0077129

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

# ANALYTICAL REPORT

RECEIVED
MAY 06 2008
EDMC

X07-048

Lot #: F7I280119
SDG #: SL713

Steve Trent

Fluor Hanford Inc
PO Box 1000
MSIN E6-35
Richland, WA 99352

NOV 2007
RECEIVED

TESTAMERICA LABORATORIES, INC.

Michael C. Franks
Project Manager

October 30, 2007

13715 Rider Trail North Earth City, MO 63045 tel 314.298.8566 fax 314.298.8757 www.testamericainc.com

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

**CASE NARRATIVE**

Pacific Northwest National Laboratories
P.O. Box 1000
Richland, Washington 99352
October 30, 2007
Attention: Steve Trent

| | | |
|---|---|---|
| SDG | : | SL713 |
| Number of Samples | : | Nine samples |
| Sample Matrix | : | Water |
| Data Deliverable | : | Summary |
| Date SDG Closed | : | October 11, 2007 |

II. Introduction

Between between September 27, 2007 and October 11, 2007, nine (9) water samples were received by TestAmerica St. Louis for chemical analysis. The samples were received within temperature criteria. See the COC and CUR forms for documentation of any variations on receipt conditions and temperature. Upon receipt, the samples were given laboratory Ids to correspond with specific client Ids. Please refer to the Sample Summary sheets attached to this case narrative. This report is incomplete without the narrative.

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. All results are based upon samples as they were received, i.e. wet weight, unless otherwise noted on the data sheets. See the attached Methods Summary Form for the methods used in this SDG.

Deviation from Request: None

IV. Definitions

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

V. Comments

**General**

The following SAFs are associated with this SDG: X07-048

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

MS/MSD/Dup analysis was done per the client requirements. Analytical batches that did not contain matrix QC were analyzed with a LCS/LCS duplicate.

## Volatiles

Batch: 7281123
The CCV recovery was outside the upper QC limit (greater than 20% RSD) for 1,4-Dioxane indicating a potential high bias for this analyte in the samples associated with this CCV. This analyte was not detected above the reporting limit in the associated samples.

The CCV %D for Nonanal is outside the established QC limits. This analyte is not part of the analysis request and thus this excursion does not affect the data.

The LCS/LCSD RPD for Acetone is outside established QC criteria. Percent recoveries are acceptable.
**Affected Samples:**
F7I280119 (1): B1PKY5

Batch: 7291245
The CCV recovery was outside the upper QC limit (greater than 20% RSD) for Carbon Disulfide indicating a potential high bias for this analyte in the samples associated with this CCV. This analyte was not detected above the reporting limit in the associated samples.

The CCV %D for numerous analytes is outside the established QC limits. These analytes are not part of the analysis request and thus this excursion does not affect the data.

The MS/MSD RPD for 1-Butanol and 1,4-Dioxanne is not within method acceptance criteria. However, the MS/MSD RPD values are outside QC limits for less than 10% of the compounds spiked. Laboratory QC practices, based on federal guidance documents, allow for up to 10% of the spike compounds to be outside QC criteria without necessitating re-preparation/re-analysis. Sample purge efficiency and compliance is demonstrated by the remaining acceptable MS recoveries.
**Affected Samples:**
F7J110312 (5): B1PKN0
F7J110312 (6): B1PKM8
F7J110312 (7): B1PKM9

## Ion Chromatography

The anion matrix spike solution contains all routine anions. Spiking technique, sample preparation and method compliance is demonstrated by the remaining acceptable MS recoveries. Poor matrix spike recovery for Chloride in batch 7271412, Fluoride in batch 7271413, and Nitrite in batch 7271415 is attributed to matrix interference.
**Affected Samples:**
F7I280119 (2): B1PKY9

The anion matrix spike solution contains all routine anions. Spiking technique, sample preparation and method compliance is demonstrated by the remaining acceptable MS recoveries. Poor matrix spike recovery for Nitrite in batch 7284588 is attributed to matrix interference.

**Affected Samples:**
F7J110312 (5): B1PKN0
F7J110312 (6): B1PKM8
F7J110312 (7): B1PKM9

## Conductivity

The specific conductivity matrix spike was marginally above the QC Limts.

**Affected Samples:**
F7J110312 (5): B1PKN0
F7J110312 (6): B1PKM8
F7J110312 (7): B1PKM9

**There were no observations or nonconformances to report for the following analyses:**

Total Cyanide
Total Organic Carbon
Total Organic Halogens

I certify that this Summary Package is in compliance with the SOW, both technically and for completeness, for other than the conditions detailed above. The Laboratory Manager or a designee, as verified by the following signature has authorized release of the data contained in this hard copy data package.

Reviewed and approved:

Mike Franks
St. Louis Project Manager

# METHODS SUMMARY

**SL713**

| PARAMETER | ANALYTICAL METHOD | PREPARATION METHOD |
|---|---|---|
| Chloride | MCAWW 300.0A | MCAWW 300.0A |
| Fluoride | MCAWW 300.0A | MCAWW 300.0A |
| Nitrate as NO3 | MCAWW 300.0A | |
| Nitrite as N | MCAWW 300.0A | MCAWW 300.0A |
| Specific Conductance | MCAWW 120.1 | |
| Sulfate | MCAWW 300.0A | MCAWW 300.0A |
| Total Cyanide | SW846 9012 | SW846 9012 |
| Total Organic Carbon | SW846 9060 | SW846 9060 |
| Total Organic Halogens | SW846 9020B | SW846 9020B |
| Volatile Organics by GC/MS | SW846 8260B | SW846 5030B/826 |

**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.

# SAMPLE SUMMARY

**SL713 : F7I280119**

| WO # | SAMPLE# | CLIENT SAMPLE ID | SAMPLED DATE | SAMP TIME |
|---|---|---|---|---|
| J7VHV | 001 | B1PKY5 | 09/26/07 | 09:45 |
| J7VHW | 002 | B1PKY9 | 09/26/07 | 12:53 |

**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.

(Continued on next page)

# SAMPLE SUMMARY

**SL713 : F7J110312**

| WO # | SAMPLE# | CLIENT SAMPLE ID | SAMPLED DATE | SAMP TIME |
|---|---|---|---|---|
| J8QP9 | 001 | B1PKN1 | 10/10/07 | 11:45 |
| J8QQ0 | 002 | B1PKN2 | 10/10/07 | 11:45 |
| J8QQ3 | 003 | B1PKN3 | 10/10/07 | 11:45 |
| J8QQ6 | 004 | B1PKN4 | 10/10/07 | 11:45 |
| J8QRE | 005 | B1PKN0 | 10/10/07 | 11:45 |
| J8QRX | 006 | B1PKM8 | 10/10/07 | 11:45 |
| J8QR3 | 007 | B1PKM9 | 10/10/07 | 11:45 |

**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.

FLUOR HANFORD

SL713

# CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

C.O.C. # X07-048-71

Page 1 of 1

| | | | |
|---|---|---|---|
| Collector: Kevin Patterson, Fluor Hanford | Contact/Requester: Steve Trent | Telephone No.: 509-373-5869 | MSIN / FAX |
| AF No.: X07-048 | Sampling Origin: Hanford Site | Purchase Order/Charge Code | |
| Project Title: SPECIAL SAMPLING, SEPTEMBER 2007 | Logbook: HNF-N-506-9 | Ice Chest No.: GWD-06-10 | Temp. |
| Shipped To (Lab): Severn Trent St. Louis | Method of Shipment: Govt. Vehicle | Bill of Lading/Air Bill No.: 179257021 1779 | |
| Protocol: SURV | 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 ☐

| Sample No. | Lab ID | * | Date | Time | No/Type Container | Sample Analysis | Preservative |
|---|---|---|---|---|---|---|---|
| B1PKY5 | | W | 9/26/07 | 0945 | 4x40-mL aGs* | 8260_VOA_GCMS: List-2 (26) | HCl or H2SO4 to pH <2 Cool~4C |
| B1PKY5 | | W | ↓ | ↓ | 1x20-mL P | Activity Scan | None |
| B1PKY5 | | W | ↓ | ↓ | 1x1000-mL aGs* | 9020_TOX: TOX (1) | H2SO4 to pH <2 Cool~4C |

R. Wood 9/26/07

| Relinquished By | Print | Sign | Date/Time | Received By | Print | Sign | Date/Time |
|---|---|---|---|---|---|---|---|
| Kevin Patterson, Fluor Hanford | | | SEP 26 2007 1430 | FEDEX | | | |
| FEDEX | | | 9-27-07 09:30 | Angela Brown | | | 9-27-07 9:30 |
| | | | | | | | |
| | | | | | | | |

Matrix *

| | | | |
|---|---|---|---|
| S = Soil | | DS = Drum Solid | |
| SS = 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

TestAmerica St. Louis

56

SDDS # STL 56

FLUOR HANFORD

SL713

# CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

C.O.C. # X07-048-74

Page 1 of 1

| | | |
|---|---|---|
| Collector: Kevin Patterson, Fluor Hanford | Contact/Requester: Steve Trent | Telephone No.: 509-373-5869 MSIN: FAX |
| BAF No.: X07-048 | Sampling Origin: Hanford Site | Purchase Order/Charge Code |
| Project Title: SPECIAL SAMPLING, SEPTEMBER 2007 | Logbook: HNF-N-506-9 | Ice Chest No.: 6100-06-10 Temp. |
| Shipped To (Lab): Severn Trent St. Louis | Method of Shipment: Govt. Vehicle | Bill of Lading/Air Bill No.: 7925 7021 1779 |
| Protocol: SURV | 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 ☐

| Sample No. | Lab ID | * | Date | Time | No/Type Container | Sample Analysis | Preservative |
|---|---|---|---|---|---|---|---|
| B1PKY9 | | W | 9/26/07 | 1253 | 1x500-mL P | 300.0_ANIONS_IC: List-1 (5) | Cool~4C |
| B1PKY9 | | W | ↓ | ↓ | 1x250-mL G/P | 9012_CYANIDE: Cyanide (1) | NaOH to pH >= 12 Cool~4C |
| B1PKY9 | | W | | | 1x20-mL P | Activity Scan | None |
| B1PKY9 | | W | | | 1x250-mL aGs* | 9060_TOC: TOC (1) | HCl or H2SO4 to pH <2 Cool~4C |

| Relinquished By | Print | Sign | Date/Time | Received By | Print | Sign | Date/Time |
|---|---|---|---|---|---|---|---|
| Kevin Patterson, Fluor Hanford | | | SEP 26 2007 1430 | FEDEX | | | |
| Relinquished By: FEDEX | | | Date/Time: 9-27-07 09:30 | Received By: Angela Brunson | | | Date/Time: 9-27-07 9:30 |
| 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 = Wipe | | |
| 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 |
|---|---|---|---|

TestAmerica St. Louis

Track Shipments/FedEx Kinko's Orders

# Detailed Results

Quick Help

| | | | |
|---|---|---|---|
| **Tracking number** | 792570211779 | **Reference** | GW0-06-10 |
| **Signed for by** | B.DANIELS | **Destination** | Earth City, MO |
| **Ship date** | Sep 26, 2007 | **Delivered to** | Shipping/Receiving |
| **Delivery date** | Sep 27, 2007 9:35 AM | **Service type** | Priority Overnight |
| | | **Weight** | 40.0 lbs. |
| **Status** | Delivered | | |
| **Signature image available** | Yes | | |

| Date/Time | | Activity | Location | Details |
|---|---|---|---|---|
| **Sep 27, 2007** | 9:35 AM | **Delivered** | Earth City, MO | |
| | 7:17 AM | On FedEx vehicle for delivery | EARTH CITY, MO | |
| | 7:10 AM | At local FedEx facility | EARTH CITY, MO | |
| | 6:13 AM | At dest sort facility | BERKELEY, MO | |
| | 4:00 AM | Departed FedEx location | MEMPHIS, TN | |
| **Sep 26, 2007** | 5:36 PM | Left origin | PASCO, WA | |
| | 4:00 PM | Package data transmitted to FedEx | | |
| | 3:38 PM | Picked up | PASCO, WA | |

Signature proof  E-mail results  Track more shipments/orders

Subscribe to tracking updates (optional)

**Your Name:**  **Your E-mail Address:**

| E-mail address | Language | Exception updates | Delivery updates |
|---|---|---|---|
| | English | | |
| | English | | |
| | English | | |
| | English | | |

**Select format:** HTML  Text  Wireless

**Add personal message:**

Not available for Wireless or non-English characters.

By selecting this check box and the Submit button, I agree to these Terms and Conditions

Submit

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Lot #(s): FTI270224 TestAmerica St. Louis
237
240
280119

- 419 -

**Condition Upon Receipt Form**

Client: FluorHanford COC/RFA No: SeeBelow Date: 9-27-07
Quote No: 76400, 76441 Initiated By: MB Time: 9:30
76775

**Shipping Information**

Shipper Name: FE
Multiple Packages (Y) N

Shipping # (s):*

| | | | |
|---|---|---|---|
| 1. 7985 7081 1779 | 6. | | |
| 2. 7903 4611 9340 | 7. | | |
| 3. 7991 9417 9887 | 8. | | |
| 4. | 9. | | |
| 5. | 10. | | |

Sample Temperature (s):**

| | | | |
|---|---|---|---|
| 1. 3 | 6. | | |
| 2. 2 | 7. | | |
| 3. 2 | 8. | | |
| 4. | 9. | | |
| 5. | 10. | | |

*Numbered shipping lines correspond to Numbered Sample Temp lines

**Sample must be received at 4°C ± 2°C- If not, note contents below. Temperature variance does NOT affect the following: Metals-Liquid or Rad tests- Liquid or Solids

**Condition** (Circle "Y" for yes, "N" for no and "N/A" for not applicable):

| | | | | | |
|---|---|---|---|---|---|
| 1. | (Y) N | Are there custody seals present on the cooler? | 8. | (Y) N | Are there custody seals present on bottles? |
| 2. | Y (N) N/A | Do custody seals on cooler appear to be tampered with? | 9. | Y (N) N/A | Do custody seals on bottles appear to be tampered with? |
| 3. | (Y) N | Were contents of cooler frisked after opening, but before unpacking? | 10. | (Y) N N/A | Was sample received with proper pH[1]? (If not, make note below) |
| 4. | (Y) N | Sample received with Chain of Custody? | 11. | Y N | If N/A- Was pH taken by original TestAmerica lab? |
| 5. | (Y) N N/A | Does the Chain of Custody match sample ID's on the container(s)? | 12. | (Y) N | Sample received in proper containers? |
| 6. | Y (N) | Was sample received broken? | 13. | Y (N) N/A | Headspace in VOA or TOX liquid samples? (If Yes, note sample ID's below) |
| 7. | (Y) N | Is sample volume sufficient for analysis? | 14. | Y N | Was Internal COC/Workshare received? |

[1] For DOE-AL (Pantex, LANL, Sandia) sites, pH of ALL containers received must be verified, EXCEPT VOA, TOX and soils.

Notes:
COC-V07-048-71
S07-009
W07-009
I07-061

Corrective Action:
☐ Client Contact Name: Informed by:
☐ Sample(s) processed "as is"
☐ Sample(s) on hold until: If released, notify:
Project Management Review: Date: 10-03-07

THIS FORM MUST BE COMPLETED AT THE TIME THE ITEMS ARE BEING CHECKED IN. IF ANY ITEM IS COMPLETED BY SOMEONE OTHER THAN THE INITIATOR, THEN THAT PERSON IS REQUIRED TO APPLY THEIR INITIAL AND THE DATE NEXT TO THAT ITEM.

SDG # SL713

FLUOR HANFORD

SL713

CWB 681

73165

# CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

C.O.C. # X07-048-4

Page 1 of 1

| | | |
|---|---|---|
| Collector: Fluor Hanford L. D. WALL | Contact/Requester: Steve Trent | Telephone No.: 509-373-5869 MSIN FAX |
| SAF No.: X07-048 | Sampling Origin: Hanford Site | Purchase Order/Charge Code |
| Project Title: SPECIAL SAMPLING, SEPTEMBER 2007 | HNF-N-506 ~~10~~-11 | Ice Chest No.: ERC-02-10 Temp. |
| Shipped To (Lab): Severn Trent St. Louis | Method of Shipment: Govt. Vehicle | Bill of Lading/Air Bill No.: 7987-8333-3758 |
| Protocol: SURV | 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 ☐
Do not combine X SAF samples with other sets. Need SDG to be stand alone.
All labs except WSCF: Do not exceed SDG closure of 14 days.
WSCF: SDG will close on a daily basis; X SAF samples into own SDG.

| Sample No. | Lab ID | * | Date | Time | No/Type Container | Sample Analysis | Preservative |
|---|---|---|---|---|---|---|---|
| B1PKN1 | | W | 10/10/07 | 1145 | 1x20-mL P | Activity Scan | None |
| B1PKN1 | | W | | | 1x1000-mL aGs* | 9020_TOX: TOX (1) | H2SO4 to pH <2 Cool~4C |
| B1PKN1 | | W | | | 1x250-mL aGs* | 9060_TOC: TOC (1) | HCl or H2SO4 to pH <2 Cool~4C |
| B1PKN2 | | W | | | 1x1000-mL aGs* | 9020_TOX: TOX (1) | H2SO4 to pH <2 Cool~4C |
| B1PKN2 | | W | | | 1x250-mL aGs* | 9060_TOC: TOC (1) | HCl or H2SO4 to pH <2 Cool~4C |
| B1PKN3 | | W | | | 1x1000-mL aGs* | 9020_TOX: TOX (1) | H2SO4 to pH <2 Cool~4C |
| B1PKN3 | | W | | | 1x250-mL aGs* | 9060_TOC: TOC (1) | HCl or H2SO4 to pH <2 Cool~4C |
| B1PKN4 | | W | | | 1x1000-mL aGs* | 9020_TOX: TOX (1) | H2SO4 to pH <2 Cool~4C |
| B1PKN4 | | W | | | 1x250-mL aGs* | 9060_TOC: TOC (1) | HCl or H2SO4 to pH <2 Cool~4C |

10/10/07

| Relinquished By (Print / Sign) | Date/Time | Received By (Print / Sign) | Date/Time |
|---|---|---|---|
| Fluor Hanford L. D. WALL | OCT 10 2007 1430 | FED EX | |
| RDEx | 10-11-07 09:00 | | 10-11-07 9:00 |
| | | | |
| | | | |

Matrix *

| | | | |
|---|---|---|---|
| S = Soil | | DS = Drum Solid | |
| SE = Sediment | | DL = Drum Liquid | |
| SO = Solid | | T = Tissue | |
| SL = Sludge | | WI = Wipe | |
| 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

TestAmerica St. Louis

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SDG# SL713

FLUOR HANFORD

# CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

C.O.C. # X07-048-3

Page 1 of 1

| | | |
|---|---|---|
| Collector: Fluor Hanford L. D. WALL | Contact/Requester: Steve Trent | Telephone No.: 509-373-5869 MSIN FAX |
| AF No.: X07-048 | Sampling Origin: Hanford Site | Purchase Order/Charge Code |
| Project Title: SPECIAL SAMPLING, SEPTEMBER 2007 | HNF-N-506-11 | Ice Chest No. ERC-02-10 Temp. |
| Shipped To (Lab): Severn Trent St. Louis | Method of Shipment: Govt. Vehicle | Bill of Lading/Air Bill No. 7987-8333-3758 |
| Protocol: SURV | 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 ☐
Do not combine X SAF samples with other sets. Need SDG to be stand alone.
All labs except WSCF: Do not exceed SDG closure of 14 days.
WSCF: SDG will close on a daily basis; X SAF samples into own SDG.

| Sample No. | Lab ID | * | Date | Time | No/Type Container | Sample Analysis | Preservative |
|---|---|---|---|---|---|---|---|
| B1PKN0 | | W | 10/10/07 | 1145 | 4x40-mL aGs* | 8260_VOA_GCMS: List-2 (26) | HCl or H2SO4 to pH <2 Cool~4C |
| B1PKN0 | | W | | | 1x500-mL P | 300.0_ANIONS_IC: List-1 (5) | Cool~4C |
| B1PKN0 | | W | | | 1x250-mL G/P | 9012_CYANIDE: Cyanide (1) | NaOH to pH >= 12 Cool~4C |
| B1PKN0 | | W | | | 1x20-mL P | Activity Scan | None |
| B1PKN0 | | W | | | 1x500-mL G/P | 120.1_CONDUCT: Conductivity (1) | Cool~4C |
| B1PKN0 | | W | | | 1x1000-mL aGs* | 9020_TOX: TOX (1) | H2SO4 to pH <2 Cool~4C |

10/10/07

| Relinquished By | Print | Sign | Date/Time | Received By | Print | Sign | Date/Time |
|---|---|---|---|---|---|---|---|
| Fluor Hanford L. D. WALL | | L.D. Wall | OCT 10 2007 1430 | FED EX | | | |
| Relinquished By: FedEx | | | Date/Time: 10-11-07 09:00 | Received By: Angela Buoon | | | Date/Time: 10-11-07 9:00 |
| 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 |
|---|---|---|---|

TestAmerica St. Louis

SL713

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SDG # ST13

FLUOR HANFORD

5L713

# CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

C.O.C. # X07-048-1

Page 1 of 1

| | | |
|---|---|---|
| Collector: Fluor Hanford L. D. WALL | Contact/Requester: Steve Trent | Telephone No.: 509-373-5869 MSIN FAX |
| SAF No.: X07-048 | Sampling Origin: Hanford Site | Purchase Order/Charge Code |
| Project Title: SPECIAL SAMPLING, SEPTEMBER 2007 | HNF-N-506-11 | Ice Chest No.: ERC-02-101 Temp. |
| Shipped To (Lab): Severn Trent St. Louis | Method of Shipment: Govt. Vehicle | Bill of Lading/Air Bill No.: 7987-8333-3758 |
| Protocol: SURV | 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 ☐
Do not combine X SAF samples with other sets. Need SDG to be stand alone.
All labs except WSCF: Do not exceed SDG closure of 14 days.
WSCF: SDG will close on a daily basis; X SAF samples into own SDG.

| Sample No. | Lab ID | * | Date | Time | No/Type Container | Sample Analysis | Preservative |
|---|---|---|---|---|---|---|---|
| B1PKM8 | | W | 10/10/07 | 1145 | 4x40-mL aGs* | 8260_VOA_GCMS: List-2 (26) | HCl or H2SO4 to pH <2 Cool~4C |
| B1PKM8 | | W | | | 1x500-mL P | 300.0_ANIONS_IC: List-1 (5) | Cool~4C |
| B1PKM8 | | W | | | 1x250-mL G/P | 9012_CYANIDE: Cyanide (1) | NaOH to pH >= 12 Cool~4C |
| B1PKM8 | | W | | | 1x20-mL P | Activity Scan | None |
| B1PKM8 | | W | | | 1x500-mL G/P | 120.1_CONDUCT: Conductivity (1) | Cool~4C |
| B1PKM8 | | W | | | 1x1000-mL aGs* | 9020_TOX: TOX (1) | H2SO4 to pH <2 Cool~4C |

10/10/07

| | | | |
|---|---|---|---|
| Relinquished By: Fluor Hanford L. D. WALL (Print) L.D. Wall (Sign) OCT 10 2007 1430 | Received By: FEDEX (Print) (Sign) Date/Time | Matrix * | |
| Relinquished By: FED EX Date/Time 10-11-07 09:00 | Received By: Angela Brown 10-11-07 9:00 Date/Time | S = Soil; SE = Sediment; SO = Solid; SL = Sludge; W = Water; O = Oil; A = Air | DS = Drum Solid; DL = Drum Liquid; T = Tissue; WI = Wipe; L = Liquid; V = Vegetation; X = Other |
| Relinquished By: Date/Time | Received By: Date/Time | | |
| Relinquished By: Date/Time | Received By: Date/Time | | |

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

TestAmerica St. Louis

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SDG# SL713

FLUOR HANFORD

# CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

C.O.C. # X07-048-2

Page 1 of 1

| | | |
|---|---|---|
| Collector: Fluor Hanford L. D. WALL | Contact/Requester: Steve Trent | Telephone No.: 509-373-5869 MSIN FAX |
| SAF No.: X07-048 | Sampling Origin: Hanford Site | Purchase Order/Charge Code |
| Project Title: SPECIAL SAMPLING, SEPTEMBER 2007 | HNF-N-506-11 | Ice Chest No.: ERC-02-101 Temp. |
| Shipped To (Lab): Severn Trent St. Louis | Method of Shipment: Govt. Vehicle | Bill of Lading/Air Bill No.: 7987-8333-3758 |
| Protocol: SURV | 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 ☐
Do not combine X SAF samples with other sets. Need SDG to be stand alone.
All labs except WSCF: Do not exceed SDG closure of 14 days.
WSCF: SDG will close on a daily basis; X SAF samples into own SDG.

| Sample No. | Lab ID | * | Date | Time | No/Type Container | Sample Analysis | Preservative |
|---|---|---|---|---|---|---|---|
| B1PKM9 | | W | 10/10/07 | 1145 | 4x40-mL aGs* | 8260_VOA_GCMS: List-2 (26) | HCl or H2SO4 to pH <2 Cool~4C |
| B1PKM9 | | W | | | 1x500-mL P | 300.0_ANIONS_IC: List-1 (5) | Cool~4C |
| B1PKM9 | | W | | | 1x250-mL G/P | 9012_CYANIDE: Cyanide (1) | NaOH to pH >= 12 Cool~4C |
| B1PKM9 | | W | | | 1x20-mL P | Activity Scan | None |
| B1PKM9 | | W | | | 1x500-mL G/P | 120.1_CONDUCT: Conductivity (1) | Cool~4C |
| B1PKM9 | | W | | | 1x1000-mL aGs* | 9020_TOX: TOX (1) | H2SO4 to pH <2 Cool~4C |

10/10/07

| Relinquished By | Print | Sign | Date/Time | Received By | Print | Sign | Date/Time |
|---|---|---|---|---|---|---|---|
| Fluor Hanford L. D. WALL | L. D. Wall | OCT 10 2007 | 1430 | FEDEX | | | |
| Relinquished By: FedEx | | | 10-11-07 0900 | Received By: Angela Brown | | | 10-11-07 9:00 |
| 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 = Wipe | |
| 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

TestAmerica St. Louis

SDG# SL713

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Track Shipments/FedEx Kinko's Orders

# Detailed Results

Quick Help

| | | | |
|---|---|---|---|
| **Tracking number** | 798783333758 | **Reference** | ERC-02-101 |
| **Signed for by** | B.DANIELS | **Destination** | Earth City, MO |
| **Ship date** | Oct 10, 2007 | **Delivered to** | Shipping/Receiving |
| **Delivery date** | Oct 11, 2007 8:55 AM | **Service type** | Priority Overnight |
| | | **Weight** | 72.0 lbs. |

**Status** Delivered

**Signature image available** Yes

| Date/Time | | Activity | Location | Details |
|---|---|---|---|---|
| **Oct 11, 2007** | 8:55 AM | **Delivered** | Earth City, MO | |
| | 6:40 AM | On FedEx vehicle for delivery | EARTH CITY, MO | |
| | 6:35 AM | At local FedEx facility | EARTH CITY, MO | |
| | 5:17 AM | At dest sort facility | BERKELEY, MO | |
| | 3:51 AM | Departed FedEx location | MEMPHIS, TN | |
| | 1:03 AM | Arrived at FedEx location | MEMPHIS, TN | |
| **Oct 10, 2007** | 5:18 PM | Left origin | PASCO, WA | |
| | 4:40 PM | Package data transmitted to FedEx | | |
| | 4:12 PM | Picked up | PASCO, WA | |

Signature proof | E-mail results | Track more shipments/orders

Subscribe to tracking updates (optional)

**Your Name:** **Your E-mail Address:**

| **E-mail address** | **Language** | **Exception updates** | **Delivery updates** |
|---|---|---|---|
| | English | ☐ | ☐ |
| | English | ☐ | ☐ |
| | English | ☐ | ☐ |
| | English | ☐ | ☐ |

**Select format:** ◉ HTML ○ Text ○ Wireless

**Add personal message:**

Not available for Wireless or non-English characters.

☐ By selecting this check box and the Submit button, I agree to these Terms and Conditions

Submit

TestAmerica St. Louis

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Lot #(s): F7J110286
(312)

- 681 -

**Condition Upon Receipt Form**

Client: Hanford
Quote No:

COC/RFA No: W08-010/X07-048
Initiated By: AB

Date: 10-11-07
Time: 9:00

**Shipping Information**

Shipper Name: FE

Multiple Packages (Y) N

Shipping #(s):*

| | | | |
|---|---|---|---|
| 1. | 7997 3176 5271 | 6. | |
| 2. | ~~7998~~ AB 10-11-07 | 7. | |
| 3. | 7984 3520 4068 | 8. | |
| 4. | 7987 8333 3758 | 9. | |
| 5. | | 10. | |

Sample Temperature (s):**

| | | | |
|---|---|---|---|
| 1. | 5 | 6. | |
| 2. | | 7. | |
| 3. | 4 | 8. | |
| 4. | 3 | 9. | |
| 5. | | 10. | |

*Numbered shipping lines correspond to Numbered Sample Temp lines

**Sample must be received at 4°C ± 2°C- If not, note contents below. Temperature variance does NOT affect the following: Metals-Liquid or Rad tests- Liquid or Solids

**Condition** (Circle "Y" for yes, "N" for no and "N/A" for not applicable):

| | | | | | |
|---|---|---|---|---|---|
| 1. | (Y) N | Are there custody seals present on the cooler? | 8. | (Y) N | Are there custody seals present on bottles? |
| 2. | Y (N) N/A | Do custody seals on cooler appear to be tampered with? | 9. | Y (N) N/A | Do custody seals on bottles appear to be tampered with? |
| 3. | (Y) N | Were contents of cooler frisked after opening, but before unpacking? | 10. | (Y) N N/A | Was sample received with proper pH[1]? (If not, make note below) |
| 4. | (Y) N | Sample received with Chain of Custody? | 11. | Y N | If N/A- Was pH taken by original TestAmerica lab? |
| 5. | (Y) N N/A | Does the Chain of Custody match sample ID's on the container(s)? | 12. | (Y) N | Sample received in proper containers? |
| 6. | (Y) N | Was sample received broken? | 13. | Y (N) N/A | Headspace in VOA or TOX liquid samples? (If Yes, note sample ID's below) |
| 7. | (Y) N | Is sample volume sufficient for analysis? | 14. | Y N | Was Internal COC/Workshare received? |

[1] For DOE-AL (Pantex, LANL, Sandia) sites, pH of ALL containers received must be verified, EXCEPT VOA, TOX and soils.

Notes:

Received the following broken
B1PX67 (Phenol; ~~1x LG~~ 2x LG)
B1PX67 (PCB, 1x LG)
~~B1PX~~ AB 10-11-07
B1PX66 (Mercury; 500g)
} COC - W08-010

X07-048-4, 3, 1, 2

Corrective Action:
- ☐ Client Contact Name: Informed by:
- ☐ Sample(s) processed "as is"
- ☐ Sample(s) on hold until: If released, notify:

Project Management Review: Date: 10-15-07

THIS FORM MUST BE COMPLETED AT THE TIME THE ITEMS ARE BEING CHECKED IN. IF ANY ITEM IS COMPLETED BY SOMEONE OTHER THAN THE INITIATOR, THEN THAT PERSON IS REQUIRED TO APPLY THEIR INITIAL AND THE DATE NEXT TO THAT ITEM.

# VOLATILES

**Fluor Hanford Inc**

**Client Sample ID: B1PKY5**

**GC/MS Volatiles**

**Lot-Sample #...:** F7I280119-001 **Work Order #...:** J7VHV1AC **Matrix.....:** WATER
**Date Sampled...:** 09/26/07 **Date Received..:** 09/27/07
**Prep Date.....:** 10/05/07 **Analysis Date..:** 10/05/07
**Prep Batch #...:** 7281123
**Dilution Factor:** 1 **Method.....:** SW846 8260B

| PARAMETER | RESULT | REPORTING LIMIT | UNITS | MDL |
|---|---|---|---|---|
| 1,1-Dichloroethene | ND | 1.0 | ug/L | 0.045 |
| 1,4-Dioxane | ND | 80 | ug/L | 12 |
| Ethylbenzene | ND | 1.0 | ug/L | 0.064 |
| Vinyl chloride | ND | 2.0 | ug/L | 0.044 |
| Acetone | ND | 2.0 | ug/L | 0.80 |
| **Methylene chloride** | **0.51 J,B** | **1.0** | **ug/L** | **0.10** |
| Carbon disulfide | ND | 1.0 | ug/L | 0.10 |
| 1,1-Dichloroethane | ND | 1.0 | ug/L | 0.046 |
| 2-Butanone | ND | 5.0 | ug/L | 1.8 |
| Chloroform | ND | 1.0 | ug/L | 0.10 |
| cis-1,2-Dichloroethene | ND | 1.0 | ug/L | 0.048 |
| Propionitrile | ND | 5.0 | ug/L | 1.7 |
| trans-1,2-Dichloroethene | ND | 1.0 | ug/L | 0.10 |
| 1,1,1-Trichloroethane | ND | 1.0 | ug/L | 0.10 |
| Carbon tetrachloride | ND | 1.0 | ug/L | 0.10 |
| 1,2-Dichloroethane | ND | 1.0 | ug/L | 0.11 |
| Benzene | ND | 1.0 | ug/L | 0.10 |
| Trichloroethene | ND | 1.0 | ug/L | 0.10 |
| 4-Methyl-2-pentanone | ND | 5.0 | ug/L | 0.21 |
| 1,1,2-Trichloroethane | ND | 1.0 | ug/L | 0.092 |
| Tetrachloroethene | ND | 1.0 | ug/L | 0.17 |
| Tetrahydrofuran | ND | 10 | ug/L | 1.2 |
| Xylenes (total) | ND | 3.0 | ug/L | 0.30 |
| 1,4-Dichlorobenzene | ND | 1.0 | ug/L | 0.10 |
| 1-Butanol | ND | 40 | ug/L | 14 |
| Toluene | ND | 1.0 | ug/L | 0.10 |

| SURROGATE | PERCENT RECOVERY | RECOVERY LIMITS |
|---|---|---|
| Toluene-d8 | 105 | (69 - 119) |
| Dibromofluoromethane | 104 | (74 - 134) |
| 1,2-Dichloroethane-d4 | 106 | (72 - 128) |
| 4-Bromofluorobenzene | 98 | (71 - 115) |

**NOTE(S):**

J Estimated result. Result is less than RL.

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

**Fluor Hanford Inc**

**B1PKY5**

**GC/MS Volatiles**

**Lot-Sample #:** F7I280119-001 **Work Order #:** J7VHV1AC **Matrix:** WATER

MASS SPECTROMETER/DATA SYSTEM (MSDS) TENTATIVELY IDENTIFIED COMPOUNDS

| PARAMETER | CAS # | ESTIMATED RESULT | RETENTION TIME | UNITS |
|---|---|---|---|---|
| None | | | | ug/L |

**Fluor Hanford Inc**

**Client Sample ID: B1PKN0**

**GC/MS Volatiles**

**Lot-Sample #...:** F7J110312-005 **Work Order #...:** J8QRE1AC **Matrix.....:** WATER
**Date Sampled...:** 10/10/07 **Date Received..:** 10/11/07
**Prep Date.....:** 10/17/07 **Analysis Date..:** 10/17/07
**Prep Batch #...:** 7291245
**Dilution Factor:** 1 **Method.....:** SW846 8260B

| PARAMETER | RESULT | REPORTING LIMIT | UNITS | MDL |
|---|---|---|---|---|
| 1,1-Dichloroethene | ND | 1.0 | ug/L | 0.045 |
| 1,4-Dioxane | ND | 80 | ug/L | 12 |
| Ethylbenzene | ND | 1.0 | ug/L | 0.064 |
| Vinyl chloride | ND | 2.0 | ug/L | 0.044 |
| Acetone | ND | 2.0 | ug/L | 0.80 |
| Methylene chloride | ND | 1.0 | ug/L | 0.10 |
| Carbon disulfide | ND | 1.0 | ug/L | 0.10 |
| 1,1-Dichloroethane | ND | 1.0 | ug/L | 0.046 |
| 2-Butanone | ND | 5.0 | ug/L | 1.8 |
| **Chloroform** | **19** | **1.0** | **ug/L** | **0.10** |
| cis-1,2-Dichloroethene | ND | 1.0 | ug/L | 0.048 |
| Propionitrile | ND | 5.0 | ug/L | 1.7 |
| trans-1,2-Dichloroethene | ND | 1.0 | ug/L | 0.10 |
| 1,1,1-Trichloroethane | ND | 1.0 | ug/L | 0.10 |
| **Carbon tetrachloride** | **18** | **1.0** | **ug/L** | **0.10** |
| 1,2-Dichloroethane | ND | 1.0 | ug/L | 0.11 |
| Benzene | ND | 1.0 | ug/L | 0.10 |
| **Trichloroethene** | **10** | **1.0** | **ug/L** | **0.10** |
| 4-Methyl-2-pentanone | ND | 5.0 | ug/L | 0.21 |
| 1,1,2-Trichloroethane | ND | 1.0 | ug/L | 0.092 |
| Tetrachloroethene | ND | 1.0 | ug/L | 0.17 |
| Tetrahydrofuran | ND | 10 | ug/L | 1.2 |
| Xylenes (total) | ND | 3.0 | ug/L | 0.30 |
| 1,4-Dichlorobenzene | ND | 1.0 | ug/L | 0.10 |
| 1-Butanol | ND | 40 | ug/L | 14 |
| Toluene | ND | 1.0 | ug/L | 0.10 |

| SURROGATE | PERCENT RECOVERY | RECOVERY LIMITS |
|---|---|---|
| Toluene-d8 | 108 | (69 - 119) |
| Dibromofluoromethane | 111 | (74 - 134) |
| 1,2-Dichloroethane-d4 | 112 | (72 - 128) |
| 4-Bromofluorobenzene | 112 | (71 - 115) |

**Fluor Hanford Inc**

**B1PKN0**

**GC/MS Volatiles**

**Lot-Sample #:** F7J110312-005 **Work Order #:** J8QRE1AC **Matrix:** WATER

MASS SPECTROMETER/DATA SYSTEM (MSDS) TENTATIVELY IDENTIFIED COMPOUNDS

| PARAMETER | CAS # | ESTIMATED RESULT | RETENTION TIME | UNITS |
|---|---|---|---|---|
| None | | | | ug/L |

**Fluor Hanford Inc**

**Client Sample ID: B1PKM8**

**GC/MS Volatiles**

**Lot-Sample #...:** F7J110312-006 **Work Order #...:** J8QRX1AC **Matrix.....:** WATER
**Date Sampled...:** 10/10/07 **Date Received..:** 10/11/07
**Prep Date.....:** 10/17/07 **Analysis Date..:** 10/17/07
**Prep Batch #...:** 7291245
**Dilution Factor:** 1 **Method.....:** SW846 8260B

| PARAMETER | RESULT | REPORTING LIMIT | UNITS | MDL |
|---|---|---|---|---|
| 1,1-Dichloroethene | ND | 1.0 | ug/L | 0.045 |
| 1,4-Dioxane | ND | 80 | ug/L | 12 |
| Ethylbenzene | ND | 1.0 | ug/L | 0.064 |
| Vinyl chloride | ND | 2.0 | ug/L | 0.044 |
| Acetone | ND | 2.0 | ug/L | 0.80 |
| Methylene chloride | ND | 1.0 | ug/L | 0.10 |
| Carbon disulfide | ND | 1.0 | ug/L | 0.10 |
| 1,1-Dichloroethane | ND | 1.0 | ug/L | 0.046 |
| 2-Butanone | ND | 5.0 | ug/L | 1.8 |
| **Chloroform** | **19** | **1.0** | **ug/L** | **0.10** |
| cis-1,2-Dichloroethene | ND | 1.0 | ug/L | 0.048 |
| Propionitrile | ND | 5.0 | ug/L | 1.7 |
| trans-1,2-Dichloroethene | ND | 1.0 | ug/L | 0.10 |
| 1,1,1-Trichloroethane | ND | 1.0 | ug/L | 0.10 |
| **Carbon tetrachloride** | **19** | **1.0** | **ug/L** | **0.10** |
| 1,2-Dichloroethane | ND | 1.0 | ug/L | 0.11 |
| Benzene | ND | 1.0 | ug/L | 0.10 |
| **Trichloroethene** | **11** | **1.0** | **ug/L** | **0.10** |
| 4-Methyl-2-pentanone | ND | 5.0 | ug/L | 0.21 |
| 1,1,2-Trichloroethane | ND | 1.0 | ug/L | 0.092 |
| Tetrachloroethene | ND | 1.0 | ug/L | 0.17 |
| Tetrahydrofuran | ND | 10 | ug/L | 1.2 |
| Xylenes (total) | ND | 3.0 | ug/L | 0.30 |
| 1,4-Dichlorobenzene | ND | 1.0 | ug/L | 0.10 |
| 1-Butanol | ND | 40 | ug/L | 14 |
| Toluene | ND | 1.0 | ug/L | 0.10 |

| SURROGATE | PERCENT RECOVERY | RECOVERY LIMITS |
|---|---|---|
| Toluene-d8 | 108 | (69 - 119) |
| Dibromofluoromethane | 109 | (74 - 134) |
| 1,2-Dichloroethane-d4 | 106 | (72 - 128) |
| 4-Bromofluorobenzene | 115 | (71 - 115) |

**Fluor Hanford Inc**

**B1PKM8**

**GC/MS Volatiles**

**Lot-Sample #:** F7J110312-006 **Work Order #:** J8QRX1AC **Matrix:** WATER

MASS SPECTROMETER/DATA SYSTEM (MSDS) TENTATIVELY IDENTIFIED COMPOUNDS

| PARAMETER | CAS # | ESTIMATED RESULT | RETENTION TIME | UNITS |
|---|---|---|---|---|
| None | | | | ug/L |

**Fluor Hanford Inc**

**Client Sample ID: B1PKM9**

**GC/MS Volatiles**

**Lot-Sample #...:** F7J110312-007 **Work Order #...:** J8QR31AC **Matrix.....:** WATER
**Date Sampled...:** 10/10/07 **Date Received..:** 10/11/07
**Prep Date.....:** 10/17/07 **Analysis Date..:** 10/17/07
**Prep Batch #...:** 7291245
**Dilution Factor:** 1 **Method.....:** SW846 8260B

| PARAMETER | RESULT | REPORTING LIMIT | UNITS | MDL |
|---|---|---|---|---|
| 1,1-Dichloroethene | ND | 1.0 | ug/L | 0.045 |
| 1,4-Dioxane | ND | 80 | ug/L | 12 |
| Ethylbenzene | ND | 1.0 | ug/L | 0.064 |
| Vinyl chloride | ND | 2.0 | ug/L | 0.044 |
| Acetone | ND | 2.0 | ug/L | 0.80 |
| Methylene chloride | ND | 1.0 | ug/L | 0.10 |
| Carbon disulfide | ND | 1.0 | ug/L | 0.10 |
| 1,1-Dichloroethane | ND | 1.0 | ug/L | 0.046 |
| 2-Butanone | ND | 5.0 | ug/L | 1.8 |
| **Chloroform** | **20** | **1.0** | **ug/L** | **0.10** |
| cis-1,2-Dichloroethene | ND | 1.0 | ug/L | 0.048 |
| Propionitrile | ND | 5.0 | ug/L | 1.7 |
| trans-1,2-Dichloroethene | ND | 1.0 | ug/L | 0.10 |
| 1,1,1-Trichloroethane | ND | 1.0 | ug/L | 0.10 |
| **Carbon tetrachloride** | **19** | **1.0** | **ug/L** | **0.10** |
| 1,2-Dichloroethane | ND | 1.0 | ug/L | 0.11 |
| Benzene | ND | 1.0 | ug/L | 0.10 |
| **Trichloroethene** | **11** | **1.0** | **ug/L** | **0.10** |
| 4-Methyl-2-pentanone | ND | 5.0 | ug/L | 0.21 |
| 1,1,2-Trichloroethane | ND | 1.0 | ug/L | 0.092 |
| Tetrachloroethene | ND | 1.0 | ug/L | 0.17 |
| Tetrahydrofuran | ND | 10 | ug/L | 1.2 |
| Xylenes (total) | ND | 3.0 | ug/L | 0.30 |
| 1,4-Dichlorobenzene | ND | 1.0 | ug/L | 0.10 |
| 1-Butanol | ND | 40 | ug/L | 14 |
| Toluene | ND | 1.0 | ug/L | 0.10 |

| SURROGATE | PERCENT RECOVERY | RECOVERY LIMITS |
|---|---|---|
| Toluene-d8 | 112 | (69 - 119) |
| Dibromofluoromethane | 105 | (74 - 134) |
| 1,2-Dichloroethane-d4 | 109 | (72 - 128) |
| 4-Bromofluorobenzene | 106 | (71 - 115) |

**Fluor Hanford Inc**

**B1PKM9**

**GC/MS Volatiles**

**Lot-Sample #:** F7J110312-007 **Work Order #:** J8QR31AC **Matrix:** WATER

MASS SPECTROMETER/DATA SYSTEM (MSDS) TENTATIVELY IDENTIFIED COMPOUNDS

| PARAMETER | CAS # | ESTIMATED RESULT | RETENTION TIME | UNITS |
|---|---|---|---|---|
| None | | | | ug/L |

**METHOD BLANK REPORT**

**GC/MS Volatiles**

**Client Lot #...:** SL713 **Work Order #...:** J8FM51AA **Matrix.....:** WATER
**MB Lot-Sample #:** F7J080000-123

**Prep Date.....:** 10/05/07
**Analysis Date..:** 10/05/07 **Prep Batch #...:** 7281123
**Dilution Factor:** 1

| PARAMETER | RESULT | REPORTING LIMIT | UNITS | METHOD |
|---|---|---|---|---|
| 1,1-Dichloroethene | ND | 1.0 | ug/L | SW846 8260B |
| 1,4-Dioxane | ND | 80 | ug/L | SW846 8260B |
| Ethylbenzene | ND | 1.0 | ug/L | SW846 8260B |
| Vinyl chloride | ND | 2.0 | ug/L | SW846 8260B |
| Acetone | ND | 2.0 | ug/L | SW846 8260B |
| **Methylene chloride** | **0.54 J** | **1.0** | **ug/L** | **SW846 8260B** |
| Carbon disulfide | ND | 1.0 | ug/L | SW846 8260B |
| 1,1-Dichloroethane | ND | 1.0 | ug/L | SW846 8260B |
| 2-Butanone | ND | 5.0 | ug/L | SW846 8260B |
| Chloroform | ND | 1.0 | ug/L | SW846 8260B |
| cis-1,2-Dichloroethene | ND | 1.0 | ug/L | SW846 8260B |
| Propionitrile | ND | 5.0 | ug/L | SW846 8260B |
| trans-1,2-Dichloroethene | ND | 1.0 | ug/L | SW846 8260B |
| 1,1,1-Trichloroethane | ND | 1.0 | ug/L | SW846 8260B |
| Carbon tetrachloride | ND | 1.0 | ug/L | SW846 8260B |
| 1,2-Dichloroethane | ND | 1.0 | ug/L | SW846 8260B |
| Benzene | ND | 1.0 | ug/L | SW846 8260B |
| Trichloroethene | ND | 1.0 | ug/L | SW846 8260B |
| 4-Methyl-2-pentanone | ND | 5.0 | ug/L | SW846 8260B |
| 1,1,2-Trichloroethane | ND | 1.0 | ug/L | SW846 8260B |
| Tetrachloroethene | ND | 1.0 | ug/L | SW846 8260B |
| Tetrahydrofuran | ND | 10 | ug/L | SW846 8260B |
| Xylenes (total) | ND | 3.0 | ug/L | SW846 8260B |
| 1,4-Dichlorobenzene | ND | 1.0 | ug/L | SW846 8260B |
| 1-Butanol | ND | 40 | ug/L | SW846 8260B |
| Toluene | ND | 1.0 | ug/L | SW846 8260B |

| SURROGATE | PERCENT RECOVERY | RECOVERY LIMITS |
|---|---|---|
| Toluene-d8 | 106 | (69 - 119) |
| Dibromofluoromethane | 97 | (74 - 134) |
| 1,2-Dichloroethane-d4 | 102 | (72 - 128) |
| 4-Bromofluorobenzene | 101 | (71 - 115) |

**NOTE(S):**

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

J Estimated result. Result is less than RL.

**Fluor Hanford Inc**

**Method Blank Report**

**GC/MS Volatiles**

**Lot-Sample #:** F7J080000-123 B **Work Order #:** J8FM51AA **Matrix:** WATER

MASS SPECTROMETER/DATA SYSTEM (MSDS) TENTATIVELY IDENTIFIED COMPOUNDS

| PARAMETER | CAS # | ESTIMATED RESULT | RETENTION TIME | UNITS |
|---|---|---|---|---|
| None | | | | ug/L |

**METHOD BLANK REPORT**

**GC/MS Volatiles**

**Client Lot #...:** SL713 **Work Order #...:** J9DG91AA **Matrix.....:** WATER
**MB Lot-Sample #:** F7J180000-245

**Prep Date.....:** 10/17/07
**Analysis Date..:** 10/17/07 **Prep Batch #...:** 7291245
**Dilution Factor:** 1

| PARAMETER | RESULT | REPORTING LIMIT | UNITS | METHOD |
|---|---|---|---|---|
| 1,1-Dichloroethene | ND | 1.0 | ug/L | SW846 8260B |
| Ethylbenzene | ND | 1.0 | ug/L | SW846 8260B |
| 1,4-Dioxane | ND | 80 | ug/L | SW846 8260B |
| Vinyl chloride | ND | 2.0 | ug/L | SW846 8260B |
| Acetone | ND | 2.0 | ug/L | SW846 8260B |
| Methylene chloride | ND | 1.0 | ug/L | SW846 8260B |
| Carbon disulfide | ND | 1.0 | ug/L | SW846 8260B |
| 1,1-Dichloroethane | ND | 1.0 | ug/L | SW846 8260B |
| 2-Butanone | ND | 5.0 | ug/L | SW846 8260B |
| Chloroform | ND | 1.0 | ug/L | SW846 8260B |
| cis-1,2-Dichloroethene | ND | 1.0 | ug/L | SW846 8260B |
| Propionitrile | ND | 5.0 | ug/L | SW846 8260B |
| trans-1,2-Dichloroethene | ND | 1.0 | ug/L | SW846 8260B |
| 1,1,1-Trichloroethane | ND | 1.0 | ug/L | SW846 8260B |
| Carbon tetrachloride | ND | 1.0 | ug/L | SW846 8260B |
| 1,2-Dichloroethane | ND | 1.0 | ug/L | SW846 8260B |
| Benzene | ND | 1.0 | ug/L | SW846 8260B |
| Trichloroethene | ND | 1.0 | ug/L | SW846 8260B |
| 4-Methyl-2-pentanone | ND | 5.0 | ug/L | SW846 8260B |
| 1,1,2-Trichloroethane | ND | 1.0 | ug/L | SW846 8260B |
| Tetrachloroethene | ND | 1.0 | ug/L | SW846 8260B |
| Tetrahydrofuran | ND | 10 | ug/L | SW846 8260B |
| Xylenes (total) | ND | 3.0 | ug/L | SW846 8260B |
| 1,4-Dichlorobenzene | ND | 1.0 | ug/L | SW846 8260B |
| 1-Butanol | ND | 40 | ug/L | SW846 8260B |
| Toluene | ND | 1.0 | ug/L | SW846 8260B |

| SURROGATE | PERCENT RECOVERY | RECOVERY LIMITS |
|---|---|---|
| Toluene-d8 | 110 | (69 - 119) |
| Dibromofluoromethane | 107 | (74 - 134) |
| 1,2-Dichloroethane-d4 | 111 | (72 - 128) |
| 4-Bromofluorobenzene | 111 | (71 - 115) |

**NOTE(S):**

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

**Fluor Hanford Inc**

**Method Blank Report**

**GC/MS Volatiles**

**Lot-Sample #:** F7J180000-245 B **Work Order #:** J9DG91AA **Matrix:** WATER

MASS SPECTROMETER/DATA SYSTEM (MSDS) TENTATIVELY IDENTIFIED COMPOUNDS

| PARAMETER | CAS # | ESTIMATED RESULT | RETENTION TIME | UNITS |
|---|---|---|---|---|
| None | | | | ug/L |

## LABORATORY CONTROL SAMPLE DATA REPORT

### GC/MS Volatiles

**Client Lot #...:** SL713 **Work Order #...:** J8FM51AC-LCS **Matrix.....:** WATER
**LCS Lot-Sample#:** F7J080000-123 J8FM51AD-LCSD
**Prep Date.....:** 10/05/07 **Analysis Date..:** 10/05/07
**Prep Batch #...:** 7281123
**Dilution Factor:** 1

| PARAMETER | SPIKE AMOUNT | MEASURED AMOUNT | UNITS | PERCENT RECOVERY | RPD | METHOD |
|---|---|---|---|---|---|---|
| 1,1-Dichloroethene | 10.0 | 9.23 | ug/L | 92 | | SW846 8260B |
| | 10.0 | 9.60 | ug/L | 96 | 3.9 | SW846 8260B |
| Ethylbenzene | 10.0 | 9.42 | ug/L | 94 | | SW846 8260B |
| | 10.0 | 9.71 | ug/L | 97 | 3.1 | SW846 8260B |
| 1,4-Dioxane | 200 | 226 | ug/L | 113 | | SW846 8260B |
| | 200 | 224 | ug/L | 112 | 1.0 | SW846 8260B |
| Vinyl chloride | 10.0 | 8.38 | ug/L | 84 | | SW846 8260B |
| | 10.0 | 8.17 | ug/L | 82 | 2.5 | SW846 8260B |
| Acetone | 10.0 | 7.40 | ug/L | 74 | | SW846 8260B |
| | 10.0 | 9.28 p | ug/L | 93 | 22 | SW846 8260B |
| Methylene chloride | 10.0 | 9.60 | ug/L | 96 | | SW846 8260B |
| | 10.0 | 10.1 | ug/L | 101 | 4.8 | SW846 8260B |
| Carbon disulfide | 10.0 | 11.7 | ug/L | 117 | | SW846 8260B |
| | 10.0 | 11.8 | ug/L | 118 | 0.68 | SW846 8260B |
| 1,1-Dichloroethane | 10.0 | 9.19 | ug/L | 92 | | SW846 8260B |
| | 10.0 | 9.53 | ug/L | 95 | 3.6 | SW846 8260B |
| 2-Butanone | 10.0 | 9.09 | ug/L | 91 | | SW846 8260B |
| | 10.0 | 9.52 | ug/L | 95 | 4.7 | SW846 8260B |
| Chloroform | 10.0 | 8.81 | ug/L | 88 | | SW846 8260B |
| | 10.0 | 9.22 | ug/L | 92 | 4.6 | SW846 8260B |
| cis-1,2-Dichloroethene | 10.0 | 9.63 | ug/L | 96 | | SW846 8260B |
| | 10.0 | 9.70 | ug/L | 97 | 0.70 | SW846 8260B |
| Propionitrile | 50.0 | 44.7 | ug/L | 89 | | SW846 8260B |
| | 50.0 | 52.0 | ug/L | 104 | 15 | SW846 8260B |
| trans-1,2-Dichloroethene | 10.0 | 9.30 | ug/L | 93 | | SW846 8260B |
| | 10.0 | 9.80 | ug/L | 98 | 5.2 | SW846 8260B |
| 1,1,1-Trichloroethane | 10.0 | 8.84 | ug/L | 88 | | SW846 8260B |
| | 10.0 | 9.19 | ug/L | 92 | 3.8 | SW846 8260B |
| Carbon tetrachloride | 10.0 | 9.22 | ug/L | 92 | | SW846 8260B |
| | 10.0 | 9.58 | ug/L | 96 | 3.9 | SW846 8260B |
| 1,2-Dichloroethane | 10.0 | 9.10 | ug/L | 91 | | SW846 8260B |
| | 10.0 | 9.36 | ug/L | 94 | 2.8 | SW846 8260B |
| Benzene | 10.0 | 9.12 | ug/L | 91 | | SW846 8260B |
| | 10.0 | 9.43 | ug/L | 94 | 3.2 | SW846 8260B |
| Trichloroethene | 10.0 | 9.50 | ug/L | 95 | | SW846 8260B |
| | 10.0 | 9.60 | ug/L | 96 | 1.1 | SW846 8260B |
| 4-Methyl-2-pentanone | 10.0 | 11.0 | ug/L | 110 | | SW846 8260B |
| | 10.0 | 11.3 | ug/L | 113 | 3.2 | SW846 8260B |
| 1,1,2-Trichloroethane | 10.0 | 9.03 | ug/L | 90 | | SW846 8260B |
| | 10.0 | 9.51 | ug/L | 95 | 5.1 | SW846 8260B |

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## LABORATORY CONTROL SAMPLE DATA REPORT

### GC/MS Volatiles

**Client Lot #...:** SL713 **Work Order #...:** J8FM51AC-LCS **Matrix.....:** WATER
**LCS Lot-Sample#:** F7J080000-123 J8FM51AD-LCSD

| PARAMETER | SPIKE AMOUNT | MEASURED AMOUNT | UNITS | PERCENT RECOVERY | RPD | METHOD |
|---|---|---|---|---|---|---|
| **Tetrachloroethene** | **10.0** | **8.61** | **ug/L** | **86** | | **SW846 8260B** |
| | **10.0** | **9.90** | **ug/L** | **99** | **14** | **SW846 8260B** |
| **Tetrahydrofuran** | **50.0** | **45.8** | **ug/L** | **92** | | **SW846 8260B** |
| | **50.0** | **45.8** | **ug/L** | **92** | **0.10** | **SW846 8260B** |
| **1,4-Dichlorobenzene** | **10.0** | **8.85** | **ug/L** | **89** | | **SW846 8260B** |
| | **10.0** | **9.18** | **ug/L** | **92** | **3.6** | **SW846 8260B** |
| **1-Butanol** | **100** | **87.2** | **ug/L** | **87** | | **SW846 8260B** |
| | **100** | **99.5** | **ug/L** | **99** | **13** | **SW846 8260B** |
| **Toluene** | **10.0** | **9.42** | **ug/L** | **94** | | **SW846 8260B** |
| | **10.0** | **9.70** | **ug/L** | **97** | **2.9** | **SW846 8260B** |

| SURROGATE | PERCENT RECOVERY | RECOVERY LIMITS |
|---|---|---|
| Toluene-d8 | 106 | (85 - 121) |
| | 102 | (85 - 121) |
| Dibromofluoromethane | 105 | (84 - 117) |
| | 103 | (84 - 117) |
| 1,2-Dichloroethane-d4 | 105 | (72 - 124) |
| | 103 | (72 - 124) |
| 4-Bromofluorobenzene | 95 | (80 - 121) |
| | 94 | (80 - 121) |

**NOTE(S):**

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

Bold print denotes control parameters

p Relative percent difference (RPD) is outside stated control limits.

## LABORATORY CONTROL SAMPLE DATA REPORT

### GC/MS Volatiles

Client Lot #...: SL713 Work Order #...: J9DG91AC Matrix.....: WATER
LCS Lot-Sample#: F7J180000-245
Prep Date.....: 10/17/07 Analysis Date..: 10/17/07
Prep Batch #...: 7291245
Dilution Factor: 1

| PARAMETER | SPIKE AMOUNT | MEASURED AMOUNT | UNITS | PERCENT RECOVERY | METHOD |
|---|---|---|---|---|---|
| 1,1-Dichloroethene | 10.0 | 11.5 | ug/L | 115 | SW846 8260B |
| Ethylbenzene | 10.0 | 11.7 | ug/L | 117 | SW846 8260B |
| 1,4-Dioxane | 200 | 200 | ug/L | 100 | SW846 8260B |
| Vinyl chloride | 10.0 | 11.4 | ug/L | 114 | SW846 8260B |
| Acetone | 10.0 | 11.0 | ug/L | 110 | SW846 8260B |
| Methylene chloride | 10.0 | 11.8 | ug/L | 118 | SW846 8260B |
| Carbon disulfide | 10.0 | 12.4 | ug/L | 124 | SW846 8260B |
| 1,1-Dichloroethane | 10.0 | 10.9 | ug/L | 109 | SW846 8260B |
| 2-Butanone | 10.0 | 9.64 | ug/L | 96 | SW846 8260B |
| Chloroform | 10.0 | 11.4 | ug/L | 114 | SW846 8260B |
| cis-1,2-Dichloroethene | 10.0 | 11.4 | ug/L | 114 | SW846 8260B |
| Propionitrile | 50.0 | 58.6 | ug/L | 117 | SW846 8260B |
| trans-1,2-Dichloroethene | 10.0 | 11.1 | ug/L | 111 | SW846 8260B |
| 1,1,1-Trichloroethane | 10.0 | 11.5 | ug/L | 115 | SW846 8260B |
| Carbon tetrachloride | 10.0 | 11.7 | ug/L | 117 | SW846 8260B |
| 1,2-Dichloroethane | 10.0 | 11.8 | ug/L | 118 | SW846 8260B |
| Benzene | 10.0 | 11.2 | ug/L | 112 | SW846 8260B |
| Trichloroethene | 10.0 | 11.4 | ug/L | 114 | SW846 8260B |
| 4-Methyl-2-pentanone | 10.0 | 12.6 | ug/L | 126 | SW846 8260B |
| 1,1,2-Trichloroethane | 10.0 | 11.3 | ug/L | 113 | SW846 8260B |
| Tetrachloroethene | 10.0 | 12.0 | ug/L | 120 | SW846 8260B |
| Tetrahydrofuran | 50.0 | 60.6 | ug/L | 121 | SW846 8260B |
| 1,4-Dichlorobenzene | 10.0 | 10.4 | ug/L | 104 | SW846 8260B |
| 1-Butanol | 100 | 108 | ug/L | 108 | SW846 8260B |
| Toluene | 10.0 | 11.6 | ug/L | 116 | SW846 8260B |

| SURROGATE | PERCENT RECOVERY | RECOVERY LIMITS |
|---|---|---|
| Toluene-d8 | 104 | (85 - 121) |
| Dibromofluoromethane | 107 | (84 - 117) |
| 1,2-Dichloroethane-d4 | 112 | (72 - 124) |
| 4-Bromofluorobenzene | 103 | (80 - 121) |

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**LABORATORY CONTROL SAMPLE DATA REPORT**

**GC/MS Volatiles**

**Client Lot #...:** SL713 **Work Order #...:** J9DG91AC **Matrix.....:** WATER
**LCS Lot-Sample#:** F7J180000-245

**NOTE(S):**

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

Bold print denotes control parameters

## MATRIX SPIKE SAMPLE DATA REPORT

### GC/MS Volatiles

**Client Lot #...:** SL713 **Work Order #...:** J8QRE1AM-MS **Matrix.....:** WATER
**MS Lot-Sample #:** F7J110312-005 J8QRE1AN-MSD
**Date Sampled...:** 10/10/07 **Date Received..:** 10/11/07
**Prep Date.....:** 10/17/07 **Analysis Date..:** 10/17/07
**Prep Batch #...:** 7291245
**Dilution Factor:** 1

| PARAMETER | SAMPLE AMOUNT | SPIKE AMT | MEASRD AMOUNT | UNITS | PERCNT RECVRY | RPD | METHOD |
|---|---|---|---|---|---|---|---|
| 1,1-Dichloroethene | ND | 10.0 | 11.2 | ug/L | 112 | | SW846 8260B |
| | ND | 10.0 | 11.2 | ug/L | 112 | 0.17 | SW846 8260B |
| Ethylbenzene | ND | 10.0 | 11.4 | ug/L | 114 | | SW846 8260B |
| | ND | 10.0 | 11.7 | ug/L | 117 | 2.9 | SW846 8260B |
| 1,4-Dioxane | ND | 200 | 193 | ug/L | 97 | | SW846 8260B |
| | ND | 200 | 252 | ug/L | 126 p | 26 | SW846 8260B |
| Vinyl chloride | ND | 10.0 | 10.4 | ug/L | 104 | | SW846 8260B |
| | ND | 10.0 | 10.5 | ug/L | 105 | 0.66 | SW846 8260B |
| Acetone | ND | 10.0 | 10.6 | ug/L | 106 | | SW846 8260B |
| | ND | 10.0 | 8.86 | ug/L | 89 | 18 | SW846 8260B |
| Methylene chloride | ND | 10.0 | 11.3 | ug/L | 113 | | SW846 8260B |
| | ND | 10.0 | 11.3 | ug/L | 113 | 0.17 | SW846 8260B |
| Carbon disulfide | ND | 10.0 | 13.1 | ug/L | 131 | | SW846 8260B |
| | ND | 10.0 | 13.4 | ug/L | 134 | 2.1 | SW846 8260B |
| 1,1-Dichloroethane | ND | 10.0 | 10.7 | ug/L | 107 | | SW846 8260B |
| | ND | 10.0 | 10.6 | ug/L | 106 | 1.2 | SW846 8260B |
| 2-Butanone | ND | 10.0 | 10.0 | ug/L | 100 | | SW846 8260B |
| | ND | 10.0 | 12.1 | ug/L | 121 | 19 | SW846 8260B |
| Chloroform | 19 | 10.0 | 31.2 | ug/L | 118 | | SW846 8260B |
| | 19 | 10.0 | 31.2 | ug/L | 117 | 0.19 | SW846 8260B |
| cis-1,2-Dichloroethene | ND | 10.0 | 11.3 | ug/L | 113 | | SW846 8260B |
| | ND | 10.0 | 11.1 | ug/L | 111 | 2.0 | SW846 8260B |
| Propionitrile | ND | 50.0 | 54.3 | ug/L | 109 | | SW846 8260B |
| | ND | 50.0 | 56.6 | ug/L | 113 | 4.0 | SW846 8260B |
| trans-1,2-Dichloroethene | ND | 10.0 | 10.7 | ug/L | 107 | | SW846 8260B |
| | ND | 10.0 | 10.6 | ug/L | 106 | 0.65 | SW846 8260B |
| 1,1,1-Trichloroethane | ND | 10.0 | 11.2 | ug/L | 112 | | SW846 8260B |
| | ND | 10.0 | 11.1 | ug/L | 111 | 0.53 | SW846 8260B |
| Carbon tetrachloride | 18 | 10.0 | 30.3 | ug/L | 119 | | SW846 8260B |
| | 18 | 10.0 | 31.6 | ug/L | 132 | 4.3 | SW846 8260B |
| 1,2-Dichloroethane | ND | 10.0 | 11.2 | ug/L | 112 | | SW846 8260B |
| | ND | 10.0 | 11.0 | ug/L | 110 | 1.4 | SW846 8260B |
| Benzene | ND | 10.0 | 10.6 | ug/L | 106 | | SW846 8260B |
| | ND | 10.0 | 10.7 | ug/L | 107 | 0.75 | SW846 8260B |
| Trichloroethene | 10 | 10.0 | 21.5 | ug/L | 112 | | SW846 8260B |
| | 10 | 10.0 | 21.7 | ug/L | 114 | 1.0 | SW846 8260B |
| 4-Methyl-2-pentanone | ND | 10.0 | 11.9 | ug/L | 119 | | SW846 8260B |
| | ND | 10.0 | 13.0 | ug/L | 130 | 9.2 | SW846 8260B |
| 1,1,2-Trichloroethane | ND | 10.0 | 11.0 | ug/L | 110 | | SW846 8260B |
| | ND | 10.0 | 10.8 | ug/L | 108 | 2.1 | SW846 8260B |

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## MATRIX SPIKE SAMPLE DATA REPORT

### GC/MS Volatiles

**Client Lot #...:** SL713 **Work Order #...:** J8QRE1AM-MS **Matrix.....:** WATER
**MS Lot-Sample #:** F7J110312-005 J8QRE1AN-MSD

| PARAMETER | SAMPLE AMOUNT | SPIKE AMT | MEASRD AMOUNT | UNITS | PERCNT RECVRY | RPD | METHOD |
|---|---|---|---|---|---|---|---|
| **Tetrachloroethene** | **ND** | **10.0** | **8.76** | **ug/L** | **88** | | **SW846 8260B** |
| | **ND** | **10.0** | **8.79** | **ug/L** | **88** | **0.34** | **SW846 8260B** |
| **Tetrahydrofuran** | **ND** | **50.0** | **56.1** | **ug/L** | **112** | | **SW846 8260B** |
| | **ND** | **50.0** | **56.5** | **ug/L** | **113** | **0.60** | **SW846 8260B** |
| **1,4-Dichlorobenzene** | **ND** | **10.0** | **10.3** | **ug/L** | **103** | | **SW846 8260B** |
| | **ND** | **10.0** | **10.4** | **ug/L** | **104** | **0.67** | **SW846 8260B** |
| **1-Butanol** | **ND** | **100** | **95.3** | **ug/L** | **95** | | **SW846 8260B** |
| | **ND** | **100** | **48.9** | **ug/L** | **49 p** | **64** | **SW846 8260B** |
| **Toluene** | **ND** | **10.0** | **11.4** | **ug/L** | **114** | | **SW846 8260B** |
| | **ND** | **10.0** | **11.4** | **ug/L** | **114** | **0.26** | **SW846 8260B** |

| SURROGATE | PERCENT RECOVERY | RECOVERY LIMITS |
|---|---|---|
| Toluene-d8 | 106 | (69 - 119) |
| | 106 | (69 - 119) |
| Dibromofluoromethane | 109 | (74 - 134) |
| | 111 | (74 - 134) |
| 1,2-Dichloroethane-d4 | 106 | (72 - 128) |
| | 107 | (72 - 128) |
| 4-Bromofluorobenzene | 107 | (71 - 115) |
| | 104 | (71 - 115) |

**NOTE(S):**

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

Bold print denotes control parameters

p Relative percent difference (RPD) is outside stated control limits.

# WET CHEMISTRY

**Fluor Hanford Inc**

**Client Sample ID: B1PKY5**

**General Chemistry**

**Lot-Sample #...:** F7I280119-001 **Work Order #...:** J7VHV **Matrix.....:** WATER
**Date Sampled...:** 09/26/07 **Date Received..:** 09/27/07

| PARAMETER | RESULT | RL | UNITS | METHOD | PREPARATION-ANALYSIS DATE | PREP BATCH # |
|---|---|---|---|---|---|---|
| TOX | 5.0 | 5.0 | ug/L | SW846 9020B | 10/17/07 | 7290415 |

Dilution Factor: 1 MDL.....: 2.2

**Fluor Hanford Inc**

**Client Sample ID: B1PKY9**

**General Chemistry**

**Lot-Sample #...:** F7I280119-002 **Work Order #...:** J7VHW **Matrix.....:** WATER
**Date Sampled...:** 09/26/07 **Date Received..:** 09/27/07

| PARAMETER | RESULT | RL | UNITS | METHOD | PREPARATION-ANALYSIS DATE | PREP BATCH # |
|---|---|---|---|---|---|---|
| **Chloride** | **3.5 N** | **0.20** | **mg/L** | **MCAWW 300.0A** | **09/27/07** | **7271412** |
| | | Dilution Factor: 1 | | MDL.....: 0.020 | | |
| **Fluoride** | **0.28 N** | **0.10** | **mg/L** | **MCAWW 300.0A** | **09/27/07** | **7271413** |
| | | Dilution Factor: 1 | | MDL.....: 0.025 | | |
| **Nitrate** | **0.36** | **0.020** | **mg/L** | **MCAWW 300.0A** | **09/27/07** | **7271416** |
| | | Dilution Factor: 1 | | MDL.....: 0.0040 | | |
| Nitrite | ND N | 0.020 | mg/L | MCAWW 300.0A | 09/27/07 | 7271415 |
| | | Dilution Factor: 1 | | MDL.....: 0.0050 | | |
| **Nitrogen, Nitrate** | **0.36** | **0.020** | **mg/L** | **MCAWW 300.0A** | **09/27/07** | **7271416** |
| | | Dilution Factor: 1 | | MDL.....: 0.0040 | | |
| **Sulfate** | **13.0** | **0.50** | **mg/L** | **MCAWW 300.0A** | **09/27/07** | **7271414** |
| | | Dilution Factor: 1 | | MDL.....: 0.050 | | |
| Total Cyanide | ND | 5.0 | ug/L | SW846 9012 | 10/08-10/10/07 | 7281290 |
| | | Dilution Factor: 1 | | MDL.....: 2.8 | | |
| Total Organic Carbon | ND | 1.0 | mg/L | SW846 9060 | 10/12/07 | 7283539 |
| | | Dilution Factor: 1 | | MDL.....: 0.76 | | |

**NOTE(S):**

RL Reporting Limit

N Spiked analyte recovery is outside stated control limits.

**Fluor Hanford Inc**

**Client Sample ID: B1PKN1**

**General Chemistry**

**Lot-Sample #...:** F7J110312-001 **Work Order #...:** J8QP9 **Matrix.....:** WATER
**Date Sampled...:** 10/10/07 **Date Received..:** 10/11/07

| PARAMETER | RESULT | RL | UNITS | METHOD | PREPARATION-ANALYSIS DATE | PREP BATCH # |
|---|---|---|---|---|---|---|
| Total Organic Carbon | 2.1 | 1.0 | mg/L | SW846 9060 | 10/17/07 | 7289237 |
| | | Dilution Factor: 1 | | MDL.....: 0.76 | | |
| TOX | 50.4 | 5.0 | ug/L | SW846 9020B | 10/22/07 | 7290416 |
| | | Dilution Factor: 1 | | MDL.....: 2.2 | | |

**Fluor Hanford Inc**

**Client Sample ID: B1PKN2**

**General Chemistry**

**Lot-Sample #...:** F7J110312-002 **Work Order #...:** J8QQ0 **Matrix.....:** WATER
**Date Sampled...:** 10/10/07 **Date Received..:** 10/11/07

| PARAMETER | RESULT | RL | UNITS | METHOD | PREPARATION-ANALYSIS DATE | PREP BATCH # |
|---|---|---|---|---|---|---|
| Total Organic Carbon | 2.1 | 1.0 | mg/L | SW846 9060 | 10/17/07 | 7289237 |
| | | Dilution Factor: 1 | | MDL.....: 0.76 | | |
| TOX | 49.5 | 5.0 | ug/L | SW846 9020B | 10/22/07 | 7290416 |
| | | Dilution Factor: 1 | | MDL.....: 2.2 | | |

**Fluor Hanford Inc**

**Client Sample ID: B1PKN3**

**General Chemistry**

**Lot-Sample #...:** F7J110312-003 **Work Order #...:** J8QQ3 **Matrix.....:** WATER
**Date Sampled...:** 10/10/07 **Date Received..:** 10/11/07

| PARAMETER | RESULT | RL | UNITS | METHOD | PREPARATION-ANALYSIS DATE | PREP BATCH # |
|---|---|---|---|---|---|---|
| Total Organic Carbon | 2.1 | 1.0 | mg/L | SW846 9060 | 10/17/07 | 7289237 |
| | | Dilution Factor: 1 | | MDL.....: 0.76 | | |
| TOX | 52.9 | 5.0 | ug/L | SW846 9020B | 10/22/07 | 7290416 |
| | | Dilution Factor: 1 | | MDL.....: 2.2 | | |

**Fluor Hanford Inc**

**Client Sample ID: B1PKN4**

**General Chemistry**

**Lot-Sample #...:** F7J110312-004 **Work Order #...:** J8QQ6 **Matrix.....:** WATER
**Date Sampled...:** 10/10/07 **Date Received..:** 10/11/07

| PARAMETER | RESULT | RL | UNITS | METHOD | PREPARATION-ANALYSIS DATE | PREP BATCH # |
|---|---|---|---|---|---|---|
| Total Organic Carbon | 2.1 | 1.0 | mg/L | SW846 9060 | 10/17/07 | 7289237 |
| | | Dilution Factor: 1 | | MDL.....: 0.76 | | |
| TOX | 47.8 | 5.0 | ug/L | SW846 9020B | 10/22/07 | 7290416 |
| | | Dilution Factor: 1 | | MDL.....: 2.2 | | |

**Fluor Hanford Inc**

**Client Sample ID: B1PKN0**

**General Chemistry**

**Lot-Sample #...:** F7J110312-005 **Work Order #...:** J8QRE **Matrix.....:** WATER
**Date Sampled...:** 10/10/07 **Date Received..:** 10/11/07

| PARAMETER | RESULT | RL | UNITS | METHOD | PREPARATION-ANALYSIS DATE | PREP BATCH # |
|---|---|---|---|---|---|---|
| **Chloride** | **17.3 D** | **2.0** | **mg/L** | **MCAWW 300.0A** | **10/11-10/12/07** | **7284585** |
| | | Dilution Factor: 10 | | MDL.....: 0.20 | | |
| **Conductivity** | **445 N** | **1.0** | **uS/cm** | **MCAWW 120.1** | **10/20/07** | **7292585** |
| | | Dilution Factor: 1 | | MDL.....: 0.23 | | |
| **Fluoride** | **2.2** | **0.10** | **mg/L** | **MCAWW 300.0A** | **10/11/07** | **7284586** |
| | | Dilution Factor: 1 | | MDL.....: 0.025 | | |
| Nitrite | ND N | 0.020 | mg/L | MCAWW 300.0A | 10/11/07 | 7284588 |
| | | Dilution Factor: 1 | | MDL.....: 0.0050 | | |
| **Nitrogen, Nitrate** | **1.4 D** | **0.20** | **mg/L** | **MCAWW 300.0A** | **10/11-10/12/07** | **7284589** |
| | | Dilution Factor: 10 | | MDL.....: 0.086 | | |
| **Sulfate** | **12.3** | **0.50** | **mg/L** | **MCAWW 300.0A** | **10/11/07** | **7284587** |
| | | Dilution Factor: 1 | | MDL.....: 0.050 | | |
| **Total Cyanide** | **60.2** | **5.0** | **ug/L** | **SW846 9012** | **10/15-10/16/07** | **7289150** |
| | | Dilution Factor: 1 | | MDL.....: 2.8 | | |
| **TOX** | **43.6** | **5.0** | **ug/L** | **SW846 9020B** | **10/22/07** | **7290416** |
| | | Dilution Factor: 1 | | MDL.....: 2.2 | | |

**NOTE(S):**

RL Reporting Limit

D Result was obtained from the analysis of a dilution.

N Spiked analyte recovery is outside stated control limits.

**Fluor Hanford Inc**

**Client Sample ID: B1PKM8**

**General Chemistry**

**Lot-Sample #...:** F7J110312-006 **Work Order #...:** J8QRX **Matrix.....:** WATER
**Date Sampled...:** 10/10/07 **Date Received..:** 10/11/07

| PARAMETER | RESULT | RL | UNITS | METHOD | PREPARATION-ANALYSIS DATE | PREP BATCH # |
|---|---|---|---|---|---|---|
| **Chloride** | **16.7 D** | **2.0** | **mg/L** | **MCAWW 300.0A** | **10/11-10/12/07** | **7284585** |
| | | Dilution Factor: 10 | | MDL.....: 0.20 | | |
| **Conductivity** | **445 N** | **1.0** | **uS/cm** | **MCAWW 120.1** | **10/19/07** | **7292585** |
| | | Dilution Factor: 1 | | MDL.....: 0.23 | | |
| **Fluoride** | **2.2** | **0.10** | **mg/L** | **MCAWW 300.0A** | **10/11/07** | **7284586** |
| | | Dilution Factor: 1 | | MDL.....: 0.025 | | |
| Nitrite | ND N | 0.020 | mg/L | MCAWW 300.0A | 10/11/07 | 7284588 |
| | | Dilution Factor: 1 | | MDL.....: 0.0050 | | |
| **Nitrogen, Nitrate** | **1.6 D** | **0.20** | **mg/L** | **MCAWW 300.0A** | **10/11-10/12/07** | **7284589** |
| | | Dilution Factor: 10 | | MDL.....: 0.086 | | |
| **Sulfate** | **12.4** | **0.50** | **mg/L** | **MCAWW 300.0A** | **10/11/07** | **7284587** |
| | | Dilution Factor: 1 | | MDL.....: 0.050 | | |
| **Total Cyanide** | **61.0** | **5.0** | **ug/L** | **SW846 9012** | **10/15-10/16/07** | **7289150** |
| | | Dilution Factor: 1 | | MDL.....: 2.8 | | |
| **TOX** | **38.6** | **5.0** | **ug/L** | **SW846 9020B** | **10/22/07** | **7290416** |
| | | Dilution Factor: 1 | | MDL.....: 2.2 | | |

**NOTE(S):**

RL Reporting Limit

D Result was obtained from the analysis of a dilution.

N Spiked analyte recovery is outside stated control limits.

**Fluor Hanford Inc**

**Client Sample ID: B1PKM9**

**General Chemistry**

**Lot-Sample #...:** F7J110312-007 **Work Order #...:** J8QR3 **Matrix.....:** WATER
**Date Sampled...:** 10/10/07 **Date Received..:** 10/11/07

| PARAMETER | RESULT | RL | UNITS | METHOD | PREPARATION-ANALYSIS DATE | PREP BATCH # |
|---|---|---|---|---|---|---|
| Chloride | 17.0 D | 2.0 | mg/L | MCAWW 300.0A | 10/11-10/12/07 | 7284585 |
| | | Dilution Factor: 10 | | MDL.....: 0.20 | | |
| Conductivity | 449 N | 1.0 | uS/cm | MCAWW 120.1 | 10/19/07 | 7292585 |
| | | Dilution Factor: 1 | | MDL.....: 0.23 | | |
| Fluoride | 2.1 | 0.10 | mg/L | MCAWW 300.0A | 10/11/07 | 7284586 |
| | | Dilution Factor: 1 | | MDL.....: 0.025 | | |
| Nitrite | ND N | 0.020 | mg/L | MCAWW 300.0A | 10/11/07 | 7284588 |
| | | Dilution Factor: 1 | | MDL.....: 0.0050 | | |
| Nitrogen, Nitrate | 1.2 D | 0.20 | mg/L | MCAWW 300.0A | 10/11-10/12/07 | 7284589 |
| | | Dilution Factor: 10 | | MDL.....: 0.086 | | |
| Sulfate | 12.2 | 0.50 | mg/L | MCAWW 300.0A | 10/11/07 | 7284587 |
| | | Dilution Factor: 1 | | MDL.....: 0.050 | | |
| Total Cyanide | 54.7 | 5.0 | ug/L | SW846 9012 | 10/15-10/16/07 | 7289150 |
| | | Dilution Factor: 1 | | MDL.....: 2.8 | | |
| TOX | 37.9 | 5.0 | ug/L | SW846 9020B | 10/22/07 | 7290416 |
| | | Dilution Factor: 1 | | MDL.....: 2.2 | | |

**NOTE(S):**

RL Reporting Limit

D Result was obtained from the analysis of a dilution.

N Spiked analyte recovery is outside stated control limits.

**METHOD BLANK REPORT**

**General Chemistry**

**Client Lot #...:** SL713 **Matrix.....:** WATER

| PARAMETER | RESULT | REPORTING LIMIT | UNITS | METHOD | PREPARATION-ANALYSIS DATE | PREP BATCH # |
|---|---|---|---|---|---|---|
| Chloride | | Work Order #: J78DR1AA | | MB Lot-Sample #: | F7I280000-412 | |
| | ND | 0.20 | mg/L | MCAWW 300.0A | 09/27/07 | 7271412 |
| | | Dilution Factor: 1 | | | | |
| Chloride | | Work Order #: J8XML1AA | | MB Lot-Sample #: | F7J110000-585 | |
| | ND | 0.20 | mg/L | MCAWW 300.0A | 10/11/07 | 7284585 |
| | | Dilution Factor: 1 | | | | |
| Conductivity | | Work Order #: J9H791AA | | MB Lot-Sample #: | F7J190000-585 | |
| | ND | 1.0 | uS/cm | MCAWW 120.1 | 10/19/07 | 7292585 |
| | | Dilution Factor: 1 | | | | |
| Fluoride | | Work Order #: J78DT1AA | | MB Lot-Sample #: | F7I280000-413 | |
| | ND | 0.10 | mg/L | MCAWW 300.0A | 09/27/07 | 7271413 |
| | | Dilution Factor: 1 | | | | |
| Fluoride | | Work Order #: J8XMT1AA | | MB Lot-Sample #: | F7J110000-586 | |
| | ND | 0.10 | mg/L | MCAWW 300.0A | 10/11/07 | 7284586 |
| | | Dilution Factor: 1 | | | | |
| Nitrite | | Work Order #: J78D01AA | | MB Lot-Sample #: | F7I280000-415 | |
| | ND | 0.020 | mg/L | MCAWW 300.0A | 09/27/07 | 7271415 |
| | | Dilution Factor: 1 | | | | |
| Nitrite | | Work Order #: J8XM01AA | | MB Lot-Sample #: | F7J110000-588 | |
| | ND | 0.020 | mg/L | MCAWW 300.0A | 10/11/07 | 7284588 |
| | | Dilution Factor: 1 | | | | |
| Nitrogen, Nitrate | | Work Order #: J78D11AA | | MB Lot-Sample #: | F7I280000-416 | |
| | ND | 0.020 | mg/L | MCAWW 300.0A | 09/27/07 | 7271416 |
| | | Dilution Factor: 1 | | | | |
| Nitrogen, Nitrate | | Work Order #: J8XM21AA | | MB Lot-Sample #: | F7J110000-589 | |
| | ND | 0.020 | mg/L | MCAWW 300.0A | 10/11/07 | 7284589 |
| | | Dilution Factor: 1 | | | | |
| Sulfate | | Work Order #: J78DV1AA | | MB Lot-Sample #: | F7I280000-414 | |
| | ND | 0.50 | mg/L | MCAWW 300.0A | 09/27/07 | 7271414 |
| | | Dilution Factor: 1 | | | | |
| Sulfate | | Work Order #: J8XMW1AA | | MB Lot-Sample #: | F7J110000-587 | |
| | ND | 0.50 | mg/L | MCAWW 300.0A | 10/11/07 | 7284587 |
| | | Dilution Factor: 1 | | | | |

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# METHOD BLANK REPORT

## General Chemistry

**Client Lot #...:** SL713 **Matrix.....:** WATER

| PARAMETER | RESULT | REPORTING LIMIT | UNITS | METHOD | PREPARATION-ANALYSIS DATE | PREP BATCH # |
|---|---|---|---|---|---|---|
| Total Cyanide | | Work Order #: J8MG91AA | | MB Lot-Sample #: | F7J080000-290 | |
| | ND | 5.0 | ug/L | SW846 9012 | 10/08-10/10/07 | 7281290 |
| | | Dilution Factor: 1 | | | | |
| Total Cyanide | | Work Order #: J82G41AA | | MB Lot-Sample #: | F7J160000-150 | |
| | ND | 5.0 | ug/L | SW846 9012 | 10/15-10/16/07 | 7289150 |
| | | Dilution Factor: 1 | | | | |
| Total Organic Carbon | | Work Order #: J83VH1AA | | MB Lot-Sample #: | F7J100000-539 | |
| | ND | 1.0 | mg/L | SW846 9060 | 10/11/07 | 7283539 |
| | | Dilution Factor: 1 | | | | |
| Total Organic Carbon | | Work Order #: J86RP1AA | | MB Lot-Sample #: | F7J160000-237 | |
| | ND | 1.0 | mg/L | SW846 9060 | 10/17/07 | 7289237 |
| | | Dilution Factor: 1 | | | | |
| TOX | | Work Order #: J86HN1AA | | MB Lot-Sample #: | F7J170000-415 | |
| | ND | 5.0 | ug/L | SW846 9020B | 10/17/07 | 7290415 |
| | | Dilution Factor: 1 | | | | |
| TOX | | Work Order #: J9J891AA | | MB Lot-Sample #: | F7J170000-416 | |
| | ND | 5.0 | ug/L | SW846 9020B | 10/22/07 | 7290416 |
| | | Dilution Factor: 1 | | | | |

**NOTE(S):**

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

## LABORATORY CONTROL SAMPLE DATA REPORT

### General Chemistry

**Lot-Sample #...:** SL713 **Matrix.....:** WATER

| PARAMETER | SPIKE AMOUNT | MEASURED AMOUNT | UNITS | PERCNT RECVRY | RPD | METHOD | PREPARATION-ANALYSIS DATE | PREP BATCH # |
|---|---|---|---|---|---|---|---|---|
| Total Organic Carbon | | WO#:J83VH1AC-LCS/J83VH1AD-LCSD | | | | LCS Lot-Sample#: F7J100000-539 | | |
| | 6.00 | 5.99 | mg/L | 100 | | SW846 9060 | 10/11/07 | 7283539 |
| | 6.00 | 5.96 | mg/L | 99 | 0.51 | SW846 9060 | 10/11/07 | 7283539 |
| | | Dilution Factor: 1 | | | | | | |
| Total Organic Carbon | | WO#:J86RP1AC-LCS/J86RP1AD-LCSD | | | | LCS Lot-Sample#: F7J160000-237 | | |
| | 6.00 | 5.95 | mg/L | 99 | | SW846 9060 | 10/17/07 | 7289237 |
| | 6.00 | 6.04 | mg/L | 101 | 1.5 | SW846 9060 | 10/17/07 | 7289237 |
| | | Dilution Factor: 1 | | | | | | |

**NOTE(S):**

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

## LABORATORY CONTROL SAMPLE DATA REPORT

### General Chemistry

**Client Lot #...:** SL713 **Matrix.....:** WATER

| PARAMETER | SPIKE AMOUNT | MEASURED AMOUNT | UNITS | PERCNT RECVRY | METHOD | PREPARATION-ANALYSIS DATE | PREP BATCH # |
|---|---|---|---|---|---|---|---|
| Chloride | | | Work Order #: J78DR1AC | | LCS Lot-Sample#: | F7I280000-412 | |
| | 2.00 | 1.83 | mg/L | 91 | MCAWW 300.0A | 09/27/07 | 7271412 |
| | | | Dilution Factor: 1 | | | | |
| Chloride | | | Work Order #: J8XML1AC | | LCS Lot-Sample#: | F7J110000-585 | |
| | 2.00 | 1.86 | mg/L | 93 | MCAWW 300.0A | 10/11/07 | 7284585 |
| | | | Dilution Factor: 1 | | | | |
| Conductivity | | | Work Order #: J9H791AC | | LCS Lot-Sample#: | F7J190000-585 | |
| | 445 | 449 | uS/cm | 101 | MCAWW 120.1 | 10/19/07 | 7292585 |
| | | | Dilution Factor: 1 | | | | |
| Conductivity | | | Work Order #: J9H791AD | | LCS Lot-Sample#: | F7J190000-585 | |
| | 7000 | 7000 | uS/cm | 100 | MCAWW 120.1 | 10/19/07 | 7292585 |
| | | | Dilution Factor: 1 | | | | |
| Fluoride | | | Work Order #: J78DT1AC | | LCS Lot-Sample#: | F7I280000-413 | |
| | 1.00 | 1.01 | mg/L | 101 | MCAWW 300.0A | 09/27/07 | 7271413 |
| | | | Dilution Factor: 1 | | | | |
| Fluoride | | | Work Order #: J8XMT1AC | | LCS Lot-Sample#: | F7J110000-586 | |
| | 1.00 | 0.959 | mg/L | 96 | MCAWW 300.0A | 10/11/07 | 7284586 |
| | | | Dilution Factor: 1 | | | | |
| Nitrite | | | Work Order #: J78D01AC | | LCS Lot-Sample#: | F7I280000-415 | |
| | 0.160 | 0.165 | mg/L | 103 | MCAWW 300.0A | 09/27/07 | 7271415 |
| | | | Dilution Factor: 1 | | | | |
| Nitrite | | | Work Order #: J8XM01AC | | LCS Lot-Sample#: | F7J110000-588 | |
| | 0.160 | 0.148 | mg/L | 92 | MCAWW 300.0A | 10/11/07 | 7284588 |
| | | | Dilution Factor: 1 | | | | |
| Nitrogen, Nitrate | | | Work Order #: J78D11AC | | LCS Lot-Sample#: | F7I280000-416 | |
| | 0.400 | 0.391 | mg/L | 98 | MCAWW 300.0A | 09/27/07 | 7271416 |
| | | | Dilution Factor: 1 | | | | |
| Nitrogen, Nitrate | | | Work Order #: J8XM21AC | | LCS Lot-Sample#: | F7J110000-589 | |
| | 0.400 | 0.385 | mg/L | 96 | MCAWW 300.0A | 10/11/07 | 7284589 |
| | | | Dilution Factor: 1 | | | | |
| Sulfate | | | Work Order #: J78DV1AC | | LCS Lot-Sample#: | F7I280000-414 | |
| | 8.00 | 7.40 | mg/L | 92 | MCAWW 300.0A | 09/27/07 | 7271414 |
| | | | Dilution Factor: 1 | | | | |

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## LABORATORY CONTROL SAMPLE DATA REPORT

### General Chemistry

**Client Lot #...:** SL713 **Matrix.....:** WATER

| PARAMETER | SPIKE AMOUNT | MEASURED AMOUNT | UNITS | PERCNT RECVRY | METHOD | PREPARATION-ANALYSIS DATE | PREP BATCH # |
|---|---|---|---|---|---|---|---|
| Sulfate | | | Work Order #: J8XMW1AC | | LCS Lot-Sample#: | F7J110000-587 | |
| | 8.00 | 7.65 | mg/L | 96 | MCAWW 300.0A | 10/11/07 | 7284587 |
| | | | Dilution Factor: 1 | | | | |
| Total Cyanide | | | Work Order #: J8MG91AC | | LCS Lot-Sample#: | F7J080000-290 | |
| | 200 | 190 | ug/L | 95 | SW846 9012 | 10/08-10/10/07 | 7281290 |
| | | | Dilution Factor: 1 | | | | |
| Total Cyanide | | | Work Order #: J8MG91AD | | LCS Lot-Sample#: | F7J080000-290 | |
| | 400 | 395 | ug/L | 99 | SW846 9012 | 10/08-10/10/07 | 7281290 |
| | | | Dilution Factor: 1 | | | | |
| Total Cyanide | | | Work Order #: J82G41AC | | LCS Lot-Sample#: | F7J160000-150 | |
| | 200 | 185 | ug/L | 93 | SW846 9012 | 10/15-10/16/07 | 7289150 |
| | | | Dilution Factor: 1 | | | | |
| Total Cyanide | | | Work Order #: J82G41AD | | LCS Lot-Sample#: | F7J160000-150 | |
| | 400 | 391 | ug/L | 98 | SW846 9012 | 10/15-10/16/07 | 7289150 |
| | | | Dilution Factor: 1 | | | | |
| TOX | | | Work Order #: J86HN1AC | | LCS Lot-Sample#: | F7J170000-415 | |
| | 100 | 114 | ug/L | 114 | SW846 9020B | 10/17/07 | 7290415 |
| | | | Dilution Factor: 1 | | | | |
| TOX | | | Work Order #: J9J891AC | | LCS Lot-Sample#: | F7J170000-416 | |
| | 100 | 111 | ug/L | 111 | SW846 9020B | 10/22/07 | 7290416 |
| | | | Dilution Factor: 1 | | | | |

**NOTE(S):**

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

**MATRIX SPIKE SAMPLE DATA REPORT**

**General Chemistry**

**Client Lot #...:** SL713 **Matrix.....:** WATER
**Date Sampled...:** 09/26/07 **Date Received..:** 09/27/07

| PARAMETER | SAMPLE AMOUNT | SPIKE AMT | MEASURED AMOUNT | UNITS | PERCENT RECOVERY | METHOD | PREPARATION-ANALYSIS DATE | PREP BATCH # |
|---|---|---|---|---|---|---|---|---|
| Chloride | | | Work Order #...: | | J7VHW1AK | | MS Lot-Sample #: | F7I280119-002 |
| | 3.5 | 2.00 | 5.97 N | mg/L | 126 | MCAWW 300.0A | 09/27/07 | 7271412 |
| | | | Dilution Factor: 1 | | | | | |
| Chloride | | | Work Order #...: | | J8QRE1AR | | MS Lot-Sample #: | F7J110312-005 |
| | 17.3 | 20.0 | 37.1 D | mg/L | 99 | MCAWW 300.0A | 10/11-10/12/07 | 7284585 |
| | | | Dilution Factor: 10 | | | | | |
| Conductivity | | | Work Order #...: | | J8QRE1AP | | MS Lot-Sample #: | F7J110312-005 |
| | 445 | 1410 | 2230 N | uS/cm | 126 | MCAWW 120.1 | 10/19/07 | 7292585 |
| | | | Dilution Factor: 1 | | | | | |
| Fluoride | | | Work Order #...: | | J7VHW1AM | | MS Lot-Sample #: | F7I280119-002 |
| | 0.28 | 2.00 | 2.60 N | mg/L | 116 | MCAWW 300.0A | 09/27/07 | 7271413 |
| | | | Dilution Factor: 1 | | | | | |
| Fluoride | | | Work Order #...: | | J8QRE1AU | | MS Lot-Sample #: | F7J110312-005 |
| | 2.2 | 2.00 | 4.22 | mg/L | 102 | MCAWW 300.0A | 10/11-10/12/07 | 7284586 |
| | | | Dilution Factor: 1 | | | | | |
| Nitrite | | | Work Order #...: | | J7VHW1AR | | MS Lot-Sample #: | F7I280119-002 |
| | ND | 0.100 | 0.147 N | mg/L | 147 | MCAWW 300.0A | 09/27/07 | 7271415 |
| | | | Dilution Factor: 1 | | | | | |
| Nitrite | | | Work Order #...: | | J8QRE1A0 | | MS Lot-Sample #: | F7J110312-005 |
| | ND | 0.100 | 0.158 N | mg/L | 158 | MCAWW 300.0A | 10/11-10/12/07 | 7284588 |
| | | | Dilution Factor: 1 | | | | | |
| Nitrogen, Nitrate | | | Work Order #...: | | J7VHW1AU | | MS Lot-Sample #: | F7I280119-002 |
| | 0.36 | 0.400 | 0.734 | mg/L | 94 | MCAWW 300.0A | 09/27/07 | 7271416 |
| | | | Dilution Factor: 1 | | | | | |
| Nitrogen, Nitrate | | | Work Order #...: | | J8QRE1A2 | | MS Lot-Sample #: | F7J110312-005 |
| | 1.4 | 4.00 | 5.28 D | mg/L | 97 | MCAWW 300.0A | 10/11-10/12/07 | 7284589 |
| | | | Dilution Factor: 10 | | | | | |
| Sulfate | | | Work Order #...: | | J7VHW1AP | | MS Lot-Sample #: | F7I280119-002 |
| | 13.0 | 4.00 | 17.1 | mg/L | 102 | MCAWW 300.0A | 09/27/07 | 7271414 |
| | | | Dilution Factor: 1 | | | | | |
| Sulfate | | | Work Order #...: | | J8QRE1AW | | MS Lot-Sample #: | F7J110312-005 |
| | 12.3 | 4.00 | 16.3 | mg/L | 101 | MCAWW 300.0A | 10/11-10/12/07 | 7284587 |
| | | | Dilution Factor: 1 | | | | | |

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**MATRIX SPIKE SAMPLE DATA REPORT**

**General Chemistry**

**Client Lot #...:** SL713 **Matrix.....:** WATER
**Date Sampled...:** 09/26/07 **Date Received..:** 09/27/07

| PARAMETER | SAMPLE AMOUNT | SPIKE AMT | MEASURED AMOUNT | UNITS | PERCENT RECOVERY | METHOD | PREPARATION-ANALYSIS DATE | PREP BATCH # |
|---|---|---|---|---|---|---|---|---|
| Total Cyanide | | | Work Order #...: | | J7VHW1AW | | MS Lot-Sample #: | F7I280119-002 |
| | ND | 200 | 198 | ug/L | 99 | SW846 9012 | 10/08-10/10/07 | 7281290 |
| | | | Dilution Factor: 1 | | | | | |
| Total Cyanide | | | Work Order #...: | | J8QRE1A4 | | MS Lot-Sample #: | F7J110312-005 |
| | 60.2 | 200 | 253 | ug/L | 96 | SW846 9012 | 10/15-10/16/07 | 7289150 |
| | | | Dilution Factor: 1 | | | | | |
| Total Organic Carbon | | | Work Order #...: | | J8QQ61AD | | MS Lot-Sample #: | F7J110312-004 |
| | 2.1 | 5.00 | 7.09 | mg/L | 100 | SW846 9060 | 10/17/07 | 7289237 |
| | | | Dilution Factor: 1 | | | | | |
| TOX | | | Work Order #...: | | J8QQ61AE | | MS Lot-Sample #: | F7J110312-004 |
| | 47.8 | 100 | 161 | ug/L | 113 | SW846 9020B | 10/22/07 | 7290416 |
| | | | Dilution Factor: 1 | | | | | |

**NOTE(S):**

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

N Spiked analyte recovery is outside stated control limits.

D Result was obtained from the analysis of a dilution.

## SAMPLE DUPLICATE EVALUATION REPORT

### General Chemistry

**Client Lot #...:** F7I280119 **Work Order #...:** J7VHW-SMP J7VHW-DUP **Matrix.....:** WATER

**Date Sampled...:** 09/26/07 **Date Received..:** 09/27/07

| PARAM | RESULT | DUPLICATE RESULT | UNITS | RPD | RPD LIMIT | METHOD | PREPARATION-ANALYSIS DATE | PREP BATCH # |
|---|---|---|---|---|---|---|---|---|
| Chloride | | | | | | SD Lot-Sample #: | F7I280119-002 | |
| | 3.5 N | 3.4 N | mg/L | 0.50 | (0-20) | MCAWW 300.0A | 09/27/07 | 7271412 |
| | | | Dilution Factor: 1 | | | | | |
| Fluoride | | | | | | SD Lot-Sample #: | F7I280119-002 | |
| | 0.28 N | 0.27 N | mg/L | 0.66 | (0-20) | MCAWW 300.0A | 09/27/07 | 7271413 |
| | | | Dilution Factor: 1 | | | | | |
| Sulfate | | | | | | SD Lot-Sample #: | F7I280119-002 | |
| | 13.0 | 12.9 | mg/L | 0.84 | (0-20) | MCAWW 300.0A | 09/27/07 | 7271414 |
| | | | Dilution Factor: 1 | | | | | |
| Nitrite | | | | | | SD Lot-Sample #: | F7I280119-002 | |
| | ND | ND | mg/L | 0 | (0-20) | MCAWW 300.0A | 09/27/07 | 7271415 |
| | | | Dilution Factor: 1 | | | | | |
| Nitrogen, Nitrate | | | | | | SD Lot-Sample #: | F7I280119-002 | |
| | 0.36 | 0.35 | mg/L | 0.75 | (0-20) | MCAWW 300.0A | 09/27/07 | 7271416 |
| | | | Dilution Factor: 1 | | | | | |
| Nitrogen, Nitrate | | | | | | SD Lot-Sample #: | F7I280119-002 | |
| | 0.36 | 0.35 | mg/L | 0.75 | (0-20) | MCAWW 300.0A | 09/27/07 | 7271416 |
| | | | Dilution Factor: 1 | | | | | |
| Total Cyanide | | | | | | SD Lot-Sample #: | F7I280119-002 | |
| | ND | ND | ug/L | 0 | (0-20) | SW846 9012 | 10/08-10/10/07 | 7281290 |
| | | | Dilution Factor: 1 | | | | | |

**NOTE(S):**

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

N Spiked analyte recovery is outside stated control limits.

## SAMPLE DUPLICATE EVALUATION REPORT

### General Chemistry

**Client Lot #...:** F7I280119 **Work Order #...:** J8QRE-SMP J8QRE-DUP **Matrix.....:** WATER

**Date Sampled...:** 10/10/07 **Date Received..:** 10/11/07

| PARAM | RESULT | DUPLICATE RESULT | UNITS | RPD | RPD LIMIT | METHOD | PREPARATION-ANALYSIS DATE | PREP BATCH # |
|---|---|---|---|---|---|---|---|---|
| Chloride | | | | | | SD Lot-Sample #: | F7J110312-005 | |
| | 17.3 D | 17.4 D | mg/L | 0.58 | (0-20) | MCAWW 300.0A | 10/11-10/12/07 | 7284585 |
| | | | Dilution Factor: 10 | | | | | |
| Fluoride | | | | | | SD Lot-Sample #: | F7J110312-005 | |
| | 2.2 | 2.2 | mg/L | 0.94 | (0-20) | MCAWW 300.0A | 10/11-10/12/07 | 7284586 |
| | | | Dilution Factor: 1 | | | | | |
| Sulfate | | | | | | SD Lot-Sample #: | F7J110312-005 | |
| | 12.3 | 12.3 | mg/L | 0.19 | (0-20) | MCAWW 300.0A | 10/11-10/12/07 | 7284587 |
| | | | Dilution Factor: 1 | | | | | |
| Nitrite | | | | | | SD Lot-Sample #: | F7J110312-005 | |
| | ND | ND | mg/L | 0 | (0-20) | MCAWW 300.0A | 10/11-10/12/07 | 7284588 |
| | | | Dilution Factor: 1 | | | | | |
| Nitrogen, Nitrate | | | | | | SD Lot-Sample #: | F7J110312-005 | |
| | 1.4 D | 1.4 D | mg/L | 1.6 | (0-20) | MCAWW 300.0A | 10/11-10/12/07 | 7284589 |
| | | | Dilution Factor: 10 | | | | | |
| Conductivity | | | | | | SD Lot-Sample #: | F7J110312-005 | |
| | 445 N | 446 N | uS/cm | 0.22 | (0-20) | MCAWW 120.1 | 10/20/07 | 7292585 |
| | | | Dilution Factor: 1 | | | | | |
| Total Cyanide | | | | | | SD Lot-Sample #: | F7J110312-005 | |
| | 60.2 | 58.9 | ug/L | 2.3 | (0-20) | SW846 9012 | 10/15-10/16/07 | 7289150 |
| | | | Dilution Factor: 1 | | | | | |

**NOTE(S):**

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

D Result was obtained from the analysis of a dilution.

N Spiked analyte recovery is outside stated control limits.

## SAMPLE DUPLICATE EVALUATION REPORT

### General Chemistry

**Client Lot #...:** F7I280119 **Work Order #...:** J8QQ6-SMP J8QQ6-DUP **Matrix.....:** WATER

**Date Sampled...:** 10/10/07 **Date Received..:** 10/11/07

| PARAM | RESULT | DUPLICATE RESULT | UNITS | RPD | RPD LIMIT | METHOD | PREPARATION-ANALYSIS DATE | PREP BATCH # |
|---|---|---|---|---|---|---|---|---|
| Total Organic Carbon | | | | | | SD Lot-Sample #: | F7J110312-004 | |
| | 2.1 | 2.1 | mg/L | 1.3 | (0-20) | SW846 9060 | 10/17/07 | 7289237 |
| | | | Dilution Factor: 1 | | | | | |
| TOX | | | | | | SD Lot-Sample #: | F7J110312-004 | |
| | 47.8 | 58.4 | ug/L | 20 | (0-20) | SW846 9020B | 10/22/07 | 7290416 |
| | | | Dilution Factor: 1 | | | | | |