W03158

Quanterra

*Quanterra Incorporated*
*13715 Rider Trail North*
*Earth City, Missouri 63045*

*314 298-8566 Telephone*
*314 298-8757 Fax*

0053562

# ANALYTICAL REPORT

RECEIVED
AUG 17 2000
EDMC

**PROJECT NO. 100H AREA FULL**

**B99-042**

**Lot #: F0E220152**
**SDG #: W03158**

**Joan Kessner**

**Bechtel Hanford, Inc.**
**3350 George Washington Way**
**Richland, WA 99352**

**SEVERN TRENT LABORATORIES, INC.**

JUN 2000
RECEIVED

**MARTI WARD**
Project Manager

**June 7, 2000**

Quanterra
Environmental Services

*Quanterra Incorporated*
*13715 Rider Trail North*
*Earth City, Missouri 63045*

*314 298-8566 Telephone*
*314 298-8757 Fax*

# CASE NARRATIVE

Bechtel Hanford Incorporated
3350 George Washington Way
Richland, Washington 99352

June 7, 2000

Attention: Joan Kessner

| | | |
|---|---|---|
| Project Number | : | 34666 |
| SDG | : | W03158 |
| Number of Samples | : | one (1) |
| Sample Matrix | : | Soil |
| Data Deliverable | : | Summary |
| Date SDG Closed | : | May 19, 2000 |

## II. Introduction

On May 19, 2000, one (1) "soil" sample was received by Quanterra, Richland and transferred to Quanterra, St. Louis for chemical analysis. The samples were received at the St. Louis lab on 5/20/00 at 3 degrees C. See the attached Sample Summary form for the Lab ID's and corresponding Client Ids.

## III. Analytical Results/ Methodology

The analytical results for this report are presented by analytical test. Each set of data includes sample identification information, analytical results and the appropriate detection limits.

Analyses requested: 8310 SVOA HPLC

Deviation from Request: None

## IV. Definitions

The following codes are used to denote laboratory quality control samples and can be found in the data summary section of this report:

QCBLK- Quality Control Blank, Method Blank
QCLCS- Quality Control Laboratory Control Sample, Blank Spike
MS- Matrix Spike.
DUP- Matrix Duplicate
MSD- Matrix Spike Duplicate.

## V. Comments

General: The term "Detection Limit" used in the analytical data reports refers to either the lab's standard reporting limits or contractually required reporting limits, whichever is applicable.

Quanterra

Bechtel Hanford Incorporated
June 7, 2000
Project Number: 34666
SDG: W03158
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Please refer to the attached cross-reference table for the standard preparation methods used at Quanterra, St. Louis.

PAH: A Laboratory Control Sample, Method Blank, Matrix Spike and Matrix Spike Duplicate were analyzed with each preparation batch per the protocol for this analysis.

The Matrix spike/Matrix spike duplicate recoveries are below the control limits due to the amount of the compounds found in the un-spiked sample. This may be attributed to non-homogeneity and "hot spots" in the sample. Recoveries were within criteria in the LCS/LCS duplicate.

I certify that this Summary is in compliance with the SOW, 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 a designee, as verified by the following signature.

Reviewed and approved:

Marti Ward
St. Louis Project Manager

# SAMPLE SUMMARY

**F0E220152**

| WO # | SAMPLE# | CLIENT SAMPLE ID | DATE | TIME |
|---|---|---|---|---|
| DDJ1P | 001 | B0X4W1 | 05/18/00 | 12:36 |

**NOTE(S):**

- The analytical results of the samples listed above are presented on the following pages.
- All calculations are performed before rounding to avoid round-off errors in calculated results.
- Results noted as "ND" were not detected at or above the stated limit.
- This report must not be reproduced, except in full, without the written approval of the laboratory.
- Results for the following parameters are never reported on a dry weight basis: color, corrosivity, density, flashpoint, ignitability, layers, odor, paint filter test, pH, porosity pressure, reactivity, redox potential, specific gravity, spot tests, solids, solubility, temperature, viscosity, and weight.

# METHODS SUMMARY

**F0E220152**

| PARAMETER | ANALYTICAL METHOD | PREPARATION METHOD |
|---|---|---|
| Percent Moisture | MCAWW 160.3 MOD | MCAWW 160.3 MOD |
| Polynuclear Aromatic Hydrocarbons by HPLC | SW846 8310 | SW846 3550 |

**References:**

MCAWW "Methods for Chemical Analysis of Water and Wastes", EPA-600/4-79-020, March 1983 and subsequent revisions.

SW846 "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 and its updates.

PSL20300
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SEVERN TRENT LABORATORIES, INC
CLIENT ANALYSIS SUMMARY
STL St. Louis

Run Date: 5/22/00
Time: 14:39:30
User Id.: PACEM

CLIENT: 127642 BECHTEL HANFORD, INC.
PROJECT MANAGER: MARTI WARD
PROJECT #: 100H AREA FULL
REPORT TO: Joan Kessner
P.O. NUMBER: MRC-SBB-A-19981
SITE: B99-042
AMOUNT REC"D: 120G
STORAGE LOC: S8A
LOT COMMENTS: QC is billable
MATRIX: SOLID
SAMPLE ID: B0X4W1
QC PACKAGE: Special Report - see checklist
SAMPLE COMMENTS:

QUOTE/SAR #: 34666
LAB ID: F-0E220152-001
WORK ORDER: DDJ1P
RECEIVING DATE: 5/19/00
SAMPLING DATE: 5/18/00
ANALYTICAL DUE DATE: 6/06/00N
REPORT DUE DATE: 6/09/00
PRIORITY: 18
SAMPLING TIME: 12:36
RECEIVING TIME: 10:30
SDG# : W03158

**Beginning Depth:** .00 **Ending Depth:** .00

| ***** ANALYSIS ***** | WRK LOC | REQUEST DATE | EXTRACTION EXP DATE | ANALYSIS EXP DATE |
|---|---|---|---|---|
| Moisture, Percent (160.3) | 06 | 5/22/00 | 0/00/00 | 8/25/00 |
| NO SAMPLE PREPARATION PERFORMED / DIRECT INJECTION | | | | |
| (A-88-WM-01) DDJ1P-1-01 Protocol: A QC Program: STANDARD TEST SET | | | | |
| Hydrocarbons, Polynuclear Aromatic (HPLC | 06 | 5/22/00 | 6/01/00 | 7/11/00 |
| SONICATION - Low Level | | | | |
| STL: 8310 PAH | | | | |
| (A-13-SG-01) DDJ1P-1-02 Protocol: A QC Program: STANDARD TEST SET | | | | |

PSL20300
Page 1

SEVERN TRENT LABORATORIES, INC
CLIENT ANALYSIS SUMMARY
STL St. Louis

Run Date: 5/22/00
Time: 14:39:30
User Id.: PACEM

CLIENT: 127642 BECHTEL HANFORD, INC.
PROJECT MANAGER: MARTI WARD
PROJECT #: 100H AREA FULL
REPORT TO: Joan Kessner
P.O. NUMBER: MRC-SBB-A-19981
SITE: B99-042
AMOUNT REC"D: 120G
STORAGE LOC: S8A
LOT COMMENTS: QC is billable
MATRIX: SOLID
SAMPLE ID: B0X4W1
QC PACKAGE: Special Report - see checklist
SAMPLE COMMENTS:

QUOTE/SAR #: 34666
LAB ID: F-0E220152-001-D
WORK ORDER: DDJ1P MSD
RECEIVING DATE: 5/19/00
SAMPLING DATE: 5/18/00
ANALYTICAL DUE DATE: 6/06/00N
REPORT DUE DATE: 6/09/00
PRIORITY: 18
SAMPLING TIME: 12:36
RECEIVING TIME: 10:30
SDG# : W03158

**Beginning Depth:** .00 **Ending Depth:** .00

| ***** ANALYSIS ***** | WRK LOC | REQUEST DATE | EXTRACTION EXP DATE | ANALYSIS EXP DATE |
|---|---|---|---|---|
| Hydrocarbons, Polynuclear Aromatic (HPLC | 06 | 5/22/00 | 6/01/00 | 7/11/00 |

SONICATION - Low Level
STL: 8310 PAH
(A-13-SG-01) DDJ1P-1-04 Protocol: A QC Program: STANDARD TEST SET

PSL20300 SEVERN TRENT LABORATORIES, INC Run Date: 5/22/00
Page 1 CLIENT ANALYSIS SUMMARY Time: 14:39:30
STL St. Louis User Id.: PACEM

CLIENT: 127642 BECHTEL HANFORD, INC.
PROJECT MANAGER: MARTI WARD
PROJECT #: 100H AREA FULL
REPORT TO: Joan Kessner
P.O. NUMBER: MRC-SBB-A-19981
SITE: B99-042
AMOUNT REC"D: 120G
STORAGE LOC: S8A
LOT COMMENTS: QC is billable
MATRIX: SOLID
SAMPLE ID: B0X4W1
QC PACKAGE: Special Report - see checklist
SAMPLE COMMENTS:

QUOTE/SAR #: 34666
LAB ID: F-0E220152-001-S
WORK ORDER: DDJ1P MS
RECEIVING DATE: 5/19/00
SAMPLING DATE: 5/18/00
ANALYTICAL DUE DATE: 6/06/00N
REPORT DUE DATE: 6/09/00
PRIORITY: 18
SAMPLING TIME: 12:36
RECEIVING TIME: 10:30
SDG# : W03158

**Beginning Depth:** .00 **Ending Depth:** .00

| ***** ANALYSIS ***** | WRK LOC | REQUEST DATE | EXTRACTION EXP DATE | ANALYSIS EXP DATE |
|---|---|---|---|---|
| Hydrocarbons, Polynuclear Aromatic (HPLC SONICATION - Low Level STL: 8310 PAH | 06 | 5/22/00 | 6/01/00 | 7/11/00 |

(A-13-SG-01) DDJ1P-1-03 Protocol: A QC Program: STANDARD TEST SET

LOT #F0E220152

ST. Louis

AIRBORNE 401 2700510 3° CUR#624

| Bechtel Hanford Inc. | CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST | | B99-042-026 | Page 1 of 1 |
|---|---|---|---|---|
| Collector: Renee Nielson | Company Contact: Mike Stankovich | Telephone No.: 531-7620 | Project Coordinator: TRENT, SJ | Price Code: 8L; Data Turnaround: 21 Days |
| Project Designation: 100 H Area - Full Protocol | Sampling Location: 1607-H4 | | SAF No.: B99-042 | Air Quality ☐ |
| Ice Chest No.: ERC99-033 | Field Logbook No.: EL-1500-1 | COA: R607H42600 | Method of Shipment: Hand deliver - Govt. vehicle | |
| Shipped To: Severn Trent Incorporated Richland | Offsite Property No.: NA | | Bill of Lading/Air Bill No.: NA | |

POSSIBLE SAMPLE HAZARDS/REMARKS: None

Special Handling and/or Storage

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Preservation | Cool 4C | | | | | | | | | | |
| Type of Container | aG | | | | | | | | | | |
| No. of Container(s) | 1 | | | | | | | | | | |
| Volume | 120mL | | | | | | | | | | |
| SAMPLE ANALYSIS | 8310_SVOA_HPLC | | | | | | | | | | |

W03158

| Sample No. | Matrix * | Sample Date | Sample Time | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| B0X4W1 | Soil | 5-18-00 | 1236 | X | | | | | | | | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |

| CHAIN OF POSSESSION | | Sign/Print Names | |
|---|---|---|---|
| Relinquished By: Renee Nielson / R. Nielson | Date/Time: 5/18/00 1445 | Received By: R. Thoren | Date/Time: 5.18.00 1445 |
| Relinquished By: R. Thoren | Date/Time: 5/19/00 1030 | Received By: K. DeNeuling | Date/Time: 5-19-00 1030 |
| Relinquished By: K. DeNeuling | Date/Time: 5-19-00 1030 | Received By | Date/Time |
| Relinquished By | Date/Time | Received By | Date/Time |
| Relinquished By | Date/Time | Received By | Date/Time |
| Relinquished By | Date/Time | Received By | Date/Time |

SPECIAL INSTRUCTIONS

Sample originated in non RAD Controlled area
NOTA Req. < 2000 pCi/g

Matrix *: S=Soil, SE=Sediment, SO=Solid, S=Sludge, W=Water, O=Oil, A=Air, DS=Drum Solids, DL=Drum Liquids, T=Tissue, WI=Wipe, L=Liquid, V=Vegetation, X=Other

| | | | | |
|---|---|---|---|---|
| LABORATORY SECTION | Received By: Marissa [signature] STL | Title: Sample Control Supervisor | Date/Time: 05-20-00 0930 | |
| FINAL SAMPLE DISPOSITION | Disposal Method | Disposed By | Date/Time | |

BHI-EE-011 (10/99)

STL St. Louis

Committed to *Your* Success

000824

Lot No.: F0E220152
W03158

# Condition Upon Receipt Variance Report
## St. Louis Laboratory

Client: BECHTEL HANFORD
Date: 05.20.00 Time: 0930
Quote No: 34666
Initiated by: MSP
Shipper/No: AIRBORNE 004012700 510
RFA/COC Numbers: B99-042-026

**Condition/Variance (Check all that apply):**

1. ☐ Sample received broken/leaking.
2. ☐ Sample received without proper preservative.
   - ☐ Cooler temperature not within 4°C ± 2°C
     Record temperature: _____
   - ☐ pH _____
   - ☐ other: _____
3. ☐ Sample received in improper container.
4. ☐ Sample received without proper paperwork. Explain: _____
5. ☐ Paperwork received without sample.
6. ☐ No sample ID on sample container.
7. ☐ Custody tape disturbed/broken/missing/not tamper evident type (circle all that apply).
8. ☐ Sample ID on container does not match sample ID on paperwork. Explain: _____
9. ☐ All coolers on airbill not received with shipment.
10. ☐ Sample volume insufficient for analysis
11. ☐ Other (explain below)

☐ **No variances were noted during sample receipt.**

☒ **Cooler Temperature Upon Receipt in °C:** 3°

**Temperature Variance Does Not Affect the Following Analyses:** _____

Notes:

**Corrective Action:**

☐ Client's Name: _____ Informed verbally on: _____ By: _____

☐ Client's Name: _____ Informed in writing on: _____ By: _____

☐ Sample(s) processed "as is". _____

☐ Sample(s) on hold until: _____ If released, notify: _____

Sample Control Supervisor Review: (or designate) Marissa Spree Date: 05.20.00

Project Management Review: MWard Date: 5.23.00

**SIGNED ORIGINAL MUST BE RETAINED IN THE PROJECT FILE**

SL-ADMIN-0004, Revised 03/06/00

GC

**BECHTEL HANFORD, INC.**

**Client Sample ID: B0X4W1**

**HPLC**

| | | | | | |
|---|---|---|---|---|---|
| **Lot-Sample #...:** | F0E220152-001 | **Work Order #...:** | DDJ1P102 | **Matrix.....:** | SOLID |
| **Date Sampled...:** | 05/18/00 | **Date Received..:** | 05/19/00 | | |
| **Prep Date.....:** | 05/23/00 | **Analysis Date..:** | 05/27/00 | | |
| **Prep Batch #...:** | 0144512 | | | | |
| **Dilution Factor:** | 1 | | | | |
| **% Moisture.....:** | 1.2 | **Method.....:** | SW846 8310 | | |

| PARAMETER | RESULT | REPORTING LIMIT | UNITS | MDL |
|---|---|---|---|---|
| Acenaphthene | 660 | 30 | ug/kg | 22 |
| Acenaphthylene | ND | 30 | ug/kg | 8.3 |
| Anthracene | 360 | 30 | ug/kg | 11 |
| Benzo(a)anthracene | 670 | 15 | ug/kg | 14 |
| Benzo(a)pyrene | 610 | 15 | ug/kg | 13 |
| Benzo(b)fluoranthene | 350 | 15 | ug/kg | 14 |
| Benzo(ghi)perylene | 160 | 30 | ug/kg | 11 |
| Benzo(k)fluoranthene | 350 | 15 | ug/kg | 15 |
| Chrysene | 520 | 15 | ug/kg | 5.9 |
| Dibenz(a,h)anthracene | ND | 30 | ug/kg | 14 |
| Fluoranthene | 1200 | 30 | ug/kg | 18 |
| Fluorene | 100 | 30 | ug/kg | 6.5 |
| Indeno(1,2,3-cd)pyrene | 340 | 15 | ug/kg | 8.8 |
| Naphthalene | 930 | 30 | ug/kg | 28 |
| Phenanthrene | 1000 | 30 | ug/kg | 12 |
| Pyrene | 980 | 30 | ug/kg | 18 |

| SURROGATE | PERCENT RECOVERY | RECOVERY LIMITS |
|---|---|---|
| p-Terphenyl | 69 | (27 - 106) |

**NOTE(S):**

Results and reporting limits have been adjusted for dry weight.

## MATRIX SPIKE SAMPLE DATA REPORT

### HPLC

**Client Lot #...:** F0E220152 **Work Order #...:** DDJ1P103-MS **Matrix.....:** SOLID
**MS Lot-Sample #:** F0E220152-001 DDJ1P104-MSD
**Date Sampled...:** 05/18/00 **Date Received..:** 05/19/00
**Prep Date.....:** 05/23/00 **Analysis Date..:** 05/27/00
**Prep Batch #...:** 0144512
**Dilution Factor:** 1 **% Moisture.....:** 1.2

| PARAMETER | SAMPLE AMOUNT | SPIKE AMT | MEASRD AMOUNT | UNITS | PERCENT RECOVERY | RPD | METHOD |
|---|---|---|---|---|---|---|---|
| **Acenaphthene** | 660 | 337 | 318 | ug/kg | 0.0 a | | SW846 8310 |
| | 660 | 337 | 350 | ug/kg | 0.0 a | 0.0 | SW846 8310 |
| **Acenaphthylene** | ND | 337 | 303 | ug/kg | 90 | | SW846 8310 |
| | ND | 337 | 293 | ug/kg | 87 | 3.4 | SW846 8310 |
| **Anthracene** | 360 | 337 | 266 | ug/kg | 0.0 a | | SW846 8310 |
| | 360 | 337 | 265 | ug/kg | 0.0 a | 0.0 | SW846 8310 |
| **Benzo(a)anthracene** | 670 | 337 | 339 | ug/kg | 0.0 a | | SW846 8310 |
| | 670 | 337 | 358 | ug/kg | 0.0 a | 0.0 | SW846 8310 |
| **Benzo(a)pyrene** | 610 | 337 | 342 | ug/kg | 0.0 a | | SW846 8310 |
| | 610 | 337 | 363 | ug/kg | 0.0 a | 0.0 | SW846 8310 |
| **Benzo(b)fluoranthene** | 350 | 337 | 345 | ug/kg | 0.0 a | | SW846 8310 |
| | 350 | 337 | 357 | ug/kg | 2.9 a | 0.0 | SW846 8310 |
| **Benzo(ghi)perylene** | 160 | 337 | 432 | ug/kg | 82 | | SW846 8310 |
| | 160 | 337 | 398 | ug/kg | 72 | 8.2 | SW846 8310 |
| **Benzo(k)fluoranthene** | 350 | 337 | 325 | ug/kg | 0.0 a | | SW846 8310 |
| | 350 | 337 | 327 | ug/kg | 0.0 a | 0.0 | SW846 8310 |
| **Chrysene** | 520 | 337 | 343 | ug/kg | 0.0 a | | SW846 8310 |
| | 520 | 337 | 337 | ug/kg | 0.0 a | 0.0 | SW846 8310 |
| **Dibenz(a,h)anthracene** | ND | 337 | 369 | ug/kg | 109 | | SW846 8310 |
| | ND | 337 | 347 | ug/kg | 103 | 6.0 | SW846 8310 |
| **Fluoranthene** | 1200 | 337 | 373 | ug/kg | 0.0 a | | SW846 8310 |
| | 1200 | 337 | 427 | ug/kg | 0.0 a | 0.0 | SW846 8310 |
| **Fluorene** | 100 | 337 | 292 | ug/kg | 57 | | SW846 8310 |
| | 100 | 337 | 273 | ug/kg | 51 | 6.8 | SW846 8310 |
| **Indeno(1,2,3-cd)pyrene** | 340 | 337 | 354 | ug/kg | 4.4 a | | SW846 8310 |
| | 340 | 337 | 352 | ug/kg | 3.6 a | 0.80 | SW846 8310 |
| **Naphthalene** | 930 | 337 | 342 | ug/kg | 0.0 a | | SW846 8310 |
| | 930 | 337 | 347 | ug/kg | 0.0 a | 0.0 | SW846 8310 |
| **Phenanthrene** | 1000 | 337 | 309 | ug/kg | 0.0 a | | SW846 8310 |
| | 1000 | 337 | 311 | ug/kg | 0.0 a | 0.0 | SW846 8310 |
| **Pyrene** | 980 | 337 | 315 | ug/kg | 0.0 a | | SW846 8310 |
| | 980 | 337 | 361 | ug/kg | 0.0 a | 0.0 | SW846 8310 |

| SURROGATE | PERCENT RECOVERY | RECOVERY LIMITS |
|---|---|---|
| p-Terphenyl | 89 | (44 - 140) |
| | 90 | (44 - 140) |

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

a Spiked analyte recovery is outside stated control limits.

Results and reporting limits have been adjusted for dry weight.

# METHOD BLANK REPORT

## HPLC

**Client Lot #...:** F0E220152 **Work Order #...:** DDL1V107 **Matrix.....:** SOLID
**MB Lot-Sample #:** F0E230000-512

**Prep Date.....:** 05/23/00
**Analysis Date..:** 05/27/00 **Prep Batch #...:** 0144512
**Dilution Factor:** 1

| PARAMETER | RESULT | REPORTING LIMIT | UNITS | METHOD |
|---|---|---|---|---|
| Acenaphthene | ND | 30 | ug/kg | SW846 8310 |
| Acenaphthylene | ND | 30 | ug/kg | SW846 8310 |
| Anthracene | ND | 30 | ug/kg | SW846 8310 |
| Benzo(a)anthracene | ND | 15 | ug/kg | SW846 8310 |
| Benzo(a)pyrene | ND | 15 | ug/kg | SW846 8310 |
| Benzo(b)fluoranthene | ND | 15 | ug/kg | SW846 8310 |
| Benzo(ghi)perylene | ND | 30 | ug/kg | SW846 8310 |
| Benzo(k)fluoranthene | ND | 15 | ug/kg | SW846 8310 |
| Chrysene | ND | 15 | ug/kg | SW846 8310 |
| Dibenz(a,h)anthracene | ND | 30 | ug/kg | SW846 8310 |
| Fluoranthene | ND | 30 | ug/kg | SW846 8310 |
| Fluorene | ND | 30 | ug/kg | SW846 8310 |
| Indeno(1,2,3-cd)pyrene | ND | 15 | ug/kg | SW846 8310 |
| Naphthalene | ND | 30 | ug/kg | SW846 8310 |
| Phenanthrene | ND | 30 | ug/kg | SW846 8310 |
| Pyrene | ND | 30 | ug/kg | SW846 8310 |

| SURROGATE | PERCENT RECOVERY | RECOVERY LIMITS |
|---|---|---|
| p-Terphenyl | 78 | (44 - 140) |

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.

# LABORATORY CONTROL SAMPLE DATA REPORT

## HPLC

**Client Lot #...:** F0E220152 **Work Order #...:** DDL1V105-LCS **Matrix.....:** SOLID
**LCS Lot-Sample#:** F0E230000-512 DDL1V106-LCSD
**Prep Date.....:** 05/23/00 **Analysis Date..:** 05/27/00
**Prep Batch #...:** 0144512
**Dilution Factor:** 1

| PARAMETER | SPIKE AMOUNT | MEASURED AMOUNT | UNITS | PERCENT RECOVERY | RPD | METHOD |
|---|---|---|---|---|---|---|
| **Acenaphthene** | 333 | 228 | ug/kg | 68 | | SW846 8310 |
| | 333 | 244 | ug/kg | 73 | 6.8 | SW846 8310 |
| **Acenaphthylene** | 333 | 285 | ug/kg | 86 | | SW846 8310 |
| | 333 | 262 | ug/kg | 79 | 8.3 | SW846 8310 |
| **Anthracene** | 333 | 232 | ug/kg | 70 | | SW846 8310 |
| | 333 | 223 | ug/kg | 67 | 3.9 | SW846 8310 |
| **Benzo(a)anthracene** | 333 | 252 | ug/kg | 76 | | SW846 8310 |
| | 333 | 270 | ug/kg | 81 | 7.0 | SW846 8310 |
| **Benzo(a)pyrene** | 333 | 273 | ug/kg | 82 | | SW846 8310 |
| | 333 | 294 | ug/kg | 88 | 7.5 | SW846 8310 |
| **Benzo(b)fluoranthene** | 333 | 272 | ug/kg | 82 | | SW846 8310 |
| | 333 | 292 | ug/kg | 88 | 7.2 | SW846 8310 |
| **Benzo(ghi)perylene** | 333 | 291 | ug/kg | 87 | | SW846 8310 |
| | 333 | 316 | ug/kg | 95 | 8.3 | SW846 8310 |
| **Benzo(k)fluoranthene** | 333 | 273 | ug/kg | 82 | | SW846 8310 |
| | 333 | 292 | ug/kg | 88 | 6.7 | SW846 8310 |
| **Chrysene** | 333 | 259 | ug/kg | 78 | | SW846 8310 |
| | 333 | 279 | ug/kg | 84 | 7.4 | SW846 8310 |
| **Dibenz(a,h)anthracene** | 333 | 290 | ug/kg | 87 | | SW846 8310 |
| | 333 | 305 | ug/kg | 91 | 4.8 | SW846 8310 |
| **Fluoranthene** | 333 | 273 | ug/kg | 82 | | SW846 8310 |
| | 333 | 265 | ug/kg | 80 | 2.8 | SW846 8310 |
| **Fluorene** | 333 | 256 | ug/kg | 77 | | SW846 8310 |
| | 333 | 242 | ug/kg | 73 | 5.6 | SW846 8310 |
| **Indeno(1,2,3-cd)pyrene** | 333 | 285 | ug/kg | 85 | | SW846 8310 |
| | 333 | 309 | ug/kg | 93 | 8.2 | SW846 8310 |
| **Naphthalene** | 333 | 280 | ug/kg | 84 | | SW846 8310 |
| | 333 | 268 | ug/kg | 80 | 4.5 | SW846 8310 |
| **Phenanthrene** | 333 | 253 | ug/kg | 76 | | SW846 8310 |
| | 333 | 240 | ug/kg | 72 | 5.3 | SW846 8310 |
| **Pyrene** | 333 | 224 | ug/kg | 67 | | SW846 8310 |
| | 333 | 221 | ug/kg | 66 | 1.0 | SW846 8310 |

| SURROGATE | PERCENT RECOVERY | RECOVERY LIMITS |
|---|---|---|
| p-Terphenyl | 75 | (44 - 140) |
| | 76 | (44 - 140) |

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters