SEVERN TRENT STL

STL Knoxville
5815 Middlebrook Pike
Knoxville, TN 37921
Tel: 865 291 3000 Fax: 865 584 4315
www.stl-inc.com

# CERTIFICATE OF ANALYSIS

Fluor Hanford Inc
P. O. Box 1000, T6-03
Richland, WA 99352

February 12, 2007

Attention: Steve Trent

---

| | | |
|---|---|---|
| SAF Number | : | W07-001 |
| Date Samples Received | : | January 06, 2007 |
| Number of Samples | : | Six (6) |
| Sample Type | : | Water |
| Data Deliverable | : | 45 Day Data Package |

---

## I. Introduction

Six (6) water samples were received on January 06, 2007 by the STL Knoxville Laboratory for analysis. Upon receipt, the samples were assigned the following laboratory ID number to correspond with the Fluor Hanford Inc. (FHI) specific ID:

| STLKL ID# | FHI ID# | MATRIX | DATE OF RECEIPT |
|---|---|---|---|
| JMVEC | B1LTD1 | Water | 01/06/07 |
| JMVED | B1LTC9 | Water | 01/06/07 |
| JMVEE | B1LTD0 | Water | 01/06/07 |
| JMVEF | B1LTD5 | Water | 01/06/07 |
| JMVEG | B1LTC7 | Water | 01/06/07 |
| JMVEH | B1LTC8 | Water | 01/06/07 |

STL Knoxville maintains the following certifications, approvals and accreditations: Arkansas DEQ Cert. #05-043-0, California DHS ELAP Cert. #2423, Colorado DPHE, Connecticut DPH Cert. #PH-0223, Florida DOH Cert. #E87177, Georgia DNR Cert. #906, Hawaii DOH, Illinois EPA Cert. #000687, Indiana DOH Cert. #C-TN-02, Iowa DNR Cert. #375, Kansas DHE Cert. #E-10349, Kentucky DEP Lab ID #90101, Louisiana DEQ Cert. #03079, Louisiana DOHH Cert. #LA030024, Maryland DHMH Cert. #277, Massachusetts DEP Cert. #M-TN009, Michigan DEQ Lab ID #9933, New Jersey DEP Cert. #TN001, New York DOH Lab #10781, North Carolina DPH Lab ID #21705, North Carolina DEHNR Cert. #64, Ohio EPA VAP Cert. #CL0059, Oklahoma DEQ ID #9415, Pennsylvania DEP Cert. #68-00576, South Carolina DHEC Lab ID #84001001, Tennessee DOH Lab ID #02014, Utah DOH Cert. # QUAN3, Virginia DGS Lab ID #00165, Washington DOE Lab #C120, West Virginia DEP Cert. #345, Wisconsin DNR Lab ID #998044300, Naval Facilities Engineering Service Center and USDA Soil Permit #S-46424. This list of approvals is subject to change and does not imply that laboratory certification is available for all parameters reported in this environmental sample data report.

SEVERN TRENT STL

STL Knoxville
5815 Middlebrook Pike
Knoxville, TN 37921

Tel: 865 291 3000 Fax: 865 584 4315
www.stl-inc.com



## II. Analytical Results/Methodology

The analytical results for this report are presented by laboratory sample ID. Each set of data includes sample identification information and analytical results.
The requested analysis was:

**Trace Level Organics by 8290**

## III. Quality Control

The analytical results for the analysis performed includes a minimum of one Laboratory Control Sample (LCS).

Due to limited sample volume, a laboratory control sample/laboratory control sample duplicate was performed instead of a matrix spike/matrix spike duplicate.

Quality control sample results are reported in the same units as sample results.

## IV. Comments

The results reported herein are applicable to the samples submitted for analysis only.

This report shall not be reproduced except in full, without the written approval of the laboratory.

The original chain of custody documentation is included with this report.

Unless otherwise noted, all holding times and QC criteria were met. The test results shown in this report meet all applicable NELAC requirements. Any exceptions are noted below.

STL Knoxville maintains the following certifications, approvals and accreditations: Arkansas DEQ Cert. #05-043-0, California DHS ELAP Cert. #2423, Colorado DPHE, Connecticut DPH Cert. #PH-0223, Florida DOH Cert. #E87177, Georgia DNR Cert. #906, Hawaii DOH, Illinois EPA Cert. #000687, Indiana DOH Cert. #C-TN-02, Iowa DNR Cert. #375, Kansas DHE Cert. #E-10349, Kentucky DEP Lab ID #90101, Louisiana DEQ Cert. #03079, Louisiana DOHH Cert. #LA030024, Maryland DHMH Cert. #277, Massachusetts DEP Cert. #M-TN009, Michigan DEQ Lab ID #9933, New Jersey DEP Cert. #TN001, New York DOH Lab #10781, North Carolina DPH Lab ID #21705, North Carolina DEHNR Cert. #64, Ohio EPA VAP Cert. #CL0059, Oklahoma DEQ ID #9415, Pennsylvania DEP Cert. #68-00576, South Carolina DHEC Lab ID #84001001, Tennessee DOH Lab ID #02014, Utah DOH Cert. # QUAN3, Virginia DGS Lab ID #00165, Washington DOE Lab #C120, West Virginia DEP Cert. #345, Wisconsin DNR Lab ID #998044300, Naval Facilities Engineering Service Center and USDA Soil Permit #S-46424. This list of approvals is subject to change and does not imply that laboratory certification is available for all parameters reported in this environmental sample data report.

SEVERN TRENT STL

STL Knoxville
5815 Middlebrook Pike
Knoxville, TN 37921

Tel: 865 291 3000 Fax: 865 584 4315
www.stl-inc.com



The following flags are used to qualify results for chlorinated dioxin and furan results:

**J** – The reported result is an estimate. The amount reported is below the Minimum Level (ML). The qualitative definition of the ML is "the lowest level at which the analytical system must give a reliable signal and an acceptable calibration point". The ML was introduced in EPA Methods 1624 and 1625 in 1980 and was promulgated in these methods in 1984 at 40 CFR Part 136, Appendix A. For the purposes of this report the ML is qualitatively defined as described above, and quantitatively defined as follows:
**Minimum Level:** The concentration or mass of analyte in the sample that corresponds to the lowest calibration level in the initial calibration. It represents a concentration (in the sample extract) equivalent to that of the lowest calibration standard, after corrections for method-specified sample weights, volumes and cleanup procedures has been employed.

Example: The lowest calibration level for TCDD in the initial calibration is 0.5 pg/uL. A mass of 10 pg of 2,3,7,8-TCDD in the sample would result in a concentration of 0.5 pg/uL in the sample extract (at a final volume of 20 uL). Since the concentration in the sample extract corresponds to the concentration in the lowest calibration standard, the 10 pg mass in the sample components is the ML. If the sample extract is further diluted, the ML will increase by the dilution factor.

Example: A 1/10 dilution is performed on the sample extract described above. The ML for 2,3,7,8-TCDD becomes 100 pg rather than the default of 10 pg.

**E** – The reported result is an estimate. The amount reported is above the UCL described below.
The E qualifier is applied on the basis of the **Upper Calibration Level (UCL)**. The quantitative definition of the UCL is listed below:
**Upper Calibration Level:** The concentration or mass of analyte in the sample that corresponds to the highest calibration level in the initial calibration. It is equivalent to the

STL Knoxville maintains the following certifications, approvals and accreditations: Arkansas DEQ Cert. #05-043-0, California DHS ELAP Cert. #2423, Colorado DPHE, Connecticut DPH Cert. #PH-0223, Florida DOH Cert. #E87177, Georgia DNR Cert. #906, Hawaii DOH, Illinois EPA Cert. #000687, Indiana DOH Cert. #C-TN-02, Iowa DNR Cert. #375, Kansas DHE Cert. #E-10349, Kentucky DEP Lab ID #90101, Louisiana DEQ Cert. #03079, Louisiana DOHH Cert. #LA030024, Maryland DHMH Cert. #277, Massachusetts DEP Cert. #M-TN009, Michigan DEQ Lab ID #9933, New Jersey DEP Cert. #TN001, New York DOH Lab #10781, North Carolina DPH Lab ID #21705, North Carolina DEHNR Cert. #64, Ohio EPA VAP Cert. #CL0059, Oklahoma DEQ ID #9415, Pennsylvania DEP Cert. #68-00576, South Carolina DHEC Lab ID #84001001, Tennessee DOH Lab ID #02014, Utah DOH Cert. # QUAN3, Virginia DGS Lab ID #00165, Washington DOE Lab #C120, West Virginia DEP Cert. #345, Wisconsin DNR Lab ID #998044300, Naval Facilities Engineering Service Center and USDA Soil Permit #S-46424. This list of approvals is subject to change and does not imply that laboratory certification is available for all parameters reported in this environmental sample data report.

SEVERN TRENT STL

STL Knoxville
5815 Middlebrook Pike
Knoxville, TN 37921

Tel: 865 291 3000 Fax: 865 584 4315
www.stl-inc.com



concentration of the highest calibration standard, assuming that all method-specified sample weights, volumes, and cleanup procedures have been employed.

Example:
The maximum calibration level for TCDD in the initial calibration is 200 pg/uL. A mass of 4000 pg of 2,3,7,8-TCDD in the sampling components would result in a concentration of 200 pg/uL in the sample extract (at a final volume of 20 uL). Since the concentration in the sample extract corresponds to the concentration in the highest calibration standard, the 4000 pg mass in the sample components is the UCL. If the sample extract is further diluted, the ML will increase by the dilution factor.

Example:
A 1/10 dilution is performed on the sample extract described above. The UCL for 2,3,7,8-TCDD becomes 40,000 pg rather than the default of 4000 pg. In this examples all positive 2,3,7,8-TCDD results above 40,000 pg are flagged with an E.

**B** – The analyte is present in the associated method blank at a reportable level. For this analysis, there is no method specified reporting level, other than the qualitative criterion that peaks must exhibit a signal-to-noise ratio of 2.5-to-1. Therefore, the presence of any amount of the analyte present in the blank will result a B qualifier on all associated samples.
If the blank has analytes present above the ML (described above) the need for corrective action beyond qualifying the associated data is evaluated. The determination is made whether the amount in the blank is less than 5% of the lowest amount in associated client samples or regulatory limit. If this is the case, sample processing may continue with the qualification of the data. If the amount in the blank is greater than 5% of the lowest amount in associated client samples or regulatory limit, corrective action must be taken. The corrective actions may include extracting a second aliquot of sample if available, or notifying the client to assess the impact on the project objectives.

STL Knoxville maintains the following certifications, approvals and accreditations: Arkansas DEQ Cert. #05-043-0, California DHS ELAP Cert. #2423, Colorado DPHE, Connecticut DPH Cert. #PH-0223, Florida DOH Cert. #E87177, Georgia DNR Cert. #906, Hawaii DOH, Illinois EPA Cert. #000687, Indiana DOH Cert. #C-TN-02, Iowa DNR Cert. #375, Kansas DHE Cert. #E-10349, Kentucky DEP Lab ID #90101, Louisiana DEQ Cert. #03079, Louisiana DOHH Cert. #LA030024, Maryland DHMH Cert. #277, Massachusetts DEP Cert. #M-TN009, Michigan DEQ Lab ID #9933, New Jersey DEP Cert. #TN001, New York DOH Lab #10781, North Carolina DPH Lab ID #21705, North Carolina DEHNR Cert. #64, Ohio EPA VAP Cert. #CL0059, Oklahoma DEQ ID #9415, Pennsylvania DEP Cert. #68-00576, South Carolina DHEC Lab ID #84001001, Tennessee DOH Lab ID #02014, Utah DOH Cert. # QUAN3, Virginia DGS Lab ID #00165, Washington DOE Lab #C120, West Virginia DEP Cert. #345, Wisconsin DNR Lab ID #998044300, Naval Facilities Engineering Service Center and USDA Soil Permit #S-46424. This list of approvals is subject to change and does not imply that laboratory certification is available for all parameters reported in this environmental sample data report.

SEVERN TRENT STL

STL Knoxville
5815 Middlebrook Pike
Knoxville, TN 37921

Tel: 865 291 3000 Fax: 865 584 4315
www.stl-inc.com



Note: Some laboratories do not report contamination in the blank unless it is above their lower calibration limit, or an established percentage of the level in the samples, or an established percentage of the regulatory limit. Likewise, some laboratories set a reporting limit at one half the lower calibration limit.

**Q** – Estimated maximum possible concentration. This qualifier is used when the result is generated from chromatographic data that does not meet all the qualitative criteria for a positive identification given in the method. The criteria include the following areas:

- Ion abundance ratios must be within specified limits (+/-15% of theoretical ion abundance ratio.)
- Retention time criteria (relative to the method-specified isotope labeled retention time standard).
- Co-maximization criterion. The two quantitation ion peaks must reach their maxima within 2 seconds of each other.
- Polychlorinated dibenzofuran purity. No peak can be identified as a polychlorinated dibenzofuran if a polychlorinated diphenyl ether peak maximizes within +/- 2 seconds of the furan candidate.

**S** – Ion suppression evident. The trace indicating the signal from the lock mass of the calibration compound shows a deflection at the retention time of the analyte. This may indicate a temporary suppression of the instrument sensitivity, due to a matrix-borne interference.

**C** – Coeluting Isomer. The isomer is known to coelute with another member of its homologue group, or the peak shape is shouldered, indicating the likelihood of a coeluting isomer

**X** – Other. See explanation in narrative.

STL Knoxville maintains the following certifications, approvals and accreditations: Arkansas DEQ Cert. #05-043-0, California DHS ELAP Cert. #2423, Colorado DPHE, Connecticut DPH Cert. #PH-0223, Florida DOH Cert. #E87177, Georgia DNR Cert. #906, Hawaii DOH, Illinois EPA Cert. #000687, Indiana DOH Cert. #C-TN-02, Iowa DNR Cert. #375, Kansas DHE Cert. #E-10349, Kentucky DEP Lab ID #90101, Louisiana DEQ Cert. #03079, Louisiana DOHH Cert. #LA030024, Maryland DHMH Cert. #277, Massachusetts DEP Cert. #M-TN009, Michigan DEQ Lab ID #9933, New Jersey DEP Cert. #TN001, New York DOH Lab #10781, North Carolina DPH Lab ID #21705, North Carolina DEHNR Cert. #64, Ohio EPA VAP Cert. #CL0059, Oklahoma DEQ ID #9415, Pennsylvania DEP Cert. #68-00576, South Carolina DHEC Lab ID #84001001, Tennessee DOH Lab ID #02014, Utah DOH Cert. # QUAN3, Virginia DGS Lab ID #00165, Washington DOE Lab #C120, West Virginia DEP Cert. #345, Wisconsin DNR Lab ID #998044300, Naval Facilities Engineering Service Center and USDA Soil Permit #S-46424. This list of approvals is subject to change and does not imply that laboratory certification is available for all parameters reported in this environmental sample data report.

SEVERN TRENT STL

STL Knoxville
5815 Middlebrook Pike
Knoxville, TN 37921

Tel: 865 291 3000 Fax: 865 584 4315
www.stl-inc.com



I certify that this Certificate of Analysis 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:

Jamie McKinney
Project Manager

STL Knoxville maintains the following certifications, approvals and accreditations: Arkansas DEQ Cert. #05-043-0, California DHS ELAP Cert. #2423, Colorado DPHE, Connecticut DPH Cert. #PH-0223, Florida DOH Cert. #E87177, Georgia DNR Cert. #906, Hawaii DOH, Illinois EPA Cert. #000687, Indiana DOH Cert. #C-TN-02, Iowa DNR Cert. #375, Kansas DHE Cert. #E-10349, Kentucky DEP Lab ID #90101, Louisiana DEQ Cert. #03079, Louisiana DOHH Cert. #LA030024, Maryland DHMH Cert. #277, Massachusetts DEP Cert. #M-TN009, Michigan DEQ Lab ID #9933, New Jersey DEP Cert. #TN001, New York DOH Lab #10781, North Carolina DPH Lab ID #21705, North Carolina DEHNR Cert. #64, Ohio EPA VAP Cert. #CL0059, Oklahoma DEQ ID #9415, Pennsylvania DEP Cert. #68-00576, South Carolina DHEC Lab ID #84001001, Tennessee DOH Lab ID #02014, Utah DOH Cert. # QUAN3, Virginia DGS Lab ID #00165, Washington DOE Lab #C120, West Virginia DEP Cert. #345, Wisconsin DNR Lab ID #998044300, Naval Facilities Engineering Service Center and USDA Soil Permit #S-46424. This list of approvals is subject to change and does not imply that laboratory certification is available for all parameters reported in this environmental sample data report.

W05095



# Sample Data Summary

**Fluor Hanford Inc**

**Sample ID: B1LTD1**

**Trace Level Organic Compounds**

| | | | | | |
|---|---|---|---|---|---|
| **Lot - Sample #....:** | H7A150107 - 001 | **Work Order #....:** | JMVEC1AA | **Matrix....:** | WATER |
| **Date Sampled....:** | 01/05/07 | **Date Received....:** | 01/06/07 | **Dilution Factor:** | 1 |
| **Prep Date....:** | 01/23/07 | **Analysis Date....:** | 02/06/07 | | |
| **Prep Batch # ....:** | 7023244 | | | | |
| **Initial Wgt/Vol :** | 1050 mL | **Instrument ID....:** | M2A | **Method:** | SW846 8290 |
| **Analyst ID....:** | Scott A. Harris | | | | |

| PARAMETER | RESULT | | MINIMUM LEVEL | ESTIMATED DETECTION LIMIT | UNITS |
|---|---|---|---|---|---|
| 2,3,7,8-TCDD | ND | | 9.5 | 3.0 | pg/L |
| Total TCDD | ND | | 9.5 | 3.0 | pg/L |
| 1,2,3,7,8-PeCDD | ND | | 48 | 1.2 | pg/L |
| **Total PeCDD** | **2.9** | **Q J** | **48** | **1.2** | **pg/L** |
| 1,2,3,4,7,8-HxCDD | ND | | 48 | 1.1 | pg/L |
| 1,2,3,6,7,8-HxCDD | ND | | 48 | 1.2 | pg/L |
| 1,2,3,7,8,9-HxCDD | ND | | 48 | 1.1 | pg/L |
| Total HxCDD | ND | | 48 | 1.1 | pg/L |
| **1,2,3,4,6,7,8-HpCDD** | **2.2** | **Q J** | **48** | **0.93** | **pg/L** |
| **Total HpCDD** | **2.2** | **Q J** | **48** | **0.93** | **pg/L** |
| **OCDD** | **10** | **B J** | **95** | **1.1** | **pg/L** |
| 2,3,7,8-TCDF | ND | | 9.5 | 1.9 | pg/L |
| Total TCDF | ND | | 9.5 | 1.9 | pg/L |
| 1,2,3,7,8-PeCDF | ND | | 48 | 0.86 | pg/L |
| 2,3,4,7,8-PeCDF | ND | | 48 | 0.74 | pg/L |
| **Total PeCDF** | **0.70** | **Q J** | **48** | **0.80** | **pg/L** |
| **1,2,3,4,7,8-HxCDF** | **2.9** | **Q B J** | **48** | **0.69** | **pg/L** |
| **1,2,3,6,7,8-HxCDF** | **2.1** | **J** | **48** | **0.72** | **pg/L** |
| 2,3,4,6,7,8-HxCDF | ND | | 48 | 0.72 | pg/L |
| 1,2,3,7,8,9-HxCDF | ND | | 48 | 0.87 | pg/L |
| **Total HxCDF** | **8.6** | **J Q B** | **48** | **0.74** | **pg/L** |
| **1,2,3,4,6,7,8-HpCDF** | **12** | **Q B J** | **48** | **1.1** | **pg/L** |
| 1,2,3,4,7,8,9-HpCDF | ND | | 48 | 1.1 | pg/L |
| **Total HpCDF** | **12** | **Q B J** | **48** | **1.1** | **pg/L** |
| **OCDF** | **13** | **B J** | **95** | **1.0** | **pg/L** |

**Fluor Hanford Inc**

**Sample ID: B1LTD1**

**Trace Level Organic Compounds**

| | | | | | |
|---|---|---|---|---|---|
| **Lot - Sample #....:** | H7A150107 - 001 | **Work Order #....:** | JMVEC1AA | **Matrix....:** | WATER |
| **Date Sampled....:** | 01/05/07 | **Date Received....:** | 01/06/07 | **Dilution Factor:** | 1 |
| **Prep Date....:** | 01/23/07 | **Analysis Date....:** | 02/06/07 | | |
| **Prep Batch # ....:** | 7023244 | | | | |
| **Initial Wgt/Vol :** | 1050 mL | **Instrument ID....:** | M2A | **Method:** | SW846 8290 |
| **Analyst ID....:** | Scott A. Harris | | | | |

| INTERNAL STANDARDS | PERCENT RECOVERY | RECOVERY LIMITS |
|---|---|---|
| 13C-2,3,7,8-TCDD | 88 | 40 - 135 |
| 13C-1,2,3,7,8-PeCDD | 85 | 40 - 135 |
| 13C-1,2,3,4,7,8-HxCDD | 89 | 40 - 135 |
| 13C-1,2,3,6,7,8-HxCDD | 85 | 40 - 135 |
| 13C-1,2,3,4,6,7,8-HpCDD | 95 | 40 - 135 |
| 13C-OCDD | 87 | 40 - 135 |
| 13C-2,3,7,8-TCDF | 105 | 40 - 135 |
| 13C-1,2,3,7,8-PeCDF | 93 | 40 - 135 |
| 13C-2,3,4,7,8-PeCDF | 91 | 40 - 135 |
| 13C-1,2,3,4,7,8-HxCDF | 92 | 40 - 135 |
| 13C-1,2,3,6,7,8-HxCDF | 86 | 40 - 135 |
| 13C-2,3,4,6,7,8-HxCDF | 94 | 40 - 135 |
| 13C-1,2,3,7,8,9-HxCDF | 92 | 40 - 135 |
| 13C-1,2,3,4,6,7,8-HpCDF | 89 | 40 - 135 |
| 13C-1,2,3,4,7,8,9-HpCDF | 98 | 40 - 135 |

**QUALIFIERS**

B Method blank contamination. The associated method blank contains the target analyte at a reportable level.

J Estimated Result.

Q Estimated maximum possible concentration (EMPC).

**Fluor Hanford Inc**

**Sample ID: B1LTC9**

**Trace Level Organic Compounds**

| | | | | | |
|---|---|---|---|---|---|
| **Lot - Sample #....:** | H7A150107 - 002 | **Work Order #....:** | JMVED1AA | **Matrix....:** | WATER |
| **Date Sampled....:** | 01/05/07 | **Date Received....:** | 01/06/07 | **Dilution Factor:** | 1 |
| **Prep Date....:** | 01/23/07 | **Analysis Date....:** | 02/06/07 | | |
| **Prep Batch # ....:** | 7023244 | | | | |
| **Initial Wgt/Vol :** | 1050 mL | **Instrument ID....:** | M2A | **Method:** | SW846 8290 |
| **Analyst ID....:** | Scott A. Harris | | | | |

| PARAMETER | RESULT | | MINIMUM LEVEL | ESTIMATED DETECTION LIMIT | UNITS |
|---|---|---|---|---|---|
| 2,3,7,8-TCDD | ND | | 9.5 | 4.2 | pg/L |
| Total TCDD | ND | | 9.5 | 4.2 | pg/L |
| 1,2,3,7,8-PeCDD | ND | | 48 | 1.5 | pg/L |
| Total PeCDD | ND | | 48 | 1.5 | pg/L |
| 1,2,3,4,7,8-HxCDD | ND | | 48 | 1.4 | pg/L |
| 1,2,3,6,7,8-HxCDD | ND | | 48 | 1.6 | pg/L |
| 1,2,3,7,8,9-HxCDD | ND | | 48 | 1.4 | pg/L |
| Total HxCDD | ND | | 48 | 1.4 | pg/L |
| 1,2,3,4,6,7,8-HpCDD | ND | | 48 | 1.0 | pg/L |
| Total HpCDD | ND | | 48 | 1.0 | pg/L |
| **OCDD** | **3.6** | **B J** | **95** | **1.6** | **pg/L** |
| 2,3,7,8-TCDF | ND | | 9.5 | 2.5 | pg/L |
| Total TCDF | ND | | 9.5 | 2.5 | pg/L |
| 1,2,3,7,8-PeCDF | ND | | 48 | 1.1 | pg/L |
| 2,3,4,7,8-PeCDF | ND | | 48 | 0.94 | pg/L |
| Total PeCDF | ND | | 48 | 1.0 | pg/L |
| 1,2,3,4,7,8-HxCDF | ND | | 48 | 0.83 | pg/L |
| 1,2,3,6,7,8-HxCDF | ND | | 48 | 0.82 | pg/L |
| 2,3,4,6,7,8-HxCDF | ND | | 48 | 0.89 | pg/L |
| 1,2,3,7,8,9-HxCDF | ND | | 48 | 1.1 | pg/L |
| **Total HxCDF** | **1.1** | **Q B J** | **48** | **0.89** | **pg/L** |
| **1,2,3,4,6,7,8-HpCDF** | **5.5** | **Q B J** | **48** | **1.3** | **pg/L** |
| 1,2,3,4,7,8,9-HpCDF | ND | | 48 | 1.5 | pg/L |
| **Total HpCDF** | **5.5** | **Q B J** | **48** | **1.4** | **pg/L** |
| **OCDF** | **9.7** | **Q B J** | **95** | **2.1** | **pg/L** |

Fluor Hanford Inc

Sample ID: B1LTC9

Trace Level Organic Compounds

| | | | | | |
|---|---|---|---|---|---|
| Lot - Sample #....: | H7A150107 - 002 | Work Order #....: | JMVED1AA | Matrix....: | WATER |
| Date Sampled....: | 01/05/07 | Date Received....: | 01/06/07 | Dilution Factor: | 1 |
| Prep Date....: | 01/23/07 | Analysis Date....: | 02/06/07 | | |
| Prep Batch # ....: | 7023244 | | | | |
| Initial Wgt/Vol : | 1050 mL | Instrument ID....: | M2A | Method: | SW846 8290 |
| Analyst ID....: | Scott A. Harris | | | | |

| INTERNAL STANDARDS | PERCENT RECOVERY | RECOVERY LIMITS |
|---|---|---|
| 13C-2,3,7,8-TCDD | 67 | 40 - 135 |
| 13C-1,2,3,7,8-PeCDD | 69 | 40 - 135 |
| 13C-1,2,3,4,7,8-HxCDD | 73 | 40 - 135 |
| 13C-1,2,3,6,7,8-HxCDD | 71 | 40 - 135 |
| 13C-1,2,3,4,6,7,8-HpCDD | 74 | 40 - 135 |
| 13C-OCDD | 60 | 40 - 135 |
| 13C-2,3,7,8-TCDF | 79 | 40 - 135 |
| 13C-1,2,3,7,8-PeCDF | 70 | 40 - 135 |
| 13C-2,3,4,7,8-PeCDF | 72 | 40 - 135 |
| 13C-1,2,3,4,7,8-HxCDF | 73 | 40 - 135 |
| 13C-1,2,3,6,7,8-HxCDF | 71 | 40 - 135 |
| 13C-2,3,4,6,7,8-HxCDF | 76 | 40 - 135 |
| 13C-1,2,3,7,8,9-HxCDF | 75 | 40 - 135 |
| 13C-1,2,3,4,6,7,8-HpCDF | 71 | 40 - 135 |
| 13C-1,2,3,4,7,8,9-HpCDF | 76 | 40 - 135 |

**QUALIFIERS**

B Method blank contamination. The associated method blank contains the target analyte at a reportable level.

J Estimated Result.

Q Estimated maximum possible concentration (EMPC).

**Fluor Hanford Inc**

**Sample ID: B1LTD0**

**Trace Level Organic Compounds**

| | | | | | |
|---|---|---|---|---|---|
| **Lot - Sample #....:** | H7A150107 - 003 | **Work Order #....:** | JMVEE1AA | **Matrix....:** | WATER |
| **Date Sampled....:** | 01/05/07 | **Date Received....:** | 01/06/07 | **Dilution Factor:** | 1 |
| **Prep Date....:** | 01/23/07 | **Analysis Date....:** | 02/06/07 | | |
| **Prep Batch # ....:** | 7023244 | | | | |
| **Initial Wgt/Vol :** | 1050 mL | **Instrument ID....:** | M2A | **Method:** | SW846 8290 |
| **Analyst ID....:** | Patricia(Trish) M. Parsly | | | | |

| PARAMETER | RESULT | | MINIMUM LEVEL | ESTIMATED DETECTION LIMIT | UNITS |
|---|---|---|---|---|---|
| 2,3,7,8-TCDD | ND | | 9.5 | 5.2 | pg/L |
| Total TCDD | ND | | 9.5 | 5.2 | pg/L |
| 1,2,3,7,8-PeCDD | ND | | 48 | 1.8 | pg/L |
| Total PeCDD | ND | | 48 | 1.8 | pg/L |
| 1,2,3,4,7,8-HxCDD | ND | | 48 | 2.0 | pg/L |
| 1,2,3,6,7,8-HxCDD | ND | | 48 | 2.2 | pg/L |
| 1,2,3,7,8,9-HxCDD | ND | | 48 | 1.8 | pg/L |
| Total HxCDD | ND | | 48 | 2.1 | pg/L |
| 1,2,3,4,6,7,8-HpCDD | ND | | 48 | 1.4 | pg/L |
| Total HpCDD | ND | | 48 | 1.4 | pg/L |
| OCDD | ND | | 95 | 1.8 | pg/L |
| 2,3,7,8-TCDF | ND | | 9.5 | 3.3 | pg/L |
| Total TCDF | ND | | 9.5 | 3.3 | pg/L |
| 1,2,3,7,8-PeCDF | ND | | 48 | 1.5 | pg/L |
| 2,3,4,7,8-PeCDF | ND | | 48 | 1.4 | pg/L |
| Total PeCDF | ND | | 48 | 1.5 | pg/L |
| 1,2,3,4,7,8-HxCDF | ND | | 48 | 1.3 | pg/L |
| 1,2,3,6,7,8-HxCDF | ND | | 48 | 1.2 | pg/L |
| 2,3,4,6,7,8-HxCDF | ND | | 48 | 1.3 | pg/L |
| 1,2,3,7,8,9-HxCDF | ND | | 48 | 1.8 | pg/L |
| Total HxCDF | ND | | 48 | 1.4 | pg/L |
| **1,2,3,4,6,7,8-HpCDF** | **5.0** | **B J** | **48** | **2.0** | **pg/L** |
| 1,2,3,4,7,8,9-HpCDF | ND | | 48 | 2.6 | pg/L |
| **Total HpCDF** | **5.0** | **B J** | **48** | **2.3** | **pg/L** |
| **OCDF** | **7.3** | **Q B J** | **95** | **2.5** | **pg/L** |

**Fluor Hanford Inc**

**Sample ID: B1LTD0**

**Trace Level Organic Compounds**

| | | | | | |
|---|---|---|---|---|---|
| **Lot - Sample #....:** | H7A150107 - 003 | **Work Order #....:** | JMVEE1AA | **Matrix....:** | WATER |
| **Date Sampled....:** | 01/05/07 | **Date Received....:** | 01/06/07 | **Dilution Factor:** | 1 |
| **Prep Date....:** | 01/23/07 | **Analysis Date....:** | 02/06/07 | | |
| **Prep Batch # ....:** | 7023244 | | | | |
| **Initial Wgt/Vol :** | 1050 mL | **Instrument ID....:** | M2A | **Method:** | SW846 8290 |
| **Analyst ID....:** | Patricia(Trish) M. Parsly | | | | |

| INTERNAL STANDARDS | PERCENT RECOVERY | RECOVERY LIMITS |
|---|---|---|
| 13C-2,3,7,8-TCDD | 67 | 40 - 135 |
| 13C-1,2,3,7,8-PeCDD | 61 | 40 - 135 |
| 13C-1,2,3,4,7,8-HxCDD | 69 | 40 - 135 |
| 13C-1,2,3,6,7,8-HxCDD | 67 | 40 - 135 |
| 13C-1,2,3,4,6,7,8-HpCDD | 70 | 40 - 135 |
| 13C-OCDD | 62 | 40 - 135 |
| 13C-2,3,7,8-TCDF | 68 | 40 - 135 |
| 13C-1,2,3,7,8-PeCDF | 62 | 40 - 135 |
| 13C-2,3,4,7,8-PeCDF | 58 | 40 - 135 |
| 13C-1,2,3,4,7,8-HxCDF | 62 | 40 - 135 |
| 13C-1,2,3,6,7,8-HxCDF | 62 | 40 - 135 |
| 13C-2,3,4,6,7,8-HxCDF | 65 | 40 - 135 |
| 13C-1,2,3,7,8,9-HxCDF | 56 | 40 - 135 |
| 13C-1,2,3,4,6,7,8-HpCDF | 61 | 40 - 135 |
| 13C-1,2,3,4,7,8,9-HpCDF | 55 | 40 - 135 |

**QUALIFIERS**

B Method blank contamination. The associated method blank contains the target analyte at a reportable level.

J Estimated Result.

Q Estimated maximum possible concentration (EMPC).

**Fluor Hanford Inc**

**Sample ID: B1LTD5**

**Trace Level Organic Compounds**

| | | | | | |
|---|---|---|---|---|---|
| **Lot - Sample #....:** | H7A150107 - 004 | **Work Order #....:** | JMVEF1AA | **Matrix....:** | WATER |
| **Date Sampled....:** | 01/05/07 | **Date Received....:** | 01/06/07 | **Dilution Factor:** | 1 |
| **Prep Date....:** | 01/23/07 | **Analysis Date....:** | 02/07/07 | | |
| **Prep Batch # ....:** | 7023244 | | | | |
| **Initial Wgt/Vol :** | 1050 mL | **Instrument ID....:** | M2A | **Method:** | SW846 8290 |
| **Analyst ID....:** | Patricia(Trish) M. Parsly | | | | |

| PARAMETER | RESULT | | MINIMUM LEVEL | ESTIMATED DETECTION LIMIT | UNITS |
|---|---|---|---|---|---|
| 2,3,7,8-TCDD | ND | | 9.5 | 5.0 | pg/L |
| Total TCDD | ND | | 9.5 | 5.0 | pg/L |
| 1,2,3,7,8-PeCDD | ND | | 48 | 1.8 | pg/L |
| Total PeCDD | ND | | 48 | 1.8 | pg/L |
| 1,2,3,4,7,8-HxCDD | ND | | 48 | 1.6 | pg/L |
| 1,2,3,6,7,8-HxCDD | ND | | 48 | 1.8 | pg/L |
| 1,2,3,7,8,9-HxCDD | ND | | 48 | 1.4 | pg/L |
| Total HxCDD | ND | | 48 | 1.6 | pg/L |
| 1,2,3,4,6,7,8-HpCDD | ND | | 48 | 0.95 | pg/L |
| Total HpCDD | ND | | 48 | 0.95 | pg/L |
| OCDD | ND | | 95 | 1.6 | pg/L |
| 2,3,7,8-TCDF | ND | | 9.5 | 3.0 | pg/L |
| Total TCDF | ND | | 9.5 | 3.0 | pg/L |
| 1,2,3,7,8-PeCDF | ND | | 48 | 1.4 | pg/L |
| 2,3,4,7,8-PeCDF | ND | | 48 | 1.1 | pg/L |
| Total PeCDF | ND | | 48 | 1.2 | pg/L |
| 1,2,3,4,7,8-HxCDF | ND | | 48 | 1.2 | pg/L |
| 1,2,3,6,7,8-HxCDF | ND | | 48 | 1.1 | pg/L |
| 2,3,4,6,7,8-HxCDF | ND | | 48 | 1.2 | pg/L |
| 1,2,3,7,8,9-HxCDF | ND | | 48 | 1.5 | pg/L |
| Total HxCDF | ND | | 48 | 1.2 | pg/L |
| 1,2,3,4,6,7,8-HpCDF | ND | | 48 | 1.9 | pg/L |
| 1,2,3,4,7,8,9-HpCDF | ND | | 48 | 2.2 | pg/L |
| Total HpCDF | ND | | 48 | 2.0 | pg/L |
| **OCDF** | **5.3** | **Q B J** | **95** | **2.5** | **pg/L** |

**Fluor Hanford Inc**

**Sample ID: B1LTD5**

**Trace Level Organic Compounds**

| | | | | | |
|---|---|---|---|---|---|
| **Lot - Sample #....:** | H7A150107 - 004 | **Work Order #....:** | JMVEF1AA | **Matrix....:** | WATER |
| **Date Sampled....:** | 01/05/07 | **Date Received....:** | 01/06/07 | **Dilution Factor:** | 1 |
| **Prep Date....:** | 01/23/07 | **Analysis Date....:** | 02/07/07 | | |
| **Prep Batch # ....:** | 7023244 | | | | |
| **Initial Wgt/Vol :** | 1050 mL | **Instrument ID....:** | M2A | **Method:** | SW846 8290 |
| **Analyst ID....:** | Patricia(Trish) M. Parsly | | | | |

| INTERNAL STANDARDS | PERCENT RECOVERY | RECOVERY LIMITS |
|---|---|---|
| 13C-2,3,7,8-TCDD | 79 | 40 - 135 |
| 13C-1,2,3,7,8-PeCDD | 79 | 40 - 135 |
| 13C-1,2,3,4,7,8-HxCDD | 84 | 40 - 135 |
| 13C-1,2,3,6,7,8-HxCDD | 80 | 40 - 135 |
| 13C-1,2,3,4,6,7,8-HpCDD | 92 | 40 - 135 |
| 13C-OCDD | 72 | 40 - 135 |
| 13C-2,3,7,8-TCDF | 86 | 40 - 135 |
| 13C-1,2,3,7,8-PeCDF | 76 | 40 - 135 |
| 13C-2,3,4,7,8-PeCDF | 75 | 40 - 135 |
| 13C-1,2,3,4,7,8-HxCDF | 73 | 40 - 135 |
| 13C-1,2,3,6,7,8-HxCDF | 74 | 40 - 135 |
| 13C-2,3,4,6,7,8-HxCDF | 76 | 40 - 135 |
| 13C-1,2,3,7,8,9-HxCDF | 74 | 40 - 135 |
| 13C-1,2,3,4,6,7,8-HpCDF | 79 | 40 - 135 |
| 13C-1,2,3,4,7,8,9-HpCDF | 79 | 40 - 135 |

**QUALIFIERS**

B Method blank contamination. The associated method blank contains the target analyte at a reportable level.

J Estimated Result.

Q Estimated maximum possible concentration (EMPC).

**Fluor Hanford Inc**

**Sample ID: B1LTC7**

**Trace Level Organic Compounds**

| | | | | | |
|---|---|---|---|---|---|
| **Lot - Sample #....:** | H7A150107 - 005 | **Work Order #....:** | JMVEG1AA | **Matrix....:** | WATER |
| **Date Sampled....:** | 01/05/07 | **Date Received....:** | 01/06/07 | **Dilution Factor:** | 1 |
| **Prep Date....:** | 01/23/07 | **Analysis Date....:** | 02/07/07 | | |
| **Prep Batch # ....:** | 7023244 | | | | |
| **Initial Wgt/Vol :** | 1050 mL | **Instrument ID....:** | M2A | **Method:** | SW846 8290 |
| **Analyst ID....:** | Patricia(Trish) M. Parsly | | | | |

| PARAMETER | RESULT | | MINIMUM LEVEL | ESTIMATED DETECTION LIMIT | UNITS |
|---|---|---|---|---|---|
| 2,3,7,8-TCDD | ND | | 9.5 | 4.3 | pg/L |
| Total TCDD | ND | | 9.5 | 4.3 | pg/L |
| 1,2,3,7,8-PeCDD | ND | | 48 | 1.5 | pg/L |
| Total PeCDD | ND | | 48 | 1.5 | pg/L |
| 1,2,3,4,7,8-HxCDD | ND | | 48 | 1.1 | pg/L |
| 1,2,3,6,7,8-HxCDD | ND | | 48 | 1.3 | pg/L |
| 1,2,3,7,8,9-HxCDD | ND | | 48 | 1.0 | pg/L |
| Total HxCDD | ND | | 48 | 1.2 | pg/L |
| 1,2,3,4,6,7,8-HpCDD | ND | | 48 | 1.0 | pg/L |
| Total HpCDD | ND | | 48 | 1.0 | pg/L |
| **OCDD** | **3.0** | **B J** | **95** | **1.4** | **pg/L** |
| 2,3,7,8-TCDF | ND | | 9.5 | 2.4 | pg/L |
| Total TCDF | ND | | 9.5 | 2.4 | pg/L |
| 1,2,3,7,8-PeCDF | ND | | 48 | 1.2 | pg/L |
| 2,3,4,7,8-PeCDF | ND | | 48 | 0.89 | pg/L |
| Total PeCDF | ND | | 48 | 1.0 | pg/L |
| 1,2,3,4,7,8-HxCDF | ND | | 48 | 0.67 | pg/L |
| 1,2,3,6,7,8-HxCDF | ND | | 48 | 0.69 | pg/L |
| 2,3,4,6,7,8-HxCDF | ND | | 48 | 0.75 | pg/L |
| 1,2,3,7,8,9-HxCDF | ND | | 48 | 0.85 | pg/L |
| Total HxCDF | ND | | 48 | 0.73 | pg/L |
| **1,2,3,4,6,7,8-HpCDF** | **2.7** | **Q B J** | **48** | **1.6** | **pg/L** |
| 1,2,3,4,7,8,9-HpCDF | ND | | 48 | 1.9 | pg/L |
| **Total HpCDF** | **2.7** | **Q B J** | **48** | **1.8** | **pg/L** |
| **OCDF** | **5.3** | **Q B J** | **95** | **1.6** | **pg/L** |

Fluor Hanford Inc

Sample ID: B1LTC7

Trace Level Organic Compounds

| | | | | | |
|---|---|---|---|---|---|
| **Lot - Sample #....:** | H7A150107 - 005 | **Work Order #....:** | JMVEG1AA | **Matrix....:** | WATER |
| **Date Sampled....:** | 01/05/07 | **Date Received....:** | 01/06/07 | **Dilution Factor:** | 1 |
| **Prep Date....:** | 01/23/07 | **Analysis Date....:** | 02/07/07 | | |
| **Prep Batch # ....:** | 7023244 | | | | |
| **Initial Wgt/Vol :** | 1050 mL | **Instrument ID....:** | M2A | **Method:** | SW846 8290 |
| **Analyst ID....:** | Patricia(Trish) M. Parsly | | | | |

| INTERNAL STANDARDS | PERCENT RECOVERY | RECOVERY LIMITS |
|---|---|---|
| 13C-2,3,7,8-TCDD | 84 | 40 - 135 |
| 13C-1,2,3,7,8-PeCDD | 84 | 40 - 135 |
| 13C-1,2,3,4,7,8-HxCDD | 97 | 40 - 135 |
| 13C-1,2,3,6,7,8-HxCDD | 93 | 40 - 135 |
| 13C-1,2,3,4,6,7,8-HpCDD | 102 | 40 - 135 |
| 13C-OCDD | 85 | 40 - 135 |
| 13C-2,3,7,8-TCDF | 87 | 40 - 135 |
| 13C-1,2,3,7,8-PeCDF | 78 | 40 - 135 |
| 13C-2,3,4,7,8-PeCDF | 84 | 40 - 135 |
| 13C-1,2,3,4,7,8-HxCDF | 87 | 40 - 135 |
| 13C-1,2,3,6,7,8-HxCDF | 87 | 40 - 135 |
| 13C-2,3,4,6,7,8-HxCDF | 88 | 40 - 135 |
| 13C-1,2,3,7,8,9-HxCDF | 88 | 40 - 135 |
| 13C-1,2,3,4,6,7,8-HpCDF | 86 | 40 - 135 |
| 13C-1,2,3,4,7,8,9-HpCDF | 84 | 40 - 135 |

**QUALIFIERS**

B Method blank contamination. The associated method blank contains the target analyte at a reportable level.

J Estimated Result.

Q Estimated maximum possible concentration (EMPC).

Fluor Hanford Inc

Sample ID: B1LTC8

Trace Level Organic Compounds

| | | | | | |
|---|---|---|---|---|---|
| **Lot - Sample #....:** | H7A150107 - 006 | **Work Order #....:** | JMVEH1AA | **Matrix....:** | WATER |
| **Date Sampled....:** | 01/05/07 | **Date Received....:** | 01/06/07 | **Dilution Factor:** | 1 |
| **Prep Date....:** | 01/23/07 | **Analysis Date....:** | 02/07/07 | | |
| **Prep Batch # ....:** | 7023244 | | | | |
| **Initial Wgt/Vol :** | 1050 mL | **Instrument ID....:** | M2A | **Method:** | SW846 8290 |
| **Analyst ID....:** | Patricia(Trish) M. Parsly | | | | |

| PARAMETER | RESULT | | MINIMUM LEVEL | ESTIMATED DETECTION LIMIT | UNITS |
|---|---|---|---|---|---|
| 2,3,7,8-TCDD | ND | | 9.5 | 3.8 | pg/L |
| Total TCDD | ND | | 9.5 | 3.8 | pg/L |
| 1,2,3,7,8-PeCDD | ND | | 48 | 1.3 | pg/L |
| Total PeCDD | ND | | 48 | 1.3 | pg/L |
| 1,2,3,4,7,8-HxCDD | ND | | 48 | 1.3 | pg/L |
| 1,2,3,6,7,8-HxCDD | ND | | 48 | 1.4 | pg/L |
| 1,2,3,7,8,9-HxCDD | ND | | 48 | 1.1 | pg/L |
| **Total HxCDD** | **1.7** | **J** | **48** | **1.3** | **pg/L** |
| 1,2,3,4,6,7,8-HpCDD | ND | | 48 | 0.77 | pg/L |
| Total HpCDD | ND | | 48 | 0.77 | pg/L |
| **OCDD** | **2.5** | **B J** | **95** | **1.3** | **pg/L** |
| 2,3,7,8-TCDF | ND | | 9.5 | 2.3 | pg/L |
| Total TCDF | ND | | 9.5 | 2.3 | pg/L |
| 1,2,3,7,8-PeCDF | ND | | 48 | 1.1 | pg/L |
| 2,3,4,7,8-PeCDF | ND | | 48 | 0.88 | pg/L |
| Total PeCDF | ND | | 48 | 0.98 | pg/L |
| 1,2,3,4,7,8-HxCDF | ND | | 48 | 0.86 | pg/L |
| 1,2,3,6,7,8-HxCDF | ND | | 48 | 0.88 | pg/L |
| 2,3,4,6,7,8-HxCDF | ND | | 48 | 0.93 | pg/L |
| 1,2,3,7,8,9-HxCDF | ND | | 48 | 1.0 | pg/L |
| Total HxCDF | ND | | 48 | 0.92 | pg/L |
| **1,2,3,4,6,7,8-HpCDF** | **3.8** | **B J** | **48** | **1.4** | **pg/L** |
| 1,2,3,4,7,8,9-HpCDF | ND | | 48 | 1.5 | pg/L |
| **Total HpCDF** | **3.8** | **B J** | **48** | **1.4** | **pg/L** |
| **OCDF** | **5.8** | **Q B J** | **95** | **1.6** | **pg/L** |

**Fluor Hanford Inc**

**Sample ID: B1LTC8**

**Trace Level Organic Compounds**

| | | | | | |
|---|---|---|---|---|---|
| **Lot - Sample #....:** | H7A150107 - 006 | **Work Order #....:** | JMVEH1AA | **Matrix....:** | WATER |
| **Date Sampled....:** | 01/05/07 | **Date Received....:** | 01/06/07 | **Dilution Factor:** | 1 |
| **Prep Date....:** | 01/23/07 | **Analysis Date....:** | 02/07/07 | | |
| **Prep Batch # ....:** | 7023244 | | | | |
| **Initial Wgt/Vol :** | 1050 mL | **Instrument ID....:** | M2A | **Method:** | SW846 8290 |
| **Analyst ID....:** | Patricia(Trish) M. Parsly | | | | |

| INTERNAL STANDARDS | PERCENT RECOVERY | RECOVERY LIMITS |
|---|---|---|
| 13C-2,3,7,8-TCDD | 72 | 40 - 135 |
| 13C-1,2,3,7,8-PeCDD | 72 | 40 - 135 |
| 13C-1,2,3,4,7,8-HxCDD | 83 | 40 - 135 |
| 13C-1,2,3,6,7,8-HxCDD | 81 | 40 - 135 |
| 13C-1,2,3,4,6,7,8-HpCDD | 85 | 40 - 135 |
| 13C-OCDD | 75 | 40 - 135 |
| 13C-2,3,7,8-TCDF | 80 | 40 - 135 |
| 13C-1,2,3,7,8-PeCDF | 65 | 40 - 135 |
| 13C-2,3,4,7,8-PeCDF | 71 | 40 - 135 |
| 13C-1,2,3,4,7,8-HxCDF | 73 | 40 - 135 |
| 13C-1,2,3,6,7,8-HxCDF | 69 | 40 - 135 |
| 13C-2,3,4,6,7,8-HxCDF | 76 | 40 - 135 |
| 13C-1,2,3,7,8,9-HxCDF | 79 | 40 - 135 |
| 13C-1,2,3,4,6,7,8-HpCDF | 76 | 40 - 135 |
| 13C-1,2,3,4,7,8,9-HpCDF | 82 | 40 - 135 |

**QUALIFIERS**

B Method blank contamination. The associated method blank contains the target analyte at a reportable level.

J Estimated Result.

Q Estimated maximum possible concentration (EMPC).

# Method Blank Report

## Trace Level Organic Compounds

| | | | | | |
|---|---|---|---|---|---|
| **Lot - Sample #....:** | H7A230000 - 244B | **Work Order #....:** | JM78G1AA | **Matrix....:** | WATER |
| **Dilution Factor:** | 1 | | | | |
| **Prep Date....:** | 01/23/07 | **Analysis Date....:** | 02/06/07 | | |
| **Prep Batch # ....:** | 7023244 | | | | |
| **Initial Wgt/Vol :** | 1000 mL | **Instrument ID....:** | M2A | **Method:** | SW846 8290 |
| **Analyst ID....:** | Patricia(Trish) M. Parsly | | | | |

| PARAMETER | RESULT | | MINIMUM LEVEL | ESTIMATED DETECTION LIMIT | UNITS |
|---|---|---|---|---|---|
| 2,3,7,8-TCDD | ND | | 10 | 4.9 | pg/L |
| Total TCDD | ND | | 10 | 4.9 | pg/L |
| 1,2,3,7,8-PeCDD | ND | | 50 | 1.8 | pg/L |
| Total PeCDD | ND | | 50 | 1.8 | pg/L |
| 1,2,3,4,7,8-HxCDD | ND | | 50 | 2.0 | pg/L |
| 1,2,3,6,7,8-HxCDD | ND | | 50 | 2.2 | pg/L |
| 1,2,3,7,8,9-HxCDD | ND | | 50 | 1.8 | pg/L |
| Total HxCDD | ND | | 50 | 2.0 | pg/L |
| 1,2,3,4,6,7,8-HpCDD | ND | | 50 | 1.6 | pg/L |
| Total HpCDD | ND | | 50 | 1.6 | pg/L |
| **OCDD** | **6.3** | **Q J** | **100** | **2.1** | **pg/L** |
| 2,3,7,8-TCDF | ND | | 10 | 3.1 | pg/L |
| Total TCDF | ND | | 10 | 3.1 | pg/L |
| 1,2,3,7,8-PeCDF | ND | | 50 | 1.5 | pg/L |
| 2,3,4,7,8-PeCDF | ND | | 50 | 1.3 | pg/L |
| Total PeCDF | ND | | 50 | 1.4 | pg/L |
| **1,2,3,4,7,8-HxCDF** | **2.2** | **Q J** | **50** | **1.3** | **pg/L** |
| 1,2,3,6,7,8-HxCDF | ND | | 50 | 1.4 | pg/L |
| 2,3,4,6,7,8-HxCDF | ND | | 50 | 1.4 | pg/L |
| 1,2,3,7,8,9-HxCDF | ND | | 50 | 1.9 | pg/L |
| **Total HxCDF** | **5.7** | **J Q** | **50** | **1.5** | **pg/L** |
| **1,2,3,4,6,7,8-HpCDF** | **15** | **Q J** | **50** | **2.1** | **pg/L** |
| 1,2,3,4,7,8,9-HpCDF | ND | | 50 | 2.1 | pg/L |
| **Total HpCDF** | **15** | **Q J** | **50** | **2.1** | **pg/L** |
| **OCDF** | **16** | **J** | **100** | **1.9** | **pg/L** |

# Method Blank Report

## Trace Level Organic Compounds

| | | | | | |
|---|---|---|---|---|---|
| **Lot - Sample #....:** | H7A230000 - 244B | **Work Order #....:** | JM78G1AA | **Matrix....:** | WATER |
| **Dilution Factor:** | 1 | | | | |
| **Prep Date....:** | 01/23/07 | **Analysis Date....:** | 02/06/07 | | |
| **Prep Batch # ....:** | 7023244 | | | | |
| **Initial Wgt/Vol :** | 1000 mL | **Instrument ID....:** | M2A | **Method:** | SW846 8290 |
| **Analyst ID....:** | Patricia(Trish) M. Parsly | | | | |

| INTERNAL STANDARDS | PERCENT RECOVERY | RECOVERY LIMITS |
|---|---|---|
| 13C-2,3,7,8-TCDD | 81 | 40 - 135 |
| 13C-1,2,3,7,8-PeCDD | 79 | 40 - 135 |
| 13C-1,2,3,4,7,8-HxCDD | 84 | 40 - 135 |
| 13C-1,2,3,6,7,8-HxCDD | 78 | 40 - 135 |
| 13C-1,2,3,4,6,7,8-HpCDD | 100 | 40 - 135 |
| 13C-OCDD | 79 | 40 - 135 |
| 13C-2,3,7,8-TCDF | 84 | 40 - 135 |
| 13C-1,2,3,7,8-PeCDF | 79 | 40 - 135 |
| 13C-2,3,4,7,8-PeCDF | 72 | 40 - 135 |
| 13C-1,2,3,4,7,8-HxCDF | 87 | 40 - 135 |
| 13C-1,2,3,6,7,8-HxCDF | 81 | 40 - 135 |
| 13C-2,3,4,6,7,8-HxCDF | 86 | 40 - 135 |
| 13C-1,2,3,7,8,9-HxCDF | 73 | 40 - 135 |
| 13C-1,2,3,4,6,7,8-HpCDF | 77 | 40 - 135 |
| 13C-1,2,3,4,7,8,9-HpCDF | 91 | 40 - 135 |

**QUALIFIERS**

J Estimated Result.

Q Estimated maximum possible concentration (EMPC).

# LABORATORY CONTROL SAMPLE DATA REPORT

## Trace Level Organic Compounds

| | | | | | |
|---|---|---|---|---|---|
| **Client Lot # ...:** | H7A150107 | **Work Order # ...:** | JM78G1AC-LCS<br>JM78G1AD-LCSD | **Matrix .....:** | WATER |
| **LCS Lot-Sample# :** | H7A230000 - 244 | | | | |
| **Prep Date .....:** | 01/23/07 | **Analysis Date ..:** | 02/06/07 | | |
| **Prep Batch # ...:** | 7023244 | | | | |
| **Dilution Factor :** | 1 | | | | |
| **Analyst ID.....:** | Scott A. Harris | **Instrument ID..:** | M2A | **Method.....:** | SW846 8290 |
| **Initial Wgt/Vol:** | 1000 mL | | | | |

| PARAMETER | SPIKE AMOUNT | MEASURED AMOUNT | UNITS | PERCENT RECOVERY | | RECOVERY LIMITS | RPD | RPD LIMITS |
|---|---|---|---|---|---|---|---|---|
| **2,3,7,8-TCDD** | 200 | 230 | pg/L | 117 | | (72 - 122) | | |
| | 200 | 230 | pg/L | 115 | | (72 - 122) | 2.3 | (0 - 15) |
| **1,2,3,7,8-PeCDD** | 1000 | 1100 | pg/L | 112 | | (72 - 122) | | |
| | 1000 | 1100 | pg/L | 111 | | (72 - 122) | 1.1 | (0 - 15) |
| **1,2,3,4,7,8-HxCDD** | 1000 | 1100 | pg/L | 111 | | (69 - 119) | | |
| | 1000 | 1100 | pg/L | 105 | | (69 - 119) | 5.6 | (0 - 15) |
| **1,2,3,6,7,8-HxCDD** | 1000 | 1100 | pg/L | 113 | | (72 - 122) | | |
| | 1000 | 1100 | pg/L | 109 | | (72 - 122) | 3.8 | (0 - 15) |
| **1,2,3,7,8,9-HxCDD** | 1000 | 1200 | pg/L | 119 | | (71 - 129) | | |
| | 1000 | 1200 | pg/L | 116 | | (71 - 129) | 2.7 | (0 - 15) |
| **1,2,3,4,6,7,8-HpCDD** | 1000 | 1100 | pg/L | 108 | | (66 - 116) | | |
| | 1000 | 1000 | pg/L | 105 | | (66 - 116) | 3.1 | (0 - 15) |
| **OCDD** | 2000 | 2200 | pg/L | 112 | B | (70 - 120) | | |
| | 2000 | 2200 | pg/L | 109 | B | (70 - 120) | 2.8 | (0 - 15) |
| **2,3,7,8-TCDF** | 200 | 240 | pg/L | 119 | | (74 - 124) | | |
| | 200 | 240 | pg/L | 118 | | (74 - 124) | 0.40 | (0 - 15) |
| **1,2,3,7,8-PeCDF** | 1000 | 1100 | pg/L | 112 | | (69 - 119) | | |
| | 1000 | 1100 | pg/L | 109 | | (69 - 119) | 2.9 | (0 - 15) |
| **2,3,4,7,8-PeCDF** | 1000 | 1100 | pg/L | 109 | | (70 - 120) | | |
| | 1000 | 1100 | pg/L | 109 | | (70 - 120) | 0.080 | (0 - 15) |
| **1,2,3,4,7,8-HxCDF** | 1000 | 1100 | pg/L | 108 | B | (70 - 120) | | |
| | 1000 | 1100 | pg/L | 108 | B | (70 - 120) | 0.46 | (0 - 15) |
| **1,2,3,6,7,8-HxCDF** | 1000 | 1100 | pg/L | 109 | | (69 - 119) | | |
| | 1000 | 1100 | pg/L | 108 | | (69 - 119) | 1.0 | (0 - 15) |
| **2,3,4,6,7,8-HxCDF** | 1000 | 1100 | pg/L | 109 | | (69 - 119) | | |
| | 1000 | 1100 | pg/L | 107 | | (69 - 119) | 1.8 | (0 - 15) |
| **1,2,3,7,8,9-HxCDF** | 1000 | 1100 | pg/L | 112 | | (70 - 120) | | |
| | 1000 | 1100 | pg/L | 107 | | (70 - 120) | 5.0 | (0 - 15) |
| **1,2,3,4,6,7,8-HpCDF** | 1000 | 1100 | pg/L | 114 | B | (68 - 118) | | |
| | 1000 | 1100 | pg/L | 108 | B | (68 - 118) | 5.2 | (0 - 15) |
| **1,2,3,4,7,8,9-HpCDF** | 1000 | 1100 | pg/L | 111 | | (69 - 119) | | |
| | 1000 | 1100 | pg/L | 106 | | (69 - 119) | 4.1 | (0 - 15) |
| **OCDF** | 2000 | 2400 | pg/L | 118 | B | (61 - 128) | | |
| | 2000 | 2300 | pg/L | 117 | B | (61 - 128) | 1.4 | (0 - 15) |

| INTERNAL STANDARD | PERCENT RECOVERY | RECOVERY LIMITS |
|---|---|---|
| 13C-2,3,7,8-TCDD | 80 | (40 - 135) |
| | 77 | (40 - 135) |
| 13C-1,2,3,7,8-PeCDD | 82 | (40 - 135) |
| | 80 | (40 - 135) |
| 13C-1,2,3,4,7,8-HxCDD | 89 | (40 - 135) |

## LABORATORY CONTROL SAMPLE DATA REPORT

### Trace Level Organic Compounds

**Client Lot # ...:** H7A150107
**LCS Lot-Sample# :** H7A230000 - 244

**Work Order # ...:** JM78G1AC-LCS
JM78G1AD-LCSD

**Matrix .....:** WATER

| INTERNAL STANDARD | PERCENT RECOVERY | RECOVERY LIMITS |
|---|---|---|
| 13C-1,2,3,6,7,8-HxCDD | 88 | (40 - 135) |
| | 83 | (40 - 135) |
| 13C-1,2,3,4,6,7,8-HpCDD | 82 | (40 - 135) |
| | 95 | (40 - 135) |
| 13C-OCDD | 89 | (40 - 135) |
| | 79 | (40 - 135) |
| 13C-2,3,7,8-TCDF | 72 | (40 - 135) |
| | 94 | (40 - 135) |
| 13C-1,2,3,7,8-PeCDF | 88 | (40 - 135) |
| | 85 | (40 - 135) |
| 13C-2,3,4,7,8-PeCDF | 89 | (40 - 135) |
| | 90 | (40 - 135) |
| 13C-1,2,3,4,7,8-HxCDF | 88 | (40 - 135) |
| | 91 | (40 - 135) |
| 13C-1,2,3,6,7,8-HxCDF | 86 | (40 - 135) |
| | 88 | (40 - 135) |
| 13C-2,3,4,6,7,8-HxCDF | 81 | (40 - 135) |
| | 91 | (40 - 135) |
| 13C-1,2,3,7,8,9-HxCDF | 90 | (40 - 135) |
| | 90 | (40 - 135) |
| 13C-1,2,3,4,6,7,8-HpCDF | 89 | (40 - 135) |
| | 88 | (40 - 135) |
| 13C-1,2,3,4,7,8,9-HpCDF | 84 | (40 - 135) |
| | 97 | (40 - 135) |
| | 93 | (40 - 135) |

**Notes:**

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

Bold print denotes control parameters

B Method blank contamination. The associated method blank contains the target analyte at a reportable level.

W05095



# Sample Receipt Documentation

PNNL

# CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

47A150107

C.O.C. # W07-001-202

Page 1 of 1

| | | |
|---|---|---|
| Collector: ~~Fluor Hanford~~ K. B. HULSE | Contact/Requester: Dot Stewart | Telephone No.: 509-376-5056 MSIN FAX |
| SAF No.: W07-001 | Sampling Origin: Hanford Site | Purchase Order/Charge Code |
| Project Title: RCRA, JANUARY 2007 | HNF-N-506-2 p.51 | Ice Chest No.: WQED Temp. |
| Shipped To (Lab): Severn Trent Knoxville | Method of Shipment: Govt. Vehicle | Bill of Lading/Air Bill No.: 7995 6515 4178 |
| Protocol: RCRA | Priority: 45 Days | Offsite Property No.: N/A |

**POSSIBLE SAMPLE HAZARDS/REMARKS**
** ** Contains Radioactive Material at concentrations that are not regulated for transportation per 49 CFR but are not releasable per DOE Order 5400.5 (1990/1993)

**SPECIAL INSTRUCTIONS** Hold Time Total Activity Exemption: Yes ☑ No ☐
All Labs except WSCF: Batch all PNNL samples submitted under A, G, I, S, and W 07 SAFs into one SDG, not to exceed SDG closure of 14 days.
WSCF: Batch all PNNL GW samples submitted into one SDG, daily closure.

| Sample No. | Lab ID | * | Date | Time | No/Type Container | Sample Analysis | Preservative |
|---|---|---|---|---|---|---|---|
| B1LTD1 | | W | 01-05-07 | 1214 | 2x1000-mL aG | 8290_DIOXINS_GCMS: List-1 (25) | Cool 4C |
| B1LTD1 | | W | 01-05-07 | 1214 | 1x20-mL P | Activity Scan | None |
| | | | | | | | CUSTODY SEALS INTACT |
| | | | | | | | RECEIVED AT 2°C |
| | | | | | | | JRD 1-16-07 |
| | | | | | | | 1 COOLER FEDEX A |
| | | | | | | | 7995 6515 4178 |

| Relinquished By | Print | Sign | Date/Time | Received By | Print | Sign | Date/Time |
|---|---|---|---|---|---|---|---|
| KBHulse | KB Hulse | KB Hulse | 01-05-07 1455 | S. Smith | S. Smith | S. Smith | 1-5-07 1455 |
| S. Smith | S. Smith | S. Smith | 01-05-07 1515 | Benjamin Dunnam | | | 1-16-07 09:00 |
| | | | | | | | |
| | | | | | | | |

Matrix *

| | | | |
|---|---|---|---|
| S = Soil | | DS = Drum Solid | |
| SE = Sediment | | DL = Drum Liqui | |
| SO = Solid | | T = Tissue | |
| SL = Sludge | | WI = Wine | |
| W = Water | | L = Liquid | |
| O = Oil | | V = Vegetation | |
| A = Air | | X = Other | |

| FINAL SAMPLE DISPOSITION | Disposal Method (e.g., Return to customer, per lab procedure, used in process) | Disposed By | Date/Time |
|---|---|---|---|

178362

W05095

PNNL

# CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

H7A150107

C.O.C. # W07-001-200

Page 1 of 1

| | | |
|---|---|---|
| Collector: Fluor Hanford K.B. HULSE | Contact/Requester: Dot Stewart | Telephone No.: 509-376-5056 MSIN FAX |
| SAF No.: W07-001 | Sampling Origin: Hanford Site | Purchase Order/Charge Code |
| Project Title: RCRA, JANUARY 2007 | HNF-N-502-2-p51 | Ice Chest No.: WQED Temp. |
| Shipped To (Lab): Severn Trent Knoxville | Method of Shipment: Govt. Vehicle | Bill of Lading/Air Bill No.: 7995 6515 4178 |
| Protocol: RCRA | Priority: 45 Days | Offsite Property No.: N/A |

**POSSIBLE SAMPLE HAZARDS/REMARKS**
** ** Contains Radioactive Material at concentrations that are not regulated for transportation per 49 CFR but are not releasable per DOE Order 5400.5 (1990/1993)

**SPECIAL INSTRUCTIONS** Hold Time Total Activity Exemption: Yes ☑ No ☐
All Labs except WSCF: Batch all PNNL samples submitted under A, G, I, S, and W 07 SAFs into one SDG, not to exceed SDG closure of 14 days.
WSCF: Batch all PNNL GW samples submitted into one SDG, daily closure.

| Sample No. | Lab ID | * | Date | Time | No/Type Container | Sample Analysis | Preservative |
|---|---|---|---|---|---|---|---|
| B1LTC9 | | W | 01-05-07 | 1024 | 2x1000-mL aG | 8290_DIOXINS_GCMS: List-1 (25) | Cool 4C |
| B1LTC9 | | W | 01-05-07 | 1024 | 1x20-mL P | Activity Scan | None |

| Relinquished By | Print | Sign | Date/Time | Received By | Print | Sign | Date/Time |
|---|---|---|---|---|---|---|---|
| KB Hulse | | | 1455 01-05-07 | S. Smith | | S. Smith | 1455 1-5-07 |
| S. Smith | | S. Smith | 01-05-07 1515 | [illegible] | | | 1-6-07 09:00 |
| | | | | | | | |
| | | | | | | | |

Matrix *

| | | | |
|---|---|---|---|
| S = Soil | | DS = Drum Solid | |
| SE = Sediment | | DL = Drum Liqui | |
| SO = Solid | | T = Tissue | |
| SL = Sludge | | WI = Wine | |
| W = Water | | L = Liquid | |
| O = Oil | | V = Vegetation | |
| A = Air | | X = Other | |

**FINAL SAMPLE DISPOSITION** Disposal Method (e.g., Return to customer, per lab procedure, used in process) Disposed By Date/Time



W05095

26

PNNL

# CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

H7415010 7

C.O.C. # W07-001-201

Page 1 of 1

| | | |
|---|---|---|
| Collector | Contact/Requester: Dot Stewart | Telephone No.: 509-376-5056 MSIN FAX |
| SAF No.: W07-001 | Sampling Origin: Hanford Site | Purchase Order/Charge Code |
| Project Title: RCRA, JANUARY 2007 | HNF-N-506-2 p. 51 | Ice Chest No.: UNQED Temp. |
| Shipped To (Lab): Severn Trent Knoxville | Method of Shipment: Govt. Vehicle | Bill of Lading/Air Bill No.: 7995 6515 4178 |
| Protocol: RCRA | Priority: 45 Days | Offsite Property No.: N/A |

**POSSIBLE SAMPLE HAZARDS/REMARKS**
** ** Contains Radioactive Material at concentrations that are not regulated for transportation per 49 CFR but are not releasable per DOE Order 5400.5 (1990/1993)

**SPECIAL INSTRUCTIONS** Hold Time Total Activity Exemption: Yes ☑ No ☐
All Labs except WSCF: Batch all PNNL samples submitted under A, G, I, S, and W 07 SAFs into one SDG, not to exceed SDG closure of 14 days.
WSCF: Batch all PNNL GW samples submitted into one SDG, daily closure.

| Sample No. | Lab ID | * | Date | Time | No/Type Container | Sample Analysis | Preservative |
|---|---|---|---|---|---|---|---|
| B1LTD0 | | W | 01-05-07 | 0755 | 2x1000-mL aG | 8290_DIOXINS_GCMS: List-1 (25) | Cool 4C |
| B1LTD0 | | W | 01-05-07 | 0755 | 1x20-mL P | Activity Scan | None |

| Relinquished By | Print | Sign | Date/Time | Received By | Print | Sign | Date/Time |
|---|---|---|---|---|---|---|---|
| KB Hulse | KB Hulse | KB Hulse | 01-05-07 1455 | S. Smith | S. Smith | S. Smith | 1-5-07 1455 |
| S. Smith | S. Smith | S. Smith | 01.05.07 1519 | Bryan Dawson | | | 1-6-07 09:00 |
| Relinquished By | | | Date/Time | Received By | | | Date/Time |
| Relinquished By | | | Date/Time | Received By | | | Date/Time |

Matrix *

| | | | |
|---|---|---|---|
| S = Soil | | DS = Drum Solid | |
| SE = Sediment | | DL = Drum Liquid | |
| SO = Solid | | T = Tissue | |
| SL = Sludge | | WI = Wine | |
| W = Water | | L = Liquid | |
| O = Oil | | V = Vegetation | |
| A = Air | | X = Other | |

**FINAL SAMPLE DISPOSITION** Disposal Method (e.g., Return to customer, per lab procedure, used in process) Disposed By Date/Time

Page 27 of 31

W05095

27

PNNL

# CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

H7A150107

C.O.C. # W07-001-206

Page 1 of 1

| | | |
|---|---|---|
| Collector: Fluor Hanford ~~F. M. HALL~~ | Contact/Requester: Dot Stewart | Telephone No.: 509-376-5056 MSIN FAX |
| SAF No.: W07-001 | Sampling Origin: Hanford Site | Purchase Order/Charge Code |
| Project Title: RCRA, JANUARY 2007 | HNF-N-506-3 | Ice Chest No.: WQED Temp. |
| Shipped To (Lab): Severn Trent Knoxville | Method of Shipment: Govt. Vehicle | Bill of Lading/Air Bill No.: 799-5 6515 4178 |
| Protocol: RCRA | Priority: 45 Days | Offsite Property No. |

**POSSIBLE SAMPLE HAZARDS/REMARKS**
** ** Contains Radioactive Material at concentrations that are not regulated for transportation per 49 CFR but are not releasable per DOE Order 5400.5 (1990/1993)

**SPECIAL INSTRUCTIONS** Hold Time Total Activity Exemption: Yes ☑ No ☐
All Labs except WSCF: Batch all PNNL samples submitted under A, G, I, S, and W 07 SAFs into one SDG, not to exceed SDG closure of 14 days.
WSCF: Batch all PNNL GW samples submitted into one SDG, daily closure.

| Sample No. | Lab ID | * | Date | Time | No/Type Container | Sample Analysis | Preservative |
|---|---|---|---|---|---|---|---|
| B1LTD5 | | W | 1/5/07 | 0856 | 2x1000-mL aG | 8290_DIOXINS_GCMS: List-1 (25) | Cool 4C |
| B1LTD5 | | W | ↓ | ↓ | 1x20-mL P | Activity Scan | None |

| Relinquished By | Received By |
|---|---|
| Print: Fluor Hanford ~~F. M. HALL~~ Sign: [signature] Date/Time: JAN 0 5 2007 1400 | Print: S. Smith Sign: S. Smith Date/Time: JAN 0 5 2007 1400 |
| Relinquished By: S. Smith S. Smith 01-05-07 15:15 | Received By: FED EX Date/Time: |
| Relinquished By: Date/Time: | Received By: [signature] Date/Time: 1-6-07 09:00 |
| Relinquished By: Date/Time: | Received By: Date/Time: |

Matrix *

| | | | |
|---|---|---|---|
| S = Soil | | DS = Drum Solid | |
| SE = Sediment | | DL = Drum Liquid | |
| SO = Solid | | T = Tissue | |
| SL = Sludge | | WI = Wine | |
| W = Water | | L = Liquid | |
| O = Oil | | V = Vegetation | |
| A = Air | | X = Other | |

**FINAL SAMPLE DISPOSITION** Disposal Method (e.g., Return to customer, per lab procedure, used in process) Disposed By Date/Time



W05095

28

PNNL

# CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

147A15D107

C.O.C. # W07-001-198

Page 1 of 1

| | | |
|---|---|---|
| Collector: Fluor Hanford F. M. HALL | Contact/Requester: Dot Stewart | Telephone No.: 509-376-5056 MSIN FAX |
| SAF No.: W07-001 | Sampling Origin: Hanford Site | Purchase Order/Charge Code |
| Project Title: RCRA, JANUARY 2007 | HNF-N-506-3 | Ice Chest No.: WQED Temp. |
| Shipped To (Lab): Severn Trent Knoxville | Method of Shipment: Govt. Vehicle | Bill of Lading/Air Bill No.: 7995 6515 4178 |
| Protocol: RCRA | Priority: 45 Days | Offsite Property No. |

**POSSIBLE SAMPLE HAZARDS/REMARKS**

** ** Contains Radioactive Material at concentrations that are not regulated for transportation per 49 CFR but are not releasable per DOE Order 5400.5 (1990/1993)

**SPECIAL INSTRUCTIONS** Hold Time Total Activity Exemption: Yes ☑ No ☐

All Labs except WSCF: Batch all PNNL samples submitted under A, G, I, S, and W 07 SAFs into one SDG, not to exceed SDG closure of 14 days.

WSCF: Batch all PNNL GW samples submitted into one SDG, daily closure.

| Sample No. | Lab ID | * | Date | Time | No/Type Container | Sample Analysis | Preservative |
|---|---|---|---|---|---|---|---|
| B1LTC7 | | W | 1/5/07 | 1651 | 2x1000-mL aG | 8290_DIOXINS_GCMS: List-1 (25) | Cool 4C |
| B1LTC7 | | W | ↓ | ↓ | 1x20-mL P | Activity Scan | None |

| Relinquished By | Received By |
|---|---|
| Print: Fluor Hanford F. M. HALL; Sign: JAN 0 5 2007; Date/Time: 1400 | Print: S. Smith; Sign: S. Smith; JAN 0 5 2007; Date/Time: 1400 |
| Relinquished By: S. Smith S. Smith 01-05-07 1515 | Received By: FED EX; Date/Time: |
| Relinquished By; Date/Time: | Received By: Bryan Pearson; Date/Time: 1-6-07 09:00 |
| Relinquished By; Date/Time: | Received By; Date/Time: |

**Matrix ***

| | | | |
|---|---|---|---|
| S | = Soil | DS | = Drum Solid |
| SE | = Sediment | DL | = Drum Liqui |
| SO | = Solid | T | = Tissue |
| SL | = Sludge | WI | = Wine |
| W | = Water | L | = Liquid |
| O | = Oil | V | = Vegetation |
| A | = Air | X | = Other |

**FINAL SAMPLE DISPOSITION** Disposal Method (e.g., Return to customer, per lab procedure, used in process) Disposed By Date/Time



W05095

29

PNNL

# CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

117A150107

C.O.C. # W07-001-199

Page 1 of 1

| | | |
|---|---|---|
| Collector: Fluor Hanford F. M. HALL | Contact/Requester: Dot Stewart | Telephone No.: 509-376-5056 MSIN FAX |
| SAF No.: W07-001 | Sampling Origin: Hanford Site | Purchase Order/Charge Code |
| Project Title: RCRA, JANUARY 2007 | HNF-N-506-3 | Ice Chest No.: WQED Temp. |
| Shipped To (Lab): Severn Trent Knoxville | Method of Shipment: Govt. Vehicle | Bill of Lading/Air Bill No.: 7995 6515 4178 |
| Protocol: RCRA | Priority: 45 Days | Offsite Property No. |

**POSSIBLE SAMPLE HAZARDS/REMARKS**
** ** Contains Radioactive Material at concentrations that are not regulated for transportation per 49 CFR but are not releasable per DOE Order 5400.5 (1990/1993)

**SPECIAL INSTRUCTIONS** Hold Time Total Activity Exemption: Yes ☑ No ☐
All Labs except WSCF: Batch all PNNL samples submitted under A, G, I, S, and W 07 SAFs into one SDG, not to exceed SDG closure of 14 days.
WSCF: Batch all PNNL GW samples submitted into one SDG, daily closure.

| Sample No. | Lab ID | * | Date | Time | No/Type Container | Sample Analysis | Preservative |
|---|---|---|---|---|---|---|---|
| B1LTC8 | | W | 1/5/07 | 1051 | 2x1000-mL aG | 8290_DIOXINS_GCMS: List-1 (25) | Cool 4C |
| B1LTC8 | | W | ↓ | ↓ | 1x20-mL P | Activity Scan | None |

| Relinquished By | Received By |
|---|---|
| Print: Fluor Hanford F. M. HALL Sign: Date/Time: JAN 0 5 2007 1400 | Print: S. Smith Sign: S. Smith JAN 0 5 2007 Date/Time: 1400 |
| Relinquished By: S. Smith S. Smith 01-05-07 Date/Time: 1515 | Received By: FED Ex. Date/Time: |
| Relinquished By: 01-05-07 Date/Time: | Received By: Date/Time: 1-6-07 09:00 |
| Relinquished By: Date/Time: | Received By: Date/Time: |

Matrix *

| | | | |
|---|---|---|---|
| S = Soil | | DS = Drum Solid | |
| SE = Sediment | | DL = Drum Liqui | |
| SO = Solid | | T = Tissue | |
| SL = Sludge | | WI = Wine | |
| W = Water | | L = Liquid | |
| O = Oil | | V = Vegetation | |
| A = Air | | X = Other | |

**FINAL SAMPLE DISPOSITION** Disposal Method (e.g., Return to customer, per lab procedure, used in process) Disposed By Date/Time

W05095

# STL KNOXVILLE SAMPLE RECEIPT/CONDITION UPON RECEIPT ANOMALY CHECKLIST

**Client:** FLUOR HANFORD **Project:** _____ **Lot Number:** H7A150107

| Review Items | Yes | No | NA | If No, what was the problem? | Comments/Actions Taken |
|---|---|---|---|---|---|
| 1. Do sample container labels match COC? (IDs, Dates, Times) | ✓ | | | ☐ 1a Do not match COC<br>☐ 1b Incomplete information<br>☐ 1c Marking smeared<br>☐ 1d Label torn<br>☐ 1e No label<br>☐ 1f COC not received<br>☐ 1g Other: | 11 SAMPLES RECEIVED ON 1-6-07, RAD SCREENS RECEIVED ON 1-13-07 |
| 2. Is the cooler temperature within limits? (> freezing temp. of water to 6 °C; NC, 1668, 1613B: 0-4°C; VOST: 10°C; MA: 2-6 °C) | ✓ | | | ☐ 2a Temp Blank = _____<br>☐ 2b Cooler Temp = _____ | |
| 3. Were samples received with correct chemical preservative (excluding Encore)? | | | ✓ | ☐ 3a Sample preservative = | |
| 4. Were custody seals present/intact on cooler and/or containers? | ✓ | | | ☐ 4a Not present<br>☐ 4b Not intact<br>☐ 4c Other: | |
| 5. Were all of the samples listed on the COC received? | ✓ | | | ☐ 5a Samples received-not on COC<br>☐ 5b Samples not received-on COC | |
| 6. Were all of the sample containers received intact? | ✓ | | | ☐ 6a Leaking<br>☐ 6b Broken | |
| 7. Were VOA samples received without headspace? | | | ✓ | ☐ 7a Headspace (VOA only) | |
| 8. Were samples received in appropriate containers? | ✓ | | | ☐ 8a Improper container | |
| 9. Did you check for residual chlorine, if necessary? | | | ✓ | ☐ 9a Could not be determined due to matrix interference | |
| 10. Were samples received within holding time? | ✓ | | | ☐ 10a Holding time expired | |
| 11. For rad samples, was sample activity info. provided? | | ✓ | | ☑ Incomplete information | |
| 12. For SOG water samples (1613B, 1668A, 8290, LR PAHs), do samples have visible solids present? | | | ✓ | If yes & appears to be >1%, was SOG notified? _____ | |
| 13. Are the shipping containers intact? | ✓ | | | ☐ 13a Leaking<br>☐ 13b Other: | |
| 14. Was COC relinquished? (Signed/Dated/Timed) | ✓ | | | ☐ 14a Not relinquished | |
| 15. Are tests/parameters listed for each sample? | ✓ | | | ☐ 15a Incomplete information | |
| 16. Is the matrix of the samples noted? | ✓ | | | ☐ 15a Incomplete information | |
| 17. Is the date/time of sample collection noted? | ✓ | | | ☐ 15a Incomplete information | |
| 18. Is the client and project name/# identified? | ✓ | | | ☐ 15a Incomplete information | |
| 19. Was the sampler identified on the COC? | ✓ | | | | |

Quote #: 58362 PM Instructions: _____

Sample Receiving Associate: Benjamin Jameson Date: 1-15-07

QA026R18.doc, 1/30/06



W05095