RECEIVED OCTOBER 4, 2007

Fluor Hanford
WSCF Analytical Lab
P.O. Box 1000
Richland, WA 99352
Telephone 373-7495
Telefax 372-0456

**FLUOR**

# Memorandum

M4W41-SLF-07-683

To: H. Hampt E6-35 Date: September 28, 2007

From: S. L. Fitzgerald, Manager
WSCF Analytical Lab

cc: w/Attachments

| | | | |
|---|---|---|---|
| T. F. Dale | S3-30 | S. J. Trent | E6-35 |
| H. K. Meznarich | S3-30 | D. D. Wright | S3-30 |
| P. D. Mix | S3-30 | File/LB | |
| J. E. Trechter | S3-30 | | |

Subject: FINAL RESULTS FOR SAMPLE DELIVERY GROUP WSCF20071482 – SAF NUMBER F07-057

Reference:
(1) Groundwater Protection Program-Letter of Instruction, FH-EIS-2003-MEM-001, October 31, 2002

(2) HNF-SD-CD-QAPP-017, Rev. 8, Waste Sampling & Characterization Facility Quality Assurance Plan

This letter contains the following information for sample delivery group WSCF20071482:

- Cover Sheet (Attachment 1)
- Narrative (Attachment 2)
- Analytical Results (Attachment 3)
- Sample Receipt Information (Attachment 4)

SLF/cmj

Attachments 4

M4W41-SLF-07-683

ATTACHMENT 1

**COVER SHEET**

Consisting of 2 pages
Including cover page

# WSCF SAF NUMBER CROSS REFERENCE

Group#: WSCF20071482
Data Deliverable Date: 03-oct-2007
Data Deliverable: Cover Sheet

| SAF# | Sample ID | WSCF# | Matrix |
|---|---|---|---|
| F07-057 | B1PCT6 | W07GR02196 | WATER |

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ATTACHMENT 2

**NARRATIVE**

Consisting of 4 pages
Including cover page

| | |
|---|---|
| **Sample Delivery Group** | **WSCF20071482** |
| **Sample Matrix** | **Water** |
| **Data Deliverable** | **Summary Report** |

## Introduction

One groundwater sample was received at the WSCF Laboratory on August 20, 2007. Sample was analyzed for the analytes indicated on the attached copy of the chain of custody (COC) form in accordance with the *Groundwater Remediation Program – Letter of Instruction*, referenced in the cover letter.

The narrative (Attachment 2) will address sample characteristics, analyses requested and general information in performance of the analytical methods. A Data Summary Report (Attachment 3) includes analytical results, a comment report detailing method abnormalities, tentatively identified peaks if applicable, method references, and Laboratory QC information as applicable. Copies of the chain of custody and sample receipt documentation are included as Attachment 4.

It should be noted that the attached chain of custody was stamped "iced" and initialed by the WSCF Laboratory Sample Custodian during sample receiving, indicating the presence of ice in the sample container.

## Analytical Methodology for Requested Analyses

Refer to *WSCF Method References Report,* pages 13-15, for a complete listing of approved analytical methods.

## Inorganic Comments

**Anions** – Hold time requirements for this analysis were met. A Duplicate, Matrix Spike, Matrix Spike Duplicate, Blank and Laboratory Control Sample were analyzed with this delivery group per GRP Letter of Instruction. See pages 17-18 for QC details. Analytical Note(s):

- Duplicate, Matrix Spike and Matrix Spike Duplicate were analyzed on sample# B1MRR0 (SDG# 20071501, SAF# F07-017).
- Sample results that were less than the reportable limit, however greater than the method detection limit were B flagged.
- Chloride and Sulfate – Matrix Spike Duplicates were less than established laboratory limits and Spike Relative Percent Differences (RPD) exceeded established limits. Sample results were N flagged.

All other QC controls are within the established limits.

**ICP-MS Metals** – The hold time requirements for this analysis were met. A Matrix Spike, Matrix Spike Duplicate, Blank and Laboratory Control Sample were analyzed with this delivery group per the GRP Letter of Instruction. See page 19-22 for QC details. Analytical Note(s):

- Copper contamination detected in the Blank was evaluated and sample result was C flagged.

All other QC controls are within the established limits.

**Organic Comments**

**Semi-VOA** – The hold time requirements for this analysis were met. A Matrix Spike, Matrix Spike Duplicate, Blank and Laboratory Control Sample were analyzed with this delivery group per the GPP Letter of Instruction. See pages 28-31 for QC details. Analytical Note(s):

- 2-Fluorobiphenyl (Surrogate) – Matrix Spike, Matrix Spike Duplicate and Surrogate recoveries were less than established laboratory limits. Possibly due to matrix interferences. No flags issued.

- N-Nitrosodi-n-dipropylamine – Laboratory Control Sample recovery was less than established laboratory limits. No flags issued.

All other QC controls are within the established limits.

**VOA** – The hold time requirement for this analysis was met. A Matrix Spike, Matrix Spike Duplicate, Blank and Laboratory Control Sample, were analyzed with this delivery group per the GRP Letter of Instruction. See pages 32-34 for QC details. Analytical Note(s):

- Matrix Spike and Matrix Spike Duplicate were analyzed on sample# B1NRR7 (SDG# 20071486, SAF# F07-057).

- 4-Bromofluorobenzene-d4 (Surrogate) – Surrogate recovery exceeded established laboratory limits. No flags issued.

All other QC controls are within the established limits.

**Radiochemistry Comments**

**Rad Chem** – There are no hold times associated with WSCF's radiochemical methods. A Duplicate, Blank and Laboratory Control Sample were analyzed with this delivery group. See pages 37-38 for QC details. Analytical Note(s):

- Gross Alpha/Gross Beta – Duplicate was analyzed on sample# B1P1C6 (SDG# 20071299). Gross Beta Relative Percent Difference (RPD) exceeded established laboratory limits. No flags issued.

All other QC controls are within the established limits.

I certify that this data package is in compliance with the LOI, 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 Analytical Manager and Client Services as verified by the following signatures.

Scot L. Fitzgerald
WSCF Analytical Laboratory Manager

Pauline D. Mix
WSCF Client Services

Abbreviations

Hg – mercury
IC – ion chromatography
ICP – inductively coupled plasma
ICP/AES – ICP/atomic emission spectroscopy
ICP/MS – ICP/mass spectrometry
Total U – total uranium
AT/TB – total alpha/total beta
AEA – Alpha Energy Analysis
WTPH-G – Total Hydrocarbons-Gasoline

Am – americium
Cm - curium
Pu – plutonium
Np – neptunium
GEA – gamma energy analysis
H3 – Tritium
Sr – Strontium 89, 90
WTPH-D – Total Hydrocarbons-Diesel
TSS – Total Suspended Solids

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ATTACHMENT 3

**ANALYTICAL RESULTS**

Consisting of 32 pages
Including cover page

# WSCF
# ANALYTICAL RESULTS REPORT

**for**

**Groundwater Remediation Program**

**Richland, WA 99354**

**Attention: Steve Trent**

Analytical: S. Fitzgerald 9/28/07

Client Services: P.D. Mix 9/27/2007

*All results are reported on an "as received" basis unless otherwise noted in the comment section.*

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Contract#: FH-EIS-2003-MEM-001
Report#: WSCF20071482
Report Date: 27-sep-2007
*Report WGPP/ver. 5.2*

w13qlog v4.2 27-sep-2007 10:49:54

Department: Inorganic

W13q Worklist/Batch/QC Report for Group# WSCF20071482

| WL# | S# | Batch | QC# | Tray Type | Sample# | Test |
|---|---|---|---|---|---|---|
| 33075 | 2 | 33479 | 37549 | BLANK | | Anions by Ion Chromatography |
| 33075 | 13 | 33479 | 37549 | BLANK | | Anions by Ion Chromatography |
| 33075 | 3 | 33479 | 37549 | LCS | | Anions by Ion Chromatography |
| 33075 | 9 | 33479 | 37549 | SAMPLE | W07GR02196 | Anions by Ion Chromatography |
| 33075 | 5 | 33479 | 37549 | DUP | W07GR02232 | Anions by Ion Chromatography |
| 33075 | 6 | 33479 | 37549 | MS | W07GR02232 | Anions by Ion Chromatography |
| 33075 | 7 | 33479 | 37549 | MSD | W07GR02232 | Anions by Ion Chromatography |
| 33075 | 7 | 33479 | 37549 | SPK-RPD | W07GR02232 | Anions by Ion Chromatography |
| 33261 | 1 | 33664 | 37746 | BLANK | | ICP-200.8 MS All possible meta |
| 33261 | 2 | 33664 | 37746 | LCS | | ICP-200.8 MS All possible meta |
| 33261 | 23 | 33664 | 37746 | MS | W07GR02196 | ICP-200.8 MS All possible meta |
| 33261 | 24 | 33664 | 37746 | MSD | W07GR02196 | ICP-200.8 MS All possible meta |
| 33261 | 22 | 33664 | 37746 | SAMPLE | W07GR02196 | ICP-200.8 MS All possible meta |
| 33261 | 24 | 33664 | 37746 | SPK-RPD | W07GR02196 | ICP-200.8 MS All possible meta |
| 33261 | 4 | 33664 | 37746 | MS | W07GR02224 | ICP-200.8 MS All possible meta |
| 33261 | 5 | 33664 | 37746 | MSD | W07GR02224 | ICP-200.8 MS All possible meta |
| 33261 | 5 | 33664 | 37746 | SPK-RPD | W07GR02224 | ICP-200.8 MS All possible meta |
| 33261 | 12 | 33664 | 37746 | MS | W07GR02226 | ICP-200.8 MS All possible meta |
| 33261 | 13 | 33664 | 37746 | MSD | W07GR02226 | ICP-200.8 MS All possible meta |
| 33261 | 13 | 33664 | 37746 | SPK-RPD | W07GR02226 | ICP-200.8 MS All possible meta |

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Department: Organic

W13q Worklist/Batch/QC Report for Group# WSCF20071482

| WL# | S# | Batch | QC# | Tray Type | Sample# | Test |
|---|---|---|---|---|---|---|
| | | | 37727 | BLANK | | SW-846 8270C Semi-Vols |
| | | | 37727 | LCS | | SW-846 8270C Semi-Vols |
| | | | 37727 | MS | W07GR02196 | SW-846 8270C Semi-Vols |
| | | | 37727 | MSD | W07GR02196 | SW-846 8270C Semi-Vols |
| | | | 37727 | SAMPLE | W07GR02196 | SW-846 8270C Semi-Vols |
| | | | 37727 | SPK-RPD | W07GR02196 | SW-846 8270C Semi-Vols |
| | | | 37727 | SURR | W07GR02196 | SW-846 8270C Semi-Vols |
| | | | 37983 | BLANK | | VOA Ground Water Protection |
| | | | 37983 | LCS | | VOA Ground Water Protection |
| | | | 37983 | SAMPLE | W07GR02196 | VOA Ground Water Protection |
| | | | 37983 | SURR | W07GR02196 | VOA Ground Water Protection |
| | | | 37983 | MS | W07GR02216 | VOA Ground Water Protection |
| | | | 37983 | MSD | W07GR02216 | VOA Ground Water Protection |
| | | | 37983 | SPK-RPD | W07GR02216 | VOA Ground Water Protection |

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Department: Radiochemistry

W13q Worklist/Batch/QC Report for Group# WSCF20071482

| WL# | S# | Batch | QC# | Tray Type | Sample# | Test |
|---|---|---|---|---|---|---|
| 32858 | 1 | 33254 | 37611 | BLANK | | Gross Alpha/Gross Beta (AB32) |
| 32858 | 2 | 33254 | 37611 | LCS | | Gross Alpha/Gross Beta (AB32) |
| 32858 | 13 | 33254 | 37611 | SAMPLE | W07GR02196 | Gross Alpha/Gross Beta (AB32) |
| 32858 | 3 | 33254 | 37611 | DUP | W07P001416 | Gross Alpha/Gross Beta (AB32) |
| 33049 | 1 | 33452 | 37910 | BLANK | | Gamma Energy Analysis-grd H2O |
| 33049 | 2 | 33452 | 37910 | LCS | | Gamma Energy Analysis-grd H2O |
| 33049 | 3 | 33452 | 37910 | DUP | W07GR02196 | Gamma Energy Analysis-grd H2O |
| 33049 | 4 | 33452 | 37910 | SAMPLE | W07GR02196 | Gamma Energy Analysis-grd H2O |

# WSCF
# METHOD REFERENCES REPORT

**Department:** Inorganic

The results provided in this report were generated using the following WSCF Laboratory procedures. For your convenience, this table provides a listing of the regulatory or industry methods that are referenced by each of these WSCF procedures. Please note that the most recent version of the regulatory or industry method is listed here even though the WSCF procedure may reference an older version of the method. Also, a reference to a regulatory or industry method here does not necessarily indicate a verbatim implementation of that method.

**LA-505-412** LA-505-412: DETERMINATION OF TRACE ELEMENTS IN WATERS AND WASTES BY INDUCTIVELY

| | |
|---|---|
| **EPA-600/R-94-111 200.8** | DETERMINATION OF TRACE ELEMENTS IN WATERS AND WASTES BY INDUCTIVELY COUPLED PLAS |
| **HEIS 200.8_METALS_ICPMS** | Inductively Coupled Plasma - Mass Spectrometry |

**LA-533-410** LA-533-410: ANION ANALYSIS BY ION CHROMATOGRAPHY

| | |
|---|---|
| **EPA-600/R-94-111 300.0** | DETERMINATION OF INORGANIC ANIONS BY ION CHROMATOGRAPHY |
| **HEIS 300.0_ANIONS_IC** | Determination of Inorganic Anions by Ion Chromatography |

Note: A complete list of WSCF analytical procedures and referenced regulatory or industry methods is available online at http://www2.rl.gov/phmc/as-dol.

# WSCF
# METHOD REFERENCES REPORT

**Department:** Organic

The results provided in this report were generated using the following WSCF Laboratory procedures. For your convenience, this table provides a listing of the regulatory or industry methods that are referenced by each of these WSCF procedures. Please note that the most recent version of the regulatory or industry method is listed here even though the WSCF procedure may reference an older version of the method. Also, a reference to a regulatory or industry method here does not necessarily indicate a verbatim implementation of that method.

| | | |
|---|---|---|
| **LA-523-455** | LA-523-455: VOLATILE SAMPLE ANALYSIS BY SW-846 | |
| | **EPA SW-846 8000B** | DETERMINATIVE CHROMATOGRAPHIC SEPARATIONS |
| | **EPA SW-846 8260B** | VOLATILE ORGANIC COMPOUNDS BY GAS CHROMATOGRAPHY/MASS SPECTROMETRY (GC/MS) |
| | **HEIS 8260_VOA_GCMS** | Volatile Organic Compounds by Gas Chromatography/Mass Spectrometry (GC/MS) |
| **LA-523-456** | LA-523-456: SEMIVOLATILE SAMPLE ANALYSIS BY SW-846, METHOD 8270C | |
| | **EPA SW-846 8000B** | DETERMINATIVE CHROMATOGRAPHIC SEPARATIONS |
| | **EPA SW-846 8270C** | SEMIVOLATILE ORGANIC COMPOUNDS BY GAS CHROMATOGRAPHY/MASS SPECTROMETRY (GC/MS) |
| | **HEIS 8270_SVOA_GCMS** | Semivolatile Orgamoc Compounds By Gas Chromatography/Mass Spectrometry (GC/MS) |

Note: A complete list of WSCF analytical procedures and referenced regulatory or industry methods is available online at http://www2.rl.gov/phmc/as-dol.

# WSCF
# METHOD REFERENCES REPORT

**Department:** Radiochemistry

The results provided in this report were generated using the following WSCF Laboratory procedures. For your convenience, this table provides a listing of the regulatory or industry methods that are referenced by each of these WSCF procedures. Please note that the most recent version of the regulatory or industry method is listed here even though the WSCF procedure may reference an older version of the method. Also, a reference to a regulatory or industry method here does not necessarily indicate a verbatim implementation of that method.

**LA-508-415** LA-508-415: OPERATION OF THE PROTEAN 2-INCH ALPHA/BETA COUNTING SYSTEM FOR GROSS

| | |
|---|---|
| **HEIS ALPHA_GPC** | GROSS ALPHA GPC |
| **HEIS BETA_GPC** | GROSS BETA GPC |
| **HEIS SRTOT_SEP_PRECIP_GPC** | Strontium 89/90 |

**LA-508-481** LA-508-481: GAMMA ENERGY ANALYSIS USING PROCOUNT SOFTWARE

| | |
|---|---|
| **HEIS GAMMA_GS** | Gamma Emmision Spectrometry |

Note: A complete list of WSCF analytical procedures and referenced regulatory or industry methods is available online at http://www2.rl.gov/phmc/as-dol.

# WSCF
# ANALYTICAL RESULTS REPORT

**Attention:** Steve Trent
**SAF Number:** F07-057
**Sample #** W07GR02196
**Client ID:** B1PCT6 TRENT WSCF

**Matrix:** WATER

**Group #:** WSCF20071482
**Department:** Inorganic
**Sampled:** 08/20/07
**Received:** 08/20/07

| Test Performed | CAS # | Method | RQ | Result | Unit | TP Err | Unit | DF | MDL | PQL | Analysis Date |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Anions by Ion Chromatography** | | | | | | | | | | | |
| Fluoride | 16984-48-8 | LA-533-410 | B | 0.0581 | mg/L | | | 1.00 | 6.0e-03 | | 08/22/07 |
| Chloride | 16887-00-6 | LA-533-410 | N | 5.25 | mg/L | | | 1.00 | 0.030 | | 08/22/07 |
| Nitrogen in Nitrite | NO2-N | LA-533-410 | U | < 0.0100 | mg/L | | | 1.00 | 0.010 | | 08/22/07 |
| Nitrogen in Nitrate | NO3-N | LA-533-410 | B | 0.0595 | mg/L | | | 1.00 | 5.0e-03 | | 08/22/07 |
| Phosphate (P) by IC | PO4-P | LA-533-410 | U | < 0.0400 | mg/L | | | 1.00 | 0.040 | | 08/22/07 |
| Sulfate | 14808-79-8 | LA-533-410 | NU | < 0.0700 | mg/L | | | 1.00 | 0.070 | | 08/22/07 |
| **ICP-200.8 MS All possible meta Prep** | | | | | | | | | | | **09/10/07** |
| **ICP-200.8 MS All possible meta** | | | | | | | | | | | |
| Silver | 7440-22-4 | LA-505-412 | U | < 0.100 | ug/L | | | 1.00 | 0.100 | | 09/11/07 |
| Barium | 7440-39-3 | LA-505-412 | | 6.86 | ug/L | | | 1.00 | 0.200 | | 09/11/07 |
| Cadmium | 7440-43-9 | LA-505-412 | U | < 0.100 | ug/L | | | 1.00 | 0.100 | | 09/11/07 |
| Chromium | 7440-47-3 | LA-505-412 | U | < 0.500 | ug/L | | | 1.00 | 0.500 | | 09/11/07 |
| Copper | 7440-50-8 | LA-505-412 | C | 0.702 | ug/L | | | 1.00 | 0.100 | | 09/11/07 |
| Lead | 7439-92-1 | LA-505-412 | U | < 0.100 | ug/L | | | 1.00 | 0.100 | | 09/11/07 |
| Mercury | 7439-97-6 | LA-505-412 | U | < 0.0500 | ug/L | | | 1.00 | 0.0500 | | 09/11/07 |
| Uranium | 7440-61-1 | LA-505-412 | U | < 0.0500 | ug/L | | | 1.00 | 0.0500 | | 09/11/07 |
| Arsenic | 7440-38-2 | LA-505-412 | U | < 0.400 | ug/L | | | 1.00 | 0.400 | | 09/11/07 |
| Selenium | 7782-49-2 | LA-505-412 | | 0.365 | ug/L | | | 1.00 | 0.300 | | 09/11/07 |

**MDL=Minimum Detection Limit**
**RQ=Result Qualifier**
**TP Err=Total Propagated Error**
**DF=Dilution Factor**

B - The analyte < the RDL but > = the IDL/MDL (inorg)
N - Spike sample recovery is outside control limits.(inorg)
U - Analyzed for but not detected above limiting criteria.(org)
C - The Analyte was found in the Associated Blank.(inorg)
U - Analyzed for but not detected above limiting criteria(inorg)

* - Indicates results that have NOT been validated; + - Indicates more than six qualifier symbols

# WSCF ANALYTICAL LABORATORY QC REPORT

**Department:** **Inorganic**

SDG Number: WSCF20071482
Matrix: WATER
Test: Anions by Ion Chromatography

Sample Date: 08/21/07
Receive Date:08/21/07

Lab ID: W07GR02232
BATCH QC ASSOCIATED WITH SAMPLE

| QC Type | Analyte | CAS # | QC Found | QC Yield | Units | Lower Limit | Upper Limit | RPD(%) | RPD Limit | RQ | Analysis Date |
|---|---|---|---|---|---|---|---|---|---|---|---|
| DUP | Chloride | 16887-00-6 | 49.8442 | | RPD | | | 0.123 | 20.000 | | 08/22/07 |
| DUP | Fluoride | 16984-48-8 | 0.2077 | | RPD | | | 11.396 | 20.000 | | 08/22/07 |
| DUP | Nitrogen in Nitrite | NO2-N | <1e-2 | | RPD | | | n/a | 20.000 | U | 08/22/07 |
| DUP | Nitrogen in Nitrate | NO3-N | 5.3886 | | RPD | | | 1.737 | 20.000 | | 08/22/07 |
| DUP | Phosphate (P) by IC | PO4-P | <4e-2 | | RPD | | | n/a | 20.000 | U | 08/22/07 |
| DUP | Sulfate | 14808-79-8 | 45.1723 | | RPD | | | 0.002 | 20.000 | | 08/22/07 |
| MS | Chloride | 16887-00-6 | 0.87018 | 87.897 | % Recov | 75.000 | 125.000 | | | | 08/22/07 |
| MS | Fluoride | 16984-48-8 | 0.5607 | 111.693 | % Recov | 75.000 | 125.000 | | | | 08/22/07 |
| MS | Nitrogen in Nitrite | NO2-N | 0.5485 | 110.141 | % Recov | 75.000 | 125.000 | | | | 08/22/07 |
| MS | Nitrogen in Nitrate | NO3-N | 0.46632 | 103.397 | % Recov | 75.000 | 125.000 | | | | 08/22/07 |
| MS | Phosphate (P) by IC | PO4-P | 0.8238 | 86.352 | % Recov | 75.000 | 125.000 | | | | 08/22/07 |
| MS | Sulfate | 14808-79-8 | 2.05596 | 103.836 | % Recov | 75.000 | 125.000 | | | | 08/22/07 |
| MSD | Chloride | 16887-00-6 | 0.48432 | 48.921 | % Recov | 75.000 | 125.000 | | • | | 08/22/07 |
| MSD | Fluoride | 16984-48-8 | 0.5328 | 106.135 | % Recov | 75.000 | 125.000 | | | | 08/22/07 |
| MSD | Nitrogen in Nitrite | NO2-N | 0.5539 | 111.225 | % Recov | 75.000 | 125.000 | | | | 08/22/07 |
| MSD | Nitrogen in Nitrate | NO3-N | 0.39832 | 88.319 | % Recov | 75.000 | 125.000 | | | | 08/22/07 |
| MSD | Phosphate (P) by IC | PO4-P | 0.7937 | 83.197 | % Recov | 75.000 | 125.000 | | | | 08/22/07 |
| MSD | Sulfate | 14808-79-8 | 1.23332 | 62.289 | % Recov | 75.000 | 125.000 | | • | | 08/22/07 |
| SPK-RPD | Chloride | 16887-00-6 | 48.921 | | RPD | | | 56.975 | 20.000 • | | 08/23/07 |
| SPK-RPD | Fluoride | 16984-48-8 | 106.135 | | RPD | | | 5.103 | 20.000 | | 08/23/07 |
| SPK-RPD | Nitrogen in Nitrite | NO2-N | 111.225 | | RPD | | | 0.979 | 20.000 | | 08/23/07 |
| SPK-RPD | Nitrogen in Nitrate | NO3-N | 88.319 | | RPD | | | 15.730 | 20.000 | | 08/23/07 |
| SPK-RPD | Phosphate (P) by IC | PO4-P | 83.197 | | RPD | | | 3.722 | 20.000 | | 08/23/07 |
| SPK-RPD | Sulfate | 14808-79-8 | 62.289 | | RPD | | | 50.019 | 20.000 • | | 08/23/07 |

# WSCF ANALYTICAL LABORATORY QC REPORT

**Department:** **Inorganic**

SDG Number: WSCF20071482
Matrix: WATER
Test: Anions by Ion Chromatography

Sample Date:
Receive Date:

| QC Type | Analyte | CAS # | QC Found | QC Yield | Units | Lower Limit | Upper Limit | RPD(%) | RPD Limit | RQ | Analysis Date |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **BATCH QC** | | | | | | | | | | | |
| BLANK | Chloride | 16887-00-6 | <3e-2 | n/a | mg/L | 0.000 | 0.030 | | | U | 08/22/07 |
| BLANK | Chloride | 16887-00-6 | <3e-2 | n/a | mg/L | 0.000 | 0.030 | | | U | 08/23/07 |
| BLANK | Fluoride | 16984-48-8 | <6e-3 | n/a | mg/L | 0.000 | 0.030 | | | U | 08/22/07 |
| BLANK | Fluoride | 16984-48-8 | <6e-3 | n/a | mg/L | 0.000 | 0.030 | | | U | 08/23/07 |
| BLANK | Nitrogen in Nitrite | NO2-N | <1e-2 | n/a | mg/L | 0.000 | 0.020 | | | U | 08/23/07 |
| BLANK | Nitrogen in Nitrite | NO2-N | <1e-2 | n/a | mg/L | 0.000 | 0.020 | | | U | 08/22/07 |
| BLANK | Nitrogen in Nitrate | NO3-N | <5e-3 | n/a | mg/L | 0.000 | 0.040 | | | U | 08/22/07 |
| BLANK | Nitrogen in Nitrate | NO3-N | <5e-3 | n/a | mg/L | 0.000 | 0.040 | | | U | 08/23/07 |
| BLANK | Phosphate (P) by IC | PO4-P | <4e-2 | n/a | mg/L | 0.000 | 0.200 | | | U | 08/22/07 |
| BLANK | Phosphate (P) by IC | PO4-P | <4e-2 | n/a | mg/L | 0.000 | 0.200 | | | U | 08/23/07 |
| BLANK | Sulfate | 14808-79-8 | <7e-2 | n/a | mg/L | 0.000 | 0.200 | | | U | 08/22/07 |
| BLANK | Sulfate | 14808-79-8 | <7e-2 | n/a | mg/L | 0.000 | 0.200 | | | U | 08/23/07 |
| LCS | Chloride | 16887-00-6 | 193.9311 | 96.966 | % Recov | 80.000 | 120.000 | | | | 08/22/07 |
| LCS | Fluoride | 16984-48-8 | 101.0896 | 100.089 | % Recov | 80.000 | 120.000 | | | | 08/22/07 |
| LCS | Nitrogen in Nitrite | NO2-N | 96.3384 | 96.338 | % Recov | 80.000 | 120.000 | | | | 08/22/07 |
| LCS | Nitrogen in Nitrate | NO3-N | 91.4045 | 100.224 | % Recov | 80.000 | 120.000 | | | | 08/22/07 |
| LCS | Phosphate (P) by IC | PO4-P | 191.4271 | 99.288 | % Recov | 80.000 | 120.000 | | | | 08/22/07 |
| LCS | Sulfate | 14808-79-8 | 376.9814 | 94.245 | % Recov | 80.000 | 120.000 | | | | 08/22/07 |

# WSCF ANALYTICAL LABORATORY QC REPORT

**Department:** Inorganic

SDG Number: WSCF20071482
Matrix: WATER
Test: ICP-200.8 MS All possible meta

Sample Date: 08/20/07
Receive Date:08/20/07

Lab ID: W07GR02196
BATCH QC ASSOCIATED WITH SAMPLE

| QC Type | Analyte | CAS # | QC Found | QC Yield | Units | Lower Limit | Upper Limit | RPD(%) | RPD Limit | RQ | Analysis Date |
|---|---|---|---|---|---|---|---|---|---|---|---|
| MS | Silver | 7440-22-4 | 35.97 | 89.925 | % Recov | 70.000 | 130.000 | | | | 09/11/07 |
| MS | Arsenic | 7440-38-2 | 36.3 | 90.750 | % Recov | 70.000 | 130.000 | | | | 09/11/07 |
| MS | Barium | 7440-39-3 | 36.9 | 92.250 | % Recov | 70.000 | 130.000 | | | | 09/11/07 |
| MS | Cadmium | 7440-43-9 | 36.3 | 90.750 | % Recov | 70.000 | 130.000 | | | | 09/11/07 |
| MS | Chromium | 7440-47-3 | 36.15 | 90.375 | % Recov | 70.000 | 130.000 | | | | 09/11/07 |
| MS | Copper | 7440-50-8 | 34.798 | 86.995 | % Recov | 70.000 | 130.000 | | | | 09/11/07 |
| MS | Mercury | 7439-97-6 | 1.767 | 88.350 | % Recov | 70.000 | 130.000 | | | | 09/11/07 |
| MS | Lead | 7439-92-1 | 38.02 | 95.050 | % Recov | 70.000 | 130.000 | | | | 09/11/07 |
| MS | Selenium | 7782-49-2 | 36.2552 | 90.638 | % Recov | 70.000 | 130.000 | | | | 09/11/07 |
| MS | Uranium | 7440-61-1 | 36.54 | 91.350 | % Recov | 70.000 | 130.000 | | | | 09/11/07 |
| MSD | Silver | 7440-22-4 | 36.26 | 90.650 | % Recov | 70.000 | 130.000 | | | | 09/11/07 |
| MSD | Arsenic | 7440-38-2 | 36.1 | 90.250 | % Recov | 70.000 | 130.000 | | | | 09/11/07 |
| MSD | Barium | 7440-39-3 | 37.07 | 92.675 | % Recov | 70.000 | 130.000 | | | | 09/11/07 |
| MSD | Cadmium | 7440-43-9 | 36.48 | 91.200 | % Recov | 70.000 | 130.000 | | | | 09/11/07 |
| MSD | Chromium | 7440-47-3 | 36.47 | 91.175 | % Recov | 70.000 | 130.000 | | | | 09/11/07 |
| MSD | Copper | 7440-50-8 | 35.528 | 88.820 | % Recov | 70.000 | 130.000 | | | | 09/11/07 |
| MSD | Mercury | 7439-97-6 | 1.817 | 90.850 | % Recov | 70.000 | 130.000 | | | | 09/11/07 |
| MSD | Lead | 7439-92-1 | 38.09 | 95.225 | % Recov | 70.000 | 130.000 | | | | 09/11/07 |
| MSD | Selenium | 7782-49-2 | 36.6652 | 91.663 | % Recov | 70.000 | 130.000 | | | | 09/11/07 |
| MSD | Uranium | 7440-61-1 | 36.44 | 91.100 | % Recov | 70.000 | 130.000 | | | | 09/11/07 |
| SPK-RPD | Silver | 7440-22-4 | 90.650 | | RPD | | | 0.803 | 20.000 | | 09/11/07 |
| SPK-RPD | Arsenic | 7440-38-2 | 90.250 | | RPD | | | 0.552 | 20.000 | | 09/11/07 |
| SPK-RPD | Barium | 7440-39-3 | 92.675 | | RPD | | | 0.460 | 20.000 | | 09/11/07 |
| SPK-RPD | Cadmium | 7440-43-9 | 91.200 | | RPD | | | 0.495 | 20.000 | | 09/11/07 |
| SPK-RPD | Chromium | 7440-47-3 | 91.175 | | RPD | | | 0.881 | 20.000 | | 09/11/07 |
| SPK-RPD | Copper | 7440-50-8 | 88.820 | | RPD | | | 2.076 | 20.000 | | 09/11/07 |

# WSCF ANALYTICAL LABORATORY QC REPORT

**Department:** Inorganic

SDG Number: WSCF20071482
Matrix: WATER
Test: ICP-200.8 MS All possible meta

Sample Date: 08/20/07
Receive Date:08/20/07

| QC Type | Analyte | CAS # | QC Found | QC Yield | Units | Lower Limit | Upper Limit | RPD(%) | RPD Limit | RQ | Analysis Date |
|---|---|---|---|---|---|---|---|---|---|---|---|
| SPK-RPD | Mercury | 7439-97-6 | 90.850 | | RPD | | | 2.790 | 20.000 | | 09/11/07 |
| SPK-RPD | Lead | 7439-92-1 | 95.225 | | RPD | | | 0.184 | 20.000 | | 09/11/07 |
| SPK-RPD | Selenium | 7782-49-2 | 91.663 | | RPD | | | 1.125 | 20.000 | | 09/11/07 |
| SPK-RPD | Uranium | 7440-61-1 | 91.100 | | RPD | | | 0.274 | 20.000 | | 09/11/07 |

Lab ID: W07GR02224
BATCH QC ASSOCIATED WITH SAMPLE

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| MS | Arsenic | 7440-38-2 | 36.5356 | 91.339 | % Recov | 70.000 | 130.000 | | | | 09/11/07 |
| MS | Cadmium | 7440-43-9 | 34.74 | 86.850 | % Recov | 70.000 | 130.000 | | | | 09/11/07 |
| MS | Chromium | 7440-47-3 | 35.35 | 88.375 | % Recov | 70.000 | 130.000 | | | | 09/11/07 |
| MS | Lead | 7439-92-1 | 39.42 | 98.550 | % Recov | 70.000 | 130.000 | | | | 09/11/07 |
| MS | Uranium | 7440-61-1 | 40.4905 | 101.226 | % Recov | 70.000 | 130.000 | | | | 09/11/07 |
| MSD | Arsenic | 7440-38-2 | 37.1056 | 92.764 | % Recov | 70.000 | 130.000 | | | | 09/11/07 |
| MSD | Cadmium | 7440-43-9 | 35.79 | 89.475 | % Recov | 70.000 | 130.000 | | | | 09/11/07 |
| MSD | Chromium | 7440-47-3 | 35.66 | 89.150 | % Recov | 70.000 | 130.000 | | | | 09/11/07 |
| MSD | Lead | 7439-92-1 | 40.27 | 100.675 | % Recov | 70.000 | 130.000 | | | | 09/11/07 |
| MSD | Uranium | 7440-61-1 | 41.2805 | 103.201 | % Recov | 70.000 | 130.000 | | | | 09/11/07 |
| SPK-RPD | Arsenic | 7440-38-2 | 92.764 | | RPD | | | 1.548 | 20.000 | | 09/11/07 |
| SPK-RPD | Cadmium | 7440-43-9 | 89.475 | | RPD | | | 2.977 | 20.000 | | 09/11/07 |
| SPK-RPD | Chromium | 7440-47-3 | 89.150 | | RPD | | | 0.873 | 20.000 | | 09/11/07 |
| SPK-RPD | Lead | 7439-92-1 | 100.675 | | RPD | | | 2.133 | 20.000 | | 09/11/07 |
| SPK-RPD | Uranium | 7440-61-1 | 103.201 | | RPD | | | 1.932 | 20.000 | | 09/11/07 |

Lab ID: W07GR02226
BATCH QC ASSOCIATED WITH SAMPLE

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| MS | Silver | 7440-22-4 | 36.09 | 90.225 | % Recov | 70.000 | 130.000 | | | | 09/11/07 |
| MS | Arsenic | 7440-38-2 | 38.222 | 95.555 | % Recov | 70.000 | 130.000 | | | | 09/11/07 |
| MS | Barium | 7440-39-3 | 36.48 | 91.200 | % Recov | 70.000 | 130.000 | | | | 09/11/07 |
| MS | Cadmium | 7440-43-9 | 37 | 92.500 | % Recov | 70.000 | 130.000 | | | | 09/11/07 |
| MS | Chromium | 7440-47-3 | 35.689 | 89.223 | % Recov | 70.000 | 130.000 | | | | 09/11/07 |

# WSCF ANALYTICAL LABORATORY QC REPORT

**Department:** **Inorganic**

SDG Number: WSCF20071482
Matrix: WATER
Test: ICP-200.8 MS All possible meta

Sample Date: 08/21/07
Receive Date:08/21/07

| QC Type | Analyte | CAS # | QC Found | QC Yield | Units | Lower Limit | Upper Limit | RPD(%) | RPD Limit | RQ | Analysis Date |
|---|---|---|---|---|---|---|---|---|---|---|---|
| MS | Uranium | 7440-61-1 | 39.82 | 99.550 | % Recov | 70.000 | 130.000 | | | | 09/11/07 |
| MSD | Silver | 7440-22-4 | 36.29 | 90.725 | % Recov | 70.000 | 130.000 | | | | 09/11/07 |
| MSD | Arsenic | 7440-38-2 | 37.732 | 94.330 | % Recov | 70.000 | 130.000 | | | | 09/11/07 |
| MSD | Barium | 7440-39-3 | 36.28 | 90.700 | % Recov | 70.000 | 130.000 | | | | 09/11/07 |
| MSD | Cadmium | 7440-43-9 | 36.68 | 91.700 | % Recov | 70.000 | 130.000 | | | | 09/11/07 |
| MSD | Chromium | 7440-47-3 | 35.789 | 89.472 | % Recov | 70.000 | 130.000 | | | | 09/11/07 |
| MSD | Uranium | 7440-61-1 | 39.72 | 99.300 | % Recov | 70.000 | 130.000 | | | | 09/11/07 |
| SPK-RPD | Silver | 7440-22-4 | 90.725 | | RPD | | | 0.553 | 20.000 | | 09/11/07 |
| SPK-RPD | Arsenic | 7440-38-2 | 94.330 | | RPD | | | 1.290 | 20.000 | | 09/11/07 |
| SPK-RPD | Barium | 7440-39-3 | 90.700 | | RPD | | | 0.550 | 20.000 | | 09/11/07 |
| SPK-RPD | Cadmium | 7440-43-9 | 91.700 | | RPD | | | 0.869 | 20.000 | | 09/11/07 |
| SPK-RPD | Chromium | 7440-47-3 | 89.472 | | RPD | | | 0.279 | 20.000 | | 09/11/07 |
| SPK-RPD | Uranium | 7440-61-1 | 99.300 | | RPD | | | 0.251 | 20.000 | | 09/11/07 |

## BATCH QC

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| BLANK | Silver | 7440-22-4 | <0.1 | n/a | ug/L | | | | | U | 09/11/07 |
| BLANK | Arsenic | 7440-38-2 | <0.4 | n/a | ug/L | | | | | U | 09/11/07 |
| BLANK | Barium | 7440-39-3 | <0.2 | n/a | ug/L | | | | | U | 09/11/07 |
| BLANK | Cadmium | 7440-43-9 | <0.1 | n/a | ug/L | | | | | U | 09/11/07 |
| BLANK | Chromium | 7440-47-3 | <0.5 | n/a | ug/L | | | | | U | 09/11/07 |
| BLANK | Copper | 7440-50-8 | 0.1482 | 0.148 | ug/L | | | | | | 09/11/07 |
| BLANK | Mercury | 7439-97-6 | <5e-2 | n/a | ug/L | | | | | U | 09/11/07 |
| BLANK | Lead | 7439-92-1 | <0.1 | n/a | ug/L | | | | | U | 09/11/07 |
| BLANK | Selenium | 7782-49-2 | <0.3 | n/a | ug/L | | | | | U | 09/11/07 |
| BLANK | Uranium | 7440-61-1 | <5e-2 | n/a | ug/L | | | | | U | 09/11/07 |
| LCS | Silver | 7440-22-4 | 38.22 | 95.550 | % Recov | 85.000 | 115.000 | | | | 09/11/07 |
| LCS | Arsenic | 7440-38-2 | 37.82 | 94.550 | % Recov | 85.000 | 115.000 | | | | 09/11/07 |
| LCS | Barium | 7440-39-3 | 38.27 | 95.675 | % Recov | 85.000 | 115.000 | | | | 09/11/07 |
| LCS | Cadmium | 7440-43-9 | 38.39 | 95.975 | % Recov | 85.000 | 115.000 | | | | 09/11/07 |
| LCS | Chromium | 7440-47-3 | 38.45 | 96.125 | % Recov | 85.000 | 115.000 | | | | 09/11/07 |

# WSCF ANALYTICAL LABORATORY QC REPORT

**Department:** Inorganic

SDG Number: WSCF20071482
Matrix: WATER
Test: ICP-200.8 MS All possible meta

Sample Date:
Receive Date:

| QC Type | Analyte | CAS # | QC Found | QC Yield | Units | Lower Limit | Upper Limit | RPD(%) | RPD Limit | RQ | Analysis Date |
|---|---|---|---|---|---|---|---|---|---|---|---|
| LCS | Copper | 7440-50-8 | 38.63 | 96.575 | % Recov | 85.000 | 115.000 | | | | 09/11/07 |
| LCS | Mercury | 7439-97-6 | 1.851 | 92.550 | % Recov | 85.000 | 115.000 | | | | 09/11/07 |
| LCS | Lead | 7439-92-1 | 39.08 | 97.700 | % Recov | 85.000 | 115.000 | | | | 09/11/07 |
| LCS | Selenium | 7782-49-2 | 37.3 | 93.250 | % Recov | 85.000 | 115.000 | | | | 09/11/07 |
| LCS | Uranium | 7440-61-1 | 37.5 | 93.750 | % Recov | 85.000 | 115.000 | | | | 09/11/07 |

# WSCF
# ANALYTICAL COMMENT REPORT

**Attention:** Steve Trent
**Project Number** F07-057

**Group #:** WSCF20071482
Department: Inorganic

| Sample # | Client ID | Lab Area | Test | Comment |
|---|---|---|---|---|
| | | VALGROUP | | Gross beta duplicate is flagged for poor RPD. Since all the other QC checks came out fine, this batch has been approved. lmh<br><br>SVOA: Nitrosodipropylamine was the very very slightly below the LCS lower control limit in the LCS. The surrogate compound, 2-fluorobiphenyl, was below control limits in the sample, MS, and MSD indicating a matrix interference for this compound in the sample. All other QC is normal. cgc<br><br>ICP-MS: Copper prep blank above the MDL. "C" flag<br><br>VOA: Surrogate, 4-Bromofluorobenzene, high in sample B1PCT6 at 118% Recovery. gar |

Lab Areas: VALGROUP - Group Validation
LOGSAMP - Login for Sample
VALTEST - Test Validation
LOGTEST - Login for Tests
TESTDATA - Test Data Entry

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# WSCF
# ANALYTICAL RESULTS REPORT

**Attention:** Steve Trent
**SAF Number:** F07-057
**Sample #** W07GR02196
**Client ID:** B1PCT6 TRENT WSCF
**Matrix:** WATER

**Group #:** WSCF20071482
**Department:** Organic
**Sampled:** 08/20/07
**Received:** 08/20/07

| Test Performed | CAS # | Method | RQ | Result | Unit | TP Err | Unit | DF | MDL | PQL | Analysis Date |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **SW-846 8270C Semi-Vols Prep** | | | | | | | | | | | **08/21/07** |
| **SW-846 8270C Semi-Vols** | | | | | | | | | | | |
| 4-Nitrophenol | 100-02-7 | LA-523-456 | U | < 0.560 | ug/L | | | 1.00 | 0.56 | | 09/05/07 |
| 1,4-Dichlorobenzene | 106-46-7 | LA-523-456 | U | < 0.560 | ug/L | | | 1.00 | 0.56 | | 09/05/07 |
| Phenol | 108-95-2 | LA-523-456 | U | < 0.560 | ug/L | | | 1.00 | 0.56 | | 09/05/07 |
| 1,2,4-Trichlorobenzene | 120-82-1 | LA-523-456 | U | < 0.560 | ug/L | | | 1.00 | 0.56 | | 09/05/07 |
| 2,4-Dinitrotoluene | 121-14-2 | LA-523-456 | U | < 0.560 | ug/L | | | 1.00 | 0.56 | | 09/05/07 |
| Pyrene | 129-00-0 | LA-523-456 | U | < 0.560 | ug/L | | | 1.00 | 0.56 | | 09/05/07 |
| 4-Chloro-3-methylphenol | 59-50-7 | LA-523-456 | U | < 0.560 | ug/L | | | 1.00 | 0.56 | | 09/05/07 |
| N-Nitrosodi-n-dipropylamine | 621-64-7 | LA-523-456 | U | < 0.560 | ug/L | | | 1.00 | 0.56 | | 09/05/07 |
| Acenaphthene | 83-32-9 | LA-523-456 | U | < 0.560 | ug/L | | | 1.00 | 0.56 | | 09/05/07 |
| Pentachlorophenol | 87-86-5 | LA-523-456 | U | < 0.560 | ug/L | | | 1.00 | 0.56 | | 09/05/07 |
| 2-Chlorophenol | 95-57-8 | LA-523-456 | U | < 0.560 | ug/L | | | 1.00 | 0.56 | | 09/05/07 |
| Tributyl phosphate | 126-73-8 | LA-523-456 | U | < 0.560 | ug/L | | | 1.00 | 0.56 | | 09/05/07 |
| **VOA Ground Water Protection** | | | | | | | | | | | |
| 1,1-Dichloroethene | 75-35-4 | LA-523-455 | U | < 1.00 | ug/L | | | 1.00 | 1.0 | | 09/01/07 |
| Trichloroethene | 79-01-6 | LA-523-455 | U | < 1.00 | ug/L | | | 1.00 | 1.0 | | 09/01/07 |
| Benzene | 71-43-2 | LA-523-455 | U | < 1.00 | ug/L | | | 1.00 | 1.0 | | 09/01/07 |
| Toluene | 108-88-3 | LA-523-455 | U | < 1.00 | ug/L | | | 1.00 | 1.0 | | 09/01/07 |
| Chlorobenzene | 108-90-7 | LA-523-455 | U | < 1.00 | ug/L | | | 1.00 | 1.0 | | 09/01/07 |
| 1,1-Dichloroethane | 75-34-3 | LA-523-455 | U | < 1.00 | ug/L | | | 1.00 | 1.0 | | 09/01/07 |
| Ethylbenzene | 100-41-4 | LA-523-455 | U | < 1.00 | ug/L | | | 1.00 | 1.0 | | 09/01/07 |
| Styrene | 100-42-5 | LA-523-455 | U | < 1.00 | ug/L | | | 1.00 | 1.0 | | 09/01/07 |
| cis-1,3-Dichloropropene | 10061-01-5 | LA-523-455 | U | < 1.00 | ug/L | | | 1.00 | 1.0 | | 09/01/07 |
| trans-1,3-Dichloropropene | 10061-02-6 | LA-523-455 | U | < 1.00 | ug/L | | | 1.00 | 1.0 | | 09/01/07 |

**MDL=Minimum Detection Limit**
**RQ=Result Qualifier**
**TP Err=Total Propagated Error**
**DF=Dilution Factor**

B - The analyte < the RDL but >= the IDL/MDL (inorg)
N - Spike sample recovery is outside control limits.(inorg)
U - Analyzed for but not detected above limiting criteria.(org)
C - The Analyte was found in the Associated Blank.(inorg)
U - Analyzed for but not detected above limiting criteria(inorg)

* - Indicates results that have NOT been validated; + - Indicates more than six qualifier symbols

# WSCF
# ANALYTICAL RESULTS REPORT

**Attention:** Steve Trent
**SAF Number:** F07-057
**Sample #** W07GR02196
**Client ID:** B1PCT6 TRENT WSCF

**Matrix:** WATER

**Group #:** WSCF20071482
**Department:** Organic
**Sampled:** 08/20/07
**Received:** 08/20/07

| Test Performed | CAS # | Method | RQ | Result | Unit | TP Err | Unit | DF | MDL | PQL | Analysis Date |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,2-Dichloroethane | 107-06-2 | LA-523-455 | U | < 1.00 | ug/L | | | 1.00 | 1.0 | | 09/01/07 |
| 4-Methyl-2-Pentanone | 108-10-1 | LA-523-455 | U | < 1.00 | ug/L | | | 1.00 | 1.0 | | 09/01/07 |
| Dibromochloromethane | 124-48-1 | LA-523-455 | U | < 1.00 | ug/L | | | 1.00 | 1.0 | | 09/01/07 |
| Tetrachloroethene | 127-18-4 | LA-523-455 | U | < 1.00 | ug/L | | | 1.00 | 1.0 | | 09/01/07 |
| Xylenes (total) | 1330-20-7 | LA-523-455 | U | < 1.00 | ug/L | | | 1.00 | 1.0 | | 09/01/07 |
| 1,2-Dichloroethene(Total) | 540-59-0 | LA-523-455 | U | < 1.00 | ug/L | | | 1.00 | 1.0 | | 09/01/07 |
| Carbon tetrachloride | 56-23-5 | LA-523-455 | U | < 1.00 | ug/L | | | 1.00 | 1.0 | | 09/01/07 |
| 2-Hexanone | 591-78-6 | LA-523-455 | U | < 1.00 | ug/L | | | 1.00 | 1.0 | | 09/01/07 |
| Acetone | 67-64-1 | LA-523-455 | U | < 1.00 | ug/L | | | 1.00 | 1.0 | | 09/01/07 |
| Chloroform | 67-66-3 | LA-523-455 | U | < 1.00 | ug/L | | | 1.00 | 1.0 | | 09/01/07 |
| 1,1,1-Trichloroethane | 71-55-6 | LA-523-455 | U | < 1.00 | ug/L | | | 1.00 | 1.0 | | 09/01/07 |
| Bromomethane | 74-83-9 | LA-523-455 | U | < 1.00 | ug/L | | | 1.00 | 1.0 | | 09/01/07 |
| 1,1,2,2-Tetrachloroethane | 79-34-5 | LA-523-455 | U | < 1.00 | ug/L | | | 1.00 | 1.0 | | 09/01/07 |
| Chloromethane | 74-87-3 | LA-523-455 | U | < 1.00 | ug/L | | | 1.00 | 1.0 | | 09/01/07 |
| Chloroethane | 75-00-3 | LA-523-455 | U | < 1.00 | ug/L | | | 1.00 | 1.0 | | 09/01/07 |
| Vinyl chloride | 75-01-4 | LA-523-455 | U | < 1.00 | ug/L | | | 1.00 | 1.0 | | 09/01/07 |
| Methylenechloride | 75-09-2 | LA-523-455 | U | < 1.00 | ug/L | | | 1.00 | 1.0 | | 09/01/07 |
| Carbon disulfide | 75-15-0 | LA-523-455 | U | < 1.00 | ug/L | | | 1.00 | 1.0 | | 09/01/07 |
| Bromoform | 75-25-2 | LA-523-455 | U | < 1.00 | ug/L | | | 1.00 | 1.0 | | 09/01/07 |
| Bromodichloromethane | 75-27-4 | LA-523-455 | U | < 1.00 | ug/L | | | 1.00 | 1.0 | | 09/01/07 |
| 1,2-Dichloropropane | 78-87-5 | LA-523-455 | U | < 1.00 | ug/L | | | 1.00 | 1.0 | | 09/01/07 |
| 2-Butanone | 78-93-3 | LA-523-455 | U | < 1.00 | ug/L | | | 1.00 | 1.0 | | 09/01/07 |
| 1,1,2-Trichloroethane | 79-00-5 | LA-523-455 | U | < 1.00 | ug/L | | | 1.00 | 1.0 | | 09/01/07 |
| 1-Butanol | 71-36-3 | LA-523-455 | U | < 100 | ug/L | | | 1.00 | 1.0e+02 | | 09/01/07 |
| n-Butylbenzene | 104-51-8 | LA-523-455 | U | < 1.00 | ug/L | | | 1.00 | 1.0 | | 09/01/07 |

**MDL = Minimum Detection Limit**
**RQ = Result Qualifier**
**TP Err = Total Propagated Error**
**DF = Dilution Factor**

B - The analyte < the RDL but > = the IDL/MDL (inorg)
N - Spike sample recovery is outside control limits.(inorg)
U - Analyzed for but not detected above limiting criteria.(org)

C - The Analyte was found in the Associated Blank.(inorg)
U - Analyzed for but not detected above limiting criteria(inorg)

* - Indicates results that have NOT been validated; + - Indicates more than six qualifier symbols

# WSCF
# ANALYTICAL RESULTS REPORT

**Attention:** Steve Trent
**SAF Number:** F07-057
**Sample #** W07GR02196
**Client ID:** B1PCT6 TRENT WSCF
**Matrix:** WATER

**Group #:** WSCF20071482
**Department:** Organic
**Sampled:** 08/20/07
**Received:** 08/20/07

| Test Performed | CAS # | Method | RQ | Result | Unit | TP Err | Unit | DF | MDL | PQL | Analysis Date |
|---|---|---|---|---|---|---|---|---|---|---|---|
| trans-1,2-Dichloroethylene | 156-60-5 | LA-523-455 | U | < 1.00 | ug/L | | | 1.00 | 1.0 | | 09/01/07 |
| cis-1,2-Dichloroethylene | 156-59-2 | LA-523-455 | U | < 1.00 | ug/L | | | 1.00 | 1.0 | | 09/01/07 |

**MDL=Minimum Detection Limit**
**RQ=Result Qualifier**
**TP Err=Total Propagated Error**
**DF=Dilution Factor**

B - The analyte < the RDL but >= the IDL/MDL (inorg)
N - Spike sample recovery is outside control limits.(inorg)
U - Analyzed for but not detected above limiting criteria.(org)

C - The Analyte was found in the Associated Blank.(inorg)
U - Analyzed for but not detected above limiting criteria(inorg)

* - Indicates results that have NOT been validated; + - Indicates more than six qualifier symbols

# WSCF
# TENTATIVELY IDENTIFIED PEAK REPORT

**Attention:** Steve Trent
**Project Number** F07-057 :F07-057

**Group #:** WSCF20071482
**Department:** Organic

| Sample # | Client ID | | Test Name | Peak Name | CAS# | RT | RQ | Result | Units |
|---|---|---|---|---|---|---|---|---|---|
| W07GR02196 | B1PCT6 | TRENT | SW-846 8270C Semi-Vols | SMP 11.561 Diethylphthalate | 84-66-2 | 11.56171 | | 1.4 | ug/L |
| W07GR02196 | B1PCT6 | TRENT | SW-846 8270C Semi-Vols | SMP 13.950 1,2-Benzenedicarboxyli | 85-69-8 | 13.95066 | J | 14 | ug/L |
| W07GR02196 | B1PCT6 | TRENT | SW-846 8270C Semi-Vols | SMP 17.782 Di-n-octylphthalate | 117-84-0 | 17.78258 | | 5.4 | ug/L |
| W07GR02196 | B1PCT6 | TRENT | SW-846 8270C Semi-Vols | SMP 9.552 Phthalic anhydride | 85-44-9 | 9.552233 | J | 18 | ug/L |

RQ=Result Qualifier J - Analyte < lowest calibration but > = MDL.(org)

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# WSCF ANALYTICAL LABORATORY QC REPORT

**Department:** Organic

SDG Number: WSCF20071482
Matrix: WATER
Test: SW-846 8270C Semi-Vols

Sample Date: 08/20/07
Receive Date:08/20/07

Lab ID: W07GR02196
BATCH QC ASSOCIATED WITH SAMPLE

| QC Type | Analyte | CAS # | QC Found | QC Yield | Units | Lower Limit | Upper Limit | RPD(%) | RPD Limit | RQ | Analysis Date |
|---|---|---|---|---|---|---|---|---|---|---|---|
| MS | 1,2,4-Trichlorobenzene | 120-82-1 | 13.594 | 61.200 | % Recov | 50.000 | 120.000 | | | | 09/05/07 |
| MS | 1,4-Dichlorobenzene | 106-46-7 | 13.277 | 59.700 | % Recov | 41.000 | 113.000 | | | | 09/05/07 |
| MS | 2,4-Dinitrotoluene | 121-14-2 | 14.798 | 66.600 | % Recov | 65.000 | 109.000 | | | | 09/05/07 |
| MS | 2-Fluorophenol(Surr) | 367-12-4 | 15.074 | 67.800 | % Recov | 50.000 | 110.000 | | | | 09/05/07 |
| MS | Acenaphthene | 83-32-9 | 14.706 | 66.200 | % Recov | 62.000 | 112.000 | | | | 09/05/07 |
| MS | 4-Chloro-3-methylphenol | 59-50-7 | 24.121 | 72.400 | % Recov | 59.000 | 115.000 | | | | 09/05/07 |
| MS | 2-Chlorophenol | 95-57-8 | 24.049 | 72.100 | % Recov | 69.000 | 111.000 | | | | 09/05/07 |
| MS | N-Nitrosodi-n-dipropylamine | 621-64-7 | 15.349 | 69.100 | % Recov | 69.000 | 115.000 | | | | 09/05/07 |
| MS | 2-Fluorobiphenyl(Surr) | 321-60-8 | 9.4870 | 42.700 | % Recov | 58.000 | 109.000 | | | * | 09/05/07 |
| MS | Phenol | 108-95-2 | 24.363 | 73.100 | % Recov | 59.000 | 115.000 | | | | 09/05/07 |
| MS | Nitrobenzene-d5(Surr) | 4165-60-0 | 14.225 | 64.000 | % Recov | 60.000 | 118.000 | | | | 09/05/07 |
| MS | 4-Nitrophenol | 100-02-7 | 25.513 | 76.500 | % Recov | 32.000 | 130.000 | | | | 09/05/07 |
| MS | Pentachlorophenol | 87-86-5 | 24.060 | 72.200 | % Recov | 51.000 | 121.000 | | | | 09/05/07 |
| MS | Phenol-d5(Surr) | 4165-62-2 | 16.630 | 74.800 | % Recov | 59.000 | 116.000 | | | | 09/05/07 |
| MS | Pyrene | 129-00-0 | 16.261 | 73.200 | % Recov | 58.000 | 116.000 | | | | 09/05/07 |
| MS | 2,4,6-Tribromophenol(Surr) | 118-79-6 | 15.282 | 68.800 | % Recov | 60.000 | 120.000 | | | | 09/05/07 |
| MS | Terphenyl-d14(Surr) | 98904-43-9 | 17.313 | 77.900 | % Recov | 60.000 | 120.000 | | | | 09/05/07 |
| MSD | 1,2,4-Trichlorobenzene | 120-82-1 | 14.247 | 64.100 | % Recov | 50.000 | 120.000 | | | | 09/05/07 |
| MSD | 1,4-Dichlorobenzene | 106-46-7 | 13.732 | 61.800 | % Recov | 41.000 | 113.000 | | | | 09/05/07 |
| MSD | 2,4-Dinitrotoluene | 121-14-2 | 15.579 | 70.100 | % Recov | 65.000 | 109.000 | | | | 09/05/07 |
| MSD | 2-Fluorophenol(Surr) | 367-12-4 | 16.100 | 72.500 | % Recov | 50.000 | 110.000 | | | | 09/05/07 |
| MSD | Acenaphthene | 83-32-9 | 15.648 | 70.400 | % Recov | 62.000 | 112.000 | | | | 09/05/07 |
| MSD | 4-Chloro-3-methylphenol | 59-50-7 | 24.708 | 74.100 | % Recov | 59.000 | 115.000 | | | | 09/05/07 |
| MSD | 2-Chlorophenol | 95-57-8 | 23.702 | 71.100 | % Recov | 69.000 | 111.000 | | | | 09/05/07 |
| MSD | N-Nitrosodi-n-dipropylamine | 621-64-7 | 15.377 | 69.200 | % Recov | 69.000 | 115.000 | | | | 09/05/07 |
| MSD | 2-Fluorobiphenyl(Surr) | 321-60-8 | 10.176 | 45.800 | % Recov | 58.000 | 109.000 | | | * | 09/05/07 |

# WSCF ANALYTICAL LABORATORY QC REPORT

**Department:** Organic

SDG Number: WSCF20071482
Matrix: WATER
Test: SW-846 8270C Semi-Vols

Sample Date: 08/20/07
Receive Date:08/20/07

| QC Type | Analyte | CAS # | QC Found | QC Yield | Units | Lower Limit | Upper Limit | RPD(%) | RPD Limit | RQ | Analysis Date |
|---|---|---|---|---|---|---|---|---|---|---|---|
| MSD | Phenol | 108-95-2 | 24.477 | 73.400 | % Recov | 59.000 | 115.000 | | | | 09/05/07 |
| MSD | Nitrobenzene-d5(Surr) | 4165-60-0 | 15.568 | 70.100 | % Recov | 60.000 | 118.000 | | | | 09/05/07 |
| MSD | 4-Nitrophenol | 100-02-7 | 23.207 | 69.600 | % Recov | 32.000 | 130.000 | | | | 09/05/07 |
| MSD | Pentachlorophenol | 87-86-5 | 23.671 | 71.000 | % Recov | 51.000 | 121.000 | | | | 09/05/07 |
| MSD | Phenol-d5(Surr) | 4165-62-2 | 16.772 | 75.500 | % Recov | 59.000 | 116.000 | | | | 09/05/07 |
| MSD | Pyrene | 129-00-0 | 16.921 | 76.100 | % Recov | 58.000 | 116.000 | | | | 09/05/07 |
| MSD | 2,4,6-Tribromophenol(Surr) | 118-79-6 | 16.080 | 72.400 | % Recov | 60.000 | 120.000 | | | | 09/05/07 |
| MSD | Terphenyl-d14(Surr) | 98904-43-9 | 17.699 | 79.600 | % Recov | 60.000 | 120.000 | | | | 09/05/07 |
| SPK-RPD | 1,2,4-Trichlorobenzene | 120-82-1 | 64.100 | | RPD | | | 4.629 | 25.000 | | 09/04/07 |
| SPK-RPD | 1,4-Dichlorobenzene | 106-46-7 | 61.800 | | RPD | | | 3.457 | 25.000 | | 09/04/07 |
| SPK-RPD | 2,4-Dinitrotoluene | 121-14-2 | 70.100 | | RPD | | | 5.121 | 25.000 | | 09/04/07 |
| SPK-RPD | 2-Fluorophenol(Surr) | 367-12-4 | 72.500 | | RPD | | | 6.700 | 25.000 | | 09/04/07 |
| SPK-RPD | Acenaphthene | 83-32-9 | 70.400 | | RPD | | | 6.149 | 25.000 | | 09/04/07 |
| SPK-RPD | 4-Chloro-3-methylphenol | 59-50-7 | 74.100 | | RPD | | | 2.321 | 25.000 | | 09/04/07 |
| SPK-RPD | 2-Chlorophenol | 95-57-8 | 71.100 | | RPD | | | 1.397 | 25.000 | | 09/04/07 |
| SPK-RPD | N-Nitrosodi-n-dipropylamine | 621-64-7 | 69.200 | | RPD | | | 0.145 | 25.000 | | 09/04/07 |
| SPK-RPD | 2-Fluorobiphenyl(Surr) | 321-60-8 | 45.800 | | RPD | | | 7.006 | 25.000 | | 09/04/07 |
| SPK-RPD | Phenol | 108-95-2 | 73.400 | | RPD | | | 0.410 | 16.000 | | 09/04/07 |
| SPK-RPD | Nitrobenzene-d5(Surr) | 4165-60-0 | 70.100 | | RPD | | | 9.098 | 25.000 | | 09/04/07 |
| SPK-RPD | 4-Nitrophenol | 100-02-7 | 69.600 | | RPD | | | 9.446 | 25.000 | | 09/04/07 |
| SPK-RPD | Pentachlorophenol | 87-86-5 | 71.000 | | RPD | | | 1.676 | 25.000 | | 09/04/07 |
| SPK-RPD | Phenol-d5(Surr) | 4165-62-2 | 75.500 | | RPD | | | 0.931 | 25.000 | | 09/04/07 |
| SPK-RPD | Pyrene | 129-00-0 | 76.100 | | RPD | | | 3.885 | 25.000 | | 09/04/07 |
| SPK-RPD | 2,4,6-Tribromophenol(Surr) | 118-79-6 | 72.400 | | RPD | | | 5.099 | 25.000 | | 09/04/07 |
| SPK-RPD | Terphenyl-d14(Surr) | 98904-43-9 | 79.600 | | RPD | | | 2.159 | 25.000 | | 09/04/07 |
| SURR | 2-Fluorophenol(Surr) | 367-12-4 | 18.322 | 82.400 | % Recov | 50.000 | 110.000 | | | | 09/05/07 |
| SURR | 2-Fluorobiphenyl(Surr) | 321-60-8 | 12.102 | 54.500 | % Recov | 58.000 | 109.000 | | | | 09/05/07 |
| SURR | Nitrobenzene-d5(Surr) | 4165-60-0 | 18.179 | 81.800 | % Recov | 60.000 | 118.000 | | | | 09/05/07 |
| SURR | Phenol-d5(Surr) | 4165-62-2 | 19.018 | 85.600 | % Recov | 59.000 | 116.000 | | | | 09/05/07 |
| SURR | 2,4,6-Tribromophenol(Surr) | 118-79-6 | 18.339 | 82.500 | % Recov | 60.000 | 120.000 | | | | 09/05/07 |

# WSCF ANALYTICAL LABORATORY QC REPORT

**Department:** Organic

SDG Number: WSCF20071482
Matrix: WATER
Test: SW-846 8270C Semi-Vols

Sample Date: 08/20/07
Receive Date:08/20/07

| QC Type | Analyte | CAS # | QC Found | QC Yield | Units | Lower Limit | Upper Limit | RPD(%) | RPD Limit | RQ | Analysis Date |
|---|---|---|---|---|---|---|---|---|---|---|---|
| SURR | Terphenyl-d14(Surr) | 98904-43-9 | 19.754 | 88.900 | % Recov | 60.000 | 120.000 | | | | 09/05/07 |
| **BATCH QC** | | | | | | | | | | | |
| BLANK | 1,2,4-Trichlorobenzene | 120-82-1 | < 0.50 | n/a | ug/L | | | | | U | 09/04/07 |
| BLANK | 1,4-Dichlorobenzene | 106-46-7 | < 0.50 | n/a | ug/L | | | | | U | 09/04/07 |
| BLANK | 2,4-Dinitrotoluene | 121-14-2 | < 0.50 | n/a | ug/L | | | | | U | 09/04/07 |
| BLANK | 2-Fluorophenol(Surr) | 367-12-4 | 16.294 | 81.500 | % Recov | 50.000 | 110.000 | | | | 09/04/07 |
| BLANK | Acenaphthene | 83-32-9 | < 0.50 | n/a | ug/L | | | | | U | 09/04/07 |
| BLANK | 4-Chloro-3-methylphenol | 59-50-7 | < 0.50 | n/a | ug/L | | | | | U | 09/04/07 |
| BLANK | 2-Chlorophenol | 95-57-8 | < 0.50 | n/a | ug/L | | | | | U | 09/04/07 |
| BLANK | N-Nitrosodi-n-dipropylamine | 621-64-7 | < 0.50 | n/a | ug/L | | | | | U | 09/04/07 |
| BLANK | 2-Fluorobiphenyl(Surr) | 321-60-8 | 16.448 | 82.200 | % Recov | 58.000 | 109.000 | | | | 09/04/07 |
| BLANK | Phenol | 108-95-2 | < 0.50 | n/a | ug/L | | | | | U | 09/04/07 |
| BLANK | Nitrobenzene-d5(Surr) | 4165-60-0 | 16.805 | 84.000 | % Recov | 60.000 | 118.000 | | | | 09/04/07 |
| BLANK | 4-Nitrophenol | 100-02-7 | < 0.50 | n/a | ug/L | | | | | U | 09/04/07 |
| BLANK | Pentachlorophenol | 87-86-5 | < 0.50 | n/a | ug/L | | | | | U | 09/04/07 |
| BLANK | Phenol-d5(Surr) | 4165-62-2 | 17.373 | 86.900 | % Recov | 59.000 | 116.000 | | | | 09/04/07 |
| BLANK | Pyrene | 129-00-0 | < 0.50 | n/a | ug/L | | | | | U | 09/04/07 |
| BLANK | Tributyl phosphate | 126-73-8 | < 0.50 | n/a | ug/L | | | | | U | 09/04/07 |
| BLANK | 2,4,6-Tribromophenol(Surr) | 118-79-6 | 12.972 | 64.900 | % Recov | 60.000 | 120.000 | | | | 09/04/07 |
| BLANK | Terphenyl-d14(Surr) | 98904-43-9 | 15.470 | 77.400 | % Recov | 60.000 | 120.000 | | | | 09/04/07 |
| LCS | 1,2,4-Trichlorobenzene | 120-82-1 | 12.512 | 62.600 | % Recov | 46.000 | 107.000 | | | | 09/05/07 |
| LCS | 1,4-Dichlorobenzene | 106-46-7 | 12.069 | 60.300 | % Recov | 42.000 | 111.000 | | | | 09/05/07 |
| LCS | 2,4-Dinitrotoluene | 121-14-2 | 13.565 | 67.800 | % Recov | 59.000 | 106.000 | | | | 09/05/07 |
| LCS | 2-Fluorophenol(Surr) | 367-12-4 | 15.732 | 78.700 | % Recov | 50.000 | 110.000 | | | | 09/05/07 |
| LCS | Acenaphthene | 83-32-9 | 14.712 | 73.600 | % Recov | 61.000 | 116.000 | | | | 09/05/07 |
| LCS | 4-Chloro-3-methylphenol | 59-50-7 | 22.558 | 75.200 | % Recov | 61.000 | 106.000 | | | | 09/05/07 |
| LCS | 2-Chlorophenol | 95-57-8 | 23.028 | 76.800 | % Recov | 66.000 | 106.000 | | | | 09/05/07 |
| LCS | N-Nitrosodi-n-dipropylamine | 621-64-7 | 14.160 | 70.800 | % Recov | 71.000 | 114.000 | | | | 09/05/07 |
| LCS | 2-Fluorobiphenyl(Surr) | 321-60-8 | 16.779 | 83.900 | % Recov | 58.000 | 109.000 | | | | 09/05/07 |

# WSCF ANALYTICAL LABORATORY QC REPORT

**Department:** Organic

SDG Number: WSCF20071482
Matrix: WATER
Test: SW-846 8270C Semi-Vols

Sample Date:
Receive Date:

| QC Type | Analyte | CAS # | QC Found | QC Yield | Units | Lower Limit | Upper Limit | RPD(%) | RPD Limit | RQ | Analysis Date |
|---|---|---|---|---|---|---|---|---|---|---|---|
| LCS | Phenol | 108-95-2 | 22.591 | 75.300 | % Recov | 67.000 | 105.000 | | | | 09/05/07 |
| LCS | Nitrobenzene-d5(Surr) | 4165-60-0 | 16.171 | 80.900 | % Recov | 60.000 | 118.000 | | | | 09/05/07 |
| LCS | 4-Nitrophenol | 100-02-7 | 19.204 | 64.000 | % Recov | 32.000 | 118.000 | | | | 09/05/07 |
| LCS | Pentachlorophenol | 87-86-5 | 20.949 | 69.800 | % Recov | 62.000 | 114.000 | | | | 09/05/07 |
| LCS | Phenol-d5(Surr) | 4165-62-2 | 15.938 | 79.700 | % Recov | 59.000 | 116.000 | | | | 09/05/07 |
| LCS | Pyrene | 129-00-0 | 14.262 | 71.300 | % Recov | 66.000 | 118.000 | | | | 09/05/07 |
| LCS | 2,4,6-Tribromophenol(Surr) | 118-79-6 | 14.829 | 74.100 | % Recov | 60.000 | 120.000 | | | | 09/05/07 |
| LCS | Terphenyl-d14(Surr) | 98904-43-9 | 13.620 | 68.100 | % Recov | 60.000 | 120.000 | | | | 09/05/07 |

# WSCF ANALYTICAL LABORATORY QC REPORT

**Department:** Organic

SDG Number: WSCF20071482
Matrix: WATER
Test: VOA Ground Water Protection

Sample Date: 08/20/07
Receive Date:08/20/07

| QC Type | Analyte | CAS # | QC Found | QC Yield | Units | Lower Limit | Upper Limit | RPD(%) | RPD Limit | RQ | Analysis Date |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Lab ID: W07GR02196 | | | | | | | | | | | |
| BATCH QC ASSOCIATED WITH SAMPLE | | | | | | | | | | | |
| SURR | 4-Bromofluorobenzene(Surr) | 460-00-4 | 59.170 | 118.000 | % Recov | 84.000 | 116.000 | | | | 09/01/07 |
| SURR | 1,2-Dichloroethane-d4(Surr) | 17060-07-0 | 59.510 | 119.000 | % Recov | 82.000 | 136.000 | | | | 09/01/07 |
| SURR | Toluene-d8(Surr) | 2037-26-5 | 59.690 | 119.000 | % Recov | 89.000 | 119.000 | | | | 09/01/07 |
| Lab ID: W07GR02216 | | | | | | | | | | | |
| BATCH QC ASSOCIATED WITH SAMPLE | | | | | | | | | | | |
| MS | 1,1-Dichloroethene | 75-35-4 | 22.190 | 88.800 | % Recov | 63.000 | 117.000 | | | | 08/31/07 |
| MS | Benzene | 71-43-2 | 25.620 | 102.000 | % Recov | 75.000 | 129.000 | | | | 08/31/07 |
| MS | 4-Bromofluorobenzene(Surr) | 460-00-4 | 47.840 | 95.700 | % Recov | 84.000 | 116.000 | | | | 08/31/07 |
| MS | Chlorobenzene | 108-90-7 | 22.430 | 89.700 | % Recov | 79.000 | 119.000 | | | | 08/31/07 |
| MS | 1,2-Dichloroethane-d4(Surr) | 17060-07-0 | 42.660 | 85.300 | % Recov | 82.000 | 136.000 | | | | 08/31/07 |
| MS | Toluene-d8(Surr) | 2037-26-5 | 49.420 | 98.800 | % Recov | 89.000 | 119.000 | | | | 08/31/07 |
| MS | Toluene | 108-88-3 | 26.240 | 105.000 | % Recov | 76.000 | 120.000 | | | | 08/31/07 |
| MS | Trichloroethene | 79-01-6 | 20.940 | 83.800 | % Recov | 73.000 | 123.000 | | | | 08/31/07 |
| MSD | 1,1-Dichloroethene | 75-35-4 | 23.700 | 94.800 | % Recov | 63.000 | 117.000 | | | | 08/31/07 |
| MSD | Benzene | 71-43-2 | 25.860 | 103.000 | % Recov | 75.000 | 129.000 | | | | 08/31/07 |
| MSD | 4-Bromofluorobenzene(Surr) | 460-00-4 | 47.600 | 95.200 | % Recov | 84.000 | 116.000 | | | | 08/31/07 |
| MSD | Chlorobenzene | 108-90-7 | 22.400 | 89.600 | % Recov | 79.000 | 119.000 | | | | 08/31/07 |
| MSD | 1,2-Dichloroethane-d4(Surr) | 17060-07-0 | 42.740 | 85.500 | % Recov | 82.000 | 136.000 | | | | 08/31/07 |
| MSD | Toluene-d8(Surr) | 2037-26-5 | 50.210 | 100.000 | % Recov | 89.000 | 119.000 | | | | 08/31/07 |
| MSD | Toluene | 108-88-3 | 26.530 | 106.000 | % Recov | 76.000 | 120.000 | | | | 08/31/07 |
| MSD | Trichloroethene | 79-01-6 | 21.080 | 84.300 | % Recov | 73.000 | 123.000 | | | | 08/31/07 |
| SPK-RPD | 1,1-Dichloroethene | 75-35-4 | 94.800 | | RPD | | | 6.536 | 20.000 | | 09/01/07 |
| SPK-RPD | Benzene | 71-43-2 | 103.000 | | RPD | | | 0.976 | 20.000 | | 09/01/07 |
| SPK-RPD | Chlorobenzene | 108-90-7 | 89.600 | | RPD | | | 0.112 | 20.000 | | 09/01/07 |
| SPK-RPD | 1,2-Dichloroethane-d4(Surr) | 17060-07-0 | 85.500 | | RPD | | | 0.234 | 20.000 | | 09/01/07 |

# WSCF ANALYTICAL LABORATORY QC REPORT

**Department:** Organic

SDG Number: WSCF20071482
Matrix: WATER
Test: VOA Ground Water Protection

Sample Date: 08/21/07
Receive Date:08/21/07

| QC Type | Analyte | CAS # | QC Found | QC Yield | Units | Lower Limit | Upper Limit | RPD(%) | RPD Limit | RQ | Analysis Date |
|---|---|---|---|---|---|---|---|---|---|---|---|
| SPK-RPD | Toluene-d8(Surr) | 2037-26-5 | 100.000 | | RPD | | | 1.207 | 20.000 | | 09/01/07 |
| SPK-RPD | Toluene | 108-88-3 | 106.000 | | RPD | | | 0.948 | 20.000 | | 09/01/07 |
| SPK-RPD | Trichloroethene | 79-01-6 | 84.300 | | RPD | | | 0.595 | 20.000 | | 09/01/07 |
| **BATCH QC** | | | | | | | | | | | |
| BLANK | 1,1-Dichloroethane | 75-34-3 | < 1.0 | n/a | ug/L | | | | | U | 08/31/07 |
| BLANK | 1,1,1-Trichloroethane | 71-55-6 | < 1.0 | n/a | ug/L | | | | | U | 08/31/07 |
| BLANK | 1,1,2-Trichloroethane | 79-00-5 | < 1.0 | n/a | ug/L | | | | | U | 08/31/07 |
| BLANK | 1,1,2,2-Tetrachloroethane | 79-34-5 | < 1.0 | n/a | ug/L | 0.000 | 5.000 | | | U | 08/31/07 |
| BLANK | 1,1-Dichloroethene | 75-35-4 | < 1.0 | n/a | ug/L | | | | | U | 08/31/07 |
| BLANK | 1,2-Dichloroethane | 107-06-2 | < 1.0 | n/a | ug/L | | | | | U | 08/31/07 |
| BLANK | 1,2-Dichloroethene(Total) | 540-59-0 | < 1.0 | n/a | ug/L | | | | | U | 08/31/07 |
| BLANK | 1-Butanol | 71-36-3 | < 100 | n/a | ug/L | | | | | U | 08/31/07 |
| BLANK | 2-Hexanone | 591-78-6 | < 1.0 | n/a | ug/L | | | | | U | 08/31/07 |
| BLANK | 4-Methyl-2-Pentanone | 108-10-1 | < 1.0 | n/a | ug/L | | | | | U | 08/31/07 |
| BLANK | Acetone | 67-64-1 | < 1.0 | n/a | ug/L | | | | | U | 08/31/07 |
| BLANK | Bromodichloromethane | 75-27-4 | < 1.0 | n/a | ug/L | | | | | U | 08/31/07 |
| BLANK | Benzene | 71-43-2 | < 1.0 | n/a | ug/L | | | | | U | 08/31/07 |
| BLANK | 4-Bromofluorobenzene(Surr) | 460-00-4 | 48.400 | 96.800 | % Recov | 84.000 | 116.000 | | | | 08/31/07 |
| BLANK | Bromoform | 75-25-2 | < 1.0 | n/a | ug/L | | | | | U | 08/31/07 |
| BLANK | n-Butylbenzene | 104-51-8 | < 1.0 | n/a | ug/L | | | | | U | 08/31/07 |
| BLANK | Carbon disulfide | 75-15-0 | < 1.0 | n/a | ug/L | | | | | U | 08/31/07 |
| BLANK | Carbon tetrachloride | 56-23-5 | < 1.0 | n/a | ug/L | | | | | U | 08/31/07 |
| BLANK | Dibromochloromethane | 124-48-1 | < 1.0 | n/a | ug/L | | | | | U | 08/31/07 |
| BLANK | Chloroform | 67-66-3 | < 1.0 | n/a | ug/L | | | | | U | 08/31/07 |
| BLANK | Chlorobenzene | 108-90-7 | < 1.0 | n/a | ug/L | | | | | U | 08/31/07 |
| BLANK | cis-1,2-Dichloroethylene | 156-59-2 | < 1.0 | n/a | ug/L | | | | | U | 08/31/07 |
| BLANK | cis-1,3-Dichloropropene | 10061-01-5 | < 1.0 | n/a | ug/L | | | | | U | 08/31/07 |
| BLANK | Chloroethane | 75-00-3 | < 1.0 | n/a | ug/L | | | | | U | 08/31/07 |
| BLANK | 1,2-Dichloroethane-d4(Surr) | 17060-07-0 | 42.390 | 84.800 | % Recov | 82.000 | 136.000 | | | | 08/31/07 |

# WSCF ANALYTICAL LABORATORY QC REPORT

**Department:** Organic

SDG Number: WSCF20071482
Matrix: WATER
Test: VOA Ground Water Protection

Sample Date:
Receive Date:

| QC Type | Analyte | CAS # | QC Found | QC Yield | Units | Lower Limit | Upper Limit | RPD(%) | RPD Limit | RQ | Analysis Date |
|---|---|---|---|---|---|---|---|---|---|---|---|
| BLANK | trans-1,2-Dichloroethylene | 156-60-5 | < 1.0 | n/a | ug/L | | | | | U | 08/31/07 |
| BLANK | 1,2-Dichloropropane | 78-87-5 | < 1.0 | n/a | ug/L | | | | | U | 08/31/07 |
| BLANK | Ethylbenzene | 100-41-4 | < 1.0 | n/a | ug/L | | | | | U | 08/31/07 |
| BLANK | Bromomethane | 74-83-9 | < 1.0 | n/a | ug/L | | | | | U | 08/31/07 |
| BLANK | Chloromethane | 74-87-3 | < 1.0 | n/a | ug/L | | | | | U | 08/31/07 |
| BLANK | 2-Butanone | 78-93-3 | < 1.0 | n/a | ug/L | | | | | U | 08/31/07 |
| BLANK | Methylenechloride | 75-09-2 | < 1.0 | n/a | ug/L | | | | | U | 08/31/07 |
| BLANK | Tetrachloroethene | 127-18-4 | < 1.0 | n/a | ug/L | | | | | U | 08/31/07 |
| BLANK | Styrene | 100-42-5 | < 1.0 | n/a | ug/L | | | | | U | 08/31/07 |
| BLANK | Xylenes (total) | 1330-20-7 | < 1.0 | n/a | ug/L | 0.000 | 5.000 | | | U | 08/31/07 |
| BLANK | Toluene-d8(Surr) | 2037-26-5 | 49.300 | 98.600 | % Recov | 89.000 | 119.000 | | | | 08/31/07 |
| BLANK | Toluene | 108-88-3 | < 1.0 | n/a | ug/L | | | | | U | 08/31/07 |
| BLANK | trans-1,3-Dichloropropene | 10061-02-6 | < 1.0 | n/a | ug/L | | | | | U | 08/31/07 |
| BLANK | Trichloroethene | 79-01-6 | < 1.0 | n/a | ug/L | | | | | U | 08/31/07 |
| BLANK | Vinyl chloride | 75-01-4 | < 1.0 | n/a | ug/L | | | | | U | 08/31/07 |
| LCS | 1,1-Dichloroethene | 75-35-4 | 22.900 | 91.600 | % Recov | 70.000 | 130.000 | | | | 09/01/07 |
| LCS | Benzene | 71-43-2 | 25.820 | 103.000 | % Recov | 70.000 | 130.000 | | | | 09/01/07 |
| LCS | 4-Bromofluorobenzene(Surr) | 460-00-4 | 47.710 | 95.400 | % Recov | 84.000 | 116.000 | | | | 09/01/07 |
| LCS | Chlorobenzene | 108-90-7 | 22.680 | 90.700 | % Recov | 70.000 | 130.000 | | | | 09/01/07 |
| LCS | 1,2-Dichloroethane-d4(Surr) | 17060-07-0 | 42.570 | 85.100 | % Recov | 82.000 | 136.000 | | | | 09/01/07 |
| LCS | Toluene-d8(Surr) | 2037-26-5 | 50.450 | 101.000 | % Recov | 89.000 | 119.000 | | | | 09/01/07 |
| LCS | Toluene | 108-88-3 | 26.380 | 106.000 | % Recov | 70.000 | 130.000 | | | | 09/01/07 |
| LCS | Trichloroethene | 79-01-6 | 20.500 | 82.000 | % Recov | 70.000 | 130.000 | | | | 09/01/07 |

# WSCF
# ANALYTICAL COMMENT REPORT

**Attention:** Steve Trent
**Project Number** F07-057

**Group #:** WSCF20071482
Department: Organic

| Sample # | Client ID | Lab Area | Test | Comment |
|---|---|---|---|---|
| | | VALGROUP | | Gross beta duplicate is flagged for poor RPD. Since all the other QC checks came out fine, this batch has been approved. lmh<br><br>SVOA: Nitrosodipropylamine was the very very slightly below the LCS lower control limit in the LCS. The surrogate compound, 2-fluorobiphenyl, was below control limits in the sample, MS, and MSD indicating a matrix interference for this compound in the sample. All other QC is normal. cgc<br><br>ICP-MS: Copper prep blank above the MDL. "C" flag<br><br>VOA: Surrogate, 4-Bromofluorobenzene, high in sample B1PCT6 at 118% Recovery. gar |

Lab Areas: VALGROUP - Group Validation
LOGSAMP - Login for Sample
VALTEST - Test Validation
LOGTEST - Login for Tests
TESTDATA - Test Data Entry

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# WSCF
# ANALYTICAL RESULTS REPORT

**Attention:** Steve Trent
**SAF Number:** F07-057
**Sample #** W07GR02196
**Client ID:** B1PCT6 TRENT WSCF

**Matrix:** WATER

**Group #:** WSCF20071482
**Department:** Radiochemistry
**Sampled:** 08/20/07
**Received:** 08/20/07

| Test Performed | CAS # | Method | RQ | Result | Unit | TP Err | Unit | DF | MDL | PQL | Analysis Date |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Gamma Energy Analysis-grd H2O** | | | | | | | | | | | |
| Cobalt-60 | 10198-40-0 | LA-508-481 | U | 2.09 | pCi/L | +-4.13 | pCi/L | 1.00 | 7.7 | | 09/04/07 |
| Cesium-137 | 10045-97-3 | LA-508-481 | U | -2.29 | pCi/L | +-4.11 | pCi/L | 1.00 | 7.0 | | 09/04/07 |
| Europium-152 | 14683-23-9 | LA-508-481 | U | 14.1 | pCi/L | +-13.0 | pCi/L | 1.00 | 23 | | 09/04/07 |
| Europium-154 | 15585-10-1 | LA-508-481 | U | 8.15 | pCi/L | +-11.9 | pCi/L | 1.00 | 22 | | 09/04/07 |
| Europium-155 | 14391-16-3 | LA-508-481 | U | -10.5 | pCi/L | +-13.6 | pCi/L | 1.00 | 22 | | 09/04/07 |
| **Gross Alpha/Gross Beta (AB32)** | | | | | | | | | | | |
| Gross alpha | 12587-46-1 | LA-508-415 | U | 0.180 | pCi/L | +-0.558 | pCi/L | 1.00 | 0.98 | | 08/22/07 |
| Gross beta | 12587-47-2 | LA-508-415 | | 2.20 | pCi/L | +-1.14 | pCi/L | 1.00 | 1.7 | | 08/22/07 |

**MDL=Minimum Detection Limit**
**RQ=Result Qualifier**
**TP Err=Total Propagated Error**
**DF=Dilution Factor**

B - The analyte < the RDL but > = the IDL/MDL (inorg)
N - Spike sample recovery is outside control limits.(inorg)
U - Analyzed for but not detected above limiting criteria.(org)
C - The Analyte was found in the Associated Blank.(inorg)
U - Analyzed for but not detected above limiting criteria(inorg)

* - Indicates results that have NOT been validated; + - Indicates more than six qualifier symbols

# WSCF ANALYTICAL LABORATORY QC REPORT

**Department:** Radiochemistry

SDG Number: WSCF20071482
Matrix: WATER
Test: Gamma Energy Analysis-grd H2O

Sample Date: 08/20/07
Receive Date:08/20/07

Lab ID: W07GR02196

BATCH QC ASSOCIATED WITH SAMPLE

| QC Type | Analyte | CAS # | QC Found | QC Yield | Units | Lower Limit | Upper Limit | RPD(%) | RPD Limit | RQ | Analysis Date |
|---|---|---|---|---|---|---|---|---|---|---|---|
| DUP | Cobalt-60 | 10198-40-0 | U-3.264 | | RPD | | | n/a | 20.000 | | 09/04/07 |
| DUP | Cesium-137 | 10045-97-3 | U-4.546 | | RPD | | | n/a | 20.000 | | 09/04/07 |
| DUP | Europium-152 | 14683-23-9 | U-8.759 | | RPD | | | n/a | 20.000 | | 09/04/07 |
| DUP | Europium-154 | 15585-10-1 | U-8.522 | | RPD | | | n/a | 20.000 | | 09/04/07 |
| DUP | Europium-155 | 14391-16-3 | U-6.812 | | RPD | | | n/a | 20.000 | | 09/04/07 |

BATCH QC

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| BLANK | Cobalt-60 | 10198-40-0 | U-1.766 | n/a | pCi/L | -10.000 | 1000.000 | | | | 09/04/07 |
| BLANK | Cesium-137 | 10045-97-3 | U0.9362 | n/a | pCi/L | -10.000 | 1000.000 | | | | 09/04/07 |
| BLANK | Europium-152 | 14683-23-9 | U-6.837 | n/a | pCi/L | -10.000 | 1000.000 | | | | 09/04/07 |
| BLANK | Europium-154 | 15585-10-1 | U-0.7036 | n/a | pCi/L | -10.000 | 1000.000 | | | | 09/04/07 |
| BLANK | Europium-155 | 14391-16-3 | U-4.442 | n/a | pCi/L | -10.000 | 1000.000 | | | | 09/04/07 |
| LCS | Cobalt-60 | 10198-40-0 | 10070 | 101.308 | % Recov | 80.000 | 120.000 | | | | 09/05/07 |
| LCS | Cesium-137 | 10045-97-3 | 6419 | 106.275 | % Recov | 80.000 | 120.000 | | | | 09/05/07 |

# WSCF ANALYTICAL LABORATORY QC REPORT

**Department:** **Radiochemistry**

SDG Number: WSCF20071482
Matrix: WATER
Test: Gross Alpha/Gross Beta (AB32)

Sample Date: 07/26/07
Receive Date:07/26/07

| QC Type | Analyte | CAS # | QC Found | QC Yield | Units | Lower Limit | Upper Limit | RPD(%) | RPD Limit | RQ | Analysis Date |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Lab ID: W07P001416 | | | | | | | | | | | |
| BATCH QC ASSOCIATED WITH SAMPLE | | | | | | | | | | | |
| DUP | Gross alpha | 12587-46-1 | 2.0 | | RPD | | | 18.182 | 20.000 | | 08/22/07 |
| DUP | Gross beta | 12587-47-2 | 2.4E+01 | | RPD | | | 82.353 | 20.000 * | | 08/22/07 |
| BATCH QC | | | | | | | | | | | |
| BLANK | Gross alpha | 12587-46-1 | U-2.2E-01 | n/a | pCi/L | -10.000 | 10.000 | | | | 08/22/07 |
| BLANK | Gross beta | 12587-47-2 | U-8.2E-01 | n/a | pCi/L | -10.000 | 10.000 | | | | 08/22/07 |
| LCS | Gross alpha | 12587-46-1 | 39.1 | 100.929 | % Recov | 80.000 | 120.000 | | | | 08/22/07 |
| LCS | Gross beta | 12587-47-2 | 121.0 | 107.843 | % Recov | 80.000 | 120.000 | | | | 08/22/07 |

# WSCF
# ANALYTICAL COMMENT REPORT

**Attention:** Steve Trent
**Project Number** F07-057

**Group #:** WSCF20071482
Department: Radiochemistry

| Sample # | Client ID | Lab Area | Test | Comment |
|---|---|---|---|---|
| | | VALGROUP | | Gross beta duplicate is flagged for poor RPD. Since all the other QC checks came out fine, this batch has been approved. lmh<br><br>SVOA: Nitrosodipropylamine was the very very slightly below the LCS lower control limit in the LCS. The surrogate compound, 2-fluorobiphenyl, was below control limits in the sample, MS, and MSD indicating a matrix interference for this compound in the sample. All other QC is normal. cgc<br><br>ICP-MS: Copper prep blank above the MDL. "C" flag<br><br>VOA: Surrogate, 4-Bromofluorobenzene, high in sample B1PCT6 at 118% Recovery. gar |

Lab Areas: VALGROUP - Group Validation
LOGSAMP - Login for Sample
VALTEST - Test Validation
LOGTEST - Login for Tests
TESTDATA - Test Data Entry

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M4W41-SLF-07-683

ATTACHMENT 4

**SAMPLE RECEIPT INFORMATION**

Consisting of 3 pages
Including cover page

**Waste Sampling and Characterization Facility**
P.O. BOX 1970 S3-30, Richland, WA 99352
PHONE: (509) 373-7004/FAX: (509) 373-7134

10/3/07
Fyb 1CB

ACKNOWLEDGMENT OF SAMPLES RECEIVED

Groundwater Remediation Program

Richland, WA 99354
Attn: Steve Trent

Customer Code: GPP
PO#: 122868/ES3
Group#: 20071482
Project#: F07-057
Proj Mgr: Steve Trent E6-35
Phone: 373-5869

The following samples were received from you on 08/20/07. They have been scheduled for the tests listed beside each sample. If this information is incorrect, please contact your service representative. Thank you for using Waste Sampling and Characterization Facility.

| Sample# | Sample Id | Tests Scheduled | Matrix | Sample Date |
|---|---|---|---|---|
| W07GR02196 | B1PCT6 | TRENT @2008 @AB-32 @GEA-GPP @IC-30 @SVOCGPP @VOA-GPP | Water | 08/20/07 |

Test Acronym Description

| Test Acronym | Description |
|---|---|
| @2008 | ICP-200.8 MS All possible meta |
| @AB-32 | Gross Alpha/Gross Beta (AB32) |
| @GEA-GPP | Gamma Energy Analysis-grd H2O |
| @IC-30 | Anions by Ion Chromatography |
| @SVOCGPP | SW-846 8270C Semi-Vols |
| @VOA-GPP | VOA Ground Water Protection |

| COLLECTOR | COMPANY CONTACT | TELEPHONE NO. | PROJECT COORDINATOR | PRICE CODE | DATA TURNAROUND |
|---|---|---|---|---|---|
| Pope, Webb 10/m | TRENT, SJ | 373-5869 | TRENT, SJ | 7N | 45 Days / 45 Days |
| **SAMPLING LOCATION** | **PROJECT DESIGNATION** | | **SAF NO.** | **AIR QUALITY** | |
| A-2, I-EB | 216-A-2 and 216-AE-21 Characterization Sampling and Analysis - QC | | F07-057 | | |
| **ICE CHEST NO.** | **FIELD LOGBOOK NO.** | **COA** | **METHOD OF SHIPMENT** | | |
| | | 122868ES10 | GOVERNMENT VEHICLE | | |
| **SHIPPED TO** | **OFFSITE PROPERTY NO.** | | **BILL OF LADING/AIR BILL NO.** | | |
| Waste Sampling & Characterization | N/A | | N/A | | |

MATRIX*
A=Air
DL=Drum Liquids
DS=Drum Solids
L=Liquid
O=Oil
S=Soil
SE=Sediment
T=Tissue
V=Vegitation
W=Water
WI=Wipe
X=Other

**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 HANDLING AND/OR STORAGE**
20071482

| PRESERVATION | HCl or H2SO4 to pH <2/Cool~4C | Cool~4C | HNO3 to pH <2/Cool~4C | Cool~4C | HNO3 to pH <2 |
|---|---|---|---|---|---|
| TYPE OF CONTAINER | aGs* | aG | Square Bottle - Poly | P | G/P |
| NO. OF CONTAINER(S) | 4 | 4 | 1 | 1 | 1 |
| VOLUME | 40mL | 1000mL | 500mL | 120mL | 1000mL |
| SAMPLE ANALYSIS | SEE ITEM (1) IN SPECIAL INSTRUCTIONS | Semi-VOA - 8270B (Add-On) {Tributyl phosphate} | SEE ITEM (2) IN SPECIAL INSTRUCTIONS | SEE ITEM (3) IN SPECIAL INSTRUCTIONS | Gross Alpha; Gross Beta; |

| SAMPLE NO. | MATRIX* | SAMPLE DATE | SAMPLE TIME | | | | | |
|---|---|---|---|---|---|---|---|---|
| B1PCT6 | WATER | 8-20-07 | 0640 | X | X | X | X | X |
| W07GR02196 | | | | | | | | |

**CHAIN OF POSSESSION** / **SIGN/ PRINT NAMES**

| RELINQUISHED BY/REMOVED FROM | DATE/TIME | RECEIVED BY/STORED IN | DATE/TIME |
|---|---|---|---|
| J S Pope [signature] 8.20.07 | 1515 | [signature] K Beebe 8/20/07 | 1525 |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |

**SPECIAL INSTRUCTIONS**
(1)VOA - 8260B (TCL); VOA - 8260B (Add-On) {1-Butanol, cis-1,2-Dichloroethylene, n-Butylbenzene, trans-1,2-Dichloroethylene}
(2)ICP/MS - 200.8 (TAL) {Barium, Cadmium, Chromium, Copper, Silver} ICP/MS - 200.8 (Add-on) {Arsenic, Lead, Selenium, Uranium} 200.8_HG - ICPMS; Gamma Spectroscopy {Ceslum-137, Cobalt-60, Europium-152, Europium-154, Europium-155}
(3)IC Anions - 300.0 {Chloride, Fluoride, Nitrogen in Nitrate, Nitrogen in Nitrite, Phosphate, Sulfate}

ICED
Initial
Date

| LABORATORY SECTION | RECEIVED BY | TITLE | DATE/TIME |
|---|---|---|---|
| FINAL SAMPLE DISPOSITION | DISPOSAL METHOD | DISPOSED BY | DATE/TIME |