code: USEPA-R5 Case No.: 20010009 SAS No.: _____ SDG No.: GCMS026

Matrix: (soil/water) WATER Lab Sample ID: S01 WATER

Sample wt/vol: 1050 (g/ml) ML Lab File ID: 1C120424.D

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

% Moisture: _____ decanted:(Y/N) N Date Extracted: 11/21/00

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 12/05/00

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
111-44-4	bis(2-Chloroethyl)ether	5	U
108-95-2	Phenol	5	U
95-57-8	2-Chlorophenol	5	U J
541-73-1	1,3-Dichlorobenzene	5	U
106-46-7	1,4-Dichlorobenzene	5	U
95-50-1	1,2-Dichlorobenzene	5	U
100-51-6	Benzyl alcohol	5	U
95-48-7	2-Methylphenol	5	U
106-44-5	4-Methylphenol	5	U
108-60-1	bis(2-chloroisopropyl)ether	5	U
67-72-1	Hexachloroethane	5	U
621-64-7	N-Nitroso-di-n-propylamine	5	U
98-95-3	Nitrobenzene	5	U
78-59-1	Isophorone	5	U
88-75-5	2-Nitrophenol	5	U
105-67-9	2,4-Dimethylphenol	5	U
65-80-0	Benzoic acid	24	U J
111-91-1	bis(2-Chloroethoxy)methane	5	U
120-83-2	2,4-Dichlorophenol	5	U
120-82-1	1,2,4-Trichlorobenzene	5	U
91-20-3	Naphthalene	5	U
106-47-8	4-Chloroaniline	5	U
87-68-3	Hexachlorobutadiene	5	U
59-50-7	4-Chloro-3-methylphenol	5	U
91-57-6	2-Methylnaphthalene	5	U
77-47-4	Hexachlorocyclopentadiene	24	U J
88-06-2	2,4,6-Trichlorophenol	5	U
95-95-4	2,4,5-Trichlorophenol	5	U
91-58-7	2-Chloronaphthalene	5	U
88-74-4	2-Nitroaniline	5	U
208-96-8	Acenaphthylene	5	U
131-11-3	Dimethylphthalate	5	U
606-20-2	2,6-Dinitrotoluene	5	U
83-32-9	Acenaphthene	5	U
99-09-2	3-Nitroaniline	24	U J
51-28-5	2,4-Dinitrophenol	24	U J
132-64-9	Dibenzofuran	5	U

RR 12/6/00

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

S01 WATER

Lab Name: HIMCO LANDFILL Contract: ML-10C

Lab Code: USEPA-R5 Case No.: 20010009 SAS No.: _____ SDG No.: GCMS026

Matrix: (soil/water) WATER Lab Sample ID: S01 WATER

Sample wt/vol: 1050 (g/ml) ML Lab File ID: 1C120424.D

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

% Moisture: _____ decanted:(Y/N) N Date Extracted: 11/21/00

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 12/05/00

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
121-14-2	2,4-Dinitrotoluene	5	U
100-02-7	4-Nitrophenol	24	U J
86-73-7	Fluorene	5	U
7005-72-3	4-Chlorophenyl-phenylether	5	U
84-66-2	Diethylphthalate	5	U
100-01-6	4-Nitroaniline	24	U
534-52-1	4,6-Dinitro-2-methylphenol	24	U
86-30-6	n-Nitrosodiphenylamine	5	U
101-55-3	4-Bromophenyl-phenylether	5	U
118-74-1	Hexachlorobenzene	5	U
87-86-5	Pentachlorophenol	24	U J
85-01-8	Phenanthrene	5	U
120-12-7	Anthracene	5	U
86-74-8	Carbazole	5	U
84-74-2	Di-n-butylphthalate	4	JB M
206-44-0	Fluoranthene	5	U
129-00-0	Pyrene	5	U
85-68-7	Butylbenzylphthalate	5	U
91-94-1	3,3'-Dichlorobenzidine	24	U J
56-55-3	Benzo[a]anthracene	5	U
218-01-9	Chrysene	5	U
117-81-7	bis(2-Ethylhexyl)phthalate	5	U
117-84-0	Di-n-octylphthalate	5	U
205-99-2	Benzo[b]fluoranthene	5	U
207-08-9	Benzo[k]fluoranthene	5	U
50-32-8	Benzo[a]pyrene	5	U
193-39-5	Indeno[1,2,3-cd]pyrene	5	U
53-70-3	Dibenz[a,h]anthracene	5	U
191-24-2	Benzo[g,h,i]perylene	5	U
	2-HYDROXY BENZOTHIAZOLE	10	J J

RR 12/6/00

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET EPA SAMPLE NO.

TENTATIVELY IDENTIFIED COMPOUNDS

S01 WATER

Lab Name: HIMCO LANDFILL Contract: ML-10C

Lab Code: USEPA-R5 Case No.: 20010009 SAS No.: _____ SDG No.: GCMS026

Matrix: (soil/water) WATER Lab Sample ID: S01 WATER

Sample wt/vol: 1050 (g/ml) ML Lab File ID: 1C120424.D

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

% Moisture: _____ decanted: (Y/N) N Date Extracted: 11/21/00

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 12/05/00

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

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

CONCENTRATION UNITS:

Number TICs found: 0 (ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

1B

EPA SAMPLE NO.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

S02 WATER

Lab Name: HIMCO LANDFILL Contract: ML-10C

Lab Code: USEPA-R5 Case No.: 20010009 SAS No.: _____ SDG No.: GCMS026

Matrix: (soil/water) WATER Lab Sample ID: S02 WATER

Sample wt/vol: 1020 (g/ml) ML Lab File ID: 1C120425.D

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

% Moisture: _____ decanted:(Y/N) N Date Extracted: 11/21/00

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 12/05/00

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
111-44-4	bis(2-Chloroethyl)ether	5	U
108-95-2	Phenol	5	U
95-57-8	2-Chlorophenol	5	U J
541-73-1	1,3-Dichlorobenzene	5	U
106-46-7	1,4-Dichlorobenzene	5	U
95-50-1	1,2-Dichlorobenzene	5	U
100-51-6	Benzyl alcohol	5	U
95-48-7	2-Methylphenol	5	U
106-44-5	4-Methylphenol	5	U
108-60-1	bis(2-chloroisopropyl)ether	5	U
67-72-1	Hexachloroethane	5	U
621-64-7	N-Nitroso-di-n-propylamine	5	U
98-95-3	Nitrobenzene	5	U
78-59-1	Isophorone	5	U
88-75-5	2-Nitrophenol	5	U
105-67-9	2,4-Dimethylphenol	5	U
65-80-0	Benzoic acid	25	U J
111-91-1	bis(2-Chloroethoxy)methane	5	U
120-83-2	2,4-Dichlorophenol	5	U
120-82-1	1,2,4-Trichlorobenzene	5	U
91-20-3	Naphthalene	5	U
106-47-8	4-Chloroaniline	5	U
87-68-3	Hexachlorobutadiene	5	U
59-50-7	4-Chloro-3-methylphenol	5	U
91-57-6	2-Methylnaphthalene	5	U
77-47-4	Hexachlorocyclopentadiene	25	U J
88-06-2	2,4,6-Trichlorophenol	5	U
95-95-4	2,4,5-Trichlorophenol	5	U
91-58-7	2-Chloronaphthalene	5	U
88-74-4	2-Nitroaniline	5	U
208-96-8	Acenaphthylene	5	U
131-11-3	Dimethylphthalate	5	U
606-20-2	2,6-Dinitrotoluene	5	U
83-32-9	Acenaphthene	5	U
99-09-2	3-Nitroaniline	25	U J
51-28-5	2,4-Dinitrophenol	25	U J
132-64-9	Dibenzofuran	5	U

RR 12/6/00

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

S02 WATER

Lab Name: HIMCO LANDFILL Contract: ML-10C

Lab Code: USEPA-R5 Case No.: 20010009 SAS No.: _____ SDG No.: GCMS026

Matrix: (soil/water) WATER Lab Sample ID: S02 WATER

Sample wt/vol: 1020 (g/ml) ML Lab File ID: 1C120425.D

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

% Moisture: _____ decanted:(Y/N) N Date Extracted: 11/21/00

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 12/05/00

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
121-14-2	2,4-Dinitrotoluene	5	U
100-02-7	4-Nitrophenol	25	U J
86-73-7	Fluorene	5	U
7005-72-3	4-Chlorophenyl-phenylether	5	U
84-66-2	Diethylphthalate	5	U
100-01-6	4-Nitroaniline	25	U
534-52-1	4,6-Dinitro-2-methylphenol	25	U
86-30-6	n-Nitrosodiphenylamine	5	U
101-55-3	4-Bromophenyl-phenylether	5	U
118-74-1	Hexachlorobenzene	5	U
87-86-5	Pentachlorophenol	25	U J
85-01-8	Phenanthrene	5	U
120-12-7	Anthracene	5	U
86-74-8	Carbazole	5	U
84-74-2	Di-n-butylphthalate	5	U
206-44-0	Fluoranthene	5	U
129-00-0	Pyrene	5	U
85-68-7	Butylbenzylphthalate	5	U
91-94-1	3,3'-Dichlorobenzidine	25	U J
56-55-3	Benzo[a]anthracene	5	U
218-01-9	Chrysene	5	U
117-81-7	bis(2-Ethylhexyl)phthalate	3	J M
117-84-0	Di-n-octylphthalate	5	U
205-99-2	Benzo[b]fluoranthene	5	U
207-08-9	Benzo[k]fluoranthene	5	U
50-32-8	Benzo[a]pyrene	5	U
193-39-5	Indeno[1,2,3-cd]pyrene	5	U
53-70-3	Dibenz[a,h]anthracene	5	U
191-24-2	Benzo[g,h,i]perylene	5	U
	2-HYDROXY BENZO THIAZOLE	10	U J

RR 12/6/00

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET EPA SAMPLE NO.

TENTATIVELY IDENTIFIED COMPOUNDS

S02 WATER

Lab Name: HIMCO LANDFILL Contract: ML-10C

Lab Code: USEPA-R5 Case No.: 20010009 SAS No.: _____ SDG No.: GCMS026

Matrix: (soil/water) WATER Lab Sample ID: S02 WATER

Sample wt/vol: 1020 (g/ml) ML Lab File ID: 1C120425.D

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

% Moisture: _____ decanted: (Y/N) N Date Extracted: 11/21/00

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 12/05/00

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

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

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

1B

EPA SAMPLE NO.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

D02 WATER

Lab Name: HIMCO LANDFILL Contract: ML-10C

Lab Code: USEPA-R5 Case No.: 20010009 SAS No.: _____ SDG No.: GCMS026

Matrix: (soil/water) WATER Lab Sample ID: D02 WATER

Sample wt/vol: 1030 (g/ml) ML Lab File ID: 1C120428.D

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

% Moisture: _____ decanted:(Y/N) N Date Extracted: 11/21/00

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 12/05/00

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
111-44-4	bis(2-Chloroethyl)ether	5	U
108-95-2	Phenol	5	U
95-57-8	2-Chlorophenol	5	U J
541-73-1	1,3-Dichlorobenzene	5	U
106-46-7	1,4-Dichlorobenzene	5	U
95-50-1	1,2-Dichlorobenzene	5	U
100-51-6	Benzyl alcohol	5	U
95-48-7	2-Methylphenol	5	U
106-44-5	4-Methylphenol	5	U
108-60-1	bis(2-chloroisopropyl)ether	5	U
67-72-1	Hexachloroethane	5	U
621-64-7	N-Nitroso-di-n-propylamine	5	U
98-95-3	Nitrobenzene	5	U
78-59-1	Isophorone	5	U
88-75-5	2-Nitrophenol	5	U
105-67-9	2,4-Dimethylphenol	5	U
65-80-0	Benzoic acid	24	U J
111-91-1	bis(2-Chloroethoxy)methane	5	U
120-83-2	2,4-Dichlorophenol	5	U
120-82-1	1,2,4-Trichlorobenzene	5	U
91-20-3	Naphthalene	5	U
106-47-8	4-Chloroaniline	5	U
87-68-3	Hexachlorobutadiene	5	U
59-50-7	4-Chloro-3-methylphenol	5	U
91-57-6	2-Methylnaphthalene	5	U
77-47-4	Hexachlorocyclopentadiene	24	U J
88-06-2	2,4,6-Trichlorophenol	5	U
95-95-4	2,4,5-Trichlorophenol	5	U
91-58-7	2-Chloronaphthalene	5	U
88-74-4	2-Nitroaniline	5	U
208-96-8	Acenaphthylene	5	U
131-11-3	Dimethylphthalate	5	U
606-20-2	2,6-Dinitrotoluene	5	U
83-32-9	Acenaphthene	5	U
99-09-2	3-Nitroaniline	24	U J
51-28-5	2,4-Dinitrophenol	24	U J
132-64-9	Dibenzofuran	5	U

RR 12/6/00

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

D02 WATER

Lab Name: HIMCO LANDFILL Contract: ML-10C

Lab Code: USEPA-R5 Case No.: 20010009 SAS No.: _____ SDG No.: GCMS026

Matrix: (soil/water) WATER Lab Sample ID: D02 WATER

Sample wt/vol: 1030 (g/ml) ML Lab File ID: 1C120428.D

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

% Moisture: _____ decanted:(Y/N) N Date Extracted: 11/21/00

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 12/05/00

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
121-14-2	2,4-Dinitrotoluene	5	U
100-02-7	4-Nitrophenol	24	U J
86-73-7	Fluorene	5	U
7005-72-3	4-Chlorophenyl-phenylether	5	U
84-66-2	Diethylphthalate	5	U
100-01-6	4-Nitroaniline	24	U
534-52-1	4,6-Dinitro-2-methylphenol	24	U
86-30-6	n-Nitrosodiphenylamine	5	U
101-55-3	4-Bromophenyl-phenylether	5	U
118-74-1	Hexachlorobenzene	5	U
87-86-5	Pentachlorophenol	24	U J
85-01-8	Phenanthrene	5	U
120-12-7	Anthracene	5	U
86-74-8	Carbazole	5	U
84-74-2	Di-n-butylphthalate	14	B
206-44-0	Fluoranthene	5	U
129-00-0	Pyrene	5	U
85-68-7	Butylbenzylphthalate	5	U
91-94-1	3,3'-Dichlorobenzidine	24	U J
56-55-3	Benzo[a]anthracene	5	U
218-01-9	Chrysene	5	U
117-81-7	bis(2-Ethylhexyl)phthalate	3	JB M
117-84-0	Di-n-octylphthalate	5	U
205-99-2	Benzo[b]fluoranthene	5	U
207-08-9	Benzo[k]fluoranthene	5	U
50-32-8	Benzo[a]pyrene	5	U
193-39-5	Indeno[1,2,3-cd]pyrene	5	U
53-70-3	Dibenz[a,h]anthracene	5	U
191-24-2	Benzo[g,h,i]perylene	5	U
	2-HYDROXYBENZOTHIAZOLE	10	J J

RR 12/06/00

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET EPA SAMPLE NO.

TENTATIVELY IDENTIFIED COMPOUNDS

D02 WATER

Lab Name: HIMCO LANDFILL Contract: ML-10C

Lab Code: USEPA-R5 Case No.: 20010009 SAS No.: _____ SDG No.: GCMS026

Matrix: (soil/water) WATER Lab Sample ID: D02 WATER

Sample wt/vol: 1030 (g/ml) ML Lab File ID: 1C120428.D

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

% Moisture: _____ decanted: (Y/N) N Date Extracted: 11/21/00

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 12/05/00

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

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

CONCENTRATION UNITS:

Number TICs found: 17 (ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	unknown hydrocarbon	18.56	8	J
2.	unknown	19.01	9	J
3.	unknown	22.57	8	J
4.	unknown	22.89	6	J
5.	unknown	25.52	21	J
6.	unknown	25.67	17	J
7.	unknown	26.14	17	J
8. 000630-04-6	Hentriacontane (CAS) $$ Untriac	28.54	26	JN
9.	unknown	30.24	23	J
10.	unknown	30.37	23	J
11.	unknown hydrocarbon	30.69	33	J
12.	unknown	30.87	11	J
13.	unknown hydrocarbon	31.48	16	J
14.	unknown hydrocarbon	32.35	13	J
15.	unknown	32.88	7	J
16.	unknown hydrocarbon	33.34	9	J
17. 055401-55-3	Docosane, 11-decyl- (CAS) $$ 11	34.50	6	JN

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

S03 WATER

Lab Name: HIMCO LANDFILL Contract: ML-10C

Lab Code: USEPA-R5 Case No.: 20010009 SAS No.: _____ SDG No.: GCMS026

Matrix: (soil/water) WATER Lab Sample ID: S03 WATER

Sample wt/vol: 1060 (g/ml) ML Lab File ID: 1C120429.D

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

% Moisture: _____ decanted:(Y/N) N Date Extracted: 11/21/00

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 12/05/00

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
111-44-4	bis(2-Chloroethyl)ether	5	U
108-95-2	Phenol	5	U
95-57-8	2-Chlorophenol	5	U J
541-73-1	1,3-Dichlorobenzene	5	U
106-46-7	1,4-Dichlorobenzene	5	U
95-50-1	1,2-Dichlorobenzene	5	U
100-51-6	Benzyl alcohol	5	U
95-48-7	2-Methylphenol	5	U
106-44-5	4-Methylphenol	5	U
108-60-1	bis(2-chloroisopropyl)ether	5	U
67-72-1	Hexachloroethane	5	U
621-64-7	N-Nitroso-di-n-propylamine	5	U
98-95-3	Nitrobenzene	5	U
78-59-1	Isophorone	5	U
88-75-5	2-Nitrophenol	5	U
105-67-9	2,4-Dimethylphenol	5	U
65-80-0	Benzoic acid	24	U J
111-91-1	bis(2-Chloroethoxy)methane	5	U
120-83-2	2,4-Dichlorophenol	5	U
120-82-1	1,2,4-Trichlorobenzene	5	U
91-20-3	Naphthalene	5	U
106-47-8	4-Chloroaniline	5	U
87-68-3	Hexachlorobutadiene	5	U
59-50-7	4-Chloro-3-methylphenol	5	U
91-57-6	2-Methylnaphthalene	5	U
77-47-4	Hexachlorocyclopentadiene	24	U J
88-06-2	2,4,6-Trichlorophenol	5	U
95-95-4	2,4,5-Trichlorophenol	5	U
91-58-7	2-Chloronaphthalene	5	U
88-74-4	2-Nitroaniline	5	U
208-96-8	Acenaphthylene	5	U
131-11-3	Dimethylphthalate	5	U
606-20-2	2,6-Dinitrotoluene	5	U
83-32-9	Acenaphthene	5	U
99-09-2	3-Nitroaniline	24	U J
51-28-5	2,4-Dinitrophenol	24	U J
132-64-9	Dibenzofuran	5	U

RR 12/6/00

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

S03 WATER

Lab Name: HIMCO LANDFILL Contract: ML-10C

Lab Code: USEPA-R5 Case No.: 20010009 SAS No.: SDG No.: GCMS026

Matrix: (soil/water) WATER Lab Sample ID: S03 WATER

Sample wt/vol: 1060 (g/ml) ML Lab File ID: 1C120429.D

Level: (low/med) LOW Date Received:

% Moisture: decanted:(Y/N) N Date Extracted: 11/21/00

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 12/05/00

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH:

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
121-14-2	2,4-Dinitrotoluene	5	U
100-02-7	4-Nitrophenol	24	U J
86-73-7	Fluorene	5	U
7005-72-3	4-Chlorophenyl-phenylether	5	U
84-66-2	Diethylphthalate	5	U
100-01-6	4-Nitroaniline	24	U
534-52-1	4,6-Dinitro-2-methylphenol	24	U
86-30-6	n-Nitrosodiphenylamine	5	U
101-55-3	4-Bromophenyl-phenylether	5	U
118-74-1	Hexachlorobenzene	5	U
87-86-5	Pentachlorophenol	24	U J
85-01-8	Phenanthrene	5	U
120-12-7	Anthracene	5	U
86-74-8	Carbazole	5	U
84-74-2	Di-n-butylphthalate	4	ΔB M
206-44-0	Fluoranthene	5	U
129-00-0	Pyrene	5	U
85-68-7	Butylbenzylphthalate	5	U
91-94-1	3,3'-Dichlorobenzidine	24	U J
56-55-3	Benzo[a]anthracene	5	U
218-01-9	Chrysene	5	U
117-81-7	bis(2-Ethylhexyl)phthalate	5	U
117-84-0	Di-n-octylphthalate	5	U
205-99-2	Benzo[b]fluoranthene	5	U
207-08-9	Benzo[k]fluoranthene	5	U
50-32-8	Benzo[a]pyrene	5	U
193-39-5	Indeno[1,2,3-cd]pyrene	5	U
53-70-3	Dibenz[a,h]anthracene	5	U
191-24-2	Benzo[g,h,i]perylene	5	U
	2-HYDROXY BENZO THIAZOLE	23	J

12/18/00 RR 12/6/00

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET EPA SAMPLE NO.

TENTATIVELY IDENTIFIED COMPOUNDS

S03 WATER

Lab Name: HIMCO LANDFILL Contract: ML-10C

Lab Code: USEPA-R5 Case No.: 20010009 SAS No.: _____ SDG No.: GCMS026

Matrix: (soil/water) WATER Lab Sample ID: S03 WATER

Sample wt/vol: 1060 (g/ml) ML Lab File ID: 1C120429.D

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

% Moisture: _____ decanted: (Y/N) N Date Extracted: 11/21/00

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 12/05/00

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

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

CONCENTRATION UNITS:

Number TICs found: 3 (ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 000050-06-6	Phenobarbital $$ 2,4,6(1H,3H,5H	21.70	8	JN
2.	unknown	24.27	12	J
3.	unknown hydrocarbon	30.69	5	J

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

S04 WATER

Lab Name: HIMCO LANDFILL Contract: ML-10C

Lab Code: USEPA-R5 Case No.: 20010009 SAS No.: _____ SDG No.: GCMS026

Matrix: (soil/water) WATER Lab Sample ID: S04 WATER

Sample wt/vol: 1050 (g/ml) ML Lab File ID: 1C120430.D

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

% Moisture: _____ decanted:(Y/N) N Date Extracted: 11/21/00

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 12/05/00

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
111-44-4	bis(2-Chloroethyl)ether	5	U
108-95-2	Phenol	5	U
95-57-8	2-Chlorophenol	5	U J
541-73-1	1,3-Dichlorobenzene	5	U
106-46-7	1,4-Dichlorobenzene	5	U
95-50-1	1,2-Dichlorobenzene	5	U
100-51-6	Benzyl alcohol	5	U
95-48-7	2-Methylphenol	5	U
106-44-5	4-Methylphenol	5	U
108-60-1	bis(2-chloroisopropyl)ether	5	U
67-72-1	Hexachloroethane	5	U
621-64-7	N-Nitroso-di-n-propylamine	5	U
98-95-3	Nitrobenzene	5	U
78-59-1	Isophorone	5	U
88-75-5	2-Nitrophenol	5	U
105-67-9	2,4-Dimethylphenol	5	U
65-80-0	Benzoic acid	24	U J
111-91-1	bis(2-Chloroethoxy)methane	5	U
120-83-2	2,4-Dichlorophenol	5	U
120-82-1	1,2,4-Trichlorobenzene	5	U
91-20-3	Naphthalene	5	U
106-47-8	4-Chloroaniline	5	U
87-68-3	Hexachlorobutadiene	5	U
59-50-7	4-Chloro-3-methylphenol	5	U
91-57-6	2-Methylnaphthalene	5	U
77-47-4	Hexachlorocyclopentadiene	24	U J
88-06-2	2,4,6-Trichlorophenol	5	U
95-95-4	2,4,5-Trichlorophenol	5	U
91-58-7	2-Chloronaphthalene	5	U
88-74-4	2-Nitroaniline	5	U
208-96-8	Acenaphthylene	5	U
131-11-3	Dimethylphthalate	5	U
606-20-2	2,6-Dinitrotoluene	5	U
83-32-9	Acenaphthene	5	U
99-09-2	3-Nitroaniline	24	U J
51-28-5	2,4-Dinitrophenol	24	U J
132-64-9	Dibenzofuran	5	U

RR 12/6/00

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

S04 WATER

Lab Name: HIMCO LANDFILL Contract: ML-10C

Lab Code: USEPA-R5 Case No.: 20010009 SAS No.: SDG No.: GCMS026

Matrix: (soil/water) WATER Lab Sample ID: S04 WATER

Sample wt/vol: 1050 (g/ml) ML Lab File ID: 1C120430.D

Level: (low/med) LOW Date Received:

% Moisture: decanted:(Y/N) N Date Extracted: 11/21/00

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 12/05/00

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH:

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

BP 12/18/00 RR 12/6/00

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET EPA SAMPLE NO.

TENTATIVELY IDENTIFIED COMPOUNDS

S04 WATER

Lab Name: HIMCO LANDFILL Contract: ML-10C

Lab Code: USEPA-R5 Case No.: 20010009 SAS No.: _____ SDG No.: GCMS026

Matrix: (soil/water) WATER Lab Sample ID: S04 WATER

Sample wt/vol: 1050 (g/ml) ML Lab File ID: 1C120430.D

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

% Moisture: _____ decanted: (Y/N) N Date Extracted: 11/21/00

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 12/05/00

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

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

CONCENTRATION UNITS:

Number TICs found: 1 (ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	unknown	23.02	6	J

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 5 CENTRAL REGIONAL LABORATORY

536 SOUTH CLARK STREET

CHICAGO, ILLINOIS 60605

Date: DEC 0 5 2000

Subject: Review of Region 5 Data for Himco Dump Code:054J

From: ESAT , Chemist
Region 5 Central Regional Laboratory

To: Gwen Massenburg
SR-6J

Attached are the results for Site: Himco Dump Code:054J
CRL Data Set Number: 20010009
for analyses of : Cyanide
Results are reported for sample numbers: 2001SK01S01, 2001SK01S02, 2001SK01D02, 2001SK01S03, 2001SK01S04 and 2001SK01R01

Results Status:
(x) Acceptable for Use
( ) Data Qualified, but Acceptable for use
( ) Data Unacceptable for Use

Sylvia Griffin DEC 0 5 2000

CRL Data Management Coordinator and Date Received

Date Transmitted: DEC 0 5 2000

Please have the US EPA project leader fill out the customer survey form on the Region 5 Intranet: http://www.r5intra.epa.gov/crl/qa.html, (← by clicking on this link, or call George Schupp, CRL Sample Coordinator, at 3-1226).

Please sign and date this form below and return it with any comments to:

Sylvia Griffin
Data Management Coordinator
Region 5 Central Regional Laboratory
ML - 10C

Received by and Date

Comments:

20010009 50102D

ENVIRONMENTAL PROTECTION AGENCY
FOR THE TEAM: MINERALS - NUTRIENTS

DIVISION/BRANCH SUPERFUND SAMPLE DATE 11/15-16/00 LAB ARRIVAL DATE 11/17/00 DUE DATE 12/18/2000

DU NUMBER 50102D DATA SET NUMBER 2001 0009 STUDY HIMCO LANDFILL PRIORITY N CONTRACTOR N

CRL LOG NUMBER	SAMPLE DESCRIPTION PH CHECKED ON ALL SAMPLES. SAMPLES 2001 SK01SU3 PH READING = 9 ALL OTHER SAMPLES PH = 12	WATER PHENOLICS UG PHENOL/L MIN 74818	WATER CYANIDE UG CN/L MIN 74919	WATER GROSS ALPHA P CI/L MIN 75020	WATER CR^{+6} UG CR^{+6}/L MIN 74816	WATER MERCURY UG HG/L MIN 74717
2001SK01RU1	METHOD BLANK 5-056882		X			
2001SK01SU1	1ST RES WELL 5-056866		X			
2001SK01SU2	2ND RES WELL MS/MSD 5-056850-851		X			
2001SK01DU2	DUPLICATE OF SU2 5-056826		X			
2001SK01SU3	MW116A 5-056824		X			
2001SK01SU4	101A 5-056815		X			

Method: 335.2NS (Cyanide)
Site: Himco Dump
Date: November 22, 2000
Prepared by: Stephen Connet

TDF: 5104-308
PWO: ESE51058
WAD: 05-00-4-04
Data Set: 20010009

NARRATIVE

Six (6) water samples from the Himco Dump site [2001SK01S01(RES WELL 1), S02 (RES WELL 2), D02 (DUPLICATE OF S02), S03 (MW116A), S04 (101A), R01 (Method Blank)] were collected on November 15-16, 2000 and were received by CRL on November 17, 2000. All samples except S03 were pH >12, which was pH 10. Distillation and analysis were performed on S03 without adjustment to the pH. The samples were assigned to ESAT for cyanide analysis.

The samples were checked with lead acetate and potassium iodide starch papers with negative results. The samples were distilled using the MIDI distillation method on November 21, 2000. The samples were analyzed on November 21, 2000 for cyanide using a Lachat QuickChem AE Autoanalyzer according to CRL methods. The samples were analyzed within the 14-day holding time limit.

All QC audits were in control; all sample results except S03, which is estimated due to a possible low bias, are acceptable. A control sample was diluted 1:1, distilled and analyzed with the sample batch; no criteria have been established for the sample. All results are reported to the reporting limit (8 ug/L).

The narrative, instrument run file, QC summary report and Results spreadsheet are stored in:
I:\r5crl\vol1\Min_nut\Sconnet\Lachat2(ESAT)\20010009\20010009_nar.wpd
I:\r5crl\vol1\Min_nut\Sconnet\Lachat2(ESAT)\20010009\112100E.FDT
I:\r5crl\vol1\Min_nut\Sconnet\Lachat2(ESAT)\20010009\QC Summary.wpd
I:\r5crl\vol1\Min_nut\Sconnet\Lachat2(ESAT)\20010009\20010009_res.wpd

Since RLIMS was unavailable, the results are reported in a word-processing document only. Time will be necessary in the future to enter all results into RLIMS.

11-22-00

ENVIRONMENTAL PROTECTION AGENCY
REGION V
CENTRAL REGIONAL LABORATORY
FINAL RESULT REPORT FOR THE TEAM: MINERAL/NUTRIENTS

DIVISION/BRANCH: SUPERFUND **SAMPLING DATE:** 11/15-16/00 **LAB ARRIVAL DATE:** 11/17/00 **DUE DATE:** 12/18/00
DU NUMBER: 50102D **DATASET NUMBER:** 20010009 **STUDY:** Himco Landfill **PRIORITY:** Routine **LABORATORY :** ESAT

	CRL LOG NUMBER	SAMPLE DESCRIPTION	WATER CYANIDE (µg/L)	FLAGS
1	2001SK01S01	RES WELL 1 Northwood	8	U
2	2001SK01S02	RES WELL 2 Westwood	8	U
3	2001SK01D02	DUPLICATE OF S02	8	U
4	2001SK01S03	MW116A	8	UJ
5	2001SK01S04	101A	8	U
6	2001SK01R01	Method Blank	8	U
DATE OF ANALYSIS			11/21/00	
ANALYST		11-22-00	S. Connet	

Reviewed by: JG Date: 11/28/2000

CRL Data Review Qualification Codes

QUALIFIER	DESCRIPTION
B	This flag is used when the analyte is found in the associated ***B***lank as well as the sample. It indicates possible blank contamination and warns the user to take appropriate action while assessing the data. See the case narrative for a discussion of common lab contaminants and/or the relative concentration of contamination in the samples and blanks for relevance.
D	This flag is used when the analyte concentration results from a required ***D***ilution of the sample, extract or digestate.
E	This flag is used to identify analyte concentrations ***E***xceeding the upper calibration range of the analytical instrument after dilution of the sample, extract or digestate. The reported value is considered to be estimated
J	This flag is used when the analyte is estimated due to quality control limit(s) being exceeded. This flag accompanies all GC/MS tentatively identified compounds (TICs). This flag also applies to a suspected, unidentified interference. This flag is placed on affected detected results as well as non-detected (i.e., "U" flagged) results. (***J*** is the flag used in the Superfund CLP SOW and Data Review Functional Guidelines and is used by CRL for consistency.)
M	This flag is used when the analyte is confirmed to be qualitatively present in the sample, extract or digestate, at or above the CRL ***M***ethod Detection Limit (MDL) but below the CRL reporting limit (RL). This flag applies to all values in this concentration range and indicates the quantitated value is estimated due to its presence in this concentration range.
N	This flag applies to GC/MS Te***N***tatively Identified Compounds (TICs) that have a mass spectral library match.
Q	This flag applies to analyte data that are severely estimated due to quality control and/or ***Q***uantitation problems, but are confirmed to be qualitatively present in the sample. No value is reported with this qualification flag.
R	This flag applies to analyte data that are ***R***ejected and unusable due to severe quality control, quantitation and/or qualitative identification problems. No other qualification flags are reported for this analyte. No value is reported with this qualification flag.
U	This flag in used when the analyte was analyzed but ***U***ndetected in the sample. The CRL RL for the analyte accompanies this flag. As with sample results that are positive, the value is corrected for dry weight, dilution and/or sample weight or volume.

4/11/00

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 5 CENTRAL REGIONAL LABORATORY

536 SOUTH CLARK STREET

CHICAGO, ILLINOIS 60605

Date: DEC 1 5 2000

Subject: Review of Region 5 Data for Himco Dump Code:054J

From: ESAT , Chemist
Region 5 Central Regional Laboratory

To: Gwen Massenburg
SR-6J

Attached are the results for Site: Himco Dump Code:054J
CRL Data Set Number: 20010009
for analyses of : Antimony, Arsenic, Cadmium, Lead, Selenium and Thallium
Results are reported for sample numbers: 2001SK01S01, 2001SK01S02, 2001SK01D02, 2001SK01S03, 2001SK01S04 and 2001SK01R01

Results Status:
(x) Acceptable for Use
( ) Data Qualified, but Acceptable for use
( ) Data Unacceptable for Use

Sylvia Griffin DEC 15 2000

CRL Data Management Coordinator and Date Received

Date Transmitted: DEC 15 2000

Please have the US EPA project leader fill out the customer survey form on the Region 5 Intranet: http://www.r5intra.epa.gov/crl/qa.html, (← by clicking on this link, or call George Schupp, CRL Sample Coordinator, at 3-1226).

Please sign and date this form below and return it with any comments to:

Sylvia Griffin
Data Management Coordinator
Region 5 Central Regional Laboratory
ML - 10C

Received by and Date

Comments:

Method: GFAA for Water
Site: Himco Dump
Date: December 11, 2000
Prepared by: Stephen Connet

TDF: 5104-308
PWO: ESE51058
WAD: 05-00-4-04
Data Set: 20010009

NARRATIVE

Six (6) water samples from the Himco Dump site [2001SK01S01(RES WELL 1), S02 (RES WELL 2), D02 (DUPLICATE OF S02), S03 (MW116A), S04 (101A), R01 (Method Blank)] were collected on November 15-16, 2000 and were received properly preserved by CRL on November 17, 2000. The samples were submitted to ESAT for analysis of antimony, arsenic, cadmium, lead, selenium, and thallium by GFAA.

The samples were digested following standard CRL 200.2 hot block water digestion protocols on November 20, 2000 (digestion batch 1241). Analyses were performed using 200.9 methods on the SIMAA 6000 using multi-element programs. Samples from SF20010010 (digestion batch 1245) were analyzed in the same analytical runs. Background interferences present in the thallium analyses required dilutions to obtain acceptable results.

All QC were within limits; all sample results are acceptable.

Non-detect results are reported to the reporting limit (RL). Results between the method detection limit (MDL) and the RL are reported as the instrument value with an "M" flag. Where appropriate, reported values are dilution corrected and results are flagged "D".

Analytical results were stored in the following database files:
H:\r5crl\vol3\metals\sconnet\20010009\6000-SbTl\120400 and \120500 for antimony and thallium,
H:\r5crl\vol3\metals\sconnet\20010009\6000-AsSe\120600A and \120700 for arsenic and selenium,
H:\r5crl\vol3\metals\sconnet\20010009\6000-CdPb\120700A and \121100 for cadmium and lead,
H:\r5crl\vol3\metals\sconnet\20010009\6000-Tl\120600 for thallium.

This narrative and the Results/QC Summary spreadsheet are stored in:
H:\r5crl\vol3\metals\sconnet\20010009\Reports\GFAA Narrative.wpd
H:\r5crl\vol3\metals\sconnet\20010009\Reports\QCReport.wk4

Since RLIMS was unavailable, the AA metals analysis results are reported in a Lotus spreadsheet only. Time will be necessary in the future to enter all analysis results into RLIMS.

12-11-00

ENVIRONMENTAL PROTECTION AGENCY
REGION V
CENTRAL REGIONAL LABORATORY
FINAL RESULT REPORT FOR THE TEAM: METALS

DIVISION/BRANCH:	**SUPERFUND**	STUDY:	**HIMCO DUMP**	SAMPLING DATE:	**11/15-16/00**
DU NUMBER:	**50102D**	PRIORITY:	**ROUTINE**	LAB ARRIVAL DATE:	**11/17/00**
DATASET NUMBER:	**20010009**	LABORATORY	**ESAT**	DUE DATE:	**12/18/00**

	CRL LOG NUMBER	SAMPLE DESCRIPTION	WATER Antimony (ug/L)	WATER Arsenic (ug/L)	WATER Cadmium (ug/L)	WATER Lead (ug/L)	WATER Selenium (ug/L)	WATER Thallium (ug/L)
1	**2001SK01S01**	RES WELL 1	4U	2U	0.3U	2U	4U	4UD
2	**2001SK01S02**	RES WELL 2	4U	4UD	0.6UD	2U	8UD	6UD
3	**2001SK01D02**	DUPLICATE OF S02	4U	2U	0.6UD	2U	8UD	4UD
4	**2001SK01S03**	MW116A	16UD	10UD	0.9UD	2M	40UD	20UD
5	**2001SK01S04**	101A	8UD	6.4	0.6UD	2U	4U	20UD
6	**2001SK01R01**	Method Blank	4U	2U	0.3U	2U	4U	2U
	(UNDILUTED)	Reporting Limit	4	2	0.3	2	4	2
DATE OF ANALYSIS			12/4-5/00	12/6-7/00	12/7,11/00	12/7/00	12/6-7/00	12/4-6/00
ANALYST		12-12-00	S. Connet	S. Connet	S. Connet	S. Connet	S. Connet	S. Connet

Reviewed By: _____ Date: 12-13-2000

2001000 1

ENVIRONMENTAL PROTECTION AGENCY
FOR THE TEAM: METALS

501020

DIVISION/BRANCH SUPERFUND SAMPLING DATE 11/15-16/00 LAB ARRIVAL DATE 11/17/00 DUE DATE 12/18/00

DU NUMBER 501020 DATASET NUMBER 20010009 STUDY HIMCO LANDFILL PRIORITY N CONTRACTOR N

CRL LOG NUMBER	SAMPLE DESCRIPTION	MATRIX WATER TEST CD UNITS UG/L ME1235826	MATRIX WATER TEST Hg UNITS UG/HG/L ME1235826	MATRIX TEST UNITS ME1235826	MATRIX TEST UNITS ME1235826	MATRIX TEST UNITS ME1235826	
2001SK01							
R01	METHOD BLANK	X	X				5-05688
S01	1ST RES WELL	X Res well 1	X				5-05686
S02	2ND RES WELL MS/MSD	X Res well 2	X				5-056846-4
D02	DUPLICATE OF S02	X	X				5-05682
S03	MW116A	X	X				5-05682
S04	101A	X	X				5-05681

CRL V.2: 3/85

CN HCl SU7

20010009

50102D

ENVIRONMENTAL PROTECTION AGENCY
FOR THE TEAM: METALS

DIVISION/BRANCH SUPERFUND. SAMPLE DATE 11/15-16/00 LAB ARRIVAL DATE 11/17/00 DUE DATE 12/18/2000

DU NUMBER 50102D DATA SET NUMBER 2001 0009 STUDY HIMCO LANDFILL PRIORITY N CONTRACTOR N

CRL LOG NUMBER	SAMPLE DESCRIPTION	TOTAL METALS WATER TOTAL ICAP UG/L MET111		TOTAL METALS WATER AS UG/L MET181		TOTAL METALS WATER PB UG/L MET1191		TOTAL METALS WATER SB UG/L MET1201		TOTAL METALS WATER SE UG/L MET1211		TOTAL METALS WATER TL UG/L MET1221	
2001SK01R01	METHOD BLANK 5056884	X		X		X		X		X		X	
2001SK01S01	1ST RESWELL 5056868	X		X		X		X		X		X	
2001SK01S02	2ND RESWELL MS/MSD 5056846-847	X		X		X		X		X		X	
2001SK01D02	DUPLICATE OF S02 5056827	X		X		X		X		X		X	
2001SK01S03	MW116A 5056822	X		X		X		X		X		X	
2001SK01S04	101A 5056814	X		X		X		X		X		X	
402	RESWELL 2												

CRL Data Review Qualification Codes

QUALIFIER	DESCRIPTION
B	This flag is used when the analyte is found in the associated ***B***lank as well as the sample. It indicates possible blank contamination and warns the user to take appropriate action while assessing the data. See the case narrative for a discussion of common lab contaminants and/or the relative concentration of contamination in the samples and blanks for relevance.
D	This flag is used when the analyte concentration results from a required ***D***ilution of the sample, extract or digestate.
E	This flag is used to identify analyte concentrations ***E***xceeding the upper calibration range of the analytical instrument after dilution of the sample, extract or digestate. The reported value is considered to be estimated
J	This flag is used when the analyte is estimated due to quality control limit(s) being exceeded. This flag accompanies all GC/MS tentatively identified compounds (TICs). This flag also applies to a suspected, unidentified interference. This flag is placed on affected detected results as well as non-detected (i.e., "U" flagged) results. (***J*** is the flag used in the Superfund CLP SOW and Data Review Functional Guidelines and is used by CRL for consistency.)
M	This flag is used when the analyte is confirmed to be qualitatively present in the sample, extract or digestate, at or above the CRL ***M***ethod Detection Limit (MDL) but below the CRL reporting limit (RL). This flag applies to all values in this concentration range and indicates the quantitated value is estimated due to its presence in this concentration range.
N	This flag applies to GC/MS Te***N***tatively Identified Compounds (TICs) that have a mass spectral library match.
Q	This flag applies to analyte data that are severely estimated due to quality control and/or ***Q***uantitation problems, but are confirmed to be qualitatively present in the sample. No value is reported with this qualification flag.
R	This flag applies to analyte data that are ***R***ejected and unusable due to severe quality control, quantitation and/or qualitative identification problems. No other qualification flags are reported for this analyte. No value is reported with this qualification flag.
U	This flag in used when the analyte was analyzed but ***U***ndetected in the sample. The CRL RL for the analyte accompanies this flag. As with sample results that are positive, the value is corrected for dry weight, dilution and/or sample weight or volume.

4/11/00

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 5 CENTRAL REGIONAL LABORATORY

536 SOUTH CLARK STREET

CHICAGO, ILLINOIS 60605

Date: DEC 05 2000

Subject: Review of Region 5 Data for Himco Dump Code:054J

From: ESAT , Chemist
Region 5 Central Regional Laboratory

To: Gwen Massenburg
SR-6J

Attached are the results for Site: Himco Dump Code:054J
CRL Data Set Number: 20010009
for analyses of : ICP Metals
Results are reported for sample numbers: 2001SK01S01, 2001SK01S02, 2001SK01D02, 2001SK01S03, 2001SK01S04 and 2001SK01R01

Results Status:
(x) Acceptable for Use for most Metals
(x) Data Qualified, but Acceptable for use where flagged "J" due to baseline drift or contamination
( ) Data Unacceptable for Use

Sylvia Griffin DEC 0 5 2000

CRL Data Management Coordinator and Date Received

Date Transmitted: DEC 0 5 2000

Please have the US EPA project leader fill out the customer survey form on the Region 5 Intranet: http://www.r5intra.epa.gov/crl/qa.html, (← by clicking on this link, or call George Schupp, CRL Sample Coordinator, at 3-1226).

Please sign and date this form below and return it with any comments to:

Sylvia Griffin
Data Management Coordinator
Region 5 Central Regional Laboratory
ML - 10C

Received by and Date

Comments:

CN Prcl 507

20010009

50102D

ENVIRONMENTAL PROTECTION AGENCY
FOR THE TEAM: METALS

DIVISION/BRANCH SUPERFUND SAMPLE DATE 11/15-16/00 LAB ARRIVAL DATE 11/17/00 DUE DATE 12/18/2000

DU NUMBER 50102D DATA SET NUMBER 2001 0009 STUDY HIMCO LANDFILL PRIORITY N CONTRACTOR N

CRL LOG NUMBER	SAMPLE DESCRIPTION PH READING FOR ALL SAMPLES WAS (1)	TOTAL METALS WATER TOTAL ICAP UG/L MET111	TOTAL METALS WATER AS UG/L MET181	TOTAL METALS WATER PB UG/L MET1191	TOTAL METALS WATER SB UG/L MET1201	TOTAL METALS WATER SE UG/L MET1211	TOTAL METALS WATER TL UG/L MET1221
2001SK01RO1	METHOD BLANK 5-056884	X	X	X	X	X	X
2001SK01SO1	1ST RGS WELL 5056868	X	X	X	X	X	X
2001SK01SO2	2ND RGS WELL MS/MSD 5056846-847	X	X	X	X	X	X
2001SK01DO2	DUPLICATE OF SO2 5056827	X	X	X	X	X	X
2001SK01SO3	MW116A 5056822	X	X	X	X	X	X
2001SK01SO4	101A 5-056814	X	X	X	X	X	X

20010009 501021D

ENVIRONMENTAL PROTECTION AGENCY
FOR THE TEAM: MINERALS - NUTRIENTS

DIVISION/BRANCH SUPERFUND SAMPLE DATE 11/15-16/00 LAB ARRIVAL DATE 11/17/00 DUE DATE 12/18/2000

DU NUMBER 501021D DATA SET NUMBER 2001 0009 STUDY HIMCO LANDFILL PRIORITY N CONTRACTOR N

CRL LOG NUMBER	SAMPLE DESCRIPTION PH CHECKED ON ALL SAMPLES. SAMPLES 2001 SK01 SU3 PH READING = 9 ALL OTHER SAMPLES PH = 12	WATER PHENOLICS UG PHENOL/L MIN 74918	WATER CYANIDE UG CN/L MIN 74918	WATER GROSS ALPHA P CI/L MIN 76020	WATER CR^{+6} UG CR^{+6}/L MIN 74616	WATER MERCURY UG HG/L MIN 74717
2001SK01R01	METHOD BLANK 5-056882		X			
2001SK01SU1	1ST RES WELL 5-056806		X			
2001SK01SU2	2ND RES WELL MS/MSD 5-056850-851		X			
2001SK01DU2	DUPLICATE OF SU2 5-056826		X			
2001SK01SU3	MW116A 5-056824		X			
2001SK01SU4	101A 5-056815		X			

20010009

ENVIRONMENTAL PROTECTION AGENCY 501020
FOR THE TEAM METALS

DIVISION/BRANCH SUPERFUND SAMPLING DATE 11/15-16/00 LAB ARRIVAL DATE 11/17/00 DUE DATE 12/18/00

RU NUMBER 501020 DATASET NUMBER 20010009 STUDY HMCC LANDFILL PRIORITY N CONTRACTOR N

CRL LOG NUMBER	SAMPLE DESCRIPTION	MATRIX WATER TEST CD UNITS UG/L ME1235826	MATRIX WATER TEST Hg UNITS UG/L ME1235826	MATRIX TEST UNITS ME1235826	MATRIX TEST UNITS ME1235826	MATRIX TEST UNITS ME1235826	
20015K01							
R01	METHOD BLANK	X	X				5056884
S01	1ST REG WELL	X Northwood	X				5056868
S02	2ND REG WELL MW13B	X Westwood	X				5056846-47
D02	DUPLICATE OF S02	X	X				5056827
S03	MW116A	X	X				5056822
S04	101A	X	X				5056814

CRL V.2: 3/85

EPA CRL - REGION V
ICP FINAL RESULTS REPORT

REPORT PRODUCED ON: 22-Nov-00

SAMPLE ORGANIZATION:

SAMPLE BATCH ID: 20010009

LABORATORY: REGION 5 CRL

SAMPLE FACILITY: Himco Dump

SAMPLE: 2001SK01R01

ANALYZED: 22-Nov-00

STATION: Method blank

COMPOUND	AMOUNT			(Units)
Aluminum	40	U		(ug/L)
Barium	2	U		(ug/L)
Beryllium	0.3	U		(ug/L)
Calcium	53.1			(ug/L)
Chromium	3	U		(ug/L)
Cobalt	1	U		(ug/L)
Copper	1.1	M		(ug/L)
Iron	4.3	M		(ug/L)
Magnesium	15.1			(ug/L)
Manganese	2	U		(ug/L)
Nickel	1.2	M	B	(ug/L)
Potassium	219	M		(ug/L)
Silver	1	U		(ug/L)
Sodium	212		B J	(ug/L)
Vanadium	4.3	M	B	(ug/L)
Zinc	25	U		(ug/L)

ANALYZED BY: 11-28-00

EPA CRL - REGION V
ICP FINAL RESULTS REPORT

REPORT PRODUCED ON: 22-Nov-00

SAMPLE ORGANIZATION:

SAMPLE BATCH ID: 20010009

LABORATORY: REGION 5 CRL

SAMPLE FACILITY: Himco Dump

SAMPLE: 2001SK01S01

ANALYZED: 22-Nov-00

STATION: 1st res well Northwood

COMPOUND	AMOUNT			(Units)
Aluminum	35.9	M		(ug/L)
Barium	48.1			(ug/L)
Beryllium	0.2	M	B	(ug/L)
Calcium	102000			(ug/L)
Chromium	3	U		(ug/L)
Cobalt	1	U		(ug/L)
Copper	2.3			(ug/L)
Iron	60.2			(ug/L)
Magnesium	24800			(ug/L)
Manganese	103			(ug/L)
Nickel	2.9		B J	(ug/L)
Potassium	2790			(ug/L)
Silver	1	U		(ug/L)
Sodium	53100			(ug/L)
Vanadium	5.5	M	B	(ug/L)
Zinc	21.7	M		(ug/L)

ANALYZED BY: _____ 11-28-00

EPA CRL - REGION V
ICP FINAL RESULTS REPORT

REPORT PRODUCED ON: 22-Nov-00

SAMPLE ORGANIZATION:

SAMPLE BATCH ID: 20010009

LABORATORY: REGION 5 CRL

SAMPLE FACILITY: Himco Dump

SAMPLE: 2001SK01S02

ANALYZED: 22-Nov-00

STATION: 2nd res well Wurkwood

COMPOUND	AMOUNT				(Units)
Aluminum	58.2				(ug/L)
Barium	46.9				(ug/L)
Beryllium	0.3	M	B		(ug/L)
Calcium	129000				(ug/L)
Chromium	3	U			(ug/L)
Cobalt	0.8	M			(ug/L)
Copper	1	M			(ug/L)
Iron	1840				(ug/L)
Magnesium	14200				(ug/L)
Manganese	1250				(ug/L)
Nickel	3.4		B	J	(ug/L)
Potassium	4400				(ug/L)
Silver	1	U			(ug/L)
Sodium	42300				(ug/L)
Vanadium	4.9	M	B		(ug/L)
Zinc	14.3	M			(ug/L)

ANALYZED BY: RH 11-28-00

EPA CRL - REGION V
ICP FINAL RESULTS REPORT

REPORT PRODUCED ON: 22-Nov-00

SAMPLE ORGANIZATION:

SAMPLE BATCH ID: 20010009

LABORATORY: REGION 5 CRL

SAMPLE FACILITY: Himco Dump

SAMPLE: 2001SK01D02

ANALYZED: 22-Nov-00

STATION: duplicate of S02 Westwood

COMPOUND	AMOUNT			(Units)
Aluminum	53.7			(ug/L)
Barium	47.4			(ug/L)
Beryllium	0.1	M	B	(ug/L)
Calcium	129000			(ug/L)
Chromium	3	U		(ug/L)
Cobalt	0.9	M		(ug/L)
Copper	1.4	M		(ug/L)
Iron	1720			(ug/L)
Magnesium	14200			(ug/L)
Manganese	1250			(ug/L)
Nickel	3.6		B J	(ug/L)
Potassium	4670			(ug/L)
Silver	1	U		(ug/L)
Sodium	42700			(ug/L)
Vanadium	3.4	M	B	(ug/L)
Zinc	20.3	M		(ug/L)

ANALYZED BY: RD 11-28-00

EPA CRL - REGION V
ICP FINAL RESULTS REPORT

REPORT PRODUCED ON: 22-Nov-00

SAMPLE ORGANIZATION:

SAMPLE BATCH ID: 20010009

LABORATORY: REGION 5 CRL

SAMPLE FACILITY: Himco Dump

SAMPLE: 2001SK01S03

ANALYZED: 22-Nov-00

STATION: MW 116 A

COMPOUND	AMOUNT			(Units)
Aluminum	335			(ug/L)
Barium	133			(ug/L)
Beryllium	1.0	B	J	(ug/L)
Calcium	745000			(ug/L)
Chromium	3	U		(ug/L)
Cobalt	1.1			(ug/L)
Copper	2.1			(ug/L)
Iron	8200			(ug/L)
Magnesium	60000			(ug/L)
Manganese	1240			(ug/L)
Nickel	4.2	B	J	(ug/L)
Potassium	30800			(ug/L)
Silver	1	U		(ug/L)
Sodium	214000			(ug/L)
Vanadium	9.1	B	J	(ug/L)
Zinc	85.5			(ug/L)

ANALYZED BY: 11-28-00

EPA CRL - REGION V
ICP FINAL RESULTS REPORT

REPORT PRODUCED ON: 22-Nov-00

SAMPLE ORGANIZATION:

SAMPLE BATCH ID: 20010009

LABORATORY: REGION 5 CRL

SAMPLE FACILITY: Himco Dump

SAMPLE: 2001SK01S04

ANALYZED: 22-Nov-00

STATION: 101 A

COMPOUND	AMOUNT			(Units)
Aluminum	112			(ug/L)
Barium	79.3			(ug/L)
Beryllium	0.6	B	J	(ug/L)
Calcium	227000			(ug/L)
Chromium	3 U			(ug/L)
Cobalt	1 U			(ug/L)
Copper	2 U			(ug/L)
Iron	9490			(ug/L)
Magnesium	20200			(ug/L)
Manganese	929			(ug/L)
Nickel	2.3	B	J	(ug/L)
Potassium	10100			(ug/L)
Silver	1 U			(ug/L)
Sodium	36700			(ug/L)
Vanadium	5.0 M	B		(ug/L)
Zinc	14.9 M			(ug/L)

ANALYZED BY: _____ 11-29-00

Lockheed Martin Services Group
Environmental Services & Technologies Region 5
536 South Clark Street #1050 Chicago, IL 60605
Telephone 312-353-8302 Facsimile 312-353-8307

LOCKHEED MARTIN

Date: November 28, 2000

To: John V. Morris, EPA WAM

From: Richard Dilg, ESAT Chemist 11-28-00

Thru: Ziyad Rajabi, ESAT Team Manager

Copies: John Ganz, ESAT Inorganic Group Leader
Jay Thakkar, ESAT Contract RPO

Ref: TDF# 5104-308
WA# 05-00-4-04
Contract # 68D60002

SUBJECT: Data Set SF20010009: ICP Analyses for Himco Dump samples using CRL Method **200.7**

Attached is the deliverable for Data Set SF20010009 for ICP analysis of 6 water samples.

If you have any question please feel free to contact ESAT.

RD
11-28-00

Method Number: _200.7_____ Site Name: Himco Dump _____
Date Generated: November 28, 2000_ Work Unit Number: 05-00-4-04_
Author: _R.Dilg,Lockheed-ESAT_____ TDF Number: 5104-308_____
Charge Number: ESE-51-058____
Batch ID No.: 20010009 _____
Parameter: ICP _____

ICP NARRATIVE

This narrative covers the analysis of 6 water samples from the named site sampled for ICP metals analysis.

Sample Nos.	Sample Station ID's	Sample collected	Analysis dates
2001SK01S01	S01 - Res Well 1	11-15-2000	11-22-2000
2001SK01S02	S02 - Res Well 2	11-15-2000	11-22-2000
2001SK01D01	D02 - Dup of S02	11-15-2000	11-22-2000
2001SK01S03	MW 116A	11-15-2000	11-22-2000
2001SK01S04	S04/101 A	11-15-2000	11-22-2000
2001SK01R01	Method blank R01	11-15-2000	11-22-2000

Routine CRL hot block (water) digestion procedures were used to prepare the water samples for ICP analysis. The digested samples were analyzed using the Optima 3300 DV ICP unit using analysis run method water_080300_ESAT. Optima 3300 DV ICP results were stored to file 20010009 112200.

ICP RUN RESULTS

Analyte mdl's determined and rl values calculated earlier in the year for ESAT analysis work for the Optima 3300 DV were used. The calculated rl values were used in reporting sample analysis results for this data case.

11-28-00

ICP RUN RESULTS - continued

An ambiguously stated flag in SOP HK005 is the "B" flag. Although a "more than 10 times" rule was mentioned for blanks for considering data as useable, it was not clearly stated whether or not the "B" flag should be used. As a matter of fact, to this analyst, from reading the wording used in the SOP the flow or intent seems to imply (but is not specifically stated to do so) to always use the "B" flag regardless of the sample level if a control audit blank is above an MDL level ! This analyst used the "B" flag for those analyte cases where the MDL value was exceeded but the 10 times value was not exceeded.

Also, to better help understand the use of the "B" flag, let it be pointed out to the data user that the "B" flag is by definition a warning flag only. For estimated data, an additional flag (either an "M" or a "J" flag") is used to denote that the flagged result is in fact estimated.

Analysis RUN 1241 - Optima 3300 DV

29 analyte lines out of a possible 78 lines available using the Optima 3300 DV method were chosen by a plan agreed upon by Dr. J. V. Morris. These are to be used for routine reporting of analyte values that appear in the QA summary reports.

The following analytes will either not be addressed or only minimally mentioned in this case narrative:

Sn, Tl, As, Se, Sb, Mo, Pb, Cd, Ti, Y, Sr, Li

The following lists the case pertinent out-of-control QC audit check results:

RUN 1241:

Blanks:	Instr blk 1:	Cr267	0.90	µg/L
		Ni231	0.69	"
		V 310	4.81	"
	Digest blk 1:	Ag328	- 0.44	"
		Al396	-17.36	"
		As193	- 3.71	"
		Na589	67.31	"
		V 310	3.65	"

11-29-00

Analysis RUN 1241 - Optima 3300 DV (continued)

Digest blk 2:	Ag328	- 0.49	µg/L
	Al396	-22.57	"
	Be313	0.10	"
	Na589	84.85	"
Instr blk 2:	Ag328	- 0.55	"
	Be313	0.20	"
	Cr267	0.98	"
	Na589	154.4	"
	Ni231	0.58	"

Mid range QC's: LCM1's: LCM1-1: Ag328 *

LCM1-2: Ag328 *
Na589 19.9 % deviation

* alternate QC audit check used to monitor this analyte

High AQC's: 1st Hi AQC: Zn213 - 19.48 % deviation

2nd Hi AQC: Zn213 - 18.89 "

RL check Soln: RL 1:
(See paragraphs below regarding RL's)
RL 2:

For the rl check audit, the reporting limit (rl) check solution was used for the analysis runs. Since many of the ESAT calculated rl values were close to the CRL rl values, the CRL RL check solution was used as the check solution for the Optima 3300 DV analysis run.

Presently no "control" actions are associated with the observed rl analyte values actually determined during the analysis runs. RL check solution values currently are being analyzed for purposes of generating a benchmark set of values which can be used to monitor the appropriateness of any given RL level of analyte concentration.

RP
11-29-00

Analysis RUN 1241 - Optima 3300 DV (continued)

As, Sb, Cd, Pb, Se, and Tl sample results were not reported by ICP; see GFAA results for these analytes.

For Al, the sample result for 2001SK01S01 was flagged "M" since it had a result between the MDL and the RL value and it is estimated because of this.

For Be, sample results for 2001SK01S01, S02, and D02 were flagged "M" since they had a result between the MDL and the RL value and they are estimated because of this. Sample results for 2001SK01S01, S02, D02, S03, and S04 were flagged "B" indicating they may have been affected by possible contamination indicated by blank analysis data. The sample results for 2001SK01S03 and S04 were also flagged "J" indicating possible high bias due to the blank contamination just noted and are estimated.

For Co, sample results for 2001SK01S02 and D02 were flagged "M" since they had a result between the MDL and the RL value and they are estimated because of this.

For Cu, sample results for 2001SK01R01, S02, and D02 were flagged "M" since they had a result between the MDL and the RL value and they are estimated because of this.

For Fe, the sample result for 2001SK01R01 was flagged "M" since it had a result between the MDL and the RL value and it is estimated because of this.

For Ni, the sample result for 2001SK01R01 was flagged "M" since it had a result between the MDL and the RL value and it is estimated because of this. Sample results for 2001SK01R01, S01, S02, D02, S03, and S04 were flagged "B" indicating they may have been affected by possible contamination indicated by blank analysis data. Sample results for 2001SK01S01, S02, D02, S03, and S04 were also flagged "J" indicating possible high bias due to the blank contamination just noted and are estimated.

For K, the sample result for 2001SK01R01 was flagged "M" since it had a result between the MDL and the RL value and it is estimated because of this.

RD
11-28-00

Analysis RUN 1241 - Optima 3300 DV (continued)

For Na, the sample result for 2001SK01R01 was flagged "B" indicating it may have been affected by possible contamination indicated by blank analysis data. This sample result was also flagged "J" indicating possible high bias due to the blank contamination just noted and is estimated. The final mid range QC check standard value exceeded upper limit criteria but the high QC check values were within limits. Only the sample result for 2001SK01R01 would be significantly affected because of possible high bias; the remaining Na sample results are usable.

For V, sample results for 2001SK01R01, S01, S02, D02, and S04 were flagged "M" since they had a result between the MDL and the RL value and they are estimated because of this. Sample results for 2001SK01R01, S01, S02, D02, S03, and S04 were flagged "B" indicating they may have been affected by possible contamination indicated by blank analysis data. The sample result for 2001SK01S03 was also flagged "J" indicating possible high bias due to the blank contamination just noted and is estimated.

For Zn, sample results for 2001SK01S01, S02, D02, and S04 were flagged "M" since they had a result between the MDL and the RL value and they are estimated because of this.

Other Comments

Low levels of Ca, Cu, Fe, Mg, Ni, K, Na, and V were found in the field blank (sample 2001SK01R01). Analysis of the undigested field blank sample indicated the presence of Ca, Cu, Mg, Ni, Na, and V. For Fe and K the levels were low enough as to not significantly affect the remaining sample results for these analytes.

Samples 2001SK01S01 and D01 were designated as field duplicates; the analyte values correlate well.

Per discussion with Dr. J. V. Morris, no dilutions were made because of current ambiguities in the CRL Metals 003 SOP regarding upper limits of linearity for analytes such as Ca, Mg, and Na sample results.

CRL Data Review Qualification Codes

QUALIFIER	DESCRIPTION
B	This flag is used when the analyte is found in the associated *B*lank as well as the sample. It indicates possible blank contamination and warns the user to take appropriate action while assessing the data. See the case narrative for a discussion of common lab contaminants and/or the relative concentration of contamination in the samples and blanks for relevance.
D	This flag is used when the analyte concentration results from a required *D*ilution of the sample, extract or digestate.
E	This flag is used to identify analyte concentrations *E*xceeding the upper calibration range of the analytical instrument after dilution of the sample, extract or digestate. The reported value is considered to be estimated
J	This flag is used when the analyte is estimated due to quality control limit(s) being exceeded. This flag accompanies all GC/MS tentatively identified compounds (TICs). This flag also applies to a suspected, unidentified interference. This flag is placed on affected detected results as well as non-detected (i.e., "U" flagged) results. (*J* is the flag used in the Superfund CLP SOW and Data Review Functional Guidelines and is used by CRL for consistency.)
M	This flag is used when the analyte is confirmed to be qualitatively present in the sample, extract or digestate, at or above the CRL *M*ethod Detection Limit (MDL) but below the CRL reporting limit (RL). This flag applies to all values in this concentration range and indicates the quantitated value is estimated due to its presence in this concentration range.
N	This flag applies to GC/MS Te*N*tatively Identified Compounds (TICs) that have a mass spectral library match.
Q	This flag applies to analyte data that are severely estimated due to quality control and/or *Q*uantitation problems, but are confirmed to be qualitatively present in the sample. No value is reported with this qualification flag.
R	This flag applies to analyte data that are *R*ejected and unusable due to severe quality control, quantitation and/or qualitative identification problems. No other qualification flags are reported for this analyte. No value is reported with this qualification flag.
U	This flag in used when the analyte was analyzed but *U*ndetected in the sample. The CRL RL for the analyte accompanies this flag. As with sample results that are positive, the value is corrected for dry weight, dilution and/or sample weight or volume.

4/11/00

11-28-00

R5CRL Files

The following pathways were used for storing analysis information to the R5CRL file server for the this data set:

Optima 3300 DV results:

(Vol 3 on 'R5crl')[H:]\metals\Rdilg\20010009\Icp\Optima 3300DV\Methods_ESAT
(Vol 3 on 'R5crl')[H:]\metals\Rdilg\20010009\Icp\Optima 3300DV\narrative
(Vol 3 on 'R5crl')[H:]\metals\Rdilg\20010009\Icp\Optima 3300DV\Results_ESAT
(Vol 3 on 'R5crl')[H:]\metals\Rdilg\20010009\Icp\Optima 3300DV\SIFs_ESAT
(Vol 3 on 'R5crl')[H:]\metals\Rdilg\20010009\Icp\Optima 3300DV\SS processed data

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 5 CENTRAL REGIONAL LABORATORY

536 SOUTH CLARK STREET

CHICAGO, ILLINOIS 60605

Date: DEC 0 6 2000

Subject: Review of Region 5 Data for Himco Dump Code:054J

From: ESAT , Chemist
Region 5 Central Regional Laboratory

To: Gwen Massenburg
SR-6J

Attached are the results for Site: Himco Dump Code:054J
CRL Data Set Number: 20010009
for analyses of : Mercury
Results are reported for sample numbers: 2001SK01S01, 2001SK01S02, 2001SK01D02, 2001SK01S03, 2001SK01S04 and 2001SK01R01

Results Status:
(x) Acceptable for Use
( ) Data Qualified, but Acceptable for use
( ) Data Unacceptable for Use

Sylvia Griffin DEC 0 6 2000

CRL Data Management Coordinator and Date Received

Date Transmitted: DEC 0 6 2000

Please have the US EPA project leader fill out the customer survey form on the Region 5 Intranet: http://www.r5intra.epa.gov/crl/qa.html, (← by clicking on this link, or call George Schupp, CRL Sample Coordinator, at 3-1226).

Please sign and date this form below and return it with any comments to:

Sylvia Griffin
Data Management Coordinator
Region 5 Central Regional Laboratory
ML - 10C

Received by and Date

Comments:

2001000 1

ENVIRONMENTAL PROTECTION AGENCY 50102D
FOR THE TEAM METALS

DIVISION/BRANCH SUPERFUND SAMPLING DATE 11/15-16/00 LAB ARRIVAL DATE 11/17/00 DUE DATE 12/18/00

DU NUMBER 50102D DATASET NUMBER 2001009 STUDY HIMCO LANDFILL PRIORITY N CONTRACTOR N

CRL LOG NUMBER	SAMPLE DESCRIPTION	MATRIX WATER TEST CO UNITS UG/L ME1235826	MATRIX WATER TEST Hg UNITS UG/L ME1235826	MATRIX TEST UNITS ME1235826	MATRIX TEST UNITS ME1235826	MATRIX TEST UNITS ME1235826	
2001SK01							
R01	METHOD BLANK						
S01	1ST REG WELL	→ REG WELL 1					5-056884
S02	2ND REG WELL MS/MSD	REG WELL 2					5-056868
D02	DUPLICATE OF S02						5-056846-4
S03	MW116A						5-056827
S04	101A						5-056822
							5-056814

CRL V.2: 3/95

ENVIRONMENTAL PROTECTION AGENCY
REGION V
CENTRAL REGIONAL LABORATORY
FINAL RESULT REPORT FOR THE TEAM: MERCURY

DIVISION/BRANCH: SUPERFUND **SAMPLING DATE:** 11/15-16/00 **LAB ARRIVAL DATE:** 11/17/00 **DUE DATE:** 12/18/00
DU NUMBER: 50102D **DATASET NUMBER:** 20010009 **STUDY:** Himco Landfill **PRIORITY:** Routine **LABORATORY :** ESAT

	CRL LOG NUMBER	SAMPLE DESCRIPTION	WATER MERCURY (µg/L)	FLAGS
1	**2001SK01S01**	RES WELL 1	Northwood 0.5	U
2	**2001SK01S02**	RES WELL 2	0.5	U
3	**2001SK01D02**	DUPLICATE OF S02	0.5	U
4	**2001SK01S03**	MW116A	0.5	U
5	**2001SK01S04**	101A	0.5	U
6	**2001SK01R01**	Method Blank	0.5	U
	Reporting Limit		0.5	
DATE OF ANALYSIS			11/30/00	
ANALYST		12-1-00	S. Connet	

Reviewed by: _____ Date: 12/5/2000

CRL Data Review Qualification Codes

QUALIFIER	DESCRIPTION
B	This flag is used when the analyte is found in the associated ***B***lank as well as the sample. It indicates possible blank contamination and warns the user to take appropriate action while assessing the data. See the case narrative for a discussion of common lab contaminants and/or the relative concentration of contamination in the samples and blanks for relevance.
D	This flag is used when the analyte concentration results from a required ***D***ilution of the sample, extract or digestate.
E	This flag is used to identify analyte concentrations ***E***xceeding the upper calibration range of the analytical instrument after dilution of the sample, extract or digestate. The reported value is considered to be estimated
J	This flag is used when the analyte is estimated due to quality control limit(s) being exceeded. This flag accompanies all GC/MS tentatively identified compounds (TICs). This flag also applies to a suspected, unidentified interference. This flag is placed on affected detected results as well as non-detected (i.e., "U" flagged) results. (***J*** is the flag used in the Superfund CLP SOW and Data Review Functional Guidelines and is used by CRL for consistency.)
M	This flag is used when the analyte is confirmed to be qualitatively present in the sample, extract or digestate, at or above the CRL ***M***ethod Detection Limit (MDL) but below the CRL reporting limit (RL). This flag applies to all values in this concentration range and indicates the quantitated value is estimated due to its presence in this concentration range.
N	This flag applies to GC/MS Te***N***tatively Identified Compounds (TICs) that have a mass spectral library match.
Q	This flag applies to analyte data that are severely estimated due to quality control and/or ***Q***uantitation problems, but are confirmed to be qualitatively present in the sample. No value is reported with this qualification flag.
R	This flag applies to analyte data that are ***R***ejected and unusable due to severe quality control, quantitation and/or qualitative identification problems. No other qualification flags are reported for this analyte. No value is reported with this qualification flag.
U	This flag in used when the analyte was analyzed but ***U***ndetected in the sample. The CRL RL for the analyte accompanies this flag. As with sample results that are positive, the value is corrected for dry weight, dilution and/or sample weight or volume.

4/11/00

Parameter: Mercury
Method: 245.2 *DNS (WATER)
Site: Himco Dump
Date: December 1, 2000
Prepared by: Stephen Connet

TDF: 5104-308
PWO: ESE51058
WAD: 05-00-4-04
Data Set: 20010009

NARRATIVE

Six (6) water samples from the Himco Dump site [2001SK01S01(RES WELL 1), S02 (RES WELL 2), D02 (DUPLICATE OF S02), S03 (MW116A), S04 (101A), R01 (Method Blank)] were collected on November 15-16, 2000 and were received properly preserved by CRL on November 17, 2000. The samples were assigned to ESAT for mercury analysis.

Due to continuing problems with the autoprep station, the samples were manually digested with samples from data set 20010010 on November 29, 2000. Hydroxylamine was added and the samples analyzed on November 30, 2000. All digestion tubes were capped during digestion.

Non-detect results are reported to the reporting limit (RL).

All QC audits were in control; all sample results are acceptable.

This narrative, the instrument run file, QC summary form and results spreadsheet are stored in:
I:\r5crl\vol1\Min_nut\Sconnet\PSAMercury\HgWATER\20010009\20010009_nar.wpd
I:\r5crl\vol1\Min_nut\Sconnet\PSAMercury\HgWATER\20010009\20010910.res
I:\r5crl\vol1\Min_nut\Sconnet\PSAMercury\HgWATER\20010009\QC Summary.wpd
I:\r5crl\vol1\Min_nut\Sconnet\PSAMercury\HgWATER\20010009\20010009_res.wpd

Since RLIMS was unavailable, the results are reported in a word-processing document only. Time will be necessary in the future to enter all results into RLIMS.

12-1-00

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 5 CENTRAL REGIONAL LABORATORY

536 SOUTH CLARK STREET

CHICAGO, ILLINOIS 60605

Date: DEC 1 4 2000

Subject: Review of Region 5 Data for Himco Landfill

From: Nidia Fuentes , Chemist
Region 5 Central Regional Laboratory

To: Gwen Massenburg
SR-6J

Attached are the results for Site: Himco Landfill
CRL Data Set Number: 2001 0009
for analyses of : VOA - waters
Results are reported for sample numbers: 2001SK01S01, S02, D02, S03, S04, R01, R02, S02MS and S02MSD.

Results Status:
(X) Acceptable for Use
( ) Data Qualified, but Acceptable for use
( ) Data Unacceptable for Use

Sylvia Griffin 12/14/2000

CRL Data Management Coordinator and Date Received

Date Transmitted: Dec. 14 2000

Please have the US EPA project leader fill out the customer survey form on the Region 5 Intranet: http://www.r5intra.epa.gov/crl/qa.html, (← by clicking on this link, or call George Schupp, CRL Sample Coordinator, at 3-1226).

Please sign and date this form below and return it with any comments to:

Sylvia Griffin
Data Management Coordinator
Region 5 Central Regional Laboratory
ML - 10C

Received by and Date

Comments:

2001 0009 50102D

ENVIRONMENTAL PROTECTION AGENCY
FOR THE TEAM: TOXIC SUBSTANCES

DIVISION/BRANCH SUPERFUND SAMPLE DATE 11/15-16/2000 LAB ARRIVAL DATE 11/17/00 DUE DATE 12/18/00

DU NUMBER 50102D DATA SET NUMBER 2001WW1 STUDY HIMCO LANDFILL PRIORITY N CONTRACTOR N

CRL LOG NUMBER	SAMPLE DESCRIPTION	WATER VOLATILE ORGANICS SCAN UG/L TOX 17684	WATER ABN ORGANICS SCAN UG/L TOX 17674	SEDIMENTS SOLIDS VOLATILE ORGANICS SCAN MG/KG (DRY) TOX 216622	SEDIMENTS SOLIDS ABN ORGANICS SCAN MG/KG (DRY) TOX 215722
2001SK01R01	5-056876-877-878 METHOD BLANK	X			
2001SK01R02	5-056873-874-875 TRIP BLANK	X			
2001SK01S01	5-056859-860-861 1ST ROSWELL	X			
2001SK01S02	5-056837-38-39-40-41-42-43 2ND ROSWELL MS/MSD	X			
2001SK01D02	5-056831-832-833 DUPLICATE OF S02	X			
2001SK01S03	MW116A 5-056816-1718	X			
2001SK01S04	101A 5-056807-08-09	X			
2001SK01R01	METHOD BLANK 5-056-881		X		
2001SK01S01	1ST ROSWELL 5056804		X		
2001SK01S02	5-056834-835-836 2ND ROSWELL MS/MSD		X		
2001SK01D02	DUPLICATE OF S02 5-056829		X		
2001SK01S03	MW116A 5-056819		X		
2001SK01S04	101A 5-056812		X		

CASE NARRATIVE

DATE: December 14, 2000

PROJECT NAME: Himco Landfill - CRL Case #:20010009
Analysis of Volatile Organic Analytes (VOA)

ANALYST: Nidia Fuentes, Chemist NF

REVIEWER: Babu Paruchuri, GC/MS Team Leader BP

I. CASE DESCRIPTION:

The laboratory received seven low water samples (2001SK01S01, S02, S03, S04, R01, R02 and D02) for volatile organic analyte (VOA) analysis which were already acid preserved in the field. These samples were analyzed on 11/22-23/2000 by the CRL Method GCMS023, on instrument #7. In addition to the routine parameters, the lab analyzed the site samples for the following additional site specific compounds: ethyl ether, dichlorofluoromethane, and chlorofluoromethane. Because the latter compound was not readily available at the time of sample analysis, the lab reported estimated concentrations for chlorofluoromethane. The laboratory met sample analysis holding time criteria for all samples. (QC Criteria for water acid preserved sample analysis holding time: 14 days from the date of collection.) These samples were received at the laboratory in good condition.

II. INSTRUMENT QUALITY CONTROLS:

1. **Instrument Performance Check:** On each day of analysis, the GC/MS instrument (HP-MSD#7) performance checks were made to determine whether the instrument met the EPA tuning criteria for p-BFB (QC Criteria: Same as the CWA's criteria). No problems were observed.

2. **Initial Calibration Check:** An acceptable five point initial calibration (IC) curve (QC Criteria for IC: %RSD should be $\leq$ 35%) is required for all target compounds before samples can be analyzed. The lab generated one IC curve on

11/21/2000, having no outliers except naphthalene and 2-chloroethyl vinyl ether. Because the latter compound was not detected in the calibration standards, 2-chloroethyl vinyl ether data were qualified as unusable "R". Also, since naphthalene not was detected in the site samples, its reporting limits were flagged estimated (UJ).

3. **Continuing Calibration Check:** Two continuing calibrations check (CCC) standards were evaluated to analyze the site samples. The first CCC data generated on 11/22/2000 met the CRL QC requirements for all compounds (QC Criteria for CC: %D should be $\leq$ 30%) except for naphthalene and 2-chloroethyl vinyl ether. The following samples were analyzed by this calibration: 2001SK01S01, S02, D02, S03, S04, R01 and R02. The second CCC generated on 11/24/2000 had two outliers: naphthalene and 2-chloroethyl vinyl ether. The following Samples were analyzed by this CC: 2001SK01S02dil, D02dil, S03dil, S04dil, S02MSdil and S02MSDdil.

4. **Internal Standard (IS) Area and Retention Time (RT) Summary:** The lab generated data of acceptable quality.

III. METHOD QUALITY CONTROL:

1. **Method Blank Results:** On each day of sample analysis, 25-ml of reagent water spiked with internal standards and surrogates was analyzed to check the GC/MS and purge and trap systems for lab contamination. No problems were encountered.

2. **Surrogate Spike Compound Results:** The surrogate spike compound recovery data were within the CRL's QC limits for all of the site samples.

3. **Matrix Spike/Matrix Spike Duplicate (MS/MSD) Results:** The laboratory collected site-specific matrix precision and accuracy (P&A) data using the site sample 2001SK01S02. Because the lab has not yet analyzed enough MS and MSD samples to establish QC acceptance criteria, the lab evaluated the MS and MSD sample QC data quality based on QC acceptance criteria established for LCS and LCS duplicates. Please see below.

4. **Laboratory Control Sample (LCS):** The laboratory analyzed LCS and LCS duplicates and generated data of acceptable quality for the target compounds.

5. **Performance Evaluation Sample (PES):** Not applicable. QC Criteria for the PES: Control Limits are established by EMSL-LV.

IV. SAMPLE RESULTS:

The laboratory generated data of acceptable quality. Some of the field samples, S02, D02, S03 and S04, were diluted and reanalyzed at proper dilutions. The affected compound (ethyl ether and dichlorofluoromethane) data were qualified "D". Chlorofluoromethane result should be considered as an estimated value.

CRL Data Review Qualification Codes

QUALIFIER	DESCRIPTION
B	This flag is used when the analyte is found in the associated ***B***lank as well as the sample. It indicates possible blank contamination and warns the user to take appropriate action while assessing the data. See the case narrative for a discussion of common lab contaminants and/or the relative concentration of contamination in the samples and blanks for relevance.
D	This flag is used when the analyte concentration results from a required ***D***ilution of the sample, extract or digestate.
E	This flag is used to identify analyte concentrations ***E***xceeding the upper calibration range of the analytical instrument after dilution of the sample, extract or digestate. The reported value is considered to be estimated
J	This flag is used when the analyte is estimated due to quality control limit(s) being exceeded. This flag accompanies all GC/MS tentatively identified compounds (TICs). This flag also applies to a suspected, unidentified interference. This flag is placed on affected detected results as well as non-detected (i.e., "U" flagged) results. (***J*** is the flag used in the Superfund CLP SOW and Data Review Functional Guidelines and is used by CRL for consistency.)
M	This flag is used when the analyte is confirmed to be qualitatively present in the sample, extract or digestate, at or above the CRL ***M***ethod Detection Limit (MDL) but below the CRL reporting limit (RL). This flag applies to all values in this concentration range and indicates the quantitated value is estimated due to its presence in this concentration range.
N	This flag applies to GC/MS Te***N***tatively Identified Compounds (TICs) that have a mass spectral library match.
Q	This flag applies to analyte data that are severely estimated due to quality control and/or ***Q***uantitation problems, but are confirmed to be qualitatively present in the sample. No value is reported with this qualification flag.
R	This flag applies to analyte data that are ***R***ejected and unusable due to severe quality control, quantitation and/or qualitative identification problems. No other qualification flags are reported for this analyte. No value is reported with this qualification flag.
U	This flag in used when the analyte was analyzed but ***U***ndetected in the sample. The CRL RL for the analyte accompanies this flag. As with sample results that are positive, the value is corrected for dry weight, dilution and/or sample weight or volume.

4/11/00

1A

EPA SAMPLE NO.

VOLATILE ORGANICS ANALYSIS DATA SHEET

LAB BLANK

Lab Name: HIMCO LANDFILL Contract: CRL

Lab Code: 5-CRL Case No.: 20010009 SAS No.: _____ SDG No.: GCMS022

Matrix: (soil/water) WATER Lab Sample ID: LAB BLANK

Sample wt/vol: 25.0 (g/ml) ML Lab File ID: 7C112210.D

Level: (low/med) LOW Date Received: 11/17/00

% Moisture: not dec. _____ Date Analyzed: 11/22/00

GC Column: DB-624 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg) UG/L	Q
75-01-4	Vinyl chloride	1	U
74-87-3	Chloromethane	1	U
74-83-9	Bromomethane	1	U
75-00-3	Chloroethane	1	U
107-64-1	Acrolein	10	U
75-35-4	1,1-Dichloroethene	1	U
115-10-6	Ethyl ether	1	U
75-71-8	Dichlorofluoromethane	1	U
67-64-1	Acetone	10	U
75-15-0	Carbon disulfide	1	U
75-09-2	Methylene chloride	1	U
107-13-1	Acrylonitrile	10	U
156-60-5	trans-1,2-Dichloroethene	1	U
75-34-3	1,1-Dichloroethane	1	U
78-93-3	2-Butanone	10	U
156-59-2	cis-1,2-Dichloroethene	1	U
594-20-7	2,2-Dichloropropane	2	U
74-97-5	Bromochloromethane	1	U
67-66-3	Chloroform	1	U
71-55-6	1,1,1-Trichloroethane	1	U
563-58-6	1,1-Dichloropropene	1	U
56-23-5	Carbon tetrachloride	1	U
107-06-2	1,2-Dichloroethane	1	U
71-43-2	Benzene	1	U
79-01-6	Trichloroethene	1	U
78-87-5	1,2-Dichloropropane	1	U
75-27-4	Bromodichloromethane	1	U
10061-01-5	cis-1,3-Dichloropropene	1	U
108-10-1	4-Methyl-2-pentanone	5	U
108-88-3	Toluene	1	U
10061-02-6	trans-1,3-Dichloropropene	2	U
110-75-8	2-Chloroethyl vinyl ether	~~5~~ 10	U R
79-00-5	1,1,2-Trichloroethane	1	U
142-28-9	1,3-Dichloropropane	1	U
127-18-4	Tetrachloroethene	1	U
591-78-6	2-Hexanone	2	U
124-48-1	Dibromochloromethane	1	U
106-93-4	1,2-Dibromoethane	1	U
108-90-7	Chlorobenzene	1	U

11/22/00

1A

EPA SAMPLE NO.

VOLATILE ORGANICS ANALYSIS DATA SHEET

LAB BLANK

Lab Name: HIMCO LANDFILL Contract: CRL

Lab Code: 5-CRL Case No.: 20010009 SAS No.: _____ SDG No.: GCMS022

Matrix: (soil/water) WATER Lab Sample ID: LAB BLANK

Sample wt/vol: 25.0 (g/ml) ML Lab File ID: 7C112210.D

Level: (low/med) LOW Date Received: 11/17/00

% Moisture: not dec. _____ Date Analyzed: 11/22/00

GC Column: DB-624 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
630-20-6	1,1,1,2-Tetrachloroethane	1	U
100-41-4	Ethylbenzene	1	U
1083836423	m- &/or p-Xylene	1	U
95-47-6	o-Xylene	1	U
100-42-5	Styrene	1	U
75-25-2	Bromoform	1	U
98-82-8	Isopropylbenzene	1	U
79-34-5	1,1,2,2-Tetrachloroethane	1	U
96-18-4	1,2,3-Trichloropropane	1	U
108-86-1	Bromobenzene	1	U
103-65-1	n-Propylbenzene	1	U
95-49-8	2-Chlorotoluene	1	U
106-43-4	4-Chlorotoluene	1	U
108-67-8	1,3,5-Trimethylbenzene	1	U
98-06-6	tert-Butylbenzene	1	U
95-63-6	1,2,4-Trimethylbenzene	1	U
135-98-8	sec-Butylbenzene	1	U
99-87-6	p-Isopropyltoluene	1	U
541-73-1	1,3-Dichlorobenzene	1	U
106-46-7	1,4-Dichlorobenzene	1	U
104-51-8	n-Butylbenzene	1	U
95-50-1	1,2-Dichlorobenzene	1	U
96-12-8	1,2-Dibromo-3-chloropropane	1	U
120-82-1	1,2,4-Trichlorobenzene	1	U
87-68-3	Hexachlorobutadiene	1	U
91-20-3	Naphthalene	1	U J
87-61-6	1,2,3-Trichlorobenzene	1	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

LAB BLANK

Lab Name: HIMCO LANDFILL Contract: CRL

Lab Code: 5-CRL Case No.: 20010009 SAS No.: SDG No.: GCMS022

Matrix: (soil/water) WATER Lab Sample ID: LAB BLANK

Sample wt/vol: 25.0 (g/ml) ML Lab File ID: 7C112210.D

Level: (low/med) LOW Date Received: 11/17/00

% Moisture: not dec. Date Analyzed: 11/22/00

GC Column: DB-624 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

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

Number TICs found: 0

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q

1A

EPA SAMPLE NO.

VOLATILE ORGANICS ANALYSIS DATA SHEET

LAB BLANK

Lab Name: HIMCO LANDFILL Contract: CRL

Lab Code: 5-CRL Case No.: 20010009 SAS No.: SDG No.: GCMS022

Matrix: (soil/water) WATER Lab Sample ID: LAB BLANK

Sample wt/vol: 25.0 (g/ml) ML Lab File ID: 7C112404.D

Level: (low/med) LOW Date Received: 11/17/00

% Moisture: not dec. Date Analyzed: 11/24/00

GC Column: DB-624 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
75-01-4	Vinyl chloride	1	U
74-87-3	Chloromethane	1	U
74-83-9	Bromomethane	1	U
75-00-3	Chloroethane	1	U
107-64-1	Acrolein	10	U
75-35-4	1,1-Dichloroethene	1	U
115-10-6	Ethyl ether	1	U
75-71-8	Dichlorofluoromethane	1	U
67-64-1	Acetone	10	U
75-15-0	Carbon disulfide	1	U
75-09-2	Methylene chloride	1	U
107-13-1	Acrylonitrile	10	U
156-60-5	trans-1,2-Dichloroethene	1	U
75-34-3	1,1-Dichloroethane	1	U
78-93-3	2-Butanone	10	U
156-59-2	cis-1,2-Dichloroethene	1	U
594-20-7	2,2-Dichloropropane	2	U
74-97-5	Bromochloromethane	1	U
67-66-3	Chloroform	1	U
71-55-6	1,1,1-Trichloroethane	1	U
563-58-6	1,1-Dichloropropene	1	U
56-23-5	Carbon tetrachloride	1	U
107-06-2	1,2-Dichloroethane	1	U
71-43-2	Benzene	1	U
79-01-6	Trichloroethene	1	U
78-87-5	1,2-Dichloropropane	1	U
75-27-4	Bromodichloromethane	1	U
10061-01-5	cis-1,3-Dichloropropene	1	U
108-10-1	4-Methyl-2-pentanone	5	U
108-88-3	Toluene	1	U
10061-02-6	trans-1,3-Dichloropropene	2	U
110-75-8	2-Chloroethyl vinyl ether	~~5~~	~~U~~
79-00-5	1,1,2-Trichloroethane	1	U
142-28-9	1,3-Dichloropropane	1	U
127-18-4	Tetrachloroethene	1	U
591-78-6	2-Hexanone	2	U
124-48-1	Dibromochloromethane	1	U
106-93-4	1,2-Dibromoethane	1	U
108-90-7	Chlorobenzene	1	U

1A

EPA SAMPLE NO.

VOLATILE ORGANICS ANALYSIS DATA SHEET

LAB BLANK

Lab Name: HIMCO LANDFILL Contract: CRL

Lab Code: 5-CRL Case No.: 20010009 SAS No.: _____ SDG No.: GCMS022

Matrix: (soil/water) WATER Lab Sample ID: LAB BLANK

Sample wt/vol: 25.0 (g/ml) ML Lab File ID: 7C112404.D

Level: (low/med) LOW Date Received: 11/17/00

% Moisture: not dec. _____ Date Analyzed: 11/24/00

GC Column: DB-624 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg) UG/L	Q
630-20-6	1,1,1,2-Tetrachloroethane	1	U
100-41-4	Ethylbenzene	1	U
1083836423	m- &/or p-Xylene	1	U
95-47-6	o-Xylene	1	U
100-42-5	Styrene	1	U
75-25-2	Bromoform	1	U
98-82-8	Isopropylbenzene	1	U
79-34-5	1,1,2,2-Tetrachloroethane	1	U
96-18-4	1,2,3-Trichloropropane	1	U
108-86-1	Bromobenzene	1	U
103-65-1	n-Propylbenzene	1	U
95-49-8	2-Chlorotoluene	1	U
106-43-4	4-Chlorotoluene	1	U
108-67-8	1,3,5-Trimethylbenzene	1	U
98-06-6	tert-Butylbenzene	1	U
95-63-6	1,2,4-Trimethylbenzene	1	U
135-98-8	sec-Butylbenzene	1	U
99-87-6	p-Isopropyltoluene	1	U
541-73-1	1,3-Dichlorobenzene	1	U
106-46-7	1,4-Dichlorobenzene	1	U
104-51-8	n-Butylbenzene	1	U J
95-50-1	1,2-Dichlorobenzene	1	U
96-12-8	1,2-Dibromo-3-chloropropane	1	U
120-82-1	1,2,4-Trichlorobenzene	1	U
87-68-3	Hexachlorobutadiene	1	U J
91-20-3	Naphthalene	1	U J
87-61-6	1,2,3-Trichlorobenzene	1	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

LAB BLANK

Lab Name: HIMCO LANDFILL Contract: CRL

Lab Code: 5-CRL Case No.: 20010009 SAS No.: _____ SDG No.: GCMS022

Matrix: (soil/water) WATER Lab Sample ID: LAB BLANK

Sample wt/vol: 25.0 (g/ml) ML Lab File ID: 7C112404.D

Level: (low/med) LOW Date Received: 11/17/00

% Moisture: not dec. _____ Date Analyzed: 11/24/00

GC Column: DB-624 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

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

Number TICs found: 0

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q

1A

EPA SAMPLE NO.

VOLATILE ORGANICS ANALYSIS DATA SHEET

1ST RES WELL

Lab Name: HIMCO LANDFILL Contract: CRL

Lab Code: 5-CRL Case No.: 20010009 SAS No.: SDG No.: GCMS022

Matrix: (soil/water) WATER Lab Sample ID: 2001SK01S01

Sample wt/vol: 25.0 (g/ml) ML Lab File ID: 7C112211.D

Level: (low/med) LOW Date Received: 11/17/00

% Moisture: not dec. Date Analyzed: 11/22/00

GC Column: DB-624 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg) UG/L	Q
75-01-4	Vinyl chloride	1	U
74-87-3	Chloromethane	1	U
74-83-9	Bromomethane	1	U
75-00-3	Chloroethane	1	U
107-64-1	Acrolein	10	U
75-35-4	1,1-Dichloroethene	1	U
115-10-6	Ethyl ether	1	U
75-71-8	Dichlorofluoromethane	1	U
67-64-1	Acetone	10	U
75-15-0	Carbon disulfide	1	U
75-09-2	Methylene chloride	1	U
107-13-1	Acrylonitrile	10	U
156-60-5	trans-1,2-Dichloroethene	1	U
75-34-3	1,1-Dichloroethane	1	U
78-93-3	2-Butanone	10	U
156-59-2	cis-1,2-Dichloroethene	1	U
594-20-7	2,2-Dichloropropane	2	U
74-97-5	Bromochloromethane	1	U
67-66-3	Chloroform	1	U
71-55-6	1,1,1-Trichloroethane	1	U
563-58-6	1,1-Dichloropropene	1	U
56-23-5	Carbon tetrachloride	1	U
107-06-2	1,2-Dichloroethane	1	U
71-43-2	Benzene	1	U
79-01-6	Trichloroethene	1	U
78-87-5	1,2-Dichloropropane	1	U
75-27-4	Bromodichloromethane	1	U
10061-01-5	cis-1,3-Dichloropropene	1	U
108-10-1	4-Methyl-2-pentanone	5	U
108-88-3	Toluene	1	U
10061-02-6	trans-1,3-Dichloropropene	2	U
110-75-8	2-Chloroethyl vinyl ether	5	U R
79-00-5	1,1,2-Trichloroethane	1	U
142-28-9	1,3-Dichloropropane	1	U
127-18-4	Tetrachloroethene	1	U
591-78-6	2-Hexanone	2	U
124-48-1	Dibromochloromethane	1	U
106-93-4	1,2-Dibromoethane	1	U
108-90-7	Chlorobenzene	1	U

11/22/00 JLT

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

1ST RES WELL

Lab Name: HIMCO LANDFILL Contract: CRL

Lab Code: 5-CRL Case No.: 20010009 SAS No.: _____ SDG No.: GCMS022

Matrix: (soil/water) WATER Lab Sample ID: 2001SK01S01

Sample wt/vol: 25.0 (g/ml) ML Lab File ID: 7C112211.D

Level: (low/med) LOW Date Received: 11/17/00

% Moisture: not dec. _____ Date Analyzed: 11/22/00

GC Column: DB-624 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg) UG/L	Q
630-20-6	1,1,1,2-Tetrachloroethane	1	U
100-41-4	Ethylbenzene	1	U
1083836423	m- &/or p-Xylene	1	U
95-47-6	o-Xylene	1	U
100-42-5	Styrene	1	U
75-25-2	Bromoform	1	U
98-82-8	Isopropylbenzene	1	U
79-34-5	1,1,2,2-Tetrachloroethane	1	U
96-18-4	1,2,3-Trichloropropane	1	U
108-86-1	Bromobenzene	1	U
103-65-1	n-Propylbenzene	1	U
95-49-8	2-Chlorotoluene	1	U
106-43-4	4-Chlorotoluene	1	U
108-67-8	1,3,5-Trimethylbenzene	1	U
98-06-6	tert-Butylbenzene	1	U
95-63-6	1,2,4-Trimethylbenzene	1	U
135-98-8	sec-Butylbenzene	1	U
99-87-6	p-Isopropyltoluene	1	U
541-73-1	1,3-Dichlorobenzene	1	U
106-46-7	1,4-Dichlorobenzene	1	U
104-51-8	n-Butylbenzene	1	U
95-50-1	1,2-Dichlorobenzene	1	U
96-12-8	1,2-Dibromo-3-chloropropane	1	U
120-82-1	1,2,4-Trichlorobenzene	1	U
87-68-3	Hexachlorobutadiene	1	U
91-20-3	Naphthalene	1	U J
87-61-6	1,2,3-Trichlorobenzene	1	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

1ST RES WELL

Lab Name: HIMCO LANDFILL Contract: CRL

Lab Code: 5-CRL Case No.: 20010009 SAS No.: SDG No.: GCMS022

Matrix: (soil/water) WATER Lab Sample ID: 2001SK01S01

Sample wt/vol: 25.0 (g/ml) ML Lab File ID: 7C112211.D

Level: (low/med) LOW Date Received: 11/17/00

% Moisture: not dec. Date Analyzed: 11/22/00

GC Column: DB-624 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

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

Number TICs found: 0

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q

1A

EPA SAMPLE NO.

VOLATILE ORGANICS ANALYSIS DATA SHEET

SummaRV 2ND RES WELL

Lab Name: HIMCO LANDFILL Contract: CRL

Lab Code: 5-CRL Case No.: 20010009 SAS No.: SDG No.: GCMS022

Matrix: (soil/water) WATER Lab Sample ID: 2001SK01S02

Sample wt/vol: 25.0 (g/ml) ML Lab File ID: 7C112212.D

Level: (low/med) LOW Date Received: 11/17/00

% Moisture: not dec. Date Analyzed: 11/22/00

GC Column: DB-624 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg) UG/L	Q
75-01-4	Vinyl chloride	1	U
74-87-3	Chloromethane	1	U
74-83-9	Bromomethane	1	U
75-00-3	Chloroethane	1	U
107-64-1	Acrolein	10	U
75-35-4	1,1-Dichloroethene	1	U
115-10-6	Ethyl ether	26 ~~30~~	~~E~~ D
75-71-8	Dichlorofluoromethane	5	
67-64-1	Acetone	10	U
75-15-0	Carbon disulfide	1	U
75-09-2	Methylene chloride	1	U
107-13-1	Acrylonitrile	10	U
156-60-5	trans-1,2-Dichloroethene	1	U
75-34-3	1,1-Dichloroethane	4	
78-93-3	2-Butanone	10	U
156-59-2	cis-1,2-Dichloroethene	2	
594-20-7	2,2-Dichloropropane	2	U
74-97-5	Bromochloromethane	1	U
67-66-3	Chloroform	1	U
71-55-6	1,1,1-Trichloroethane	1	U
563-58-6	1,1-Dichloropropene	1	U
56-23-5	Carbon tetrachloride	1	U
107-06-2	1,2-Dichloroethane	1	
71-43-2	Benzene	1	U
79-01-6	Trichloroethene	1	U
78-87-5	1,2-Dichloropropane	8	
75-27-4	Bromodichloromethane	1	U
10061-01-5	cis-1,3-Dichloropropene	1	U
108-10-1	4-Methyl-2-pentanone	5	U
108-88-3	Toluene	1	U
10061-02-6	trans-1,3-Dichloropropene	2	U
110-75-8	2-Chloroethyl vinyl ether	~~5~~	~~U~~ R
79-00-5	1,1,2-Trichloroethane	1	U
142-28-9	1,3-Dichloropropane	1	U
127-18-4	Tetrachloroethene	1	U
591-78-6	2-Hexanone	2	U
124-48-1	Dibromochloromethane	1	U
106-93-4	1,2-Dibromoethane	1	U
108-90-7	Chlorobenzene	1	U

MT 11/28/00 MT

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

Summary 2ND RES WELL

Lab Name: HIMCO LANDFILL Contract: CRL

Lab Code: 5-CRL Case No.: 20010009 SAS No.: _____ SDG No.: GCMS022

Matrix: (soil/water) WATER Lab Sample ID: 2001SK01S02

Sample wt/vol: 25.0 (g/ml) ML Lab File ID: 7C112212.D

Level: (low/med) LOW Date Received: 11/17/00

% Moisture: not dec. _____ Date Analyzed: 11/22/00

GC Column: DB-624 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg) UG/L	Q
630-20-6	1,1,1,2-Tetrachloroethane	1	U
100-41-4	Ethylbenzene	1	U
1083836423	m- &/or p-Xylene	1	U
95-47-6	o-Xylene	1	U
100-42-5	Styrene	1	U
75-25-2	Bromoform	1	U
98-82-8	Isopropylbenzene	1	U
79-34-5	1,1,2,2-Tetrachloroethane	1	U
96-18-4	1,2,3-Trichloropropane	1	U
108-86-1	Bromobenzene	1	U
103-65-1	n-Propylbenzene	1	U
95-49-8	2-Chlorotoluene	1	U
106-43-4	4-Chlorotoluene	1	U
108-67-8	1,3,5-Trimethylbenzene	1	U
98-06-6	tert-Butylbenzene	1	U
95-63-6	1,2,4-Trimethylbenzene	1	U
135-98-8	sec-Butylbenzene	1	U
99-87-6	p-Isopropyltoluene	1	U
541-73-1	1,3-Dichlorobenzene	1	U
106-46-7	1,4-Dichlorobenzene	1	U
104-51-8	n-Butylbenzene	1	U
95-50-1	1,2-Dichlorobenzene	1	U
96-12-8	1,2-Dibromo-3-chloropropane	1	U
120-82-1	1,2,4-Trichlorobenzene	1	U
87-68-3	Hexachlorobutadiene	1	U
91-20-3	Naphthalene	1	U J
87-61-6	1,2,3-Trichlorobenzene	1	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

Summary
2ND RES WELL

Lab Name: HIMCO LANDFILL Contract: CRL

Lab Code: 5-CRL Case No.: 20010009 SAS No.: _____ SDG No.: GCMS022

Matrix: (soil/water) WATER Lab Sample ID: 2001SK01S02

Sample wt/vol: 25.0 (g/ml) ML Lab File ID: 7C112212.D

Level: (low/med) LOW Date Received: 11/17/00

% Moisture: not dec. _____ Date Analyzed: 11/22/00

GC Column: DB-624 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

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

Number TICs found: 0

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q

1A

EPA SAMPLE NO.

VOLATILE ORGANICS ANALYSIS DATA SHEET

Summary DUPL OF S02

Lab Name: HIMCO LANDFILL Contract: CRL

Lab Code: 5-CRL Case No.: 20010009 SAS No.: SDG No.: GCMS022

Matrix: (soil/water) WATER Lab Sample ID: 2001SK01D02

Sample wt/vol: 25.0 (g/ml) ML Lab File ID: 7C112213.D

Level: (low/med) LOW Date Received: 11/17/00

% Moisture: not dec. Date Analyzed: 11/22/00

GC Column: DB-624 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg) UG/L	Q
75-01-4	Vinyl chloride	1	U
74-87-3	Chloromethane	1	U
74-83-9	Bromomethane	1	U
75-00-3	Chloroethane	1	U
107-64-1	Acrolein	10	U
75-35-4	1,1-Dichloroethene	1	U
115-10-6	Ethyl ether	31	ED
75-71-8	Dichlorofluoromethane	6	
67-64-1	Acetone	10	U
75-15-0	Carbon disulfide	1	U
75-09-2	Methylene chloride	1	U
107-13-1	Acrylonitrile	10	U
156-60-5	trans-1,2-Dichloroethene	1	U
75-34-3	1,1-Dichloroethane	4	
78-93-3	2-Butanone	10	U
156-59-2	cis-1,2-Dichloroethene	3	
594-20-7	2,2-Dichloropropane	2	U
74-97-5	Bromochloromethane	1	U
67-66-3	Chloroform	1	U
71-55-6	1,1,1-Trichloroethane	1	U
563-58-6	1,1-Dichloropropene	1	U
56-23-5	Carbon tetrachloride	1	U
107-06-2	1,2-Dichloroethane	1	
71-43-2	Benzene	1	U
79-01-6	Trichloroethene	1	U
78-87-5	1,2-Dichloropropane	8	
75-27-4	Bromodichloromethane	1	U
10061-01-5	cis-1,3-Dichloropropene	1	U
108-10-1	4-Methyl-2-pentanone	5	U
108-88-3	Toluene	1	U
10061-02-6	trans-1,3-Dichloropropene	2	U
110-75-8	2-Chloroethyl vinyl ether	5	UJ R
79-00-5	1,1,2-Trichloroethane	1	U
142-28-9	1,3-Dichloropropane	1	U
127-18-4	Tetrachloroethene	1	U
591-78-6	2-Hexanone	2	U
124-48-1	Dibromochloromethane	1	U
106-93-4	1,2-Dibromoethane	1	U
108-90-7	Chlorobenzene	1	U

MJ 11/28/00

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SUMMARY DUPL OF S02

Lab Name: HIMCO LANDFILL Contract: CRL

Lab Code: 5-CRL Case No.: 20010009 SAS No.: SDG No.: GCMS022

Matrix: (soil/water) WATER Lab Sample ID: 2001SK01D02

Sample wt/vol: 25.0 (g/ml) ML Lab File ID: 7C112213.D

Level: (low/med) LOW Date Received: 11/17/00

% Moisture: not dec. Date Analyzed: 11/22/00

GC Column: DB-624 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg) UG/L		Q
630-20-6	1,1,1,2-Tetrachloroethane		1	U
100-41-4	Ethylbenzene		1	U
1083836423	m- &/or p-Xylene		1	U
95-47-6	o-Xylene		1	U
100-42-5	Styrene		1	U
75-25-2	Bromoform		1	U
98-82-8	Isopropylbenzene		1	U
79-34-5	1,1,2,2-Tetrachloroethane		1	U
96-18-4	1,2,3-Trichloropropane		1	U
108-86-1	Bromobenzene		1	U
103-65-1	n-Propylbenzene		1	U
95-49-8	2-Chlorotoluene		1	U
106-43-4	4-Chlorotoluene		1	U
108-67-8	1,3,5-Trimethylbenzene		1	U
98-06-6	tert-Butylbenzene		1	U
95-63-6	1,2,4-Trimethylbenzene		1	U
135-98-8	sec-Butylbenzene		1	U
99-87-6	p-Isopropyltoluene		1	U
541-73-1	1,3-Dichlorobenzene		1	U
106-46-7	1,4-Dichlorobenzene		1	U
104-51-8	n-Butylbenzene		1	U
95-50-1	1,2-Dichlorobenzene		1	U
96-12-8	1,2-Dibromo-3-chloropropane		1	U
120-82-1	1,2,4-Trichlorobenzene		1	U
87-68-3	Hexachlorobutadiene		1	U
91-20-3	Naphthalene		1	UJ
87-61-6	1,2,3-Trichlorobenzene		1	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

SUMMARY DUPL OF S02

Lab Name: HIMCO LANDFILL Contract: CRL

Lab Code: 5-CRL Case No.: 20010009 SAS No.: SDG No.: GCMS022

Matrix: (soil/water) WATER Lab Sample ID: 2001SK01D02

Sample wt/vol: 25.0 (g/ml) ML Lab File ID: 7C112213.D

Level: (low/med) LOW Date Received: 11/17/00

% Moisture: not dec. Date Analyzed: 11/22/00

GC Column: DB-624 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

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

Number TICs found: 0

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SUMMARY MW116A

Lab Name: HIMCO LANDFILL Contract: CRL

Lab Code: 5-CRL Case No.: 20010009 SAS No.: _____ SDG No.: GCMS022

Matrix: (soil/water) WATER Lab Sample ID: 2001SK01S03

Sample wt/vol: 25.0 (g/ml) ML Lab File ID: 7C112214.D

Level: (low/med) LOW Date Received: 11/17/00

% Moisture: not dec. _____ Date Analyzed: 11/22/00

GC Column: DB-624 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg) UG/L		Q
75-01-4	Vinyl chloride		1	U
74-87-3	Chloromethane		1	U
74-83-9	Bromomethane		1	U
75-00-3	Chloroethane		1	U
107-64-1	Acrolein		10	U
75-35-4	1,1-Dichloroethene		1	U
115-10-6	Ethyl ether		100 ~~120~~	ED
75-71-8	Dichlorofluoromethane		10	
67-64-1	Acetone		10	U
75-15-0	Carbon disulfide		1	U
75-09-2	Methylene chloride		1	U
107-13-1	Acrylonitrile		10	U
156-60-5	trans-1,2-Dichloroethene		1	U
75-34-3	1,1-Dichloroethane		9	
78-93-3	2-Butanone		10	U
156-59-2	cis-1,2-Dichloroethene		1	U
594-20-7	2,2-Dichloropropane		2	U
74-97-5	Bromochloromethane		1	U
67-66-3	Chloroform		1	U
71-55-6	1,1,1-Trichloroethane		1	U
563-58-6	1,1-Dichloropropene		1	U
56-23-5	Carbon tetrachloride		1	U
107-06-2	1,2-Dichloroethane		1	U
71-43-2	Benzene		8	
79-01-6	Trichloroethene		1	U
78-87-5	1,2-Dichloropropane		2	
75-27-4	Bromodichloromethane		1	U
10061-01-5	cis-1,3-Dichloropropene		1	U
108-10-1	4-Methyl-2-pentanone		5	U
108-88-3	Toluene		1	U
10061-02-6	trans-1,3-Dichloropropene		2	U
110-75-8	2-Chloroethyl vinyl ether		~~5~~	~~U~~ R
79-00-5	1,1,2-Trichloroethane		1	U
142-28-9	1,3-Dichloropropane		1	U
127-18-4	Tetrachloroethene		1	U
591-78-6	2-Hexanone		2	U
124-48-1	Dibromochloromethane		1	U
106-93-4	1,2-Dibromoethane		1	U
108-90-7	Chlorobenzene		1	U

MT 11/28/00

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SUMMARY MW116A

Lab Name: HIMCO LANDFILL Contract: CRL

Lab Code: 5-CRL Case No.: 20010009 SAS No.: SDG No.: GCMS022

Matrix: (soil/water) WATER Lab Sample ID: 2001SK01S03

Sample wt/vol: 25.0 (g/ml) ML Lab File ID: 7C112214.D

Level: (low/med) LOW Date Received: 11/17/00

% Moisture: not dec. Date Analyzed: 11/22/00

GC Column: DB-624 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
630-20-6	1,1,1,2-Tetrachloroethane	1	U
100-41-4	Ethylbenzene	1	U
1083836423	m- &/or p-Xylene	1	U
95-47-6	o-Xylene	1	U
100-42-5	Styrene	1	U
75-25-2	Bromoform	1	U
98-82-8	Isopropylbenzene	1	U
79-34-5	1,1,2,2-Tetrachloroethane	1	U
96-18-4	1,2,3-Trichloropropane	1	U
108-86-1	Bromobenzene	1	U
103-65-1	n-Propylbenzene	1	U
95-49-8	2-Chlorotoluene	1	U
106-43-4	4-Chlorotoluene	1	U
108-67-8	1,3,5-Trimethylbenzene	1	U
98-06-6	tert-Butylbenzene	1	U
95-63-6	1,2,4-Trimethylbenzene	1	U
135-98-8	sec-Butylbenzene	1	U
99-87-6	p-Isopropyltoluene	1	U
541-73-1	1,3-Dichlorobenzene	1	U
106-46-7	1,4-Dichlorobenzene	1	U
104-51-8	n-Butylbenzene	1	U
95-50-1	1,2-Dichlorobenzene	1	U
96-12-8	1,2-Dibromo-3-chloropropane	1	U
120-82-1	1,2,4-Trichlorobenzene	1	U
87-68-3	Hexachlorobutadiene	1	U
91-20-3	Naphthalene	1	UJ
87-61-6	1,2,3-Trichlorobenzene	1	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.
SUMMARY MW116A

Lab Name: HIMCO LANDFILL Contract: CRL

Lab Code: 5-CRL Case No.: 20010009 SAS No.: SDG No.: GCMS022

Matrix: (soil/water) WATER Lab Sample ID: 2001SK01S03

Sample wt/vol: 25.0 (g/ml) ML Lab File ID: 7C112214.D

Level: (low/med) LOW Date Received: 11/17/00

% Moisture: not dec. Date Analyzed: 11/22/00

GC Column: DB-624 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

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

Number TICs found: 1

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q
1. 000593-70-4	Methane, chlorofluoro- (CAS) $$	3.39	4	JN

1A

EPA SAMPLE NO.

VOLATILE ORGANICS ANALYSIS DATA SHEET

SUMMARY 101A

Lab Name: HIMCO LANDFILL Contract: CRL

Lab Code: 5-CRL Case No.: 20010009 SAS No.: _____ SDG No.: GCMS022

Matrix: (soil/water) WATER Lab Sample ID: 2001SK01S04

Sample wt/vol: 25.0 (g/ml) ML Lab File ID: 7C112215.D

Level: (low/med) LOW Date Received: 11/17/00

% Moisture: not dec. _____ Date Analyzed: 11/22/00

GC Column: DB-624 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg) UG/L	Q
75-01-4	Vinyl chloride	1	U
74-87-3	Chloromethane	1	U
74-83-9	Bromomethane	1	U
75-00-3	Chloroethane	1	
107-64-1	Acrolein	10	U
75-35-4	1,1-Dichloroethene	1	U
115-10-6	Ethyl ether	49 ~~48~~	E D
75-71-8	Dichlorofluoromethane	6	
67-64-1	Acetone	10	U
75-15-0	Carbon disulfide	1	U
75-09-2	Methylene chloride	1	U
107-13-1	Acrylonitrile	10	U
156-60-5	trans-1,2-Dichloroethene	1	U
75-34-3	1,1-Dichloroethane	14	
78-93-3	2-Butanone	10	U
156-59-2	cis-1,2-Dichloroethene	1	U
594-20-7	2,2-Dichloropropane	2	U
74-97-5	Bromochloromethane	1	U
67-66-3	Chloroform	1	U
71-55-6	1,1,1-Trichloroethane	1	U
563-58-6	1,1-Dichloropropene	1	U
56-23-5	Carbon tetrachloride	1	U
107-06-2	1,2-Dichloroethane	1	U
71-43-2	Benzene	2	
79-01-6	Trichloroethene	1	U
78-87-5	1,2-Dichloropropane	1	U
75-27-4	Bromodichloromethane	1	U
10061-01-5	cis-1,3-Dichloropropene	1	U
108-10-1	4-Methyl-2-pentanone	5	U
108-88-3	Toluene	1	U
10061-02-6	trans-1,3-Dichloropropene	2	U
110-75-8	2-Chloroethyl vinyl ether	~~5~~ 4	~~U~~ R
79-00-5	1,1,2-Trichloroethane	1	U
142-28-9	1,3-Dichloropropane	1	U
127-18-4	Tetrachloroethene	1	U
591-78-6	2-Hexanone	2	U
124-48-1	Dibromochloromethane	1	U
106-93-4	1,2-Dibromoethane	1	U
108-90-7	Chlorobenzene	1	U

mt 11/22/00 mt

1A

EPA SAMPLE NO.

VOLATILE ORGANICS ANALYSIS DATA SHEET

SUMMARY 101A

Lab Name: HIMCO LANDFILL Contract: CRL

Lab Code: 5-CRL Case No.: 20010009 SAS No.: SDG No.: GCMS022

Matrix: (soil/water) WATER Lab Sample ID: 2001SK01S04

Sample wt/vol: 25.0 (g/ml) ML Lab File ID: 7C112215.D

Level: (low/med) LOW Date Received: 11/17/00

% Moisture: not dec. Date Analyzed: 11/22/00

GC Column: DB-624 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg) UG/L	Q
630-20-6	1,1,1,2-Tetrachloroethane	1	U
100-41-4	Ethylbenzene	1	U
1083836423	m- &/or p-Xylene	1	U
95-47-6	o-Xylene	1	U
100-42-5	Styrene	1	U
75-25-2	Bromoform	1	U
98-82-8	Isopropylbenzene	1	U
79-34-5	1,1,2,2-Tetrachloroethane	1	U
96-18-4	1,2,3-Trichloropropane	1	U
108-86-1	Bromobenzene	1	U
103-65-1	n-Propylbenzene	1	U
95-49-8	2-Chlorotoluene	1	U
106-43-4	4-Chlorotoluene	1	U
108-67-8	1,3,5-Trimethylbenzene	1	U
98-06-6	tert-Butylbenzene	1	U
95-63-6	1,2,4-Trimethylbenzene	1	U
135-98-8	sec-Butylbenzene	1	U
99-87-6	p-Isopropyltoluene	1	U
541-73-1	1,3-Dichlorobenzene	1	U
106-46-7	1,4-Dichlorobenzene	1	U
104-51-8	n-Butylbenzene	1	U
95-50-1	1,2-Dichlorobenzene	1	U
96-12-8	1,2-Dibromo-3-chloropropane	1	U
120-82-1	1,2,4-Trichlorobenzene	1	U
87-68-3	Hexachlorobutadiene	1	U
91-20-3	Naphthalene	1	U J
87-61-6	1,2,3-Trichlorobenzene	1	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

Summary 101A

Lab Name: HIMCO LANDFILL Contract: CRL

Lab Code: 5-CRL Case No.: 20010009 SAS No.: SDG No.: GCMS022

Matrix: (soil/water) WATER Lab Sample ID: 2001SK01S04

Sample wt/vol: 25.0 (g/ml) ML Lab File ID: 7C112215.D

Level: (low/med) LOW Date Received: 11/17/00

% Moisture: not dec. Date Analyzed: 11/22/00

GC Column: DB-624 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

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

Number TICs found: 1

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q
1. 000593-70-4	Methane, chlorofluoro- (CAS) $$	3.38	4	JN

1A

EPA SAMPLE NO.

VOLATILE ORGANICS ANALYSIS DATA SHEET

METHOD BLANK

Lab Name: HIMCO LANDFILL Contract: CRL

Lab Code: 5-CRL Case No.: 20010009 SAS No.: _____ SDG No.: GCMS022

Matrix: (soil/water) WATER Lab Sample ID: 2001SK01R01

Sample wt/vol: 25.0 (g/ml) ML Lab File ID: 7C112216.D

Level: (low/med) LOW Date Received: 11/17/00

% Moisture: not dec. _____ Date Analyzed: 11/22/00

GC Column: DB-624 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg) UG/L	Q
75-01-4	Vinyl chloride	1	U
74-87-3	Chloromethane	1	U
74-83-9	Bromomethane	1	U
75-00-3	Chloroethane	1	U
107-64-1	Acrolein	10	U
75-35-4	1,1-Dichloroethene	1	U
115-10-6	Ethyl ether	1	U
75-71-8	Dichlorofluoromethane	1	U
67-64-1	Acetone	10	U
75-15-0	Carbon disulfide	1	U
75-09-2	Methylene chloride	3	
107-13-1	Acrylonitrile	10	U
156-60-5	trans-1,2-Dichloroethene	1	U
75-34-3	1,1-Dichloroethane	1	U
78-93-3	2-Butanone	10	U
156-59-2	cis-1,2-Dichloroethene	1	U
594-20-7	2,2-Dichloropropane	2	U
74-97-5	Bromochloromethane	1	U
67-66-3	Chloroform	5	
71-55-6	1,1,1-Trichloroethane	1	U
563-58-6	1,1-Dichloropropene	1	U
56-23-5	Carbon tetrachloride	1	U
107-06-2	1,2-Dichloroethane	1	
71-43-2	Benzene	1	U
79-01-6	Trichloroethene	1	U
78-87-5	1,2-Dichloropropane	1	U
75-27-4	Bromodichloromethane	1	
10061-01-5	cis-1,3-Dichloropropene	1	U
108-10-1	4-Methyl-2-pentanone	5	U
108-88-3	Toluene	1	U
10061-02-6	trans-1,3-Dichloropropene	2	U
110-75-8	2-Chloroethyl vinyl ether	4	10 R
79-00-5	1,1,2-Trichloroethane	1	U
142-28-9	1,3-Dichloropropane	1	U
127-18-4	Tetrachloroethene	1	U
591-78-6	2-Hexanone	2	U
124-48-1	Dibromochloromethane	1	U
106-93-4	1,2-Dibromoethane	1	U
108-90-7	Chlorobenzene	1	U

1A

EPA SAMPLE NO.

VOLATILE ORGANICS ANALYSIS DATA SHEET

METHOD BLANK

Lab Name: HIMCO LANDFILL Contract: CRL

Lab Code: 5-CRL Case No.: 20010009 SAS No.: SDG No.: GCMS022

Matrix: (soil/water) WATER Lab Sample ID: 2001SK01R01

Sample wt/vol: 25.0 (g/ml) ML Lab File ID: 7C112216.D

Level: (low/med) LOW Date Received: 11/17/00

% Moisture: not dec. Date Analyzed: 11/22/00

GC Column: DB-624 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg) UG/L	Q
630-20-6	1,1,1,2-Tetrachloroethane	1	U
100-41-4	Ethylbenzene	1	U
1083836423	m- &/or p-Xylene	1	U
95-47-6	o-Xylene	1	U
100-42-5	Styrene	1	U
75-25-2	Bromoform	1	U
98-82-8	Isopropylbenzene	1	U
79-34-5	1,1,2,2-Tetrachloroethane	1	U
96-18-4	1,2,3-Trichloropropane	1	U
108-86-1	Bromobenzene	1	U
103-65-1	n-Propylbenzene	1	U
95-49-8	2-Chlorotoluene	1	U
106-43-4	4-Chlorotoluene	1	U
108-67-8	1,3,5-Trimethylbenzene	1	U
98-06-6	tert-Butylbenzene	1	U
95-63-6	1,2,4-Trimethylbenzene	1	U
135-98-8	sec-Butylbenzene	1	U
99-87-6	p-Isopropyltoluene	1	U
541-73-1	1,3-Dichlorobenzene	1	U
106-46-7	1,4-Dichlorobenzene	1	U
104-51-8	n-Butylbenzene	1	U
95-50-1	1,2-Dichlorobenzene	1	U
96-12-8	1,2-Dibromo-3-chloropropane	1	U
120-82-1	1,2,4-Trichlorobenzene	1	U
87-68-3	Hexachlorobutadiene	1	U
91-20-3	Naphthalene	1	U R
87-61-6	1,2,3-Trichlorobenzene	1	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

METHOD BLANK

Lab Name: HIMCO LANDFILL Contract: CRL

Lab Code: 5-CRL Case No.: 20010009 SAS No.: _____ SDG No.: GCMS022

Matrix: (soil/water) WATER Lab Sample ID: 2001SK01R01

Sample wt/vol: 25.0 (g/ml) ML Lab File ID: 7C112216.D

Level: (low/med) LOW Date Received: 11/17/00

% Moisture: not dec. _____ Date Analyzed: 11/22/00

GC Column: DB-624 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

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

Number TICs found: 0

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q

1A

EPA SAMPLE NO.

VOLATILE ORGANICS ANALYSIS DATA SHEET

TRIP BLANK

Lab Name: HIMCO LANDFILL Contract: CRL

Lab Code: 5-CRL Case No.: 20010009 SAS No.: _____ SDG No.: GCMS022

Matrix: (soil/water) WATER Lab Sample ID: 2001SK01R02

Sample wt/vol: 25.0 (g/ml) ML Lab File ID: 7C112217.D

Level: (low/med) LOW Date Received: 11/17/00

% Moisture: not dec. _____ Date Analyzed: 11/22/00

GC Column: DB-624 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
75-01-4	Vinyl chloride	1	U
74-87-3	Chloromethane	1	U
74-83-9	Bromomethane	1	U
75-00-3	Chloroethane	1	U
107-64-1	Acrolein	10	U
75-35-4	1,1-Dichloroethene	1	U
115-10-6	Ethyl ether	1	U
75-71-8	Dichlorofluoromethane	1	U
67-64-1	Acetone	10	U
75-15-0	Carbon disulfide	1	U
75-09-2	Methylene chloride	1	
107-13-1	Acrylonitrile	10	U
156-60-5	trans-1,2-Dichloroethene	1	U
75-34-3	1,1-Dichloroethane	1	U
78-93-3	2-Butanone	10	U
156-59-2	cis-1,2-Dichloroethene	1	U
594-20-7	2,2-Dichloropropane	2	U
74-97-5	Bromochloromethane	1	U
67-66-3	Chloroform	1	U
71-55-6	1,1,1-Trichloroethane	1	U
563-58-6	1,1-Dichloropropene	1	U
56-23-5	Carbon tetrachloride	1	U
107-06-2	1,2-Dichloroethane	1	U
71-43-2	Benzene	1	U
79-01-6	Trichloroethene	1	U
78-87-5	1,2-Dichloropropane	1	U
75-27-4	Bromodichloromethane	1	U
10061-01-5	cis-1,3-Dichloropropene	1	U
108-10-1	4-Methyl-2-pentanone	5	U
108-88-3	Toluene	1	U
10061-02-6	trans-1,3-Dichloropropene	2	U
110-75-8	2-Chloroethyl vinyl ether	5	U R
79-00-5	1,1,2-Trichloroethane	1	U
142-28-9	1,3-Dichloropropane	1	U
127-18-4	Tetrachloroethene	1	U
591-78-6	2-Hexanone	2	U
124-48-1	Dibromochloromethane	1	U
106-93-4	1,2-Dibromoethane	1	U
108-90-7	Chlorobenzene	1	U

1A

EPA SAMPLE NO.

VOLATILE ORGANICS ANALYSIS DATA SHEET

TRIP BLANK

Lab Name: HIMCO LANDFILL Contract: CRL

Lab Code: 5-CRL Case No.: 20010009 SAS No.: SDG No.: GCMS022

Matrix: (soil/water) WATER Lab Sample ID: 2001SK01R02

Sample wt/vol: 25.0 (g/ml) ML Lab File ID: 7C112217.D

Level: (low/med) LOW Date Received: 11/17/00

% Moisture: not dec. Date Analyzed: 11/22/00

GC Column: DB-624 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg) UG/L	Q
630-20-6	1,1,1,2-Tetrachloroethane	1	U
100-41-4	Ethylbenzene	1	U
1083836423	m- &/or p-Xylene	1	U
95-47-6	o-Xylene	1	U
100-42-5	Styrene	1	U
75-25-2	Bromoform	1	U
98-82-8	Isopropylbenzene	1	U
79-34-5	1,1,2,2-Tetrachloroethane	1	U
96-18-4	1,2,3-Trichloropropane	1	U
108-86-1	Bromobenzene	1	U
103-65-1	n-Propylbenzene	1	U
95-49-8	2-Chlorotoluene	1	U
106-43-4	4-Chlorotoluene	1	U
108-67-8	1,3,5-Trimethylbenzene	1	U
98-06-6	tert-Butylbenzene	1	U
95-63-6	1,2,4-Trimethylbenzene	1	U
135-98-8	sec-Butylbenzene	1	U
99-87-6	p-Isopropyltoluene	1	U
541-73-1	1,3-Dichlorobenzene	1	U
106-46-7	1,4-Dichlorobenzene	1	U
104-51-8	n-Butylbenzene	1	U
95-50-1	1,2-Dichlorobenzene	1	U
96-12-8	1,2-Dibromo-3-chloropropane	1	U
120-82-1	1,2,4-Trichlorobenzene	1	U
87-68-3	Hexachlorobutadiene	1	U
91-20-3	Naphthalene	1	UJ
87-61-6	1,2,3-Trichlorobenzene	1	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

TRIP BLANK

Lab Name: HIMCO LANDFILL Contract: CRL

Lab Code: 5-CRL Case No.: 20010009 SAS No.: _____ SDG No.: GCMS022

Matrix: (soil/water) WATER Lab Sample ID: 2001SK01R02

Sample wt/vol: 25.0 (g/ml) ML Lab File ID: 7C112217.D

Level: (low/med) LOW Date Received: 11/17/00

% Moisture: not dec. _____ Date Analyzed: 11/22/00

GC Column: DB-624 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

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

Number TICs found: 0

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q

U.S. ARMY CORPS OF ENGINEERS
OMAHA DISTRICT
215 NORTH 17TH STREET
OMAHA, NEBRASKA 68102-4978

FACSIMILE TRANSMITTAL HEADER SHEET

NAME	OFFICE SYMBOL	OFFICE NO.	FAX NO.
FROM: MARK MEACHAM	CENWO-PM-MC	(402) 221-7695	(402) 221-7838
TO: GWEN MASSENBURG			

DATE: 7/10/00	NO. PAGES (including header) 3	Unclass	ASAP	

HIMCO SAMPLE IDENTIFICATION TABLE

HIMCO Dump Superfund Site - Sample Identification Table

Sample Number	Station Location Identifier	Field QC Qualifier
EDPK9	54287 Westwood Drive	
EDPK0	54280 Westwood Drive	
EDPL1	54271 Westwood Drive	
EDPL4	54215 Westwood Drive	
EDPL9	Trip Blank	Blank
EDPL2	54253 Westwood Drive	
EDPL3	54231 Westwood Drive	
EDPL5	54125 Westwood Drive	
EDPL6	27919 Westwood Drive	
EDPL7	27883 Westwood Drive	
EDPL8	54305 Westwood Drive	
EDPM0	54305 Westwood Drive	Field Duplicate
EDPM4	Trip Blank	Blank
EDPM1	27964 Westwood Drive	
EDPM2	27948 Westwood Drive	
EDPM5	Trip Blank	Blank
EDPM3	GPE-1	
EDPM6	GPE-2	
EDPM7	GPE-3	
EDPM8	Trip Blank	Blank
EDPM5	GP114-1	
EDPN6	GP114-2	
EDPN7	GP114-3	
EDCF6	GP16-1	
EDCF7	GP16 2	
EDCF8	GP101-1	
EDCG1	Trip Blank	Blank
EDCF9	GP101-2	
EDPN1	WT102C	
EDPN2	WT102B	
EDPN3	WT102B	Blank (Trip)
EDPN4	WT102A	
EDPN0	WT102C	Rinsate
EDCG3	WTB1	
EDCG0	WT113B	
EDCH0	WT113	Blank (Trip)
EDCG2	WT113A	
EDCG4	WTB3	
EDCG5	WTB4	
EDCG6	WT112B	
EDCG7	WT112B	Field Duplicate
E0057	WTG	Blank (trip)
EDCG8	WT112A	
EDCG9	WTG3	
E00F8	WTG1	
E00F9	WT117A	
E00FA	WT117B	
E00FB	WT111A	
E00FD	WT111	Blank (Trip)
E00FC	WT118B	
E00FE	WT119A	
E00FL	WT115	Blank (Trip)

n= 52

HIMCO Dump Superfund Site - Sample Identification Table

Sample Number	Station Location Identifier	Field QC Qualifier
E00FF	WT115A	
E00FG	WTE2	Blank (Source Water)
E00FH	WTE1	
E00FJ	WTE3	
E00FK	W105A	
E00F4	WT106A	
E00F5	WT101C	
E00F6	WT101A	Blank (Trip)
EECFN2 → ECFN2	WT101A	
EECFN3 ECFN3	WT101A	Field Duplicate
EECFN4 ECFN4	WT101B	
EECFN5 ECFN5	WT116A	
EECFN6 ECFN6	WT116A	Field Duplicate
EECFN8 ECFN8	WT116B	
EECFN9 ECFN9	WT116B ECFN9	Blank (Trip)
EECFN10 E01TP	WT114A	
EECFN11 E01TQ	WT114B	
EECFP1 ECFP1	WT114A	Rinsate

* No ECFN7 n=18 total= 70

9/7/00

Organic Data Review - Himco

Case # 27876 SDG # EDCJ8 20 samples (water)
EDCJ8, EDCK0, EDCK1, EDCK2, EDCK3, EDCK4
4/3/2000 EDCK5, EDCK6, EDCK9, EDCL0, EDCL1, EDCL2, EDCL3,
EDCL4, EDCJ4, EDCJ6, EDCJ9, EDCK8, EDCM1, EDCM2

Case # 27876 SDG # EDCM3 1 samples (water)
3-28-00 EDCM2

Case # 27986, SDG # EOOFL 19 water Samples
EOOFL, EOOFF, EOOFG, EOOFH, EOOFJ, EOOF4, EOOF5
5/23/00 EOOF6, EOITP, EOITQ, ECFN2, ECFN3, ECFN4, ECFN5
ECFN6, ECFN8, ECFN9, ECFP1, + EOOFK

Case # 27986 SDG # EDPK9 16 water Samples
EDPK9, EDPL0, EDPL1, EDPL2, EDPL3, EDPL4
5/10/00 EDPL5, EDPL6, EDPL7, EDPL8, EDPL9, EDPM0
Jun 7, 2000 EDPM1, EDPM2, EDPM3, EDPM4, EDPM5 n=17?

Case # 27986 SDG # EDCG0 17 water Samples
5/23/2000 EDCG0, EDCG2, EDCG4, EDCG5, EDCG6, EDCG7
EDCG8, EDCG9, EDCH0, EOOFA, EOOFB, EOOFC
EOOFD, EOOFE, EOOF8, EOOF9, EOO5

Case # 27986 SDG # EDCF6, 18 water Samples
EDCF6, EDCF7, EDCF8, EDCF9, EDCG1, EDCG3
5/19/00 EDPM3, EDPM6, EDPM7, EDPM8, EDPN0, EDPN1
EDPN2, EDPN3, EDPN4, EDPN5, EDPN6, EDPN7

91 total Samples + 1 from EDPK9

56
17
73
18

Memorandum

Date: August 25, 2000

To: Gwen Massenburg

From: Janie Carrig

Subject HIMCO Dump Superfund Site - Report Preparation Data Needs

The following list is what is needed to prepare the data evalution chapter and provide a clean, precise data package for the *Supplemental Ground Water Investigation and Phase 2 Soil Gas Investigation Technical Report.*

ORGANIC DATA ANALYZED BY CLP:

Residential Sampling- March 2000- HIMCO DUMP Case Number: 27876:

CLP SDG: EDCJ8
Methods: Volatiles: EDCK0-FORM I-TIC
Semivolatiles: EDCK1-FORM I-TIC.

Residential, MW, and Geoprobe Sampling-April 2000-HIMCO DUMP Case Number: 27986:

CLP SDG: EDPK9
Data validation narrative is missing.
Methods: Volatiles: VLCS54 and VLCS55-FORM I-TIC

Semivolatiles: SLCS60-FORM I LCSV- TIC.

CLP SDG: EDCF6
Methods: Volatiles: EDCF8-FORM I LCV- TIC.

Semivolatiles: EDPN7-FORM I LCSV- TIC.
EDCG3-FORM I LCSV-1 (phenol through acenaphthene results).
EDPM6-FORM I LCSV-2 (2,4-dinitrophenol through benzo (g,h,i)perylene results).

CLP SDG: EDCG0
Methods: Semivolatiles: SLCS70-FORM I LCSV-2 (2,4-dinitrophenol through benzo

(g,h,i)perylene results) and FORM I LCSV-TIC, @)

CLP SDG: E00FL
Methods: Semivolatiles: SECS73-FORM-I-LCSV- TIC,
SLCS76-All three pages of the FORM I. 2 of 3 missing TIC page

INORGANIC DATA ANALYZED BY CRL - HIMCO DUMP Code: 054J:

Residential Sampling- March 2000- HIMCO DUMP:

CRL Data Set Number: 20000024:
I have the tabulated sample results and the case narratives for the data set except as noted below. I do not have the data validation reports, quality control results, chain of custody forms, or the raw data for the entire data set.

For inclusion in the report I need the items listed below as well as results for all quality control samples (spikes, spike duplicates, blanks, laboratory control samples). For the purpose of the report, tabulated results are sufficient, raw data is not needed. Also needed are the chain of custody forms completed by the laboratory upon receipt of the samples. I can not tell if a qualified chemist, other than the individuals directly involved in the analysis of the sample or second line review, has reviewed or validated the data.

Methods: ICP: Need case narrative.
Graphite Furnace (Antimony, Arsenic Cadmium, Lead, Selenium, and Thallium)
Mercury
Sulfate and Bromide: Need tabulated results.)

Residential, MW, and Geoprobe Sampling - April 2000:

I have the case narrative (which appears to have been prepared by the laboratory), the tabulated sample results, and the chain of custody forms as completed in the field for the inorganic data sets listed below. I do not have data validation reports, quality control results, chain of custody forms completed by the laboratory upon receipt of the samples, or the raw data.

For inclusion in the report I need the data from the analysis of all quality control samples (spikes, spike duplicates, blanks, laboratory control samples) analyzed in the data set in addition to the sample results I already have. For the purpose of the report, tabulated results are sufficient, raw data is not needed. Also needed are the chain of custody forms completed by the laboratory upon receipt of the samples. I can not tell if a qualified chemist, other than the individuals directly involved in the analysis of the sample or second line review, has reviewed or validated the data.

CRL Data Set Number: 20000030
Methods: ICP

Graphite Furnace (Antimony, Arsenic Cadmium, Lead, Selenium, and Thallium)
Mercury
Sulfate and Bromide

CRL Data Set Number: 20000032
Methods: ICP
Graphite Furnace (Antimony, Arsenic Cadmium, Lead, Selenium, and Thallium)
Mercury
Sulfate and Bromide

CRL Data Set Number: 20000033
Methods: ICP
Graphite Furnace (Antimony, Arsenic Cadmium, Lead, Selenium, and Thallium)
Mercury
Sulfate and Bromide

This information may be sent to:
Regular Mail:
US Army Engineer District
CENWO-ED-GC (Attention: Janie E. Carrig)
215 North 17th Street
Omaha, NE 68102-4978

FED-EX:
US Army Engineer District
CENWO-ED-GC (Attention: Janie E. Carrig)
2 Central Park Plaza-Ninth Floor
222 South 15th Street
Omaha, NE 68102

If there is anything else I can do please don't hesitate.
Janie Carrig
Phone: 402-221-7754
email: janie.e.carrig@usace.army.mil

Regards,

Janie

Gwendolyn Massenburg
09/29/2000 11:56 AM

To: Ira Wilson
Subject: Missing Data pages

Ira,
It has been brought to my attention that some of the data sheets are missing from the following data packages. Would you please fax (886-4071) me a copy of the following missing data pages:

1. case number 27876, SDG # EDCJ8, methods volatiles EDCD0-Form I TIC;
2. case number 27986, SDG # EDPK9, methods volatiles VLCS54-Form I-TIC;
3. case number 27986, SDG # EDPK9, methods volatiles VLCS55-Form I-TIC ;
4. case number 27986, SDG # EDPK9, methods semi- volatiles SLCS60 Form I LCSV-TIC;
5. case number 27986, SDG # EDCG0, methods semi-volatiles SLCS70-Form I LCSV-TIC;
6. case number 27986, SDG # E00FL, methods semi-volatiles SLCS73-Form I LCSV-TIC; and
7. case number 27986, SDG # E00FL, methods semi-volatiles SLCS76-Form I LCSV-TIC.

Analyses not requested

If you have any questions or need addition information, please do not hesitate to ask.
Thanks
Gwen Massenburg
RPM, 6-0983

References the analytical results of Laboratory Control analyses in which no TIC Forms are required. Therefore are not submitted with the data pkg

IRA Wilson Email

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5
77 WEST JACKSON BOULEVARD
CHICAGO, ILLINOIS 60604

September 29, 2000

Mr. Gregory C. Herring
US Army Corps of Engineers
CENWO-PM-H
215 N. 17th St.
Omaha, NE 68102-4978

RE: Himco Dump Data Validation Packages and The Missing Data Sheets from Sample Analysis

Dear Mr. Herring:

Enclosed please find the following Data Validation for the Himco Dump Sampling Analysis as requested by Ms. Janie Carrig:

- Case # 27876, SDG EDCJ8, 20 water samples;
- Case # 27876, SDG EDCM3, 1 water sample;
- Case # 27986, SDG E00FL, 19 water samples;
- Case # 27986, SDG EDPK9, 16 water samples;
- Case # 27986, SDG EDCG0, 17 water samples;
- Case # 27986, SDG EDCF6, 18 water samples; and
- Case # 2513, SDG EAXX8, 8 water samples, collected in 1996, by US EPA.

Enclosed please find the missing data pages to the following data sets:

- CLP SDG EDCJ8, Methods: Volatiles EDCKO form I-TIC;
- CLP SDG EDCJ8, Methods: Semi-volatiles EDCK1 form I-TIC;
- CLP SDG EDCF6, Methods: Volatiles EDCF8 form I-TIC;
- CLP SDG EDCF6, Methods: Semi-volatiles EDPN7 form LCSV-TIC;
- CLP SDG EDCF6, Methods: Semi-volatiles EDCG3 form I LCSV-1 (phenol through acenaphthene results);
- CLP SDG EDCF6, Methods: semi volatiles EDPM6 form I-LCSV-2 (2,4-dinitrophenol through benzo(g,h,i)perylene results);
- CLP SDG EDCG0, Methods: semi-volatiles SLCS70-form I LCSV-2 (2,4dinitrophenol through benzo(g,h,i)perylene results);
- CLP SDG E00FL, Methods: semi-volatiles SLCS76-form I LCSV (2 pages).

Enclosed please find a copy of the signed approval to the Addendum IV to the Quality Assurance Project Plan for Support of Supplemental Ground Water Investigation at the Himco Dump Superfund Site, Elkhart, IN, August 2000.

The following data sheets were also requested, however, these references the analytical results as laboratory control analysis, in which, TIC forms are not required, and therefore are not submitted with the data.

- case number 27986, SDG # EDPK9, methods volatiles VLCS54-Form I-TIC;
- case number 27986, SDG # EDPK9, methods volatiles VLCS55-Form I-TIC ;
- case number 27986, SDG # EDPK9, methods semi- volatiles SLCS60 Form I LCSV-TIC;
- case number 27986, SDG # EDCG0, methods semi-volatiles SLCS70-Form I LCSV-TIC;
- case number 27986, SDG # E00FL, methods semi-volatiles SLCS73-Form I LCSV-TIC; and
- case number 27986, SDG # E00FL, methods semi-volatiles SLCS76-Form I LCSV-TIC.

If you have any questions or need additional information please do not hesitate to ask.

Sincerely,

Gwen Massenburg
RPM, US EPA

enclosures

Organic Data Review - Hmco

Case # 27876 SDG # EDCJ8 20 samples (water)
EDCJ8, EDCK0, EDCK1, EDCK2, EDCK3, EDCK4
4/3/2000 EDCK5, EDCK6, EDCK9, EDCL0, EDCL1, EDCL2, EDCL3,
EDCL4, EDCJ4, EDCJ5, EDCJ9, EDCK8, EDCM1, EDCM2

Case # 27876 SDG # EDCM3 1 samples (water)
3-28-00 EDCM2

Case # 27986, SDG # E00FL 19 water Samples
E00FL, E00FF, E00FG, E00FH, E00FJ, E00F4, E00F5
5/23/00 E00F6, E01TP, E01TQ, ECFN2, ECFN3, ECFN4, ECFN5
ECFN6, ECFN8, ECFN9, ECFP1, + E00FK

Case # 27986 SDG # EDPK9 16 water Samples
EDPK9, EDPL0, EDPL1, EDPL2, EDPL3, EDPL4
5/10/00 EDPL5, EDPL6, EDPL7, EDPL8, EDPL9, EDPM0
Jun 7,00 EDPM1, EDPM2, EDPM3, EDPM4, EDPM5 n=17?

Case # 27986 SDG # EDCG0 17 water Samples
EDCG0, EDCG2, EDCG4, EDCG5, EDCG6, EDCG7
5/23/2000 EDCG8, EDCG9, EDCH0, E00FA, E00FB, E00FC
E00FD, E00FE, E00F8, E00F9, E005

Case # 27986 SDG # EDCF6, 18 water Samples
EDCF6, EDCF7, EDCF8, EDCF9, EDCG1, EDCG3
6/19/00 EDPM3, EDPM6, EDPM7, EDPM8, EDPN0, EDPN1
EDPN2, EDPN3, EDPN4, EDPN5 EDPN6, EDPN7

Case # 27876 SDG EDCM3 1 water Sample EDCM3
9 total Samples + from EDPK9

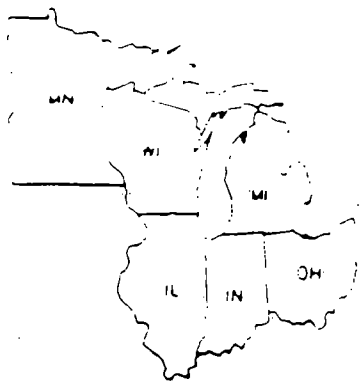
1996 Samplers USEPA (Luanne V.) SDG # EAXX8
Case # 2513 8 H2Os Sample # EAXX8-9, EAXY0-5 n=8 Samples

TRANSMIT CONFIRMATION REPORT

NO.	:	002
RECEIVER	:	402 221 7838
TRANSMITTER	:	USEPA/Superfund
DATE	:	SEP 29'00 10:38
DURATION	:	00'56
MODE	:	STD
PAGES	:	02
RESULT	:	OK

United States Environmental Protection Agency
Region V
77 West Jackson Boulevard
Chicago, Illinois 60604

EPA



Superfund Division

Facsimile Cover Sheet
Telephone Number
312-886-4071

To: Greg Herring

Office phone: (402) 221-7712 **Machine No:** (402) 221-7838

USACE

From: B. Massenburg

Office phone: (312) 886-0983 **Mail code:** SR-6J

Date: 9/29/00 **Number of pages, including cover:** 2

Message: Enclosed Please fand a copy of the Approved Addendum IV QAPP for the Supplemental ground water investigation - Himco (Aug 2000)

Signature:

ADDENDUM IV
TO THE
QUALITY ASSURANCE PROJECT PLAN
FOR
SUPPORT OF SUPPLEMENTAL GROUND WATER INVESTIGATION
AT THE
HIMCO DUMP SUPERFUND SITE
ELKHART, INDIANA

August 2000

Prepared by: _____ Date: 11 Aug 2000
Janie Carrig
Project Chemist, U.S. Army Corps of Engineers (USACE), Omaha District

Approved by: _____ Date: 14 Aug 2000
Hugh Stirts
Project Manager, U.S. Army Corps of Engineers, Omaha District

Approved by: _____ Date: 09/20/2000
Gwen Massenburg
Remedial Project Manager, U.S. Environmental Protection Agency (EPA) Region V

Approved by: _____ Date: 08/29/2000
Quality Assurance (QA) Reviewer, U.S. EPA Region V

ILCA

LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO

EDCJ8

Lab Name: ENVIROSYSTEMS Contract: 68-D7-0005

Lab Code: ENVSYS Case No.: 27876 SAS No.: SDG No.: EDCJ8

Lab Sample ID: 00030902 Date Received: 03/17/00

Lab File ID: 030902 Date Analyzed: 03/22/00

Purge Volume: 25.00 (ml) Dilution Factor: 1.0

GC Column: RTX-502.2 ID: 0.530 (mm) Length: 105 (m)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
74-87-3	Chloromethane	1	U
74-83-9	Bromomethane	1	U
75-01-4	Vinyl chloride	1	U
75-00-3	Chloroethane	1	U
75-09-2	Methylene chloride	2	U
67-64-1	Acetone	5	U
75-15-0	Carbon disulfide	1	U
75-35-4	1,1-Dichloroethene	1	U
75-34-3	1,1-Dichloroethane	1	U
156-59-2	cis-1,2-Dichloroethene	1	U
156-60-5	trans-1,2-Dichloroethene	1	U
67-66-3	Chloroform	1	U
107-06-2	1,2-Dichloroethane	1	U
78-93-3	2-Butanone	5	U
74-97-5	Bromochloromethane	1	U
71-55-6	1,1,1-Trichloroethane	1	U
56-23-5	Carbon tetrachloride	1	U
75-27-4	Bromodichloromethane	1	U
78-87-5	1,2-Dichloropropane	1	U
10061-01-5	cis-1,3-Dichloropropene	1	U
79-01-6	Trichloroethene	1	U
124-48-1	Dibromochloromethane	1	U
79-00-5	1,1,2-Trichloroethane	1	U
71-43-2	Benzene	1	U
10061-02-6	trans-1,3-Dichloropropene	1	U
75-25-2	Bromoform	1	U
108-10-1	4-Methyl-2-pentanone	5	U
591-78-6	2-Hexanone	5	U
127-18-4	Tetrachloroethene	1	U
79-34-5	1,1,2,2-Tetrachloroethane	1	U
106-93-4	1,2-Dibromoethane	1	U
108-88-3	Toluene	1	U
108-90-7	Chlorobenzene	1	U
100-41-4	Ethylbenzene	1	U
100-42-5	Styrene	1	U
1330-20-7	Xylenes (total)	1	U
541-73-1	1,3-Dichlorobenzene	1	U
106-46-7	1,4-Dichlorobenzene	1	U
95-50-1	1,2-Dichlorobenzene	1	U
96-12-8	1,2-Dibromo-3-chloropropane	1	U
120-82-1	1,2,4-Trichlorobenzene	1	U

ILCE

LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

EDCJ8

Lab Name: ENVIROSYSTEMS Contract: 68-D7-0005

Lab Code: ENVSYS Case No.: 27876 SAS No.: SDG No.: EDCJ8

Lab Sample ID: 00030902 Date Received: 03/17/00

Lab File ID: 030902 Date Analyzed: 03/22/00

Purge Volume: 25.00 (ml) Dilution Factor: 1.0

GC Column: RTX-502.2 ID: 0.530 (mm) Length: 105 (m)

Number TICs found: 0

CAS NUMBER	COMPOUND NAME	RT	EST. CONC. (ug/L)	Q

1LCB

LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EDCJ8

Lab Name: ENVIROSYSTEMS Contract: 68-D7-0005

Lab Code: ENVSYS Case No.: 27876 SAS No.: SDG No.: EDCJ8

Lab Sample ID: 00030902 Date Received: 03/17/00

Lab File ID: S030902 Date Extracted: 03/22/00

Sample volume: 1000 (ml) Date Analyzed: 03/28/00

Concentrated Extract Volume: 1000 (ul) Dilution Factor: 1.0

Injection Volume: 1.0 (ul) pH: 7.0

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
108-95-2	Phenol	5	U
111-44-4	bis(2-Chloroethyl)Ether	5	U
95-57-8	2-Chlorophenol	5	U
95-48-7	2-Methylphenol	5	U
108-60-1	2,2'-oxybis(1-Chloropropane)	5	U
106-44-5	4-Methylphenol	5	U
621-64-7	N-Nitroso-Di-n-Propylamine	5	U
67-72-1	Hexachloroethane	5	U
98-95-3	Nitrobenzene	5	U
78-59-1	Isophorone	5	U
88-75-5	2-Nitrophenol	5	U
105-67-9	2,4-Dimethylphenol	5	U
111-91-1	bis(2-Chloroethoxy)Methane	5	U
120-83-2	2,4-Dichlorophenol	5	U
91-20-3	Naphthalene	5	U
106-47-8	4-Chloroaniline	5	U
87-68-3	Hexachlorobutadiene	5	U
59-50-7	4-Chloro-3-Methylphenol	5	U
91-57-6	2-Methylnaphthalene	5	U
77-47-4	Hexachlorocyclopentadiene	5	U
88-06-2	2,4,6-Trichlorophenol	5	U
95-95-4	2,4,5-Trichlorophenol	20	U
91-58-7	2-Chloronaphthalene	5	U
88-74-4	2-Nitroaniline	20	U
131-11-3	Dimethylphthalate	5	U
208-96-8	Acenaphthylene	5	U
606-20-2	2,6-Dinitrotoluene	5	U
99-09-2	3-Nitroaniline	20	U
83-32-9	Acenaphthene	5	U

ILCC

LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EDCJ8

Lab Name: ENVIROSYSTEMS Contract: 68-D7-0005

Lab Code: ENVSYS Case No.: 27876 SAS No.: SDG No.: EDCJ8

Lab Sample ID: 00030902 Date Received: 03/17/00

Lab File ID: S030902 Date Extracted: 03/22/00

Sample volume: 1000 (ml) Date Analyzed: 03/28/00

Concentrated Extract Volume: 1000 (ul) Dilution Factor: 1.0

Injection Volume: 1.0 (ul) pH: 7.0

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
51-28-5	2,4-Dinitrophenol	20	U
100-02-7	4-Nitrophenol	20	U
132-64-9	Dibenzofuran	5	U
121-14-2	2,4-Dinitrotoluene	5	U
84-66-2	Diethylphthalate	5	U
7005-72-3	4-Chlorophenyl-phenylether	5	U
86-73-7	Fluorene	5	U
100-01-6	4-Nitroaniline	20	U
534-52-1	4,6-Dinitro-2-methylphenol	20	U
86-30-6	N-Nitrosodiphenylamine (1)	5	U
101-55-3	4-Bromophenyl-phenylether	5	U
118-74-1	Hexachlorobenzene	5	U
87-86-5	Pentachlorophenol	20	U
85-01-8	Phenanthrene	5	U
120-12-7	Anthracene	5	U
84-74-2	Di-n-Butylphthalate	5	U
206-44-0	Fluoranthene	5	U
129-00-0	Pyrene	5	U
85-68-7	Butylbenzylphthalate	5	U
91-94-1	3,3'-Dichlorobenzidine	5	U
56-55-3	Benzo(a)Anthracene	5	U
218-01-9	Chrysene	5	U
117-81-7	bis(2-Ethylhexyl)Phthalate	5	U
117-84-0	Di-n-octylphthalate	5	U
205-99-2	Benzo(b)Fluoranthene	5	U
207-08-9	Benzo(k)Fluoranthene	5	U
50-32-8	Benzo(a)Pyrene	5	U
193-39-5	Indeno(1,2,3-cd)Pyrene	5	U
53-70-3	Dibenz(a,h)Anthracene	5	U
191-24-2	Benzo(g,h,i)Perylene	5	U

(1) - Cannot be separated from Diphenylamine

ILCF

LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

EDCJ8

Lab Name: ENVIROSYSTEMS Contract: 68-D7-0005

Lab Code: ENVSYS Case No.: 27876 SAS No.: SDG No.: EDCJ8

Lab Sample ID: 00030902 Date Received: 03/17/00

Lab File ID: S030902 Date Extracted: 03/22/00

Sample volume: 1000 (ml) Date Analyzed: 03/28/00

Concentrated Extract Volume: 1000 (ul) Dilution Factor: 1.0

Injection Volume: 1.0 (ul) pH: 7.0

Number TICs found: 0

CAS NUMBER	COMPOUND NAME	RT	EST. CONC. (ug/L)	Q

Draft Summary

Complete Res #1 Organics & Inorganics & Br 4504

Pat Van Leeuwen
5/10/00

Himco Residential Ground Water Sampling - Round 1

Carcinogenic Compounds - Risk for Drinking Water

Compound	Location	Concentration ug/L	Risk	MCL/MCLG mg/L	RAL[a] ug/L	10^{-4} [b] ug/L
Benzene	54287W/R 54305W	0.4 J/ 0.4 J 0.4 J	1x10-6 1x10-6	0.005/zero F	100	41
Chloroform (TMH)	27919W	0.4 J	3x10-5	0.1/0.08/zero P	100	16
1,2-DCA (EDC)	54253W 54287W 54305W	0.6 J 0.7 J 0.6 J	5x10-6 6x10-6 5x10-6	0.005/zero F	40	12
1,1-DCE				0.007/0.007F	70	4.6
1,2-Dichloropropane	54305W	10	6x10-5	0.005/zero F	60	16
Vinyl Chloride	54305W 27948W	0.9 J 0.7 J	4x10-5 4x10-5	0.002/zero F	2	2
Arsenic	54253W 54287W/R 27948W 27964W	5 8/7 7 6		0.050		4.5

a *Hazard Evaluation Handbook: A Guide to Removal Actions*; Fourth Edition; Region III, 1997.

b *Region 9 Preliminary Remediation Goals (PRGs) 1999;* October 1, 1999. Considers ing. + inl. MCL/MCLG Values are 1996 (http://www.epa.gov.OST/Tools/dwstds1.html)

draft Summary

Non-Carcinogenic Compounds - Risk for Drinking Water

Compound	Location	Concentration ug/L	HQ	MCL/MCLG mg/L or UL(metals)	RAL[a] mg/L	10x HQ[b] ug/L
1,1-Dichloroethane	54287W/R 54305W 27948W 27964W 27919W	7/7 3 2 2 0.5 J				8,100
cis-1,2-Dichloroethene	54287W/R 54305W 27948W 27964W 27919W	0.5 J/0.5 J 2 1 0.8 J 0.6 J		0.07/0.07		610
Calcium	54305W 27948W 54231W 27964W others	177,000 J 122,000 J 115,000 J 113,000 J ~100,000		UL: inf. n/a 1-18y,19-70y, preg, lact: 2500 mg/d		
Magnesium	all	16,000 - 26,500		RDA: 350-500 mg/d		
Manganese	54305W	1,560	0.2			8,800
Sodium	54215W 54231W 54280W 27919W	126,000 82,500 65,400 56,700		RDA: 1400-1500 mg/d 20 mg/L (low Na diet)		
Sulfate	54253W 54271W 54280W 54305W 27919W 27948W	154 138 133 171 132 146		500/500	250 aesth.	

a *Hazard Evaluation Handbook: A Guide to Removal Actions*; Fourth Edition; Region III, 1997.

b *Region 9 Preliminary Remediation Goals (PRGs) 1999;* October 1, 1999. Considers ing. + inl. MCL/MCLG Values are 1996 (http://www.epa.gov.OST/Tools/dwstds1.html)
The UL refers to the upper limit on the Recommended Dietary Allowance (RDA).

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 5 CENTRAL REGIONAL LABORATORY

536 SOUTH CLARK STREET

CHICAGO, ILLINOIS 60605

Date: APR 04 2000

Subject: Review of Region 5 Data for Himco Dump

From: ESAT , Chemist
Region 5 Central Regional Laboratory

To:

Attached are the results for Site: Himco Dump Code: 054J
CRL Data Set Number: 20000024
for analyses of : ICP
Results are reported for sample numbers: 2000SY01S01, 2000SY01S02, 2000SY01S03, 2000SY01S04, 2000SY01S05, 2000SY01S06, 2000SY01S07, 2000SY01S08, 2000SY01S09, 2000SY01S10, 2000SY01S11, 2000SY01S12, 2000SY01S13, 2000SY01S14 and 2000SY01R12

Results Status:
(x) Acceptable for Use
( ) Data Qualified, but Acceptable for use
( ) Data Unacceptable for Use

CRL Data Review Qualification Codes

QUALIFIER	DESCRIPTION
B	This flag is used when the analyte is found in the associated ***B***lank as well as the sample. It indicates possible blank contamination and warns the user to take appropriate action while assessing the data.
D	This flag is used when the analyte concentration results from a required ***D***ilution of the sample, extract or digestate.
E	This flag is used to identify analyte concentrations ***E***xceeding the upper calibration range of the analytical instrument after dilution of the sample, extract or digestate. .The reported value is considered to be estimated
J	This flag is used when the analyte is confirmed to be qualitatively present in the sample, extract or digestate, at or above the CRL reporting limit (RL) but the quantitated value is estimated due to quality control limit(s) being exceeded. This flag accompanies all GC/MS tentatively identified compounds (TICs). This flag also applies to a suspected, unidentified interference. (*J* is the flag used in the Superfund CLP SOW and Data Review Functional Guidelines and is used by CRL for consistency.)
M	This flag is used when the analyte is confirmed to be qualitatively present in the sample, extract or digestate, at or above the CRL ***M***ethod Detection Limit (MDL) but below the CRL reporting limit (RL). This flag applies to all values in this concentration range and indicates the quantitated value is estimated due to its presence in this concentration range.
N	This flag applies to GC/MS Te***N***tatively Identified Compounds (TICs) that have a mass spectral library match.
Q	This flag applies to analyte data that are severely estimated due to quality control and/or ***Q***uantitation problems, but are confirmed to be qualitatively present in the sample. No value is reported with this qualification flag.
R	This flag applies to analyte data that are ***R***ejected and unusable due to severe quality control, quantitation and/or qualitative identification problems. No other qualification flags are reported for this analyte. No value is reported with this qualification flag.
U	This flag in used when the analyte was analyzed but ***U***ndetected in the sample. The CRL RL for the analyte accompanies this flag. As with sample results that are positive, the value is corrected for dry weight, dilution and/or sample weight or volume.

EPA CRL - REGION V
ICP FINAL RESULTS REPORT

REPORT PRODUCED ON: 22-Mar-00

SAMPLE ORGANIZATION:

SAMPLE BATCH ID: 20000024

LABORATORY: REGION 5 CRL

SAMPLE FACILITY: Himco Dump

SAMPLE: 2000SY01S01

ANALYZED: 21-Mar-00

STATION: B-1

COMPOUND	AMOUNT			(Units)
Aluminum	26	U		(ug/L)
Barium	118			(ug/L)
Beryllium	1.6	U	J	(ug/L)
Calcium	57200		J	(ug/L)
Chromium	3.4	U	J	(ug/L)
Cobalt	10.1	U		(ug/L)
Copper	4	U		(ug/L)
Iron	509			(ug/L)
Magnesium	22000			(ug/L)
Manganese	40.4			(ug/L)
Nickel	19.4	U		(ug/L)
Potassium	2080			(ug/L)
Silver	6.8	U		(ug/L)
Sodium	50700			(ug/L)
Vanadium	3.9	U		(ug/L)
Zinc	22.2	M	J	(ug/L)

ANALYZED BY: _____ 3-22-00

EPA CRL - REGION V
ICP FINAL RESULTS REPORT

REPORT PRODUCED ON: 22-Mar-00

SAMPLE ORGANIZATION:

SAMPLE BATCH ID: 20000024

LABORATORY: REGION 5 CRL

SAMPLE FACILITY: Himco Dump

SAMPLE: 2000SY01S02

ANALYZED: 21-Mar-00

STATION: B-3

COMPOUND	AMOUNT			(Units)
Aluminum	26	U		(ug/L)
Barium	61.8			(ug/L)
Beryllium	1.6	U	J	(ug/L)
Calcium	87600		J	(ug/L)
Chromium	3.4	U	J	(ug/L)
Cobalt	10.1	U		(ug/L)
Copper	4	U		(ug/L)
Iron	418			(ug/L)
Magnesium	27200			(ug/L)
Manganese	299			(ug/L)
Nickel	19.4	U		(ug/L)
Potassium	1240			(ug/L)
Silver	6.8	U		(ug/L)
Sodium	19700			(ug/L)
Vanadium	3.9	U		(ug/L)
Zinc	10.3	U		(ug/L)

ANALYZED BY: _____ 3-22-00

EPA CRL - REGION V
ICP FINAL RESULTS REPORT

REPORT PRODUCED ON: 22-Mar-00

SAMPLE ORGANIZATION:

SAMPLE BATCH ID: 20000024

LABORATORY: REGION 5 CRL

SAMPLE FACILITY: Himco Dump

SAMPLE: 2000SY01S03

ANALYZED: 21-Mar-00

STATION: 54253 Westwood

COMPOUND	AMOUNT			(Units)
Aluminum	26	U		(ug/L)
Barium	128			(ug/L)
Beryllium	1.6	U	J	(ug/L)
Calcium	91500		J	(ug/L)
Chromium	3.4	U	J	(ug/L)
Cobalt	10.1	U		(ug/L)
Copper	7.3	M		(ug/L)
Iron	1670			(ug/L)
Magnesium	26500			(ug/L)
Manganese	213			(ug/L)
Nickel	19.4	U		(ug/L)
Potassium	1330			(ug/L)
Silver	6.8	U		(ug/L)
Sodium	14500			(ug/L)
Vanadium	3.9	U		(ug/L)
Zinc	44.3	M	J	(ug/L)

ANALYZED BY: _____ 3-22-00

EPA CRL - REGION V
ICP FINAL RESULTS REPORT

REPORT PRODUCED ON: 22-Mar-00

SAMPLE ORGANIZATION:

SAMPLE BATCH ID: 20000024

LABORATORY: REGION 5 CRL

SAMPLE FACILITY: Himco Dump

SAMPLE: 2000SY01S04

ANALYZED: 21-Mar-00

STATION: 54271 Westwood

COMPOUND	AMOUNT			(Units)
Aluminum	26	U		(ug/L)
Barium	50.4			(ug/L)
Beryllium	1.6	U	J	(ug/L)
Calcium	101000		J	(ug/L)
Chromium	3.4	U	J	(ug/L)
Cobalt	10.1	U		(ug/L)
Copper	7.3	M		(ug/L)
Iron	104		B J	(ug/L)
Magnesium	21700			(ug/L)
Manganese	359			(ug/L)
Nickel	19.4	U		(ug/L)
Potassium	1790			(ug/L)
Silver	6.8	U		(ug/L)
Sodium	22600			(ug/L)
Vanadium	3.9	U		(ug/L)
Zinc	17.4	M	J	(ug/L)

ANALYZED BY: _____ 3-22-00

EPA CRL - REGION V
ICP FINAL RESULTS REPORT

REPORT PRODUCED ON: 22-Mar-00

SAMPLE ORGANIZATION:

SAMPLE BATCH ID: 20000024

LABORATORY: REGION 5 CRL

SAMPLE FACILITY: Himco Dump

SAMPLE: 2000SY01S05

ANALYZED: 21-Mar-00

STATION: 54215 Westwood

COMPOUND	AMOUNT			(Units)
Aluminum	26	U		(ug/L)
Barium	32.8			(ug/L)
Beryllium	1.6	U	J	(ug/L)
Calcium	91800		J	(ug/L)
Chromium	3.4	U	J	(ug/L)
Cobalt	10.1	U		(ug/L)
Copper	14.2	M		(ug/L)
Iron	22.4	U		(ug/L)
Magnesium	19800		J	(ug/L)
Manganese	3.2	U		(ug/L)
Nickel	21.4	M		(ug/L)
Potassium	4650			(ug/L)
Silver	6.8	U		(ug/L)
Sodium	126000			(ug/L)
Vanadium	3.9	U		(ug/L)
Zinc	96.5		J	(ug/L)

ANALYZED BY: [signature] 3-22-00

EPA CRL - REGION V
ICP FINAL RESULTS REPORT

REPORT PRODUCED ON: 29-Mar-00

SAMPLE ORGANIZATION:

SAMPLE BATCH ID: 20000024

LABORATORY: REGION 5 CRL

SAMPLE FACILITY: Himco Dump

SAMPLE: 2000SY01S06

ANALYZED: 21-Mar-00

STATION: 27964 Westwood

COMPOUND	AMOUNT			(Units)
Aluminum	26	U		(ug/L)
Barium	113			(ug/L)
Beryllium	1.6	U	J	(ug/L)
Calcium	113000		J	(ug/L)
Chromium	3.4	U	J	(ug/L)
Cobalt	10.1	U		(ug/L)
Copper	11.9	M		(ug/L)
Iron	5860			(ug/L)
Magnesium	16100		J	(ug/L)
Manganese	73			(ug/L)
Nickel	19.4	U		(ug/L)
Potassium	2610			(ug/L)
Silver	6.8	U		(ug/L)
Sodium	13500			(ug/L)
Vanadium	3.9	U		(ug/L)
Zinc	19	M	J	(ug/L)

ANALYZED BY: 3-29-00

EPA CRL - REGION V
ICP FINAL RESULTS REPORT

REPORT PRODUCED ON: 29-Mar-00

SAMPLE ORGANIZATION:

SAMPLE BATCH ID: 20000024

LABORATORY: REGION 5 CRL

SAMPLE FACILITY: Himco Dump

SAMPLE: 2000SY01S07

ANALYZED: 21-Mar-00

STATION: 27948 Westwood

COMPOUND	AMOUNT			(Units)
Aluminum	26	U		(ug/L)
Barium	102			(ug/L)
Beryllium	1.6	U	J	(ug/L)
Calcium	122000		J	(ug/L)
Chromium	3.5	M	J	(ug/L)
Cobalt	10.1	U		(ug/L)
Copper	4.1	M		(ug/L)
Iron	6120			(ug/L)
Magnesium	16000		J	(ug/L)
Manganese	72.3			(ug/L)
Nickel	19.4	U		(ug/L)
Potassium	2870			(ug/L)
Silver	6.8	U		(ug/L)
Sodium	33200			(ug/L)
Vanadium	3.9	U		(ug/L)
Zinc	30.1	M	J	(ug/L)

ANALYZED BY: 3-29-00

EPA CRL - REGION V
ICP FINAL RESULTS REPORT

REPORT PRODUCED ON: 29-Mar-00

SAMPLE ORGANIZATION:

SAMPLE BATCH ID: 20000024

LABORATORY: REGION 5 CRL

SAMPLE FACILITY: Himco Dump

SAMPLE: 2000SY01S08

ANALYZED: 21-Mar-00

STATION: 27919 Westwood

COMPOUND	AMOUNT			(Units)
Aluminum	26	U		(ug/L)
Barium	28.1			(ug/L)
Beryllium	1.6	U	J	(ug/L)
Calcium	103000		J	(ug/L)
Chromium	3.4	U	J	(ug/L)
Cobalt	10.1	U		(ug/L)
Copper	9	M		(ug/L)
Iron	51.1	M	B J	(ug/L)
Magnesium	19000		J	(ug/L)
Manganese	146			(ug/L)
Nickel	19.4	U		(ug/L)
Potassium	3660			(ug/L)
Silver	6.8	U		(ug/L)
Sodium	56700			(ug/L)
Vanadium	3.9	U		(ug/L)
Zinc	20.5	M	J	(ug/L)

ANALYZED BY: _____ 3-29-00

EPA CRL - REGION V
ICP FINAL RESULTS REPORT

REPORT PRODUCED ON: 22-Mar-00

SAMPLE ORGANIZATION:

SAMPLE BATCH ID: 20000024

LABORATORY: REGION 5 CRL

SAMPLE FACILITY: Himco Dump

SAMPLE: 2000SY01S09

ANALYZED: 21-Mar-00

STATION: 54280 Westwood

COMPOUND	AMOUNT			(Units)
Aluminum	26	U		(ug/L)
Barium	72.8			(ug/L)
Beryllium	1.6	U	J	(ug/L)
Calcium	105000		J	(ug/L)
Chromium	3.4	U	J	(ug/L)
Cobalt	10.1	U		(ug/L)
Copper	26.1	M		(ug/L)
Iron	22.4	U		(ug/L)
Magnesium	20200			(ug/L)
Manganese	355			(ug/L)
Nickel	19.4	U		(ug/L)
Potassium	2580			(ug/L)
Silver	6.8	U		(ug/L)
Sodium	65400			(ug/L)
Vanadium	3.9	U		(ug/L)
Zinc	31.5	M	J	(ug/L)

ANALYZED BY: _____ 3-22-00

EPA CRL - REGION V
ICP FINAL RESULTS REPORT

REPORT PRODUCED ON: 22-Mar-00

SAMPLE ORGANIZATION:

SAMPLE BATCH ID: 20000024

LABORATORY: REGION 5 CRL

SAMPLE FACILITY: Himco Dump

SAMPLE: 2000SY01S10

ANALYZED: 21-Mar-00

STATION: 54231 Westwood

COMPOUND	AMOUNT			(Units)
Aluminum	26	U		(ug/L)
Barium	43.5			(ug/L)
Beryllium	1.6	U	J	(ug/L)
Calcium	115000		J	(ug/L)
Chromium	3.4	U	J	(ug/L)
Cobalt	14	M	J	(ug/L)
Copper	6.1	M		(ug/L)
Iron	25.3	M	B J	(ug/L)
Magnesium	20800			(ug/L)
Manganese	3.2	U		(ug/L)
Nickel	19.4	U		(ug/L)
Potassium	4300			(ug/L)
Silver	6.8	U		(ug/L)
Sodium	82500			(ug/L)
Vanadium	3.9	U		(ug/L)
Zinc	160		J	(ug/L)

ANALYZED BY: _____ 3-22-00

EPA CRL - REGION V
ICP FINAL RESULTS REPORT

REPORT PRODUCED ON: 22-Mar-00

SAMPLE ORGANIZATION:

SAMPLE BATCH ID: 20000024

LABORATORY: REGION 5 CRL

SAMPLE FACILITY: Himco Dump

SAMPLE: 2000SY01S11

ANALYZED: 21-Mar-00

STATION: 54305 Westwood

COMPOUND	AMOUNT			(Units)
Aluminum	26	U		(ug/L)
Barium	60.4			(ug/L)
Beryllium	1.6	U	J	(ug/L)
Calcium	177000		J	(ug/L)
Chromium	3.4	U	J	(ug/L)
Cobalt	10.1	U		(ug/L)
Copper	4	U		(ug/L)
Iron	2170			(ug/L)
Magnesium	18200		J	(ug/L)
Manganese	1560			(ug/L)
Nickel	19.4	U		(ug/L)
Potassium	5270			(ug/L)
Silver	6.8	U		(ug/L)
Sodium	44400			(ug/L)
Vanadium	3.9	U		(ug/L)
Zinc	17.4	M	J	(ug/L)

ANALYZED BY: RC 3-22-00

EPA CRL - REGION V
ICP FINAL RESULTS REPORT

REPORT PRODUCED ON: 22-Mar-00

SAMPLE ORGANIZATION:

SAMPLE BATCH ID: 20000024

LABORATORY: REGION 5 CRL

SAMPLE FACILITY: Himco Dump

SAMPLE: 2000SY01S12

ANALYZED: 21-Mar-00

STATION: 54287 Westwood

COMPOUND	AMOUNT			(Units)
Aluminum	26	U		(ug/L)
Barium	63.8			(ug/L)
Beryllium	1.6	U	J	(ug/L)
Calcium	93300		J	(ug/L)
Chromium	3.4	U	J	(ug/L)
Cobalt	10.5	M	J	(ug/L)
Copper	7.3	M		(ug/L)
Iron	5050			(ug/L)
Magnesium	21500			(ug/L)
Manganese	63.1			(ug/L)
Nickel	19.4	U		(ug/L)
Potassium	1150			(ug/L)
Silver	6.8	U		(ug/L)
Sodium	14900			(ug/L)
Vanadium	3.9	U		(ug/L)
Zinc	18.9	M	J	(ug/L)

ANALYZED BY: _____ 3-22-00

EPA CRL - REGION V
ICP FINAL RESULTS REPORT

REPORT PRODUCED ON: 22-Mar-00

SAMPLE ORGANIZATION:

SAMPLE BATCH ID: 20000024

LABORATORY: REGION 5 CRL

SAMPLE FACILITY: Himco Dump

SAMPLE: 2000SY01R12

ANALYZED: 21-Mar-00

STATION: 54287 Westwood

COMPOUND	AMOUNT			(Units)
Aluminum	26	U		(ug/L)
Barium	64.5			(ug/L)
Beryllium	1.6	U	J	(ug/L)
Calcium	92300		J	(ug/L)
Chromium	3.4	U	J	(ug/L)
Cobalt	10.1	U		(ug/L)
Copper	4	U		(ug/L)
Iron	5030			(ug/L)
Magnesium	22000			(ug/L)
Manganese	59.6			(ug/L)
Nickel	19.4	U		(ug/L)
Potassium	1160			(ug/L)
Silver	6.8	U		(ug/L)
Sodium	14700			(ug/L)
Vanadium	3.9	U		(ug/L)
Zinc	14.2	M	J	(ug/L)

ANALYZED BY: _____ 3-22-00

EPA CRL - REGION V
ICP FINAL RESULTS REPORT

REPORT PRODUCED ON: 22-Mar-00

SAMPLE ORGANIZATION:

SAMPLE BATCH ID: 20000024

LABORATORY: REGION 5 CRL

SAMPLE FACILITY: Himco Dump

SAMPLE: 2000SY01S13

ANALYZED: 21-Mar-00

STATION: 54125 Westwood

COMPOUND	AMOUNT			(Units)
Aluminum	26	U		(ug/L)
Barium	108			(ug/L)
Beryllium	1.6	U	J	(ug/L)
Calcium	100000		J	(ug/L)
Chromium	3.6	M	J	(ug/L)
Cobalt	10.1	U		(ug/L)
Copper	5.8	M		(ug/L)
Iron	885			(ug/L)
Magnesium	21500			(ug/L)
Manganese	284			(ug/L)
Nickel	19.4	U		(ug/L)
Potassium	1790			(ug/L)
Silver	6.8	U		(ug/L)
Sodium	17600			(ug/L)
Vanadium	3.9	U		(ug/L)
Zinc	10.3	U		(ug/L)

ANALYZED BY: _____ 3-22-00

EPA CRL - REGION V
ICP FINAL RESULTS REPORT

REPORT PRODUCED ON: 22-Mar-00

SAMPLE ORGANIZATION:

SAMPLE BATCH ID: 20000024

LABORATORY: REGION 5 CRL

SAMPLE FACILITY: Himco Dump

SAMPLE: 2000SY01S14

ANALYZED: 21-Mar-00

STATION: E-3

COMPOUND	AMOUNT			(Units)
Aluminum	133			(ug/L)
Barium	38.8			(ug/L)
Beryllium	1.6	U	J	(ug/L)
Calcium	73400		J	(ug/L)
Chromium	5.1	M	J	(ug/L)
Cobalt	10.1	U		(ug/L)
Copper	4	U		(ug/L)
Iron	2500			(ug/L)
Magnesium	29200			(ug/L)
Manganese	39			(ug/L)
Nickel	19.4	U		(ug/L)
Potassium	1700			(ug/L)
Silver	6.8	U		(ug/L)
Sodium	11900			(ug/L)
Vanadium	3.9	U		(ug/L)
Zinc	10.3	U		(ug/L)

ANALYZED BY: _____ 3-22-00

Sylvia Griffin APR 04 2000

CRL Data Management Coordinator and Date Received

Date Transmitted: APR 04 2000

Please have the US EPA project leader fill out the customer survey form on the Region 5 Intranet: http://www.r5intra.epa.gov/crl/qa.html, (← by clicking on this link, or call George Schupp, CRL Sample Coordinator, at 3-1226).

Please sign and date this form below and return it with any comments to:

Sylvia Griffin
Data Management Coordinator
Region 5 Central Regional Laboratory
ML - 10C

Received by and Date

Comments:

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 5 CENTRAL REGIONAL LABORATORY

536 SOUTH CLARK STREET

CHICAGO, ILLINOIS 60605

Date: APR 19 2000

Subject: Review of Region 5 Data for **HIMCO LF**

From: Francis A. Awanya , Chemist FAA
Region 5 Central Regional Laboratory

To: SF

Attached are the results for Site: **HIMCO LF**
CRL Data Set Number: **20000026**
for analyses of : **Sulfate and Bromide**
Results are reported for sample numbers: **2000SY03S01, 200SY03S02, 2000SY03S03, 200SY03S04, 2000SY03S05, 200SY03S06, 2000SY03S07, 200SY03S08, 2000SY03S09, 200SY03S10, and 2000SY03S11**.

Results Status:
(X) Acceptable for Use
( ) Data Qualified, but Acceptable for use
( ) Data Unacceptable for Use

Sylvia Griffin APR 1 9 2000

CRL Data Management Coordinator and Date Received

Date Transmitted: APR 1 9 2000

Please have the US EPA project leader fill out the customer survey form on the Region 5 Intranet: http://www.r5intra.epa.gov/crl/qa.html, (← by clicking on this link, or call George Schupp, CRL Sample Coordinator, at 3-1226).

Please sign and date this form below and return it with any comments to:

Sylvia Griffin
Data Management Coordinator
Region 5 Central Regional Laboratory
ML - 10C

Received by and Date

Comments:

Data Set Number:	*20000026*	**Parameter:**	*Sulfate and Bromide*
Facility Name:	*HIMCO LF*		
Study Name:	*HIMCO LF*		
Date of Narrative:	*04 14 2000*	**Analyst:**	*Francis A. Awanya*
		Signature:	Francis A. Awanya

ANALYSIS CASE NARRATIVE

Eleven (11) high priority water samples were collected for the above study between 3/15/00 and 3/16/2000. The samples arrived at the Central Regional Laboratory (CRL) on 3/22/2000. CRL sample identification numbers (CRL Sample ID) were assigned to the samples with tag numbers. The Station numbers and Locations were obtained from the tags that were attached to the sample containers. Samples information is tabulated as follows;

CRL Sample ID	Tag Number	Station Number and Location
2000SY03S01	5-065001	27919/EDCK4
2000SY03S02	5-065002	27948/EDCK2
2000SY03S03	5-065003	B - 3
2000SY03S04	5-065004	54271/EDCK0
2000SY03S05	5-065005	J - 1
2000SY03S06	5-065006	E - 3
2000SY03S07	5-065007	B - 1
2000SY03S08	5-065008	B - 4
2000SY03S09	5-065009	EDCK1/54253
2000SY03S10	5-065010	54280/EDCK3
2000SY03S11	5-065011	54305/EDCJ7

Additional descriptive information was not provided with the Analysis Request Form (ARF). Samples were checked out for sulfate and bromide analysis from the CRL sample custodian on 3/24/2000. The samples were properly preserved by refrigeration. They were transferred to the Analytical and Inorganic (A&I) laboratory section of the CRL and kept in a sample storage refrigerator until all analysis were completed.

SAMPLE ANALYSIS:

All samples were analyzed for sulfate and bromide using CRL Standard Operating Procedure (CRL.SOP) AIG045 (Method reference 300 A & B, EPA/600/R-93-100). No additional sample preparations were necessary. The instrument was calibrated for high level determination of sulfate and bromide following CRL.SOP AIG045 Part A on 3/24/2000. It was used for analysis on the same day. All bromide concentrations were below the reporting limit of the calibration curve used. Where as all sulfate concentrations, with the exception of sample 2000SY03S07 and 2000SY03S08, exceeded the upper calibration limit. As a result, appropriate

Data Set Number:	*20000026*	**Parameter:**	*Sulfate and Bromide*
Facility Name:	*HIMCO LF*		
Study Name:	*HIMCO LF*		
Date of Narrative:	*04 14 2000*	**Analyst:**	*Francis A. Awanya*
		Signature:	Francis A. Awanya

ANALYSIS CASE NARRATIVE

sulfate samples were re-analyzed with dilutions as necessary on 3/27/2000 and a different curve was used to complete bromide analysis. The instrument was calibrated for low level determination of bromide following CRL.SOP AIG045 Part A on 4/10/2000. Bromide analysis was completed on the same day.

QUALITY CONTROL (QC):

No data quality objectives were provided by the requestor. Analysis results were evaluated using the QC requirements of CRL.SOP AIG045 (Method reference 300 A & B, EPA/600/R-93-100). All the required quality control criteria for the laboratory, method, and system performance audits were evaluated and determined to be within the limits.

Matrix spike (Sulfate): Recovery results obtained for spiked sample 2000SY03S01(63.58 mg/L), exceeded the upper calibration range. The upper limit of calibration is 56.25 mg/L. However, the calculated spike recovery value of 102.2% was within the SOP limit of 100 ± 20%.

To evaluate the accuracy of the initial recovery result, the spike was re-prepared from the same sample in exact fashion and assayed on 04/07/2000. The same calibration used to analyze the initial spike was utilized and verified for this analysis. All required QC audits results were within the limits. Sulfate results obtained on this day for spike sample 2000SY03S01 (62.39 mg SO_4/L), exceeded the upper calibration range. A two-fold dilution of the spiked sample was also made and analyzed within the same instrument run. Sulfate results obtained for this dilution was 61.74 mg/L. This finding indicates that the original recovery result is acceptable for use without further qualifications.

Method Blanks(LRB/ICB): The method blanks assayed at the beginning of each analysis on 3/24/2000 and 3/27/2000 were found to contain 3.51 mg/L and 3.67 mg/L of sulfate respectively. No sulfate was found in the blanks assayed at the end of the determination. Instrument response for those blanks were well below the reporting limit (15 mg/L) for the high calibration range. The resulting blank concentrations may be inaccurate, but do not indicate contamination. All samples below this reporting limit (15 mg/L) were analyzed and reported from the low calibration range. The reporting limit for this range is 0.75 mg/L. The method detection limit (MDL) is 0.025 mg/L. No sulfate was detected in any of the blanks.

Laboratory Fortified Blanks (LFBs): The LFBs were not analyzed on the days that the samples were assayed in both the low and high level analysis. They were determined on a different date using the same method and calibration as the samples. All the required QC audits were also assayed. The QC results were within the limits. The LFB was analyzed to complement the

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 5 CENTRAL REGIONAL LABORATORY

536 SOUTH CLARK STREET

CHICAGO, ILLINOIS 60605

Date: APR 19 2000

Subject: Review of Region 5 Data for Himco Dump

From: ESAT , Chemist
Region 5 Central Regional Laboratory

To: SF

Attached are the results for Site: Himco Dump Code: 054J
CRL Data Set Number: 20000024
for analyses of : Antimony, Arsenic, Cadmium, Lead, Selenium and Thallium
Results are reported for sample numbers: 2000SY01S01, 2000SY01S02, 2000SY01S03, 2000SY01S04, 2000SY01S05, 2000SY01S06, 2000SY01S07, 2000SY01S08, 2000SY01S09, 2000SY01S10, 2000SY01S11, 2000SY01S12, 2000SY01S13, 2000SY01S14 and 2000SY01R12

Results Status:
(x) Acceptable for Use
( ) Data Qualified, but Acceptable for use
( ) Data Unacceptable for Use

Sylvia Griffin APR 1 9 2000

CRL Data Management Coordinator and Date Received

Date Transmitted: APR 1 9 2000

Please have the US EPA project leader fill out the customer survey form on the Region 5 Intranet: http://www.r5intra.epa.gov/crl/qa.html, (← by clicking on this link, or call George Schupp, CRL Sample Coordinator, at 3-1226).

Please sign and date this form below and return it with any comments to:

Sylvia Griffin
Data Management Coordinator
Region 5 Central Regional Laboratory
ML - 10C

Received by and Date

Comments:

Method: GFAA for Water
Site: Himco Dump
Date: April 6, 2000
Prepared by: Stephen Connet

TDF: 5104-284
PWO: ESE51024
WAD: 05-00-4-04
Data Set: 20000024

NARRATIVE

Fifteen (15) water samples for the Himco Dump site [2000SY01S01 (B-1), S02 (B-3), S03 (54253 Westwood), S04 (54271 Westwood), S05 (54215 Westwood), S06 (27964 Westwood), S07 (27948 Westwood), S08 (27919 Westwood), S09 (54280 Westwood), S10 (54231 Westwood), S11 (54305 Westwood), S12 (54287 Westwood), R12 (54287 Westwood), S13 (54125 Westwood), S14 (E-3 or E3)] were sampled on 3/15-16/00 and were received properly preserved by the CRL on 3/16/00. The samples were submitted for analysis of antimony, arsenic, cadmium, lead, selenium and thallium by GFAA.

The samples were digested following standard CRL GFAA water digestion protocols. The samples were digested on 3/20, 3/23 and 3/27 (digestion batch 1164). 3/23 redigestion was performed due to suspected cadmium contamination; 3/27 redigestion was performed due to lead contamination.

Due to problems with the SIMAA 6000, all results for arsenic were reported from 5100E using a detection limit of 2 ppb. The second digest was used for antimony due to low spike recovery for the second matrix spike in the first digest. Spike recoveries for the second digest were acceptable. All QC were within limits; all sample results are acceptable.

Analytical results were stored in the following database files:
H:\r5crl\vol3\metals\sconnet\20000024\5100W-Sb\040500 for antimony,
H:\r5crl\vol3\metals\sconnet\20000024\5100E-As\032400 for arsenic,
H:\r5crl\vol3\metals\sconnet\20000024\5100E-Cd\032300B for cadmium,
H:\r5crl\vol3\metals\sconnet\20000024\5100E-Pb\032800 for lead,
H:\r5crl\vol3\metals\sconnet\20000024\5100W-Se\032400A and
H:\r5crl\vol3\metals\sconnet\20000024\5100E-Se\032800A for selenium,
H:\r5crl\vol3\metals\sconnet\20000024\5100W-Tl\032300B and \032400 for thallium.

This narrative, the QC limits sheet, QC Summary and Results spreadsheets are stored in:
H:\r5crl\vol3\metals\sconnet\20000024\Reports\GFAA Narrative.
H:\r5crl\vol3\metals\sconnet\20000024\Reports\QC Limits.
H:\r5crl\vol3\metals\sconnet\20000024\Reports\QCSummry.
H:\r5crl\vol3\metals\sconnet\20000024\Reports\GFAA Results.

Since RLIMS was unavailable, the AA metals analysis results are reported in a word-processing spreadsheet only. Time will be necessary in the future to enter all analysis results into RLIMS.

4-6-00

ATTACHMENT 1

CRL Data Review Qualification Codes

QUALIFIER	DESCRIPTION
B	This flag is used when the analyte is found in the associated ***B***lank as well as the sample. It indicates possible blank contamination and warns the user to take appropriate action while assessing the data.
D	This flag is used when the analyte concentration results from a required ***D***ilution of the sample, extract or digestate.
E	This flag is used to identify analyte concentrations ***E***xceeding the upper calibration range of the analytical instrument after dilution of the sample, extract or digestate. The reported value is considered to be estimated
J	This flag is used when the analyte is confirmed to be qualitatively present in the sample, extract or digestate, at or above the CRL reporting limit (RL) but the quantitated value is estimated due to quality control limit(s) being exceeded. This flag accompanies all GC/MS tentatively identified compounds (TICs). This flag also applies to a suspected, unidentified interference. (***J*** is the flag used in the Superfund CLP SOW and Data Review Functional Guidelines and is used by CRL for consistency.)
M	This flag is used when the analyte is confirmed to be qualitatively present in the sample, extract or digestate, at or above the CRL ***M***ethod Detection Limit (MDL) but below the CRL reporting limit (RL). This flag applies to all values in this concentration range and indicates the quantitated value is estimated due to its presence in this concentration range.
N	This flag applies to GC/MS TICs that have ***N***o mass spectral library match.
Q	This flag applies to analyte data that are severely estimated due to quality control and/or ***Q***uantitation problems, but are confirmed to be qualitatively present in the sample. No value is reported with this qualification flag.
R	This flag applies to analyte data that are ***R***ejected and unusable due to severe quality control, quantitation and/or qualitative identification problems. No other qualification flags are reported for this analyte. No value is reported with this qualification flag.
U	This flag in used when the analyte was analyzed but ***U***ndetected in the sample. The CRL RL for the analyte accompanies this flag. As with sample results that are positive, the value is corrected for dry weight, dilution and/or sample weight or volume.

ENVIRONMENTAL PROTECTION AGENCY
REGION V
CENTRAL REGIONAL LABORATORY
FINAL RESULT REPORT FOR THE TEAM: METALS

DIVISION/BRANCH: SUPERFUND SAMPLING DATE: 3/15-16/00 LAB ARRIVAL DATE: 3/16/00 DUE DATE: 3/30/00
DU NUMBER: 50102D DATASET NUMBER: 20000024 STUDY: Himco Dump PRIORITY: Routine LABORATORY :ESAT

	CRL LOG NUMBER	SAMPLE DESCRIPTION	WATER Antimony (ug/L)	WATER Arsenic (ug/L)	WATER Cadmium (ug/L)	WATER Lead (ug/L)	WATER Selenium (ug/L)	WATER Thallium (ug/L)
1	2000SY01S01	B-1	2U	2U	0.1U	3M	2U	1U
2	2000SY01S02	B-3	2U	5M	0.1U	2U	2U	1U
3	2000SY01S03	54253 Westwood	2U	5M	0.1U	2U	2U	1U
4	2000SY01S04	54271 Westwood	2U	2U	0.1U	2U	2U	1U
5	2000SY01S05	54215 Westwood	2U	4UD	0.1U	2U	2U	1U
6	2000SY01S06	27964 Westwood	2U	6DM	0.1U	2U	2U	1U
7	2000SY01S07	27948 Westwood	2U	7	0.1U	2U	2U	1U
8	2000SY01S08	27919 Westwood	2U	2U	0.1U	2U	2U	1U
9	2000SY01S09	54280 Westwood	2U	2U	0.1U	2U	2U	1U
10	2000SY01S10	54231 Westwood	2U	2U	0.1U	2U	2U	1U
11	2000SY01S11	54305 Westwood	2U	4UD	0.1U	2U	2U	1U
12	2000SY01S12	54287 Westwood	2U	7	0.1U	2U	2U	1U
13	2000SY01R12	54287 Westwood	2U	8DM	0.1U	2U	2U	1U
14	2000SY01S13	54125 Westwood	2U	2M	0.1U	2U	2U	1U
15	2000SY01S14	E-3 (E3)	2U	7	0.1U	2U	2U	1U
DATE OF ANALYSIS			4/5/00	3/24/00	3/23/00	3/28/00	3/24,28/00	3/23-24/00
ANALYST		4-6-00	S. Connet	S. Connet	S. Connet	S. Connet	S. Connet	S. Connet

Reviewed by: J. Sam Date: 4/17/2000

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 5 CENTRAL REGIONAL LABORATORY

536 SOUTH CLARK STREET

CHICAGO, ILLINOIS 60605

Date: APR 19 2000

Subject: Review of Region 5 Data for Himco Dump

From: ESAT , Chemist
Region 5 Central Regional Laboratory

To: SF

Attached are the results for Site: Himco Dump Code: 054J
CRL Data Set Number: 20000024
for analyses of : Mercury
Results are reported for sample numbers: 2000SY01S01, 2000SY01S02, 2000SY01S03, 2000SY01S04, 2000SY01S05, 2000SY01S06, 2000SY01S07, 2000SY01S08, 2000SY01S09, 2000SY01S10, 2000SY01S11, 2000SY01S12, 2000SY01S13, 2000SY01S14 and 2000SY01R12

Results Status:
(x) Acceptable for Use
( ) Data Qualified, but Acceptable for use
( ) Data Unacceptable for Use

Sylvia Griffin APR 19 2000

CRL Data Management Coordinator and Date Received

Date Transmitted: APR 19 2000

Please have the US EPA project leader fill out the customer survey form on the Region 5 Intranet: http://www.r5intra.epa.gov/crl/qa.html, (← by clicking on this link, or call George Schupp, CRL Sample Coordinator, at 3-1226).

Please sign and date this form below and return it with any comments to:

Sylvia Griffin
Data Management Coordinator
Region 5 Central Regional Laboratory
ML - 10C

Received by and Date

Comments:

Parameter: Mercury
Method: 245.2*DNS
Site: Himco Dump
Analyst: M. Mattox M. Mattox
Date: April 19, 2000 4-19-00

Data Set: 20000024
TDF: 5104-284
PWO: ESE51024
WAD: 05-00-4-04

NARRATIVE

Fifteen (15) water samples from the Himco Dump site (data set 20000024) were collected on March 15 and 16, 2000. The water samples are stated with the sample number and station identification as follows: 2000SY01S01 (B-1), 2000SY01S02 (B-3), 2000SY01S03 (54253 Westwood), 2000SY01S04 (54271 Westwood), 2000SY01S05 (54215 Westwood), 2000SY01S06 (27964 Westwood), 2000SY01S07 (27948 Westwood), 2000SY01S08 (27919 Westwood), 2000SY01S09 (54280 Westwood), 2000SY01S10 (54231 Westwood), 2000SY01S11 (54305 Westwood), 2000SY01S12 (54287 Westwood), 2000SY01R12 (54287 Westwood), 2000SY01S13 (54125 Westwood), and 2000SY01S14 (E-3). The samples were received properly preserved by CRL on March 16, 2000. These samples were assigned to ESAT for mercury analysis.

The samples were digested on 4/4/00 and analyzed on 4/5/00. The first analytical run is used to report results. The remaining part of the run has been provided for information only. This portion had modifications which can be found in the mercury log book.

All sample results are acceptable; the initial DQC-LFB was within range and the final DQC-LFB was slightly high with a recovery of 114%. All other QC audits were in control. Because the samples are non-detects, all water sample results are acceptable. It is possible that the bias was due to a condensate build-up in the drying tube. To investigate this the run was repeated. The calibration and initial QC were very close to the values obtained in the initial run. Just prior to analyzing the final QC the drying unit was removed and dried. The final QC was run and the same DQC-LFB that was run in the previous run showed a result that was also very close to the end result from the original run, but the difference was enough for the result to be in control. This run data is provided for information only.

An MDL sample set was also digested and analyzed. The values obtained were well below the concentration of the standard and will be redigested at a lower concentration on another date.

Between 3/23/00 and 4/5/00 several attempts were made to digest and analyze this sample set. Some problems occurred with the digestion unit and analyzer as the analysis was attempted. A record of problems which occurred can be found in the mercury log book. The analyst worked closely with the CRL staff to resolve the problems.

This narrative is stored in
I:\r5crl\col1\min_nut\mmattox\PSAMercury\Hg Water\20000024\Reports\Hg Narrative.
The spreadsheet is stored in
I:\r5crl\col1\min_nut\mmattox\PSAMercury\Hg Water\20000024\Reports\Hg Results.
The QC summary is stored in
I:\r5crl\col1\min_nut\mmattox\PSAMercury\Hg Water\20000024\Reports\Hg QC Summary.

At this time RLIMS is not available, therefore WordPerfect reports were generated. Time must be allotted in the future to enter the data into RLIMS when it does become available.

M. Mattox 4-9-00

ATTACHMENT 1

CRL Data Review Qualification Codes

QUALIFIER	DESCRIPTION
B	This flag is used when the analyte is found in the associated ***B***lank as well as the sample. It indicates possible blank contamination and warns the user to take appropriate action while assessing the data.
D	This flag is used when the analyte concentration results from a required ***D***ilution of the sample, extract or digestate.
E	This flag is used to identify analyte concentrations ***E***xceeding the upper calibration range of the analytical instrument after dilution of the sample, extract or digestate. The reported value is considered to be estimated
J	This flag is used when the analyte is confirmed to be qualitatively present in the sample, extract or digestate, at or above the CRL reporting limit (RL) but the quantitated value is estimated due to quality control limit(s) being exceeded. This flag accompanies all GC/MS tentatively identified compounds (TICs). This flag also applies to a suspected, unidentified interference. (***J*** is the flag used in the Superfund CLP SOW and Data Review Functional Guidelines and is used by CRL for consistency.)
M	This flag is used when the analyte is confirmed to be qualitatively present in the sample, extract or digestate, at or above the CRL ***M***ethod Detection Limit (MDL) but below the CRL reporting limit (RL). This flag applies to all values in this concentration range and indicates the quantitated value is estimated due to its presence in this concentration range.
N	This flag applies to GC/MS TICs that have ***N***o mass spectral library match.
Q	This flag applies to analyte data that are severely estimated due to quality control and/or ***Q***uantitation problems, but are confirmed to be qualitatively present in the sample. No value is reported with this qualification flag.
R	This flag applies to analyte data that are ***R***ejected and unusable due to severe quality control, quantitation and/or qualitative identification problems. No other qualification flags are reported for this analyte. No value is reported with this qualification flag.
U	This flag in used when the analyte was analyzed but ***U***ndetected in the sample. The CRL RL for the analyte accompanies this flag. As with sample results that are positive, the value is corrected for dry weight, dilution and/or sample weight or volume.

ENVIRONMENTAL PROTECTION AGENCY
REGION V
CENTRAL REGIONAL LABORATORY
FINAL RESULT REPORT FOR THE TEAM: METALS

DIVISION/BRANCH: SUPERFUND SAMPLING DATE: 3/15-16-00 LAB ARRIVAL DATE: 3/16/00 DUE DATE: 3/30/00
DU NUMBER: TFA DATASET NUMBER: 20000024 STUDY: Himco Landfill PRIORITY: Routine LABORATORY :ESAT

	CRL LOG NUMBER	SAMPLE DESCRIPTION	WATER Mercury (ug/l)		
1	2000SY01S01	B-1	0.2U		
2	2000SY01S02	B-3	0.2U		
3	2000SY01S03	54253 Westwood	0.2U		
4	2000SY01S04	54271 Westwood	0.2U		
5	2000SY01S05	54215 Westwood	0.2U		
6	2000SY01S06	27964 Westwood	0.2U		
7	2000SY01S07	27948 Westwood	0.2U		
8	2000SY01SO8	27919 Westwood	0.2U		
9	2000SY01S09	54280 Westwood	0.2U		
10	2000SY01S10	54231 Westwood	0.2U		
11	2000SY01S11	54305 Westwood	0.2U		
12	2000SY01S12	54287 Westwood	0.2U		
DATE OF ANALYSIS		4-11-00	04/05/00		
ANALYST		M. Mattox	M. Mattox		

Reviewed by: _____ Date: 4/12/00

ENVIRONMENTAL PROTECTION AGENCY
REGION V
CENTRAL REGIONAL LABORATORY
FINAL RESULT REPORT FOR THE TEAM: METALS

DIVISION/BRANCH: SUPERFUND SAMPLING DATE: 3/15-16-00 LAB ARRIVAL DATE: 3/16/00 DUE DATE: 3/30/00
DU NUMBER: TFA DATASET NUMBER: 20000024 STUDY: Himco Landfill PRIORITY: Routine LABORATORY :ESAT

	CRL LOG NUMBER	SAMPLE DESCRIPTION	WATER Mercury (ug/l)		
13	2000SY01R12	54287 Westwood	0.2U		
14	2000SY01S13	54125 Westwood	0.2U		
15	2000SY01S14	E-3	0.2U		
DATE OF ANALYSIS		4-11-00	04/05/00		
ANALYST		M. Mattox	M. Mattox		

Reviewed by: _____ Date: 4/12/00

EPA CRL - REGION V
ICP FINAL RESULTS REPORT

REPORT PRODUCED ON: 29-Mar-00

SAMPLE ORGANIZATION: | SAMPLE BATCH ID: 20000024

LABORATORY: REGION 5 CRL | SAMPLE FACILITY: Himco Dump

SAMPLE: 2000SY01S06 | ANALYZED: 21-Mar-00

STATION: 27964 Westwood

COMPOUND	AMOUNT			(Units)
Aluminum	26	U		(ug/L)
Barium	113			(ug/L)
Beryllium	1.6	U	J	(ug/L)
Calcium	113000		J	(ug/L)
Chromium	3.4	U	J	(ug/L)
Cobalt	10.1	U		(ug/L)
Copper	11.9	M		(ug/L)
Iron	5860			(ug/L)
Magnesium	16100		J	(ug/L)
Manganese	73			(ug/L)
Nickel	19.4	U		(ug/L)
Potassium	2610			(ug/L)
Silver	6.8	U		(ug/L)
Sodium	13500			(ug/L)
Vanadium	3.9	U		(ug/L)
Zinc	19	M	J	(ug/L)

ANALYZED BY: 3-29-00

EDCK9

Lab Name: ENVIROSYSTEMS Contract: 68-D7-0005

Lab Code: ENVSYS Case No.: 27876 SAS No.: SDG No.: EDCJ8

Lab Sample ID: 00030908 Date Received: 03/17/00

Lab File ID: 030908 Date Analyzed: 03/22/00

Purge Volume: 25.00 (ml) Dilution Factor: 1.0

GC Column: RTX-502.2 ID: 0.530 (mm) Length: 105 (m)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
74-87-3	Chloromethane	1	U
74-83-9	Bromomethane	1	U
75-01-4	Vinyl chloride	1	U
75-00-3	Chloroethane	1	U
75-09-2	Methylene chloride	2	U
67-64-1	Acetone	5	U
75-15-0	Carbon disulfide	1	U
75-35-4	1,1-Dichloroethene	1	U
75-34-3	1,1-Dichloroethane	2	
156-59-2	cis-1,2-Dichloroethene	0.8	J
156-60-5	trans-1,2-Dichloroethene	1	U
67-66-3	Chloroform	1	U
107-06-2	1,2-Dichloroethane	1	U
78-93-3	2-Butanone	5	U
74-97-5	Bromochloromethane	1	U
71-55-6	1,1,1-Trichloroethane	1	U
56-23-5	Carbon tetrachloride	1	U
75-27-4	Bromodichloromethane	1	U
78-87-5	1,2-Dichloropropane	1	U
10061-01-5	cis-1,3-Dichloropropene	1	U
79-01-6	Trichloroethene	1	U
124-48-1	Dibromochloromethane	1	U
79-00-5	1,1,2-Trichloroethane	1	U
71-43-2	Benzene	1	U
10061-02-6	trans-1,3-Dichloropropene	1	U
75-25-2	Bromoform	1	U
108-10-1	4-Methyl-2-pentanone	5	U
591-78-6	2-Hexanone	5	U
127-18-4	Tetrachloroethene	1	U
79-34-5	1,1,2,2-Tetrachloroethane	1	U
106-93-4	1,2-Dibromoethane	1	U
108-88-3	Toluene	1	U
108-90-7	Chlorobenzene	1	U
100-41-4	Ethylbenzene	1	U
100-42-5	Styrene	1	U
1330-20-7	Xylenes (total)	1	U
541-73-1	1,3-Dichlorobenzene	1	U
106-46-7	1,4-Dichlorobenzene	1	U
95-50-1	1,2-Dichlorobenzene	1	U
96-12-8	1,2-Dibromo-3-chloropropane	1	U
120-82-1	1,2,4-Trichlorobenzene	1	U

TENTATIVELY IDENTIFIED COMPOUNDS

EDCJ8

Lab Name: ENVIROSYSTEMS Contract: 68-D7-0005

Lab Code: ENVSYS Case No: 27876 SAS No: SDG No: EDCJ8

Lab Sample ID: 00030908 Date Received: 03/17/00

Lab File ID: 030908 Date Analyzed: 03/22/00

Purge Volume: 25.00 (ml) Dilution Factor: 1.0

GC Column: RTX-502.2 ID: 0.530 (mm) Length: 105 (m)

Number TICs found: 2

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC. (ug/L)	Q
1.	75-43-4	METHANE, DICHLOROFLUORO	6.22	3	JN
2.		UNKNOWN	7.30	4	J

1LCB

LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EDCK5

Lab Name: ENVIROSYSTEMS Contract: 68-D7-0005

Lab Code: ENVSYS Case No.: 27876 SAS No.: SDG No.: EDCJ8

Lab Sample ID: 00030908 Date Received: 03/17/00

Lab File ID: S030908 Date Extracted: 03/23/00

Sample volume: 1000 (ml) Date Analyzed: 03/29/00

Concentrated Extract Volume: 1000 (ul) Dilution Factor: 1.0

Injection Volume: 1.0 (ul) pH: 6.0

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
108-95-2	Phenol	5	U
111-44-4	bis(2-Chloroethyl)Ether	5	U
95-57-8	2-Chlorophenol	5	U
95-48-7	2-Methylphenol	5	U
108-60-1	2,2'-oxybis(1-Chloropropane)	5	U
106-44-5	4-Methylphenol	5	U
621-64-7	N-Nitroso-Di-n-Propylamine	5	U
67-72-1	Hexachloroethane	5	U
98-95-3	Nitrobenzene	5	U
78-59-1	Isophorone	5	U
88-75-5	2-Nitrophenol	5	U
105-67-9	2,4-Dimethylphenol	5	U
111-91-1	bis(2-Chloroethoxy)Methane	5	U
120-83-2	2,4-Dichlorophenol	5	U
91-20-3	Naphthalene	5	U
106-47-8	4-Chloroaniline	5	U
87-68-3	Hexachlorobutadiene	5	U
59-50-7	4-Chloro-3-Methylphenol	5	U
91-57-6	2-Methylnaphthalene	5	U
77-47-4	Hexachlorocyclopentadiene	5	U
88-06-2	2,4,6-Trichlorophenol	5	U
95-95-4	2,4,5-Trichlorophenol	20	U
91-58-7	2-Chloronaphthalene	5	U
88-74-4	2-Nitroaniline	20	U
131-11-3	Dimethylphthalate	5	U
208-96-8	Acenaphthylene	5	U
606-20-2	2,6-Dinitrotoluene	5	U
99-09-2	3-Nitroaniline	20	U
83-32-9	Acenaphthene	5	U

1LCC

LOW CONC WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO

EDCK5

Lab Name: ENVIROSYSTEMS Contract: 68-D7-0005

Lab Code: ENVSYS Case No.: 27876 SAS No.: SDG No.: EDCJ8

Lab Sample ID: 00030908 Date Received: 03/17/00

Lab File ID: S030908 Date Extracted: 03/23/00

Sample volume: 1000 (ml) Date Analyzed: 03/29/00

Concentrated Extract Volume: 1000 (ul) Dilution Factor: 1.0

Injection Volume: 1.0 (ul) pH: 6.0

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
51-28-5	2,4-Dinitrophenol	20	U
100-02-7	4-Nitrophenol	20	U
132-64-9	Dibenzofuran	5	U
121-14-2	2,4-Dinitrotoluene	5	U
84-66-2	Diethylphthalate	5	U
7005-72-3	4-Chlorophenyl-phenylether	5	U
86-73-7	Fluorene	5	U
100-01-6	4-Nitroaniline	20	U
534-52-1	4,6-Dinitro-2-methylphenol	20	U
86-30-6	N-Nitrosodiphenylamine (1)	5	U
101-55-3	4-Bromophenyl-phenylether	5	U
118-74-1	Hexachlorobenzene	5	U
87-86-5	Pentachlorophenol	20	U
85-01-8	Phenanthrene	5	U
120-12-7	Anthracene	5	U
84-74-2	Di-n-Butylphthalate	5	U
206-44-0	Fluoranthene	5	U
129-00-0	Pyrene	5	U
85-68-7	Butylbenzylphthalate	5	U
91-94-1	3,3'-Dichlorobenzidine	5	U
56-55-3	Benzo(a)Anthracene	5	U
218-01-9	Chrysene	5	U
117-81-7	bis(2-Ethylhexyl)Phthalate	5	U
117-84-0	Di-n-octylphthalate	5	U
205-99-2	Benzo(b)Fluoranthene	5	U
207-08-9	Benzo(k)Fluoranthene	5	U
50-32-8	Benzo(a)Pyrene	5	U
193-39-5	Indeno(1,2,3-cd)Pyrene	5	U
53-70-3	Dibenz(a,h)Anthracene	5	U
191-24-2	Benzo(g,h,i)Perylene	5	U

(1) - Cannot be separated from Diphenylamine

011452

1LCF

LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

EDCK5

Lab Name: ENVIROSYSTEMS Contract: 68-D7-0005

Lab Code: ENVSYS Case No.: 27876 SAS No.: SDG No.: EDCJ8

Lab Sample ID: 00030908 Date Received: 03/17/00

Lab File ID: S030908 Date Extracted: 03/23/00

Sample volume: 1000 (ml) Date Analyzed: 03/29/00

Concentrated Extract Volume: 1000 (ul) Dilution Factor: 1.0

Injection Volume: 1.0 (ul) pH: 6.0

Number TICs found: 0

CAS NUMBER	COMPOUND NAME	RT	EST. CONC. (ug/L)	Q

EPA CRL - REGION V
ICP FINAL RESULTS REPORT

REPORT PRODUCED ON: 29-Mar-00

SAMPLE ORGANIZATION:

SAMPLE BATCH ID: 20000024

LABORATORY: REGION 5 CRL

SAMPLE FACILITY: Himco Dump

SAMPLE: 2000SY01S07

ANALYZED: 21-Mar-00

STATION: 27948 Westwood

COMPOUND	AMOUNT			(Units)
Aluminum	26	U		(ug/L)
Barium	102			(ug/L)
Beryllium	1.6	U	J	(ug/L)
Calcium	122000		J	(ug/L)
Chromium	3.5	M	J	(ug/L)
Cobalt	10.1	U		(ug/L)
Copper	4.1	M		(ug/L)
Iron	6120			(ug/L)
Magnesium	16000		J	(ug/L)
Manganese	72.3			(ug/L)
Nickel	19.4	U		(ug/L)
Potassium	2870			(ug/L)
Silver	6.8	U		(ug/L)
Sodium	33200			(ug/L)
Vanadium	3.9	U		(ug/L)
Zinc	30.1	M	J	(ug/L)

ANALYZED BY: 3-29-00

LOW CONC WATER VOLATILE ORGANICS ANALYSIS DATA SHEET

EDCK2

Lab Name: ENVIROSYSTEMS Contract: 68-D7-0005

Lab Code: ENVSYS Case No.: 27876 SAS No.: SDG No.: EDCJ8

Lab Sample ID: 00030905 Date Received: 03/17/00

Lab File ID: 030905 Date Analyzed: 03/22/00

Purge Volume: 25.00 (ml) Dilution Factor: 1.0

GC Column: RTX-502.2 ID: 0.530 (mm) Length: 105 (m)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
74-87-3	Chloromethane	1	U
74-83-9	Bromomethane	1	U
75-01-4	Vinyl chloride	0.7	J
75-00-3	Chloroethane	1	U
75-09-2	Methylene chloride	2	U
67-64-1	Acetone	5	U
75-15-0	Carbon disulfide	1	U
75-35-4	1,1-Dichloroethene	1	U
75-34-3	1,1-Dichloroethane	2	
156-59-2	cis-1,2-Dichloroethene	1	
156-60-5	trans-1,2-Dichloroethene	1	U
67-66-3	Chloroform	1	U
107-06-2	1,2-Dichloroethane	1	U
78-93-3	2-Butanone	5	U
74-97-5	Bromochloromethane	1	U
71-55-6	1,1,1-Trichloroethane	1	U
56-23-5	Carbon tetrachloride	1	U
75-27-4	Bromodichloromethane	1	U
78-87-5	1,2-Dichloropropane	1	U
10061-01-5	cis-1,3-Dichloropropene	1	U
79-01-6	Trichloroethene	1	U
124-48-1	Dibromochloromethane	1	U
79-00-5	1,1,2-Trichloroethane	1	U
71-43-2	Benzene	1	U
10061-02-6	trans-1,3-Dichloropropene	1	U
75-25-2	Bromoform	1	U
108-10-1	4-Methyl-2-pentanone	5	U
591-78-6	2-Hexanone	5	U
127-18-4	Tetrachloroethene	1	U
79-34-5	1,1,2,2-Tetrachloroethane	1	U
106-93-4	1,2-Dibromoethane	1	U
108-88-3	Toluene	1	U
108-90-7	Chlorobenzene	1	U
100-41-4	Ethylbenzene	1	U
100-42-5	Styrene	1	U
1330-20-7	Xylenes (total)	1	U
541-73-1	1,3-Dichlorobenzene	1	U
106-46-7	1,4-Dichlorobenzene	1	U
95-50-1	1,2-Dichlorobenzene	1	U
96-12-8	1,2-Dibromo-3-chloropropane	1	U
120-82-1	1,2,4-Trichlorobenzene	1	U

EDCWA

Lab Name: ENVIROSYSTEMS Contract: 68-D7-0035

Lab Code: ENVSYS Case No: 27875 SAS No: SDG No: EDCJ8

Lab Sample ID: 00030905 Date Received: 03/17/00

Lab File ID: 030905 Date Analyzed: 03/22/00

Purge Volume: 25.00 (ml) Dilution Factor: 1.0

GC Column: RTX-502.2 ID: 0.530 (mm) Length: 105 (m)

Number TICs found: 2

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC. (ug/L)	Q
1.	75-43-4	METHANE, DICHLOROFLUORO-	6.20	3	JN
2.		UNKNOWN	7.27	4	J

1L03

LOW CONC WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EDCK2

Lab Name: ENVIROSYSTEMS Contract: 68-D7-0005

Lab Code: ENVSYS Case No.: 27876 SAS No.: SDG No.: EDCJ8

Lab Sample ID: 00030905 Date Received: 03/17/00

Lab File ID: S030905 Date Extracted: 03/22/00

Sample volume: 1000 (ml) Date Analyzed: 03/28/00

Concentrated Extract Volume: 1000 (ul) Dilution Factor: 1.0

Injection Volume: 1.0 (ul) pH: 7.0

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
108-95-2	Phenol	5	U
111-44-4	bis(2-Chloroethyl)Ether	5	U
95-57-8	2-Chlorophenol	5	U
95-48-7	2-Methylphenol	5	U
108-60-1	2,2'-oxybis(1-Chloropropane)	5	U
106-44-5	4-Methylphenol	5	U
621-64-7	N-Nitroso-Di-n-Propylamine	5	U
67-72-1	Hexachloroethane	5	U
98-95-3	Nitrobenzene	5	U
78-59-1	Isophorone	5	U
88-75-5	2-Nitrophenol	5	U
105-67-9	2,4-Dimethylphenol	5	U
111-91-1	bis(2-Chloroethoxy)Methane	5	U
120-83-2	2,4-Dichlorophenol	5	U
91-20-3	Naphthalene	5	U
106-47-8	4-Chloroaniline	5	U
87-68-3	Hexachlorobutadiene	5	U
59-50-7	4-Chloro-3-Methylphenol	5	U
91-57-6	2-Methylnaphthalene	5	U
77-47-4	Hexachlorocyclopentadiene	5	U
88-06-2	2,4,6-Trichlorophenol	5	U
95-95-4	2,4,5-Trichlorophenol	20	U
91-58-7	2-Chloronaphthalene	5	U
88-74-4	2-Nitroaniline	20	U
131-11-3	Dimethylphthalate	5	U
208-96-8	Acenaphthylene	5	U
606-20-2	2,6-Dinitrotoluene	5	U
99-09-2	3-Nitroaniline	20	U
83-32-9	Acenaphthene	5	U

1LCC

LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO

EDCK2

Lab Name: ENVIROSYSTEMS Contract: 68-D7-0005

Lab Code: ENVSYS Case No.: 27876 SAS No.: SDG No.: EDCJ8

Lab Sample ID: 00030905 Date Received: 03/17/00

Lab File ID: S030905 Date Extracted: 03/22/00

Sample volume: 1000 (ml) Date Analyzed: 03/28/00

Concentrated Extract Volume: 1000 (ul) Dilution Factor: 1.0

Injection Volume: 1.0 (ul) pH: 7.0

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
51-28-5	2,4-Dinitrophenol	20	U
100-02-7	4-Nitrophenol	20	U
132-64-9	Dibenzofuran	5	U
121-14-2	2,4-Dinitrotoluene	5	U
84-66-2	Diethylphthalate	5	U
7005-72-3	4-Chlorophenyl-phenylether	5	U
86-73-7	Fluorene	5	U
100-01-6	4-Nitroaniline	20	U
534-52-1	4,6-Dinitro-2-methylphenol	20	U
86-30-6	N-Nitrosodiphenylamine (1)	5	U
101-55-3	4-Bromophenyl-phenylether	5	U
118-74-1	Hexachlorobenzene	5	U
87-86-5	Pentachlorophenol	20	U
85-01-8	Phenanthrene	5	U
120-12-7	Anthracene	5	U
84-74-2	Di-n-Butylphthalate	5	U
206-44-0	Fluoranthene	5	U
129-00-0	Pyrene	5	U
85-68-7	Butylbenzylphthalate	5	U
91-94-1	3,3'-Dichlorobenzidine	5	U
56-55-3	Benzo(a)Anthracene	5	U
218-01-9	Chrysene	5	U
117-81-7	bis(2-Ethylhexyl)Phthalate	5	U
117-84-0	Di-n-octylphthalate	5	U
205-99-2	Benzo(b)Fluoranthene	5	U
207-08-9	Benzo(k)Fluoranthene	5	U
50-32-8	Benzo(a)Pyrene	5	U
193-39-5	Indeno(1,2,3-cd)Pyrene	5	U
53-70-3	Dibenz(a,h)Anthracene	5	U
191-24-2	Benzo(g,h,i)Perylene	5	U

(1) - Cannot be separated from Diphenylamine

LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

EDCK2

Lab Name: ENVIROSYSTEMS Contract: 68-D7-0005

Lab Code: ENVSYS Case No.: 27876 SAS No.: SDG No.: EDCJ8

Lab Sample ID: 00030905 Date Received: 03/17/00

Lab File ID: S030905 Date Extracted: 03/22/00

Sample volume: 1000 (ml) Date Analyzed: 03/28/00

Concentrated Extract Volume: 1000 (ul) Dilution Factor: 1.0

Injection Volume: 1.0 (ul) pH: 7.0

Number TICs found: 0

CAS NUMBER	COMPOUND NAME	RT	EST. CONC. (ug/L)	Q

EPA CRL - REGION V
ICP FINAL RESULTS REPORT

REPORT PRODUCED ON: 22-Mar-00

SAMPLE ORGANIZATION:

SAMPLE BATCH ID: 20000024

LABORATORY: REGION 5 CRL

SAMPLE FACILITY: Himco Dump

SAMPLE: 2000SY01S10

ANALYZED: 21-Mar-00

STATION: 54231 Westwood

COMPOUND	AMOUNT			(Units)
Aluminum	26	U		(ug/L)
Barium	43.5			(ug/L)
Beryllium	1.6	U	J	(ug/L)
Calcium	115000		J	(ug/L)
Chromium	3.4	U	J	(ug/L)
Cobalt	14	M	J	(ug/L)
Copper	6.1	M		(ug/L)
Iron	25.3	M	B J	(ug/L)
Magnesium	20800			(ug/L)
Manganese	3.2	U		(ug/L)
Nickel	19.4	U		(ug/L)
Potassium	4300			(ug/L)
Silver	6.8	U		(ug/L)
Sodium	82500			(ug/L)
Vanadium	3.9	U		(ug/L)
Zinc	160		J	(ug/L)

ANALYZED BY: _____ 3-22-00

EPA CRL - REGION V
ICP FINAL RESULTS REPORT

REPORT PRODUCED ON: 22-Mar-00

SAMPLE ORGANIZATION:

SAMPLE BATCH ID: 20000024

LABORATORY: REGION 5 CRL

SAMPLE FACILITY: Himco Dump

SAMPLE: 2000SY01S05

ANALYZED: 21-Mar-00

STATION: 54215 Westwood

COMPOUND	AMOUNT		(Units)
Aluminum	26 U		(ug/L)
Barium	32.8		(ug/L)
Beryllium	1.6 U	J	(ug/L)
Calcium	91800	J	(ug/L)
Chromium	3.4 U	J	(ug/L)
Cobalt	10.1 U		(ug/L)
Copper	14.2 M		(ug/L)
Iron	22.4 U		(ug/L)
Magnesium	19800	J	(ug/L)
Manganese	3.2 U		(ug/L)
Nickel	21.4 M		(ug/L)
Potassium	4650		(ug/L)
Silver	6.8 U		(ug/L)
Sodium	126000		(ug/L)
Vanadium	3.9 U		(ug/L)
Zinc	96.5	J	(ug/L)

ANALYZED BY: [signature] 3-22-00

EPA

LOW CONC WATER VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EDCK6

Lab Name: ENVIROSYSTEMS Contract: 68-D7-0005

Lab Code: ENVSYS Case No.: 27876 SAS No.: SDG No.: EDCJ8

Lab Sample ID: 00030909 Date Received: 03/17/00

Lab File ID: 030909 Date Analyzed: 03/22/00

Purge Volume: 25.00 (ml) Dilution Factor: 1.0

GC Column: RTX-502.2 ID: 0.530 (mm) Length: 105 (m)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
74-87-3	Chloromethane	1	U
74-83-9	Bromomethane	1	U
75-01-4	Vinyl chloride	1	U
75-00-3	Chloroethane	1	U
75-09-2	Methylene chloride	2	U
67-64-1	Acetone	5	U
75-15-0	Carbon disulfide	1	U
75-35-4	1,1-Dichloroethene	1	U
75-34-3	1,1-Dichloroethane	1	U
156-59-2	cis-1,2-Dichloroethene	1	U
156-60-5	trans-1,2-Dichloroethene	1	U
67-66-3	Chloroform	1	U
107-06-2	1,2-Dichloroethane	1	U
78-93-3	2-Butanone	5	U
74-97-5	Bromochloromethane	1	U
71-55-6	1,1,1-Trichloroethane	1	U
56-23-5	Carbon tetrachloride	1	U
75-27-4	Bromodichloromethane	1	U
78-87-5	1,2-Dichloropropane	1	U
10061-01-5	cis-1,3-Dichloropropene	1	U
79-01-6	Trichloroethene	1	U
124-48-1	Dibromochloromethane	1	U
79-00-5	1,1,2-Trichloroethane	1	U
71-43-2	Benzene	1	U
10061-02-6	trans-1,3-Dichloropropene	1	U
75-25-2	Bromoform	1	U
108-10-1	4-Methyl-2-pentanone	5	U
591-78-6	2-Hexanone	5	U
127-18-4	Tetrachloroethene	1	U
79-34-5	1,1,2,2-Tetrachloroethane	1	U
106-93-4	1,2-Dibromoethane	1	U
108-88-3	Toluene	1	U
108-90-7	Chlorobenzene	1	U
100-41-4	Ethylbenzene	1	U
100-42-5	Styrene	1	U
1330-20-7	Xylenes (total)	1	U
541-73-1	1,3-Dichlorobenzene	1	U
106-46-7	1,4-Dichlorobenzene	1	U
95-50-1	1,2-Dichlorobenzene	1	U
96-12-8	1,2-Dibromo-3-chloropropane	1	U
120-82-1	1,2,4-Trichlorobenzene	1	U

TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: ENVIROSYSTEMS EDDs

Lab Code: ENVSYS Case No: 27876 SAS No: SDG No: EDCJ8

Lab Sample ID: 00030909 Date Received: 03/17/00

Lab File ID: 030909 Date Analyzed: 03/22/00

Purge Volume: 25.00 (ml) Dilution Factor: 1.0

GC Column: RTX-502.2 ID: 0.530 (mm) Length: 105 (m)

Number TICs found: 0

CAS NUMBER	COMPOUND NAME	RT	EST. CONC. (ug/L)	Q

LOW CONC WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EDCK6

Lab Name: ENVIROSYSTEMS Contract: 68-D7-0005

Lab Code: ENVSYS Case No.: 27876 SAS No.: SDG No.: EDCJ8

Lab Sample ID: 00030909 **Date Received:** 03/17/00

Lab File ID: S030909 **Date Extracted:** 03/23/00

Sample volume: 1000 (ml) Date Analyzed: 03/29/00

Concentrated Extract Volume: 1000 (ul) Dilution Factor: 1.0

Injection Volume: 1.0 (ul) pH: 6.0

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
108-95-2	Phenol	5	U
111-44-4	bis(2-Chloroethyl)Ether	5	U
95-57-8	2-Chlorophenol	5	U
95-48-7	2-Methylphenol	5	U
108-60-1	2,2'-oxybis(1-Chloropropane)	5	U
106-44-5	4-Methylphenol	5	U
621-64-7	N-Nitroso-Di-n-Propylamine	5	U
67-72-1	Hexachloroethane	5	U
98-95-3	Nitrobenzene	5	U
78-59-1	Isophorone	5	U
88-75-5	2-Nitrophenol	5	U
105-67-9	2,4-Dimethylphenol	5	U
111-91-1	bis(2-Chloroethoxy)Methane	5	U
120-83-2	2,4-Dichlorophenol	5	U
91-20-3	Naphthalene	5	U
106-47-8	4-Chloroaniline	5	U
87-68-3	Hexachlorobutadiene	5	U
59-50-7	4-Chloro-3-Methylphenol	5	U
91-57-6	2-Methylnaphthalene	5	U
77-47-4	Hexachlorocyclopentadiene	5	U
88-06-2	2,4,6-Trichlorophenol	5	U
95-95-4	2,4,5-Trichlorophenol	20	U
91-58-7	2-Chloronaphthalene	5	U
88-74-4	2-Nitroaniline	20	U
131-11-3	Dimethylphthalate	5	U
208-96-8	Acenaphthylene	5	U
606-20-2	2,6-Dinitrotoluene	5	U
99-09-2	3-Nitroaniline	20	U
83-32-9	Acenaphthene	5	U

1LCC

LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO

EDCK6

Lab Name: ENVIROSYSTEMS Contract: 68-D7-0005

Lab Code: ENVSYS Case No.: 27876 SAS No.: SDG No.: EDCJ8

Lab Sample ID: 00030909 Date Received: 03/17/00

Lab File ID: S030909 Date Extracted: 03/23/00

Sample volume: 1000 (ml) Date Analyzed: 03/29/00

Concentrated Extract Volume: 1000 (ul) Dilution Factor: 1.0

Injection Volume: 1.0 (ul) pH: 6.0

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
51-28-5	2,4-Dinitrophenol	20	U
100-02-7	4-Nitrophenol	20	U
132-64-9	Dibenzofuran	5	U
121-14-2	2,4-Dinitrotoluene	5	U
84-66-2	Diethylphthalate	5	U
7005-72-3	4-Chlorophenyl-phenylether	5	U
86-73-7	Fluorene	5	U
100-01-6	4-Nitroaniline	20	U
534-52-1	4,6-Dinitro-2-methylphenol	20	U
86-30-6	N-Nitrosodiphenylamine (1)	5	U
101-55-3	4-Bromophenyl-phenylether	5	U
118-74-1	Hexachlorobenzene	5	U
87-86-5	Pentachlorophenol	20	U
85-01-8	Phenanthrene	5	U
120-12-7	Anthracene	5	U
84-74-2	Di-n-Butylphthalate	5	U
206-44-0	Fluoranthene	5	U
129-00-0	Pyrene	5	U
85-68-7	Butylbenzylphthalate	5	U
91-94-1	3,3'-Dichlorobenzidine	5	U
56-55-3	Benzo(a)Anthracene	5	U
218-01-9	Chrysene	5	U
117-81-7	bis(2-Ethylhexyl)Phthalate	5	U
117-84-0	Di-n-octylphthalate	5	U
205-99-2	Benzo(b)Fluoranthene	5	U
207-08-9	Benzo(k)Fluoranthene	5	U
50-32-8	Benzo(a)Pyrene	5	U
193-39-5	Indeno(1,2,3-cd)Pyrene	5	U
53-70-3	Dibenz(a,h)Anthracene	5	U
191-24-2	Benzo(g,h,i)Perylene	5	U

(1) - Cannot be separated from Diphenylamine

1LCF

LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO
EDCK6

Lab Name: ENVIROSYSTEMS Contract: 68-D7-0005

Lab Code: ENVSYS Case No.: 27876 SAS No.: SDG No.: EDCJ8

Lab Sample ID: 00030909 Date Received: 03/17/00

Lab File ID: S030909 Date Extracted: 03/23/00

Sample volume: 1000 (ml) Date Analyzed: 03/29/00

Concentrated Extract Volume: 1000 (ul) Dilution Factor: 1.0

Injection Volume: 1.0 (ul) pH: 6.0

Number TICs found: 0

CAS NUMBER	COMPOUND NAME	RT	EST. CONC. (ug/L)	Q

EPA CRL - REGION V
ICP FINAL RESULTS REPORT

REPORT PRODUCED ON: 22-Mar-00

SAMPLE ORGANIZATION:

SAMPLE BATCH ID: 20000024

LABORATORY: REGION 5 CRL

SAMPLE FACILITY: Himco Dump

SAMPLE: 2000SY01S04

ANALYZED: 21-Mar-00

STATION: 54271 Westwood

COMPOUND	AMOUNT			(Units)
Aluminum	26	U		(ug/L)
Barium	50.4			(ug/L)
Beryllium	1.6	U	J	(ug/L)
Calcium	101000		J	(ug/L)
Chromium	3.4	U	J	(ug/L)
Cobalt	10.1	U		(ug/L)
Copper	7.3	M		(ug/L)
Iron	104		B J	(ug/L)
Magnesium	21700			(ug/L)
Manganese	359			(ug/L)
Nickel	19.4	U		(ug/L)
Potassium	1790			(ug/L)
Silver	6.8	U		(ug/L)
Sodium	22600			(ug/L)
Vanadium	3.9	U		(ug/L)
Zinc	17.4	M	J	(ug/L)

ANALYZED BY: 3-22-00

EDCJ8

Lab Name: ENVIROSYSTEMS Contract: 68-D7-0039

Lab Code: ENVSYS Case No: 27876 SAS No: SDG No: EDCJ8

Lab Sample ID: 00030903 Date Received: 03/17/00

Lab File ID: 030903 Date Analyzed: 03/22/00

Purge Volume: 25.00 (ml) Dilution Factor: 1.0

GC Column: RTX-502.2 ID: 0.530 (mm) Length: 105 (m)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
74-87-3	Chloromethane	1	U
74-83-9	Bromomethane	1	U
75-01-4	Vinyl chloride	1	U
75-00-3	Chloroethane	1	U
75-09-2	Methylene chloride	2	U
67-64-1	Acetone	5	U
75-15-0	Carbon disulfide	1	U
75-35-4	1,1-Dichloroethene	1	U
75-34-3	1,1-Dichloroethane	0.6	J
156-59-2	cis-1,2-Dichloroethene	1	U
156-60-5	trans-1,2-Dichloroethene	1	U
67-66-3	Chloroform	1	U
107-06-2	1,2-Dichloroethane	1	U
78-93-3	2-Butanone	5	U
74-97-5	Bromochloromethane	1	U
71-55-6	1,1,1-Trichloroethane	1	U
56-23-5	Carbon tetrachloride	1	U
75-27-4	Bromodichloromethane	1	U
78-87-5	1,2-Dichloropropane	1	U
10061-01-5	cis-1,3-Dichloropropene	1	U
79-01-6	Trichloroethene	1	U
124-48-1	Dibromochloromethane	1	U
79-00-5	1,1,2-Trichloroethane	1	U
71-43-2	Benzene	1	U
10061-02-6	trans-1,3-Dichloropropene	1	U
75-25-2	Bromoform	1	U
108-10-1	4-Methyl-2-pentanone	5	U
591-78-6	2-Hexanone	5	U
127-18-4	Tetrachloroethene	1	U
79-34-5	1,1,2,2-Tetrachloroethane	1	U
106-93-4	1,2-Dibromoethane	1	U
108-88-3	Toluene	1	U
108-90-7	Chlorobenzene	1	U
100-41-4	Ethylbenzene	1	U
100-42-5	Styrene	1	U
1330-20-7	Xylenes (total)	1	U
541-73-1	1,3-Dichlorobenzene	1	U
106-46-7	1,4-Dichlorobenzene	1	U
95-50-1	1,2-Dichlorobenzene	1	U
96-12-8	1,2-Dibromo-3-chloropropane	1	U
120-82-1	1,2,4-Trichlorobenzene	1	U

1LCB

LOW CONC WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO

EDCK0

Lab Name: ENVIROSYSTEMS Contract: 68-D7-0005

Lab Code: ENVSYS Case No.: 27876 SAS No.: SDG No.: EDCJ8

Lab Sample ID: 00030903 Date Received: 03/17/00

Lab File ID: S030903 Date Extracted: 03/22/00

Sample volume: 1000 (ml) Date Analyzed: 03/28/00

Concentrated Extract Volume: 1000 (ul) Dilution Factor: 1.0

Injection Volume: 1.0 (ul) pH: 7.0

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
108-95-2	Phenol	5	U
111-44-4	bis(2-Chloroethyl)Ether	5	U
95-57-8	2-Chlorophenol	5	U
95-48-7	2-Methylphenol	5	U
108-60-1	2,2'-oxybis(1-Chloropropane)	5	U
106-44-5	4-Methylphenol	5	U
621-64-7	N-Nitroso-Di-n-Propylamine	5	U
67-72-1	Hexachloroethane	5	U
98-95-3	Nitrobenzene	5	U
78-59-1	Isophorone	5	U
88-75-5	2-Nitrophenol	5	U
105-67-9	2,4-Dimethylphenol	5	U
111-91-1	bis(2-Chloroethoxy)Methane	5	U
120-83-2	2,4-Dichlorophenol	5	U
91-20-3	Naphthalene	5	U
106-47-8	4-Chloroaniline	5	U
87-68-3	Hexachlorobutadiene	5	U
59-50-7	4-Chloro-3-Methylphenol	5	U
91-57-6	2-Methylnaphthalene	5	U
77-47-4	Hexachlorocyclopentadiene	5	U
88-06-2	2,4,6-Trichlorophenol	5	U
95-95-4	2,4,5-Trichlorophenol	20	U
91-58-7	2-Chloronaphthalene	5	U
88-74-4	2-Nitroaniline	20	U
131-11-3	Dimethylphthalate	5	U
208-96-8	Acenaphthylene	5	U
606-20-2	2,6-Dinitrotoluene	5	U
99-09-2	3-Nitroaniline	20	U
83-32-9	Acenaphthene	5	U

1LCC

LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EDCKO

Lab Name: ENVIROSYSTEMS Contract: 68-D7-0005

Lab Code: ENVSYS Case No.: 27876 SAS No.: SDG No.: EDCJ8

Lab Sample ID: 00030903 Date Received: 03/17/00

Lab File ID: S030903 Date Extracted: 03/22/00

Sample volume: 1000 (ml) Date Analyzed: 03/28/00

Concentrated Extract Volume: 1000 (ul) Dilution Factor: 1.0

Injection Volume: 1.0 (ul) pH: 7.0

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
51-28-5	2,4-Dinitrophenol	20	U
100-02-7	4-Nitrophenol	20	U
132-64-9	Dibenzofuran	5	U
121-14-2	2,4-Dinitrotoluene	5	U
84-66-2	Diethylphthalate	5	U
7005-72-3	4-Chlorophenyl-phenylether	5	U
86-73-7	Fluorene	5	U
100-01-6	4-Nitroaniline	20	U
534-52-1	4,6-Dinitro-2-methylphenol	20	U
86-30-6	N-Nitrosodiphenylamine (1)	5	U
101-55-3	4-Bromophenyl-phenylether	5	U
118-74-1	Hexachlorobenzene	5	U
87-86-5	Pentachlorophenol	20	U
85-01-8	Phenanthrene	5	U
120-12-7	Anthracene	5	U
84-74-2	Di-n-Butylphthalate	5	U
206-44-0	Fluoranthene	5	U
129-00-0	Pyrene	5	U
85-68-7	Butylbenzylphthalate	5	U
91-94-1	3,3'-Dichlorobenzidine	5	U
56-55-3	Benzo(a)Anthracene	5	U
218-01-9	Chrysene	5	U
117-81-7	bis(2-Ethylhexyl)Phthalate	5	U
117-84-0	Di-n-octylphthalate	5	U
205-99-2	Benzo(b)Fluoranthene	5	U
207-08-9	Benzo(k)Fluoranthene	5	U
50-32-8	Benzo(a)Pyrene	5	U
193-39-5	Indeno(1,2,3-cd)Pyrene	5	U
53-70-3	Dibenz(a,h)Anthracene	5	U
191-24-2	Benzo(g,h,i)Perylene	5	U

(1) - Cannot be separated from Diphenylamine

1LCF

LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO

EDCK0

Lab Name: ENVIROSYSTEMS Contract: 68-D7-0005

Lab Code: ENVSYS Case No.: 27876 SAS No.: SDG No.: EDCJ8

Lab Sample ID: 00030903 Date Received: 03/17/00

Lab File ID: S030903 Date Extracted: 03/22/00

Sample volume: 1000 (ml) Date Analyzed: 03/28/00

Concentrated Extract Volume: 1000 (ul) Dilution Factor: 1.0

Injection Volume: 1.0 (ul) pH: 7.0

Number TICs found: 0

CAS NUMBER	COMPOUND NAME	RT	EST. CONC. (ug/L)	Q

EPA CRL - REGION V
ICP FINAL RESULTS REPORT

REPORT PRODUCED ON: 22-Mar-00

SAMPLE ORGANIZATION:

SAMPLE BATCH ID: 20000024

LABORATORY: REGION 5 CRL

SAMPLE FACILITY: Himco Dump

SAMPLE: 2000SY01S03

ANALYZED: 21-Mar-00

STATION: 54253 Westwood

COMPOUND	AMOUNT			(Units)
Aluminum	26	U		(ug/L)
Barium	128			(ug/L)
Beryllium	1.6	U	J	(ug/L)
Calcium	91500		J	(ug/L)
Chromium	3.4	U	J	(ug/L)
Cobalt	10.1	U		(ug/L)
Copper	7.3	M		(ug/L)
Iron	1670			(ug/L)
Magnesium	26500			(ug/L)
Manganese	213			(ug/L)
Nickel	19.4	U		(ug/L)
Potassium	1330			(ug/L)
Silver	6.8	U		(ug/L)
Sodium	14500			(ug/L)
Vanadium	3.9	U		(ug/L)
Zinc	44.3	M	J	(ug/L)

ANALYZED BY: _____ 3-22-00

LOW/MED WATER VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EDCJ1

Lab Name: ENVIROSYSTEMS Contract: 68-D7-0005

Lab Code: ENVSYS Case No.: 27876 SAS No.: SDG No.: EDCJ8

Lab Sample ID: 00030904 Date Received: 03/17/00

Lab File ID: 030904 Date Analyzed: 03/22/00

Purge Volume: 25.00 (ml) Dilution Factor: 1.0

GC Column: RTX-502.2 ID: 0.530 (mm) Length: 105 (m)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
74-87-3	Chloromethane	1	U
74-83-9	Bromomethane	1	U
75-01-4	Vinyl chloride	1	U
75-00-3	Chloroethane	1	U
75-09-2	Methylene chloride	2	U
67-64-1	Acetone	5	U
75-15-0	Carbon disulfide	1	U
75-35-4	1,1-Dichloroethene	1	U
75-34-3	1,1-Dichloroethane	1	U
156-59-2	cis-1,2-Dichloroethene	1	U
156-60-5	trans-1,2-Dichloroethene	1	U
67-66-3	Chloroform	1	U
107-06-2	1,2-Dichloroethane	0.6	J
78-93-3	2-Butanone	5	U
74-97-5	Bromochloromethane	1	U
71-55-6	1,1,1-Trichloroethane	1	U
56-23-5	Carbon tetrachloride	1	U
75-27-4	Bromodichloromethane	1	U
78-87-5	1,2-Dichloropropane	1	U
10061-01-5	cis-1,3-Dichloropropene	1	U
79-01-6	Trichloroethene	1	U
124-48-1	Dibromochloromethane	1	U
79-00-5	1,1,2-Trichloroethane	1	U
71-43-2	Benzene	1	U
10061-02-6	trans-1,3-Dichloropropene	1	U
75-25-2	Bromoform	1	U
108-10-1	4-Methyl-2-pentanone	5	U
591-78-6	2-Hexanone	5	U
127-18-4	Tetrachloroethene	1	U
79-34-5	1,1,2,2-Tetrachloroethane	1	U
106-93-4	1,2-Dibromoethane	1	U
108-88-3	Toluene	1	U
108-90-7	Chlorobenzene	1	U
100-41-4	Ethylbenzene	1	U
100-42-5	Styrene	1	U
1330-20-7	Xylenes (total)	1	U
541-73-1	1,3-Dichlorobenzene	1	U
106-46-7	1,4-Dichlorobenzene	1	U
95-50-1	1,2-Dichlorobenzene	1	U
96-12-8	1,2-Dibromo-3-chloropropane	1	U
120-82-1	1,2,4-Trichlorobenzene	1	U

EDCK1

Lab Name: ENVIROSYSTEMS Contract:

Lab Code: ENVSYS Case No.: 27876 SAS No.: SDG No.: EDCJ8

Lab Sample ID: 00030904 Date Received: 03/17/00

Lab File ID: 030904 Date Analyzed: 03/22/00

Purge Volume: 25.00 (ml) Dilution Factor: 1.0

GC Column: RTX-502.2 ID: 0.530 (mm) Length: 105 (m)

Number TICs found: 0

CAS NUMBER	COMPOUND NAME	RT	EST. CONC. (ug/L)	Q

LOW CONC WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO

EDCK1

Lab Name: ENVIROSYSTEMS Contract: 68-D7-0005

Lab Code: ENVSYS Case No.: 27876 SAS No.: SDG No.: EDCJ8

Lab Sample ID: 00030904 Date Received: 03/17/00

Lab File ID: S030904 Date Extracted: 03/22/00

Sample volume: 1000 (ml) Date Analyzed: 03/28/00

Concentrated Extract Volume: 1000 (ul) Dilution Factor: 1.0

Injection Volume: 1.0 (ul) pH: 6.0

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
108-95-2	Phenol	5	U
111-44-4	bis(2-Chloroethyl)Ether	5	U
95-57-8	2-Chlorophenol	5	U
95-48-7	2-Methylphenol	5	U
108-60-1	2,2'-oxybis(1-Chloropropane)	5	U
106-44-5	4-Methylphenol	5	U
621-64-7	N-Nitroso-Di-n-Propylamine	5	U
67-72-1	Hexachloroethane	5	U
98-95-3	Nitrobenzene	5	U
78-59-1	Isophorone	5	U
88-75-5	2-Nitrophenol	5	U
105-67-9	2,4-Dimethylphenol	5	U
111-91-1	bis(2-Chloroethoxy)Methane	5	U
120-83-2	2,4-Dichlorophenol	5	U
91-20-3	Naphthalene	5	U
106-47-8	4-Chloroaniline	5	U
87-68-3	Hexachlorobutadiene	5	U
59-50-7	4-Chloro-3-Methylphenol	5	U
91-57-6	2-Methylnaphthalene	5	U
77-47-4	Hexachlorocyclopentadiene	5	U
88-06-2	2,4,6-Trichlorophenol	5	U
95-95-4	2,4,5-Trichlorophenol	20	U
91-58-7	2-Chloronaphthalene	5	U
88-74-4	2-Nitroaniline	20	U
131-11-3	Dimethylphthalate	5	U
208-96-8	Acenaphthylene	5	U
606-20-2	2,6-Dinitrotoluene	5	U
99-09-2	3-Nitroaniline	20	U
83-32-9	Acenaphthene	5	U

1LCC

LOW CONC WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO

EDCK1

Lab Name: ENVIROSYSTEMS Contract: 68-D7-0005

Lab Code: ENVSYS Case No.: 27876 SAS No.: SDG No.: EDCJ8

Lab Sample ID: 00030904 Date Received: 03/17/00

Lab File ID: S030904 Date Extracted: 03/22/00

Sample volume: 1000 (ml) Date Analyzed: 03/28/00

Concentrated Extract Volume: 1000 (ul) Dilution Factor: 1.0

Injection Volume: 1.0 (ul) pH: 6.0

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
51-28-5	2,4-Dinitrophenol	20	U
100-02-7	4-Nitrophenol	20	U
132-64-9	Dibenzofuran	5	U
121-14-2	2,4-Dinitrotoluene	5	U
84-66-2	Diethylphthalate	5	U
7005-72-3	4-Chlorophenyl-phenylether	5	U
86-73-7	Fluorene	5	U
100-01-6	4-Nitroaniline	20	U
534-52-1	4,6-Dinitro-2-methylphenol	20	U
86-30-6	N-Nitrosodiphenylamine (1)	5	U
101-55-3	4-Bromophenyl-phenylether	5	U
118-74-1	Hexachlorobenzene	5	U
87-86-5	Pentachlorophenol	20	U
85-01-8	Phenanthrene	5	U
120-12-7	Anthracene	5	U
84-74-2	Di-n-Butylphthalate	5	U
206-44-0	Fluoranthene	5	U
129-00-0	Pyrene	5	U
85-68-7	Butylbenzylphthalate	5	U
91-94-1	3,3'-Dichlorobenzidine	5	U
56-55-3	Benzo(a)Anthracene	5	U
218-01-9	Chrysene	5	U
117-81-7	bis(2-Ethylhexyl)Phthalate	5	U
117-84-0	Di-n-octylphthalate	5	U
205-99-2	Benzo(b)Fluoranthene	5	U
207-08-9	Benzo(k)Fluoranthene	5	U
50-32-8	Benzo(a)Pyrene	5	U
193-39-5	Indeno(1,2,3-cd)Pyrene	5	U
53-70-3	Dibenz(a,h)Anthracene	5	U
191-24-2	Benzo(g,h,i)Perylene	5	U

(1) - Cannot be separated from Diphenylamine

020400

EPA CRL - REGION V
ICP FINAL RESULTS REPORT

REPORT PRODUCED ON: 22-Mar-00

SAMPLE ORGANIZATION:

SAMPLE BATCH ID: 20000024

LABORATORY: REGION 5 CRL

SAMPLE FACILITY: Himco Dump

SAMPLE: 2000SY01S13

ANALYZED: 21-Mar-00

STATION: 54125 Westwood

COMPOUND	AMOUNT			(Units)
Aluminum	26	U		(ug/L)
Barium	108			(ug/L)
Beryllium	1.6	U	J	(ug/L)
Calcium	100000		J	(ug/L)
Chromium	3.6	M	J	(ug/L)
Cobalt	10.1	U		(ug/L)
Copper	5.8	M		(ug/L)
Iron	885			(ug/L)
Magnesium	21500			(ug/L)
Manganese	284			(ug/L)
Nickel	19.4	U		(ug/L)
Potassium	1790			(ug/L)
Silver	6.8	U		(ug/L)
Sodium	17600			(ug/L)
Vanadium	3.9	U		(ug/L)
Zinc	10.3	U		(ug/L)

ANALYZED BY: _____ 3-22-00

ILCA

LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EDCJ4

Lab Name: ENVIROSYSTEMS Contract: 68-D7-0005

Lab Code: ENVSYS Case No.: 27876 SAS No.: SDG No.: EDCJ8

Lab Sample ID: 00030920 Date Received: 03/18/00

Lab File ID: 030920 Date Analyzed: 03/22/00

Purge Volume: 25.00 (ml) Dilution Factor: 1.0

GC Column: RTX-502.2 ID: 0.530 (mm) Length: 105 (m)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
74-87-3	Chloromethane	1	U
74-83-9	Bromomethane	1	U
75-01-4	Vinyl chloride	1	U
75-00-3	Chloroethane	1	U
75-09-2	Methylene chloride	2	U
67-64-1	Acetone	5	U
75-15-0	Carbon disulfide	1	U
75-35-4	1,1-Dichloroethene	1	U
75-34-3	1,1-Dichloroethane	1	U
156-59-2	cis-1,2-Dichloroethene	1	U
156-60-5	trans-1,2-Dichloroethene	1	U
67-66-3	Chloroform	1	U
107-06-2	1,2-Dichloroethane	1	U
78-93-3	2-Butanone	5	U
74-97-5	Bromochloromethane	1	U
71-55-6	1,1,1-Trichloroethane	1	U
56-23-5	Carbon tetrachloride	1	U
75-27-4	Bromodichloromethane	1	U
78-87-5	1,2-Dichloropropane	1	U
10061-01-5	cis-1,3-Dichloropropene	1	U
79-01-6	Trichloroethene	1	U
124-48-1	Dibromochloromethane	1	U
79-00-5	1,1,2-Trichloroethane	1	U
71-43-2	Benzene	1	U
10061-02-6	trans-1,3-Dichloropropene	1	U
75-25-2	Bromoform	1	U
108-10-1	4-Methyl-2-pentanone	5	U
591-78-6	2-Hexanone	5	U
127-18-4	Tetrachloroethene	1	U
79-34-5	1,1,2,2-Tetrachloroethane	1	U
106-93-4	1,2-Dibromoethane	1	U
108-88-3	Toluene	1	U
108-90-7	Chlorobenzene	1	U
100-41-4	Ethylbenzene	1	U
100-42-5	Styrene	1	U
1330-20-7	Xylenes (total)	1	U
541-73-1	1,3-Dichlorobenzene	1	U
106-46-7	1,4-Dichlorobenzene	1	U
95-50-1	1,2-Dichlorobenzene	1	U
96-12-8	1,2-Dibromo-3-chloropropane	1	U
120-82-1	1,2,4-Trichlorobenzene	1	U

ILCE

LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

EDCJ4

Lab Name: ENVIROSYSTEMS Contract: 68-D7-0003

Lab Code: ENVSYS Case No.: 27876 SAS No.: SDG No.: EDCJ8

Lab Sample ID: 00030920 Date Received: 03/18/00

Lab File ID: 030920 Date Analyzed: 03/22/00

Purge Volume: 25.00 (ml) Dilution Factor: 1.0

GC Column: RTX-502.2 ID: 0.530 (mm) Length: 105 (m)

Number TICs found: 0

CAS NUMBER	COMPOUND NAME	RT	EST. CONC. (ug/L)	Q

0 0026

1LCC

LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EDCJ4

Lab Name: ENVIROSYSTEMS Contract: 68-D7-0005

Lab Code: ENVSYS Case No.: 27876 SAS No.: SDG No.: EDCJ8

Lab Sample ID: 00030920 Date Received: 03/18/00

Lab File ID: S030920 Date Extracted: 03/23/00

Sample volume: 1000 (ml) Date Analyzed: 03/29/00

Concentrated Extract Volume: 1000 (ul) Dilution Factor: 1.0

Injection Volume: 1.0 (ul) pH: 7.0

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
51-28-5	2,4-Dinitrophenol	20	U
100-02-7	4-Nitrophenol	20	U
132-64-9	Dibenzofuran	5	U
121-14-2	2,4-Dinitrotoluene	5	U
84-66-2	Diethylphthalate	5	U
7005-72-3	4-Chlorophenyl-phenylether	5	U
86-73-7	Fluorene	5	U
100-01-6	4-Nitroaniline	20	U
534-52-1	4,6-Dinitro-2-methylphenol	20	U
86-30-6	N-Nitrosodiphenylamine (1)	5	U
101-55-3	4-Bromophenyl-phenylether	5	U
118-74-1	Hexachlorobenzene	5	U
87-86-5	Pentachlorophenol	20	U
85-01-8	Phenanthrene	5	U
120-12-7	Anthracene	5	U
84-74-2	Di-n-Butylphthalate	5	U
206-44-0	Fluoranthene	5	U
129-00-0	Pyrene	5	U
85-68-7	Butylbenzylphthalate	5	U
91-94-1	3,3'-Dichlorobenzidine	5	U
56-55-3	Benzo(a)Anthracene	5	U
218-01-9	Chrysene	5	U
117-81-7	bis(2-Ethylhexyl)Phthalate	5	U
117-84-0	Di-n-octylphthalate	5	U
205-99-2	Benzo(b)Fluoranthene	5	U
207-08-9	Benzo(k)Fluoranthene	5	U
50-32-8	Benzo(a)Pyrene	5	U
193-39-5	Indeno(1,2,3-cd)Pyrene	5	U
53-70-3	Dibenz(a,h)Anthracene	5	U
191-24-2	Benzo(g,h,i)Perylene	5	U

(1) - Cannot be separated from Diphenylamine

1LCB

LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EDCJ4

Lab Name: ENVIROSYSTEMS Contract: 68-D7-0005

Lab Code: ENVSYS Case No.: 27876 SAS No.: SDG No.: EDCJ8

Lab Sample ID: 00030920 Date Received: 03/18/00

Lab File ID: S030920 Date Extracted: 03/23/00

Sample volume: 1000 (ml) Date Analyzed: 03/29/00

Concentrated Extract Volume: 1000 (ul) Dilution Factor: 1.0

Injection Volume: 1.0 (ul) pH: 7.0

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
108-95-2	Phenol	5	U
111-44-4	bis(2-Chloroethyl)Ether	5	U
95-57-8	2-Chlorophenol	5	U
95-48-7	2-Methylphenol	5	U
108-60-1	2,2'-oxybis(1-Chloropropane)	5	U
106-44-5	4-Methylphenol	5	U
621-64-7	N-Nitroso-Di-n-Propylamine	5	U
67-72-1	Hexachloroethane	5	U
98-95-3	Nitrobenzene	5	U
78-59-1	Isophorone	5	U
88-75-5	2-Nitrophenol	5	U
105-67-9	2,4-Dimethylphenol	5	U
111-91-1	bis(2-Chloroethoxy)Methane	5	U
120-83-2	2,4-Dichlorophenol	5	U
91-20-3	Naphthalene	5	U
106-47-8	4-Chloroaniline	5	U
87-68-3	Hexachlorobutadiene	5	U
59-50-7	4-Chloro-3-Methylphenol	5	U
91-57-6	2-Methylnaphthalene	5	U
77-47-4	Hexachlorocyclopentadiene	5	U
88-06-2	2,4,6-Trichlorophenol	5	U
95-95-4	2,4,5-Trichlorophenol	20	U
91-58-7	2-Chloronaphthalene	5	U
88-74-4	2-Nitroaniline	20	U
131-11-3	Dimethylphthalate	5	U
208-96-8	Acenaphthylene	5	U
606-20-2	2,6-Dinitrotoluene	5	U
99-09-2	3-Nitroaniline	20	U
83-32-9	Acenaphthene	5	U

1LCF

LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

EDCJ4

Lab Name: ENVIROSYSTEMS Contract: 68-D7-0005

Lab Code: ENVSYS Case No.: 27876 SAS No.: SDG No.: EDCJ8

Lab Sample ID: 00030920 Date Received: 03/18/00

Lab File ID: S030920 Date Extracted: 03/23/00

Sample volume: 1000 (ml) Date Analyzed: 03/29/00

Concentrated Extract Volume: 1000 (ul) Dilution Factor: 1.0

Injection Volume: 1.0 (ul) pH: 7.0

Number TICs found: 0

CAS NUMBER	COMPOUND NAME	RT	EST. CONC. (ug/L)	Q

EPA CRL - REGION V
ICP FINAL RESULTS REPORT

REPORT PRODUCED ON: 22-Mar-00

SAMPLE ORGANIZATION:

SAMPLE BATCH ID: 20000024

LABORATORY: REGION 5 CRL

SAMPLE FACILITY: Himco Dump

SAMPLE: 2000SY01S12

ANALYZED: 21-Mar-00

STATION: 54287 Westwood

COMPOUND	AMOUNT			(Units)
Aluminum	26	U		(ug/L)
Barium	63.8			(ug/L)
Beryllium	1.6	U	J	(ug/L)
Calcium	93300		J	(ug/L)
Chromium	3.4	U	J	(ug/L)
Cobalt	10.5	M	J	(ug/L)
Copper	7.3	M		(ug/L)
Iron	5050			(ug/L)
Magnesium	21500			(ug/L)
Manganese	63.1			(ug/L)
Nickel	19.4	U		(ug/L)
Potassium	1150			(ug/L)
Silver	6.8	U		(ug/L)
Sodium	14900			(ug/L)
Vanadium	3.9	U		(ug/L)
Zinc	18.9	M	J	(ug/L)

ANALYZED BY: [signature] 3-22-00

1LCA

LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EDCJ5

Lab Name: ENVIROSYSTEMS Contract: 68-D7-0005

Lab Code: ENVSYS Case No.: 27876 SAS No.: SDG No.: EDCJ8

Lab Sample ID: 00030921 Date Received: 03/18/00

Lab File ID: 030921 Date Analyzed: 03/22/00

Purge Volume: 25.00 (ml) Dilution Factor: 1.0

GC Column: RTX-502.2 ID: 0.530 (mm) Length: 105 (m)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
74-87-3	Chloromethane	1	U
74-83-9	Bromomethane	1	U
75-01-4	Vinyl chloride	1	U
75-00-3	Chloroethane	1	U
75-09-2	Methylene chloride	2	U
67-64-1	Acetone	5	U
75-15-0	Carbon disulfide	1	U
75-35-4	1,1-Dichloroethene	1	U
75-34-3	1,1-Dichloroethane	7	
156-59-2	cis-1,2-Dichloroethene	0.5	J
156-60-5	trans-1,2-Dichloroethene	1	U
67-66-3	Chloroform	1	U
107-06-2	1,2-Dichloroethane	0.7	J
78-93-3	2-Butanone	5	U
74-97-5	Bromochloromethane	1	U
71-55-6	1,1,1-Trichloroethane	1	U
56-23-5	Carbon tetrachloride	1	U
75-27-4	Bromodichloromethane	1	U
78-87-5	1,2-Dichloropropane	1	U
10061-01-5	cis-1,3-Dichloropropene	1	U
79-01-6	Trichloroethene	1	U
124-48-1	Dibromochloromethane	1	U
79-00-5	1,1,2-Trichloroethane	1	U
71-43-2	Benzene	0.4	J
10061-02-6	trans-1,3-Dichloropropene	1	U
75-25-2	Bromoform	1	U
108-10-1	4-Methyl-2-pentanone	5	U
591-78-6	2-Hexanone	5	U
127-18-4	Tetrachloroethene	1	U
79-34-5	1,1,2,2-Tetrachloroethane	1	U
106-93-4	1,2-Dibromoethane	1	U
108-88-3	Toluene	1	U
108-90-7	Chlorobenzene	1	U
100-41-4	Ethylbenzene	1	U
100-42-5	Styrene	1	U
1330-20-7	Xylenes (total)	1	U
541-73-1	1,3-Dichlorobenzene	1	U
106-46-7	1,4-Dichlorobenzene	1	U
95-50-1	1,2-Dichlorobenzene	1	U
96-12-8	1,2-Dibromo-3-chloropropane	1	U
120-82-1	1,2,4-Trichlorobenzene	1	U

1LCE

LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO

EDCJ5

Lab Name: ENVIROSYSTEMS Contract: 68-D7-0005

Lab Code: ENVSYS Case No.: 27876 SAS No.: SDG No.: EDCJ8

Lab Sample ID: 00030921 Date Received: 03/18/00

Lab File ID: 030921 Date Analyzed: 03/22/00

Purge Volume: 25.00 (ml) Dilution Factor: 1.0

GC Column: RTX-502.2 ID: 0.530 (mm) Length: 105 (m)

Number TICs found: 0

CAS NUMBER	COMPOUND NAME	RT	EST. CONC. (ug/L)	Q

1LCB

LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO

EDCJ5

Lab Name: ENVIROSYSTEMS Contract: 68-D7-0005

Lab Code: ENVSYS Case No.: 27876 SAS No.: SDG No.: EDCJ8

Lab Sample ID: 00030921 Date Received: 03/18/00

Lab File ID: S030921 Date Extracted: 03/23/00

Sample volume: 1000 (ml) Date Analyzed: 03/29/00

Concentrated Extract Volume: 1000 (ul) Dilution Factor: 1.0

Injection Volume: 1.0 (ul) pH: 7.0

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
108-95-2	Phenol	5	U
111-44-4	bis(2-Chloroethyl)Ether	5	U
95-57-8	2-Chlorophenol	5	U
95-48-7	2-Methylphenol	5	U
108-60-1	2,2'-oxybis(1-Chloropropane)	5	U
106-44-5	4-Methylphenol	5	U
621-64-7	N-Nitroso-Di-n-Propylamine	5	U
67-72-1	Hexachloroethane	5	U
98-95-3	Nitrobenzene	5	U
78-59-1	Isophorone	5	U
88-75-5	2-Nitrophenol	5	U
105-67-9	2,4-Dimethylphenol	5	U
111-91-1	bis(2-Chloroethoxy)Methane	5	U
120-83-2	2,4-Dichlorophenol	5	U
91-20-3	Naphthalene	5	U
106-47-8	4-Chloroaniline	5	U
87-68-3	Hexachlorobutadiene	5	U
59-50-7	4-Chloro-3-Methylphenol	5	U
91-57-6	2-Methylnaphthalene	5	U
77-47-4	Hexachlorocyclopentadiene	5	U
88-06-2	2,4,6-Trichlorophenol	5	U
95-95-4	2,4,5-Trichlorophenol	20	U
91-58-7	2-Chloronaphthalene	5	U
88-74-4	2-Nitroaniline	20	U
131-11-3	Dimethylphthalate	5	U
208-96-8	Acenaphthylene	5	U
606-20-2	2,6-Dinitrotoluene	5	U
99-09-2	3-Nitroaniline	20	U
83-32-9	Acenaphthene	5	U

1LCC

LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EDCJ5

Lab Name: ENVIROSYSTEMS Contract: 68-D7-0005

Lab Code: ENVSYS Case No.: 27876 SAS No.: SDG No.: EDCJ8

Lab Sample ID: 00030921 Date Received: 03/18/00

Lab File ID: S030921 Date Extracted: 03/23/00

Sample volume: 1000 (ml) Date Analyzed: 03/29/00

Concentrated Extract Volume: 1000 (ul) Dilution Factor: 1.0

Injection Volume: 1.0 (ul) pH: 7.0

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
51-28-5	2,4-Dinitrophenol	20	U
100-02-7	4-Nitrophenol	20	U
132-64-9	Dibenzofuran	5	U
121-14-2	2,4-Dinitrotoluene	5	U
84-66-2	Diethylphthalate	5	U
7005-72-3	4-Chlorophenyl-phenylether	5	U
86-73-7	Fluorene	5	U
100-01-6	4-Nitroaniline	20	U
534-52-1	4,6-Dinitro-2-methylphenol	20	U
86-30-6	N-Nitrosodiphenylamine (1)	5	U
101-55-3	4-Bromophenyl-phenylether	5	U
118-74-1	Hexachlorobenzene	5	U
87-86-5	Pentachlorophenol	20	U
85-01-8	Phenanthrene	5	U
120-12-7	Anthracene	5	U
84-74-2	Di-n-Butylphthalate	5	U
206-44-0	Fluoranthene	5	U
129-00-0	Pyrene	5	U
85-68-7	Butylbenzylphthalate	5	U
91-94-1	3,3'-Dichlorobenzidine	5	U
56-55-3	Benzo(a)Anthracene	5	U
218-01-9	Chrysene	5	U
117-81-7	bis(2-Ethylhexyl)Phthalate	5	U
117-84-0	Di-n-octylphthalate	5	U
205-99-2	Benzo(b)Fluoranthene	5	U
207-08-9	Benzo(k)Fluoranthene	5	U
50-32-8	Benzo(a)Pyrene	5	U
193-39-5	Indeno(1,2,3-cd)Pyrene	5	U
53-70-3	Dibenz(a,h)Anthracene	5	U
191-24-2	Benzo(g,h,i)Perylene	5	U

(1) - Cannot be separated from Diphenylamine

0_0348

1LCF

LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

EDCJ5

Lab Name: ENVIROSYSTEMS Contract: 68-D7-0005

Lab Code: ENVSYS Case No.: 27876 SAS No.: SDG No.: EDCJ8

Lab Sample ID: 00030921 Date Received: 03/18/00

Lab File ID: S030921 Date Extracted: 03/23/00

Sample volume: 1000 (ml) Date Analyzed: 03/29/00

Concentrated Extract Volume: 1000 (ul) Dilution Factor: 1.0

Injection Volume: 1.0 (ul) pH: 7.0

Number TICs found: 0

CAS NUMBER	COMPOUND NAME	RT	EST. CONC. (ug/L)	Q

EPA CRL - REGION V
ICP FINAL RESULTS REPORT

REPORT PRODUCED ON: 22-Mar-00

SAMPLE ORGANIZATION:

SAMPLE BATCH ID: 20000024

LABORATORY: REGION 5 CRL

SAMPLE FACILITY: Himco Dump

SAMPLE: 2000SY01R12 dup 4part

ANALYZED: 21-Mar-00

STATION: 54287 Westwood

COMPOUND	AMOUNT		(Units)	MCL (ug/L)
Aluminum	26 U		(ug/L)	50 to 200
Barium	64.5		(ug/L)	2000 A
Beryllium	1.6 U	J	(ug/L)	4.0
Calcium	92300	J	(ug/L)	none
Chromium	3.4 U	J	(ug/L)	100
Cobalt	10.1 U		(ug/L)	none
Copper	4 U		(ug/L)	1000
Iron	5030		(ug/L)	300 B
Magnesium	22000		(ug/L)	none
Manganese	59.6		(ug/L)	50 C
Nickel	19.4 U		(ug/L)	40
Potassium	1160		(ug/L)	none
Silver	6.8 U		(ug/L)	50
Sodium	14700		(ug/L)	20,000 D
Vanadium	3.9 U		(ug/L)	none
Zinc	14.2 M	J	(ug/L)	5000 E

ANALYZED BY: [signature] 3-22-00

* Note: All values are given in micrograms per liter, also known as parts per billion.

A U.S. EPA's Office of Drinking Water has proposed this value, but it is not final.

B There is no MCL for iron, but U.S. EPA has set a standard of 300 micrograms per liter to prevent discoloration and taste problems associated with levels of iron above this value.

C There is no MCL for manganese, but U.S. EPA has set a standard of 50 micrograms per liter to prevent discoloration and taste problems associated with levels of manganese above this value.

D There is no MCL for sodium, but the U.S. EPA's Office of Drinking Water advises that a level of 20,000 micrograms per liter or less protects against human health effects from sodium.

E There is no MCL for zinc, but U.S. EPA has set a standard of 5,000 micrograms per liter to prevent taste problems associated with levels of zinc above this value.

ILCA

LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO

EDCJ9

Lab Name: ENVIROSYSTEMS Contract: 68-D7-0005

Lab Code: ENVSYS Case No.: 27876 SAS No.: SDG No.: EDCJ8

Lab Sample ID: 00030922 Date Received: 03/18/00

Lab File ID: 030922 Date Analyzed: 03/22/00

Purge Volume: 25.00 (ml) Dilution Factor: 1.0

GC Column: RTX-502.2 ID: 0.530 (mm) Length: 105 (m)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q	MCL (ug/l)
74-87-3	Chloromethane	1	U	
74-83-9	Bromomethane	1	U	
75-01-4	Vinyl chloride	1	U	
75-00-3	Chloroethane	1	U	
75-09-2	Methylene chloride	2	U	
67-64-1	Acetone	5	U	
75-15-0	Carbon disulfide	1	U	
75-35-4	1,1-Dichloroethene	1	U	
75-34-3	1,1-Dichloroethane	7		none
156-59-2	cis-1,2-Dichloroethene	0.5	J	70
156-60-5	trans-1,2-Dichloroethene	1	U	
67-66-3	Chloroform	1	U	
107-06-2	1,2-Dichloroethane	1	U	
78-93-3	2-Butanone	5	U	
74-97-5	Bromochloromethane	1	U	
71-55-6	1,1,1-Trichloroethane	1	U	
56-23-5	Carbon tetrachloride	1	U	
75-27-4	Bromodichloromethane	1	U	
78-87-5	1,2-Dichloropropane	1	U	
10061-01-5	cis-1,3-Dichloropropene	1	U	
79-01-6	Trichloroethene	1	U	
124-48-1	Dibromochloromethane	1	U	
79-00-5	1,1,2-Trichloroethane	1	U	
71-43-2	Benzene	0.4	J	5
10061-02-6	trans-1,3-Dichloropropene	1	U	
75-25-2	Bromoform	1	U	
108-10-1	4-Methyl-2-pentanone	5	U	
591-78-6	2-Hexanone	5	U	
127-18-4	Tetrachloroethene	1	U	
79-34-5	1,1,2,2-Tetrachloroethane	1	U	
106-93-4	1,2-Dibromoethane	1	U	
108-88-3	Toluene	1	U	
108-90-7	Chlorobenzene	1	U	
100-41-4	Ethylbenzene	1	U	
100-42-5	Styrene	1	U	
1330-20-7	Xylenes (total)	1	U	
541-73-1	1,3-Dichlorobenzene	1	U	
106-46-7	1,4-Dichlorobenzene	1	U	
95-50-1	1,2-Dichlorobenzene	1	U	
96-12-8	1,2-Dibromo-3-chloropropane	1	U	
120-82-1	1,2,4-Trichlorobenzene	1	U	

ILCE

LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO

EDCJ9

Lab Name: ENVIROSYSTEMS Contract: 68-D7-0005

Lab Code: ENVSYS Case No.: 27876 SAS No.: SDG No.: EDCJ8

Lab Sample ID: 00030922 Date Received: 03/18/00

Lab File ID: 030922 Date Analyzed: 03/22/00

Purge Volume: 25.00 (ml) Dilution Factor: 1.0

GC Column: RTX-502.2 ID: 0.530 (mm) Length: 105 (m)

Number TICs found: 0

CAS NUMBER	COMPOUND NAME	RT	EST. CONC. (ug/L)	Q

0 0056

1LCB

LOW CONC WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO

EDCJ9

Name: ENVIROSYSTEMS Contract: 68-D7-0005

Code: ENVSYS Case No.: 27876 SAS No.: SDG No.: EDCJ8

Lab Sample ID: 00030922 Date Received: 03/18/00

Lab File ID: S030922 Date Extracted: 03/23/00

Sample volume: 1000 (ml) Date Analyzed: 03/29/00

Concentrated Extract Volume: 1000 (ul) Dilution Factor: 1.0

Injection Volume: 1.0 (ul) pH: 7.0

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
108-95-2	Phenol	5	U
111-44-4	bis(2-Chloroethyl)Ether	5	U
95-57-8	2-Chlorophenol	5	U
95-48-7	2-Methylphenol	5	U
108-60-1	2,2'-oxybis(1-Chloropropane)	5	U
106-44-5	4-Methylphenol	5	U
621-64-7	N-Nitroso-Di-n-Propylamine	5	U
67-72-1	Hexachloroethane	5	U
98-95-3	Nitrobenzene	5	U
78-59-1	Isophorone	5	U
88-75-5	2-Nitrophenol	5	U
105-67-9	2,4-Dimethylphenol	5	U
111-91-1	bis(2-Chloroethoxy)Methane	5	U
120-83-2	2,4-Dichlorophenol	5	U
91-20-3	Naphthalene	5	U
106-47-8	4-Chloroaniline	5	U
87-68-3	Hexachlorobutadiene	5	U
59-50-7	4-Chloro-3-Methylphenol	5	U
91-57-6	2-Methylnaphthalene	5	U
77-47-4	Hexachlorocyclopentadiene	5	U
88-06-2	2,4,6-Trichlorophenol	5	U
95-95-4	2,4,5-Trichlorophenol	20	U
91-58-7	2-Chloronaphthalene	5	U
88-74-4	2-Nitroaniline	20	U
131-11-3	Dimethylphthalate	5	U
208-96-8	Acenaphthylene	5	U
606-20-2	2,6-Dinitrotoluene	5	U
99-09-2	3-Nitroaniline	20	U
83-32-9	Acenaphthene	5	U

1LCC

LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EDCJ9

Lab Name: ENVIROSYSTEMS Contract: 68-D7-0005

Lab Code: ENVSYS Case No.: 27876 SAS No.: SDG No.: EDCJ8

Lab Sample ID: 00030922 Date Received: 03/18/00

Lab File ID: S030922 Date Extracted: 03/23/00

Sample volume: 1000 (ml) Date Analyzed: 03/29/00

Concentrated Extract Volume: 1000 (ul) Dilution Factor: 1.0

Injection Volume: 1.0 (ul) pH: 7.0

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
51-28-5	2,4-Dinitrophenol	20	U
100-02-7	4-Nitrophenol	20	U
132-64-9	Dibenzofuran	5	U
121-14-2	2,4-Dinitrotoluene	5	U
84-66-2	Diethylphthalate	5	U
7005-72-3	4-Chlorophenyl-phenylether	5	U
86-73-7	Fluorene	5	U
100-01-6	4-Nitroaniline	20	U
534-52-1	4,6-Dinitro-2-methylphenol	20	U
86-30-6	N-Nitrosodiphenylamine (1)	5	U
101-55-3	4-Bromophenyl-phenylether	5	U
118-74-1	Hexachlorobenzene	5	U
87-86-5	Pentachlorophenol	20	U
85-01-8	Phenanthrene	5	U
120-12-7	Anthracene	5	U
84-74-2	Di-n-Butylphthalate	5	U
206-44-0	Fluoranthene	5	U
129-00-0	Pyrene	5	U
85-68-7	Butylbenzylphthalate	5	U
91-94-1	3,3'-Dichlorobenzidine	5	U
56-55-3	Benzo(a)Anthracene	5	U
218-01-9	Chrysene	5	U
117-81-7	bis(2-Ethylhexyl)Phthalate	5	U
117-84-0	Di-n-octylphthalate	5	U
205-99-2	Benzo(b)Fluoranthene	5	U
207-08-9	Benzo(k)Fluoranthene	5	U
50-32-8	Benzo(a)Pyrene	5	U
193-39-5	Indeno(1,2,3-cd)Pyrene	5	U
53-70-3	Dibenz(a,h)Anthracene	5	U
191-24-2	Benzo(g,h,i)Perylene	5	U

(1) - Cannot be separated from Diphenylamine

0.0374

1LCF

LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

EDCJ9

Lab Name: ENVIROSYSTEMS Contract: 68-D7-0005

Lab Code: ENVSYS Case No.: 27876 SAS No.: SDG No.: EDCJ8

Lab Sample ID: 00030922 Date Received: 03/18/00

Lab File ID: S030922 Date Extracted: 03/23/00

Sample volume: 1000 (ml) Date Analyzed: 03/29/00

Concentrated Extract Volume: 1000 (ul) Dilution Factor: 1.0

Injection Volume: 1.0 (ul) pH: 7.0

Number TICs found: 0

CAS NUMBER	COMPOUND NAME	RT	EST. CONC. (ug/L)	Q

EPA CRL - REGION V
ICP FINAL RESULTS REPORT

REPORT PRODUCED ON: 22-Mar-00

SAMPLE ORGANIZATION:

SAMPLE BATCH ID: 20000024

LABORATORY: REGION 5 CRL

SAMPLE FACILITY: Himco Dump

SAMPLE: 2000SY01S11

ANALYZED: 21-Mar-00

STATION: 54305 Westwood

COMPOUND	AMOUNT			(Units)
Aluminum	26	U		(ug/L)
Barium	60.4			(ug/L)
Beryllium	1.6	U	J	(ug/L)
Calcium	177000		J	(ug/L)
Chromium	3.4	U	J	(ug/L)
Cobalt	10.1	U		(ug/L)
Copper	4	U		(ug/L)
Iron	2170			(ug/L)
Magnesium	18200		J	(ug/L)
Manganese	1560			(ug/L)
Nickel	19.4	U		(ug/L)
Potassium	5270			(ug/L)
Silver	6.8	U		(ug/L)
Sodium	44400			(ug/L)
Vanadium	3.9	U		(ug/L)
Zinc	17.4	M	J	(ug/L)

ANALYZED BY: [signature] 3-22-00

LOW CONC WATER VOLATILE ORGANICS ANALYSIS DATA SHEET

EDCK8

Lab Name: ENVIROSYSTEMS Contract: 68-D7-0105

Lab Code: ENVSYS Case No: 27876 SAS No: SDG No: EDCJ8

Lab Sample ID: 00030923 Date Received: 03/18/00

Lab File ID: 030923 Date Analyzed: 03/23/00

Purge Volume: 25.00 (ml) Dilution Factor: 1.0

GC Column: RTX-502.2 ID: 0.530 (mm) Length: 105 (m)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
74-87-3	Chloromethane	1	U
74-83-9	Bromomethane	1	U
75-01-4	Vinyl chloride	0.9	J
75-00-3	Chloroethane	1	U
75-09-2	Methylene chloride	2	U
67-64-1	Acetone	5	U
75-15-0	Carbon disulfide	1	U
75-35-4	1,1-Dichloroethene	1	U
75-34-3	1,1-Dichloroethane	3	
156-59-2	cis-1,2-Dichloroethene	2	
156-60-5	trans-1,2-Dichloroethene	1	U
67-66-3	Chloroform	1	U
107-06-2	1,2-Dichloroethane	0.6	J
78-93-3	2-Butanone	5	U
74-97-5	Bromochloromethane	1	U
71-55-6	1,1,1-Trichloroethane	1	U
56-23-5	Carbon tetrachloride	1	U
75-27-4	Bromodichloromethane	1	U
78-87-5	1,2-Dichloropropane	10	
10061-01-5	cis-1,3-Dichloropropene	1	U
79-01-6	Trichloroethene	1	U
124-48-1	Dibromochloromethane	1	U
79-00-5	1,1,2-Trichloroethane	1	U
71-43-2	Benzene	0.4	J
10061-02-6	trans-1,3-Dichloropropene	1	U
75-25-2	Bromoform	1	U
108-10-1	4-Methyl-2-pentanone	5	U
591-78-6	2-Hexanone	5	U
127-18-4	Tetrachloroethene	1	U
79-34-5	1,1,2,2-Tetrachloroethane	1	U
106-93-4	1,2-Dibromoethane	1	U
108-88-3	Toluene	1	U
108-90-7	Chlorobenzene	1	U
100-41-4	Ethylbenzene	1	U
100-42-5	Styrene	1	U
1330-20-7	Xylenes (total)	1	U
541-73-1	1,3-Dichlorobenzene	1	U
106-46-7	1,4-Dichlorobenzene	1	U
95-50-1	1,2-Dichlorobenzene	1	U
96-12-8	1,2-Dibromo-3-chloropropane	1	U
120-82-1	1,2,4-Trichlorobenzene	1	U

EDCK8

Lab Name: ENVIROSYSTEMS Contract: 68-D7-0009

Lab Code: ENVSYS Case No: 27876 SAS No: SDG No: EDCJ8

Lab Sample ID: 00030923 Date Received: 03/18/00

Lab File ID: 030923 Date Analyzed: 03/23/00

Purge Volume: 25.00 (ml) Dilution Factor: 1.0

GC Column: RTX-502.2 ID: 0.530 (mm) Length: 105 (m)

Number TICs found: 1

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC. (ug/L)	Q
1.		UNKNOWN	7.25	5	J

1LCB

LOW CONC WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EDCK8

Lab Name: ENVIROSYSTEMS Contract: 68-D7-0005

Lab Code: ENVSYS Case No.: 27876 SAS No.: SDG No.: EDCJ8

Lab Sample ID: 00030923 Date Received: 03/18/00

Lab File ID: S030923 Date Extracted: 03/23/00

Sample volume: 1000 (ml) Date Analyzed: 03/29/00

Concentrated Extract Volume: 1000 (ul) Dilution Factor: 1.0

Injection Volume: 1.0 (ul) pH: 7.0

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
108-95-2	Phenol	5	U
111-44-4	bis(2-Chloroethyl)Ether	5	U
95-57-8	2-Chlorophenol	5	U
95-48-7	2-Methylphenol	5	U
108-60-1	2,2'-oxybis(1-Chloropropane)	5	U
106-44-5	4-Methylphenol	5	U
621-64-7	N-Nitroso-Di-n-Propylamine	5	U
67-72-1	Hexachloroethane	5	U
98-95-3	Nitrobenzene	5	U
78-59-1	Isophorone	5	U
88-75-5	2-Nitrophenol	5	U
105-67-9	2,4-Dimethylphenol	5	U
111-91-1	bis(2-Chloroethoxy)Methane	5	U
120-83-2	2,4-Dichlorophenol	5	U
91-20-3	Naphthalene	5	U
106-47-8	4-Chloroaniline	5	U
87-68-3	Hexachlorobutadiene	5	U
59-50-7	4-Chloro-3-Methylphenol	5	U
91-57-6	2-Methylnaphthalene	5	U
77-47-4	Hexachlorocyclopentadiene	5	U
88-06-2	2,4,6-Trichlorophenol	5	U
95-95-4	2,4,5-Trichlorophenol	20	U
91-58-7	2-Chloronaphthalene	5	U
88-74-4	2-Nitroaniline	20	U
131-11-3	Dimethylphthalate	5	U
208-96-8	Acenaphthylene	5	U
606-20-2	2,6-Dinitrotoluene	5	U
99-09-2	3-Nitroaniline	20	U
83-32-9	Acenaphthene	5	U

1LCC

LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO

EDCK8

Lab Name: ENVIROSYSTEMS Contract: 68-D7-0005

Lab Code: ENVSYS Case No.: 27876 SAS No.: SDG No.: EDCJ8

Lab Sample ID: 00030923 Date Received: 03/18/00

Lab File ID: S030923 Date Extracted: 03/23/00

Sample volume: 1000 (ml) Date Analyzed: 03/29/00

Concentrated Extract Volume: 1000 (ul) Dilution Factor: 1.0

Injection Volume: 1.0 (ul) pH: 7.0

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
51-28-5	2,4-Dinitrophenol	20	U
100-02-7	4-Nitrophenol	20	U
132-64-9	Dibenzofuran	5	U
121-14-2	2,4-Dinitrotoluene	5	U
84-66-2	Diethylphthalate	5	U
7005-72-3	4-Chlorophenyl-phenylether	5	U
86-73-7	Fluorene	5	U
100-01-6	4-Nitroaniline	20	U
534-52-1	4,6-Dinitro-2-methylphenol	20	U
86-30-6	N-Nitrosodiphenylamine (1)	5	U
101-55-3	4-Bromophenyl-phenylether	5	U
118-74-1	Hexachlorobenzene	5	U
87-86-5	Pentachlorophenol	20	U
85-01-8	Phenanthrene	5	U
120-12-7	Anthracene	5	U
84-74-2	Di-n-Butylphthalate	5	U
206-44-0	Fluoranthene	5	U
129-00-0	Pyrene	5	U
85-68-7	Butylbenzylphthalate	5	U
91-94-1	3,3'-Dichlorobenzidine	5	U
56-55-3	Benzo(a)Anthracene	5	U
218-01-9	Chrysene	5	U
117-81-7	bis(2-Ethylhexyl)Phthalate	5	U
117-84-0	Di-n-octylphthalate	5	U
205-99-2	Benzo(b)Fluoranthene	5	U
207-08-9	Benzo(k)Fluoranthene	5	U
50-32-8	Benzo(a)Pyrene	5	U
193-39-5	Indeno(1,2,3-cd)Pyrene	5	U
53-70-3	Dibenz(a,h)Anthracene	5	U
191-24-2	Benzo(g,h,i)Perylene	5	U

(1) - Cannot be separated from Diphenylamine

1LCF

LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO

EDCK8

Lab Name: ENVIROSYSTEMS Contract: 68-D7-0005

Lab Code: ENVSYS Case No.: 27876 SAS No.: SDG No.: EDCJ8

Lab Sample ID: 00030923 Date Received: 03/18/00

Lab File ID: S030923 Date Extracted: 03/23/00

Sample volume: 1000 (ml) Date Analyzed: 03/29/00

Concentrated Extract Volume: 1000 (ul) Dilution Factor: 1.0

Injection Volume: 1.0 (ul) pH: 7.0

Number TICs found: 0

CAS NUMBER	COMPOUND NAME	RT	EST. CONC. (ug/L)	Q

EPA CRL - REGION V
ICP FINAL RESULTS REPORT

REPORT PRODUCED ON: 22-Mar-00

SAMPLE ORGANIZATION:

SAMPLE BATCH ID: 20000024

LABORATORY: REGION 5 CRL

SAMPLE FACILITY: Himco Dump

SAMPLE: 2000SY01S09

ANALYZED: 21-Mar-00

STATION: 54280 Westwood

COMPOUND	AMOUNT	(Units)
Aluminum	26 U	(ug/L)
Barium	72.8	(ug/L)
Beryllium	1.6 U J	(ug/L)
Calcium	105000 J	(ug/L)
Chromium	3.4 U J	(ug/L)
Cobalt	10.1 U	(ug/L)
Copper	26.1 M	(ug/L)
Iron	22.4 U	(ug/L)
Magnesium	20200	(ug/L)
Manganese	355	(ug/L)
Nickel	19.4 U	(ug/L)
Potassium	2580	(ug/L)
Silver	6.8 U	(ug/L)
Sodium	65400	(ug/L)
Vanadium	3.9 U	(ug/L)
Zinc	31.5 M J	(ug/L)

ANALYZED BY: [signature] 3-22-00

EDCK3

Lab Name: ENVIROSYSTEMS Contract: 68-D7-0005

Lab Code: ENVSYS Case No.: 27876 SAS No.: SDG No.: EDCJ8

Lab Sample ID: 00030906 Date Received: 03/17/00

Lab File ID: 030906 Date Analyzed: 03/22/00

Purge Volume: 25.00 (ml) Dilution Factor: 1.0

GC Column: RTX-502.2 ID: 0.530 (mm) Length: 105 (m)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
74-87-3	Chloromethane	1	U
74-83-9	Bromomethane	1	U
75-01-4	Vinyl chloride	1	U
75-00-3	Chloroethane	1	U
75-09-2	Methylene chloride	2	U
67-64-1	Acetone	5	U
75-15-0	Carbon disulfide	1	U
75-35-4	1,1-Dichloroethene	1	U
75-34-3	1,1-Dichloroethane	1	U
156-59-2	cis-1,2-Dichloroethene	1	U
156-60-5	trans-1,2-Dichloroethene	1	U
67-66-3	Chloroform	1	U
107-06-2	1,2-Dichloroethane	1	U
78-93-3	2-Butanone	5	U
74-97-5	Bromochloromethane	1	U
71-55-6	1,1,1-Trichloroethane	1	U
56-23-5	Carbon tetrachloride	1	U
75-27-4	Bromodichloromethane	1	U
78-87-5	1,2-Dichloropropane	1	U
10061-01-5	cis-1,3-Dichloropropene	1	U
79-01-6	Trichloroethene	1	U
124-48-1	Dibromochloromethane	1	U
79-00-5	1,1,2-Trichloroethane	1	U
71-43-2	Benzene	1	U
10061-02-6	trans-1,3-Dichloropropene	1	U
75-25-2	Bromoform	1	U
108-10-1	4-Methyl-2-pentanone	5	U
591-78-6	2-Hexanone	5	U
127-18-4	Tetrachloroethene	1	U
79-34-5	1,1,2,2-Tetrachloroethane	1	U
106-93-4	1,2-Dibromoethane	1	U
108-88-3	Toluene	1	U
108-90-7	Chlorobenzene	1	U
100-41-4	Ethylbenzene	1	U
100-42-5	Styrene	1	U
1330-20-7	Xylenes (total)	1	U
541-73-1	1,3-Dichlorobenzene	1	U
106-46-7	1,4-Dichlorobenzene	1	U
95-50-1	1,2-Dichlorobenzene	1	U
96-12-8	1,2-Dibromo-3-chloropropane	1	U
120-82-1	1,2,4-Trichlorobenzene	1	U

WATER VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EDCK3

Lab Name: ENVIROSYSTEMS Contract: 68-D7-0005

Lab Code: ENVSYS Case No.: 27876 SAS No.: SDG No.: EDCJ8

Lab Sample ID: 00030906 Date Received: 03/17/00

Lab File ID: 030906 Date Analyzed: 03/22/00

Purge Volume: 25.00 (ml) Dilution Factor: 1.0

GC Column: RTX-502.2 ID: 0.530 (mm) Length: 105 (m)

Number TICs found: 0

CAS NUMBER	COMPOUND NAME	RT	EST. CONC. (ug/L)	Q

ILCB

LOW CONC WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO

EDCK3

Lab Name: ENVIROSYSTEMS Contract: 68-D7-0005

Lab Code: ENVSYS Case No.: 27876 SAS No.: SDG No.: EDCJ8

Lab Sample ID: 00030906 Date Received: 03/17/00

Lab File ID: S030906 Date Extracted: 03/22/00

Sample volume: 1000 (ml) Date Analyzed: 03/28/00

Concentrated Extract Volume: 1000 (ul) Dilution Factor: 1.0

Injection Volume: 1.0 (ul) pH: 7.0

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
108-95-2	Phenol	5	U
111-44-4	bis(2-Chloroethyl)Ether	5	U
95-57-8	2-Chlorophenol	5	U
95-48-7	2-Methylphenol	5	U
108-60-1	2,2'-oxybis(1-Chloropropane)	5	U
106-44-5	4-Methylphenol	5	U
621-64-7	N-Nitroso-Di-n-Propylamine	5	U
67-72-1	Hexachloroethane	5	U
98-95-3	Nitrobenzene	5	U
78-59-1	Isophorone	5	U
88-75-5	2-Nitrophenol	5	U
105-67-9	2,4-Dimethylphenol	5	U
111-91-1	bis(2-Chloroethoxy)Methane	5	U
120-83-2	2,4-Dichlorophenol	5	U
91-20-3	Naphthalene	5	U
106-47-8	4-Chloroaniline	5	U
87-68-3	Hexachlorobutadiene	5	U
59-50-7	4-Chloro-3-Methylphenol	5	U
91-57-6	2-Methylnaphthalene	5	U
77-47-4	Hexachlorocyclopentadiene	5	U
88-06-2	2,4,6-Trichlorophenol	5	U
95-95-4	2,4,5-Trichlorophenol	20	U
91-58-7	2-Chloronaphthalene	5	U
88-74-4	2-Nitroaniline	20	U
131-11-3	Dimethylphthalate	5	U
208-96-8	Acenaphthylene	5	U
606-20-2	2,6-Dinitrotoluene	5	U
99-09-2	3-Nitroaniline	20	U
83-32-9	Acenaphthene	5	U

1LCC

LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO

EDCK3

Lab Name: ENVIROSYSTEMS Contract: 68-D7-0005

Lab Code: ENVSYS Case No.: 27876 SAS No.: SDG No.: EDCJ8

Lab Sample ID: 00030906 Date Received: 03/17/00

Lab File ID: S030906 Date Extracted: 03/22/00

Sample volume: 1000 (ml) Date Analyzed: 03/28/00

Concentrated Extract Volume: 1000 (ul) Dilution Factor: 1.0

Injection Volume: 1.0 (ul) pH: 7.0

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
51-28-5	2,4-Dinitrophenol	20	U
100-02-7	4-Nitrophenol	20	U
132-64-9	Dibenzofuran	5	U
121-14-2	2,4-Dinitrotoluene	5	U
84-66-2	Diethylphthalate	5	U
7005-72-3	4-Chlorophenyl-phenylether	5	U
86-73-7	Fluorene	5	U
100-01-6	4-Nitroaniline	20	U
534-52-1	4,6-Dinitro-2-methylphenol	20	U
86-30-6	N-Nitrosodiphenylamine (1)	5	U
101-55-3	4-Bromophenyl-phenylether	5	U
118-74-1	Hexachlorobenzene	5	U
87-86-5	Pentachlorophenol	20	U
85-01-8	Phenanthrene	5	U
120-12-7	Anthracene	5	U
84-74-2	Di-n-Butylphthalate	5	U
206-44-0	Fluoranthene	5	U
129-00-0	Pyrene	5	U
85-68-7	Butylbenzylphthalate	5	U
91-94-1	3,3'-Dichlorobenzidine	5	U
56-55-3	Benzo(a)Anthracene	5	U
218-01-9	Chrysene	5	U
117-81-7	bis(2-Ethylhexyl)Phthalate	5	U
117-84-0	Di-n-octylphthalate	5	U
205-99-2	Benzo(b)Fluoranthene	5	U
207-08-9	Benzo(k)Fluoranthene	5	U
50-32-8	Benzo(a)Pyrene	5	U
193-39-5	Indeno(1,2,3-cd)Pyrene	5	U
53-70-3	Dibenz(a,h)Anthracene	5	U
191-24-2	Benzo(g,h,i)Perylene	5	U

(1) - Cannot be separated from Diphenylamine

1LCF

LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

EDCK3

Lab Name: ENVIROSYSTEMS Contract: 68-D7-0005

Lab Code: ENVSYS Case No.: 27876 SAS No.: SDG No.: EDCJ8

Lab Sample ID: 00030906 Date Received: 03/17/00

Lab File ID: S030906 Date Extracted: 03/22/00

Sample volume: 1000 (ml) Date Analyzed: 03/28/00

Concentrated Extract Volume: 1000 (ul) Dilution Factor: 1.0

Injection Volume: 1.0 (ul) pH: 7.0

Number TICs found: 0

CAS NUMBER	COMPOUND NAME	RT	EST. CONC. (ug/L)	Q

EPA CRL - REGION V
ICP FINAL RESULTS REPORT

REPORT PRODUCED ON: 29-Mar-00

SAMPLE ORGANIZATION:

SAMPLE BATCH ID: 20000024

LABORATORY: REGION 5 CRL

SAMPLE FACILITY: Himco Dump

SAMPLE: 2000SY01S08

ANALYZED: 21-Mar-00

STATION: 27919 Westwood

COMPOUND	AMOUNT			(Units)
Aluminum	26	U		(ug/L)
Barium	28.1			(ug/L)
Beryllium	1.6	U	J	(ug/L)
Calcium	103000		J	(ug/L)
Chromium	3.4	U	J	(ug/L)
Cobalt	10.1	U		(ug/L)
Copper	9	M		(ug/L)
Iron	51.1	M	B J	(ug/L)
Magnesium	19000		J	(ug/L)
Manganese	146			(ug/L)
Nickel	19.4	U		(ug/L)
Potassium	3660			(ug/L)
Silver	6.8	U		(ug/L)
Sodium	56700			(ug/L)
Vanadium	3.9	U		(ug/L)
Zinc	20.5	M	J	(ug/L)

ANALYZED BY: _____ 3-29-00

LOW CONC WATER VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO

EDCK4

Lab Name: ENVIROSYSTEMS Contract: 68-D7-0005

Lab Code: ENVSYS Case No.: 27876 SAS No.: SDG No.: EDCJ8

Lab Sample ID: 00030907 Date Received: 03/17/00

Lab File ID: 030907 Date Analyzed: 03/22/00

Purge Volume: 25.00 (ml) Dilution Factor: 1.0

GC Column: RTX-502.2 ID: 0.530 (mm) Length: 105 (m)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
74-87-3	Chloromethane	1	U
74-83-9	Bromomethane	1	U
75-01-4	Vinyl chloride	1	U
75-00-3	Chloroethane	1	U
75-09-2	Methylene chloride	2	U
67-64-1	Acetone	5	U
75-15-0	Carbon disulfide	1	U
75-35-4	1,1-Dichloroethene	1	U
75-34-3	1,1-Dichloroethane	0.5	J
156-59-2	cis-1,2-Dichloroethene	0.6	J
156-60-5	trans-1,2-Dichloroethene	1	U
67-66-3	Chloroform	0.4	J
107-06-2	1,2-Dichloroethane	1	U
78-93-3	2-Butanone	5	U
74-97-5	Bromochloromethane	1	U
71-55-6	1,1,1-Trichloroethane	1	U
56-23-5	Carbon tetrachloride	1	U
75-27-4	Bromodichloromethane	1	U
78-87-5	1,2-Dichloropropane	1	U
10061-01-5	cis-1,3-Dichloropropene	1	U
79-01-6	Trichloroethene	1	U
124-48-1	Dibromochloromethane	1	U
79-00-5	1,1,2-Trichloroethane	1	U
71-43-2	Benzene	1	U
10061-02-6	trans-1,3-Dichloropropene	1	U
75-25-2	Bromoform	1	U
108-10-1	4-Methyl-2-pentanone	5	U
591-78-6	2-Hexanone	5	U
127-18-4	Tetrachloroethene	1	U
79-34-5	1,1,2,2-Tetrachloroethane	1	U
106-93-4	1,2-Dibromoethane	1	U
108-88-3	Toluene	1	U
108-90-7	Chlorobenzene	1	U
100-41-4	Ethylbenzene	1	U
100-42-5	Styrene	1	U
1330-20-7	Xylenes (total)	1	U
541-73-1	1,3-Dichlorobenzene	1	U
106-46-7	1,4-Dichlorobenzene	1	U
95-50-1	1,2-Dichlorobenzene	1	U
96-12-8	1,2-Dibromo-3-chloropropane	1	U
120-82-1	1,2,4-Trichlorobenzene	1	U

LOW CONC WATER VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.
EDCK4

Lab Name: ENVIROSYSTEMS Contract: 68-D7-0005

Lab Code: ENVSYS Case No.: 27876 SAS No.: SDG No.: EDCJ8

Lab Sample ID: 00030907 Date Received: 03/17/00

Lab File ID: 030907 Date Analyzed: 03/22/00

Purge Volume: 25.00 (ml) Dilution Factor: 1.0

GC Column: RTX-502.2 ID: 0.530 (mm) Length: 105 (m)

Number TICs found: 0

CAS NUMBER	COMPOUND NAME	RT	EST. CONC. (ug/L)	Q

VLCB

LOW CONC WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EDCK4

Lab Name: ENVIROSYSTEMS Contract: 68-D7-0005

Lab Code: ENVSYS Case No.: 27876 SAS No.: SDG No.: EDCJ8

Lab Sample ID: 00030907 Date Received: 03/17/00

Lab File ID: S030907 Date Extracted: 03/22/00

Sample volume: 1000 (ml) Date Analyzed: 03/28/00

Concentrated Extract Volume: 1000 (ul) Dilution Factor: 1.0

Injection Volume: 1.0 (ul) pH: 7.0

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
108-95-2	Phenol	5	U
111-44-4	bis(2-Chloroethyl)Ether	5	U
95-57-8	2-Chlorophenol	5	U
95-48-7	2-Methylphenol	5	U
108-60-1	2,2'-oxybis(1-Chloropropane)	5	U
106-44-5	4-Methylphenol	5	U
621-64-7	N-Nitroso-Di-n-Propylamine	5	U
67-72-1	Hexachloroethane	5	U
98-95-3	Nitrobenzene	5	U
78-59-1	Isophorone	5	U
88-75-5	2-Nitrophenol	5	U
105-67-9	2,4-Dimethylphenol	5	U
111-91-1	bis(2-Chloroethoxy)Methane	5	U
120-83-2	2,4-Dichlorophenol	5	U
91-20-3	Naphthalene	5	U
106-47-8	4-Chloroaniline	5	U
87-68-3	Hexachlorobutadiene	5	U
59-50-7	4-Chloro-3-Methylphenol	5	U
91-57-6	2-Methylnaphthalene	5	U
77-47-4	Hexachlorocyclopentadiene	5	U
88-06-2	2,4,6-Trichlorophenol	5	U
95-95-4	2,4,5-Trichlorophenol	20	U
91-58-7	2-Chloronaphthalene	5	U
88-74-4	2-Nitroaniline	20	U
131-11-3	Dimethylphthalate	5	U
208-96-8	Acenaphthylene	5	U
606-20-2	2,6-Dinitrotoluene	5	U
99-09-2	3-Nitroaniline	20	U
83-32-9	Acenaphthene	5	U

1LCC

LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EDCK4

Lab Name: ENVIROSYSTEMS Contract: 68-D7-0005

Lab Code: ENVSYS Case No.: 27876 SAS No.: SDG No.: EDCJ8

Lab Sample ID: 00030907 Date Received: 03/17/00

Lab File ID: S030907 Date Extracted: 03/22/00

Sample volume: 1000 (ml) Date Analyzed: 03/28/00

Concentrated Extract Volume: 1000 (ul) Dilution Factor: 1.0

Injection Volume: 1.0 (ul) pH: 7.0

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
51-28-5	2,4-Dinitrophenol	20	U
100-02-7	4-Nitrophenol	20	U
132-64-9	Dibenzofuran	5	U
121-14-2	2,4-Dinitrotoluene	5	U
84-66-2	Diethylphthalate	5	U
7005-72-3	4-Chlorophenyl-phenylether	5	U
86-73-7	Fluorene	5	U
100-01-6	4-Nitroaniline	20	U
534-52-1	4,6-Dinitro-2-methylphenol	20	U
86-30-6	N-Nitrosodiphenylamine (1)	5	U
101-55-3	4-Bromophenyl-phenylether	5	U
118-74-1	Hexachlorobenzene	5	U
87-86-5	Pentachlorophenol	20	U
85-01-8	Phenanthrene	5	U
120-12-7	Anthracene	5	U
84-74-2	Di-n-Butylphthalate	5	U
206-44-0	Fluoranthene	5	U
129-00-0	Pyrene	5	U
85-68-7	Butylbenzylphthalate	5	U
91-94-1	3,3'-Dichlorobenzidine	5	U
56-55-3	Benzo(a)Anthracene	5	U
218-01-9	Chrysene	5	U
117-81-7	bis(2-Ethylhexyl)Phthalate	5	U
117-84-0	Di-n-octylphthalate	5	U
205-99-2	Benzo(b)Fluoranthene	5	U
207-08-9	Benzo(k)Fluoranthene	5	U
50-32-8	Benzo(a)Pyrene	5	U
193-39-5	Indeno(1,2,3-cd)Pyrene	5	U
53-70-3	Dibenz(a,h)Anthracene	5	U
191-24-2	Benzo(g,h,i)Perylene	5	U

(1) - Cannot be separated from Diphenylamine

0..0439

1LCF

LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

EDCK4

Lab Name: ENVIROSYSTEMS Contract: 68-D7-0005

Lab Code: ENVSYS Case No.: 27876 SAS No.: SDG No.: EDCJ8

Lab Sample ID: 00030907 Date Received: 03/17/00

Lab File ID: S030907 Date Extracted: 03/22/00

Sample volume: 1000 (ml) Date Analyzed: 03/28/00

Concentrated Extract Volume: 1000 (ul) Dilution Factor: 1.0

Injection Volume: 1.0 (ul) pH: 7.0

Number TICs found: 0

CAS NUMBER	COMPOUND NAME	RT	EST. CONC. (ug/L)	Q

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 5 CENTRAL REGIONAL LABORATORY

536 SOUTH CLARK STREET

CHICAGO, ILLINOIS 60605

Date: MAY 25 2000

Subject: Review of Region 5 Data for **HIMCO LF**

From: Francis A. Awanya , Chemist FAA 5/25/00
Region 5 Central Regional Laboratory

To: Gwen Massenburg
SR 6J

MW CGP Inorganics
Hg, SO4, Br, ICP
Heavy Metals

Attached are the results for Site: **HIMCO LF**
CRL Data Set Number: **20000032**
for analyses of : **Sulfate and Bromide**
Results are reported for sample numbers: **20000SY04S14, 20000SY04S15, 20000SY04S16, 20000SY04S17, 20000SY04S18, 20000SY04S19, 20000SY04S20, 20000SY04S21, 20000SY04S22, 20000SY04S23, 20000SY04S24, 20000SY04S25, 20000SY04S26, 20000SY04S27, 20000SY04S28, 20000SY04S29, 20000SY04S30, 20000SY04S31, 20000SY04S32, 20000SY04S33, 20000SY04S34, 20000SY04S35, 20000SY04S36, 20000SY04S37, 20000SY04S38, and 20000SY04S39.**

Results Status:
(X) Acceptable for Use
(X) Data Qualified, but Acceptable for use **Sulfate 2000SY04S29 -S39**.
( ) Data Unacceptable for Use

Sylvia Griffin MAY 25 2000

CRL Data Management Coordinator and Date Received

Date Transmitted: MAY 25 2000

Please have the US EPA project leader fill out the customer survey form on the Region 5 Intranet: http://www.r5intra.epa.gov/crl/qa.html, (← by clicking on this link, or call George Schupp, CRL Sample Coordinator, at 3-1226).

Please sign and date this form below and return it with any comments to:

Sylvia Griffin
Data Management Coordinator
Region 5 Central Regional Laboratory
ML - 10C

Received by and Date

Comments:

ENVIRONMENTAL PROTECTION AGENCY
REGION V
CENTRAL REGIONAL LABORATORY
FINAL RESULT REPORT FOR THE TEAM: MINERAL/NUTRIENTS

DIVISION/BRANCH: SUPERFUND **SAMPLING DATE:** 04/25/2000 **LAB ARRIVAL DATE:** 04/28/2000 **DUE DATE:** 05/28/2000
DU NUMBER: 50102D **DATASET NUMBER:** 20000032 **STUDY:** HIMCO LF **PRIORITY:** HIGH **LABORATORY :**CRL

	CRL LOG NUMBER	SAMPLE DESCRIPTION	BROMIDE IN WATER (mg Br^-/L)	SULFATE IN WATER (mg $SO_4^=$/L)			
1	20000SY04S14		0.86 M	389 D			
2	20000SY04S15		1.33 M	654 D			
3	20000SY04S16		0.26 M	288 D			
4	20000SY04S17	WT102	0.014 U	0.46 M			
5	20000SY04S18	WT102C	0.14 M	36			
6	20000SY04S19	WT102B	0.08 M	58 D			
7	20000SY04S20	WT102A	0.06 M	202 D			
8	20000SY04S21		0.17 M	167 D			
9	20000SY04S22		0.06 M	178 D			
10	20000SY04S23		0.07 M	162 D			
11	20000SY04S24		0.04 M	72 D			
12	20000SY04S25	GP16-2	0.06 M	134 D			
13	20000SY04S26	GP101-1	0.29 M	76 D			
DATE OF ANALYSIS			05/02-03/2000	05/01 -04/2000			
ANALYST			FAA	FAA			

Reviewed by: AD Date: 5/25/2000

ENVIRONMENTAL PROTECTION AGENCY
REGION V
CENTRAL REGIONAL LABORATORY
FINAL RESULT REPORT FOR THE TEAM: MINERAL/NUTRIENTS

DIVISION/BRANCH: SUPERFUND SAMPLING DATE: 04/25/2000 LAB ARRIVAL DATE: 04/28/2000 DUE DATE: 05/28/2000
DU NUMBER: 50102D DATASET NUMBER: 20000032 STUDY: HIMCO LF PRIORITY: HIGH LABORATORY :CRL

	CRL LOG NUMBER	SAMPLE DESCRIPTION	BROMIDE IN WATER (mg Br^-/L)	SULFATE IN WATER (mg $SO_4^=$/L)			
14	20000SY04S27	GP101-2	0.17 M	97 D			
15	20000SY04S28	WT113B	0.06 M	131 D			
16	20000SY04S29	WT113A	0.014 U	24			
17	20000SY04S30	WTB-1	0.18 M	0.06 M			
18	20000SY04S31	WTB3	0.08 M	132D			
19	20000SY04S32	WTB4	0.11 M	38 D			
20	20000SY04S33	WT112B	0.07 M	56			
21	20000SY04S34	WT112B	0.07 M	56			
22	20000SY04S35	WT112A	0.04 M	434 D			
23	20000SY04S36	WTG3	0.06 M	32			
24	20000SY04S37	WTG1	0.05 M	59 D			
25	20000SY04S38	WT117A	0.06 M	169 D			
26	20000SY04S39	WT117B	0.07 M	318 D			
DATE OF ANALYSIS			05/02-03/2000	05/01 -04/2000			
ANALYST			FAA	FAA			

Reviewed by: AD Date: 5/25/00

Data Set Number:	*20000032*	**Parameter:**	*Sulfate and Bromide*
Facility Name:	*HIMCO LF*		
Study Name:	*HIMCO LF*		
Date of Narrative:	*05/25/2000*	**Analyst:**	*Francis A. Awanya*
		Signature:	Francis A. Awanya

ANALYSIS CASE NARRATIVE

Twenty six (26) water samples were collected for sulfate and bromide analyses on 4/25/2000. The samples arrived at the Central Regional Laboratory (CRL) on 4/28/2000. CRL sample identification numbers (CRL Sample ID) were assigned to the samples. The Station numbers and Locations were obtained from the Analysis Request Form (ARF). Not all the samples have station identifiers. All the samples did not contain station location. The following samples were received for analysis;

20000SY04S14, 20000SY04S15, 20000SY04S16, 20000SY04S17, 20000SY04S18, 20000SY04S19, 20000SY04S20, 20000SY04S21, 20000SY04S22, 20000SY04S23, 20000SY04S24, 20000SY04S25, 20000SY04S26, 20000SY04S27, 20000SY04S28, 20000SY04S29, 20000SY04S30, 20000SY04S31, 20000SY04S32, 20000SY04S33, 20000SY04S34, 20000SY04S35, 20000SY04S36, 20000SY04S37, 20000SY04S38, and 20000SY04S39.

The station numbers and locations were also provided on the Analysis Request Form (ARF). Samples were checked out for sulfate and bromide analysis from the CRL sample custodian on 05/01/2000. The samples were properly preserved by refrigeration. They were transferred to the Analytical and Inorganic (A&I) laboratory section of the CRL, and kept in a sample storage refrigerator until all other required analyses were completed.

SAMPLE ANALYSIS:

All samples were analyzed for sulfate and bromide using CRL Standard Operating Procedure (CRL.SOP) AIG045 (Method reference 300 A & B, EPA/600/R-93-100). No additional sample preparations were necessary. The instrument was calibrated for high and low level determination of sulfate and bromide following CRL.SOP AIG045 Part A on 3/24/2000 (High Level) and 4/10/2000 (Low Level).

All samples were analyzed between 05/01/2000 to 05/04/2000. Additional analysis were performed to resolve low matrix spike recoveries for sulfate for samples 20000SY04S29 to 20000SY04S39 between 05/11 - 22/2000. No recovery problems was encountered during bromide analysis. All bromide concentrations were below the reporting limit of the best calibration curve used.

SAMPLE RESULTS AND REPORTING:

All sulfate results were reported with either D, M, or U flags. A code defining those falgs are attached to the report. Bromide results for samples 2000SY04S17 and S29 were flagged with

Data Set Number:	*20000032*	**Parameter:**	*Sulfate and Bromide*
Facility Name:	*HIMCO LF*		
Study Name:	*HIMCO LF*		
Date of Narrative:	*05/25/2000*	**Analyst:**	*Francis A. Awanya*
		Signature:	Francis A. Awanya

ANALYSIS CASE NARRATIVE

U. The concentrations of Bromide in those samples were found to be below detection. All the remaining bromide results were reported with M flags. Bromide concentrations in all those samples were between the method detection limits (MDL) of 0.014 mg/L and the reporting limits (RL) of 0.5 mg/L.

MANUAL PEAK INTEGRATION:

No manual peak integration was used to process the results.

QUALITY CONTROL (QC):

No data quality objectives were provided by the requestor. Analysis results were evaluated using the QC requirements of CRL.SOP AIG045 (Method reference 300 A & B, EPA/600/R-93-100). All the required quality control criteria for the laboratory, method, and system performance audits were evaluated and determined to be within the limits with the following exceptions;

Matrix spike: The matrix spike recoveries for sulfate samples from 20000SY04S29 to 20000SY04S39 were found to be biased low. Selecting different samples from this bracket result in low recoveries as well. Typical recover values were between 50% to 71%. Other troubling shooting measures including using a new column did not improve the recoveries. A probable cause is matrix interference. Spikes from two samples before2000SY04S29 were within the limits. Use the data with caution. The sulfate results could be biased low.

All the bromide QC audits were within the limits.

ELECTRONIC DATA:

Electronic data are archived in;
H:\R5CRL\VOL1\MIN_NUT\FAWANYA\20000032\DX500_SYSTEM3_CD20\20000032\..under the following additional folders;
1. All_Other_Analysis, 2. Autosampler_Schedules, 3. Method_used, and 4. Reported_Run_Files. The case narrative is contained in folder 20000032.

CRL Data Review Qualification Codes

QUALIFIER	DESCRIPTION
B	This flag is used when the analyte is found in the associated ***B***lank as well as the sample. It indicates possible blank contamination and warns the user to take appropriate action while assessing the data. See the case narrative for a discussion of common lab contaminants and/or the relative concentration of contamination in the samples and blanks for relevance.
D	This flag is used when the analyte concentration results from a required ***D***ilution of the sample, extract or digestate.
E	This flag is used to identify analyte concentrations ***E***xceeding the upper calibration range of the analytical instrument after dilution of the sample, extract or digestate. The reported value is considered to be estimated
J	This flag is used when the analyte is estimated due to quality control limit(s) being exceeded. This flag accompanies all GC/MS tentatively identified compounds (TICs). This flag also applies to a suspected, unidentified interference. This flag is placed on affected detected results as well as non-detected (i.e., "U" flagged) results. (***J*** is the flag used in the Superfund CLP SOW and Data Review Functional Guidelines and is used by CRL for consistency.)
M	This flag is used when the analyte is confirmed to be qualitatively present in the sample, extract or digestate, at or above the CRL ***M***ethod Detection Limit (MDL) but below the CRL reporting limit (RL). This flag applies to all values in this concentration range and indicates the quantitated value is estimated due to its presence in this concentration range.
N	This flag applies to GC/MS Te***N***tatively Identified Compounds (TICs) that have a mass spectral library match.
Q	This flag applies to analyte data that are severely estimated due to quality control and/or ***Q***uantitation problems, but are confirmed to be qualitatively present in the sample. No value is reported with this qualification flag.
R	This flag applies to analyte data that are ***R***ejected and unusable due to severe quality control, quantitation and/or qualitative identification problems. No other qualification flags are reported for this analyte. No value is reported with this qualification flag.
U	This flag in used when the analyte was analyzed but ***U***ndetected in the sample. The CRL RL for the analyte accompanies this flag. As with sample results that are positive, the value is corrected for dry weight, dilution and/or sample weight or volume.

4/11/00

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 5 CENTRAL REGIONAL LABORATORY

536 SOUTH CLARK STREET

CHICAGO, ILLINOIS 60605

Date: MAY 25 2000

Subject: Review of Region 5 Data for **HIMCO LF**

From: Francis A. Awanya , Chemist FAA 5/25/00
Region 5 Central Regional Laboratory

To:

Attached are the results for Site: **HIMCO LF**
CRL Data Set Number: **20000032**
for analyses of : **Sulfate and Bromide**
Results are reported for sample numbers: **20000SY04S14, 20000SY04S15, 20000SY04S16, 20000SY04S17, 20000SY04S18, 20000SY04S19, 20000SY04S20, 20000SY04S21, 20000SY04S22, 20000SY04S23, 20000SY04S24, 20000SY04S25, 20000SY04S26, 20000SY04S27, 20000SY04S28, 20000SY04S29, 20000SY04S30, 20000SY04S31, 20000SY04S32, 20000SY04S33, 20000SY04S34, 20000SY04S35, 20000SY04S36, 20000SY04S37, 20000SY04S38, and 20000SY04S39.**

Results Status:
(X) Acceptable for Use
(X) Data Qualified, but Acceptable for use **Sulfate 2000SY04S29 -S39**.
( ) Data Unacceptable for Use

Sylvia Griffin MAY 25 2000

CRL Data Management Coordinator and Date Received

Date Transmitted: MAY 25 2000

Please have the US EPA project leader fill out the customer survey form on the Region 5 Intranet: http://www.r5intra.epa.gov/crl/qa.html, (← by clicking on this link, or call George Schupp, CRL Sample Coordinator, at 3-1226).

Please sign and date this form below and return it with any comments to:

Sylvia Griffin
Data Management Coordinator
Region 5 Central Regional Laboratory
ML - 10C

Received by and Date

Comments:

Data Set Number:	*20000032*	**Parameter:**	*Sulfate and Bromide*
Facility Name:	*HIMCO LF*		
Study Name:	*HIMCO LF*		
Date of Narrative:	*05/25/2000*	**Analyst:**	*Francis A. Awanya*
		Signature:	Francis A. Awanya

ANALYSIS CASE NARRATIVE

Twenty six (26) water samples were collected for sulfate and bromide analyses on 4/25/2000. The samples arrived at the Central Regional Laboratory (CRL) on 4/28/2000. CRL sample identification numbers (CRL Sample ID) were assigned to the samples. The Station numbers and Locations were obtained from the Analysis Request Form (ARF). Not all the samples have station identifiers. All the samples did not contain station location. The following samples were received for analysis;

20000SY04S14, 20000SY04S15, 20000SY04S16, 20000SY04S17, 20000SY04S18, 20000SY04S19, 20000SY04S20, 20000SY04S21, 20000SY04S22, 20000SY04S23, 20000SY04S24, 20000SY04S25, 20000SY04S26, 20000SY04S27, 20000SY04S28, 20000SY04S29, 20000SY04S30, 20000SY04S31, 20000SY04S32, 20000SY04S33, 20000SY04S34, 20000SY04S35, 20000SY04S36, 20000SY04S37, 20000SY04S38, and 20000SY04S39.

The station numbers and locations were also provided on the Analysis Request Form (ARF). Samples were checked out for sulfate and bromide analysis from the CRL sample custodian on 05/01/2000. The samples were properly preserved by refrigeration. They were transferred to the Analytical and Inorganic (A&I) laboratory section of the CRL, and kept in a sample storage refrigerator until all other required analyses were completed.

SAMPLE ANALYSIS:

All samples were analyzed for sulfate and bromide using CRL Standard Operating Procedure (CRL.SOP) AIG045 (Method reference 300 A & B, EPA/600/R-93-100). No additional sample preparations were necessary. The instrument was calibrated for high and low level determination of sulfate and bromide following CRL.SOP AIG045 Part A on 3/24/2000 (High Level) and 4/10/2000 (Low Level).

All samples were analyzed between 05/01/2000 to 05/04/2000. Additional analysis were performed to resolve low matrix spike recoveries for sulfate for samples 20000SY04S29 to 20000SY04S39 between 05/11 - 22/2000. No recovery problems was encountered during bromide analysis. All bromide concentrations were below the reporting limit of the best calibration curve used.

SAMPLE RESULTS AND REPORTING:

All sulfate results were reported with either D, M, or U flags. A code defining those falgs are attached to the report. Bromide results for samples 2000SY04S17 and S29 were flagged with

Data Set Number:	*20000032*	**Parameter:**	*Sulfate and Bromide*
Facility Name:	*HIMCO LF*		
Study Name:	*HIMCO LF*		
Date of Narrative:	*05/25/2000*	**Analyst:**	*Francis A. Awanya*
		Signature:	Francis A. Awanya

ANALYSIS CASE NARRATIVE

U. The concentrations of Bromide in those samples were found to be below detection. All the remaining bromide results were reported with M flags. Bromide concentrations in all those samples were between the method detection limits (MDL) of 0.014 mg/L and the reporting limits (RL) of 0.5 mg/L.

MANUAL PEAK INTEGRATION:

No manual peak integration was used to process the results.

QUALITY CONTROL (QC):

No data quality objectives were provided by the requestor. Analysis results were evaluated using the QC requirements of CRL.SOP AIG045 (Method reference 300 A & B, EPA/600/R-93-100). All the required quality control criteria for the laboratory, method, and system performance audits were evaluated and determined to be within the limits with the following exceptions;

Matrix spike: The matrix spike recoveries for sulfate samples from 20000SY04S29 to 20000SY04S39 were found to be biased low. Selecting different samples from this bracket result in low recoveries as well. Typical recover values were between 50% to 71%. Other troubling shooting measures including using a new column did not improve the recoveries. A probable cause is matrix interference. Spikes from two samples before2000SY04S29 were within the limits. Use the data with caution. The sulfate results could be biased low.

All the bromide QC audits were within the limits.

ELECTRONIC DATA:

Electronic data are archived in;
H:\R5CRL\VOL1\MIN_NUT\FAWANYA\20000032\DX500_SYSTEM3_CD20\20000032\..under the following additional folders;
1. All_Other_Analysis, 2. Autosampler_Schedules, 3. Method_used, and 4. Reported_Run_Files. The case narrative is contained in folder 20000032.

ENVIRONMENTAL PROTECTION AGENCY
REGION V
CENTRAL REGIONAL LABORATORY
FINAL RESULT REPORT FOR THE TEAM: MINERAL/NUTRIENTS

DIVISION/BRANCH: SUPERFUND **SAMPLING DATE:** 04/25/2000 **LAB ARRIVAL DATE:** 04/28/2000 **DUE DATE:** 05/28/2000
DU NUMBER: 50102D **DATASET NUMBER:** 20000032 **STUDY:** HIMCO LF **PRIORITY:** HIGH **LABORATORY :**CRL

	CRL LOG NUMBER	SAMPLE DESCRIPTION	BROMIDE IN WATER ($mg\ Br^-/L$)	SULFATE IN WATER ($mg\ SO_4^=/L$)			
1	20000SY04S14	GPE-1	0.86 M	389 D			
2	20000SY04S15	GPE-2	1.33 M	654 D			
3	20000SY04S16	GPE-3	0.26 M	288 D			
4	20000SY04S17	WT102	0.014 U	0.46 M			
5	20000SY04S18	WT102C	0.14 M	36			
6	20000SY04S19	WT102B	0.08 M	58 D			
7	20000SY04S20	WT102A	0.06 M	202 D			
8	20000SY04S21	GP-114-1	0.17 M	167 D			
9	20000SY04S22	GP-114-2	0.06 M	178 D			
10	20000SY04S23	GP-114-3	0.07 M	162 D			
11	20000SY04S24	GP-16-1	0.04 M	72 D			
12	20000SY04S25	GP16-2	0.06 M	134 D			
13	20000SY04S26	GP101-1	0.29 M	76 D			
DATE OF ANALYSIS			05/02-03/2000	05/01 -04/2000			
ANALYST			FAA	FAA			

Reviewed by: AD Date: 5/25/2000

ENVIRONMENTAL PROTECTION AGENCY
REGION V
CENTRAL REGIONAL LABORATORY
FINAL RESULT REPORT FOR THE TEAM: MINERAL/NUTRIENTS

DIVISION/BRANCH: SUPERFUND SAMPLING DATE: 04/25/2000 LAB ARRIVAL DATE: 04/28/2000 DUE DATE: 05/28/2000
DU NUMBER: 50102D DATASET NUMBER: 20000032 STUDY: HIMCO LF PRIORITY: HIGH LABORATORY :CRL

	CRL LOG NUMBER	SAMPLE DESCRIPTION	BROMIDE IN WATER (mg Br^-/L)	SULFATE IN WATER (mg $SO_4^=$/L)			
14	20000SY04S27	GP101-2	0.17 M	97 D			
15	20000SY04S28	WT113B	0.06 M	131 D			
16	20000SY04S29	WT113A	0.014 U	24			
17	20000SY04S30	WTB-1	0.18 M	0.06 M			
18	20000SY04S31	WTB3	0.08 M	132D			
19	20000SY04S32	WTB4	0.11 M	38 D			
20	20000SY04S33	WT112B	0.07 M	56			
21	20000SY04S34	WT112B	0.07 M	56			
22	20000SY04S35	WT112A	0.04 M	434 D			
23	20000SY04S36	WTG3	0.06 M	32			
24	20000SY04S37	WTG1	0.05 M	59 D			
25	20000SY04S38	WT117A	0.06 M	169 D			
26	20000SY04S39	WT117B	0.07 M	318 D			
DATE OF ANALYSIS			05/02-03/2000	05/01 -04/2000			
ANALYST			FAA	FAA			

Reviewed by: AD Date: 5/25/00

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 5 CENTRAL REGIONAL LABORATORY

536 SOUTH CLARK STREET

CHICAGO, ILLINOIS 60605

Date: JUN 12 2000

Subject: Review of Region 5 Data for Himco Dump Code:054J

From: ESAT , Chemist
Region 5 Central Regional Laboratory

To: Gwen Massenburg

Attached are the results for Site: Himco Dump Code:054J
CRL Data Set Number: 20000032
for analyses of : ICP
Results are reported for sample numbers: 2000SY04S14, 2000SY04S15, 2000SY04S16, 2000SY04S17, 2000SY04S18, 2000SY04S19, 2000SY04S20, 2000SY04S21, 2000SY04S22, 2000SY04S23, 2000SY04S24, 2000SY04S25, 2000SY04S26, 2000SY04S27, 2000SY04S28, 2000SY04S29, 2000SY04S30, 2000SY04S31, 2000SY04S32, 2000SY04S33, 2000SY04S34, 2000SY04S35, 2000SY04S36, 2000SY04S37, 2000SY04S38 and 2000SY04S39

Results Status:
(x) Acceptable for Use for most metals
(x) Data Qualified, but Acceptable for use for metals with attached flags
( ) Data Unacceptable for Use

Sylvia Griffin JUN 12 2000

CRL Data Management Coordinator and Date Received

Date Transmitted: JUN 12 2000

Please have the US EPA project leader fill out the customer survey form on the Region 5 Intranet: http://www.r5intra.epa.gov/crl/qa.html, (← by clicking on this link, or call George Schupp, CRL Sample Coordinator, at 3-1226).

Please sign and date this form below and return it with any comments to:

Sylvia Griffin
Data Management Coordinator
Region 5 Central Regional Laboratory
ML - 10C

Received by and Date

Comments:

Lockheed Martin Services Group
Environmental Services & Technologies Region 5
536 South Clark Street #1050 Chicago, IL 60605
Telephone 312-353-8302 Facsimile 312-353-8307

LOCKHEED MARTIN

Date: June 9, 2000

To: John V. Morris, EPA WAM

From: Richard Dilg, ESAT Chemist RD 6-12-00

Thru: Ziyad Rajabi, ESAT Team Manager

Copies: John Ganz, ESAT Inorganic Group Leader
Jay Thakkar, ESAT Contract RPO

Ref: TDF# 5104-290
WA# 05-00-4-04
Contract # 68D60002

SUBJECT: Data Set SF20000032: ICP Analyses for Himco Dump samples using CRL Method **200.7**

Attached is the deliverable for Data Set SF20000032 ICP analysis of 26 water samples.

If you have any question please feel free to contact ESAT.

QD
6-12-00

Method Number: 200.7
Date Generated: June 9, 2000
Author: R.Dilg,Lockheed-ESAT

Site Name: Himco Dump
Work Unit Number: 05-00-4-04
TDF Number: 5104-290
Charge Number: ESE-51-033
Batch ID No.: 20000032
Parameter: ICP

ICP NARRATIVE

This narrative covers the analysis of 26 water samples from the named site sampled for ICP metals analysis. Sample pH values were checked (see digestion log sheet) and all were found to be properly preserved.

Sample Nos.	Sample Station ID's	Sample collected	Analysis date
2000SY04S14*	GPE-1	4-25-2000	5-23-2000
2000SY04S15*	GPE-2	4-25-2000	5-23-2000
2000SY04S16*	GPE-3	4-25-2000	5-23-2000
2000SY04S17	WT102	4-25-2000	5-23-2000
2000SY04S18*	WT102C	4-25-2000	5-23-2000
2000SY04S19	WT102B	4-25-2000	5-23-2000
2000SY04S20	WT102A	4-25-2000	5-23-2000
2000SY04S21	GP114-1	4-25-2000	5-23-2000
2000SY04S22*	GP114-2	4-25-2000	5-23-2000
2000SY04S23*	GP114-3	4-25-2000	5-23-2000
2000SY04S24*	GP16-1	4-25-2000	5-23-2000
2000SY04S25*	GP16-2	4-25-2000	5-23-2000
2000SY04S26*	GP101-1	4-25-2000	5-23-2000
2000SY04S27*	GP101-2	4-25-2000	5-23-2000
2000SY04S28	WT113B	4-26-2000	5-23-2000
2000SY04S29	WT113A	4-26-2000	5-23-2000
2000SY04S30	WTB1	4-26-2000	5-23-2000
2000SY04S31	WTB3	4-26-2000	5-23-2000
2000SY04S32	WTB4	4-26-2000	5-23-2000
2000SY04S33	WT112B	4-27-2000	5-23-2000
2000SY04S34	WT112B	4-27-2000	5-23-2000
2000SY04S35	WT112A	4-27-2000	5-23-2000
2000SY04S36	WTG3	4-27-2000	5-23-2000
2000SY04S37	WTG1	4-27-2000	5-23-2000
2000SY04S38	WT117A	4-27-2000	5-23-2000
2000SY04S39	WT117B	4-27-2000	5-23-2000

* these samples contained brown solids

Routine CRL microwave digestion procedures were used to prepare the water sample for ICP analysis. The digests for the samples that are asterisked in the above listing were all filtered prior to the ICP analysis run. The sample digests were analyzed using the JY138 ICP unit; the JYSED5 analysis run method was used. ICP analysis results for the water samples were stored to file RUN1178.

RB 6-7-00

ICP RUN RESULTS

One day analyte mdl's were determined on May 16, 2000. Also newly calculated rl values were determined. These values were used in reporting sample analysis results for this data case.

Because of recently issued CRL SOP's, a newly instituted check audit, the reporting limit (RL) check solution was prepared. Analysis of this check audit solution was performed twice during the analysis run, at the beginning of the run and also at the end.

Also for QA evaluation purposes, mid range and high AQC check audit acceptance criteria used were 100 ± 10 %R for check audits.

The following analytes will either not be addressed or only minimally mentioned in this case narrative:

Sn, Tl, As, Se, Sb, Mo, Pb, Cd, Ti, Y, Sr, Li

The following lists the case pertinent out-of-control QC audit check results:

RUN 1178:

Blanks:	Instr Blank 1:	Ca315,	*	
		Mg383,	*	
	Digest Blank 1:	Ca315,	*	
		Cu324,	3.2	µg/L
		Mg383,	*	
		Na588,	- 16.6	µg/L
	Instr Blank 2:	Ca315,	*	
		Mg383,	*	
	Digest Blank 2:	Zn213,	15.5	µg/L
		Be234,	- 0.67	"
		Fe271,	*	
		Al308,	*	
		Ca315,	*	
	Instr Blank 3:	Mg383,	*	
	Digest Blank 3:	Zn213,	13.1	µg/L
		Fe259,	42.2	"
		Mg279,	4.5	"
		Mg383,	*	
	Instr Blank 4:	Na588,	- 18.8	µg/L

* alternate analytes lines used to monitor these audits

RD 6-12-00

ICP RUN RESULTS (Continued)

AQC's:	AQC 1:	Ni231,	11.68	percent deviation
	AQC 2:	Co228,	10.26	"
		Ni231,	11.15	"
	AQC 3:	Ni231,	10.76	"
		Fe271,	*	
	AQC 4:	Cr205,	12.63	percent deviation
		Zn213,	11.15	"
		Co228,	10.74	"
		Ni231,	14.01	"
		Fe271,	*	
		Mg279,	11.44	percent deviation
		Ca315,	*	

* alternate analytes lines used to monitor these audits

HI AQC's: HI AQC 4: Na588, - 10.03 percent deviation

Matrix Spike:	2000SY04S17:	Zn481,	*
	2000SY04S28:	Fe271,	*
		Ca315,	#
		Ca393,	*
	2000SY04S33:	Al308,	*
		Ca393,	*
		Zn481,	*

* alternate analytes lines used to monitor these audits
\# audit not valid; sample conc. > 2X spike conc.

Spiked Blank: Zn481, *

* alternate analytes lines used to monitor these audits

RL check Soln: RL 1:
(See paragraph below regarding RL's)
RL 2:

Per a discussion with J. V. Morris, the RL values calculated from the May 16th MDL analysis run were used as reporting limits (instead of the formerly used mdl values) for the sample analysis results for this case.

6-18-00

ICP RUN RESULTS (Continued)

Presently no "control" actions are associated with the observed RL analyte values actually determined during the analysis run. RL check solution values currently are being analyzed for purposes of generating a benchmark set of values which can be used to monitor the appropriateness of any given RL level of analyte concentration.

An ambiguously stated flag in SOP HK005 is the "B" flag. Although a "more than 10 times" rule was mentioned for blanks for considering data as useable, it was not clearly stated whether or not the "B" flag should be used. As a matter of fact, to this analyst, from reading the wording used in the SOP the flow or intent seems to imply (but is not specifically stated to do so) to always use the "B" flag regardless of the sample level if a control audit blank is above an MDL level ! This analyst used the "B" flag for those analyte cases where the MDL value was exceeded but the 10 times value was not exceeded.

All Tl, As, Sb, Cd, Pb, and Se results were not reported by ICP. See GFAA results for these analytes.

For Al, the sample result for 2000SYS04S36 was flagged "M" indicating it had a result between the MDL and the RL values and it is estimated. The remaining Al sample results are usable.

For Be, the sample result for 2000SYS04S25 was flagged "M" indicating it had a result between the MDL and the RL values and it is estimated. The sample result for 2000SY04S25 was also flagged "B" since it may have been affected by possible contamination indicated by blank analysis data. The remaining Be sample results are usable.

For Co, sample results for 2000SY04S14, S15, S16, S20, S23, S24, S25, and S26 are estimated due to possible high bias indicated from the middle check audit values. "J" flags were used. Sample results for 2000SY04S14, S15, S16, S20, S24, and S26 were also flagged "M" indicating they had results between the MDL and the RL value. The remaining Co sample results are usable.

For Cr, sample results for 2000SY04S14, S15, S16, S18, S19, S20, S22, S23, S24, S25, S26, S27, S30, and S38 are estimated due to possible high bias indicated from the middle check audit values. "J" flags were used. The sample result for 2000SY04S30 was also flagged "M" indicating it had a result between the MDL and the RL values. The remaining Cr sample results are usable.

JD 6-12-00

ICP RUN RESULTS (continued)

For Cu, sample results for 2000SYS04S17, S18, S27, S29, and S38 were flagged "M" indicating they had results between the MDL and the RL values and they are estimated. Sample results for 2000SY04S14, S16, S17, S18, ,S22, S24, S26, S27, S29, and S38 were flagged "B" and are estimated since they may have been affected by possible contamination indicated by blank analysis data. Any remaining Cu sample results are usable.

For Fe, sample results for 2000SYS04S17 and S35 were flagged "M" indicating they had results between the MDL and the RL values and they are estimated. Sample results for 2000SY04S17, S20, S21, S29, S32, and S35 were flagged "B" and are estimated since they may have been affected by possible contamination indicated by blank analysis data. Any remaining Fe sample results are usable.

For Mn, sample results for 2000SYS04S17 and S35 were flagged "M" indicating they had results between the MDL and the RL values and they are estimated. The remaining Mn sample results are usable.

For Mg, sample results for 2000SY04S17, S20, S29, S35, and S38 are estimated due to possible high bias indicated from the middle check audit values. "J" flags were used. The remaining Mg sample results are usable.

For Ni, sample results for 2000SY04S14, S15, S16, S18, S19, S20, S22, S23, S24, S25, S26, S27, S30, S36, S37, and S38 are estimated due to possible high bias indicated from the middle check audit values. "J" flags were used. Sample results for 2000SY04S19, S22, S24, S27, S30, S36, S37, and S38 was also flagged "M" indicating they had results between the MDL and the RL values. The remaining Ni sample results are usable.

For K, the sample result for 2000SYS04S17 was flagged "M" indicating it had a result between the MDL and the RL values and it is estimated. The remaining K sample results are usable.

For Ag, the sample result for 2000SYS04S19 was flagged "M" indicating it had a result between the MDL and the RL values and it is estimated. The remaining Ag sample results are usable.

For V, sample results for 2000SYS04S16, S18, S19, S24, S35, and S38 were flagged "M" indicating they had results between the MDL and the RL values and they are estimated. The remaining V sample results are usable.

PD 6-12-00

ICP RUN RESULTS (continued)

For Zn, sample results for 2000SY04S14, S15, S16, S18, S22, S23, S24, S25, S26, S27, and S30 are estimated due to possible high bias indicated from the middle check audit values. "J" flags were used. The sample result for 2000SY04S18 was also flagged "M" indicating it had a result between the MDL and the RL values. Sample results for 2000SY04S14, S15, S16, S18, S22, S24, S26, S27, and S30 were flagged "B" and are estimated since they may have been affected by possible contamination indicated by blank analysis data. Any remaining Zn sample results are usable.

For Na, in the professional judgment of the ICP analyst, all Na sample results are usable.

Samples 2000SY04S33 and S34 appear to have been sampled at the same time and could be used as a measure of field "duplicates". Analyte values for the two samples correlate well.

Other Comments

As far as the deliverables are concerned the following were submitted:

- Raw data printouts for RUN 1178
- Analysis run log for RUN 1178
- QA analysis run summaries for the above RUN
- QA lab duplicate and matrix spike summaries
- individual worksheets showing raw and IEC corrected results
- a table showing a list of IEC factors used to correct raw ICP data

The last two items mentioned above were included since the interelement corrections were applied to the ICP values after the actual ICP analysis run. The QA run summaries, QA duplicate and matrix spike summaries, and the sample analysis data for the analytes reported all used results that were interelement corrected. The IEC corrections were made using matrix algebra methods and Lotus spreadsheet software.

R5CRL Files

The following pathways were used for storing analysis information to the R5CRL file server for this data set:

```
(Vol 3 on 'R5crl')[H:]\metals\Rdilg\20000032\Icp\JY138 Ultrace\Interim Lotus SS data
(Vol 3 on 'R5crl')[H:]\metals\Rdilg\20000032\Icp\JY138 Ultrace\narrative
(Vol 3 on 'R5crl')[H:]\metals\Rdilg\20000032\Icp\JY138 Ultrace\QA and sample reports
(Vol 3 on 'R5crl')[H:]\metals\Rdilg\20000032\Icp\JY138 Ultrace\Raw data
```

CRL Data Review Qualification Codes

QUALIFIER	DESCRIPTION
B	This flag is used when the analyte is found in the associated ***B***lank as well as the sample. It indicates possible blank contamination and warns the user to take appropriate action while assessing the data. See the case narrative for a discussion of common lab contaminants and/or the relative concentration of contamination in the samples and blanks for relevance.
D	This flag is used when the analyte concentration results from a required ***D***ilution of the sample, extract or digestate.
E	This flag is used to identify analyte concentrations ***E***xceeding the upper calibration range of the analytical instrument after dilution of the sample, extract or digestate. The reported value is considered to be estimated
J	This flag is used when the analyte is estimated due to quality control limit(s) being exceeded. This flag accompanies all GC/MS tentatively identified compounds (TICs). This flag also applies to a suspected, unidentified interference. This flag is placed on affected detected results as well as non-detected (i.e., "U" flagged) results. (***J*** is the flag used in the Superfund CLP SOW and Data Review Functional Guidelines and is used by CRL for consistency.)
M	This flag is used when the analyte is confirmed to be qualitatively present in the sample, extract or digestate, at or above the CRL ***M***ethod Detection Limit (MDL) but below the CRL reporting limit (RL). This flag applies to all values in this concentration range and indicates the quantitated value is estimated due to its presence in this concentration range.
N	This flag applies to GC/MS Te***N***tatively Identified Compounds (TICs) that have a mass spectral library match.
Q	This flag applies to analyte data that are severely estimated due to quality control and/or ***Q***uantitation problems, but are confirmed to be qualitatively present in the sample. No value is reported with this qualification flag.
R	This flag applies to analyte data that are ***R***ejected and unusable due to severe quality control, quantitation and/or qualitative identification problems. No other qualification flags are reported for this analyte. No value is reported with this qualification flag.
U	This flag in used when the analyte was analyzed but ***U***ndetected in the sample. The CRL RL for the analyte accompanies this flag. As with sample results that are positive, the value is corrected for dry weight, dilution and/or sample weight or volume.

4/11/00

EPA CRL - REGION V
ICP FINAL RESULTS REPORT

REPORT PRODUCED ON: 24-May-00

SAMPLE ORGANIZATION:

SAMPLE BATCH ID: 20000032

LABORATORY: REGION 5 CRL

SAMPLE FACILITY: Himco Dump

SAMPLE: 2000SY04S22

ANALYZED: 23-May-00

STATION: GP114-2

COMPOUND	AMOUNT			(Units)
Aluminum	1180			(ug/L)
Barium	48.4			(ug/L)
Beryllium	2	U		(ug/L)
Calcium	245000			(ug/L)
Chromium	19.1	J		(ug/L)
Cobalt	13.2	U		(ug/L)
Copper	11.5		B	(ug/L)
Iron	13400			(ug/L)
Magnesium	34500			(ug/L)
Manganese	309			(ug/L)
Nickel	7	MJ		(ug/L)
Potassium	2760			(ug/L)
Silver	11.1	U		(ug/L)
Sodium	15300			(ug/L)
Vanadium	5.1	U		(ug/L)
Zinc	40.7	J	B	(ug/L)

ANALYZED BY: 6-9-00

EPA CRL - REGION V
ICP FINAL RESULTS REPORT

REPORT PRODUCED ON: 24-May-00

SAMPLE ORGANIZATION:

SAMPLE BATCH ID: 20000032

LABORATORY: REGION 5 CRL

SAMPLE FACILITY: Himco Dump

SAMPLE: 2000SY04S23

ANALYZED: 23-May-00

STATION: GP114-3

COMPOUND	AMOUNT		(Units)
Aluminum	6420		(ug/L)
Barium	95.6		(ug/L)
Beryllium	2	U	(ug/L)
Calcium	315000		(ug/L)
Chromium	173	J	(ug/L)
Cobalt	14.9	J	(ug/L)
Copper	76.3		(ug/L)
Iron	56300		(ug/L)
Magnesium	57300		(ug/L)
Manganese	881		(ug/L)
Nickel	57.8	J	(ug/L)
Potassium	4650		(ug/L)
Silver	11.1	U	(ug/L)
Sodium	17300		(ug/L)
Vanadium	8.8		(ug/L)
Zinc	156	J	(ug/L)

ANALYZED BY: RT 6-9-00

EPA CRL - REGION V
ICP FINAL RESULTS REPORT

REPORT PRODUCED ON: 24-May-00

SAMPLE ORGANIZATION:

SAMPLE BATCH ID: 20000032

LABORATORY: REGION 5 CRL

SAMPLE FACILITY: Himco Dump

SAMPLE: 2000SY04S24

ANALYZED: 23-May-00

STATION: GP16-1

COMPOUND	AMOUNT			(Units)
Aluminum	2160			(ug/L)
Barium	45.7			(ug/L)
Beryllium	2	U		(ug/L)
Calcium	176000			(ug/L)
Chromium	38.1	J		(ug/L)
Cobalt	7.7	MJ		(ug/L)
Copper	18.4		B	(ug/L)
Iron	12800			(ug/L)
Magnesium	34100			(ug/L)
Manganese	563			(ug/L)
Nickel	18.4	MJ		(ug/L)
Potassium	3060			(ug/L)
Silver	11.1	U		(ug/L)
Sodium	21600			(ug/L)
Vanadium	3.9	M		(ug/L)
Zinc	43	J	B	(ug/L)

ANALYZED BY: 6-9-00

EPA CRL - REGION V
ICP FINAL RESULTS REPORT

REPORT PRODUCED ON: 24-May-00

SAMPLE ORGANIZATION:

SAMPLE BATCH ID: 20000032

LABORATORY: REGION 5 CRL

SAMPLE FACILITY: Himco Dump

SAMPLE: 2000SY04S25

ANALYZED: 23-May-00

STATION: GP16-2

COMPOUND	AMOUNT		(Units)
Aluminum	11900		(ug/L)
Barium	164		(ug/L)
Beryllium	0.7	M B	(ug/L)
Calcium	505000		(ug/L)
Chromium	124	J	(ug/L)
Cobalt	20.8	J	(ug/L)
Copper	105		(ug/L)
Iron	71400		(ug/L)
Magnesium	116000		(ug/L)
Manganese	1820		(ug/L)
Nickel	64.6	J	(ug/L)
Potassium	4330		(ug/L)
Silver	11.1	U	(ug/L)
Sodium	16300		(ug/L)
Vanadium	29.9		(ug/L)
Zinc	172	J	(ug/L)

ANALYZED BY: 6-9-00

EPA CRL - REGION V
ICP FINAL RESULTS REPORT

REPORT PRODUCED ON: 24-May-00

SAMPLE ORGANIZATION:

SAMPLE BATCH ID: 20000032

LABORATORY: REGION 5 CRL

SAMPLE FACILITY: Himco Dump

SAMPLE: 2000SY04S26

ANALYZED: 23-May-00

STATION: GP101-1

COMPOUND	AMOUNT			(Units)
Aluminum	3410			(ug/L)
Barium	118			(ug/L)
Beryllium	2	U		(ug/L)
Calcium	281000			(ug/L)
Chromium	64.4	J		(ug/L)
Cobalt	10.2	MJ		(ug/L)
Copper	31.1		B	(ug/L)
Iron	26400			(ug/L)
Magnesium	42600			(ug/L)
Manganese	634			(ug/L)
Nickel	29.9	J		(ug/L)
Potassium	6080			(ug/L)
Silver	11.1	U		(ug/L)
Sodium	22800			(ug/L)
Vanadium	6			(ug/L)
Zinc	82.3	J	B	(ug/L)

ANALYZED BY: [signature] 6-9-00

EPA CRL - REGION V
ICP FINAL RESULTS REPORT

REPORT PRODUCED ON: 24-May-00

SAMPLE ORGANIZATION:

SAMPLE BATCH ID: 20000032

LABORATORY: REGION 5 CRL

SAMPLE FACILITY: Himco Dump

SAMPLE: 2000SY04S27

ANALYZED: 23-May-00

STATION: GP101-2

COMPOUND	AMOUNT			(Units)
Aluminum	455			(ug/L)
Barium	128			(ug/L)
Beryllium	2	U		(ug/L)
Calcium	210000			(ug/L)
Chromium	12.6	J		(ug/L)
Cobalt	13.2	U		(ug/L)
Copper	7.3	M	B	(ug/L)
Iron	12000			(ug/L)
Magnesium	33800			(ug/L)
Manganese	356			(ug/L)
Nickel	10.2	MJ		(ug/L)
Potassium	6190			(ug/L)
Silver	11.1	U		(ug/L)
Sodium	25200			(ug/L)
Vanadium	5.1	U		(ug/L)
Zinc	34.3	J	B	(ug/L)

ANALYZED BY: RD 6-9-00

EPA CRL - REGION V
ICP FINAL RESULTS REPORT

REPORT PRODUCED ON: 24-May-00

SAMPLE ORGANIZATION:

SAMPLE BATCH ID: 20000032

LABORATORY: REGION 5 CRL

SAMPLE FACILITY: Himco Dump

SAMPLE: 2000SY04S28

ANALYZED: 23-May-00

STATION: WT113B

COMPOUND	AMOUNT	(Units)
Aluminum	118 U	(ug/L)
Barium	68.4	(ug/L)
Beryllium	2 U	(ug/L)
Calcium	101000	(ug/L)
Chromium	6.7 U	(ug/L)
Cobalt	13.2 U	(ug/L)
Copper	9.3 U	(ug/L)
Iron	1210	(ug/L)
Magnesium	21400	(ug/L)
Manganese	97.6	(ug/L)
Nickel	21 U	(ug/L)
Potassium	2040	(ug/L)
Silver	11.1 U	(ug/L)
Sodium	15300	(ug/L)
Vanadium	5.1 U	(ug/L)
Zinc	34.1 U	(ug/L)

ANALYZED BY: RD 6-9-00

EPA CRL - REGION V
ICP FINAL RESULTS REPORT

REPORT PRODUCED ON: 24-May-00

SAMPLE ORGANIZATION:

SAMPLE BATCH ID: 20000032

LABORATORY: REGION 5 CRL

SAMPLE FACILITY: Himco Dump

SAMPLE: 2000SY04S29

ANALYZED: 23-May-00

STATION: WT113A

COMPOUND	AMOUNT			(Units)
Aluminum	118	U		(ug/L)
Barium	13.8			(ug/L)
Beryllium	2	U		(ug/L)
Calcium	64300			(ug/L)
Chromium	6.7	U		(ug/L)
Cobalt	13.2	U		(ug/L)
Copper	4.2	M	B	(ug/L)
Iron	59.8		B	(ug/L)
Magnesium	16500	J		(ug/L)
Manganese	3.1			(ug/L)
Nickel	21	U		(ug/L)
Potassium	1210			(ug/L)
Silver	11.1	U		(ug/L)
Sodium	14200			(ug/L)
Vanadium	5.1	U		(ug/L)
Zinc	34.1	U		(ug/L)

ANALYZED BY: RD 6-9-00

EPA CRL - REGION V
ICP FINAL RESULTS REPORT

REPORT PRODUCED ON: 24-May-00

SAMPLE ORGANIZATION:

SAMPLE BATCH ID: 20000032

LABORATORY: REGION 5 CRL

SAMPLE FACILITY: Himco Dump

SAMPLE: 2000SY04S30

ANALYZED: 23-May-00

STATION: WTB1

COMPOUND	AMOUNT			(Units)
Aluminum	118	U		(ug/L)
Barium	122			(ug/L)
Beryllium	2	U		(ug/L)
Calcium	52500			(ug/L)
Chromium	2.4	MJ		(ug/L)
Cobalt	13.2	U		(ug/L)
Copper	9.3	U		(ug/L)
Iron	527			(ug/L)
Magnesium	20900			(ug/L)
Manganese	40.1			(ug/L)
Nickel	8.3	MJ		(ug/L)
Potassium	2100			(ug/L)
Silver	11.1	U		(ug/L)
Sodium	55100			(ug/L)
Vanadium	5.1	U		(ug/L)
Zinc	36.9	J	B	(ug/L)

ANALYZED BY: LD 6-9-00

EPA CRL - REGION V
ICP FINAL RESULTS REPORT

REPORT PRODUCED ON: 24-May-00

SAMPLE ORGANIZATION:

SAMPLE BATCH ID: 20000032

LABORATORY: REGION 5 CRL

SAMPLE FACILITY: Himco Dump

SAMPLE: 2000SY04S31

ANALYZED: 23-May-00

STATION: WTB3

COMPOUND	AMOUNT	(Units)
Aluminum	118 U	(ug/L)
Barium	60.2	(ug/L)
Beryllium	2 U	(ug/L)
Calcium	96800	(ug/L)
Chromium	6.7 U	(ug/L)
Cobalt	13.2 U	(ug/L)
Copper	9.3 U	(ug/L)
Iron	426	(ug/L)
Magnesium	27900	(ug/L)
Manganese	356	(ug/L)
Nickel	21 U	(ug/L)
Potassium	1290	(ug/L)
Silver	11.1 U	(ug/L)
Sodium	20300	(ug/L)
Vanadium	5.1 U	(ug/L)
Zinc	34.1 U	(ug/L)

ANALYZED BY: RD 6-9-00

EPA CRL - REGION V
ICP FINAL RESULTS REPORT

REPORT PRODUCED ON: 24-May-00

SAMPLE ORGANIZATION:

SAMPLE BATCH ID: 20000032

LABORATORY: REGION 5 CRL

SAMPLE FACILITY: Himco Dump

SAMPLE: 2000SY04S32

ANALYZED: 23-May-00

STATION: WTB4

COMPOUND	AMOUNT		(Units)
Aluminum	118	U	(ug/L)
Barium	37		(ug/L)
Beryllium	2	U	(ug/L)
Calcium	69400		(ug/L)
Chromium	6.7	U	(ug/L)
Cobalt	13.2	U	(ug/L)
Copper	9.3	U	(ug/L)
Iron	415	B	(ug/L)
Magnesium	21200		(ug/L)
Manganese	206		(ug/L)
Nickel	21	U	(ug/L)
Potassium	759		(ug/L)
Silver	11.1	U	(ug/L)
Sodium	4600		(ug/L)
Vanadium	5.1	U	(ug/L)
Zinc	34.1	U	(ug/L)

ANALYZED BY: 6-9-00

EPA CRL - REGION V
ICP FINAL RESULTS REPORT

REPORT PRODUCED ON: 24-May-00

SAMPLE ORGANIZATION:

SAMPLE BATCH ID: 20000032

LABORATORY: REGION 5 CRL

SAMPLE FACILITY: Himco Dump

SAMPLE: 2000SY04S33

ANALYZED: 23-May-00

STATION: WT112B

COMPOUND	AMOUNT	(Units)
Aluminum	118 U	(ug/L)
Barium	86.7	(ug/L)
Beryllium	2 U	(ug/L)
Calcium	81800	(ug/L)
Chromium	6.7 U	(ug/L)
Cobalt	13.2 U	(ug/L)
Copper	9.3 U	(ug/L)
Iron	1180	(ug/L)
Magnesium	21000	(ug/L)
Manganese	93.1	(ug/L)
Nickel	21 U	(ug/L)
Potassium	1320	(ug/L)
Silver	11.1 U	(ug/L)
Sodium	22800	(ug/L)
Vanadium	5.1 U	(ug/L)
Zinc	34.1 U	(ug/L)

ANALYZED BY: LD 6-9-00

EPA CRL - REGION V
ICP FINAL RESULTS REPORT

REPORT PRODUCED ON: 24-May-00

SAMPLE ORGANIZATION:

SAMPLE BATCH ID: 20000032

LABORATORY: REGION 5 CRL

SAMPLE FACILITY: Himco Dump

SAMPLE: 2000SY04S34

ANALYZED: 23-May-00

STATION: WT112B

COMPOUND	AMOUNT		(Units)
Aluminum	118	U	(ug/L)
Barium	86		(ug/L)
Beryllium	2	U	(ug/L)
Calcium	79900		(ug/L)
Chromium	6.7	U	(ug/L)
Cobalt	13.2	U	(ug/L)
Copper	9.3	U	(ug/L)
Iron	1220		(ug/L)
Magnesium	20900		(ug/L)
Manganese	94.5		(ug/L)
Nickel	21	U	(ug/L)
Potassium	1380		(ug/L)
Silver	11.1	U	(ug/L)
Sodium	23300		(ug/L)
Vanadium	5.1	U	(ug/L)
Zinc	34.1	U	(ug/L)

ANALYZED BY: [signature] 6-9-00

EPA CRL - REGION V
ICP FINAL RESULTS REPORT

REPORT PRODUCED ON: 24-May-00

SAMPLE ORGANIZATION:

SAMPLE BATCH ID: 20000032

LABORATORY: REGION 5 CRL

SAMPLE FACILITY: Himco Dump

SAMPLE: 2000SY04S35

ANALYZED: 23-May-00

STATION: WT112A

COMPOUND	AMOUNT			(Units)
Aluminum	118	U		(ug/L)
Barium	28.6			(ug/L)
Beryllium	2	U		(ug/L)
Calcium	247000			(ug/L)
Chromium	6.7	U		(ug/L)
Cobalt	13.2	U		(ug/L)
Copper	9.3	U		(ug/L)
Iron	23.3	M	B	(ug/L)
Magnesium	17000	J		(ug/L)
Manganese	0.7	M		(ug/L)
Nickel	21	U		(ug/L)
Potassium	1700			(ug/L)
Silver	11.1	U		(ug/L)
Sodium	13800			(ug/L)
Vanadium	2.3	M		(ug/L)
Zinc	34.1	U		(ug/L)

ANALYZED BY: 6-9-00

EPA CRL - REGION V
ICP FINAL RESULTS REPORT

REPORT PRODUCED ON: 24-May-00

SAMPLE ORGANIZATION:

SAMPLE BATCH ID: 20000032

LABORATORY: REGION 5 CRL

SAMPLE FACILITY: Himco Dump

SAMPLE: 2000SY04S36

ANALYZED: 23-May-00

STATION: WTG3

COMPOUND	AMOUNT	(Units)
Aluminum	36.7 M	(ug/L)
Barium	79.4	(ug/L)
Beryllium	2 U	(ug/L)
Calcium	76400	(ug/L)
Chromium	6.7 U	(ug/L)
Cobalt	13.2 U	(ug/L)
Copper	9.3 U	(ug/L)
Iron	1150	(ug/L)
Magnesium	23500	(ug/L)
Manganese	21.8	(ug/L)
Nickel	8.1 MJ	(ug/L)
Potassium	1260	(ug/L)
Silver	11.1 U	(ug/L)
Sodium	18400	(ug/L)
Vanadium	5.1 U	(ug/L)
Zinc	34.1 U	(ug/L)

ANALYZED BY: _____ 6-9-00

EPA CRL - REGION V
ICP FINAL RESULTS REPORT

REPORT PRODUCED ON: 24-May-00

SAMPLE ORGANIZATION:

SAMPLE BATCH ID: 20000032

LABORATORY: REGION 5 CRL

SAMPLE FACILITY: Himco Dump

SAMPLE: 2000SY04S37

ANALYZED: 23-May-00

STATION: WTG1

COMPOUND	AMOUNT	(Units)
Aluminum	118 U	(ug/L)
Barium	79.1	(ug/L)
Beryllium	2 U	(ug/L)
Calcium	94300	(ug/L)
Chromium	6.7 U	(ug/L)
Cobalt	13.2 U	(ug/L)
Copper	9.3 U	(ug/L)
Iron	1010	(ug/L)
Magnesium	24300	(ug/L)
Manganese	52.7	(ug/L)
Nickel	7 MJ	(ug/L)
Potassium	1430	(ug/L)
Silver	11.1 U	(ug/L)
Sodium	13800	(ug/L)
Vanadium	5.1 U	(ug/L)
Zinc	34.1 U	(ug/L)

ANALYZED BY: _____ 6-9-00

EPA CRL - REGION V
ICP FINAL RESULTS REPORT

REPORT PRODUCED ON: 24-May-00

SAMPLE ORGANIZATION:

SAMPLE BATCH ID: 20000032

LABORATORY: REGION 5 CRL

SAMPLE FACILITY: Himco Dump

SAMPLE: 2000SY04S38

ANALYZED: 23-May-00

STATION: WT117A

COMPOUND	AMOUNT			(Units)
Aluminum	827			(ug/L)
Barium	41.3			(ug/L)
Beryllium	2	U		(ug/L)
Calcium	70900			(ug/L)
Chromium	9.3	J		(ug/L)
Cobalt	13.2	U		(ug/L)
Copper	3.2	M	B	(ug/L)
Iron	508			(ug/L)
Magnesium	12000	J		(ug/L)
Manganese	206			(ug/L)
Nickel	7.5	MJ		(ug/L)
Potassium	2180			(ug/L)
Silver	11.1	U		(ug/L)
Sodium	5110			(ug/L)
Vanadium	3.1	M		(ug/L)
Zinc	34.1	U		(ug/L)

ANALYZED BY: 6-9-00

EPA CRL - REGION V
ICP FINAL RESULTS REPORT

REPORT PRODUCED ON: 24-May-00

SAMPLE ORGANIZATION:

SAMPLE BATCH ID: 20000032

LABORATORY: REGION 5 CRL

SAMPLE FACILITY: Himco Dump

SAMPLE: 2000SY04S39

ANALYZED: 23-May-00

STATION: WT117B

COMPOUND	AMOUNT	(Units)
Aluminum	118 U	(ug/L)
Barium	35.9	(ug/L)
Beryllium	2 U	(ug/L)
Calcium	179000	(ug/L)
Chromium	6.7 U	(ug/L)
Cobalt	13.2 U	(ug/L)
Copper	9.3 U	(ug/L)
Iron	2280	(ug/L)
Magnesium	24200	(ug/L)
Manganese	71.7	(ug/L)
Nickel	21 U	(ug/L)
Potassium	1790	(ug/L)
Silver	11.1 U	(ug/L)
Sodium	17100	(ug/L)
Vanadium	5.1 U	(ug/L)
Zinc	34.1 U	(ug/L)

ANALYZED BY: [signature] 6-9-00

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 5 CENTRAL REGIONAL LABORATORY

536 SOUTH CLARK STREET

CHICAGO, ILLINOIS 60605

Date:

Subject: Review of Region 5 Data for Himco Dump Code:054J

From: ESAT , Chemist
Region 5 Central Regional Laboratory

To:

Attached are the results for Site: Himco Dump Code:054J
CRL Data Set Number: 20000032
for analyses of : ICP
Results are reported for sample numbers: 2000SY04S14, 2000SY04S15, 2000SY04S16, 2000SY04S17, 2000SY04S18, 2000SY04S19, 2000SY04S20, 2000SY04S21, 2000SY04S22, 2000SY04S23, 2000SY04S24, 2000SY04S25, 2000SY04S26, 2000SY04S27, 2000SY04S28, 2000SY04S29, 2000SY04S30, 2000SY04S31, 2000SY04S32, 2000SY04S33, 2000SY04S34, 2000SY04S35, 2000SY04S36, 2000SY04S37, 2000SY04S38 and 2000SY04S39

Results Status:
(x) Acceptable for Use for most metals
(x) Data Qualified, but Acceptable for use for metals with attached flags
( ) Data Unacceptable for Use

CRL Data Management Coordinator and Date Received

Date Transmitted: _____

Please have the US EPA project leader fill out the customer survey form on the Region 5 Intranet: http://www.r5intra.epa.gov/crl/qa.html, (← by clicking on this link, or call George Schupp, CRL Sample Coordinator, at 3-1226).

Please sign and date this form below and return it with any comments to:

Sylvia Griffin
Data Management Coordinator
Region 5 Central Regional Laboratory
ML - 10C

Received by and Date

Comments:

Lockheed Martin Services Group
Environmental Services & Technologies Region 5
536 South Clark Street #1050 Chicago, IL 60605
Telephone 312-353-8302 Facsimile 312-353-8307

LOCKHEED MARTIN

Date: June 9, 2000

To: John V. Morris, EPA WAM

From: Richard Dilg, ESAT Chemist RD 6-12-00

Thru: Ziyad Rajabi, ESAT Team Manager

Copies: John Ganz, ESAT Inorganic Group Leader
Jay Thakkar, ESAT Contract RPO

Ref: TDF# 5104-290
WA# 05-00-4-04
Contract # 68D60002

SUBJECT: Data Set SF20000032: ICP Analyses for Himco Dump samples using CRL Method **200.7**

Attached is the deliverable for Data Set SF20000032 ICP analysis of 26 water samples.

If you have any question please feel free to contact ESAT.

QD
6-12-00

Method Number: 200.7
Date Generated: June 9, 2000
Author: R.Dilg,Lockheed-ESAT

Site Name: Himco Dump
Work Unit Number: 05-00-4-04
TDF Number: 5104-290
Charge Number: ESE-51-033
Batch ID No.: 20000032
Parameter: ICP

ICP NARRATIVE

This narrative covers the analysis of 26 water samples from the named site sampled for ICP metals analysis. Sample pH values were checked (see digestion log sheet) and all were found to be properly preserved.

Sample Nos.	Sample Station ID's	Sample collected	Analysis date
2000SY04S14*	GPE-1	4-25-2000	5-23-2000
2000SY04S15*	GPE-2	4-25-2000	5-23-2000
2000SY04S16*	GPE-3	4-25-2000	5-23-2000
2000SY04S17	WT102	4-25-2000	5-23-2000
2000SY04S18*	WT102C	4-25-2000	5-23-2000
2000SY04S19	WT102B	4-25-2000	5-23-2000
2000SY04S20	WT102A	4-25-2000	5-23-2000
2000SY04S21	GP114-1	4-25-2000	5-23-2000
2000SY04S22*	GP114-2	4-25-2000	5-23-2000
2000SY04S23*	GP114-3	4-25-2000	5-23-2000
2000SY04S24*	GP16-1	4-25-2000	5-23-2000
2000SY04S25*	GP16-2	4-25-2000	5-23-2000
2000SY04S26*	GP101-1	4-25-2000	5-23-2000
2000SY04S27*	GP101-2	4-25-2000	5-23-2000
2000SY04S28	WT113B	4-26-2000	5-23-2000
2000SY04S29	WT113A	4-26-2000	5-23-2000
2000SY04S30	WTB1	4-26-2000	5-23-2000
2000SY04S31	WTB3	4-26-2000	5-23-2000
2000SY04S32	WTB4	4-26-2000	5-23-2000
2000SY04S33	WT112B	4-27-2000	5-23-2000
2000SY04S34	WT112B	4-27-2000	5-23-2000
2000SY04S35	WT112A	4-27-2000	5-23-2000
2000SY04S36	WTG3	4-27-2000	5-23-2000
2000SY04S37	WTG1	4-27-2000	5-23-2000
2000SY04S38	WT117A	4-27-2000	5-23-2000
2000SY04S39	WT117B	4-27-2000	5-23-2000

* these samples contained brown solids

Routine CRL microwave digestion procedures were used to prepare the water sample for ICP analysis. The digests for the samples that are asterisked in the above listing were all filtered prior to the ICP analysis run. The sample digests were analyzed using the JY138 ICP unit; the JYSED5 analysis run method was used. ICP analysis results for the water samples were stored to file RUN1178.

RB 6-7-00

ICP RUN RESULTS

One day analyte mdl's were determined on May 16, 2000. Also newly calculated rl values were determined. These values were used in reporting sample analysis results for this data case.

Because of recently issued CRL SOP's, a newly instituted check audit, the reporting limit (RL) check solution was prepared. Analysis of this check audit solution was performed twice during the analysis run, at the beginning of the run and also at the end.

Also for QA evaluation purposes, mid range and high AQC check audit acceptance criteria used were 100 ± 10 %R for check audits.

The following analytes will either not be addressed or only minimally mentioned in this case narrative:

Sn, Tl, As, Se, Sb, Mo, Pb, Cd, Ti, Y, Sr, Li

The following lists the case pertinent out-of-control QC audit check results:

RUN 1178:

Blanks:	Instr Blank 1:	Ca315,	*	
		Mg383,	*	
	Digest Blank 1:	Ca315,	*	
		Cu324,	3.2	µg/L
		Mg383,	*	
		Na588,	- 16.6	µg/L
	Instr Blank 2:	Ca315,	*	
		Mg383,	*	
	Digest Blank 2:	Zn213,	15.5	µg/L
		Be234,	- 0.67	"
		Fe271,	*	
		Al308,	*	
		Ca315,	*	
	Instr Blank 3:	Mg383,	*	
	Digest Blank 3:	Zn213,	13.1	µg/L
		Fe259,	42.2	"
		Mg279,	4.5	"
		Mg383,	*	
	Instr Blank 4:	Na588,	- 18.8	µg/L

* alternate analytes lines used to monitor these audits

GD 6-12-00

ICP RUN RESULTS (Continued)

AQC's:	AQC 1:	Ni231,	11.68	percent deviation
	AQC 2:	Co228,	10.26	"
		Ni231,	11.15	"
	AQC 3:	Ni231,	10.76	"
		Fe271,	*	
	AQC 4:	Cr205,	12.63	percent deviation
		Zn213,	11.15	"
		Co228,	10.74	"
		Ni231,	14.01	"
		Fe271,	*	
		Mg279,	11.44	percent deviation
		Ca315,	*	

* alternate analytes lines used to monitor these audits

HI AQC's:	HI AQC 4:	Na588,	- 10.03	percent deviation

Matrix Spike:	2000SY04S17:	Zn481,	*
	2000SY04S28:	Fe271,	*
		Ca315,	#
		Ca393,	*
	2000SY04S33:	Al308,	*
		Ca393,	*
		Zn481,	*

* alternate analytes lines used to monitor these audits
\# audit not valid; sample conc. > 2X spike conc.

Spiked Blank:	Zn481,	*

* alternate analytes lines used to monitor these audits

RL check Soln: RL 1:
(See paragraph below regarding RL's)
RL 2:

Per a discussion with J. V. Morris, the RL values calculated from the May 16th MDL analysis run were used as <u>reporting</u> limits (instead of the formerly used mdl values) for the sample analysis results for this case.

6-12-00

ICP RUN RESULTS (Continued)

Presently no "control" actions are associated with the observed RL analyte values actually determined during the analysis run. RL check solution values currently are being analyzed for purposes of generating a benchmark set of values which can be used to monitor the appropriateness of any given RL level of analyte concentration.

An ambiguously stated flag in SOP HK005 is the "B" flag. Although a "more than 10 times" rule was mentioned for blanks for considering data as useable, it was not clearly stated whether or not the "B" flag should be used. As a matter of fact, to this analyst, from reading the wording used in the SOP the flow or intent seems to imply (but is not specifically stated to do so) to always use the "B" flag regardless of the sample level if a control audit blank is above an MDL level ! This analyst used the "B" flag for those analyte cases where the MDL value was exceeded but the 10 times value was not exceeded.

All Tl, As, Sb, Cd, Pb, and Se results were not reported by ICP. See GFAA results for these analytes.

For Al, the sample result for 2000SYS04S36 was flagged "M" indicating it had a result between the MDL and the RL values and it is estimated. The remaining Al sample results are usable.

For Be, the sample result for 2000SYS04S25 was flagged "M" indicating it had a result between the MDL and the RL values and it is estimated. The sample result for 2000SY04S25 was also flagged "B" since it may have been affected by possible contamination indicated by blank analysis data. The remaining Be sample results are usable.

For Co, sample results for 2000SY04S14, S15, S16, S20, S23, S24, S25, and S26 are estimated due to possible high bias indicated from the middle check audit values. "J" flags were used. Sample results for 2000SY04S14, S15, S16, S20, S24, and S26 were also flagged "M" indicating they had results between the MDL and the RL value. The remaining Co sample results are usable.

For Cr, sample results for 2000SY04S14, S15, S16, S18, S19, S20, S22, S23, S24, S25, S26, S27, S30, and S38 are estimated due to possible high bias indicated from the middle check audit values. "J" flags were used. The sample result for 2000SY04S30 was also flagged "M" indicating it had a result between the MDL and the RL values. The remaining Cr sample results are usable.

JA 6-12-00

ICP RUN RESULTS (continued)

For Cu, sample results for 2000SYS04S17, S18, S27, S29, and S38 were flagged "M" indicating they had results between the MDL and the RL values and they are estimated. Sample results for 2000SY04S14, S16, S17, S18, ,S22, S24, S26, S27, S29, and S38 were flagged "B" and are estimated since they may have been affected by possible contamination indicated by blank analysis data. Any remaining Cu sample results are usable.

For Fe, sample results for 2000SYS04S17 and S35 were flagged "M" indicating they had results between the MDL and the RL values and they are estimated. Sample results for 2000SY04S17, S20, S21, S29, S32, and S35 were flagged "B" and are estimated since they may have been affected by possible contamination indicated by blank analysis data. Any remaining Fe sample results are usable.

For Mn, sample results for 2000SYS04S17 and S35 were flagged "M" indicating they had results between the MDL and the RL values and they are estimated. The remaining Mn sample results are usable.

For Mg, sample results for 2000SY04S17, S20, S29, S35, and S38 are estimated due to possible high bias indicated from the middle check audit values. "J" flags were used. The remaining Mg sample results are usable.

For Ni, sample results for 2000SY04S14, S15, S16, S18, S19, S20, S22, S23, S24, S25, S26, S27, S30, S36, S37, and S38 are estimated due to possible high bias indicated from the middle check audit values. "J" flags were used. Sample results for 2000SY04S19, S22, S24, S27, S30, S36, S37, and S38 was also flagged "M" indicating they had results between the MDL and the RL values. The remaining Ni sample results are usable.

For K, the sample result for 2000SYS04S17 was flagged "M" indicating it had a result between the MDL and the RL values and it is estimated. The remaining K sample results are usable.

For Ag, the sample result for 2000SYS04S19 was flagged "M" indicating it had a result between the MDL and the RL values and it is estimated. The remaining Ag sample results are usable.

For V, sample results for 2000SYS04S16, S18, S19, S24, S35, and S38 were flagged "M" indicating they had results between the MDL and the RL values and they are estimated. The remaining V sample results are usable.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 5 CENTRAL REGIONAL LABORATORY

536 SOUTH CLARK STREET

CHICAGO, ILLINOIS 60605

Date: MAY 30 2000

Subject: Review of Region 5 Data for Himco Dump Code:054J

From: ESAT , Chemist
Region 5 Central Regional Laboratory

To:

Attached are the results for Site: Himco Dump Code:054J
CRL Data Set Number: 20000032
for analyses of : Mercury
Results are reported for sample numbers: 2000SY04S14, 2000SY04S15, 2000SY04S16, 2000SY04S17, 2000SY04S18, 2000SY04S19, 2000SY04S20, 2000SY04S21, 2000SY04S22, 2000SY04S23, 2000SY04S24, 2000SY04S25, 2000SY04S26, 2000SY04S27, 2000SY04S28, 2000SY04S29, 2000SY04S30, 2000SY04S31, 2000SY04S32, 2000SY04S33, 2000SY04S34, 2000SY04S35, 2000SY04S36, 2000SY04S37, 2000SY04S38 and 2000SY04S39

Results Status:
(x) Acceptable for Use
( ) Data Qualified, but Acceptable for use
( ) Data Unacceptable for Use

Sylvia Griffin MAY 30 2000

CRL Data Management Coordinator and Date Received

Date Transmitted: MAY 30 2000

Please have the US EPA project leader fill out the customer survey form on the Region 5 Intranet: http://www.r5intra.epa.gov/crl/qa.html, (← by clicking on this link, or call George Schupp, CRL Sample Coordinator, at 3-1226).

Please sign and date this form below and return it with any comments to:

Sylvia Griffin
Data Management Coordinator
Region 5 Central Regional Laboratory
ML - 10C

Received by and Date

Comments:

Parameter: Mercury
Method: 245.2*DNS
Site: Himco Landfill
Analyst: M. Mattox M. Mattox
Date: May 23, 2000 5/23/00

Data Set: 20000032
TDF: 5104-290
PWO: ESE51033
WAD: 05-00-4-04

NARRATIVE

Twenty six (26) water samples from the Himco Landfill site (data set 20000032) were collected on April 25, 26, and 27, 2000. The water samples are stated with the sample number and station identification as follows: 2000SY04S14 (GPE-1), 2000SY04S15 (GPE-2), 2000SY04S16 (GPE-3), 2000SY04S17 (WT102), 2000SY04S18 (WT102C), 2000SY04S19 (WT102B), 2000SY04S20 (WT102A), 2000SY04S21 (GP114-1), 2000SY04S22 (GP114-2), 2000SY04S23 (GP114-3), 2000SY04S24 (GP16-1), 2000SY04S25 (GP16-2), 2000SY04S26 (GP101-1), 2000SY04S27 (GP101-2), 2000SY04S28 (WT113B), 2000SY04S29 (WT113A), 2000SY04S30 (WTB1), 2000SY04S31 (WTB3), 2000SY04S32 (WTB4), 2000SY04S33 (WT112B), 2000SY04S34 (WT112B), 2000SY04S35 (WT112A), 2000SY04S36 (WTG3), 2000SY04S37 (WTG1), 2000SY04S38 (WT117A), and 2000SY04S39 (WT117B). The samples were received properly preserved by CRL on April 28, 2000. These samples were assigned to ESAT for mercury analysis.

The samples were digested on 5/12/00 and analyzed on 5/15/00. The data set was prepared for digestion by adding the acid mixture, potassium permanganate, and potassium persulfate manually. The samples were covered and the autodigestion unit was then used for heating only. On 5/15/00 the hydroxylamine solution was manually added. Reagents were added manually due to a leaking syringe on the autodigestion unit. acid 5-25-00

All sample results are acceptable; all QC audits were in control.

This narrative is stored in
I:\r5crl\vol1\min_nut\mmattox\PSAMercury\Hg Water\20000032\Reports\Hg Narrative.
The spreadsheet is stored in
I:\r5crl\vol1\min_nut\mmattox\PSAMercury\Hg Water\20000032\Reports\Hg Results.
The QC summary is stored in
I:\r5crl\vol1\min_nut\mmattox\PSAMercury\Hg Water\20000032\Reports\Hg QC Summary.

At this time RLIMS is not available, therefore WordPerfect reports were generated. Time must be allotted in the future to enter the data into RLIMS when it does become available.

ATTACHMENT 1

CRL Data Review Qualification Codes

QUALIFIER	DESCRIPTION
B	This flag is used when the analyte is found in the associated ***B***lank as well as the sample. It indicates possible blank contamination and warns the user to take appropriate action while assessing the data.
D	This flag is used when the analyte concentration results from a required ***D***ilution of the sample, extract or digestate.
E	This flag is used to identify analyte concentrations ***E***xceeding the upper calibration range of the analytical instrument after dilution of the sample, extract or digestate. .The reported value is considered to be estimated
J	This flag is used when the analyte is confirmed to be qualitatively present in the sample, extract or digestate, at or above the CRL reporting limit (RL) but the quantitated value is estimated due to quality control limit(s) being exceeded. This flag accompanies all GC/MS tentatively identified compounds (TICs). This flag also applies to a suspected, unidentified interference. (***J*** is the flag used in the Superfund CLP SOW and Data Review Functional Guidelines and is used by CRL for consistency.)
M	This flag is used when the analyte is confirmed to be qualitatively present in the sample, extract or digestate, at or above the CRL ***M***ethod Detection Limit (MDL) but below the CRL reporting limit (RL). This flag applies to all values in this concentration range and indicates the quantitated value is estimated due to its presence in this concentration range.
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ENVIRONMENTAL PROTECTION AGENCY
REGION V
CENTRAL REGIONAL LABORATORY
FINAL RESULT REPORT FOR THE TEAM: METALS

DIVISION/BRANCH: SUPERFUND **SAMPLING DATE:** 4/25-27/2000 **LAB ARRIVAL DATE:** 4/28/00 **DUE DATE:** 5/12/2000
DU NUMBER: TFA **DATASET NUMBER:** 20000032 **STUDY:** Himco Landfill **PRIORITY:** Routine **LABORATORY :**ESAT

	CRL LOG NUMBER	SAMPLE DESCRIPTION	WATER Mercury (ug/l)		
1	2000SY04S14	GPE-1	0.1U		
2	2000SY04S15	GPE-2	0.2 M		
3	2000SY04S16	GPE-3	0.1U		
4	2000SY04S17	WT102	0.1U		
5	2000SY04S18	WT102C	0.1U		
6	2000SY04S19	WT102B	0.1U		
7	2000SY04S20	WT102A	0.1U		
8	2000SY04S21	GP114-1	0.1U		
9	2000SY04S22	GP114-2	0.1U		
10	2000SY04S23	GP114-3	0.1U		
11	2000SY04S24	GP16-1	0.1U		
12	2000SY04S25	GP16-2	0.1 M		
13	2000SY04S26	GP101-1	0.1U		
DATE OF ANALYSIS		5/23/00	05/15/00		
ANALYST		M. Mattox	M. Mattox		

Reviewed by: A. C. Harvey Date: 5/25/00

ENVIRONMENTAL PROTECTION AGENCY
REGION V
CENTRAL REGIONAL LABORATORY
FINAL RESULT REPORT FOR THE TEAM: METALS

DIVISION/BRANCH: SUPERFUND **SAMPLING DATE:** 4/25-27/2000 **LAB ARRIVAL DATE:** 4/28/00 **DUE DATE:** 5/12/2000
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	CRL LOG NUMBER	SAMPLE DESCRIPTION	WATER Mercury (ug/l)		
14	2000SY04S27	GP101-2	0.1U		
15	2000SY04S28	WT113B	0.1U		
16	2000SY04S29	WT113A	0.1U		
17	2000SY04S30	WTB1	0.1U		
18	2000SY04S31	WTB3	0.1U		
19	2000SY04S32	WTB4	0.1U		
20	2000SY04S33	WT112B	0.1U		
21	2000SY04S34	WT112B	0.1U		
22	2000SY04S35	WT112A	0.1U		
23	2000SY04S36	WTG3	0.1U		
24	2000SY04S37	WTG1	0.1U		
25	2000SY04S38	WT117A	0.1U		
26	2000SY04S39	WT117B	0.1U		
DATE OF ANALYSIS		5/23/00	05/15/00		
ANALYST		M. Mattox	M. Mattox		

Reviewed by: A. C. Harvey Date: 5/25/00

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 5 CENTRAL REGIONAL LABORATORY

536 SOUTH CLARK STREET

CHICAGO, ILLINOIS 60605

Date: MAY 30 2000

Subject: Review of Region 5 Data for Himco Dump Code:054J

From: ESAT , Chemist
Region 5 Central Regional Laboratory

To: Gwen Massenburg
SR-6J

Attached are the results for Site: Himco Dump Code:054J
CRL Data Set Number: 20000032
for analyses of : Mercury
Results are reported for sample numbers: 2000SY04S14, 2000SY04S15, 2000SY04S16, 2000SY04S17, 2000SY04S18, 2000SY04S19, 2000SY04S20, 2000SY04S21, 2000SY04S22, 2000SY04S23, 2000SY04S24, 2000SY04S25, 2000SY04S26, 2000SY04S27, 2000SY04S28, 2000SY04S29, 2000SY04S30, 2000SY04S31, 2000SY04S32, 2000SY04S33, 2000SY04S34, 2000SY04S35, 2000SY04S36, 2000SY04S37, 2000SY04S38 and 2000SY04S39

Results Status:
(x) Acceptable for Use
( ) Data Qualified, but Acceptable for use
( ) Data Unacceptable for Use

Sylvia Griffin MAY 30 2000

CRL Data Management Coordinator and Date Received

Date Transmitted: MAY 30 2000

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Please sign and date this form below and return it with any comments to:

Sylvia Griffin
Data Management Coordinator
Region 5 Central Regional Laboratory
ML - 10C

Received by and Date

Comments:

Parameter: Mercury
Method: 245.2*DNS
Site: Himco Landfill
Analyst: M. Mattox M. Mattox
Date: May 23, 2000 5/23/00

Data Set: 20000032
TDF: 5104-290
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The spreadsheet is stored in
I:\r5crl\vol1\min_nut\mmattox\PSAMercury\Hg Water\20000032\Reports\Hg Results.
The QC summary is stored in
I:\r5crl\vol1\min_nut\mmattox\PSAMercury\Hg Water\20000032\Reports\Hg QC Summary.

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U	This flag in used when the analyte was analyzed but ***U***ndetected in the sample. The CRL RL for the analyte accompanies this flag. As with sample results that are positive, the value is corrected for dry weight, dilution and/or sample weight or volume.

ENVIRONMENTAL PROTECTION AGENCY
REGION V
CENTRAL REGIONAL LABORATORY
FINAL RESULT REPORT FOR THE TEAM: METALS

DIVISION/BRANCH: SUPERFUND **SAMPLING DATE:** 4/25-27/2000 **LAB ARRIVAL DATE:** 4/28/00 **DUE DATE:** 5/12/2000
DU NUMBER: TFA **DATASET NUMBER:** 20000032 **STUDY:** Himco Landfill **PRIORITY:** Routine **LABORATORY :**ESAT

	CRL LOG NUMBER	SAMPLE DESCRIPTION	WATER Mercury (ug/l)		
1	2000SY04S14	GPE-1	0.1U		
2	2000SY04S15	GPE-2	0.2 M		
3	2000SY04S16	GPE-3	0.1U		
4	2000SY04S17	WT102	0.1U		
5	2000SY04S18	WT102C	0.1U		
6	2000SY04S19	WT102B	0.1U		
7	2000SY04S20	WT102A	0.1U		
8	2000SY04S21	GP114-1	0.1U		
9	2000SY04S22	GP114-2	0.1U		
10	2000SY04S23	GP114-3	0.1U		
11	2000SY04S24	GP16-1	0.1U		
12	2000SY04S25	GP16-2	0.1 M		
13	2000SY04S26	GP101-1	0.1U		
DATE OF ANALYSIS		5/23/00	05/15/00		
ANALYST		M. Mattox	M. Mattox		

Reviewed by: A. C. Harvey Date: 5/25/00

ENVIRONMENTAL PROTECTION AGENCY
REGION V
CENTRAL REGIONAL LABORATORY
FINAL RESULT REPORT FOR THE TEAM: METALS

DIVISION/BRANCH: SUPERFUND **SAMPLING DATE:** 4/25-27/2000 **LAB ARRIVAL DATE:** 4/28/00 **DUE DATE:** 5/12/2000
DU NUMBER: TFA **DATASET NUMBER:** 20000032 **STUDY:** Himco Landfill **PRIORITY:** Routine **LABORATORY :** ESAT

	CRL LOG NUMBER	SAMPLE DESCRIPTION	WATER Mercury (ug/l)		
14	2000SY04S27	GP101-2	0.1U		
15	2000SY04S28	WT113B	0.1U		
16	2000SY04S29	WT113A	0.1U		
17	2000SY04S30	WTB1	0.1U		
18	2000SY04S31	WTB3	0.1U		
19	2000SY04S32	WTB4	0.1U		
20	2000SY04S33	WT112B	0.1U		
21	2000SY04S34	WT112B	0.1U		
22	2000SY04S35	WT112A	0.1U		
23	2000SY04S36	WTG3	0.1U		
24	2000SY04S37	WTG1	0.1U		
25	2000SY04S38	WT117A	0.1U		
26	2000SY04S39	WT117B	0.1U		
DATE OF ANALYSIS		5/23/00	05/15/00		
ANALYST		M. Mattox	M. Mattox		

Reviewed by: A. C. Harvey Date: 5/25/00

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 5 CENTRAL REGIONAL LABORATORY

536 SOUTH CLARK STREET

CHICAGO, ILLINOIS 60605

Date: JUN 1 2 2000

Subject: Review of Region 5 Data for Himco Dump Code:054J

From: ESAT , Chemist
Region 5 Central Regional Laboratory

To: Gwen Massenburg

Attached are the results for Site: Himco Dump Code:054J
CRL Data Set Number: 20000032
for analyses of : Antimony, Arsenic, Cadmium, Lead, Selenium and Thallium
Results are reported for sample numbers: 2000SY04S14, 2000SY04S15, 2000SY04S16, 2000SY04S17, 2000SY04S18, 2000SY04S19, 2000SY04S20, 2000SY04S21, 2000SY04S22, 2000SY04S23, 2000SY04S24, 2000SY04S25, 2000SY04S26, 2000SY04S27, 2000SY04S28, 2000SY04S29, 2000SY04S30, 2000SY04S31, 2000SY04S32, 2000SY04S33, 2000SY04S34, 2000SY04S35, 2000SY04S36, 2000SY04S37, 2000SY04S38 and 2000SY04S39

Results Status:
(x) Acceptable for Use
( ) Data Qualified, but Acceptable for use
( ) Data Unacceptable for Use

Sylvia Griffin JUN 12 2000

CRL Data Management Coordinator and Date Received

Date Transmitted: JUN 12 2000

Please have the US EPA project leader fill out the customer survey form on the Region 5 Intranet: http://www.r5intra.epa.gov/crl/qa.html, (← by clicking on this link, or call George Schupp, CRL Sample Coordinator, at 3-1226).

Please sign and date this form below and return it with any comments to:

Sylvia Griffin
Data Management Coordinator
Region 5 Central Regional Laboratory
ML - 10C

Received by and Date

Comments:

Lockheed Martin Services Group
Environmental Services & Technologies Region 5
536 South Clark Street #1050 Chicago, IL 60605
Telephone 312-353-8302 Facsimile 312-353-8307

LOCKHEED MARTIN

Date: May 25, 2000

To: John V. Morris, EPA WAM

From: Stephen Connet, ESAT Chemist

Thru: Ziyad Rajabi, ESAT Team Manager

Copies: John Ganz, ESAT Inorganic Group Leader
Jay Thakkar, ESAT Contract RPO

Ref: TDF# 5104-290
WA# 05-00-4-04
Contract # 68D60002

SUBJECT: Data Set SF20000032: Inorganic Analyses of 6 Metals by Graphite Furnace for Himco Dump Samples Using CRL Methods

Attached is the deliverable for Data Set SF20000032 graphite furnace analysis of the 26 water samples. Included in the deliverable are the case narrative, QC reports and raw data. Sample S24 was re-analyzed for antimony after an acceptable result was obtained on 5/23/00 which indicated a detect. All other attempts at analyzing that sample had resulted in non-detects with failed QC (the analytical spike recovery was acceptable but the LCM's were failing). All additional attempts at analyzing the sample undiluted resulted in non-detects including the reported result obtained on 5/24/00. If you have any question please feel free to contact me.

5-25-00

Method: GFAA for Water
Site: Himco Dump
Date: June 8, 2000
Prepared by: Stephen Connet

TDF: 5104-290
PWO: ESE51033
WAD: 05-00-4-04
Data Set: 20000032

NARRATIVE

Twenty six (26) water samples for the Himco Dump site [2000SY04S14 (GPE-1), S15 (GPE-2), S16 (GPE-3), S17 (WT102), S18 (WT102C), S19 (WT102B), S20 (WT102A), S21 (GP114-1), S22 (GP114-2), S23 (GP114-3), S24 (GP16-1), S25 (GP16-2), S26 (GP101-1), S27 (GP101-2), S28 (WT113B), S29 (WT113A), S30 (WTB1), S31 (WTB3), S32 (WTB4), S33 (WT112B), S34 (WT112B), S35 (WT112A), S36 (WTG3), S37 (WTG1), S38 (WT117A), S39 (WT117B)] were sampled on 4/25-27/00 and were received properly preserved by the CRL on 4/28/00. The samples were submitted for analysis of antimony, arsenic, cadmium, lead, selenium and thallium by GFAA.

The samples were digested following standard CRL GFAA water digestion protocols. The samples were digested on 5/9 (digestion batch 1179). Redigestion occurred on 5/10 (digestion batch 1180) due to duplicate difference problems with arsenic on the SIMAA 6000. All results are from digestion batch 1179 except antimony and arsenic.

Due to continuing quality control problems with the SIMAA 6000, all results for arsenic were reported from 5100E using a detection limit of 2 ppb. The duplicate difference for antimony on S14 and S34 are greater than the ESAT limit of 1.2 ug/L. S34 is less than the default (CRL SOP) limit of 2 ug/L. All reported values are less than the detection limit. All antimony results are acceptable. Sample S24 was reanalyzed for confirmation of the result after a reportable detect was obtained. All attempts previous to the reportable detect indicated that no antimony was present in the sample. All subsequent attempts also indicated that no antimony was present.

The duplicate difference for selenium on S14 is greater than the MDL of 2 ug/L. Both values were below the instrument detection limit. All selenium sample results except S36 are non-detects. The selenium result for S36 is estimated, all other selenium results are acceptable. All other QC were within limits; all sample results are acceptable.

Analytical results were stored in the following database files:
H:\r5crl\vol3\metals\sconnet\20000032\5100W-Sb\052300, \052400 and \052500 for antimony,
H:\r5crl\vol3\metals\sconnet\20000032\5100E-As\051500 and \051600 for arsenic,
H:\r5crl\vol3\metals\sconnet\20000032\5100E-Cd\051000 for cadmium,
H:\r5crl\vol3\metals\sconnet\20000032\5100E-Pb\051100 and \060800 for lead,
H:\r5crl\vol3\metals\sconnet\20000032\5100W-Se\051000, \051100, \051500, \051600, \051700, \051800 and \052200 for selenium,
H:\r5crl\vol3\metals\sconnet\20000032\5100E-Tl\051800, \052200 and \052300 for thallium.

This narrative, the QC Summary and Results spreadsheets are stored in:
H:\r5crl\vol3\metals\sconnet\20000032\Reports\GFAA Narrative.wpd
H:\r5crl\vol3\metals\sconnet\20000032\Reports\QCReport.wk4
H:\r5crl\vol3\metals\sconnet\20000032\Reports\GFAA Results.wpd

Since RLIMS was unavailable, the AA metals analysis results are reported in a word-processing spreadsheet only. Time will be necessary in the future to enter all analysis results into RLIMS.

6.8.00

CRL Data Review Qualification Codes

QUALIFIER	DESCRIPTION
B	This flag is used when the analyte is found in the associated ***B***lank as well as the sample. It indicates possible blank contamination and warns the user to take appropriate action while assessing the data. See the case narrative for a discussion of common lab contaminants and/or the relative concentration of contamination in the samples and blanks for relevance.
D	This flag is used when the analyte concentration results from a required ***D***ilution of the sample, extract or digestate.
E	This flag is used to identify analyte concentrations ***E***xceeding the upper calibration range of the analytical instrument after dilution of the sample, extract or digestate. The reported value is considered to be estimated
J	This flag is used when the analyte is estimated due to quality control limit(s) being exceeded. This flag accompanies all GC/MS tentatively identified compounds (TICs). This flag also applies to a suspected, unidentified interference. This flag is placed on affected detected results as well as non-detected (i.e., "U" flagged) results. (***J*** is the flag used in the Superfund CLP SOW and Data Review Functional Guidelines and is used by CRL for consistency.)
M	This flag is used when the analyte is confirmed to be qualitatively present in the sample, extract or digestate, at or above the CRL ***M***ethod Detection Limit (MDL) but below the CRL reporting limit (RL). This flag applies to all values in this concentration range and indicates the quantitated value is estimated due to its presence in this concentration range.
N	This flag applies to GC/MS Te***N***tatively Identified Compounds (TICs) that have a mass spectral library match.
Q	This flag applies to analyte data that are severely estimated due to quality control and/or ***Q***uantitation problems, but are confirmed to be qualitatively present in the sample. No value is reported with this qualification flag.
R	This flag applies to analyte data that are ***R***ejected and unusable due to severe quality control, quantitation and/or qualitative identification problems. No other qualification flags are reported for this analyte. No value is reported with this qualification flag.
U	This flag in used when the analyte was analyzed but ***U***ndetected in the sample. The CRL RL for the analyte accompanies this flag. As with sample results that are positive, the value is corrected for dry weight, dilution and/or sample weight or volume.

4/11/00

ENVIRONMENTAL PROTECTION AGENCY
REGION V
CENTRAL REGIONAL LABORATORY
FINAL RESULT REPORT FOR THE TEAM: METALS

DIVISION/BRANCH: SUPERFUND **SAMPLING DATE:** 4/25-27/00 **LAB ARRIVAL DATE:** 4/28/00 **DUE DATE:** 5/12/00
DU NUMBER: 50102D **DATASET NUMBER:** 20000032 **STUDY:** Himco Dump **PRIORITY:** Routine **LABORATORY :**ESAT

	CRL LOG NUMBER	SAMPLE DESCRIPTION	WATER Antimony (ug/L)	WATER Arsenic (ug/L)	WATER Cadmium (ug/L)	WATER Lead (ug/L)	WATER Selenium (ug/L)	WATER Thallium (ug/L)
1	2000SY04S14	GPE-1	2U	5M	0.1M	15	6UD	1U
2	2000SY04S15	GPE-2	2U	13	0.2DM	27	6UD	1U
3	2000SY04S16	GPE-3	2U	5M	0.1M	12	6UD	1U
4	2000SY04S17	WT102	2U	2U	0.1U	2U	2U	1U
5	2000SY04S18	WT102C	2U	3M	0.1U	2M	2U	1U
6	2000SY04S19	WT102B	2U	6M	0.1U	2U	2U	1U
7	2000SY04S20	WT102A	2U	2U	0.1U	2U	2U	1U
8	2000SY04S21	GP114-1	2U	2U	0.1U	2U	2U	1U
9	2000SY04S22	GP114-2	2U	39	0.1U	9	6UD	1U
10	2000SY04S23	GP114-3	2U	38	0.3DM	35	8UD	1U
11	2000SY04S24	GP16-1	2U	7M	0.1M	10	2U	1U
12	2000SY04S25	GP16-2	2U	74D	0.6DM	47D	8UD	1U
13	2000SY04S26	GP101-1	2U	17	0.2M	27	6UD	1U
14	2000SY04S27	GP101-2	2U	3M	0.1U	4M	2U	1U
DATE OF ANALYSIS			5/23-25/00	5/15-16/00	5/10/00	5/11,6/8/00	5/10-22/00	5/18-23/00
ANALYST		6-8-00	S. Connet	S. Connet	S. Connet	S. Connet	S. Connet	S. Connet

Reviewed by: _____ Date: ___/___/___

J Gary 6-8-2000

ENVIRONMENTAL PROTECTION AGENCY
REGION V
CENTRAL REGIONAL LABORATORY
FINAL RESULT REPORT FOR THE TEAM: METALS

DIVISION/BRANCH: SUPERFUND **SAMPLING DATE:** 4/25-27/00 **LAB ARRIVAL DATE:** 4/28/00 **DUE DATE:** 5/12/00
DU NUMBER: 50102D **DATASET NUMBER:** 20000032 **STUDY:** Himco Dump **PRIORITY:** Routine **LABORATORY :**ESAT

	CRL LOG NUMBER	SAMPLE DESCRIPTION	WATER Antimony (ug/L)	WATER Arsenic (ug/L)	WATER Cadmium (ug/L)	WATER Lead (ug/L)	WATER Selenium (ug/L)	WATER Thallium (ug/L)
15	2000SY04S28	WT113B	2U	3M	0.1U	2U	2U	1U
16	2000SY04S29	WT113A	2U	2U	0.1M	2U	2U	1U
17	2000SY04S30	WTB1	2U	2U	0.1U	2U	2U	1U
18	2000SY04S31	WTB3	2U	5M	0.1U	2U	2U	1U
19	2000SY04S32	WTB4	2U	2U	0.1U	2U	2U	1U
20	2000SY04S33	WT112B	2U	5M	0.1U	2U	2U	1U
21	2000SY04S34	WT112B	2U	4M	0.1U	2U	2U	1U
22	2000SY04S35	WT112A	6UD	2U	0.1U	2U	2U	1U
23	2000SY04S36	WTG3	2U	10	0.1U	2U	4JMD	1U
24	2000SY04S37	WTG1	2U	2U	0.1U	2U	2U	1U
25	2000SY04S38	WT117A	2U	2U	0.1U	2U	4UD	1U
26	2000SY04S39	WT117B	2U	2U	0.1U	2U	4UD	1U
DATE OF ANALYSIS			5/23-25/00	5/15-16/00	5/10/00	5/11/00	5/10-22/00	5/18-23/00
ANALYST		5-25-00	S. Connet	S. Connet	S. Connet	S. Connet	S. Connet	S. Connet

Reviewed by: J. Gary Date: 6/8/2000

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 5 CENTRAL REGIONAL LABORATORY

536 SOUTH CLARK STREET

CHICAGO, ILLINOIS 60605

Date: MAY 25 2000

Subject: Review of Region 5 Data for **HIMCO LF**

From: Francis A. Awanya, Chemist FAA 5/25/00
Region 5 Central Regional Laboratory

To: Gwen Massenburg
SR 6J

Attached are the results for Site: **HIMCO LF**
CRL Data Set Number: **20000032**
for analyses of : **Sulfate and Bromide**
Results are reported for sample numbers: **20000SY04S14, 20000SY04S15, 20000SY04S16, 20000SY04S17, 20000SY04S18, 20000SY04S19, 20000SY04S20, 20000SY04S21, 20000SY04S22, 20000SY04S23, 20000SY04S24, 20000SY04S25, 20000SY04S26, 20000SY04S27, 20000SY04S28, 20000SY04S29, 20000SY04S30, 20000SY04S31, 20000SY04S32, 20000SY04S33, 20000SY04S34, 20000SY04S35, 20000SY04S36, 20000SY04S37, 20000SY04S38, and 20000SY04S39.**

Results Status:
(X) Acceptable for Use
(X) Data Qualified, but Acceptable for use **Sulfate 2000SY04S29 -S39**.
( ) Data Unacceptable for Use

MW EGP inorganics
Hg, SO4, Br, ICP
Heavy metals

Sylvia Griffin MAY 25 2000

CRL Data Management Coordinator and Date Received

Date Transmitted: MAY 25 2000

Please have the US EPA project leader fill out the customer survey form on the Region 5 Intranet: http://www.r5intra.epa.gov/crl/qa.html, (← by clicking on this link, or call George Schupp, CRL Sample Coordinator, at 3-1226).

Please sign and date this form below and return it with any comments to:

Sylvia Griffin
Data Management Coordinator
Region 5 Central Regional Laboratory
ML - 10C

Received by and Date

Comments:

ENVIRONMENTAL PROTECTION AGENCY
REGION V
CENTRAL REGIONAL LABORATORY
FINAL RESULT REPORT FOR THE TEAM: MINERAL/NUTRIENTS

DIVISION/BRANCH: SUPERFUND **SAMPLING DATE:** 04/25/2000 **LAB ARRIVAL DATE:** 04/28/2000 **DUE DATE:** 05/28/2000
DU NUMBER: 50102D **DATASET NUMBER:** 20000032 **STUDY:** HIMCO LF **PRIORITY:** HIGH **LABORATORY :**CRL

	CRL LOG NUMBER	SAMPLE DESCRIPTION	BROMIDE IN WATER (mg Br^-/L)	SULFATE IN WATER (mg $SO_4^=$/L)			
1	20000SY04S14		0.86 M	389 D			
2	20000SY04S15		1.33 M	654 D			
3	20000SY04S16		0.26 M	288 D			
4	20000SY04S17	WT102	0.014 U	0.46 M			
5	20000SY04S18	WT102C	0.14 M	36			
6	20000SY04S19	WT102B	0.08 M	58 D			
7	20000SY04S20	WT102A	0.06 M	202 D			
8	20000SY04S21		0.17 M	167 D			
9	20000SY04S22		0.06 M	178 D			
10	20000SY04S23		0.07 M	162 D			
11	20000SY04S24		0.04 M	72 D			
12	20000SY04S25	GP16-2	0.06 M	134 D			
13	20000SY04S26	GP101-1	0.29 M	76 D			
DATE OF ANALYSIS			05/02-03/2000	05/01 -04/2000			
ANALYST			FAA	FAA			

Reviewed by: AD Date: 5/25/2000

ENVIRONMENTAL PROTECTION AGENCY
REGION V
CENTRAL REGIONAL LABORATORY
FINAL RESULT REPORT FOR THE TEAM: MINERAL/NUTRIENTS

DIVISION/BRANCH: SUPERFUND SAMPLING DATE: 04/25/2000 LAB ARRIVAL DATE: 04/28/2000 DUE DATE: 05/28/2000
DU NUMBER: 50102D DATASET NUMBER: 20000032 STUDY: HIMCO LF PRIORITY: HIGH LABORATORY :CRL

	CRL LOG NUMBER	SAMPLE DESCRIPTION	BROMIDE IN WATER (mg Br^-/L)	SULFATE IN WATER (mg $SO_4^=$/L)			
14	20000SY04S27	GP101-2	0.17 M	97 D			
15	20000SY04S28	WT113B	0.06 M	131 D			
16	20000SY04S29	WT113A	0.014 U	24			
17	20000SY04S30	WTB-1	0.18 M	0.06 M			
18	20000SY04S31	WTB3	0.08 M	132D			
19	20000SY04S32	WTB4	0.11 M	38 D			
20	20000SY04S33	WT112B	0.07 M	56			
21	20000SY04S34	WT112B	0.07 M	56			
22	20000SY04S35	WT112A	0.04 M	434 D			
23	20000SY04S36	WTG3	0.06 M	32			
24	20000SY04S37	WTG1	0.05 M	59 D			
25	20000SY04S38	WT117A	0.06 M	169 D			
26	20000SY04S39	WT117B	0.07 M	318 D			
DATE OF ANALYSIS			05/02-03/2000	05/01 -04/2000			
ANALYST			FAA	FAA			

Reviewed by: AD Date: 5/25/00

Data Set Number:	*20000032*	**Parameter:**	*Sulfate and Bromide*
Facility Name:	*HIMCO LF*		
Study Name:	*HIMCO LF*		
Date of Narrative:	*05/25/2000*	**Analyst:**	*Francis A. Awanya*
		Signature:	Francis A. Awanya

ANALYSIS CASE NARRATIVE

Twenty six (26) water samples were collected for sulfate and bromide analyses on 4/25/2000. The samples arrived at the Central Regional Laboratory (CRL) on 4/28/2000. CRL sample identification numbers (CRL Sample ID) were assigned to the samples. The Station numbers and Locations were obtained from the Analysis Request Form (ARF). Not all the samples have station identifiers. All the samples did not contain station location. The following samples were received for analysis;

20000SY04S14, 20000SY04S15, 20000SY04S16, 20000SY04S17, 20000SY04S18, 20000SY04S19, 20000SY04S20, 20000SY04S21, 20000SY04S22, 20000SY04S23, 20000SY04S24, 20000SY04S25, 20000SY04S26, 20000SY04S27, 20000SY04S28, 20000SY04S29, 20000SY04S30, 20000SY04S31, 20000SY04S32, 20000SY04S33, 20000SY04S34, 20000SY04S35, 20000SY04S36, 20000SY04S37, 20000SY04S38, and 20000SY04S39.

The station numbers and locations were also provided on the Analysis Request Form (ARF). Samples were checked out for sulfate and bromide analysis from the CRL sample custodian on 05/01/2000. The samples were properly preserved by refrigeration. They were transferred to the Analytical and Inorganic (A&I) laboratory section of the CRL, and kept in a sample storage refrigerator until all other required analyses were completed.

SAMPLE ANALYSIS:

All samples were analyzed for sulfate and bromide using CRL Standard Operating Procedure (CRL SOP) AIG045 (Method reference 300 A & B, EPA/600/R-93-100). No additional sample preparations were necessary. The instrument was calibrated for high and low level determination of sulfate and bromide following CRL SOP AIG045 Part A on 3/24/2000 (High Level) and 4/10/2000 (Low Level).

All samples were analyzed between 05/01/2000 to 05/04/2000. Additional analysis were performed to resolve low matrix spike recoveries for sulfate for samples 20000SY04S29 to 20000SY04S39 between 05/11 - 22/2000. No recovery problems was encountered during bromide analysis. All bromide concentrations were below the reporting limit of the best calibration curve used.

SAMPLE RESULTS AND REPORTING:

All sulfate results were reported with either D, M, or U flags. A code defining those falgs are attached to the report. Bromide results for samples 2000SY04S17 and S29 were flagged with

Data Set Number:	*20000032*	**Parameter:**	*Sulfate and Bromide*
Facility Name:	*HIMCO LF*		
Study Name:	*HIMCO LF*		
Date of Narrative:	*05/25/2000*	**Analyst:**	*Francis A. Awanya*
		Signature:	Francis A. Awanya

ANALYSIS CASE NARRATIVE

U. The concentrations of Bromide in those samples were found to be below detection. All the remaining bromide results were reported with M flags. Bromide concentrations in all those samples were between the method detection limits (MDL) of 0.014 mg/L and the reporting limits (RL) of 0.5 mg/L.

MANUAL PEAK INTEGRATION:

No manual peak integration was used to process the results.

QUALITY CONTROL (QC):

No data quality objectives were provided by the requestor. Analysis results were evaluated using the QC requirements of CRL SOP AIG045 (Method reference 300 A & B, EPA/600/R-93-100). All the required quality control criteria for the laboratory, method, and system performance audits were evaluated and determined to be within the limits with the following exceptions;

Matrix spike: The matrix spike recoveries for sulfate samples from 20000SY04S29 to 20000SY04S39 were found to be biased low. Selecting different samples from this bracket result in low recoveries as well. Typical recover values were between 50% to 71%. Other troubling shooting measures including using a new column did not improve the recoveries. A probable cause is matrix interference. Spikes from two samples before2000SY04S29 were within the limits. Use the data with caution. The sulfate results could be biased low.

All the bromide QC audits were within the limits.

ELECTRONIC DATA:

Electronic data are archived in;
H:\R5CRL\VOL1\MIN_NUT\FAWANYA\20000032\DX500_SYSTEM3_CD20\20000032\..under the following additional folders;
1. All_Other_Analysis, 2. Autosampler_Schedules, 3. Method_used, and 4. Reported_Run_Files. The case narrative is contained in folder 20000032.

CRL Data Review Qualification Codes

QUALIFIER	DESCRIPTION
B	This flag is used when the analyte is found in the associated ***B***lank as well as the sample. It indicates possible blank contamination and warns the user to take appropriate action while assessing the data. See the case narrative for a discussion of common lab contaminants and/or the relative concentration of contamination in the samples and blanks for relevance.
D	This flag is used when the analyte concentration results from a required ***D***ilution of the sample, extract or digestate.
E	This flag is used to identify analyte concentrations ***E***xceeding the upper calibration range of the analytical instrument after dilution of the sample, extract or digestate. The reported value is considered to be estimated
J	This flag is used when the analyte is estimated due to quality control limit(s) being exceeded. This flag accompanies all GC/MS tentatively identified compounds (TICs). This flag also applies to a suspected, unidentified interference. This flag is placed on affected detected results as well as non-detected (i.e., "U" flagged) results. (***J*** is the flag used in the Superfund CLP SOW and Data Review Functional Guidelines and is used by CRL for consistency.)
M	This flag is used when the analyte is confirmed to be qualitatively present in the sample, extract or digestate, at or above the CRL ***M***ethod Detection Limit (MDL) but below the CRL reporting limit (RL). This flag applies to all values in this concentration range and indicates the quantitated value is estimated due to its presence in this concentration range.
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R	This flag applies to analyte data that are ***R***ejected and unusable due to severe quality control, quantitation and/or qualitative identification problems. No other qualification flags are reported for this analyte. No value is reported with this qualification flag.
U	This flag in used when the analyte was analyzed but ***U***ndetected in the sample. The CRL RL for the analyte accompanies this flag. As with sample results that are positive, the value is corrected for dry weight, dilution and/or sample weight or volume.

4/11/00

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 5 CENTRAL REGIONAL LABORATORY

536 SOUTH CLARK STREET

CHICAGO, ILLINOIS 60605

Date: MAY 25 2000

Subject: Review of Region 5 Data for **HIMCO LF**

From: Francis A. Awanya , Chemist FAA 5/25/00
Region 5 Central Regional Laboratory

To:

Attached are the results for Site: **HIMCO LF**
CRL Data Set Number: **20000032**
for analyses of : **Sulfate and Bromide**
Results are reported for sample numbers: **20000SY04S14, 20000SY04S15, 20000SY04S16, 20000SY04S17, 20000SY04S18, 20000SY04S19, 20000SY04S20, 20000SY04S21, 20000SY04S22, 20000SY04S23, 20000SY04S24, 20000SY04S25, 20000SY04S26, 20000SY04S27, 20000SY04S28, 20000SY04S29, 20000SY04S30, 20000SY04S31, 20000SY04S32, 20000SY04S33, 20000SY04S34, 20000SY04S35, 20000SY04S36, 20000SY04S37, 20000SY04S38, and 20000SY04S39.**

Results Status:
(X) Acceptable for Use
(X) Data Qualified, but Acceptable for use **Sulfate 2000SY04S29 -S39**.
( ) Data Unacceptable for Use

Sylvia Griffin MAY 25 2000

CRL Data Management Coordinator and Date Received

Date Transmitted: MAY 25 2000

Please have the US EPA project leader fill out the customer survey form on the Region 5 Intranet: http://www.r5intra.epa.gov/crl/qa.html, (← by clicking on this link, or call George Schupp, CRL Sample Coordinator, at 3-1226).

Please sign and date this form below and return it with any comments to:

Sylvia Griffin
Data Management Coordinator
Region 5 Central Regional Laboratory
ML - 10C

Received by and Date

Comments:

Data Set Number:	*20000032*	**Parameter:**	*Sulfate and Bromide*
Facility Name:	*HIMCO LF*		
Study Name:	*HIMCO LF*		
Date of Narrative:	*05/25/2000*	**Analyst:**	*Francis A. Awanya*
		Signature:	Francis A. Awanya

ANALYSIS CASE NARRATIVE

Twenty six (26) water samples were collected for sulfate and bromide analyses on 4/25/2000. The samples arrived at the Central Regional Laboratory (CRL) on 4/28/2000. CRL sample identification numbers (CRL Sample ID) were assigned to the samples. The Station numbers and Locations were obtained from the Analysis Request Form (ARF). Not all the samples have station identifiers. All the samples did not contain station location. The following samples were received for analysis;

20000SY04S14, 20000SY04S15, 20000SY04S16, 20000SY04S17, 20000SY04S18, 20000SY04S19, 20000SY04S20, 20000SY04S21, 20000SY04S22, 20000SY04S23, 20000SY04S24, 20000SY04S25, 20000SY04S26, 20000SY04S27, 20000SY04S28, 20000SY04S29, 20000SY04S30, 20000SY04S31, 20000SY04S32, 20000SY04S33, 20000SY04S34, 20000SY04S35, 20000SY04S36, 20000SY04S37, 20000SY04S38, and 20000SY04S39.

The station numbers and locations were also provided on the Analysis Request Form (ARF). Samples were checked out for sulfate and bromide analysis from the CRL sample custodian on 05/01/2000. The samples were properly preserved by refrigeration. They were transferred to the Analytical and Inorganic (A&I) laboratory section of the CRL, and kept in a sample storage refrigerator until all other required analyses were completed.

SAMPLE ANALYSIS:

All samples were analyzed for sulfate and bromide using CRL Standard Operating Procedure (CRL.SOP) AIG045 (Method reference 300 A & B, EPA/600/R-93-100). No additional sample preparations were necessary. The instrument was calibrated for high and low level determination of sulfate and bromide following CRL.SOP AIG045 Part A on 3/24/2000 (High Level) and 4/10/2000 (Low Level).

All samples were analyzed between 05/01/2000 to 05/04/2000. Additional analysis were performed to resolve low matrix spike recoveries for sulfate for samples 20000SY04S29 to 20000SY04S39 between 05/11 - 22/2000. No recovery problems was encountered during bromide analysis. All bromide concentrations were below the reporting limit of the best calibration curve used.

SAMPLE RESULTS AND REPORTING:

All sulfate results were reported with either D, M, or U flags. A code defining those falgs are attached to the report. Bromide results for samples 2000SY04S17 and S29 were flagged with

Data Set Number:	*20000032*	**Parameter:**	*Sulfate and Bromide*
Facility Name:	*HIMCO LF*		
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		Signature:	Francis A. Awanya

ANALYSIS CASE NARRATIVE

U. The concentrations of Bromide in those samples were found to be below detection. All the remaining bromide results were reported with M flags. Bromide concentrations in all those samples were between the method detection limits (MDL) of 0.014 mg/L and the reporting limits (RL) of 0.5 mg/L.

MANUAL PEAK INTEGRATION:

No manual peak integration was used to process the results.

QUALITY CONTROL (QC):

No data quality objectives were provided by the requestor. Analysis results were evaluated using the QC requirements of CRL.SOP AIG045 (Method reference 300 A & B, EPA/600/R-93-100). All the required quality control criteria for the laboratory, method, and system performance audits were evaluated and determined to be within the limits with the following exceptions;

Matrix spike: The matrix spike recoveries for sulfate samples from 20000SY04S29 to 20000SY04S39 were found to be biased low. Selecting different samples from this bracket result in low recoveries as well. Typical recover values were between 50% to 71%. Other troubling shooting measures including using a new column did not improve the recoveries. A probable cause is matrix interference. Spikes from two samples before2000SY04S29 were within the limits. Use the data with caution. The sulfate results could be biased low.

All the bromide QC audits were within the limits.

ELECTRONIC DATA:

Electronic data are archived in;
H:\R5CRL\VOL1\MIN_NUT\FAWANYA\20000032\DX500_SYSTEM3_CD20\20000032\..under the following additional folders;
1. All_Other_Analysis, 2. Autosampler_Schedules, 3. Method_used, and 4. Reported_Run_Files. The case narrative is contained in folder 20000032.

ENVIRONMENTAL PROTECTION AGENCY
REGION V
CENTRAL REGIONAL LABORATORY
FINAL RESULT REPORT FOR THE TEAM: MINERAL/NUTRIENTS

DIVISION/BRANCH: SUPERFUND **SAMPLING DATE:** 04/25/2000 **LAB ARRIVAL DATE:** 04/28/2000 **DUE DATE:** 05/28/2000
DU NUMBER: 50102D **DATASET NUMBER:** 20000032 **STUDY:** HIMCO LF **PRIORITY:** HIGH **LABORATORY :**CRL

	CRL LOG NUMBER	SAMPLE DESCRIPTION	BROMIDE IN WATER ($mg\ Br^-/L$)	SULFATE IN WATER ($mg\ SO_4^=/L$)			
1	20000SY04S14	GP2-1	0.86 M	389 D			
2	20000SY04S15	GP2-2	1.33 M	654 D			
3	20000SY04S16	GP2-3	0.26 M	288 D			
4	20000SY04S17	WT102	0.014 U	0.46 M			
5	20000SY04S18	WT102C	0.14 M	36			
6	20000SY04S19	WT102B	0.08 M	58 D			
7	20000SY04S20	WT102A	0.06 M	202 D			
8	20000SY04S21	GP-114-1	0.17 M	167 D			
9	20000SY04S22	GP-114-2	0.06 M	178 D			
10	20000SY04S23	GP-114-3	0.07 M	162 D			
11	20000SY04S24	GP-16-1	0.04 M	72 D			
12	20000SY04S25	GP16-2	0.06 M	134 D			
13	20000SY04S26	GP101-1	0.29 M	76 D			
DATE OF ANALYSIS			05/02-03/2000	05/01 -04/2000			
ANALYST			FAA	FAA			

Reviewed by: AD Date: 5/25/2000

ENVIRONMENTAL PROTECTION AGENCY
REGION V
CENTRAL REGIONAL LABORATORY
FINAL RESULT REPORT FOR THE TEAM: MINERAL/NUTRIENTS

DIVISION/BRANCH: SUPERFUND **SAMPLING DATE:** 04/25/2000 **LAB ARRIVAL DATE:** 04/28/2000 **DUE DATE:** 05/28/2000
DU NUMBER: 50102D **DATASET NUMBER:** 20000032 **STUDY:** HIMCO LF **PRIORITY:** HIGH **LABORATORY :**CRL

	CRL LOG NUMBER	SAMPLE DESCRIPTION	BROMIDE IN WATER (mg Br^-/L)	SULFATE IN WATER (mg $SO_4^=$/L)			
14	20000SY04S27	GP101-2	0.17 M	97 D			
15	20000SY04S28	WT113B	0.06 M	131 D			
16	20000SY04S29	WT113A	0.014 U	24			
17	20000SY04S30	WTB-1	0.18 M	0.06 M			
18	20000SY04S31	WTB3	0.08 M	132D			
19	20000SY04S32	WTB4	0.11 M	38 D			
20	20000SY04S33	WT112B	0.07 M	56			
21	20000SY04S34	WT112B	0.07 M	56			
22	20000SY04S35	WT112A	0.04 M	434 D			
23	20000SY04S36	WTG3	0.06 M	32			
24	20000SY04S37	WTG1	0.05 M	59 D			
25	20000SY04S38	WT117A	0.06 M	169 D			
26	20000SY04S39	WT117B	0.07 M	318 D			
DATE OF ANALYSIS			05/02-03/2000	05/01 -04/2000			
ANALYST			FAA	FAA			

Reviewed by: AD Date: 5/25/00

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 5 CENTRAL REGIONAL LABORATORY

536 SOUTH CLARK STREET

CHICAGO, ILLINOIS 60605

Date: JUN 12 2000

Subject: Review of Region 5 Data for Himco Dump Code:054J

From: ESAT , Chemist
Region 5 Central Regional Laboratory

To: Gwen Massenburg

Attached are the results for Site: Himco Dump Code:054J
CRL Data Set Number: 20000032
for analyses of : ICP
Results are reported for sample numbers: 2000SY04S14, 2000SY04S15, 2000SY04S16, 2000SY04S17, 2000SY04S18, 2000SY04S19, 2000SY04S20, 2000SY04S21, 2000SY04S22, 2000SY04S23, 2000SY04S24, 2000SY04S25, 2000SY04S26, 2000SY04S27, 2000SY04S28, 2000SY04S29, 2000SY04S30, 2000SY04S31, 2000SY04S32, 2000SY04S33, 2000SY04S34, 2000SY04S35, 2000SY04S36, 2000SY04S37, 2000SY04S38 and 2000SY04S39

Results Status:
(x) Acceptable for Use for most metals
(x) Data Qualified, but Acceptable for use for metals with attached flags
( ) Data Unacceptable for Use

Sylvia Griffin JUN 12 2000

CRL Data Management Coordinator and Date Received

Date Transmitted: JUN 12 2000

Please have the US EPA project leader fill out the customer survey form on the Region 5 Intranet: http://www.r5intra.epa.gov/crl/qa.html, (← by clicking on this link, or call George Schupp, CRL Sample Coordinator, at 3-1226).

Please sign and date this form below and return it with any comments to:

Sylvia Griffin
Data Management Coordinator
Region 5 Central Regional Laboratory
ML - 10C

Received by and Date

Comments:

Lockheed Martin Services Group
Environmental Services & Technologies Region 5
536 South Clark Street #1050 Chicago, IL 60605
Telephone 312-353-8302 Facsimile 312-353-8307

LOCKHEED MARTIN

Date: June 9, 2000

To: John V. Morris, EPA WAM

From: Richard Dilg, ESAT Chemist RD 6-12-00

Thru: Ziyad Rajabi, ESAT Team Manager

Copies: John Ganz, ESAT Inorganic Group Leader
Jay Thakkar, ESAT Contract RPO

Ref: TDF# 5104-290
WA# 05-00-4-04
Contract # 68D60002

SUBJECT: Data Set SF20000032: ICP Analyses for Himco Dump samples using CRL Method **200.7**

Attached is the deliverable for Data Set SF20000032 ICP analysis of 26 water samples.

If you have any question please feel free to contact ESAT.

RD
6-12-00

Method Number: 200.7
Date Generated: June 9, 2000
Author: R.Dilg,Lockheed-ESAT

Site Name: Himco Dump
Work Unit Number: 05-00-4-04
TDF Number: 5104-290
Charge Number: ESE-51-033
Batch ID No.: 20000032
Parameter: ICP

ICP NARRATIVE

This narrative covers the analysis of 26 water samples from the named site sampled for ICP metals analysis. Sample pH values were checked (see digestion log sheet) and all were found to be properly preserved.

Sample Nos.	Sample Station ID's	Sample collected	Analysis date
2000SY04S14*	GPE-1	4-25-2000	5-23-2000
2000SY04S15*	GPE-2	4-25-2000	5-23-2000
2000SY04S16*	GPE-3	4-25-2000	5-23-2000
2000SY04S17	WT102	4-25-2000	5-23-2000
2000SY04S18*	WT102C	4-25-2000	5-23-2000
2000SY04S19	WT102B	4-25-2000	5-23-2000
2000SY04S20	WT102A	4-25-2000	5-23-2000
2000SY04S21	GP114-1	4-25-2000	5-23-2000
2000SY04S22*	GP114-2	4-25-2000	5-23-2000
2000SY04S23*	GP114-3	4-25-2000	5-23-2000
2000SY04S24*	GP16-1	4-25-2000	5-23-2000
2000SY04S25*	GP16-2	4-25-2000	5-23-2000
2000SY04S26*	GP101-1	4-25-2000	5-23-2000
2000SY04S27*	GP101-2	4-25-2000	5-23-2000
2000SY04S28	WT113B	4-26-2000	5-23-2000
2000SY04S29	WT113A	4-26-2000	5-23-2000
2000SY04S30	WTB1	4-26-2000	5-23-2000
2000SY04S31	WTB3	4-26-2000	5-23-2000
2000SY04S32	WTB4	4-26-2000	5-23-2000
2000SY04S33	WT112B	4-27-2000	5-23-2000
2000SY04S34	WT112B	4-27-2000	5-23-2000
2000SY04S35	WT112A	4-27-2000	5-23-2000
2000SY04S36	WTG3	4-27-2000	5-23-2000
2000SY04S37	WTG1	4-27-2000	5-23-2000
2000SY04S38	WT117A	4-27-2000	5-23-2000
2000SY04S39	WT117B	4-27-2000	5-23-2000

* these samples contained brown solids

Routine CRL microwave digestion procedures were used to prepare the water sample for ICP analysis. The digests for the samples that are asterisked in the above listing were all filtered prior to the ICP analysis run. The sample digests were analyzed using the JY138 ICP unit; the JYSED5 analysis run method was used. ICP analysis results for the water samples were stored to file RUN1178.

KB 6-12-00

ICP RUN RESULTS

One day analyte mdl's were determined on May 16, 2000. Also newly calculated rl values were determined. These values were used in reporting sample analysis results for this data case.

Because of recently issued CRL SOP's, a newly instituted check audit, the reporting limit (RL) check solution was prepared. Analysis of this check audit solution was performed twice during the analysis run, at the beginning of the run and also at the end.

Also for QA evaluation purposes, mid range and high AQC check audit acceptance criteria used were 100 ± 10 %R for check audits.

The following analytes will either not be addressed or only minimally mentioned in this case narrative:
Sn, Tl, As, Se, Sb, Mo, Pb, Cd, Ti, Y, Sr, Li

The following lists the case pertinent out-of-control QC audit check results:

RUN 1178:

Blanks:	Instr Blank 1:	Ca315,	*	
		Mg383,	*	
	Digest Blank 1:	Ca315,	*	
		Cu324,	3.2	µg/L
		Mg383,	*	
		Na588,	- 16.6	µg/L
	Instr Blank 2:	Ca315,	*	
		Mg383,	*	
	Digest Blank 2:	Zn213,	15.5	µg/L
		Be234,	- 0.67	"
		Fe271,	*	
		Al308,	*	
		Ca315,	*	
	Instr Blank 3:	Mg383,	*	
	Digest Blank 3:	Zn213,	13.1	µg/L
		Fe259,	42.2	"
		Mg279,	4.5	"
		Mg383,	*	
	Instr Blank 4:	Na588,	- 18.8	µg/L

* alternate analytes lines used to monitor these audits

RD 6-12-00

ICP RUN RESULTS (Continued)

AQC's:	AQC 1:	Ni231,	11.68	percent deviation
	AQC 2:	Co228,	10.26	"
		Ni231,	11.15	"
	AQC 3:	Ni231,	10.76	"
		Fe271,	*	
	AQC 4:	Cr205,	12.63	percent deviation
		Zn213,	11.15	"
		Co228,	10.74	"
		Ni231,	14.01	"
		Fe271,	*	
		Mg279,	11.44	percent deviation
		Ca315,	*	

* alternate analytes lines used to monitor these audits

HI AQC's: HI AQC 4: Na588, - 10.03 percent deviation

Matrix Spike:	2000SY04S17:	Zn481,	*
	2000SY04S28:	Fe271,	*
		Ca315,	#
		Ca393,	*
	2000SY04S33:	Al308,	*
		Ca393,	*
		Zn481,	*

* alternate analytes lines used to monitor these audits
\# audit not valid; sample conc. > 2X spike conc.

Spiked Blank: Zn481, *

* alternate analytes lines used to monitor these audits

RL check Soln: RL 1:
(See paragraph below regarding RL's)
RL 2:

Per a discussion with J. V. Morris, the RL values calculated from the May 16th MDL analysis run were used as reporting limits (instead of the formerly used mdl values) for the sample analysis results for this case.

6-18-00

ICP RUN RESULTS (Continued)

Presently no "control" actions are associated with the observed RL analyte values actually determined during the analysis run. RL check solution values currently are being analyzed for purposes of generating a benchmark set of values which can be used to monitor the appropriateness of any given RL level of analyte concentration.

An ambiguously stated flag in SOP HK005 is the "B" flag. Although a "more than 10 times" rule was mentioned for blanks for considering data as useable, it was not clearly stated whether or not the "B" flag should be used. As a matter of fact, to this analyst, from reading the wording used in the SOP the flow or intent seems to imply (but is not specifically stated to do so) to always use the "B" flag regardless of the sample level if a control audit blank is above an MDL level ! This analyst used the "B" flag for those analyte cases where the MDL value was exceeded but the 10 times value was not exceeded.

All Tl, As, Sb, Cd, Pb, and Se results were not reported by ICP. See GFAA results for these analytes.

For Al, the sample result for 2000SYS04S36 was flagged "M" indicating it had a result between the MDL and the RL values and it is estimated. The remaining Al sample results are usable.

For Be, the sample result for 2000SYS04S25 was flagged "M" indicating it had a result between the MDL and the RL values and it is estimated. The sample result for 2000SY04S25 was also flagged "B" since it may have been affected by possible contamination indicated by blank analysis data. The remaining Be sample results are usable.

For Co, sample results for 2000SY04S14, S15, S16, S20, S23, S24, S25, and S26 are estimated due to possible high bias indicated from the middle check audit values. "J" flags were used. Sample results for 2000SY04S14, S15, S16, S20, S24, and S26 were also flagged "M" indicating they had results between the MDL and the RL value. The remaining Co sample results are usable.

For Cr, sample results for 2000SY04S14, S15, S16, S18, S19, S20, S22, S23, S24, S25, S26, S27, S30, and S38 are estimated due to possible high bias indicated from the middle check audit values. "J" flags were used. The sample result for 2000SY04S30 was also flagged "M" indicating it had a result between the MDL and the RL values. The remaining Cr sample results are usable.

JE
6-12-00

ICP RUN RESULTS (continued)

For Cu, sample results for 2000SYS04S17, S18, S27, S29, and S38 were flagged "M" indicating they had results between the MDL and the RL values and they are estimated. Sample results for 2000SY04S14, S16, S17, S18, ,S22, S24, S26, S27, S29, and S38 were flagged "B" and are estimated since they may have been affected by possible contamination indicated by blank analysis data. Any remaining Cu sample results are usable.

For Fe, sample results for 2000SYS04S17 and S35 were flagged "M" indicating they had results between the MDL and the RL values and they are estimated. Sample results for 2000SY04S17, S20, S21, S29, S32, and S35 were flagged "B" and are estimated since they may have been affected by possible contamination indicated by blank analysis data. Any remaining Fe sample results are usable.

For Mn, sample results for 2000SYS04S17 and S35 were flagged "M" indicating they had results between the MDL and the RL values and they are estimated. The remaining Mn sample results are usable.

For Mg, sample results for 2000SY04S17, S20, S29, S35, and S38 are estimated due to possible high bias indicated from the middle check audit values. "J" flags were used. The remaining Mg sample results are usable.

For Ni, sample results for 2000SY04S14, S15, S16, S18, S19, S20, S22, S23, S24, S25, S26, S27, S30, S36, S37, and S38 are estimated due to possible high bias indicated from the middle check audit values. "J" flags were used. Sample results for 2000SY04S19, S22, S24, S27, S30, S36, S37, and S38 was also flagged "M" indicating they had results between the MDL and the RL values. The remaining Ni sample results are usable.

For K, the sample result for 2000SYS04S17 was flagged "M" indicating it had a result between the MDL and the RL values and it is estimated. The remaining K sample results are usable.

For Ag, the sample result for 2000SYS04S19 was flagged "M" indicating it had a result between the MDL and the RL values and it is estimated. The remaining Ag sample results are usable.

For V, sample results for 2000SYS04S16, S18, S19, S24, S35, and S38 were flagged "M" indicating they had results between the MDL and the RL values and they are estimated. The remaining V sample results are usable.

PE 6-12-00

ICP RUN RESULTS (continued)

For Zn, sample results for 2000SY04S14, S15, S16, S18, S22, S23, S24, S25, S26, S27, and S30 are estimated due to possible high bias indicated from the middle check audit values. "J" flags were used. The sample result for 2000SY04S18 was also flagged "M" indicating it had a result between the MDL and the RL values. Sample results for 2000SY04S14, S15, S16, S18, S22, S24, S26, S27, and S30 were flagged "B" and are estimated since they may have been affected by possible contamination indicated by blank analysis data. Any remaining Zn sample results are usable.

For Na, in the professional judgment of the ICP analyst, all Na sample results are usable.

Samples 2000SY04S33 and S34 appear to have been sampled at the same time and could be used as a measure of field "duplicates". Analyte values for the two samples correlate well.

Other Comments

As far as the deliverables are concerned the following were submitted:

- Raw data printouts for RUN 1178
- Analysis run log for RUN 1178
- QA analysis run summaries for the above RUN
- QA lab duplicate and matrix spike summaries
- individual worksheets showing raw and IEC corrected results
- a table showing a list of IEC factors used to correct raw ICP data

The last two items mentioned above were included since the interelement corrections were applied to the ICP values after the actual ICP analysis run. The QA run summaries, QA duplicate and matrix spike summaries, and the sample analysis data for the analytes reported all used results that were interelement corrected. The IEC corrections were made using matrix algebra methods and Lotus spreadsheet software.

R5CRL Files

The following pathways were used for storing analysis information to the R5CRL file server for this data set:

```
(Vol 3 on 'R5crl')[H:]\metals\Rdilg\20000032\Icp\JY138 Ultrace\Interim Lotus SS data
(Vol 3 on 'R5crl')[H:]\metals\Rdilg\20000032\Icp\JY138 Ultrace\narrative
(Vol 3 on 'R5crl')[H:]\metals\Rdilg\20000032\Icp\JY138 Ultrace\QA and sample reports
(Vol 3 on 'R5crl')[H:]\metals\Rdilg\20000032\Icp\JY138 Ultrace\Raw data
```

CRL Data Review Qualification Codes

QUALIFIER	DESCRIPTION
B	This flag is used when the analyte is found in the associated ***B***lank as well as the sample. It indicates possible blank contamination and warns the user to take appropriate action while assessing the data. See the case narrative for a discussion of common lab contaminants and/or the relative concentration of contamination in the samples and blanks for relevance.
D	This flag is used when the analyte concentration results from a required ***D***ilution of the sample, extract or digestate.
E	This flag is used to identify analyte concentrations ***E***xceeding the upper calibration range of the analytical instrument after dilution of the sample, extract or digestate. The reported value is considered to be estimated
J	This flag is used when the analyte is estimated due to quality control limit(s) being exceeded. This flag accompanies all GC/MS tentatively identified compounds (TICs). This flag also applies to a suspected, unidentified interference. This flag is placed on affected detected results as well as non-detected (i.e., "U" flagged) results. (***J*** is the flag used in the Superfund CLP SOW and Data Review Functional Guidelines and is used by CRL for consistency.)
M	This flag is used when the analyte is confirmed to be qualitatively present in the sample, extract or digestate, at or above the CRL ***M***ethod Detection Limit (MDL) but below the CRL reporting limit (RL). This flag applies to all values in this concentration range and indicates the quantitated value is estimated due to its presence in this concentration range.
N	This flag applies to GC/MS Te***N***tatively Identified Compounds (TICs) that have a mass spectral library match.
Q	This flag applies to analyte data that are severely estimated due to quality control and/or ***Q***uantitation problems, but are confirmed to be qualitatively present in the sample. No value is reported with this qualification flag.
R	This flag applies to analyte data that are ***R***ejected and unusable due to severe quality control, quantitation and/or qualitative identification problems. No other qualification flags are reported for this analyte. No value is reported with this qualification flag.
U	This flag in used when the analyte was analyzed but ***U***ndetected in the sample. The CRL RL for the analyte accompanies this flag. As with sample results that are positive, the value is corrected for dry weight, dilution and/or sample weight or volume.

4/11/00

EPA CRL - REGION V
ICP FINAL RESULTS REPORT

REPORT PRODUCED ON: 24-May-00

SAMPLE ORGANIZATION:

SAMPLE BATCH ID: 20000032

LABORATORY: REGION 5 CRL

SAMPLE FACILITY: Himco Dump

SAMPLE: 2000SY04S22

ANALYZED: 23-May-00

STATION: GP114-2

COMPOUND	AMOUNT			(Units)
Aluminum	1180			(ug/L)
Barium	48.4			(ug/L)
Beryllium	2	U		(ug/L)
Calcium	245000			(ug/L)
Chromium	19.1	J		(ug/L)
Cobalt	13.2	U		(ug/L)
Copper	11.5		B	(ug/L)
Iron	13400			(ug/L)
Magnesium	34500			(ug/L)
Manganese	309			(ug/L)
Nickel	7	MJ		(ug/L)
Potassium	2760			(ug/L)
Silver	11.1	U		(ug/L)
Sodium	15300			(ug/L)
Vanadium	5.1	U		(ug/L)
Zinc	40.7	J	B	(ug/L)

ANALYZED BY: [signature] 6-9-00

EPA CRL - REGION V
ICP FINAL RESULTS REPORT

REPORT PRODUCED ON: 24-May-00

SAMPLE ORGANIZATION:

SAMPLE BATCH ID: 20000032

LABORATORY: REGION 5 CRL

SAMPLE FACILITY: Himco Dump

SAMPLE: 2000SY04S23

ANALYZED: 23-May-00

STATION: GP114-3

COMPOUND	AMOUNT		(Units)
Aluminum	6420		(ug/L)
Barium	95.6		(ug/L)
Beryllium	2	U	(ug/L)
Calcium	315000		(ug/L)
Chromium	173	J	(ug/L)
Cobalt	14.9	J	(ug/L)
Copper	76.3		(ug/L)
Iron	56300		(ug/L)
Magnesium	57300		(ug/L)
Manganese	881		(ug/L)
Nickel	57.8	J	(ug/L)
Potassium	4650		(ug/L)
Silver	11.1	U	(ug/L)
Sodium	17300		(ug/L)
Vanadium	8.8		(ug/L)
Zinc	156	J	(ug/L)

ANALYZED BY: RD 6-9-00

EPA CRL - REGION V
ICP FINAL RESULTS REPORT

REPORT PRODUCED ON: 24-May-00

SAMPLE ORGANIZATION:

SAMPLE BATCH ID: 20000032

LABORATORY: REGION 5 CRL

SAMPLE FACILITY: Himco Dump

SAMPLE: 2000SY04S24

ANALYZED: 23-May-00

STATION: GP16-1

COMPOUND	AMOUNT	(Units)
Aluminum	2160	(ug/L)
Barium	45.7	(ug/L)
Beryllium	2 U	(ug/L)
Calcium	176000	(ug/L)
Chromium	38.1 J	(ug/L)
Cobalt	7.7 MJ	(ug/L)
Copper	18.4 B	(ug/L)
Iron	12800	(ug/L)
Magnesium	34100	(ug/L)
Manganese	563	(ug/L)
Nickel	18.4 MJ	(ug/L)
Potassium	3060	(ug/L)
Silver	11.1 U	(ug/L)
Sodium	21600	(ug/L)
Vanadium	3.9 M	(ug/L)
Zinc	43 J B	(ug/L)

ANALYZED BY: _____ 6-9-00

EPA CRL - REGION V
ICP FINAL RESULTS REPORT

REPORT PRODUCED ON: 24-May-00

SAMPLE ORGANIZATION:

SAMPLE BATCH ID: 20000032

LABORATORY: REGION 5 CRL

SAMPLE FACILITY: Himco Dump

SAMPLE: 2000SY04S25

ANALYZED: 23-May-00

STATION: GP16-2

COMPOUND	AMOUNT	(Units)
Aluminum	11900	(ug/L)
Barium	164	(ug/L)
Beryllium	0.7 M B	(ug/L)
Calcium	505000	(ug/L)
Chromium	124 J	(ug/L)
Cobalt	20.8 J	(ug/L)
Copper	105	(ug/L)
Iron	71400	(ug/L)
Magnesium	116000	(ug/L)
Manganese	1820	(ug/L)
Nickel	64.6 J	(ug/L)
Potassium	4330	(ug/L)
Silver	11.1 U	(ug/L)
Sodium	16300	(ug/L)
Vanadium	29.9	(ug/L)
Zinc	172 J	(ug/L)

ANALYZED BY: 6-9-00

EPA CRL - REGION V
ICP FINAL RESULTS REPORT

REPORT PRODUCED ON: 24-May-00

SAMPLE ORGANIZATION:

SAMPLE BATCH ID: 20000032

LABORATORY: REGION 5 CRL

SAMPLE FACILITY: Himco Dump

SAMPLE: 2000SY04S26

ANALYZED: 23-May-00

STATION: GP101-1

COMPOUND	AMOUNT			(Units)
Aluminum	3410			(ug/L)
Barium	118			(ug/L)
Beryllium	2	U		(ug/L)
Calcium	281000			(ug/L)
Chromium	64.4	J		(ug/L)
Cobalt	10.2	MJ		(ug/L)
Copper	31.1		B	(ug/L)
Iron	26400			(ug/L)
Magnesium	42600			(ug/L)
Manganese	634			(ug/L)
Nickel	29.9	J		(ug/L)
Potassium	6080			(ug/L)
Silver	11.1	U		(ug/L)
Sodium	22800			(ug/L)
Vanadium	6			(ug/L)
Zinc	82.3	J	B	(ug/L)

ANALYZED BY: [signature] 6-9-00

EPA CRL - REGION V
ICP FINAL RESULTS REPORT

REPORT PRODUCED ON: 24-May-00

SAMPLE ORGANIZATION:

SAMPLE BATCH ID: 20000032

LABORATORY: REGION 5 CRL

SAMPLE FACILITY: Himco Dump

SAMPLE: 2000SY04S27

ANALYZED: 23-May-00

STATION: GP101-2

COMPOUND	AMOUNT			(Units)
Aluminum	455			(ug/L)
Barium	128			(ug/L)
Beryllium	2	U		(ug/L)
Calcium	210000			(ug/L)
Chromium	12.6	J		(ug/L)
Cobalt	13.2	U		(ug/L)
Copper	7.3	M	B	(ug/L)
Iron	12000			(ug/L)
Magnesium	33800			(ug/L)
Manganese	356			(ug/L)
Nickel	10.2	MJ		(ug/L)
Potassium	6190			(ug/L)
Silver	11.1	U		(ug/L)
Sodium	25200			(ug/L)
Vanadium	5.1	U		(ug/L)
Zinc	34.3	J	B	(ug/L)

ANALYZED BY: RD 6-9-00

EPA CRL - REGION V
ICP FINAL RESULTS REPORT

REPORT PRODUCED ON: 24-May-00

SAMPLE ORGANIZATION:

SAMPLE BATCH ID: 20000032

LABORATORY: REGION 5 CRL

SAMPLE FACILITY: Himco Dump

SAMPLE: 2000SY04S28

ANALYZED: 23-May-00

STATION: WT113B

COMPOUND	AMOUNT	(Units)
Aluminum	118 U	(ug/L)
Barium	68.4	(ug/L)
Beryllium	2 U	(ug/L)
Calcium	101000	(ug/L)
Chromium	6.7 U	(ug/L)
Cobalt	13.2 U	(ug/L)
Copper	9.3 U	(ug/L)
Iron	1210	(ug/L)
Magnesium	21400	(ug/L)
Manganese	97.6	(ug/L)
Nickel	21 U	(ug/L)
Potassium	2040	(ug/L)
Silver	11.1 U	(ug/L)
Sodium	15300	(ug/L)
Vanadium	5.1 U	(ug/L)
Zinc	34.1 U	(ug/L)

ANALYZED BY: RD 6-9-00

EPA CRL - REGION V
ICP FINAL RESULTS REPORT

REPORT PRODUCED ON: 24-May-00

SAMPLE ORGANIZATION:

SAMPLE BATCH ID: 20000032

LABORATORY: REGION 5 CRL

SAMPLE FACILITY: Himco Dump

SAMPLE: 2000SY04S29

ANALYZED: 23-May-00

STATION: WT113A

COMPOUND	AMOUNT			(Units)
Aluminum	118	U		(ug/L)
Barium	13.8			(ug/L)
Beryllium	2	U		(ug/L)
Calcium	64300			(ug/L)
Chromium	6.7	U		(ug/L)
Cobalt	13.2	U		(ug/L)
Copper	4.2	M	B	(ug/L)
Iron	59.8		B	(ug/L)
Magnesium	16500	J		(ug/L)
Manganese	3.1			(ug/L)
Nickel	21	U		(ug/L)
Potassium	1210			(ug/L)
Silver	11.1	U		(ug/L)
Sodium	14200			(ug/L)
Vanadium	5.1	U		(ug/L)
Zinc	34.1	U		(ug/L)

ANALYZED BY: RD 6-9-00

EPA CRL - REGION V
ICP FINAL RESULTS REPORT

REPORT PRODUCED ON: 24-May-00

SAMPLE ORGANIZATION:

SAMPLE BATCH ID: 20000032

LABORATORY: REGION 5 CRL

SAMPLE FACILITY: Himco Dump

SAMPLE: 2000SY04S30

ANALYZED: 23-May-00

STATION: WTB1

COMPOUND	AMOUNT		(Units)
Aluminum	118	U	(ug/L)
Barium	122		(ug/L)
Beryllium	2	U	(ug/L)
Calcium	52500		(ug/L)
Chromium	2.4	MJ	(ug/L)
Cobalt	13.2	U	(ug/L)
Copper	9.3	U	(ug/L)
Iron	527		(ug/L)
Magnesium	20900		(ug/L)
Manganese	40.1		(ug/L)
Nickel	8.3	MJ	(ug/L)
Potassium	2100		(ug/L)
Silver	11.1	U	(ug/L)
Sodium	55100		(ug/L)
Vanadium	5.1	U	(ug/L)
Zinc	36.9	J B	(ug/L)

ANALYZED BY: LD 6-9-00

EPA CRL - REGION V
ICP FINAL RESULTS REPORT

REPORT PRODUCED ON: 24-May-00

SAMPLE ORGANIZATION:

SAMPLE BATCH ID: 20000032

LABORATORY: REGION 5 CRL

SAMPLE FACILITY: Himco Dump

SAMPLE: 2000SY04S31

ANALYZED: 23-May-00

STATION: WTB3

COMPOUND	AMOUNT		(Units)
Aluminum	118	U	(ug/L)
Barium	60.2		(ug/L)
Beryllium	2	U	(ug/L)
Calcium	96800		(ug/L)
Chromium	6.7	U	(ug/L)
Cobalt	13.2	U	(ug/L)
Copper	9.3	U	(ug/L)
Iron	426		(ug/L)
Magnesium	27900		(ug/L)
Manganese	356		(ug/L)
Nickel	21	U	(ug/L)
Potassium	1290		(ug/L)
Silver	11.1	U	(ug/L)
Sodium	20300		(ug/L)
Vanadium	5.1	U	(ug/L)
Zinc	34.1	U	(ug/L)

ANALYZED BY: RD 6-9-00

EPA CRL - REGION V
ICP FINAL RESULTS REPORT

REPORT PRODUCED ON: 24-May-00

SAMPLE ORGANIZATION:

SAMPLE BATCH ID: 20000032

LABORATORY: REGION 5 CRL

SAMPLE FACILITY: Himco Dump

SAMPLE: 2000SY04S32

ANALYZED: 23-May-00

STATION: WTB4

COMPOUND	AMOUNT		(Units)
Aluminum	118 U		(ug/L)
Barium	37		(ug/L)
Beryllium	2 U		(ug/L)
Calcium	69400		(ug/L)
Chromium	6.7 U		(ug/L)
Cobalt	13.2 U		(ug/L)
Copper	9.3 U		(ug/L)
Iron	415	B	(ug/L)
Magnesium	21200		(ug/L)
Manganese	206		(ug/L)
Nickel	21 U		(ug/L)
Potassium	759		(ug/L)
Silver	11.1 U		(ug/L)
Sodium	4600		(ug/L)
Vanadium	5.1 U		(ug/L)
Zinc	34.1 U		(ug/L)

ANALYZED BY: [signature] 6-9-00

EPA CRL - REGION V
ICP FINAL RESULTS REPORT

REPORT PRODUCED ON: 24-May-00

SAMPLE ORGANIZATION:

SAMPLE BATCH ID: 20000032

LABORATORY: REGION 5 CRL

SAMPLE FACILITY: Himco Dump

SAMPLE: 2000SY04S33

ANALYZED: 23-May-00

STATION: WT112B

COMPOUND	AMOUNT	(Units)
Aluminum	118 U	(ug/L)
Barium	86.7	(ug/L)
Beryllium	2 U	(ug/L)
Calcium	81800	(ug/L)
Chromium	6.7 U	(ug/L)
Cobalt	13.2 U	(ug/L)
Copper	9.3 U	(ug/L)
Iron	1180	(ug/L)
Magnesium	21000	(ug/L)
Manganese	93.1	(ug/L)
Nickel	21 U	(ug/L)
Potassium	1320	(ug/L)
Silver	11.1 U	(ug/L)
Sodium	22800	(ug/L)
Vanadium	5.1 U	(ug/L)
Zinc	34.1 U	(ug/L)

ANALYZED BY: LH 6-9-00

EPA CRL - REGION V
ICP FINAL RESULTS REPORT

REPORT PRODUCED ON: 24-May-00

SAMPLE ORGANIZATION:

SAMPLE BATCH ID: 20000032

LABORATORY: REGION 5 CRL

SAMPLE FACILITY: Himco Dump

SAMPLE: 2000SY04S34

ANALYZED: 23-May-00

STATION: WT112B

COMPOUND	AMOUNT		(Units)
Aluminum	118	U	(ug/L)
Barium	86		(ug/L)
Beryllium	2	U	(ug/L)
Calcium	79900		(ug/L)
Chromium	6.7	U	(ug/L)
Cobalt	13.2	U	(ug/L)
Copper	9.3	U	(ug/L)
Iron	1220		(ug/L)
Magnesium	20900		(ug/L)
Manganese	94.5		(ug/L)
Nickel	21	U	(ug/L)
Potassium	1380		(ug/L)
Silver	11.1	U	(ug/L)
Sodium	23300		(ug/L)
Vanadium	5.1	U	(ug/L)
Zinc	34.1	U	(ug/L)

ANALYZED BY: RD 6-9-00

EPA CRL - REGION V
ICP FINAL RESULTS REPORT

REPORT PRODUCED ON: 24-May-00

SAMPLE ORGANIZATION:

SAMPLE BATCH ID: 20000032

LABORATORY: REGION 5 CRL

SAMPLE FACILITY: Himco Dump

SAMPLE: 2000SY04S35

ANALYZED: 23-May-00

STATION: WT112A

COMPOUND	AMOUNT			(Units)
Aluminum	118	U		(ug/L)
Barium	28.6			(ug/L)
Beryllium	2	U		(ug/L)
Calcium	247000			(ug/L)
Chromium	6.7	U		(ug/L)
Cobalt	13.2	U		(ug/L)
Copper	9.3	U		(ug/L)
Iron	23.3	M	B	(ug/L)
Magnesium	17000	J		(ug/L)
Manganese	0.7	M		(ug/L)
Nickel	21	U		(ug/L)
Potassium	1700			(ug/L)
Silver	11.1	U		(ug/L)
Sodium	13800			(ug/L)
Vanadium	2.3	M		(ug/L)
Zinc	34.1	U		(ug/L)

ANALYZED BY: _____ 6-9-00

EPA CRL - REGION V
ICP FINAL RESULTS REPORT

REPORT PRODUCED ON: 24-May-00

SAMPLE ORGANIZATION:

SAMPLE BATCH ID: 20000032

LABORATORY: REGION 5 CRL

SAMPLE FACILITY: Himco Dump

SAMPLE: 2000SY04S36

ANALYZED: 23-May-00

STATION: WTG3

COMPOUND	AMOUNT		(Units)
Aluminum	36.7	M	(ug/L)
Barium	79.4		(ug/L)
Beryllium	2	U	(ug/L)
Calcium	76400		(ug/L)
Chromium	6.7	U	(ug/L)
Cobalt	13.2	U	(ug/L)
Copper	9.3	U	(ug/L)
Iron	1150		(ug/L)
Magnesium	23500		(ug/L)
Manganese	21.8		(ug/L)
Nickel	8.1	MJ	(ug/L)
Potassium	1260		(ug/L)
Silver	11.1	U	(ug/L)
Sodium	18400		(ug/L)
Vanadium	5.1	U	(ug/L)
Zinc	34.1	U	(ug/L)

ANALYZED BY: _____ 6-9-00

EPA CRL - REGION V
ICP FINAL RESULTS REPORT

REPORT PRODUCED ON: 24-May-00

SAMPLE ORGANIZATION:

SAMPLE BATCH ID: 20000032

LABORATORY: REGION 5 CRL

SAMPLE FACILITY: Himco Dump

SAMPLE: 2000SY04S37

ANALYZED: 23-May-00

STATION: WTG1

COMPOUND	AMOUNT		(Units)
Aluminum	118	U	(ug/L)
Barium	79.1		(ug/L)
Beryllium	2	U	(ug/L)
Calcium	94300		(ug/L)
Chromium	6.7	U	(ug/L)
Cobalt	13.2	U	(ug/L)
Copper	9.3	U	(ug/L)
Iron	1010		(ug/L)
Magnesium	24300		(ug/L)
Manganese	52.7		(ug/L)
Nickel	7	MJ	(ug/L)
Potassium	1430		(ug/L)
Silver	11.1	U	(ug/L)
Sodium	13800		(ug/L)
Vanadium	5.1	U	(ug/L)
Zinc	34.1	U	(ug/L)

ANALYZED BY: _____ 6-9-00

EPA CRL - REGION V
ICP FINAL RESULTS REPORT

REPORT PRODUCED ON: 24-May-00

SAMPLE ORGANIZATION:

SAMPLE BATCH ID: 20000032

LABORATORY: REGION 5 CRL

SAMPLE FACILITY: Himco Dump

SAMPLE: 2000SY04S38

ANALYZED: 23-May-00

STATION: WT117A

COMPOUND	AMOUNT	(Units)
Aluminum	827	(ug/L)
Barium	41.3	(ug/L)
Beryllium	2 U	(ug/L)
Calcium	70900	(ug/L)
Chromium	9.3 J	(ug/L)
Cobalt	13.2 U	(ug/L)
Copper	3.2 M B	(ug/L)
Iron	508	(ug/L)
Magnesium	12000 J	(ug/L)
Manganese	206	(ug/L)
Nickel	7.5 MJ	(ug/L)
Potassium	2180	(ug/L)
Silver	11.1 U	(ug/L)
Sodium	5110	(ug/L)
Vanadium	3.1 M	(ug/L)
Zinc	34.1 U	(ug/L)

ANALYZED BY: [signature] 6-9-00

EPA CRL - REGION V
ICP FINAL RESULTS REPORT

REPORT PRODUCED ON: 24-May-00

SAMPLE ORGANIZATION:

SAMPLE BATCH ID: 20000032

LABORATORY: REGION 5 CRL

SAMPLE FACILITY: Himco Dump

SAMPLE: 2000SY04S39

ANALYZED: 23-May-00

STATION: WT117B

COMPOUND	AMOUNT	(Units)
Aluminum	118 U	(ug/L)
Barium	35.9	(ug/L)
Beryllium	2 U	(ug/L)
Calcium	179000	(ug/L)
Chromium	6.7 U	(ug/L)
Cobalt	13.2 U	(ug/L)
Copper	9.3 U	(ug/L)
Iron	2280	(ug/L)
Magnesium	24200	(ug/L)
Manganese	71.7	(ug/L)
Nickel	21 U	(ug/L)
Potassium	1790	(ug/L)
Silver	11.1 U	(ug/L)
Sodium	17100	(ug/L)
Vanadium	5.1 U	(ug/L)
Zinc	34.1 U	(ug/L)

ANALYZED BY: [signature] 6-9-00

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 5 CENTRAL REGIONAL LABORATORY

536 SOUTH CLARK STREET

CHICAGO, ILLINOIS 60605

Date:

Subject: Review of Region 5 Data for Himco Dump Code:054J

From: ESAT , Chemist
Region 5 Central Regional Laboratory

To:

Attached are the results for Site: Himco Dump Code:054J
CRL Data Set Number: 20000032
for analyses of : ICP
Results are reported for sample numbers: 2000SY04S14, 2000SY04S15, 2000SY04S16, 2000SY04S17, 2000SY04S18, 2000SY04S19, 2000SY04S20, 2000SY04S21, 2000SY04S22, 2000SY04S23, 2000SY04S24, 2000SY04S25, 2000SY04S26, 2000SY04S27, 2000SY04S28, 2000SY04S29, 2000SY04S30, 2000SY04S31, 2000SY04S32, 2000SY04S33, 2000SY04S34, 2000SY04S35, 2000SY04S36, 2000SY04S37, 2000SY04S38 and 2000SY04S39

Results Status:
(x) Acceptable for Use for most metals
(x) Data Qualified, but Acceptable for use for metals with attached flags
( ) Data Unacceptable for Use

CRL Data Management Coordinator and Date Received

Date Transmitted: _____

Please have the US EPA project leader fill out the customer survey form on the Region 5 Intranet: http://www.r5intra.epa.gov/crl/qa.html, (← by clicking on this link, or call George Schupp, CRL Sample Coordinator, at 3-1226).

Please sign and date this form below and return it with any comments to:

Sylvia Griffin
Data Management Coordinator
Region 5 Central Regional Laboratory
ML - 10C

Received by and Date

Comments:

Lockheed Martin Services Group
Environmental Services & Technologies Region 5
536 South Clark Street #1050 Chicago, IL 60605
Telephone 312-353-8302 Facsimile 312-353-8307

LOCKHEED MARTIN

Date: June 9, 2000

To: John V. Morris, EPA WAM

From: Richard Dilg, ESAT Chemist RD 6-12-00

Thru: Ziyad Rajabi, ESAT Team Manager

Copies: John Ganz, ESAT Inorganic Group Leader
Jay Thakkar, ESAT Contract RPO

Ref: TDF# 5104-290
WA# 05-00-4-04
Contract # 68D60002

SUBJECT: Data Set SF20000032: ICP Analyses for Himco Dump samples using CRL Method **200.7**

Attached is the deliverable for Data Set SF20000032 ICP analysis of 26 water samples.

If you have any question please feel free to contact ESAT.

2D
6-12-00

Method Number: 200.7
Date Generated: June 9, 2000
Author: R.Dilg,Lockheed-ESAT

Site Name: Himco Dump
Work Unit Number: 05-00-4-04
TDF Number: 5104-290
Charge Number: ESE-51-033
Batch ID No.: 20000032
Parameter: ICP

ICP NARRATIVE

This narrative covers the analysis of 26 water samples from the named site sampled for ICP metals analysis. Sample pH values were checked (see digestion log sheet) and all were found to be properly preserved.

Sample Nos.	Sample Station ID's	Sample collected	Analysis date
2000SY04S14*	GPE-1	4-25-2000	5-23-2000
2000SY04S15*	GPE-2	4-25-2000	5-23-2000
2000SY04S16*	GPE-3	4-25-2000	5-23-2000
2000SY04S17	WT102	4-25-2000	5-23-2000
2000SY04S18*	WT102C	4-25-2000	5-23-2000
2000SY04S19	WT102B	4-25-2000	5-23-2000
2000SY04S20	WT102A	4-25-2000	5-23-2000
2000SY04S21	GP114-1	4-25-2000	5-23-2000
2000SY04S22*	GP114-2	4-25-2000	5-23-2000
2000SY04S23*	GP114-3	4-25-2000	5-23-2000
2000SY04S24*	GP16-1	4-25-2000	5-23-2000
2000SY04S25*	GP16-2	4-25-2000	5-23-2000
2000SY04S26*	GP101-1	4-25-2000	5-23-2000
2000SY04S27*	GP101-2	4-25-2000	5-23-2000
2000SY04S28	WT113B	4-26-2000	5-23-2000
2000SY04S29	WT113A	4-26-2000	5-23-2000
2000SY04S30	WTB1	4-26-2000	5-23-2000
2000SY04S31	WTB3	4-26-2000	5-23-2000
2000SY04S32	WTB4	4-26-2000	5-23-2000
2000SY04S33	WT112B	4-27-2000	5-23-2000
2000SY04S34	WT112B	4-27-2000	5-23-2000
2000SY04S35	WT112A	4-27-2000	5-23-2000
2000SY04S36	WTG3	4-27-2000	5-23-2000
2000SY04S37	WTG1	4-27-2000	5-23-2000
2000SY04S38	WT117A	4-27-2000	5-23-2000
2000SY04S39	WT117B	4-27-2000	5-23-2000

* these samples contained brown solids

Routine CRL microwave digestion procedures were used to prepare the water sample for ICP analysis. The digests for the samples that are asterisked in the above listing were all filtered prior to the ICP analysis run. The sample digests were analyzed using the JY138 ICP unit; the JYSED5 analysis run method was used. ICP analysis results for the water samples were stored to file RUN1178.

KB 6-7-00

ICP RUN RESULTS

One day analyte mdl's were determined on May 16, 2000. Also newly calculated rl values were determined. These values were used in reporting sample analysis results for this data case.

Because of recently issued CRL SOP's, a newly instituted check audit, the reporting limit (RL) check solution was prepared. Analysis of this check audit solution was performed twice during the analysis run, at the beginning of the run and also at the end.

Also for QA evaluation purposes, mid range and high AQC check audit acceptance criteria used were 100 ± 10 %R for check audits.

The following analytes will either not be addressed or only minimally mentioned in this case narrative:

Sn, Tl, As, Se, Sb, Mo, Pb, Cd, Ti, Y, Sr, Li

The following lists the case pertinent out-of-control QC audit check results:

RUN 1178:

Blanks:	Instr Blank 1:	Ca315,	*	
		Mg383,	*	
	Digest Blank 1:	Ca315,	*	
		Cu324,	3.2	µg/L
		Mg383,	*	
		Na588,	- 16.6	µg/L
	Instr Blank 2:	Ca315,	*	
		Mg383,	*	
	Digest Blank 2:	Zn213,	15.5	µg/L
		Be234,	- 0.67	"
		Fe271,	*	
		Al308,	*	
		Ca315,	*	
	Instr Blank 3:	Mg383,	*	
	Digest Blank 3:	Zn213,	13.1	µg/L
		Fe259,	42.2	"
		Mg279,	4.5	"
		Mg383,	*	
	Instr Blank 4:	Na588,	- 18.8	µg/L

* alternate analytes lines used to monitor these audits

SD
6-12-00

ICP RUN RESULTS (Continued)

AQC's:	AQC 1:	Ni231,	11.68	percent deviation
	AQC 2:	Co228,	10.26	"
		Ni231,	11.15	"
	AQC 3:	Ni231,	10.76	"
		Fe271,	*	
	AQC 4:	Cr205,	12.63	percent deviation
		Zn213,	11.15	"
		Co228,	10.74	"
		Ni231,	14.01	"
		Fe271,	*	
		Mg279,	11.44	percent deviation
		Ca315,	*	

* alternate analytes lines used to monitor these audits

HI AQC's: HI AQC 4: Na588, - 10.03 percent deviation

Matrix Spike:	2000SY04S17:	Zn481,	*
	2000SY04S28:	Fe271,	*
		Ca315,	#
		Ca393,	*
	2000SY04S33:	Al308,	*
		Ca393,	*
		Zn481,	*

* alternate analytes lines used to monitor these audits
\# audit not valid; sample conc. > 2X spike conc.

Spiked Blank: Zn481, *

* alternate analytes lines used to monitor these audits

RL check Soln: RL 1:
(See paragraph below regarding RL's)
RL 2:

Per a discussion with J. V. Morris, the RL values calculated from the May 16th MDL analysis run were used as reporting limits (instead of the formerly used mdl values) for the sample analysis results for this case.

AB 6-12-00

ICP RUN RESULTS (Continued)

Presently no "control" actions are associated with the observed RL analyte values actually determined during the analysis run. RL check solution values currently are being analyzed for purposes of generating a benchmark set of values which can be used to monitor the appropriateness of any given RL level of analyte concentration.

An ambiguously stated flag in SOP HK005 is the "B" flag. Although a "more than 10 times" rule was mentioned for blanks for considering data as useable, it was not clearly stated whether or not the "B" flag should be used. As a matter of fact, to this analyst, from reading the wording used in the SOP the flow or intent seems to imply (but is not specifically stated to do so) to always use the "B" flag regardless of the sample level if a control audit blank is above an MDL level ! This analyst used the "B" flag for those analyte cases where the MDL value was exceeded but the 10 times value was not exceeded.

All Tl, As, Sb, Cd, Pb, and Se results were not reported by ICP. See GFAA results for these analytes.

For Al, the sample result for 2000SYS04S36 was flagged "M" indicating it had a result between the MDL and the RL values and it is estimated. The remaining Al sample results are usable.

For Be, the sample result for 2000SYS04S25 was flagged "M" indicating it had a result between the MDL and the RL values and it is estimated. The sample result for 2000SY04S25 was also flagged "B" since it may have been affected by possible contamination indicated by blank analysis data. The remaining Be sample results are usable.

For Co, sample results for 2000SY04S14, S15, S16, S20, S23, S24, S25, and S26 are estimated due to possible high bias indicated from the middle check audit values. "J" flags were used. Sample results for 2000SY04S14, S15, S16, S20, S24, and S26 were also flagged "M" indicating they had results between the MDL and the RL value. The remaining Co sample results are usable.

For Cr, sample results for 2000SY04S14, S15, S16, S18, S19, S20, S22, S23, S24, S25, S26, S27, S30, and S38 are estimated due to possible high bias indicated from the middle check audit values. "J" flags were used. The sample result for 2000SY04S30 was also flagged "M" indicating it had a result between the MDL and the RL values. The remaining Cr sample results are usable.

JB
6-12-00

ICP RUN RESULTS (continued)

For Cu, sample results for 2000SYS04S17, S18, S27, S29, and S38 were flagged "M" indicating they had results between the MDL and the RL values and they are estimated. Sample results for 2000SY04S14, S16, S17, S18, ,S22, S24, S26, S27, S29, and S38 were flagged "B" and are estimated since they may have been affected by possible contamination indicated by blank analysis data. Any remaining Cu sample results are usable.

For Fe, sample results for 2000SYS04S17 and S35 were flagged "M" indicating they had results between the MDL and the RL values and they are estimated. Sample results for 2000SY04S17, S20, S21, S29, S32, and S35 were flagged "B" and are estimated since they may have been affected by possible contamination indicated by blank analysis data. Any remaining Fe sample results are usable.

For Mn, sample results for 2000SYS04S17 and S35 were flagged "M" indicating they had results between the MDL and the RL values and they are estimated. The remaining Mn sample results are usable.

For Mg, sample results for 2000SY04S17, S20, S29, S35, and S38 are estimated due to possible high bias indicated from the middle check audit values. "J" flags were used. The remaining Mg sample results are usable.

For Ni, sample results for 2000SY04S14, S15, S16, S18, S19, S20, S22, S23, S24, S25, S26, S27, S30, S36, S37, and S38 are estimated due to possible high bias indicated from the middle check audit values. "J" flags were used. Sample results for 2000SY04S19, S22, S24, S27, S30, S36, S37, and S38 was also flagged "M" indicating they had results between the MDL and the RL values. The remaining Ni sample results are usable.

For K, the sample result for 2000SYS04S17 was flagged "M" indicating it had a result between the MDL and the RL values and it is estimated. The remaining K sample results are usable.

For Ag, the sample result for 2000SYS04S19 was flagged "M" indicating it had a result between the MDL and the RL values and it is estimated. The remaining Ag sample results are usable.

For V, sample results for 2000SYS04S16, S18, S19, S24, S35, and S38 were flagged "M" indicating they had results between the MDL and the RL values and they are estimated. The remaining V sample results are usable.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 5 CENTRAL REGIONAL LABORATORY

536 SOUTH CLARK STREET

CHICAGO, ILLINOIS 60605

Date: MAY 30 2000

Subject: Review of Region 5 Data for Himco Dump Code:054J

From: ESAT , Chemist
Region 5 Central Regional Laboratory

To:

Attached are the results for Site: Himco Dump Code:054J
CRL Data Set Number: 20000032
for analyses of : Mercury
Results are reported for sample numbers: 2000SY04S14, 2000SY04S15, 2000SY04S16, 2000SY04S17, 2000SY04S18, 2000SY04S19, 2000SY04S20, 2000SY04S21, 2000SY04S22, 2000SY04S23, 2000SY04S24, 2000SY04S25, 2000SY04S26, 2000SY04S27, 2000SY04S28, 2000SY04S29, 2000SY04S30, 2000SY04S31, 2000SY04S32, 2000SY04S33, 2000SY04S34, 2000SY04S35, 2000SY04S36, 2000SY04S37, 2000SY04S38 and 2000SY04S39

Results Status:
(x) Acceptable for Use
( ) Data Qualified, but Acceptable for use
( ) Data Unacceptable for Use

Sylvia Griffin MAY 30 2000

CRL Data Management Coordinator and Date Received

Date Transmitted: MAY 30 2000

Please have the US EPA project leader fill out the customer survey form on the Region 5 Intranet: http://www.r5intra.epa.gov/crl/qa.html, (← by clicking on this link, or call George Schupp, CRL Sample Coordinator, at 3-1226).

Please sign and date this form below and return it with any comments to:

Sylvia Griffin
Data Management Coordinator
Region 5 Central Regional Laboratory
ML - 10C

Received by and Date

Comments:

Parameter: Mercury
Method: 245.2*DNS
Site: Himco Landfill
Analyst: M. Mattox M. Mattox
Date: May 23, 2000 5/23/00

Data Set: 20000032
TDF: 5104-290
PWO: ESE51033
WAD: 05-00-4-04

NARRATIVE

Twenty six (26) water samples from the Himco Landfill site (data set 20000032) were collected on April 25, 26, and 27, 2000. The water samples are stated with the sample number and station identification as follows: 2000SY04S14 (GPE-1), 2000SY04S15 (GPE-2), 2000SY04S16 (GPE-3), 2000SY04S17 (WT102), 2000SY04S18 (WT102C), 2000SY04S19 (WT102B), 2000SY04S20 (WT102A), 2000SY04S21 (GP114-1), 2000SY04S22 (GP114-2), 2000SY04S23 (GP114-3), 2000SY04S24 (GP16-1), 2000SY04S25 (GP16-2), 2000SY04S26 (GP101-1), 2000SY04S27 (GP101-2), 2000SY04S28 (WT113B), 2000SY04S29 (WT113A), 2000SY04S30 (WTB1), 2000SY04S31 (WTB3), 2000SY04S32 (WTB4), 2000SY04S33 (WT112B), 2000SY04S34 (WT112B), 2000SY04S35 (WT112A), 2000SY04S36 (WTG3), 2000SY04S37 (WTG1), 2000SY04S38 (WT117A), and 2000SY04S39 (WT117B). The samples were received properly preserved by CRL on April 28, 2000. These samples were assigned to ESAT for mercury analysis.

The samples were digested on 5/12/00 and analyzed on 5/15/00. The data set was prepared for digestion by adding the acid mixture, potassium permanganate, and potassium persulfate manually. The samples were covered and the autodigestion unit was then used for heating only. On 5/15/00 the hydroxylamine solution was manually added. Reagents were added manually due to a leaking syringe on the autodigestion unit. e acd 5-25-00

All sample results are acceptable; all QC audits were in control.

This narrative is stored in
I:\r5crl\vol1\min_nut\mmattox\PSAMercury\Hg Water\20000032\Reports\Hg Narrative.
The spreadsheet is stored in
I:\r5crl\vol1\min_nut\mmattox\PSAMercury\Hg Water\20000032\Reports\Hg Results.
The QC summary is stored in
I:\r5crl\vol1\min_nut\mmattox\PSAMercury\Hg Water\20000032\Reports\Hg QC Summary.

At this time RLIMS is not available, therefore WordPerfect reports were generated. Time must be allotted in the future to enter the data into RLIMS when it does become available.

ATTACHMENT 1

CRL Data Review Qualification Codes

QUALIFIER	DESCRIPTION
B	This flag is used when the analyte is found in the associated ***B***lank as well as the sample. It indicates possible blank contamination and warns the user to take appropriate action while assessing the data.
D	This flag is used when the analyte concentration results from a required ***D***ilution of the sample, extract or digestate.
E	This flag is used to identify analyte concentrations ***E***xceeding the upper calibration range of the analytical instrument after dilution of the sample, extract or digestate. The reported value is considered to be estimated
J	This flag is used when the analyte is confirmed to be qualitatively present in the sample, extract or digestate, at or above the CRL reporting limit (RL) but the quantitated value is estimated due to quality control limit(s) being exceeded. This flag accompanies all GC/MS tentatively identified compounds (TICs). This flag also applies to a suspected, unidentified interference. (***J*** is the flag used in the Superfund CLP SOW and Data Review Functional Guidelines and is used by CRL for consistency.)
M	This flag is used when the analyte is confirmed to be qualitatively present in the sample, extract or digestate, at or above the CRL ***M***ethod Detection Limit (MDL) but below the CRL reporting limit (RL). This flag applies to all values in this concentration range and indicates the quantitated value is estimated due to its presence in this concentration range.
N	This flag applies to GC/MS TICs that have ***N***o mass spectral library match.
Q	This flag applies to analyte data that are severely estimated due to quality control and/or ***Q***uantitation problems, but are confirmed to be qualitatively present in the sample. No value is reported with this qualification flag.
R	This flag applies to analyte data that are ***R***ejected and unusable due to severe quality control, quantitation and/or qualitative identification problems. No other qualification flags are reported for this analyte. No value is reported with this qualification flag.
U	This flag in used when the analyte was analyzed but ***U***ndetected in the sample. The CRL RL for the analyte accompanies this flag. As with sample results that are positive, the value is corrected for dry weight, dilution and/or sample weight or volume.

ENVIRONMENTAL PROTECTION AGENCY
REGION V
CENTRAL REGIONAL LABORATORY
FINAL RESULT REPORT FOR THE TEAM: METALS

DIVISION/BRANCH: SUPERFUND **SAMPLING DATE:** 4/25-27/2000 **LAB ARRIVAL DATE:** 4/28/00 **DUE DATE:** 5/12/2000
DU NUMBER: TFA **DATASET NUMBER:** 20000032 **STUDY:** Himco Landfill **PRIORITY:** Routine **LABORATORY :** ESAT

	CRL LOG NUMBER	SAMPLE DESCRIPTION	WATER Mercury (ug/l)		
1	2000SY04S14	GPE-1	0.1U		
2	2000SY04S15	GPE-2	0.2 M		
3	2000SY04S16	GPE-3	0.1U		
4	2000SY04S17	WT102	0.1U		
5	2000SY04S18	WT102C	0.1U		
6	2000SY04S19	WT102B	0.1U		
7	2000SY04S20	WT102A	0.1U		
8	2000SY04S21	GP114-1	0.1U		
9	2000SY04S22	GP114-2	0.1U		
10	2000SY04S23	GP114-3	0.1U		
11	2000SY04S24	GP16-1	0.1U		
12	2000SY04S25	GP16-2	0.1 M		
13	2000SY04S26	GP101-1	0.1U		
DATE OF ANALYSIS		5/23/00	05/15/00		
ANALYST		M. Mattox	M. Mattox		

Reviewed by: A. C. Harvey Date: 5/25/00

ENVIRONMENTAL PROTECTION AGENCY
REGION V
CENTRAL REGIONAL LABORATORY
FINAL RESULT REPORT FOR THE TEAM: METALS

DIVISION/BRANCH: SUPERFUND **SAMPLING DATE:** 4/25-27/2000 **LAB ARRIVAL DATE:** 4/28/00 **DUE DATE:** 5/12/2000
DU NUMBER: TFA **DATASET NUMBER:** 20000032 **STUDY:** Himco Landfill **PRIORITY:** Routine **LABORATORY :**ESAT

	CRL LOG NUMBER	SAMPLE DESCRIPTION	WATER Mercury (ug/l)		
14	2000SY04S27	GP101-2	0.1U		
15	2000SY04S28	WT113B	0.1U		
16	2000SY04S29	WT113A	0.1U		
17	2000SY04S30	WTB1	0.1U		
18	2000SY04S31	WTB3	0.1U		
19	2000SY04S32	WTB4	0.1U		
20	2000SY04S33	WT112B	0.1U		
21	2000SY04S34	WT112B	0.1U		
22	2000SY04S35	WT112A	0.1U		
23	2000SY04S36	WTG3	0.1U		
24	2000SY04S37	WTG1	0.1U		
25	2000SY04S38	WT117A	0.1U		
26	2000SY04S39	WT117B	0.1U		
DATE OF ANALYSIS		5/23/00	05/15/00		
ANALYST		M. Mattox	M. Mattox		

Reviewed by: A. C. Harvey Date: 5/25/00

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 5 CENTRAL REGIONAL LABORATORY

536 SOUTH CLARK STREET

CHICAGO, ILLINOIS 60605

Date: MAY 30 2000

Subject: Review of Region 5 Data for Himco Dump Code:054J

From: ESAT , Chemist
Region 5 Central Regional Laboratory

To: Gwen Massenburg
SR-6J

Attached are the results for Site: Himco Dump Code:054J
CRL Data Set Number: 20000032
for analyses of : Mercury
Results are reported for sample numbers: 2000SY04S14, 2000SY04S15, 2000SY04S16, 2000SY04S17, 2000SY04S18, 2000SY04S19, 2000SY04S20, 2000SY04S21, 2000SY04S22, 2000SY04S23, 2000SY04S24, 2000SY04S25, 2000SY04S26, 2000SY04S27, 2000SY04S28, 2000SY04S29, 2000SY04S30, 2000SY04S31, 2000SY04S32, 2000SY04S33, 2000SY04S34, 2000SY04S35, 2000SY04S36, 2000SY04S37, 2000SY04S38 and 2000SY04S39

Results Status:
(x) Acceptable for Use
( ) Data Qualified, but Acceptable for use
( ) Data Unacceptable for Use

Sylvia Griffin MAY 30 2000

CRL Data Management Coordinator and Date Received

Date Transmitted: MAY 30 2000

Please have the US EPA project leader fill out the customer survey form on the Region 5 Intranet: http://www.r5intra.epa.gov/crl/qa.html, (← by clicking on this link, or call George Schupp, CRL Sample Coordinator, at 3-1226).

Please sign and date this form below and return it with any comments to:

Sylvia Griffin
Data Management Coordinator
Region 5 Central Regional Laboratory
ML - 10C

Received by and Date

Comments:

Parameter: Mercury
Method: 245.2*DNS
Site: Himco Landfill
Analyst: M. Mattox M. Mattox
Date: May 23, 2000 5/23/00

Data Set: 20000032
TDF: 5104-290
PWO: ESE51033
WAD: 05-00-4-04

NARRATIVE

Twenty six (26) water samples from the Himco Landfill site (data set 20000032) were collected on April 25, 26, and 27, 2000. The water samples are stated with the sample number and station identification as follows: 2000SY04S14 (GPE-1), 2000SY04S15 (GPE-2), 2000SY04S16 (GPE-3), 2000SY04S17 (WT102), 2000SY04S18 (WT102C), 2000SY04S19 (WT102B), 2000SY04S20 (WT102A), 2000SY04S21 (GP114-1), 2000SY04S22 (GP114-2), 2000SY04S23 (GP114-3), 2000SY04S24 (GP16-1), 2000SY04S25 (GP16-2), 2000SY04S26 (GP101-1), 2000SY04S27 (GP101-2), 2000SY04S28 (WT113B), 2000SY04S29 (WT113A), 2000SY04S30 (WTB1), 2000SY04S31 (WTB3), 2000SY04S32 (WTB4), 2000SY04S33 (WT112B), 2000SY04S34 (WT112B), 2000SY04S35 (WT112A), 2000SY04S36 (WTG3), 2000SY04S37 (WTG1), 2000SY04S38 (WT117A), and 2000SY04S39 (WT117B). The samples were received properly preserved by CRL on April 28, 2000. These samples were assigned to ESAT for mercury analysis.

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All sample results are acceptable; all QC audits were in control.

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The spreadsheet is stored in
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The QC summary is stored in
I:\r5crl\vol1\min_nut\mmattox\PSAMercury\Hg Water\20000032\Reports\Hg QC Summary.

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U	This flag in used when the analyte was analyzed but ***U***ndetected in the sample. The CRL RL for the analyte accompanies this flag. As with sample results that are positive, the value is corrected for dry weight, dilution and/or sample weight or volume.

ENVIRONMENTAL PROTECTION AGENCY
REGION V
CENTRAL REGIONAL LABORATORY
FINAL RESULT REPORT FOR THE TEAM: METALS

DIVISION/BRANCH: SUPERFUND **SAMPLING DATE:** 4/25-27/2000 **LAB ARRIVAL DATE:** 4/28/00 **DUE DATE:** 5/12/2000
DU NUMBER: TFA **DATASET NUMBER:** 20000032 **STUDY:** Himco Landfill **PRIORITY:** Routine **LABORATORY :** ESAT

	CRL LOG NUMBER	SAMPLE DESCRIPTION	WATER Mercury (ug/l)		
1	2000SY04S14	GPE-1	0.1U		
2	2000SY04S15	GPE-2	0.2 M		
3	2000SY04S16	GPE-3	0.1U		
4	2000SY04S17	WT102	0.1U		
5	2000SY04S18	WT102C	0.1U		
6	2000SY04S19	WT102B	0.1U		
7	2000SY04S20	WT102A	0.1U		
8	2000SY04S21	GP114-1	0.1U		
9	2000SY04S22	GP114-2	0.1U		
10	2000SY04S23	GP114-3	0.1U		
11	2000SY04S24	GP16-1	0.1U		
12	2000SY04S25	GP16-2	0.1 M		
13	2000SY04S26	GP101-1	0.1U		
DATE OF ANALYSIS		5/23/00	05/15/00		
ANALYST		M. Mattox	M. Mattox		

Reviewed by: A. C. Harvey Date: 5/25/00

ENVIRONMENTAL PROTECTION AGENCY
REGION V
CENTRAL REGIONAL LABORATORY
FINAL RESULT REPORT FOR THE TEAM: METALS

DIVISION/BRANCH: SUPERFUND **SAMPLING DATE:** 4/25-27/2000 **LAB ARRIVAL DATE:** 4/28/00 **DUE DATE:** 5/12/2000
DU NUMBER: TFA **DATASET NUMBER:** 20000032 **STUDY:** Himco Landfill **PRIORITY:** Routine **LABORATORY :**ESAT

	CRL LOG NUMBER	SAMPLE DESCRIPTION	WATER Mercury (ug/l)		
14	2000SY04S27	GP101-2	0.1U		
15	2000SY04S28	WT113B	0.1U		
16	2000SY04S29	WT113A	0.1U		
17	2000SY04S30	WTB1	0.1U		
18	2000SY04S31	WTB3	0.1U		
19	2000SY04S32	WTB4	0.1U		
20	2000SY04S33	WT112B	0.1U		
21	2000SY04S34	WT112B	0.1U		
22	2000SY04S35	WT112A	0.1U		
23	2000SY04S36	WTG3	0.1U		
24	2000SY04S37	WTG1	0.1U		
25	2000SY04S38	WT117A	0.1U		
26	2000SY04S39	WT117B	0.1U		
DATE OF ANALYSIS		5/23/00	05/15/00		
ANALYST		M. Mattox	M. Mattox		

Reviewed by: A. C. Harvey Date: 5/25/00

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 5 CENTRAL REGIONAL LABORATORY

536 SOUTH CLARK STREET

CHICAGO, ILLINOIS 60605

Date: JUN 1 2 2000

Subject: Review of Region 5 Data for Himco Dump Code:054J

From: ESAT , Chemist
Region 5 Central Regional Laboratory

To: Gwen Massenburg

Attached are the results for Site: Himco Dump Code:054J
CRL Data Set Number: 20000032
for analyses of : Antimony, Arsenic, Cadmium, Lead, Selenium and Thallium
Results are reported for sample numbers: 2000SY04S14, 2000SY04S15, 2000SY04S16, 2000SY04S17, 2000SY04S18, 2000SY04S19, 2000SY04S20, 2000SY04S21, 2000SY04S22, 2000SY04S23, 2000SY04S24, 2000SY04S25, 2000SY04S26, 2000SY04S27, 2000SY04S28, 2000SY04S29, 2000SY04S30, 2000SY04S31, 2000SY04S32, 2000SY04S33, 2000SY04S34, 2000SY04S35, 2000SY04S36, 2000SY04S37, 2000SY04S38 and 2000SY04S39

Results Status:
(x) Acceptable for Use
( ) Data Qualified, but Acceptable for use
( ) Data Unacceptable for Use

Sylvia Griffin JUN 12 2000

CRL Data Management Coordinator and Date Received

Date Transmitted: JUN 12 2000

Please have the US EPA project leader fill out the customer survey form on the Region 5 Intranet: http://www.r5intra.epa.gov/crl/qa.html, (← by clicking on this link, or call George Schupp, CRL Sample Coordinator, at 3-1226).

Please sign and date this form below and return it with any comments to:

Sylvia Griffin
Data Management Coordinator
Region 5 Central Regional Laboratory
ML - 10C

Received by and Date

Comments:

Lockheed Martin Services Group
Environmental Services & Technologies Region 5
536 South Clark Street #1050 Chicago, IL 60605
Telephone 312-353-8302 Facsimile 312-353-8307

LOCKHEED MARTIN

Date: May 25, 2000

To: John V. Morris, EPA WAM

From: Stephen Connet, ESAT Chemist

Thru: Ziyad Rajabi, ESAT Team Manager

Copies: John Ganz, ESAT Inorganic Group Leader
Jay Thakkar, ESAT Contract RPO

Ref: TDF# 5104-290
WA# 05-00-4-04
Contract # 68D60002

SUBJECT: Data Set SF20000032: Inorganic Analyses of 6 Metals by Graphite Furnace for Himco Dump Samples Using CRL Methods

Attached is the deliverable for Data Set SF20000032 graphite furnace analysis of the 26 water samples. Included in the deliverable are the case narrative, QC reports and raw data. Sample S24 was re-analyzed for antimony after an acceptable result was obtained on 5/23/00 which indicated a detect. All other attempts at analyzing that sample had resulted in non-detects with failed QC (the analytical spike recovery was acceptable but the LCM's were failing). All additional attempts at analyzing the sample undiluted resulted in non-detects including the reported result obtained on 5/24/00. If you have any question please feel free to contact me.

5-25-00

Method: GFAA for Water
Site: Himco Dump
Date: June 8, 2000
Prepared by: Stephen Connet

TDF: 5104-290
PWO: ESE51033
WAD: 05-00-4-04
Data Set: 20000032

NARRATIVE

Twenty six (26) water samples for the Himco Dump site [2000SY04S14 (GPE-1), S15 (GPE-2), S16 (GPE-3), S17 (WT102), S18 (WT102C), S19 (WT102B), S20 (WT102A), S21 (GP114-1), S22 (GP114-2), S23 (GP114-3), S24 (GP16-1), S25 (GP16-2), S26 (GP101-1), S27 (GP101-2), S28 (WT113B), S29 (WT113A), S30 (WTB1), S31 (WTB3), S32 (WTB4), S33 (WT112B), S34 (WT112B), S35 (WT112A), S36 (WTG3), S37 (WTG1), S38 (WT117A), S39 (WT117B)] were sampled on 4/25-27/00 and were received properly preserved by the CRL on 4/28/00. The samples were submitted for analysis of antimony, arsenic, cadmium, lead, selenium and thallium by GFAA.

The samples were digested following standard CRL GFAA water digestion protocols. The samples were digested on 5/9 (digestion batch 1179). Redigestion occurred on 5/10 (digestion batch 1180) due to duplicate difference problems with arsenic on the SIMAA 6000. All results are from digestion batch 1179 except antimony and arsenic.

Due to continuing quality control problems with the SIMAA 6000, all results for arsenic were reported from 5100E using a detection limit of 2 ppb. The duplicate difference for antimony on S14 and S34 are greater than the ESAT limit of 1.2 ug/L. S34 is less than the default (CRL SOP) limit of 2 ug/L. All reported values are less than the detection limit. All antimony results are acceptable. Sample S24 was reanalyzed for confirmation of the result after a reportable detect was obtained. All attempts previous to the reportable detect indicated that no antimony was present in the sample. All subsequent attempts also indicated that no antimony was present.

The duplicate difference for selenium on S14 is greater than the MDL of 2 ug/L. Both values were below the instrument detection limit. All selenium sample results except S36 are non-detects. The selenium result for S36 is estimated, all other selenium results are acceptable. All other QC were within limits; all sample results are acceptable.

Analytical results were stored in the following database files:
H:\r5crl\vol3\metals\sconnet\20000032\5100W-Sb\052300, \052400 and \052500 for antimony,
H:\r5crl\vol3\metals\sconnet\20000032\5100E-As\051500 and \051600 for arsenic,
H:\r5crl\vol3\metals\sconnet\20000032\5100E-Cd\051000 for cadmium,
H:\r5crl\vol3\metals\sconnet\20000032\5100E-Pb\051100 and \060800 for lead,
H:\r5crl\vol3\metals\sconnet\20000032\5100W-Se\051000, \051100, \051500, \051600, \051700, \051800 and \052200 for selenium,
H:\r5crl\vol3\metals\sconnet\20000032\5100E-Tl\051800, \052200 and \052300 for thallium.

This narrative, the QC Summary and Results spreadsheets are stored in:
H:\r5crl\vol3\metals\sconnet\20000032\Reports\GFAA Narrative.wpd
H:\r5crl\vol3\metals\sconnet\20000032\Reports\QCReport.wk4
H:\r5crl\vol3\metals\sconnet\20000032\Reports\GFAA Results.wpd

Since RLIMS was unavailable, the AA metals analysis results are reported in a word-processing spreadsheet only. Time will be necessary in the future to enter all analysis results into RLIMS.

6.8.00

CRL Data Review Qualification Codes

QUALIFIER	DESCRIPTION
B	This flag is used when the analyte is found in the associated ***B***lank as well as the sample. It indicates possible blank contamination and warns the user to take appropriate action while assessing the data. See the case narrative for a discussion of common lab contaminants and/or the relative concentration of contamination in the samples and blanks for relevance.
D	This flag is used when the analyte concentration results from a required ***D***ilution of the sample, extract or digestate.
E	This flag is used to identify analyte concentrations ***E***xceeding the upper calibration range of the analytical instrument after dilution of the sample, extract or digestate. The reported value is considered to be estimated
J	This flag is used when the analyte is estimated due to quality control limit(s) being exceeded. This flag accompanies all GC/MS tentatively identified compounds (TICs). This flag also applies to a suspected, unidentified interference. This flag is placed on affected detected results as well as non-detected (i.e., "U" flagged) results. (***J*** is the flag used in the Superfund CLP SOW and Data Review Functional Guidelines and is used by CRL for consistency.)
M	This flag is used when the analyte is confirmed to be qualitatively present in the sample, extract or digestate, at or above the CRL ***M***ethod Detection Limit (MDL) but below the CRL reporting limit (RL). This flag applies to all values in this concentration range and indicates the quantitated value is estimated due to its presence in this concentration range.
N	This flag applies to GC/MS Te***N***tatively Identified Compounds (TICs) that have a mass spectral library match.
Q	This flag applies to analyte data that are severely estimated due to quality control and/or ***Q***uantitation problems, but are confirmed to be qualitatively present in the sample. No value is reported with this qualification flag.
R	This flag applies to analyte data that are ***R***ejected and unusable due to severe quality control, quantitation and/or qualitative identification problems. No other qualification flags are reported for this analyte. No value is reported with this qualification flag.
U	This flag in used when the analyte was analyzed but ***U***ndetected in the sample. The CRL RL for the analyte accompanies this flag. As with sample results that are positive, the value is corrected for dry weight, dilution and/or sample weight or volume.

4/11/00

ENVIRONMENTAL PROTECTION AGENCY
REGION V
CENTRAL REGIONAL LABORATORY
FINAL RESULT REPORT FOR THE TEAM: METALS

DIVISION/BRANCH: SUPERFUND **SAMPLING DATE:** 4/25-27/00 **LAB ARRIVAL DATE:** 4/28/00 **DUE DATE:** 5/12/00
DU NUMBER: 50102D **DATASET NUMBER:** 20000032 **STUDY:** Himco Dump **PRIORITY:** Routine **LABORATORY :**ESAT

	CRL LOG NUMBER	SAMPLE DESCRIPTION	WATER Antimony (ug/L)	WATER Arsenic (ug/L)	WATER Cadmium (ug/L)	WATER Lead (ug/L)	WATER Selenium (ug/L)	WATER Thallium (ug/L)
1	2000SY04S14	GPE-1	2U	5M	0.1M	15	6UD	1U
2	2000SY04S15	GPE-2	2U	13	0.2DM	27	6UD	1U
3	2000SY04S16	GPE-3	2U	5M	0.1M	12	6UD	1U
4	2000SY04S17	WT102	2U	2U	0.1U	2U	2U	1U
5	2000SY04S18	WT102C	2U	3M	0.1U	2M	2U	1U
6	2000SY04S19	WT102B	2U	6M	0.1U	2U	2U	1U
7	2000SY04S20	WT102A	2U	2U	0.1U	2U	2U	1U
8	2000SY04S21	GP114-1	2U	2U	0.1U	2U	2U	1U
9	2000SY04S22	GP114-2	2U	39	0.1U	9	6UD	1U
10	2000SY04S23	GP114-3	2U	38	0.3DM	35	8UD	1U
11	2000SY04S24	GP16-1	2U	7M	0.1M	10	2U	1U
12	2000SY04S25	GP16-2	2U	74D	0.6DM	47D	8UD	1U
13	2000SY04S26	GP101-1	2U	17	0.2M	27	6UD	1U
14	2000SY04S27	GP101-2	2U	3M	0.1U	4M	2U	1U
DATE OF ANALYSIS			5/23-25/00	5/15-16/00	5/10/00	5/11,6/8/00	5/10-22/00	5/18-23/00
ANALYST		6-8-00	S. Connet	S. Connet	S. Connet	S. Connet	S. Connet	S. Connet

Reviewed by: _____ Date: ___/___/____

J Gary 6-8-2000

ENVIRONMENTAL PROTECTION AGENCY
REGION V
CENTRAL REGIONAL LABORATORY
FINAL RESULT REPORT FOR THE TEAM: METALS

DIVISION/BRANCH: SUPERFUND **SAMPLING DATE:** 4/25-27/00 **LAB ARRIVAL DATE:** 4/28/00 **DUE DATE:** 5/12/00
DU NUMBER: 50102D **DATASET NUMBER:** 20000032 **STUDY:** Himco Dump **PRIORITY:** Routine **LABORATORY :**ESAT

	CRL LOG NUMBER	SAMPLE DESCRIPTION	WATER Antimony (ug/L)	WATER Arsenic (ug/L)	WATER Cadmium (ug/L)	WATER Lead (ug/L)	WATER Selenium (ug/L)	WATER Thallium (ug/L)
15	2000SY04S28	WT113B	2U	3M	0.1U	2U	2U	1U
16	2000SY04S29	WT113A	2U	2U	0.1M	2U	2U	1U
17	2000SY04S30	WTB1	2U	2U	0.1U	2U	2U	1U
18	2000SY04S31	WTB3	2U	5M	0.1U	2U	2U	1U
19	2000SY04S32	WTB4	2U	2U	0.1U	2U	2U	1U
20	2000SY04S33	WT112B	2U	5M	0.1U	2U	2U	1U
21	2000SY04S34	WT112B	2U	4M	0.1U	2U	2U	1U
22	2000SY04S35	WT112A	6UD	2U	0.1U	2U	2U	1U
23	2000SY04S36	WTG3	2U	10	0.1U	2U	4JMD	1U
24	2000SY04S37	WTG1	2U	2U	0.1U	2U	2U	1U
25	2000SY04S38	WT117A	2U	2U	0.1U	2U	4UD	1U
26	2000SY04S39	WT117B	2U	2U	0.1U	2U	4UD	1U
DATE OF ANALYSIS			5/23-25/00	5/15-16/00	5/10/00	5/11/00	5/10-22/00	5/18-23/00
ANALYST		5-25-00	S. Connet	S. Connet	S. Connet	S. Connet	S. Connet	S. Connet

Reviewed by: J. Gary Date: 6/8/2000

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 5 CENTRAL REGIONAL LABORATORY

536 SOUTH CLARK STREET

CHICAGO, ILLINOIS 60605

Date: JUN 12 2000

Subject: Review of Region 5 Data for Himco Dump Code:054J

From: ESAT , Chemist
Region 5 Central Regional Laboratory

To: SF
Gwen Massenburg

Attached are the results for Site: Himco Dump Code:054J
CRL Data Set Number: 20000033
for analyses of : Mercury
Results are reported for sample numbers: 2000SY04S40, 2000SY04S41, 2000SY04S42, 2000SY04S43, 2000SY04S44, 2000SY04S45, 2000SY04S46, 2000SY04S47, 2000SY04S48, 2000SY04S49, 2000SY04S50, 2000SY04S51, 2000SY04S52, 2000SY04S53, 2000SY04S54, 2000SY04S55, 2000SY04S56, 2000SY04S57 and 2000SY04S58

Results Status:
( ) Acceptable for Use
(x) Data Qualified, but Acceptable for use
( ) Data Unacceptable for Use

MW w/o GP inorganics
Hg, SO4, Br, ICP,
Heavy metals

Sylvia Griffin JUN 12 2000

CRL Data Management Coordinator and Date Received

Date Transmitted: JUN 12 2000

Please have the US EPA project leader fill out the customer survey form on the Region 5 Intranet: http://www.r5intra.epa.gov/crl/qa.html, (← by clicking on this link, or call George Schupp, CRL Sample Coordinator, at 3-1226).

Please sign and date this form below and return it with any comments to:

Sylvia Griffin
Data Management Coordinator
Region 5 Central Regional Laboratory
ML - 10C

Received by and Date

Comments:

Lockheed Martin Services Group
Environmental Services & Technologies Region 5
536 South Clark Street #1050 Chicago, IL 60605
Telephone 312-353-8302 Facsimile 312-353-8307

LOCKHEED MARTIN

Date: June 5, 2000

To: John Morris, EPA WAM

From: Marjorie Mattox, ESAT Chemist

Thru: Ziyad Rajabi, ESAT Team Manager

Copies: John Ganz, ESAT Inorganic Group Leader
Jay Thakkar, ESAT Contract RPO

Ref: TDF# 5104-291
WA# 05-00-4-04
Contract # 68D60002

SUBJECT: Data Set SF20000033: Mercury Analyses of Himco Landfill Site Using Method **245.2*DNS for water**

Attached is the deliverable for Data Set 20000033, mercury analysis of 19 water samples. Included in the deliverable is the case narrative, QC reports, and raw data. If you have any questions please feel free to contact ESAT.

M. Mattox 6/5/00

Parameter: Mercury
Method: 245.2*DNS
Site: Himco Landfill
Analyst: M. Mattox M. Mattox
Date: June 5, 2000 6-5-00

Data Set: 20000033
TDF: 5104-291
PWO: ESE51034
WAD: 05-00-4-04

NARRATIVE

Nineteen (19) water samples from the Himco Landfill site (data set 20000033) were collected on April 28, 2000 and May 1-3, 2000. The water samples are stated with the sample number and station identification as follows: 2000SY04S40 (WT111A), 2000SY04S41 (WT118B), 2000SY04S42 (WT119A), 2000SY04S43 (WT115A), 2000SY04S44 (WTE2), 2000SY04S45 (WTE1), 2000SY04S46 (WTE3), 2000SY04S47 (WT105A), 2000SY04S48 (WT106A), 2000SY04S49 (WT101C), 2000SY04S50 (WT101A), 2000SY04S51 (WT101A), 2000SY04S52 (WT101B), 2000SY04S53 (WT116A), 2000SY04S54 (WT116A), 2000SY04S55 (WT116B), 2000SY04S56 (WT114A), 2000SY04S57 (WT114B), and 2000SY04S58 (WT114A). The samples were received properly preserved by CRL on May 3, and May 5, 2000. These samples were assigned to ESAT for mercury analysis.

The samples were digested on May 16, 2000 and analyzed on May 17, 2000. This analysis found CCV-CS and DQC-LFB results to be out of control. Redigestion was attempted on May 25, 2000 and May 26, 2000 but was not completed due to problems with the autodigestion unit. The data set was prepared for digestion on May 31, 2000 by adding the acid mixture, potassium permanganate, and potassium persulfate manually. The samples were covered and the autodigestion unit was then used for heating only. The hydroxylamine solution was then manually added. Analysis was attempted on May 31, 2000 also but was not completed until June 1, 2000. Problems which occurred during digestion and analysis can be found in the mercury log book.

All ICB, CCB, ICV-CS, CCV-CS, and duplicate audits were in control. Two of four DQC-LFB results were acceptable, and one of two spike results were acceptable. The results that were not acceptable showed a high bias. All samples are non-detects. However, the samples were not analyzed within holding time and are therefore estimated.

This narrative is stored in
I:\r5crl\vol1\min_nut\mmattox\PSAMercury\Hg Water\20000033\Reports\Hg Narrative.
The spreadsheet is stored in
I:\r5crl\vol1\min_nut\mmattox\PSAMercury\Hg Water\20000033\Reports\Hg Results.
The QC summary is stored in
I:\r5crl\vol1\min_nut\mmattox\PSAMercury\Hg Water\20000033\Reports\Hg QC Summary.

At this time RLIMS is not available, therefore WordPerfect reports were generated. Time must be allotted in the future to enter the data into RLIMS when it does become available.

CRL Data Review Qualification Codes

QUALIFIER	DESCRIPTION
B	This flag is used when the analyte is found in the associated ***B***lank as well as the sample. It indicates possible blank contamination and warns the user to take appropriate action while assessing the data. See the case narrative for a discussion of common lab contaminants and/or the relative concentration of contamination in the samples and blanks for relevance.
D	This flag is used when the analyte concentration results from a required ***D***ilution of the sample, extract or digestate.
E	This flag is used to identify analyte concentrations ***E***xceeding the upper calibration range of the analytical instrument after dilution of the sample, extract or digestate. The reported value is considered to be estimated
J	This flag is used when the analyte is estimated due to quality control limit(s) being exceeded. This flag accompanies all GC/MS tentatively identified compounds (TICs). This flag also applies to a suspected, unidentified interference. This flag is placed on affected detected results as well as non-detected (i.e., "U" flagged) results. (***J*** is the flag used in the Superfund CLP SOW and Data Review Functional Guidelines and is used by CRL for consistency.)
M	This flag is used when the analyte is confirmed to be qualitatively present in the sample, extract or digestate, at or above the CRL ***M***ethod Detection Limit (MDL) but below the CRL reporting limit (RL). This flag applies to all values in this concentration range and indicates the quantitated value is estimated due to its presence in this concentration range.
N	This flag applies to GC/MS Te***N***tatively Identified Compounds (TICs) that have a mass spectral library match.
Q	This flag applies to analyte data that are severely estimated due to quality control and/or ***Q***uantitation problems, but are confirmed to be qualitatively present in the sample. No value is reported with this qualification flag.
R	This flag applies to analyte data that are ***R***ejected and unusable due to severe quality control, quantitation and/or qualitative identification problems. No other qualification flags are reported for this analyte. No value is reported with this qualification flag.
U	This flag in used when the analyte was analyzed but ***U***ndetected in the sample. The CRL RL for the analyte accompanies this flag. As with sample results that are positive, the value is corrected for dry weight, dilution and/or sample weight or volume.

4/11/00

ENVIRONMENTAL PROTECTION AGENCY
REGION V
CENTRAL REGIONAL LABORATORY
FINAL RESULT REPORT FOR THE TEAM: METALS

DIVISION/BRANCH: SUPERFUND SAMPLING DATE: 4/28, 5/1-3/2000 LAB ARRIVAL DATE: 5/3, 5/5/00 DUE DATE: 6/1/2000
DU NUMBER: 50102D DATASET NUMBER: 20000033 STUDY: Himco Landfill PRIORITY: Routine LABORATORY :ESAT

	CRL LOG NUMBER	SAMPLE DESCRIPTION	WATER Mercury (ug/l)		
1	2000SY04S40	WT111A	0.1U J		
2	2000SY04S41	WT118B	0.1U J		
3	2000SY04S42	WT119A	0.1U J		
4	2000SY04S43	WT115A	0.1U J		
5	2000SY04S44	WTE2	0.1U J		
6	2000SY04S45	WTE1	0.1U J		
7	2000SY04S46	WTE3	0.1U J		
8	2000SY04S47	WT105A	0.1U J		
9	2000SY04S48	WT106A	0.1U J		
10	2000SY04S49	WT101C	0.1U J		
11	2000SY04S50	WT101A	0.1U J		
12	2000SY04S51	WT101A	0.1U J		
13	2000SY04S52	WT101B	0.1U J		
DATE OF ANALYSIS		6-5-00	6/1/00		
ANALYST		M. Mattox	M. Mattox		

Reviewed by: R. C. Harvey Date: 6/6/00

ENVIRONMENTAL PROTECTION AGENCY
REGION V
CENTRAL REGIONAL LABORATORY
FINAL RESULT REPORT FOR THE TEAM: METALS

DIVISION/BRANCH: SUPERFUND SAMPLING DATE: 4/28, 5/1-3/2000 LAB ARRIVAL DATE: 5/3, 5/5/00 DUE DATE: 6/1/2000
DU NUMBER: 50102D DATASET NUMBER: 20000033 STUDY: Himco Landfill PRIORITY: Routine LABORATORY :ESAT

	CRL LOG NUMBER	SAMPLE DESCRIPTION	WATER Mercury (ug/l)		
14	2000SY04S53	WT116A	0.1U J		
15	2000SY04S54	WT116A	0.1U J		
16	2000SY04S55	WT116B	0.1U J		
17	2000SY04S56	WT114A	0.1U J		
18	2000SY04S57	WT114B	0.1U J		
19	2000SY04S58	WT114A	0.1U J		
DATE OF ANALYSIS		6-5-00	6/1/00		
ANALYST		M. Mattox	M. Mattox		

Reviewed by: A. C. Harvey Date: 6/6/00

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 5 CENTRAL REGIONAL LABORATORY

536 SOUTH CLARK STREET

CHICAGO, ILLINOIS 60605

Date: JUN 12 2000

Subject: Review of Region 5 Data for Himco Dump Code:054J

From: ESAT , Chemist
Region 5 Central Regional Laboratory

To: Gwen Massenburg

Attached are the results for Site: Himco Dump Code:054J
CRL Data Set Number: 20000033
for analyses of : ICP
Results are reported for sample numbers: 2000SY04S40, 2000SY04S41, 2000SY04S42, 2000SY04S43, 2000SY04S44, 2000SY04S45, 2000SY04S46, 2000SY04S47, 2000SY04S48, 2000SY04S49, 2000SY04S50, 2000SY04S51, 2000SY04S52, 2000SY04S53, 2000SY04S54, 2000SY04S55, 2000SY04S56, 2000SY04S57 and 2000SY04S58

Results Status:
(x) Acceptable for Use for most metals
(x) Data Qualified, but Acceptable for use for metals with attached flags
( ) Data Unacceptable for Use

Sylvia Griffin JUN 12 2000

CRL Data Management Coordinator and Date Received

Date Transmitted: JUN 12 2000

Please have the US EPA project leader fill out the customer survey form on the Region 5 Intranet: http://www.r5intra.epa.gov/crl/qa.html, (← by clicking on this link, or call George Schupp, CRL Sample Coordinator, at 3-1226).

Please sign and date this form below and return it with any comments to:

Sylvia Griffin
Data Management Coordinator
Region 5 Central Regional Laboratory
ML - 10C

Received by and Date

Comments:

Data Review Qualification Codes

QUALIFIER	DESCRIPTION
B	This flag is used when the analyte is found in the associated *B*lank as well as the sample. It indicates possible blank contamination and warns the user to take appropriate action while assessing the data. See the case narrative for a discussion of common lab contaminants and/or the relative concentration of contamination in the samples and blanks for relevance.
D	This flag is used when the analyte concentration results from a required *D*ilution of the sample, extract or digestate.
E	This flag is used to identify analyte concentrations *E*xceeding the upper calibration range of the analytical instrument after dilution of the sample, extract or digestate. The reported value is considered to be estimated
J	This flag is used when the analyte is estimated due to quality control limit(s) being exceeded. This flag accompanies all GC/MS tentatively identified compounds (TICs). This flag also applies to a suspected, unidentified interference. This flag is placed on affected detected results as well as non-detected (i.e., "U" flagged) results. (*J* is the flag used in the Superfund CLP SOW and Data Review Functional Guidelines and is used by CRL for consistency.)
M	This flag is used when the analyte is confirmed to be qualitatively present in the sample, extract or digestate, at or above the CRL *M*ethod Detection Limit (MDL) but below the CRL reporting limit (RL). This flag applies to all values in this concentration range and indicates the quantitated value is estimated due to its presence in this concentration range.
N	This flag applies to GC/MS Te*N*tatively Identified Compounds (TICs) that have a mass spectral library match.
Q	This flag applies to analyte data that are severely estimated due to quality control and/or *Q*uantitation problems, but are confirmed to be qualitatively present in the sample. No value is reported with this qualification flag.
R	This flag applies to analyte data that are *R*ejected and unusable due to severe quality control, quantitation and/or qualitative identification problems. No other qualification flags are reported for this analyte. No value is reported with this qualification flag.
U	This flag in used when the analyte was analyzed but *U*ndetected in the sample. The CRL RL for the analyte accompanies this flag. As with sample results that are positive, the value is corrected for dry weight, dilution and/or sample weight or volume.

4/11/00

Lockheed Martin Services Group
Environmental Services & Technologies Region 5
536 South Clark Street #1050 Chicago, IL 60605
Telephone 312-353-8302 Facsimile 312-353-8307

LOCKHEED MARTIN

Date: June 9, 2000

To: John V. Morris, EPA WAM

From: Richard Dilg, ESAT Chemist RD 6-12-00

Thru: Ziyad Rajabi, ESAT Team Manager

Copies: John Ganz, ESAT Inorganic Group Leader
Jay Thakkar, ESAT Contract RPO

Ref: TDF# 5104-291
WA# 05-00-4-04
Contract # 68D60002

SUBJECT: Data Set SF20000033: ICP Analyses for Himco Dump samples using CRL Method **200.7**

Attached is the deliverable for Data Set SF20000033 ICP analysis of 19 water samples.

If you have any question please feel free to contact ESAT.

RD 6-12-00

Method Number: 200.7
Date Generated: June 9, 2000
Author: R.Dilg,Lockheed-ESAT

Site Name: Himco Dump
Work Unit Number: 05-00-4-04
TDF Number: 5104-291
Charge Number: ESE-51-034
Batch ID No.: 20000033
Parameter: ICP

ICP NARRATIVE

This narrative covers the analysis of 19 water samples from the named site sampled for ICP metals analysis. Sample pH values were checked (see digestion log sheet) and all were found to be properly preserved.

Sample Nos.	Sample Station ID's	Sample collected	Analysis date
2000SY04S40	WT111A	4-28-2000	5-19-2000
2000SY04S41	WT118B	4-28-2000	5-19-2000
2000SY04S42	WT119A	4-28-2000	5-19-2000
2000SY04S43*	WT115A	5-01-2000	5-19-2000
2000SY04S44	WTE2	5-01-2000	5-19-2000
2000SY04S45	WTE1	5-02-2000	5-19-2000
2000SY04S46	WTE3	5-02-2000	5-19-2000
2000SY04S47	WT105A	5-02-2000	5-19-2000
2000SY04S48*	WT106A	5-02-2000	5-19-2000
2000SY04S49*	WT101C	5-03-2000	5-19-2000
2000SY04S50	WT101A	5-03-2000	5-19-2000
2000SY04S51	WT101A	5-03-2000	5-19-2000
2000SY04S52	WT101B	5-03-2000	5-19-2000
2000SY04S53	WT116A	5-03-2000	5-19-2000
2000SY04S54	WT116A	5-03-2000	5-19-2000
2000SY04S55	WT116B	5-03-2000	5-19-2000
2000SY04S56	WT114A	5-03-2000	5-19-2000
2000SY04S57	WT114B	5-03-2000	5-19-2000
2000SY04S58	WT114A	5-03-2000	5-19-2000

* these samples contained brown solids

Routine CRL microwave digestion procedures were used to prepare the water sample for ICP analysis. Digests for 2000S04S43, S48, and S49 were filtered prior to ICP analysis. The sample digests were analyzed using the JY138 ICP unit; the JYSED5 analysis run method was used. ICP analysis results for the water samples were stored to file RUN1181.

ICP RUN RESULTS

One day analyte mdl's were determined on May 16, 2000. Also newly calculated rl values were determined. These values were used in reporting sample analysis results for this data case.

JP 6-17-00

ICP RUN RESULTS (continued)

Because of recently issued CRL SOP's, a newly instituted check audit, the reporting limit (RL) check solution was prepared. Analysis of this check audit solution was performed twice during the analysis run, at the beginning of the run and also at the end.

Also for QA evaluation purposes, mid range and high AQC check audit acceptance criteria used were 100 ± 10 %R for check audits.

The matrix spike dilution factor for 2000SY04S56 was incorrectly entered in the autosampler run information. The factor was corrected after the analysis run using the IEC correction worksheet for the matrix spike for 2000SY04S56.

The following analytes will either not be addressed or only minimally mentioned in this case narrative:
Sn, Tl, As, Se, Sb, Mo, Pb, Cd, Ti, Y, Sr, Li

The following lists the case pertinent out-of-control QC audit check results:

RUN 1181:

Blanks:	Instr blk 1:	Mg383	*	
	Digest blk 1:	Ca315	*	
		Mg383	*	
	Instr blk 2:	Mg383	*	
		Na588	- 11.7	µg/L
	Digest blk 2:	Zn213	16.2	"
		Ca315	*	
	Instr blk 3:	Ca315	*	
		Mg383	*	

* alternate analytes lines used to monitor these audits

AQC's:	AQC 1:	Mg279,	15.92	percent deviation
	AQC 2:	Cr205,	10.64	"
		Zn213,	13.22	"
		Mg279,	15.53	"
	AQC 3:	Zn213,	11.19	"
		Mg279,	15.45	"

(9)
6-6-00

ICP RUN RESULTS (continued)

Matrix Spike:	2000SY04S41:	Zn213,	116.2 %R
		Mn257,	116.8 "
		Fe259,	#
		Fe271,	*
		Al308,	*
		Ca315,	#
		Ca393,	*
		Zn481,	*
	2000SY04S56:	Mn257,	#
		Fe259,	#
		Fe271,	*
		Ca315,	#
		Ca393,	*
		Zn481,	*
		Na588,	#

* alternate analytes lines used to monitor these audits
\# audit not valid; sample conc. > 2X spike conc.

Spiked Blank: Zn481, *

* alternate analytes lines used to monitor this audits

RL check Soln: RL 1:
(See paragraph below regarding RL's)
RL 2:

Per a discussion with J. V. Morris, the RL values calculated from the May 16th MDL analysis run were used as reporting limits (instead of the formerly used mdl values) for the sample analysis results for this case.

Presently no "control" actions are associated with the observed RL analyte values actually determined during the analysis run. RL check solution values currently are being analyzed for purposes of generating a benchmark set of values which can be used to monitor the appropriateness of any given RL level of analyte concentration.

6-12-00

ICP RUN RESULTS (continued)

An ambiguously stated flag in SOP HK005 is the "B" flag. Although a "more than 10 times" rule was mentioned for blanks for considering data as useable, it was not clearly stated whether or not the "B" flag should be used. As a matter of fact, to this analyst, from reading the wording used in the SOP the flow or intent seems to imply (but is not specifically stated to do so) to always use the "B" flag regardless of the sample level if a control audit blank is above an MDL level ! This analyst used the "B" flag for those analyte cases where the MDL value was exceeded but the 10 times value was not exceeded.

All Tl, As, Sb, Cd, Pb, and Se results were not reported by ICP. See GFAA results for these analytes.

For Fe, sample the result for 2000SY04S58 was flagged "M" indicating it had a result between the MDL and the RL and is estimated. The remaining Fe sample results are usable.

For Zn, sample results for 2000SY04S40, S43, S48, S53, and S54 are estimated due to possible high bias indicated from middle level check audit value and because possible high bias was indicated from matrix spike recovery data. "J" flags were used. The sample result for 2000SY04S40 was also flagged "M" indicating it had a result between the MDL and the RL value. The sample result for 2000SY04S48 was also flagged "M" indicating it had a result between the MDL and the RL and is estimated. Sample results for 2000SY04S40, S43, and S48 were flagged "B" and are estimated since they may have been affected by possible contamination indicated by blank analysis data. Any remaining Zn sample results are usable.

For Mg, sample results for 2000SY04S40, S43, S44, S47, S56, S57, and S58 are estimated due to possible high bias indicated from the middle check audit values. "J" flags were used. Sample results for 2000SY04S44 and S58 were also flagged "M" indicating they had results between the MDL and the RL value. The remaining Mg sample results are usable.

For Cr, sample results for 2000SYS04S40, S42, S43, S47, S48, S49, and S57 are estimated due to possible high bias indicated from the middle check audit values. "J" flags were used. The sample results for 2000SY04S40, S42, and S57 were also flagged "M" indicating they had results between the MDL and the RL values. The remaining Cr sample results are usable.

For Co, sample results for 2000SYS04S40, S47, S49, S51, S53, S54, and S56 were flagged "M" indicating they had results between the MDL and the RL values and they are estimated. The remaining Co sample results are usable.

JD
6-12-00

ICP RUN RESULTS (continued)

For Ni, sample results for 2000SYS04S40, S43, S48, S49, S53, and S54 were flagged "M" indicating they had results between the MDL and the RL values and they are estimated. The remaining Ni sample results are usable.

For Al, sample results for 2000SYS04S42 and S47 were flagged "M" indicating they had results between the MDL and the RL values and they are estimated. The remaining Al sample results are usable.

For Ba, the sample result for 2000SYS04S58 was flagged "M" indicating it had a result between the MDL and the RL value and it is estimated. The remaining Ba sample results are usable.

For K, the sample result for 2000SYS04S58 was flagged "M" indicating it had a result between the MDL and the RL value and it is estimated. The remaining K sample results are usable.

For Mn, all sample results are estimated due to possible high bias indicated from matrix spike recovery data. "J" flags were used. The sample result for 2000SY04S58 was also flagged "M" indicating it had results between the MDL and the RL values.

For Na, the sample result for 2000SY04S58 was flagged "M" indicating it had a result between the MDL and the RL value; the result is estimated.

Samples 2000SYS04S53 and S54 appear to have been sampled at the same time and could be used as a measure of field "duplicates". Analyte values for the two samples correlate well.

Other Comments

As far as the deliverables are concerned the following were submitted:

- Raw data printouts for RUN 1181
- Analysis run log for RUN 1181
- QA analysis run summaries for the above RUN
- QA lab duplicate and matrix spike summaries
- individual worksheets showing raw and IEC corrected results
- a table showing a list of IEC factors used to correct raw ICP data

The last two items mentioned above were included since the interelement corrections were applied to the ICP values after the actual ICP analysis run. The QA run summaries, QA duplicate and matrix spike summaries, and the sample analysis data for the analytes reported all used results that were interelement corrected. The IEC corrections were made using matrix algebra methods and Lotus spreadsheet software.

RN
6-12-00

R5CRL Files

The following pathways were used for storing analysis information to the R5CRL file server for this data set:

(Vol 3 on 'R5crl')[H:]\metals\Rdilg\20000033\Icp\JY138 Ultrace\Interim Lotus SS data
(Vol 3 on 'R5crl')[H:]\metals\Rdilg\20000033\Icp\JY138 Ultrace\narrative
(Vol 3 on 'R5crl')[H:]\metals\Rdilg\20000033\Icp\JY138 Ultrace\QA and sample reports
(Vol 3 on 'R5crl')[H:]\metals\Rdilg\20000033\Icp\JY138 Ultrace\Raw data

EPA CRL - REGION V
ICP FINAL RESULTS REPORT

REPORT PRODUCED ON: 23-May-00

SAMPLE ORGANIZATION:

SAMPLE BATCH ID: 20000033

LABORATORY: REGION 5 CRL

SAMPLE FACILITY: Himco Dump

SAMPLE: 2000SY04S40

ANALYZED: 19-May-00

STATION: WT111A

COMPOUND	AMOUNT	(Units)
Aluminum	463	(ug/L)
Barium	256	(ug/L)
Beryllium	2 U	(ug/L)
Calcium	113000	(ug/L)
Chromium	2.3 MJ	(ug/L)
Cobalt	12.2 M	(ug/L)
Copper	9.3 U	(ug/L)
Iron	12600	(ug/L)
Magnesium	19100 J	(ug/L)
Manganese	1440 J	(ug/L)
Nickel	8.7 M	(ug/L)
Potassium	8380	(ug/L)
Silver	11.1 U	(ug/L)
Sodium	39400	(ug/L)
Vanadium	5.1 U	(ug/L)
Zinc	18 MJ B	(ug/L)

ANALYZED BY: 6-9-00

EPA CRL - REGION V
ICP FINAL RESULTS REPORT

REPORT PRODUCED ON: 23-May-00

SAMPLE ORGANIZATION:

SAMPLE BATCH ID: 20000033

LABORATORY: REGION 5 CRL

SAMPLE FACILITY: Himco Dump

SAMPLE: 2000SY04S41

ANALYZED: 19-May-00

STATION: WT118B

COMPOUND	AMOUNT	(Units)
Aluminum	118 U	(ug/L)
Barium	93.4	(ug/L)
Beryllium	2 U	(ug/L)
Calcium	193000	(ug/L)
Chromium	6.7 U	(ug/L)
Cobalt	13.2 U	(ug/L)
Copper	9.3 U	(ug/L)
Iron	5790	(ug/L)
Magnesium	20000	(ug/L)
Manganese	126 J	(ug/L)
Nickel	21 U	(ug/L)
Potassium	7800	(ug/L)
Silver	11.1 U	(ug/L)
Sodium	18700	(ug/L)
Vanadium	5.1 U	(ug/L)
Zinc	34.1 U	(ug/L)

ANALYZED BY: 6-9-00

EPA CRL - REGION V
ICP FINAL RESULTS REPORT

REPORT PRODUCED ON: 23-May-00

SAMPLE ORGANIZATION:

SAMPLE BATCH ID: 20000033

LABORATORY: REGION 5 CRL

SAMPLE FACILITY: Himco Dump

SAMPLE: 2000SY04S42

ANALYZED: 19-May-00

STATION: WT119A

COMPOUND	AMOUNT		(Units)
Aluminum	38.3	M	(ug/L)
Barium	94		(ug/L)
Beryllium	2	U	(ug/L)
Calcium	215000		(ug/L)
Chromium	2	MJ	(ug/L)
Cobalt	13.2	U	(ug/L)
Copper	9.3	U	(ug/L)
Iron	2650		(ug/L)
Magnesium	70800		(ug/L)
Manganese	318	J	(ug/L)
Nickel	21	U	(ug/L)
Potassium	22200		(ug/L)
Silver	11.1	U	(ug/L)
Sodium	61100		(ug/L)
Vanadium	5.1	U	(ug/L)
Zinc	34.1	U	(ug/L)

ANALYZED BY: [signature] 6-9-00

EPA CRL - REGION V
ICP FINAL RESULTS REPORT

REPORT PRODUCED ON: 23-May-00

SAMPLE ORGANIZATION:

SAMPLE BATCH ID: 20000033

LABORATORY: REGION 5 CRL

SAMPLE FACILITY: Himco Dump

SAMPLE: 2000SY04S43

ANALYZED: 19-May-00

STATION: WT115A

COMPOUND	AMOUNT			(Units)
Aluminum	8860			(ug/L)
Barium	105			(ug/L)
Beryllium	2	U		(ug/L)
Calcium	241000			(ug/L)
Chromium	12.8	J		(ug/L)
Cobalt	13.2	U		(ug/L)
Copper	19.7			(ug/L)
Iron	6500			(ug/L)
Magnesium	12400	J		(ug/L)
Manganese	380	J		(ug/L)
Nickel	11.5	M		(ug/L)
Potassium	4440			(ug/L)
Silver	11.1	U		(ug/L)
Sodium	24600			(ug/L)
Vanadium	14.5			(ug/L)
Zinc	37.7	J	B	(ug/L)

ANALYZED BY: RH 6-9-00

EPA CRL - REGION V
ICP FINAL RESULTS REPORT

REPORT PRODUCED ON: 23-May-00

SAMPLE ORGANIZATION:

SAMPLE BATCH ID: 20000033

LABORATORY: REGION 5 CRL

SAMPLE FACILITY: Himco Dump

SAMPLE: 2000SY04S44

ANALYZED: 19-May-00

STATION: WTE2

COMPOUND	AMOUNT	(Units)
Aluminum	118 U	(ug/L)
Barium	2.6 U	(ug/L)
Beryllium	2 U	(ug/L)
Calcium	64 U	(ug/L)
Chromium	6.7 U	(ug/L)
Cobalt	13.2 U	(ug/L)
Copper	9.3 U	(ug/L)
Iron	46.5 U	(ug/L)
Magnesium	3.9 MJ	(ug/L)
Manganese	1.9 U	(ug/L)
Nickel	21 U	(ug/L)
Potassium	217 U	(ug/L)
Silver	11.1 U	(ug/L)
Sodium	37.5 U	(ug/L)
Vanadium	5.1 U	(ug/L)
Zinc	34.1 U	(ug/L)

ANALYZED BY: _____ 6-9-00

EPA CRL - REGION V
ICP FINAL RESULTS REPORT

REPORT PRODUCED ON: 23-May-00

SAMPLE ORGANIZATION:

SAMPLE BATCH ID: 20000033

LABORATORY: REGION 5 CRL

SAMPLE FACILITY: Himco Dump

SAMPLE: 2000SY04S45

ANALYZED: 19-May-00

STATION: WTE1

COMPOUND	AMOUNT		(Units)
Aluminum	118	U	(ug/L)
Barium	43.5		(ug/L)
Beryllium	2	U	(ug/L)
Calcium	174000		(ug/L)
Chromium	6.7	U	(ug/L)
Cobalt	13.2	U	(ug/L)
Copper	9.3	U	(ug/L)
Iron	5150		(ug/L)
Magnesium	35500		(ug/L)
Manganese	204	J	(ug/L)
Nickel	21	U	(ug/L)
Potassium	4120		(ug/L)
Silver	11.1	U	(ug/L)
Sodium	19100		(ug/L)
Vanadium	5.1	U	(ug/L)
Zinc	34.1	U	(ug/L)

ANALYZED BY: _____ 6-9-00

EPA CRL - REGION V
ICP FINAL RESULTS REPORT

REPORT PRODUCED ON: 23-May-00

SAMPLE ORGANIZATION:

SAMPLE BATCH ID: 20000033

LABORATORY: REGION 5 CRL

SAMPLE FACILITY: Himco Dump

SAMPLE: 2000SY04S46

ANALYZED: 19-May-00

STATION: WTE3

COMPOUND	AMOUNT	(Units)
Aluminum	118 U	(ug/L)
Barium	51.3	(ug/L)
Beryllium	2 U	(ug/L)
Calcium	58300	(ug/L)
Chromium	6.7 U	(ug/L)
Cobalt	13.2 U	(ug/L)
Copper	9.3 U	(ug/L)
Iron	2240	(ug/L)
Magnesium	23800	(ug/L)
Manganese	21.1 J	(ug/L)
Nickel	21 U	(ug/L)
Potassium	1810	(ug/L)
Silver	11.1 U	(ug/L)
Sodium	12400	(ug/L)
Vanadium	5.1 U	(ug/L)
Zinc	34.1 U	(ug/L)

ANALYZED BY: _____ 6-9-00

EPA CRL - REGION V
ICP FINAL RESULTS REPORT

REPORT PRODUCED ON: 23-May-00

SAMPLE ORGANIZATION:

SAMPLE BATCH ID: 20000033

LABORATORY: REGION 5 CRL

SAMPLE FACILITY: Himco Dump

SAMPLE: 2000SY04S47

ANALYZED: 19-May-00

STATION: WT105A

COMPOUND	AMOUNT		(Units)
Aluminum	112	M	(ug/L)
Barium	8.1		(ug/L)
Beryllium	2	U	(ug/L)
Calcium	57400		(ug/L)
Chromium	23.9	J	(ug/L)
Cobalt	4.1	M	(ug/L)
Copper	9.3	U	(ug/L)
Iron	407		(ug/L)
Magnesium	16500	J	(ug/L)
Manganese	160	J	(ug/L)
Nickel	73.3		(ug/L)
Potassium	1360		(ug/L)
Silver	11.1	U	(ug/L)
Sodium	7720		(ug/L)
Vanadium	5.1	U	(ug/L)
Zinc	34.1	U	(ug/L)

ANALYZED BY: [signature] 6-9-00

EPA CRL - REGION V
ICP FINAL RESULTS REPORT

REPORT PRODUCED ON: 23-May-00

SAMPLE ORGANIZATION:

SAMPLE BATCH ID: 20000033

LABORATORY: REGION 5 CRL

SAMPLE FACILITY: Himco Dump

SAMPLE: 2000SY04S48

ANALYZED: 19-May-00

STATION: WT106A

COMPOUND	AMOUNT		(Units)
Aluminum	3090		(ug/L)
Barium	160		(ug/L)
Beryllium	2	U	(ug/L)
Calcium	175000		(ug/L)
Chromium	21.6	J	(ug/L)
Cobalt	13.2	U	(ug/L)
Copper	11		(ug/L)
Iron	27600		(ug/L)
Magnesium	26800		(ug/L)
Manganese	559	J	(ug/L)
Nickel	11.7	M	(ug/L)
Potassium	4200		(ug/L)
Silver	11.1	U	(ug/L)
Sodium	29300		(ug/L)
Vanadium	5.1	U	(ug/L)
Zinc	31.7	MJ B	(ug/L)

ANALYZED BY: RD 6-9-00

EPA CRL - REGION V
ICP FINAL RESULTS REPORT

REPORT PRODUCED ON: 23-May-00

SAMPLE ORGANIZATION:

SAMPLE BATCH ID: 20000033

LABORATORY: REGION 5 CRL

SAMPLE FACILITY: Himco Dump

SAMPLE: 2000SY04S49

ANALYZED: 19-May-00

STATION: WT101C

COMPOUND	AMOUNT		(Units)
Aluminum	152		(ug/L)
Barium	77.6		(ug/L)
Beryllium	2	U	(ug/L)
Calcium	47900		(ug/L)
Chromium	7.7	J	(ug/L)
Cobalt	4	M	(ug/L)
Copper	9.3	U	(ug/L)
Iron	1380		(ug/L)
Magnesium	20100		(ug/L)
Manganese	20.5	J	(ug/L)
Nickel	7	M	(ug/L)
Potassium	4130		(ug/L)
Silver	11.1	U	(ug/L)
Sodium	36100		(ug/L)
Vanadium	5.1	U	(ug/L)
Zinc	34.1	U	(ug/L)

ANALYZED BY: [signature] 6-9-00

EPA CRL - REGION V
ICP FINAL RESULTS REPORT

REPORT PRODUCED ON: 23-May-00

SAMPLE ORGANIZATION:

SAMPLE BATCH ID: 20000033

LABORATORY: REGION 5 CRL

SAMPLE FACILITY: Himco Dump

SAMPLE: 2000SY04S50

ANALYZED: 19-May-00

STATION: WT101A

COMPOUND	AMOUNT	(Units)
Aluminum	118 U	(ug/L)
Barium	83.1	(ug/L)
Beryllium	2 U	(ug/L)
Calcium	258000	(ug/L)
Chromium	6.7 U	(ug/L)
Cobalt	13.2 U	(ug/L)
Copper	9.3 U	(ug/L)
Iron	16300	(ug/L)
Magnesium	27300	(ug/L)
Manganese	1610 J	(ug/L)
Nickel	21 U	(ug/L)
Potassium	6730	(ug/L)
Silver	11.1 U	(ug/L)
Sodium	66800	(ug/L)
Vanadium	5.1 U	(ug/L)
Zinc	34.1 U	(ug/L)

ANALYZED BY: [signature] 6-9-00

EPA CRL - REGION V
ICP FINAL RESULTS REPORT

REPORT PRODUCED ON: 23-May-00

SAMPLE ORGANIZATION:

SAMPLE BATCH ID: 20000033

LABORATORY: REGION 5 CRL

SAMPLE FACILITY: Himco Dump

SAMPLE: 2000SY04S51

ANALYZED: 19-May-00

STATION: WT101A

COMPOUND	AMOUNT		(Units)
Aluminum	118	U	(ug/L)
Barium	82.4		(ug/L)
Beryllium	2	U	(ug/L)
Calcium	242000		(ug/L)
Chromium	6.7	U	(ug/L)
Cobalt	4	M	(ug/L)
Copper	9.3	U	(ug/L)
Iron	16100		(ug/L)
Magnesium	27500		(ug/L)
Manganese	1540	J	(ug/L)
Nickel	21	U	(ug/L)
Potassium	6810		(ug/L)
Silver	11.1	U	(ug/L)
Sodium	65200		(ug/L)
Vanadium	5.1	U	(ug/L)
Zinc	34.1	U	(ug/L)

ANALYZED BY: RT 6-9-00

EPA CRL - REGION V
ICP FINAL RESULTS REPORT

REPORT PRODUCED ON: 23-May-00

SAMPLE ORGANIZATION:

SAMPLE BATCH ID: 20000033

LABORATORY: REGION 5 CRL

SAMPLE FACILITY: Himco Dump

SAMPLE: 2000SY04S52

ANALYZED: 19-May-00

STATION: WT101B

COMPOUND	AMOUNT		(Units)
Aluminum	118	U	(ug/L)
Barium	72.3		(ug/L)
Beryllium	2	U	(ug/L)
Calcium	137000		(ug/L)
Chromium	6.7	U	(ug/L)
Cobalt	13.2	U	(ug/L)
Copper	9.3	U	(ug/L)
Iron	2850		(ug/L)
Magnesium	52800		(ug/L)
Manganese	36	J	(ug/L)
Nickel	21	U	(ug/L)
Potassium	6280		(ug/L)
Silver	11.1	U	(ug/L)
Sodium	43100		(ug/L)
Vanadium	5.1	U	(ug/L)
Zinc	34.1	U	(ug/L)

ANALYZED BY: _____ 6-9-00

EPA CRL - REGION V
ICP FINAL RESULTS REPORT

REPORT PRODUCED ON: 23-May-00

SAMPLE ORGANIZATION:

SAMPLE BATCH ID: 20000033

LABORATORY: REGION 5 CRL

SAMPLE FACILITY: Himco Dump

SAMPLE: 2000SY04S53

ANALYZED: 19-May-00

STATION: WT116A

COMPOUND	AMOUNT		(Units)
Aluminum	118	U	(ug/L)
Barium	79.9		(ug/L)
Beryllium	2	U	(ug/L)
Calcium	666000		(ug/L)
Chromium	6.7	U	(ug/L)
Cobalt	11.2	M	(ug/L)
Copper	15.8		(ug/L)
Iron	31900		(ug/L)
Magnesium	66900		(ug/L)
Manganese	1810	J	(ug/L)
Nickel	13.3	M	(ug/L)
Potassium	19600		(ug/L)
Silver	11.1	U	(ug/L)
Sodium	161000		(ug/L)
Vanadium	5.1	U	(ug/L)
Zinc	178	J	(ug/L)

ANALYZED BY: [signature] 6-9-00

EPA CRL - REGION V
ICP FINAL RESULTS REPORT

REPORT PRODUCED ON: 23-May-00

SAMPLE ORGANIZATION:

SAMPLE BATCH ID: 20000033

LABORATORY: REGION 5 CRL

SAMPLE FACILITY: Himco Dump

SAMPLE: 2000SY04S54

ANALYZED: 19-May-00

STATION: WT116A

COMPOUND	AMOUNT		(Units)
Aluminum	118	U	(ug/L)
Barium	79.6		(ug/L)
Beryllium	2	U	(ug/L)
Calcium	685000		(ug/L)
Chromium	6.7	U	(ug/L)
Cobalt	11.5	M	(ug/L)
Copper	15.5		(ug/L)
Iron	32400		(ug/L)
Magnesium	66100		(ug/L)
Manganese	1800	J	(ug/L)
Nickel	12.2	M	(ug/L)
Potassium	18900		(ug/L)
Silver	11.1	U	(ug/L)
Sodium	160000		(ug/L)
Vanadium	5.1	U	(ug/L)
Zinc	194	J	(ug/L)

ANALYZED BY: [signature] 6-9-00

EPA CRL - REGION V
ICP FINAL RESULTS REPORT

REPORT PRODUCED ON: 23-May-00

SAMPLE ORGANIZATION:

SAMPLE BATCH ID: 20000033

LABORATORY: REGION 5 CRL

SAMPLE FACILITY: Himco Dump

SAMPLE: 2000SY04S55

ANALYZED: 19-May-00

STATION: WT116B

COMPOUND	AMOUNT	(Units)
Aluminum	118 U	(ug/L)
Barium	135	(ug/L)
Beryllium	2 U	(ug/L)
Calcium	203000	(ug/L)
Chromium	6.7 U	(ug/L)
Cobalt	13.2 U	(ug/L)
Copper	9.3 U	(ug/L)
Iron	3710	(ug/L)
Magnesium	22900	(ug/L)
Manganese	206 J	(ug/L)
Nickel	21 U	(ug/L)
Potassium	5780	(ug/L)
Silver	11.1 U	(ug/L)
Sodium	23500	(ug/L)
Vanadium	5.1 U	(ug/L)
Zinc	34.1 U	(ug/L)

ANALYZED BY: _____ 6-9-00

EPA CRL - REGION V
ICP FINAL RESULTS REPORT

REPORT PRODUCED ON: 23-May-00

SAMPLE ORGANIZATION:

SAMPLE BATCH ID: 20000033

LABORATORY: REGION 5 CRL

SAMPLE FACILITY: Himco Dump

SAMPLE: 2000SY04S56

ANALYZED: 19-May-00

STATION: WT114A

COMPOUND	AMOUNT	(Units)
Aluminum	118 U	(ug/L)
Barium	101	(ug/L)
Beryllium	2 U	(ug/L)
Calcium	192000	(ug/L)
Chromium	6.7 U	(ug/L)
Cobalt	5.9 M	(ug/L)
Copper	9.3 U	(ug/L)
Iron	6510	(ug/L)
Magnesium	18600 J	(ug/L)
Manganese	276 J	(ug/L)
Nickel	21 U	(ug/L)
Potassium	3390	(ug/L)
Silver	11.1 U	(ug/L)
Sodium	123000	(ug/L)
Vanadium	5.1 U	(ug/L)
Zinc	34.1 U	(ug/L)

ANALYZED BY: RD 6-9-00

EPA CRL - REGION V
ICP FINAL RESULTS REPORT

REPORT PRODUCED ON: 23-May-00

SAMPLE ORGANIZATION:

SAMPLE BATCH ID: 20000033

LABORATORY: REGION 5 CRL

SAMPLE FACILITY: Himco Dump

SAMPLE: 2000SY04S57

ANALYZED: 19-May-00

STATION: WT114B

COMPOUND	AMOUNT		(Units)
Aluminum	118	U	(ug/L)
Barium	69.4		(ug/L)
Beryllium	2	U	(ug/L)
Calcium	108000		(ug/L)
Chromium	3	MJ	(ug/L)
Cobalt	13.2	U	(ug/L)
Copper	9.3	U	(ug/L)
Iron	6320		(ug/L)
Magnesium	17500	J	(ug/L)
Manganese	92.5	J	(ug/L)
Nickel	21	U	(ug/L)
Potassium	2700		(ug/L)
Silver	11.1	U	(ug/L)
Sodium	14100		(ug/L)
Vanadium	5.1	U	(ug/L)
Zinc	34.1	U	(ug/L)

ANALYZED BY: RD 6-9-00

EPA CRL - REGION V
ICP FINAL RESULTS REPORT

REPORT PRODUCED ON: 23-May-00

SAMPLE ORGANIZATION:

SAMPLE BATCH ID: 20000033

LABORATORY: REGION 5 CRL

SAMPLE FACILITY: Himco Dump

SAMPLE: 2000SY04S58

ANALYZED: 19-May-00

STATION: WT114A

COMPOUND	AMOUNT	(Units)
Aluminum	118 U	(ug/L)
Barium	0.8 M	(ug/L)
Beryllium	2 U	(ug/L)
Calcium	140	(ug/L)
Chromium	6.7 U	(ug/L)
Cobalt	13.2 U	(ug/L)
Copper	9.3 U	(ug/L)
Iron	34.1 M	(ug/L)
Magnesium	21.9 MJ	(ug/L)
Manganese	0.8 MJ	(ug/L)
Nickel	21 U	(ug/L)
Potassium	69.9 M	(ug/L)
Silver	11.1 U	(ug/L)
Sodium	36.4 M	(ug/L)
Vanadium	5.1 U	(ug/L)
Zinc	34.1 U	(ug/L)

ANALYZED BY: RD 6-9-00

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 5 CENTRAL REGIONAL LABORATORY

536 SOUTH CLARK STREET

CHICAGO, ILLINOIS 60605

Date: JUN 15 2000

Subject: Review of Region 5 Data for Himco Dump Code:054J

From: ESAT , Chemist
Region 5 Central Regional Laboratory

To: Gwen Massenburg
SR-6J

Attached are the results for Site: Himco Dump Code:054J
CRL Data Set Number: 20000033
for analyses of : Antimony, Arsenic, Cadmium, Lead, Selenium and Thallium
Results are reported for sample numbers: 2000SY04S40, 2000SY04S41, 2000SY04S42, 2000SY04S43, 2000SY04S44, 2000SY04S45, 2000SY04S46, 2000SY04S47, 2000SY04S48, 2000SY04S49, 2000SY04S50, 2000SY04S51, 2000SY04S52, 2000SY04S53, 2000SY04S54, 2000SY04S55, 2000SY04S56, 2000SY04S57 and 2000SY04S58

Results Status:
(x) Acceptable for Use
( ) Data Qualified, but Acceptable for use
( ) Data Unacceptable for Use

Sylvia Griffin JUN 15 2000

CRL Data Management Coordinator and Date Received

Date Transmitted: JUN 15 2000

Please have the US EPA project leader fill out the customer survey form on the Region 5 Intranet: http://www.r5intra.epa.gov/crl/qa.html, (← by clicking on this link, or call George Schupp, CRL Sample Coordinator, at 3-1226).

Please sign and date this form below and return it with any comments to:

Sylvia Griffin
Data Management Coordinator
Region 5 Central Regional Laboratory
ML - 10C

Received by and Date

Comments:

Method: GFAA for Water
Site: Himco Dump
Date: June 14, 2000
Prepared by: Stephen Connet

TDF: 5104-291
PWO: ESE51034
WAD: 05-00-4-04
Data Set: 20000033

NARRATIVE

Nineteen (19) water samples for the Himco Dump site [2000SY04S40 (WT111A), S41 (WT118B), S42 (WT119A), S43 (WT115A), S44 (WTE2), S45 (WTE1), S46 (WTE3), S47 (WT105A), S48 (WT106A), S49 (WT101C), S50 (WT101A), S51 (WT101A), S52 (WT101B), S53 (WT116A), S54 (WT116A), S55 (WT116B), S56 (WT114A), S57 (WT114B), S58 (WT114A)] were sampled on 5/3/00 and were received properly preserved by the CRL on 5/5/00. The samples were submitted for analysis of antimony, arsenic, cadmium, lead, selenium and thallium by GFAA.

The samples were digested following standard CRL GFAA water digestion protocols. The samples were digested on 5/26 (digestion batch 1183).

Due to continuing quality control problems with the SIMAA 6000, all results for arsenic were reported from 5100E using a detection limit of 2 ppb. The duplicate difference for selenium on S56 is greater than the MDL of 2 ug/L. Both values were below the instrument detection limit. All selenium results are non-detects; all selenium results are acceptable. All other QC were within limits; all sample results are acceptable.

Non-detect results are reported to the reporting limit (RL). Results between the method detection limit (MDL) and the RL are reported as the instrument value with an "M" flag.

Analytical results were stored in the following database files:
H:\r5crl\vol3\metals\sconnet\20000033\5100W-Sb\053000 and \053100 for antimony,
H:\r5crl\vol3\metals\sconnet\20000033\5100E-As\060500, \06000 and \061400 for arsenic,
H:\r5crl\vol3\metals\sconnet\20000033\5100E-Cd\060100 for cadmium,
H:\r5crl\vol3\metals\sconnet\20000033\5100E-Pb\060100A and \060200 for lead,
H:\r5crl\vol3\metals\sconnet\20000033\5100W-Se\060100, \060500, \060600 and
H:\r5crl\vol3\metals\sconnet\20000033\5100E-Se\060900 for selenium,
H:\r5crl\vol3\metals\sconnet\20000033\5100E-Tl\053100 for thallium.

This narrative, the QC Summary and Results spreadsheets are stored in:
H:\r5crl\vol3\metals\sconnet\20000033\Reports\GFAA Narrative.wpd
H:\r5crl\vol3\metals\sconnet\20000033\Reports\QCReport.wk4
H:\r5crl\vol3\metals\sconnet\20000033\Reports\GFAA Results.wpd

Since RLIMS was unavailable, the AA metals analysis results are reported in a word-processing spreadsheet only. Time will be necessary in the future to enter all analysis results into RLIMS.

6-14-00

CRL Data Review Qualification Codes

QUALIFIER	DESCRIPTION
B	This flag is used when the analyte is found in the associated ***B***lank as well as the sample. It indicates possible blank contamination and warns the user to take appropriate action while assessing the data. See the case narrative for a discussion of common lab contaminants and/or the relative concentration of contamination in the samples and blanks for relevance.
D	This flag is used when the analyte concentration results from a required ***D***ilution of the sample, extract or digestate.
E	This flag is used to identify analyte concentrations ***E***xceeding the upper calibration range of the analytical instrument after dilution of the sample, extract or digestate. The reported value is considered to be estimated
J	This flag is used when the analyte is estimated due to quality control limit(s) being exceeded. This flag accompanies all GC/MS tentatively identified compounds (TICs). This flag also applies to a suspected, unidentified interference. This flag is placed on affected detected results as well as non-detected (i.e., "U" flagged) results. (***J*** is the flag used in the Superfund CLP SOW and Data Review Functional Guidelines and is used by CRL for consistency.)
M	This flag is used when the analyte is confirmed to be qualitatively present in the sample, extract or digestate, at or above the CRL ***M***ethod Detection Limit (MDL) but below the CRL reporting limit (RL). This flag applies to all values in this concentration range and indicates the quantitated value is estimated due to its presence in this concentration range.
N	This flag applies to GC/MS Te***N***tatively Identified Compounds (TICs) that have a mass spectral library match.
Q	This flag applies to analyte data that are severely estimated due to quality control and/or ***Q***uantitation problems, but are confirmed to be qualitatively present in the sample. No value is reported with this qualification flag.
R	This flag applies to analyte data that are ***R***ejected and unusable due to severe quality control, quantitation and/or qualitative identification problems. No other qualification flags are reported for this analyte. No value is reported with this qualification flag.
U	This flag in used when the analyte was analyzed but ***U***ndetected in the sample. The CRL RL for the analyte accompanies this flag. As with sample results that are positive, the value is corrected for dry weight, dilution and/or sample weight or volume.

4/11/00

ENVIRONMENTAL PROTECTION AGENCY
REGION V
CENTRAL REGIONAL LABORATORY
FINAL RESULT REPORT FOR THE TEAM: METALS

DIVISION/BRANCH: SUPERFUND **SAMPLING DATE:** 5/3/00 **LAB ARRIVAL DATE:** 5/5/00 **DUE DATE:** 6/4/00
DU NUMBER: 50102D **DATASET NUMBER:** 20000033 **STUDY:** Himco Dump **PRIORITY:** Routine **LABORATORY :**ESAT

	CRL LOG NUMBER	SAMPLE DESCRIPTION	WATER Antimony (ug/L)	WATER Arsenic (ug/L)	WATER Cadmium (ug/L)	WATER Lead (ug/L)	WATER Selenium (ug/L)	WATER Thallium (ug/L)
1	2000SY04S40	WT111A	7U	7U	0.2M	7U	7U	4U
2	2000SY04S41	WT118B	7U	7U	0.3U	7U	14UD	4U
3	2000SY04S42	WT119A	7U	6M	0.3U	7U	14UD	4U
4	2000SY04S43	WT115A	7U	7U	0.1M	11	7U	4U
5	2000SY04S44	WTE2	7U	7U	0.3U	7U	7U	4U
6	2000SY04S45	WTE1	7U	7U	0.3U	3M	14UD	4U
7	2000SY04S46	WTE3	7U	5M	0.3U	3M	7U	4U
8	2000SY04S47	WT105A	7U	7U	0.3U	7U	7U	4U
9	2000SY04S48	WT106A	7U	46D	0.1M	6M	7U	4U
10	2000SY04S49	WT101C	7U	10	0.3U	7U	7U	4U
11	2000SY04S50	WT101A	7U	5M	0.3U	7U	7U	4U
12	2000SY04S51	WT101A	7U	14UD	0.3U	7U	7U	4U
13	2000SY04S52	WT101B	7U	7U	0.3U	7U	7U	4U
14	2000SY04S53	WT116A	7U	7U	0.1M	6M	14UD	4U
DATE OF ANALYSIS			5/30-31/00	6/5-6.14/00	6/1/00	6/1-2/00	6/1-9/00	5/31/00
ANALYST		6/14/00	S. Connet	S. Connet	S. Connet	S. Connet	S. Connet	S. Connet

Reviewed by: J. Gary Date: 6/14/2000

ENVIRONMENTAL PROTECTION AGENCY
REGION V
CENTRAL REGIONAL LABORATORY
FINAL RESULT REPORT FOR THE TEAM: METALS

DIVISION/BRANCH: SUPERFUND **SAMPLING DATE:** 5/3/00 **LAB ARRIVAL DATE:** 5/5/00 **DUE DATE:** 6/4/00
DU NUMBER: 50102D **DATASET NUMBER:** 20000033 **STUDY:** Himco Dump **PRIORITY:** Routine **LABORATORY :**ESAT

	CRL LOG NUMBER	SAMPLE DESCRIPTION	WATER Antimony (ug/L)	WATER Arsenic (ug/L)	WATER Cadmium (ug/L)	WATER Lead (ug/L)	WATER Selenium (ug/L)	WATER Thallium (ug/L)
15	2000SY04S54	WT116A	7U	7U	0.1M	13DM	14UD	4U
16	2000SY04S55	WT116B	7U	7U	0.3U	7U	14UD	4U
17	2000SY04S56	WT114A	7U	9	0.3U	7U	21UD	4U
18	2000SY04S57	WT114B	7U	9	0.3U	7U	7U	4U
19	2000SY04S58	WT114A	7U	7U	0.3U	7U	7U	4U
DATE OF ANALYSIS			5/30-31/00	6/5-6/00	6/1/00	6/1-2/00	6/1-9/00	5/31/00
ANALYST		6-14-00	S. Connet	S. Connet	S. Connet	S. Connet	S. Connet	S. Connet

Reviewed by: J. Gary Date: 6/14/2000

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 5 CENTRAL REGIONAL LABORATORY

536 SOUTH CLARK STREET

CHICAGO, ILLINOIS 60605

Date: JUN 0 1 2000

Subject: Review of Region 5 Data for **HIMCO LF**

From: Francis A. Awanya , Chemist Francis A. Awanya
Region 5 Central Regional Laboratory

To: Gwen Massenburg
SR 6J

Attached are the results for Site: **HIMCO LF**
CRL Data Set Number: **20000033**
for analyses of : **Sulfate and Bromide**
Results are reported for sample numbers: **20000SY04S40, 20000SY04S41, 20000SY04S42, 20000SY04S43, 20000SY04S44, 20000SY04S45, 20000SY04S46, 20000SY04S47, 20000SY04S48, 20000SY04S49, 20000SY04S50, 20000SY04S51, 20000SY04S52, 20000SY04S53, 20000SY04S54, 20000SY04S55, 20000SY04S56, 20000SY04S57, and 20000SY04S58.**

Results Status:
(X) Acceptable for Use
(X) Data Qualified, but Acceptable for use **Sulfate 2000SY04S44,49, and S58**.
( ) Data Unacceptable for Use

Sylvia Griffin JUN 0 1 2000

CRL Data Management Coordinator and Date Received

Date Transmitted: JUN 0 1 2000

Please have the US EPA project leader fill out the customer survey form on the Region 5 Intranet: http://www.r5intra.epa.gov/crl/qa.html, (← by clicking on this link, or call George Schupp, CRL Sample Coordinator, at 3-1226).

Please sign and date this form below and return it with any comments to:

Sylvia Griffin
Data Management Coordinator
Region 5 Central Regional Laboratory
ML - 10C

Received by and Date

Comments:

ENVIRONMENTAL PROTECTION AGENCY
REGION V
CENTRAL REGIONAL LABORATORY
FINAL RESULT REPORT FOR THE TEAM: MINERAL/NUTRIENTS

DIVISION/BRANCH: SUPERFUND **SAMPLING DATE:** 04/28/2000 - 05/03/2000 **LAB ARRIVAL DATE:** 05/03/2000 **DUE DATE:** 06/04/2000
DU NUMBER: 50102D **DATA SET NUMBER:** 20000033 **STUDY:** HIMCO LF **PRIORITY:** Routine **LABORATORY :**CRL

	CRL LOG NUMBER	SAMPLE DESCRIPTION	BROMIDE IN WATER (mg Br^-/L)	SULFATE IN WATER (mg $SO_4^=$/L)			
1	20000SY04S40	WT111A	0.43 M	264 D			
2	20000SY04S41	WT118B	0.20 M	351D			
3	20000SY04S42	WT119A	0.46 M	420 D			
4	20000SY04S43	WT115A	0.62	254 D			
5	20000SY04S44	WTE2	0.014 U	0.16 MJ			
6	20000SY04S45	WTE1	0.12 M	347 D			
7	20000SY04S46	WTE3	0.13 M	57 D			
8	20000SY04S47	WT105A	0.11 M	36 D			
9	20000SY04S48	WT106A	0.42 M	146 D			
10	20000SY04S49	WT101C	0.88 M	0.42 MJ			
11	20000SY04S50	WT101A	0.52 M	218 D			
12	20000SY04S51	WT101A	0.53 M	215 D			
13	20000SY04S52	WT101B	0.34 M	211 D			
DATE OF ANALYSIS			05/25-26/2000	05/24 - 30/2000			
ANALYST			FAA / AR	FAA / AR			

Reviewed by: _____ Date: 05/31/00

ENVIRONMENTAL PROTECTION AGENCY
REGION V
CENTRAL REGIONAL LABORATORY
FINAL RESULT REPORT FOR THE TEAM: MINERAL/NUTRIENTS

DIVISION/BRANCH: SUPERFUND **SAMPLING DATE:** 04/28/2000 - 05/03/2000 **LAB ARRIVAL DATE:** 05/03/2000 **DUE DATE:** 06/04/2000
DU NUMBER: 50102D **DATA SET NUMBER:** 20000032 **STUDY:** HIMCO LF **PRIORITY:** Routine **LABORATORY :**CRL

	CRL LOG NUMBER	SAMPLE DESCRIPTION	BROMIDE IN WATER (mg Br^-/L)	SULFATE IN WATER (mg SO_4^-/L)			
14	20000SY04S53	WT116A	2.38 D	1260 D			
15	20000SY04S54	WT116A	2.42 D	1250 D			
16	20000SY04S55	WT116B	0.32 M	143 D			
17	20000SY04S56	WT114A	0.17 M	177 D			
18	20000SY04S57	WT114B	0.07 M	156 D			
19	20000SY04S58	WT114A	0.014 U	0.11MJ			
DATE OF ANALYSIS			05/25-26/2000	05/24 - 30/2000			
ANALYST			FAA / AR	FAA / AR			

Reviewed by: _____ Date: 5 / 31 / 00

Data Set Number:	*20000033*	**Parameter:**	*Sulfate and Bromide*
Facility Name:	*HIMCO LF*		
Study Name:	*HIMCO LF*		
Date of Narrative:	*06/01/2000*	**Analyst:**	*Francis A. Awanya*
		Signature:	Fran A. Awanya

ANALYSIS CASE NARRATIVE

Twenty one (21) water samples including matrix spike and duplicate samples were collected for the above study between 4/28/2000 and 5/3/2000. The samples arrived at the Central Regional Laboratory (CRL) on 5/03/2000 and 5/05/2000. CRL sample identification numbers (CRL Sample ID) were assigned to those samples. The Station numbers and Locations were obtained from the Analysis Request Form (ARF) and verified with that on the sample tags.

Samples were checked out for sulfate and bromide analysis from the CRL sample custodian on 5/24/2000. The dates of collection, check out, and analysis are contained in Attachment I. They were transferred to the Analytical and Inorganic (A&I) laboratory section of the CRL and kept in a sample storage refrigerator until all analysis were completed. The samples were properly preserved by refrigeration. The samples were not checked out immediately because a previous batch (CRL data set 20000032) was being analyzed. There were matrix interference problems encountered with data set 20000032. This created equipment problems that had to be resolved before the new samples (batch) could be analyzed.

SAMPLE ANALYSIS:

All samples were analyzed for sulfate and bromide using CRL Standard Operating Procedure (CRL.SOP) AIG045 (Method reference 300 A & B, EPA/600/R-93-100). No additional sample preparations were necessary. The instrument was calibrated for high level determination of sulfate and bromide following CRL.SOP AIG045 Part A on 5/22/2000. A new calibration was necessary since a new ion chromatography column was installed. It was calibrated and used for analysis on the same day.

All bromide concentrations and sulfate concentrations for samples 2000SY04S44, 2000SY04S49, and 2000SY04S58 were below the reporting limit of high level determination of the two anions. Sulfate concentrations for sample 2000SY04S47 was within the calibration range. The remaining sulfate sample concentrations exceeded the upper calibration limit. As a result, appropriate sulfate samples were re-analyzed with dilutions as necessary on 5/25/2000.

The instrument was calibrated for low level determination of bromide and the remaining sulfate samples following CRL.SOP AIG045 Part A on 5/25/2000. The instrument ran overnight. Bromide analysis was completed on 5/26/2000.

QUALITY CONTROL (QC):

No data quality objectives were provided by the requestor. Analysis results were evaluated using the QC requirements of CRL.SOP AIG045 (Method reference 300 A & B,

Data Set Number:	*20000033*	**Parameter:**	*Sulfate and Bromide*
Facility Name:	*HIMCO LF*		
Study Name:	*HIMCO LF*		
Date of Narrative:	*06/01/2000*	**Analyst:**	*Francis A. Awanya*
		Signature:	Francis A. Awanya

ANALYSIS CASE NARRATIVE

EPA/600/R-93-100). All the required quality control criteria for the laboratory, method, and system performance audits were evaluated and determined to be within the limits.

Method Blanks (Sulfate)(LRB/ICB): During low level analysis, the laboratory reagent blanks were found to contain 0.075 mg/L of sulfate at the end of analysis. A probable cause is carry over. Sulfate results for samples 2000SY04S44, 2000SY04S49, and 2000SY04S58 could be affected by contamination. The remaining sample results are not affected by carry over contamination. Sulfate concentrations in those samples are more then 10 times the amounts found in the final blanks.

Matrix Spike (Sulfate (Low-Calibration)): Designated MS/MSD samples 2000SY04S41 and 2000SY04S56 contain 351 mg/L and 177 respectively. The matrix spike target for sulfate in the Low calibration analysis is 1 mg/L. The spike recovery is invalid. Sulfate concentrations in those samples greatly exceeded the spike target by more than 50%. The spike recovery for the High Calibration Level analysis was within the limit. All the Bromide spike recoveries were within the limits.

Matrix Spike (Sulfate (High Calibration)): A dilution of matrix spike sample 2000SY04S56 was analyzed on 5/30/2000. This was necessary since the calibration was exceeded. It was not necessary to repeat the sample. The final result was within the limit. A second matrix spike sample 2000SY04S41 analyzed with all the samples on 5/24/2000 was within the limits. All the spike recoveries were within the limits.

SAMPLE RESULTS AND REPORTING:

All the sample results are acceptable for use. The sulfate result for sample 2000SY04S44, 2000SY04S49, and 2000SY04S58 was reported with a MJ flag. The concentration of sulfate in those samples were between the method detection limit (MDL) and the reporting limit (RL). The J flag denotes probable carry over contamination. All the sample results are acceptable for use.

MANUAL PEAK INTEGRATION:

No manual peak integration was used to process the data.

ELECTRONIC DATA:

Electronic data are archived in;
H:\R5CRL\VOL1\MIN_NUT\FAWANYA\20000033\DX500_SYSTEM3_CD20\20000033\..under the following additional folders;
1. All_Other_Analysis, 2. Autosampler_Schedules, 3. Method_used, and 4. Reported_Run_Files.

Data Set Number:	*20000033*	**Parameter:**	*Sulfate and Bromide*
Facility Name:	*HIMCO LF*		
Study Name:	*HIMCO LF*		
Date of Narrative:	*06/01/2000*	**Analyst:**	*Francis A. Awanya*
		Signature:	Francis A. Awanya

ANALYSIS CASE NARRATIVE

The case narrative is contained in folder 20000033.

ATTACHMENT I, Sulfate/Bromide

Date of Collection: 04/28/2000	**Date of Arrival:** 05/03-05/2000	**Checked-Out Date:** 05/24/2000	**Date of Analysis:** 05/24-30/2000
SAMPLE IDENTIFICATION(S):			
2000SY04S40 →	2000SY04S41	2000SY04S42	

Date of Collection: 05/01/2000	**Date of Arrival:** 05/03/99	**Checked-Out Date:** 05/24/99	**Date of Analysis:** 05/24-30/2000
SAMPLE IDENTIFICATION(S):			
2000SY04S43 →	2000SY04S44		

Date of Collection: 05/02/2000	**Date of Arrival:** 05/03/2000	**Checked-Out Date:** 05/24/2000	**Date of Analysis:** 05/24-30/99
SAMPLE IDENTIFICATION(S):			
2000SY04S45 →	2000SY04S46	2000SY04S47	2000SY04S48

Date of Collection: 05/02/2000	**Date of Arrival:** 05/05/2000	**Checked-Out Date:** 05/24/2000	**Date of Analysis:** 05/24-30/2000
SAMPLE IDENTIFICATION(S):			
2000SY04S49 →	2000SY04S50	2000SY04S51	2000SY04S52
2000SY04S53	2000SY04S54	2000SY04S55	2000SY04S56
2000SY04S57	2000SY04S58		

CRL Data Review Qualification Codes

QUALIFIER	DESCRIPTION
B	This flag is used when the analyte is found in the associated ***B***lank as well as the sample. It indicates possible blank contamination and warns the user to take appropriate action while assessing the data. See the case narrative for a discussion of common lab contaminants and/or the relative concentration of contamination in the samples and blanks for relevance.
D	This flag is used when the analyte concentration results from a required ***D***ilution of the sample, extract or digestate.
E	This flag is used to identify analyte concentrations ***E***xceeding the upper calibration range of the analytical instrument after dilution of the sample, extract or digestate. The reported value is considered to be estimated
J	This flag is used when the analyte is estimated due to quality control limit(s) being exceeded. This flag accompanies all GC/MS tentatively identified compounds (TICs). This flag also applies to a suspected, unidentified interference. This flag is placed on affected detected results as well as non-detected (i.e., "U" flagged) results. (***J*** is the flag used in the Superfund CLP SOW and Data Review Functional Guidelines and is used by CRL for consistency.)
M	This flag is used when the analyte is confirmed to be qualitatively present in the sample, extract or digestate, at or above the CRL ***M***ethod Detection Limit (MDL) but below the CRL reporting limit (RL). This flag applies to all values in this concentration range and indicates the quantitated value is estimated due to its presence in this concentration range.
N	This flag applies to GC/MS Te***N***tatively Identified Compounds (TICs) that have a mass spectral library match.
Q	This flag applies to analyte data that are severely estimated due to quality control and/or ***Q***uantitation problems, but are confirmed to be qualitatively present in the sample. No value is reported with this qualification flag.
R	This flag applies to analyte data that are ***R***ejected and unusable due to severe quality control, quantitation and/or qualitative identification problems. No other qualification flags are reported for this analyte. No value is reported with this qualification flag.
U	This flag in used when the analyte was analyzed but ***U***ndetected in the sample. The CRL RL for the analyte accompanies this flag. As with sample results that are positive, the value is corrected for dry weight, dilution and/or sample weight or volume.

4/11/00

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 5 CENTRAL REGIONAL LABORATORY

536 SOUTH CLARK STREET

CHICAGO, ILLINOIS 60605

Date: JUN 0 1 2000

Subject: Review of Region 5 Data for **HIMCO LF**

From: Francis A. Awanya , Chemist Francis A. Awanya
Region 5 Central Regional Laboratory

To:

Attached are the results for Site: **HIMCO LF**
CRL Data Set Number: **20000033**
for analyses of : **Sulfate and Bromide**
Results are reported for sample numbers: **20000SY04S40, 20000SY04S41, 20000SY04S42, 20000SY04S43, 20000SY04S44, 20000SY04S45, 20000SY04S46, 20000SY04S47, 20000SY04S48, 20000SY04S49, 20000SY04S50, 20000SY04S51, 20000SY04S52, 20000SY04S53, 20000SY04S54, 20000SY04S55, 20000SY04S56, 20000SY04S57, and 20000SY04S58.**

Results Status:
(X) Acceptable for Use
(X) Data Qualified, but Acceptable for use **Sulfate 2000SY04S44,49, and S58**.
( ) Data Unacceptable for Use

Sylvia Griffin JUN 0 1 2000

CRL Data Management Coordinator and Date Received

Date Transmitted: JUN 0 1 2000

Please have the US EPA project leader fill out the customer survey form on the Region 5 Intranet: http://www.r5intra.epa.gov/crl/qa.html, (← by clicking on this link, or call George Schupp, CRL Sample Coordinator, at 3-1226).

Please sign and date this form below and return it with any comments to:

Sylvia Griffin
Data Management Coordinator
Region 5 Central Regional Laboratory
ML - 10C

Received by and Date

Comments:

ENVIRONMENTAL PROTECTION AGENCY
REGION V
CENTRAL REGIONAL LABORATORY
FINAL RESULT REPORT FOR THE TEAM: MINERAL/NUTRIENTS

DIVISION/BRANCH: SUPERFUND **SAMPLING DATE:** 04/28/2000 - 05/03/2000 **LAB ARRIVAL DATE:** 05/03/2000 **DUE DATE:** 06/04/2000
DU NUMBER: 50102D **DATA SET NUMBER:** 20000033 **STUDY:** HIMCO LF **PRIORITY:** Routine **LABORATORY :**CRL

	CRL LOG NUMBER	SAMPLE DESCRIPTION	BROMIDE IN WATER (mg Br^-/L)	SULFATE IN WATER (mg $SO_4^=$/L)			
1	20000SY04S40	WT111A	0.43 M	264 D			
2	20000SY04S41	WT118B	0.20 M	351D			
3	20000SY04S42	WT119A	0.46 M	420 D			
4	20000SY04S43	WT115A	0.62	254 D			
5	20000SY04S44	WTE2	0.014 U	0.16 MJ			
6	20000SY04S45	WTE1	0.12 M	347 D			
7	20000SY04S46	WTE3	0.13 M	57 D			
8	20000SY04S47	WT105A	0.11 M	36 D			
9	20000SY04S48	WT106A	0.42 M	146 D			
10	20000SY04S49	WT101C	0.88 M	0.42 MJ			
11	20000SY04S50	WT101A	0.52 M	218 D			
12	20000SY04S51	WT101A	0.53 M	215 D			
13	20000SY04S52	WT101B	0.34 M	211 D			
DATE OF ANALYSIS			05/25-26/2000	05/24 - 30/2000			
ANALYST			FAA / AR	FAA / AR			

Reviewed by: _____ Date: 05/31/00

ENVIRONMENTAL PROTECTION AGENCY
REGION V
CENTRAL REGIONAL LABORATORY
FINAL RESULT REPORT FOR THE TEAM: MINERAL/NUTRIENTS

DIVISION/BRANCH: SUPERFUND **SAMPLING DATE:** 04/28/2000 - 05/03/2000 **LAB ARRIVAL DATE:** 05/03/2000 **DUE DATE:** 06/04/2000
DU NUMBER: 50102D **DATA SET NUMBER:** 20000032 **STUDY:** HIMCO LF **PRIORITY:** Routine **LABORATORY :**CRL

	CRL LOG NUMBER	SAMPLE DESCRIPTION	BROMIDE IN WATER (mg Br^-/L)	SULFATE IN WATER (mg SO_4^-/L)			
14	20000SY04S53	WT116A	2.38 D	1260 D			
15	20000SY04S54	WT116A	2.42 D	1250 D			
16	20000SY04S55	WT116B	0.32 M	143 D			
17	20000SY04S56	WT114A	0.17 M	177 D			
18	20000SY04S57	WT114B	0.07 M	156 D			
19	20000SY04S58	WT114A	0.014 U	0.11MJ			
DATE OF ANALYSIS			05/25-26/2000	05/24 - 30/2000			
ANALYST			FAA / AR	FAA / AR			

Reviewed by: _____ Date: 5 / 31 / 00

Data Set Number:	*20000033*	**Parameter:**	*Sulfate and Bromide*
Facility Name:	*HIMCO LF*		
Study Name:	*HIMCO LF*		
Date of Narrative:	*06/01/2000*	**Analyst:**	*Francis A. Awanya*
		Signature:	Francis A. Awanya

ANALYSIS CASE NARRATIVE

Twenty one (21) water samples including matrix spike and duplicate samples were collected for the above study between 4/28/2000 and 5/3/2000. The samples arrived at the Central Regional Laboratory (CRL) on 5/03/2000 and 5/05/2000. CRL sample identification numbers (CRL Sample ID) were assigned to those samples. The Station numbers and Locations were obtained from the Analysis Request Form (ARF) and verified with that on the sample tags.

Samples were checked out for sulfate and bromide analysis from the CRL sample custodian on 5/24/2000. The dates of collection, check out, and analysis are contained in Attachment I. They were transferred to the Analytical and Inorganic (A&I) laboratory section of the CRL and kept in a sample storage refrigerator until all analysis were completed. The samples were properly preserved by refrigeration. The samples were not checked out immediately because a previous batch (CRL data set 20000032) was being analyzed. There were matrix interference problems encountered with data set 20000032. This created equipment problems that had to be resolved before the new samples (batch) could be analyzed.

SAMPLE ANALYSIS:

All samples were analyzed for sulfate and bromide using CRL Standard Operating Procedure (CRL.SOP) AIG045 (Method reference 300 A & B, EPA/600/R-93-100). No additional sample preparations were necessary. The instrument was calibrated for high level determination of sulfate and bromide following CRL.SOP AIG045 Part A on 5/22/2000. A new calibration was necessary since a new ion chromatography column was installed. It was calibrated and used for analysis on the same day.

All bromide concentrations and sulfate concentrations for samples 2000SY04S44, 2000SY04S49, and 2000SY04S58 were below the reporting limit of high level determination of the two anions. Sulfate concentrations for sample 2000SY04S47 was within the calibration range. The remaining sulfate sample concentrations exceeded the upper calibration limit. As a result, appropriate sulfate samples were re-analyzed with dilutions as necessary on 5/25/2000.

The instrument was calibrated for low level determination of bromide and the remaining sulfate samples following CRL.SOP AIG045 Part A on 5/25/2000. The instrument ran overnight. Bromide analysis was completed on 5/26/2000.

QUALITY CONTROL (QC):

No data quality objectives were provided by the requestor. Analysis results were evaluated using the QC requirements of CRL.SOP AIG045 (Method reference 300 A & B,

Data Set Number:	*20000033*	**Parameter:**	*Sulfate and Bromide*
Facility Name:	*HIMCO LF*		
Study Name:	*HIMCO LF*		
Date of Narrative:	*06/01/2000*	**Analyst:**	*Francis A. Awanya*
		Signature:	Francis A. Awanya

ANALYSIS CASE NARRATIVE

EPA/600/R-93-100). All the required quality control criteria for the laboratory, method, and system performance audits were evaluated and determined to be within the limits.

Method Blanks (Sulfate)(LRB/ICB): During low level analysis, the laboratory reagent blanks were found to contain 0.075 mg/L of sulfate at the end of analysis. A probable cause is carry over. Sulfate results for samples 2000SY04S44, 2000SY04S49, and 2000SY04S58 could be affected by contamination. The remaining sample results are not affected by carry over contamination. Sulfate concentrations in those samples are more then 10 times the amounts found in the final blanks.

Matrix Spike (Sulfate (Low-Calibration)): Designated MS/MSD samples 2000SY04S41 and 2000SY04S56 contain 351 mg/L and 177 respectively. The matrix spike target for sulfate in the Low calibration analysis is 1 mg/L. The spike recovery is invalid. Sulfate concentrations in those samples greatly exceeded the spike target by more than 50%. The spike recovery for the High Calibration Level analysis was within the limit. All the Bromide spike recoveries were within the limits.

Matrix Spike (Sulfate (High Calibration)): A dilution of matrix spike sample 2000SY04S56 was analyzed on 5/30/2000. This was necessary since the calibration was exceeded. It was not necessary to repeat the sample. The final result was within the limit. A second matrix spike sample 2000SY04S41 analyzed with all the samples on 5/24/2000 was within the limits. All the spike recoveries were within the limits.

SAMPLE RESULTS AND REPORTING:

All the sample results are acceptable for use. The sulfate result for sample 2000SY04S44, 2000SY04S49, and 2000SY04S58 was reported with a MJ flag. The concentration of sulfate in those samples were between the method detection limit (MDL) and the reporting limit (RL). The J flag denotes probable carry over contamination. All the sample results are acceptable for use.

MANUAL PEAK INTEGRATION:

No manual peak integration was used to process the data.

ELECTRONIC DATA:

Electronic data are archived in;
H:\R5CRL\VOL1\MIN_NUT\FAWANYA\20000033\DX500_SYSTEM3_CD20\20000033\..under the following additional folders;
1. All_Other_Analysis, 2. Autosampler_Schedules, 3. Method_used, and 4. Reported_Run_Files.

Data Set Number:	*20000033*	**Parameter:**	*Sulfate and Bromide*
Facility Name:	*HIMCO LF*		
Study Name:	*HIMCO LF*		
Date of Narrative:	*06/01/2000*	**Analyst:**	*Francis A. Awanya*
		Signature:	Francis A. Awanya

ANALYSIS CASE NARRATIVE

The case narrative is contained in folder 20000033.

ATTACHMENT I, Sulfate/Bromide

Date of Collection: 04/28/2000	**Date of Arrival:** 05/03-05/2000	**Checked-Out Date:** 05/24/2000	**Date of Analysis:** 05/24-30/2000
SAMPLE IDENTIFICATION(S):			
2000SY04S40 →	2000SY04S41	2000SY04S42	

Date of Collection: 05/01/2000	**Date of Arrival:** 05/03/99	**Checked-Out Date:** 05/24/99	**Date of Analysis:** 05/24-30/2000
SAMPLE IDENTIFICATION(S):			
2000SY04S43 →	2000SY04S44		

Date of Collection: 05/02/2000	**Date of Arrival:** 05/03/2000	**Checked-Out Date:** 05/24/2000	**Date of Analysis:** 05/24-30/99
SAMPLE IDENTIFICATION(S):			
2000SY04S45 →	2000SY04S46	2000SY04S47	2000SY04S48

Date of Collection: 05/02/2000	**Date of Arrival:** 05/05/2000	**Checked-Out Date:** 05/24/2000	**Date of Analysis:** 05/24-30/2000
SAMPLE IDENTIFICATION(S):			
2000SY04S49 →	2000SY04S50	2000SY04S51	2000SY04S52
2000SY04S53	2000SY04S54	2000SY04S55	2000SY04S56
2000SY04S57	2000SY04S58		

1LCC

LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SLCS70

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDCG0

Lab Sample ID: SVOL602 Date Received: _____

Lab File ID: H1011 Date Extracted: 05/03/00

Sample Volume: 1000 (mL) Date Analyzed: 05/12/00

Concentrated Extract Volume: 1000 (uL) Dilution Factor: 1.0

Injection Volume: 1 (uL)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
51-28-5	2,4-Dinitrophenol	20	U
100-02-7	4-Nitrophenol	20	U
132-64-9	Dibenzofuran	5	U
121-14-2	2,4-Dinitrotoluene	12	
84-66-2	Diethylphthalate	14	
7005-72-3	4-Chlorophenyl-phenylether	5	U
86-73-7	Fluorene	5	U
100-01-6	4-Nitroaniline	20	U
534-52-1	4,6-Dinitro-2-methylphenol	20	U
86-30-6	N-Nitrosodiphenylamine (1)	14	
101-55-3	4-Bromophenyl-phenylether	5	U
118-74-1	Hexachlorobenzene	14	
87-86-5	Pentachlorophenol	20	U
85-01-8	Phenanthrene	5	U
120-12-7	Anthracene	5	U
84-74-2	Di-n-butylphthalate	5	U
206-44-0	Fluoranthene	5	U
129-00-0	Pyrene	5	U
85-68-7	Butylbenzylphthalate	5	U
91-94-1	3,3'-Dichlorobenzidine	5	U
56-55-3	Benzo(a)anthracene	5	U
218-01-9	Chrysene	5	U
117-81-7	bis(2-Ethylhexyl)phthalate	5	U
117-84-0	Di-n-octylphthalate	5	U
205-99-2	Benzo(b)fluoranthene	5	U
207-08-9	Benzo(k)fluoranthene	5	U
50-32-8	Benzo(a)pyrene	15	
193-39-5	Indeno(1,2,3-cd)Pyrene	5	U
53-70-3	Dibenz(a,h)anthracene	5	U
191-24-2	Benzo(g,h,i)perylene	5	U

(1) - Cannot be separated from Diphenylamine

Missing data Pages

LCS73 AMPLW

ILCB

EPA SAMPLE NO.

LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SLCS76

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: E00FL

Lab Sample ID: SVOL608 Date Received: _____

Lab File ID: H1039 Date Extracted: 05/09/00

Sample Volume: 1000 (mL) Date Analyzed: 05/16/00

Concentrated Extract Volume: 1000 (uL) Dilution Factor: 1.0

Injection Volume: 1.0 (uL)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
108-95-2	Phenol	30	
111-44-4	bis(2-Chloroethyl)ether	17	
95-57-8	2-Chlorophenol	30	
95-48-7	2-Methylphenol	5	U
108-60-1	2,2'-oxybis(1-Chloropropane)	5	U
106-44-5	4-Methylphenol	5	U
621-64-7	N-Nitroso-di-n-propylamine	19	
67-72-1	Hexachloroethane	10	
98-95-3	Nitrobenzene	5	U
78-59-1	Isophorone	11	
88-75-5	2-Nitrophenol	5	U
105-67-9	2,4-Dimethylphenol	5	U
111-91-1	bis(2-Chloroethoxy)methane	5	U
120-83-2	2,4-Dichlorophenol	5	U
91-20-3	Naphthalene	15	
106-47-8	4-Chloroaniline	27	
87-68-3	Hexachlorobutadiene	5	U
59-50-7	4-Chloro-3-methylphenol	5	U
91-57-6	2-Methylnaphthalene	5	U
77-47-4	Hexachlorocyclopentadiene	5	U
88-06-2	2,4,6-Trichlorophenol	30	
95-95-4	2,4,5-Trichlorophenol	20	U
91-58-7	2-Chloronaphthalane	5	U
88-74-4	2-Nitroaniline	20	U
131-11-3	Dimethylphthalate	5	U
208-96-8	Acenaphthylene	5	U
606-20-2	2,6-Dintrotoluene	5	U
99-09-2	3-Nitroaniline	20	U
83-32-9	Acenaphthene	5	U

1LCC

LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SLCS76

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: E00FL

Lab Sample ID: SVOL608 Date Received: _____

Lab File ID: H1039 Date Extracted: 05/09/00

Sample Volume: 1000 (mL) Date Analyzed: 05/16/00

Concentrated Extract Volume: 1000 (uL) Dilution Factor: 1.0

Injection Volume: 1 (uL)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
51-28-5	2,4-Dinitrophenol	20	U
100-02-7	4-Nitrophenol	20	U
132-64-9	Dibenzofuran	5	U
121-14-2	2,4-Dinitrotoluene	11	
84-66-2	Diethylphthalate	13	
7005-72-3	4-Chlorophenyl-phenylether	5	U
86-73-7	Fluorene	5	U
100-01-6	4-Nitroaniline	20	U
534-52-1	4,6-Dinitro-2-methylphenol	20	U
86-30-6	N-Nitrosodiphenylamine (1)	12	
101-55-3	4-Bromophenyl-phenylether	5	U
118-74-1	Hexachlorobenzene	12	
87-86-5	Pentachlorophenol	20	U
85-01-8	Phenanthrene	5	U
120-12-7	Anthracene	5	U
84-74-2	Di-n-butylphthalate	5	U
206-44-0	Fluoranthene	5	U
129-00-0	Pyrene	5	U
85-68-7	Butylbenzylphthalate	5	U
91-94-1	3,3'-Dichlorobenzidine	5	U
56-55-3	Benzo(a)anthracene	5	U
218-01-9	Chrysene	5	U
117-81-7	bis(2-Ethylhexyl)phthalate	5	U
117-84-0	Di-n-octylphthalate	5	U
205-99-2	Benzo(b)fluoranthene	5	U
207-08-9	Benzo(k)fluoranthene	5	U
50-32-8	Benzo(a)pyrene	15	
193-39-5	Indeno(1,2,3-cd)Pyrene	5	U
53-70-3	Dibenz(a,h)anthracene	5	U
191-24-2	Benzo(g,h,i)perylene	5	U

(1) - Cannot be separated from Diphenylamine

1LCF

EPA SAMPLE NO.

LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

EDPN7

GP114-3

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDCF6

Lab Sample ID: 6033.008 Date Received: 04/27/00

Lab File ID: H0998 Date Extracted: 05/01/00

Sample Volume: 1000 (mL) Date Analyzed: 05/11/00

Concentrated Extract Volume: 1000 (uL) Dilution Factor: 1.0

Injection Volume: 1.0 (uL)

Number TICs found: 0

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC. (ug/L)	Q
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LLCC

EPA SAMPLE NO.

LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EDPM6

GPE-2

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDCF6

Lab Sample ID: 6033.003 Date Received: 04/27/00

Lab File ID: H0994 Date Extracted: 05/01/00

Sample Volume: 1000 (mL) Date Analyzed: 05/11/00

Concentrated Extract Volume: 1000 (uL) Dilution Factor: 1.0

Injection Volume: 1 (uL)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
51-28-5	2,4-Dinitrophenol	20	U
100-02-7	4-Nitrophenol	20	U
132-64-9	Dibenzofuran	5	U
121-14-2	2,4-Dinitrotoluene	5	U
84-66-2	Diethylphthalate	5	U
7005-72-3	4-Chlorophenyl-phenylether	5	U
86-73-7	Fluorene	5	U
100-01-6	4-Nitroaniline	20	U
534-52-1	4,6-Dinitro-2-methylphenol	20	U
86-30-6	N-Nitrosodiphenylamine (1)	5	U
101-55-3	4-Bromophenyl-phenylether	5	U
118-74-1	Hexachlorobenzene	5	U
87-86-5	Pentachlorophenol	20	U
85-01-8	Phenanthrene	5	U
120-12-7	Anthracene	5	U
84-74-2	Di-n-butylphthalate	5	U
206-44-0	Fluoranthene	5	U
129-00-0	Pyrene	5	U
85-68-7	Butylbenzylphthalate	5	U
91-94-1	3,3'-Dichlorobenzidine	5	U
56-55-3	Benzo(a)anthracene	5	U
218-01-9	Chrysene	5	U
117-81-7	bis(2-Ethylhexyl)phthalate	3	J
117-84-0	Di-n-octylphthalate	5	U
205-99-2	Benzo(b)fluoranthene	5	U
207-08-9	Benzo(k)fluoranthene	5	U
50-32-8	Benzo(a)pyrene	5	U
193-39-5	Indeno(1,2,3-cd)Pyrene	5	U
53-70-3	Dibenz(a,h)anthracene	5	U
191-24-2	Benzo(g,h,i)perylene	5	U

(1) - Cannot be separated from Diphenylamine

LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EDCG3

3rd copy

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDCF6

WTB1

Lab Sample ID: 6033.019 Date Received: 04/27/00

Lab File ID: H1009 Date Extracted: 05/01/00

Sample Volume: 1000 (mL) Date Analyzed: 05/12/00

Concentrated Extract Volume: 1000 (uL) Dilution Factor: 1.0

Injection Volume: 1.0 (uL)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
108-95-2	Phenol	5	U
111-44-4	bis(2-Chloroethyl)ether	5	U
95-57-8	2-Chlorophenol	5	U
95-48-7	2-Methylphenol	5	U
108-60-1	2,2'-oxybis(1-Chloropropane)	5	U
106-44-5	4-Methylphenol	5	U
621-64-7	N-Nitroso-di-n-propylamine	5	U
67-72-1	Hexachloroethane	5	U
98-95-3	Nitrobenzene	5	U
78-59-1	Isophorone	5	U
88-75-5	2-Nitrophenol	5	U
105-67-9	2,4-Dimethylphenol	5	U
111-91-1	bis(2-Chloroethoxy)methane	5	U
120-83-2	2,4-Dichlorophenol	5	U
91-20-3	Naphthalene	5	U
106-47-8	4-Chloroaniline	5	U
87-68-3	Hexachlorobutadiene	5	U
59-50-7	4-Chloro-3-methylphenol	5	U
91-57-6	2-Methylnaphthalene	5	U
77-47-4	Hexachlorocyclopentadiene	5	U
88-06-2	2,4,6-Trichlorophenol	5	U
95-95-4	2,4,5-Trichlorophenol	20	U
91-58-7	2-Chloronaphthalane	5	U
88-74-4	2-Nitroaniline	20	U
131-11-3	Dimethylphthalate	5	U
208-96-8	Acenaphthylene	5	U
606-20-2	2,6-Dintrotoluene	5	U
99-09-2	3-Nitroaniline	20	U
83-32-9	Acenaphthene	5	U

2nd copy

1LCE

EPA SAMPLE NO.

LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EDCF8

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDCF6

Lab Sample ID: 6033.011 Date Received: 04/27/00

Lab File ID: G0914 Date Analyzed: 04/28/00

Purge Volume: 20 (mL) Dilution Factor: 1.0

GC Column: DB-624 ID: 0.53 (mm) Length: 60 (m)

Number TICs found: 1

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC. (ug/L)	Q
1.	000060-29-7	Ethyl ether	6.91	4	JN
2.					
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REV 10/8/97

MAR 2 2000

SUPERFUND SPECIAL REQUEST FOR RETRIEVAL ASSISTANCE

NAME Gwen Massenfurg TITLE RPM DATE 2 Mar 00

RIN# _____ PHONE# 6-0983 MAIL CODE SR-6J

SITE NAME Himco Dump ID# IND980500292 STATE IN

SITE TYPE: __ SITE ASSESSMENT X REMEDIAL (NPL) __ REMOVAL __ FEDERAL FACILITY

DUPLICATE RECORDS CENTER 7TH FLOOR

THE FILES ARE TO BE: __ 7TH FLOOR COPY X CHECKED OUT __ VIEWED HERE

__ HELD FOR FILE REVIEW, DATE _____ REQUESTOR'S NAME _____

OSC/RPM/ORC Signature and Date: _____

SITE ASSESSMENT	REMEDIAL (NPL)	REMOVAL
__ Executive Summary	__ Administrative Record Index	__ Administrative Record Index
__ Expanded Site Inspection	__ Aerial Photographs	__ Cost Summary
__ Notification of Hazardous Waste	__ Cost Summary	__ On Scene Coordinator Report
__ Prelim Assess Report	__ Fact Sheet	__ On Scene Coorinator Appendices
__ Screening Site Inspection	__ Feasibility Study	__ Polreps
__ Site Inspection	__ Remedial Investigation Report	__ Site Assessment Report
__ Site Inspection Prioritization Report	__ Remedial Investigation Appendices	
	__ Record of Decision (ROD)	

The following Legal Documents may or may not be found in Remedial or Removal Sites:

__ Administrative Order
__ Administrative Order by Consent
__ Consent Decree
__ Entire 104e PRP File for _____
__ General/Special Notice Letter
__ Information Request Letter
__ PRP List
__ Volumetric Ranking
__ Waste-in Raport

OTHER 1990 QAPP

FOR RECORDS CENTER STAFF ONLY

Specific 1 K.04 acc containing QAPP dated 7/1/90

Checked: [] AR [] CR [] FF [] FRC [✓] NPL [] RV [] SA [] TOPO [] OTHER _____

Taken From: [] AR [] CR [] FF [] FRC [✓] NPL [] RV [] SA [] TOPO [] OTHER _____

Staff Assignee JT Completion Date 3/2/00

Staff Search Time 10 mins Returned: Yes (No)

Status of Items: [] Checked Out [✓] 7th Floor Copy [] Viewing [] Copy Service _____

Comments: this document was delivered to the sixth floor first and not to the record center first. / Norman @ Record Center

UNITED STATES ENVIRON MENTAL PROTECTION AGENCY

REGION 5 CENTRAL REGIONAL LABORATORY

536 SOUTH CLARK STREET

CHICAGO, ILLINOIS 60605

Date: APR 1 9 2000

Subject: Review of Region 5 Data for **HIMCO LF**

From: Francis A. Awanya , Chemist FAA
Region 5 Central Regional Laboratory

To: SF

Res Well Round #1 Inorganics + Organics W/o Names & Summaries

Attached are the results for Site: **HIMCO LF**
CRL Data Set Number: **20000026**
for analyses of : **Sulfate and Bromide**
Results are reported for sample numbers: **2000SY03S01, 200SY03S02, 2000SY03S03, 200SY03S04, 2000SY03S05, 200SY03S06, 2000SY03S07, 200SY03S08, 2000SY03S09, 200SY03S10, and 2000SY03S11**.

Results Status:
(X) Acceptable for Use
( ) Data Qualified, but Acceptable for use
( ) Data Unacceptable for Use

Sylvia Griffin APR 1 9 2000

CRL Data Management Coordinator and Date Received

Date Transmitted: APR 1 9 2000

Please have the US EPA project leader fill out the customer survey form on the Region 5 Intranet: http://www.r5intra.epa.gov/crl/qa.html, (← by clicking on this link, or call George Schupp, CRL Sample Coordinator, at 3-1226).

Please sign and date this form below and return it with any comments to:

Sylvia Griffin
Data Management Coordinator
Region 5 Central Regional Laboratory
ML - 10C

Received by and Date

Comments:

Data Set Number:	*20000026*	**Parameter:**	*Sulfate and Bromide*
Facility Name:	*HIMCO LF*		
Study Name:	*HIMCO LF*		
Date of Narrative:	*04/14/2000*	**Analyst:**	*Francis A. Awanya*
		Signature:	Francis A. Awanya

ANALYSIS CASE NARRATIVE

Eleven (11) high priority water samples were collected for the above study between 3/15/00 and 3/16/2000. The samples arrived at the Central Regional Laboratory (CRL) on 3/22/2000. CRL sample identification numbers (CRL Sample ID) were assigned to the samples with tag numbers. The Station numbers and Locations were obtained from the tags that were attached to the sample containers. Samples information is tabulated as follows;

CRL Sample ID	Tag Number	Station Number and Location
2000SY03S01	5-065001	27919/EDCK4
2000SY03S02	5-065002	27948/EDCK2
2000SY03S03	5-065003	B - 3
2000SY03S04	5-065004	54271/EDCK0
2000SY03S05	5-065005	J - 1
2000SY03S06	5-065006	E - 3
2000SY03S07	5-065007	B - 1
2000SY03S08	5-065008	B - 4
2000SY03S09	5-065009	EDCK1/54253
2000SY03S10	5-065010	54280/EDCK3
2000SY03S11	5-065011	54305/EDCJ7

Additional descriptive information was not provided with the Analysis Request Form (ARF). Samples were checked out for sulfate and bromide analysis from the CRL sample custodian on 3/24/2000. The samples were properly preserved by refrigeration. They were transferred to the Analytical and Inorganic (A&I) laboratory section of the CRL and kept in a sample storage refrigerator until all analysis were completed.

SAMPLE ANALYSIS:

All samples were analyzed for sulfate and bromide using CRL Standard Operating Procedure (CRL.SOP) AIG045 (Method reference 300 A & B, EPA/600/R-93-100). No additional sample preparations were necessary. The instrument was calibrated for high level determination of sulfate and bromide following CRL.SOP AIG045 Part A on 3/24/2000. It was used for analysis on the same day. All bromide concentrations were below the reporting limit of the calibration curve used. Where as all sulfate concentrations, with the exception of sample 2000SY03S07 and 2000SY03S08, exceeded the upper calibration limit. As a result, appropriate

Data Set Number:	*20000026*	**Parameter:**	*Sulfate and Bromide*
Facility Name:	*HIMCO LF*		
Study Name:	*HIMCO LF*		
Date of Narrative:	*04/14/2000*	**Analyst:**	*Francis A. Awanya*
		Signature:	Francis A. Awanya

ANALYSIS CASE NARRATIVE

sulfate samples were re-analyzed with dilutions as necessary on 3/27/2000 and a different curve was used to complete bromide analysis. The instrument was calibrated for low level determination of bromide following CRL.SOP AIG045 Part A on 4/10/2000. Bromide analysis was completed on the same day.

QUALITY CONTROL (QC):

No data quality objectives were provided by the requestor. Analysis results were evaluated using the QC requirements of CRL.SOP AIG045 (Method reference 300 A & B, EPA/600/R-93-100). All the required quality control criteria for the laboratory, method, and system performance audits were evaluated and determined to be within the limits.

Matrix spike (Sulfate): Recovery results obtained for spiked sample 2000SY03S01(63.58 mg/L), exceeded the upper calibration range. The upper limit of calibration is 56.25 mg/L. However, the calculated spike recovery value of 102.2% was within the SOP limit of 100 ± 20%.

To evaluate the accuracy of the initial recovery result, the spike was re-prepared from the same sample in exact fashion and assayed on 04/07/2000. The same calibration used to analyze the initial spike was utilized and verified for this analysis. All required QC audits results were within the limits. Sulfate results obtained on this day for spike sample 2000SY03S01 (62.39 mg $SO_4^{=}$/L), exceeded the upper calibration range. A two-fold dilution of the spiked sample was also made and analyzed within the same instrument run. Sulfate results obtained for this dilution was 61.74 mg/L. This finding indicates that the original recovery result is acceptable for use without further qualifications.

Method Blanks(LRB/ICB): The method blanks assayed at the beginning of each analysis on 3/24/2000 and 3/27/2000 were found to contain 3.51 mg/L and 3.67 mg/L of sulfate respectively. No sulfate was found in the blanks assayed at the end of the determination. Instrument response for those blanks were well below the reporting limit (15 mg/L) for the high calibration range. The resulting blank concentrations may be inaccurate, but do not indicate contamination. All samples below this reporting limit (15 mg/L) were analyzed and reported from the low calibration range. The reporting limit for this range is 0.75 mg/L. The method detection limit (MDL) is 0.025 mg/L. No sulfate was detected in any of the blanks.

Laboratory Fortified Blanks (LFBs): The LFBs were not analyzed on the days that the samples were assayed in both the low and high level analysis. They were determined on a different date using the same method and calibration as the samples. All the required QC audits were also assayed. The QC results were within the limits. The LFB was analyzed to complement the

Draft Summary

Pat Van Leeuwen
5/10/00

Himco Residential Ground Water Sampling - Round 1

Carcinogenic Compounds - Risk for Drinking Water

Compound	Location	Concentration ug/L	Risk	MCL/MCLG mg/L	RAL[a] ug/L	10^{-4} [b] ug/L
Benzene	54287W/R 54305W	0.4 J/ 0.4 J 0.4 J	1x10-6 1x10-6	0.005/zero F	100	41
Chloroform (TMH)	27919W	0.4 J	3x10-5	0.1/0.08/zero P	100	16
1,2-DCA (EDC)	54253W 54287W 54305W	0.6 J 0.7 J 0.6 J	5x10-6 6x10-6 5x10-6	0.005/zero F	40	12
1,1-DCE				0.007/0.007F	70	4.6
1,2-Dichloropropane	54305W	10	6x10-5	0.005/zero F	60	16
Vinyl Chloride	54305W 27948W	0.9 J 0.7 J	4x10-5 4x10-5	0.002/zero F	2	2
Arsenic	54253W 54287W/R 27948W 27964W	5 8/7 7 6		0.050		4.5

a *Hazard Evaluation Handbook: A Guide to Removal Actions*; Fourth Edition; Region III, 1997.
b *Region 9 Preliminary Remediation Goals (PRGs) 1999;* October 1, 1999. Considers ing. + inl. MCL/MCLG Values are 1996 (http://www.epa.gov.OST/Tools/dwstds1.html)

draft Summary

Non-Carcinogenic Compounds - Risk for Drinking Water

Compound	Location	Concentration ug/L	HQ	MCL/MCLG mg/L or UL(metals)	RAL[a] mg/L	10x HQ[b] ug/L
1,1-Dichloroethane	54287W/R 54305W 27948W 27964W 27919W	7/7 3 2 2 0.5 J				8,100
cis-1,2-Dichloroethene	54287W/R 54305W 27948W 27964W 27919W	0.5 J/0.5 J 2 1 0.8 J 0.6 J		0.07/0.07		610
Calcium	54305W 27948W 54231W 27964W others	177,000 J 122,000 J 115,000 J 113,000 J ~100,000		UL: inf. n/a 1-18y,19-70y, preg, lact: 2500 mg/d		
Magnesium	all	16,000 - 26,500		RDA: 350-500 mg/d		
Manganese	54305W	1,560	0.2			8,800
Sodium	54215W 54231W 54280W 27919W	126,000 82,500 65,400 56,700		RDA: 1400-1500 mg/d 20 mg/L (low Na diet)		
Sulfate	54253W 54271W 54280W 54305W 27919W 27948W	154 138 133 171 132 146		500/500	250 aesth.	

a *Hazard Evaluation Handbook: A Guide to Removal Actions*; Fourth Edition; Region III, 1997.

b *Region 9 Preliminary Remediation Goals (PRGs) 1999;* October 1, 1999. Considers ing. + inl. MCL/MCLG Values are 1996 (http://www.epa.gov.OST/Tools/dwstds1.html)
The UL refers to the upper limit on the Recommended Dietary Allowance (RDA).

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 5 CENTRAL REGIONAL LABORATORY

536 SOUTH CLARK STREET

CHICAGO, ILLINOIS 60605

Date: APR 19 2000

Subject: Review of Region 5 Data for Himco Dump

From: ESAT , Chemist
Region 5 Central Regional Laboratory

To: SF

Attached are the results for Site: Himco Dump Code: 054J
CRL Data Set Number: 20000024
for analyses of : Mercury
Results are reported for sample numbers: 2000SY01S01, 2000SY01S02, 2000SY01S03, 2000SY01S04, 2000SY01S05, 2000SY01S06, 2000SY01S07, 2000SY01S08, 2000SY01S09, 2000SY01S10, 2000SY01S11, 2000SY01S12, 2000SY01S13, 2000SY01S14 and 2000SY01R12

Results Status:
(x) Acceptable for Use
( ) Data Qualified, but Acceptable for use
( ) Data Unacceptable for Use

Sylvia Griffin APR 19 2000

CRL Data Management Coordinator and Date Received

Date Transmitted: APR 19 2000

Please have the US EPA project leader fill out the customer survey form on the Region 5 Intranet: http://www.r5intra.epa.gov/crl/qa.html, (← by clicking on this link, or call George Schupp, CRL Sample Coordinator, at 3-1226).

Please sign and date this form below and return it with any comments to:

Sylvia Griffin
Data Management Coordinator
Region 5 Central Regional Laboratory
ML - 10C

Received by and Date

Comments:

Parameter: Mercury
Method: 245.2*DNS
Site: Himco Dump
Analyst: M. Mattox M. Mattox
Date: April 19, 2000 4-19-00

Data Set: 20000024
TDF: 5104-284
PWO: ESE51024
WAD: 05-00-4-04

NARRATIVE

Fifteen (15) water samples from the Himco Dump site (data set 20000024) were collected on March 15 and 16, 2000. The water samples are stated with the sample number and station identification as follows: 2000SY01S01 (B-1), 2000SY01S02 (B-3), 2000SY01S03 (54253 Westwood), 2000SY01S04 (54271 Westwood), 2000SY01S05 (54215 Westwood), 2000SY01S06 (27964 Westwood), 2000SY01S07 (27948 Westwood), 2000SY01S08 (27919 Westwood), 2000SY01S09 (54280 Westwood), 2000SY01S10 (54231 Westwood), 2000SY01S11 (54305 Westwood), 2000SY01S12 (54287 Westwood), 2000SY01R12 (54287 Westwood), 2000SY01S13 (54125 Westwood), and 2000SY01S14 (E-3). The samples were received properly preserved by CRL on March 16, 2000. These samples were assigned to ESAT for mercury analysis.

The samples were digested on 4/4/00 and analyzed on 4/5/00. The first analytical run is used to report results. The remaining part of the run has been provided for information only. This portion had modifications which can be found in the mercury log book.

All sample results are acceptable; the initial DQC-LFB was within range and the final DQC-LFB was slightly high with a recovery of 114%. All other QC audits were in control. Because the samples are non-detects, all water sample results are acceptable. It is possible that the bias was due to a condensate build-up in the drying tube. To investigate this the run was repeated. The calibration and initial QC were very close to the values obtained in the initial run. Just prior to analyzing the final QC the drying unit was removed and dried. The final QC was run and the same DQC-LFB that was run in the previous run showed a result that was also very close to the end result from the original run, but the difference was enough for the result to be in control. This run data is provided for information only.

An MDL sample set was also digested and analyzed. The values obtained were well below the concentration of the standard and will be redigested at a lower concentration on another date.

Between 3/23/00 and 4/5/00 several attempts were made to digest and analyze this sample set. Some problems occurred with the digestion unit and analyzer as the analysis was attempted. A record of problems which occurred can be found in the mercury log book. The analyst worked closely with the CRL staff to resolve the problems.

This narrative is stored in
I:\r5crl\coll\min_nut\mmattox\PSAMercury\Hg Water\20000024\Reports\Hg Narrative.
The spreadsheet is stored in
I:\r5crl\coll\min_nut\mmattox\PSAMercury\Hg Water\20000024\Reports\Hg Results.
The QC summary is stored in
I:\r5crl\coll\min_nut\mmattox\PSAMercury\Hg Water\20000024\Reports\Hg QC Summary.

At this time RLIMS is not available, therefore WordPerfect reports were generated. Time must be allotted in the future to enter the data into RLIMS when it does become available.

M. Mattox 4-19-00

ATTACHMENT 1

CRL Data Review Qualification Codes

QUALIFIER	DESCRIPTION
B	This flag is used when the analyte is found in the associated ***B***lank as well as the sample. It indicates possible blank contamination and warns the user to take appropriate action while assessing the data.
D	This flag is used when the analyte concentration results from a required ***D***ilution of the sample, extract or digestate.
E	This flag is used to identify analyte concentrations ***E***xceeding the upper calibration range of the analytical instrument after dilution of the sample, extract or digestate. .The reported value is considered to be estimated
J	This flag is used when the analyte is confirmed to be qualitatively present in the sample, extract or digestate, at or above the CRL reporting limit (RL) but the quantitated value is estimated due to quality control limit(s) being exceeded. This flag accompanies all GC/MS tentatively identified compounds (TICs). This flag also applies to a suspected, unidentified interference. (***J*** is the flag used in the Superfund CLP SOW and Data Review Functional Guidelines and is used by CRL for consistency.)
M	This flag is used when the analyte is confirmed to be qualitatively present in the sample, extract or digestate, at or above the CRL ***M***ethod Detection Limit (MDL) but below the CRL reporting limit (RL). This flag applies to all values in this concentration range and indicates the quantitated value is estimated due to its presence in this concentration range.
N	This flag applies to GC/MS TICs that have ***N***o mass spectral library match.
Q	This flag applies to analyte data that are severely estimated due to quality control and/or ***Q***uantitation problems, but are confirmed to be qualitatively present in the sample. No value is reported with this qualification flag.
R	This flag applies to analyte data that are ***R***ejected and unusable due to severe quality control, quantitation and/or qualitative identification problems. No other qualification flags are reported for this analyte. No value is reported with this qualification flag.
U	This flag in used when the analyte was analyzed but ***U***ndetected in the sample. The CRL RL for the analyte accompanies this flag. As with sample results that are positive, the value is corrected for dry weight, dilution and/or sample weight or volume.

ENVIRONMENTAL PROTECTION AGENCY
REGION V
CENTRAL REGIONAL LABORATORY
FINAL RESULT REPORT FOR THE TEAM: METALS

DIVISION/BRANCH: SUPERFUND **SAMPLING DATE:** 3/15-16-00 **LAB ARRIVAL DATE:** 3/16/00 **DUE DATE:** 3/30/00
DU NUMBER: TFA **DATASET NUMBER:** 20000024 **STUDY:** Himco Landfill **PRIORITY:** Routine **LABORATORY :** ESAT

	CRL LOG NUMBER	SAMPLE DESCRIPTION	WATER Mercury (ug/l)		
1	2000SY01S01	B-1	0.2U		
2	2000SY01S02	B-3	0.2U		
3	2000SY01S03	54253 Westwood	0.2U		
4	2000SY01S04	54271 Westwood	0.2U		
5	2000SY01S05	54215 Westwood	0.2U		
6	2000SY01S06	27964 Westwood	0.2U		
7	2000SY01S07	27948 Westwood	0.2U		
8	2000SY01SO8	27919 Westwood	0.2U		
9	2000SY01S09	54280 Westwood	0.2U		
10	2000SY01S10	54231 Westwood	0.2U		
11	2000SY01S11	54305 Westwood	0.2U		
12	2000SY01S12	54287 Westwood	0.2U		
DATE OF ANALYSIS		4-11-00	04/05/00		
ANALYST		M. Mattox	M. Mattox		

Reviewed by: _____ Date: 4/12/00

ENVIRONMENTAL PROTECTION AGENCY
REGION V
CENTRAL REGIONAL LABORATORY
FINAL RESULT REPORT FOR THE TEAM: METALS

DIVISION/BRANCH: SUPERFUND **SAMPLING DATE:** 3/15-16-00 **LAB ARRIVAL DATE:** 3/16/00 **DUE DATE:** 3/30/00
DU NUMBER: TFA **DATASET NUMBER:** 20000024 **STUDY:** Himco Landfill **PRIORITY:** Routine **LABORATORY :** ESAT

	CRL LOG NUMBER	SAMPLE DESCRIPTION	WATER Mercury (ug/l)		
13	2000SY01R12	54287 Westwood	0.2U		
14	2000SY01S13	54125 Westwood	0.2U		
15	2000SY01S14	E-3	0.2U		
DATE OF ANALYSIS		4-11-00	04/05/00		
ANALYST		M. Mattox	M. Mattox		

Reviewed by: _____ Date: 4/12/00

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 5 CENTRAL REGIONAL LABORATORY

536 SOUTH CLARK STREET

CHICAGO, ILLINOIS 60605

Date: APR 1 9 2000

Subject: Review of Region 5 Data for Himco Dump

From: ESAT , Chemist
Region 5 Central Regional Laboratory

To: SF

Attached are the results for Site: Himco Dump Code: 054J
CRL Data Set Number: 20000024
for analyses of : Antimony, Arsenic, Cadmium, Lead, Selenium and Thallium
Results are reported for sample numbers: 2000SY01S01, 2000SY01S02, 2000SY01S03, 2000SY01S04, 2000SY01S05, 2000SY01S06, 2000SY01S07, 2000SY01S08, 2000SY01S09, 2000SY01S10, 2000SY01S11, 2000SY01S12, 2000SY01S13, 2000SY01S14 and 2000SY01R12

Results Status:
(x) Acceptable for Use
( ) Data Qualified, but Acceptable for use
( ) Data Unacceptable for Use

Sylvia Griffin APR 19 2000

CRL Data Management Coordinator and Date Received

Date Transmitted: APR 19 2000

Please have the US EPA project leader fill out the customer survey form on the Region 5 Intranet: http://www.r5intra.epa.gov/crl/qa.html, (← by clicking on this link, or call George Schupp, CRL Sample Coordinator, at 3-1226).

Please sign and date this form below and return it with any comments to:

Sylvia Griffin
Data Management Coordinator
Region 5 Central Regional Laboratory
ML - 10C

Received by and Date

Comments:

Method: GFAA for Water
Site: Himco Dump
Date: April 6, 2000
Prepared by: Stephen Connet

TDF: 5104-284
PWO: ESE51024
WAD: 05-00-4-04
Data Set: 20000024

NARRATIVE

Fifteen (15) water samples for the Himco Dump site [2000SY01S01 (B-1), S02 (B-3), S03 (54253 Westwood), S04 (54271 Westwood), S05 (54215 Westwood), S06 (27964 Westwood), S07 (27948 Westwood), S08 (27919 Westwood), S09 (54280 Westwood), S10 (54231 Westwood), S11 (54305 Westwood), S12 (54287 Westwood), R12 (54287 Westwood), S13 (54125 Westwood), S14 (E-3 or E3)] were sampled on 3/15-16/00 and were received properly preserved by the CRL on 3/16/00. The samples were submitted for analysis of antimony, arsenic, cadmium, lead, selenium and thallium by GFAA.

The samples were digested following standard CRL GFAA water digestion protocols. The samples were digested on 3/20, 3/23 and 3/27 (digestion batch 1164). 3/23 redigestion was performed due to suspected cadmium contamination; 3/27 redigestion was performed due to lead contamination.

Due to problems with the SIMAA 6000, all results for arsenic were reported from 5100E using a detection limit of 2 ppb. The second digest was used for antimony due to low spike recovery for the second matrix spike in the first digest. Spike recoveries for the second digest were acceptable. All QC were within limits; all sample results are acceptable.

Analytical results were stored in the following database files:
H:\r5crl\vol3\metals\sconnet\20000024\5100W-Sb\040500 for antimony,
H:\r5crl\vol3\metals\sconnet\20000024\5100E-As\032400 for arsenic,
H:\r5crl\vol3\metals\sconnet\20000024\5100E-Cd\032300B for cadmium,
H:\r5crl\vol3\metals\sconnet\20000024\5100E-Pb\032800 for lead,
H:\r5crl\vol3\metals\sconnet\20000024\5100W-Se\032400A and
H:\r5crl\vol3\metals\sconnet\20000024\5100E-Se\032800A for selenium,
H:\r5crl\vol3\metals\sconnet\20000024\5100W-Tl\032300B and \032400 for thallium.

This narrative, the QC limits sheet, QC Summary and Results spreadsheets are stored in:
H:\r5crl\vol3\metals\sconnet\20000024\Reports\GFAA Narrative.
H:\r5crl\vol3\metals\sconnet\20000024\Reports\QC Limits.
H:\r5crl\vol3\metals\sconnet\20000024\Reports\QCSummry.
H:\r5crl\vol3\metals\sconnet\20000024\Reports\GFAA Results.

Since RLIMS was unavailable, the AA metals analysis results are reported in a word-processing spreadsheet only. Time will be necessary in the future to enter all analysis results into RLIMS.

4-6-00

ATTACHMENT 1

CRL Data Review Qualification Codes

QUALIFIER	DESCRIPTION
B	This flag is used when the analyte is found in the associated ***B***lank as well as the sample. It indicates possible blank contamination and warns the user to take appropriate action while assessing the data.
D	This flag is used when the analyte concentration results from a required ***D***ilution of the sample, extract or digestate.
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ENVIRONMENTAL PROTECTION AGENCY
REGION V
CENTRAL REGIONAL LABORATORY
FINAL RESULT REPORT FOR THE TEAM: METALS

DIVISION/BRANCH: SUPERFUND **SAMPLING DATE:** 3/15-16/00 **LAB ARRIVAL DATE:** 3/16/00 **DUE DATE:** 3/30/00
DU NUMBER: 50102D **DATASET NUMBER:** 20000024 **STUDY:** Himco Dump **PRIORITY:** Routine **LABORATORY :**ESAT

	CRL LOG NUMBER	SAMPLE DESCRIPTION	WATER Antimony (ug/L)	WATER Arsenic (ug/L)	WATER Cadmium (ug/L)	WATER Lead (ug/L)	WATER Selenium (ug/L)	WATER Thallium (ug/L)
1	2000SY01S01	B-1	2U	2U	0.1U	3M	2U	1U
2	2000SY01S02	B-3	2U	5M	0.1U	2U	2U	1U
3	2000SY01S03	54253 Westwood	2U	5M	0.1U	2U	2U	1U
4	2000SY01S04	54271 Westwood	2U	2U	0.1U	2U	2U	1U
5	2000SY01S05	54215 Westwood	2U	4UD	0.1U	2U	2U	1U
6	2000SY01S06	27964 Westwood	2U	6DM	0.1U	2U	2U	1U
7	2000SY01S07	27948 Westwood	2U	7	0.1U	2U	2U	1U
8	2000SY01S08	27919 Westwood	2U	2U	0.1U	2U	2U	1U
9	2000SY01S09	54280 Westwood	2U	2U	0.1U	2U	2U	1U
10	2000SY01S10	54231 Westwood	2U	2U	0.1U	2U	2U	1U
11	2000SY01S11	54305 Westwood	2U	4UD	0.1U	2U	2U	1U
12	2000SY01S12	54287 Westwood	2U	7	0.1U	2U	2U	1U
13	2000SY01R12	54287 Westwood	2U	8DM	0.1U	2U	2U	1U
14	2000SY01S13	54125 Westwood	2U	2M	0.1U	2U	2U	1U
15	2000SY01S14	E-3 (E3)	2U	7	0.1U	2U	2U	1U
DATE OF ANALYSIS			4/5/00	3/24/00	3/23/00	3/28/00	3/24,28/00	3/23-24/00
ANALYST		4/6-00	S. Connet	S. Connet	S. Connet	S. Connet	S. Connet	S. Connet

Reviewed by: J. Gan Date: 4/17/2000

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 5 CENTRAL REGIONAL LABORATORY

536 SOUTH CLARK STREET

CHICAGO, ILLINOIS 60605

Date: APR 04 2000

Subject: Review of Region 5 Data for Himco Dump

From: ESAT , Chemist
Region 5 Central Regional Laboratory

To:

Attached are the results for Site: Himco Dump Code: 054J
CRL Data Set Number: 20000024
for analyses of : ICP
Results are reported for sample numbers: 2000SY01S01, 2000SY01S02, 2000SY01S03, 2000SY01S04, 2000SY01S05, 2000SY01S06, 2000SY01S07, 2000SY01S08, 2000SY01S09, 2000SY01S10, 2000SY01S11, 2000SY01S12, 2000SY01S13, 2000SY01S14 and 2000SY01R12

Results Status:
(x) Acceptable for Use
( ) Data Qualified, but Acceptable for use
( ) Data Unacceptable for Use

CRL Data Review Qualification Codes

QUALIFIER	DESCRIPTION
B	This flag is used when the analyte is found in the associated ***B***lank as well as the sample. It indicates possible blank contamination and warns the user to take appropriate action while assessing the data.
D	This flag is used when the analyte concentration results from a required ***D***ilution of the sample, extract or digestate.
E	This flag is used to identify analyte concentrations ***E***xceeding the upper calibration range of the analytical instrument after dilution of the sample, extract or digestate. .The reported value is considered to be estimated
J	This flag is used when the analyte is confirmed to be qualitatively present in the sample, extract or digestate, at or above the CRL reporting limit (RL) but the quantitated value is estimated due to quality control limit(s) being exceeded. This flag accompanies all GC/MS tentatively identified compounds (TICs). This flag also applies to a suspected, unidentified interference. (***J*** is the flag used in the Superfund CLP SOW and Data Review Functional Guidelines and is used by CRL for consistency.)
M	This flag is used when the analyte is confirmed to be qualitatively present in the sample, extract or digestate, at or above the CRL ***M***ethod Detection Limit (MDL) but below the CRL reporting limit (RL). This flag applies to all values in this concentration range and indicates the quantitated value is estimated due to its presence in this concentration range.
N	This flag applies to GC/MS Te***N***tatively Identified Compounds (TICs) that have a mass spectral library match.
Q	This flag applies to analyte data that are severely estimated due to quality control and/or ***Q***uantitation problems, but are confirmed to be qualitatively present in the sample. No value is reported with this qualification flag.
R	This flag applies to analyte data that are ***R***ejected and unusable due to severe quality control, quantitation and/or qualitative identification problems. No other qualification flags are reported for this analyte. No value is reported with this qualification flag.
U	This flag in used when the analyte was analyzed but ***U***ndetected in the sample. The CRL RL for the analyte accompanies this flag. As with sample results that are positive, the value is corrected for dry weight, dilution and/or sample weight or volume.

EPA CRL - REGION V
ICP FINAL RESULTS REPORT

REPORT PRODUCED ON: 22-Mar-00

SAMPLE ORGANIZATION:

SAMPLE BATCH ID: 20000024

LABORATORY: REGION 5 CRL

SAMPLE FACILITY: Himco Dump

SAMPLE: 2000SY01S01

ANALYZED: 21-Mar-00

STATION: B-1

COMPOUND	AMOUNT			(Units)
Aluminum	26	U		(ug/L)
Barium	118			(ug/L)
Beryllium	1.6	U	J	(ug/L)
Calcium	57200		J	(ug/L)
Chromium	3.4	U	J	(ug/L)
Cobalt	10.1	U		(ug/L)
Copper	4	U		(ug/L)
Iron	509			(ug/L)
Magnesium	22000			(ug/L)
Manganese	40.4			(ug/L)
Nickel	19.4	U		(ug/L)
Potassium	2080			(ug/L)
Silver	6.8	U		(ug/L)
Sodium	50700			(ug/L)
Vanadium	3.9	U		(ug/L)
Zinc	22.2	M	J	(ug/L)

ANALYZED BY: _____ 3-22-00

EPA CRL - REGION V
ICP FINAL RESULTS REPORT

REPORT PRODUCED ON: 22-Mar-00

SAMPLE ORGANIZATION:

SAMPLE BATCH ID: 20000024

LABORATORY: REGION 5 CRL

SAMPLE FACILITY: Himco Dump

SAMPLE: 2000SY01S02

ANALYZED: 21-Mar-00

STATION: B-3

COMPOUND	AMOUNT			(Units)
Aluminum	26	U		(ug/L)
Barium	61.8			(ug/L)
Beryllium	1.6	U	J	(ug/L)
Calcium	87600		J	(ug/L)
Chromium	3.4	U	J	(ug/L)
Cobalt	10.1	U		(ug/L)
Copper	4	U		(ug/L)
Iron	418			(ug/L)
Magnesium	27200			(ug/L)
Manganese	299			(ug/L)
Nickel	19.4	U		(ug/L)
Potassium	1240			(ug/L)
Silver	6.8	U		(ug/L)
Sodium	19700			(ug/L)
Vanadium	3.9	U		(ug/L)
Zinc	10.3	U		(ug/L)

ANALYZED BY: _____ 3-22-00

EPA CRL - REGION V
ICP FINAL RESULTS REPORT

REPORT PRODUCED ON: 22-Mar-00

SAMPLE ORGANIZATION:

SAMPLE BATCH ID: 20000024

LABORATORY: REGION 5 CRL

SAMPLE FACILITY: Himco Dump

SAMPLE: 2000SY01S03

ANALYZED: 21-Mar-00

STATION: 54253 Westwood

COMPOUND	AMOUNT			(Units)
Aluminum	26	U		(ug/L)
Barium	128			(ug/L)
Beryllium	1.6	U	J	(ug/L)
Calcium	91500		J	(ug/L)
Chromium	3.4	U	J	(ug/L)
Cobalt	10.1	U		(ug/L)
Copper	7.3	M		(ug/L)
Iron	1670			(ug/L)
Magnesium	26500			(ug/L)
Manganese	213			(ug/L)
Nickel	19.4	U		(ug/L)
Potassium	1330			(ug/L)
Silver	6.8	U		(ug/L)
Sodium	14500			(ug/L)
Vanadium	3.9	U		(ug/L)
Zinc	44.3	M	J	(ug/L)

ANALYZED BY: _____ 3-22-00

EPA CRL - REGION V
ICP FINAL RESULTS REPORT

REPORT PRODUCED ON: 22-Mar-00

SAMPLE ORGANIZATION:

SAMPLE BATCH ID: 20000024

LABORATORY: REGION 5 CRL

SAMPLE FACILITY: Himco Dump

SAMPLE: 2000SY01S04

ANALYZED: 21-Mar-00

STATION: 54271 Westwood

COMPOUND	AMOUNT			(Units)
Aluminum	26	U		(ug/L)
Barium	50.4			(ug/L)
Beryllium	1.6	U	J	(ug/L)
Calcium	101000		J	(ug/L)
Chromium	3.4	U	J	(ug/L)
Cobalt	10.1	U		(ug/L)
Copper	7.3	M		(ug/L)
Iron	104		B J	(ug/L)
Magnesium	21700			(ug/L)
Manganese	359			(ug/L)
Nickel	19.4	U		(ug/L)
Potassium	1790			(ug/L)
Silver	6.8	U		(ug/L)
Sodium	22600			(ug/L)
Vanadium	3.9	U		(ug/L)
Zinc	17.4	M	J	(ug/L)

ANALYZED BY: _____ 3-22-00

EPA CRL - REGION V
ICP FINAL RESULTS REPORT

REPORT PRODUCED ON: 22-Mar-00

SAMPLE ORGANIZATION:

SAMPLE BATCH ID: 20000024

LABORATORY: REGION 5 CRL

SAMPLE FACILITY: Himco Dump

SAMPLE: 2000SY01S05

ANALYZED: 21-Mar-00

STATION: 54215 Westwood

COMPOUND	AMOUNT		(Units)
Aluminum	26 U		(ug/L)
Barium	32.8		(ug/L)
Beryllium	1.6 U	J	(ug/L)
Calcium	91800	J	(ug/L)
Chromium	3.4 U	J	(ug/L)
Cobalt	10.1 U		(ug/L)
Copper	14.2 M		(ug/L)
Iron	22.4 U		(ug/L)
Magnesium	19800	J	(ug/L)
Manganese	3.2 U		(ug/L)
Nickel	21.4 M		(ug/L)
Potassium	4650		(ug/L)
Silver	6.8 U		(ug/L)
Sodium	126000		(ug/L)
Vanadium	3.9 U		(ug/L)
Zinc	96.5	J	(ug/L)

ANALYZED BY: [signature] 3-22-00

EPA CRL - REGION V
ICP FINAL RESULTS REPORT

REPORT PRODUCED ON: 29-Mar-00

SAMPLE ORGANIZATION:

SAMPLE BATCH ID: 20000024

LABORATORY: REGION 5 CRL

SAMPLE FACILITY: Himco Dump

SAMPLE: 2000SY01S06

ANALYZED: 21-Mar-00

STATION: 27964 Westwood

COMPOUND	AMOUNT			(Units)
Aluminum	26	U		(ug/L)
Barium	113			(ug/L)
Beryllium	1.6	U	J	(ug/L)
Calcium	113000		J	(ug/L)
Chromium	3.4	U	J	(ug/L)
Cobalt	10.1	U		(ug/L)
Copper	11.9	M		(ug/L)
Iron	5860			(ug/L)
Magnesium	16100		J	(ug/L)
Manganese	73			(ug/L)
Nickel	19.4	U		(ug/L)
Potassium	2610			(ug/L)
Silver	6.8	U		(ug/L)
Sodium	13500			(ug/L)
Vanadium	3.9	U		(ug/L)
Zinc	19	M	J	(ug/L)

ANALYZED BY: 3-29-00

EPA CRL - REGION V
ICP FINAL RESULTS REPORT

REPORT PRODUCED ON: 29-Mar-00

SAMPLE ORGANIZATION:

SAMPLE BATCH ID: 20000024

LABORATORY: REGION 5 CRL

SAMPLE FACILITY: Himco Dump

SAMPLE: 2000SY01S07

ANALYZED: 21-Mar-00

STATION: 27948 Westwood

COMPOUND	AMOUNT			(Units)
Aluminum	26	U		(ug/L)
Barium	102			(ug/L)
Beryllium	1.6	U	J	(ug/L)
Calcium	122000		J	(ug/L)
Chromium	3.5	M	J	(ug/L)
Cobalt	10.1	U		(ug/L)
Copper	4.1	M		(ug/L)
Iron	6120			(ug/L)
Magnesium	16000		J	(ug/L)
Manganese	72.3			(ug/L)
Nickel	19.4	U		(ug/L)
Potassium	2870			(ug/L)
Silver	6.8	U		(ug/L)
Sodium	33200			(ug/L)
Vanadium	3.9	U		(ug/L)
Zinc	30.1	M	J	(ug/L)

ANALYZED BY: 3-29-00

EPA CRL - REGION V
ICP FINAL RESULTS REPORT

REPORT PRODUCED ON: 29-Mar-00

SAMPLE ORGANIZATION:

SAMPLE BATCH ID: 20000024

LABORATORY: REGION 5 CRL

SAMPLE FACILITY: Himco Dump

SAMPLE: 2000SY01S08

ANALYZED: 21-Mar-00

STATION: 27919 Westwood

COMPOUND	AMOUNT			(Units)
Aluminum	26	U		(ug/L)
Barium	28.1			(ug/L)
Beryllium	1.6	U	J	(ug/L)
Calcium	103000		J	(ug/L)
Chromium	3.4	U	J	(ug/L)
Cobalt	10.1	U		(ug/L)
Copper	9	M		(ug/L)
Iron	51.1	M	B J	(ug/L)
Magnesium	19000		J	(ug/L)
Manganese	146			(ug/L)
Nickel	19.4	U		(ug/L)
Potassium	3660			(ug/L)
Silver	6.8	U		(ug/L)
Sodium	56700			(ug/L)
Vanadium	3.9	U		(ug/L)
Zinc	20.5	M	J	(ug/L)

ANALYZED BY: _____ 3-29-00

EPA CRL - REGION V
ICP FINAL RESULTS REPORT

REPORT PRODUCED ON: 22-Mar-00

SAMPLE ORGANIZATION:

SAMPLE BATCH ID: 20000024

LABORATORY: REGION 5 CRL

SAMPLE FACILITY: Himco Dump

SAMPLE: 2000SY01S09

ANALYZED: 21-Mar-00

STATION: 54280 Westwood

COMPOUND	AMOUNT			(Units)
Aluminum	26	U		(ug/L)
Barium	72.8			(ug/L)
Beryllium	1.6	U	J	(ug/L)
Calcium	105000		J	(ug/L)
Chromium	3.4	U	J	(ug/L)
Cobalt	10.1	U		(ug/L)
Copper	26.1	M		(ug/L)
Iron	22.4	U		(ug/L)
Magnesium	20200			(ug/L)
Manganese	355			(ug/L)
Nickel	19.4	U		(ug/L)
Potassium	2580			(ug/L)
Silver	6.8	U		(ug/L)
Sodium	65400			(ug/L)
Vanadium	3.9	U		(ug/L)
Zinc	31.5	M	J	(ug/L)

ANALYZED BY: _____ 3-22-00

EPA CRL - REGION V
ICP FINAL RESULTS REPORT

REPORT PRODUCED ON: 22-Mar-00

SAMPLE ORGANIZATION:

SAMPLE BATCH ID: 20000024

LABORATORY: REGION 5 CRL

SAMPLE FACILITY: Himco Dump

SAMPLE: 2000SY01S10

ANALYZED: 21-Mar-00

STATION: 54231 Westwood

COMPOUND	AMOUNT			(Units)
Aluminum	26	U		(ug/L)
Barium	43.5			(ug/L)
Beryllium	1.6	U	J	(ug/L)
Calcium	115000		J	(ug/L)
Chromium	3.4	U	J	(ug/L)
Cobalt	14	M	J	(ug/L)
Copper	6.1	M		(ug/L)
Iron	25.3	M	B J	(ug/L)
Magnesium	20800			(ug/L)
Manganese	3.2	U		(ug/L)
Nickel	19.4	U		(ug/L)
Potassium	4300			(ug/L)
Silver	6.8	U		(ug/L)
Sodium	82500			(ug/L)
Vanadium	3.9	U		(ug/L)
Zinc	160		J	(ug/L)

ANALYZED BY: _____ 3-22-00

EPA CRL - REGION V
ICP FINAL RESULTS REPORT

REPORT PRODUCED ON: 22-Mar-00

SAMPLE ORGANIZATION:

SAMPLE BATCH ID: 20000024

LABORATORY: REGION 5 CRL

SAMPLE FACILITY: Himco Dump

SAMPLE: 2000SY01S11

ANALYZED: 21-Mar-00

STATION: 54305 Westwood

COMPOUND	AMOUNT			(Units)
Aluminum	26	U		(ug/L)
Barium	60.4			(ug/L)
Beryllium	1.6	U	J	(ug/L)
Calcium	177000		J	(ug/L)
Chromium	3.4	U	J	(ug/L)
Cobalt	10.1	U		(ug/L)
Copper	4	U		(ug/L)
Iron	2170			(ug/L)
Magnesium	18200		J	(ug/L)
Manganese	1560			(ug/L)
Nickel	19.4	U		(ug/L)
Potassium	5270			(ug/L)
Silver	6.8	U		(ug/L)
Sodium	44400			(ug/L)
Vanadium	3.9	U		(ug/L)
Zinc	17.4	M	J	(ug/L)

ANALYZED BY: _____ 3-22-00

EPA CRL - REGION V
ICP FINAL RESULTS REPORT

REPORT PRODUCED ON: 22-Mar-00

SAMPLE ORGANIZATION:

SAMPLE BATCH ID: 20000024

LABORATORY: REGION 5 CRL

SAMPLE FACILITY: Himco Dump

SAMPLE: 2000SY01S12

ANALYZED: 21-Mar-00

STATION: 54287 Westwood

COMPOUND	AMOUNT			(Units)
Aluminum	26	U		(ug/L)
Barium	63.8			(ug/L)
Beryllium	1.6	U	J	(ug/L)
Calcium	93300		J	(ug/L)
Chromium	3.4	U	J	(ug/L)
Cobalt	10.5	M	J	(ug/L)
Copper	7.3	M		(ug/L)
Iron	5050			(ug/L)
Magnesium	21500			(ug/L)
Manganese	63.1			(ug/L)
Nickel	19.4	U		(ug/L)
Potassium	1150			(ug/L)
Silver	6.8	U		(ug/L)
Sodium	14900			(ug/L)
Vanadium	3.9	U		(ug/L)
Zinc	18.9	M	J	(ug/L)

ANALYZED BY: PD 3-22-00

EPA CRL - REGION V
ICP FINAL RESULTS REPORT

REPORT PRODUCED ON: 22-Mar-00

SAMPLE ORGANIZATION:

SAMPLE BATCH ID: 20000024

LABORATORY: REGION 5 CRL

SAMPLE FACILITY: Himco Dump

SAMPLE: 2000SY01R12

ANALYZED: 21-Mar-00

STATION: 54287 Westwood

COMPOUND	AMOUNT			(Units)
Aluminum	26	U		(ug/L)
Barium	64.5			(ug/L)
Beryllium	1.6	U	J	(ug/L)
Calcium	92300		J	(ug/L)
Chromium	3.4	U	J	(ug/L)
Cobalt	10.1	U		(ug/L)
Copper	4	U		(ug/L)
Iron	5030			(ug/L)
Magnesium	22000			(ug/L)
Manganese	59.6			(ug/L)
Nickel	19.4	U		(ug/L)
Potassium	1160			(ug/L)
Silver	6.8	U		(ug/L)
Sodium	14700			(ug/L)
Vanadium	3.9	U		(ug/L)
Zinc	14.2	M	J	(ug/L)

ANALYZED BY: _____ 3-22-00

EPA CRL - REGION V
ICP FINAL RESULTS REPORT

REPORT PRODUCED ON: 22-Mar-00

SAMPLE ORGANIZATION:

SAMPLE BATCH ID: 20000024

LABORATORY: REGION 5 CRL

SAMPLE FACILITY: Himco Dump

SAMPLE: 2000SY01S13

ANALYZED: 21-Mar-00

STATION: 54125 Westwood

COMPOUND	AMOUNT			(Units)
Aluminum	26	U		(ug/L)
Barium	108			(ug/L)
Beryllium	1.6	U	J	(ug/L)
Calcium	100000		J	(ug/L)
Chromium	3.6	M	J	(ug/L)
Cobalt	10.1	U		(ug/L)
Copper	5.8	M		(ug/L)
Iron	885			(ug/L)
Magnesium	21500			(ug/L)
Manganese	284			(ug/L)
Nickel	19.4	U		(ug/L)
Potassium	1790			(ug/L)
Silver	6.8	U		(ug/L)
Sodium	17600			(ug/L)
Vanadium	3.9	U		(ug/L)
Zinc	10.3	U		(ug/L)

ANALYZED BY: _____ 3-22-00

EPA CRL - REGION V
ICP FINAL RESULTS REPORT

REPORT PRODUCED ON: 22-Mar-00

SAMPLE ORGANIZATION:

SAMPLE BATCH ID: 20000024

LABORATORY: REGION 5 CRL

SAMPLE FACILITY: Himco Dump

SAMPLE: 2000SY01S14

ANALYZED: 21-Mar-00

STATION: E-3

COMPOUND	AMOUNT			(Units)
Aluminum	133			(ug/L)
Barium	38.8			(ug/L)
Beryllium	1.6	U	J	(ug/L)
Calcium	73400		J	(ug/L)
Chromium	5.1	M	J	(ug/L)
Cobalt	10.1	U		(ug/L)
Copper	4	U		(ug/L)
Iron	2500			(ug/L)
Magnesium	29200			(ug/L)
Manganese	39			(ug/L)
Nickel	19.4	U		(ug/L)
Potassium	1700			(ug/L)
Silver	6.8	U		(ug/L)
Sodium	11900			(ug/L)
Vanadium	3.9	U		(ug/L)
Zinc	10.3	U		(ug/L)

ANALYZED BY: 3-22-00

Sylvia Griffin APR 04 2000

CRL Data Management Coordinator and Date Received

Date Transmitted: APR 04 2000

Please have the US EPA project leader fill out the customer survey form on the Region 5 Intranet: http://www.r5intra.epa.gov/crl/qa.html, (← by clicking on this link, or call George Schupp, CRL Sample Coordinator, at 3-1226).

Please sign and date this form below and return it with any comments to:

Sylvia Griffin
Data Management Coordinator
Region 5 Central Regional Laboratory
ML - 10C

Received by and Date

Comments:

EPA CRL - REGION V
ICP FINAL RESULTS REPORT

REPORT PRODUCED ON: 29-Mar-00

SAMPLE ORGANIZATION:

SAMPLE BATCH ID: 20000024

LABORATORY: REGION 5 CRL

SAMPLE FACILITY: Himco Dump

SAMPLE: 2000SY01S06

ANALYZED: 21-Mar-00

STATION: 27964 Westwood

COMPOUND	AMOUNT			(Units)
Aluminum	26	U		(ug/L)
Barium	113			(ug/L)
Beryllium	1.6	U	J	(ug/L)
Calcium	113000		J	(ug/L)
Chromium	3.4	U	J	(ug/L)
Cobalt	10.1	U		(ug/L)
Copper	11.9	M		(ug/L)
Iron	5860			(ug/L)
Magnesium	16100		J	(ug/L)
Manganese	73			(ug/L)
Nickel	19.4	U		(ug/L)
Potassium	2610			(ug/L)
Silver	6.8	U		(ug/L)
Sodium	13500			(ug/L)
Vanadium	3.9	U		(ug/L)
Zinc	19	M	J	(ug/L)

ANALYZED BY: 3-29-00

1D/A

LOW CONC WATER VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO

EDCK5

Lab Name: ENVIROSYSTEMS Contract 68-D7-0005

Lab Code: ENVSYS Case No.: 27876 SAS No.: SDG No.: EDCJ8

Lab Sample ID: 00030908 Date Received: 03/17/00

Lab File ID: 030908 Date Analyzed: 03/22/00

Purge Volume: 25.00 (ml) Dilution Factor: 1.0

GC Column: RTX-502.2 ID: 0.530 (mm) Length: 105 (m)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
74-87-3	Chloromethane	1	U
74-83-9	Bromomethane	1	U
75-01-4	Vinyl chloride	1	U
75-00-3	Chloroethane	1	U
75-09-2	Methylene chloride	2	U
67-64-1	Acetone	5	U
75-15-0	Carbon disulfide	1	U
75-35-4	1,1-Dichloroethene	1	U
75-34-3	1,1-Dichloroethane	2	
156-59-2	cis-1,2-Dichloroethene	0.8	J
156-60-5	trans-1,2-Dichloroethene	1	U
67-66-3	Chloroform	1	U
107-06-2	1,2-Dichloroethane	1	U
78-93-3	2-Butanone	5	U
74-97-5	Bromochloromethane	1	U
71-55-6	1,1,1-Trichloroethane	1	U
56-23-5	Carbon tetrachloride	1	U
75-27-4	Bromodichloromethane	1	U
78-87-5	1,2-Dichloropropane	1	U
10061-01-5	cis-1,3-Dichloropropene	1	U
79-01-6	Trichloroethene	1	U
124-48-1	Dibromochloromethane	1	U
79-00-5	1,1,2-Trichloroethane	1	U
71-43-2	Benzene	1	U
10061-02-6	trans-1,3-Dichloropropene	1	U
75-25-2	Bromoform	1	U
108-10-1	4-Methyl-2-pentanone	5	U
591-78-6	2-Hexanone	5	U
127-18-4	Tetrachloroethene	1	U
79-34-5	1,1,2,2-Tetrachloroethane	1	U
106-93-4	1,2-Dibromoethane	1	U
108-88-3	Toluene	1	U
108-90-7	Chlorobenzene	1	U
100-41-4	Ethylbenzene	1	U
100-42-5	Styrene	1	U
1330-20-7	Xylenes (total)	1	U
541-73-1	1,3-Dichlorobenzene	1	U
106-46-7	1,4-Dichlorobenzene	1	U
95-50-1	1,2-Dichlorobenzene	1	U
96-12-8	1,2-Dibromo-3-chloropropane	1	U
120-82-1	1,2,4-Trichlorobenzene	1	U

LOW CONC WATER VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.
EDCK5

Lab Name: ENVIROSYSTEMS Contract: 68-D7-0005

Lab Code: ENVSYS Case No.: 27876 SAS No.: SDG No.: EDCJ8

Lab Sample ID: 00030908 Date Received: 03/17/00

Lab File ID: 030908 Date Analyzed: 03/22/00

Purge Volume: 25.00 (ml) Dilution Factor: 1.0

GC Column: RTX-502.2 ID: 0.530 (mm) Length: 105 (m)

Number TICs found: 2

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC. (ug/L)	Q
1.	75-43-4	METHANE, DICHLOROFLUORO	6.22	3	JN
2.		UNKNOWN	7.30	4	J

1LCB

LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EDCK5

Lab Name: ENVIROSYSTEMS Contract: 68-D7-0005

Lab Code: ENVSYS Case No.: 27876 SAS No.: SDG No.: EDCJ8

Lab Sample ID: 00030908 Date Received: 03/17/00

Lab File ID: S030908 Date Extracted: 03/23/00

Sample volume: 1000 (ml) Date Analyzed: 03/29/00

Concentrated Extract Volume: 1000 (ul) Dilution Factor: 1.0

Injection Volume: 1.0 (ul) pH: 6.0

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
108-95-2	Phenol	5	U
111-44-4	bis(2-Chloroethyl)Ether	5	U
95-57-8	2-Chlorophenol	5	U
95-48-7	2-Methylphenol	5	U
108-60-1	2,2'-oxybis(1-Chloropropane)	5	U
106-44-5	4-Methylphenol	5	U
621-64-7	N-Nitroso-Di-n-Propylamine	5	U
67-72-1	Hexachloroethane	5	U
98-95-3	Nitrobenzene	5	U
78-59-1	Isophorone	5	U
88-75-5	2-Nitrophenol	5	U
105-67-9	2,4-Dimethylphenol	5	U
111-91-1	bis(2-Chloroethoxy)Methane	5	U
120-83-2	2,4-Dichlorophenol	5	U
91-20-3	Naphthalene	5	U
106-47-8	4-Chloroaniline	5	U
87-68-3	Hexachlorobutadiene	5	U
59-50-7	4-Chloro-3-Methylphenol	5	U
91-57-6	2-Methylnaphthalene	5	U
77-47-4	Hexachlorocyclopentadiene	5	U
88-06-2	2,4,6-Trichlorophenol	5	U
95-95-4	2,4,5-Trichlorophenol	20	U
91-58-7	2-Chloronaphthalene	5	U
88-74-4	2-Nitroaniline	20	U
131-11-3	Dimethylphthalate	5	U
208-96-8	Acenaphthylene	5	U
606-20-2	2,6-Dinitrotoluene	5	U
99-09-2	3-Nitroaniline	20	U
83-32-9	Acenaphthene	5	U

1LCC

LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EDCK5

Lab Name: ENVIROSYSTEMS Contract: 68-D7-0005

Lab Code: ENVSYS Case No.: 27876 SAS No.: SDG No.: EDCJ8

Lab Sample ID: 00030908 Date Received: 03/17/00

Lab File ID: S030908 Date Extracted: 03/23/00

Sample volume: 1000 (ml) Date Analyzed: 03/29/00

Concentrated Extract Volume: 1000 (ul) Dilution Factor: 1.0

Injection Volume: 1.0 (ul) pH: 6.0

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
51-28-5	2,4-Dinitrophenol	20	U
100-02-7	4-Nitrophenol	20	U
132-64-9	Dibenzofuran	5	U
121-14-2	2,4-Dinitrotoluene	5	U
84-66-2	Diethylphthalate	5	U
7005-72-3	4-Chlorophenyl-phenylether	5	U
86-73-7	Fluorene	5	U
100-01-6	4-Nitroaniline	20	U
534-52-1	4,6-Dinitro-2-methylphenol	20	U
86-30-6	N-Nitrosodiphenylamine (1)	5	U
101-55-3	4-Bromophenyl-phenylether	5	U
118-74-1	Hexachlorobenzene	5	U
87-86-5	Pentachlorophenol	20	U
85-01-8	Phenanthrene	5	U
120-12-7	Anthracene	5	U
84-74-2	Di-n-Butylphthalate	5	U
206-44-0	Fluoranthene	5	U
129-00-0	Pyrene	5	U
85-68-7	Butylbenzylphthalate	5	U
91-94-1	3,3'-Dichlorobenzidine	5	U
56-55-3	Benzo(a)Anthracene	5	U
218-01-9	Chrysene	5	U
117-81-7	bis(2-Ethylhexyl)Phthalate	5	U
117-84-0	Di-n-octylphthalate	5	U
205-99-2	Benzo(b)Fluoranthene	5	U
207-08-9	Benzo(k)Fluoranthene	5	U
50-32-8	Benzo(a)Pyrene	5	U
193-39-5	Indeno(1,2,3-cd)Pyrene	5	U
53-70-3	Dibenz(a,h)Anthracene	5	U
191-24-2	Benzo(g,h,i)Perylene	5	U

(1) - Cannot be separated from Diphenylamine

1LCF

LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

EDCK5

Lab Name: ENVIROSYSTEMS Contract: 68-D7-0005

Lab Code: ENVSYS Case No.: 27876 SAS No.: SDG No.: EDCJ8

Lab Sample ID: 00030908 Date Received: 03/17/00

Lab File ID: S030908 Date Extracted: 03/23/00

Sample volume: 1000 (ml) Date Analyzed: 03/29/00

Concentrated Extract Volume: 1000 (ul) Dilution Factor: 1.0

Injection Volume: 1.0 (ul) pH: 6.0

Number TICs found: 0

CAS NUMBER	COMPOUND NAME	RT	EST. CONC. (ug/L)	Q

EPA CRL - REGION V
ICP FINAL RESULTS REPORT

REPORT PRODUCED ON: 29-Mar-00

SAMPLE ORGANIZATION:

SAMPLE BATCH ID: 20000024

LABORATORY: REGION 5 CRL

SAMPLE FACILITY: Himco Dump

SAMPLE: 2000SY01S07

ANALYZED: 21-Mar-00

STATION: 27948 Westwood

COMPOUND	AMOUNT			(Units)
Aluminum	26	U		(ug/L)
Barium	102			(ug/L)
Beryllium	1.6	U	J	(ug/L)
Calcium	122000		J	(ug/L)
Chromium	3.5	M	J	(ug/L)
Cobalt	10.1	U		(ug/L)
Copper	4.1	M		(ug/L)
Iron	6120			(ug/L)
Magnesium	16000		J	(ug/L)
Manganese	72.3			(ug/L)
Nickel	19.4	U		(ug/L)
Potassium	2870			(ug/L)
Silver	6.8	U		(ug/L)
Sodium	33200			(ug/L)
Vanadium	3.9	U		(ug/L)
Zinc	30.1	M	J	(ug/L)

ANALYZED BY: [signature] 3-29-00

LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO: EDCK2

Lab Name: ENVIROSYSTEMS Contract: 68-D7-0005

Lab Code: ENVSYS Case No.: 27876 SAS No.: SDG No.: EDCJ8

Lab Sample ID: 00030905 Date Received: 03/17/00

Lab File ID: 030905 Date Analyzed: 03/22/00

Purge Volume: 25.00 (ml) Dilution Factor: 1.0

GC Column: RTX-502.2 ID: 0.530 (mm) Length: 105 (m)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
74-87-3	Chloromethane	1	U
74-83-9	Bromomethane	1	U
75-01-4	Vinyl chloride	0.7	J
75-00-3	Chloroethane	1	U
75-09-2	Methylene chloride	2	U
67-64-1	Acetone	5	U
75-15-0	Carbon disulfide	1	U
75-35-4	1,1-Dichloroethene	1	U
75-34-3	1,1-Dichloroethane	2	
156-59-2	cis-1,2-Dichloroethene	1	
156-60-5	trans-1,2-Dichloroethene	1	U
67-66-3	Chloroform	1	U
107-06-2	1,2-Dichloroethane	1	U
78-93-3	2-Butanone	5	U
74-97-5	Bromochloromethane	1	U
71-55-6	1,1,1-Trichloroethane	1	U
56-23-5	Carbon tetrachloride	1	U
75-27-4	Bromodichloromethane	1	U
78-87-5	1,2-Dichloropropane	1	U
10061-01-5	cis-1,3-Dichloropropene	1	U
79-01-6	Trichloroethene	1	U
124-48-1	Dibromochloromethane	1	U
79-00-5	1,1,2-Trichloroethane	1	U
71-43-2	Benzene	1	U
10061-02-6	trans-1,3-Dichloropropene	1	U
75-25-2	Bromoform	1	U
108-10-1	4-Methyl-2-pentanone	5	U
591-78-6	2-Hexanone	5	U
127-18-4	Tetrachloroethene	1	U
79-34-5	1,1,2,2-Tetrachloroethane	1	U
106-93-4	1,2-Dibromoethane	1	U
108-88-3	Toluene	1	U
108-90-7	Chlorobenzene	1	U
100-41-4	Ethylbenzene	1	U
100-42-5	Styrene	1	U
1330-20-7	Xylenes (total)	1	U
541-73-1	1,3-Dichlorobenzene	1	U
106-46-7	1,4-Dichlorobenzene	1	U
95-50-1	1,2-Dichlorobenzene	1	U
96-12-8	1,2-Dibromo-3-chloropropane	1	U
120-82-1	1,2,4-Trichlorobenzene	1	U

LOW CONC WATER VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

EDCK2

Lab Name: ENVIROSYSTEMS Contract: 68-D7-0005

Lab Code: ENVSYS Case No.: 27876 SAS No.: SDG No.: EDCJ8

Lab Sample ID: 00030905 Date Received: 03/17/00

Lab File ID: 030905 Date Analyzed: 03/22/00

Purge Volume: 25.00 (ml) Dilution Factor: 1.0

GC Column: RTX-502.2 ID: 0.530 (mm) Length: 105 (m)

Number TICs found: 2

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC. (ug/L)	Q
1.	75-43-4	METHANE, DICHLOROFLUORO-	6.20	3	JN
2.		UNKNOWN	7.27	4	J

ILCB

LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO

EDCK2

Lab Name: ENVIROSYSTEMS Contract: 68-D7-0005

Lab Code: ENVSYS Case No.: 27876 SAS No.: SDG No.: EDCJ8

Lab Sample ID: 00030905 Date Received: 03/17/00

Lab File ID: S030905 Date Extracted: 03/22/00

Sample volume: 1000 (ml) Date Analyzed: 03/28/00

Concentrated Extract Volume: 1000 (ul) Dilution Factor: 1.0

Injection Volume: 1.0 (ul) pH: 7.0

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
108-95-2	Phenol	5	U
111-44-4	bis(2-Chloroethyl)Ether	5	U
95-57-8	2-Chlorophenol	5	U
95-48-7	2-Methylphenol	5	U
108-60-1	2,2'-oxybis(1-Chloropropane)	5	U
106-44-5	4-Methylphenol	5	U
621-64-7	N-Nitroso-Di-n-Propylamine	5	U
67-72-1	Hexachloroethane	5	U
98-95-3	Nitrobenzene	5	U
78-59-1	Isophorone	5	U
88-75-5	2-Nitrophenol	5	U
105-67-9	2,4-Dimethylphenol	5	U
111-91-1	bis(2-Chloroethoxy)Methane	5	U
120-83-2	2,4-Dichlorophenol	5	U
91-20-3	Naphthalene	5	U
106-47-8	4-Chloroaniline	5	U
87-68-3	Hexachlorobutadiene	5	U
59-50-7	4-Chloro-3-Methylphenol	5	U
91-57-6	2-Methylnaphthalene	5	U
77-47-4	Hexachlorocyclopentadiene	5	U
88-06-2	2,4,6-Trichlorophenol	5	U
95-95-4	2,4,5-Trichlorophenol	20	U
91-58-7	2-Chloronaphthalene	5	U
88-74-4	2-Nitroaniline	20	U
131-11-3	Dimethylphthalate	5	U
208-96-8	Acenaphthylene	5	U
606-20-2	2,6-Dinitrotoluene	5	U
99-09-2	3-Nitroaniline	20	U
83-32-9	Acenaphthene	5	U

1LCC

LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EDCK2

Lab Name: ENVIROSYSTEMS Contract: 68-D7-0005

Lab Code: ENVSYS Case No.: 27876 SAS No.: SDG No.: EDCJ8

Lab Sample ID: 00030905 Date Received: 03/17/00

Lab File ID: S030905 Date Extracted: 03/22/00

Sample volume: 1000 (ml) Date Analyzed: 03/28/00

Concentrated Extract Volume: 1000 (ul) Dilution Factor: 1.0

Injection Volume: 1.0 (ul) pH: 7.0

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
51-28-5	2,4-Dinitrophenol	20	U
100-02-7	4-Nitrophenol	20	U
132-64-9	Dibenzofuran	5	U
121-14-2	2,4-Dinitrotoluene	5	U
84-66-2	Diethylphthalate	5	U
7005-72-3	4-Chlorophenyl-phenylether	5	U
86-73-7	Fluorene	5	U
100-01-6	4-Nitroaniline	20	U
534-52-1	4,6-Dinitro-2-methylphenol	20	U
86-30-6	N-Nitrosodiphenylamine (1)	5	U
101-55-3	4-Bromophenyl-phenylether	5	U
118-74-1	Hexachlorobenzene	5	U
87-86-5	Pentachlorophenol	20	U
85-01-8	Phenanthrene	5	U
120-12-7	Anthracene	5	U
84-74-2	Di-n-Butylphthalate	5	U
206-44-0	Fluoranthene	5	U
129-00-0	Pyrene	5	U
85-68-7	Butylbenzylphthalate	5	U
91-94-1	3,3'-Dichlorobenzidine	5	U
56-55-3	Benzo(a)Anthracene	5	U
218-01-9	Chrysene	5	U
117-81-7	bis(2-Ethylhexyl)Phthalate	5	U
117-84-0	Di-n-octylphthalate	5	U
205-99-2	Benzo(b)Fluoranthene	5	U
207-08-9	Benzo(k)Fluoranthene	5	U
50-32-8	Benzo(a)Pyrene	5	U
193-39-5	Indeno(1,2,3-cd)Pyrene	5	U
53-70-3	Dibenz(a,h)Anthracene	5	U
191-24-2	Benzo(g,h,i)Perylene	5	U

(1) - Cannot be separated from Diphenylamine

030413

1LCF

LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

EDCK2

Lab Name: ENVIROSYSTEMS Contract: 68-D7-0005

Lab Code: ENVSYS Case No.: 27876 SAS No.: SDG No.: EDCJ8

Lab Sample ID: 00030905 Date Received: 03/17/00

Lab File ID: S030905 Date Extracted: 03/22/00

Sample volume: 1000 (ml) Date Analyzed: 03/28/00

Concentrated Extract Volume: 1000 (ul) Dilution Factor: 1.0

Injection Volume: 1.0 (ul) pH: 7.0

Number TICs found: 0

CAS NUMBER	COMPOUND NAME	RT	EST. CONC. (ug/L)	Q

020414

EPA CRL - REGION V
ICP FINAL RESULTS REPORT

REPORT PRODUCED ON: 22-Mar-00

SAMPLE ORGANIZATION:

SAMPLE BATCH ID: 20000024

LABORATORY: REGION 5 CRL

SAMPLE FACILITY: Himco Dump

SAMPLE: 2000SY01S10

ANALYZED: 21-Mar-00

STATION: 54231 Westwood

COMPOUND	AMOUNT			(Units)
Aluminum	26	U		(ug/L)
Barium	43.5			(ug/L)
Beryllium	1.6	U	J	(ug/L)
Calcium	115000		J	(ug/L)
Chromium	3.4	U	J	(ug/L)
Cobalt	14	M	J	(ug/L)
Copper	6.1	M		(ug/L)
Iron	25.3	M	B J	(ug/L)
Magnesium	20800			(ug/L)
Manganese	3.2	U		(ug/L)
Nickel	19.4	U		(ug/L)
Potassium	4300			(ug/L)
Silver	6.8	U		(ug/L)
Sodium	82500			(ug/L)
Vanadium	3.9	U		(ug/L)
Zinc	160		J	(ug/L)

ANALYZED BY: _____ 3-22-00

1LCA

LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EDCJ8

Lab Name: ENVIROSYSTEMS Contract: 68-D7-0005

Lab Code: ENVSYS Case No.: 27876 SAS No.: SDG No.: EDCJ8

Lab Sample ID: 00030902 Date Received: 03/17/00

Lab File ID: 030902 Date Analyzed: 03/22/00

Purge Volume: 25.00 (ml) Dilution Factor: 1.0

GC Column: RTX-502.2 ID: 0.530 (mm) Length: 105 (m)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
74-87-3	Chloromethane	1	U
74-83-9	Bromomethane	1	U
75-01-4	Vinyl chloride	1	U
75-00-3	Chloroethane	1	U
75-09-2	Methylene chloride	2	U
67-64-1	Acetone	5	U
75-15-0	Carbon disulfide	1	U
75-35-4	1,1-Dichloroethene	1	U
75-34-3	1,1-Dichloroethane	1	U
156-59-2	cis-1,2-Dichloroethene	1	U
156-60-5	trans-1,2-Dichloroethene	1	U
67-66-3	Chloroform	1	U
107-06-2	1,2-Dichloroethane	1	U
78-93-3	2-Butanone	5	U
74-97-5	Bromochloromethane	1	U
71-55-6	1,1,1-Trichloroethane	1	U
56-23-5	Carbon tetrachloride	1	U
75-27-4	Bromodichloromethane	1	U
78-87-5	1,2-Dichloropropane	1	U
10061-01-5	cis-1,3-Dichloropropene	1	U
79-01-6	Trichloroethene	1	U
124-48-1	Dibromochloromethane	1	U
79-00-5	1,1,2-Trichloroethane	1	U
71-43-2	Benzene	1	U
10061-02-6	trans-1,3-Dichloropropene	1	U
75-25-2	Bromoform	1	U
108-10-1	4-Methyl-2-pentanone	5	U
591-78-6	2-Hexanone	5	U
127-18-4	Tetrachloroethene	1	U
79-34-5	1,1,2,2-Tetrachloroethane	1	U
106-93-4	1,2-Dibromoethane	1	U
108-88-3	Toluene	1	U
108-90-7	Chlorobenzene	1	U
100-41-4	Ethylbenzene	1	U
100-42-5	Styrene	1	U
1330-20-7	Xylenes (total)	1	U
541-73-1	1,3-Dichlorobenzene	1	U
106-46-7	1,4-Dichlorobenzene	1	U
95-50-1	1,2-Dichlorobenzene	1	U
96-12-8	1,2-Dibromo-3-chloropropane	1	U
120-82-1	1,2,4-Trichlorobenzene	1	U

1LCE

LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

EDCJ8

Lab Name: ENVIROSYSTEMS Contract: 68-D7-0005

Lab Code: ENVSYS Case No.: 27876 SAS No.: SDG No.: EDCJ8

Lab Sample ID: 00030902 Date Received: 03/17/00

Lab File ID: 030902 Date Analyzed: 03/22/00

Purge Volume: 25.00 (ml) Dilution Factor: 1.0

GC Column: RTX-502.2 ID: 0.530 (mm) Length: 105 (m)

Number TICs found: 0

CAS NUMBER	COMPOUND NAME	RT	EST. CONC. (ug/L)	Q

1LCB

LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EDCJ8

Lab Name: ENVIROSYSTEMS Contract: 68-D7-0005

Lab Code: ENVSYS Case No.: 27876 SAS No.: SDG No.: EDCJ8

Lab Sample ID: 00030902 Date Received: 03/17/00

Lab File ID: S030902 Date Extracted: 03/22/00

Sample volume: 1000 (ml) Date Analyzed: 03/28/00

Concentrated Extract Volume: 1000 (ul) Dilution Factor: 1.0

Injection Volume: 1.0 (ul) pH: 7.0

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
108-95-2	Phenol	5	U
111-44-4	bis(2-Chloroethyl)Ether	5	U
95-57-8	2-Chlorophenol	5	U
95-48-7	2-Methylphenol	5	U
108-60-1	2,2'-oxybis(1-Chloropropane)	5	U
106-44-5	4-Methylphenol	5	U
621-64-7	N-Nitroso-Di-n-Propylamine	5	U
67-72-1	Hexachloroethane	5	U
98-95-3	Nitrobenzene	5	U
78-59-1	Isophorone	5	U
88-75-5	2-Nitrophenol	5	U
105-67-9	2,4-Dimethylphenol	5	U
111-91-1	bis(2-Chloroethoxy)Methane	5	U
120-83-2	2,4-Dichlorophenol	5	U
91-20-3	Naphthalene	5	U
106-47-8	4-Chloroaniline	5	U
87-68-3	Hexachlorobutadiene	5	U
59-50-7	4-Chloro-3-Methylphenol	5	U
91-57-6	2-Methylnaphthalene	5	U
77-47-4	Hexachlorocyclopentadiene	5	U
88-06-2	2,4,6-Trichlorophenol	5	U
95-95-4	2,4,5-Trichlorophenol	20	U
91-58-7	2-Chloronaphthalene	5	U
88-74-4	2-Nitroaniline	20	U
131-11-3	Dimethylphthalate	5	U
208-96-8	Acenaphthylene	5	U
606-20-2	2,6-Dinitrotoluene	5	U
99-09-2	3-Nitroaniline	20	U
83-32-9	Acenaphthene	5	U

0 0360

1LCC

LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EDCJ8

Lab Name: ENVIROSYSTEMS Contract: 68-D7-0005

Lab Code: ENVSYS Case No.: 27876 SAS No.: SDG No.: EDCJ8

Lab Sample ID: 00030902 Date Received: 03/17/00

Lab File ID: S030902 Date Extracted: 03/22/00

Sample volume: 1000 (ml) Date Analyzed: 03/28/00

Concentrated Extract Volume: 1000 (ul) Dilution Factor: 1.0

Injection Volume: 1.0 (ul) pH: 7.0

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
51-28-5	2,4-Dinitrophenol	20	U
100-02-7	4-Nitrophenol	20	U
132-64-9	Dibenzofuran	5	U
121-14-2	2,4-Dinitrotoluene	5	U
84-66-2	Diethylphthalate	5	U
7005-72-3	4-Chlorophenyl-phenylether	5	U
86-73-7	Fluorene	5	U
100-01-6	4-Nitroaniline	20	U
534-52-1	4,6-Dinitro-2-methylphenol	20	U
86-30-6	N-Nitrosodiphenylamine (1)	5	U
101-55-3	4-Bromophenyl-phenylether	5	U
118-74-1	Hexachlorobenzene	5	U
87-86-5	Pentachlorophenol	20	U
85-01-8	Phenanthrene	5	U
120-12-7	Anthracene	5	U
84-74-2	Di-n-Butylphthalate	5	U
206-44-0	Fluoranthene	5	U
129-00-0	Pyrene	5	U
85-68-7	Butylbenzylphthalate	5	U
91-94-1	3,3'-Dichlorobenzidine	5	U
56-55-3	Benzo(a)Anthracene	5	U
218-01-9	Chrysene	5	U
117-81-7	bis(2-Ethylhexyl)Phthalate	5	U
117-84-0	Di-n-octylphthalate	5	U
205-99-2	Benzo(b)Fluoranthene	5	U
207-08-9	Benzo(k)Fluoranthene	5	U
50-32-8	Benzo(a)Pyrene	5	U
193-39-5	Indeno(1,2,3-cd)Pyrene	5	U
53-70-3	Dibenz(a,h)Anthracene	5	U
191-24-2	Benzo(g,h,i)Perylene	5	U

(1) - Cannot be separated from Diphenylamine

1LCF

LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

EDCJ8

Lab Name: ENVIROSYSTEMS Contract: 68-D7-0005

Lab Code: ENVSYS Case No.: 27876 SAS No.: SDG No.: EDCJ8

Lab Sample ID: 00030902 Date Received: 03/17/00

Lab File ID: S030902 Date Extracted: 03/22/00

Sample volume: 1000 (ml) Date Analyzed: 03/28/00

Concentrated Extract Volume: 1000 (ul) Dilution Factor: 1.0

Injection Volume: 1.0 (ul) pH: 7.0

Number TICs found: 0

CAS NUMBER	COMPOUND NAME	RT	EST. CONC. (ug/L)	Q

EPA CRL - REGION V
ICP FINAL RESULTS REPORT

REPORT PRODUCED ON: 22-Mar-00

SAMPLE ORGANIZATION:

SAMPLE BATCH ID: 20000024

LABORATORY: REGION 5 CRL

SAMPLE FACILITY: Himco Dump

SAMPLE: 2000SY01S05

ANALYZED: 21-Mar-00

STATION: 54215 Westwood

COMPOUND	AMOUNT		(Units)
Aluminum	26 U		(ug/L)
Barium	32.8		(ug/L)
Beryllium	1.6 U	J	(ug/L)
Calcium	91800	J	(ug/L)
Chromium	3.4 U	J	(ug/L)
Cobalt	10.1 U		(ug/L)
Copper	14.2 M		(ug/L)
Iron	22.4 U		(ug/L)
Magnesium	19800	J	(ug/L)
Manganese	3.2 U		(ug/L)
Nickel	21.4 M		(ug/L)
Potassium	4650		(ug/L)
Silver	6.8 U		(ug/L)
Sodium	126000		(ug/L)
Vanadium	3.9 U		(ug/L)
Zinc	96.5	J	(ug/L)

ANALYZED BY: [signature] 3-22-00

ILCA

LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO

EDCK6

Lab Name: ENVIROSYSTEMS Contract: 68-D7-0005

Lab Code: ENVSYS Case No.: 27876 SAS No.: SDG No.: EDCJ8

Lab Sample ID: 00030909 Date Received: 03/17/00

Lab File ID: 030909 Date Analyzed: 03/22/00

Purge Volume: 25.00 (ml) Dilution Factor: 1.0

GC Column: RTX-502.2 ID: 0.530 (mm) Length: 105 (m)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
74-87-3	Chloromethane	1	U
74-83-9	Bromomethane	1	U
75-01-4	Vinyl chloride	1	U
75-00-3	Chloroethane	1	U
75-09-2	Methylene chloride	2	U
67-64-1	Acetone	5	U
75-15-0	Carbon disulfide	1	U
75-35-4	1,1-Dichloroethene	1	U
75-34-3	1,1-Dichloroethane	1	U
156-59-2	cis-1,2-Dichloroethene	1	U
156-60-5	trans-1,2-Dichloroethene	1	U
67-66-3	Chloroform	1	U
107-06-2	1,2-Dichloroethane	1	U
78-93-3	2-Butanone	5	U
74-97-5	Bromochloromethane	1	U
71-55-6	1,1,1-Trichloroethane	1	U
56-23-5	Carbon tetrachloride	1	U
75-27-4	Bromodichloromethane	1	U
78-87-5	1,2-Dichloropropane	1	U
10061-01-5	cis-1,3-Dichloropropene	1	U
79-01-6	Trichloroethene	1	U
124-48-1	Dibromochloromethane	1	U
79-00-5	1,1,2-Trichloroethane	1	U
71-43-2	Benzene	1	U
10061-02-6	trans-1,3-Dichloropropene	1	U
75-25-2	Bromoform	1	U
108-10-1	4-Methyl-2-pentanone	5	U
591-78-6	2-Hexanone	5	U
127-18-4	Tetrachloroethene	1	U
79-34-5	1,1,2,2-Tetrachloroethane	1	U
106-93-4	1,2-Dibromoethane	1	U
108-88-3	Toluene	1	U
108-90-7	Chlorobenzene	1	U
100-41-4	Ethylbenzene	1	U
100-42-5	Styrene	1	U
1330-20-7	Xylenes (total)	1	U
541-73-1	1,3-Dichlorobenzene	1	U
106-46-7	1,4-Dichlorobenzene	1	U
95-50-1	1,2-Dichlorobenzene	1	U
96-12-8	1,2-Dibromo-3-chloropropane	1	U
120-82-1	1,2,4-Trichlorobenzene	1	U

LOW LEVEL WATER VOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

EDCK6

Lab Name: ENVIROSYSTEMS Contract: 68-D7-0005

Lab Code: ENVSYS Case No.: 27876 SAS No.: SDG No.: EDCJ8

Lab Sample ID: 00030909 Date Received: 03/17/00

Lab File ID: 030909 Date Analyzed: 03/22/00

Purge Volume: 25.00 (ml) Dilution Factor: 1.0

GC Column: RTX-502.2 ID: 0.530 (mm) Length: 105 (m)

Number TICs found: 0

CAS NUMBER	COMPOUND NAME	RT	EST. CONC. (ug/L)	Q

1LCB

LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO

EDCK6

Lab Name: ENVIROSYSTEMS Contract: 68-D7-0005

Lab Code: ENVSYS Case No.: 27876 SAS No.: SDG No.: EDCJ8

Lab Sample ID: 00030909 Date Received: 03/17/00

Lab File ID: S030909 Date Extracted: 03/23/00

Sample volume: 1000 (ml) Date Analyzed: 03/29/00

Concentrated Extract Volume: 1000 (ul) Dilution Factor: 1.0

Injection Volume: 1.0 (ul) pH: 6.0

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
108-95-2	Phenol	5	U
111-44-4	bis(2-Chloroethyl)Ether	5	U
95-57-8	2-Chlorophenol	5	U
95-48-7	2-Methylphenol	5	U
108-60-1	2,2'-oxybis(1-Chloropropane)	5	U
106-44-5	4-Methylphenol	5	U
621-64-7	N-Nitroso-Di-n-Propylamine	5	U
67-72-1	Hexachloroethane	5	U
98-95-3	Nitrobenzene	5	U
78-59-1	Isophorone	5	U
88-75-5	2-Nitrophenol	5	U
105-67-9	2,4-Dimethylphenol	5	U
111-91-1	bis(2-Chloroethoxy)Methane	5	U
120-83-2	2,4-Dichlorophenol	5	U
91-20-3	Naphthalene	5	U
106-47-8	4-Chloroaniline	5	U
87-68-3	Hexachlorobutadiene	5	U
59-50-7	4-Chloro-3-Methylphenol	5	U
91-57-6	2-Methylnaphthalene	5	U
77-47-4	Hexachlorocyclopentadiene	5	U
88-06-2	2,4,6-Trichlorophenol	5	U
95-95-4	2,4,5-Trichlorophenol	20	U
91-58-7	2-Chloronaphthalene	5	U
88-74-4	2-Nitroaniline	20	U
131-11-3	Dimethylphthalate	5	U
208-96-8	Acenaphthylene	5	U
606-20-2	2,6-Dinitrotoluene	5	U
99-09-2	3-Nitroaniline	20	U
83-32-9	Acenaphthene	5	U

1LCC

LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EDCK6

Lab Name: ENVIROSYSTEMS Contract: 68-D7-0005

Lab Code: ENVSYS Case No.: 27876 SAS No.: SDG No.: EDCJ8

Lab Sample ID: 00030909 Date Received: 03/17/00

Lab File ID: S030909 Date Extracted: 03/23/00

Sample volume: 1000 (ml) Date Analyzed: 03/29/00

Concentrated Extract Volume: 1000 (ul) Dilution Factor: 1.0

Injection Volume: 1.0 (ul) pH: 6.0

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
51-28-5	2,4-Dinitrophenol	20	U
100-02-7	4-Nitrophenol	20	U
132-64-9	Dibenzofuran	5	U
121-14-2	2,4-Dinitrotoluene	5	U
84-66-2	Diethylphthalate	5	U
7005-72-3	4-Chlorophenyl-phenylether	5	U
86-73-7	Fluorene	5	U
100-01-6	4-Nitroaniline	20	U
534-52-1	4,6-Dinitro-2-methylphenol	20	U
86-30-6	N-Nitrosodiphenylamine (1)	5	U
101-55-3	4-Bromophenyl-phenylether	5	U
118-74-1	Hexachlorobenzene	5	U
87-86-5	Pentachlorophenol	20	U
85-01-8	Phenanthrene	5	U
120-12-7	Anthracene	5	U
84-74-2	Di-n-Butylphthalate	5	U
206-44-0	Fluoranthene	5	U
129-00-0	Pyrene	5	U
85-68-7	Butylbenzylphthalate	5	U
91-94-1	3,3'-Dichlorobenzidine	5	U
56-55-3	Benzo(a)Anthracene	5	U
218-01-9	Chrysene	5	U
117-81-7	bis(2-Ethylhexyl)Phthalate	5	U
117-84-0	Di-n-octylphthalate	5	U
205-99-2	Benzo(b)Fluoranthene	5	U
207-08-9	Benzo(k)Fluoranthene	5	U
50-32-8	Benzo(a)Pyrene	5	U
193-39-5	Indeno(1,2,3-cd)Pyrene	5	U
53-70-3	Dibenz(a,h)Anthracene	5	U
191-24-2	Benzo(g,h,i)Perylene	5	U

(1) - Cannot be separated from Diphenylamine

020465

1LCF

LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

EDCK6

Lab Name: ENVIROSYSTEMS Contract: 68-D7-0005

Lab Code: ENVSYS Case No.: 27876 SAS No.: SDG No.: EDCJ8

Lab Sample ID: 00030909 Date Received: 03/17/00

Lab File ID: S030909 Date Extracted: 03/23/00

Sample volume: 1000 (ml) Date Analyzed: 03/29/00

Concentrated Extract Volume: 1000 (ul) Dilution Factor: 1.0

Injection Volume: 1.0 (ul) pH: 6.0

Number TICs found: 0

CAS NUMBER	COMPOUND NAME	RT	EST. CONC. (ug/L)	Q

EPA CRL - REGION V
ICP FINAL RESULTS REPORT

REPORT PRODUCED ON: 22-Mar-00

SAMPLE ORGANIZATION:

SAMPLE BATCH ID: 20000024

LABORATORY: REGION 5 CRL

SAMPLE FACILITY: Himco Dump

SAMPLE: 2000SY01S04

ANALYZED: 21-Mar-00

STATION: 54271 Westwood

COMPOUND	AMOUNT			(Units)
Aluminum	26	U		(ug/L)
Barium	50.4			(ug/L)
Beryllium	1.6	U	J	(ug/L)
Calcium	101000		J	(ug/L)
Chromium	3.4	U	J	(ug/L)
Cobalt	10.1	U		(ug/L)
Copper	7.3	M		(ug/L)
Iron	104		B J	(ug/L)
Magnesium	21700			(ug/L)
Manganese	359			(ug/L)
Nickel	19.4	U		(ug/L)
Potassium	1790			(ug/L)
Silver	6.8	U		(ug/L)
Sodium	22600			(ug/L)
Vanadium	3.9	U		(ug/L)
Zinc	17.4	M	J	(ug/L)

ANALYZED BY: 3-22-00

LOW CONC WATER VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EDCK0

Lab Name: ENVIROSYSTEMS Contract: 68-D7-0005

Lab Code: ENVSYS Case No.: 27876 SAS No.: SDG No.: EDCJ8

Lab Sample ID: 00030903 Date Received: 03/17/00

Lab File ID: 030903 Date Analyzed: 03/22/00

Purge Volume: 25.00 (ml) Dilution Factor: 1.0

GC Column: RTX 502.2 ID: 0.530 (mm) Length: 105 (m)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
74-87-3	Chloromethane	1	U
74-83-9	Bromomethane	1	U
75-01-4	Vinyl chloride	1	U
75-00-3	Chloroethane	1	U
75-09-2	Methylene chloride	2	U
67-64-1	Acetone	5	U
75-15-0	Carbon disulfide	1	U
75-35-4	1,1-Dichloroethene	1	U
75-34-3	1,1-Dichloroethane	0.6	J
156-59-2	cis-1,2-Dichloroethene	1	U
156-60-5	trans-1,2-Dichloroethene	1	U
67-66-3	Chloroform	1	U
107-06-2	1,2-Dichloroethane	1	U
78-93-3	2-Butanone	5	U
74-97-5	Bromochloromethane	1	U
71-55-6	1,1,1-Trichloroethane	1	U
56-23-5	Carbon tetrachloride	1	U
75-27-4	Bromodichloromethane	1	U
78-87-5	1,2-Dichloropropane	1	U
10061-01-5	cis-1,3-Dichloropropene	1	U
79-01-6	Trichloroethene	1	U
124-48-1	Dibromochloromethane	1	U
79-00-5	1,1,2-Trichloroethane	1	U
71-43-2	Benzene	1	U
10061-02-6	trans-1,3-Dichloropropene	1	U
75-25-2	Bromoform	1	U
108-10-1	4-Methyl-2-pentanone	5	U
591-78-6	2-Hexanone	5	U
127-18-4	Tetrachloroethene	1	U
79-34-5	1,1,2,2-Tetrachloroethane	1	U
106-93-4	1,2-Dibromoethane	1	U
108-88-3	Toluene	1	U
108-90-7	Chlorobenzene	1	U
100-41-4	Ethylbenzene	1	U
100-42-5	Styrene	1	U
1330-20-7	Xylenes (total)	1	U
541-73-1	1,3-Dichlorobenzene	1	U
106-46-7	1,4-Dichlorobenzene	1	U
95-50-1	1,2-Dichlorobenzene	1	U
96-12-8	1,2-Dibromo-3-chloropropane	1	U
120-82-1	1,2,4-Trichlorobenzene	1	U

1LCB

LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EDCKO

Lab Name: ENVIROSYSTEMS Contract: 68-D7-0005

Lab Code: ENVSYS Case No.: 27876 SAS No.: SDG No.: EDCJ8

Lab Sample ID: 00030903 Date Received: 03/17/00

Lab File ID: S030903 Date Extracted: 03/22/00

Sample volume: 1000 (ml) Date Analyzed: 03/28/00

Concentrated Extract Volume: 1000 (ul) Dilution Factor: 1.0

Injection Volume: 1.0 (ul) pH: 7.0

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
108-95-2	Phenol	5	U
111-44-4	bis(2-Chloroethyl)Ether	5	U
95-57-8	2-Chlorophenol	5	U
95-48-7	2-Methylphenol	5	U
108-60-1	2,2'-oxybis(1-Chloropropane)	5	U
106-44-5	4-Methylphenol	5	U
621-64-7	N-Nitroso-Di-n-Propylamine	5	U
67-72-1	Hexachloroethane	5	U
98-95-3	Nitrobenzene	5	U
78-59-1	Isophorone	5	U
88-75-5	2-Nitrophenol	5	U
105-67-9	2,4-Dimethylphenol	5	U
111-91-1	bis(2-Chloroethoxy)Methane	5	U
120-83-2	2,4-Dichlorophenol	5	U
91-20-3	Naphthalene	5	U
106-47-8	4-Chloroaniline	5	U
87-68-3	Hexachlorobutadiene	5	U
59-50-7	4-Chloro-3-Methylphenol	5	U
91-57-6	2-Methylnaphthalene	5	U
77-47-4	Hexachlorocyclopentadiene	5	U
88-06-2	2,4,6-Trichlorophenol	5	U
95-95-4	2,4,5-Trichlorophenol	20	U
91-58-7	2-Chloronaphthalene	5	U
88-74-4	2-Nitroaniline	20	U
131-11-3	Dimethylphthalate	5	U
208-96-8	Acenaphthylene	5	U
606-20-2	2,6-Dinitrotoluene	5	U
99-09-2	3-Nitroaniline	20	U
83-32-9	Acenaphthene	5	U

0 0386

1LCC

LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EDCK0

Lab Name: ENVIROSYSTEMS Contract: 68-D7-0005

Lab Code: ENVSYS Case No.: 27876 SAS No.: SDG No.: EDCJ8

Lab Sample ID: 00030903 Date Received: 03/17/00

Lab File ID: S030903 Date Extracted: 03/22/00

Sample volume: 1000 (ml) Date Analyzed: 03/28/00

Concentrated Extract Volume: 1000 (ul) Dilution Factor: 1.0

Injection Volume: 1.0 (ul) pH: 7.0

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
51-28-5	2,4-Dinitrophenol	20	U
100-02-7	4-Nitrophenol	20	U
132-64-9	Dibenzofuran	5	U
121-14-2	2,4-Dinitrotoluene	5	U
84-66-2	Diethylphthalate	5	U
7005-72-3	4-Chlorophenyl-phenylether	5	U
86-73-7	Fluorene	5	U
100-01-6	4-Nitroaniline	20	U
534-52-1	4,6-Dinitro-2-methylphenol	20	U
86-30-6	N-Nitrosodiphenylamine (1)	5	U
101-55-3	4-Bromophenyl-phenylether	5	U
118-74-1	Hexachlorobenzene	5	U
87-86-5	Pentachlorophenol	20	U
85-01-8	Phenanthrene	5	U
120-12-7	Anthracene	5	U
84-74-2	Di-n-Butylphthalate	5	U
206-44-0	Fluoranthene	5	U
129-00-0	Pyrene	5	U
85-68-7	Butylbenzylphthalate	5	U
91-94-1	3,3'-Dichlorobenzidine	5	U
56-55-3	Benzo(a)Anthracene	5	U
218-01-9	Chrysene	5	U
117-81-7	bis(2-Ethylhexyl)Phthalate	5	U
117-84-0	Di-n-octylphthalate	5	U
205-99-2	Benzo(b)Fluoranthene	5	U
207-08-9	Benzo(k)Fluoranthene	5	U
50-32-8	Benzo(a)Pyrene	5	U
193-39-5	Indeno(1,2,3-cd)Pyrene	5	U
53-70-3	Dibenz(a,h)Anthracene	5	U
191-24-2	Benzo(g,h,i)Perylene	5	U

(1) - Cannot be separated from Diphenylamine

1LCF

LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

EDCK0

Lab Name: ENVIROSYSTEMS Contract: 68-D7-0005

Lab Code: ENVSYS Case No.: 27876 SAS No.: SDG No.: EDCJ8

Lab Sample ID: 00030903 Date Received: 03/17/00

Lab File ID: S030903 Date Extracted: 03/22/00

Sample volume: 1000 (ml) Date Analyzed: 03/28/00

Concentrated Extract Volume: 1000 (ul) Dilution Factor: 1.0

Injection Volume: 1.0 (ul) pH: 7.0

Number TICs found: 0

CAS NUMBER	COMPOUND NAME	RT	EST. CONC. (ug/L)	Q

0.0388

EPA CRL - REGION V
ICP FINAL RESULTS REPORT

REPORT PRODUCED ON: 22-Mar-00

SAMPLE ORGANIZATION:

SAMPLE BATCH ID: 20000024

LABORATORY: REGION 5 CRL

SAMPLE FACILITY: Himco Dump

SAMPLE: 2000SY01S03

ANALYZED: 21-Mar-00

STATION: 54253 Westwood

COMPOUND	AMOUNT	(Units)
Aluminum	26 U	(ug/L)
Barium	128	(ug/L)
Beryllium	1.6 U J	(ug/L)
Calcium	91500 J	(ug/L)
Chromium	3.4 U J	(ug/L)
Cobalt	10.1 U	(ug/L)
Copper	7.3 M	(ug/L)
Iron	1670	(ug/L)
Magnesium	26500	(ug/L)
Manganese	213	(ug/L)
Nickel	19.4 U	(ug/L)
Potassium	1330	(ug/L)
Silver	6.8 U	(ug/L)
Sodium	14500	(ug/L)
Vanadium	3.9 U	(ug/L)
Zinc	44.3 M J	(ug/L)

ANALYZED BY: _____ 3-22-00

1LCA

LOW CONC WATER VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO

EDCK1

Lab Name: ENVIROSYSTEMS Contract: 68-D7-0005

Lab Code: ENVSYS Case No.: 27876 SAS No.: SDG No.: EDCJ8

Lab Sample ID: 00030904 Date Received: 03/17/00

Lab File ID: 030904 Date Analyzed: 03/22/00

Purge Volume: 25.00 (ml) Dilution Factor: 1.0

GC Column: RTX-502.2 ID: 0.530 (mm) Length: 105 (m)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
74-87-3	Chloromethane	1	U
74-83-9	Bromomethane	1	U
75-01-4	Vinyl chloride	1	U
75-00-3	Chloroethane	1	U
75-09-2	Methylene chloride	2	U
67-64-1	Acetone	5	U
75-15-0	Carbon disulfide	1	U
75-35-4	1,1-Dichloroethene	1	U
75-34-3	1,1-Dichloroethane	1	U
156-59-2	cis-1,2-Dichloroethene	1	U
156-60-5	trans-1,2-Dichloroethene	1	U
67-66-3	Chloroform	1	U
107-06-2	1,2-Dichloroethane	0.6	J
78-93-3	2-Butanone	5	U
74-97-5	Bromochloromethane	1	U
71-55-6	1,1,1-Trichloroethane	1	U
56-23-5	Carbon tetrachloride	1	U
75-27-4	Bromodichloromethane	1	U
78-87-5	1,2-Dichloropropane	1	U
10061-01-5	cis-1,3-Dichloropropene	1	U
79-01-6	Trichloroethene	1	U
124-48-1	Dibromochloromethane	1	U
79-00-5	1,1,2-Trichloroethane	1	U
71-43-2	Benzene	1	U
10061-02-6	trans-1,3-Dichloropropene	1	U
75-25-2	Bromoform	1	U
108-10-1	4-Methyl-2-pentanone	5	U
591-78-6	2-Hexanone	5	U
127-18-4	Tetrachloroethene	1	U
79-34-5	1,1,2,2-Tetrachloroethane	1	U
106-93-4	1,2-Dibromoethane	1	U
108-88-3	Toluene	1	U
108-90-7	Chlorobenzene	1	U
100-41-4	Ethylbenzene	1	U
100-42-5	Styrene	1	U
1330-20-7	Xylenes (total)	1	U
541-73-1	1,3-Dichlorobenzene	1	U
106-46-7	1,4-Dichlorobenzene	1	U
95-50-1	1,2-Dichlorobenzene	1	U
96-12-8	1,2-Dibromo-3-chloropropane	1	U
120-82-1	1,2,4-Trichlorobenzene	1	U

ILCB

LOW CONC WATER VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

EDCK1

Lab Name: ENVIROSYSTEMS Contract: 68-D7-0005

Lab Code: ENVSYS Case No.: 27876 SAS No.: SDG No.: EDCJ8

Lab Sample ID: 00030904 Date Received: 03/17/00

Lab File ID: 030904 Date Analyzed: 03/22/00

Purge Volume: 25.00 (ml) Dilution Factor: 1.0

GC Column: RTX-502.2 ID: 0.530 (mm) Length: 105 (m)

Number TICs found: 0

CAS NUMBER	COMPOUND NAME	RT	EST. CONC. (ug/L)	Q

ILCB

LOW CONC WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EDCK1

Lab Name: ENVIROSYSTEMS Contract: 68-D7-0005

Lab Code: ENVSYS Case No.: 27876 SAS No.: SDG No.: EDCJ8

Lab Sample ID: 00030904 Date Received: 03/17/00

Lab File ID: S030904 Date Extracted: 03/22/00

Sample volume: 1000 (ml) Date Analyzed: 03/28/00

Concentrated Extract Volume: 1000 (ul) Dilution Factor: 1.0

Injection Volume: 1.0 (ul) pH: 6.0

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
108-95-2	Phenol	5	U
111-44-4	bis(2-Chloroethyl)Ether	5	U
95-57-8	2-Chlorophenol	5	U
95-48-7	2-Methylphenol	5	U
108-60-1	2,2'-oxybis(1-Chloropropane)	5	U
106-44-5	4-Methylphenol	5	U
621-64-7	N-Nitroso-Di-n-Propylamine	5	U
67-72-1	Hexachloroethane	5	U
98-95-3	Nitrobenzene	5	U
78-59-1	Isophorone	5	U
88-75-5	2-Nitrophenol	5	U
105-67-9	2,4-Dimethylphenol	5	U
111-91-1	bis(2-Chloroethoxy)Methane	5	U
120-83-2	2,4-Dichlorophenol	5	U
91-20-3	Naphthalene	5	U
106-47-8	4-Chloroaniline	5	U
87-68-3	Hexachlorobutadiene	5	U
59-50-7	4-Chloro-3-Methylphenol	5	U
91-57-6	2-Methylnaphthalene	5	U
77-47-4	Hexachlorocyclopentadiene	5	U
88-06-2	2,4,6-Trichlorophenol	5	U
95-95-4	2,4,5-Trichlorophenol	20	U
91-58-7	2-Chloronaphthalene	5	U
88-74-4	2-Nitroaniline	20	U
131-11-3	Dimethylphthalate	5	U
208-96-8	Acenaphthylene	5	U
606-20-2	2,6-Dinitrotoluene	5	U
99-09-2	3-Nitroaniline	20	U
83-32-9	Acenaphthene	5	U

1LCC

LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EDCK1

Lab Name: ENVIROSYSTEMS Contract: 68-D7-0005

Lab Code: ENVSYS Case No.: 27876 SAS No.: SDG No.: EDCJ8

Lab Sample ID: 00030904 Date Received: 03/17/00

Lab File ID: S030904 Date Extracted: 03/22/00

Sample volume: 1000 (ml) Date Analyzed: 03/28/00

Concentrated Extract Volume: 1000 (ul) Dilution Factor: 1.0

Injection Volume: 1.0 (ul) pH: 6.0

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
51-28-5	2,4-Dinitrophenol	20	U
100-02-7	4-Nitrophenol	20	U
132-64-9	Dibenzofuran	5	U
121-14-2	2,4-Dinitrotoluene	5	U
84-66-2	Diethylphthalate	5	U
7005-72-3	4-Chlorophenyl-phenylether	5	U
86-73-7	Fluorene	5	U
100-01-6	4-Nitroaniline	20	U
534-52-1	4,6-Dinitro-2-methylphenol	20	U
86-30-6	N-Nitrosodiphenylamine (1)	5	U
101-55-3	4-Bromophenyl-phenylether	5	U
118-74-1	Hexachlorobenzene	5	U
87-86-5	Pentachlorophenol	20	U
85-01-8	Phenanthrene	5	U
120-12-7	Anthracene	5	U
84-74-2	Di-n-Butylphthalate	5	U
206-44-0	Fluoranthene	5	U
129-00-0	Pyrene	5	U
85-68-7	Butylbenzylphthalate	5	U
91-94-1	3,3'-Dichlorobenzidine	5	U
56-55-3	Benzo(a)Anthracene	5	U
218-01-9	Chrysene	5	U
117-81-7	bis(2-Ethylhexyl)Phthalate	5	U
117-84-0	Di-n-octylphthalate	5	U
205-99-2	Benzo(b)Fluoranthene	5	U
207-08-9	Benzo(k)Fluoranthene	5	U
50-32-8	Benzo(a)Pyrene	5	U
193-39-5	Indeno(1,2,3-cd)Pyrene	5	U
53-70-3	Dibenz(a,h)Anthracene	5	U
191-24-2	Benzo(g,h,i)Perylene	5	U

(1) - Cannot be separated from Diphenylamine

EPA CRL - REGION V
ICP FINAL RESULTS REPORT

REPORT PRODUCED ON: 22-Mar-00

SAMPLE ORGANIZATION:

SAMPLE BATCH ID: 20000024

LABORATORY: REGION 5 CRL

SAMPLE FACILITY: Himco Dump

SAMPLE: 2000SY01S13

ANALYZED: 21-Mar-00

STATION: 54125 Westwood

COMPOUND	AMOUNT			(Units)
Aluminum	26	U		(ug/L)
Barium	108			(ug/L)
Beryllium	1.6	U	J	(ug/L)
Calcium	100000		J	(ug/L)
Chromium	3.6	M	J	(ug/L)
Cobalt	10.1	U		(ug/L)
Copper	5.8	M		(ug/L)
Iron	885			(ug/L)
Magnesium	21500			(ug/L)
Manganese	284			(ug/L)
Nickel	19.4	U		(ug/L)
Potassium	1790			(ug/L)
Silver	6.8	U		(ug/L)
Sodium	17600			(ug/L)
Vanadium	3.9	U		(ug/L)
Zinc	10.3	U		(ug/L)

ANALYZED BY: 3-22-00

1LCA

LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EDCJ4

Lab Name: ENVIROSYSTEMS Contract: 68-D7-0005

Lab Code: ENVSYS Case No.: 27876 SAS No.: SDG No.: EDCJ8

Lab Sample ID: 00030920 Date Received: 03/18/00

Lab File ID: 030920 Date Analyzed: 03/22/00

Purge Volume: 25.00 (ml) Dilution Factor: 1.0

GC Column: RTX-502.2 ID: 0.530 (mm) Length: 105 (m)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
74-87-3	Chloromethane	1	U
74-83-9	Bromomethane	1	U
75-01-4	Vinyl chloride	1	U
75-00-3	Chloroethane	1	U
75-09-2	Methylene chloride	2	U
67-64-1	Acetone	5	U
75-15-0	Carbon disulfide	1	U
75-35-4	1,1-Dichloroethene	1	U
75-34-3	1,1-Dichloroethane	1	U
156-59-2	cis-1,2-Dichloroethene	1	U
156-60-5	trans-1,2-Dichloroethene	1	U
67-66-3	Chloroform	1	U
107-06-2	1,2-Dichloroethane	1	U
78-93-3	2-Butanone	5	U
74-97-5	Bromochloromethane	1	U
71-55-6	1,1,1-Trichloroethane	1	U
56-23-5	Carbon tetrachloride	1	U
75-27-4	Bromodichloromethane	1	U
78-87-5	1,2-Dichloropropane	1	U
10061-01-5	cis-1,3-Dichloropropene	1	U
79-01-6	Trichloroethene	1	U
124-48-1	Dibromochloromethane	1	U
79-00-5	1,1,2-Trichloroethane	1	U
71-43-2	Benzene	1	U
10061-02-6	trans-1,3-Dichloropropene	1	U
75-25-2	Bromoform	1	U
108-10-1	4-Methyl-2-pentanone	5	U
591-78-6	2-Hexanone	5	U
127-18-4	Tetrachloroethene	1	U
79-34-5	1,1,2,2-Tetrachloroethane	1	U
106-93-4	1,2-Dibromoethane	1	U
108-88-3	Toluene	1	U
108-90-7	Chlorobenzene	1	U
100-41-4	Ethylbenzene	1	U
100-42-5	Styrene	1	U
1330-20-7	Xylenes (total)	1	U
541-73-1	1,3-Dichlorobenzene	1	U
106-46-7	1,4-Dichlorobenzene	1	U
95-50-1	1,2-Dichlorobenzene	1	U
96-12-8	1,2-Dibromo-3-chloropropane	1	U
120-82-1	1,2,4-Trichlorobenzene	1	U

1LCE

LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

EDCJ4

Lab Name: ENVIROSYSTEMS Contract: 68-D7-0005

Lab Code: ENVSYS Case No.: 27876 SAS No.: SDG No.: EDCJ8

Lab Sample ID: 00030920 Date Received: 03/18/00

Lab File ID: 030920 Date Analyzed: 03/22/00

Purge Volume: 25.00 (ml) Dilution Factor: 1.0

GC Column: RTX-502.2 ID: 0.530 (mm) Length: 105 (m)

Number TICs found: 0

CAS NUMBER	COMPOUND NAME	RT	EST. CONC. (ug/L)	Q

0 0026

1LCC

LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EDCJ4

Lab Name: ENVIROSYSTEMS Contract: 68-D7-0005

Lab Code: ENVSYS Case No.: 27876 SAS No.: SDG No.: EDCJ8

Lab Sample ID: 00030920 Date Received: 03/18/00

Lab File ID: S030920 Date Extracted: 03/23/00

Sample volume: 1000 (ml) Date Analyzed: 03/29/00

Concentrated Extract Volume: 1000 (ul) Dilution Factor: 1.0

Injection Volume: 1.0 (ul) pH: 7.0

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
51-28-5	2,4-Dinitrophenol	20	U
100-02-7	4-Nitrophenol	20	U
132-64-9	Dibenzofuran	5	U
121-14-2	2,4-Dinitrotoluene	5	U
84-66-2	Diethylphthalate	5	U
7005-72-3	4-Chlorophenyl-phenylether	5	U
86-73-7	Fluorene	5	U
100-01-6	4-Nitroaniline	20	U
534-52-1	4,6-Dinitro-2-methylphenol	20	U
86-30-6	N-Nitrosodiphenylamine (1)	5	U
101-55-3	4-Bromophenyl-phenylether	5	U
118-74-1	Hexachlorobenzene	5	U
87-86-5	Pentachlorophenol	20	U
85-01-8	Phenanthrene	5	U
120-12-7	Anthracene	5	U
84-74-2	Di-n-Butylphthalate	5	U
206-44-0	Fluoranthene	5	U
129-00-0	Pyrene	5	U
85-68-7	Butylbenzylphthalate	5	U
91-94-1	3,3'-Dichlorobenzidine	5	U
56-55-3	Benzo(a)Anthracene	5	U
218-01-9	Chrysene	5	U
117-81-7	bis(2-Ethylhexyl)Phthalate	5	U
117-84-0	Di-n-octylphthalate	5	U
205-99-2	Benzo(b)Fluoranthene	5	U
207-08-9	Benzo(k)Fluoranthene	5	U
50-32-8	Benzo(a)Pyrene	5	U
193-39-5	Indeno(1,2,3-cd)Pyrene	5	U
53-70-3	Dibenz(a,h)Anthracene	5	U
191-24-2	Benzo(g,h,i)Perylene	5	U

(1) - Cannot be separated from Diphenylamine

1LCB

LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EDCJ4

Lab Name: ENVIROSYSTEMS Contract: 68-D7-0005

Lab Code: ENVSYS Case No.: 27876 SAS No.: SDG No.: EDCJ8

Lab Sample ID: 00030920 Date Received: 03/18/00

Lab File ID: S030920 Date Extracted: 03/23/00

Sample Volume: 1000 (ml) Date Analyzed: 03/29/00

Concentrated Extract Volume: 1000 (ul) Dilution Factor: 1.0

Injection Volume: 1.0 (ul) pH: 7.0

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
108-95-2	Phenol	5	U
111-44-4	bis(2-Chloroethyl)Ether	5	U
95-57-8	2-Chlorophenol	5	U
95-48-7	2-Methylphenol	5	U
108-60-1	2,2'-oxybis(1-Chloropropane)	5	U
106-44-5	4-Methylphenol	5	U
621-64-7	N-Nitroso-Di-n-Propylamine	5	U
67-72-1	Hexachloroethane	5	U
98-95-3	Nitrobenzene	5	U
78-59-1	Isophorone	5	U
88-75-5	2-Nitrophenol	5	U
105-67-9	2,4-Dimethylphenol	5	U
111-91-1	bis(2-Chloroethoxy)Methane	5	U
120-83-2	2,4-Dichlorophenol	5	U
91-20-3	Naphthalene	5	U
106-47-8	4-Chloroaniline	5	U
87-68-3	Hexachlorobutadiene	5	U
59-50-7	4-Chloro-3-Methylphenol	5	U
91-57-6	2-Methylnaphthalene	5	U
77-47-4	Hexachlorocyclopentadiene	5	U
88-06-2	2,4,6-Trichlorophenol	5	U
95-95-4	2,4,5-Trichlorophenol	20	U
91-58-7	2-Chloronaphthalene	5	U
88-74-4	2-Nitroaniline	20	U
131-11-3	Dimethylphthalate	5	U
208-96-8	Acenaphthylene	5	U
606-20-2	2,6-Dinitrotoluene	5	U
99-09-2	3-Nitroaniline	20	U
83-32-9	Acenaphthene	5	U

0 0334

1LCF

LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

EDCJ4

Lab Name: ENVIROSYSTEMS Contract: 68-D7-0005

Lab Code: ENVSYS Case No.: 27876 SAS No.: SDG No.: EDCJ8

Lab Sample ID: 00030920 Date Received: 03/18/00

Lab File ID: S030920 Date Extracted: 03/23/00

Sample volume: 1000 (ml) Date Analyzed: 03/29/00

Concentrated Extract Volume: 1000 (ul) Dilution Factor: 1.0

Injection Volume: 1.0 (ul) pH: 7.0

Number TICs found: 0

CAS NUMBER	COMPOUND NAME	RT	EST. CONC. (ug/L)	Q

EPA CRL - REGION V
ICP FINAL RESULTS REPORT

REPORT PRODUCED ON: 22-Mar-00

SAMPLE ORGANIZATION:

SAMPLE BATCH ID: 20000024

LABORATORY: REGION 5 CRL

SAMPLE FACILITY: Himco Dump

SAMPLE: 2000SY01S12

ANALYZED: 21-Mar-00

STATION: 54287 Westwood

COMPOUND	AMOUNT			(Units)
Aluminum	26	U		(ug/L)
Barium	63.8			(ug/L)
Beryllium	1.6	U	J	(ug/L)
Calcium	93300		J	(ug/L)
Chromium	3.4	U	J	(ug/L)
Cobalt	10.5	M	J	(ug/L)
Copper	7.3	M		(ug/L)
Iron	5050			(ug/L)
Magnesium	21500			(ug/L)
Manganese	63.1			(ug/L)
Nickel	19.4	U		(ug/L)
Potassium	1150			(ug/L)
Silver	6.8	U		(ug/L)
Sodium	14900			(ug/L)
Vanadium	3.9	U		(ug/L)
Zinc	18.9	M	J	(ug/L)

ANALYZED BY: [signature] 3-22-00

1LCA

LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EDCJ5

Lab Name: ENVIROSYSTEMS Contract: 68-D7-0005

Lab Code: ENVSYS Case No.: 27876 SAS No.: SDG No.: EDCJ8

Lab Sample ID: 00030921 Date Received: 03/18/00

Lab File ID: 030921 Date Analyzed: 03/22/00

Purge Volume: 25.00 (ml) Dilution Factor: 1.0

GC Column: RTX-502.2 ID: 0.530 (mm) Length: 105 (m)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
74-87-3	Chloromethane	1	U
74-83-9	Bromomethane	1	U
75-01-4	Vinyl chloride	1	U
75-00-3	Chloroethane	1	U
75-09-2	Methylene chloride	2	U
67-64-1	Acetone	5	U
75-15-0	Carbon disulfide	1	U
75-35-4	1,1-Dichloroethene	1	U
75-34-3	1,1-Dichloroethane	7	
156-59-2	cis-1,2-Dichloroethene	0.5	J
156-60-5	trans-1,2-Dichloroethene	1	U
67-66-3	Chloroform	1	U
107-06-2	1,2-Dichloroethane	0.7	J
78-93-3	2-Butanone	5	U
74-97-5	Bromochloromethane	1	U
71-55-6	1,1,1-Trichloroethane	1	U
56-23-5	Carbon tetrachloride	1	U
75-27-4	Bromodichloromethane	1	U
78-87-5	1,2-Dichloropropane	1	U
10061-01-5	cis-1,3-Dichloropropene	1	U
79-01-6	Trichloroethene	1	U
124-48-1	Dibromochloromethane	1	U
79-00-5	1,1,2-Trichloroethane	1	U
71-43-2	Benzene	0.4	J
10061-02-6	trans-1,3-Dichloropropene	1	U
75-25-2	Bromoform	1	U
108-10-1	4-Methyl-2-pentanone	5	U
591-78-6	2-Hexanone	5	U
127-18-4	Tetrachloroethene	1	U
79-34-5	1,1,2,2-Tetrachloroethane	1	U
106-93-4	1,2-Dibromoethane	1	U
108-88-3	Toluene	1	U
108-90-7	Chlorobenzene	1	U
100-41-4	Ethylbenzene	1	U
100-42-5	Styrene	1	U
1330-20-7	Xylenes (total)	1	U
541-73-1	1,3-Dichlorobenzene	1	U
106-46-7	1,4-Dichlorobenzene	1	U
95-50-1	1,2-Dichlorobenzene	1	U
96-12-8	1,2-Dibromo-3-chloropropane	1	U
120-82-1	1,2,4-Trichlorobenzene	1	U

1LCE

LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

EDCJ5

Lab Name: ENVIROSYSTEMS Contract: 68-D7-0005

Lab Code: ENVSYS Case No.: 27876 SAS No.: SDG No.: EDCJ8

Lab Sample ID: 00030921 Date Received: 03/18/00

Lab File ID: 030921 Date Analyzed: 03/22/00

Purge Volume: 25.00 (ml) Dilution Factor: 1.0

GC Column: RTX-502.2 ID: 0.530 (mm) Length: 105 (m)

Number TICs found: 0

CAS NUMBER	COMPOUND NAME	RT	EST. CONC. (ug/L)	Q

1LCB

LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EDCJ5

Lab Name: ENVIROSYSTEMS Contract: 68-D7-0005

Lab Code: ENVSYS Case No.: 27876 SAS No.: SDG No.: EDCJ8

Lab Sample ID: 00030921 Date Received: 03/18/00

Lab File ID: S030921 Date Extracted: 03/23/00

Sample volume: 1000 (ml) Date Analyzed: 03/29/00

Concentrated Extract Volume: 1000 (ul) Dilution Factor: 1.0

Injection Volume: 1.0 (ul) pH: 7.0

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
108-95-2	Phenol	5	U
111-44-4	bis(2-Chloroethyl)Ether	5	U
95-57-8	2-Chlorophenol	5	U
95-48-7	2-Methylphenol	5	U
108-60-1	2,2'-oxybis(1-Chloropropane)	5	U
106-44-5	4-Methylphenol	5	U
621-64-7	N-Nitroso-Di-n-Propylamine	5	U
67-72-1	Hexachloroethane	5	U
98-95-3	Nitrobenzene	5	U
78-59-1	Isophorone	5	U
88-75-5	2-Nitrophenol	5	U
105-67-9	2,4-Dimethylphenol	5	U
111-91-1	bis(2-Chloroethoxy)Methane	5	U
120-83-2	2,4-Dichlorophenol	5	U
91-20-3	Naphthalene	5	U
106-47-8	4-Chloroaniline	5	U
87-68-3	Hexachlorobutadiene	5	U
59-50-7	4-Chloro-3-Methylphenol	5	U
91-57-6	2-Methylnaphthalene	5	U
77-47-4	Hexachlorocyclopentadiene	5	U
88-06-2	2,4,6-Trichlorophenol	5	U
95-95-4	2,4,5-Trichlorophenol	20	U
91-58-7	2-Chloronaphthalene	5	U
88-74-4	2-Nitroaniline	20	U
131-11-3	Dimethylphthalate	5	U
208-96-8	Acenaphthylene	5	U
606-20-2	2,6-Dinitrotoluene	5	U
99-09-2	3-Nitroaniline	20	U
83-32-9	Acenaphthene	5	U

1LCC

LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EDCJ5

Lab Name: ENVIROSYSTEMS Contract: 68-D7-0005

Lab Code: ENVSYS Case No.: 27876 SAS No.: SDG No.: EDCJ8

Lab Sample ID: 00030921 Date Received: 03/18/00

Lab File ID: S030921 Date Extracted: 03/23/00

Sample volume: 1000 (ml) Date Analyzed: 03/29/00

Concentrated Extract Volume: 1000 (ul) Dilution Factor: 1.0

Injection Volume: 1.0 (ul) pH: 7.0

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
51-28-5	2,4-Dinitrophenol	20	U
100-02-7	4-Nitrophenol	20	U
132-64-9	Dibenzofuran	5	U
121-14-2	2,4-Dinitrotoluene	5	U
84-66-2	Diethylphthalate	5	U
7005-72-3	4-Chlorophenyl-phenylether	5	U
86-73-7	Fluorene	5	U
100-01-6	4-Nitroaniline	20	U
534-52-1	4,6-Dinitro-2-methylphenol	20	U
86-30-6	N-Nitrosodiphenylamine (1)	5	U
101-55-3	4-Bromophenyl-phenylether	5	U
118-74-1	Hexachlorobenzene	5	U
87-86-5	Pentachlorophenol	20	U
85-01-8	Phenanthrene	5	U
120-12-7	Anthracene	5	U
84-74-2	Di-n-Butylphthalate	5	U
206-44-0	Fluoranthene	5	U
129-00-0	Pyrene	5	U
85-68-7	Butylbenzylphthalate	5	U
91-94-1	3,3'-Dichlorobenzidine	5	U
56-55-3	Benzo(a)Anthracene	5	U
218-01-9	Chrysene	5	U
117-81-7	bis(2-Ethylhexyl)Phthalate	5	U
117-84-0	Di-n-octylphthalate	5	U
205-99-2	Benzo(b)Fluoranthene	5	U
207-08-9	Benzo(k)Fluoranthene	5	U
50-32-8	Benzo(a)Pyrene	5	U
193-39-5	Indeno(1,2,3-cd)Pyrene	5	U
53-70-3	Dibenz(a,h)Anthracene	5	U
191-24-2	Benzo(g,h,i)Perylene	5	U

(1) - Cannot be separated from Diphenylamine

1LCF

LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

EDCJ5

Lab Name: ENVIROSYSTEMS Contract: 68-D7-0005

Lab Code: ENVSYS Case No.: 27876 SAS No.: SDG No.: EDCJ8

Lab Sample ID: 00030921 Date Received: 03/18/00

Lab File ID: S030921 Date Extracted: 03/23/00

Sample volume: 1000 (ml) Date Analyzed: 03/29/00

Concentrated Extract Volume: 1000 (ul) Dilution Factor: 1.0

Injection Volume: 1.0 (ul) pH: 7.0

Number TICs found: 0

CAS NUMBER	COMPOUND NAME	RT	EST. CONC. (ug/L)	Q

EPA CRL - REGION V
ICP FINAL RESULTS REPORT

REPORT PRODUCED ON: 22-Mar-00

SAMPLE ORGANIZATION:

SAMPLE BATCH ID: 20000024

LABORATORY: REGION 5 CRL

SAMPLE FACILITY: Himco Dump

SAMPLE: 2000SY01R12 dup spent

ANALYZED: 21-Mar-00

STATION: 54287 Westwood

COMPOUND	AMOUNT			(Units)	MCL (ug/L)
Aluminum	26	U		(ug/L)	50 to 200
Barium	64.5			(ug/L)	2000 A
Beryllium	1.6	U	J	(ug/L)	4.0
Calcium	92300		J	(ug/L)	none
Chromium	3.4	U	J	(ug/L)	100
Cobalt	10.1	U		(ug/L)	none
Copper	4	U		(ug/L)	1000
Iron	5030			(ug/L)	300 B
Magnesium	22000			(ug/L)	none
Manganese	59.6			(ug/L)	50 C
Nickel	19.4	U		(ug/L)	40
Potassium	1160			(ug/L)	none
Silver	6.8	U		(ug/L)	50
Sodium	14700			(ug/L)	20,000 D
Vanadium	3.9	U		(ug/L)	none
Zinc	14.2	M	J	(ug/L)	5000 E

ANALYZED BY: [signature] 3-22-00

* Note: All values are given in micrograms per liter, also known as parts per billion.

A U.S. EPA's Office of Drinking Water has proposed this value, but it is not final.

B There is no MCL for iron, but U.S. EPA has set a standard of 300 micrograms per liter to prevent discoloration and taste problems associated with levels of iron above this value.

C There is no MCL for manganese, but U.S. EPA has set a standard of 50 micrograms per liter to prevent discoloration and taste problems associated with levels of manganese above this value.

D There is no MCL for sodium, but the U.S. EPA's Office of Drinking Water advises that a level of 20,000 micrograms per liter or less protects against human health effects from sodium.

E There is no MCL for zinc, but U.S. EPA has set a standard of 5,000 micrograms per liter to prevent taste problems associated with levels of zinc above this value.

1LCA

LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EDCJ9

Lab Name: ENVIROSYSTEMS Contract: 68-D7-0005

Lab Code: ENVSYS Case No.: 27876 SAS No.: SDG No.: EDCJ8

Lab Sample ID: 00030922 Date Received: 03/18/00

Lab File ID: 030922 Date Analyzed: 03/22/00

Purge Volume: 25.00 (ml) Dilution Factor: 1.0

GC Column: RTX-502.2 ID: 0.530 (mm) Length: 105 (m)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q	MCL (ug/L)
74-87-3	Chloromethane	1	U	
74-83-9	Bromomethane	1	U	
75-01-4	Vinyl chloride	1	U	
75-00-3	Chloroethane	1	U	
75-09-2	Methylene chloride	2	U	
67-64-1	Acetone	5	U	
75-15-0	Carbon disulfide	1	U	
75-35-4	1,1-Dichloroethene	1	U	
75-34-3	1,1-Dichloroethane	7		none
156-59-2	cis-1,2-Dichloroethene	0.5	J	70
156-60-5	trans-1,2-Dichloroethene	1	U	
67-66-3	Chloroform	1	U	
107-06-2	1,2-Dichloroethane	1	U	
78-93-3	2-Butanone	5	U	
74-97-5	Bromochloromethane	1	U	
71-55-6	1,1,1-Trichloroethane	1	U	
56-23-5	Carbon tetrachloride	1	U	
75-27-4	Bromodichloromethane	1	U	
78-87-5	1,2-Dichloropropane	1	U	
10061-01-5	cis-1,3-Dichloropropene	1	U	
79-01-6	Trichloroethene	1	U	
124-48-1	Dibromochloromethane	1	U	
79-00-5	1,1,2-Trichloroethane	1	U	
71-43-2	Benzene	0.4	J	5
10061-02-6	trans-1,3-Dichloropropene	1	U	
75-25-2	Bromoform	1	U	
108-10-1	4-Methyl-2-pentanone	5	U	
591-78-6	2-Hexanone	5	U	
127-18-4	Tetrachloroethene	1	U	
79-34-5	1,1,2,2-Tetrachloroethane	1	U	
106-93-4	1,2-Dibromoethane	1	U	
108-88-3	Toluene	1	U	
108-90-7	Chlorobenzene	1	U	
100-41-4	Ethylbenzene	1	U	
100-42-5	Styrene	1	U	
1330-20-7	Xylenes (total)	1	U	
541-73-1	1,3-Dichlorobenzene	1	U	
106-46-7	1,4-Dichlorobenzene	1	U	
95-50-1	1,2-Dichlorobenzene	1	U	
96-12-8	1,2-Dibromo-3-chloropropane	1	U	
120-82-1	1,2,4-Trichlorobenzene	1	U	

1LCE

LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

EDCJ9

Lab Name: ENVIROSYSTEMS Contract: 68-D7-0005

Lab Code: ENVSYS Case No.: 27876 SAS No.: SDG No.: EDCJ8

Lab Sample ID: 00030922 Date Received: 03/18/00

Lab File ID: 030922 Date Analyzed: 03/22/00

Purge Volume: 25.00 (ml) Dilution Factor: 1.0

GC Column: RTX-502.2 ID: 0.530 (mm) Length: 105 (m)

Number TICs found: 0

CAS NUMBER	COMPOUND NAME	RT	EST. CONC. (ug/L)	Q

0 0056

1LCB

LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EDCJ9

Name: ENVIROSYSTEMS Contract: 68-D7-0005

Code: ENVSYS Case No.: 27876 SAS No.: SDG No.: EDCJ8

Lab Sample ID: 00030922 Date Received: 03/18/00

Lab File ID: S030922 Date Extracted: 03/23/00

Sample volume: 1000 (ml) Date Analyzed: 03/29/00

Concentrated Extract Volume: 1000 (ul) Dilution Factor: 1.0

Injection Volume: 1.0 (ul) pH: 7.0

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
108-95-2	Phenol	5	U
111-44-4	bis(2-Chloroethyl)Ether	5	U
95-57-8	2-Chlorophenol	5	U
95-48-7	2-Methylphenol	5	U
108-60-1	2,2'-oxybis(1-Chloropropane)	5	U
106-44-5	4-Methylphenol	5	U
621-64-7	N-Nitroso-Di-n-Propylamine	5	U
67-72-1	Hexachloroethane	5	U
98-95-3	Nitrobenzene	5	U
78-59-1	Isophorone	5	U
88-75-5	2-Nitrophenol	5	U
105-67-9	2,4-Dimethylphenol	5	U
111-91-1	bis(2-Chloroethoxy)Methane	5	U
120-83-2	2,4-Dichlorophenol	5	U
91-20-3	Naphthalene	5	U
106-47-8	4-Chloroaniline	5	U
87-68-3	Hexachlorobutadiene	5	U
59-50-7	4-Chloro-3-Methylphenol	5	U
91-57-6	2-Methylnaphthalene	5	U
77-47-4	Hexachlorocyclopentadiene	5	U
88-06-2	2,4,6-Trichlorophenol	5	U
95-95-4	2,4,5-Trichlorophenol	20	U
91-58-7	2-Chloronaphthalene	5	U
88-74-4	2-Nitroaniline	20	U
131-11-3	Dimethylphthalate	5	U
208-96-8	Acenaphthylene	5	U
606-20-2	2,6-Dinitrotoluene	5	U
99-09-2	3-Nitroaniline	20	U
83-32-9	Acenaphthene	5	U

1LCC

LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EDCJ9

Lab Name: ENVIROSYSTEMS Contract: 68-D7-0005

Lab Code: ENVSYS Case No.: 27876 SAS No.: SDG No.: EDCJ8

Lab Sample ID: 00030922 Date Received: 03/18/00

Lab File ID: S030922 Date Extracted: 03/23/00

Sample volume: 1000 (ml) Date Analyzed: 03/29/00

Concentrated Extract Volume: 1000 (ul) Dilution Factor: 1.0

Injection Volume: 1.0 (ul) pH: 7.0

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
51-28-5	2,4-Dinitrophenol	20	U
100-02-7	4-Nitrophenol	20	U
132-64-9	Dibenzofuran	5	U
121-14-2	2,4-Dinitrotoluene	5	U
84-66-2	Diethylphthalate	5	U
7005-72-3	4-Chlorophenyl-phenylether	5	U
86-73-7	Fluorene	5	U
100-01-6	4-Nitroaniline	20	U
534-52-1	4,6-Dinitro-2-methylphenol	20	U
86-30-6	N-Nitrosodiphenylamine (1)	5	U
101-55-3	4-Bromophenyl-phenylether	5	U
118-74-1	Hexachlorobenzene	5	U
87-86-5	Pentachlorophenol	20	U
85-01-8	Phenanthrene	5	U
120-12-7	Anthracene	5	U
84-74-2	Di-n-Butylphthalate	5	U
206-44-0	Fluoranthene	5	U
129-00-0	Pyrene	5	U
85-68-7	Butylbenzylphthalate	5	U
91-94-1	3,3'-Dichlorobenzidine	5	U
56-55-3	Benzo(a)Anthracene	5	U
218-01-9	Chrysene	5	U
117-81-7	bis(2-Ethylhexyl)Phthalate	5	U
117-84-0	Di-n-octylphthalate	5	U
205-99-2	Benzo(b)Fluoranthene	5	U
207-08-9	Benzo(k)Fluoranthene	5	U
50-32-8	Benzo(a)Pyrene	5	U
193-39-5	Indeno(1,2,3-cd)Pyrene	5	U
53-70-3	Dibenz(a,h)Anthracene	5	U
191-24-2	Benzo(g,h,i)Perylene	5	U

(1) - Cannot be separated from Diphenylamine

01 1374

1LCF

LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

EDCJ9

Lab Name: ENVIROSYSTEMS Contract: 68-D7-0005

Lab Code: ENVSYS Case No.: 27876 SAS No.: SDG No.: EDCJ8

Lab Sample ID: 00030922 Date Received: 03/18/00

Lab File ID: S030922 Date Extracted: 03/23/00

Sample volume: 1000 (ml) Date Analyzed: 03/29/00

Concentrated Extract Volume: 1000 (ul) Dilution Factor: 1.0

Injection Volume: 1.0 (ul) pH: 7.0

Number TICs found: 0

CAS NUMBER	COMPOUND NAME	RT	EST. CONC. (ug/L)	Q

01375

EPA CRL - REGION V
ICP FINAL RESULTS REPORT

REPORT PRODUCED ON: 22-Mar-00

SAMPLE ORGANIZATION:

SAMPLE BATCH ID: 20000024

LABORATORY: REGION 5 CRL

SAMPLE FACILITY: Himco Dump

SAMPLE: 2000SY01S11

ANALYZED: 21-Mar-00

STATION: 54305 Westwood

COMPOUND	AMOUNT			(Units)
Aluminum	26	U		(ug/L)
Barium	60.4			(ug/L)
Beryllium	1.6	U	J	(ug/L)
Calcium	177000		J	(ug/L)
Chromium	3.4	U	J	(ug/L)
Cobalt	10.1	U		(ug/L)
Copper	4	U		(ug/L)
Iron	2170			(ug/L)
Magnesium	18200		J	(ug/L)
Manganese	1560			(ug/L)
Nickel	19.4	U		(ug/L)
Potassium	5270			(ug/L)
Silver	6.8	U		(ug/L)
Sodium	44400			(ug/L)
Vanadium	3.9	U		(ug/L)
Zinc	17.4	M	J	(ug/L)

ANALYZED BY: [signature] 3-22-00

LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EDCK8

Lab Name: ENVIROSYSTEMS Contract: 68-D7-0005

Lab Code: ENVSYS Case No.: 27876 SAS No.: SDG No.: EDCJ8

Lab Sample ID: 00030923 Date Received: 03/18/00

Lab File ID: 030923 Date Analyzed: 03/23/00

Purge Volume: 25.00 (ml) Dilution Factor: 1.0

GC Column: RTX-502.2 ID: 0.530 (mm) Length: 105 (m)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
74-87-3	Chloromethane	1	U
74-83-9	Bromomethane	1	U
75-01-4	Vinyl chloride	0.9	J
75-00-3	Chloroethane	1	U
75-09-2	Methylene chloride	2	U
67-64-1	Acetone	5	U
75-15-0	Carbon disulfide	1	U
75-35-4	1,1-Dichloroethene	1	U
75-34-3	1,1-Dichloroethane	3	
156-59-2	cis-1,2-Dichloroethene	2	
156-60-5	trans-1,2-Dichloroethene	1	U
67-66-3	Chloroform	1	U
107-06-2	1,2-Dichloroethane	0.6	J
78-93-3	2-Butanone	5	U
74-97-5	Bromochloromethane	1	U
71-55-6	1,1,1-Trichloroethane	1	U
56-23-5	Carbon tetrachloride	1	U
75-27-4	Bromodichloromethane	1	U
78-87-5	1,2-Dichloropropane	10	
10061-01-5	cis-1,3-Dichloropropene	1	U
79-01-6	Trichloroethene	1	U
124-48-1	Dibromochloromethane	1	U
79-00-5	1,1,2-Trichloroethane	1	U
71-43-2	Benzene	0.4	J
10061-02-6	trans-1,3-Dichloropropene	1	U
75-25-2	Bromoform	1	U
108-10-1	4-Methyl-2-pentanone	5	U
591-78-6	2-Hexanone	5	U
127-18-4	Tetrachloroethene	1	U
79-34-5	1,1,2,2-Tetrachloroethane	1	U
106-93-4	1,2-Dibromoethane	1	U
108-88-3	Toluene	1	U
108-90-7	Chlorobenzene	1	U
100-41-4	Ethylbenzene	1	U
100-42-5	Styrene	1	U
1330-20-7	Xylenes (total)	1	U
541-73-1	1,3-Dichlorobenzene	1	U
106-46-7	1,4-Dichlorobenzene	1	U
95-50-1	1,2-Dichlorobenzene	1	U
96-12-8	1,2-Dibromo-3-chloropropane	1	U
120-82-1	1,2,4-Trichlorobenzene	1	U

EPA SAMPLE NO

LOW CONC WATER VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EDCK8

Lab Name ENVIROSYSTEMS Contract 68-D7-0005

Lab Code: ENVSYS Case No.: 27876 SAS No. SDG No.: EDCJ8

Lab Sample ID: 00030923 Date Received: 03/18/00

Lab File ID: 030923 Date Analyzed: 03/23/00

Purge Volume: 25.00 (ml) Dilution Factor: 1.0

GC Column: RTX-502.2 ID: 0.530 (mm) Length: 105 (m)

Number TICs found: 1

CAS NUMBER	COMPOUND NAME	RT	EST. CONC. (ug/L)	Q
1.	UNKNOWN	7.25	5	J

1LCB

LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EDCK8

Lab Name: ENVIROSYSTEMS Contract: 68-D7-0005

Lab Code: ENVSYS Case No.: 27876 SAS No.: SDG No.: EDCJ8

Lab Sample ID: 00030923 Date Received: 03/18/00

Lab File ID: S030923 Date Extracted: 03/23/00

Sample volume: 1000 (ml) Date Analyzed: 03/29/00

Concentrated Extract Volume: 1000 (ul) Dilution Factor: 1.0

Injection Volume: 1.0 (ul) pH: 7.0

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
108-95-2	Phenol	5	U
111-44-4	bis(2-Chloroethyl)Ether	5	U
95-57-8	2-Chlorophenol	5	U
95-48-7	2-Methylphenol	5	U
108-60-1	2,2'-oxybis(1-Chloropropane)	5	U
106-44-5	4-Methylphenol	5	U
621-64-7	N-Nitroso-Di-n-Propylamine	5	U
67-72-1	Hexachloroethane	5	U
98-95-3	Nitrobenzene	5	U
78-59-1	Isophorone	5	U
88-75-5	2-Nitrophenol	5	U
105-67-9	2,4-Dimethylphenol	5	U
111-91-1	bis(2-Chloroethoxy)Methane	5	U
120-83-2	2,4-Dichlorophenol	5	U
91-20-3	Naphthalene	5	U
106-47-8	4-Chloroaniline	5	U
87-68-3	Hexachlorobutadiene	5	U
59-50-7	4-Chloro-3-Methylphenol	5	U
91-57-6	2-Methylnaphthalene	5	U
77-47-4	Hexachlorocyclopentadiene	5	U
88-06-2	2,4,6-Trichlorophenol	5	U
95-95-4	2,4,5-Trichlorophenol	20	U
91-58-7	2-Chloronaphthalene	5	U
88-74-4	2-Nitroaniline	20	U
131-11-3	Dimethylphthalate	5	U
208-96-8	Acenaphthylene	5	U
606-20-2	2,6-Dinitrotoluene	5	U
99-09-2	3-Nitroaniline	20	U
83-32-9	Acenaphthene	5	U

1LCC

LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EDCK8

Lab Name: ENVIROSYSTEMS Contract: 68-D7-0005

Lab Code: ENVSYS Case No.: 27876 SAS No.: SDG No.: EDCJ8

Lab Sample ID: 00030923 Date Received: 03/18/00

Lab File ID: S030923 Date Extracted: 03/23/00

Sample volume: 1000 (ml) Date Analyzed: 03/29/00

Concentrated Extract Volume: 1000 (ul) Dilution Factor: 1.0

Injection Volume: 1.0 (ul) pH: 7.0

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
51-28-5	2,4-Dinitrophenol	20	U
100-02-7	4-Nitrophenol	20	U
132-64-9	Dibenzofuran	5	U
121-14-2	2,4-Dinitrotoluene	5	U
84-66-2	Diethylphthalate	5	U
7005-72-3	4-Chlorophenyl-phenylether	5	U
86-73-7	Fluorene	5	U
100-01-6	4-Nitroaniline	20	U
534-52-1	4,6-Dinitro-2-methylphenol	20	U
86-30-6	N-Nitrosodiphenylamine (1)	5	U
101-55-3	4-Bromophenyl-phenylether	5	U
118-74-1	Hexachlorobenzene	5	U
87-86-5	Pentachlorophenol	20	U
85-01-8	Phenanthrene	5	U
120-12-7	Anthracene	5	U
84-74-2	Di-n-Butylphthalate	5	U
206-44-0	Fluoranthene	5	U
129-00-0	Pyrene	5	U
85-68-7	Butylbenzylphthalate	5	U
91-94-1	3,3'-Dichlorobenzidine	5	U
56-55-3	Benzo(a)Anthracene	5	U
218-01-9	Chrysene	5	U
117-81-7	bis(2-Ethylhexyl)Phthalate	5	U
117-84-0	Di-n-octylphthalate	5	U
205-99-2	Benzo(b)Fluoranthene	5	U
207-08-9	Benzo(k)Fluoranthene	5	U
50-32-8	Benzo(a)Pyrene	5	U
193-39-5	Indeno(1,2,3-cd)Pyrene	5	U
53-70-3	Dibenz(a,h)Anthracene	5	U
191-24-2	Benzo(g,h,i)Perylene	5	U

(1) - Cannot be separated from Diphenylamine

1LCF

LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

EDCK8

Lab Name: ENVIROSYSTEMS Contract: 68-D7-0005

Lab Code: ENVSYS Case No.: 27876 SAS No.: SDG No.: EDCJ8

Lab Sample ID: 00030923 Date Received: 03/18/00

Lab File ID: S030923 Date Extracted: 03/23/00

Sample volume: 1000 (ml) Date Analyzed: 03/29/00

Concentrated Extract Volume: 1000 (ul) Dilution Factor: 1.0

Injection Volume: 1.0 (ul) pH: 7.0

Number TICs found: 0

CAS NUMBER	COMPOUND NAME	RT	EST. CONC. (ug/L)	Q

EPA CRL - REGION V
ICP FINAL RESULTS REPORT

REPORT PRODUCED ON: 22-Mar-00

SAMPLE ORGANIZATION:

SAMPLE BATCH ID: 20000024

LABORATORY: REGION 5 CRL

SAMPLE FACILITY: Himco Dump

SAMPLE: 2000SY01S09

ANALYZED: 21-Mar-00

STATION: 54280 Westwood

COMPOUND	AMOUNT	(Units)
Aluminum	26 U	(ug/L)
Barium	72.8	(ug/L)
Beryllium	1.6 U J	(ug/L)
Calcium	105000 J	(ug/L)
Chromium	3.4 U J	(ug/L)
Cobalt	10.1 U	(ug/L)
Copper	26.1 M	(ug/L)
Iron	22.4 U	(ug/L)
Magnesium	20200	(ug/L)
Manganese	355	(ug/L)
Nickel	19.4 U	(ug/L)
Potassium	2580	(ug/L)
Silver	6.8 U	(ug/L)
Sodium	65400	(ug/L)
Vanadium	3.9 U	(ug/L)
Zinc	31.5 M J	(ug/L)

ANALYZED BY: _____ 3-22-00

EPA

LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET

SFA SAMPLE NO

EDCK3

Lab Name: ENVIROSYSTEMS Contract: 68-D7-0005

Lab Code: ENVSYS Case No.: 27876 SAS No.: SDG No.: EDCJ8

Lab Sample ID: 00030906 Date Received: 03/17/00

Lab File ID: 030906 Date Analyzed: 03/22/00

Purge Volume: 25.00 (ml) Dilution Factor: 1.0

GC Column: RTX-502.2 ID: 0.530 (mm) Length: 105 (m)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
74-87-3	Chloromethane	1	U
74-83-9	Bromomethane	1	U
75-01-4	Vinyl chloride	1	U
75-00-3	Chloroethane	1	U
75-09-2	Methylene chloride	2	U
67-64-1	Acetone	5	U
75-15-0	Carbon disulfide	1	U
75-35-4	1,1-Dichloroethene	1	U
75-34-3	1,1-Dichloroethane	1	U
156-59-2	cis-1,2-Dichloroethene	1	U
156-60-5	trans-1,2-Dichloroethene	1	U
67-66-3	Chloroform	1	U
107-06-2	1,2-Dichloroethane	1	U
78-93-3	2-Butanone	5	U
74-97-5	Bromochloromethane	1	U
71-55-6	1,1,1-Trichloroethane	1	U
56-23-5	Carbon tetrachloride	1	U
75-27-4	Bromodichloromethane	1	U
78-87-5	1,2-Dichloropropane	1	U
10061-01-5	cis-1,3-Dichloropropene	1	U
79-01-6	Trichloroethene	1	U
124-48-1	Dibromochloromethane	1	U
79-00-5	1,1,2-Trichloroethane	1	U
71-43-2	Benzene	1	U
10061-02-6	trans-1,3-Dichloropropene	1	U
75-25-2	Bromoform	1	U
108-10-1	4-Methyl-2-pentanone	5	U
591-78-6	2-Hexanone	5	U
127-18-4	Tetrachloroethene	1	U
79-34-5	1,1,2,2-Tetrachloroethane	1	U
106-93-4	1,2-Dibromoethane	1	U
108-88-3	Toluene	1	U
108-90-7	Chlorobenzene	1	U
100-41-4	Ethylbenzene	1	U
100-42-5	Styrene	1	U
1330-20-7	Xylenes (total)	1	U
541-73-1	1,3-Dichlorobenzene	1	U
106-46-7	1,4-Dichlorobenzene	1	U
95-50-1	1,2-Dichlorobenzene	1	U
96-12-8	1,2-Dibromo-3-chloropropane	1	U
120-82-1	1,2,4-Trichlorobenzene	1	U

1L1E

LOW CONC WATER VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO

EDCK3

Lab Name: ENVIROSYSTEMS Contract: 68-D7-0003

Lab Code: ENVSYS Case No.: 27876 SAS No.: SDG No.: EDCJ8

Lab Sample ID: 00030906 Date Received: 03/17/00

Lab File ID: 030906 Date Analyzed: 03/22/00

Purge Volume: 25.00 (ml) Dilution Factor: 1.0

GC Column: RTX-502.2 ID: 0.530 (mm) Length: 105 (m)

Number TICs found: 0

CAS NUMBER	COMPOUND NAME	RT	EST. CONC. (ug/L)	Q

1LCB

LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EDCK3

Lab Name: ENVIROSYSTEMS Contract: 68-D7-0005

Lab Code: ENVSYS Case No.: 27876 SAS No.: SDG No.: EDCJ8

Lab Sample ID: 00030906 Date Received: 03/17/00

Lab File ID: S030906 Date Extracted: 03/22/00

Sample volume: 1000 (ml) Date Analyzed: 03/28/00

Concentrated Extract Volume: 1000 (ul) Dilution Factor: 1.0

Injection Volume: 1.0 (ul) pH: 7.0

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
108-95-2	Phenol	5	U
111-44-4	bis(2-Chloroethyl)Ether	5	U
95-57-8	2-Chlorophenol	5	U
95-48-7	2-Methylphenol	5	U
108-60-1	2,2'-oxybis(1-Chloropropane)	5	U
106-44-5	4-Methylphenol	5	U
621-64-7	N-Nitroso-Di-n-Propylamine	5	U
67-72-1	Hexachloroethane	5	U
98-95-3	Nitrobenzene	5	U
78-59-1	Isophorone	5	U
88-75-5	2-Nitrophenol	5	U
105-67-9	2,4-Dimethylphenol	5	U
111-91-1	bis(2-Chloroethoxy)Methane	5	U
120-83-2	2,4-Dichlorophenol	5	U
91-20-3	Naphthalene	5	U
106-47-8	4-Chloroaniline	5	U
87-68-3	Hexachlorobutadiene	5	U
59-50-7	4-Chloro-3-Methylphenol	5	U
91-57-6	2-Methylnaphthalene	5	U
77-47-4	Hexachlorocyclopentadiene	5	U
88-06-2	2,4,6-Trichlorophenol	5	U
95-95-4	2,4,5-Trichlorophenol	20	U
91-58-7	2-Chloronaphthalene	5	U
88-74-4	2-Nitroaniline	20	U
131-11-3	Dimethylphthalate	5	U
208-96-8	Acenaphthylene	5	U
606-20-2	2,6-Dinitrotoluene	5	U
99-09-2	3-Nitroaniline	20	U
83-32-9	Acenaphthene	5	U

1LCC

LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EDCK3

Lab Name: ENVIROSYSTEMS Contract: 68-D7-0005

Lab Code: ENVSYS Case No.: 27876 SAS No.: SDG No.: EDCJ8

Lab Sample ID: 00030906 Date Received: 03/17/00

Lab File ID: S030906 Date Extracted: 03/22/00

Sample volume: 1000 (ml) Date Analyzed: 03/28/00

Concentrated Extract Volume: 1000 (ul) Dilution Factor: 1.0

Injection Volume: 1.0 (ul) pH: 7.0

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
51-28-5	2,4-Dinitrophenol	20	U
100-02-7	4-Nitrophenol	20	U
132-64-9	Dibenzofuran	5	U
121-14-2	2,4-Dinitrotoluene	5	U
84-66-2	Diethylphthalate	5	U
7005-72-3	4-Chlorophenyl-phenylether	5	U
86-73-7	Fluorene	5	U
100-01-6	4-Nitroaniline	20	U
534-52-1	4,6-Dinitro-2-methylphenol	20	U
86-30-6	N-Nitrosodiphenylamine (1)	5	U
101-55-3	4-Bromophenyl-phenylether	5	U
118-74-1	Hexachlorobenzene	5	U
87-86-5	Pentachlorophenol	20	U
85-01-8	Phenanthrene	5	U
120-12-7	Anthracene	5	U
84-74-2	Di-n-Butylphthalate	5	U
206-44-0	Fluoranthene	5	U
129-00-0	Pyrene	5	U
85-68-7	Butylbenzylphthalate	5	U
91-94-1	3,3'-Dichlorobenzidine	5	U
56-55-3	Benzo(a)Anthracene	5	U
218-01-9	Chrysene	5	U
117-81-7	bis(2-Ethylhexyl)Phthalate	5	U
117-84-0	Di-n-octylphthalate	5	U
205-99-2	Benzo(b)Fluoranthene	5	U
207-08-9	Benzo(k)Fluoranthene	5	U
50-32-8	Benzo(a)Pyrene	5	U
193-39-5	Indeno(1,2,3-cd)Pyrene	5	U
53-70-3	Dibenz(a,h)Anthracene	5	U
191-24-2	Benzo(g,h,i)Perylene	5	U

(1) - Cannot be separated from Diphenylamine

050426

1LCF

LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

EDCK3

Lab Name: ENVIROSYSTEMS Contract: 68-D7-0005

Lab Code: ENVSYS Case No.: 27876 SAS No.: SDG No.: EDCJ8

Lab Sample ID: 00030906 Date Received: 03/17/00

Lab File ID: S030906 Date Extracted: 03/22/00

Sample volume: 1000 (ml) Date Analyzed: 03/28/00

Concentrated Extract Volume: 1000 (ul) Dilution Factor: 1.0

Injection Volume: 1.0 (ul) pH: 7.0

Number TICs found: 0

CAS NUMBER	COMPOUND NAME	RT	EST. CONC. (ug/L)	Q

EPA CRL - REGION V
ICP FINAL RESULTS REPORT

REPORT PRODUCED ON: 29-Mar-00

SAMPLE ORGANIZATION:

SAMPLE BATCH ID: 20000024

LABORATORY: REGION 5 CRL

SAMPLE FACILITY: Himco Dump

SAMPLE: 2000SY01S08

ANALYZED: 21-Mar-00

STATION: 27919 Westwood

COMPOUND	AMOUNT			(Units)
Aluminum	26	U		(ug/L)
Barium	28.1			(ug/L)
Beryllium	1.6	U	J	(ug/L)
Calcium	103000		J	(ug/L)
Chromium	3.4	U	J	(ug/L)
Cobalt	10.1	U		(ug/L)
Copper	9	M		(ug/L)
Iron	51.1	M	B J	(ug/L)
Magnesium	19000		J	(ug/L)
Manganese	146			(ug/L)
Nickel	19.4	U		(ug/L)
Potassium	3660			(ug/L)
Silver	6.8	U		(ug/L)
Sodium	56700			(ug/L)
Vanadium	3.9	U		(ug/L)
Zinc	20.5	M	J	(ug/L)

ANALYZED BY: _____ 3-29-00

ILCA

LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EDCK4

Lab Name: ENVIROSYSTEMS Contract: 68-D7-0005

Lab Code: ENVSYS Case No.: 27876 SAS No.: SDG No.: EDCJ8

Lab Sample ID: 00030907 Date Received: 03/17/00

Lab File ID: 030907 Date Analyzed: 03/22/00

Purge Volume: 25.00 (ml) Dilution Factor: 1.0

GC Column: RTX-502.2 ID: 0.530 (mm) Length: 105 (m)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
74-87-3	Chloromethane	1	U
74-83-9	Bromomethane	1	U
75-01-4	Vinyl chloride	1	U
75-00-3	Chloroethane	1	U
75-09-2	Methylene chloride	2	U
67-64-1	Acetone	5	U
75-15-0	Carbon disulfide	1	U
75-35-4	1,1-Dichloroethene	1	U
75-34-3	1,1-Dichloroethane	0.5	J
156-59-2	cis-1,2-Dichloroethene	0.6	J
156-60-5	trans-1,2-Dichloroethene	1	U
67-66-3	Chloroform	0.4	J
107-06-2	1,2-Dichloroethane	1	U
78-93-3	2-Butanone	5	U
74-97-5	Bromochloromethane	1	U
71-55-6	1,1,1-Trichloroethane	1	U
56-23-5	Carbon tetrachloride	1	U
75-27-4	Bromodichloromethane	1	U
78-87-5	1,2-Dichloropropane	1	U
10061-01-5	cis-1,3-Dichloropropene	1	U
79-01-6	Trichloroethene	1	U
124-48-1	Dibromochloromethane	1	U
79-00-5	1,1,2-Trichloroethane	1	U
71-43-2	Benzene	1	U
10061-02-6	trans-1,3-Dichloropropene	1	U
75-25-2	Bromoform	1	U
108-10-1	4-Methyl-2-pentanone	5	U
591-78-6	2-Hexanone	5	U
127-18-4	Tetrachloroethene	1	U
79-34-5	1,1,2,2-Tetrachloroethane	1	U
106-93-4	1,2-Dibromoethane	1	U
108-88-3	Toluene	1	U
108-90-7	Chlorobenzene	1	U
100-41-4	Ethylbenzene	1	U
100-42-5	Styrene	1	U
1330-20-7	Xylenes (total)	1	U
541-73-1	1,3-Dichlorobenzene	1	U
106-46-7	1,4-Dichlorobenzene	1	U
95-50-1	1,2-Dichlorobenzene	1	U
96-12-8	1,2-Dibromo-3-chloropropane	1	U
120-82-1	1,2,4-Trichlorobenzene	1	U

ILCE

EPA SAMPLE NO

LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EDCK4

Lab Name: ENVIROSYSTEMS Contract: 68-D7-0005

Lab Code: ENVSYS Case No.: 27876 SAS No.: SDG No.: EDCJ8

Lab Sample ID: 00030907 Date Received: 03/17/00

Lab File ID: 030907 Date Analyzed: 03/22/00

Purge Volume: 25.00 (ml) Dilution Factor: 1.0

GC Column: RTX-502.2 ID: 0.530 (mm) Length: 105 (m)

Number TICs found: 0

CAS NUMBER	COMPOUND NAME	RT	EST. CONC. (ug/L)	Q

1LCB

LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EDCK4

Lab Name: ENVIROSYSTEMS Contract: 68-D7-0005

Lab Code: ENVSYS Case No.: 27876 SAS No.: SDG No.: EDCJ8

Lab Sample ID: 00030907 Date Received: 03/17/00

Lab File ID: S030907 Date Extracted: 03/22/00

Sample volume: 1000 (ml) Date Analyzed: 03/28/00

Concentrated Extract Volume: 1000 (ul) Dilution Factor: 1.0

Injection Volume: 1.0 (ul) pH: 7.0

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
108-95-2	Phenol	5	U
111-44-4	bis(2-Chloroethyl)Ether	5	U
95-57-8	2-Chlorophenol	5	U
95-48-7	2-Methylphenol	5	U
108-60-1	2,2'-oxybis(1-Chloropropane)	5	U
106-44-5	4-Methylphenol	5	U
621-64-7	N-Nitroso-Di-n-Propylamine	5	U
67-72-1	Hexachloroethane	5	U
98-95-3	Nitrobenzene	5	U
78-59-1	Isophorone	5	U
88-75-5	2-Nitrophenol	5	U
105-67-9	2,4-Dimethylphenol	5	U
111-91-1	bis(2-Chloroethoxy)Methane	5	U
120-83-2	2,4-Dichlorophenol	5	U
91-20-3	Naphthalene	5	U
106-47-8	4-Chloroaniline	5	U
87-68-3	Hexachlorobutadiene	5	U
59-50-7	4-Chloro-3-Methylphenol	5	U
91-57-6	2-Methylnaphthalene	5	U
77-47-4	Hexachlorocyclopentadiene	5	U
88-06-2	2,4,6-Trichlorophenol	5	U
95-95-4	2,4,5-Trichlorophenol	20	U
91-58-7	2-Chloronaphthalene	5	U
88-74-4	2-Nitroaniline	20	U
131-11-3	Dimethylphthalate	5	U
208-96-8	Acenaphthylene	5	U
606-20-2	2,6-Dinitrotoluene	5	U
99-09-2	3-Nitroaniline	20	U
83-32-9	Acenaphthene	5	U

1LCC

LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EDCK4

Lab Name: ENVIROSYSTEMS Contract: 68-D7-0005

Lab Code: ENVSYS Case No.: 27876 SAS No.: SDG No.: EDCJ8

Lab Sample ID: 00030907 Date Received: 03/17/00

Lab File ID: S030907 Date Extracted: 03/22/00

Sample volume: 1000 (ml) Date Analyzed: 03/28/00

Concentrated Extract Volume: 1000 (ul) Dilution Factor: 1.0

Injection Volume: 1.0 (ul) pH: 7.0

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
51-28-5	2,4-Dinitrophenol	20	U
100-02-7	4-Nitrophenol	20	U
132-64-9	Dibenzofuran	5	U
121-14-2	2,4-Dinitrotoluene	5	U
84-66-2	Diethylphthalate	5	U
7005-72-3	4-Chlorophenyl-phenylether	5	U
86-73-7	Fluorene	5	U
100-01-6	4-Nitroaniline	20	U
534-52-1	4,6-Dinitro-2-methylphenol	20	U
86-30-6	N-Nitrosodiphenylamine (1)	5	U
101-55-3	4-Bromophenyl-phenylether	5	U
118-74-1	Hexachlorobenzene	5	U
87-86-5	Pentachlorophenol	20	U
85-01-8	Phenanthrene	5	U
120-12-7	Anthracene	5	U
84-74-2	Di-n-Butylphthalate	5	U
206-44-0	Fluoranthene	5	U
129-00-0	Pyrene	5	U
85-68-7	Butylbenzylphthalate	5	U
91-94-1	3,3'-Dichlorobenzidine	5	U
56-55-3	Benzo(a)Anthracene	5	U
218-01-9	Chrysene	5	U
117-81-7	bis(2-Ethylhexyl)Phthalate	5	U
117-84-0	Di-n-octylphthalate	5	U
205-99-2	Benzo(b)Fluoranthene	5	U
207-08-9	Benzo(k)Fluoranthene	5	U
50-32-8	Benzo(a)Pyrene	5	U
193-39-5	Indeno(1,2,3-cd)Pyrene	5	U
53-70-3	Dibenz(a,h)Anthracene	5	U
191-24-2	Benzo(g,h,i)Perylene	5	U

(1) - Cannot be separated from Diphenylamine

0..0439

1LCF

EPA SAMPLE NO.

LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EDCK4

Lab Name: ENVIROSYSTEMS Contract: 68-D7-0005

Lab Code: ENVSYS Case No.: 27876 SAS No.: SDG No.: EDCJ8

Lab Sample ID: 00030907 Date Received: 03/17/00

Lab File ID: S030907 Date Extracted: 03/22/00

Sample volume: 1000 (ml) Date Analyzed: 03/28/00

Concentrated Extract Volume: 1000 (ul) Dilution Factor: 1.0

Injection Volume: 1.0 (ul) pH: 7.0

Number TICs found: 0

CAS NUMBER	COMPOUND NAME	RT	EST. CONC. (ug/L)	Q

Rev 01
03/23/00

MEMORANDUM

DATE: March 23, 2000
TO: Gwen Massenburg

FROM: Janie Carrig

SUBJECT: HIMCO Dump Superfund Site Supplemental Ground Water Investigation – Standard Operating Procedures for inclusion in the QAPP Addendum.

The following SOPs are enclosed for your review as requested by Patricia Scott:

- Sample Custody, Storage, and Disposal SOP
- Mercury in Liquid Waste (Manual Cold-Vapor Technique) (SW-846 Method 7470A) SOP, dated March 3 2000, to replace the current SOP date September 16, 1996
- Acid Digestion of Waters for Total Recoverable Or Dissolved Metals for Analysis by Inductively Coupled Argon Plasma Spectroscopy (SW-846 Method 3003A) SOP.
- Microwave Assisted Acid Digestion of Aqueous Samples and Extracts (SW-846 Method 3015) SOP
- Continuous Liquid-Liquid Extraction (SW-846 Method 3520C) SOP

If you have any questions please call me at 402-221-7754. I can also be reached through email at janie.e.carrig@usace.army.mil .

Regards,

Janie

Janie Carrig

United States Army Corps of Engineers
United States Army Engineer Research and Development Center
Waterways Experiment Station

Chemistry Quality Assurance Branch

TITLE: **Sample Custody, Storage, and Disposal**

SOP NUMBER: Q-007-CQAB-SH, Ver. 1.1

PREPARED BY: _____
Date

REVIEWED BY: _____
Technical Specialist Date

_____
QA Officer Date

_____
Branch Chief Date

SOP MANUAL CONTROL No.: _____

1.0 Scope and Application

The Chemistry Quality Assurance Branch (CQAB) will handle samples carefully and responsibly so as to maintain sample integrity and custody. This standard operating procedure (SOP) describes custody, storage, and disposal for samples that require normal laboratory security. Any samples that require special security, such as an internal chain of custody, are to be handled according to procedures detailed in SOP Q-007R-CQAB-SH, Internal Chain of Custody.

2.0 Method Summary

The CQAB is a restricted access facility. After samples are delivered to the laboratory, access is limited to laboratory personnel. Samples shall be stored in properly maintained locations when not under direct control of laboratory personnel. Sample status shall be tracked through the Laboratory Information Management System (LIMS).

3.0 Health and Safety

Appropriate precautions (gloves, lab coats, and safety glasses) as described in the laboratory's Safety Plan and Chemical Hygiene Plan should be taken when handling samples and extracts.

4.0 Sample Preservation, Containers, Handling, and Storage

Not Applicable

5.0 Interferences and Potential Problems

Noncompliance with this procedure may result in a loss of sample integrity. All laboratory employees must comply with the requirements specified in this SOP.

6.0 Equipment/Apparatus

Not Applicable

7.0 Reagents

Not Applicable

8.0 Procedure

8.1 At the Chemistry Quality Assurance Branch, all procedures are to be performed with careful attention to safety and consideration of environmental impact. All personnel are to use the safety guidance provided in the CQAB Chemical Hygiene Plan. Also, laboratory management encourages development and use of pollution prevention techniques in all laboratory procedures. Suggestions and questions concerning specific safety and pollution prevention techniques should be addressed to the Section Chief, the QA Officer, and/or the Branch Chief.

8.2 Samples received at the CQAB first undergo procedures described in SOP No. Q-005-CQAB-SH, Sample Receipt, Login, and Storage. All samples are labeled with unique CQAB identifications that correspond to client sample identifications. The CQAB identification number is documented through the LIMS and provides a tool for tracking sample status throughout the laboratory. Upon completion of login activities, samples shall be maintained under control as described by the following steps.

8.3 A sample is considered under control and secure if at least one of the following conditions are met:

8.3.1 The sample is in the possession of a laboratory employee, such as when a sample is being prepared for analysis. Care is to be taken by all laboratory employees handling samples to ensure that the samples are returned to proper storage locations immediately after use.

8.3.2 The sample is in the view of a laboratory employee, such as when a sample is with a group of samples to be weighed.

8.3.3 The sample is in locked storage. This step may be necessary to some projects. Refer to SOP No. Q-007R-CQAB-SH, Internal Chain of Custody, for specific procedures for such materials.

8.3.4 The sample is located in a secured area. As the CQAB is a restricted access facility, all samples within the facility meet this requirement.

8.4 Good laboratory practices shall be followed to maintain sample integrity and avoid cross-contamination and laboratory contamination.

8.4.1 Whenever a sample or aliquot is removed from the original container and placed in a second container such as a beaker or weighing dish, the second container shall be labeled with the sample's CQAB identification number. The CQAB identification number shall be used on all glassware, tube, vials, or other containers as the sample proceeds through the laboratory.

8.4.2 Laboratory glassware shall be cleaned according to SOP No. Q-012-CQAB-GL, Glassware Cleaning.

8.4.3 Stirring rods, spatulas, and other such tools shall be thoroughly rinsed or cleaned after use with one sample and before use with the next. Fresh disposable pipets and tips shall be used for measuring spikes and transferring samples.

8.4.4 When measuring pH, test paper must not be dipped into the sample container. Instead, dip a clean glass rod or disposable pipet into the sample container, and then touch the rod or pipet to the pH paper.

8.5 Designated Storage Locations

8.5.1 As described in SOP No. Q-005-CQAB-SH, Sample Receipt, Login, and Storage, the laboratory must designate certain areas for sample containment (e.g., refrigerators, cabinets, shelves). This requirement also applies to all sample derivatives. Designated areas are to be clearly labeled to indicate the types of stored samples. For control purposes, these areas are under the responsibility of the sample custodian and all personnel who remove samples for preparation and/or analysis.

8.5.2 Organic Samples and Extracts

8.5.2.1 Storage for organic samples should be divided by sections such as semivolatiles, pest/PCBs, herbicides, volatiles, etc. Volatiles samples should be stored in a separate refrigerator. Volatiles samples with unknown concentration should be stored assuming low level contamination (UNLESS visual or other evidence of the sample indicates otherwise). Water volatiles samples at the CQAB are stored in refrigerator 005. Soil volatiles samples are stored in refrigerator 010. Product samples, fuel samples, and high concentration volatiles are stored in refrigerator 004. Samples intended for other organic analyses are stored in the walk-in cooler in the login area.

8.5.2.2 Organic samples and extracts are not to be stored in the same location. Extracts are stored so as to minimize potential cross-contamination. Volatiles samples are not to be stored with concentrated-extracts. Extracts of samples for BNA, explosives, pesticide, PCB, and fuels analysis are stored in refrigerator 006.

8.5.2.3 Organic samples and extracts must be stored separately from analytical standards.

8.5.3 Inorganic Samples and Digestates

8.5.3.1 Storage for inorganic samples should be divided by wet chemistry analyses and metals. Samples for mercury and hexavalent chromium require refrigeration and are stored in the walk-in cooler in the login area. Other metals samples do not require refrigeration and are stored in the inorganic preparation laboratory. Samples for wet chemistry are stored in refrigerator 003.

8.5.3.2 Inorganic digestates are stored, if not analyzed immediately, in the appropriate determinative method laboratory.

8.5.4 If samples or extracts are not returned to the client after project completion, then a separate area shall be assigned for samples awaiting disposal by qualified waste disposal firms. Samples to be disposed are stored at room temperature. Samples are generally in

the disposal storage area for approximately sixty (60) days after submittal of final results to the data user. Refer to Section 8.6.

8.5.5 Whenever appropriate, a storage area which requires temperature monitoring shall have a properly calibrated temperature measurement device located within and monitored daily (see SOP No. Q-010-CQAB-SH, Storage Temperature Monitoring).

8.6 Sample Disposal

8.6.1 Trained and qualified CQAB waste management personnel are responsible for devising and implementing the program for disposal of the laboratory's hazardous and non-hazardous waste, including project samples and derivatives.

8.6.2 If requested by project personnel, samples will be returned to sampling sites. Otherwise, samples are transferred to a holding area for disposal by approved waste disposal firms. Samples awaiting disposal are stored on open shelves at room temperature. Samples are generally on-site for approximately sixty (60) days after release of the results reports to the customer.

8.6.3 Waste materials are removed from the laboratory by approved waste disposal firms. Refer to CQAB SOP No. Q-027-CQAB-GL, Waste Disposal, for specific details of the laboratory's waste management program.

9.0 Calculations

Not Applicable

10.0 Quality Assurance/Quality Control

10.1 Only laboratory personnel are to have access to controlled laboratory areas.

10.2 All samples are to be labeled with unique CQAB identification numbers.

10.3 Procedures to minimize and eliminate cross-contamination and laboratory contamination are to be followed.

10.4 Samples are to be stored appropriately.

10.5 The procedures in the SOP are subject to review during internal and external audits.

11.0 Data Validation

Not Applicable

12.0 Waste Disposal

See Section 8.5.

13.0 References

13.1 SOP No. Q-007R-CQAB-SH, Internal Chain of Custody.

13.2 SOP No. Q-005-CQAB-SH, Sample Receipt, Login, and Storage.

13.3 SOP No. Q-012-CQAB-GL, Glassware Cleaning.

13.4 SOP No. Q-010-CQAB-SH, Storage Temperature Monitoring.

13.5 SOP No. Q-004-CQAB-QC, Nonconformances and Corrective Action.

13.6 SOP No. Q-027-CQAB-GL, Waste Disposal.

13.7 Chemistry Quality Assurance Branch Safety Plan.

13.8 Chemistry Quality Assurance Branch Chemical Hygiene Plan.

United States Army Corps of Engineers
United States Army Engineer Research and Development Center
Waterways Experiment Station

Chemistry Quality Assurance Branch

TITLE: Mercury In Liquid Waste (Manual Cold-Vapor Technique) (SW-846 Method 7470A)

SOP NUMBER: M-7470A-CQAB-IA, Ver. 1.2

PREPARED BY: _____ Date

REVIEWED BY: _____
Technical Specialist Date

_____
QA Officer Date

_____
Laboratory Director Date

SOP MANUAL CONTROL NO.: _____

1.0 Scope and Application

1.1 This SOP details a method for determining the concentration of mercury in surface water, drinking water, ground water, aqueous wastes, and EP and/or TCLP extracts. The CQAB currently performs this method by using a cold-vapor atomic absorption (CVAA) instrument.

1.2 This procedure is used for the determination of total mercury.

2.0 Method Summary

2.1 Prior to analysis, all samples for determination of total mercury must be prepared according to the procedure discussed in Section 8.0 of this SOP.

2.2 The cold-vapor atomic absorption technique is based on the absorption of radiation at 253.7 nm, by mercury vapor. This method has been shown to be effective for measuring a number of organic mercury compounds including phenyl mercuric acetate and methyl mercuric chloride.

2.2.1 During the digestion step, inorganic forms of mercury and organo-mercury compounds are oxidized by potassium permanganate and potassium persulfate and converted to mercuric ions. The effectiveness of this procedure for other organic mercury compounds should be evaluated with duplicates and matrix spikes. (Refer to Section 10.0 of this SOP for quality assurance information.)

2.2.2 After digestion, the mercuric ion is reduced to the elemental state and aerated from the solution in a closed system.

2.2.3 The mercury vapor passes through a cell positioned in the light path of an atomic absorption spectrophotometer.

2.2.4 The sample absorbance (maximum absorbance) is measured and quantified on a calibration curve constructed from known mercury standards.

2.3 The typical method detection limit of the CVAA technique using 100 mL of sample is .01 μg/L. The LRL is .05 μg/L.

3.0 Health and Safety

3.1 Use of this procedure requires the handling of corrosive acids. Personal protective equipment such as lab coat, gloves, and safety glasses and/or goggles must be utilized.

3.2 All sample handling should be performed in a fume hood.

3.3 For specific information regarding the toxicity of the reagents used in this procedure and other related health and safety issues including the proper storage and handling of reagents and chemicals, the analyst should consult the appropriate Material Safety Data Sheets (MSDSs). These sheets are stored in a binder in the bookcase along the south wall of room 421.

3.4 Use of this procedure requires the handling of concentrated acid (sulfuric acid). Prior to performing this procedure, the analyst should be familiar with the proper use of corrosive liquid spill kits and containment procedures. Minimum personal protection includes the use of laboratory safety glasses, a lab coat or apron, and protective gloves. All digestions should be performed in a laboratory fume hood.

4.0 Sample Preservation, Containers, Handling, and Storage

4.1 Requirements for sample preservation, sample containers, and sample storage are detailed in SOP No. Q-005-MRL-SH, Sample Receipt, Login and Storage.

4.2 If dissolved metals are desired and filtration and preservation were not performed at the time of sample collection, these activities must be performed at the laboratory. The samples shall be filtered through Whatman 0.45-μm nitrocellulose filters, Cat. #7184004, using an acid-rinsed apparatus and then preserved with 1:1 v/v HNO_3. The lot number and amount of acid added to the sample and the name of the chemist performing the preservation and filtration will be included in the project file.

4.3 All samples must be preserved and stored at 4 ± 2 °C until analyzed. The holding time for mercury in aqueous matrices is 28 days from the date of collection.

5.0 Interferences and Potential Problems

5.1 Potassium permanganate is added to eliminate possible interference from sulfide. Sulfide concentrations as high as 20 mg/L have been shown not to interfere with the recovery of added inorganic mercury from reagent water.

5.2 Copper has also been reported to interfere with the analysis of mercury, however, copper concentrations as high as 10 mg/L had no effect on recovery of mercury from spiked samples.

5.3 Seawaters, brines, and industrial effluents high in chlorides require additional permanganate (as much as 25 mL) because, during the oxidation step, chlorides are converted to free chlorine, which also absorbs radiation of 253.7 nm. Care must therefore be taken to ensure that free chlorine is absent before the mercury is reduced and swept into the cell. This may be accomplished by using an excess of hydroxylamine sulfate reagent (25 mL). In addition, the dead air space in the BOD bottle must be purged before adding stannous sulfate. Both inorganic and organic mercury spikes have been quantitatively recovered from seawater by using this technique.

5.4 Certain volatile organic materials that absorb at this wavelength may also cause interference. If high concentrations of volatile organics are suspected, a preliminary run without reagents may be used to determine if this type of interference is present. If this type of interference is confirmed, the sample should be diluted to eliminate the interference.

6.0 Equipment/Apparatus

6.1 Atomic absorption spectrophotometer (AAS)- An atomic absorption unit with an open sample presentation area in which to mount the absorption cell is suitable. This laboratory uses a CETAC Atomic Adsorption Spectrophontometer Model No: M-6000A

6.2 Mercury hollow cathode lamp — Cathodeon, High-energy Mercury vapor lamp, serial no. A4731.

6.3 Recorder — Any multi-range variable-speed recorder compatible with the instrument may be used to graphically record sample response. Computerized systems capable of recording instrument response may also be used. This laboratory uses a Compaq Deskpro 4000,133 MHz computer. The system uses a 2.2 gigabyte hard drive, 1.44 MB floppy drive, VGA monitor, and a HP LaserJet printer.

6.4 Absorption cell — Standard spectrophotometer cells, 10 cm long with quartz end windows, may be used.

6.5 Air pump — Any peristaltic pump capable of delivering 1 L air/min may be used. A Masterflex pump with electronic speed control has been found to be satisfactory for other labs. This laboratory has an in-house flow system which is capable of delivering argon gas at 200 psi to the instrument.

6.6 Flowmeter — Capable of measuring an air flow of 1 L/min.

6.7 Impinger — A straight glass tube fitted with a frit with coarse porosity. Impingers are commercially available from a number of glassware supply companies.

6.8 Aeration tubing — Viton tubing is used for passage of the mercury vapor from the sample bottle to the absorption (or fluorescence) cell and return.

6.9 Drying tube — A 4- in x 1-in diameter polyethylene drying tube purged with argon gas. The drying tube is filled with approximately 20 g of magnesium perchlorate and is attached to the sample line between the Gas-Liquid Separator and the absorption cell to absorb excess moisture during the analysis. Alternatively, a small reading lamp fitted with 60-W bulb may be positioned directly above the cell to prevent the condensation of moisture inside the cell. The lamp should be positioned so that the temperature of the cell is about 10°C above ambient temperature.

Note: Instead of the drying tube, CETAC Technologies Inc. has developed a modification to its system that the CQAB has incorporated into its system. This is the Nafion Dryer Cartridge. With this cartridge the absorbance values will be greater than with the perchlorate, long-term reproducibility will be increased, assay run times will be shorter for most methods and the cartridge lasts for 3-6 months depending on use.

6.10 The cold-vapor AAS/M-600A installation is described in sections 1.3, 3.0, and 6.6 of the M-6000A Mercury Analyzer Operators Manual.

Because mercury vapor is toxic, precaution must be taken to avoid its inhalation. Therefore, a bypass has been included in the system to pass the vapor through a absorbing medium. Refer to Section 7.0 of this SOP for instructions on the preparation of a mercury-absorbing medium.

6.11 Mercury Vapor trap- a 4 in X 3/4 in diameter polyethylene tube trap filled with potassium permanganate, ($KMnO_4$), on the rear of the instrument.

6.12 Water bath, hot plate, or equivalent heating device — Adjustable and capable of maintaining a temperature of 90 - 95°C. CQAB uses a Precision Mechanical Convection Oven with Solid State Digital Controls for this purpose.

6.13 Graduated cylinders — Class A, 25-, 50-, 100-, 1000-mL sizes.

6.14 Laboratory balance — capable of measuring to the nearest 0.1 mg.

6.15 Acid-dispensing bottles, polyethylene, polypropylene or equivalent material, in various dispensing sizes (2.5, 3, 5, 10, and 15-mL).

6.16 10-mL and 15-mL Tippettes and 2 – 1000-mL flasks with plastic connectors.

6.16 300-mL glass BOD bottles — with ground-glass stoppers.

6.17 Volumetric pipets — Class A, various sizes.

6.18 Thermometer — 0 - 100°C, accurate to ± 1°C.

6.19 Squeeze bottles — polyethylene of equivalent material, 1000-mL size. Used for general rinsing and to dispense reagent water.

6.20 Volumetric flasks, Class A, various sizes.

7.0 Reagents

The traceability of all reagents, standards, and solutions used in this method must be documented in the appropriate logbook. The analyst must assign all prepared solutions unique identifier numbers. All reagents and standards may be identified by lot number or

the control number assigned by the Reagent Control Officer.

7.1 Reagent water — Refer to SOP No. Q-008-MRL-GL, Reagent Water Generation and Quality Monitoring.

7.2 Acids must be analyzed to determine levels of impurities. If a method blank made with the acid is < MDL, the acid can be used. This should be verified with each new lot of acid.

7.2.1 Concentrated sulfuric acid (H_2SO_4, Fisher Trace Metal grade, Cat. #A5 or equivalent). This laboratory uses Mallinckrodt AR Select concentrated sulfuric acid, Midlands Scientific Cat. #5557.

7.2.2 Concentrated nitric acid (HNO_3, Fisher TraceMetal grade, Cat# A-509 or equivalent). This laboratory Mallinckrodt AR Select Nitric Acid for Trace Metal Analysis, Midlands Scientific Cat. #6623.

7.2.3 Concentrated hydrochloric acid. Mallinckrodt AR Select concentrated hydrochloric acid, Midlands Scientific Cat. #5587.

7.3 Stannous chloride ($SnCl2 \cdot 2H_2O$), grade suitable for mercury analysis. J.T. Baker Stannous Chloride, Dihydrate, Crystal – Suitable for Mercury Determination, Cat. #3980-11.

7.3.1 Stannous chloride (10%(w/v) $SnCl_2$ in 7% (u/v) HCl Solution) — Weigh 50 ± 0.1 g of stannous chloride directly into a 500-mL volumetric flask. Using an acid-dispensing bottle, add approximately 35 mL of concentrated HCl to the flask. Mix to dissolve by adding approximately 200 mL of reagent water. Dilute to volume with reagent water. Transfer the diluted solution to the holding container. Prepare the solution prior to use.

7.4 Sodium chloride (NaCl) — ACS certified, Mallinckrodt AR Cat. #7581.

7.5 Hydroxylamine hydrochloride $(NH_2OH)_2 \cdot HCl$) — ACS certified, J.T. Baker Hydroxylamine Hydrochloride Crystal – Suitable for Mercury Determination, Cat. #2196-01.

7.5.1 Sodium chloride-hydroxylamine hydrochloride solution (0.73 M hydroxylamine chloride) — Weigh 288 ± 1 g of sodium chloride (Section 7.6) and 288 ± 1 g of hydroxylamine chloride (Section 7.6) and transfer to a 2-L volumetric flask containing approximately 1000 mL of reagent water. Mix to dissolve and bring to volume with reagent water. This solution may be stored in a 2-L glass reagent bottle at room temperature.

7.6 Potassium permanganate ($KMnO_4$), 5% solution (w/v) — Weigh 100 ± 0.5 g of potassium permanganate (ACS certified – J.T. Baker Potassium Permanganate – Suitable for Mercury Determination, Cat. #3227-01) and transfer to a 2-L volumetric flask containing approximately 1000 mL of reagent water. Mix to dissolve and bring to volume with reagent water. This solution may be stored in a 2-L plastic or glass

bottle at room temperature. (Solutions suitable for mercury analysis can be purchased.)

7.7 Potassium persulfate ($K_2S_2O_8$), 5% solution (w/v) — Weigh 50 ± 0.5 g of potassium persulfate (ACS certified – J.T. Baker Potassium Persulfate – Suitable for Mercury Determination, Cat. #3239-01) and transfer to a 1 L volumetric flask containing approximately 500 mL of reagent water. Mix to dissolve and bring to volume with reagent water. This solution may be stored in a 1-L plastic or glass bottle at room temperature.

7.8 Stock Mercury Standard (1000 mg/L Mercury) — Stock calibration solutions shall be purchased as certified solutions from commercial suppliers. Refer to SOP No. Q-003-MRL-QC, Standards Preparation, Traceability, and Storage Requirements. Certificates must be kept on file. Purchased stock solutions are stable for one year. Mercury stock standards (1000 ug/mL) are purchased from SPEX Chemical, Cat. #PLHG 4-2X, or from Fisher Scientific, Cat. # SM114-100.

7.8.1 Primary source standards shall be used to prepare the initial 6-point calibration curve (only a 5-point curve is required), continuing calibration verification (CCV) standard, and matrix spikes and their duplicates (MS/MSDs).

7.8.2 Secondary source standards shall be used to verify the initial calibration (ICV) curve only. These standards shall be purchased from a different vendor, unless the primary vendor can supply different lot numbers. See Section 7.16 for the preparation and final concentration of these standards. For this procedure, the ICV and LCS are the same.

7.9 Intermediate Mercury working standard (10 mg/L Mercury) — Using a 1-mL volumetric pipet, transfer 1 mL of the mercury stock (Section 7.10) to a 100-mL volumetric flask containing approximately 50 mL reagent water and 2.0 ± 0.1 mL HNO_3. Mix and dilute to volume with reagent water. The final acid concentration will be approximately 0.20%. Prepare fresh each day.

7.10 Mercury working standard (0.1 mg/L Mercury) — Using a 1-mL volumetric pipet, transfer 1 mL of the intermediate mercury stock (Section 7.11) to a 100-mL volumetric flask containing approximately 50 mL reagent water and 2.0 ± 0.1 mL HNO_3. Mix and dilute to volume with reagent water. The final acid concentration will be approximately 0.20%. Prepare fresh each day.

Note: For convenience, 2.0 mL of HNO_3 may be added to each volumetric flask with a 2.0 mL acid-dispensing bottle prior to the addition of reagent water or stock solution. The final acid concentration will be approximately 0.20%.

7.11 Calibration Standards

7.11.1 Prepare a seven-point calibration curve that includes a calibration blank using the working standard from Section 7.12. The lowest standard shall

be 3 to 5 times MDL. The highest standard shall not exceed the linear range of the instrument.

7.11.2 Transfer appropriate aliquots of the mercury-working standards to a series of 300-mL BOD bottles containing the appropriate amount of reagent water to make the volume in the BOD bottle 100 mL ± 0.5 mL. See Table 1.
Calibration standards are to be processed at the same time as the sample batch. Refer to Sections 8.1.2, 8.1.3, and 8.1.4.

Table 1. Default Calibration Curve

Volume of Working Standard (mL) Added to Make Calibration Standards	ppb Hg per 100 mL of Sample and Standard Identifier
5.0 mLs of 100 ppb	5.0 S7
2.0 mLs of 100 ppb	2.0 S6
1.0 mLs of 100 ppb	1.0 S5
5.0 mLs of 10 ppb	0.5 S4
2.0 mLs of 10 ppb	0.2 S3
5.0 mLs of 1 ppb	0.05 S2
0.0 (calibration blank)	0.0 (calibration blank – S1)
Volume of ICV Spike at 100 ppb to Make ICV Check Standard	**ppb Hg per 100 mL of Sample and Standard Identifier**
2.0 mLs	2.0 S8

7.11.3 Client specific requirements may require a different calibration curve. The LIMS back-log comment field should be consulted for project-specific DQOs before sample analysis to ensure the calibration range is appropriate. In the absence of project specific requirements, the default calibration curve in Table 1 will be used.

7.12 Laboratory Control Sample (LCS)-

7.12.1 An LCS shall be prepared using the primary source standard.

7.12.2 The LCS shall be prepared in the appropriate matrix (organic-free reagent water) within the batch. The LCS is to be processed at the same time as the sample batch. See Sections 8.1.2, 8.1.3, 8.1.4. The spiking level used would be at the same level as the site-specific action limit. If site-specific action limits are not available or where these levels are very high, the spiking level shall be at a concentration between the low and mid-level calibration standards. This laboratory uses a 2.0-mL spike of a 100.0 ppb standard to make a concentration of 2.0 ppb Hg.

7.13 Initial Calibration Verification (ICV) –

7.13.1 The ICV shall be prepared using the secondary source standard.

7.13.2 The ICV shall be prepared in the appropriate matrix (organic-free reagent water) within the batch. The ICV is to be processed at the same time as the sample batch. See Sections 8.1.2, 8.1.3, and 8.1.4. The spiking level used would be at the same level as the site-specific action limit. If site-specific action limits are not available or where these levels are very high, the spiking level shall be at a concentration between the low and mid-level calibration standards. This laboratory uses a 2.0-mL spike of a 100.0 ppb standard to make a concentration of 2.0 ppb Hg.

7.14 Continuing Calibration Verification (CCV) standard

7.14.1 The CCV is prepared the same as the primary mid-level standard (Section 7.13.2) and is run after every 10 samples (sample includes duplicates and MS/MSD(s)) and at the end of the analytical sequence.

7.14.2 A sufficient number of CCVs will need to be processed to meet the requirements of the batch size being used. They are processed in the same manner and at the same time of the sample batch. See Sections 8.1.2, 8.1.3, and 8.1.4.

7.15 Matrix Spike (MS) Standard

7.15.1 The MS standard shall be prepared from the primary stock calibration standard. Matrix spike samples shall be processed at the same time as the sample batch. See Sections 8.1.2, 8.1.3, and 8.1.4.

7.15.2 The spike should be at the site action level, if applicable, or twice the expected concentration, if known. If an action level or the expected concentrations are not known, the spiking level would default between the low and mid-level calibration standards. The default matrix spike concentration is 2.0 ppb Hg.

8.0 Procedure

8.1 Sample preparation

8.1.1 Using a 100-mL graduated cylinder, transfer 100 ± 0.5 mL of sample to a 300-mL BOD bottle.

Note: Calibration standards (Refer to Section 7.13), LCSs, ICVs, CCVs, Dups, and MS/MSDs must be prepared in the same manner as the samples and at the same time.

8.1.2 Make sure that the Laboratory Control Samples and Matrix Spike/Matrix Spike Duplicate samples are spiked. All standards must be prepared as well before going on.

8.1.3 Using a 5-mL and a 2.5-mL acid-dispensing bottle, sequentially add 5 mL of concentrated H_2SO_4 and 2.5 mL of concentrated HNO_3 to each bottle. Mix after each addition. Using a Tippette, add 15 ± 0.5 mL of potassium permanganate solution (Section 7.8) to each bottle. Samples high in organic content may require additional permanganate, as indicated by a clearing of the sample. Ensure that equal amounts of permanganate are added to standards and blanks. Swirl, and add additional 5 mL portions of potassium permanganate solution, if necessary, until the purple color persists for at least 15 min.

8.1.4 Using a Tippette, add 10 ± 0.5 mL of potassium persulfate solution (Section 7.9) to each bottle. Place samples into the oven and heat at 90-95°C for 2 ± 0.5 hours from the time the oven reaches 90°C. Allow samples to cool to room temperature. Using a Tippette, add 10 ± 0.5 mL of sodium chloride-hydroxylamine chloride solution (Section 7.7) to reduce the excess permanganate. Swirl until all traces of purple color fades. The samples are now ready for analysis by the mercury cold-vapor technique. See Section 8.2.5 for the next applicable step for samples.

Note: The temperature of the heating device may be monitored with a temperature blank prepared by inserting a thermometer into a BOD bottle fitted with a rubber stopper and containing approximately 120 mL of reagent water. Adjust the temperature control on the heating device until the sample temperature equilibrates at 90 ± 5°C.

8.2 Instrument Calibration and Sample Analysis

8.2.1 Set up or zero mercury analyzer used according to manufacturer's recommended procedures.

8.2.2 Set up the analytical run as presented in Table 2. If data system automates the analytical run, program samples into software.

Table 2. Analytical Sequence

Sample	Comment
Calibration Blank (CB)	Blank working standard
Standard 1 (S1)	Calibration standard #1
Standard 2 (S2)	Calibration standard #2
Standard 3 (S3)	Calibration standard #3
Standard 4 (S4)	Calibration standard #4
Standard 5 (S5)	Calibration standard #5
Standard 6 (S6)	Calibration standard #6
ICB	Initial Calibration Blank - no contamination above the MDL
ICV	QC check--must be within ±10%
MB	Method Blank – no contamination above the MDL
1-10 Samples	Samples include field and QC (LD, MS, MSD)
CCB	QC check must be within 2 times MDL
CCV	QC check must be within 20% of known value
1-10 Samples	Samples include field and QC (LD, MS, MSD)
CCB	QC check must be within 2 times MDL
CCV	QC check must be within 20% of known value
Repeat box until samples are exhausted.	
Then end run with:	
CCB CCV	Requirements same as above

8.2.3 Construct a calibration curve by plotting the absorbances of the standards versus the true mercury concentration (micrograms of mercury). The instrument will do this for the analyst automatically.

8.2.4 The results of the ICV must be within default limits established for the ICV, for that acceptance criteria is the most stringent (±10%). In this way the curve is proven to be acceptable for sample analysis (ICV), as well as assuring control of the entire batch analyses (LCS – acceptance criteria is ±20%).

8.2.5 Proceed with sample analysis as in 8.2.4. Check the calibration curve with the midpoint standard (CCV) after every 10 samples and at the end of the analytical sequence.

8.2.6 Determine sample concentrations (in micrograms of mercury). Calculate the concentration in ppb as presented in Section 9.1. For sample absorbances that exceed the highest calibration standard, redigestion and reanalysis shall be performed.

9.0 Calculations

9.1 Calculate the mercury concentration for each sample as follows:

$$Concentration\ (\mu g/L) = \frac{A}{W}$$

where:

A = g mercury read from standard curve
W = volume in L of sample

9.2 Percent Recovery

9.2.1 For LCS, recovery is calculated using:

$$\%\ Recovery = \frac{A}{B}\ x\ 100$$

where:

A = µg/L mercury measured
B = known true value

9.2.2 For MS/MSDs, recovery is calculated using:

$$\%\ Recovery = \frac{|\ Sample + Spike\ Result - Sample\ Result\ |}{Spike\ Added}$$

9.3 Relative percent difference

$$RPD = \frac{|S_1 - S_2|}{(S_1 + S_2)/2} \times 100$$

where:

S_1 and S_2 represent sample and duplicate sample results, or matrix spike and matrix spike duplicate results.

10.0 Quality Assurance/Quality Control

10.1 A preparation batch of samples is defined as a group of up to twenty field samples of similar matrix type that have been prepared at the same time or time sequence with the same lots of reagents for the same analysis. In addition to the twenty samples, each preparatory batch will contain at a minimum, a method blank, a laboratory control sample, a matrix spike, a matrix spike duplicate and a matrix duplicate. An analytical or instrumental batch is defined as samples that are analyzed together within the same time period or in continuous sequential time periods. Within the analytical batch are included individual QC requirements as defined by the analytical (determinative) method. For instance, each analytical batch would begin with the 5 point calibration plus a calibration blank, an LCS/ICV, followed by the up to ten QC (normally a method blank (MB), MS, MSD, MD, etc.) and field samples, then continuing calibration verification, an instrument blank, and so on. Preparation batches of samples may be continuously strung together in these run sequences, as long as the analytical batch QC requirements meet the acceptance criteria established within the appropriate SOP. At the conclusion of the last sequence, a CCV is required. Each analytical sequence must be documented using the run log in Figure 1. The QA Office will bind these forms into a logbook for use by the analyst.

10.2 Run a 6-point initial calibration curve plus a calibration blank, using the primary source standards with each sample preparation batch. Acceptance criteria are presented in Section 11.1.

10.3 A method blank must be prepared with each batch of samples. The method blank should be prepared from reagent water. Acceptance criteria for these blanks are listed in Section 11.2.

10.4 A laboratory control sample must be prepared and analyzed with each batch of samples.

10.5 The ICV shall also serve as the initial curve validation standard. The ICV would be prepared using the secondary source standard. Acceptance criteria are presented in Section 11.3.

10.6 Run a mid-point Continuing Calibration Verification (CCV) using the primary source standards after every 10 samples, and at the end of the analysis. Acceptance criteria are listed in Section 11.4.

10.7 The use of the matrix spike and matrix spike duplicate will depend in part on what role the laboratory is playing. When the laboratory serves the role as the primary laboratory, then site-specific documents should be consulted. The sample to be used for the MS/MSD may be specified in the field. This previously designated sample would then be spiked a concentration equivalent to the site action level. The MS/MSD would be prepared using the primary source standards. If this information was not specified or unknown, then the laboratory would choose a representative sample from each batch of samples analyzed. If samples from

multiple sites were to be analyzed in the same batch, then multiple sets of MS/MSDs may be required. When the laboratory serves the role as the QA laboratory, the above scenario may not be practical to implement. If the site-specific requirements are unknown and samples from multiple sites are analyzed in the same batch, then the laboratory should select a single sample for spiking. Each batch of samples would then contain at least one MS/MSD pair. Acceptance criteria are presented in Section 11.5 for percent recovery and RPD.

10.8 The use of the matrix duplicate may also depend in part on the role the laboratory is playing. The selection of a matrix duplicate will be performed as described for the MS/MSD in Section 10.6. Acceptance criteria are presented in Section 11.6 for RPD.

10.9 Data shall be checked to ascertain if it conforms to accepted practices for data reporting. All sample analytical results used for final data reporting must be above that of the low standard used during the initial calibration. Results that fall below the low standard are to be reported as estimated values (J values). Corrective actions are described in Section 11.7. Other reporting limits can be used based upon site-specific criteria.

10.9 MDLs are determined in reagent water and verified annually. (Project-specific requirements may require that the MDL study be performed in the site-specific matrix.) Refer to SOP No. Q-019-MRL-QC, Method Detection Limits (MDLs), Method Quantitation Limits (MQLs), and Laboratory Reporting Limits (LRLs).

10.10 The analyst must demonstrate proficiency in performing the analysis as outlined in SOP No. Q-016-MRL-QC, Technical Training. Method proficiency must be redemonstrated anytime a major method modification is made, a major software revision is added, or a major instrument modification is made. Demonstration of method proficiency may also be required after major instrument maintenance. This is decided on a case by case basis through discussions with the Section Chief, Laboratory Director, and a Laboratory QA Officer.

11.0 Data Validation

Site-specific requirements must be checked and used, if known, for data review. The criteria presented in this section should be used as a default list in the absence of site specific requirements. The items shall be verified and documented using the data review checklist in Figure 2.

11.1 The calibration curve shall be linear. The correlation coefficient of the curve shall be greater than or equal to 0.995.

11.2 Assess the method blanks. The analyst shall confirm that these blanks were analyzed at the required frequency.

The method blank should not exhibit any mercury contamination above the MDL. Corrective action should be performed any time mercury is detected above the MDL to reduce and control contamination. Corrective action will be required if mercury

is detected at greater than 5% of the regulatory limit or greater than 5% of the sample result, or if detected above the low standard used during initial calibration. Corrective action would include reanalysis of field and QC samples in the batch if some or all of the samples also contained mercury levels that exceeded the above criteria. If none of the field samples had values above the stated criteria, then reanalysis may not be necessary. The source of contamination should still be investigated and reduced/eliminated. Any time that contamination is noted in the method blank, the situation and impact on the data should be discussed in the case narrative.

11.3 After the 5-point initial calibration, verify the initial calibration by analyzing an "ICV". The results of the ICV must be within default limits established for the ICV, for this acceptance criteria is the most stringent (±10%). In this way the curve is proven to be acceptable for sample analysis (ICV). To demonstrate that the entire batch is under control, assess that the LCS results fall within the 80-120% acceptance criteria.

If the LCS fails, the samples need to be reprocessed from digestion through analysis.

11.4 Verify that the continuing calibration verification (CCV) standard was run at the required frequency (after every 10 samples and at the end of the analytical sequence). The acceptance criterion for the CCV is that the CCV must be within 20% of the true value.

If a CCV fails during an analytical sequence, the previous ten samples need to be reprocessed from digestion through analysis.

11.5 Assess that matrix spike/matrix spike duplicates were analyzed at the required frequency. The analyst shall also verify that the samples were spiked at the appropriate level. The order of preference for spiking levels is as follows; 1) If the target analyte concentrations are known, spike to increase the background concentration by a factor of approximately two, 2) if an action level exists, spike at this level, or 3) if neither of the first two conditions apply, spike at a level between the low and mid-level calibration standards. Acceptance criteria are that all % Recovery and/or RPD results meet project established goals. If no project goals are specified, then results must be within the indicated control limits on the appropriate LCS/ICV control charts. If these conditions are not met, perform the following corrective actions as appropriate.

- If both LCS/ICV and MS/MSD recoveries are unacceptable, then the entire batch of field and QC samples must be redigested and reanalyzed.

- If the MS/MSD is unacceptable, but the LCS/ICV is acceptable, then a potential matrix effect has been identified. Redigest and reanalyze the MS/MSD to verify matrix effect. If a matrix effect is still suspected, then the project manager must be contacted to discuss further alternatives and the potential impact on the project. Reasonable attempts must be made to address matrix interference. Reported data should be flagged.

11.6 Assess matrix duplicates were analyzed at required frequency. Acceptance criteria are that all RPD results meet project established goals. If no project goals are specified, then results must be within the indicated control limits on the appropriate LCS/ICV precision control charts. If these conditions are not met, perform the following corrective actions as appropriate:

- Redigest and reanalyze that sample to verify a matrix effect.
- If the duplicate precision is still unacceptable, then a potential matrix effect has been identified. The project manager must be contacted to discuss further alternatives and the potential impact on the project.

11.7 The analyst must verify all reported results are derived from analytical results that are below the highest standard of the initial calibration curve and above the low standard. Values reported below the low standard are to be reported as estimated values (J values). For samples that exceed the calibration curve, reanalyze using a smaller sample size diluted to 100 mL.

11.8 Besides the items listed in Sections 11.1 through 11.7, the analyst should also verify the additional items as noted in Figure 2.

11.9 Additional levels of review are performed as described in SOP No. Q-024-MRL-DR, Data Reduction and Review/Validation (In-House/Contractor Data).

12.0 Waste Disposal

This procedure generates corrosive and metallic wastes that must be disposed of in accordance to all local regulations. Refer to the CQAB Waste Management Plan.

13.0 References

13.1 Test Methods for Evaluating Solid Waste Methods, SW-846, Third Edition, Update II, July 1992, Method 7470A.

13.2 SOP No. Q-008-MRL-GL, Reagent Water Generation and Quality Monitoring.

13.3 SOP No. Q-003-MRL-QC, Standards Preparation, Traceability, and Storage Requirements.

13.4 SOP No. Q-005-MRL-SH, Sample Receipt, Login, and Storage.

13.5 SOP No. Q-019-MRL-QC, Method Detection Limits (MDLs), Method Quantitation Limits (MQLs), and Laboratory Reporting Limits (LRLs).

13.6 SOP No. Q-016-MRL-QC, Technical Training.

13.7 SOP No. Q-009-MRL-QC, Control Chart Generation, Maintenance, and Usage.

13.8 SOP No. Q-024-MRL-DR, Data Reduction and Review/Validation (In-House/Contractor Data).

13.9 Missouri River Laboratory Waste Management Plan.

DIGESTION/ANALYSIS LOG FOR MERCURY
Missouri River Laboratory

	Project:	Matrix: ☐ Solid ☐ Liquid
Start Date:	SOP No.:	

BOD bottle #	Lab/Sample ID	Sample Amt.	Fluorescence Reading	Final Conc.	Avg. Conc. (solids only)	RSD (solids only)

LCS/ICV Std ID: _____ Amt Added: _____

MS Std ID: _____ Amt Added: _____

Reagent lot numbers: _____

Analyst: _____ Reviewed by: _____ Date: _____

Figure 1. Mercury Analysis Run Log

DIGESTION/ANALYSIS LOG FOR MERCURY
Missouri River Laboratory

Batch No.:	Project:	Matrix: ☐ Solid ☐ Liquid
Start Date:	SOP No.:	

BOD bottle #	Lab/Sample ID	Sample Amt.	Fluorescence Reading	Final Conc.	Avg. Conc. (solids only)	RSD (solids only)

LCS Std ID: _____ Amt Added: _____

MS Std ID: _____ Amt Added: _____

Reagent lot numbers: _____

Analyst: _____ Reviewed by: _____ Date: _____

Figure 1a. Example of Mercury Analysis Log.

Data Review Check List for Mercury
Missouri River Laboratory

[illegible]s)	
Batch Number(s)	
SOP No.	

	Review Item	Yes (x)	No (x)	N/A (x)	2nd Level Review (x)
1.	Does the daily standard curve consist of a Calibration Blank and the required 5 of calibration standards?				
2.	Is the low standard near, but above, the MDL?				
3.	Is the LCS/ICV from a second source and is its percent recovery within QC limits (90-110%)?				
4.	Are the CCV standards analyzed after every 10 samples and at the end of the analytical sequence? Do the CCVs meet QC limits (80-120%)?				
5.	Is the Matrix Spike/Matrix Spike Duplicate run at the desired frequency and is the percent recovery/RPD within QC limits?				
6.	Is the Matrix Duplicate run at the desired frequency and is the RPD within QC limits?				
7.	Are all samples with concentrations > the highest standard used for initial calibration reprocessed and reanalyzed?				
8.	Are all sample holding times met?				
9.	Are all nonconformances included and noted?				
10.	Is the correct methodology used for sample prep and analysis?				
11.	Are all calculations checked at the minimum frequency?				
12.	Did analyst sign/date the appropriate printouts and report sheets?				
13.	Are all sample ID and units checked for transcription errors?				

Comments on any "No" response:

_____

_____

_____

_____

Analyst: _____ Date: _____

2nd Level Reviewer: _____ Date: _____

Figure 2. Mercury Analysis Data Review Sheet

Data Review Check List for Mercury
Missouri River Laboratory

[illegible]s)	
Batch Number(s)	
SOP No.	

	Review Item	Yes (x)	No (x)	N/A (x)	2nd Level Review (x)
1.	Does the daily standard curve consist of a Calibration Blank and the required 5 calibration standards?				
2.	Is the low standard near, but above, the MDL?				
3.	Is the LCS/ICV from a second source and is its percent recovery within QC limits (90-110%)?				
4.	Are the CCV standards analyzed after every 10 samples and at the end of the analytical sequence? Do the CCVs meet QC limits (80-120%)?				
5.	Is the Matrix Spike/Matrix Spike Duplicate run at the desired frequency and is the percent recovery/RPD within QC limits?				
6.	Is the Matrix Duplicate run at the desired frequency and is the RPD within QC limits?				
7.	Are all samples with concentrations > the highest standard used for initial calibration reprocessed and reanalyzed?				
8.	Are all sample holding times met?				
9.	Are all nonconformances included and noted?				
10.	Is the correct methodology used for sample prep and analysis?				
11.	Are all calculations checked at the minimum frequency?				
12.	Did analyst sign/date the appropriate printouts and report sheets?				
13.	Are all sample ID and units checked for transcription errors?				

Comments on any "No" response:

_____

_____

_____

_____

Analyst: _____ Date: _____

2nd Level Reviewer: _____ Date: _____

Figure 2a. Example of Mercury Analysis Data Review Sheet.

Missouri River Laboratory
USACE

TITLE: Acid Digestion Of Waters For Total Recoverable Or Dissolved Metals For Analysis By Inductively Coupled Argon Plasma Spectroscopy (ICP) (SW-846 Method 3005A)

SOP NUMBER: **M-3005A-MRL-IP, Ver. 1.0**

PREPARED BY: _____
Date

REVIEWED BY: _____
Technical Specialist Date

_____
QA Officer Date

_____
Laboratory Director Date

SOP MANUAL CONTROL NO.: _____

Original:
C:\WINDOWS\TEMP\3005A.WPD
Mirrored:
V:\QA\STD-SOPS\..\3005A.WPD

Official Document

1.0 Scope and Application

This SOP is an acid digestion procedure based on SW-846 Method 3005A, used to prepare surface and ground water samples for total recoverable or dissolved metals for analysis by inductively coupled argon plasma spectroscopy (ICP). Antimony may also be analyzed by graphite furnace atomic absorption (GFAA). Samples prepared by this SOP may be analyzed by GFAA or ICP for the following metals using the techniques specified in Table 1. Please note that arsenic and selenium prepared by this methid can be analyzed by ICP only.

Table 1. Techniques for Metals Analysis

Analyte:	Technique	Symbol:	CAS #:
Aluminum	ICP	Al	7429-90-5
Antimony	ICP/GFAA	Sb	7440-36-0
Arsenic	ICP	As	7440-38-2
Barium	ICP	Ba	7440-39-3
Beryllium	ICP	Be	7440-41-7
Boron	ICP	B	7440-42-8
Cadmium	ICP	Cd	7440-43-9
Calcium	ICP	Ca	7440-70-2
Chromium	ICP	Cr	7440-47-3
Cobalt	ICP	Co	7440-48-4
Copper	ICP	Cu	7440-50-8
Iron	ICP	Fe	7439-89-6
Lead	ICP	Pb	7439-92-1
Magnesium	ICP	Mg	7439-95-4
Manganese	ICP	Mn	7439-96-5
Molybdenum	ICP	Mo	7439-98-7
Nickel	ICP	Ni	7440-02-0
Potassium	ICP	K	7440-09-7
Selenium	ICP	Se	7782-49-2
Silver	ICP	Ag	7440-22-4
Sodium	ICP	Na	7440-23-5
Thallium	ICP	Tl	7440-28-0
Vanadium	ICP	V	7440-62-2
Zinc	ICP	Zn	7440-66-6

2.0 Method Summary

2.1 Total recoverable metals — The entire sample is acidified to a pH ≤ 2 at the time of collection with nitric acid. Prior to analysis the sample is heated with acid and substantially reduced in volume. The digestate is filtered and diluted to volume, and is ready for analysis by ICP or GFAA.

2.2 Dissolved metals — The sample is filtered through a 0.45-μm filter at the time of collection and the filtrate is acidified with nitric acid to pH ≤ 2. Prior to

analysis the sample is heated with acid and substantially reduced in volume. The digestate diluted to volume, and is ready for analysis by ICP or GFAA.

3.0 Health and Safety

3.1 The toxicity or carcinogenicity of each reagent used in this procedure has not been precisely determined. Therefore, all chemicals should be treated as if they pose a health hazard.

3.2 Use of this procedure requires the handling of corrosive acids, therefore protective equipment must be utilized. Minimum personal protection includes the use of laboratory safety glasses, a lab coat or apron, and protective gloves. All digestions must be performed in a laboratory fume hood. In addition, given the unknown chemical nature of samples, all sample handling must also be performed in a fume hood.

3.3 For specific information regarding the toxicity of the reagents used in this procedure and other related health and safety issues including the proper storage and handling of reagents and chemicals, the analyst should consult the appropriate Material Safety Data Sheets (MSDSs). The applicable MSDS are located in room 421.

3.4 Use of this procedure requires the handling of corrosive acids, including nitric and hydrochloric acids. Prior to performing this procedure, the analyst should be familiar with the location and proper use of corrosive liquid spill kits, as well as, containment procedures.

4.0 Sample Preservation, Containers, Handling, and Storage

4.1 Requirements for sample preservation, sample containers, and sample storage are detailed in SOP No. Q-005-MRL-SH, Sample Receipt, Login, and Storage Procedures.

4.2 Dissolved metals — All samples must be filtered through a 0.45-μm filter at the time of collection (or immediately thereafter) and then acidified to a pH $\leq$ 2 with nitric acid. Samples that are not filtered at the time of collection must be shipped to the laboratory unpreserved at 4°C. Samples are filtered through a Corning Disposal Filter System Cat.# 25935. This filter system has a .45 micron nylon membrane filter and used only once. After filtration, the sample is acidified as described above.

4.3 All sample containers (500 mL or 1 L) must be prewashed with detergents, acids, and reagent water. Both plastic and glass containers are suitable. Refer to SOP No. Q-012-MRL-GL, Glassware Cleaning, for the proper cleaning procedures. Purchased pre-cleaned bottles may also be used.

4.4 Samples for metals analysis must be digested and analyzed within 6 months of

sample collection. Digestates are stored in low-density, polyethylene (LDPE) 50-mL metal-free centrifuge tubes at room temperature.

5.0 Interferences and Potential Problems

5.1 The analyst should be cautioned that this digestion procedure may not be sufficiently vigorous to destroy some metal complexes. This SOP is not designed for use in determining total metals concentration of water samples. Refer to SOPs M-3010A-MRL-IP and M-3020A-MRL-IP for digestion procedures for total metals.

5.2 The recoveries of silver and lead may be low in some matrices due to precipitation with chloride. If low matrix spike recoveries are observed, the samples should be redigested as described in Section 8 without the addition of HCl. Digestates prepared in this manner may be analyzed for silver only and the data must be appropriately documented to reflect the change in the digestion procedure. An alternative is to add extra HCl thus forming complex ions and redissolving of the silver. The samples may then be reanalyzed.

5.3 The analyst must monitor the temperature of the heating device closely to prevent the samples from boiling or evaporating to dryness. Antimony and selenium may be lost by volatilization if the samples are boiled. If samples begin to boil, immediately remove samples from the hot plates and lower the temperature of the heating device. Samples that are allowed to go to dryness may show poor recovery due to the absorption of the metal to the beaker walls.

5.4 Samples and empty clean glassware must be covered with plastic wrap to avoid the introduction of dust particles.

5.5 The sample digestion area must be kept clean. This involves regular cleaning of the work area and daily cleaning of the hoods and hot plates.

6.0 Equipment/Apparatus

6.1 Beakers — 100-mL

6.2 0.45 μm Membrane Filter — nylon filters (for prefiltering only.)

6.3 Graduated cylinder, Class A — 50-mL glass or equivalent.

6.4 Electric hot plate with adjustable temperature control and capable of maintaining a temperature of 90-95°C. — Thermolyne Type 2200 Hot Plate.

6.5 Automatic pipets or acid dispensing bottles for dispensing of acids, accurate to within ± 0.1 mL. — 5.0-mL Repipet dispensers (Labindustries Cat. #. 3005-A-L, accuracy 1%, reproducibility 0.1%, graduations 0.05).

6.6 LDPE — 50-mL metal free centrifuge tubes with screw caps. Baxter Cat.# C3902-15 for storing digestates.

6.7 Squeeze bottles — Nalgene polyethylene squeeze bottles for dispensing reagnet water.

6.8 Centrifuge — Internation Equipment Co., Model 115.

7.0 Reagents

7.1 Reagent Water — Refer to SOP No. Q-008-MRL-GL, Reagent Water Generation and Quality Monitoring.

7.2 Acids must be of sufficient purity for the analytical methods to be employed. Acids must be analyzed to determine levels of impurities. If a method blank made with the acid is < MDL, the acid can be used. This should be verified with each new lot of acid.

7.2.1 Nitric acid, concentrated, HNO_3 — Mallinckrot AR Select Cat. # 6623 or equivalent.

7.2.2 Hydrochloric Acid, concentrated, HCl —- Mallinckrot AR Select Cat. # 5587 or equivalent.

7.3 Metal stock solutions or mixed calibration solutions are to be purchased as prepared certified solutions from commercial suppliers. Certificates are to be kept on file. See Method 6010A for all standard specifications.

7.3.1 Primary source standards shall be used to prepare the initial calibration curve, continuing calibration verification (CCV) standard, laboratory control sample (LCS), and matrix spikes and their duplicates (MS/MSDs).

7.3.2 Secondary source standards shall be used to verify the initial calibration (ICV) curve only. These standards shall be purchased from a different vendor, unless the primary vendor can supply different lot numbers.

7.4 Matrix Spike (MS) Standard -

7.4.1 The matrix spike standard shall be prepared from the calibration stock standard (primary) in Section 7.3.1. See Method 6010A for instructions.

7.4.2 The spike level should be at the regulatory level if known, or at two to five times background levels of target analytes, whichever is greater. The spike level should be kept at a much higher level than background level without the need of dilution. If the regulatory level is not known, spike at two to five times target analyte level of the sample, if the target analyte level is known. If target analyte level is not known or target

analyte is absent, spike at twenty times the MDL of the target analyte or at a concentration between the low and mid level calibration standards.

7.4.3 Ideally, all method analytes should be contained in the MS spike. Subsets may be used based on project specific requirements.

7.5 Laboratory Control Sample (LCS)

7.5.1 The LCS shall be prepared from the calibration stock standard (primary) in Section 7.3.1. Purchased from VHG. See Mothod 6010A for instructions.

7.5.2 The LCS shall be prepared in the appropriate matrix (reagent water); and contains all of the method target analytes. A subset of the method target analytes could be used based on the project specific requirements. The spiking level used would be at the same level as the site-specific action limit. If site-specific action limits are not available or where these levels are very high, the spiking level shall be at a concentration between the low and mid-level calibration standards.

8.0 Procedure

All glassware coming in contact with the sample and all digestion vessels used to contain a sample must be labeled and rinsed. The digestion log (see Figure 1) is to be filled out with each step of the procedure.

8.1 Using a graduated cylinder, transfer a 50.0 ± 0.5 mL aliquot of well-mixed sample to a 100-mL beaker. Spike QC samples as appropriate.

8.2 Add 1.00 ± 0.05 mL of concentrated HNO_3 followed by 2.50 ± 0.05 mL of concentrated HCl to each sample. Place the sample on the heating device. Covering each beaker on the hot plate is not needed as long as the hood and hot plates are kept clean and the hood is glass-lined with no visible deterioration and blanks are within acceptable limits. Adjust the temperature control on the heating device to a temperature of 90 to 95°C. The temperature of the hot plate surface will be higher than the solution in a beaker to achieve the 90-95°C solution temperature. All beakers heat differently because of position on the hot plates, how flat the beaker bottom is and the type of sample being prepared. Do not use the temperature of the solution as the only guide. It is not a very reliable measurement of the temperature of all the solutions. Watch all samples for boiling, if any do boil turn down the hot plate regardless of the thermometer reading. It is suggested that the temperature of the heating device or representative sample be monitored near the center of the heating device. Record the temperature on the digestion log in Figure 1 at the beginning and end of the digestion process. Slowly evaporate the sample until the volume has been reduced to 7-10 mL. Do not allow the sample to evaporate to dryness.

CAUTION: Do not boil. Antimony is easily lost by volatilization from hydrochloric acid media. If samples boil or evaporate to dryness, a new aliquot must be redigested.

8.3 After the sample volume is reduced to approximately 7-10 mL, remove the sample from the hot plate and allow it to cool to room temperature. Using a rinse bottle, rinse down the beaker walls with 5-10 mL of reagent water and transfer the sample to the 50-mL centrifuge tube. Rinse the beaker 3 more times transferring the rinses into the centrifuge tube.

8.4 Adjust the sample to a final volume of 50.0 ± 0.5 mL or other suitable volume with reagent water using a 50-mL metal-free centrifuge tube. Record final sample volume on digestion log (Figure 1). This final sample volume may be altered if prior knowledge of the sample indicates that sample dilution (or concentration) is necessary. Thoroughly mix the sample to ensure the digestate is completely homogenous. Allow the sample to settle or centrifuge to remove silicates and other insoluble material that could clog the nebulizer.

8.5 Digestates are stored at room temperature.

9.0 Calculations

The final metal concentration in the sample should be reported in mg/L or µg/L as appropriate following analysis by ICP, or GFAA. All dilution factors resulting from the digestion must be used in calculating the final sample concentration. Refer to the appropriate determinative method(s) for calculations details.

10.0 Quality Assurance/Quality Control

10.1 A preparation batch of samples would be defined as a group of up to twenty field samples of similar matrix type that are digested at the same time using the same digestion procedure and reagents (or reagents from the same lots). In addition to the twenty samples each batch would also contain a minimum of a method blank (MB), a matrix duplicate (MD), a matrix spike, a matrix spike duplicate (MS/MSD), and a laboratory control sample (LCS).

10.2 A method blank consisting of 50.0 ± 0.5 mL of reagent water shall be prepared with each batch of samples. Acceptance criteria are presented in the appropriate determinative method.

10.3 A Laboratory Control Sample consisting of 50.0 ± 0.5 mL of reagent water spiked with all the target metals prior to digestion, is digested and analyzed with each batch of samples. Control charts will be maintained for the LCS for all method target analytes. Acceptance criteria are specified in the appropriate determinative method. The order of preference for spiking levels is as follows:

- If an action level exists, spike at this level. If the action level is at the

lowest calibration standard, the concentration of the LCS should be slightly higher.

- If the above condition does not apply, spike at a level between the low and mid-level of the calibration standards.

10.4 The use of the matrix spike and matrix spike duplicate will depend in part on what function the laboratory is serving. When the laboratory serves as the primary laboratory, then site-specific documents should be consulted. The sample to be used for the MS/MSD may be specified in the field. This previously designated sample would then be spiked with the site-specific target analytes at a concentration equivalent to the site action level. If this information was not specified or is unknown, then the laboratory would choose a representative sample from each batch of samples analyzed. If samples from multiple sites were to be analyzed in the same batch, then multiple sets of MS/MSDs may be required.

When the laboratory serves as the QA laboratory, the above scenario may not be practical to implement. If the site-specific requirements are unknown and samples from multiple sites are analyzed in the same batch, then the laboratory should select a single sample for spiking. The order of preference for spiking levels is as follows:

- If the target analyte concentrations are known, spike at two to five times the target analyte level.
- If an action level exists, spike at this level
- If neither of the first two conditions apply, spike at a level between the low and mid-level of the calibration standards.

10.5 The use of the matrix duplicate may also depend in part on the function the laboratory is serving. If the laboratory is serving as the QA laboratory then a MD and MSD analyses should be performed. The selection of a matrix duplicate will be performed as described for the MS/MSD in Section 10.4.

10.6 The analyst must demonstrate proficiency in performing this method as outlined in SOP No. Q-016-MRL-QC, Technical Training. Method proficiency must be redemonstrated anytime a major method modification is made.

11.0 Data Validation

11.1 The digestion analyst is responsible for verifying the information recorded on the digestion log (Figure 1) is complete and accurate.

11.2 Additional levels of review are performed as described in SOP No. Q-024-MRL-DR, Data Reduction and Review/Validation (In-House/Contractor Data), using a predesigned form as shown in Figure 2.

12.0 Waste Disposal

This procedure generates corrosive and metallic wastes that must be disposed of in accordance with all local regulations. Refer to the laboratory Waste Management Plan for the proper waste disposal methods.

13.0 References

13.1 Test Methods for Evaluating Solid Waste, SW-846, Third Edition, Update I, September 1994, Method 3005A.

13.2 SOP No. Q-005-MRL-SH, Sample Receipt, Login, and Storage Procedure.

13.3 SOP No. Q-012-MRL-GL, Glassware Cleaning.

13.4 SOP No. Q-008-MRL-GL, Reagent Water Generation and Quality Monitoring.

13.5 SOP No. Q-004-MRL-GL, Nonconformances and Corrective Action.

13.6 SOP No. Q-024-MRL-DR, Data Reduction and Review/Validation (In-House/Contractor Data).

13.7 SOP No. Q-016-MRL-QC, Technical Training.

13.8 SOP No. Q-003-MRL-QC, Standards Preparation, Traceability, and Storage.

13.9 Missouri River Laboratory Waste Management Plan.

Official Document

Digestion Log For Metals Analysis
Missouri River Laboratory

Batch No.:	SOP #_____	Matrix: ☐ Solid ☐ Liquid
Start Date:		Analysis Method: ICP, FLAA, GFAA

Type	Sample ID No.	Sample Amount (mL) (g)	Centrifuge/Filter?	Final Volume (mL)	Description/Sample Comments
MB					
LCS					
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
MD					
MS					
MSD					

LCS Spiking Standard ID: _____ Amount Added _____ mL

MS/MSD Spiking Standard ID: _____ Amount Added _____ mL

Reagent Lot No(s): _____ Temp. of Heating Device: Start: _____ End: _____

_____

_____

Analyst: _____ Reviewed By: _____ Date: _____

Figure 1. Digestion Log For Metals Analysis

Official Document

Digestion Log For Metals Analysis
Missouri River Laboratory

Batch No.:	SOP #_____	Matrix: ☐ Solid ☐ Liquid
Start Date:		Analysis Method: ICP, FLAA, GFAA

Type	Sample ID No.	Sample Amount (mL) (g)	Centrifuge/Filter?	Final Volume (mL)	Description/Sample Comments
MB					
LCS					
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
MD					
MS					
MSD					

LCS Spiking Standard ID: _____ Amount Added _____ mL

MS/MSD Spiking Standard ID: _____ Amount Added _____ mL

Reagent Lot No(s): _____ Temp. of Heating Device: Start: _____ End: _____

_____

_____

Analyst: _____ Reviewed By: _____ Date: _____

Figure 1. Example of Completed Digestion Log For Metals Analysis

Official Document

Lab Data Review Check List
Metals Digestion Log
Missouri River Laboratory

Project Number(s):
Batch Number(s):
Method SOP No.:

Review Item	Yes (x)	No (x)	N/A (x)	2nd Level Review (x)
Were the following recorded properly? - batch number - sample identification number(s) - dates				
Were the weight/volume of sample digested and the final digested volume properly recorded?				
Were sample dilutions or concentration factors properly recorded?				
Was a method blank prepared at the required frequency using a blank matrix?				
Was a Laboratory Control Sample (LCS) prepared at the required frequency?				
Were a matrix spike (MS) and matrix spike duplicate (MSD) prepared at the proper frequency?				
Were the matrix duplicates (MD) prepared at the proper frequency?				
Are there any Corrective Action Reports associated with this sample batch?				
Are copies of Corrective Action Reports attached?				
Were the spiking volume, stock source, and spike concentration properly recorded for the MS/MSD and LCS?				

NOTES: _____

_____

_____

Analyst: _____ Date: _____

2nd Level Reviewer: _____ Date: _____

Figure 2. Lab Data Review Check List Metals Digestion Log

Official Document

Lab Data Review Check List
Metals Digestion Log
Missouri River Laboratory

Project Number(s):
Batch Number(s):
Method SOP No.:

Review Item	Yes (x)	No (x)	N/A (x)	2nd Level Review (x)
Were the following recorded properly? - batch number - sample identification number(s) - dates				
Were the weight/volume of sample digested and the final digested volume properly recorded?				
Were sample dilutions or concentration factors properly recorded?				
Was a method blank prepared at the required frequency using a blank matrix?				
Was a Laboratory Control Sample (LCS) prepared at the required frequency?				
Were a matrix spike (MS) and matrix spike duplicate (MSD) prepared at the proper frequency?				
Were the matrix duplicates (MD) prepared at the proper frequency?				
Are there any Corrective Action Reports associated with this sample batch?				
Are copies of Corrective Action Reports attached?				
Were the spiking volume, stock source, and spike concentration properly recorded for the MS/MSD and LCS?				

NOTES: _____

_____

_____

Analyst: _____ Date: _____

2nd Level Reviewer: _____ Date: _____

Figure 2. Example of Completed Lab Data Review Check List Metals Digestion Log.

Missouri River Laboratory
USACE

TITLE: Microwave Assisted Acid Digestion Of Aqueous Samples And Extracts (SW-846 Method 3015)

SOP NUMBER: M-3015-MRL-MRL-IP, Ver. 1.0

PREPARED BY: _____
Date

REVIEWED BY: _____
Technical Specialist Date

_____
QA Officer Date

_____
Laboratory Director Date

SOP MANUAL CONTROL NO.: _____

Original:
C:\WINDOWS\TEMP\3015.WPD
Mirrored:
V:\QA\STD-SOPS\...\3015.WPD

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1.0 Scope and Application

1.1 This digestion procedure is used for the preparation of aqueous samples, mobility-procedure extracts, and wastes that contain suspended solids for analysis graphite furnace absorption spectroscopy (GFAA). The procedure is a hot acid leach for determining available metals.

1.2 Samples prepared using the procedures in this SOP using nitric acid digestion may be analyzed by GFAA for the metals listed in Table 1 by the techniques specified.

Table 1. Techniques for Metals Analysis

Analyte	Technique	Symbol	CAS #
Antimony	GFAA	Sb	7440-36-0
Arsenic	GFAA	As	7440-38-2
Cadmium	GFAA	Cd	7440-43-9
Lead	GFAA	Pb	7439-92-1
Selenium	GFAA	Se	7782-49-2
Silver	GFAA	Ag	7440-22-4
Thallium	GFAA	Tl	7440-28-0

2.0 Method Summary

Nitric acid is added to an aqueous sample in a 120-mL Teflon digestion vessel. The vessel is capped and heated in a microwave unit. After cooling, the vessel contents are filtered and diluted, or diluted and then centrifuged, or allowed to settle.

3.0 Health and Safety

3.1 Kitchen-type, or modified kitchen-type microwave ovens do not contain sufficient safety devices, and are not acceptable for use with this method. Laboratory microwave ovens have been specifically designed for this procedure, and must be used.

3.2 Acceptable digestion vessels include unlined fluorocarbon (PFA or TFM) containers with pressure relief mechanisms or containers with fluorocarbon liners and pressure relief mechanisms.

3.3 Use of this procedure requires the handling of reagents and corrosive acids, therefore protective equipment must be utilized. Minimum personal protection includes the use of laboratory safety glasses, a lab coat or apron, and protective gloves. During the manual operation of the microwave oven, and particularly in case of vessel failure, acid and nitric oxide fumes will vent. Therefore, the microwave oven must be located next to a fume hood, and vented into it according to manufacturer instructions. Do not leave the microwave oven

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unattended during operation. Keep away from the close proximity of the oven as much as possible.

Wait a sufficient amount of time (approximately 30 minutes) after the heating cycle for the digestion vessel to cool. Never open vessels abruptly, and only open vessels in a fume hood. Try to keep distance between the operator and the vessels they are opening.

3.4 For specific information regarding the toxicity of the acids used in this procedure and other related health and safety issues including the proper storage and handling of reagents and chemicals, the analyst should consult the appropriate Material Safety Data Sheets (MSDSs). MSDSs are located in Room 421.

3.5 Use of this procedure requires the handling of concentrated acid, (nitric acid). Prior to performing this procedure, the analyst should be familiar with the proper use of corrosive liquid spill kits and containment procedures. Spill clean up kits (Spill-X-A, acid neutralizer), which are located next to preparation areas (Room 429) were acids are utilized, should be used as directed on the kit for small or medium spills. The kit mixture, which is a dry powder, should be poured onto the spill perimeter so as to encircle it, and then sprinkled on the main body of the spill. The Waste Disposal Officer is to be contacted for removal of the spill. In the event of a large spill the area should be evacuated immediately and the Safety Officer contacted.

4.0 Sample Preservation, Containers, Handling, and Storage

4.1 Requirements for sample preservation, sample containers, and sample storage are detailed in SOP No. Q-005-MRL-SH, Sample Receipt, Login, and Storage Procedures.

4.2 This method requires the digestion of a 45-mL sample. It is recommended that a minimum of 250 mL be available to allow for QC analyses and possible reanalyses.

4.3 All glassware, as well as containers used to store digestates must be prewashed with detergents, acids, and reagent water. Refer to SOP No Q-012-MRL-GL, Glassware Cleaning.

4.4 Trace metal digestions and analyses must be completed within 180 days of sample collection. Digestates are stored in low-density, polyethylene (LDPE) bottles at room temperature.

5.0 Interferences and Potential Problems

5.1 Very reactive or volatile materials that may create high pressures when heated may cause venting of the vessels with potential loss of sample and analytes.

5.2 Samples that contain carbonates or other carbon dioxide generating compounds

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may cause enough pressure to vent the vessel. If this situation is anticipated, the analyst should use a smaller sample volume. Refer to Section 3.0. If a smaller volume must be used, document on a Corrective Action Report, as described in SOP No. Q-004-MRL-QC, Nonconformances and Corrective Actions.

6.0 Equipment/Apparatus

6.1 Microwave apparatus requirements

6.1.1 The microwave unit (CEM model MDS-2100) must provide programmable power with a minimum of 574 W and can be programmed to within ± 10 W of the required power. Unit is equipped with an automatic temperature and pressure feedback system that is used to control the rate of heating and limit the pressure increase.

6.1.2 The microwave unit cavity must be corrosion resistant and well ventilated.

6.1.3 All electronics must be protected against corrosion for safe operation.

6.1.4 The system requires Teflon PFA digestion vessels (120-mL capacity) capable of withstanding pressures up to 7.5 ± 0.7 atm (110 ± 10 psi) and capable of controlled pressure relief at pressures exceeding 7.5 ± 0.7 atm (110 ± 10 psi).

6.1.5 A rotating turntable is employed to insure homogeneous distribution of microwave radiation within the unit. The speed of the turntable should be a minimum of 3 rpm.

6.2 Graduated cylinders, Class A — 50-mL capacity.

6.3 Centrifuge - IEC Model 115

6.4 Analytical balance — 300-g capacity, capable of weighing to nearest 0.001 g.

6.5 Polyethylene bottles for storing digestates, or equivalent — Metal free 50-mL centrifuge tubes with screw caps.

6.7 Automatic pipets or acid-dispensing bottles, accurate to within ± 0.1 mL. MRL uses 5.0 mL repipet dispensers (Labindustries, catalog number 3005-A-L, accuracy 1%, reproducibility 0.1%, graduations 0.05 mL)

7.0 Reagents

7.1 Reagent Water — Refer to SOP No. Q-008-MRL-GL, Reagent Water Generation and Quality Monitoring.

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7.2 Acids must be of sufficient purity for the analytical methods to be employed. Acids must be analyzed to determine levels of impurities. If a method blank made with the acid is < MDL, the acid can be used. This should be verified with each new lot of acid.

7.2.1 Nitric acid, concentrated, HNO_3 — Mallinckrot AR, catalog number 6623 or equivalent.

7.2.2 Hydrochloric acid, concentrated, HCl — Mallinckrot AR Select, catalog number 5587 or equivalent.

7.3 Metal stock calibration solutions shall be purchased as certified solutions from commercial suppliers (VHG Labs of Manchester, NH). Certificates must be kept on file. All stock standards must be replaced after one year.

7.3.1 Primary source standards shall be used to prepare the initial calibration curve, continuing calibration verification (CCV) standard, laboratory control sample (LCS), and matrix spikes and their duplicates (MS/MSDs).

7.3.2 Secondary source standards shall be used to verify the initial calibration (ICV) curve only. These standards shall be purchased from a different vendor, unless the primary vendor can supply different lot numbers.

7.4 Matrix spike (MS) standard

7.4.1 The matrix spike standard shall be prepared from the calibration stock standard (primary) in Section 7.3.1. The matrix spike should be prepared as specified in section 7.7 of the appropriate GFAA SOP.

7.4.2 The spike should be at a level that would approximately double the concentration of the target analytes present. In the absence of target analytes, the spike would be made at the site action level, assuming that this level did not also correspond to the value of the low standard used. If the action level is the same as the low standard used, then the spiking would occur at a slightly higher level, i.e., at the value of the next calibration standard used. If the action level is not known, the spiking level would then default to a concentration between the low and mid-level of the initial calibration standards.

7.4.3 All method analytes shall be contained in the MS spike. Subsets may be used based on project specific requirements.

7.5 Laboratory Control Sample (LCS)

7.5.1 The LCS shall be prepared from the calibration stock standard (primary) in Section 7.3.1. The LCS should be prepared as specified in section 7.8 of the appropriate GFAA SOP.

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7.5.2 The LCS is prepared from reagent water which contains all of the method target analytes. A subset of the method target analytes could be used based on the project-specific requirements. The spiking level used would be at the same level as the site-specific action limit. If site-specific action limits are not available, the spiking level shall be at a concentration between the low and mid-level of the initial calibration standards.

8.0 Procedure

8.1 Calibration of Microwave Equipment - If calibration of the microwave is needed it can be accomplished using the following methods.

8.1.1 Measurement of the available power for heating is evaluated so that absolute power in watts may be transferred from one microwave unit to another. For cavity type microwave equipment, this is accomplished by measuring the temperature rise in 1 kg of water exposed to microwave radiation for a fixed period of time. The analyst can relate power in watts to the partial power setting of the unit. The calibration format required for laboratory microwave units depends on the type of electronic system used by the manufacturer to provide partial microwave power. Few units have an accurate and precise linear relationship between percent power settings and absorbed power. Where linear circuits have been utilized, the calibration curve can be determined by a three-point calibration method (8.1.3), otherwise, the analyst must use the multiple point calibration method (8.1.2). (Prior to use of the three-point calibration curve, linearity must be initially verified using the multiple-point calibration procedure.) A maximum of 12 digestion containers can be simultaneously placed in the microwave oven.

8.1.2 The multiple point calibration involves the measurement of absorbed power (p) over a large range of power settings. For a 600 W unit, the following power settings are measured; 100, 99, 98, 97, 95, 90, 80, 70, 60, 50, and 40% using the procedure described in Section 8.1.4. These data are clustered about the customary working power ranges. Nonlinearity has been commonly encountered at the upper end of the calibration. If the unit's electronics are known to have nonlinear deviations in any region of proportional power control, it will be necessary to make a set of measurements that bracket the power to be used. The final calibration point must be at the partial power setting that will be used in the test. The power setting (x-axis) is plotted versus the absorbed power (y-axis). This setting should be checked periodically to evaluate the integrity of the calibration. The multiple point calibration should be performed if a significant change in the calculated power setting for this test point is detected ($\pm$ 10 W). This calibration must also be performed on new units brought into service.

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8.1.3 The three-point calibration involves the measurement of absorbed power (p) at three different power settings. Measure the absorbed power (p) at 100% and 50% using the procedure described in Section 8.1.4, and calculate the power setting corresponding to the required test power in watts as determined using the equation in Section 9.1, from the (2-point) line. Measure the absorbed power (p) at that partial power setting. If the measured absorbed power (p) does not correspond to the specified power within ± 10 W, use the multiple point calibration in Section 8.1.2. This test point should also be used to periodically verify the integrity of the calibration.

8.1.4 Equilibrate a large volume of water to room temperature (23 ± 2°C). One kg of reagent water is weighed (1000.0 g ± 0.1 g into a Teflon beaker or a beaker made of some other material that does not significantly absorb microwave energy (glass absorbs microwave energy and is not recommended). The initial temperature of the water should be 23 ± 2°C measured to ±0.05°C. The covered beaker is circulated continuously (in the normal sample path) through the microwave field for 2 minutes at the desired partial power setting with the unit's exhaust fan on maximum (as it will be during normal operation). The beaker is removed and the water vigorously stirred. Use a magnetic stirring bar inserted immediately after microwave irradiation and record the maximum temperature within the first 30 seconds to ±0.05°C. Use a new sample for each additional measurement. If the water is reused both the water and the beaker must have returned to 23 ±2°C. Three measurements at each power setting should be made. The mean of the three power measurements should be calculated. The absorbed power (p) is determined as described in Section 9.1.

NOTE: Stable line voltage is necessary for accurate and reproducible calibration and operation. The line voltage should be within manufacturer's specification, and during measurement and operation not vary by more than ± 2V. A constant power supply may be necessary for microwave use if the source of the line voltage is unstable.

Electronic components in most microwave units are matched to the unit's function and output. When any part of the high voltage circuit, power source, or control components in the unit have been serviced or replaced, it will be necessary to recheck the units' calibration power. If the power output has changed significantly (±10 W), then the entire calibration should be reevaluated.

8.2 Sample Digestion

All digestion vessels and volumetric ware must be carefully acid washed and rinsed with reagent water. When switching between high solids (concentrated) samples and low solids (low concentration) samples all digestion vessels should

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be cleaned by leaching with hot (1:1) hydrochloric acid (greater than 80°C, but less than boiling) for a minimum of two hours followed with hot (1:1) nitric acid (greater than 80°C, but less than boiling) for a minimum of two hours, rinsed with reagent water, and dried in a clean environment. This cleaning procedure should also be used whenever the prior use of the digestion vessels is unknown or cross contamination from vessels is suspected. Polymeric or glass volumetric ware and storage containers should be cleaned by leaching with more dilute acids (approximately 10% V/V) appropriate for the specific plastics used and then rinsed with reagent water and dried in a clean environment. In addition, to avoid precipitation of silver, ensure that all HCl has been rinsed from the vessels. The digestion log (see Figure 1) is to be filled out with each step of the procedure.

8.2.1 Weigh the Teflon PFA digestion vessel, valve and cap assembly to 0.01 g prior to use and record on digestion log (see Figure 1).

8.2.2 For each digestion, a 45-mL aliquot of a well shaken sample is measured using a 50-mL graduated cylinder. This aliquot is poured into the Teflon digestion vessel with the number of the vessel recorded on the metals digestion log following the sample identification.

CAUTION: If the sample smells highly organic, additional gasses may develop during digestion. This could result in a dangerous situation. Notify the QA Officer, and determine if a smaller sample volume is possible. Alternatively, a different digestion method can be used.

8.2.3 In a fume hood, using an acid-dispensing bottle, add 5.0 ± 0.1 mL of concentrated nitric acid to each vessel. Seal each vessel according to manufacturer instructions. Measure the mass of each vessel and record in the digestion log. Allow any reaction to stop before sealing.

8.2.4 Evenly distribute the vessels in the carousel by placing one container, up to a total of 12, in each position. Blanks are treated as samples for the purpose of balancing the power input. When fewer than the recommended number of samples are digested, the remaining vessels should be filled with 45 mL of reagent water and 5 mL of nitric acid to achieve the full compliment of vessels. This provides an energy balance since the microwave power absorbed is proportional to the total mass in the cavity.

8.2.5 Place the carousel in the unit; be sure to seat it carefully on the turntable. Program the microwave unit for the first-stage of the power program to give the required power calculated as described in Section 9.1. This sequence brings the samples to 160°C ± 4°C in 10 minutes and permits a slow rise to 165-170°C during the second 10 minutes. Start the turntable motor and be sure the vent fan is running on high and the turntable is turning. Start the microwave generator. Alternative power settings for different manufacturers are acceptable as long as they bring the samples to 160 ± 4°C in 10 minutes and

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will permit a slow rise to 165 - 170°C during the second 10 minutes. This may also be accomplished by the use of the temperature feedback, using a monitor vessel. To prevent catastrophic venting, one may need to start with a lower power setting before applying full power. The CEM microwave oven (model MDS-2100) uses a pressure and temperature feedback system that controls the pressure and temperature using a programed method. This program digests the sample as described in this section (8.2.5).

8.2.6 At the end of the microwave program, allow the vessels to cool for at least 5 minutes in the unit before removal to avoid possible injury if a vessel vents immediately after microwave heating. The samples may be cooled outside the unit by removing the carousel and allowing the samples to cool on the bench or in a water bath. When the vessels have cooled to room temperature, weigh and record the weight of each vessel assembly on the digestion log to the nearest 0.001 g. If the weight of the sample plus acid has decreased by more than 10%, discard the sample.

8.2.7 Complete the preparation of the sample by carefully uncapping and venting each vessel in a fume hood. Transfer the sample to a metal free 50-mL centrifuge tube with screw cap. If the digested sample contains particulates which may clog nebulizers or interfere with injection of the sample into the instrument, the sample shall centrifuged. The sample is now ready for analyses and contains approximately 10% v/v nitric acid.

8.3 Digestates are stored at room temperature.

9.0 Calculations

9.1 The absorbed power (Sec. 8.1.4) is determined as:

$$P = \frac{(K)(C_p)(m)(\Delta T)}{t}$$

where:

- P = Apparent power absorbed by the sample in watts (W)
- K = Conversion factor for thermochemical calories·sec^{-1} to watts (=4.184 J/cal)
- C_p = Heat capacity, thermal capacity, or specific heat of water (cal·g^{-1}°C^{-1})
- m = Mass of the water sample in grams (g)
- ΔT = Final temperature minus the initial temperature (C)
- t = Time in seconds (s).

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Using the experimental conditions of 2 minutes and 1 kg of distilled water (heat capacity at 25 °C is 0.9997 $cal \cdot g^{-1} °C^{-1}$) the calibration equation simplifies to:

$$P = 34.86\ (\Delta T)$$

9.2 The concentration values obtained from analysis must be corrected for the dilution factor from the acid addition (i.e., for a 45-mL sample and 5 mL of acid, the correction factor is 1.11). For example:

$$\text{Final concentration, } \mu g/L = \text{Measured concentration, } \mu g/L \times 1.11$$

10.0 Quality Assurance/Quality Control

10.1 A preparation batch of samples would be defined as a group of up to field twenty samples of similar matrix type that are extracted at the same time using the same reagents for the same analysis. In addition to the twenty samples, each batch would also contain at a minimum a method blank, a laboratory control sample (LCS), a matrix spike, a matrix spike duplicate (MS/MSD), and a matrix duplicate (MD).

10.2 A method blank (MB) consisting of 45 ± 1 mL of reagent water shall be prepared with each batch of samples. Acceptance criteria are presented in the appropriate determinative method.

10.3 A Laboratory Control Sample (LCS) consisting of 45 ± 1 mL of reagent water spiked with all the target metals prior to digestion, is digested and analyzed with each batch of samples. Control charts will be maintained for the LCS for all method target analytes. Acceptance criteria are specified in the appropriate determinative method. The order of preference for spiking levels is as follows:

- If an action level exists, spike at this level. If the action level is at the lowest calibration standard, the concentration of the LCS should be slightly higher.
- If the above condition does not apply, spike at a level between the low and mid-level of the calibration standards.

10.4 The use of the matrix spike and matrix spike duplicate will depend in part on what role the laboratory is playing. When the laboratory serves the role as the primary laboratory, then site-specific documents should be consulted. The sample to be used for the MS/MSD may be specified in the field. This previously designated sample would then be spiked with the site-specific target analytes at a concentration equivalent to the site action level. If this information was not specified or unknown, then the laboratory would choose

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a representative sample from each batch of samples analyzed. If samples from multiple sites were to be analyzed in the same batch, then multiple sets of MS/MSDs may be required.

When the laboratory serves the role as the QA laboratory, the above scenario may not be practical to implement. If the site-specific requirements are unknown and samples from multiple sites are analyzed in the same batch, then the laboratory should select a single sample for spiking. The order of preference for spiking levels is as follows:

- If the target analyte concentrations are known, spike to increase the background concentration by a factor of approximately two
- If an action level exists, spike at this level
- If neither of the first two conditions apply, spike at a level between the low and mid-level of the calibration standards.

10.5 The use of the matrix duplicate may also depend in part on the role the laboratory is playing. The selection of a matrix duplicate will be performed as described for the MS/MSD in Section 10.4.

10.6 The analyst must demonstrate proficiency in performing this method as outlined in SOP No. Q-016-MRL-QC, Technical Training. Method proficiency must be redemonstrated anytime a major method modification is made.

11.0 Data Validation

11.1 The digestion analyst is responsible for verifying the information recorded on the digestion log (Figure 1) is complete and accurate.

11.2 Additional levels of review are performed as described in SOP No. Q-024-MRL-DR, Data Reduction and Review/Validation (In-House/Contractor Data), using a predesigned form as shown in Figure 2.

12.0 Waste Disposal

This procedure generates corrosive and metallic wastes. All waste disposal must comply with all Federal and local regulations. Refer to the laboratory's Waste Management Plan.

13.0 References

13.1 Test Method for Evaluating Solid Waste, SW-846, Third Edition, Update II, September 1994, Method 3015.

13.2 SOP No. Q-005-MRL-SH, Sample Receipt, Login, and Storage Procedures.

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13.3. SOP No. Q-012-MRL-GL, Glassware Cleaning.

13.4 SOP No. Q-008-MRL-GL, Reagent Water Generation and Quality Monitoring.

13.5 Introduction to Microwave Sample Preparation: Theory and Practice. Kingston, H.M., Jassie, L.B., Eds., ACS Professional Reference Book Series, American Chemical Society, Washington, DC, 1988. Chapters 6 and 11.

13.6 SOP No. Q-003-MRL-QC, Standards Preparation, Traceability, and Storage.

13.7 SOP No. Q-016-MRL-QC, Technical Training.

13.8 SOP No. Q-004-MRL-QC, Nonconformances and Corrective Action.

13.9 SOP No. Q-024-MRL-DR, Data Reduction and Review/Validation (In-House/Contractor Data).

13.10 Missouri River Laboratory Waste Management Plan.

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Microwave Digestion Log For Metals Analysis
Missouri River Laboratory

Batch No.:	SOP #_____	Matrix: ☐ Solid ☐ Liquid
Start Date:	Project No.:	Analysis Method: ICP, FLAA, GFAA

Type	Sample ID No.	Digestion vessel ID	Sample Amount (mL) (g)	mL Acid Added	Mass of Vessel		Filtration necessary?	Description/ Sample Comments
					before heating	after heating		
MB								
LCS								
1								
2								
3								
4								
5								
6								
7								
8								
9								
10								
11								
12								
13								
14								
15								
16								
17								
18								
19								
20								
MD								
MS								
MSD								

LCS Spiking Standard ID: _____ Amount Added _____ mL

MS/MSD Spiking Standard ID: _____ Amount Added _____ mL

Reagent Lot No(s): _____

_____

_____

Analyst: _____ Reviewed By: _____ Date: _____

Figure 1.

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Microwave Digestion Log For Metals Analysis
Missouri River Laboratory

Batch No.:	SOP #_____	Matrix: ☐ Solid ☐ Liquid
Start Date:	Project No.:	Analysis Method: ICP, FLAA, GFAA

Type	Sample ID No.	Digestion vessel ID	Sample Amount (mL) (g)	mL Acid Added	Mass of Vessel		Filtration necessary?	Description/ Sample Comments
					before heating	after heating		
MB								
LCS								
1								
2								
3								
4								
5								
6								
7								
8								
9								
10								
11								
12								
13								
14								
15								
16								
17								
18								
19								
20								
MD								
MS								
MSD								

LCS Spiking Standard ID: _____ Amount Added _____ mL

MS/MSD Spiking Standard ID: _____ Amount Added _____ mL

Reagent Lot No(s): _____

_____

_____

Analyst: _____ Reviewed By: _____ Date: _____

Figure 1. Example.

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Lab Data Review Check List
Metals Digestion Log
Missouri River Laboratory

Batch Number(s):	
Method SOP No.:	

Review Item	Yes (x)	No (x)	N/A (x)	2nd Level Review (x)
Were the following recorded properly? - batch number - sample identification number(s) - dates				
Were the weight/volume of sample digested and the final digested volume properly recorded?				
Were sample dilutions or concentration factors properly recorded?				
Was a method blank prepared at the required frequency using a blank matrix?				
Was a Laboratory Control Sample (LCS) prepared at the required frequency?				
Were a matrix spike (MS) and matrix spike duplicate (MSD) prepared at the proper frequency?				
Were the matrix duplicates (MD) prepared at the proper frequency?				
Are there any Corrective Action Reports associated with this sample batch?				
Are copies of Corrective Action Reports attached?				
Were the spiking volume, stock source, and spike concentration properly recorded for the MS/MSD and LCS?				

NOTES: _____

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_____

Analyst: _____ Date: _____

2nd Level Reviewer: _____ Date: _____

Figure 2.

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Lab Data Review Check List
Metals Digestion Log
Missouri River Laboratory

Batch Number(s):
Method SOP No.:

Review Item	Yes (x)	No (x)	N/A (x)	2nd Level Review (x)
Were the following recorded properly? - batch number - sample identification number(s) - dates				
Were the weight/volume of sample digested and the final digested volume properly recorded?				
Were sample dilutions or concentration factors properly recorded?				
Was a method blank prepared at the required frequency using a blank matrix?				
Was a Laboratory Control Sample (LCS) prepared at the required frequency?				
Were a matrix spike (MS) and matrix spike duplicate (MSD) prepared at the proper frequency?				
Were the matrix duplicates (MD) prepared at the proper frequency?				
Are there any Corrective Action Reports associated with this sample batch?				
Are copies of Corrective Action Reports attached?				
Were the spiking volume, stock source, and spike concentration properly recorded for the MS/MSD and LCS?				

NOTES: _____

_____

_____

Analyst: _____ Date: _____

2nd Level Reviewer: _____ Date: _____

Figure 2. Example.

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United States Army Corps of Engineers
United States Army Engineer Research and Development Center
Waterways Experiment Station

Chemistry Quality Assurance Branch

TITLE: **Continuous Liquid-Liquid Extraction (SW-846 Method 3520C)**

SOP NUMBER: **M-3520C-CQAB-SP, Ver. 2.1**

PREPARED BY: _____
Date

REVIEWED BY: _____
Technical Specialist Date

_____
QA Officer Date

_____
Branch Chief Date

SOP MANUAL CONTROL No.: _____

1.0 Scope and Application

1.1 This Standard Operating Procedure (SOP) describes the SW-846 Method 3520C procedure that is used by the Chemistry Quality Assurance Branch (CQAB) for isolating organic compounds from aqueous samples and the concentration techniques suitable for preparing the extract for SW-846 Method 8270C.

1.2 This method is applicable to the isolation and concentration of water insoluble and slightly water-soluble organics in preparation for a variety of chromatographic procedures. CQAB uses this procedure for preparation of samples for SW-846 Method 8270C.

1.3 This procedure is designed for extraction solvents with density greater than the sample.

2.0 Method Summary

A measured volume of sample, usually 1 L, is placed into a continuous liquid-liquid extractor, adjusted if necessary to a specific pH (as indicated in Table 1) and extracted twice with organic solvent for 18 hours. The extract is dried and concentrated in preparation for analysis.

3.0 Health and Safety

3.1 The toxicity or carcinogenicity of each compound or reagent used in this procedure has not been precisely determined. Therefore, all chemicals should be treated as if they pose a health hazard, and be handled in a hood whenever possible.

3.2 This procedure employs organic solvents that are flammable and/or may pose a risk through inhalation. Therefore, exposure to these solvents should be reduced to the lowest possible level, with the analyst wearing the appropriate personal safety equipment (e. g., lab coat, gloves, goggles, etc.) at all times.

3.3 For specific information regarding the toxicity of the reagents used in this procedure and other related health and safety issues including the proper storage and handling of reagents and chemicals, the analyst should consult the appropriate Material Safety Data Sheets (MSDS). The MSDS are found in a labeled binder on the bookshelf along the south wall of Room 421.

4.0 Sample Preservation, Containers, Handling, and Storage

4.1 Requirements for sample preservation, sample containers, and sample storage are detailed in SOP No. Q-005-CQAB-QC, Sample Receipt, Log-in, and Storage.

4.2 Extraction of all aqueous samples must begin within 7 days of sample collection. Note that it is CQAB policy to report all results to customers within thirty days when scheduling work.

4.3 If analysis of the concentrated extracts produced by this procedure will not be performed immediately, the extracts are to be stored at 4 ± 2°C in tightly-sealed vials with Teflon-lined caps. Concentrated extracts are stored in a Flammable Materials Storage refrigerator (Refrigerator #006) located in Room 439, the Organic Prep laboratory.

Table 1: Application of SW-846 Method 3520C by Chemistry Quality Assurance Branch

SOP #	SW-846 Determinative Method	Initial Extraction pH	Terminal Extraction pH	Solvent	Final Extract Volume for Analysis
M-8270C-CQAB-OA	8270C	<2	>11	Methylene Chloride	1.0 mL

NOTE: Use of this method for BNA samples does not require a solvent exchange.

5.0 Interferences and Potential Problems

5.1 Cross-contamination of samples is a common problem and may result from inadequate cleaning of glassware. This is particularly true when low concentration samples are extracted in glassware previously used for high concentration samples. See SOP No. Q-012-CQAB-GL, Glassware Cleaning.

5.2 The decomposition of some analytes has been demonstrated under the basic extraction conditions required to separate analytes. For example, organochlorine pesticides may dechlorinate, phthalate esters may exchange, and phenols may react to form tannates. These reactions increase with increasing pH, and are decreased by the shorter reaction times available in SW-846 Method 3510C. Method 3510C may be more appropriate for some samples and may be required for Method 8270C samples on a project-specific basis. When performing SW-846 Method 3520C, the initial pH adjustment is made to less than 2 to minimize analyte decomposition.

5.3 Phthalate esters are common contaminants found in many laboratory products. Phthalates are often used as plasticizers and are easily extracted from plastic materials. These materials must be avoided. Reagents should be stored in glass to prevent the leaching of contaminants from plastic containers.

6.0 Equipment/Apparatus

6.1 Continuous one-piece liquid/liquid extractor

6.1.1 Hershberg-Wolfe K 803001-0004 or equivalent, Supelco Cat. #6-4798.

6.1.2 Condenser 45/50 joint, Supelco Cat. #6-4739.

6.1.3 500-mL round bottom flask, 24/40 joint, Supelco Cat. #6-4678.

6.2 Kuderna-Danish (K-D) apparatus

6.2.1 Concentrator tube - 4-mL graduated, Kontes K-570050-1025 or equivalent. Supelco Cat. #6-4687. A ground glass stopper is used to prevent evaporation of extracts.

6.2.2 Evaporation flask - 500-mL, Kontes K-570001-500 or equivalent, Supelco Cat. #6-4710. Attach to concentrator tube with springs, clamps, or equivalent.

6.2.3 Evaporation flask - 40-mL, Supelco Cat. #6-4722. Attach to concentrator tube with springs, clamps, or equivalent.

6.2.4 Snyder column - Three-ball macro, Kontes K-503000-0121 or equivalent, Supelco Cat. #6-4693.

6.2.5 Snyder column - Three-ball micro, Kontes K-569001-0219 or equivalent, Supelco Cat. #6-4720.

6.2.6 Springs - 1/2 inch, Kontes K-662750 or equivalent.

6.3 Boiling chips - Chemware Teflon PTFE Boiling Stones. Baxter Cat. #G6022-1.

6.4 Water bath - 2-L beaker with custom rack. Heated, over a hot plate capable of temperature control to ± 5°C. The bath must be used in a hood.

6.5 Vials - 11 mm, 12 X 32 mm, 2-mL amber glass vials with Teflon-lined crimp-caps, Supelco Cat. #33233-U.

6.6 pH indicator paper - Universal pH 1-14. Fisher Cat. # 09-876-17.

6.7 Heating mantle - Rheostat controlled, range 0°C to 450°C, Electromantle ME 6 burner, Fisher Cat. # 09-682-10, or Electromantle ME 6 Round Bottom Heater.

6.8 Syringe - fixed needle for use in transferring extracts and adding spiking solutions (glass syringes with Teflon plungers are also acceptable). The CQAB employs 50-uL Hamilton 1705N (Supelco Cat. #2-0687) and 500-µL Hamilton 750N (Supelco Cat. #2-0739) glass syringes for these purposes.

6.9 Volumetric Pipet - A 0.5-mL Kimax Class A Volumetric Pipet 37000 (Fisher Cat. #K37004-510) is used for spiking surrogates.

6.10 Graduated cylinders, Class A - 100-mL, 500-mL, and 1-L, TC and TD as appropriate.

6.11 Drying column for containing sodium sulfate - Kontes column with 250-mL reservoir (Kontes Cat. #K-420280-232).

6.12 Pyrex Glasswool - Purify by acetone reflux for 2 hours and allow to air dry in a contaminant-free hood. Store in a glass or Teflon container with a Teflon-lined screw cap lid at room temperature. The glass wool is Pyrex 3950 (Product #430330).

6.13 Disposable Pasteur pipets - $5^3/_4$-in. or 9 in. length for transferring extracts from concentrator tubes to vials.

7.0 Reagents

The traceability of all reagents, standards, and solutions used in this method must be documented by the use of unique identifiers in the appropriate logbook.

7.1 Nanopure reagent water - as defined in SOP No. Q-008-CQAB-GL, Reagent Water Generation and Quality Monitoring.

7.2 Sodium hydroxide solution (1O N), NaOH. Weigh out 400 ± 1 g NaOH and carefully add to 400 - 500 mL reagent water in a 1000-mL graduated cylinder in a flask. Swirl gently until

completely dissolved. Dilute to 1000 mL with additional volumes of reagent water. Mallinkrodt Sodium Hydroxide, Fisher Cat. #7708-06.

CAUTION: The dissolution of NaOH in water produces heat. Use care in handling the cylinder after adding the NaOH. Allow the solution to cool to near room temperature before adding the final volume of reagent water.

7.3 Sodium sulfate (granular, anhydrous), Na_2SO_4. Purify by pre-rinsing with methylene chloride. If solvent rinsing is used, a sodium sulfate blank must be analyzed to demonstrate that there is no interference from the sodium sulfate. Air dry. Store in glass or Teflon containers with screw cap lids at room temperature. If the lids are lined, the linings must be made from Teflon or another non-reactive and non-contaminating material. Fisher Cat. # MK 8024 212.

7.4 Sulfuric acid solution (1:1, v/v), H_2S0_4. Slowly stir 500 mL H_2S0_4 (sp. gr. 1.84) into 500 mL organic-free reagent water that is cooled in an ice bath. Let the solution cool and store in a stoppered glass container at room temperature. Mallinkrodt AR Select Sulfuric Acid, Fisher Cat. # 5557.

7.5 Extraction solvent - Methylene chloride, CH_2Cl_2 pesticide quality or equivalent, boiling ranges 40-41°C, Baxter (Burdick & Jackson) 300-4*DK.

7.6 Surrogate Standards - Certified neat surrogate standards shall be purchased. The standards will be diluted and added to samples as indicated in SOP No. M-8270C-CQAB-OA. Certificates shall be kept on file. Receipt dates and date opened shall be noted. Stock standards will be stored at 4 ± 2°C in a Flammable Materials refrigerator (Refrigerator #007) in Room 439 (the Organic Prep laboratory), separate from sample extracts. Consult the determinative method SOP for further information regarding surrogate standards, including preparation, concentration, expiration, and sources. The surrogate standards used by CQAB for Method 8270C are listed below.

- 2-Fluorobiphenyl
- Nitrobenzene-d_5
- p-Terphenyl-d_{14}
- 2-Fluorophenol
- Phenol-d_5
- 2,4,6-Tribromophenol

7.7 LCS Standards

7.7.1 The LCS is prepared in Nanopure reagent water and contains all of the method target analytes. A subset of the method target analytes could be used based on project-specific requirements. If requested, the spiking level used would be at the same level as the site-specific action limit. If site-specific action limits are not requested, the default spiking level shall be as follows: 160 ug/L benzoic acid; 80 ug/L phenols; 50 ug/L base/neutrals. See the determinative method SOP for specific information regarding the LCS spike, including analyte list, concentration levels, stock standard suppliers, catalog numbers, storage, and expiration.

7.8 Matrix Spike (MS) Standards

7.8.1 Ideally, the MS spike should be at a level that would approximately double the concentration of the target analytes present. In the absence of previous information concerning target analyte concentrations, the spike would be made at the site action

level, if requested and assuming that this level did not also correspond to the concentration of the low calibration standard. If the action level is the same concentration as the low standard, then the spike level should be a slightly higher concentration (i.e., at the value of the next calibration standard used). If a project-specific spiking level were not requested, the spiking level would default to a concentration near the mid-level calibration standard, as detailed in Section 7.7 and in the determinative method SOP.

7.8.2 Generally, all method analytes are included in the MS spike. Subsets may be used based on project-specific requirements. The Chemistry Quality Assurance Branch uses the same solution for the default LCS and the default MS/MSD spikes. See the determinative method SOP for further information regarding the MS spike, including spike preparation, components, concentration, expiration, and purchase of spike standards. All spike recoveries are reported with samples that are from the same project as the spiked sample. Only target analytes in the representative sub-set listed below are reported with samples that are from a different project than the spiked sample.

- 4-Chloro-3-methylphenol
- 2-Chlorophenol
- 4-Nitrophenol
- Pentachlorophenol
- Phenol
- Acenaphthene
- 1,2,4-Trichlorobenzene
- 1,4-Dichlorobenzene
- 2,4-Dinitrotoluene
- N-Nitroso-di-n-propylamine
- Pyrene

8.0 Procedure

At the Chemistry Quality Assurance Branch, all procedures are to be performed with careful attention to safety and consideration of environmental impact. All personnel are to use the safety guidance provided in the CQAB Chemical Hygiene Plan. Also, laboratory management encourages development and use of pollution prevention techniques in all laboratory procedures. Suggestions and questions concerning specific safety and pollution prevention techniques should be addressed to the Section Chief, the QA Officer, and/or the Branch Chief.

8.1 All glassware must be labeled prior to transfer of a sample or sample extract into a given piece of glassware. The CQAB assigned sample number is written on a length of labeling tape. Green tape shall be used to label glassware for samples intended for analysis by SW-846 Method 8270C. The tape is attached to the 500-mL flask containing the sample. The tape is transferred to the K-D apparatus before the sample concentration step. When the prepared sample is transferred to an amber glass autosampler vial, the CQAB sample identification number is written legibly on the crimp-top lid. In this way, the sample number accompanies the sample as it is transferred between pieces of glassware.

8.2 All glassware to be used for this procedure is to be triple-rinsed with the extraction solvent prior to use.

8.3 The extraction log (Figure 1) must be completed as each step of the procedure is performed. The start and end time for the extraction process should also be documented.

8.4 Mark the sample liquid level on the exterior of the sample bottle with a water insoluble pen, typing correction fluid, or other appropriate marker.

8.5 Assemble continuous extractor apparatus; attach a 500-mL round bottom flask.

8.6 Use a 1000-mL graduated beaker to measure approximately 500 mL methylene chloride and pour the solvent directly into the continuous extractor body. When the sample is added to the extractor body, a layer of methylene chloride must be present at the bottom for correct operation of the continuous liquid-liquid extractor.

8.7 Pour the sample into the extractor vessel. Approximately 250 mL of extraction solvent will overflow into the round bottom flask, leaving 250 mL in the bottom of the extractor. Measure 20 mL ± 5 mL of methylene chloride in a graduated cylinder. Add the methylene chloride to the empty sample bottle to rinse residual sample. Without spilling the solvent, carefully roll the sample bottle to allow methylene chloride to come into contact with the entire inside surface of the bottle. Add the rinsate to the extractor body.

CAUTION: Do not cap and shake the sample bottle containing the methylene chloride rinse as excessive vapor pressure could be created.

NOTE: If high analyte concentrations are anticipated, perform the extraction with the entire sample volume; however, at the concentration step, concentrate the sample to a larger final volume to effect the dilution. Alternatively, the sample may be concentrated to the usual final volume specified in the determinative method, and a dilution of the extract could then be performed prior to analysis. If dilution is anticipated, additional surrogate should be added in proportion to the estimated dilution. Consult the determinative method analyst for guidance on the appropriate concentration level for highly contaminated samples.

8.8 Determine the sample volume.

8.8.1 Fill the sample bottle to the mark with water. Pour the water from the bottle into a Class A 1-L TC graduated cylinder. Record the volume to the nearest ± 10 mL on the extraction log. If the sample volume exceeds 1 L, the additional volume may be measured in a Class A 100-mL TC graduated cylinder. Note the sample volume in the extraction logbook. See Figs. 1C and 1D for an example of a completed extraction log.

8.8.2 If the sample bottle contains a significant amount of sediment, the previous measuring procedure should not be used. Instead, fill a Class A 1-L TC graduated cylinder with 1 L of water. Fill the empty sample bottle to the mark with water from the Class A 1-L TC graduated cylinder. Read the volume of water remaining in the graduated cylinder to the nearest 5 mL. If the volume of sample is greater than 1 L, additional water from a known volume can be added to the bottle. The additional volume would then be determined by difference and added to 1 L to give the total volume. The volume of sample is then determined by the difference, and noted in the extraction logbook. See Figs. 1C and 1D for an example of a completed extraction log.

8.9 Spike the samples with the surrogate and matrix spiking solutions, as appropriate. When adding the spiking solutions to the sample, ensure that the solutions are dispensed directly into the sample. Avoid getting any spike solution onto the walls of the extractor body. Stir the spiked sample with a glass stirring rod to allow the spiking compounds to interact with the sample matrix.

8.10 Use the stirring rod to obtain a drop of the sample for pH determination. Measure the pH of the sample with pH paper.

NOTE: To avoid contamination, do not dip the pH paper into the sample.

8.11 If necessary, adjust the pH to that indicated in Table 1 by using 1:1 (v/v) H_2SO_4. Use a glass stir rod to thoroughly mix the sample. Check the pH and adjust as necessary.

NOTE: Avoid over adjustment of the pH. Addition of excess acid is known to decrease recovery of some target analytes.

NOTE: If the sample is to be evaluated for base and/or neutral target analytes only, the first pH adjustment should be as described in Section 8.13. Proceed directly to the basic extraction conditions and do not use the acid extraction conditions.

8.12 The sample is now ready to be extracted. Adjust the temperature on the heating mantle (according to the extraction solvent) and extract for a minimum of 18 hours, but not more than 24 hours. Adherence to these rigorous time constraints will help ensure reproducibility. Extraction start and end times will be noted and initialed in the extraction logbook. Extraction time guidance provided by SW-846 Method 3520C gives a range of 18-24 hours for the extraction step. Note exceptions in the extraction logbook.

NOTE: If the sample is to be evaluated for acids and/or neutrals only, proceed to Section 8.14. The basic extraction is not necessary if acids and/or neutrals are the only target analytes for a specific sample.

8.13 Secondary pH adjustment: After the first 18 hours of extraction at pH 2 or below, allow the sample to cool, then carefully remove the 500-mL round bottom flask and exchange with a new 500-mL round bottom flask containing approximately 300 mL methylene chloride. Adjust the pH of the aqueous phase to greater than pH 11 by using 10 N NaOH, stirring the sample to thoroughly mix. Check the pH, and add more NaOH as necessary. Extract for a minimum of 18 but not more than 24 hours. Extraction start and end times will be noted and initialed in the extraction logbook. Note exceptions in the extraction logbook.

8.14 Concentration is usually necessary. Perform the concentration by using by the Kuderna-Danish (K-D) Technique described in the following sections on each pH fraction separately. Record the date of the concentration step on the extraction log. A sample of the two-page extraction log sheet is shown in Figures 1A and 1B. Figures 1C and 1D provide an example of a completed extraction log sheet.

8.15 Kuderna-Danish (K-D) Technique

8.15.1 Assemble a Kuderna-Danish (K-D) concentrator by attaching a 4-mL concentrator tube to a 500-mL evaporation flask. Pre-rinse the drying columns with the extraction solvent. Keep a layer of solvent on the drying bed at all times after the drying column is rinsed. Dry the extract by passing it through a drying column containing about 10 cm of anhydrous sodium sulfate. Dry each pH fraction for each sample separately. Collect the dried extract in a K-D concentrator. Rinse the round bottom flask that contained the solvent extract with 20-30 mL of methylene chloride and add it to the column to complete the quantitative transfer.

8.15.2 Perform this step for each pH fraction separately. Add one or two clean boiling chips to the flask and attach a three-ball Snyder column. Pre-wet the Snyder column by

adding approximately 1 mL of methylene chloride to the top of the column. Place the K-D apparatus on a hot water bath (set to approximately 15-20°C above the boiling point of the solvent) so that the concentrator tube is partially immersed in the hot water and the entire lower rounded surface of the flask is bathed with hot vapor. Adjust the vertical position of the apparatus and the water temperature as required to complete the concentration in 10-20 minutes. At the proper rate of distillation the balls of the column will actively chatter, but the chambers will not flood. When the apparent volume of liquid reaches approximately 3 mL, remove the K-D apparatus from the water bath and allow it to drain and cool for at least 10 minutes.

8.15.3 Perform this step for each pH fraction separately. Remove the Snyder column and rinse the flask and its lower joint into the concentrator tube with 1-2 mL of methylene chloride by using a disposable $5^3/_4$-in. Pasteur pipet. The extract may be further concentrated by using the technique outlined in Section 8.16.

8.16 The micro-Snyder column technique (Section 8.17) is used to adjust the extract to the required final volume. Combine the pH fractions for each sample from the first K-D step and perform the micro-Snyder step on the combined extract.

8.17 Micro-Snyder column technique: Remove the 500-mL evaporation flask and attach a 40-mL evaporation flask to the 4-mL concentrator tube. Add a clean boiling chip to the concentrator tube and attach a three-ball micro-Snyder column. Pre-wet the column by adding approximately 0.5 mL of methylene chloride to the top of the column. Place the K-D apparatus in a hot water bath so that the concentrator tube is partially immersed in the hot water. Adjust the vertical position of the apparatus and the water temperature, as required, to complete the concentration in 5-10 minutes. Constant agitation of concentration tube and Snyder column will minimize "bumping" and loss of sample due to ejection of solvent from the Snyder column. At the proper rate of distillation, the balls of the column will actively chatter but the chambers will not flood. When the apparent volume of liquid reaches approximately 0.5 mL, remove the K-D apparatus from the water bath and allow it to drain and cool for at least 10 minutes. Remove the Snyder column and rinse the flask and its lower joints into the concentrator tube with 0.2 mL of extraction solvent. When the apparent volume of liquid reaches approximately 0.5 mL, remove the K-D apparatus from the water bath and allow it to drain and cool for at least 10 minutes. Remove the Snyder column and rinse the flask and its lower joints into the concentrator tube with 0.2 mL of extraction solvent. Samples may be stored in concentrator tube for a maximum of 2 days. If longer storage is required, the extract must be transferred to a sealed vial.

8.18 Transfer each sample to a 2-mL amber glass autosampler vial by using a clean disposable $5\ ^3/_4$-in. Pasteur pipet. Adjust the final extract volume to 1.0 ± 0.05 mL with solvent by using a clean disposable $5\ ^3/_4$-in. Pasteur pipet. This can be achieved by filling the vial so that the sample meniscus is aligned with the top rim of the measuring tray. The tray to be used for measuring the extract volume is labeled. Seal each vial with a Teflon-lined crimp-cap. For each sample, write the CQAB sample identification number legibly on the crimp-cap.

8.19 All appropriate extraction information must be documented by using the extraction log (Figure 1) for Method 8270C samples.

8.20 Complete the Organic Extractions Lab Data Review Checklist (Figure 2) to document the correctness and completeness of the recorded extraction data and to notify the determinative method analyst of any unusual occurrences during the extraction. The determinative method analyst or other second level reviewer must also complete the checklist.

8.21 Enter the appropriate extraction data onto the LIMS. The correctness and completeness of the prep data on the LIMS should be verified by another individual prior to report processing. Initiate the QC Tracking Form (Figure 3) at the time the prep data is entered into the LIMS. The tracking form accompanies the batch throughout processing.

8.22 Collect the Organic Extraction Review Checklist (Figure 2), the Organic Workgroup Tracking Form (Figure 3), the LIMS Workgroup Report, a print-out of the data entered onto the LIMS for the workgroup, and a copy of the completed Organic Extraction Log page(s), and give them to the analyst.

8.23 The extract may now be analyzed by using SW-846 Method 8270C. If analysis of the extract will not be performed immediately, the extracts are stored at 4 ± 2°C in a Flammable Materials storage refrigerator (refrigerator #006) located in Room 439 (Organic Prep laboratory).

9.0 Calculations

No calculations are required.

10.0 Quality Assurance/Quality Control

10.1 A preparation batch of samples is defined as a group of up to twenty field samples of similar matrix type that are extracted at the same time, use the same reagents, and are intended for the same analysis. In addition to the twenty field samples, each batch also contains, at a minimum and if sufficient sample volume is available: a method blank, a laboratory control sample (LCS), a matrix spike (MS), a matrix spike duplicate (MSD), and a laboratory duplicate (LD).

10.2 A method blank must be prepared and analyzed with each batch of samples. The method blank shall be prepared from organic-free reagent water and spiked with the appropriate surrogate spiking solution.

10.3 A laboratory control sample must be prepared and analyzed with each batch of samples. The LCS, consisting of a 1-L volume of organic-free reagent water, shall be prepared and spiked with the appropriate LCS spiking solution and surrogate spiking solution. Control charts are maintained for the LCS target analytes and surrogate spikes. Refer to CQAB SOP No. Q-009-CQAB-QC, Control Chart Generation, Maintenance, and Usage. The order of preference for spiking levels is as follows:

- If a project action level is known, spike at this level
- If the above condition does not apply, spike at the CQAB default levels: 160 ug/L benzoic acid, 80 ug/L phenols, and 50 ug/L base/neutrals.

10.4 The use of the matrix spike and matrix spike duplicate will depend in part on the role of the laboratory.

10.4.1 If the laboratory is to act in the quality assurance role, then the MS/MSD shall be used as described in the next paragraph. If the laboratory is performing the primary analysis for a project, then site-specific documents should be consulted. The sample to be used for the MS/MSD may be specified in the field. This previously designated sample would be spiked with the site-specific target analytes at a concentration equivalent to the site action level, or spiked with the same solution as the LCS. If this information was not specified or is not known, then the laboratory would choose a representative sample from each batch of samples analyzed. If samples from multiple sites were to be

analyzed in the same batch, then multiple sets of MS/MSD may be required. Consult the Section Chief or QA Officer for guidance if this situation occurs.

10.4.2 When the laboratory serves as the QA laboratory, the above scenario may not be practical to implement. If the site-specific requirements are unknown and samples from multiple sites are analyzed in the same batch, then the laboratory should select a representative sample for spiking. For those project samples in the workgroup that are not from the same project as the MS/MSD, the results will be reported as batch specific. The order of preference for spiking levels is as follows:

- If the target analyte concentrations are known, spike to increase the background concentration by a factor of approximately two
- If an action level is known, spike at this level
- If neither of the first two conditions apply, spike at the CQAB default levels: 160 ug/L benzoic acid, 80 ug/L phenols, and 50 ug/L base/neutrals.

10.5 The use of the laboratory duplicate may also depend in part on the role the laboratory is playing. The selection of a laboratory duplicate will be performed as described for the MS/MSD in Section 10.4. For those project samples in a workgroup that are not from the same project as the LD sample, the results will be reported as batch specific.

10.6 If there is insufficient sample for the laboratory duplicate, matrix spike, and matrix spike duplicate, the preparation hierarchy is as follows: laboratory duplicate, matrix spike, matrix spike duplicate.

10.7 The extraction technician must demonstrate proficiency in performing this extraction method as outlined in SOP No. Q-016-CQAB-QC, Technical Training. Method proficiency must be demonstrated yearly and anytime a major method modification is made.

11.0 Data Validation

11.1 The extraction technician is responsible for verifying that the information recorded on the extraction log (Figure 1) is complete and accurate. The Lab Data Review Checklist (Figure 2) must be completed to document the verification.

11.2 The extraction technician should enter the prep data onto the LIMS and coordinate verification of the correctness and completeness of the data. The report generator is very sensitive to the quality of the prep data and will not work properly if the data are incorrect. Verification is to be documented on the Organic Workgroup Tracking Form (Figure 3).

12.0 Waste Disposal

12.1 To minimize the impact of laboratory waste on the environment, the Chemistry Quality Assurance Branch encourages development and use of pollution prevention techniques in all laboratory procedures, including the proper handling and minimization of waste materials.

12.2 This procedure generates organic solvent wastes. All waste disposal procedures must comply with federal and local regulations. Refer to the laboratory's Waste Management Plan.

12.3 Spent methylene chloride/water will be collected in empty 4-L solvent bottles that can be found under the middle lab bench in the Organic Prep laboratory. The contents of full bottles are

transferred to the satellite accumulation site, a waste solvent drum located near the entrance to Room 439 (Organic Prep lab). Once filled, the drum will be removed from Room 439 and handled according to disposal procedures described in the Chemistry Quality Assurance Branch Waste Management Plan.

13.0 References

13.1 Test Methods for Evaluating Solid Waste, SW-846, Third Edition, Method 3520C, Update III, December 1996.

13.2 SOP No. Q-005-CQAB-SH, Sample Receipt, Login and Storage.

13.3 SOP No. Q-012-CQAB-GL, Glassware Cleaning.

13.4 SOP No. Q-008-CQAB-GL, Reagent Water Generation and Quality Monitoring.

13.5 SOP No. Q-004-CQAB-QC, Nonconformances and Corrective Action.

13.6 SOP No. Q-024-CQAB-DR, Data Reduction and Review/Validation.

13.7 SOP No. Q-016-CQAB-QC, Technical Training.

13.8 SOP No. Q-023-CQAB-QC, Method Equivalency Demonstration.

13.9 SOP No. Q-023-CQAB-QC, Control Chart Generation, Maintenance, and Usage.

13.10 Chemistry Quality Assurance Branch Waste Management Plan.

13.11 Chemistry Quality Assurance Branch Chemical Hygiene Plan.

Log of Continuous Liquid-Liquid Extraction Of BNA Water Samples According to SOP # M-3520C-CQAB-SP Chemistry Quality Assurance Branch Laboratory

Page No. _____

Batch No.:	Extraction Technician:
Extraction Start Date:	Work Group #:

	Lab ID Number	Sample Volume (mL)	Surrogate Volume (mL)	Check (✓) Spike Addition	pH<2 Date: (Initials)	Sample Description
BLK						
LCS						
1						
2						
3						
4						
5						
6						
7						
8						
9						
10						
11						
12						
13						
14						
15						
16						
17						
18						
19						
20						
LD						
MS						
MSD						

Surrogate ID #: _____ Added By: _____ Solvents Lot #s: _____

LCS Std #: _____ Amount: _____ Added By: _____

MS/MSD Std #: _____ Amount: _____ Added By: _____

Acid ID #: _____ Base ID #: _____

Figure 1A: Example of Organic Extraction Log for Waters

Batch Narrative:

Page No. _____

Batch No.:

	pH>11 Date and Initials	Date Thru Column and Initials	K-D Date and Initials	Micro-K-D Date and Initials	Final Sample Volume (mL)	Comments
BLK						
LCS						
1						
2						
3						
4						
5						
6						
7						
8						
9						
10						
11						
12						
13						
14						
15						
16						
17						
18						
19						
20						
LD						
MS						
MSD						

First Extraction: Start Time/Date _____ End Time/Date _____

Second Extraction: Start Time/Date _____ End Time/Date _____

Extract Storage Location: _____ *Are all unusual occurrences noted?* _____

Are ALL vials tightly capped _____ **Review Sheet Completed & Given To Analys** _____

Figure 1B: Example of Organic Extraction Log for Waters, Continued

Page No. 100

Log of Continuous Liquid-Liquid Extraction
of BNA Water Samples
According to SOP # M-3520C-CQAB-OP
Chemistry Quality Assurance Branch Laboratory

000202

Batch No.: WG4617	Extraction Technician: P. Technician
Extraction Start Date: 2/02/00	Clean-up: ☐ SOP #: NA

	Lab ID Number	Sample Volume (mL)	Surrogate Volume (mL)	Check (✓) Spike Addition	pH<2 Date: (Initials)	Sample Description
BLK	000202-MB	1000	0.5	✓	2/2 PT	organopure
LCS	000202-LCS	1000	0.5	✓✓	↑	organopure
1	M00028-001	980	0.5	✓		opaque orange
2	M00028-002	1010	0.5	✓		bright yellow
3	M00028-003	990	0.5	✓	↓	cloudy yellow
4	M00028-004	1000	0.5	✓	2/2 PT	bright orange
5						
6						
7						
8						
9						
10						
11						
12						
13						
14						
15						
16						
17						
18						
19						
20						
Dup	M00028-001	980	0.5	✓		opaque orange
MS						
MSD	M00028-002	1000	0.5	✓✓		bright yellow

PT 2/2 D

Surrogate ID #: GOS000201-2 Added By: GOS
Solvents Lot #s: B & J 5678
LCS Std #: GOS000131-5 Amount: 1.0 mL Added By: GOS
MS/MSD Std #: GOS000131-5 Amount: 1.0 mL Added By: GOS
Acid ID #: Acid000131-001 Base ID #: Base000131-002

Figure 1C: Example of Completed Organic Extraction Log for Waters

Chemistry Quality Assurance Branch Laboratory

Batch Narrative: Page No. 101

M000228-004 had strong odor.

Batch No.: WG4617 000202

Type	pH>11 Date and Initials	Date Thru Column and Initials	K-D Date and Initials	micro-K-D Date and Initials	Final Sample Volume (mL) and Initials	Comments
BLK	2/3 PT	2/4 PT	2/4 PT	2/4 PT	1.0	
LCS	↑	↑	↑	↑	1.0	
1					1.0	
2					1.0	
3					1.0	
4	↓	↓	↓	↓	1.0	
5	2/3 PT	2/4 PT	2/4 PT	2/4 PT	1.0	bad smell - acrid
6						
7						
8						
9						
10						
11						
12						
13						
14						
15						
16						
17						
18						
19						
20						
Dup	2/3 PT	2/4 PT	2/4 PT	2/4 PT	1.0	
MSD						
MS	2/3 PT	2/4 PT	2/4 PT	2/4 PT	1.0	

First Extraction: Start Time/Date 0900 2/2/00 End Time/Date 0700 2/3/00

Second Extraction: Start Time/Date 0900 2/3/00 End Time/Date 0630 2/4/00

Extract Storage Area or #: F006 Are all unusual occurrences noted? Y

Are all vials tightly capped? Y Review Sheet Completed & Given to Analyst? Y

Figure 1D: Example of Completed Organic Extraction Log for Waters, Continued

Lab Data Review Check List
Organic Extractions
Chemistry Quality Assurance Branch

Extraction Date:	Workgroup No.:
Extraction Method:	Clean-up SOP No. (if applicable)

Review Item	Yes (x)	No (x)	N/A (x)	2nd Level Review (x)
Were the workgroup/batch number and sample identification number(s) properly recorded?				
Were the weight/volume of samples and the final extract volumes properly recorded?				
Were sample dilutions or concentration factors properly recorded?				
Was a method blank prepared by using a blank solid/liquid matrix?				
Was a Laboratory Control Sample (LCS) prepared with the batch?				
Were a matrix spike (MS) and matrix spike duplicate (MSD) prepared with the batch?				
Was a laboratory duplicates (LD) prepared with the batch?				
For the Soxhlet & Continuous Liq.-Liq. extraction methods, did each phase proceed for 18-24 hours?				
Are there any Corrective Action Reports associated with this sample batch? (Copies of Corrective Actions attached?)				
Are the spike additions documented?				
Were the spiking volumes, stock sources, and spike concentrations properly recorded for the MS/MSD and LCS?				
Were all entries properly dated and initialed? All corrections made with single line through error, correction dated and initialed?				
Were extraction holding times met?				

NOTES: _____

_____

_____

Analyst: _____ Date: _____

2nd Level Reviewer: _____ Date: _____

Figure 2A: Laboratory Data Review Checklist For Organic Extractions

Lab Data Review Check List
Organic Extractions
Chemistry Quality Assurance Laboratory

Extraction Date: 2/14/00	Workgroup No.: WG4617
Extraction Method: M-3520C	Clean-up SOP No. (if applicable) NA

Review Item	Yes (x)	No (x)	N/A (x)	2nd Level Review (x)
Were the workgroup/batch number and sample identification number(s) properly recorded?	✓			✓
Were the weight/volume of samples and the final extract volumes properly recorded?	✓			✓
Were sample dilutions or concentration factors properly recorded?	✓			✓
Was a method blank prepared with the batch by using a blank solid/liquid matrix?	✓			✓
Was a Laboratory Control Sample (LCS) prepared with the batch?	✓			✓
Were a matrix spike (MS) and matrix spike duplicate (MSD) prepared with the batch?		✓		ok
Was a lab duplicate (LD) prepared with the batch?	✓			✓
For the Soxhlet & Continuous Liq.-Liq. extraction methods, did each phase proceed for 18-24 hours?	✓			✓
Are there any Corrective Action Reports associated with this sample batch? (Copies of Corrective Actions attached?)		✓		✓
Were the spike additions documented?	✓			✓
Were the spiking volumes, stock sources, and spike concentrations properly recorded for the MS/MSD and LCS?	✓			✓
Were all entries properly dated and initialed? All corrections made with a single line through error, correction dated and initialed?	✓			✓
Were extraction holding times met?	✓			✓

NOTES: Insufficient sample for MSD.

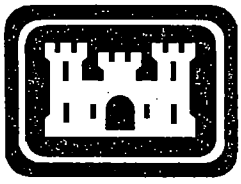
Sample M00028-004 had strong odor.

Analyst: P. Technician Date: 2/16/00

2nd Level Reviewer: M. analyst Date: 2/16/00

E:\DKM\SOPS\LOGSHEET\ORGANICS\EXTRTREV.WPD

Figure 2B: Example of Completed Laboratory Data Review Checklist For Organic Extractions



Chemistry Quality Assurance Branch
Organic Workgroup Tracking Form

Determinative Method: _____ Matrix: _____

Workgroup Number: _____ Number of Samples: _____

1.	Extraction	Technician: _____	Date: _____
2.	Prep Data Entry	Technician: _____	Date: _____
3.	Prep Data Verification *(LIMS Methods Only)**	Technician: _____ (Verify Completeness & Correctness for prep data & % Solids)	Date: _____
4.	Analysis Date	Analyst: _____	Date: _____
5.	Data Reduction	Reviewer: _____	Date Started: _____
		Total Hours: _____	Date Completed: _____
6.	TIC Review *(8270 only)*	Reviewer: _____	Date Started: _____
		Total Hours: _____	Date Completed: _____
7.	To LIMS *(As applicable)*	Date: _____	Report Date: _____
8.	Initial Reports Review	Date: _____ Editing Needed Y/N	Date: _____
		Total Hours: _____ Editing by: _____	
9.	Final Reports Review	Reviewer: _____	Date Started: _____
		Total Hours: _____	Date Completed: _____
10.	Reports Released	Date: _____	

Comments:

_____
_____
_____
_____
_____
_____
_____
_____
_____

**: Prep data for non-LIMS method will be verified for correctness and completeness by the analyst and/or QA Officer.*

Figure 3A: Organic Workgroup Tracking Form

Chemistry Quality Assurance Branch
Organic Workgroup Tracking Form

Determinative Method: 3510 Matrix: Water

Workgroup Number: 3275 Number of Samples: 4

1. Extraction	Technician: L. Extract	Date: 5/11/99	
2. Prep Data Entry	Technician: D. Enter	Date: 5/14/99	
3. Prep Data Verification *(LIMS Methods Only)**	Technician: V. Data (Verify Completeness & Correctness for prep data & % Solids)	Date: 5/15/99	
4. Analysis Date	Analyst: T. Analyst	Date: 5/27/99	
5. Data Reduction	Reviewer: D. Reducer	Date Started: 5/28/99	
	Total Hours: 6	Date Completed: 6/1/99	
6. TIC Review *(8270 only)*	Reviewer:	Date Started:	
	Total Hours:	Date Completed:	
7. To LIMS *(As applicable)*	Date: 6/1/99	Report Date: 6/1/99	
8. Initial Reports Review	Date: 6/5/99	Editing Needed (Y)N Date: 6/8/99	
	Total Hours: 1	Editing by: R. Edit	
9. Final Reports Review	Reviewer: F.R. Reviewer	Date Started: 6/5/99	
	Total Hours: 12	Date Completed: 6/7/99	
10. Reports Released	Date: 6/9/99		

Comments:

**: Prep data for non-LIMS method will be verified for correctness and completeness by the analyst and/or QA Officer.*

Figure 3B. Typical Example of Completed Organic Workgroup Tracking Form.

UNREVIEWED DATA

Regional Transmittal Form

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION V

DATE:

SUBJECT: Review of Data
Received for Review on 5-19-00

FROM: Stephen L. Ostrodka, Chief (SMF-4J)
Superfund Field Services Section

TO: Data User: USEPA

We have reviewed the data for the following case:

SITE NAME: HIMCO LANDFILL (IN)

CASE NUMBER: 27986 SDG NUMBER: EDCF6

Number and Type of Samples: 18 (WATER)

Sample Numbers: EDCF6-9, EDCG1, EDCG3, EDPM3, EDPM6-8
EDPN0-7

Laboratory: PDP Hrs for Review:

Following are our findings:

CC: Cecilia Moore
Region 5 TPO
Mail Code: SM-5J

PDP ANALYTICAL SERVICES

1680 Lake Front Circle, Suite B • The Woodlands, TX 77380 • Phone (281)363-2233

Contract No. 68-D7-0004	Case No. 27986	SDG No. EDCF6

SDG NARRATIVE

MAY 1 9 2000

SAMPLE RECEIPT :

04/27/00 @ 09:38 A.M. - Received three shipments consisting of three coolers:Cooler 1 temperature : 4°C. Cooler 2 temperature : 4°C. Cooler 3 temperature : 4°C. (COC391570, COC391567, COC391571, COC391575, COC391569, COC391535)contained the following:

EDPM3 - 2-1L amber, 3-40mL Voa Vials.
EDPM6 - 2-1L amber, 3-40mL Voa Vials.
EDPM7 - 2-1L amber, 3-40mL Voa Vials.
EDPM8 - 2-40mL Voa Vials.
EDPN5 - 2-1L amber, 3-40mL Voa Vials.
EDPN6 - 2-1L amber, 3-40mL Voa Vials.
EDPN7 - 2-1L amber, 3-40mL Voa Vials.
EDCF6 - 2-1L amber, 3-40mL Voa Vials.
EDCF7 - 2-1L amber, 3-40mL Voa Vials.
EDCF8 - 2-1L amber, 3-40mL Voa Vials.
EDCG1 - 2-40mL Voa Vials.
EDCF9 - 2-1L amber, 3-40mL Voa Vials.
EDPN1 - 2-1L amber, 3-40mL Voa Vials.
EDPN2 - 2-1L amber, 3-40mL Voa Vials.
EDPN3 - 2-40mL Voa Vials.
EDPN4 - 2-1L amber, 3-40mL Voa Vials.
EDPN0 - 2-1L amber, 3-40mL Voa Vials.
EDCG3 - 2-1L amber, 3-40mL Voa Vials.

No other problems were encountered during sample receipt.

VOLATILES:

All samples were analyzed on a HP 5973 GC/MS using a 60 meters long DB-624 column having a 0.53mm ID and 3um film thickness. The trap used was a OV-1/Tenax/Silica Gel (Tekmar #6. Cat 14-1755-003) . A 20 mL purge volume was used for all samples, blanks and standards. The concentrations of the standards and spikes were maintained at the levels required by the Statement of Work (SOW).

The following field samples are analyzed for volatiles in this SDG. The pH of the samples is listed against them.

EDPM3	2.0	EDPN7	2.0
EDPM8	5.0	EDCF6	2.0
EDPM6	2.0	EDCF7	2.0
EDCG1	2.0	EDCF8	2.0
EDPM7	2.0	EDCF9	2.0

PDP ANALYTICAL SERVICES

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Contract No. 68-D7-0004	Case No. 27986	SDG No. EDCF6

SDG NARRATIVE

EDPN3	2.0	EDPN1	2.0
EDPN5	2.0	EDPN2	2.0
EDCG3	2.0	EDPN4	2.0
EDPN6	2.0	EDPN0	2.0

Manual integration's were performed for the following samples for the compounds listed against them.

VSTD00160 – Chloromethane, Vinyl Chloride, Bromomethane, Chloroethane, 1,1-Dichloroethene, Carbon Disulfide, Acetone, Methylene Chloride, cis-1,2-Dichloroethene, 1,2-Dichloroethane, 1,1,1-Trichloroethane, Carbon Tetrachloride, 1,1,2-Trichloroethane, 1,2-Dibromo-3-chloropropane.

VSTD00260 – Chloromethane, Vinyl Chloride, Bromomethane, Chloroethane, 1,1-Dichloroethene, Carbon Disulfide, Acetone, Methylene Chloride, 1,1,1-Trichloroethane, Carbon Tetrachloride, 1,2-Dibromo-3-chloropropane.

VSTD00560 – Chloromethane, Vinyl Chloride, Bromomethane, Chloroethane, 1,1-Dichloroethene, Carbon Disulfide, Acetone, Methylene Chloride, Bromochloromethane, 1,1,1-Trichloroethane, Carbon Tetrachloride, 1,2-Dibromo-3-chloropropane.

VSTD01060 – Chloromethane, Vinyl Chloride, Bromomethane, Chloroethane, 1,1-Dichloroethene, Carbon Disulfide, Acetone, Methylene Chloride, 1,1,1-Trichloroethane, Carbon Tetrachloride, 1,2-Dibromo-3-chloropropane.

VSTD02560 – Chloromethane, Vinyl Chloride, Bromomethane, Chloroethane, 1,1-Dichloroethene, Carbon Disulfide, Methylene Chloride, 1,1,1-Trichloroethane, 1,2-Dibromo-3-chloropropane.

VSTD00563 – Chloromethane, Vinyl Chloride, Bromomethane, Chloroethane, 1,1-Dichloroethene, Carbon Disulfide, 1,2-Dibromo-3-chloropropane.

VSTD00565 – Chloromethane, Vinyl Chloride, Bromomethane, Chloroethane, 1,1-Dichloroethene, Carbon Disulfide, Acetone, Methylene Chloride, 1,1,1-Trichloroethane, Carbon Tetrachloride, 1,2,4-Trichlorobenzene.

VSTD00567 – Chloromethane, Vinyl Chloride, Bromomethane, Chloroethane, 1,1-Dichloroethene, Carbon Disulfide, Acetone, 1,1,1-Trichloroethane, Carbon Tetrachloride, 1,2-Dibromo-3-chloropropane.

VLCS94 – Vinyl Chloride.

VLCS95 – Vinyl Chloride.

VLCS97 – Vinyl Chloride.

EDCF8 – Carbon Disulfide.

EDCF9 – Chloroethane.

EDCG1 – Acetone, Methylene Chloride.

EDPM3 – Chloroethane, 1,2-Dichloropropane.

EDPM6 – Carbon Disulfide.

EDPM7 – Carbon Disulfide.

EDPM8 – Methylene Chloride.

EDPN0 – Acetone.

EDPN3 – Methylene Chloride.

EDPN7 – Carbon Disulfide.

PDP ANALYTICAL SERVICES

1680 Lake Front Circle, Suite B • The Woodlands, TX 77380 • Phone (281)363-2233

Contract No. 68-D7-0004	Case No. 27986	SDG No. EDCF6

SDG NARRATIVE

These manual integration's were necessary because the software failed to accurately integrate the entire peak. In all the above instances, the quantitation reports are flagged with "m". A hard copy printout of the manual integration's along with the scan ranges and initials of the operator is included in the data package .
For those target compounds with low signals that required a manual search for the initial calibration, the analysts has performed the same manual search for every sample analysis to ensure that false negative results are not reported. All peaks in the calibration standards, samples and QC samples are checked manually to ensure that the software has correctly identified and integrated the peaks.

Sample ELF23 was diluted 5X due to a high concentration of Chloroform present in the sample. Both analytical runs are reported in this package.

No problems were encountered during sample analysis.

SEMIVOLATILES:

The following samples were extracted using continuous liquid/liquid extraction method on 05/01/00

EDPM3, EDPM6, EDPM7, EDPN5, EDPN6, EDPN7, EDCF6, EDCF7, EDCF8, EDCF9, EDPN1, EDPN2, EDPN4, EDPN0, EDCG3

All samples were analyzed on a HP 5971A GC/MS using a 30 meters long and 0.25mm ID DB-5 column . A 2uL injection was used.

Manual integration's were performed for the following samples for the compounds listed against them.

SSTD00502 – Indeno(1,2,3-cd)pyrene.
SSTD01002 – Indeno(1,2,3-cd)pyrene.
SSTD02002 – Indeno(1,2,3-cd)pyrene.
SSTD05002 – Indeno(1,2,3-cd)pyrene.
SSTD08002 – Benzo(b)fluoranthene, Benzo(k)fluoranthene, Indeno(1,2,3-cd)pyrene.
SSTD02008 – 2,2'-oxybis(1-Chloropropane), Indeno(1,2,3-cd)pyrene.
SSTD02009 – 2,2'-oxybis(1-Chloropropane).
EDPN5 – 2-Fluorobiphenyl.

These manual integration's were necessary because the software failed to accurately integrate the entire peak. In all the above instances, the quantitation reports are flagged with "m". A hard copy printout of the manual integration's along with the scan ranges and initials of the operator is included in the data package .
For those target compounds with low signals that required a manual search for the initial calibration, the analysts has performed the same manual search for every sample analysis to ensure that false negative results are not

PDP ANALYTICAL SERVICES

1680 Lake Front Circle, Suite B • The Woodlands, TX 77380 • Phone (281)363-2233

Contract No. 68-D7-0004	Case No. 27986	SDG No. EDCF6

SDG NARRATIVE

reported. All peaks in the calibration standards, samples and QC samples are checked manually to ensure that the software has correctly identified and integrated the peaks.

No problems were encountered during sample extraction and sample analysis.

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hard copy data package has been authorized by the laboratory manager or his designee, as verified by the following signature:

Elizabeth A Panico / QC Coordinator
Signature and Title

5/17/00
Date of Signature

Z:\NETDATA\QA\FORMS\CLP\NARR1296.DOC

ORGANIC DATA QUALIFIER DEFINITIONS

For the purpose of defining the flagging nomenclature used in this document, the following code letters and associated definitions are provided:

VALUE - when/if the result of a value is greater than or equal to the Contract Required Quantitation Limit (CRQL).

U Indicates that the compound was analyzed for, but not detected. The sample quantitation limit corrected for dilution and percent moisture is reported.

J Indicates an estimated value. This flag is used either when estimating a concentration for a tentatively identified compound or when the data indicates the presence of a compound where the result is less than the sample quantitation limit, but greater than zero. The flag is also used to indicate a reported result having an associated QC problem.

R Indicates the data are unusable. (NOTE: The analyte may or may not be present.)

N Indicates presumptive evidence of a compound. This flag is only used for a tentatively identified compound, where the identification is based on a mass spectral library search.

P Indicates a pesticide/Aroclor target analyte when there is greater than 25% difference for the detected concentrations between the two GC columns. The lower of the two results is reported.

C Indicates pesticide results that have been confirmed by GC/MS.

B Indicates the analyte is detected in the associated blank as well as in the sample.

E Indicates compounds whose concentrations exceed the calibration range of the instrument.

D Indicates an identified compound in an analysis has been diluted. This flag alerts the data user to any differences between the concentrations reported in the two analysis.

A Indicates tentatively identified compounds that are suspected to be aldol condensation products.

G Indicates the TCLP Matrix Spike Recovery was greater than the upper limit of the analytical method.

L Indicates the TCLP Matrix Spike Recovery was less than the lower limit of the analytical method.

T Indicates the analyte is found in the associated TCLP extraction blank as well as in the sample.

X,Y,Z are reserved for laboratory defined flags.

EPA United States Environmental Protection Agency
Contract Laboratory Program

Organic Traffic Report & Chain of Custody Record
(For Organic CLP Analysis)

SDG No.

Case No. 27986

1. Matrix (Specify)	1. Surface Water; 2. Ground Water; 3. Leachate; 4. Feed Oil; 5. Soil Sediment; 6. PE-water; 7. PE-soil; 8. Other (specify in Column D)
2. Preservative (Enter in Column D)	1. HCl; 2. HNO3; 3. NaHSO4; 4. H2SO4; 5. Cement; 6. CH3OH; 7. Other (specify in Column D); N. Not Preserved
3. Region No.	5
Sampling Co.	USICE Omaha
5. Date Shipped	4/25/00
Carrier	FEDEX
7. Date Received–Received by:	4-27-00 Carlos Pinn
Sampler (Name)	Thomas Sedlacek
Airbill Number	8201348065 42
Laboratory Contract No.	68-D7-0004
Unit Price	525.00
Sampler Signature	[signature]
6. Ship To:	PDP Analytical Services, 1680 Lakefront Circle, Suite B, The Woodlands, TX 77380
ATTN:	Sean Sundquist
8. Transfer to:	
Date Received	
Received by:	
Contract Number	
Price	

4. Purpose**: Lead: SF, PRP, ST, FED, BZ; Early Action: IA, PA, REM, RI, SI, ESI; Long-Term Action: RIFS, RD, RA, O&M

CLP Sample Numbers (from labels)	A Matrix (from Box 1) Other:	B Conc.: Low Med	C Sample Type: Comp./Grab	D Preservative (from Box 2) Other:	E RAS Analysis: TA (circle one) PR* 7 14 21 VOA	TA (circle one) PR* 7 14 21 BNA	TA (circle one) PR* 7 14 21 Pest/PCB	F Regional Specific Tracking Number or Tag Numbers	G Station Location Identifier	H Mo/Day/Year/Time Sample Collection	I Corresponding CLP Inorganic Sample No.	J Sampler Initials	K Sample Condition
EDPM3	2	LL	Grab	1	X	—	—	5-068828, 5-068994, 5-068995	GPE-1	04/25/00/1056	N/A	J	
EDPM3	2	LL	Grab	5	—	X	—	5-068835 thru 36	GPE-1	04/25/00/1056	N/A	J	
EDPM6	2	LL	Grab	1	X	—	—	5-068904, 5-068895, 5-068906	GPE-2	04/25/00/1115	NA	J	
EDPM6	2	LL	Grab	5	—	X	—	5-068896-97	GPE-2	04/25/00/1115	NA	J	
EDPM7	2	LL	Grab	1	X	—	—	5-068840, 5-068842, 5-068834	GPE-3	04/25/00 1136	NA	J	
EDPM7	2	LL	Grab	5	—	X	—	5-068903, 5-068893	GPE-3	04/25/00/1136	NA	J	
EDPM8	2	LL	Grab	1	X	—	—	5-068862, 5-068876	Trip Blank	04/25/00 1056	NA	J	
EDPN5	2	LL	Grab	1	X	—	—	5-068832, 833, 5-068995	GP114-1	04/25/00/1410	NA	J	
EDPN5	2	LL	Grab	5	—	X	—	5-068997, 5-068851	GP114-1	04/25/00/1410	NA	J	

Shipment for Case Complete? (Y/N)	Page 1 of 2	VOA MS/MSD Required? Y/N Sample #:	BNA MS/MSD Required? Y/N Sample #:	Pest/PCB MS/MSD Required? Y/N Sample #:	Additional Sampler Signatures: Janie E Carrig	Chain of Custody Seal Number(s): 22832, 22833

*PR provides 7-day data turnaround in addition to preliminary results. Requests for preliminary results will increase analytical costs.

Chain of Custody Record

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Janie E Carrig	4/26/00 1600				
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature) Carlos Pinn	Date / Time 4-27-00 9:38	Remarks: Is custody seal intact? Y/N/none	Case: 27986 SDG: EDCF6

0802

Distribution: Blue - Region Copy; White - Lab Copy for Return to SMO; Pink - SMO Copy; Yellow - Lab Copy for Return to Region

See Reverse for Additional Standard Instructions
**See Reverse for Purpose Code Definitions

EPA Form 9110-2 (2/99)

CLASS-99-002

EPA United States Environmental Protection Agency
Contract Laboratory Program

Organic Traffic Report & Chain of Custody Record
(For Organic CLP Analysis)

SDG No.

Case No. 27986

1. Matrix (Enter in Column A)
1. Surface Water
2. Ground Water
3. Leachate
4. Drum
5. Soil/Sediment
6. PE-water
7. PE-soil
8. Other (specify in Column A)

2. Preservative (Enter in Column D)
1. HCl
2. HNO3
3. NaHSO4
4. H2SO4
5. Ice only
6. CH3OH
7. Other (specify in Column D)
N. Not Preserved

3. Region No. 5 | Sampling Co. USEPA - Chantilly | 5. Date Shipped 4/25/00 | Carrier FED-EX | 7. Date Received--Received by: 4-27-00 Carlos Rivera

Sampler (Name): Thomas Sedbrook | Airbill Number: 820134806542 | Laboratory Contract No. 68-D7-0004 | Unit Price 525.00

Sampler Signature: [signature] | 6. Ship To: PDP Analytical Services, 1680 Lake Front Circle, Suite B, The Woodlands, TX 77380, ATTN: Sean Sundquist | 8. Transfer to: | Date Received

4. Purpose**
Lead: [X] SF, [ ] PRP, [ ] ST, [ ] FED, [ ] BZ
Early Action: [ ] IA, [ ] PA, [ ] REM, [ ] RI, [ ] SI, [ ] ESI
Long-Term Action: [ ] RIFS, [X] RD, [ ] RA, [ ] O&M

Received by: | Contract Number | Price

CLP Sample Numbers (from labels)	A Matrix (from Box 1) Other:	B Conc.: (Low) Med	C Sample Type: Comp / (Grab)	D Preservative (from Box 2) Other:	E RAS Analysis TA (circle one) PR* 7 14 21 VOA	E TA (circle one) PR* 7 14 21 BNA	E TA (circle one) PR* 7 14 21 Pest/PCB	F Regional Specific Tracking Number or Tag Numbers	G Station Location Identifier	H Mo/Day/Year/Time Sample Collection	I Corresponding CLP Inorganic Sample No.	J Sampler Initials	K Sample Condition
EDPN6	2	LL	Grab	1	X	—	—	5-168835, 5-168857, 5-[illegible]	GP114-2	04/25/00/1425	NA	TS	
EDPN6	2	LL	Grab	5	—	X	—	5-168858+59	GP-114-2	04/25/00/1425	NA	TS	
						And no others							

Shipment for Case Complete? (Y/N) Y

Page 2 of 2

VOA MS/MSD Required? Y/(N) Sample #:
BNA MS/MSD Required? Y/(N) Sample #:
Pest/PCB MS/MSD Required? Y/(N) Sample #:

Additional Sampler Signatures: Jami Fleming

Chain of Custody Seal Number(s): 22832, 22833

*PR provides 7-day data turnaround in addition to preliminary results. Requests for preliminary results will increase analytical costs.

Chain of Custody Record

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Jami Fleming	1/26/00 1600				
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature) Carlos Rivera	Date / Time 4-27-00 9:38	Remarks: Is custody seal intact? Y/N/none CASE: 27986 SDG: EDCF6	

0003

Distribution: Blue - Region Copy; White - Lab Copy for Return to SMO; Pink - SMO Copy; Yellow - Lab Copy for Return to Region

See Reverse for Additional Standard Instructions
**See Reverse for Purpose Code Definitions

EPA Form 9110-2 (2/99)

CLASS-99-002

EPA United States Environmental Protection Agency
Contract Laboratory Program

Organic Traffic Report & Chain of Custody Record
(For Organic CLP Analysis)

SDG No.

Case No. 27986

1. Matrix (Enter in Column A)
1. Surface Water
2. Ground Water
3. Leachate
4. Field QC
5. Soil/Sediment
6. PE-water
7. PE-soil
8. Other (specify in Column A)

2. Preservative (Enter in Column D)
1. HCl
2. HNO3
3. NaHSO4
4. H2SO4
5. Ice only
6. CH3OH
7. Other (specify in Column D)
N. Not Preserved

3. Region No. 5 | Sampling Co. USACE Omaha

5. Date Shipped 4/26/00 | Carrier FEDEX

7. Date Received--Received by: 4-27-00 Carlos Fuiii

Sampler (Name) Thomas Sedlacek

Airbill Number 820134806531

Laboratory Contract No. 68-D7-0004 | Unit Price 525.00

Sampler Signature [signature]

6. Ship To: PDP Analytical Services
1680 Lakefront ~~Dr~~ Circle
Suite B
The Woodlands, TX
ATTN: Sean Sundquist

8. Transfer to: | Date Received

Received by:

Contract Number | Price

4. Purpose**
Lead: [X] SF [ ] PRP [ ] ST [ ] FED [ ] BZ
Early Action: [ ] IA [ ] PA [ ] REM [ ] RI [ ] SI [ ] ESI
Long-Term Action: [ ] RIFS [X] RD [ ] RA [ ] O&M

CLP Sample Numbers (from labels)	A Matrix (from Box 1) Other:	B Conc.: Low Med	C Sample Type: Comp./Grab	D Preservative (from Box 2) Other:	E RAS Analysis TA (circle one) * 7 14 21 VOA	TA (circle one) * 7 14 21 BNA	TA (circle one) * 7 14 21 Pest/PCB	F Regional Specific Tracking Number or Tag Numbers	G Station Location Identifier	H Mo/Day/Year/Time Sample Collection	I Corresponding CLP Inorganic Sample No.	J Sampler Initials	K Sample Condition
EDPN7	2	LL	Grab	1	X	—	—	5-168863, 64, 65	GP114-3	04/25/00/1510	NA	J	
EDPN7	2	LL	Grab	5	—	X	—	5-168866, 5-068856	GP114-3	04/25/00/1510	NA	J	
EDCF6	2	LL	Grab	1	X	—	—	5-068491 5-068552, 53	GP16-1	04/25/00/1618	NA	J	
EDCF6	2	LL	Grab	5	—	X	—	5-068492, 93	GP16-1	04/25/00/1618	NA	J	
EDCF7	2	LL	Grab	1	X	—	—	5-068489, 90 5-068487	GP16-2	04/25/00/1640	NA	J	
EDCF7	2	LL	Grab	5	—	X	—	5-068861, 5-068499	GP16-2	04/25/00/1640	NA	J	
EDCF8	2	LL	Grab	1	X	—	—	5-068504, 510, 511	GP101-1	04/25/00/1745	NA	J	
EDCF8	2	LL	Grab	5	—	X	—	5-068512, 513	GP101-1	04/25/00/1745	NA	J	
EDCG1	2	LL	Grab	1	X	—	—	5-068531, 532	Trip blank	04/25/00/1520	NA	J	
								J Carrig					

Shipment for Case Complete? (Y/N) Y

Page 1 of 2

VOA MS/MSD Required? Y/N Sample #:
BNA MS/MSD Required? Y/N Sample #:
Pest/PCB MS/MSD Required? Y/N Sample #:

Additional Sampler Signatures: Jami Carrig

Chain of Custody Seal Number(s): 21901, 21902

*PR provides 7-day data turnaround in addition to preliminary results. Requests for preliminary results will increase analytical costs.

Chain of Custody Record

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Jami Carrig	04/26/00 1600				
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature) Carlos Fuiii	Date / Time 4-27-00 9:38	Remarks: Is custody seal intact? Y/N/none	Case: 27986 SDG: EDCF6

Distribution: Blue - Region Copy; White - Lab Copy for Return to SMO; Pink - SMO Copy; Yellow - Lab Copy for Return to Region

See Reverse for Additional Standard Instructions
**See Reverse for Purpose Code Definitions

EPA Form 9110-2 (2/99)

CLASS-99-002

0804

EPA United States Environmental Protection Agency
Contract Laboratory Program

Organic Traffic Report & Chain of Custody Record
(For Organic CLP Analysis)

SDG No.

Case No. 27986

1. Matrix (Enter in Column A)
1. Surface Water
2. Ground Water
3. Leachate
4. Field QC
5. Soil/Sediment
6. PE-water
7. PE-soil
8. Other (specify in Column A)

2. Preservative (Enter in Column D)
1. HCl
2. HNO3
3. NaHSO4
4. H2SO4
5. Ice only
6. CH3OH
7. Other (specify in Column D)
N. Not Preserved

3. Region No. 5
Sampling Co. USACE Omaha
5. Date Shipped 4/26/00
Carrier FEDEX
7. Date Received--Received by: 4-27-00 Carlos Peiri

Sampler (Name) Thomas Sedlacek
Airbill Number 820134806531
Laboratory Contract No. 68-D7-0004
Unit Price 525 00

Sampler Signature [signature]
6. Ship To: PDP Analytical Service
1680 Lake Front Circle Suite B
The Woodlands, TX 77380
ATTN: Sean Sundquist
8. Transfer to:
Date Received
Received by:
Contract Number
Price

4. Purpose**
Lead: [X] SF [ ] PRP [ ] ST [ ] FED [ ] BZ
Early Action: [ ] IA [ ] PA [ ] REM [ ] RI [ ] SI [ ] ESI
Long-Term Action: [ ] RIFS [X] RD [ ] RA [ ] O&M

CLP Sample Numbers (from labels)	A Matrix (from Box 1) Other:	B Conc.: Low Med	C Sample Type: Comp./Grab	D Preservative (from Box 2) Other:	E RAS Analysis TA (circle one) PR* 7 14 21 VOA	TA (circle one) PR* 7 14 21 BNA	TA (circle one) PR* 7 14 21 Pest/PCB	F Regional Specific Tracking Number or Tag Numbers	G Station Location Identifier	H Mo/Day/Year/Time Sample Collection	I Corresponding CLP Inorganic Sample No.	J Sampler Initials	K Sample Condition
EDCF9	2	LL	Grab	1	X	—	—	5-068203, 5-068521 5-068513	GP101-2	04/25/00 / 1840	NA	[initials]	
EDCF9	2	LL	Grab	5	—	X	—	5-068500, 5-068202	GP101-2	04/25/00 / 1840	NA	[initials]	

Shipment for Case Complete? (Y/N) Y
Page 2 of 2
VOA MS/MSD Required? Y/N Sample #:
BNA MS/MSD Required? Y/N Sample #:
Pest/PCB MS/MSD Required? Y/N Sample #:
Additional Sampler Signatures: [signature]
Chain of Custody Seal Number(s): 21901, 21902

*PR provides 7-day data turnaround in addition to preliminary results. Requests for preliminary results will increase analytical costs.

Chain of Custody Record

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
[signature]	04/26/00 1600				
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature) Carlos Peiri	Date / Time 4-27-00 9:38	Remarks: Is custody seal intact? Y/N/none Case: 27986 SDG: EDCF6	

0805

Distribution: Blue - Region Copy; White - Lab Copy for Return to SMO; Pink - SMO Copy; Yellow - Lab Copy for Return to Region

See Reverse for Additional Standard Instructions
**See Reverse for Purpose Code Definitions

EPA Form 9110-2 (2/99)

CLASS-99-002

201575

EPA United States Environmental Protection Agency
Contract Laboratory Program

Organic Traffic Report & Chain of Custody Record
(For Organic CLP Analysis)

SDG No.

Case No. 27986

1. Matrix (Specify Column A)
1. Surface Water
2. Ground Water
3. Leachate
4. Field QC
5. Soil/Sediment
6. PE-Water
7. PE-soil
8. Other (specify in Column D)

2. Preservative (Enter in Column D)
1. HCl
2. HNO3
3. NaHSO4
4. H2SO4
5. Ice only
6. CH3OH
7. Other (specify in Column D)
N. Not Preserved

3. Region No. 5 | Sampling Co. USGS Omaha | 5. Date Shipped 04/26/00 | Carrier FEDEX | 7. Date Received--Received by: 4-27-00 Carlos Pinn

Sampler (Name) USGS Lee R. Watson | Airbill Number 820134806520 | Laboratory Contract No. 68-D7-0004 | Unit Price 525.00

Sampler Signature Lee R Watson | 6. Ship To: PDP Analytical Services, 1680 Lake Front Circle, Suite B, The Woodlands, TX 77380 | 8. Transfer to: | Date Received

4. Purpose** Lead: [X] SF [ ] PRP [ ] ST [ ] FED [ ] BZ | Early Action: [ ] IA [ ] PA [ ] REM [ ] RI [ ] SI [ ] ESI | Long-Term Action: [ ] RIFS [X] RD [ ] RA [ ] O&M

ATTN: Sean Sundquist | Received by: | Contract Number | Price

CLP Sample Numbers (from labels)	A Matrix (from Box 1) Other:	B Conc.: Low Med	C Sample Type: Comp./Grab	D Preservative (from Box 2) Other:	E RAS Analysis TA (circle one) PR* 7 14 21 VOA	TA (circle one) PR* 7 14 21 BNA	TA (circle one) PR* 7 14 21 Pest/PCB	F Regional Specific Tracking Number or Tag Numbers	G Station Location Identifier	H Mo/Day/Year/Time Sample Collection	I Corresponding CLP Inorganic Sample No.	J Sampler Initials	K Sample Condition
EDPN1	2	LL	Grab	1	X	—	—	5-068533, -534, 5-068330	WT102C	04/25/00 / 1356	N/A		
EDPN1	2	LL	Grab	5	—	X	—	5-068535, 5-068536	WT102C	04/25/00 / 1356	N/A		
EDPN2	2	LL	Grab	1	X	—	—	5-068537, -538, -539	WT102B	04/25/00 / 1512	N/A		
EDPN2	2	LL	Grab	5	—	X	—	5-068540, -541	WT102B	04/25/00 / 1512	N/A		
EDPN3	2	LL	Grab	1	X	—	—	5-068542, -543	WT102B	04/25/00 / 1300	N/A		
EDPN4	2	LL	Grab	1	X	—	—	5-068321, -322, -323	WT102A	04/25/00 / 1558	N/A		
EDPN4	2	LL	Grab	5	—	X	—	5-068324, -325	WT102A	04/25/00 / 1558	N/A		
EDPN0	2	LL	Grab	1	X	—	—	5-068326, -327, -328	WT102C	04/25/00 / 1250	N/A		
EDPN0	2	LL	Grab	5	—	X	—	5-068329, 5-068331	WT102C	04/25/00 / 1250	N/A		

Shipment for Case Complete? (Y/N) Y | Page 1 of 2 | VOA MS/MSD Required? Y/N Sample #: | BNA MS/MSD Required? Y/N Sample #: | Pest/PCB MS/MSD Required? Y/N Sample #: | Additional Sampler Signatures: Janie Garrig | Chain of Custody Seal Number(s): 21903, 21904

*PR provides 7-day data turnaround in addition to preliminary results. Requests for preliminary results will increase analytical costs.

Chain of Custody Record

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Janie Garrig	04/26/00 1600				
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature) Carlos Pinn	Date / Time 4-27-00 9:38	Remarks: Is custody seal intact? Y/N/none	Case: 27986 SDG: EDCF6

9080

Distribution: Blue - Region Copy, White - Lab Copy for Return to SMO, Pink - SMO Copy, Yellow - Lab Copy for Return to Region

See Reverse for Additional Standard Instructions
**See Reverse for Purpose Code Definitions

EPA Form 9110-2 (2/99)

CLASS-99-002

EPA United States Environmental Protection Agency
Contract Laboratory Program

Organic Traffic Report & Chain of Custody Record
(For Organic CLP Analysis)

SDG No.

Case No. 27986

1. Matrix
Column A:
1. Surface Water
2. Ground Water
3. Leachate
4. Effluent
5. Soil/Sediment
6. Sediment
7. PE-soil
8. Other (specify in Column A)

2. Preservative
Column B:
1. HCl
2. HNO3
3. NaHSO4
4. H2SO4
5. Ice only
6. CH3OH
7. Other (specify in Column B)
N. None Preserved

3. Region No. 5
Sampling Co. USACE-Omaha USGS
5. Date Shipped 04/26/00
Carrier FedEx
7. Date Received–Received by: 4-27-00 Carlos Rivera

Sampler (Name) Thomas Sedlacek
Airbill Number 820134806520
Laboratory Contract No. 68-D7-0004
Unit Price 525.00

Sampler Signature
6. Ship To: PDP Analytical Services
1680 Lake Front Circle
Suite B
The Woodlands, TX 77380
ATTN: Sean Sundquist
8. Transfer to:
Date Received
Received by:
Contract Number
Price

4. Purpose**
Lead: SF, PRP, ST, FED, BZ
Early Action: IA, PA, REM, RI, SI, ESI
Long-Term Action: RIFS, RD, RA, O&M

CLP Sample Numbers (from labels)	A Matrix (from Box 1) Other:	B Conc.: (Low) Med	C Sample Type: Comp./ Grab	D Preservative (from Box 2) Other:	E RAS Analysis TA (circle one) PR* 7 14 21 VOA	E TA (circle one) PR* 7 14 21 BNA	E TA (circle one) PR* 7 14 21 Pest/ PCB	F Regional Specific Tracking Number or Tag Numbers	G Station Location Identifier	H Mo/Day/ Year/Time Sample Collection	I Corresponding CLP Inorganic Sample No.	J Sampler Initials	K Sample Condition
EDCG3	2	LL	Grab	1	X	—	—	5-068332, -333, -334	WTB1	04/26/00 /0925	NA	J	
EDCG3	2	LL	Grab	5	—	X	—	5-068335, -336	WTB1	04/26/00 /0925	NA	J	

Shipment for Case Complete? (Y/N)

Page 2 of 2

VOA MS/MSD Required? Y/N Sample #:
BNA MS/MSD Required? Y/N Sample #:
Pest/PCB MS/MSD Required? Y/N Sample #:

Additional Sampler Signatures: Jamie Canning

Chain of Custody Seal Number(s): 21703, 21704

*PR provides 7-day data turnaround in addition to preliminary results. Requests for preliminary results will increase analytical costs.

Chain of Custody Record

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Jamie Canning	04/26/00 1600				
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature) Carlos Rivera	Date / Time 4-27-00 9:38	Remarks: Is custody seal intact? Y/N/none	Case: 27986 SDG: EDCF6

0807

Distribution: Blue - Region Copy; White - Lab Copy for Return to SMO; Pink - SMO Copy; Yellow - Lab Copy for Return to Region

See Reverse for Additional Standard Instructions
**See Reverse for Purpose Code Definitions

EPA Form 9110-2 (2/99)

CLASS-99-002

EPA United States Environmental Protection Agency
Contract Laboratory Program

Organic Traffic Report & Chain of Custody Record
(For Organic CLP Analysis)

SDG No.

Case No. 27986

1. Matrix (Enter in Column A): 1. Surface Water 2. Ground Water 3. Leachate 4. Field QC 5. Soil/Sediment 6. PE-water 7. PE-soil 8. Other (specify in Column A)

2. Preservative (Enter in Column D): 1. HCl 2. HNO3 3. NaHSO4 4. H2SO4 5. Ice only 6. CH3OH 7. Other (specify in Column D) N. Not Preserved

3. Region No.: 5 | Sampling Co.: USACE Lavalle

5. Date Shipped: 4/25/00 | Carrier: FED-EX

7. Date Received--Received by: 4-27-00 Carlos Picin

Sampler (Name): Thomas Sedlacek

Airbill Number: 8201 348 06542

Laboratory Contract No.: 68-D7-0004 | Unit Price: 525.00

Sampler Signature: [signature]

6. Ship To: PDP Analytical Services, 1680 Lake Front Circle, Suite B, The Woodlands, TX 77380
ATTN: Sean Sundquist

8. Transfer to: | Date Received

Received by:

Contract Number | Price

4. Purpose**: Lead: [X] SF, [ ] PRP, [ ] ST, [ ] FED, [ ] BZ; Early Action: [ ] IA, [ ] PA, [ ] REM, [ ] RI, [ ] SI, [ ] ESI; Long-Term Action: [ ] RIFS, [X] RD, [ ] RA, [ ] O&M

CLP Sample Numbers (from labels)	A Matrix (from Box 1) Other:	B Conc.: Low Med	C Sample Type: Comp./Grab	D Preservative (from Box 2) Other:	E RAS Analysis: TA (circle one) PR* 7 14 21 VOA	TA (circle one) PR* 7 14 21 BNA	TA (circle one) PR* 7 14 21 Pest/PCB	F Regional Specific Tracking Number or Tag Numbers	G Station Location Identifier	H Mo/Day/Year/Time Sample Collection	I Corresponding CLP Inorganic Sample No.	J Sampler Initials	K Sample Condition
EDPN6	2	LL	Grab	1	X	—	—	5-168855, 5-168857, 5-069700	GP-114-2	04/25/00/1425	NA	[illegible]	
EDPN6	2	LL	Grab	5	—	X	—	5-168858 + 59	GP-114-2	04/25/00/1425	NA	[illegible]	

And no others

Shipment for Case Complete? (Y/N): | Page 2 of 2

VOA MS/MSD Required? Y/N Sample #:
BNA MS/MSD Required? Y/N Sample #:
Pest/PCB MS/MSD Required? Y/N Sample #:

Additional Sampler Signatures: [signature]

Chain of Custody Seal Number(s): 22832 [illegible]

*PR provides 7-day data turnaround in addition to preliminary results. Requests for preliminary results will increase analytical costs.

Chain of Custody Record

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
[signature]	4/26/00 1600				
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature) Carlos Picin	Date / Time 4-27-00 9:38	Remarks: Is custody seal intact? Y/N/none	CASE: 27986 SDG: EDCF6

0007

Distribution: Blue - Region Copy, White - Lab Copy for Return to SMO, Pink - SMO Copy, Yellow - Lab Copy for Return to Region

See Reverse for Additional Standard Instructions
**See Reverse for Purpose Code Definitions

EPA Form 9110-2 (2/99)

CLASS-99-002

201567

EPA United States Environmental Protection Agency
Contract Laboratory Program

Organic Traffic Report & Chain of Custody Record
(For Organic CLP Analysis)

SDG No.

Case No. 27986

1. Matrix (Enter in Column A)	2. Preservative (Enter in Column B)
1. Surface Water	1. HCl
2. Ground Water	2. HNO3
3. Leachate	3. NaHSO4
4. Field QC	4. H2SO4
5. Soil/Sediment	5. Ice only
6. PE water	6. CHROH
7. PE soil	7. Other (specify in Column B)
8. Other (specify in Column A)	N. Not Preserved

3. Region No. 5 | Sampling Co. USACE Omaha | 5. Date Shipped 4/25/00 | Carrier FEDEX | 7. Date Received--Received by: 4-27-00 Carlos Viera

Sampler (Name): Thomas Sedlacek | Airbill Number: 820134806542 | Laboratory Contract No. 68-D7-0004 | Unit Price 525.00

Sampler Signature: [signature] | 6. Ship To: PDP Analytical Services, 1680 Lake Front Circle, Suite B, The Woodlands, TX 77380 | 8. Transfer to: | Date Received

4. Purpose**: Lead: SF, PRP, ST, FED, BZ | Early Action: IA, PA, REM, RI, SI, ESI | Long-Term Action: RIFS, RD, RA, O&M

ATTN: Sean Sundquist | Received by: | Contract Number | Price

CLP Sample Numbers (from labels)	A Matrix (from Box 1) Other:	B Conc.: Low Med	C Sample Type: Comp./Grab	D Preservative (from Box 2) Other:	E RAS Analysis: TA (circle one) PR* 7 14 21 VOA	TA (circle one) PR* 7 14 21 BNA	TA (circle one) PR* 7 14 21 Pest/PCB	F Regional Specific Tracking Number or Tag Numbers	G Station Location Identifier	H Mo/Day/Year/Time Sample Collection	I Corresponding CLP Inorganic Sample No.	J Sampler Initials	K Sample Condition
EDPM3	2	LL	Grab	1	X	—	—	5-068820 5-068994, 5-068995	GPE-1	04/25/00/1056	N/A	J	
EDPM3	2	LL	Grab	5	—	X	—	5-068835 thru 36	GPE-1	04/25/00/1056	N/A	J	
EDPM6	2	LL	Grab	1	X	—	—	5-068904 5-068895, 5-068906	GPE-2	04/25/00/1115	NA	J	
EDPM6	2	LL	Grab	5	—	X	—	5-068816-97	GPE-2	04/25/00/1115	NA	J	
EDPM7	2	LL	Grab	1	X	—	—	5-068840 5-068842 5-068834	GPE-3	04/25/00/1136	NA	J	
EDPM7	2	LL	Grab	5	—	X	—	5-068903, 5-068833	GPE-3	04/25/00/1136	NA	J	
EDPM8	2	LL	Grab	1	X	—	—	5-068862, 5-068[illegible]	Trip blank	04/25/00/1056	NA		
EDPN5	2	LL	Grab	1	X	—	—	5-068832, 833 5-068[illegible]	GP114-1	04/25/00/1410	NA	J	
EDPN5	2	LL	Grab	5	—	X	—	5-068897 5-068831	GP114-1	04/25/00/1410	NA	J	

Shipment for Case Complete? (Y/N) Y | Page 1 of 2 | VOA MS/MSD Required? Y/N Sample #: | BNA MS/MSD Required? Y/N Sample #: | Pest/PCB MS/MSD Required? Y/N Sample #:

Additional Sampler Signatures: [signature] | Chain of Custody Seal Number(s): 22832, 22833

*PR provides 7-day data turnaround in addition to preliminary results. Requests for preliminary results will increase analytical costs.

Chain of Custody Record

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
[signature]	4/24/00 1600				
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature) Carlos Viera	Date / Time 4-27-00 9:38	Remarks: Is custody seal intact? Y/N/none	Case: 27986 SDG: EDCF6

9000

Distribution: Blue - Region Copy, White - Lab Copy for Return to SMO, Pink - SMO Copy, Yellow - Lab Copy for Return to Region

See Reverse for Additional Standard Instructions
**See Reverse for Purpose Code Definitions

EPA Form 9110-2 (2/99)

CLASS-99-002

EPA United States Environmental Protection Agency
Contract Laboratory Program

Organic Traffic Report & Chain of Custody Record
(For Organic CLP Analysis)

SDG No.

Case No. 27986

1. Matrix (Enter in Column A): 1. Surface Water, 2. Ground Water, 3. Leachate, 4. Field QC, 5. Soil/Sediment, 6. PE-water, 7. PE-soil, 8. Other (specify in Column A)	2. Preservative (Enter in Column D): 1. HCl, 2. HNO3, 3. NaHSO4, 4. H2SO4, 5. Ice only, 6. CH3OH, 7. Other (specify in Column D), N. Not Preserved

3. Region No.: 5
Sampling Co.: USDOT [illegible]
5. Date Shipped: 4/26/00
Carrier: FEDEX
7. Date Received--Received by: 4-27-00 Carlos Pirir

Sampler (Name): Thomas Sedlack
Airbill Number: 820134800531
Laboratory Contract No.: 68-D7-0004
Unit Price: 525.00

Sampler Signature: [signature]
6. Ship To: PDP Analytical Services, 1680 Lakefront ~~Dr~~ Circle, Suite B, The Woodlands, TX
ATTN: Sean Sundquist
8. Transfer to:
Date Received
Received by:
Contract Number
Price

4. Purpose**
Lead: [x] SF, [ ] PRP, [ ] ST, [ ] FED, [ ] BZ
Early Action: [ ] IA, [ ] PA, [ ] REM, [ ] RI, [ ] SI, [ ] ESI
Long-Term Action: [ ] RIFS, [x] RD, [ ] RA, [ ] O&M

CLP Sample Numbers (from labels)	A Matrix (from Box 1) Other:	B Conc.: Low Med	C Sample Type: Comp./Grab	D Preservative (from Box 2) Other:	E RAS Analysis: TA (circle one) PR* 7 14 21 VOA	TA (circle one) PR* 7 14 21 BNA	TA (circle one) PR* 7 14 21 Pest/PCB	F Regional Specific Tracking Number or Tag Numbers	G Station Location Identifier	H Mo/Day/Year/Time Sample Collection	I Corresponding CLP Inorganic Sample No.	J Sampler Initials	K Sample Condition
EDPN7	2	LL	Grab	1	X	—	—	5-168863, 64, 65	GP114-3	04/25/00/1510	NA		
EDPN7	2	LL	Grab	5	—	X	—	5-168866, 5-068856	GP114-3	4/25/00/1510	NA		
EDCF6	2	LL	Grab	1	X	—	—	5-068491, 5-068552, 53	GP16-1	4/25/00/1648	NA		
EDCF6	2	LL	Grab	5	—	X	—	5-068492, 93	GP16-1	4/25/00/1648	NA		
EDCF7	2	LL	Grab	1	X	—	—	5-068489, 90, 5-068437	GP16-2	4/25/00/1640	NA		
EDCF7	2	LL	Grab	5	—	X	—	5-068461, 5-068499	GP16-2	4/25/00/1640	NA		
EDCF8	2	LL	Grab	1	X	—	—	5-068509, 510, 511	GP101-1	4/25/00/1745	NA		
EDCF8	2	LL	Grab	5	—	X	—	5-068512, 513	GP101-1	4/25/00/1745	NA		
EDCG1	2	LL	Grab	1	X	—	—	5-068531, 532	Trip blank	4/25/00/1520	NA		
								[signature]					

Shipment for Case Complete? (Y/N) Y
Page 1 of 2
VOA MS/MSD Required? Y/N Sample #:
BNA MS/MSD Required? Y/N Sample #:
Pest/PCB MS/MSD Required? Y/N Sample #:
Additional Sampler Signatures: [signature]
Chain of Custody Seal Number(s): 27101, 27102

*PR provides 7-day data turnaround in addition to preliminary results. Requests for preliminary results will increase analytical costs.

Chain of Custody Record

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
[signature]	4/26/00 1600				
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature) Carlos Pirir	Date / Time 4-27-00 9:38	Remarks: Is custody seal intact? Y/N/none	Case: 27986 SDG: EDCF6

8000

Distribution: Blue - Region Copy, White - Lab Copy for Return to SMO, Pink - SMO Copy, Yellow - Lab Copy for Return to Region

See Reverse for Additional Standard Instructions
**See Reverse for Purpose Code Definitions

EPA Form 9110-2 (2/99)

CLASS-99-002

EPA United States Environmental Protection Agency
Contract Laboratory Program

Organic Traffic Report & Chain of Custody Record
(For Organic CLP Analysis)

SDG No.

Case No. [illegible]

1. Matrix (Enter in Column A): 1. Surface Water 2. Ground Water 3. Leachate 4. Field QC 5. Soil/Sediment 6. PE Water 7. PE Soil 8. Other (specify in Column A)

2. Preservative (Enter in Column D): 1. HCl 2. HNO3 3. NaHSO4 4. H2SO4 5. Ice only 6. CH3OH 7. Other (specify in Column D) N. Not Preserved

3. Region No.: 5 | Sampling Co.: [illegible]

5. Date Shipped: 4/26/00 | Carrier: FEDEX

7. Date Received--Received by: 4-27-00 Carlos Peiri

Sampler (Name): Thomas Sedlacek

Airbill Number: 820134806531

Laboratory Contract No.: 68-D7-0004 | Unit Price: 525 [illegible]

Sampler Signature: [signature]

6. Ship To: PDP Analytical Service, 1680 Lakefront Circle, Suite B, The Woodlands, TX 77380

ATTN: Sean Sundquist

8. Transfer to: | Date Received

Received by:

Contract Number | Price

4. Purpose**: Lead: [X] SF [ ] PRP [ ] ST [ ] FED [ ] BZ; Early Action: [ ] IA [ ] PA [ ] REM [ ] RI [ ] SI [ ] ESI; Long-Term Action: [ ] RIFS [X] RD [ ] RA [ ] O&M

CLP Sample Numbers (from labels)	A Matrix (from Box 1) Other:	B Conc.: Low Med	C Sample Type: Comp./Grab	D Preservative (from Box 2) Other:	E RAS Analysis: TA (circle one) PR* 7 14 21 VOA	TA (circle one) PR* 7 14 21 BNA	TA (circle one) PR* 7 14 21 Pest/PCB	F Regional Specific Tracking Number or Tag Numbers	G Station Location Identifier	H Mo/Day/Year/Time Sample Collection	I Corresponding CLP Inorganic Sample No.	J Sampler Initials	K Sample Condition
EDCF9	2	LL	Grab	1	X	—	—	5-068503, 5-068521, 5-068515	GP101-2	4/25/00/1840	NA	[illegible]	
EDCF9	2	LL	Grab	5	—	X	—	5-068500, 5-068[illegible]	GP101-2	4/25/00/1840	NA	[illegible]	

Shipment for Case Complete? (Y/N) | Page 2 of 2

VOA MS/MSD Required? Y/N Sample #:
BNA MS/MSD Required? Y/N Sample #:
Pest/PCB MS/MSD Required? Y/N Sample #:

Additional Sampler Signatures: [signature]

Chain of Custody Seal Number(s): [illegible]

*PR provides 7-day data turnaround in addition to preliminary results. Requests for preliminary results will increase analytical costs.

Chain of Custody Record

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
[signature]	4/26/00 1600				
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature) Carlos Peiri	Date / Time 4-27-00 9:38	Remarks: Is custody seal intact? Y/N/none	Case: 27986 SDG: EDCF6

6000

Distribution: Blue - Region Copy, White - Lab Copy for Return to SMO, Pink - SMO Copy, Yellow - Lab Copy for Return to Region

See Reverse for Additional Standard Instructions
**See Reverse for Purpose Code Definitions

EPA Form 9110-2 (2/99)

CLASS-99-002

EPA United States Environmental Protection Agency
Contract Laboratory Program

Organic Traffic Report & Chain of Custody Record
(For Organic CLP Analysis)

SDG No.

Case No.

1. Matrix (Enter Column A): 1. Surface Water 2. Ground Water 3. Leachate 4. Field QC 5. Soil/Sediment 6. PE Water 7. PE Soil 8. Other (specify in Column A)

2. Preservative (Enter Column B): 1. HCl 2. HNO3 3. NaHSO4 4. H2SO4 5. Ice only 6. CH3OH 7. Other (specify in Column D) N. Not Preserved

3. Region No.: 5 | Sampling Co.: [illegible]

5. Date Shipped: [illegible] | Carrier: [illegible]

7. Date Received--Received by: 4-27-00 Carlos Pirir

Sampler (Name): Lee R. Watson

Airbill Number: 820134806520

Laboratory Contract No.: 68-D7-0004 | Unit Price: 525.00

Sampler Signature: Lee R Watson

6. Ship To: PDP Analytical Services, 1680 Lake Front Circle, Suite B, The Woodlands, TX 77380

ATTN: Sean Sundquist

8. Transfer to: | Date Received

Received by:

Contract Number | Price

4. Purpose**: Lead: [x] SF [ ] PRP [ ] ST [ ] FEO [ ] BZ; Early Action: [ ] IA [ ] PA [ ] REM [ ] RI [ ] SI [ ] ESI; Long-Term Action: [ ] RIFS [x] RO [ ] RA [ ] O&M

CLP Sample Numbers (from labels)	A Matrix (from Box 1) Other:	B Conc.: Low Med	C Sample Type: Comp./Grab	D Preservative (from Box 2) Other:	E RAS Analysis: TA (circle one) PR* 7 (14) 21 VOA	TA (circle one) PR* 7 (14) 21 BNA	TA (circle one) PR* 7 14 21 Pest/PCB	F Regional Specific Tracking Number or Tag Numbers	G Station Location Identifier	H Mo/Day/Year/Time Sample Collection	I Corresponding CLP Inorganic Sample No.	J Sampler Initials	K Sample Condition
[illegible]	2	[illegible]	[illegible]	1	X	—	—	5-068533, -534, 5-068330	WT102C	04/25/00/1356	N/A		
[illegible]	[illegible]	[illegible]	[illegible]	5	—	X	—	5-068535, 5-068536	WT102C	04/25/00/1356	N/A		
[illegible]	[illegible]	[illegible]	[illegible]	1	X	—	—	5-068537, -538, -539	WT102B	04/25/00/1312	N/A		
[illegible]	[illegible]	[illegible]	[illegible]	5	—	X	—	5-068540, -541	WT102B	04/25/00/1312	N/A		
[illegible]	[illegible]	[illegible]	[illegible]	1	X	—	—	5-068542, -543	WT102B	04/25/00/1300	N/A		
[illegible]	[illegible]	[illegible]	[illegible]	1	X	—	—	5-068321, -322, -323	WT102A	04/25/00/1356	N/A		
[illegible]	2	[illegible]	[illegible]	5	—	X	—	5-068324, -325	WT102A	04/25/00/1356	N/A		
[illegible]	[illegible]	[illegible]	[illegible]	1	X	—	—	5-068326, -327, -328	WT102C	04/25/00/[illegible]	N/A		
[illegible]	[illegible]	[illegible]	[illegible]	5	—	X	—	5-068329, 5-068331	WT102C	04/25/00/1250	N/A		

Shipment for Case Complete? (Y/N) N | Page 1 of 2

VOA MS/MSD Required? Y/N Sample #:
BNA MS/MSD Required? Y/N Sample #:
Pest/PCB MS/MSD Required? Y/N Sample #:

Additional Sampler Signatures: [illegible]

Chain of Custody Seal Number(s): [illegible], 21904

*PR provides 7-day data turnaround in addition to preliminary results. Requests for preliminary results will increase analytical costs.

Chain of Custody Record

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
[illegible]	4/26/00 1600				
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature) Carlos Pirir	Date / Time 4-27-00 9:38	Remarks: Is custody seal intact? Y/N/none	Case: 27986 SDG: EDCF6

Distribution: Blue - Region Copy, White - Lab Copy for Return to SMO, Pink - SMO Copy, Yellow - Lab Copy for Return to Region

See Reverse for Additional Standard Instructions
**See Reverse for Purpose Code Definitions

EPA Form 9110-2 (2/99)

CLASS-99-002

0010

EPA United States Environmental Protection Agency
Contract Laboratory Program

Organic Traffic Report & Chain of Custody Record
(For Organic CLP Analysis)

SDG No.

Case No. 27986

1. Matrix (Enter in Column A): 1. Surface Water 2. Ground Water 3. Leachate 4. Field QC 5. Soil/Sediment 6. PE-Water 7. PE-Soil 8. Other (Specify in Column A)

2. Preservative (Enter in Column D): 1. HCl 2. HNO3 3. NaHSO4 4. H2SO4 5. Ice only 6. CH3OH 7. Other (Specify in Column D) N. Not Preserved

3. Region No. 5 | Sampling Co. USACE Omaha USCS

Sampler (Name) Thomas Sedlacek

Sampler Signature [signature]

4. Purpose** Lead: [x] SF [ ] PRP [ ] ST [ ] FED [ ] BZ | Early Action: [ ] IA [ ] PA [ ] REM [ ] RI [ ] SI [ ] ESI | Long-Term Action: [ ] RIFS [x] RD [ ] RA [ ] O&M

5. Date Shipped 01/26/00 | Carrier FedEx

Airbill Number 820134806520

6. Ship To: PDP Analytical Services 1680 Lake Front Circle Suite B The Woodlands, TX 77738 ATTN: Sean Sundquist

7. Date Received--Received by: 4-27-00 Carlos Pieri

Laboratory Contract No. 68-D7-0004 | Unit Price 525 xx/00

8. Transfer to: | Date Received

Received by:

Contract Number | Price

CLP Sample Numbers (from labels)	A Matrix (from Box 1) Other:	B Conc.: Low Med	C Sample Type: Comp./Grab	D Preservative (from Box 2) Other:	E RAS Analysis TA (circle one) PR* 7 14 21 VOA	TA (circle one) PR* 7 14 21 BNA	TA (circle one) PR* 7 14 21 Pest/PCB	F Regional Specific Tracking Number or Tag Numbers	G Station Location Identifier	H Mo/Day/Year/Time Sample Collection	I Corresponding CLP Inorganic Sample No.	J Sampler Initials	K Sample Condition
EDCG3	2	LL	Grab	1	X	—	—	5-068332, -333, -334	WTB1	01/26/00/0925	N/A		
EDCG3	2	LL	Grab	5	—	X	—	5-068335, -336	WTB1	01/26/00/0925	N/A		

Shipment for Case Complete? (Y/N) | Page 2 of 2

VOA MS/MSD Required? Y/N Sample #:
BNA MS/MSD Required? Y/N Sample #:
Pest/PCB MS/MSD Required? Y/N Sample #:

Additional Sampler Signatures: [signature]

Chain of Custody Seal Number(s): 21903, 21904

*PR provides 7-day data turnaround in addition to preliminary results. Requests for preliminary results will increase analytical costs.

Chain of Custody Record

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
[signature]	4/26/00 1600				
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature) Carlos Pieri	Date / Time 4-27-00 9:38	Remarks: Is custody seal intact? Y/N/none	Case: 27986 SDG: EDCF6

Distribution: Blue - Region Copy; White - Lab Copy for Return to SMO; Pink - SMO Copy; Yellow - Lab Copy for Return to Region

See Reverse for Additional Standard Instructions
**See Reverse for Purpose Code Definitions

EPA Form 9110-2 (2/99)

CLASS-99-002

0011

2LCA

LOW CONC. WATER VOLATILE SYSTEM MONITORING COMPOUND RECOVERY

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDCF6

	EPA SAMPLE NO.	BFB %REC #	OTHER	TOT OUT
01	VBLK94	101		0
02	VLCS94	100		0
03	EDPM3	99		0
04	EDPM8	98		0
05	EDPM6	103		0
06	EDCG1	104		0
07	EDPM7	104		0
08	EDPN3	104		0
09	EDPN5	106		0
10	EDCG3	103		0
11	EDPN6	104		0
12	VIBLK01	104		0
13	EDPN7	105		0
14	VBLK95	99		0
15	VLCS95	97		0
16	EDCF6	101		0
17	VIBLK03	100		0
18	EDCF7	100		0
19	VIBLK04	100		0
20	EDCF8	101		0
21	VIBLK05	101		0
22	EDCF9	101		0
23	VIBLK06	102		0
24	EDPN1	102		0
25	EDPN2	101		0
26	EDPN4	102		0
27	EDPN0	102		0
28	VBLK97	108		0
29	VLCS97	106		0
30	VHBLK01	110		0

QC LIMITS
%REC

BFB = Bromofluorobenzene (80-120)

Column to be used to flag recovery values
* Values outside of contract required QC limits

LOW CONC. WATER VOLATILE LAB CONTROL SAMPLE RECOVERY

EPA SAMPLE NO.

VLCS94

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDCF6

Lab Sample ID: GVLCS058 LCS Lot No.: 60

Lab File ID: G0892 Date Analyzed: 04/27/00

Purge Volume: 20.0 (mL) Dilution Factor: 1.0

LCS Aliquot: 10.0 (uL)

COMPOUND	AMOUNT ADDED (ng)	AMOUNT RECOVERED (ng)	%REC #	QC LIMITS
Vinyl chloride	100	72	72	60-140
1,2-Dichloroethane	100	97	97	60-140
Carbon tetrachloride	100	89	89	60-140
1,2-Dichloropropane	100	91	91	60-140
Trichloroethene	100	89	89	60-140
1,1,2-Trichloroethane	100	89	89	60-140
Benzene	100	93	93	60-140
cis-1,3-Dichloropropene	100	90	90	60-140
Bromoform	100	87	87	60-140
Tetrachloroethene	100	82	82	60-140
1,2-Dibromoethane	100	83	83	60-140
1,4-Dichlorobenzene	100	78	78	60-140

Column to be used to flag LCS recovery with an asterisk.

* Values outside of QC limits.

LCS Recovery: 0 outside limits out of 12 total.

COMMENTS: _____

3LCA

EPA SAMPLE NO.

LOW CONC. WATER VOLATILE LAB CONTROL SAMPLE RECOVERY

VLCS95

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDCF6

Lab Sample ID: GVLCS059 LCS Lot No.: 60

Lab File ID: G0909 Date Analyzed: 04/28/00

Purge Volume: 20.0 (mL) Dilution Factor: 1.0

LCS Aliquot: 10.0 (uL)

COMPOUND	AMOUNT ADDED (ng)	AMOUNT RECOVERED (ng)	%REC #	QC LIMITS
Vinyl chloride	100	72	72	60-140
1,2-Dichloroethane	100	84	84	60-140
Carbon tetrachloride	100	87	87	60-140
1,2-Dichloropropane	100	85	85	60-140
Trichloroethene	100	87	87	60-140
1,1,2-Trichloroethane	100	81	81	60-140
Benzene	100	91	91	60-140
cis-1,3-Dichloropropene	100	82	82	60-140
Bromoform	100	72	72	60-140
Tetrachloroethene	100	84	84	60-140
1,2-Dibromoethane	100	74	74	60-140
1,4-Dichlorobenzene	100	69	69	60-140

Column to be used to flag LCS recovery with an asterisk.

* Values outside of QC limits.

LCS Recovery: 0 outside limits out of 12 total.

COMMENTS: _____

3LCA

LOW CONC. WATER VOLATILE LAB CONTROL SAMPLE RECOVERY

EPA SAMPLE NO.

VLCS97

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDCF6

Lab Sample ID: GVLCS061 LCS Lot No.: 60

Lab File ID: G0942 Date Analyzed: 05/02/00

Purge Volume: 20.0 (mL) Dilution Factor: 1.0

LCS Aliquot: 10.0 (uL)

COMPOUND	AMOUNT ADDED (ng)	AMOUNT RECOVERED (ng)	%REC #	QC LIMITS
Vinyl chloride	100	80	80	60-140
1,2-Dichloroethane	100	97	97	60-140
Carbon tetrachloride	100	86	86	60-140
1,2-Dichloropropane	100	87	87	60-140
Trichloroethene	100	88	88	60-140
1,1,2-Trichloroethane	100	85	85	60-140
Benzene	100	94	94	60-140
cis-1,3-Dichloropropene	100	82	82	60-140
Bromoform	100	71	71	60-140
Tetrachloroethene	100	84	84	60-140
1,2-Dibromoethane	100	74	74	60-140
1,4-Dichlorobenzene	100	69	69	60-140

Column to be used to flag LCS recovery with an asterisk.

* Values outside of QC limits.

LCS Recovery: 0 outside limits out of 12 total.

COMMENTS: _____

_____

LOW CONC. WATER VOLATILE METHOD BLANK SUMMARY

EPA SAMPLE NO.

VBLK94

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDCF6

Lab Sample ID: GVBLK058 Date Analyzed: 04/27/00

Lab File ID: G0891 Time Analyzed: 1819

Instrument ID: G-HP5973

GC Column: DB-624 ID: 0.53 (mm) Length: 60 (m)

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES AND LCS:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
01	VLCS94	GVLCS058	G0892	1907
02	EDPM3	6033.002	G0893	1954
03	EDPM8	6033.005	G0894	2042
04	EDPM6	6033.003	G0895	2129
05	EDCG1	6033.012	G0896	2216
06	EDPM7	6033.004	G0897	2303
07	EDPN3	6033.016	G0898	2351
08	EDPN5	6033.006	G0899	0038
09	EDCG3	6033.019	G0900	0124
10	EDPN6	6033.007	G0901	0211
11	VIBLK01	VIBLK01	G0902	0258
12	EDPN7	6033.008	G0903	0345
13				
14				
15				
16				
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30				

COMMENTS: _____

LOW CONC. WATER VOLATILE METHOD BLANK SUMMARY

EPA SAMPLE NO.

VBLK95

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDCF6

Lab Sample ID: GVBLK059 Date Analyzed: 04/28/00

Lab File ID: G0908 Time Analyzed: 0657

Instrument ID: G-HP5973

GC Column: DB-624 ID: 0.53 (mm) Length: 60 (m)

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES AND LCS:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
01	VLCS95	GVLCS059	G0909	0744
02	EDCF6	6033.009	G0910	0831
03	VIBLK03	VIBLK03	G0911	0917
04	EDCF7	6033.010	G0912	1004
05	VIBLK04	VIBLK04	G0913	1051
06	EDCF8	6033.011	G0914	1138
07	VIBLK05	VIBLK05	G0915	1225
08	EDCF9	6033.013	G0916	1312
09	VIBLK06	VIBLK06	G0917	1359
10	EDPN1	6033.014	G0918	1447
11	EDPN2	6033.015	G0919	1534
12	EDPN4	6033.017	G0920	1621
13	EDPN0	6033.018	G0921	1708
14				
15				
16				
17				
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19				
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27				
28				
29				
30				

COMMENTS: _____

LOW CONC. WATER VOLATILE METHOD BLANK SUMMARY

EPA SAMPLE NO.

VBLK97

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDCF6

Lab Sample ID: GVBLK061 Date Analyzed: 05/02/00

Lab File ID: G0941 Time Analyzed: 0028

Instrument ID: G-HP5973

GC Column: DB-624 ID: 0.53 (mm) Length: 60 (m)

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES AND LCS:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
01	VLCS97	GVLCS061	G0942	0114
02	VHBLK01	6033.001	G0944	0248
03				
04				
05				
06				
07				
08				
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30				

COMMENTS: _____

1LCA

LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VBLK95

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDCF6

Lab Sample ID: GVBLK059 Date Received: _____

Lab File ID: G0908 Date Analyzed: 04/28/00

Purge Volume: 20 (mL) Dilution Factor: 1.0

GC Column: DB-624 ID: 0.53 (mm) Length: 60 (m)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
74-87-3	Chloromethane	1	U
74-83-9	Bromomethane	1	U
75-01-4	Vinyl chloride	1	U
75-00-3	Chloroethane	1	U
75-09-2	Methylene chloride	2	U
67-64-1	Acetone	5	U
75-15-0	Carbon disulfide	1	U
75-35-4	1,1-Dichloroethene	1	U
75-34-3	1,1-Dichloroethane	1	U
156-59-2	cis-1,2-Dichloroethene	1	U
156-60-5	trans-1,2-Dichloroethene	1	U
67-66-3	Chloroform	1	U
107-06-2	1,2-Dichloroethane	1	U
78-93-3	2-Butanone	5	U
74-97-5	Bromochloromethane	1	U
71-55-6	1,1,1-Trichloroethane	1	U
56-23-5	Carbon tetrachloride	1	U
75-27-4	Bromodichloromethane	1	U
78-87-5	1,2-Dichloropropane	1	U
10061-01-5	cis-1,3-Dichloropropene	1	U
79-01-6	Trichloroethene	1	U
124-48-1	Dibromochloromethane	1	U
79-00-5	1,1,2-Trichloroethane	1	U
71-43-2	Benzene	1	U
10061-02-6	trans-1,3-Dichloropropene	1	U
75-25-2	Bromoform	1	U
108-10-1	4-Methyl-2-pentanone	5	U
591-78-6	2-Hexanone	5	U
127-18-4	Tetrachloroethene	1	U
79-34-5	1,1,2,2-Tetrachloroethane	1	U
106-93-4	1,2-Dibromoethane	1	U
108-88-3	Toluene	1	U
108-90-7	Chlorobenzene	1	U
100-41-4	Ethylbenzene	1	U
100-42-5	Styrene	1	U
1330-20-7	Xylenes (total)	1	U
541-73-1	1,3-Dichlorobenzene	1	U
106-46-7	1,4-Dichlorobenzene	1	U
95-50-1	1,2-Dichlorobenzene	1	U
96-12-8	1,2-Dibromo-3-chloropropane	1	U
120-82-1	1,2,4-Trichlorobenzene	1	U

1LCE

EPA SAMPLE NO.

LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

VBLK95

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDCF6

Lab Sample ID: GVBLK059 Date Received: _____

Lab File ID: G0908 Date Analyzed: 04/28/00

Purge Volume: 20 (mL) Dilution Factor: 1.0

GC Column: DB-624 ID: 0.53 (mm) Length: 60 (m)

Number TICs found: 0

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC. (ug/L)	Q
1.					
2.					
3.					
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1LCA

EPA SAMPLE NO.

LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET

VBLK97

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDCF6

Lab Sample ID: GVBLK061 Date Received: _____

Lab File ID: G0941 Date Analyzed: 05/02/00

Purge Volume: 20 (mL) Dilution Factor: 1.0

GC Column: DB-624 ID: 0.53 (mm) Length: 60 (m)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
74-87-3	Chloromethane	1	U
74-83-9	Bromomethane	1	U
75-01-4	Vinyl chloride	1	U
75-00-3	Chloroethane	1	U
75-09-2	Methylene chloride	2	U
67-64-1	Acetone	5	U
75-15-0	Carbon disulfide	1	U
75-35-4	1,1-Dichloroethene	1	U
75-34-3	1,1-Dichloroethane	1	U
156-59-2	cis-1,2-Dichloroethene	1	U
156-60-5	trans-1,2-Dichloroethene	1	U
67-66-3	Chloroform	1	U
107-06-2	1,2-Dichloroethane	1	U
78-93-3	2-Butanone	5	U
74-97-5	Bromochloromethane	1	U
71-55-6	1,1,1-Trichloroethane	1	U
56-23-5	Carbon tetrachloride	1	U
75-27-4	Bromodichloromethane	1	U
78-87-5	1,2-Dichloropropane	1	U
10061-01-5	cis-1,3-Dichloropropene	1	U
79-01-6	Trichloroethene	1	U
124-48-1	Dibromochloromethane	1	U
79-00-5	1,1,2-Trichloroethane	1	U
71-43-2	Benzene	1	U
10061-02-6	trans-1,3-Dichloropropene	1	U
75-25-2	Bromoform	1	U
108-10-1	4-Methyl-2-pentanone	5	U
591-78-6	2-Hexanone	5	U
127-18-4	Tetrachloroethene	1	U
79-34-5	1,1,2,2-Tetrachloroethane	1	U
106-93-4	1,2-Dibromoethane	1	U
108-88-3	Toluene	1	U
108-90-7	Chlorobenzene	1	U
100-41-4	Ethylbenzene	1	U
100-42-5	Styrene	1	U
1330-20-7	Xylenes (total)	1	U
541-73-1	1,3-Dichlorobenzene	1	U
106-46-7	1,4-Dichlorobenzene	1	U
95-50-1	1,2-Dichlorobenzene	1	U
96-12-8	1,2-Dibromo-3-chloropropane	1	U
120-82-1	1,2,4-Trichlorobenzene	1	U

1LCE

LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

VBLK97

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDCF6

Lab Sample ID: GVBLK061 Date Received: _____

Lab File ID: G0941 Date Analyzed: 05/02/00

Purge Volume: 20 (mL) Dilution Factor: 1.0

GC Column: DB-624 ID: 0.53 (mm) Length: 60 (m)

Number TICs found: 0

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC. (ug/L)	Q
1.					
2.					
3.					
4.					
5.					
6.					
7.					
8.					
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1LCA

EPA SAMPLE NO.

LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET

VHBLK01

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDCF6

Lab Sample ID: 6033.001 Date Received: 04/27/00

Lab File ID: G0944 Date Analyzed: 05/02/00

Purge Volume: 20 (mL) Dilution Factor: 1.0

GC Column: DB-624 ID: 0.53 (mm) Length: 60 (m)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
74-87-3	Chloromethane	1	U
74-83-9	Bromomethane	1	U
75-01-4	Vinyl chloride	1	U
75-00-3	Chloroethane	1	U
75-09-2	Methylene chloride	2	U
67-64-1	Acetone	5	U
75-15-0	Carbon disulfide	1	U
75-35-4	1,1-Dichloroethene	1	U
75-34-3	1,1-Dichloroethane	1	U
156-59-2	cis-1,2-Dichloroethene	1	U
156-60-5	trans-1,2-Dichloroethene	1	U
67-66-3	Chloroform	1	U
107-06-2	1,2-Dichloroethane	1	U
78-93-3	2-Butanone	5	U
74-97-5	Bromochloromethane	1	U
71-55-6	1,1,1-Trichloroethane	1	U
56-23-5	Carbon tetrachloride	1	U
75-27-4	Bromodichloromethane	1	U
78-87-5	1,2-Dichloropropane	1	U
10061-01-5	cis-1,3-Dichloropropene	1	U
79-01-6	Trichloroethene	1	U
124-48-1	Dibromochloromethane	1	U
79-00-5	1,1,2-Trichloroethane	1	U
71-43-2	Benzene	1	U
10061-02-6	trans-1,3-Dichloropropene	1	U
75-25-2	Bromoform	1	U
108-10-1	4-Methyl-2-pentanone	5	U
591-78-6	2-Hexanone	5	U
127-18-4	Tetrachloroethene	1	U
79-34-5	1,1,2,2-Tetrachloroethane	1	U
106-93-4	1,2-Dibromoethane	1	U
108-88-3	Toluene	1	U
108-90-7	Chlorobenzene	1	U
100-41-4	Ethylbenzene	1	U
100-42-5	Styrene	1	U
1330-20-7	Xylenes (total)	1	U
541-73-1	1,3-Dichlorobenzene	1	U
106-46-7	1,4-Dichlorobenzene	1	U
95-50-1	1,2-Dichlorobenzene	1	U
96-12-8	1,2-Dibromo-3-chloropropane	1	U
120-82-1	1,2,4-Trichlorobenzene	1	U

CA 8

1LCE

EPA SAMPLE NO.

LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

VHBLK01

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDCF6

Lab Sample ID: 6033.001 Date Received: 04/27/00

Lab File ID: G0944 Date Analyzed: 05/02/00

Purge Volume: 20 (mL) Dilution Factor: 1.0

GC Column: DB-624 ID: 0.53 (mm) Length: 60 (m)

Number TICs found: 0

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC. (ug/L)	Q
1.					
2.					
3.					
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1LCA

LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EDCF6

G P16-1

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDCF6

Lab Sample ID: 6033.009 Date Received: 04/27/00

Lab File ID: G0910 Date Analyzed: 04/28/00

Purge Volume: 20 (mL) Dilution Factor: 1.0

GC Column: DB-624 ID: 0.53 (mm) Length: 60 (m)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
74-87-3	Chloromethane	1	U
74-83-9	Bromomethane	1	U
75-01-4	Vinyl chloride	1	U
75-00-3	Chloroethane	1	U
75-09-2	Methylene chloride	2	U
67-64-1	Acetone	5	U
75-15-0	Carbon disulfide	1	U
75-35-4	1,1-Dichloroethene	1	U
75-34-3	1,1-Dichloroethane	1	U
156-59-2	cis-1,2-Dichloroethene	1	U
156-60-5	trans-1,2-Dichloroethene	1	U
67-66-3	Chloroform	1	U
107-06-2	1,2-Dichloroethane	1	U
78-93-3	2-Butanone	5	U
74-97-5	Bromochloromethane	1	U
71-55-6	1,1,1-Trichloroethane	1	U
56-23-5	Carbon tetrachloride	1	U
75-27-4	Bromodichloromethane	1	U
78-87-5	1,2-Dichloropropane	2	
10061-01-5	cis-1,3-Dichloropropene	1	U
79-01-6	Trichloroethene	0.5	J
124-48-1	Dibromochloromethane	1	U
79-00-5	1,1,2-Trichloroethane	1	U
71-43-2	Benzene	1	U
10061-02-6	trans-1,3-Dichloropropene	1	U
75-25-2	Bromoform	1	U
108-10-1	4-Methyl-2-pentanone	5	U
591-78-6	2-Hexanone	5	U
127-18-4	Tetrachloroethene	1	U
79-34-5	1,1,2,2-Tetrachloroethane	1	U
106-93-4	1,2-Dibromoethane	1	U
108-88-3	Toluene	1	U
108-90-7	Chlorobenzene	1	U
100-41-4	Ethylbenzene	1	U
100-42-5	Styrene	1	U
1330-20-7	Xylenes (total)	1	U
541-73-1	1,3-Dichlorobenzene	1	U
106-46-7	1,4-Dichlorobenzene	1	U
95-50-1	1,2-Dichlorobenzene	1	U
96-12-8	1,2-Dibromo-3-chloropropane	1	U
120-82-1	1,2,4-Trichlorobenzene	1	U

1LCE

EPA SAMPLE NO.

LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EDCF6

6P16-1

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDCF6

Lab Sample ID: 6033.009 Date Received: 04/27/00

Lab File ID: G0910 Date Analyzed: 04/28/00

Purge Volume: 20 (mL) Dilution Factor: 1.0

GC Column: DB-624 ID: 0.53 (mm) Length: 60 (m)

Number TICs found: 0

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC. (ug/L)	Q
1.					
2.					
3.					
4.					
5.					
6.					
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1LCA

LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EDCF7

GP16-2

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDCF6

Lab Sample ID: 6033.010 Date Received: 04/27/00

Lab File ID: G0912 Date Analyzed: 04/28/00

Purge Volume: 20 (mL) Dilution Factor: 1.0

GC Column: DB-624 ID: 0.53 (mm) Length: 60 (m)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
74-87-3	Chloromethane	1	U
74-83-9	Bromomethane	1	U
75-01-4	Vinyl chloride	1	U
75-00-3	Chloroethane	1	U
75-09-2	Methylene chloride	2	U
67-64-1	Acetone	5	U
75-15-0	Carbon disulfide	1	U
75-35-4	1,1-Dichloroethene	1	U
75-34-3	1,1-Dichloroethane	1	
156-59-2	cis-1,2-Dichloroethene	1	U
156-60-5	trans-1,2-Dichloroethene	1	U
67-66-3	Chloroform	1	U
107-06-2	1,2-Dichloroethane	1	U
78-93-3	2-Butanone	5	U
74-97-5	Bromochloromethane	1	U
71-55-6	1,1,1-Trichloroethane	1	U
56-23-5	Carbon tetrachloride	1	U
75-27-4	Bromodichloromethane	1	U
78-87-5	1,2-Dichloropropane	1	U
10061-01-5	cis-1,3-Dichloropropene	1	U
79-01-6	Trichloroethene	1	U
124-48-1	Dibromochloromethane	1	U
79-00-5	1,1,2-Trichloroethane	1	U
71-43-2	Benzene	1	U
10061-02-6	trans-1,3-Dichloropropene	1	U
75-25-2	Bromoform	1	U
108-10-1	4-Methyl-2-pentanone	5	U
591-78-6	2-Hexanone	5	U
127-18-4	Tetrachloroethene	1	U
79-34-5	1,1,2,2-Tetrachloroethane	1	U
106-93-4	1,2-Dibromoethane	1	U
108-88-3	Toluene	1	U
108-90-7	Chlorobenzene	1	U
100-41-4	Ethylbenzene	1	U
100-42-5	Styrene	1	U
1330-20-7	Xylenes (total)	1	U
541-73-1	1,3-Dichlorobenzene	1	U
106-46-7	1,4-Dichlorobenzene	1	U
95-50-1	1,2-Dichlorobenzene	1	U
96-12-8	1,2-Dibromo-3-chloropropane	1	U
120-82-1	1,2,4-Trichlorobenzene	1	U

1LCE

EPA SAMPLE NO.

LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EDCF7

GP16-2

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDCF6

Lab Sample ID: 6033.010 Date Received: 04/27/00

Lab File ID: G0912 Date Analyzed: 04/28/00

Purge Volume: 20 (mL) Dilution Factor: 1.0

GC Column: DB-624 ID: 0.53 (mm) Length: 60 (m)

Number TICs found: 0

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC. (ug/L)	Q
1.					
2.					
3.					
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1LCA

LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EDCF8

GP101-1

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDCF6

Lab Sample ID: 6033.011 Date Received: 04/27/00

Lab File ID: G0914 Date Analyzed: 04/28/00

Purge Volume: 20 (mL) Dilution Factor: 1.0

GC Column: DB-624 ID: 0.53 (mm) Length: 60 (m)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
74-87-3	Chloromethane	1	U
74-83-9	Bromomethane	1	U
75-01-4	Vinyl chloride	1	U
75-00-3	Chloroethane	1	U
75-09-2	Methylene chloride	2	U
67-64-1	Acetone	5	U
75-15-0	Carbon disulfide	0.6	J
75-35-4	1,1-Dichloroethene	1	U
75-34-3	1,1-Dichloroethane	5	
156-59-2	cis-1,2-Dichloroethene	1	U
156-60-5	trans-1,2-Dichloroethene	1	U
67-66-3	Chloroform	1	U
107-06-2	1,2-Dichloroethane	1	U
78-93-3	2-Butanone	5	U
74-97-5	Bromochloromethane	1	U
71-55-6	1,1,1-Trichloroethane	1	U
56-23-5	Carbon tetrachloride	1	U
75-27-4	Bromodichloromethane	1	U
78-87-5	1,2-Dichloropropane	1	U
10061-01-5	cis-1,3-Dichloropropene	1	U
79-01-6	Trichloroethene	1	U
124-48-1	Dibromochloromethane	1	U
79-00-5	1,1,2-Trichloroethane	1	U
71-43-2	Benzene	1	
10061-02-6	trans-1,3-Dichloropropene	1	U
75-25-2	Bromoform	1	U
108-10-1	4-Methyl-2-pentanone	5	U
591-78-6	2-Hexanone	5	U
127-18-4	Tetrachloroethene	1	U
79-34-5	1,1,2,2-Tetrachloroethane	1	U
106-93-4	1,2-Dibromoethane	1	U
108-88-3	Toluene	1	U
108-90-7	Chlorobenzene	1	U
100-41-4	Ethylbenzene	1	U
100-42-5	Styrene	1	U
1330-20-7	Xylenes (total)	1	U
541-73-1	1,3-Dichlorobenzene	1	U
106-46-7	1,4-Dichlorobenzene	1	U
95-50-1	1,2-Dichlorobenzene	1	U
96-12-8	1,2-Dibromo-3-chloropropane	1	U
120-82-1	1,2,4-Trichlorobenzene	1	U

0043

1LCE

EPA SAMPLE NO.

LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EDCF8

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDCF6

Lab Sample ID: 6033.011 Date Received: 04/27/00

Lab File ID: G0914 Date Analyzed: 04/28/00

Purge Volume: 20 (mL) Dilution Factor: 1.0

GC Column: DB-624 ID: 0.53 (mm) Length: 60 (m)

Number TICs found: 1

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC. (ug/L)	Q
1.	000060-29-7	Ethyl ether	6.91	4	JN
2.					
3.					
4.					
5.					
6.					
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8.					
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EPA SAMPLE NO.

LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET

EDCF9

GP101-2

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDCF6

Lab Sample ID: 6033.013 Date Received: 04/27/00

Lab File ID: G0916 Date Analyzed: 04/28/00

Purge Volume: 20 (mL) Dilution Factor: 1.0

GC Column: DB-624 ID: 0.53 (mm) Length: 60 (m)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
74-87-3	Chloromethane	1	U
74-83-9	Bromomethane	1	U
75-01-4	Vinyl chloride	1	U
75-00-3	Chloroethane	2	
75-09-2	Methylene chloride	2	U
67-64-1	Acetone	5	U
75-15-0	Carbon disulfide	1	U
75-35-4	1,1-Dichloroethene	1	U
75-34-3	1,1-Dichloroethane	0.8	J
156-59-2	cis-1,2-Dichloroethene	1	U
156-60-5	trans-1,2-Dichloroethene	1	U
67-66-3	Chloroform	1	U
107-06-2	1,2-Dichloroethane	1	U
78-93-3	2-Butanone	5	U
74-97-5	Bromochloromethane	1	U
71-55-6	1,1,1-Trichloroethane	1	U
56-23-5	Carbon tetrachloride	1	U
75-27-4	Bromodichloromethane	1	U
78-87-5	1,2-Dichloropropane	1	U
10061-01-5	cis-1,3-Dichloropropene	1	U
79-01-6	Trichloroethene	1	U
124-48-1	Dibromochloromethane	1	U
79-00-5	1,1,2-Trichloroethane	1	U
71-43-2	Benzene	1	U
10061-02-6	trans-1,3-Dichloropropene	1	U
75-25-2	Bromoform	1	U
108-10-1	4-Methyl-2-pentanone	5	U
591-78-6	2-Hexanone	5	U
127-18-4	Tetrachloroethene	1	U
79-34-5	1,1,2,2-Tetrachloroethane	1	U
106-93-4	1,2-Dibromoethane	1	U
108-88-3	Toluene	1	U
108-90-7	Chlorobenzene	1	U
100-41-4	Ethylbenzene	1	U
100-42-5	Styrene	1	U
1330-20-7	Xylenes (total)	1	U
541-73-1	1,3-Dichlorobenzene	1	U
106-46-7	1,4-Dichlorobenzene	1	U
95-50-1	1,2-Dichlorobenzene	1	U
96-12-8	1,2-Dibromo-3-chloropropane	1	U
120-82-1	1,2,4-Trichlorobenzene	1	U

1LCE

EPA SAMPLE NO.

LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EDCF9

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

GP101-2

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDCF6

Lab Sample ID: 6033.013 Date Received: 04/27/00

Lab File ID: G0916 Date Analyzed: 04/28/00

Purge Volume: 20 (mL) Dilution Factor: 1.0

GC Column: DB-624 ID: 0.53 (mm) Length: 60 (m)

Number TICs found: 1

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC. (ug/L)	Q
1.	000060-29-7	Ethyl ether	6.91	4	JN
2.					
3.					
4.					
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1LCA

LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EDCG1

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDCF6 Trip Blk

Lab Sample ID: 6033.012 Date Received: 04/27/00

Lab File ID: G0896 Date Analyzed: 04/27/00

Purge Volume: 20 (mL) Dilution Factor: 1.0

GC Column: DB-624 ID: 0.53 (mm) Length: 60 (m)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
74-87-3	Chloromethane	1	U
74-83-9	Bromomethane	1	U
75-01-4	Vinyl chloride	1	U
75-00-3	Chloroethane	1	U
75-09-2	Methylene chloride	3	
67-64-1	Acetone	4	J
75-15-0	Carbon disulfide	1	U
75-35-4	1,1-Dichloroethene	1	U
75-34-3	1,1-Dichloroethane	1	U
156-59-2	cis-1,2-Dichloroethene	1	U
156-60-5	trans-1,2-Dichloroethene	1	U
67-66-3	Chloroform	1	U
107-06-2	1,2-Dichloroethane	1	U
78-93-3	2-Butanone	5	U
74-97-5	Bromochloromethane	1	U
71-55-6	1,1,1-Trichloroethane	1	U
56-23-5	Carbon tetrachloride	1	U
75-27-4	Bromodichloromethane	1	U
78-87-5	1,2-Dichloropropane	1	U
10061-01-5	cis-1,3-Dichloropropene	1	U
79-01-6	Trichloroethene	1	U
124-48-1	Dibromochloromethane	1	U
79-00-5	1,1,2-Trichloroethane	1	U
71-43-2	Benzene	1	U
10061-02-6	trans-1,3-Dichloropropene	1	U
75-25-2	Bromoform	1	U
108-10-1	4-Methyl-2-pentanone	5	U
591-78-6	2-Hexanone	5	U
127-18-4	Tetrachloroethene	1	U
79-34-5	1,1,2,2-Tetrachloroethane	1	U
106-93-4	1,2-Dibromoethane	1	U
108-88-3	Toluene	1	U
108-90-7	Chlorobenzene	1	U
100-41-4	Ethylbenzene	1	U
100-42-5	Styrene	1	U
1330-20-7	Xylenes (total)	1	U
541-73-1	1,3-Dichlorobenzene	1	U
106-46-7	1,4-Dichlorobenzene	1	U
95-50-1	1,2-Dichlorobenzene	1	U
96-12-8	1,2-Dibromo-3-chloropropane	1	U
120-82-1	1,2,4-Trichlorobenzene	1	U

1LCE

EPA SAMPLE NO.

LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EDCG1

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDCF6 Trip Blank

Lab Sample ID: 6033.012 Date Received: 04/27/00

Lab File ID: G0896 Date Analyzed: 04/27/00

Purge Volume: 20 (mL) Dilution Factor: 1.0

GC Column: DB-624 ID: 0.53 (mm) Length: 60 (m)

Number TICs found: 0

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC. (ug/L)	Q
1.					
2.					
3.					
4.					
5.					
6.					
7.					
8.					
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1LCA

LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EDCG3

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDCF6 WTB1

Lab Sample ID: 6033.019 Date Received: 04/27/00

Lab File ID: G0900 Date Analyzed: 04/28/00

Purge Volume: 20 (mL) Dilution Factor: 1.0

GC Column: DB-624 ID: 0.53 (mm) Length: 60 (m)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
74-87-3	Chloromethane	1	U
74-83-9	Bromomethane	1	U
75-01-4	Vinyl chloride	1	U
75-00-3	Chloroethane	1	U
75-09-2	Methylene chloride	2	U
67-64-1	Acetone	5	U
75-15-0	Carbon disulfide	1	U
75-35-4	1,1-Dichloroethene	1	U
75-34-3	1,1-Dichloroethane	1	U
156-59-2	cis-1,2-Dichloroethene	1	U
156-60-5	trans-1,2-Dichloroethene	1	U
67-66-3	Chloroform	1	U
107-06-2	1,2-Dichloroethane	1	U
78-93-3	2-Butanone	5	U
74-97-5	Bromochloromethane	1	U
71-55-6	1,1,1-Trichloroethane	1	U
56-23-5	Carbon tetrachloride	1	U
75-27-4	Bromodichloromethane	1	U
78-87-5	1,2-Dichloropropane	1	U
10061-01-5	cis-1,3-Dichloropropene	1	U
79-01-6	Trichloroethene	1	U
124-48-1	Dibromochloromethane	1	U
79-00-5	1,1,2-Trichloroethane	1	U
71-43-2	Benzene	1	U
10061-02-6	trans-1,3-Dichloropropene	1	U
75-25-2	Bromoform	1	U
108-10-1	4-Methyl-2-pentanone	5	U
591-78-6	2-Hexanone	5	U
127-18-4	Tetrachloroethene	1	U
79-34-5	1,1,2,2-Tetrachloroethane	1	U
106-93-4	1,2-Dibromoethane	1	U
108-88-3	Toluene	1	U
108-90-7	Chlorobenzene	1	U
100-41-4	Ethylbenzene	1	U
100-42-5	Styrene	1	U
1330-20-7	Xylenes (total)	1	U
541-73-1	1,3-Dichlorobenzene	1	U
106-46-7	1,4-Dichlorobenzene	1	U
95-50-1	1,2-Dichlorobenzene	1	U
96-12-8	1,2-Dibromo-3-chloropropane	1	U
120-82-1	1,2,4-Trichlorobenzene	1	U

1LCE

EPA SAMPLE NO.

LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EDCG3

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDCF6 WTB1

Lab Sample ID: 6033.019 Date Received: 04/27/00

Lab File ID: G0900 Date Analyzed: 04/28/00

Purge Volume: 20 (mL) Dilution Factor: 1.0

GC Column: DB-624 ID: 0.53 (mm) Length: 60 (m)

Number TICs found: 0

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC. (ug/L)	Q
1.					
2.					
3.					
4.					
5.					
6.					
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1LCA

LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EDPM3

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDCF6 GPE-1

Lab Sample ID: 6033.002 Date Received: 04/27/00

Lab File ID: G0893 Date Analyzed: 04/27/00

Purge Volume: 20 (mL) Dilution Factor: 1.0

GC Column: DB-624 ID: 0.53 (mm) Length: 60 (m)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
74-87-3	Chloromethane	1	U
74-83-9	Bromomethane	1	U
75-01-4	Vinyl chloride	1	U
75-00-3	Chloroethane	2	
75-09-2	Methylene chloride	2	U
67-64-1	Acetone	5	U
75-15-0	Carbon disulfide	1	U
75-35-4	1,1-Dichloroethene	1	U
75-34-3	1,1-Dichloroethane	0.8	J
156-59-2	cis-1,2-Dichloroethene	1	U
156-60-5	trans-1,2-Dichloroethene	1	U
67-66-3	Chloroform	1	U
107-06-2	1,2-Dichloroethane	1	U
78-93-3	2-Butanone	5	U
74-97-5	Bromochloromethane	1	U
71-55-6	1,1,1-Trichloroethane	1	U
56-23-5	Carbon tetrachloride	1	U
75-27-4	Bromodichloromethane	1	U
78-87-5	1,2-Dichloropropane	0.5	J
10061-01-5	cis-1,3-Dichloropropene	1	U
79-01-6	Trichloroethene	1	U
124-48-1	Dibromochloromethane	1	U
79-00-5	1,1,2-Trichloroethane	1	U
71-43-2	Benzene	1	
10061-02-6	trans-1,3-Dichloropropene	1	U
75-25-2	Bromoform	1	U
108-10-1	4-Methyl-2-pentanone	5	U
591-78-6	2-Hexanone	5	U
127-18-4	Tetrachloroethene	1	U
79-34-5	1,1,2,2-Tetrachloroethane	1	U
106-93-4	1,2-Dibromoethane	1	U
108-88-3	Toluene	1	U
108-90-7	Chlorobenzene	1	U
100-41-4	Ethylbenzene	1	U
100-42-5	Styrene	1	U
1330-20-7	Xylenes (total)	1	U
541-73-1	1,3-Dichlorobenzene	1	U
106-46-7	1,4-Dichlorobenzene	1	U
95-50-1	1,2-Dichlorobenzene	1	U
96-12-8	1,2-Dibromo-3-chloropropane	1	U
120-82-1	1,2,4-Trichlorobenzene	1	U

1LCE

EPA SAMPLE NO.

LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EDPM3

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

GPE-1

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDCF6

Lab Sample ID: 6033.002 Date Received: 04/27/00

Lab File ID: G0893 Date Analyzed: 04/27/00

Purge Volume: 20 (mL) Dilution Factor: 1.0

GC Column: DB-624 ID: 0.53 (mm) Length: 60 (m)

Number TICs found: 2

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC. (ug/L)	Q
1.	000075-43-4	Methane, dichlorofluoro-	6.13	2	JN
2.	000060-29-7	Ethyl ether	6.92	5	JN
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1LCA

EPA SAMPLE NO.

LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET

EDPM6

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

GPE-2

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDCF6

Lab Sample ID: 6033.003 Date Received: 04/27/00

Lab File ID: G0895 Date Analyzed: 04/27/00

Purge Volume: 20 (mL) Dilution Factor: 1.0

GC Column: DB-624 ID: 0.53 (mm) Length: 60 (m)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
74-87-3	Chloromethane	1	U
74-83-9	Bromomethane	1	U
75-01-4	Vinyl chloride	1	U
75-00-3	Chloroethane	1	U
75-09-2	Methylene chloride	2	U
67-64-1	Acetone	5	U
75-15-0	Carbon disulfide	0.5	J
75-35-4	1,1-Dichloroethene	1	U
75-34-3	1,1-Dichloroethane	1	U
156-59-2	cis-1,2-Dichloroethene	1	U
156-60-5	trans-1,2-Dichloroethene	1	U
67-66-3	Chloroform	1	U
107-06-2	1,2-Dichloroethane	1	U
78-93-3	2-Butanone	5	U
74-97-5	Bromochloromethane	1	U
71-55-6	1,1,1-Trichloroethane	1	U
56-23-5	Carbon tetrachloride	1	U
75-27-4	Bromodichloromethane	1	U
78-87-5	1,2-Dichloropropane	1	U
10061-01-5	cis-1,3-Dichloropropene	1	U
79-01-6	Trichloroethene	1	U
124-48-1	Dibromochloromethane	1	U
79-00-5	1,1,2-Trichloroethane	1	U
71-43-2	Benzene	2	
10061-02-6	trans-1,3-Dichloropropene	1	U
75-25-2	Bromoform	1	U
108-10-1	4-Methyl-2-pentanone	5	U
591-78-6	2-Hexanone	5	U
127-18-4	Tetrachloroethene	1	U
79-34-5	1,1,2,2-Tetrachloroethane	1	U
106-93-4	1,2-Dibromoethane	1	U
108-88-3	Toluene	1	U
108-90-7	Chlorobenzene	1	U
100-41-4	Ethylbenzene	1	U
100-42-5	Styrene	1	U
1330-20-7	Xylenes (total)	1	U
541-73-1	1,3-Dichlorobenzene	1	U
106-46-7	1,4-Dichlorobenzene	1	U
95-50-1	1,2-Dichlorobenzene	1	U
96-12-8	1,2-Dibromo-3-chloropropane	1	U
120-82-1	1,2,4-Trichlorobenzene	1	U

1LCE

EPA SAMPLE NO.

LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EDPM6

GPE-2

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDCF6

Lab Sample ID: 6033.003 Date Received: 04/27/00

Lab File ID: G0895 Date Analyzed: 04/27/00

Purge Volume: 20 (mL) Dilution Factor: 1.0

GC Column: DB-624 ID: 0.53 (mm) Length: 60 (m)

Number TICs found: 1

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC. (ug/L)	Q
1.	000060-29-7	Ethyl ether	6.91	6	JN
2.					
3.					
4.					
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1LCA

LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EDPM7

GPE-3

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDCF6

Lab Sample ID: 6033.004 Date Received: 04/27/00

Lab File ID: G0897 Date Analyzed: 04/27/00

Purge Volume: 20 (mL) Dilution Factor: 1.0

GC Column: DB-624 ID: 0.53 (mm) Length: 60 (m)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
74-87-3	Chloromethane	1	U
74-83-9	Bromomethane	1	U
75-01-4	Vinyl chloride	1	U
75-00-3	Chloroethane	1	U
75-09-2	Methylene chloride	2	U
67-64-1	Acetone	5	U
75-15-0	Carbon disulfide	0.6	J
75-35-4	1,1-Dichloroethene	1	U
75-34-3	1,1-Dichloroethane	1	U
156-59-2	cis-1,2-Dichloroethene	1	U
156-60-5	trans-1,2-Dichloroethene	1	U
67-66-3	Chloroform	1	U
107-06-2	1,2-Dichloroethane	1	U
78-93-3	2-Butanone	5	U
74-97-5	Bromochloromethane	1	U
71-55-6	1,1,1-Trichloroethane	1	U
56-23-5	Carbon tetrachloride	1	U
75-27-4	Bromodichloromethane	1	U
78-87-5	1,2-Dichloropropane	1	U
10061-01-5	cis-1,3-Dichloropropene	1	U
79-01-6	Trichloroethene	1	U
124-48-1	Dibromochloromethane	1	U
79-00-5	1,1,2-Trichloroethane	1	U
71-43-2	Benzene	1	U
10061-02-6	trans-1,3-Dichloropropene	1	U
75-25-2	Bromoform	1	U
108-10-1	4-Methyl-2-pentanone	5	U
591-78-6	2-Hexanone	5	U
127-18-4	Tetrachloroethene	1	U
79-34-5	1,1,2,2-Tetrachloroethane	1	U
106-93-4	1,2-Dibromoethane	1	U
108-88-3	Toluene	1	U
108-90-7	Chlorobenzene	1	U
100-41-4	Ethylbenzene	1	U
100-42-5	Styrene	1	U
1330-20-7	Xylenes (total)	1	U
541-73-1	1,3-Dichlorobenzene	1	U
106-46-7	1,4-Dichlorobenzene	1	U
95-50-1	1,2-Dichlorobenzene	1	U
96-12-8	1,2-Dibromo-3-chloropropane	1	U
120-82-1	1,2,4-Trichlorobenzene	1	U

1LCE

EPA SAMPLE NO.

LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EDPM7

GPE-3

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDCF6

Lab Sample ID: 6033.004 Date Received: 04/27/00

Lab File ID: G0897 Date Analyzed: 04/27/00

Purge Volume: 20 (mL) Dilution Factor: 1.0

GC Column: DB-624 ID: 0.53 (mm) Length: 60 (m)

Number TICs found: 1

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC. (ug/L)	Q
1.	000060-29-7	Ethyl ether	6.91	5	JN
2.					
3.					
4.					
5.					
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1LCA

EPA SAMPLE NO.

LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET

EDPM8

Trip Blank

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDCF6

Lab Sample ID: 6033.005 Date Received: 04/27/00

Lab File ID: G0894 Date Analyzed: 04/27/00

Purge Volume: 20 (mL) Dilution Factor: 1.0

GC Column: DB-624 ID: 0.53 (mm) Length: 60 (m)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
74-87-3	Chloromethane	1	U
74-83-9	Bromomethane	1	U
75-01-4	Vinyl chloride	1	U
75-00-3	Chloroethane	1	U
75-09-2	Methylene chloride	0.6	J
67-64-1	Acetone	5	U
75-15-0	Carbon disulfide	1	U
75-35-4	1,1-Dichloroethene	1	U
75-34-3	1,1-Dichloroethane	1	U
156-59-2	cis-1,2-Dichloroethene	1	U
156-60-5	trans-1,2-Dichloroethene	1	U
67-66-3	Chloroform	1	U
107-06-2	1,2-Dichloroethane	1	U
78-93-3	2-Butanone	5	U
74-97-5	Bromochloromethane	1	U
71-55-6	1,1,1-Trichloroethane	1	U
56-23-5	Carbon tetrachloride	1	U
75-27-4	Bromodichloromethane	1	U
78-87-5	1,2-Dichloropropane	1	U
10061-01-5	cis-1,3-Dichloropropene	1	U
79-01-6	Trichloroethene	1	U
124-48-1	Dibromochloromethane	1	U
79-00-5	1,1,2-Trichloroethane	1	U
71-43-2	Benzene	1	U
10061-02-6	trans-1,3-Dichloropropene	1	U
75-25-2	Bromoform	1	U
108-10-1	4-Methyl-2-pentanone	5	U
591-78-6	2-Hexanone	5	U
127-18-4	Tetrachloroethene	1	U
79-34-5	1,1,2,2-Tetrachloroethane	1	U
106-93-4	1,2-Dibromoethane	1	U
108-88-3	Toluene	1	U
108-90-7	Chlorobenzene	1	U
100-41-4	Ethylbenzene	1	U
100-42-5	Styrene	1	U
1330-20-7	Xylenes (total)	1	U
541-73-1	1,3-Dichlorobenzene	1	U
106-46-7	1,4-Dichlorobenzene	1	U
95-50-1	1,2-Dichlorobenzene	1	U
96-12-8	1,2-Dibromo-3-chloropropane	1	U
120-82-1	1,2,4-Trichlorobenzene	1	U

1LCE

EPA SAMPLE NO.

LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EDPM8

Trip Blank

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDCF6

Lab Sample ID: 6033.005 Date Received: 04/27/00

Lab File ID: G0894 Date Analyzed: 04/27/00

Purge Volume: 20 (mL) Dilution Factor: 1.0

GC Column: DB-624 ID: 0.53 (mm) Length: 60 (m)

Number TICs found: 0

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC. (ug/L)	Q
1.					
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
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1LCA

LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EDPN0

WT102-C

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDCF6

Lab Sample ID: 6033.018 Date Received: 04/27/00

Lab File ID: G0921 Date Analyzed: 04/28/00

Purge Volume: 20 (mL) Dilution Factor: 1.0

GC Column: DB-624 ID: 0.53 (mm) Length: 60 (m)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
74-87-3	Chloromethane	1	U
74-83-9	Bromomethane	1	U
75-01-4	Vinyl chloride	1	U
75-00-3	Chloroethane	1	U
75-09-2	Methylene chloride	2	U
67-64-1	Acetone	43	
75-15-0	Carbon disulfide	1	U
75-35-4	1,1-Dichloroethene	1	U
75-34-3	1,1-Dichloroethane	1	U
156-59-2	cis-1,2-Dichloroethene	1	U
156-60-5	trans-1,2-Dichloroethene	1	U
67-66-3	Chloroform	15	
107-06-2	1,2-Dichloroethane	1	U
78-93-3	2-Butanone	11	
74-97-5	Bromochloromethane	1	U
71-55-6	1,1,1-Trichloroethane	1	U
56-23-5	Carbon tetrachloride	1	U
75-27-4	Bromodichloromethane	6	
78-87-5	1,2-Dichloropropane	1	U
10061-01-5	cis-1,3-Dichloropropene	1	U
79-01-6	Trichloroethene	1	U
124-48-1	Dibromochloromethane	3	
79-00-5	1,1,2-Trichloroethane	1	U
71-43-2	Benzene	1	U
10061-02-6	trans-1,3-Dichloropropene	1	U
75-25-2	Bromoform	1	U
108-10-1	4-Methyl-2-pentanone	5	U
591-78-6	2-Hexanone	5	U
127-18-4	Tetrachloroethene	1	U
79-34-5	1,1,2,2-Tetrachloroethane	1	U
106-93-4	1,2-Dibromoethane	1	U
108-88-3	Toluene	1	U
108-90-7	Chlorobenzene	1	U
100-41-4	Ethylbenzene	1	U
100-42-5	Styrene	1	U
1330-20-7	Xylenes (total)	1	U
541-73-1	1,3-Dichlorobenzene	1	U
106-46-7	1,4-Dichlorobenzene	1	U
95-50-1	1,2-Dichlorobenzene	1	U
96-12-8	1,2-Dibromo-3-chloropropane	1	U
120-82-1	1,2,4-Trichlorobenzene	1	U

1LCE

EPA SAMPLE NO.

LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EDPN0

LOT102-C

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDCF6

Lab Sample ID: 6033.018 Date Received: 04/27/00

Lab File ID: G0921 Date Analyzed: 04/28/00

Purge Volume: 20 (mL) Dilution Factor: 1.0

GC Column: DB-624 ID: 0.53 (mm) Length: 60 (m)

Number TICs found: 1

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC. (ug/L)	Q
1.	000110-82-7	Cyclohexane	13.77	7	JN
2.					
3.					
4.					
5.					
6.					
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1LCA

LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EDPN1

WT 102C

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDCF6

Lab Sample ID: 6033.014 Date Received: 04/27/00

Lab File ID: G0918 Date Analyzed: 04/28/00

Purge Volume: 20 (mL) Dilution Factor: 1.0

GC Column: DB-624 ID: 0.53 (mm) Length: 60 (m)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
74-87-3	Chloromethane	1	U
74-83-9	Bromomethane	1	U
75-01-4	Vinyl chloride	1	U
75-00-3	Chloroethane	1	U
75-09-2	Methylene chloride	2	U
67-64-1	Acetone	5	U
75-15-0	Carbon disulfide	1	U
75-35-4	1,1-Dichloroethene	1	U
75-34-3	1,1-Dichloroethane	1	U
156-59-2	cis-1,2-Dichloroethene	1	U
156-60-5	trans-1,2-Dichloroethene	1	U
67-66-3	Chloroform	1	U
107-06-2	1,2-Dichloroethane	1	U
78-93-3	2-Butanone	5	U
74-97-5	Bromochloromethane	1	U
71-55-6	1,1,1-Trichloroethane	1	U
56-23-5	Carbon tetrachloride	1	U
75-27-4	Bromodichloromethane	1	U
78-87-5	1,2-Dichloropropane	1	U
10061-01-5	cis-1,3-Dichloropropene	1	U
79-01-6	Trichloroethene	1	U
124-48-1	Dibromochloromethane	1	U
79-00-5	1,1,2-Trichloroethane	1	U
71-43-2	Benzene	1	U
10061-02-6	trans-1,3-Dichloropropene	1	U
75-25-2	Bromoform	1	U
108-10-1	4-Methyl-2-pentanone	5	U
591-78-6	2-Hexanone	5	U
127-18-4	Tetrachloroethene	1	U
79-34-5	1,1,2,2-Tetrachloroethane	1	U
106-93-4	1,2-Dibromoethane	1	U
108-88-3	Toluene	1	U
108-90-7	Chlorobenzene	1	U
100-41-4	Ethylbenzene	1	U
100-42-5	Styrene	1	U
1330-20-7	Xylenes (total)	1	U
541-73-1	1,3-Dichlorobenzene	1	U
106-46-7	1,4-Dichlorobenzene	1	U
95-50-1	1,2-Dichlorobenzene	1	U
96-12-8	1,2-Dibromo-3-chloropropane	1	U
120-82-1	1,2,4-Trichlorobenzene	1	U

0140

1LCE

EPA SAMPLE NO.

LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EDPN1

WT102C

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDCF6

Lab Sample ID: 6033.014 Date Received: 04/27/00

Lab File ID: G0918 Date Analyzed: 04/28/00

Purge Volume: 20 (mL) Dilution Factor: 1.0

GC Column: DB-624 ID: 0.53 (mm) Length: 60 (m)

Number TICs found: 0

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC. (ug/L)	Q
1.					
2.					
3.					
4.					
5.					
6.					
7.					
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1LCA

LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EDPN2

WT102B

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDCF6

Lab Sample ID: 6033.015 Date Received: 04/27/00

Lab File ID: G0919 Date Analyzed: 04/28/00

Purge Volume: 20 (mL) Dilution Factor: 1.0

GC Column: DB-624 ID: 0.53 (mm) Length: 60 (m)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
74-87-3	Chloromethane	1	U
74-83-9	Bromomethane	1	U
75-01-4	Vinyl chloride	1	U
75-00-3	Chloroethane	1	U
75-09-2	Methylene chloride	2	U
67-64-1	Acetone	5	U
75-15-0	Carbon disulfide	1	U
75-35-4	1,1-Dichloroethene	1	U
75-34-3	1,1-Dichloroethane	1	U
156-59-2	cis-1,2-Dichloroethene	1	U
156-60-5	trans-1,2-Dichloroethene	1	U
67-66-3	Chloroform	1	U
107-06-2	1,2-Dichloroethane	1	U
78-93-3	2-Butanone	5	U
74-97-5	Bromochloromethane	1	U
71-55-6	1,1,1-Trichloroethane	1	U
56-23-5	Carbon tetrachloride	1	U
75-27-4	Bromodichloromethane	1	U
78-87-5	1,2-Dichloropropane	1	U
10061-01-5	cis-1,3-Dichloropropene	1	U
79-01-6	Trichloroethene	1	U
124-48-1	Dibromochloromethane	1	U
79-00-5	1,1,2-Trichloroethane	1	U
71-43-2	Benzene	1	U
10061-02-6	trans-1,3-Dichloropropene	1	U
75-25-2	Bromoform	1	U
108-10-1	4-Methyl-2-pentanone	5	U
591-78-6	2-Hexanone	5	U
127-18-4	Tetrachloroethene	1	U
79-34-5	1,1,2,2-Tetrachloroethane	1	U
106-93-4	1,2-Dibromoethane	1	U
108-88-3	Toluene	1	U
108-90-7	Chlorobenzene	1	U
100-41-4	Ethylbenzene	1	U
100-42-5	Styrene	1	U
1330-20-7	Xylenes (total)	1	U
541-73-1	1,3-Dichlorobenzene	1	U
106-46-7	1,4-Dichlorobenzene	1	U
95-50-1	1,2-Dichlorobenzene	1	U
96-12-8	1,2-Dibromo-3-chloropropane	1	U
120-82-1	1,2,4-Trichlorobenzene	1	U

1LCE

EPA SAMPLE NO.

LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EDPN2

WT102B

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDCF6

Lab Sample ID: 6033.015 Date Received: 04/27/00

Lab File ID: G0919 Date Analyzed: 04/28/00

Purge Volume: 20 (mL) Dilution Factor: 1.0

GC Column: DB-624 ID: 0.53 (mm) Length: 60 (m)

Number TICs found: 0

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC. (ug/L)	Q
1.					
2.					
3.					
4.					
5.					
6.					
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28.					
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1LCA

LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EDPN3

WT102B

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDCF6

Lab Sample ID: 6033.016 Date Received: 04/27/00

Lab File ID: G0898 Date Analyzed: 04/27/00

Purge Volume: 20 (mL) Dilution Factor: 1.0

GC Column: DB-624 ID: 0.53 (mm) Length: 60 (m)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
74-87-3	Chloromethane	1	U
74-83-9	Bromomethane	1	U
75-01-4	Vinyl chloride	1	U
75-00-3	Chloroethane	1	U
75-09-2	Methylene chloride	1	J
67-64-1	Acetone	5	U
75-15-0	Carbon disulfide	1	U
75-35-4	1,1-Dichloroethene	1	U
75-34-3	1,1-Dichloroethane	1	U
156-59-2	cis-1,2-Dichloroethene	1	U
156-60-5	trans-1,2-Dichloroethene	1	U
67-66-3	Chloroform	1	U
107-06-2	1,2-Dichloroethane	1	U
78-93-3	2-Butanone	5	U
74-97-5	Bromochloromethane	1	U
71-55-6	1,1,1-Trichloroethane	1	U
56-23-5	Carbon tetrachloride	1	U
75-27-4	Bromodichloromethane	1	U
78-87-5	1,2-Dichloropropane	1	U
10061-01-5	cis-1,3-Dichloropropene	1	U
79-01-6	Trichloroethene	1	U
124-48-1	Dibromochloromethane	1	U
79-00-5	1,1,2-Trichloroethane	1	U
71-43-2	Benzene	1	U
10061-02-6	trans-1,3-Dichloropropene	1	U
75-25-2	Bromoform	1	U
108-10-1	4-Methyl-2-pentanone	5	U
591-78-6	2-Hexanone	5	U
127-18-4	Tetrachloroethene	1	U
79-34-5	1,1,2,2-Tetrachloroethane	1	U
106-93-4	1,2-Dibromoethane	1	U
108-88-3	Toluene	1	U
108-90-7	Chlorobenzene	1	U
100-41-4	Ethylbenzene	1	U
100-42-5	Styrene	1	U
1330-20-7	Xylenes (total)	1	U
541-73-1	1,3-Dichlorobenzene	1	U
106-46-7	1,4-Dichlorobenzene	1	U
95-50-1	1,2-Dichlorobenzene	1	U
96-12-8	1,2-Dibromo-3-chloropropane	1	U
120-82-1	1,2,4-Trichlorobenzene	1	U

1LCE

EPA SAMPLE NO.

LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EDPN3

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

WT102B

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDCF6

Lab Sample ID: 6033.016 Date Received: 04/27/00

Lab File ID: G0898 Date Analyzed: 04/27/00

Purge Volume: 20 (mL) Dilution Factor: 1.0

GC Column: DB-624 ID: 0.53 (mm) Length: 60 (m)

Number TICs found: 0

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC. (ug/L)	Q
1.					
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
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1LCA

LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EDPN4

WT102A

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDCF6

Lab Sample ID: 6033.017 Date Received: 04/27/00

Lab File ID: G0920 Date Analyzed: 04/28/00

Purge Volume: 20 (mL) Dilution Factor: 1.0

GC Column: DB-624 ID: 0.53 (mm) Length: 60 (m)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
74-87-3	Chloromethane	1	U
74-83-9	Bromomethane	1	U
75-01-4	Vinyl chloride	1	U
75-00-3	Chloroethane	1	U
75-09-2	Methylene chloride	2	U
67-64-1	Acetone	5	U
75-15-0	Carbon disulfide	1	U
75-35-4	1,1-Dichloroethene	1	U
75-34-3	1,1-Dichloroethane	1	U
156-59-2	cis-1,2-Dichloroethene	1	U
156-60-5	trans-1,2-Dichloroethene	1	U
67-66-3	Chloroform	1	U
107-06-2	1,2-Dichloroethane	1	U
78-93-3	2-Butanone	5	U
74-97-5	Bromochloromethane	1	U
71-55-6	1,1,1-Trichloroethane	1	U
56-23-5	Carbon tetrachloride	1	U
75-27-4	Bromodichloromethane	1	U
78-87-5	1,2-Dichloropropane	1	U
10061-01-5	cis-1,3-Dichloropropene	1	U
79-01-6	Trichloroethene	1	U
124-48-1	Dibromochloromethane	1	U
79-00-5	1,1,2-Trichloroethane	1	U
71-43-2	Benzene	1	U
10061-02-6	trans-1,3-Dichloropropene	1	U
75-25-2	Bromoform	1	U
108-10-1	4-Methyl-2-pentanone	5	U
591-78-6	2-Hexanone	5	U
127-18-4	Tetrachloroethene	1	U
79-34-5	1,1,2,2-Tetrachloroethane	1	U
106-93-4	1,2-Dibromoethane	1	U
108-88-3	Toluene	1	U
108-90-7	Chlorobenzene	1	U
100-41-4	Ethylbenzene	1	U
100-42-5	Styrene	1	U
1330-20-7	Xylenes (total)	1	U
541-73-1	1,3-Dichlorobenzene	1	U
106-46-7	1,4-Dichlorobenzene	1	U
95-50-1	1,2-Dichlorobenzene	1	U
96-12-8	1,2-Dibromo-3-chloropropane	1	U
120-82-1	1,2,4-Trichlorobenzene	1	U

1LCE

EPA SAMPLE NO.

LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EDPN4

WT102A

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDCF6

Lab Sample ID: 6033.017 Date Received: 04/27/00

Lab File ID: G0920 Date Analyzed: 04/28/00

Purge Volume: 20 (mL) Dilution Factor: 1.0

GC Column: DB-624 ID: 0.53 (mm) Length: 60 (m)

Number TICs found: 0

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC. (ug/L)	Q
1.					
2.					
3.					
4.					
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1LCA

LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EDPN5

GP 114-1

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDCF6

Lab Sample ID: 6033.006 Date Received: 04/27/00

Lab File ID: G0899 Date Analyzed: 04/28/00

Purge Volume: 20 (mL) Dilution Factor: 1.0

GC Column: DB-624 ID: 0.53 (mm) Length: 60 (m)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
74-87-3	Chloromethane	1	U
74-83-9	Bromomethane	1	U
75-01-4	Vinyl chloride	1	U
75-00-3	Chloroethane	1	U
75-09-2	Methylene chloride	2	U
67-64-1	Acetone	5	U
75-15-0	Carbon disulfide	1	U
75-35-4	1,1-Dichloroethene	1	U
75-34-3	1,1-Dichloroethane	1	
156-59-2	cis-1,2-Dichloroethene	1	U
156-60-5	trans-1,2-Dichloroethene	1	U
67-66-3	Chloroform	1	U
107-06-2	1,2-Dichloroethane	1	U
78-93-3	2-Butanone	5	U
74-97-5	Bromochloromethane	1	U
71-55-6	1,1,1-Trichloroethane	1	U
56-23-5	Carbon tetrachloride	1	U
75-27-4	Bromodichloromethane	1	U
78-87-5	1,2-Dichloropropane	1	U
10061-01-5	cis-1,3-Dichloropropene	1	U
79-01-6	Trichloroethene	1	U
124-48-1	Dibromochloromethane	1	U
79-00-5	1,1,2-Trichloroethane	1	U
71-43-2	Benzene	1	U
10061-02-6	trans-1,3-Dichloropropene	1	U
75-25-2	Bromoform	1	U
108-10-1	4-Methyl-2-pentanone	5	U
591-78-6	2-Hexanone	5	U
127-18-4	Tetrachloroethene	1	U
79-34-5	1,1,2,2-Tetrachloroethane	1	U
106-93-4	1,2-Dibromoethane	1	U
108-88-3	Toluene	1	U
108-90-7	Chlorobenzene	1	U
100-41-4	Ethylbenzene	1	U
100-42-5	Styrene	1	U
1330-20-7	Xylenes (total)	1	U
541-73-1	1,3-Dichlorobenzene	1	U
106-46-7	1,4-Dichlorobenzene	1	U
95-50-1	1,2-Dichlorobenzene	1	U
96-12-8	1,2-Dibromo-3-chloropropane	1	U
120-82-1	1,2,4-Trichlorobenzene	1	U

1LCE

EPA SAMPLE NO.

LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EDPN5

GP114-1

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDCF6

Lab Sample ID: 6033.006 Date Received: 04/27/00

Lab File ID: G0899 Date Analyzed: 04/28/00

Purge Volume: 20 (mL) Dilution Factor: 1.0

GC Column: DB-624 ID: 0.53 (mm) Length: 60 (m)

Number TICs found: 0

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC. (ug/L)	Q
1.					
2.					
3.					
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LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EDPN6

GP 114-2

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDCF6

Lab Sample ID: 6033.007 Date Received: 04/27/00

Lab File ID: G0901 Date Analyzed: 04/28/00

Purge Volume: 20 (mL) Dilution Factor: 1.0

GC Column: DB-624 ID: 0.53 (mm) Length: 60 (m)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
74-87-3	Chloromethane	1	U
74-83-9	Bromomethane	1	U
75-01-4	Vinyl chloride	1	U
75-00-3	Chloroethane	1	U
75-09-2	Methylene chloride	2	U
67-64-1	Acetone	5	U
75-15-0	Carbon disulfide	1	U
75-35-4	1,1-Dichloroethene	1	U
75-34-3	1,1-Dichloroethane	4	
156-59-2	cis-1,2-Dichloroethene	1	
156-60-5	trans-1,2-Dichloroethene	1	U
67-66-3	Chloroform	1	U
107-06-2	1,2-Dichloroethane	1	U
78-93-3	2-Butanone	5	U
74-97-5	Bromochloromethane	1	U
71-55-6	1,1,1-Trichloroethane	1	U
56-23-5	Carbon tetrachloride	1	U
75-27-4	Bromodichloromethane	1	U
78-87-5	1,2-Dichloropropane	2	
10061-01-5	cis-1,3-Dichloropropene	1	U
79-01-6	Trichloroethene	1	U
124-48-1	Dibromochloromethane	1	U
79-00-5	1,1,2-Trichloroethane	1	U
71-43-2	Benzene	1	
10061-02-6	trans-1,3-Dichloropropene	1	U
75-25-2	Bromoform	1	U
108-10-1	4-Methyl-2-pentanone	5	U
591-78-6	2-Hexanone	5	U
127-18-4	Tetrachloroethene	1	U
79-34-5	1,1,2,2-Tetrachloroethane	1	U
106-93-4	1,2-Dibromoethane	1	U
108-88-3	Toluene	1	U
108-90-7	Chlorobenzene	1	U
100-41-4	Ethylbenzene	1	U
100-42-5	Styrene	1	U
1330-20-7	Xylenes (total)	1	U
541-73-1	1,3-Dichlorobenzene	1	U
106-46-7	1,4-Dichlorobenzene	1	U
95-50-1	1,2-Dichlorobenzene	1	U
96-12-8	1,2-Dibromo-3-chloropropane	1	U
120-82-1	1,2,4-Trichlorobenzene	1	U

1LCE

EPA SAMPLE NO.

LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EDPN6

GP 114-2

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDCF6

Lab Sample ID: 6033.007 Date Received: 04/27/00

Lab File ID: G0901 Date Analyzed: 04/28/00

Purge Volume: 20 (mL) Dilution Factor: 1.0

GC Column: DB-624 ID: 0.53 (mm) Length: 60 (m)

Number TICs found: 2

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC. (ug/L)	Q
1.	000075-43-4	Methane, dichlorofluoro-	6.13	9	JN
2.	000060-29-7	Ethyl ether	6.92	5	JN
3.					
4.					
5.					
6.					
7.					
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LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EDPN7

GP 114-3

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDCF6

Lab Sample ID: 6033.008 Date Received: 04/27/00

Lab File ID: G0903 Date Analyzed: 04/28/00

Purge Volume: 20 (mL) Dilution Factor: 1.0

GC Column: DB-624 ID: 0.53 (mm) Length: 60 (m)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
74-87-3	Chloromethane	1	U
74-83-9	Bromomethane	1	U
75-01-4	Vinyl chloride	1	U
75-00-3	Chloroethane	1	U
75-09-2	Methylene chloride	2	U
67-64-1	Acetone	5	U
75-15-0	Carbon disulfide	0.5	J
75-35-4	1,1-Dichloroethene	1	U
75-34-3	1,1-Dichloroethane	1	
156-59-2	cis-1,2-Dichloroethene	0.7	J
156-60-5	trans-1,2-Dichloroethene	1	U
67-66-3	Chloroform	1	U
107-06-2	1,2-Dichloroethane	1	U
78-93-3	2-Butanone	5	U
74-97-5	Bromochloromethane	1	U
71-55-6	1,1,1-Trichloroethane	1	U
56-23-5	Carbon tetrachloride	1	U
75-27-4	Bromodichloromethane	1	U
78-87-5	1,2-Dichloropropane	1	U
10061-01-5	cis-1,3-Dichloropropene	1	U
79-01-6	Trichloroethene	1	U
124-48-1	Dibromochloromethane	1	U
79-00-5	1,1,2-Trichloroethane	1	U
71-43-2	Benzene	0.9	J
10061-02-6	trans-1,3-Dichloropropene	1	U
75-25-2	Bromoform	1	U
108-10-1	4-Methyl-2-pentanone	5	U
591-78-6	2-Hexanone	5	U
127-18-4	Tetrachloroethene	1	U
79-34-5	1,1,2,2-Tetrachloroethane	1	U
106-93-4	1,2-Dibromoethane	1	U
108-88-3	Toluene	1	U
108-90-7	Chlorobenzene	1	U
100-41-4	Ethylbenzene	1	U
100-42-5	Styrene	1	U
1330-20-7	Xylenes (total)	1	U
541-73-1	1,3-Dichlorobenzene	1	U
106-46-7	1,4-Dichlorobenzene	1	U
95-50-1	1,2-Dichlorobenzene	1	U
96-12-8	1,2-Dibromo-3-chloropropane	1	U
120-82-1	1,2,4-Trichlorobenzene	1	U

1LCE

EPA SAMPLE NO.

LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EDPN7

GP 114-3

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDCF6

Lab Sample ID: 6033.008 Date Received: 04/27/00

Lab File ID: G0903 Date Analyzed: 04/28/00

Purge Volume: 20 (mL) Dilution Factor: 1.0

GC Column: DB-624 ID: 0.53 (mm) Length: 60 (m)

Number TICs found: 2

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC. (ug/L)	Q
1.	000075-43-4	Methane, dichlorofluoro-	6.13	4	JN
2.	000060-29-7	Ethyl ether	6.91	5	JN
3.					
4.					
5.					
6.					
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LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VLCS94

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDCF6

Lab Sample ID: GVLCS058 Date Received: _____

Lab File ID: G0892 Date Analyzed: 04/27/00

Purge Volume: 20 (mL) Dilution Factor: 1.0

GC Column: DB-624 ID: 0.53 (mm) Length: 60 (m)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
74-87-3	Chloromethane	1	U
74-83-9	Bromomethane	1	U
75-01-4	Vinyl chloride	4	
75-00-3	Chloroethane	1	U
75-09-2	Methylene chloride	2	U
67-64-1	Acetone	5	U
75-15-0	Carbon disulfide	1	U
75-35-4	1,1-Dichloroethene	1	U
75-34-3	1,1-Dichloroethane	1	U
156-59-2	cis-1,2-Dichloroethene	1	U
156-60-5	trans-1,2-Dichloroethene	1	U
67-66-3	Chloroform	1	U
107-06-2	1,2-Dichloroethane	5	
78-93-3	2-Butanone	5	U
74-97-5	Bromochloromethane	1	U
71-55-6	1,1,1-Trichloroethane	1	U
56-23-5	Carbon tetrachloride	4	
75-27-4	Bromodichloromethane	1	U
78-87-5	1,2-Dichloropropane	5	
10061-01-5	cis-1,3-Dichloropropene	5	
79-01-6	Trichloroethene	4	
124-48-1	Dibromochloromethane	1	U
79-00-5	1,1,2-Trichloroethane	4	
71-43-2	Benzene	5	
10061-02-6	trans-1,3-Dichloropropene	1	U
75-25-2	Bromoform	4	
108-10-1	4-Methyl-2-pentanone	5	U
591-78-6	2-Hexanone	5	U
127-18-4	Tetrachloroethene	4	
79-34-5	1,1,2,2-Tetrachloroethane	1	U
106-93-4	1,2-Dibromoethane	4	
108-88-3	Toluene	1	U
108-90-7	Chlorobenzene	1	U
100-41-4	Ethylbenzene	1	U
100-42-5	Styrene	1	U
1330-20-7	Xylenes (total)	1	U
541-73-1	1,3-Dichlorobenzene	1	U
106-46-7	1,4-Dichlorobenzene	4	
95-50-1	1,2-Dichlorobenzene	1	U
96-12-8	1,2-Dibromo-3-chloropropane	1	U
120-82-1	1,2,4-Trichlorobenzene	1	U

1LCA

LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VLCS95

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDCF6

Lab Sample ID: GVLCS059 Date Received: _____

Lab File ID: G0909 Date Analyzed: 04/28/00

Purge Volume: 20 (mL) Dilution Factor: 1.0

GC Column: DB-624 ID: 0.53 (mm) Length: 60 (m)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
74-87-3	Chloromethane	1	U
74-83-9	Bromomethane	1	U
75-01-4	Vinyl chloride	4	
75-00-3	Chloroethane	1	U
75-09-2	Methylene chloride	2	U
67-64-1	Acetone	5	U
75-15-0	Carbon disulfide	1	U
75-35-4	1,1-Dichloroethene	1	U
75-34-3	1,1-Dichloroethane	1	U
156-59-2	cis-1,2-Dichloroethene	1	U
156-60-5	trans-1,2-Dichloroethene	1	U
67-66-3	Chloroform	1	U
107-06-2	1,2-Dichloroethane	4	
78-93-3	2-Butanone	5	U
74-97-5	Bromochloromethane	1	U
71-55-6	1,1,1-Trichloroethane	1	U
56-23-5	Carbon tetrachloride	4	
75-27-4	Bromodichloromethane	1	U
78-87-5	1,2-Dichloropropane	4	
10061-01-5	cis-1,3-Dichloropropene	4	
79-01-6	Trichloroethene	4	
124-48-1	Dibromochloromethane	1	U
79-00-5	1,1,2-Trichloroethane	4	
71-43-2	Benzene	5	
10061-02-6	trans-1,3-Dichloropropene	1	U
75-25-2	Bromoform	4	
108-10-1	4-Methyl-2-pentanone	5	U
591-78-6	2-Hexanone	5	U
127-18-4	Tetrachloroethene	4	
79-34-5	1,1,2,2-Tetrachloroethane	1	U
106-93-4	1,2-Dibromoethane	4	
108-88-3	Toluene	1	U
108-90-7	Chlorobenzene	1	U
100-41-4	Ethylbenzene	1	U
100-42-5	Styrene	1	U
1330-20-7	Xylenes (total)	1	U
541-73-1	1,3-Dichlorobenzene	1	U
106-46-7	1,4-Dichlorobenzene	3	
95-50-1	1,2-Dichlorobenzene	1	U
96-12-8	1,2-Dibromo-3-chloropropane	1	U
120-82-1	1,2,4-Trichlorobenzene	1	U

1LCA

LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VLCS97

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDCF6

Lab Sample ID: GVLCS061 Date Received: _____

Lab File ID: G0942 Date Analyzed: 05/02/00

Purge Volume: 20 (mL) Dilution Factor: 1.0

GC Column: DB-624 ID: 0.53 (mm) Length: 60 (m)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
74-87-3	Chloromethane	1	U
74-83-9	Bromomethane	1	U
75-01-4	Vinyl chloride	4	
75-00-3	Chloroethane	1	U
75-09-2	Methylene chloride	2	U
67-64-1	Acetone	5	U
75-15-0	Carbon disulfide	1	U
75-35-4	1,1-Dichloroethene	1	U
75-34-3	1,1-Dichloroethane	1	U
156-59-2	cis-1,2-Dichloroethene	1	U
156-60-5	trans-1,2-Dichloroethene	1	U
67-66-3	Chloroform	1	U
107-06-2	1,2-Dichloroethane	5	
78-93-3	2-Butanone	5	U
74-97-5	Bromochloromethane	1	U
71-55-6	1,1,1-Trichloroethane	1	U
56-23-5	Carbon tetrachloride	4	
75-27-4	Bromodichloromethane	1	U
78-87-5	1,2-Dichloropropane	4	
10061-01-5	cis-1,3-Dichloropropene	4	
79-01-6	Trichloroethene	4	
124-48-1	Dibromochloromethane	1	U
79-00-5	1,1,2-Trichloroethane	4	
71-43-2	Benzene	5	
10061-02-6	trans-1,3-Dichloropropene	1	U
75-25-2	Bromoform	4	
108-10-1	4-Methyl-2-pentanone	5	U
591-78-6	2-Hexanone	5	U
127-18-4	Tetrachloroethene	4	
79-34-5	1,1,2,2-Tetrachloroethane	1	U
106-93-4	1,2-Dibromoethane	4	
108-88-3	Toluene	1	U
108-90-7	Chlorobenzene	1	U
100-41-4	Ethylbenzene	1	U
100-42-5	Styrene	1	U
1330-20-7	Xylenes (total)	1	U
541-73-1	1,3-Dichlorobenzene	1	U
106-46-7	1,4-Dichlorobenzene	3	
95-50-1	1,2-Dichlorobenzene	1	U
96-12-8	1,2-Dibromo-3-chloropropane	1	U
120-82-1	1,2,4-Trichlorobenzene	1	U

2LCB
LOW CONC. WATER SEMIVOLATILE SURROGATE RECOVERY

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDCF6

	EPA SAMPLE NO.	NBZ %REC #	FBP %REC #	TPH %REC #	PHL %REC #	2FP %REC #	TBP %REC #	OTHER	TOT OUT
01	SBLK37	69	67	86	64	67	74		0
02	SLCS69	79	82	95	75	83	83		0
03	EDPM3	53	51	42	53	53	62		0
04	EDPM6	73	70	55	74	69	83		0
05	EDPM7	52	51	45	49	48	61		0
06	EDPN5	33	30	49	31	30	45		0
07	EDPN6	56	51	59	54	54	62		0
08	EDPN7	75	74	58	73	72	86		0
09	EDCF6	77	75	79	74	76	86		0
10	EDCF7	74	71	70	66	67	75		0
11	EDCF8	75	70	53	72	74	78		0
12	EDCF9	66	62	59	63	65	73		0
13	EDPN1	75	76	94	74	78	85		0
14	EDPN2	88	86	92	83	92	92		0
15	EDPN4	66	65	73	62	63	70		0
16	EDPN0	75	76	103	36	76	91		0
17	EDCG3	80	82	94	72	83	95		0
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	QC LIMITS %REC
NBZ = Nitrobenzene-d5	(23-120)
FBP = 2-Fluorobiphenyl	(30-115)
TPH = Terphenyl-d14	(18-140)
PHL = Phenol-d5	(15-115)
2FP = 2-Fluorophenol	(15-121)
TBP = 2,4,6-Tribromophenol	(15-130)

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

3LCB

LOW CONC. WATER SEMIVOLATILE LAB CONTROL SAMPLE RECOVERY

EPA SAMPLE NO.

SLCS69

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDCF6

Lab Sample ID: SVOL601 LCS Lot No.:

Lab File ID: H0992 Date Extracted: 05/01/00

LCS Aliquot: 1000 (uL) Date Analyzed: 05/11/00

Concentrated Extract Volume: 1000 (uL) Dilution Factor: 1.0

Injection Volume: 1.0 (uL)

COMPOUND	AMOUNT ADDED (ng)	AMOUNT RECOVERED (ng)	%REC #	QC LIMITS
Phenol	40000	34000	85	40-120
bis(2-Chloroethyl)ether	20000	17000	85	50-110
2-Chlorophenol	40000	36000	90	50-110
N-Nitroso-di-n-propylamine	20000	18000	90	30-110
Hexachloroethane	20000	10000	50	20-110
Isophorone	20000	13000	65	50-110
Naphthalene	20000	17000	85	30-110
4-Chloroaniline	40000	30000	75	10-120
2,4,6-Trichlorophenol	40000	38000	95	40-120
2,4-Dinitrotoluene	20000	13000	65	30-120
Diethylphthalate	20000	14000	70	50-120
N-Nitrosodiphenylamine	20000	12000	60	30-110
Hexachlorobenzene	20000	15000	75	40-120
Benzo(a)pyrene	20000	17000	85	50-120

Column to be used to flag LCS recovery with an asterisk.

* Values outside of QC limits.

LCS Recovery: 0 outside limits out of 14 total.

COMMENTS: _____

LOW CONC. WATER SEMIVOLATILE METHOD BLANK SUMMARY

EPA SAMPLE NO.

SBLK37

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDCF6

Lab Sample ID: SVOB710 Date Extracted: 05/01/00

Lab File ID: H0991 Date Analyzed: 05/11/00

Instrument ID: H-HP5973 Time Analyzed: 1214

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES AND LCS:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
01	SLCS69	SVOL601	H0992	05/11/00
02	EDPM3	6033.002	H0993	05/11/00
03	EDPM6	6033.003	H0994	05/11/00
04	EDPM7	6033.004	H0995	05/11/00
05	EDPN5	6033.006	H0996	05/11/00
06	EDPN6	6033.007	H0997	05/11/00
07	EDPN7	6033.008	H0998	05/11/00
08	EDCF6	6033.009	H0999	05/11/00
09	EDCF7	6033.010	H1000	05/11/00
10	EDCF8	6033.011	H1001	05/11/00
11	EDCF9	6033.013	H1002	05/11/00
12	EDPN1	6033.014	H1003	05/11/00
13	EDPN2	6033.015	H1004	05/11/00
14	EDPN4	6033.017	H1005	05/11/00
15	EDPN0	6033.018	H1008	05/12/00
16	EDCG3	6033.019	H1009	05/12/00
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COMMENTS: _____

LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SBLK37

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDCF6

Lab Sample ID: SVOB710 Date Received: _____

Lab File ID: H0991 Date Extracted: 05/01/00

Sample Volume: 1000 (mL) Date Analyzed: 05/11/00

Concentrated Extract Volume: 1000 (uL) Dilution Factor: 1.0

Injection Volume: 1.0 (uL)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
108-95-2	Phenol	5	U
111-44-4	bis(2-Chloroethyl)ether	5	U
95-57-8	2-Chlorophenol	5	U
95-48-7	2-Methylphenol	5	U
108-60-1	2,2'-oxybis(1-Chloropropane)	5	U
106-44-5	4-Methylphenol	5	U
621-64-7	N-Nitroso-di-n-propylamine	5	U
67-72-1	Hexachloroethane	5	U
98-95-3	Nitrobenzene	5	U
78-59-1	Isophorone	5	U
88-75-5	2-Nitrophenol	5	U
105-67-9	2,4-Dimethylphenol	5	U
111-91-1	bis(2-Chloroethoxy)methane	5	U
120-83-2	2,4-Dichlorophenol	5	U
91-20-3	Naphthalene	5	U
106-47-8	4-Chloroaniline	5	U
87-68-3	Hexachlorobutadiene	5	U
59-50-7	4-Chloro-3-methylphenol	5	U
91-57-6	2-Methylnaphthalene	5	U
77-47-4	Hexachlorocyclopentadiene	5	U
88-06-2	2,4,6-Trichlorophenol	5	U
95-95-4	2,4,5-Trichlorophenol	20	U
91-58-7	2-Chloronaphthalane	5	U
88-74-4	2-Nitroaniline	20	U
131-11-3	Dimethylphthalate	5	U
208-96-8	Acenaphthylene	5	U
606-20-2	2,6-Dintrotoluene	5	U
99-09-2	3-Nitroaniline	20	U
83-32-9	Acenaphthene	5	U

1LCC

LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SBLK37

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDCF6

Lab Sample ID: SVOB710 Date Received: _____

Lab File ID: H0991 Date Extracted: 05/01/00

Sample Volume: 1000 (mL) Date Analyzed: 05/11/00

Concentrated Extract Volume: 1000 (uL) Dilution Factor: 1.0

Injection Volume: 1 (uL)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
51-28-5	2,4-Dinitrophenol	20	U
100-02-7	4-Nitrophenol	20	U
132-64-9	Dibenzofuran	5	U
121-14-2	2,4-Dinitrotoluene	5	U
84-66-2	Diethylphthalate	5	U
7005-72-3	4-Chlorophenyl-phenylether	5	U
86-73-7	Fluorene	5	U
100-01-6	4-Nitroaniline	20	U
534-52-1	4,6-Dinitro-2-methylphenol	20	U
86-30-6	N-Nitrosodiphenylamine (1)	5	U
101-55-3	4-Bromophenyl-phenylether	5	U
118-74-1	Hexachlorobenzene	5	U
87-86-5	Pentachlorophenol	20	U
85-01-8	Phenanthrene	5	U
120-12-7	Anthracene	5	U
84-74-2	Di-n-butylphthalate	5	U
206-44-0	Fluoranthene	5	U
129-00-0	Pyrene	5	U
85-68-7	Butylbenzylphthalate	5	U
91-94-1	3,3'-Dichlorobenzidine	5	U
56-55-3	Benzo(a)anthracene	5	U
218-01-9	Chrysene	5	U
117-81-7	bis(2-Ethylhexyl)phthalate	5	U
117-84-0	Di-n-octylphthalate	5	U
205-99-2	Benzo(b)fluoranthene	5	U
207-08-9	Benzo(k)fluoranthene	5	U
50-32-8	Benzo(a)pyrene	5	U
193-39-5	Indeno(1,2,3-cd)Pyrene	5	U
53-70-3	Dibenz(a,h)anthracene	5	U
191-24-2	Benzo(g,h,i)perylene	5	U

(1) - Cannot be separated from Diphenylamine

EPA SAMPLE NO.

LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

SBLK37

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDCF6

Lab Sample ID: SVOB710 Date Received: _____

Lab File ID: H0991 Date Extracted: 05/01/00

Sample Volume: 1000 (mL) Date Analyzed: 05/11/00

Concentrated Extract Volume: 1000 (uL) Dilution Factor: 1.0

Injection Volume: 1.0 (uL)

Number TICs found: 0

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC. (ug/L)	Q
1.					
2.					
3.					
4.					
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LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EDCF6

GP16-1

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDCF6

Lab Sample ID: 6033.009 Date Received: 04/27/00

Lab File ID: H0999 Date Extracted: 05/01/00

Sample Volume: 1000 (mL) Date Analyzed: 05/11/00

Concentrated Extract Volume: 1000 (uL) Dilution Factor: 1.0

Injection Volume: 1.0 (uL)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
108-95-2	Phenol	5	U
111-44-4	bis(2-Chloroethyl)ether	5	U
95-57-8	2-Chlorophenol	5	U
95-48-7	2-Methylphenol	5	U
108-60-1	2,2'-oxybis(1-Chloropropane)	5	U
106-44-5	4-Methylphenol	5	U
621-64-7	N-Nitroso-di-n-propylamine	5	U
67-72-1	Hexachloroethane	5	U
98-95-3	Nitrobenzene	5	U
78-59-1	Isophorone	5	U
88-75-5	2-Nitrophenol	5	U
105-67-9	2,4-Dimethylphenol	5	U
111-91-1	bis(2-Chloroethoxy)methane	5	U
120-83-2	2,4-Dichlorophenol	5	U
91-20-3	Naphthalene	5	U
106-47-8	4-Chloroaniline	5	U
87-68-3	Hexachlorobutadiene	5	U
59-50-7	4-Chloro-3-methylphenol	5	U
91-57-6	2-Methylnaphthalene	5	U
77-47-4	Hexachlorocyclopentadiene	5	U
88-06-2	2,4,6-Trichlorophenol	5	U
95-95-4	2,4,5-Trichlorophenol	20	U
91-58-7	2-Chloronaphthalane	5	U
88-74-4	2-Nitroaniline	20	U
131-11-3	Dimethylphthalate	5	U
208-96-8	Acenaphthylene	5	U
606-20-2	2,6-Dintrotoluene	5	U
99-09-2	3-Nitroaniline	20	U
83-32-9	Acenaphthene	5	U

LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EDCF6

GP16-1

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDCF6

Lab Sample ID: 6033.009 Date Received: 04/27/00

Lab File ID: H0999 Date Extracted: 05/01/00

Sample Volume: 1000 (mL) Date Analyzed: 05/11/00

Concentrated Extract Volume: 1000 (uL) Dilution Factor: 1.0

Injection Volume: 1 (uL)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
51-28-5	2,4-Dinitrophenol	20	U
100-02-7	4-Nitrophenol	20	U
132-64-9	Dibenzofuran	5	U
121-14-2	2,4-Dinitrotoluene	5	U
84-66-2	Diethylphthalate	5	U
7005-72-3	4-Chlorophenyl-phenylether	5	U
86-73-7	Fluorene	5	U
100-01-6	4-Nitroaniline	20	U
534-52-1	4,6-Dinitro-2-methylphenol	20	U
86-30-6	N-Nitrosodiphenylamine (1)	5	U
101-55-3	4-Bromophenyl-phenylether	5	U
118-74-1	Hexachlorobenzene	5	U
87-86-5	Pentachlorophenol	20	U
85-01-8	Phenanthrene	5	U
120-12-7	Anthracene	5	U
84-74-2	Di-n-butylphthalate	5	U
206-44-0	Fluoranthene	5	U
129-00-0	Pyrene	5	U
85-68-7	Butylbenzylphthalate	5	U
91-94-1	3,3'-Dichlorobenzidine	5	U
56-55-3	Benzo(a)anthracene	5	U
218-01-9	Chrysene	5	U
117-81-7	bis(2-Ethylhexyl)phthalate	5	U
117-84-0	Di-n-octylphthalate	5	U
205-99-2	Benzo(b)fluoranthene	5	U
207-08-9	Benzo(k)fluoranthene	5	U
50-32-8	Benzo(a)pyrene	5	U
193-39-5	Indeno(1,2,3-cd)Pyrene	5	U
53-70-3	Dibenz(a,h)anthracene	5	U
191-24-2	Benzo(g,h,i)perylene	5	U

(1) - Cannot be separated from Diphenylamine

EPA SAMPLE NO.

LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

EDCF6

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

GP16-1

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDCF6

Lab Sample ID: 6033.009 Date Received: 04/27/00

Lab File ID: H0999 Date Extracted: 05/01/00

Sample Volume: 1000 (mL) Date Analyzed: 05/11/00

Concentrated Extract Volume: 1000 (uL) Dilution Factor: 1.0

Injection Volume: 1.0 (uL)

Number TICs found: 0

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC. (ug/L)	Q
1.					
2.					
3.					
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LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EDCF7

Qp 16-2

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDCF6

Lab Sample ID: 6033.010 Date Received: 04/27/00

Lab File ID: H1000 Date Extracted: 05/01/00

Sample Volume: 1000 (mL) Date Analyzed: 05/11/00

Concentrated Extract Volume: 1000 (uL) Dilution Factor: 1.0

Injection Volume: 1.0 (uL)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
108-95-2	Phenol	5	U
111-44-4	bis(2-Chloroethyl)ether	5	U
95-57-8	2-Chlorophenol	5	U
95-48-7	2-Methylphenol	5	U
108-60-1	2,2'-oxybis(1-Chloropropane)	5	U
106-44-5	4-Methylphenol	5	U
621-64-7	N-Nitroso-di-n-propylamine	5	U
67-72-1	Hexachloroethane	5	U
98-95-3	Nitrobenzene	5	U
78-59-1	Isophorone	5	U
88-75-5	2-Nitrophenol	5	U
105-67-9	2,4-Dimethylphenol	5	U
111-91-1	bis(2-Chloroethoxy)methane	5	U
120-83-2	2,4-Dichlorophenol	5	U
91-20-3	Naphthalene	5	U
106-47-8	4-Chloroaniline	5	U
87-68-3	Hexachlorobutadiene	5	U
59-50-7	4-Chloro-3-methylphenol	5	U
91-57-6	2-Methylnaphthalene	5	U
77-47-4	Hexachlorocyclopentadiene	5	U
88-06-2	2,4,6-Trichlorophenol	5	U
95-95-4	2,4,5-Trichlorophenol	20	U
91-58-7	2-Chloronaphthalane	5	U
88-74-4	2-Nitroaniline	20	U
131-11-3	Dimethylphthalate	5	U
208-96-8	Acenaphthylene	5	U
606-20-2	2,6-Dintrotoluene	5	U
99-09-2	3-Nitroaniline	20	U
83-32-9	Acenaphthene	5	U

1LCC

LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EDCF7

GP16-2

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDCF6

Lab Sample ID: 6033.010 Date Received: 04/27/00

Lab File ID: H1000 Date Extracted: 05/01/00

Sample Volume: 1000 (mL) Date Analyzed: 05/11/00

Concentrated Extract Volume: 1000 (uL) Dilution Factor: 1.0

Injection Volume: 1 (uL)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
51-28-5	2,4-Dinitrophenol	20	U
100-02-7	4-Nitrophenol	20	U
132-64-9	Dibenzofuran	5	U
121-14-2	2,4-Dinitrotoluene	5	U
84-66-2	Diethylphthalate	5	U
7005-72-3	4-Chlorophenyl-phenylether	5	U
86-73-7	Fluorene	5	U
100-01-6	4-Nitroaniline	20	U
534-52-1	4,6-Dinitro-2-methylphenol	20	U
86-30-6	N-Nitrosodiphenylamine (1)	5	U
101-55-3	4-Bromophenyl-phenylether	5	U
118-74-1	Hexachlorobenzene	5	U
87-86-5	Pentachlorophenol	20	U
85-01-8	Phenanthrene	5	U
120-12-7	Anthracene	5	U
84-74-2	Di-n-butylphthalate	5	U
206-44-0	Fluoranthene	5	U
129-00-0	Pyrene	5	U
85-68-7	Butylbenzylphthalate	5	U
91-94-1	3,3'-Dichlorobenzidine	5	U
56-55-3	Benzo(a)anthracene	5	U
218-01-9	Chrysene	5	U
117-81-7	bis(2-Ethylhexyl)phthalate	5	U
117-84-0	Di-n-octylphthalate	5	U
205-99-2	Benzo(b)fluoranthene	5	U
207-08-9	Benzo(k)fluoranthene	5	U
50-32-8	Benzo(a)pyrene	5	U
193-39-5	Indeno(1,2,3-cd)Pyrene	5	U
53-70-3	Dibenz(a,h)anthracene	5	U
191-24-2	Benzo(g,h,i)perylene	5	U

(1) - Cannot be separated from Diphenylamine

AMPLE NO.

LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

EDCF7

GP 16-2

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDCF6

Lab Sample ID: 6033.010 Date Received: 04/27/00

Lab File ID: H1000 Date Extracted: 05/01/00

Sample Volume: 1000 (mL) Date Analyzed: 05/11/00

Concentrated Extract Volume: 1000 (uL) Dilution Factor: 1.0

Injection Volume: 1.0 (uL)

Number TICs found: 0

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC. (ug/L)	Q
1.					
2.					
3.					
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LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EDCF8

GP101-1

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDCF6

Lab Sample ID: 6033.011 Date Received: 04/27/00

Lab File ID: H1001 Date Extracted: 05/01/00

Sample Volume: 1000 (mL) Date Analyzed: 05/11/00

Concentrated Extract Volume: 1000 (uL) Dilution Factor: 1.0

Injection Volume: 1.0 (uL)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
108-95-2	Phenol	5	U
111-44-4	bis(2-Chloroethyl)ether	5	U
95-57-8	2-Chlorophenol	5	U
95-48-7	2-Methylphenol	5	U
108-60-1	2,2'-oxybis(1-Chloropropane)	5	U
106-44-5	4-Methylphenol	5	U
621-64-7	N-Nitroso-di-n-propylamine	5	U
67-72-1	Hexachloroethane	5	U
98-95-3	Nitrobenzene	5	U
78-59-1	Isophorone	5	U
88-75-5	2-Nitrophenol	5	U
105-67-9	2,4-Dimethylphenol	5	U
111-91-1	bis(2-Chloroethoxy)methane	5	U
120-83-2	2,4-Dichlorophenol	5	U
91-20-3	Naphthalene	5	U
106-47-8	4-Chloroaniline	5	U
87-68-3	Hexachlorobutadiene	5	U
59-50-7	4-Chloro-3-methylphenol	5	U
91-57-6	2-Methylnaphthalene	5	U
77-47-4	Hexachlorocyclopentadiene	5	U
88-06-2	2,4,6-Trichlorophenol	5	U
95-95-4	2,4,5-Trichlorophenol	20	U
91-58-7	2-Chloronaphthalane	5	U
88-74-4	2-Nitroaniline	20	U
131-11-3	Dimethylphthalate	5	U
208-96-8	Acenaphthylene	5	U
606-20-2	2,6-Dintrotoluene	5	U
99-09-2	3-Nitroaniline	20	U
83-32-9	Acenaphthene	5	U

LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EDCF8

GP 10/1-1

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDCF6

Lab Sample ID: 6033.011 Date Received: 04/27/00

Lab File ID: H1001 Date Extracted: 05/01/00

Sample Volume: 1000 (mL) Date Analyzed: 05/11/00

Concentrated Extract Volume: 1000 (uL) Dilution Factor: 1.0

Injection Volume: 1 (uL)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
51-28-5	2,4-Dinitrophenol	20	U
100-02-7	4-Nitrophenol	20	U
132-64-9	Dibenzofuran	5	U
121-14-2	2,4-Dinitrotoluene	5	U
84-66-2	Diethylphthalate	5	U
7005-72-3	4-Chlorophenyl-phenylether	5	U
86-73-7	Fluorene	5	U
100-01-6	4-Nitroaniline	20	U
534-52-1	4,6-Dinitro-2-methylphenol	20	U
86-30-6	N-Nitrosodiphenylamine (1)	5	U
101-55-3	4-Bromophenyl-phenylether	5	U
118-74-1	Hexachlorobenzene	5	U
87-86-5	Pentachlorophenol	20	U
85-01-8	Phenanthrene	5	U
120-12-7	Anthracene	5	U
84-74-2	Di-n-butylphthalate	5	U
206-44-0	Fluoranthene	5	U
129-00-0	Pyrene	5	U
85-68-7	Butylbenzylphthalate	5	U
91-94-1	3,3'-Dichlorobenzidine	5	U
56-55-3	Benzo(a)anthracene	5	U
218-01-9	Chrysene	5	U
117-81-7	bis(2-Ethylhexyl)phthalate	5	U
117-84-0	Di-n-octylphthalate	5	U
205-99-2	Benzo(b)fluoranthene	5	U
207-08-9	Benzo(k)fluoranthene	5	U
50-32-8	Benzo(a)pyrene	5	U
193-39-5	Indeno(1,2,3-cd)Pyrene	5	U
53-70-3	Dibenz(a,h)anthracene	5	U
191-24-2	Benzo(g,h,i)perylene	5	U

(1) - Cannot be separated from Diphenylamine

EPA SAMPLE NO.

LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

EDCF8

QP101-1

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDCF6

Lab Sample ID: 6033.011 Date Received: 04/27/00

Lab File ID: H1001 Date Extracted: 05/01/00

Sample Volume: 1000 (mL) Date Analyzed: 05/11/00

Concentrated Extract Volume: 1000 (uL) Dilution Factor: 1.0

Injection Volume: 1.0 (uL)

Number TICs found: 0

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC. (ug/L)	Q
1.					
2.					
3.					
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LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EDCF9

GP101-2

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDCF6

Lab Sample ID: 6033.013 Date Received: 04/27/00

Lab File ID: H1002 Date Extracted: 05/01/00

Sample Volume: 1000 (mL) Date Analyzed: 05/11/00

Concentrated Extract Volume: 1000 (uL) Dilution Factor: 1.0

Injection Volume: 1.0 (uL)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
108-95-2	Phenol	5	U
111-44-4	bis(2-Chloroethyl)ether	5	U
95-57-8	2-Chlorophenol	5	U
95-48-7	2-Methylphenol	5	U
108-60-1	2,2'-oxybis(1-Chloropropane)	5	U
106-44-5	4-Methylphenol	5	U
621-64-7	N-Nitroso-di-n-propylamine	5	U
67-72-1	Hexachloroethane	5	U
98-95-3	Nitrobenzene	5	U
78-59-1	Isophorone	5	U
88-75-5	2-Nitrophenol	5	U
105-67-9	2,4-Dimethylphenol	5	U
111-91-1	bis(2-Chloroethoxy)methane	5	U
120-83-2	2,4-Dichlorophenol	5	U
91-20-3	Naphthalene	5	U
106-47-8	4-Chloroaniline	5	U
87-68-3	Hexachlorobutadiene	5	U
59-50-7	4-Chloro-3-methylphenol	5	U
91-57-6	2-Methylnaphthalene	5	U
77-47-4	Hexachlorocyclopentadiene	5	U
88-06-2	2,4,6-Trichlorophenol	5	U
95-95-4	2,4,5-Trichlorophenol	20	U
91-58-7	2-Chloronaphthalane	5	U
88-74-4	2-Nitroaniline	20	U
131-11-3	Dimethylphthalate	5	U
208-96-8	Acenaphthylene	5	U
606-20-2	2,6-Dintrotoluene	5	U
99-09-2	3-Nitroaniline	20	U
83-32-9	Acenaphthene	5	U

LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EDCF9

GP101-2

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDCF6

Lab Sample ID: 6033.013 Date Received: 04/27/00

Lab File ID: H1002 Date Extracted: 05/01/00

Sample Volume: 1000 (mL) Date Analyzed: 05/11/00

Concentrated Extract Volume: 1000 (uL) Dilution Factor: 1.0

Injection Volume: 1 (uL)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
51-28-5	2,4-Dinitrophenol	20	U
100-02-7	4-Nitrophenol	20	U
132-64-9	Dibenzofuran	5	U
121-14-2	2,4-Dinitrotoluene	5	U
84-66-2	Diethylphthalate	5	U
7005-72-3	4-Chlorophenyl-phenylether	5	U
86-73-7	Fluorene	5	U
100-01-6	4-Nitroaniline	20	U
534-52-1	4,6-Dinitro-2-methylphenol	20	U
86-30-6	N-Nitrosodiphenylamine (1)	5	U
101-55-3	4-Bromophenyl-phenylether	5	U
118-74-1	Hexachlorobenzene	5	U
87-86-5	Pentachlorophenol	20	U
85-01-8	Phenanthrene	5	U
120-12-7	Anthracene	5	U
84-74-2	Di-n-butylphthalate	5	U
206-44-0	Fluoranthene	5	U
129-00-0	Pyrene	5	U
85-68-7	Butylbenzylphthalate	5	U
91-94-1	3,3'-Dichlorobenzidine	5	U
56-55-3	Benzo(a)anthracene	5	U
218-01-9	Chrysene	5	U
117-81-7	bis(2-Ethylhexyl)phthalate	4	J
117-84-0	Di-n-octylphthalate	5	U
205-99-2	Benzo(b)fluoranthene	5	U
207-08-9	Benzo(k)fluoranthene	5	U
50-32-8	Benzo(a)pyrene	5	U
193-39-5	Indeno(1,2,3-cd)Pyrene	5	U
53-70-3	Dibenz(a,h)anthracene	5	U
191-24-2	Benzo(g,h,i)perylene	5	U

(1) - Cannot be separated from Diphenylamine

EPA SAMPLE NO.

LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

EDCF9

GP101-2

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDCF6

Lab Sample ID: 6033.013 Date Received: 04/27/00

Lab File ID: H1002 Date Extracted: 05/01/00

Sample Volume: 1000 (mL) Date Analyzed: 05/11/00

Concentrated Extract Volume: 1000 (uL) Dilution Factor: 1.0

Injection Volume: 1.0 (uL)

Number TICs found: 0

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC. (ug/L)	Q
1.					
2.					
3.					
4.					
5.					
6.					
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9.					
10.					
11.					
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LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EDCG3

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDCF6

WTB1

Lab Sample ID: 6033.019 Date Received: 04/27/00

Lab File ID: H1009 Date Extracted: 05/01/00

Sample Volume: 1000 (mL) Date Analyzed: 05/12/00

Concentrated Extract Volume: 1000 (uL) Dilution Factor: 1.0

Injection Volume: 1.0 (uL)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
108-95-2	Phenol	5	U
111-44-4	bis(2-Chloroethyl)ether	5	U
95-57-8	2-Chlorophenol	5	U
95-48-7	2-Methylphenol	5	U
108-60-1	2,2'-oxybis(1-Chloropropane)	5	U
106-44-5	4-Methylphenol	5	U
621-64-7	N-Nitroso-di-n-propylamine	5	U
67-72-1	Hexachloroethane	5	U
98-95-3	Nitrobenzene	5	U
78-59-1	Isophorone	5	U
88-75-5	2-Nitrophenol	5	U
105-67-9	2,4-Dimethylphenol	5	U
111-91-1	bis(2-Chloroethoxy)methane	5	U
120-83-2	2,4-Dichlorophenol	5	U
91-20-3	Naphthalene	5	U
106-47-8	4-Chloroaniline	5	U
87-68-3	Hexachlorobutadiene	5	U
59-50-7	4-Chloro-3-methylphenol	5	U
91-57-6	2-Methylnaphthalene	5	U
77-47-4	Hexachlorocyclopentadiene	5	U
88-06-2	2,4,6-Trichlorophenol	5	U
95-95-4	2,4,5-Trichlorophenol	20	U
91-58-7	2-Chloronaphthalane	5	U
88-74-4	2-Nitroaniline	20	U
131-11-3	Dimethylphthalate	5	U
208-96-8	Acenaphthylene	5	U
606-20-2	2,6-Dintrotoluene	5	U
99-09-2	3-Nitroaniline	20	U
83-32-9	Acenaphthene	5	U

LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EDCG3

WTB1

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDCF6

Lab Sample ID: 6033.019 Date Received: 04/27/00

Lab File ID: H1009 Date Extracted: 05/01/00

Sample Volume: 1000 (mL) Date Analyzed: 05/12/00

Concentrated Extract Volume: 1000 (uL) Dilution Factor: 1.0

Injection Volume: 1 (uL)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
51-28-5	2,4-Dinitrophenol	20	U
100-02-7	4-Nitrophenol	20	U
132-64-9	Dibenzofuran	5	U
121-14-2	2,4-Dinitrotoluene	5	U
84-66-2	Diethylphthalate	5	U
7005-72-3	4-Chlorophenyl-phenylether	5	U
86-73-7	Fluorene	5	U
100-01-6	4-Nitroaniline	20	U
534-52-1	4,6-Dinitro-2-methylphenol	20	U
86-30-6	N-Nitrosodiphenylamine (1)	5	U
101-55-3	4-Bromophenyl-phenylether	5	U
118-74-1	Hexachlorobenzene	5	U
87-86-5	Pentachlorophenol	20	U
85-01-8	Phenanthrene	5	U
120-12-7	Anthracene	5	U
84-74-2	Di-n-butylphthalate	5	U
206-44-0	Fluoranthene	5	U
129-00-0	Pyrene	5	U
85-68-7	Butylbenzylphthalate	5	U
91-94-1	3,3'-Dichlorobenzidine	5	U
56-55-3	Benzo(a)anthracene	5	U
218-01-9	Chrysene	5	U
117-81-7	bis(2-Ethylhexyl)phthalate	5	U
117-84-0	Di-n-octylphthalate	5	U
205-99-2	Benzo(b)fluoranthene	5	U
207-08-9	Benzo(k)fluoranthene	5	U
50-32-8	Benzo(a)pyrene	5	U
193-39-5	Indeno(1,2,3-cd)Pyrene	5	U
53-70-3	Dibenz(a,h)anthracene	5	U
191-24-2	Benzo(g,h,i)perylene	5	U

(1) - Cannot be separated from Diphenylamine

1LCF

EPA SAMPLE NO.

LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

EDCG3

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

WTB1

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDCF6

Lab Sample ID: 6033.019 Date Received: 04/27/00

Lab File ID: H1009 Date Extracted: 05/01/00

Sample Volume: 1000 (mL) Date Analyzed: 05/12/00

Concentrated Extract Volume: 1000 (uL) Dilution Factor: 1.0

Injection Volume: 1.0 (uL)

Number TICs found: 0

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC. (ug/L)	Q
1.					
2.					
3.					
4.					
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EPA SAMPLE NO.

LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EDPM3

GPE-1

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDCF6

Lab Sample ID: 6033.002 Date Received: 04/27/00

Lab File ID: H0993 Date Extracted: 05/01/00

Sample Volume: 1000 (mL) Date Analyzed: 05/11/00

Concentrated Extract Volume: 1000 (uL) Dilution Factor: 1.0

Injection Volume: 1.0 (uL)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
108-95-2	Phenol	5	U
111-44-4	bis(2-Chloroethyl)ether	5	U
95-57-8	2-Chlorophenol	5	U
95-48-7	2-Methylphenol	5	U
108-60-1	2,2'-oxybis(1-Chloropropane)	5	U
106-44-5	4-Methylphenol	5	U
621-64-7	N-Nitroso-di-n-propylamine	5	U
67-72-1	Hexachloroethane	5	U
98-95-3	Nitrobenzene	5	U
78-59-1	Isophorone	5	U
88-75-5	2-Nitrophenol	5	U
105-67-9	2,4-Dimethylphenol	5	U
111-91-1	bis(2-Chloroethoxy)methane	5	U
120-83-2	2,4-Dichlorophenol	5	U
91-20-3	Naphthalene	5	U
106-47-8	4-Chloroaniline	5	U
87-68-3	Hexachlorobutadiene	5	U
59-50-7	4-Chloro-3-methylphenol	5	U
91-57-6	2-Methylnaphthalene	5	U
77-47-4	Hexachlorocyclopentadiene	5	U
88-06-2	2,4,6-Trichlorophenol	5	U
95-95-4	2,4,5-Trichlorophenol	20	U
91-58-7	2-Chloronaphthalane	5	U
88-74-4	2-Nitroaniline	20	U
131-11-3	Dimethylphthalate	5	U
208-96-8	Acenaphthylene	5	U
606-20-2	2,6-Dintrotoluene	5	U
99-09-2	3-Nitroaniline	20	U
83-32-9	Acenaphthene	5	U

LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EDPM3

GPE-1

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDCF6

Lab Sample ID: 6033.002 Date Received: 04/27/00

Lab File ID: H0993 Date Extracted: 05/01/00

Sample Volume: 1000 (mL) Date Analyzed: 05/11/00

Concentrated Extract Volume: 1000 (uL) Dilution Factor: 1.0

Injection Volume: 1 (uL)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
51-28-5	2,4-Dinitrophenol	20	U
100-02-7	4-Nitrophenol	20	U
132-64-9	Dibenzofuran	5	U
121-14-2	2,4-Dinitrotoluene	5	U
84-66-2	Diethylphthalate	5	U
7005-72-3	4-Chlorophenyl-phenylether	5	U
86-73-7	Fluorene	5	U
100-01-6	4-Nitroaniline	20	U
534-52-1	4,6-Dinitro-2-methylphenol	20	U
86-30-6	N-Nitrosodiphenylamine (1)	5	U
101-55-3	4-Bromophenyl-phenylether	5	U
118-74-1	Hexachlorobenzene	5	U
87-86-5	Pentachlorophenol	20	U
85-01-8	Phenanthrene	5	U
120-12-7	Anthracene	5	U
84-74-2	Di-n-butylphthalate	5	U
206-44-0	Fluoranthene	5	U
129-00-0	Pyrene	5	U
85-68-7	Butylbenzylphthalate	5	U
91-94-1	3,3'-Dichlorobenzidine	5	U
56-55-3	Benzo(a)anthracene	5	U
218-01-9	Chrysene	5	U
117-81-7	bis(2-Ethylhexyl)phthalate	5	
117-84-0	Di-n-octylphthalate	5	U
205-99-2	Benzo(b)fluoranthene	5	U
207-08-9	Benzo(k)fluoranthene	5	U
50-32-8	Benzo(a)pyrene	5	U
193-39-5	Indeno(1,2,3-cd)Pyrene	5	U
53-70-3	Dibenz(a,h)anthracene	5	U
191-24-2	Benzo(g,h,i)perylene	5	U

(1) - Cannot be separated from Diphenylamine

EPA SAMPLE NO.

LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

EDPM3

GPE-1

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDCF6

Lab Sample ID: 6033.002 Date Received: 04/27/00

Lab File ID: H0993 Date Extracted: 05/01/00

Sample Volume: 1000 (mL) Date Analyzed: 05/11/00

Concentrated Extract Volume: 1000 (uL) Dilution Factor: 1.0

Injection Volume: 1.0 (uL)

Number TICs found: 0

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC. (ug/L)	Q
1.					
2.					
3.					
4.					
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6.					
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EPA SAMPLE NO.

LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EDPM6

GPE-2

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDCF6

Lab Sample ID: 6033.003 Date Received: 04/27/00

Lab File ID: H0994 Date Extracted: 05/01/00

Sample Volume: 1000 (mL) Date Analyzed: 05/11/00

Concentrated Extract Volume: 1000 (uL) Dilution Factor: 1.0

Injection Volume: 1.0 (uL)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
108-95-2	Phenol	5	U
111-44-4	bis(2-Chloroethyl)ether	5	U
95-57-8	2-Chlorophenol	5	U
95-48-7	2-Methylphenol	5	U
108-60-1	2,2'-oxybis(1-Chloropropane)	5	U
106-44-5	4-Methylphenol	5	U
621-64-7	N-Nitroso-di-n-propylamine	5	U
67-72-1	Hexachloroethane	5	U
98-95-3	Nitrobenzene	5	U
78-59-1	Isophorone	5	U
88-75-5	2-Nitrophenol	5	U
105-67-9	2,4-Dimethylphenol	5	U
111-91-1	bis(2-Chloroethoxy)methane	5	U
120-83-2	2,4-Dichlorophenol	5	U
91-20-3	Naphthalene	5	U
106-47-8	4-Chloroaniline	5	U
87-68-3	Hexachlorobutadiene	5	U
59-50-7	4-Chloro-3-methylphenol	5	U
91-57-6	2-Methylnaphthalene	5	U
77-47-4	Hexachlorocyclopentadiene	5	U
88-06-2	2,4,6-Trichlorophenol	5	U
95-95-4	2,4,5-Trichlorophenol	20	U
91-58-7	2-Chloronaphthalane	5	U
88-74-4	2-Nitroaniline	20	U
131-11-3	Dimethylphthalate	5	U
208-96-8	Acenaphthylene	5	U
606-20-2	2,6-Dintrotoluene	5	U
99-09-2	3-Nitroaniline	20	U
83-32-9	Acenaphthene	5	U

LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EDPM6

GPE-2

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDCF6

Lab Sample ID: 6033.003 Date Received: 04/27/00

Lab File ID: H0994 Date Extracted: 05/01/00

Sample Volume: 1000 (mL) Date Analyzed: 05/11/00

Concentrated Extract Volume: 1000 (uL) Dilution Factor: 1.0

Injection Volume: 1 (uL)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
51-28-5	2,4-Dinitrophenol	20	U
100-02-7	4-Nitrophenol	20	U
132-64-9	Dibenzofuran	5	U
121-14-2	2,4-Dinitrotoluene	5	U
84-66-2	Diethylphthalate	5	U
7005-72-3	4-Chlorophenyl-phenylether	5	U
86-73-7	Fluorene	5	U
100-01-6	4-Nitroaniline	20	U
534-52-1	4,6-Dinitro-2-methylphenol	20	U
86-30-6	N-Nitrosodiphenylamine (1)	5	U
101-55-3	4-Bromophenyl-phenylether	5	U
118-74-1	Hexachlorobenzene	5	U
87-86-5	Pentachlorophenol	20	U
85-01-8	Phenanthrene	5	U
120-12-7	Anthracene	5	U
84-74-2	Di-n-butylphthalate	5	U
206-44-0	Fluoranthene	5	U
129-00-0	Pyrene	5	U
85-68-7	Butylbenzylphthalate	5	U
91-94-1	3,3'-Dichlorobenzidine	5	U
56-55-3	Benzo(a)anthracene	5	U
218-01-9	Chrysene	5	U
117-81-7	bis(2-Ethylhexyl)phthalate	3	J
117-84-0	Di-n-octylphthalate	5	U
205-99-2	Benzo(b)fluoranthene	5	U
207-08-9	Benzo(k)fluoranthene	5	U
50-32-8	Benzo(a)pyrene	5	U
193-39-5	Indeno(1,2,3-cd)Pyrene	5	U
53-70-3	Dibenz(a,h)anthracene	5	U
191-24-2	Benzo(g,h,i)perylene	5	U

(1) - Cannot be separated from Diphenylamine

1LCF

EPA SAMPLE NO.

LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

EDPM6

GPE-2

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDCF6

Lab Sample ID: 6033.003 Date Received: 04/27/00

Lab File ID: H0994 Date Extracted: 05/01/00

Sample Volume: 1000 (mL) Date Analyzed: 05/11/00

Concentrated Extract Volume: 1000 (uL) Dilution Factor: 1.0

Injection Volume: 1.0 (uL)

Number TICs found: 1

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC. (ug/L)	Q
1.	000050-06-	Phenobarbital	23.12	19	JN
2.					
3.					
4.					
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30.					

LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EDPM7

GPE-3

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDCF6

Lab Sample ID: 6033.004 Date Received: 04/27/00

Lab File ID: H0995 Date Extracted: 05/01/00

Sample Volume: 1000 (mL) Date Analyzed: 05/11/00

Concentrated Extract Volume: 1000 (uL) Dilution Factor: 1.0

Injection Volume: 1.0 (uL)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
108-95-2	Phenol	5	U
111-44-4	bis(2-Chloroethyl)ether	5	U
95-57-8	2-Chlorophenol	5	U
95-48-7	2-Methylphenol	5	U
108-60-1	2,2'-oxybis(1-Chloropropane)	5	U
106-44-5	4-Methylphenol	5	U
621-64-7	N-Nitroso-di-n-propylamine	5	U
67-72-1	Hexachloroethane	5	U
98-95-3	Nitrobenzene	5	U
78-59-1	Isophorone	5	U
88-75-5	2-Nitrophenol	5	U
105-67-9	2,4-Dimethylphenol	5	U
111-91-1	bis(2-Chloroethoxy)methane	5	U
120-83-2	2,4-Dichlorophenol	5	U
91-20-3	Naphthalene	5	U
106-47-8	4-Chloroaniline	5	U
87-68-3	Hexachlorobutadiene	5	U
59-50-7	4-Chloro-3-methylphenol	5	U
91-57-6	2-Methylnaphthalene	5	U
77-47-4	Hexachlorocyclopentadiene	5	U
88-06-2	2,4,6-Trichlorophenol	5	U
95-95-4	2,4,5-Trichlorophenol	20	U
91-58-7	2-Chloronaphthalane	5	U
88-74-4	2-Nitroaniline	20	U
131-11-3	Dimethylphthalate	5	U
208-96-8	Acenaphthylene	5	U
606-20-2	2,6-Dintrotoluene	5	U
99-09-2	3-Nitroaniline	20	U
83-32-9	Acenaphthene	5	U

LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EDPM7

GPE-3

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDCF6

Lab Sample ID: 6033.004 Date Received: 04/27/00

Lab File ID: H0995 Date Extracted: 05/01/00

Sample Volume: 1000 (mL) Date Analyzed: 05/11/00

Concentrated Extract Volume: 1000 (uL) Dilution Factor: 1.0

Injection Volume: 1 (uL)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
51-28-5	2,4-Dinitrophenol	20	U
100-02-7	4-Nitrophenol	20	U
132-64-9	Dibenzofuran	5	U
121-14-2	2,4-Dinitrotoluene	5	U
84-66-2	Diethylphthalate	5	U
7005-72-3	4-Chlorophenyl-phenylether	5	U
86-73-7	Fluorene	5	U
100-01-6	4-Nitroaniline	20	U
534-52-1	4,6-Dinitro-2-methylphenol	20	U
86-30-6	N-Nitrosodiphenylamine (1)	5	U
101-55-3	4-Bromophenyl-phenylether	5	U
118-74-1	Hexachlorobenzene	5	U
87-86-5	Pentachlorophenol	20	U
85-01-8	Phenanthrene	5	U
120-12-7	Anthracene	5	U
84-74-2	Di-n-butylphthalate	5	U
206-44-0	Fluoranthene	5	U
129-00-0	Pyrene	5	U
85-68-7	Butylbenzylphthalate	5	U
91-94-1	3,3'-Dichlorobenzidine	5	U
56-55-3	Benzo(a)anthracene	5	U
218-01-9	Chrysene	5	U
117-81-7	bis(2-Ethylhexyl)phthalate	4	J
117-84-0	Di-n-octylphthalate	5	U
205-99-2	Benzo(b)fluoranthene	5	U
207-08-9	Benzo(k)fluoranthene	5	U
50-32-8	Benzo(a)pyrene	5	U
193-39-5	Indeno(1,2,3-cd)Pyrene	5	U
53-70-3	Dibenz(a,h)anthracene	5	U
191-24-2	Benzo(g,h,i)perylene	5	U

(1) - Cannot be separated from Diphenylamine

LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

EDPM7

GPE-3

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDCF6

Lab Sample ID: 6033.004 Date Received: 04/27/00

Lab File ID: H0995 Date Extracted: 05/01/00

Sample Volume: 1000 (mL) Date Analyzed: 05/11/00

Concentrated Extract Volume: 1000 (uL) Dilution Factor: 1.0

Injection Volume: 1.0 (uL)

Number TICs found: 0

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC. (ug/L)	Q
1.					
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LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EDPN0

WT102-C

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDCF6

Lab Sample ID: 6033.018 Date Received: 04/27/00

Lab File ID: H1008 Date Extracted: 05/01/00

Sample Volume: 1000 (mL) Date Analyzed: 05/12/00

Concentrated Extract Volume: 1000 (uL) Dilution Factor: 1.0

Injection Volume: 1.0 (uL)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
108-95-2	Phenol	5	U
111-44-4	bis(2-Chloroethyl)ether	5	U
95-57-8	2-Chlorophenol	5	U
95-48-7	2-Methylphenol	5	U
108-60-1	2,2'-oxybis(1-Chloropropane)	5	U
106-44-5	4-Methylphenol	5	U
621-64-7	N-Nitroso-di-n-propylamine	5	U
67-72-1	Hexachloroethane	5	U
98-95-3	Nitrobenzene	5	U
78-59-1	Isophorone	5	U
88-75-5	2-Nitrophenol	5	U
105-67-9	2,4-Dimethylphenol	5	U
111-91-1	bis(2-Chloroethoxy)methane	5	U
120-83-2	2,4-Dichlorophenol	5	U
91-20-3	Naphthalene	5	U
106-47-8	4-Chloroaniline	5	U
87-68-3	Hexachlorobutadiene	5	U
59-50-7	4-Chloro-3-methylphenol	5	U
91-57-6	2-Methylnaphthalene	5	U
77-47-4	Hexachlorocyclopentadiene	5	U
88-06-2	2,4,6-Trichlorophenol	5	U
95-95-4	2,4,5-Trichlorophenol	20	U
91-58-7	2-Chloronaphthalane	5	U
88-74-4	2-Nitroaniline	20	U
131-11-3	Dimethylphthalate	5	U
208-96-8	Acenaphthylene	5	U
606-20-2	2,6-Dintrotoluene	5	U
99-09-2	3-Nitroaniline	20	U
83-32-9	Acenaphthene	5	U

LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EDPN0

WT 102-C

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDCF6

Lab Sample ID: 6033.018 Date Received: 04/27/00

Lab File ID: H1008 Date Extracted: 05/01/00

Sample Volume: 1000 (mL) Date Analyzed: 05/12/00

Concentrated Extract Volume: 1000 (uL) Dilution Factor: 1.0

Injection Volume: 1 (uL)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
51-28-5	2,4-Dinitrophenol	20	U
100-02-7	4-Nitrophenol	20	U
132-64-9	Dibenzofuran	5	U
121-14-2	2,4-Dinitrotoluene	5	U
84-66-2	Diethylphthalate	5	U
7005-72-3	4-Chlorophenyl-phenylether	5	U
86-73-7	Fluorene	5	U
100-01-6	4-Nitroaniline	20	U
534-52-1	4,6-Dinitro-2-methylphenol	20	U
86-30-6	N-Nitrosodiphenylamine (1)	5	U
101-55-3	4-Bromophenyl-phenylether	5	U
118-74-1	Hexachlorobenzene	5	U
87-86-5	Pentachlorophenol	20	U
85-01-8	Phenanthrene	5	U
120-12-7	Anthracene	5	U
84-74-2	Di-n-butylphthalate	5	U
206-44-0	Fluoranthene	5	U
129-00-0	Pyrene	5	U
85-68-7	Butylbenzylphthalate	5	U
91-94-1	3,3'-Dichlorobenzidine	5	U
56-55-3	Benzo(a)anthracene	5	U
218-01-9	Chrysene	5	U
117-81-7	bis(2-Ethylhexyl)phthalate	5	U
117-84-0	Di-n-octylphthalate	5	U
205-99-2	Benzo(b)fluoranthene	5	U
207-08-9	Benzo(k)fluoranthene	5	U
50-32-8	Benzo(a)pyrene	5	U
193-39-5	Indeno(1,2,3-cd)Pyrene	5	U
53-70-3	Dibenz(a,h)anthracene	5	U
191-24-2	Benzo(g,h,i)perylene	5	U

(1) - Cannot be separated from Diphenylamine

EPA SAMPLE NO.

LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

EDPN0

wT102-C

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDCF6

Lab Sample ID: 6033.018 Date Received: 04/27/00

Lab File ID: H1008 Date Extracted: 05/01/00

Sample Volume: 1000 (mL) Date Analyzed: 05/12/00

Concentrated Extract Volume: 1000 (uL) Dilution Factor: 1.0

Injection Volume: 1.0 (uL)

Number TICs found: 0

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC. (ug/L)	Q
1.					
2.					
3.					
4.					
5.					
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EPA SAMPLE NO.

LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EDPN1

WT102-C

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDCF6

Lab Sample ID: 6033.014 Date Received: 04/27/00

Lab File ID: H1003 Date Extracted: 05/01/00

Sample Volume: 1000 (mL) Date Analyzed: 05/11/00

Concentrated Extract Volume: 1000 (uL) Dilution Factor: 1.0

Injection Volume: 1.0 (uL)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
108-95-2	Phenol	5	U
111-44-4	bis(2-Chloroethyl)ether	5	U
95-57-8	2-Chlorophenol	5	U
95-48-7	2-Methylphenol	5	U
108-60-1	2,2'-oxybis(1-Chloropropane)	5	U
106-44-5	4-Methylphenol	5	U
621-64-7	N-Nitroso-di-n-propylamine	5	U
67-72-1	Hexachloroethane	5	U
98-95-3	Nitrobenzene	5	U
78-59-1	Isophorone	5	U
88-75-5	2-Nitrophenol	5	U
105-67-9	2,4-Dimethylphenol	5	U
111-91-1	bis(2-Chloroethoxy)methane	5	U
120-83-2	2,4-Dichlorophenol	5	U
91-20-3	Naphthalene	5	U
106-47-8	4-Chloroaniline	5	U
87-68-3	Hexachlorobutadiene	5	U
59-50-7	4-Chloro-3-methylphenol	5	U
91-57-6	2-Methylnaphthalene	5	U
77-47-4	Hexachlorocyclopentadiene	5	U
88-06-2	2,4,6-Trichlorophenol	5	U
95-95-4	2,4,5-Trichlorophenol	20	U
91-58-7	2-Chloronaphthalane	5	U
88-74-4	2-Nitroaniline	20	U
131-11-3	Dimethylphthalate	5	U
208-96-8	Acenaphthylene	5	U
606-20-2	2,6-Dintrotoluene	5	U
99-09-2	3-Nitroaniline	20	U
83-32-9	Acenaphthene	5	U

LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EDPN1

WT 102-C

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDCF6

Lab Sample ID: 6033.014 Date Received: 04/27/00

Lab File ID: H1003 Date Extracted: 05/01/00

Sample Volume: 1000 (mL) Date Analyzed: 05/11/00

Concentrated Extract Volume: 1000 (uL) Dilution Factor: 1.0

Injection Volume: 1 (uL)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
51-28-5	2,4-Dinitrophenol	20	U
100-02-7	4-Nitrophenol	20	U
132-64-9	Dibenzofuran	5	U
121-14-2	2,4-Dinitrotoluene	5	U
84-66-2	Diethylphthalate	5	U
7005-72-3	4-Chlorophenyl-phenylether	5	U
86-73-7	Fluorene	5	U
100-01-6	4-Nitroaniline	20	U
534-52-1	4,6-Dinitro-2-methylphenol	20	U
86-30-6	N-Nitrosodiphenylamine (1)	5	U
101-55-3	4-Bromophenyl-phenylether	5	U
118-74-1	Hexachlorobenzene	5	U
87-86-5	Pentachlorophenol	20	U
85-01-8	Phenanthrene	5	U
120-12-7	Anthracene	5	U
84-74-2	Di-n-butylphthalate	5	U
206-44-0	Fluoranthene	5	U
129-00-0	Pyrene	5	U
85-68-7	Butylbenzylphthalate	5	U
91-94-1	3,3'-Dichlorobenzidine	5	U
56-55-3	Benzo(a)anthracene	5	U
218-01-9	Chrysene	5	U
117-81-7	bis(2-Ethylhexyl)phthalate	2	J
117-84-0	Di-n-octylphthalate	5	U
205-99-2	Benzo(b)fluoranthene	5	U
207-08-9	Benzo(k)fluoranthene	5	U
50-32-8	Benzo(a)pyrene	5	U
193-39-5	Indeno(1,2,3-cd)Pyrene	5	U
53-70-3	Dibenz(a,h)anthracene	5	U
191-24-2	Benzo(g,h,i)perylene	5	U

(1) - Cannot be separated from Diphenylamine

EPA SAMPLE NO.

LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

EDPN1

WT102-C

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDCF6

Lab Sample ID: 6033.014 Date Received: 04/27/00

Lab File ID: H1003 Date Extracted: 05/01/00

Sample Volume: 1000 (mL) Date Analyzed: 05/11/00

Concentrated Extract Volume: 1000 (uL) Dilution Factor: 1.0

Injection Volume: 1.0 (uL)

Number TICs found: 0

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC. (ug/L)	Q
1.					
2.					
3.					
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1LCB

LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EDPN2

WT 102 B

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDCF6

Lab Sample ID: 6033.015 Date Received: 04/27/00

Lab File ID: H1004 Date Extracted: 05/01/00

Sample Volume: 1000 (mL) Date Analyzed: 05/11/00

Concentrated Extract Volume: 1000 (uL) Dilution Factor: 1.0

Injection Volume: 1.0 (uL)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
108-95-2	Phenol	5	U
111-44-4	bis(2-Chloroethyl)ether	5	U
95-57-8	2-Chlorophenol	5	U
95-48-7	2-Methylphenol	5	U
108-60-1	2,2'-oxybis(1-Chloropropane)	5	U
106-44-5	4-Methylphenol	5	U
621-64-7	N-Nitroso-di-n-propylamine	5	U
67-72-1	Hexachloroethane	5	U
98-95-3	Nitrobenzene	5	U
78-59-1	Isophorone	5	U
88-75-5	2-Nitrophenol	5	U
105-67-9	2,4-Dimethylphenol	5	U
111-91-1	bis(2-Chloroethoxy)methane	5	U
120-83-2	2,4-Dichlorophenol	5	U
91-20-3	Naphthalene	5	U
106-47-8	4-Chloroaniline	5	U
87-68-3	Hexachlorobutadiene	5	U
59-50-7	4-Chloro-3-methylphenol	5	U
91-57-6	2-Methylnaphthalene	5	U
77-47-4	Hexachlorocyclopentadiene	5	U
88-06-2	2,4,6-Trichlorophenol	5	U
95-95-4	2,4,5-Trichlorophenol	20	U
91-58-7	2-Chloronaphthalane	5	U
88-74-4	2-Nitroaniline	20	U
131-11-3	Dimethylphthalate	5	U
208-96-8	Acenaphthylene	5	U
606-20-2	2,6-Dintrotoluene	5	U
99-09-2	3-Nitroaniline	20	U
83-32-9	Acenaphthene	5	U

1LCC

EPA SAMPLE NO.

LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EDPN2

W1102B

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDCF6

Lab Sample ID: 6033.015 Date Received: 04/27/00

Lab File ID: H1004 Date Extracted: 05/01/00

Sample Volume: 1000 (mL) Date Analyzed: 05/11/00

Concentrated Extract Volume: 1000 (uL) Dilution Factor: 1.0

Injection Volume: 1 (uL)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
51-28-5	2,4-Dinitrophenol	20	U
100-02-7	4-Nitrophenol	20	U
132-64-9	Dibenzofuran	5	U
121-14-2	2,4-Dinitrotoluene	5	U
84-66-2	Diethylphthalate	5	U
7005-72-3	4-Chlorophenyl-phenylether	5	U
86-73-7	Fluorene	5	U
100-01-6	4-Nitroaniline	20	U
534-52-1	4,6-Dinitro-2-methylphenol	20	U
86-30-6	N-Nitrosodiphenylamine (1)	5	U
101-55-3	4-Bromophenyl-phenylether	5	U
118-74-1	Hexachlorobenzene	5	U
87-86-5	Pentachlorophenol	20	U
85-01-8	Phenanthrene	5	U
120-12-7	Anthracene	5	U
84-74-2	Di-n-butylphthalate	5	U
206-44-0	Fluoranthene	5	U
129-00-0	Pyrene	5	U
85-68-7	Butylbenzylphthalate	5	U
91-94-1	3,3'-Dichlorobenzidine	5	U
56-55-3	Benzo(a)anthracene	5	U
218-01-9	Chrysene	5	U
117-81-7	bis(2-Ethylhexyl)phthalate	5	U
117-84-0	Di-n-octylphthalate	5	U
205-99-2	Benzo(b)fluoranthene	5	U
207-08-9	Benzo(k)fluoranthene	5	U
50-32-8	Benzo(a)pyrene	5	U
193-39-5	Indeno(1,2,3-cd)Pyrene	5	U
53-70-3	Dibenz(a,h)anthracene	5	U
191-24-2	Benzo(g,h,i)perylene	5	U

(1) - Cannot be separated from Diphenylamine

EPA SAMPLE NO.

LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

EDPN2

WT 1628

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDCF6

Lab Sample ID: 6033.015 Date Received: 04/27/00

Lab File ID: H1004 Date Extracted: 05/01/00

Sample Volume: 1000 (mL) Date Analyzed: 05/11/00

Concentrated Extract Volume: 1000 (uL) Dilution Factor: 1.0

Injection Volume: 1.0 (uL)

Number TICs found: 0

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC. (ug/L)	Q
1.					
2.					
3.					
4.					
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1LCB

EPA SAMPLE NO.

LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EDPN4

WT102-A

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDCF6

Lab Sample ID: 6033.017 Date Received: 04/27/00

Lab File ID: H1005 Date Extracted: 05/01/00

Sample Volume: 1000 (mL) Date Analyzed: 05/11/00

Concentrated Extract Volume: 1000 (uL) Dilution Factor: 1.0

Injection Volume: 1.0 (uL)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
108-95-2	Phenol	5	U
111-44-4	bis(2-Chloroethyl)ether	5	U
95-57-8	2-Chlorophenol	5	U
95-48-7	2-Methylphenol	5	U
108-60-1	2,2'-oxybis(1-Chloropropane)	5	U
106-44-5	4-Methylphenol	5	U
621-64-7	N-Nitroso-di-n-propylamine	5	U
67-72-1	Hexachloroethane	5	U
98-95-3	Nitrobenzene	5	U
78-59-1	Isophorone	5	U
88-75-5	2-Nitrophenol	5	U
105-67-9	2,4-Dimethylphenol	5	U
111-91-1	bis(2-Chloroethoxy)methane	5	U
120-83-2	2,4-Dichlorophenol	5	U
91-20-3	Naphthalene	5	U
106-47-8	4-Chloroaniline	5	U
87-68-3	Hexachlorobutadiene	5	U
59-50-7	4-Chloro-3-methylphenol	5	U
91-57-6	2-Methylnaphthalene	5	U
77-47-4	Hexachlorocyclopentadiene	5	U
88-06-2	2,4,6-Trichlorophenol	5	U
95-95-4	2,4,5-Trichlorophenol	20	U
91-58-7	2-Chloronaphthalane	5	U
88-74-4	2-Nitroaniline	20	U
131-11-3	Dimethylphthalate	5	U
208-96-8	Acenaphthylene	5	U
606-20-2	2,6-Dintrotoluene	5	U
99-09-2	3-Nitroaniline	20	U
83-32-9	Acenaphthene	5	U

LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EDPN4

WT102A

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDCF6

Lab Sample ID: 6033.017 Date Received: 04/27/00

Lab File ID: H1005 Date Extracted: 05/01/00

Sample Volume: 1000 (mL) Date Analyzed: 05/11/00

Concentrated Extract Volume: 1000 (uL) Dilution Factor: 1.0

Injection Volume: 1 (uL)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
51-28-5	2,4-Dinitrophenol	20	U
100-02-7	4-Nitrophenol	20	U
132-64-9	Dibenzofuran	5	U
121-14-2	2,4-Dinitrotoluene	5	U
84-66-2	Diethylphthalate	5	U
7005-72-3	4-Chlorophenyl-phenylether	5	U
86-73-7	Fluorene	5	U
100-01-6	4-Nitroaniline	20	U
534-52-1	4,6-Dinitro-2-methylphenol	20	U
86-30-6	N-Nitrosodiphenylamine (1)	5	U
101-55-3	4-Bromophenyl-phenylether	5	U
118-74-1	Hexachlorobenzene	5	U
87-86-5	Pentachlorophenol	20	U
85-01-8	Phenanthrene	5	U
120-12-7	Anthracene	5	U
84-74-2	Di-n-butylphthalate	5	U
206-44-0	Fluoranthene	5	U
129-00-0	Pyrene	5	U
85-68-7	Butylbenzylphthalate	5	U
91-94-1	3,3'-Dichlorobenzidine	5	U
56-55-3	Benzo(a)anthracene	5	U
218-01-9	Chrysene	5	U
117-81-7	bis(2-Ethylhexyl)phthalate	5	U
117-84-0	Di-n-octylphthalate	5	U
205-99-2	Benzo(b)fluoranthene	5	U
207-08-9	Benzo(k)fluoranthene	5	U
50-32-8	Benzo(a)pyrene	5	U
193-39-5	Indeno(1,2,3-cd)Pyrene	5	U
53-70-3	Dibenz(a,h)anthracene	5	U
191-24-2	Benzo(g,h,i)perylene	5	U

(1) - Cannot be separated from Diphenylamine

1LCF

EPA SAMPLE NO.

LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

EDPN4

WT 102A

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDCF6

Lab Sample ID: 6033.017 Date Received: 04/27/00

Lab File ID: H1005 Date Extracted: 05/01/00

Sample Volume: 1000 (mL) Date Analyzed: 05/11/00

Concentrated Extract Volume: 1000 (uL) Dilution Factor: 1.0

Injection Volume: 1.0 (uL)

Number TICs found: 0

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC. (ug/L)	Q
1.					
2.					
3.					
4.					
5.					
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1LCB

LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EDPN5

GP116-1

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDCF6

GP114-1

Lab Sample ID: 6033.006 Date Received: 04/27/00

Lab File ID: H0996 Date Extracted: 05/01/00

Sample Volume: 1000 (mL) Date Analyzed: 05/11/00

Concentrated Extract Volume: 1000 (uL) Dilution Factor: 1.0

Injection Volume: 1.0 (uL)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
108-95-2	Phenol	5	U
111-44-4	bis(2-Chloroethyl)ether	5	U
95-57-8	2-Chlorophenol	5	U
95-48-7	2-Methylphenol	5	U
108-60-1	2,2'-oxybis(1-Chloropropane)	5	U
106-44-5	4-Methylphenol	5	U
621-64-7	N-Nitroso-di-n-propylamine	5	U
67-72-1	Hexachloroethane	5	U
98-95-3	Nitrobenzene	5	U
78-59-1	Isophorone	5	U
88-75-5	2-Nitrophenol	5	U
105-67-9	2,4-Dimethylphenol	5	U
111-91-1	bis(2-Chloroethoxy)methane	5	U
120-83-2	2,4-Dichlorophenol	5	U
91-20-3	Naphthalene	5	U
106-47-8	4-Chloroaniline	5	U
87-68-3	Hexachlorobutadiene	5	U
59-50-7	4-Chloro-3-methylphenol	5	U
91-57-6	2-Methylnaphthalene	5	U
77-47-4	Hexachlorocyclopentadiene	5	U
88-06-2	2,4,6-Trichlorophenol	5	U
95-95-4	2,4,5-Trichlorophenol	20	U
91-58-7	2-Chloronaphthalane	5	U
88-74-4	2-Nitroaniline	20	U
131-11-3	Dimethylphthalate	5	U
208-96-8	Acenaphthylene	5	U
606-20-2	2,6-Dintrotoluene	5	U
99-09-2	3-Nitroaniline	20	U
83-32-9	Acenaphthene	5	U

1LCC

LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EDPN5

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

GPC1

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDCF6

114-1

Lab Sample ID: 6033.006 Date Received: 04/27/00

Lab File ID: H0996 Date Extracted: 05/01/00

Sample Volume: 1000 (mL) Date Analyzed: 05/11/00

Concentrated Extract Volume: 1000 (uL) Dilution Factor: 1.0

Injection Volume: 1 (uL)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
51-28-5	2,4-Dinitrophenol	20	U
100-02-7	4-Nitrophenol	20	U
132-64-9	Dibenzofuran	5	U
121-14-2	2,4-Dinitrotoluene	5	U
84-66-2	Diethylphthalate	5	U
7005-72-3	4-Chlorophenyl-phenylether	5	U
86-73-7	Fluorene	5	U
100-01-6	4-Nitroaniline	20	U
534-52-1	4,6-Dinitro-2-methylphenol	20	U
86-30-6	N-Nitrosodiphenylamine (1)	5	U
101-55-3	4-Bromophenyl-phenylether	5	U
118-74-1	Hexachlorobenzene	5	U
87-86-5	Pentachlorophenol	20	U
85-01-8	Phenanthrene	5	U
120-12-7	Anthracene	5	U
84-74-2	Di-n-butylphthalate	5	U
206-44-0	Fluoranthene	5	U
129-00-0	Pyrene	5	U
85-68-7	Butylbenzylphthalate	5	U
91-94-1	3,3'-Dichlorobenzidine	5	U
56-55-3	Benzo(a)anthracene	5	U
218-01-9	Chrysene	5	U
117-81-7	bis(2-Ethylhexyl)phthalate	5	U
117-84-0	Di-n-octylphthalate	5	U
205-99-2	Benzo(b)fluoranthene	5	U
207-08-9	Benzo(k)fluoranthene	5	U
50-32-8	Benzo(a)pyrene	5	U
193-39-5	Indeno(1,2,3-cd)Pyrene	5	U
53-70-3	Dibenz(a,h)anthracene	5	U
191-24-2	Benzo(g,h,i)perylene	5	U

(1) - Cannot be separated from Diphenylamine

EPA SAMPLE NO.

LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

EDPN5

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

GPHE1

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDCF6

114-1

Lab Sample ID: 6033.006 Date Received: 04/27/00

Lab File ID: H0996 Date Extracted: 05/01/00

Sample Volume: 1000 (mL) Date Analyzed: 05/11/00

Concentrated Extract Volume: 1000 (uL) Dilution Factor: 1.0

Injection Volume: 1.0 (uL)

Number TICs found: 0

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC. (ug/L)	Q
1.					
2.					
3.					
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LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EDPN6

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

GP [illegible] 114-2

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDCF6

Lab Sample ID: 6033.007 Date Received: 04/27/00

Lab File ID: H0997 Date Extracted: 05/01/00

Sample Volume: 1000 (mL) Date Analyzed: 05/11/00

Concentrated Extract Volume: 1000 (uL) Dilution Factor: 1.0

Injection Volume: 1.0 (uL)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
108-95-2	Phenol	5	U
111-44-4	bis(2-Chloroethyl)ether	5	U
95-57-8	2-Chlorophenol	5	U
95-48-7	2-Methylphenol	5	U
108-60-1	2,2'-oxybis(1-Chloropropane)	5	U
106-44-5	4-Methylphenol	5	U
621-64-7	N-Nitroso-di-n-propylamine	5	U
67-72-1	Hexachloroethane	5	U
98-95-3	Nitrobenzene	5	U
78-59-1	Isophorone	5	U
88-75-5	2-Nitrophenol	5	U
105-67-9	2,4-Dimethylphenol	5	U
111-91-1	bis(2-Chloroethoxy)methane	5	U
120-83-2	2,4-Dichlorophenol	5	U
91-20-3	Naphthalene	5	U
106-47-8	4-Chloroaniline	5	U
87-68-3	Hexachlorobutadiene	5	U
59-50-7	4-Chloro-3-methylphenol	5	U
91-57-6	2-Methylnaphthalene	5	U
77-47-4	Hexachlorocyclopentadiene	5	U
88-06-2	2,4,6-Trichlorophenol	5	U
95-95-4	2,4,5-Trichlorophenol	20	U
91-58-7	2-Chloronaphthalane	5	U
88-74-4	2-Nitroaniline	20	U
131-11-3	Dimethylphthalate	5	U
208-96-8	Acenaphthylene	5	U
606-20-2	2,6-Dintrotoluene	5	U
99-09-2	3-Nitroaniline	20	U
83-32-9	Acenaphthene	5	U

LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EDPN6

GP 114-2

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDCF6

Lab Sample ID: 6033.007 Date Received: 04/27/00

Lab File ID: H0997 Date Extracted: 05/01/00

Sample Volume: 1000 (mL) Date Analyzed: 05/11/00

Concentrated Extract Volume: 1000 (uL) Dilution Factor: 1.0

Injection Volume: 1 (uL)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
51-28-5	2,4-Dinitrophenol	20	U
100-02-7	4-Nitrophenol	20	U
132-64-9	Dibenzofuran	5	U
121-14-2	2,4-Dinitrotoluene	5	U
84-66-2	Diethylphthalate	5	U
7005-72-3	4-Chlorophenyl-phenylether	5	U
86-73-7	Fluorene	5	U
100-01-6	4-Nitroaniline	20	U
534-52-1	4,6-Dinitro-2-methylphenol	20	U
86-30-6	N-Nitrosodiphenylamine (1)	5	U
101-55-3	4-Bromophenyl-phenylether	5	U
118-74-1	Hexachlorobenzene	5	U
87-86-5	Pentachlorophenol	20	U
85-01-8	Phenanthrene	5	U
120-12-7	Anthracene	5	U
84-74-2	Di-n-butylphthalate	5	U
206-44-0	Fluoranthene	5	U
129-00-0	Pyrene	5	U
85-68-7	Butylbenzylphthalate	5	U
91-94-1	3,3'-Dichlorobenzidine	5	U
56-55-3	Benzo(a)anthracene	5	U
218-01-9	Chrysene	5	U
117-81-7	bis(2-Ethylhexyl)phthalate	5	U
117-84-0	Di-n-octylphthalate	5	U
205-99-2	Benzo(b)fluoranthene	5	U
207-08-9	Benzo(k)fluoranthene	5	U
50-32-8	Benzo(a)pyrene	5	U
193-39-5	Indeno(1,2,3-cd)Pyrene	5	U
53-70-3	Dibenz(a,h)anthracene	5	U
191-24-2	Benzo(g,h,i)perylene	5	U

(1) - Cannot be separated from Diphenylamine

1LCF

EPA SAMPLE NO.

LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

EDPN6

Gp 114-2

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDCF6

Lab Sample ID: 6033.007 Date Received: 04/27/00

Lab File ID: H0997 Date Extracted: 05/01/00

Sample Volume: 1000 (mL) Date Analyzed: 05/11/00

Concentrated Extract Volume: 1000 (uL) Dilution Factor: 1.0

Injection Volume: 1.0 (uL)

Number TICs found: 0

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC. (ug/L)	Q
1.					
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LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EDPN7

GP114-3

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDCF6

Lab Sample ID: 6033.008 Date Received: 04/27/00

Lab File ID: H0998 Date Extracted: 05/01/00

Sample Volume: 1000 (mL) Date Analyzed: 05/11/00

Concentrated Extract Volume: 1000 (uL) Dilution Factor: 1.0

Injection Volume: 1.0 (uL)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
108-95-2	Phenol	5	U
111-44-4	bis(2-Chloroethyl)ether	5	U
95-57-8	2-Chlorophenol	5	U
95-48-7	2-Methylphenol	5	U
108-60-1	2,2'-oxybis(1-Chloropropane)	5	U
106-44-5	4-Methylphenol	5	U
621-64-7	N-Nitroso-di-n-propylamine	5	U
67-72-1	Hexachloroethane	5	U
98-95-3	Nitrobenzene	5	U
78-59-1	Isophorone	5	U
88-75-5	2-Nitrophenol	5	U
105-67-9	2,4-Dimethylphenol	5	U
111-91-1	bis(2-Chloroethoxy)methane	5	U
120-83-2	2,4-Dichlorophenol	5	U
91-20-3	Naphthalene	5	U
106-47-8	4-Chloroaniline	5	U
87-68-3	Hexachlorobutadiene	5	U
59-50-7	4-Chloro-3-methylphenol	5	U
91-57-6	2-Methylnaphthalene	5	U
77-47-4	Hexachlorocyclopentadiene	5	U
88-06-2	2,4,6-Trichlorophenol	5	U
95-95-4	2,4,5-Trichlorophenol	20	U
91-58-7	2-Chloronaphthalane	5	U
88-74-4	2-Nitroaniline	20	U
131-11-3	Dimethylphthalate	5	U
208-96-8	Acenaphthylene	5	U
606-20-2	2,6-Dintrotoluene	5	U
99-09-2	3-Nitroaniline	20	U
83-32-9	Acenaphthene	5	U

LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EDPN7

GP114-3

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDCF6

Lab Sample ID: 6033.008 Date Received: 04/27/00

Lab File ID: H0998 Date Extracted: 05/01/00

Sample Volume: 1000 (mL) Date Analyzed: 05/11/00

Concentrated Extract Volume: 1000 (uL) Dilution Factor: 1.0

Injection Volume: 1 (uL)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
51-28-5	2,4-Dinitrophenol	20	U
100-02-7	4-Nitrophenol	20	U
132-64-9	Dibenzofuran	5	U
121-14-2	2,4-Dinitrotoluene	5	U
84-66-2	Diethylphthalate	5	U
7005-72-3	4-Chlorophenyl-phenylether	5	U
86-73-7	Fluorene	5	U
100-01-6	4-Nitroaniline	20	U
534-52-1	4,6-Dinitro-2-methylphenol	20	U
86-30-6	N-Nitrosodiphenylamine (1)	5	U
101-55-3	4-Bromophenyl-phenylether	5	U
118-74-1	Hexachlorobenzene	5	U
87-86-5	Pentachlorophenol	20	U
85-01-8	Phenanthrene	5	U
120-12-7	Anthracene	5	U
84-74-2	Di-n-butylphthalate	5	U
206-44-0	Fluoranthene	5	U
129-00-0	Pyrene	5	U
85-68-7	Butylbenzylphthalate	5	U
91-94-1	3,3'-Dichlorobenzidine	5	U
56-55-3	Benzo(a)anthracene	5	U
218-01-9	Chrysene	5	U
117-81-7	bis(2-Ethylhexyl)phthalate	2	J
117-84-0	Di-n-octylphthalate	5	U
205-99-2	Benzo(b)fluoranthene	5	U
207-08-9	Benzo(k)fluoranthene	5	U
50-32-8	Benzo(a)pyrene	5	U
193-39-5	Indeno(1,2,3-cd)Pyrene	5	U
53-70-3	Dibenz(a,h)anthracene	5	U
191-24-2	Benzo(g,h,i)perylene	5	U

(1) - Cannot be separated from Diphenylamine

1LCF

LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

EDPN7

GP114-3

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDCF6

Lab Sample ID: 6033.008 Date Received: 04/27/00

Lab File ID: H0998 Date Extracted: 05/01/00

Sample Volume: 1000 (mL) Date Analyzed: 05/11/00

Concentrated Extract Volume: 1000 (uL) Dilution Factor: 1.0

Injection Volume: 1.0 (uL)

Number TICs found: 0

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC. (ug/L)	Q
1.					
2.					
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LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SLCS69

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDCF6

Lab Sample ID: SVOL601 Date Received: _____

Lab File ID: H0992 Date Extracted: 05/01/00

Sample Volume: 1000 (mL) Date Analyzed: 05/11/00

Concentrated Extract Volume: 1000 (uL) Dilution Factor: 1.0

Injection Volume: 1.0 (uL)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
108-95-2	Phenol	34	
111-44-4	bis(2-Chloroethyl)ether	17	
95-57-8	2-Chlorophenol	36	
95-48-7	2-Methylphenol	5	U
108-60-1	2,2'-oxybis(1-Chloropropane)	5	U
106-44-5	4-Methylphenol	5	U
621-64-7	N-Nitroso-di-n-propylamine	18	
67-72-1	Hexachloroethane	10	
98-95-3	Nitrobenzene	5	U
78-59-1	Isophorone	13	
88-75-5	2-Nitrophenol	5	U
105-67-9	2,4-Dimethylphenol	5	U
111-91-1	bis(2-Chloroethoxy)methane	5	U
120-83-2	2,4-Dichlorophenol	5	U
91-20-3	Naphthalene	17	
106-47-8	4-Chloroaniline	30	
87-68-3	Hexachlorobutadiene	5	U
59-50-7	4-Chloro-3-methylphenol	5	U
91-57-6	2-Methylnaphthalene	5	U
77-47-4	Hexachlorocyclopentadiene	5	U
88-06-2	2,4,6-Trichlorophenol	38	
95-95-4	2,4,5-Trichlorophenol	20	U
91-58-7	2-Chloronaphthalane	5	U
88-74-4	2-Nitroaniline	20	U
131-11-3	Dimethylphthalate	5	U
208-96-8	Acenaphthylene	5	U
606-20-2	2,6-Dintrotoluene	5	U
99-09-2	3-Nitroaniline	20	U
83-32-9	Acenaphthene	5	U

LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SLCS69

Lab Name: PDP ANALYTICAL SERVICES Contract: 68-D7-0004

Lab Code: PDP Case No.: 27986 SAS No.: _____ SDG No.: EDCF6

Lab Sample ID: SVOL601 Date Received: _____

Lab File ID: H0992 Date Extracted: 05/01/00

Sample Volume: 1000 (mL) Date Analyzed: 05/11/00

Concentrated Extract Volume: 1000 (uL) Dilution Factor: 1.0

Injection Volume: 1 (uL)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
51-28-5	2,4-Dinitrophenol	20	U
100-02-7	4-Nitrophenol	20	U
132-64-9	Dibenzofuran	5	U
121-14-2	2,4-Dinitrotoluene	13	
84-66-2	Diethylphthalate	14	
7005-72-3	4-Chlorophenyl-phenylether	5	U
86-73-7	Fluorene	5	U
100-01-6	4-Nitroaniline	20	U
534-52-1	4,6-Dinitro-2-methylphenol	20	U
86-30-6	N-Nitrosodiphenylamine (1)	12	
101-55-3	4-Bromophenyl-phenylether	5	U
118-74-1	Hexachlorobenzene	15	
87-86-5	Pentachlorophenol	20	U
85-01-8	Phenanthrene	5	U
120-12-7	Anthracene	5	U
84-74-2	Di-n-butylphthalate	5	U
206-44-0	Fluoranthene	5	U
129-00-0	Pyrene	5	U
85-68-7	Butylbenzylphthalate	5	U
91-94-1	3,3'-Dichlorobenzidine	5	U
56-55-3	Benzo(a)anthracene	5	U
218-01-9	Chrysene	5	U
117-81-7	bis(2-Ethylhexyl)phthalate	5	U
117-84-0	Di-n-octylphthalate	5	U
205-99-2	Benzo(b)fluoranthene	5	U
207-08-9	Benzo(k)fluoranthene	5	U
50-32-8	Benzo(a)pyrene	17	
193-39-5	Indeno(1,2,3-cd)Pyrene	5	U
53-70-3	Dibenz(a,h)anthracene	5	U
191-24-2	Benzo(g,h,i)perylene	5	U

(1) - Cannot be separated from Diphenylamine

Gwen:

1. A copy o f the July 20, 1976 letter from Miles Laboratories, Inc. (Franklin Breckenridge) to the Indiana State Board of Health (David Lamm) was in the original (January 1987) draft final PRP Search Report, which I have been reviewing. After the list of "pharmaceutical wastes" that we know was attached to the letter, I found another list (copy enclosed) which identifies various acids, solvents and other compounds which are identified (in handwriting) as "research wastes." Clearly some of these items are CERCLA hazardous. Since nothing I have is stapled, I cannot tell whether this list was once attached to the July 20,1976 letter or whether its location is is simply a coincidence. This is something to look for in the Indiana State Board of Health (ISBH) file copy of the letter.

2. Whitehall Laboratories also sent a list of the chemicals it disposed of at the Himco landfill. I'm enclosing a copy of the June 30,1976 transmittal letter and the list.

3. I'm also enclosing some corporate info about Bayer. The SEC filing for Bayer A.G. (the German parent) is very long; I'm sending only 3 pages with the corp. history, which is most interesting. Please get a set of these to Larry.

Mimi
12/21/04

My copy

Summary of Remedy Update Information for FY04 for Sites Without Cost Increases

Region Site Name, State	Date of Original ROD Date of Change (ESD/ROD-A)	Date Review Commenced Date Review Completed	Change Initiator	Media	State/ Community Involvement	Est'd Resource Demands - Fed/Contr. Est'd Cost Increase
Region 5 **Himco Dump, Indiana**	**Sept. 30,1993** (ROD) **Sept. 15,2004** (ROD-A)	**1995** (start) **9/15/2004** (comp)	**US EPA**	**GW, soil, & soil gas**	IDEM concurrence, Jessica Fliss, Superfund Redevelopment Initiative, Pilot Project Reuse Planning Report developed by E^2, 2004	Approximate savings of $366,667/30 year period.

Summary of Remedy Update Information for FY04 for Sites Without Cost Increases

Region Site Name, State	Date of Original ROD Date of Change (ESD/ROD-A)	Date Review Commenced Date Review Completed	Change Initiator	Media	State/ Community Involvement	Est'd Resource Demands - Fed/Contr. Est'd Cost Increase
	Himco Dump-Factual Basis: In 1995, EPA began the remedial design process using Federal Funds, which included a pre-design groundwater investigation. The information developed during that time and the new information collected from 1998 to 2000 supports a change in the remedy, as follows: Groundwater monitoring data from the pre-design groundwater investigation, when compared to the data from the remedial investigation sampling events in 1990 and 1991, indicated that the groundwater releases at the site are potentially in a state of equilibrium. Presently, the contamination levels are comparable to the or lower than those identified in the RI/FS with an exception to the residents living east of the landfill. The agency began design of the composite cap and fence alignments for the areas of concerned required by the 1993 ROD, it became clear that all of the residents adjacent to the landfill would lose the use of part of their property when the cap and fence were installed over the construction debris area (CDA). This issue was not raised prior to the 1993 ROD. EPA began to explore options to minimize the impact of the remedy on residents' properties. In considering what (if any) effect the above information could have on the selected remedy. EPA revisited the baseline risk assessment and determined that new site data and refinement of the 1992 risk assessment assumptions warrant reconsideration of the risk in a number of areas of the document. Additional soil sampling and a risk evaluation confirmed the necessity of making the CDA subject to the remedy in the same way as the landfill proper. Furthermore, based on the March 2000 sampling analysis, EPA also determined that an unacceptable degree of uncertainty exists for groundwater in a residential area east of the landfill, which was not previously addressed in the 1993 ROD. Additional groundwater sampling and risk evaluation of the eastern residential area of the landfill were needed to ensure the protection of human health. Based on the new groundwater data regarding the residents living east of the landfill (both downgradient and side gradient), and if the site does not deteriorate further, it is not necessary to construct the 1993 Resource Conservation and Recovery Act (RCRA) Subtitle C composite cap. The amended ROD also added the requirement for the extension of the local municipal supply to 39 residents (21 select and 18 buffer zone residents) with additional groundwater monitoring to resolve uncertainties about the risk to human health and the environment in the area of the residents living east of the landfill.					

Summary of Remedy Update Information for FY04 for Sites Without Cost Increases

Region Site Name, State	Date of Original ROD Date of Change (ESD/ROD-A)	Date Review Commenced Date Review Completed	Change Initiator	Media	State/ Community Involvement	Est'd Resource Demands - Fed/Contr. Est'd Cost Increase
	Himco Dump-Factual Basis cont. The 1992 risk assessment estimated the risk from exposure to groundwater and the landfill proper, but did not address the CDA or the eastern residential area.. The CDA area is approximately four acres in size and is subdivided into seven residential and one commercial parcel, which is currently vacant. The existing homes on these residential parcels are connected to the local municipal water supply. However, these homes also have operable private groundwater wells, which are also addressed in the ROD Amendment.					

12277416182

CORPORATE RECORDS & BUSINESS REGISTRATIONS

This Record Last Updated:	07/31/2004
Database Last Updated:	12-17-2004
Update Frequency:	MONTHLY
Current Date:	12/17/2004
Source:	AS REPORTED BY THE SECRETARY OF STATE OR OTHER OFFICIAL SOURCE

COMPANY INFORMATION

Name:	**BAYER** CORPORATION
Address:	100 BAYER ROAD CRAFTON, PA 15205
D&B DUNS:	06-496-0248

NAME INFORMATION

Former Name:	MILES INC.

FILING INFORMATION

Filing Date:	03/06/1986
State of Incorporation:	INDIANA
Date Incorporated:	03/06/1986
Status:	ACTIVE
Corporation Type:	PROFIT
Business Type:	CORPORATION
Address Type:	MAILING
Registration ID#:	198603-197
Where Filed:	SECRETARY OF STATE/CORPORATIONS DIVISION 200 W WASHINGTON ST INDIANAPOLIS, **IN** 46204

REGISTERED AGENT INFORMATION

Agent Name:	CT CORPORATION SYSTEM
Address:	251 E. OHIO STREET;SUITE 1100 INDIANAPOLIS, IN 46204

PRINCIPAL INFORMATION

Name:	DR ATTILA MOLNAR
Title:	PRESIDENT
Address:	100 BAYER RD PITTSBURGH, PA 15205
Name:	GEORGE J LYKOS
Title:	SECRETARY
Address:	100 BAYER RD PITTSBURGH, PA 15205

AMENDMENT INFORMATION

Amendments:

07/02/2004 AGENT DATA AMENDED; NOTICE OF CHANGE OF REGISTERED OFFICE OR REGISTERED AGENT
03/02/2004 MISCELLANEOUS; 2004 BUSINESS ENTITY REPORT FILED. LOCATOR NUMBER- 0403150605020
04/23/2003 MISCELLANEOUS; ARTICLES OF MERGER
10/01/2002 MISCELLANEOUS; ARTICLES OF MERGER
03/26/2002 MISCELLANEOUS; BUSINESS ENTITY REPORT
10/02/2001 MISCELLANEOUS; ARTICLES OF MERGER
10/01/2001 MISCELLANEOUS; ARTICLES OF MERGER
09/04/2000 AGENT DATA AMENDED; NOTICE OF CHANGE OF REGISTERED OFFICE OR REGISTERED AGENT
05/23/2000 MISCELLANEOUS; BUSINESS ENTITY REPORT
08/18/1999 MISCELLANEOUS; ARTICLES OF MERGER
04/01/1999 MISCELLANEOUS; ARTICLES OF MERGER
03/12/1999 MISCELLANEOUS; MISCELLANEOUS
04/01/1995 MISCELLANEOUS; ARTICLES OF MERGER
01/19/1994 MISCELLANEOUS; ARTICLES OF AMENDMENT
09/01/1993 MISCELLANEOUS; ARTICLES OF AMENDMENT
06/03/1993 MISCELLANEOUS; ARTICLES OF MERGER
12/31/1992 MISCELLANEOUS; ARTICLES OF MERGER
01/15/1992 MISCELLANEOUS; ARTICLES OF MERGER
12/31/1991 MISCELLANEOUS; ARTICLES OF MERGER
10/01/1991 MISCELLANEOUS; ARTICLES OF MERGER
03/06/1986 MISCELLANEOUS; ARTICLES OF INCORPORATION

ADDITIONAL DETAIL INFORMATION

Additional Details: FILING ACT: INDIANA BUSINESS CORPORATION LAW

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END OF DOCUMENT

D&B Federal Information Report: BAYER CORPORATION

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D&B Federal Information Report: BAYER CORPORATION

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ATTN: C. Jacque

Report Printed: DEC 16 2004
In Date

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* * * BUSINESS SUMMARY * * *

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BAYER CORPORATION
(FOREIGN PARENT IS BAYER AG, LEVERKUSEN, GERMANY.)
100 Bayer Rd Bldg #4
Pittsburgh, PA 15205

This is a headquarters (subsidiary) location.
Branch(es) or division(s) exist.

Web site:	www.bayerus.com
Telephone:	412 777-2000
Fax:	412 777-4109
Chief executive:	ATTILA MOLNAR, PRES-CEO
Year started:	1973
Employs:	27,776 (1,900 here)
Financial statement date:	DEC 31 2003
Sales F:	$10,328,884,000
Net worth F:	$2,973,250,000
History:	CLEAR
Financing:	SECURED
Financial condition:	FAIR

D-U-N-S® Number:	06-496-0248
Parent D-U-N-S Number:	31-503-4629
SIC:	2821 2879 2819 2834 3841 2869
Line of business:	Mfg resins, pesticides, chemicals, pharmaceuticals, medical instruments, bio-products, perfumes & flavors
D&B Rating:	5A3
Financial strength:	5A is $50 million and over
Composite credit appraisal:	3 is fair.

D&B PAYDEX®:

12-Month D&B PAYDEX:	67

When weighted by dollar amount, payments to suppliers average 18 days beyond terms.

Company Record

S.E.C. Filing

BAYER AG
20-F
December 20, 2001

Filed: December 20, 2001

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INCOME STATEMENT.....WESTLAW Page 1001
BALANCE SHEET.....WESTLAW Page 1005
SHAREHOLDERS EQUITY.....WESTLAW Page 1009
UNDERWRITING AGREEMENT.....WESTLAW Page 1102
CONSENTS EXPERTS COUNCEL.....WESTLAW Page 1124

AS FILED WITH THE SECURITIES AND EXCHANGE COMMISSION ON

DECEMBER 20, 2001

UNITED STATES SECURITIES AND EXCHANGE COMMISSION
WASHINGTON, D.C. 20549

FORM 20-F

(Mark One)
XOE REGISTRATION STATEMENT PURSUANT TO SECTION 12(b) OR 12(g) OF THE SECURITIES EXCHANGE ACT OF 1934
OR
OE ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934
OR
OE TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934
Commission file number

BAYER AKTIENGESELLSCHAFT
(Exact name of Registrant as specified in its charter)
BAYER CORPORATION*
(Translation of Registrant's name into English)
FEDERAL REPUBLIC OF GERMANY
(Jurisdiction of incorporation or organization)
BAYERWERK, GEBAUDE W1
KAISER-WILHELM-ALLEE
51368 LEVERKUSEN, GERMANY
(Address of principal executive offices)

Securities registered or to be registered pursuant to Section

substantially cover judgements for damages against us in these cases. We cannot assure you, however, that our litigation provisions will be adequate or that we will fully recover claims under our insurance policies. Furthermore, if some of our key products lose their patent protection, we would expect our revenue from those products to decline as generic competitors enter the market. As a result, adverse decisions in the lawsuits in which we are involved could harm our results of operations or cash flows in any given year.

FLUCTUATIONS IN EXCHANGE RATES MAY AFFECT OUR FINANCIAL RESULTS

Bayer conducts a significant portion of its operations outside the euro zone. Fluctuations in currencies of countries outside the euro zone, especially the U.S. dollar, can materially affect our revenue as well as our operating results. For example, changes in currency exchange rates may affect:

- the relative prices at which we and our competitors sell products in the same market; and
- the cost of items we require for our operations.

Although these fluctuations can benefit us, they can also harm our results. From time to time, we may use financial instruments to hedge our exposure to foreign currency fluctuations. As of December 31, 2000, we had entered into forward foreign exchange contracts and currency swaps with a total notional value of E3.42 billion. See Item 11, Quantitative and Qualitative Disclosures About Market Risk.

Start here

<<BUSINESS>>

ITEM 4. INFORMATION ON THE COMPANY

HISTORY AND DEVELOPMENT OF THE COMPANY

Bayer Aktiengesellschaft, or **Bayer** AG, is a stock **corporation** (Aktiengesellschaft) organized under the laws of the Federal Republic of Germany. In this registration statement, '**Bayer** AG' refers solely to the ultimate parent company of the consolidated **Bayer** Group.

Bayer AG was incorporated in 1951 under the name 'Farbenfabriken **Bayer** AG' for an indefinite term and adopted its present name in 1972. **Bayer** AG's registered office (Sitz) and principal place of business are at the Bayerwerk, 51368 Leverkusen, Germany. Its telephone number is +49 (214) 30-1 and its home page on the World Wide Web is at www.bayer.com. Reference to our website does not incorporate the information contained on the website into this registration statement.

Although Bayer AG was incorporated in 1951, it traces its roots to Friedr. Bayer & Co., an aniline dye works founded in Wuppertal,

Germany in 1863 by Friedrich Bayer and Johann Friedrich Weskott. This company achieved a leading position in its industry, opening facilities and agencies in the United States and in other European countries. Friedr. Bayer & Co. made numerous discoveries, most notably of aspirin (acetylsalicylic acid), perhaps the best-known and most widely used medication in world history.

In 1925 the original Bayer company merged with five other leading German chemical and pharmaceutical companies, including the ancestors of today's Aventis and BASF, to form I.G. Farbenindustries AG. After the second World War, the Allied High Commission, formed by the United States, the United Kingdom, France and the former Soviet Union to administer occupied Germany, seized the assets of I.G. Farben. Pursuant to Law No. 35 of the Allied High Commission, some of these assets were later distributed among 12 newly formed companies, including the present **Bayer** AG.

After World War I, the U.S. government expropriated the U.S. rights to the **Bayer** name and trademarks as 'enemy property'. In 1986, **Bayer** reacquired the U.S. rights to the **Bayer** trademark with respect to products for the manufacturing industry and, in 1994, reacquired full U.S. rights to its name and trademarks, including the '**Bayer** cross'.

Friedr. **Bayer** & Co. established operations in the United States as early as 1870. In 1992, **Bayer** AG's U.S. subsidiaries Mobay **Corporation**, Miles Inc. and Agfa **Corporation** merged with the management holding company **Bayer** USA Inc. to form a new operating company, Miles Inc. In April 1995, Miles Inc. changed its name to the current form, **Bayer Corporation**.

Since 1998, we have incurred capital expenditures as follows:

<Caption>

2000	1999	1998
(MILLIONS OF EUROS)		
Pharmaceuticals	553	525
Consumer Care & Diagnostics	192	205
Crop Protection	233	184
Animal Health	50	33
Plastics & Rubber	652	575
Polyurethanes, Coatings & Colorants	359	446
Chemicals	470	521

In 1998 we spent E1.4 billion on acquisitions, mainly for Chiron Diagnostics. In 1999 we spent E0.4 billion on acquisitions. Major projects in 1999 included the acquisition of the plastic sheet businesses of the chemical companies DSM-Axxis N.V. and Sheffield Plastics; the purchase of the business and assets of Elastochem Inc.; and an 11.3 percent equity investment in LION Bioscience AG. In 2000, we spent a total of E4.2 billion on acquisition activity, mainly in further aligning our polymers and chemicals activities toward specialties through the acquisitions of Lyondell Chemical Company's polyols business, Sybron, CSM Holding, Inc. and Cytec's sizing and

RECEIVED JUL 0 2 1976

June 30, 1976

David D. Lamm, Acting Chief
Solid Waste Management Section
Division of Sanitary Engineering
Indiana State Board of Health
1330 West Michigan Street
Indianapolis, Indiana 46206

Dear Mr. Lamm:

SUBJECT: Pharmaceutical Waste Disposal - Elkhart County

Further to your June 11, 1976 letter, I am attaching a listing of the chemicals and quantities that we dispose of via Himco Waste Away Service. These figures are average daily figures based on a 10-day test period.

Thank you for allowing us the time extension. Should you have any questions, please call.

Very truly yours,

WHITEHALL LABORATORIES INC.

Paul F. Brandt

Paul F. Brandt
Assistant Vice President

sam

Att.

bcc: Mr. C. Himes, Himco - Elkhart

000955

RECEIVED JUL 0 2 1976

Whitehall Laboratories
Elkhart, Indiana

Aspirin	504.55 lbs.	Phenylephrine HCl	.315 lbs.
Caffeine	151.99 lbs.	Phenindamine Tartrate	.64 lbs.
Calcium Carbonate	17.67 lbs.	FMA-11	40.51 lbs.
Magnesium Hydroxide	16.59 lbs.	Theophylline Hydrous	1.59 lbs.
Ephedrine Hydrochloride	.30 lbs.	Methapyrilene Hydrochloride	.23 lbs.
Phenobarbital	.09 lbs.	Sodium Bicarbonate	4.14 lbs.
Magnesium Carbonate	3.06 lbs.	Starch	196.90 lbs.
Sterotex	1.79 lbs.	Di-Pac	1.41 lbs.
Calcium Stearate	.02 lbs.	Sodium Saccharin	.01 lbs.
Lactose	1.29 lbs.	Peppermint Oil	.04 lbs.
Acetominophen	15.65 lbs.	Pamabron	.054 lbs.
Sodium Lauryl Sulfate	.07 lbs.	Dried Aluminum Hydroxide Gel	.12 lbs.
Sodium Carboxymethcellulose	.39 lbs.	Propyl Parabin	.032 lbs.
Triethanolamine	.34 lbs.	Stearic Acid	3.84 lbs.
Cetyl Alcohol	2,02 lbs.	Methyl Nicotinate	.26 lbs.
Oleoresin Capsicum	.04 lbs.	Histamine Dihydrochloride	.03 lbs.
Methyl Parabin	.01 lbs.	Oil of Lavender	.26 lbs.
Live Yeast Cell Derivative	.59 lbs.	Shark Liver Oil	.296 lbs.
Phenylmercuric Nitrate	.003 lbs.	Scopolamine Hydrobromide	.001 lbs.
Salicylic Acid	1.45 lbs.	Methol Levo	.569 lbs.
Acetic Acid	1.13 lbs.	Camphor	.268 lbs.
Castor Oil	.23 lbs.	Acetone	1.68 lbs.
Ether	4.87 lbs.	Netrocellulose Blend	.571 lbs.
alk	2.83 lbs.	Thioglycolic Acid	2.54 lbs.
alcium Hydroxide	1.42 lbs.	Sodium Silicate	1.024 lbs.
Sodium Hydroxide	1.23 lbs.	Perfume Oils	.672 lbs.
emon Fragrance	.01 lbs.	Iron Oxide	.004 lbs.
methon	.01 lbs.	Mineral Oil	1.479 lbs.
Promulgen	.92 lbs.	Sorbital	.799 lbs.
Paraffin	.27 lbs.		
Chloroform	.10 gal.	Methyl Salicylate	.07 gal.
Alcohol SD-23A	.19 gal	Coal Tar	.22 gal.
Parachlorometaxylenol	.01 gal.	Mayrofix	1.30 gal.
Methocel	.03 gal	Supermide	.10 gal.
Iodine	.001 gal.	Glycerine	.50 gal.
Alcohol 38A	.37 gal.	Benzocaine	.03 gal.

6/30/76

Indiana Department of Environmental Management

100 NORTH SENATE AVENUE
P O BOX 6015
INDIANAPOLIS IN 46206-6015

Enforcement Confidential

DATE: 7/22/03

TO: Gwen Nassenburg TELEFAX #: 312-886-4071

COMPANY/DIVISION: TELEPHONE #:

FROM: Jessica Fliss TELEPHONE #:

DIVISION/PROGRAM: NUMBER OF PAGES:

COMMENTS: Please keep this list confidential It is not for Public Views.

Thanks
Jessica

Indiana Department of Environmental Management

100 NORTH SENATE AVENUE
P O BOX 6015
INDIANAPOLIS IN 46206-6015

Enforcement Confidential

DATE: 7/22/03

TO: Gwen Massenburg TELEFAX #: 312-886-4071

COMPANY/DIVISION: TELEPHONE #:

FROM: Jessica Fliss TELEPHONE #:

DIVISION/PROGRAM: NUMBER OF PAGES:

COMMENTS: Please keep this list confidential It is not for Public View.

Thanks
Jessica

Larry,
Here's a copy of what Miles Admitted to sending to the landfill, back in 1976. Please note that this document is enforcement confidential. I got this from IDEM.
Thanks
Gwen

201

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MILES LABORATORIES, INC.
ELKHART, INDIANA 46514

FRANKLIN E. BRECKENRIDGE
SENIOR ATTORNEY

TELEPHONE 219 264-8062
CABLE ADDRESS MILESLABS
TELEX 258-450

July 20, 1976

RECEIVED
JUL 21 1976
INDIANA STATE BOARD OF HEALTH
SANITARY ENGINEER

Via Certified Mail

Mr. David Lamm, Acting Chief
Solid Waste Management Section
Division of Sanitary Engineering
Indiana State Board of Health
1330 West Michigan Street
Indianapolis, Indiana 46204

Re: Pharmaceutical Waste Disposal, Elkhart County MP(Env)

Dear Mr. Lamm:

As attorney for Miles Laboratories, Inc., I would take this opportunity to respond to your letter of June 11, 1976 (addressed to E. E. Hartgerink), requesting identification of pharmaceutical wastes currently being landfilled.

Enclosed is a list of the chemical compounds and quantities of the industrial pharmaceutical wastes which are currently being disposed of in a landfill by Himco Waste-Away Service, Inc. Please note that the list has been marked "Confidential Information," based on the telephone conversation I had with your office. As a result of that conversation it was my understanding that this information would be treated as confidential the same as if it were being submitted under the confidentiality provisions of SPC-15, recognizing that there is no such comparable confidentiality provision in SPC-18. In light of this, it was agreed that the list will not be released to any parties outside your offices except as provided under the appropriate confidentiality provisions in SPC-15.

It should be noted that this list is based on the estimated annual manufacturing pharmaceutical wastes from Miles Laboratories, Inc., Elkhart, Indiana. In addition, we would like to state that in our opinion, none of the chemicals listed would be classified as hazardous to the environment when disposed of properly in a landfill, per SPC-18.

If I may be of further assistance or any other information is needed, please feel free to contact this office or E. E. Hartgerink. Thank you for your cooperation in granting us the extension of time for this response.

Very truly yours,

Franklin E. Breckenridge

pc
cc:E. E. Hartgerink
C. Himes(letter only)

CONFIDENTIA

Enforcement Confidential

RECEIVED
JUL 1 1970
INDIANA STATE BOARD OF HEALTH
SANITARY ENGINEER

ESTIMATED ANNUAL VOLUME OF CHEMICALS GOING TO THE LANDFILL IN ELKHART CO., ELKHART, INDIANA

The following list of chemicals represents the estimated annual manufacturing pharmaceutical wastes from Miles Laboratories, Inc., Elkhart, Indiana. Some of the chemicals listed are disposed of in their bulk form and as raw materials in various finished products.

CHEMICAL	ANNUAL LOSS (KG)
Calcium Sulfate 23-25% H_2O	37,093,579
Filter Aid & Mycelium from Enzyme Fermentation Fungus/mold	282,240
Sodium Bicarbonate	250,592
Citric Acid	117,277
Cation Resin	37,800
Aspirin Acetylsalicylic acid	34,913
Monocalcium Phosphate	23,811
Sucrose	18,211
Carbon	4,500
?Filter Cakes, Wet	2,724
Calcium Carbonate	2,280
Tribasic Calcium Phosphate	2,136
Potassium Bicarbonate	2,129
Sodium Ascorbate	1,657
Mannitol	1,328
Stearic Acid	1,207
Ascorbic Acid	1,081
Gelatin	1,073
Ferrous Fumarate	1,071
Dicalcium Phosphate Dihydrate	1,027
Alpha Cellulose Powder	904
Niacinamide	830
Lactose	798.6
Vitamin E A-Tocopherol	609
Caustic Soda — NaOH	488.4
Lime	454
Magnesium Oxide	449
Magnesium Stearate	370
Fumaric Acid 110-17-8	342
Sodium Phosphate, dibasic	306.4
Sodium Bromide	297
Potassium Bromide	297
?Sulfosalicylic Acid Benzoic Acid	295.8

0178 CASRN 58794

CONFIDENTIAL

CHEMICAL	ANNUAL LOSS (KG)
Lime, Hydrate	272
~~Aminoacetic Acid~~ glycine	222
Propylene Glycol	215
Tartaric Acid	215
49 CAGW Sodium Phosphate, tribasic	206.0
Glucose Oxidase	180.5
Sodium Borate	168
Soda Ash	163.2
Sodium Citrate	161.5
Corn Starch	155.4
Microcrystalline Cellulose	137
Calcium Acetate	127.2
Vitamin A Retinol	114
Polystyrene	105.6
Talc - Non-Fibrous magnesium Silicate Hydroxide	100.8
?Pyridoxine Hydrochloride vitamin B6	99
Silica-Gel	99
~~Brain Heart Infusion~~	93.8
Methylcellulose Bulking agent Citrucel	82
Hydroxypropyl Methylcellulose	81
Stannic Chloride Dioxane	71.8
Caffeine	69.4
Riboflavin	69
FD & C Red #3	64
Thiamine Mononitrate	59
FD & C Yellow #6	58
PVP/VA	54.8
FD & C Yellow #5	54
FD & C Blue #2	53
Malic Acid	47
?Phenylephrine Bitartrate	46.6
Protein Products, corn & soy	45.4
Gum Arabic	42.7
Cupric Sulfate	40.8
~~Titanium Dioxide~~ OSHA, NIOSH	35.1
Hydroxypropyl Cellulose	34
Ammonium Bromide	33
Ethylcellulose	29.3
Hyamine 10X Crystals some	25
Methylbenzethonium Chloride	25
Ammoniated Glycyrrhizin	23
Hydrolyzed Cereal, Solids	23
Hydrolyzed Corn Syrup Solids	23
Keltrol	22.0
Folic Acid	20.4
~~FD & C Blue #1~~	20
Iso-octyl-phenoxy-polyethoxyethanol pesticide	18
Strontium Peroxide	18

Metastron

CONFIDENTIAL

CHEMICAL	ANNUAL LOSS (KG)
Cumene Hydroperoxide	14.0
Gantrez AN139	13.4
Polyoxyethylene Sorbitan Mono-Oleate	12.9
Polysorbate 80 glycol ester Tween 80	12.9
PVP	10.1
FD & C Red #40	9
Sodium Nitroferricyanide	8.3
Sodium Hypochlorite Bleach / Clorox	7.3
Boric Acid	7.2
Polyglycol 4000	6.0
Chlorothymol	6.0
Chlorpheniramine Maleate - chlor - Trimeton	5.7
Sodium Lauryl Sulfate	5.4
Fluoboric Acid - OSHA, NIOSH, NFPA	5.3
Potassium Iodide	5.3
Dextrose Anhydrous	4.4
Malonic Acid - carboxyaceticacid	4.3
Viscarin	4.3
1,5 Naphthylenedisulfonic Acid dye intermediate	4.2
6-Methoxyquinoline	4.1
Camphor NIOSH, OSHA,	4
Menthol Crystals	4
Bilazo Compound	3.6
Luviskol K-30 PVP-30 polyvinylpyrrolidone	3.6
O-tolidine phenyl) benzotriazol NIOSH-OSHA	3.6
Tinuvin 2,(2-Hydroxy 5-methyl/g Nitablewaste	3.3
p-Dimethylaminobenzaldehyde - 3700-0400 Ehrlich's Reagent	3.0 DMAB 4-dimethyl amino benzene Carbonal
Monosodium Glutamate	3
Oil Spanish Marjoram	3
TRIS	2.4
RENEX 698 - 2 Propenoic Acid	1.6
Sodium Alginate -	1.2
Sodium Desoxycholate	1.1
Methyl Salicylate	1
Oil Cassia	1
Oil Love	1
Oil Eucalyptus	1
Propylparaben	1
72 Saccharin Sodium	1
Thiamine Hydrochloride	1
Vitamin D Ergocalciferol	1
?Magnesium Sulfate	0.9
Diocytyl Sodium Sulfosuccinate	0.7
000 Sodium Nitrite	0.7
Bismuth Ammonium Citrate	0.6
Gafac - surfactant strong oxidising agent, Burns Skin + Eyes	0.6
Peroxidase	0.6
Yeast Extract	0.6

Sodium Sulfite + bismuth ammonium citrate suppress bacterial growth

CHEMICAL	ANNUAL LOSS (KG)
Bromthymol Blue	0.5
2,4 Dichloroaniline	0.5
Tetrabromphenol Blue	0.5
Tween 21 CAS 9005-64-5	0.5
Acetamide	0.4
Hexamic Acid - calcium cyclamate CAS 139-06-0	0.4 cyclamates
Sodium Sulfite	0.4
Vitamin B12	0.31
~~O-tolidine Dihydrochloride~~ SARA 313 Cas 612-82-8	0.3
~~Triphenyl Tetrazolium Chloride CAS 298-96-4~~ 00298-96-4	0.3 Red stain
p-Arsanilic Acid Phenylarsonic Acid (NN-diethyl 5185-76-2	0.2 pesticide
Sodium Lauryl Sarconsinate	0.2
~~Albumin~~	0.1
N 1-Naphthyl Ethylenediamine	0.1
~~Urease~~	.03
Versene EDTA	.02

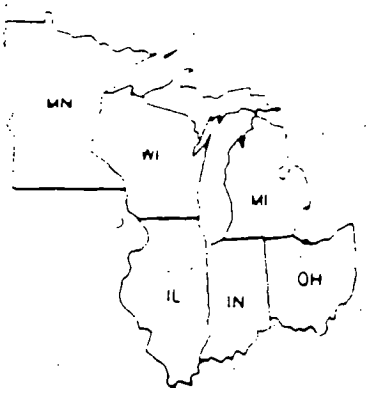
N-(4,6-dihydroxy s-triazin-2-yl
RTECS # CF9496000

TRANSMIT CONFIRMATION REPORT

NO.	:	003
RECEIVER	:	317 234 0428
TRANSMITTER	:	USEPA/Superfund
DATE	:	JAN 10'05 14:30
DURATION	:	04'37
MODE	:	STD
PAGES	:	10
RESULT	:	OK

United States Environmental Protection Agency
Region V
77 West Jackson Boulevard
Chicago, Illinois 60604

EPA



Superfund Division

Facsimile Cover Sheet
Telephone Number
312-886-4071

To: Jessica Fliss

Office phone: 317-233-2823 Machine No: 317-234-0428
IDEM

From: G. Massenburg

Office phone: 312-886-0983 Mail code: SR-6J

Date: Number of pages, including cover: 10

Message: As Requested: Cover letter to ~~Proposed~~ proposed Plan Comments, and your fax to me regarding Miles Laboratory Response of what they sent to landfill.

Have any questions, please let me know!

Gwen

Signature:

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Company Information

Company Name	BAYER AG
Address	Bayer AG, Basic and Fine Chemicals, Bldg. B108
City	Leverkusen
State	
Zip Code	D51368
Country	Germany
URL	www.chemicals.bayer.de
Phone Number	++49-214-30-25767
Fax	++49-214-30-24961
Company Profile	Bayer is one of the largest and most important global chemical innovators. As part of Bayer, the business group Basic and Fine Chemicals offers customers a broad portfolio of high quality products. These include fine chemicals, custom synthesis as well as a wide range of organic and inorganic commodities. Products include intermediates and APIs for the pharmaceutical as well as ingredients for agrochemical companies. Bayer's broad technological skill-base and highly integrated manufacturing facilities allow you to get exceptional worldwide service from a single source. Customers count on us for confidential collaboration, initial R&D, piloting and cGMP manufacture. Bayer's Basic and Fine Chemicals is

BAYER AG logo

Sales Contact Information

Name	
Phone	
Fax	
eMail	

Products List

(Bromomethyl)-cyclopropane
(Hydroxymethyl)-cyclopropane
(Trifluoromethyl)-trimethylsilane
(Z)-1,3-Dichloro-2-butene
(Z)-2-Fluorocyclopropylamine
(Z)-2-Fluorocyclopropylamine p-toluenesulfonate
[2-(Ethylphenylamino)-ethyl]-(2-hydroxypropyl)-dimethylammonium hydrogen sulfate
[2,6-Dichloro-4-(trifluoromethyl)-phenyl]-acetic acid
[4-(Hexadecyloxy)-benzoyl]-acetic acid methyl ester

Category List

Active pharmaceutical ingredients
Chiral Intermediates
Custom Manufacturing
Fine Chemicals

1-(4-Chlorophenyl)-4,4-dimethyl-3-pentanone
1,1,1-Trimethylolpropane
1,1'-Azobisformamide
1,1-Bis-(2,6-dimethyl-4-hydroxyphenyl)-octafluorocyclopentane
1,1-Bis-(3,4-xylyl)-octafluorocyclopentane
1,1-Bis-(4-hydroxyphenyl)-octafluorocyclopentane
1,2,3-Benzotriazole
1,2,3-Trichlorobenzene
1,2,4-Trichlorobenzene
1,2-Bis-(m-tolyloxy)-ethane
1,2-Diisopropoxybenzene
1,2-Diphenoxyethane
1,2-Propylenediamine
1,3,6,8-Pyrenetetrasulfonic acid
1,3,6,8-Pyrenetetrasulfonic acid tetrasodium salt
1,3-Butadiene
1,3-Cyclohexanedione
1,3-Diamino-2/4-methylcyclohexane
1,3-Difluoro-2-propanol
1,3-Diiminoisoindoline
1,3-Diphenylguanidine
1,3-Polybutadiene
1,4,7,10-Tetraazadecane
1,4-Diaminocyclohexane
1,5-Dihydroxynaphthalene
1,5-Diisocyanatonaphthalene
1,5-Naphthalenedisulfonic acid
1,5-Naphthalenedisulfonic acid disodium salt
1,6-Bis-(dimethylamino)-hexane
1,6-Diisocyanatohexane
1,6-Hexanediol
1-Aminonaphthalene
1-Chloro-3,3,3-trifluoro-2-propanone
1-Chloro-3,3-dimethyl-2-butanone
1H-1,2,4-Triazole
1-Hydroxy-2-naphthoic acid phenyl ester
1-Isocyanato-2-methylpropane
1-Nitronaphthalene
1-Octanesulfonyl chloride
1-Octanesulfonyl fluoride
1-Phenoxy-2-propanol
2-(1,4-Dioxan-2-one-3-yl)-acetic acid methyl ester
2-(1-Naphthyl)-acetamide
2-(2,4-Diaminophenoxy)-ethanol
2-(4-Acetoxy-3-tert-butylphenoxy)-myristic acid
2-(4-Acetoxy-3-tert-butylphenoxy)-myristoyl chloride
2-(4-Aminophenyl)-6-methylbenzothiazole-3,7-disulfonic acid
2-(4-Chloro-2-methylphenoxy)-propionic acid polyethyleneglycol ester
2-(4-Chlorophenoxy)-aniline
2-(4-Morpholinothio)-benzothiazole
2-(4-Nitrophenoxy)-ethanol
2-(Difluoromethoxy)-aniline
2-(Difluoromethoxy)-benzaldehyde
2-(Difluoromethoxy)-benzyl bromide
2-(Methylmercapto)-benzimidazole
2-(Methylmercapto)-benzimidazole zinc salt
2-(Phenylsulfonyl)-aniline
2-(Trifluoromethoxy)-aniline
2-(Trifluoromethoxy)-benzonitrile

2-(Trifluoromethoxy)-fluorobenzene
2-(Trifluoromethoxy)-phenol
2-(Trifluoromethyl)-cinnamic acid
2-(Trifluoromethyl)-styrene
2,2,2-Trifluoroethylamine hydrochloride
2,2,3,3-Tetrafluorocyclobutanol
2,2,4-Trimethylpentane
2,2-Difluoro-1,3-benzodioxole
2,2-Difluoro-1,3-benzodioxole-4-carboxaldehyde
2,2'-Dithiobis-(benzothiazole)
2,2'-Methylenebis-(6-tert-butyl-p-cresol)
2,3,4,5-Tetrachlorobenzotrifluoride
2,3,4,5-Tetrafluorobenzoic acid
2,3,4,5-Tetrafluorobenzoyl chloride
2,3,4,6-Tetrafluorobenzotrifluoride
2,3,5,6-Tetrachloro-4-(trifluoromethyl)-benzoyl fluoride
2,3,5,6-Tetrafluoro-4-(trifluoromethyl)-benzoyl fluoride
2,3/3,4-Diaminotoluene
2,3-Dichloro-6-methylquinoxaline
2,3-Dichloroaniline
2,3-Dichlorobenzaldehyde
2,3-Dichlorobenzotrichloride
2,3-Dichlorobenzyl chloride
2,3-Dichloronitrobenzene
2,3-Dichlorosuccinic acid dimethyl ester
2,3-Dichlorosulfanilic acid
2,3-Difluoro-4-(trifluoromethoxy)-aniline
2,3-Difluorotoluene
2,3-Dihydroxyquinoxaline-6-carboxylic acid
2,4,5-Trifluorobenzoyl chloride
2,4,6-Trichloropyrimidine
2,4,6-Trifluorobenzotrifluoride
2,4,6-Triisopropyl-m-phenylenediamine
2,4/2,6-Diaminotoluene
2,4/2,6-Diisocyanatotoluene
2,4/2,6-Dinitrotoluene
2,4-Bis-(8-isocyanatooctyl)-1,3-dioctylcyclobutane
2,4-Diamino-3,5-diethyltoluene
2,4-Dichloro-3-ethyl-6-nitrophenol
2,4-Dichloro-3-methyl-phenol
2,4-Dichloro-5-(difluoromethyl)-1,3-thiazole
2,4-Dichloro-5-fluorobenzoyl chloride
2,4-Dichloro-5-methylbenzotrifluoride
2',4'-Dichloroacetophenone
2,4-Dichloroaniline
2,4-Dichlorobenzaldehyde
2,4-Dichlorobenzotrichloride
2,4-Dichlorobenzyl chloride
2,4-Dichloronitrobenzene
2,4-Dicyanoaniline
2,4-Dinitro-1,3,5-triisopropylbenzene
2,4-Dinitrochlorobenzene
2,4-Di-tert-amylphenoxyacetic acid
2,4-Di-tert-amylphenoxyacetyl chloride
2,5-Diacetamidochlorobenzene
2,5-Diaminobenzotrifluoride
2,5-Dichloroaniline
2,5-Dichlorobenzenesulfonyl chloride
2,5-Dichlorobenzoic acid methyl ester
2,5-Dichlorobenzotrifluoride
2,5-Dichlorosulfanilic acid
2,5-Difluoro-4-(trifluoromethyl)-aniline

2,6-Diaminotoluene
2,6-Dichloro-4-(trifluoromethoxy)-aniline
2,6-Dichlorobenzaldehyde
2,6-Dichlorophenol
2,6-Dicyclohexylphenol
2,6-Diethyl-p-toluidine (NH2=1)
2,6-Dinitrotoluene
2/3-Nitrobenzaldehyde
2-[(3-Aminophenyl)-sulfonyl]-ethanol
2-{4-[2-(4-Amino-2-sulfophenyl)-vinyl]-3-sulfophenyl}-2H-naphtho[1,2-d]-5-triazolesulfonic acid
2-Acetamido-4-(hexadecyloxy)-benzenesulfonamide
2-Acetamido-N-butylbenzoic acid
2-Acetamidophenol-4-sulfomethylamide
2-Acetamidophenol-4-sulfonamide
2-Amino-1,3-propanediol
2-Amino-1,5,7-naphthalenetrisulfonic acid
2-Amino-1,5-naphthalenedisulfonic acid
2-Amino-1,5-naphthalenedisulfonic acid monosodium salt
2-Amino-1-naphthalenesulfonic acid
2'-Amino-3-carboxy-4-hydroxydiphenylsulfone-4'-sulfonic acid
2-Amino-4-chlorodiphenyl ether
2-Amino-5-chloropyridine
2-Amino-5-isopropylbenzotrifluoride
2-Amino-5-nitrobenzotrifluoride
2-Amino-5-nitrophenol
2-Amino-6-nitrobenzothiazole
2-Amino-6-nitrobenzothiazole sulfate
2-Amino-6-nitrophenol-4-sulfonic acid
2-Aminobenzothiazole
2-Amino-N-ethyl-5-nitrobenzenesulfonanilide
2-Aminophenol-4-sulfonic acid
2-Aminophenol-5-sulfondimethylamide
2-Benzyl-4-chlorophenol
2-Chloro-2,3,3-trifluorocyclobutanol
2-Chloro-3-(trifluoromethyl)-benzaldehyde
2-Chloro-3-(trifluoromethyl)-benzoic acid
2-Chloro-3,5-dinitrobenzenesulfonic acid
2-Chloro-3,5-dinitrobenzenesulfonic acid sodium salt
2-Chloro-4,6-dinitrophenol
2-Chloro-4-fluorobenzonitrile
2-Chloro-5-(chlorosulfonyl)-benzoic acid
2-Chloro-5-(N-methylsulfamoyl)-nitrobenzene
2-Chloro-5-(trifluoromethyl)-benzaldehyde
2-Chloro-5-(trifluoromethyl)-benzylamine
2-Chloro-5-hydroxybenzotrifluoride
2-Chloro-5-methylbenzotrifluoride
2-Chloro-5-nitroaniline
2-Chloro-5-nitrobenzenesulfinic acid sodium salt
2-Chloro-5-nitrobenzenesulfonamide
2-Chloro-5-nitrobenzenesulfonic acid
2-Chloro-5-nitrobenzoic acid
2-Chloro-5-nitrobenzonitrile
2-Chloro-5-nitrotoluene
2-Chloro-5-sulfamoylbenzoic acid
2-Chloro-6-nitrobenzyl chloride
2-Chloro-6-nitrophenol
2-Chloroacetyl chloride
2-Chloroacrylonitrile
2-Chloroaniline

2-Chloroaniline-5-sulfonic acid
2-Chlorobenzonitrile
2-Chlorobenzothiazole
2-Chlorobenzotrichloride
2-Chlorobenzyl chloride
2-Chlorobenzylamine
2-Chlorobutyric acid
2-Chloro-N,N'-diacetyl-5-nitro-p-phenylenediamine
2-Chloro-N-ethyl-5-nitro-N-phenylbenzenesulfonamide
2-Chloro-p-toluidine (NH2=1)
2-Chlorotoluene
2-Cyano-3-(dimethylamino)-acrylic acid ethyl ester
2-Cyano-3',4'-dichloroacetanilide
2-Cyanobenzaldehyde
2-Cyanoiminobarbituric acid
2-Cyanopropionic acid ethyl ester
2-Cyanopropionic acid isobutyl ester
2-Cyanopropionic acid methyl ester
2-Cyclohexylphenol
2-Cyclopentanonecarboxylic acid ethyl ester
2-Diazo-1,2-naphthoquinone-4-sulfonic acid
2-Diazo-1,2-naphthoquinone-4-sulfonic acid sodium salt
2-Diazo-1-naphthol-4-sulfonyl chloride
2-Diazo-1-naphthol-5-sulfonic acid sodium salt
2-Diazo-1-naphthol-5-sulfonyl chloride
2-Ethylhexanoyl chloride
2-Ethylphenol
2-Fluoro-3-(trifluoromethyl)-benzaldehyde
2-Fluoro-3-(trifluoromethyl)-benzoic acid
2-Fluoro-m-xylene
2-Hydroxy-6-naphthalenesulfonamide
2-Hydroxybiphenyl
2-Hydroxybiphenyl sodium salt
2-Imidazolecarboxylic acid
2-Isocyanatopropane
2-Isocyanatotoluene
2-Isocyanatotrifluoromethoxybenzene
2-Mercapto-4(5)-methyl-2H-benzimidazole zinc salt
2-Mercaptoaniline
2-Mercaptobenzothiazole sodium salt
2-Mercaptobenzothiazole zinc salt
2-Methyl-1/2-butene
2-Methyl-3-nitrobenzotrifluoride
2-Methyl-5-nitroanisole
2-Methylbenzoic acid methyl ester
2-Methylbenzotrifluoride
2-Methylbenzoxazole
2-Methylcyclohexanol
2-Methylcyclohexanone
2-Methylcyclohexylamine
2-Methylindole
2-Methylindoline
2-Methyl-N-phenylalanine methyl ester
2-Naphthalenesulfonyl chloride
2-Nitroaniline-4-sulfonic acid
2-Nitrobenzaldehyde
2-Nitrophenol-4-sulfonamide
2-Nitro-p-phenylenediamine
2-Nitrotoluene
2-Phosphono-1,2,4-butanetricarboxylic acid

2-tert-Butyl-p-cresol (OH=1)
3-(Dimethylamino)-acrylonitrile
3'-(Dipropylamino)-acetanilide
3-(Fluorosulfonyl)-benzenesulfonyl chloride
3-(Phenylsulfonyl)-propionitrile
3-(Trifluoromethoxy)-aniline
3-(Trifluoromethoxy)-benzaldehyde
3-(Trifluoromethoxy)-benzoic acid
3'-(Trifluoromethyl)-acetophenone
3-(Trifluoromethyl)-benzonitrile
3-(Trifluoromethyl)-benzotrichloride
3-(Trifluoromethyl)-benzylamine
3-(Trifluoromethyl)-o-toluidine (NH2)
3-(Trifluoromethylsulfonyl)-aniline
3,3'-Thiodipropionic acid didodecyl ester
3,4-Diaminotoluene
3,4-Dichloroaniline
3,4-Dichlorobenzaldehyde
3,4-Dichlorobenzoyl chloride
3,4'-Dichlorodiphenyl ether
3,4-Dichloroisocyanatobenzene
3,4-Dichloronitrobenzene
3,4-Dicyanoaniline
3,5-Bis-(trifluoromethyl)-benzonitrile
3,5-Bis-(trifluoromethyl)-benzoyl chloride
3,5-Bis-(trifluoromethyl)-benzyl bromide
3,5-Bis-(trifluoromethyl)-benzylamine
3,5-Bis-(trifluoromethyl)-phenol
3,5-Dichloro-2,4,6-trifluorobenzoic acid
3,5-Dichloro-4-fluorobenzotrifluoride
3,5-Difluoro-4-(trifluoromethyl)-aniline
3,5-Dimethyl-4-hydroxybenzoic acid
3,5-Dinitro-4-toluenesulfonic acid
3,5-Xylidine (NH2=1)
3/5-Amino-N,N-dimethyl-o-toluidine (N=1)
3/5-Nitrosalicylic acid
3-[(Trifluoromethyl)-mercapto]-aniline
3-[(Trifluoromethyl)-mercapto]-benzoic acid
3-[(Trifluoromethyl)-mercapto]-benzyl chloride
3-[(Trifluoromethyl)-mercapto]-bromobenzene
3'-[N,N-Bis-(2-acetoxyethyl)-amino]-acetanilide
3-Acetamido-2-hydroxyaniline-5-sulfonic acid
3-Acetamido-6-aminobenzotrifluoride
3-Acetamidoaniline
3-Acetamido-N,N-diethylaniline
3-Amino-1-(2,4,6-trichlorophenyl)-2-pyrazolin-5-one
3-Amino-4-chlorobenzoic acid
3-Amino-4'-nitrodiphenyl ether
3-Amino-5-hydroxy-2,7-naphthalenedisulfonic acid
3-Amino-5-hydroxy-2,7-naphthalenedisulfonic acid sodium salt
3-Amino-5-nitro-2,1-benzoisothiazole
3-Amino-p-anisamide
3-Amino-p-anisic acid
3-Bromo-4-(trifluoromethoxy)-aniline
3-Chloro-4-fluorobenzoyl chloride
3-Chloro-4-methylphenylisocyanate
3-Chloroaniline (C.I. 37005)
3-Chloroisocyanatobenzene
3-Chloropropionic acid
3-Chloro-p-toluidine (NH2=1)
3-Ethoxy-3-iminopropionic acid ester ester hydrochloride

3-Ethyl-3-(hydroxymethyl)-oxetane
3-Fluoro-4-methylbenzylamine
3-Fluoro-p-toluic acid (COOH=1)
3-Fluoro-p-tolunitrile (CN=1)
3-Hydroxy-4-sulfobenzoic acid sodium salt
3-Isocyanatobenzotrifluoride
3-Isocyanatotoluene
3-Isopropenylbenzotrifluoride
3-Methoxybenzoic acid
3-Methoxy-p-toluic acid methyl ester (COOCH3=1)
3-Methyl-1-(4-sulfophenyl)-2-pyrazolin-5-one
3-Methyl-1-phenethylbutylamine
3-Methyl-2-thiazolidinethione
3-Methyl-4-nitrobenzoyl chloride
3-Methyl-5-pyrazolone
3-Methylbenzotrifluoride
3-Methylsalicylic acid
3-Nitro-2,4-xylenesulfonamide
3-Nitro-5-sulfosalicylic acid (COOH=1)
3-Nitrobenzaldehyde
3-Nitrobenzaldehyde-4-sulfonic acid
3-Nitrobenzenesulfonamide
3-Nitrobenzenesulfonic acid
3-Nitrobenzenesulfonyl chloride
3-Nitrobenzoyl chloride
3-Nitro-N-(phenylsulfonyl)-benzenesulfonamide
3-Nitro-N-phenylbenzenesulfonamide
3-Nitrotoluene
3-Phenyl-1,2,4-triazol-5-ylamine
3-Phosphonopropionic acid
3-Sulfobenzoic acid (and/or unspecified salts)
4-(2,4-Di-tert-amylphenoxy)-butyric acid
4-(2,4-Di-tert-amylphenoxy)-butyryl chloride
4-(Carbethoxyamino)-6-hydroxy-2-naphthalenesulfonic acid sodium salt
4-(Difluoromethoxy)-aniline
4-(Difluoromethoxy)-benzaldehyde
4-(Difluoromethoxy)-benzyl bromide
4-(Hexadecyloxy)-benzoic acid
4-(Methylsulfonyl)-2-nitrotoluene
4-(N-Benzoyl-N-ethylamino)-o-toluidine (NH2=1)
4-(Trifluoromethoxy)-4'-biphenylcarboxylic acid
4'-(Trifluoromethoxy)-acetophenone
4-(Trifluoromethoxy)-aniline
4-(Trifluoromethoxy)-benzaldehyde
4-(Trifluoromethoxy)-benzoic acid
4-(Trifluoromethoxy)-benzonitrile
4-(Trifluoromethoxy)-benzophenone
4-(Trifluoromethoxy)-benzotrifluoride
4-(Trifluoromethoxy)-benzyl alcohol
4-(Trifluoromethoxy)-benzylamine
4-(Trifluoromethoxy)-biphenyl
4-(Trifluoromethoxy)-phenol
4-(Trifluoromethyl)-4'-biphenylcarboxylic acid
4-(Trifluoromethyl)-benzonitrile
4-(Trifluoromethyl)-benzylamine
4-(Trifluoromethyl)-biphenyl
4-(Trifluoromethylsulfonyl)-aniline
4,4',4"-Triphenylmethanetriisocyanate
4,4'-Dihydroxydiphenyl-2,2-propane carbonate polymer
4,4'-Diisocyanatodiphenylmethane
4,4'-Dimethylbenzophenone
4,4'-Dinitrostilbene-2,2'-disulfonic acid disodium

salt
4,4'-Oxybis-(benzenesulfonylhydrazide)
4,5-Dichloroorthanilic acid (SO3H=1)
4,5-Dimethylthiazole
4/5-(Methylmercapto)-benzimidazole
4-[(3-Aminobenzoyl)-amino]-5-hydroxy-1,7-naphthalenedisulfonic acid
4-[(Trifluoromethyl)-mercapto]-acetophenone
4-[(Trifluoromethyl)-mercapto]-aniline
4-[(Trifluoromethyl)-mercapto]-benzyl cyanide
4-[(Trifluoromethyl)-mercapto]-benzylamine
4-[(Trifluoromethyl)-mercapto]-biphenyl
4-[(Trifluoromethyl)-mercapto]-phenol
4-[(Trifluoromethyl)-mercapto]-phenylacetic acid
4-[(Trifluoromethyl)-thio]-benzaldehyde
4-Acetamido-2-aminobenzenesulfonic acid
4-Acetamido-5-hydroxy-2,7-naphthalenedisulfonic acid
4-Acetoxybenzoic acid
4-Amino-1-naphthalenesulfonic acid sodium salt
4-Amino-2,2-difluoro-1,3-benzodioxole
4-Amino-2,5-dichloro-N-(2-sulfoethyl)-benzenesulfonamide
4-Amino-2,5-difluorobenzonitrile
4-Amino-2-fluorobenzotrifluoride
4'-Amino-2'-sulfooxanilic acid
4-Amino-3-nitrobenzoic acid
4'-Amino-4-nitrodiphenylamine-2-sulfonic acid
4-Amino-5-hydroxy-1,7-naphthalenedisulfonic acid monosodium salt
4-Amino-5-hydroxy-2,7-naphthalenedisulfonic acid
4-Aminoazobenzene
4-Aminobenzoic acid 2-phenoxyethyl ester
4-Aminobenzotrifluoride hydrochloride
4-Aminobenzylmethylamine
4-Aminocatechol dimethyl ether
4-Aminocumene
4-Aminodiphenylamine
4-Amino-N-ethyl-N-1-naphthylbenzamide
4-Benzamido-5-hydroxy-1,7-naphthalenedisulfonic acid
4-Benzamido-5-hydroxy-2,7-naphthalenedisulfonic acid
4-Biphenylcarboxaldehyde
4-Biphenylsulfonic acid sodium salt
4-Bromo-2-fluoro-(trifluoromethoxy)-benzene
4-Bromo-4'-(trifluoromethoxy)-biphenyl
4-Bromo-4'-(trifluoromethyl)-biphenyl
4-Bromo-A-resorcylic acid
4-Chloro-2,6-dinitrophenol
4'-Chloro-2-cyanoacetanilide
4-Chloro-2-nitrodiphenyl ether
4-Chloro-2-nitrophenol-6-sulfonic acid
4-Chloro-2-nitrotoluene
4-Chloro-2-phenolsulfonic acid
4-Chloro-3-(trifluoromethyl)-benzaldehyde
4-Chloro-3-nitroaniline
4-Chloro-3-nitrobenzaldehyde
4-Chloro-3-nitrobenzamide
4-Chloro-3-nitrobenzenesulfinic acid ethyl ester
4-Chloro-3-nitrobenzenesulfonic acid sodium salt
4-Chloro-3-nitrobenzoic acid
4-Chloro-3-nitrobenzoyl chloride
4-Chloro-3-nitrophenyl methylsulfone

4-Chloro-4'-(trifluoromethoxy)-benzophenone
4'-Chloroacetophenone
4-Chloro-A-methylbenzylamine
4-Chloro-A-methylstyrene
4-Chloroaniline
4-Chloroanthranilic acid methyl ester
(COOCH3=1)
4-Chlorobenzaldehyde
4-Chlorobenzenesulfinic acid ethyl ester
4-Chlorobenzenesulfinic acid sodium salt
4-Chlorobenzonitrile
4-Chlorobenzotrichloride
4-Chlorobenzoyl chloride
4-Chlorocumene
4-Chloroisocyanatobenzene
4-Chloro-m-cresol (OH=1)
4-Chloro-m-cresol sodium salt (ONa=1)
4-Chloro-m-toluidine (NH2=1)
4-Chloro-m-toluidine-6-sulfonic acid (NH2=1)
4-Chlorotoluene
4-Cyano-4'-(trifluoromethoxy)-biphenyl
4-Cyano-4'-(trifluoromethyl)-biphenyl
4-Cyclohexylbiphenyl
4-Cyclohexylphenol
4-Diethylaminobenzaldehyde
4-Ethylnitrobenzene
4-Fluoro-2-(trifluoromethyl)-benzoic acid
4-Fluoro-3-(trifluoromethyl)-phenol
4-Fluoro-3-nitroaniline
4-Fluoro-5-nitro-o-cresol (OH=1)
4-Fluoro-N-isopropylaniline
4-Fluoro-o-cresol (OH=1)
4-Fluorophenylacetic acid
4-Hydrazinobenzoic acid
4-Hydroxy-2-methoxy-5-nitrobenzotrifluoride
4-Hydroxy-3-nitrophenyl ethylsulfone
4-Hydroxybenzenesulfonic acid
4-Hydroxybenzoic acid
4-Hydroxybiphenyl
4-Hydroxycyclohexanone
4-Isocyanatobenzotrifluoride
4-Isocyanatocumene
4-Isocyanatotoluene
4-Isocyanatotrifluoromethoxybenzene
4-Isocyanatotrifluoromethylthiobenzene
4-Isopropylbenzotrifluoride
4-Methyl-3-nitrobenzamide
4-Methyl-3-nitrobenzoyl chloride
4-Methyl-6-nitro-m-anisidine (NH2=1)
4-Methylbenzotrifluoride
4-Methyl-DELTA4-tetrahydrophthalic anhydride
4-Methylphthalic anhydride
4-Nitro-2-toluenesulfonamide
4-Nitro-6-(trifluoromethyl)-m-xylene
4-Nitroaniline-2-sulfonic acid
4'-Nitrobenzanilide
4-Nitrocumene
4-Nitro-m-phenylenediamine
4-Nitro-o-anisidine-5-sulfonic acid (NH2=1)
4-Nitro-o-toluenesulfonanilide
4-Nitrophenyl chloroformate
4-Nitrophthaldiamide
4-Nitrophthalimide
4-Nitrophthalonitrile
4-Nitrotoluene

4-Nitrotoluene-2-sulfonic acid
4-Nitrotoluene-2-sulfonic acid phenyl ester
4-Phenylbenzyl alcohol
4-Sulfoanthranilic acid (COOH=1)
4-tert-Butylaniline
4-tert-Butylcyclohexanone
4-Toluenesulfonylhydrazide
4-Tolylmethylsulfone
5-(Methylsulfonyl)-o-toluidine
5-(Trifluoromethyl)-uracil
5-{[(2-Carboxyphenyl)-amino]-sulfony}-2-chlorobenzoic acid
5-Amino-1-methyl-1H-pyrazole-4-carboxylic acid ethyl ester
5-Amino-1-naphthalenesulfonic acid
5-Amino-1-phenyl-4-pyrazolecarboxylic acid ethyl ester
5-Amino-2,2-difluoro-1,3-benzodioxole
5-Amino-4-fluoro-o-cresol (OH=1)
5-Aminobenzotriazole sulfate
5-Aminoisophthalic acid
5-Aminoisophthalic acid dimethyl ester
5-Aminosalicylic acid
5-Bromo-2,2-difluoro-1,3-benzodioxole
5-Chloro-2-nitroaniline
5-Chloro-2-nitrobenzotrifluoride
5-Chloro-4-(2-hydroxyethylamino)-2-nitroaniline
5-Chloro-6-methyluracil
5-Cyano-2,2-difluoro-1,3-benzodioxole
5-Ethyl-5-(hydroxymethyl)-1,3-dioxan-2-one
5-Fluoro-2-methylbenzylamine
5-Fluoro-2-nitrobenzoic acid
5-Fluoroanthranilic acid
5-Fluoro-o-cresol (OH=1)
5-Fluoro-o-toluic acid (COOH=1)
5-Fluoro-o-tolunitrile (CN=1)
5-Fluoro-o-toluoyl chloride (COCl=1)
5-Hydroxy-1-naphthalenesulfonic acid
5-Hydroxy-7-methyl-1,2,8-triazaindolizine
5-Imino-3-methyl-1-phenylpyrazole
5-Methyl-1-phenyl-3-hexanone
5-Nitro-1,2,3-benzotriazole
5-Nitroanthranilic acid (COOH=1)
5-Nitroisophthalic acid
5-Nitroisophthalic acid dimethyl ester
5-Nitroisophthalic acid monomethyl ester
5-Sulfamoylanthranilic acid (COOH=1)
5-Sulfosalicylic acid (COOH=1)
6-Amino-1,3-naphthalenedisulfonic acid
6-Amino-2,4-dichloro-3-ethylphenol
6-Amino-2,4-dichloro-3-ethylphenol hydrochloride

6-Amino-4-chlorophenol-2-sulfonic acid
6-Chloro-3-nitrotoluene
6-Chloronicotinonitrile
6-Cyano-2,2,3,3-tetrafluorobenzo-1,4-dioxene
6-Diazo-5,6-dihydro-5-oxo-1-naphthalenesulfonic acid
6-Ethyl-o-toluidine (NH2=1)
6-Hydroxy-2-naphthalenesulfonic acid ammonium salt
7,7'-Ureylene-bis-(4-hydroxynaphthalene-2-sulfonic acid)
7,7'-Ureylene-bis-(4-hydroxynaphthalene-2-sulfonic acid) disodium salt

7-Amino-1,3,5-naphthalenetrisulfonic acid
7-Amino-1,3,6-naphthalenetrisulfonic acid
7-Amino-1,3-naphthalenedisulfonic acid
7-Amino-4-hydroxy-2-naphthalenesulfonic acid
7-Benzamido-4-hydroxy-2-naphthalenesulfonic acid
8-(Carbomethoxyamino)-2-naphthol
8-Amino-2-naphthalenesulfonic acid
8-Amino-2-naphthol
8-Ethoxy-1-naphthol-3,6-disulfonic acid
8-p-Tolylsulfonamido-1-naphthol-3,6-disulfonic acid
Acetoacet-2-methoxy-4-nitroanilide
Acetonanil polymer
Acetylene
Acid blue 145 (C.I. 62070)
Acid red 278
Acid red 299
Acid red 337 (C.I. 17102)
Acrylonitrile
Acrylonitrile-1,3-butadiene copolymer
Acrylonitrile-butadiene rubber, hydrogenated
Acrylonitrile-butadiene-styrene
Adipic acid
A-Epifluorhydrin
Aluminum sodium silicate
A-Methoxy-A-(trifluoromethyl)-phenylacetyl chloride
Aminoguanidine bicarbonate
Aminosilane
Ammonia, anhydrous
Ammonium bifluoride
Ammonium sulfate
Amsonic acid
Aniline
Aniline-2,5-disulfonic acid
Aniline-butyraldehyde reaction product
Anisic acid
Anisoyl chloride
Anisyl acetone
Antimony trioxide
ar-Amino-N-benzyldimethylamine
A-Resorcylic acid
Azodicarboxylic acid dibenzyl ester
Barbituric acid
Barium carbonate
Barium petroleum sulfonate
Benzaldehyde
Benzalkonium chloride
Benzamide
Benzene
Benzenesulfinic acid sodium salt
Benzenesulfonamide
Benzenesulfonic acid sodium salt
Benzenesulfonyl chloride
Benzothiazole
Benzotrichloride
Benzoyl chloride
Benzyl alcohol
Benzyl butyl phthalate
Benzyl chloride
Benzyl octyl adipate
Benzyl paraben
Benzylamine
Benzyloxypropionitrile

Benzyltoluene, isomer mixture
Biphenyl
Bis-(2-aminoethyl)-amine
Bis-(2-ethylhexyl)-phosphate
Bis-(3-nitrophenyl)-sulfone
Bis-(4-tolyl)-ether
Bis-(aminphenyl)-methane, isomer mixture
Bis-(dimethylamino)-ethoxymethane
Bis-(dimethylamino)-methoxymethane
Bis-(tolyl)-ether, isomer mixture
Bisphenol A
Borane-dimethylamine complex
Boron trifluoride benzylamine complex
Bromoacetal
Bromobutyl rubber
Butadiene-styrene copolymers
Butane/tetraisobutane, hydrogenated
Butane-dibutylene copolymer
Butyl chloroformate
Butyl rubber
Butylated hydroxytoluene
Calcium formate
Calcium hydroxide
Calcium oxide
Carbendazim
Carbon dioxide
Chalcone
Chlorine
Chloro-(chloromethyl)-dimethylsilane
Chloroacetal
Chlorobenzene
Chlorobutyl rubber
Chlorosulfonic acid
Chlorotoluene isomer mixture
Chlorotrimethylsilane
Chromic fluoride
Chromic potassium sulfate
Chromium trioxide
Chromotropic acid
cis-1,4-Polybutadiene
Cuminaldehyde
Cupric hexafluorosilicate
Cuprous oxide
Cyclohexanol
Cyclohexanone
Cyclohexyl isooctyl phthalate
Cyclohexylamine
Cyclopentane
Cyclopentene
Cyclopentylamine
Cyclopropanecarbonitrile
Cyclopropylamine
Decamethylcyclopentasiloxane
Decyl diphenyl phosphite
Diacetin
Dialkyl pentasulfide
Dibenzyl ether
Dibenzyltoluene, isomer mixture
Dibutyl adipate
Dibutyl phosphate
Dibutyltin diacetate
Dichlofluanid
Dichloroacetyl chloride
Dichlorobenzene, isomer mixture
Dichlorodimethylsilane

Dichloromethylphenylsilane
Dichloromethylsilane
Dichlorotoluene, isomer mixture
Dicyclohexyl phthalate
Dicyclohexylamine
Diethyl carbonate
Diethyl phosphite
Diethyleneglycol
Dihexyl adipate
Dihydrazine sulfate
Dihydroisophorone
Diisobutene, isomer mixture
Diisobutyl oxalate
Diisononyl adipate
Diisopropanolamine
Dimethyl maleate
Dimethyl phosphite
Dimethylbromoacetal
Dimethylchloroacetal
Dimethyldiphenylthiuram disulfide
Dimorpholinodisulfide
Dioctyl phosphate
Dipentamethylene thiuram tetrasulfide
Diphenyl carbonate
Diphenyl ether
Diphenyl octyl phosphate
Diphenyl tolyl phosphate, isomer mixture
Diphenyl-(2-ethylhexyl)-phosphate
Diphenylamine
Dipropyl phosphite
Dipropyleneglycol
Disperse violet 26 (C.I. 62025)
Disulfiram
Dithiophosphoric acid O-(2-ethylhexyl)-ester molybdenum salt
Dithiophosphoric acid O-(2-ethylhexyl)-ester zinc salt
Dithiophosphoric acid O-(4-methylpentyl)-ester lead salt
Diuron
E-Caprolactam
Ethanol
Ethyl chloroformate
Ethylene
Ethylene oxide
Ethylenediamine
Ethylenediamine homopolymer
Ethyleneglycol
Ethyleneglycol monophenyl ether
Ethyleneglycol monosalicylate
Ethylene-propylene copolymer
Ethylene-propylene terpolymer rubber
Ethylene-vinyl acetate copolymers
Ethylparaben
Ferric oxide
Ferric oxide, yellow
Fluoromalonic acid diethyl ester
Fluorosulfonic acid
Fluosilicic acid
Formaldehyde
Formaldehyde sodium bisulfite
Hexahydrophthalic anhydride
Hexamethyldisiloxane
Hexamethylenetetramine
Hexane/heptane

Hydrazine hydrate
Hydrazinocarboxylic acid methyl ester
Hydrochloric acid
Hydrofluoric acid
Hydrogen cyanide
Hydroquinone bis-(2-hydroxyethyl) ether
Hydroquinone dimethyl ether
Hydroquinone monomethyl ether
Isatoic anhydride
Isobutyl salicylate
Isocyanatobenzene
Isocyanatobutane
Isocyanatocyclohexane
Isocyanatooctadecane
Isocyanatopropane
Isododecane
Isophthaloyl dichloride
Isopropanolamine
Isopropyl chloroformate
Isopropylidenebis-(4,1-phenylene)-bis-(2-aminobenzenesulfonate)
Isopropylidenebis-(4,1-phenylene)-bis-(2-nitrobenzenesulfonate)
Lead phthalate
Magnesium oxide
Magnesium sulfate
Maleic acid
Maleic anhydride
Maleic anhydride-styrene copolymer
Malonodiamide
m-Aminophenylurea
m-Cresol
Methyl benzoate
Methyl chloroformate
Methyl paraben
Methyl-(4-nitrophenyl)-carbamate
Methylcyclohexanone, isomer mixture
Methylnonadecane
Methylpentadecane
Methyltrichlorosilane
m-Phenylenediamine
m-Phenylenediamine-4,6-disulfonic acid
m-Toluidine
m-Toluoyl chloride
N-(1,3-Dimethylbutyl)-N'-phenyl-p-phenylenediamine
N-(1-Naphthyl)-acetamide
N-(2-Acetoxyethyl)-1,2,3,4-tetrahydro-2,2,4-trimethylquinoline
N-(2-Aminoethyl)-N-ethyl-m-toluidine
N-(2-Aminoethyl)-piperazine
N-(2-Chloroethyl)-N-ethylaniline
N-(2-Chloroethyl)-N-ethyl-m-toluidine
N-(2-Cyanoethyl)-E-caprolactam
N-(2-Dimethylaminoethyl)-N-ethylaniline
N-(2-Dimethylaminoethyl)-N-ethyl-m-toluidine
N-(3-Aminopropyl)-E-caprolactam
N-(3-Aminopropyl)-N-methylethanolamine
N-(4-Aminophenyl)-urethane
N-(4-Chloro-3-nitrophenyl)-urea
N-(4-Nitrophenylaminoethyl)-urea
N-(Cyclohexylthio)-phthalimide
N-(Hydroxymethyl)-benzamide
N-(Methoxymethyl)-methylacrylamide
N,N,N',N",N"-Pentamethyldiethylenetriamine

N,N'-Bis-(1,4-dimethylpentyl)-p-phenylenediamine
N,N'-Bis-(2,4,6-trichlorophenyl)-urea
N,N-Bis-(2-hydroxyethyl)-m-toluidine
N,N-Bis-(2-hydroxyethyl)-p-toluidine
N,N-Bis-(2-hydroxypropyl)-p-toluidine
N,N'-Bis-(2-methoxy-4-nitro-5-sulfophenyl)-urea
N,N-Bis-(3-aminopropyl)-methylamine
N,N'-Carbonyldiimidazole
N,N'-Diaryl-p-phenylenediamine
N,N-Dibenzylamine
N,N'-Dibenzylmethylamine
N,N-Dicyclohexyl-2-benzothiazolensulfenamide
N,N-Diethylaniline
N,N'-Diethylcarbanilide
N,N-Diethyl-m-toluidine
N,N-Dimethyl-1,3-propanediamine
N,N-Dimethylaminomethylenemalonic acid diethyl ester
N,N-Dimethylaminomethylenemalonic acid dimethyl ester
N,N-Dimethylformamide dimethylacetal
N,N-Dimethylpentadecylamine
N,N-Diphenylformamide
N,N'-Diphenyl-N-methylurea
N,N-Dipropyl-3-(methylsulfonylamino)-aniline
N-[2-(4-Nitrophenylamino)-ethyl]-guanidine
N4-Acetylsulfanilamide
N4-Acetylsulfanilamide sodium
N-Acetyl-4/5-nitro-o-anisidine (NH=1)
N-Benzoyl-N-ethyl-m-toluidine
N-Benzyldimethylamine
N-Benzylmaleimide
N-Benzyl-N,N,N-tributylammonium chloride
N-Benzyl-N-ethylaniline
N-Benzyl-N-ethyl-m-toluidine
N-Benzyl-N-methylaniline
N-Butyl propargyl carbamate
N-Butylbenzenesulfonamide
N-Butyl-N-ethylaniline
N-Chlorophthalimide
N-Cyclohexyl-2-benzothiazolesulfenamide
N-Cyclohexyl-N-methyl-2-nitrobenzenesulfonamide
N-Dimethylaminosulfonyl chloride
N-Ethyl-5-sulfoanthranilic acid (COOH=1)
N-Ethylaniline
N-Ethylcyclohexylamine
N-Ethyl-m-toluidine
N-Ethyl-N-(2-hydroxyethyl)-m-toluidine
N-Ethyl-N-(3-sulfobenzyl)-aniline
N-Ethyl-N-(3-sulfophenyl)-m-toluidine
N-Ethyl-N-(ethyltrimethylammonium methyl sulfate)-aniline
N-Ethyl-N-phenylethanolamine
Nickel dibutyldithiocarbamate
Nickel dimethyldithiocarbamate
Nitric acid
Nitrobenzene
N-Methylaminoacetaldehyde dimethylacetal
N-Methylaniline
N-Methylanthranilic acid methyl ester
N-Methyldiisopropanolamine
N-Methyl-N-octadecylformamide
N-Phenyl-1,8-naphtholactam

N-Phenyl-1-naphthylamine
N-Phenylbenzenesulfonamide
N-tert-Butyl-2-benzothiazolesulfenamide
O,O,O-Tris-(4-nitrophenyl)-thiophosphate
o-Anisidine-4-sulfonic acid (NH2=1)
o-Anisidine-5-sulfonic acid (NH2=1)
o-Anisidine-5-sulfonic acid 4-nitrophenyl ester (NH2=1)
o-Anisidine-5-sulfonic acid-N-diethylamide (NH2=1)(C.I. 37150)
o-Chloronitrobenzene
o-Cresol
o-Cresotic acid isobutyl ester
o-Cresotic acid methyl ester
Octamethylcyclotetrasiloxane
o-Dichlorobenzene
OMEGA-Aminoacetophenone
o-Phenetidine
Orthanilic acid
o-Toluidine
o-Toluoyl chloride
p-Anisaldehyde
p-Anisidine
p-Anisidine-2-sulfonic acid (NH2=1)
p-Anisidine-3-sulfonic acid (NH2=1)
p-Chloronitrobenzene
p-Dichlorobenzene
Pentachlorobenzotrifluoride
Pentachlorothiophenol
Pentaethylenehexamine
Pentamethyleneammonium-N-pentamethylenedithiocarbamate
Pentyl chloroformate
Phenol, styrenated
Phenyl chloroformate
Phenylglyoxylic acid methyl ester
Phosphorus oxychloride
Phosphorus sulfochloride
Phosphorus trichloride
Phthalic anhydride
Phthalimide
Phthaloyl dichloride
Pigment green 17 (C.I. 77288)
Pinacolone
Piperazine
Pivalonitrile
Pivaloylacetic acid ethyl ester
Pivaloylpyruvic acid ethyl ester
Polyamide 6
Polybutylene terephthalate
Polychloroprene
Polyethyleneglycol cetyl/stearyl ether
Polyethylenepolyamine
Potassium dichromate
p-Phenetidine
Propionaldehyde
Propofol
Propyl chloroformate
Propyl paraben
Propylene
Propylene oxide
Propyleneglycol
p-Toluidine
p-Toluidine-3-sulfonic acid (NH2=1)
p-Toluidine-3-sulfon-N-ethylanilide (NH2=1)

p-Toluidine-6-sulfonic acid (NH2=1)
Resins, acrylonitrile/styrene
Resins, epoxy
Resins, phenol/formaldehyde
Resins, phenolic
Resins, polycarbonate
Resins, polyurethane
Rhodium triphenylacetate
Salicylaldoxime
Silicic acid
Silicon dioxide
Simethicone
Sodium bisulfite
Sodium borohydride
Sodium dichromate
Sodium fluoride
Sodium hydroxide
Sodium hypochlorite
Sodium oxide ethyl 4-hydroxybenzoate
Sodium oxide methyl 4-hydroxybenzoate
Sodium oxide propyl 4-hydroxybenzoate
Succinylsuccinic acid dimethyl ester
Sulfanilic acid
Sulfur
Sulfur chloride
Sulfur dichloride
Sulfur dioxide
Sulfuric acid
Sulfuryl chloride
Tallow fatty acid chloride
Tellurium diethyldithiocarbamate
Terephthalamide
Terephthalic acid bis-(hydroxymethylamide)
Terephthaloyl dichloride
tert-Amyl methyl ether
Tetraethyleneglycol
Tetraethylenepentamine
Thionyl chloride
Thiophosphoric acid O,O,O-tris-(4-aminophenyl)-ester
Thiophosphoric acid O,O,O-tris-(4-isocyanatophenyl)-ester
Thiram
Titanium dioxide
Toluene
Toluidine, isomer mixture
Tolylfluanid
Triacetin
Tribenzylamine
Tributyl phosphate
Trichloroacetonitrile
Trichlorotoluene, isomer mixture
Triclocarban
Triethyl phosphate
Triethyl phosphite
Triethylenediamine
Triethyleneglycol
Triisobutene
Triisopropanolamine
Trimethyllactic acid
Trioctyl phosphate
Triphenyl phosphate
Tripropyleneglycol
Tris-(2-chloroethyl)-phosphite
Tris-(2-chloropropyl)-phosphate

Tris-(2-ethylhexyl)-phosphate
Tris-(4-aminophenyl)-phosphorothioate
Tris-[2-(2-hydroxxyethoxy)-ethyl]-amine
Tritolyl phosphate, isomer mixture
Velcorin
Zinc dibenzyldithiocarbamate
Zinc dibutyldithiocarbamate
Zinc diethyldithiocarbamate
Zinc N-ethyl-N-phenyldithiocarbamate
Zinc oxide
Zinc pentamethylenedithiocarbamate
Ziram

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Research

Chemical Name	Amount Per Week	Waste Paper	Sink Drain	Waste Solvent Containers	Other
Acids					
Citric Acid Buffer	100 gm	x	x		
Boric Acid Buffer	200 gm				Containers w/Burnable
Hydrochloric Acid	10 gm		x		
Sulfuric Acid	50 ml		x		
Melanic Acid	2 gm		x		
Acetic Anhydride	25 ml		x		
Aspartic Acid	.5 gm		x		
Ketoglutaric Acid	.1 gm		x		
Trichloroacetic Acid	5 gm		x		
Citric Acid	1 gm	x	x		
Sulfuric Acid, 1N	10 ml		x		
Hydrochloric Acid, 4N	50 ml		x		
Nitric Acid	1 ml		x		
Nalidixic Acid	0-100 mg		✓		
Hydrochloric Acid, 1N	2 ml				x
Sodium Hydroxide	110 ml & 50 mg		x		x
Sodium Pyruvate	50 mg				x
Formic Acid	25 ml				
Buffers					
Phosphate	4200 mls & 2-4 liters		x		
Potassium Phosphate	50 mls				x
Glycine	50 mls		x		
Sodium Pyrophosphate	50 mls		x		
Sodium Phosphate Dibasic	5 gms		✓		
Sodium Phosphate monobasic	3.5 gms	x	x		

Research Wastes

Chemical Name	Amount Per Week	Waste Paper	Sink Drain	Waste Solvent Container	Other
Acetate	2000 mls		x		
Carbonate Buffer	200 ml		x		
Sodium Barbital with NaEDTA	100-200 ml		x		
Tris-Na Azide	1000 ml		x		
Citrate Buffer	1000 ml		x		
	-				
Solvents					
3A Alcohol	10 ml		x		
70% Isopropanol	500 ml		x		
Ethyl alcohol, 3.8-	150 ml		x		
Xylene	100 ml			100	
Methanol	2 gal			7	
Butanol	200 ml			200	
Acetone	1500 ml	x	x		
Methanol Ethanol	1800 ml	x	x	x	
Aromatic Solvent	350 ml	x	x	x	
Halogenetic	200 ml	x	x	x	
Toluene	1 ml		x		
Methanol	1/2 gal & 25 ml		x		
Isopropanol Alcohol	155 ml		x		
Ethanol	150 ml		x		
Benzene	20 ml		x		
Acetone	75 ml		x		
Chloroform	20 ml			x	
Carbon Tetrachloride	2 ml			x	
Hexene	.5 ml			x	
Methyl Ethyl Ketone	.5 ml			x	
Tetrahydrofuridin	1 ml			x	

Chemical Name	Amount Per Week	Waste Paper	Sink Drain	Waste Solvent Container	Other
Bilirubin	0.01 gm		x		
Albumin	1.0 gm		x		
Bromosulphenphthalein, disodium salt	.005 gms	x			
Glucose oxidase	.001 gm	x			
PVA	.001 gm				
Ortho-toluidine, free base	.001 gm	x			
Tris-Hydroxymethylamino-methane	5 gm		x		
Polyethylene glycol	10-20 g		x		
Sodium Phosphate (Na_2HPO_4)	2-400 gms				Powder w burnable
p-phenylenediamine sulfonic acid	1-2 gms				"
8-Aniline-1-naphthalene sulfonic acid sodium salt	1-2 gms				"
Melamine	0.01 gm				"
3-3'-Methylbenzidine	.01 gm				"
Nickel Acetyl Acetonate	.1 gm				"
Strontium Peroxide	.01 gm				x
Sodium Thiosulfate, IR	10 mls		x		
Ethylene Glycol	5 mls		x		
Sodium Carbonate	2 gms		x		
Potassium Iodide	5 gms		x		
Potassium Chloride	1 gm		x		
Sodium Hypochlorite (5%)	500 mls		x		
Amino Antipyrene	0.1 gm		x		
Phenothiazine	0.2 gm		x		
Adenosine Triphosphate	2.2 mg		x		
Tris-Hydroxyamenomethane	2 mg		x		
Creatine Phosphokinase	.010 mg		x		

Cost Analysis

Chemical Name	Amount Per Week	Method of Disposal: Waste Paper	Sink Drain	Waste Solvent Container	Other
Stains					
Wright	5-7 gms			x	
Eosin	5-7 gms			x	
Bromthymol blue	2 gms		x		
General	500 mls		x		
Napthol blue-black	.01 gm	x			
General	10 gms		x		
Chemicals					
Dimethylsulfoxide	100 ml	x	x	x	
Dimethylformide	100 ml	x	x	x	
Surfactants	30 gms		x		
FDC Blue #1	100 mgs	x			
Glycerine	20 gms	x	x		
Polyvinylpyrrolidone	50 gms	x			
Styrene Meleic Anhydride	50 gms	x			
Bentonite	100 gms	x			
Cab-O-Sil	100 gms	x			
TiO_2	100 gms	x			
Sephadex	100 gms	x			
Metal Salts (e.g., $MgSO_4$)	20 gms		x		
Peroxides	25 gms	x			
Mineral acids	400 ml		x		
Alkali Salts	50 gms		x		
Aromatic Aldehydes & Amines	10 gms		x		
Photooxidative Inhibitors	10 gms		x		
Various Organic Compounds	15 gms	x	x		
Nonylphenol (ethylene oxide substituted)	0.005 gms	x			
Dextrose	10 gms		x		
Human blood	2 gm		x		

Chemical Name	Amount Per Week	Waste Paper	Sink Drain	Waste Solvent Container	Other
Bases					
Sodium Hydroxide, 1 N	10 ml		x		
Chemicals					
3-Methyl-2-Benzothiazolinone (MBTH)	40 cc			x	
Primaquinediphosphate 3.75%	5 cc		x		
Nicotine-Adeninedinucleotide-disodium	50 mg				
2-Amino-2-Methyl-1-Propanol	20 ml				
Phenolphthalein Mono-phosphate	50 mg				
p-Nitrophenylphosphate	50 mg				
o-Tolidine	500 mg		x		
Glucose oxidase	50 mg		x		
Peroxidase	50 mg		x		
Urease	50 mg		x		
Germicidal Concentrate					
n-Alkyldimethylbenzyl-ammonium chlorides 15.2%, inert ingredients 81.0%	150 ml		x		
Nitric Acid	Minimal amt. bimonthly				
Chemicals					
Ammonium Sulfate	50 gms		x		
3% Formalin	50 ml		x		
Sheep red cells	25 ml		x		
Whole human blood	400 ml				
Concentrated L-Thyroxin T_4	100-500 ml Infrequently		x		
NaOH	20-30 ml		x		
Media*					
Trypticase-Soy Agar w/5% Sheep Blood	1125 mls	x			
Levine EMB	1125 mls	x			

*All media are autoclaved prior to disposal

Chemical Name	Amount Per Week	Waste Paper	Sink Drain	Waste Solvent Container	Other
Alanine	2 g		x		
Nicotinamideadeninedi-phosphate reduced	20 mg		x		
Lactate Dehydrogenase	1 mg		x		
Malate Dehydrogenase	.05 mg		x		
Pyridine	10 ml			x	
Polyvinylpyrolidinone	.5 g		x		
Igepal C0630	.01 g		x		
Solids:					
Cumenehydroperoxide	1.0	x	x		
o-Tolidine hydrochl.	20 mg	x	x		
6-Methoxyquinoline	10	x	x		
2-4-Dinitrophenylhydroz.	5 mg	x	x		
Glycerol	50 gm	x	x		
Glycine	1 gm	x	x		
Albumin	1 gm	x	x		
EDTA-Na	1 gm	x	x		
Ferrous Amm. Sulfate	10 gm	x	x		
Mercuric Nitrate	1 mg	x	x		
2 Napthol	2 mg	x	x		
Phenol	2 mg	x	x		
Potassium Hydroxide	50 mg	x	x		
Potassium Bromide	600 mg	x	x		
Potassium Phosphate	1 gm	x	x		
Sodium Phosphage	1 gm	x	x		
Sodium Carbanate	500 gm	x	x		
Sodium Azide	10 mg	x	x		
Sodium Acetate	500 mg	x	x		
Sodium Perchlorate	10 mg	x	x		
Sodium Sulfite	10 mg	x	x		
Urea	500 mg	x	x		
Tris	500 mg	x	x		

Chemical Name	Amount Per Week	Waste Paper	Sink Drain	Waste Solvent Container	Other
Medias (Continued)					
Impregnated Formula's					
DNA	1.56 gm	x			
$MgSO_4$	0.36 gm	x			
NaCl	3.0 gm	x			
Methyl Green Dye	0.12 gm	x			
Tryptose	18.0 gm	x			
LiCl	2.1 gm	x			
Tween-80	0.6 ml	x			
Crystal Violet	0.0002 gm	x			
Yeast Extract	1.8 gm	x			
PVA	15.6 gm	x			
Fungizone	20.0 ml	x			
Sodium Colistimethate	0.08 gm	x			
Nalidixic Acid	0.02 gm	x			
Bacitracin	0.04 gm	x			
Gentamicin	20 ml	x			
Columbia Broth	4 l		x		
Endo Agar	4 liters	x		x	
Glycerol	0.1 liter	x		x	
Ethylene Glycol	0.2 liter	x		x	
Napthal blue-black	0.1 g	x			
Ames Products					
Microcult G.C. Kits	13½ kits	x			
Antibiotics					
Ampicillin	0-100 mg			x	
Cephalothin					
Nitrofurantoin					
Gentamicin					
Sulfamethoxoyole					
Trimethoprim					
Tetracycline					
Kanamycin					
Carbenicillin					

Chemical Name	Amount Per Week	Waste Paper	Test Plasm	Waste Solvent Container	Other
Media (continued)					
Mannitol Salt Agar	150 mls	x			
SF Broth	100 mls		x		
Trypticase Soy Agar	200 mls + 3 liters		x		
CTA Medium	1200 mls		x		
Choc. Agar	350 mls	x			
Mueller Hinton Broth	104.19g + 2-liters	x			
Trypticase Peptone	1.0 g	x			
API Enterobacter. Identifications System.	25 tests	x			
Paper Impreg. Substances					
Cephalotin	.005 g	x			
FD&C Yellow	.15 g	x			
Kanamycin	.005 g	x			
Keltrol	2.5 g	x			
K_2HPO_4	1.0 g	x			
KH_2PO_4	4.0 g	x			
d-Mannitol	0.5 g	x			
Na_2HPO_4	1.0 g	x			
Neomycin sulfate	0.1 g	x			
Polymyxin B Sulfate	.006 g	x			
Phenol Red	0.1 g	x			
Thalluis Acetate	1.0 g	x			
Vancomycin	.0004 g	x			
Yeast Extract	.5 g	x			
Triphenyl Tetrazolium Cl	.03 g	x			
Todd Hewlett Broth	500 ml			x	
Brain Heart Infusion	100 ml			x	
Nutrient Agar Plates	50 ml	x			
5% Sheep Blood w/Trypticase Soy Agar	1500 ml	x			
Thayer-Martin Agar	150 ml	x			

Chemical Name	Amount Per Week	Waste Paper	Sink Drain	Waste Solvent Container	Other
Antibiotics (continued)					
Colistin	0-100 mg		x		
Polymyxin	"		x		
Sulfasoxazole	"		x		
Furadantin	"		x		

Research

Chemical Name	Amount Per Week	Waste Paper	Sink Drain	Waste Solvent Container	Other
Acids					
Citric Acid Buffer	100 gm	x	x		
Boric Acid Buffer	200 gm				Containers w/Burnable
Hydrochloric Acid	10 gm		x		
Sulfuric Acid	50 ml		x		
Melanic Acid	2 gm		x		
Acetic Anhydride	25 ml		x		
Aspartic Acid	.5 gm		x		
Ketoglutaric Acid	.1 gm		x		
Trichloroacetic Acid	5 gm		x		
Citric Acid	1 gm	x	x		
Sulfuric Acid, 1N	10 ml		x		
Hydrochloric Acid, 4N	50 ml		x		
Nitric Acid	1 ml		x		
Nalidixic Acid	0-100 mg		x		
Hydrochloric Acid, 1N	2 ml				x
Sodium Hydroxide	110 ml & 50 mg		x		x
Sodium Pyruvate	50 mg				x
Formic Acid	25 ml				
Buffers					
Phosphate	4200 mls & 2-4 liters		x		
Potassium Phosphate	50 mls				x
Glycine	50 mls		x		
Sodium Pyrophosphate	50 mls		x		
Sodium Phosphate Dibasic	5 gms		x		
Sodium Phosphate monobasic	3.5 gms	x	x		

Research Wastes

Chemical Name	Amount Per Week	Waste Paper	Sink Drain	Waste Solvent Container
Acetate	2000 mls		x	
Carbonate Buffer	200 ml		x	
Sodium Barbital with NaEDTA	100-200 ml		x	
Tris-Na Azide	1000 ml		x	
Citrate Buffer	1000 ml		x	
	-			
Solvents				
3A Alcohol	10 ml		x	
70% Isopropanol	500 ml		x	
Ethyl alcohol, 3.8-	150 ml		x	
Xylene	100 ml			100
Methanol	2 gal			7
Butanol	200 ml			200
Acetone	1500 ml	x	x	
Methanol Ethanol	1800 ml	x	x	
Aromatic Solvent	350 ml	x	x	
Halogenetic	200 ml	x	x	x
Toluene	1 ml		x	
Methanol	1.2 gal & 25 ml		x	
Isopropanol Alcohol	155 ml		x	
Ethanol	150 ml		x	
Benzene	20 ml		x	
Acetone	75 ml		x	
Chloroform	20 ml			x
Carbon Tetrachloride	2 ml			x
Hexene	.5 ml			x
Methyl Ethyl Ketone	.5 ml			x
Tetrahydrofuridin	1 ml			x

Chemical Name	Amount Per Week	Waste Paper	Sink Drain	Waste Solvent Container	Other
Bilirubin	0.01 gm		x		
Albumin	1.0 gm		x		
Bromosulphonphthalein, disodium salt	.005 gms	x			
Glucose oxidase	.001 gm	x			
PVA	.001 gm				
Ortho-toluidine, free base	.001 gm	x			
Tris-Hydroxymethylamino-methane	5 gm		x		
Polyethylene glycol	10-20 g		x		
Sodium Phosphate (Na_2HPO_4)	2-400 gms				Powder w burnable
p-phenylenediamine sulfonic acid	1-2 gms				"
8-Aniline-1-naphthalene sulfonic acid sodium salt	1-2 gms				"
Melamine	0.01 gm				"
3-3'-Methylbenzidine	.01 gm				"
Nickel Acetyl Acetonate	.1 gm				"
Strontium Peroxide	.01 gm				"
Sodium Thiosulfate, 1N	10 mls		x		
Ethylene Glycol	5 mls		x		
Sodium Carbonate	2 gms		x		
Potassium Iodide	5 gms		x		
Potassium Chloride	1 gm		x		
Sodium Hypochlorite (5%)	500 mls		x		
Amino Antipyrene	0.1 gm		x		
Phenothiazine	0.2 gm		x		
Adenosine Triphosphate	2.2 mg		x		
Tris-Hydroxyamenomethane	2 mg		x		
Creatine Phosphokinase	.010 mg		x		

Chemical Name	Amount Per Week	Waste Paper	Sink Drain	Waste Solvent Container	Other
Stains					
Wright	5-7 gms			x	
Eosin	5-7 gms			x	
Bromthymol blue	2 gms		x		
General	500 mls		x		
Napthol blue-black	.01 gm	x			
General	10 gms		x		
Chemicals					
Dimethylsulfoxide	100 ml	x	x	x	
Dimethylformide	100 ml	x	x	x	
Surfactants	30 gms		x		
FDC Blue #1	100 mgs	x			
Glycerine	20 gms	x	x		
Polyvinylpyrrolidone	50 gms	x			
Styrene Meleic Anhydride	50 gms	x			
Bentonite	100 gms	x			
Cab-O-Sil	100 gms	x			
TiO_2	100 gms	x			
Sephadex	100 gms	x			
Metal Salts (e.g., $MgSO_4$)	20 gms		x		
Peroxides	25 gms	x			
Mineral acids	400 ml		x		
Alkali Salts	50 gms		x		
Aromatic Aldehydes & Amines	10 gms		x		
Photooxidative Inhibitors	10 gms		x		
Various Organic Compounds	15 gms	x	x		
Nonylphenol (ethylene oxide substituted)	0.005 gms	x			
Dextrose	10 gms		x		
Human blood	2 gm		x		

Chemical Name	Amount Per Week	Waste Paper	Sink Drain	Waste Solvent Container	Other
Bases					
Sodium Hydroxide, 1 %	10 ml		x		
Chemicals					
3-Methyl-2-Benzothiazolinone (MBTH)	40 cc			x	
Primaquinediphosphate 3.75%	5 cc		x		
Nicotine-Adeninedinucleotide-disodium	50 mg				
2-Amino-2-Methyl-1-Propanol	20 ml				
Phenolphthalein Mono-phosphate	50 mg				
p-Nitrophenylphosphate	50 mg				
o-Tolidine	500 mg		x		
Glucose oxidase	50 mg		x		
Peroxidase	50 mg		x		
Urease	50 mg		x		
Germicidal Concentrate					
n-Alkyldimethylbenzyl-ammonium chlorides 15.2%, inert ingredients 81.0%	150 ml		x		
Nitric Acid	Minimal amt. bimonthly				
Chemicals					
Ammonium Sulfate	50 gms		x		
3% Formalin	50 ml		x		
Sheep red cells	25 ml		x		
Whole human blood	400 ml				
Concentrated L-Thyroxin T_4	100-500 ml Infrequently		x		
NaOH	20-30 ml		x		
Media*					
Trypticase-Soy Agar w/5% Sheep Blood	1125 mls	x			
Levine EMB	1125 mls	x			

*All media are autoclaved prior to disposal

Chemical Name	Amount Per Test	Waste Paper	Sink Drain	Waste Solvent Container	Other
Alanine	2 g		x		
Nicotinamideadeninedi-phosphate reduced	20 mg		x		
Lactate Dehydrogenase	1 mg		x		
Malate Dehydrogenase	.05 mg		x		
Pyridine	10 ml			x	
Polyvinylpyrolidinone	.5 g		x		
Igepal C0630	.01 g		x		
Solids					
Cumenehydroperoxide	1.0	x	x		
o-Tolidine hydrochl.	20 mg	x	x		
6-Methoxyquinoline	10	x	x		
2-4-Dinitrophenylhydroz.	5 mg	x	x		
Glycerol	50 gm	x	x		
Glycine	1 gm	x	x		
Albumin	1 gm	x	x		
EDTA-Na	1 gm	x	x		
Ferrous Amm. Sulfate	10 gm	x	x		
Mercuric Nitrate	1 mg	x	x		
2 Napthol	2 mg	x	x		
Phenol	2 mg	x	x		
Potassium Hydroxide	50 mg	x	x		
Potassium Bromide	600 mg	x	x		
Potassium Phosphate	1 gm	x	x		
Sodium Phosphage	1 gm	x	x		
Sodium Carbanate	500 gm	x	x		
Sodium Azide	10 mg	x	x		
Sodium Acetate	500 mg	x	x		
Sodium Perchlorate	10 mg	x	x		
Sodium Sulfite	10 mg	x	x		
Urea	500 mg	x	x		
Tris	500 mg	x	x		

Chemical Name	Amount Per Week	Waste Paper	Sink Drain	Waste Solvent Container	Other
Medias (Continued)					
Impregnated Formula's					
DNA	1.56 gm	x			
$MgSO_4$	0.36 gm	x			
NaCl	3.0 gm	x			
Methyl Green Dye	0.12 gm	x			
Tryptose	18.0 gm	x			
LiCl	2.1 gm	x			
Tween-80	0.6 ml	x			
Crystal Violet	0.0002 gm	x			
Yeast Extract	1.8 gm	x			
PVA	15.6 gm	x			
Fungizone	20.0 ml	x			
Sodium Colistimethate	0.08 gm	x			
Nalidixic Acid	0.02 gm	x			
Bacitracin	0.04 gm	x			
Gentamicin	20 ml	x			
Columbia Broth	4 l		x		
Endo Agar	4 liters	x	x		
Glycerol	0.1 liter	x	x		
Ethylene Glycol	0.2 liter	x	x		
Napthal blue-black	0.1 g	x			
Ames Products					
Microcult G.C. Kits	13½ kits	x			
Antibiotics					
Ampicillin					
Cephalothin					
Nitrofurantoin					
Gentamicin					
Sulfamethoxoyole					
Trimethoprim	0-100 mg			x	
Tetracycline					
Kanamycin					
Carbenicillin					

Chemical Name	Amount Per Week	Waste Paper	Waste Plastic	Waste Solvent Container	Other
Media (continued)					
Mannitol Salt Agar	150 mls	x			
SF Broth	100 mls		x		
Trypticase Soy Agar	200 mls + 3 liters		x		
CTA Medium	1200 mls		x		
Choc. Agar	350 mls	x			
Mueller Hinton Broth	104.19g + 2-liters	x			
Trypticase Peptone	1.0 g	x			
API Enterobacter. Identifications System.	25 tests	x			
Paper Impreg. Substances					
Cephalotin	.005 g	x			
FD&C Yellow	.15 g	x			
Kanamycin	.005 g	x			
Keltrol	2.5 g	x			
K_2HPO_4	1.0 g	x			
KH_2PO_4	4.0 g	x			
d-Mannitol	0.5 g	x			
Na_2HPO_4	1.0 g	x			
Neomycin sulfate	0.1 g	x			
Polymyxin B Sulfate	.006 g	x			
Phenol Red	0.1 g	x			
Thalluis Acetate	1.0 g	x			
Vancomycin	.0004 g	x			
Yeast Extract	.5 g	x			
Triphenyl Tetrazolium Cl	.03 g	x			
Todd Hewlett Broth	500 ml		x		
Brain Heart Infusion	100 ml		x		
Nutrient Agar Plates	50 ml	x			
5% Sheep Blood w/Trypticase Soy Agar	1500 ml	x			
Thayer-Martin Agar	150 ml	x			

Chemical Name	Amount Per Week	Waste Paper	Sink Drain	Solvent Container	Other
Antibiotics (continued)					
Colistin	0-100 mg		x		
Polymxyin	"		x		
Sulfasoxazole	"		x		
Furadantin	"		x		

(Research)

Chemical Name	Amount Per Week	Waste Paper	Sink Drain	Waste Solvent Container	Other
Acids					
Citric Acid Buffer	100 gm	x	x		
Boric Acid Buffer	200 gm				Powders w/burnable
Hydrochloric Acid	10 gm		x		
Sulfuric Acid	50 ml		x		
Melanic Acid	2 gm		x		
Acetic Anhydride	25 ml		x		
Aspartic Acid	.5 gm		x		
Ketoglutaric Acid	.1 gm		x		
Trichloroacetic Acid	5 gm		x		
Citric Acid	1 gm	x	x		
Sulfuric Acid, 1N	10 ml		x		
Hydrochloric Acid, 4N	50 ml		x		
Nitric Acid	1 ml		x		
Nalidixic Acid	0-100 mg		x		
Hydrochloric Acid, 1N	2 ml				x
Sodium Hydroxide	110 ml & 50 mg		x		x
Sodium Pyruvate	50 mg				x
Formic Acid	25 ml				
Buffers					
Phosphate	4200 mls & 2-4 liters		x		
Potassium Phosphate	50 mls				x
Glycine	50 mls		x		
Sodium Pyrophosphate	50 mls		x		
Sodium Phosphate Dibasic	5 gms		x		
Sodium Phosphate mono-basic	3.5 gms	x	x		

Research Wastes

Waste Material

Chemical Name	Amount Per Week	Method of Disposal: Waste Paper	Sink Drain	Waste Solvent Container	Other
Acetate	2000 mls		x		
Carbonate Buffer	200 ml		x		
Sodium Barbital with NaEDTA	100-200 ml		x		
Tris-Na Azide	1000 ml		x		
Citrate Buffer	1000 ml		x		
	-				
Solvents					
3A Alcohol	10 ml		x		
70% Isopropanol	500 ml		x		
Ethyl alcohol, 3.8-	150 ml		x		
Xylene	100 ml			[illegible]	
Methanol	2 gal			[illegible]	
Butanol	200 ml			200	
Acetone	1500 ml	x	x	x	
Methanol Ethanol	1800 ml	x	x	x	
Aromatic Solvent	350 ml	x	x	x	
Halogenetic	200 ml	x	x	x	
Toluene	1 ml		x		
Methanol	1/2 gal & 25 ml		x		
Isopropanol Alcohol	155 ml		x		
Ethanol	150 ml		x		
Benzene	20 ml		x		
Acetone	75 ml		x		
Chloroform	20 ml			x	
Carbon Tetrachloride	2 ml			x	
Hexene	.5 ml			x	
Methyl Ethyl Ketone	.5 ml			x	
Tetrahydrofuridin	1 ml			x	

Chemical Name	Amount Per Week	Waste Paper	Sink Drain	Waste Solvent Container	Other
Bilirubin	0.01 gm		x		
Albumin	1.0 gm		x		
Bromosulphorphthalein, disodium salt	.005 gms	x			
Glucose oxidase	.001 gm	x			
PVA	.001 gm				
Ortho-toluidine, free base	.001 gm	x			
Tris-Hydroxymethylamino-methane	5 gm		x		
Polyethylene glycol	10-20 g		x		
Sodium Phosphate (Na_2HPO_4)	2-400 gms				Powder w burnables
p-phenylenediamine sulfonic acid	1-2 gms				"
8-Aniline-1-naphthalene sulfonic acid sodium salt	1-2 gms				"
Melamine	0.01 gm				"
3-3'-Methylbenzidine	.01 gm				"
Nickel Acetyl Acetonate	.1 gm				"
Strontium Peroxide	.01 gm				x
Sodium Thiosulfate, 1N	10 mls		x		
Ethylene Glycol	5 mls		x		
Sodium Carbonate	2 gms		x		
Potassium Iodide	5 gms		x		
Potassium Chloride	1 gm		x		
Sodium Hypochlorite (5%)	500 mls		x		
Amino Antipyrene	0.1 gm		x		
Phenothiazine	0.2 gm		x		
Adenosine Triphosphate	2.2 mg		x		
Tris-Hydroxyamonomethane	2 mg		x		
Creatine Phosphokinase	.010 mg		x		

Waste Chemicals

Chemical Name	Amount Per Week	Method of Disposal: Waste Paper	Sink Drain	Waste Solvent Container	Other
Stains					
Wright	5-7 gms			x	
Eosin	5-7 gms			x	
Bromthymol blue	2 gms		x		
General	500 mls		x		
Napthol blue-black	.01 gm	x			
General	10 gms		x		
Chemicals					
Dimethylsulfoxide	100 ml	x	x	x	
Dimethylformide	100 ml	x	x	x	
Surfactants	30 gms		x		
FDC Blue #1	100 mgs	x			
Glycerine	20 gms	x	x		
Polyvinylpyrrolidone	50 gms	x			
Styrene Meleic Anhydride	50 gms	x			
Bentonite	100 gms	x			
Cab-O-Sil	100 gms	x			
TiO_2	100 gms	x			
Sephadex	100 gms	x			
Metal Salts (e.g., $MgSO_4$)	20 gms		x		
Peroxides	25 gms	x			
Mineral acids	400 ml		x		
Alkali Salts	50 gms		x		
Aromatic Aldehydes & Amines	10 gms		x		
Photooxidative Inhibitors	10 gms		x		
Various Organic Compounds	15 gms	x	x		
Nonylphenol (ethylene oxide substituted)	0.005 gms	x			
Dextrose	10 gms		x		
Human blood	2 gm		x		

Chemical Name	Amount Per Week	Method of Disposal: Waste Paper	Sink Drain	Waste Solvent Container	Other
Bases					
Sodium Hydroxide, 1 N	10 ml		x		
Chemicals					
3-Methyl-2-Benzothiazolinone (MBTH)	40 cc			x	
Primaquinediphosphate 3.75%	5 cc		x		
Nicotine-Adeninedinucleotide-disodium	50 mg				
2-Amino-2-Methyl-1-Propanol	20 ml				
Phenolphthalein Mono-phosphate	50 mg				
p-Nitrophenylphosphate	50 mg				
o-Tolidine	500 mg		x		
Glucose oxidase	50 mg		x		
Peroxidase	50 mg		x		
Urease	50 mg		x		
Germicidal Concentrate					
n-Alkyldimethylbenzyl-ammonium chlorides 15.2%, inert ingredients 81.0%	150 ml		x		
Nitric Acid	Minimal amt. bimonthly				
Chemicals					
Ammonium Sulfate	50 gms		x		
3% Formalin	50 ml		x		
Sheep red cells	25 ml		x		
Whole human blood	400 ml				
Concentrated L-Thyroxin T_4	100-500 ml Infrequently		x		
NaOH	20-30 ml		x		
Media*					
Trypticase-Soy Agar w/5% Sheep Blood	1125 mls	x			
Levine EMB	1125 mls	x			

*All media are autoclaved prior to disposal

Chemical Name	Amount Per Week	Waste Paper	Sink Drain	Waste Solvent Container	Other
Alanine	2 g		x		
Nicotinamideadeninedi-phosphate reduced	20 mg		x		
Lactate Dehydrogenase	1 mg		x		
Malate Dehydrogenase	.05 mg		x		
Pyridine	10 ml			x	
Polyvinylpyrolidinone	.5 g		x		
Igepal C0630	.01 g		x		
Solids					
Cumenehydroperoxide	1.0	x	x		
o-Tolidine hydrochl.	20 mg	x	x		
6-Methoxyquinoline	10	x	x		
2-4-Dinitrophenylhydroz.	5 mg	x	x		
Glycerol	50 gm	x	x		
Glycine	1 gm	x	x		
Albumin	1 gm	x	x		
EDTA-Na	1 gm	x	x		
Ferrous Amm. Sulfate	10 gm	x	x		
Mercuric Nitrate	1 mg	x	x		
2 Napthol	2 mg	x	x		
Phenol	2 mg	x	x		
Potassium Hydroxide	50 mg	x	x		
Potassium Bromide	600 mg	x	x		
Potassium Phosphate	1 gm	x	x		
Sodium Phosphage	1 gm	x	x		
Sodium Carbanate	500 gm	x	x		
Sodium Azide	10 mg	x	x		
Sodium Acetate	500 mg	x	x		
Sodium Perchlorate	10 mg	x	x		
Sodium Sulfite	10 mg	x	x		
Urea	500 mg	x	x		
Tris	500 mg	x	x		

Chemical Name	Amount Per Week	Waste Paper	Sink Drain	Waste Solvent Container	Other
Medias (Continued)					
Impregnated Formula's					
DNA	1.56 gm	x			
$MgSO_4$	0.36 gm	x			
NaCl	3.0 gm	x			
Methyl Green Dye	0.12 gm	x			
Tryptose	18.0 gm	x			
LiCl	2.1 gm	x			
Tween-80	0.6 ml	x			
Crystal Violet	0.0002 gm	x			
Yeast Extract	1.8 gm	x			
PVA	15.6 gm	x			
Fungizone	20.0 ml	x			
Sodium Colistimethate	0.08 gm	x			
Nalidixic Acid	0.02 gm	x			
Bacitracin	0.04 gm	x			
Gentamicin	20 ml	x			
Columbia Broth	4 l		x		
Endo Agar	4 liters	x	x		
Glycerol	0.1 liter	x	x		
Ethylene Glycol	0.2 liter	x	x		
Napthal blue-black	0.1 g	x			
Ames Products					
Microcult G.C. Kits	13½ kits	x			
Antibiotics					
Ampicillin					
Cephalothin					
Nitrofurantoin					
Gentamicin					
Sulfamethoxeyole					
Trimethoprim	0-100 mg			x	
Tetracycline					
Kanamycin					
Carbenicillin					

Chemical Name	Amount Per Week	Waste Paper	Vial Drain	Waste Solvent Container	Other
Media (continued)					
Mannitol Salt Agar	150 mls	x			
SF Broth	100 mls		x		
Trypticase Soy Agar	200 mls + 3 liters		x		
CTA Medium	1200 mls		x		
Choc. Agar	350 mls	x			
Mueller Hinton Broth	104.10g + 2-liters	x			
Trypticase Peptone	1.0 g	x			
API Enterobacter. Identifications System.	25 tests	x			
Paper Impreg. Substances					
Cephalotin	.005 g	x			
FD&C Yellow	.15 g	x			
Kanamycin	.005 g	x			
Keltrol	2.5 g	x			
K_2HPO_4	1.0 g	x			
KH_2PO_4	4.0 g	x			
d-Mannitol	0.5 g	x			
Na_2HPO_4	1.0 g	x			
Neomycin sulfate	0.1 g	x			
Polymyxin B Sulfate	.006 g	x			
Phenol Red	0.1 g	x			
Thalluis Acetate	1.0 g	x			
Vancomycin	.0004 g	x			
Yeast Extract	.5 g	x			
Triphenyl Tetrazolium Cl	.03 g	x			
Todd Hewlett Broth	500 ml			x	
Brain Heart Infusion	100 ml			x	
Nutrient Agar Plates	50 ml	x			
5% Sheep Blood w/Trypticase Soy Agar	1500 ml	x			
Thayer-Martin Agar	150 ml	x			

Chemical Name	Amount Per Week	Waste Paper	Sink Drain	Waste Solvent Container	Other
Antibiotics (continued)					
Colistin	0-100 mg		x		
Polymxyin	"		x		
Sulfasoxazole	"		x		
Furadantin	"		x		