

RECEIVED OCTOBER 1, 2010

REVISION 1

Mission Support Alliance
P.O. Box 650
Richland, Washington 99352



M4W41-SLF-10-043

January 28, 2010

Mr. M. A. Neely, Manager
Analytical Services
CH2M HILL Plateau Remediation Contract
PO Box 1600 MSIN R3-60
Richland, WA 99352

Dear Mike,

FINAL RESULTS FOR SAMPLE DELIVERY GROUP WSCF20091286 – SAF NUMBER F10-011

- References: (1) Statement of Work (SOW), Modification No. 2 to Agreement 36587, Release 3, 'FH WSCF ANALYTICAL SERVICES FOR GROUNDWATER'
- (2) HNF-SD-CD-QAPP-017, Rev. 9, Waste Sampling & Characterization Facility Quality Assurance Plan

This letter contains the following attachments for sample delivery group WSCF20091286:

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

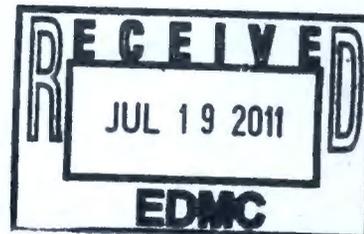
Very truly yours,

S. L. Fitzgerald
WSCF Analytical Lab

SLF/grf

Attachments 4

cc: w/Attachments
R. L. Barker S3-30
H. K. Meznarich S3-30
J. E. Trechter S3-30
S. J. Trent R3-50
File/LB



M4W41-SLF-10-043

ATTACHMENT 1

COVER SHEET

Consisting of 2 pages
Including cover page

WSCF SAF NUMBER CROSS REFERENCE

Group#: WSCF20091286
 Data Deliverable Date: 21-jan-2010
 Data Deliverable: Cover Sheet

| SAF# | Sample ID | WSCF# | Matrix |
|---------|-----------|------------|--------|
| F10-011 | B22RL1 | W09GR01155 | SOIL |
| | B22RL2 | W09GR01159 | SOIL |

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ATTACHMENT 2

CORRECTED NARRATIVE w/P&D

Consisting of 6 pages
Including cover page

P&D Correction – Case Narrative Replaces The Prior Submittal in its Entirety**Introduction**

Three (3) S&GRP samples were received at the WSCF Laboratory on 12/9/2009. The samples were analyzed for the analytes indicated on the attached copy of the chain of custody (COC) form in accordance with the *Statement of Work (SOW), Modification No. 2 to Agreement 36587, Release 3, "FH WSCF ANALYTICAL SERVICES FOR GROUNDWATER."*

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. Additionally, a copy of the completed P&D # WSCF20091286 is included with this case narrative.

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

The following generic data qualifiers (i.e., B, D, and J) may be applicable to this report, as appropriate

- **B** – Sample results with a concentration greater than the MDL but less than the PQL are B flagged (applies to inorganic and wetchem analyses), as appropriate.
- **D** – Sample results are D flagged if dilution(s) were required, as appropriate.
- **J** – Sample results with a concentration greater than the MDL but less than the PQL are J flagged (applies to organic analyses), as appropriate.

Analytical Methodology for Requested Analyses

Refer to *WSCF Method References Report*, pages 14 through 16, for a complete listing of approved analytical methods.

Inorganic Comments

Ammonia – The hold time requirement for this analysis was met. A Duplicate, Matrix Spike, Matrix Spike Duplicate, Blank and Laboratory Control Sample were analyzed with this delivery group. See page 19 for QC details. Analytical Note(s):

- Matrix Spike and Matrix Spike Duplicate recoveries are outside the acceptance criteria. Affected sample results in this batch were N flagged

All other QC controls are within the established limits.

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. See pages 20 through 21 for QC details. Analytical Note(s):

- Chloride and Sulfate— Duplicate Relative Percent Difference(s) (RPD) exceeded established laboratory limits. However, since the analyte concentrations in the sample were less than 10X the MDL, the RPD criterion does not apply. No flags issued.

All other QC controls are within the established limits.

Cyanide – 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. See page 22 for QC details.

All QC controls are within the established limits.

Hexavalent Chromium – The hold time requirement for this analysis was met. A Duplicate, Matrix Spike, Matrix Spike Duplicate, Blank and Laboratory Control Sample were analyzed with this delivery group. See page 23 for QC details. Analytical Note(s):

- Batch QC analyzed on sample # W09GR01161 (B23463 on work order 20091288)
 - The Duplicate RPD limits are stated as 15.00% in the Quality Control Report however, according to the procedure, the limits are +/- 20%. The analytical data was not affected by this error.

All QC controls are within the established limits.

ICP-AES 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. See pages 24 through 25 for QC details. Analytical Note(s):

- Batch QC analyzed on sample #'s W09GR01155 (B22RL1 on this work order) & W09GR01248 (B22FD8 on work order 20091343)
 - Iron contamination was detected in the Blank and was evaluated. No sample results in this batch were affected.
 - Iron – exceeded spiking levels by a factor of 4. Spike recoveries are not valid.
 - Soil LCS has no established lithium and bismuth results. The missing elements were manually added to the LCS solution, digested, analyzed and reported.
 - Boron results are estimated due to iron interference. Results are flagged according with "E".

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. See pages 26 through 28 for QC details. Analytical Note(s):

- Batch QC analyzed on sample # W09GR01124 (B23337 on work order 20091261)
 - Aluminum – exceeded spiking levels by a factor of 4. Spike recoveries are not valid.
 - Copper and Selenium contamination were detected in the Blank and were evaluated. Affected sample results in this batch were “C” Flagged.

All other QC controls are within the established limits.

Organic Comments

Sample concentrations are corrected for moisture content and reported on a dry weight basis.

Alcohol/Glycols - The hold time requirement for this analysis was met. A Duplicate, Matrix Spike, Matrix Spike Duplicate, Blank and Laboratory Control Sample were analyzed with this delivery group. See page 36 for QC details.

All QC controls are within the established limits.

PCB – 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. See pages 38 through 39 for QC details.

- Batch QC analyzed on sample# W09GR01188 (B22RP1 on work order 20091304).

All QC controls are within the established limits.

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. See pages 40 through 45 for QC details.

- Batch QC analyzed on sample# W09GR01188 (B22RP1 on work order 20091304).

All QC controls are within the established limits.

TPHD-WA – 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. See page 37 for QC details.

All 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. See pages 46 through 48 for QC details. Analytical Note(s):

- B22RL3 – Analysis of this Methanol Blank sample and its associated high concentration VOA sample was not required.

All QC controls are within the established limits.

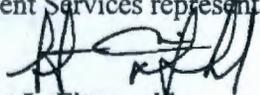
Radiochemistry Comments

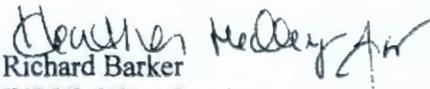
Rad Chem – The hold time requirement for this analysis was met. A Duplicate, Matrix Spike, Blank and Laboratory Control Sample were analyzed with this delivery group. See pages 52 through 59 for QC details. Analytical Note(s):

- Batch QC analyzed FOR Gross Alpha on Alpha Plateau and Gross Alpha/Beta on sample# W09GR01170 (B22RM0 on work order 20091293).
- Batch QC analyzed for Tc-99 by LSC on sample# W09GR01124 (B23337 on work order 20091261).
- Batch QC analyzed for Sr 89/90, Uranium Isotopics, Americium, Plutonium isotopics by AEA on sample# W09GR01033 (B22V40 on work order 20091211).
 - Americium-241 contamination was detected in the Blank and was evaluated. Value is less than 2 times the MDA so no flag issued.

All other QC controls are within the established limits.

We certify that this data package is in compliance with the SOW, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this data package has been authorized by the Analytical Laboratory Manager (or designee) and the Client Services representative as verified by the following signatures.


 Scot L. Fitzgerald
 WSCF Analytical Laboratory Manager


 Richard Barker
 WSCF Client Services

Problem and Discrepancy Report

WSCF

SDG WSCF20091286

1. The data package has the following issues:

- a) Case narrative, inorganic comments, Hex Chrome – reference to batch QC is not correct. Review of the QC data show the WSCF batch QC number as W09GR01161 not W09GR01248.

Resolution: *Provide correction.*

Lab Response: **The narrative has been corrected.**

- b) Case narrative, provide HEIS # and Work Order # for batch QC that was analyzed on a sample from another SDG.

Resolution: *Provide correction.*

Lab Response: **The narrative has been revised to include specific identifications.**

Please correct the issues and resubmit the hard copy and electronic data package.

M4W41-SLF-10-043

ATTACHMENT 3

ANALYTICAL RESULTS

Consisting of 53 pages
Including cover page

**WSCF
ANALYTICAL RESULTS REPORT**

for

Groundwater Remediation Program

Richland, WA 99354

Attention: Steve Trent

Analytical:

S.F. Fitzgerald 1-28-10

Client Services:

Richard Barker 1-28-10 Richard Barker

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

This information is intended for the use of the addressee only. If the reader of this report is not the intended recipient or is not authorized by the recipient to receive the report, you are hereby notified that any dissemination, distribution or copying of this report is strictly prohibited. If you have received this report in error, please notify WSCF Laboratory immediately by telephone at (509) 373-7020 or (509) 531-8004. Information designation of this report is the responsibility of the customer.

Contract#: MOA-FH-CHPRC-2008

Report#: WSCF20091286

Report Date: 27-jan-2010

Report WGPP/ver. 5.2

Groundwater Remediation Program

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w13qlog v4.2 27-jan-2010 10:41:20

Department: Inorganic

W13q Worklist/Batch/QC Report for Group# WSCF20091286

| WL# | S# | Batch | QC# | Tray Type | Sample# | Test |
|-------|----|-------|-------|-----------|------------|--------------------------------|
| | | | | SAMPLE | W09GR01155 | Percent Solids |
| 40361 | 2 | 40799 | 45355 | BLNK-PREP | | Hexavalent chromium |
| 40361 | 3 | 40799 | 45355 | LCS | | Hexavalent chromium |
| 40361 | 10 | 40799 | 45355 | SAMPLE | W09GR01155 | Hexavalent chromium |
| 40361 | 5 | 40799 | 45355 | DUP | W09GR01161 | Hexavalent chromium |
| 40361 | 6 | 40799 | 45355 | MS | W09GR01161 | Hexavalent chromium |
| 40361 | 7 | 40799 | 45355 | MSD | W09GR01161 | Hexavalent chromium |
| 40361 | 9 | 40799 | 45355 | SPK-POST | W09GR01161 | Hexavalent chromium |
| 40361 | 7 | 40799 | 45355 | SPK-RPD | W09GR01161 | Hexavalent chromium |
| 40376 | 1 | 40811 | 45369 | BLANK | | Cyanide by Midi/Spectrophotom |
| 40376 | 2 | 40811 | 45369 | LCS | | Cyanide by Midi/Spectrophotom |
| 40376 | 8 | 40811 | 45369 | MS | W09GR01155 | Cyanide by Midi/Spectrophotom |
| 40376 | 9 | 40811 | 45369 | MSD | W09GR01155 | Cyanide by Midi/Spectrophotom |
| 40376 | 7 | 40811 | 45369 | SAMPLE | W09GR01155 | Cyanide by Midi/Spectrophotom |
| 40376 | 9 | 40811 | 45369 | SPK-RPD | W09GR01155 | Cyanide by Midi/Spectrophotom |
| 40379 | 1 | 40815 | 45372 | BLANK | | Ammonia (N) by IC |
| 40379 | 10 | 40815 | 45372 | BLANK | | Ammonia (N) by IC |
| 40379 | 3 | 40815 | 45372 | LCS | | Ammonia (N) by IC |
| 40379 | 5 | 40815 | 45372 | DUP | W09GR01155 | Ammonia (N) by IC |
| 40379 | 6 | 40815 | 45372 | MS | W09GR01155 | Ammonia (N) by IC |
| 40379 | 7 | 40815 | 45372 | MSD | W09GR01155 | Ammonia (N) by IC |
| 40379 | 4 | 40815 | 45372 | SAMPLE | W09GR01155 | Ammonia (N) by IC |
| 40379 | 7 | 40815 | 45372 | SPK-RPD | W09GR01155 | Ammonia (N) by IC |
| 40390 | 2 | 40826 | 45393 | BLANK | | Anions by Ion Chromatography |
| 40390 | 12 | 40826 | 45393 | BLANK | | Anions by Ion Chromatography |
| 40390 | 3 | 40826 | 45393 | LCS | | Anions by Ion Chromatography |
| 40390 | 5 | 40826 | 45393 | DUP | W09GR01155 | Anions by Ion Chromatography |
| 40390 | 6 | 40826 | 45393 | MS | W09GR01155 | Anions by Ion Chromatography |
| 40390 | 7 | 40826 | 45393 | MSD | W09GR01155 | Anions by Ion Chromatography |
| 40390 | 4 | 40826 | 45393 | SAMPLE | W09GR01155 | Anions by Ion Chromatography |
| 40390 | 7 | 40826 | 45393 | SPK-RPD | W09GR01155 | Anions by Ion Chromatography |
| 40342 | 16 | 40777 | 45414 | BLANK | | ICP-200.8 MS All possible meta |
| 40342 | 17 | 40777 | 45414 | LCS | | ICP-200.8 MS All possible meta |
| 40342 | 19 | 40777 | 45414 | MS | W09GR01124 | ICP-200.8 MS All possible meta |
| 40342 | 20 | 40777 | 45414 | MSD | W09GR01124 | ICP-200.8 MS All possible meta |
| 40342 | 20 | 40777 | 45414 | SPK-RPD | W09GR01124 | ICP-200.8 MS All possible meta |
| 40342 | 21 | 40777 | 45414 | SAMPLE | W09GR01155 | ICP-200.8 MS All possible meta |
| 40425 | 1 | 40842 | 45430 | BLANK | | ICP Metals Analysis, Grd H20 P |
| 40425 | 2 | 40842 | 45430 | LCS | | ICP Metals Analysis, Grd H20 P |
| 40425 | 4 | 40842 | 45430 | MS | W09GR01155 | ICP Metals Analysis, Grd H20 P |
| 40425 | 5 | 40842 | 45430 | MSD | W09GR01155 | ICP Metals Analysis, Grd H20 P |
| 40425 | 3 | 40842 | 45430 | SAMPLE | W09GR01155 | ICP Metals Analysis, Grd H20 P |
| 40425 | 5 | 40842 | 45430 | SPK-RPD | W09GR01155 | ICP Metals Analysis, Grd H20 P |
| 40425 | 11 | 40842 | 45430 | MS | W09GR01248 | ICP Metals Analysis, Grd H20 P |
| 40425 | 12 | 40842 | 45430 | MSD | W09GR01248 | ICP Metals Analysis, Grd H20 P |
| 40425 | 12 | 40842 | 45430 | SPK-RPD | W09GR01248 | ICP Metals Analysis, Grd H20 P |

w13qlog v4.2 27-jan-2010 10:41:20

Department: Organic

W13q Worklist/Batch/QC Report for Group# WSCF20091286

| WL# | S# | Batch | QC# | Tray Type | Sample# | Test |
|-------|----|-------|-------|-----------|------------|-------------------------------|
| | | | 45402 | BLANK | | SW-846 8270C Semi-Vols |
| | | | 45402 | LCS | | SW-846 8270C Semi-Vols |
| | | | 45402 | SAMPLE | W09GR01155 | SW-846 8270C Semi-Vols |
| | | | 45402 | SURR | W09GR01155 | SW-846 8270C Semi-Vols |
| | | | 45402 | MS | W09GR01188 | SW-846 8270C Semi-Vols |
| | | | 45402 | MSD | W09GR01188 | SW-846 8270C Semi-Vols |
| | | | 45402 | SPK-RPD | W09GR01188 | SW-846 8270C Semi-Vols |
| | | | 45407 | BLANK | | NWTPH-D TPH Diesel Range (Wa) |
| | | | 45407 | LCS | | NWTPH-D TPH Diesel Range (Wa) |
| | | | 45407 | MS | W09GR01155 | NWTPH-D TPH Diesel Range (Wa) |
| | | | 45407 | MSD | W09GR01155 | NWTPH-D TPH Diesel Range (Wa) |
| | | | 45407 | SAMPLE | W09GR01155 | NWTPH-D TPH Diesel Range (Wa) |
| | | | 45407 | SPK-RPD | W09GR01155 | NWTPH-D TPH Diesel Range (Wa) |
| | | | 45407 | SURR | W09GR01155 | NWTPH-D TPH Diesel Range (Wa) |
| | | | 45441 | BLANK | | PCBs complete list |
| | | | 45441 | LCS | | PCBs complete list |
| | | | 45441 | SAMPLE | W09GR01155 | PCBs complete list |
| | | | 45441 | SURR | W09GR01155 | PCBs complete list |
| | | | 45441 | MS | W09GR01188 | PCBs complete list |
| | | | 45441 | MSD | W09GR01188 | PCBs complete list |
| | | | 45441 | SPK-RPD | W09GR01188 | PCBs complete list |
| | | | 45543 | BLANK | | VOA Ground Water Protection |
| | | | 45543 | LCS | | VOA Ground Water Protection |
| | | | 45543 | MS | W09GR01159 | VOA Ground Water Protection |
| | | | 45543 | MSD | W09GR01159 | VOA Ground Water Protection |
| | | | 45543 | SAMPLE | W09GR01159 | VOA Ground Water Protection |
| | | | 45543 | SPK-RPD | W09GR01159 | VOA Ground Water Protection |
| | | | 45543 | SURR | W09GR01159 | VOA Ground Water Protection |
| 40572 | 1 | 41017 | 45574 | BLANK | | Alcohols, Glycols - 8015 |
| 40572 | 2 | 41017 | 45574 | LCS | | Alcohols, Glycols - 8015 |
| 40572 | 4 | 41017 | 45574 | DUP | W09GR01155 | Alcohols, Glycols - 8015 |
| 40572 | 5 | 41017 | 45574 | MS | W09GR01155 | Alcohols, Glycols - 8015 |
| 40572 | 6 | 41017 | 45574 | MSD | W09GR01155 | Alcohols, Glycols - 8015 |
| 40572 | 3 | 41017 | 45574 | SAMPLE | W09GR01155 | Alcohols, Glycols - 8015 |
| 40572 | 6 | 41017 | 45574 | SPK-RPD | W09GR01155 | Alcohols, Glycols - 8015 |

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Department: Radiochemistry

W13q Worklist/Batch/QC Report for Group# WSCF20091286

| WL# | S# | Batch | QC# | Tray Type | Sample# | Test |
|-------|----|-------|-------|-----------|------------|-------------------------------|
| 40355 | 1 | 40794 | 45354 | BLANK | | Gamma Energy Analysis-grd H2O |
| 40355 | 2 | 40794 | 45354 | LCS | | Gamma Energy Analysis-grd H2O |
| 40355 | 3 | 40794 | 45354 | DUP | W09GR01155 | Gamma Energy Analysis-grd H2O |
| 40355 | 4 | 40794 | 45354 | SAMPLE | W09GR01155 | Gamma Energy Analysis-grd H2O |
| 40364 | 1 | 40802 | 45391 | BLANK | | Gross Alpha on Alpha Plateau |
| 40364 | 2 | 40802 | 45391 | LCS | | Gross Alpha on Alpha Plateau |
| 40364 | 5 | 40802 | 45391 | SAMPLE | W09GR01155 | Gross Alpha on Alpha Plateau |
| 40364 | 3 | 40802 | 45391 | DUP | W09GR01170 | Gross Alpha on Alpha Plateau |
| 40375 | 1 | 40803 | 45392 | BLANK | | Gross Alpha/Gross Beta (AB32) |
| 40375 | 2 | 40803 | 45392 | LCS | | Gross Alpha/Gross Beta (AB32) |
| 40375 | 5 | 40803 | 45392 | SAMPLE | W09GR01155 | Gross Alpha/Gross Beta (AB32) |
| 40375 | 3 | 40803 | 45392 | DUP | W09GR01170 | Gross Alpha/Gross Beta (AB32) |
| 40354 | 1 | 40793 | 45400 | BLANK | | TC99 by Liquid Scin. |
| 40354 | 2 | 40793 | 45400 | LCS | | TC99 by Liquid Scin. |
| 40354 | 4 | 40793 | 45400 | DUP | W09GR01124 | TC99 by Liquid Scin. |
| 40354 | 3 | 40793 | 45400 | MS | W09GR01124 | TC99 by Liquid Scin. |
| 40354 | 6 | 40793 | 45400 | SAMPLE | W09GR01155 | TC99 by Liquid Scin. |
| 40394 | 1 | 40830 | 45423 | BLANK | | Strontium 89/90 |
| 40394 | 2 | 40830 | 45423 | LCS | | Strontium 89/90 |
| 40394 | 3 | 40830 | 45423 | DUP | W09GR01033 | Strontium 89/90 |
| 40394 | 14 | 40830 | 45423 | SAMPLE | W09GR01155 | Strontium 89/90 |
| 40394 | 15 | 40830 | 45423 | SURR | W09GR01155 | Strontium 89/90 |
| 40445 | 1 | 40885 | 45458 | BLANK | | Uranium Isotopics by AEA |
| 40445 | 2 | 40885 | 45458 | LCS | | Uranium Isotopics by AEA |
| 40445 | 3 | 40885 | 45458 | DUP | W09GR01033 | Uranium Isotopics by AEA |
| 40445 | 14 | 40885 | 45458 | SAMPLE | W09GR01155 | Uranium Isotopics by AEA |
| 40445 | 15 | 40885 | 45458 | SURR | W09GR01155 | Uranium Isotopics by AEA |
| 40437 | 1 | 40876 | 45465 | BLANK | | Americium by AEA |
| 40437 | 2 | 40876 | 45465 | LCS | | Americium by AEA |
| 40437 | 3 | 40876 | 45465 | DUP | W09GR01033 | Americium by AEA |
| 40437 | 14 | 40876 | 45465 | SAMPLE | W09GR01155 | Americium by AEA |
| 40437 | 15 | 40876 | 45465 | SURR | W09GR01155 | Americium by AEA |
| 40436 | 1 | 40875 | 45472 | BLANK | | Plutonium Isotopics by AEA |
| 40436 | 2 | 40875 | 45472 | LCS | | Plutonium Isotopics by AEA |
| 40436 | 3 | 40875 | 45472 | DUP | W09GR01033 | Plutonium Isotopics by AEA |
| 40436 | 14 | 40875 | 45472 | SAMPLE | W09GR01155 | Plutonium Isotopics by AEA |
| 40436 | 15 | 40875 | 45472 | SURR | W09GR01155 | Plutonium Isotopics by AEA |

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-265-403 | LA-265-403: Hexavalent Chromium analysis by Spectrophotometer None | No reference to any industry method. |
| LA-503-401 | LA-503-401: ANALYSIS OF CATIONS BY ION CHROMATOGRAPHY None | No reference to any industry method. |
| LA-505-411 | LA-505-411: ELEMENTAL ANALYSIS BY INDUCTIVELY COUPLED PLASMA ATOMIC EMISSION SPE None | No reference to any industry method. |
| LA-505-412 | LA-505-412: DETERMINATION OF TRACE ELEMENTS IN WATERS AND WASTES BY INDUCTIVELY None | No reference to any industry method. |
| LA-519-412 | LA-519-412: TOTAL RESIDUE/ % SOLIDS DRIED AT 103 - 105 C None | No reference to any industry method. |
| LA-533-410 | LA-533-410: ANION ANALYSIS BY ION CHROMATOGRAPHY None | No reference to any industry method. |
| LA-695-402 | LA-695-402: DETERMINATION OF CYANIDE BY MIDIDISTILLATION AND SPECTROPHOTOMETRIC None | No reference to any industry method. |

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>.

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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-523-427 | LA-523-427: POLYCHLORINATED BIPHENYLS (PCBs) BY GAS CHROMATOGRAPHY EPA SW-846 8082A | POLYCHLORINATED BIPHENYLS (PCBs) BY GAS CHROMATOGRAPHY |
| LA-523-455 | LA-523-455: VOLATILE SAMPLE ANALYSIS BY SW-846 None | No reference to any industry method. |
| LA-523-456 | LA-523-456: SEMIVOLATILE SAMPLE ANALYSIS BY SW-846, METHOD 8270C None | No reference to any industry method. |
| LA-523-493 | NWTPH-Diesel and/or Gasoline None | No reference to any industry method. |
| Organics | Organics - Alcohols, Glycols EPA SW-846 8015B | Nonhalogenated Organics Using GC/FID |

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>.

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REVISION 1

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 None | No reference to any industry method. |
| LA-508-421 | LA-508-421: OPERATION OF THE TRI-CARB MODEL 2500TR LIQUID SCINTILLATION ANALYZER HEIS ALPHA_LSC HEIS BETA_LSC | A/B Liquid Scintillation A/B Liquid Scintillation |
| LA-508-471 | LA-508-471: ALPHA ENERGY ANALYZER DATA ACQUISITION AND SYSTEM CHECKOUT USING ALP HEIS RAISO_AEA | Radium-226 |
| LA-508-481 | LA-508-481: GAMMA ENERGY ANALYSIS USING PROCOUNT SOFTWARE None | No reference to any industry method. |

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>.

Report Date: 27-jan-2010
Report#: WSCF20091286
Report WGP/5.2

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REVISION 1

WSCF ANALYTICAL RESULTS REPORT

Attention: Steve Trent
SAF Number: F10-011
Sample # W09GR01155
Client ID: B22RL1

GPP
WSCF

Matrix: SOIL

Group #: WSCF20091286
Department: Inorganic
Sampled: 12/09/09
Received: 12/09/09

| Test Performed | CAS # | Method | RQ | Result | Unit | TP Err | Unit | DF | MDL | PQL | Analysis Date |
|--|------------|------------|----|------------|-------|--------|------|-------|--------|-----|---------------|
| Anions by Ion Chromatography Prep | | | | | | | | | | | |
| Anions by Ion Chromatography | | | | | | | | | | | |
| Fluoride | 16984-48-8 | LA-533-410 | DU | < 1.47 | mg/kg | | | 49.00 | 1.5 | | 12/17/09 |
| Chloride | 16987-00-6 | LA-533-410 | BD | 6.58 | mg/kg | | | 49.00 | 2.1 | | 12/17/09 |
| Nitrogen in Nitrite | NO2-N | LA-533-410 | DU | < 0.882 | mg/kg | | | 49.00 | 0.88 | | 12/17/09 |
| Nitrogen in Nitrate | NO3-N | LA-533-410 | BD | 1.58 | mg/kg | | | 49.00 | 1.5 | | 12/17/09 |
| Phosphate (P) by IC | PO4-P | LA-533-410 | DU | < 3.43 | mg/kg | | | 49.00 | 3.4 | | 12/17/09 |
| Sulfate | 14808-79-8 | LA-533-410 | BD | 6.69 | mg/kg | | | 49.00 | 3.2 | | 12/17/09 |
| Cyanide | | | | | | | | | | | |
| Cyanide | 57-12-5 | LA-695-402 | U | < 0.200 | mg/kg | | | 1.00 | 0.20 | | 12/17/09 |
| Hexavalent Chromium Prep | | | | | | | | | | | |
| Hexavalent Chromium | | | | | | | | | | | |
| Hexavalent Chromium | 18540-29-9 | LA-265-403 | U | < 0.100 | mg/kg | | | 1.00 | 0.10 | | 12/16/09 |
| ICP Metals Analysis, Grd H2O P Prep | | | | | | | | | | | |
| ICP Metals Analysis, Grd H2O P | | | | | | | | | | | |
| Iron | 7439-89-6 | LA-505-411 | | 1.42e + 04 | mg/kg | | | 98.50 | 1.8 | | 12/30/09 |
| Lithium | 7439-93-2 | LA-505-411 | | 10.6 | mg/kg | | | 98.50 | 0.39 | | 12/30/09 |
| Boron | 7440-42-8 | LA-505-411 | BE | 8.90 | mg/kg | | | 98.50 | 1.9 | | 12/30/09 |
| Bismuth | 7440-69-9 | LA-505-411 | U | < 2.27 | mg/kg | | | 98.50 | 2.3 | | 12/30/09 |
| ICP-200.8 MS All possible meta Prep | | | | | | | | | | | |
| ICP-200.8 MS All possible meta | | | | | | | | | | | |
| Aluminum | 7429-90-5 | LA-505-412 | | 6.24e + 03 | mg/kg | | | 1.00 | 4.98 | | 12/13/09 |
| Manganese | 7439-96-5 | LA-505-412 | | 253 | mg/kg | | | 1.00 | 0.0996 | | 12/13/09 |
| Nickel | 7440-02-0 | LA-505-412 | | 11.4 | mg/kg | | | 1.00 | 0.199 | | 12/13/09 |
| Silver | 7440-22-4 | LA-505-412 | U | < 0.0996 | mg/kg | | | 1.00 | 0.0996 | | 12/13/09 |

MDL = Minimum Detection Limit

RQ = Result Qualifier

TP Err = Total Propagated Error

DF = Dilution Factor

- Indicates results that have NOT been validated;

B - The analyte < the RDL but > = the IDL/MDL (inorg)

D - Analyte was identified at a secondary dilution factor

E - Analyte is an estimate, has potentially larger errors (inorg)

U - Analyzed for but not detected above limiting criteria (inorg)

+ - Indicates more than six qualifier symbols

C - The Analyte was found in the Associated Blank. (inorg)

D - Analyte was identified at a secondary dilution factor (inorg)

N - Spike sample recovery is outside control limits. (inorg)

U - Analyzed for but not detected above limiting criteria.

Report WGPP/ver. 5.2

Groundwater Remediation Program

170169

WSCF ANALYTICAL RESULTS REPORT

Attention: Steve Trent
SAF Number: F10-011
Sample # W09GR01155
Client ID: B22RL1

Group #: WSCF20091286
Department: Inorganic
Sampled: 12/09/09
Received: 12/09/09

GPP
WSCF

Matrix: SOIL

| Test Performed | CAS # | Method | RQ | Result | Unit | TP Err | Unit | DF | MDL | PQL | Analysis Date |
|----------------------------------|-----------|------------|-----|----------|---------|--------|------|-------|--------|-----|---------------|
| Antimony | 7440-36-0 | LA-505-412 | U | < 0.299 | mg/kg | | | 1.00 | 0.299 | | 12/13/09 |
| Barium | 7440-39-3 | LA-505-412 | | 51.5 | mg/kg | | | 1.00 | 0.199 | | 12/13/09 |
| Beryllium | 7440-41-7 | LA-505-412 | | 0.220 | mg/kg | | | 1.00 | 0.0498 | | 12/13/09 |
| Cadmium | 7440-43-9 | LA-505-412 | U | < 0.0996 | mg/kg | | | 1.00 | 0.0996 | | 12/13/09 |
| Chromium | 7440-47-3 | LA-505-412 | | 10.6 | mg/kg | | | 1.00 | 0.498 | | 12/13/09 |
| Cobalt | 7440-48-4 | LA-505-412 | | 4.50 | mg/kg | | | 1.00 | 0.0498 | | 12/13/09 |
| Copper | 7440-50-8 | LA-505-412 | | 8.98 | mg/kg | | | 1.00 | 0.0996 | | 12/13/09 |
| Vanadium | 7440-62-2 | LA-505-412 | | 25.2 | mg/kg | | | 1.00 | 0.199 | | 12/13/09 |
| Zinc | 7440-66-6 | LA-505-412 | | 27.5 | mg/kg | | | 1.00 | 0.797 | | 12/13/09 |
| Lead | 7439-92-1 | LA-505-412 | | 3.21 | mg/kg | | | 1.00 | 0.0996 | | 12/13/09 |
| Mercury | 7439-97-6 | LA-505-412 | | 0.560 | mg/kg | | | 1.00 | 0.0498 | | 12/13/09 |
| Thorium | 7440-29-1 | LA-505-412 | | 2.56 | mg/kg | | | 1.00 | 0.0996 | | 12/13/09 |
| Uranium | 7440-61-1 | LA-505-412 | | 0.420 | mg/kg | | | 1.00 | 0.0498 | | 12/13/09 |
| Arsenic | 7440-38-2 | LA-505-412 | | 3.46 | mg/kg | | | 1.00 | 0.398 | | 12/13/09 |
| Selenium | 7782-49-2 | LA-505-412 | C | 0.670 | mg/kg | | | 1.00 | 0.299 | | 12/13/09 |
| Thallium | 7440-28-0 | LA-505-412 | U | < 0.0996 | mg/kg | | | 1.00 | 0.0996 | | 12/13/09 |
| Strontium | 7440-24-6 | LA-505-412 | | 30.9 | mg/kg | | | 1.00 | 0.0996 | | 12/13/09 |
| Nitrogen in ammonium Prep | | | | | | | | | | | |
| Nitrogen in ammonium | | | | | | | | | | | |
| Nitrogen in ammonium | NH4-N | LA-503-401 | DNU | < 8.43 | mg/kg | | | 49.00 | 8.43 | | 12/18/09 |
| Total solids | | | | | | | | | | | |
| Total solids | TS | LA-519-412 | | 95.0 | Percent | | | 1.00 | 0.0 | | 12/16/09 |

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)
 D - Analyte was identified at a secondary dilution factor
 E - Analyte is an estimate, has potentially larger errors (inorg)
 U - Analyzed for but not detected above limiting criteria (inorg)

C - The Analyte was found in the Associated Blank. (inorg)
 D - Analyte was identified at a secondary dilution factor (inorg)
 N - Spike sample recovery is outside control limits. (inorg)
 U - Analyzed for but not detected above limiting criteria.

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

Report WGPP/ver. 5.2

Groundwater Remediation Program

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Inorganic

SDG Number: WSCF20091286
 Matrix: SOLID
 Test: Ammonia (N) by IC

Sample Date: 12/09/09
 Receive Date: 12/09/09

| QC Type | Analyte | CAS # | QC Found | QC Yield | Units | Lower Limit | Upper Limit | RPD(%) | RPD Limit | RQ | Analysis Date |
|--|-------------------|-----------|----------|----------|---------|-------------|-------------|--------|-----------|----|---------------|
| Lab ID: W09GR01155 | | | | | | | | | | | |
| BATCH QC ASSOCIATED WITH SAMPLE | | | | | | | | | | | |
| DUP | Ammonia (N) by IC | 7664-41-7 | <8.6 | | RPD | | | n/a | 20.000 | U | 12/18/09 |
| MS | Ammonia (N) by IC | 7664-41-7 | 0.331496 | 66.299 | % Recov | 80.000 | 120.000 | | | | 12/18/09 |
| MSD | Ammonia (N) by IC | 7664-41-7 | 0.330965 | 66.193 | % Recov | 80.000 | 120.000 | | | | 12/18/09 |
| SPK-RPD | Ammonia (N) by IC | 7664-41-7 | 66.193 | | RPD | | | 0.160 | 20.000 | | 12/18/09 |
| BATCH QC | | | | | | | | | | | |
| BLANK | Ammonia (N) by IC | 7664-41-7 | <0.172 | n/a | mg/L | 0.000 | 0.002 | | | U | 12/18/09 |
| BLANK | Ammonia (N) by IC | 7664-41-7 | <0.172 | n/a | mg/L | 0.000 | 0.002 | | | U | 12/18/09 |
| LCS | Ammonia (N) by IC | 7664-41-7 | 91.2066 | 91.207 | % Recov | 80.000 | 120.000 | | | | 12/18/09 |

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Inorganic

SDG Number: WSCF20091286
 Matrix: SOLID
 Test: Anions by Ion Chromatography

Sample Date: 12/09/09
 Receive Date: 12/09/09

| QC Type | Analyte | CAS # | QC Found | QC Yield | Units | Lower Limit | Upper Limit | RPD(%) | RPD Limit | RQ | Analysis Date |
|---|---------------------|------------|----------|----------|---------|-------------|-------------|--------|-----------|----|---------------|
| Lab ID: W09GR01155 BATCH QC ASSOCIATED WITH SAMPLE | | | | | | | | | | | |
| DUP | Chloride | 16887-00-6 | 5.3394 | | RPD | | | 20.753 | 20.000 * | | 12/17/09 |
| DUP | Fluoride | 16984-48-8 | < 1.5 | | RPD | | | n/a | 20.000 | U | 12/17/09 |
| DUP | Nitrogen in Nitrite | NO2-N | < 0.9 | | RPD | | | n/a | 20.000 | U | 12/17/09 |
| DUP | Nitrogen in Nitrate | NO3-N | < 1.55 | | RPD | | | n/a | 20.000 | U | 12/17/09 |
| DUP | Phosphate (P) by IC | PO4-P | < 3.5 | | RPD | | | n/a | 20.000 | U | 12/17/09 |
| DUP | Sulfate | 14808-79-8 | 8.1821 | | RPD | | | 20.011 | 20.000 * | | 12/17/09 |
| MS | Chloride | 16887-00-6 | 0.883635 | 88.808 | % Recov | 80.000 | 120.000 | | | | 12/17/09 |
| MS | Fluoride | 16984-48-8 | 0.4502 | 88.275 | % Recov | 80.000 | 120.000 | | | | 12/17/09 |
| MS | Nitrogen in Nitrite | NO2-N | 0.4851 | 97.606 | % Recov | 80.000 | 120.000 | | | | 12/17/09 |
| MS | Nitrogen in Nitrate | NO3-N | 0.449 | 99.778 | % Recov | 80.000 | 120.000 | | | | 12/17/09 |
| MS | Phosphate (P) by IC | PO4-P | 0.816406 | 84.427 | % Recov | 80.000 | 120.000 | | | | 12/17/09 |
| MS | Sulfate | 14808-79-8 | 1.816302 | 90.815 | % Recov | 80.000 | 120.000 | | | | 12/17/09 |
| MSD | Chloride | 16887-00-6 | 0.851924 | 85.621 | % Recov | 80.000 | 120.000 | | | | 12/17/09 |
| MSD | Fluoride | 16984-48-8 | 0.439056 | 86.089 | % Recov | 80.000 | 120.000 | | | | 12/17/09 |
| MSD | Nitrogen in Nitrite | NO2-N | 0.477956 | 96.168 | % Recov | 80.000 | 120.000 | | | | 12/17/09 |
| MSD | Nitrogen in Nitrate | NO3-N | 0.445719 | 99.049 | % Recov | 80.000 | 120.000 | | | | 12/17/09 |
| MSD | Phosphate (P) by IC | PO4-P | 0.828536 | 85.681 | % Recov | 80.000 | 120.000 | | | | 12/17/09 |
| MSD | Sulfate | 14808-79-8 | 1.81969 | 90.984 | % Recov | 80.000 | 120.000 | | | | 12/17/09 |
| SPK-RPD | Chloride | 16887-00-6 | 85.621 | | RPD | | | 3.654 | 20.000 | | 12/17/09 |
| SPK-RPD | Fluoride | 16984-48-8 | 86.089 | | RPD | | | 2.507 | 20.000 | | 12/17/09 |
| SPK-RPD | Nitrogen in Nitrite | NO2-N | 96.168 | | RPD | | | 1.484 | 20.000 | | 12/17/09 |
| SPK-RPD | Nitrogen in Nitrate | NO3-N | 99.049 | | RPD | | | 0.733 | 20.000 | | 12/17/09 |
| SPK-RPD | Phosphate (P) by IC | PO4-P | 85.681 | | RPD | | | 1.474 | 20.000 | | 12/17/09 |
| SPK-RPD | Sulfate | 14808-79-8 | 90.984 | | RPD | | | 0.186 | 20.000 | | 12/17/09 |

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Inorganic

SDG Number: WSCF20091286
 Matrix: SOLID
 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 | <4.3e-2 | n/a | mg/L | 0.000 | 0.030 | | | U | 12/17/09 |
| BLANK | Chloride | 16887-00-6 | <4.3e-2 | n/a | mg/L | 0.000 | 0.030 | | | U | 12/17/09 |
| BLANK | Fluoride | 16984-48-8 | <3e-2 | n/a | mg/L | 0.000 | 0.030 | | | U | 12/17/09 |
| BLANK | Fluoride | 16984-48-8 | <3e-2 | n/a | mg/L | 0.000 | 0.030 | | | U | 12/17/09 |
| BLANK | Nitrogen in Nitrite | NO2-N | <1.8e-2 | n/a | mg/L | 0.000 | 0.020 | | | U | 12/17/09 |
| BLANK | Nitrogen in Nitrite | NO2-N | <1.8e-2 | n/a | mg/L | 0.000 | 0.020 | | | U | 12/17/09 |
| BLANK | Nitrogen in Nitrate | NO3-N | <3.1e-2 | n/a | mg/L | 0.000 | 0.040 | | | U | 12/17/09 |
| BLANK | Nitrogen in Nitrate | NO3-N | <3.1e-2 | n/a | mg/L | 0.000 | 0.040 | | | U | 12/17/09 |
| BLANK | Phosphate (P) by IC | PO4-P | <7e-2 | n/a | mg/L | 0.000 | 0.200 | | | U | 12/17/09 |
| BLANK | Phosphate (P) by IC | PO4-P | <7e-2 | n/a | mg/L | 0.000 | 0.200 | | | U | 12/17/09 |
| BLANK | Sulfate | 14808-79-8 | <6.6e-2 | n/a | mg/L | 0.000 | 0.200 | | | U | 12/17/09 |
| BLANK | Sulfate | 14808-79-8 | <6.6e-2 | n/a | mg/L | 0.000 | 0.200 | | | U | 12/17/09 |
| LCS | Chloride | 16887-00-6 | 182.5861 | 91.752 | % Recov | 80.000 | 120.000 | | | | 12/17/09 |
| LCS | Fluoride | 16984-48-8 | 94.0898 | 92.245 | % Recov | 80.000 | 120.000 | | | | 12/17/09 |
| LCS | Nitrogen in Nitrite | NO2-N | 96.7905 | 97.375 | % Recov | 80.000 | 120.000 | | | | 12/17/09 |
| LCS | Nitrogen in Nitrate | NO3-N | 89.2389 | 99.265 | % Recov | 80.000 | 120.000 | | | | 12/17/09 |
| LCS | Phosphate (P) by IC | PO4-P | 181.9395 | 94.074 | % Recov | 80.000 | 120.000 | | | | 12/17/09 |
| LCS | Sulfate | 14808-79-8 | 369.8274 | 92.457 | % Recov | 80.000 | 120.000 | | | | 12/17/09 |

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Inorganic

SDG Number: WSCF20091286
 Matrix: SOLID
 Test: Cyanide by Midi/Spectrophotom

Sample Date: 12/09/09
 Receive Date: 12/09/09

| QC Type | Analyte | CAS # | QC Found | QC Yield | Units | Lower Limit | Upper Limit | RPD(%) | RPD Limit | RQ | Analysis Date |
|--|-------------------------------|---------|----------|----------|---------|-------------|-------------|--------|-----------|----|---------------|
| Lab ID: W09GR01155 | | | | | | | | | | | |
| BATCH QC ASSOCIATED WITH SAMPLE | | | | | | | | | | | |
| MS | Cyanide by Midi/Spectrophotom | 57-12-5 | 1.99 | 99.500 | % Recov | 75.000 | 125.000 | | | | 12/17/09 |
| MSD | Cyanide by Midi/Spectrophotom | 57-12-5 | 1.82 | 91.000 | % Recov | 75.000 | 125.000 | | | | 12/17/09 |
| SPK-RPD | Cyanide by Midi/Spectrophotom | 57-12-5 | 91.000 | | RPD | | | 8.924 | 20.000 | | 12/17/09 |
| BATCH QC | | | | | | | | | | | |
| BLANK | Cyanide by Midi/Spectrophotom | 57-12-5 | < .2 | n/a | ug/L | -4.000 | 4.000 | | | U | 12/17/09 |
| LCS | Cyanide by Midi/Spectrophotom | 57-12-5 | 62.1 | 113.528 | % Recov | 85.000 | 115.000 | | | | 12/17/09 |

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Inorganic

SDG Number: WSCF20091286
 Matrix: SOLID
 Test: Hexavalent chromium

Sample Date: 12/09/09
 Receive Date: 12/09/09

| QC Type | Analyte | CAS # | QC Found | QC Yield | Units | Lower Limit | Upper Limit | RPD(%) | RPD Limit | RQ | Analysis Date |
|--|---------------------|------------|----------|----------|---------|-------------|-------------|--------|-----------|----|---------------|
| Lab ID: W09GR01161 | | | | | | | | | | | |
| BATCH QC ASSOCIATED WITH SAMPLE | | | | | | | | | | | |
| DUP | Hexavalent chromium | 18540-29-9 | < 0.10 | | RPD | | | n/a | 15.000 | U | 12/16/09 |
| MS | Hexavalent chromium | 18540-29-9 | 17.5 | 88.832 | % Recov | 75.000 | 125.000 | | | | 12/16/09 |
| MS | Hexavalent chromium | 18540-29-9 | 324 | 77.143 | % Recov | 75.000 | 125.000 | | | | 12/16/09 |
| MSD | Hexavalent chromium | 18540-29-9 | 17.9 | 90.404 | % Recov | 75.000 | 125.000 | | | | 12/16/09 |
| SPK-POST | Hexavalent chromium | 18540-29-9 | 0.0516 | 96.629 | % Recov | 75.000 | 125.000 | | | | 12/16/09 |
| SPK-RPD | Hexavalent chromium | 18540-29-9 | 90.404 | | RPD | | | 1.754 | 20.000 | | 12/16/09 |
| BATCH QC | | | | | | | | | | | |
| BLNK-PREP | Hexavalent chromium | 18540-29-9 | < 0.10 | n/a | ug/g | 0.000 | 2.000 | | | U | 12/16/09 |
| LCS | Hexavalent chromium | 18540-29-9 | 17.4 | 90.625 | % Recov | 80.000 | 120.000 | | | | 12/16/09 |

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Inorganic

SDG Number: WSCF20091286
 Matrix: SOLID
 Test: ICP Metals Analysis, Grd H2O P

Sample Date: 12/09/09
 Receive Date: 12/09/09

| QC Type | Analyte | CAS # | QC Found | QC Yield | Units | Lower Limit | Upper Limit | RPD(%) | RPD Limit | RQ | Analysis Date |
|--|---------|-----------|----------|----------|---------|-------------|-------------|----------|-----------|----|---------------|
| Lab ID: W09GR01155 | | | | | | | | | | | |
| BATCH QC ASSOCIATED WITH SAMPLE | | | | | | | | | | | |
| MS | Boron | 7440-42-8 | 194.6 | 96.337 | % Recov | 75.000 | 125.000 | | | | 12/30/09 |
| MS | Bismuth | 7440-69-9 | 199.5 | 98.762 | % Recov | 75.000 | 125.000 | | | | 12/30/09 |
| MS | Iron | 7439-89-6 | 1020 | 504.950 | % Recov | 75.000 | 125.000 | | | | 12/30/09 |
| MS | Lithium | 7439-93-2 | 100.88 | 99.881 | % Recov | 70.000 | 130.000 | | | | 12/30/09 |
| MSD | Boron | 7440-42-8 | 192.8 | 96.400 | % Recov | 75.000 | 125.000 | | | | 12/30/09 |
| MSD | Bismuth | 7440-69-9 | 200.8 | 100.400 | % Recov | 75.000 | 125.000 | | | | 12/30/09 |
| MSD | Iron | 7439-89-6 | -790 | -395.000 | % Recov | 75.000 | 125.000 | | | | 12/30/09 |
| MSD | Lithium | 7439-93-2 | 100.68 | 100.680 | % Recov | 75.000 | 125.000 | | | | 12/30/09 |
| SPK-RPD | Boron | 7440-42-8 | 96.400 | | RPD | | | 0.065 | 20.000 | | 12/30/09 |
| SPK-RPD | Bismuth | 7440-69-9 | 100.400 | | RPD | | | 1.645 | 20.000 | | 12/30/09 |
| SPK-RPD | Iron | 7439-89-6 | -395.000 | | RPD | | | 1637.017 | 20.000 | | 12/30/09 |
| SPK-RPD | Lithium | 7439-93-2 | 100.680 | | RPD | | | 0.797 | 20.000 | | 12/30/09 |
| Lab ID: W09GR01248 | | | | | | | | | | | |
| BATCH QC ASSOCIATED WITH SAMPLE | | | | | | | | | | | |
| MS | Boron | 7440-42-8 | 194.87 | 97.435 | % Recov | 75.000 | 125.000 | | | | 12/30/09 |
| MS | Bismuth | 7440-69-9 | 199.3 | 99.650 | % Recov | 75.000 | 125.000 | | | | 12/30/09 |
| MS | Iron | 7439-89-6 | 990 | 495.000 | % Recov | 75.000 | 125.000 | | | | 12/30/09 |
| MS | Lithium | 7439-93-2 | 101.447 | 101.447 | % Recov | 70.000 | 130.000 | | | | 12/30/09 |
| MSD | Boron | 7440-42-8 | 193.57 | 96.303 | % Recov | 75.000 | 125.000 | | | | 12/30/09 |
| MSD | Bismuth | 7440-69-9 | 200.1 | 99.552 | % Recov | 75.000 | 125.000 | | | | 12/30/09 |
| MSD | Iron | 7439-89-6 | 1200 | 597.015 | % Recov | 75.000 | 125.000 | | | | 12/30/09 |
| MSD | Lithium | 7439-93-2 | 101.947 | 101.947 | % Recov | 75.000 | 125.000 | | | | 12/30/09 |
| SPK-RPD | Boron | 7440-42-8 | 96.303 | | RPD | | | 1.169 | 20.000 | | 12/30/09 |
| SPK-RPD | Bismuth | 7440-69-9 | 99.552 | | RPD | | | 0.098 | 20.000 | | 12/30/09 |
| SPK-RPD | Iron | 7439-89-6 | 597.015 | | RPD | | | 18.684 | 20.000 | | 12/30/09 |

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Inorganic

SDG Number: WSCF20091286
 Matrix: SOLID
 Test: ICP Metals Analysis, Grd H2O P

Sample Date: 12/28/09
 Receive Date: 12/28/09

| QC Type | Analyte | CAS # | QC Found | QC Yield | Units | Lower Limit | Upper Limit | RPD(%) | RPD Limit | RQ | Analysis Date |
|-----------------|---------|-----------|----------|----------|---------|-------------|-------------|--------|-----------|----|---------------|
| SPK-RPD | Lithium | 7439-93-2 | 101.947 | | RPD | | | 0.492 | 20.000 | | 12/30/09 |
| BATCH QC | | | | | | | | | | | |
| BLANK | Boron | 7440-42-8 | <1.9e-2 | n/a | ug/mL | | | | | U | 12/30/09 |
| BLANK | Bismuth | 7440-69-9 | <2.3e-2 | n/a | ug/mL | | | | | U | 12/30/09 |
| BLANK | Iron | 7439-89-6 | 6.5e-2 | 0.065 | ug/mL | | | | | | 12/30/09 |
| BLANK | Lithium | 7439-93-2 | <4e-3 | n/a | ug/mL | | | | | U | 12/30/09 |
| LCS | Boron | 7440-42-8 | 135 | 117.391 | % Recov | 45.000 | 156.000 | | | | 12/30/09 |
| LCS | Bismuth | 7440-69-9 | 102 | 102.513 | % Recov | 80.000 | 120.000 | | | | 12/30/09 |
| LCS | Iron | 7439-89-6 | 15634 | 116.672 | % Recov | 47.000 | 152.000 | | | | 12/30/09 |
| LCS | Lithium | 7439-93-2 | 114 | 114.573 | % Recov | 80.000 | 120.000 | | | | 12/30/09 |

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Inorganic

SDG Number: WSCF20091286
 Matrix: SOLID
 Test: ICP-200.8 MS All possible meta

Sample Date: 12/04/09
 Receive Date: 12/04/09

| QC Type | Analyte | CAS # | QC Found | QC Yield | Units | Lower Limit | Upper Limit | RPD(%) | RPD Limit | RQ | Analysis Date |
|---|----------|-----------|----------|----------|---------|-------------|-------------|----------|-----------|----|---------------|
| Lab ID: W09GR01124 BATCH QC ASSOCIATED WITH SAMPLE | | | | | | | | | | | |
| MS | Silver | 7440-22-4 | 97.37 | 97.370 | % Recov | 70.000 | 130.000 | | | | 12/13/09 |
| MS | Aluminum | 7429-90-5 | -510 | -510.000 | % Recov | 70.000 | 130.000 | | | | 12/13/09 |
| MS | Arsenic | 7440-38-2 | 103.23 | 103.230 | % Recov | 70.000 | 130.000 | | | | 12/13/09 |
| MS | Cadmium | 7440-43-9 | 100.4 | 100.400 | % Recov | 70.000 | 130.000 | | | | 12/13/09 |
| MS | Chromium | 7440-47-3 | 102.31 | 102.310 | % Recov | 70.000 | 130.000 | | | | 12/13/09 |
| MS | Mercury | 7439-97-6 | 1.87 | 93.500 | % Recov | 70.000 | 130.000 | | | | 12/13/09 |
| MS | Nickel | 7440-02-0 | 98.65 | 98.650 | % Recov | 70.000 | 130.000 | | | | 12/13/09 |
| MS | Antimony | 7440-36-0 | 102.87 | 102.870 | % Recov | 70.000 | 130.000 | | | | 12/13/09 |
| MS | Thallium | 7440-28-0 | 103.7 | 103.700 | % Recov | 70.000 | 130.000 | | | | 12/13/09 |
| MS | Uranium | 7440-61-1 | 103.82 | 103.820 | % Recov | 70.000 | 130.000 | | | | 12/13/09 |
| MSD | Silver | 7440-22-4 | 95.62 | 95.620 | % Recov | 70.000 | 130.000 | | | | 12/13/09 |
| MSD | Aluminum | 7429-90-5 | 143 | 143.000 | % Recov | 70.000 | 130.000 | | | | 12/13/09 |
| MSD | Arsenic | 7440-38-2 | 102.73 | 102.730 | % Recov | 70.000 | 130.000 | | | | 12/13/09 |
| MSD | Cadmium | 7440-43-9 | 98.8 | 98.800 | % Recov | 70.000 | 130.000 | | | | 12/13/09 |
| MSD | Chromium | 7440-47-3 | 94.51 | 94.510 | % Recov | 70.000 | 130.000 | | | | 12/13/09 |
| MSD | Mercury | 7439-97-6 | 1.81 | 90.500 | % Recov | 70.000 | 130.000 | | | | 12/13/09 |
| MSD | Nickel | 7440-02-0 | 92.41 | 92.410 | % Recov | 70.000 | 130.000 | | | | 12/13/09 |
| MSD | Antimony | 7440-36-0 | 100.27 | 100.270 | % Recov | 70.000 | 130.000 | | | | 12/13/09 |
| MSD | Thallium | 7440-28-0 | 101.9 | 101.900 | % Recov | 70.000 | 130.000 | | | | 12/13/09 |
| MSD | Uranium | 7440-61-1 | 100.72 | 100.720 | % Recov | 70.000 | 130.000 | | | | 12/13/09 |
| SPK-RPD | Silver | 7440-22-4 | 95.620 | | RPD | | | 1.814 | 20.000 | | 12/13/09 |
| SPK-RPD | Aluminum | 7429-90-5 | 143.000 | | RPD | | | -355.858 | 20.000 | | 12/13/09 |
| SPK-RPD | Arsenic | 7440-38-2 | 102.730 | | RPD | | | 0.486 | 20.000 | | 12/13/09 |
| SPK-RPD | Cadmium | 7440-43-9 | 98.800 | | RPD | | | 1.606 | 20.000 | | 12/13/09 |
| SPK-RPD | Chromium | 7440-47-3 | 94.510 | | RPD | | | 7.926 | 20.000 | | 12/13/09 |
| SPK-RPD | Mercury | 7439-97-6 | 90.500 | | RPD | | | 3.261 | 20.000 | | 12/13/09 |

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Inorganic

SDG Number: WSCF20091286
 Matrix: SOLID
 Test: ICP-200.8 MS All possible meta

Sample Date: 12/04/09
 Receive Date: 12/04/09

| QC Type | Analyte | CAS # | QC Found | QC Yield | Units | Lower Limit | Upper Limit | RPD(%) | RPD Limit | RQ | Analysis Date |
|-----------------|-----------|-----------|----------|----------|---------|-------------|-------------|--------|-----------|----|---------------|
| SPK-RPD | Nickel | 7440-02-0 | 92.410 | | RPD | | | 6.532 | 20.000 | | 12/13/09 |
| SPK-RPD | Antimony | 7440-36-0 | 100.270 | | RPD | | | 2.560 | 20.000 | | 12/13/09 |
| SPK-RPD | Thallium | 7440-28-0 | 101.900 | | RPD | | | 1.751 | 20.000 | | 12/13/09 |
| SPK-RPD | Uranium | 7440-61-1 | 100.720 | | RPD | | | 3.031 | 20.000 | | 12/13/09 |
| BATCH QC | | | | | | | | | | | |
| BLANK | Silver | 7440-22-4 | <0.1 | n/a | ug/L | | | | | U | 12/13/09 |
| BLANK | Aluminum | 7429-90-5 | <5 | n/a | ug/L | | | | | U | 12/13/09 |
| BLANK | Arsenic | 7440-38-2 | <0.4 | n/a | ug/L | | | | | U | 12/13/09 |
| BLANK | Barium | 7440-39-3 | <0.2 | n/a | ug/L | | | | | U | 12/13/09 |
| BLANK | Beryllium | 7440-41-7 | <5e-2 | n/a | ug/L | | | | | U | 12/13/09 |
| BLANK | Cadmium | 7440-43-9 | <0.1 | n/a | ug/L | | | | | U | 12/13/09 |
| BLANK | Cobalt | 7440-48-4 | <5e-2 | n/a | ug/L | | | | | U | 12/13/09 |
| BLANK | Chromium | 7440-47-3 | <0.5 | n/a | ug/L | | | | | U | 12/13/09 |
| BLANK | Copper | 7440-50-8 | 0.16 | 0.160 | ug/L | | | | | | 12/13/09 |
| BLANK | Mercury | 7439-97-6 | <5e-2 | n/a | ug/L | | | | | U | 12/13/09 |
| BLANK | Manganese | 7439-96-5 | <0.1 | n/a | ug/L | | | | | U | 12/13/09 |
| BLANK | Nickel | 7440-02-0 | <0.2 | n/a | ug/L | | | | | U | 12/13/09 |
| BLANK | Lead | 7439-92-1 | <0.1 | n/a | ug/L | | | | | U | 12/13/09 |
| BLANK | Antimony | 7440-36-0 | <0.3 | n/a | ug/L | | | | | U | 12/13/09 |
| BLANK | Selenium | 7782-49-2 | 0.43 | 0.430 | ug/L | | | | | | 12/13/09 |
| BLANK | Strontium | 7440-24-6 | <0.1 | n/a | ug/L | | | | | U | 12/13/09 |
| BLANK | Thorium | 7440-29-1 | <0.1 | n/a | ug/L | | | | | U | 12/13/09 |
| BLANK | Thallium | 7440-28-0 | <0.1 | n/a | ug/L | | | | | U | 12/13/09 |
| BLANK | Uranium | 7440-61-1 | <5e-2 | n/a | ug/L | | | | | U | 12/13/09 |
| BLANK | Vanadium | 7440-62-2 | <0.2 | n/a | ug/L | | | | | U | 12/13/09 |
| BLANK | Zinc | 7440-66-6 | <0.8 | n/a | ug/L | | | | | U | 12/13/09 |
| LCS | Silver | 7440-22-4 | 105.7 | 104.653 | % Recov | 81.000 | 128.000 | | | | 12/13/09 |
| LCS | Aluminum | 7429-90-5 | 7644 | 92.542 | % Recov | 47.000 | 122.000 | | | | 12/13/09 |
| LCS | Arsenic | 7440-38-2 | 145.5 | 110.227 | % Recov | 78.000 | 124.000 | | | | 12/13/09 |

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Inorganic

SDG Number: WSCF20091286
 Matrix: SOLID
 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 | Barium | 7440-39-3 | 336.2 | 105.392 | % Recov | 77.000 | 119.000 | | | | 12/13/09 |
| LCS | Beryllium | 7440-41-7 | 89.9 | 100.447 | % Recov | 78.000 | 118.000 | | | | 12/13/09 |
| LCS | Cadmium | 7440-43-9 | 69.46 | 104.451 | % Recov | 75.000 | 127.000 | | | | 12/13/09 |
| LCS | Cobalt | 7440-48-4 | 72.88 | 99.699 | % Recov | 75.000 | 124.000 | | | | 12/13/09 |
| LCS | Chromium | 7440-47-3 | 69.96 | 95.967 | % Recov | 67.000 | 119.000 | | | | 12/13/09 |
| LCS | Copper | 7440-50-8 | 66.59 | 97.212 | % Recov | 68.000 | 122.000 | | | | 12/13/09 |
| LCS | Mercury | 7439-97-6 | 8.15 | 98.430 | % Recov | 72.000 | 117.000 | | | | 12/13/09 |
| LCS | Manganese | 7439-96-5 | 475.5 | 104.967 | % Recov | 72.000 | 123.000 | | | | 12/13/09 |
| LCS | Nickel | 7440-02-0 | 55.6 | 100.000 | % Recov | 73.000 | 123.000 | | | | 12/13/09 |
| LCS | Lead | 7439-92-1 | 139.2 | 107.077 | % Recov | 77.000 | 125.000 | | | | 12/13/09 |
| LCS | Antimony | 7440-36-0 | 142.7 | 158.204 | % Recov | 65.000 | 203.000 | | | | 12/13/09 |
| LCS | Selenium | 7782-49-2 | 199.8 | 124.099 | % Recov | 82.000 | 129.000 | | | | 12/13/09 |
| LCS | Strontium | 7440-24-6 | 58.26 | 107.096 | % Recov | 77.000 | 118.000 | | | | 12/13/09 |
| LCS | Thorium | 7440-29-1 | 388.6 | 97.150 | % Recov | 79.000 | 108.000 | | | | 12/13/09 |
| LCS | Thallium | 7440-28-0 | 137.3 | 103.233 | % Recov | 55.000 | 130.000 | | | | 12/13/09 |
| LCS | Uranium | 7440-61-1 | 404.2 | 101.050 | % Recov | 84.000 | 110.000 | | | | 12/13/09 |
| LCS | Vanadium | 7440-62-2 | 83.09 | 100.108 | % Recov | 65.000 | 122.000 | | | | 12/13/09 |
| LCS | Zinc | 7440-66-6 | 177.8 | 100.452 | % Recov | 75.000 | 130.000 | | | | 12/13/09 |

WSCF ANALYTICAL COMMENT REPORT

Attention: Steve Trent
Project Number F10-011

Group #: WSCF20091286
Department: Inorganic

| Sample # | Client ID | Lab Area | Test | Comment |
|----------|-----------|----------|------|---|
| | | VALGROUP | | <p>ICP-MS solid: Aluminum sample result more than 4X the spike amount. Spike information not valid.</p> <p>Copper and Selenium Prep blank above the MDL. "C" flag where appropriate.</p> <p>IC Solid: As the analyte concentrations for W09GR01155 are less than 10X the MDL, the relative percent difference (RPD) limits do not apply. SDB 12/23/09</p> <p>IC Cation - MS/MSD recoveries out of limits for ammonia. Data N-flagged. DTS</p> <p>Organics: Results are moisture corrected and reported on a dry weight basis. cgc</p> <p>ICP-AES: High iron preparation blank result; "C" flag if applicable.</p> <p>Soil LCS has no certified lithium and bismuth results. The missing elements were spiked into the LCS, digested, analyzed, and reported.</p> <p>Iron sample result exceeds spiking level by a factor of 4 so spike recoveries are not valid.</p> <p>Sample results less than 5 times the MDL; "B" flag.</p> <p>Estimated boron result due to iron interference; "E" flag.</p> |

Lab Areas: VALGROUP - Group Validation
LOGSAMP - Login for Sample

VALTEST - Test Validation
LOGTEST - Login for Tests

TESTDATA - Test Data Entry

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REVISION 1

WSCF

ANALYTICAL RESULTS REPORT

Attention: Steve Trent
SAF Number: F10-011
Sample # W09GR01155
Client ID: B22RL1

GPP
WSCF

Matrix: SOIL

Group #: WSCF20091286
Department: Organic
Sampled: 12/09/09
Received: 12/09/09

| Test Performed | CAS # | Method | RQ | Result | Unit | TP Err | Unit | DF | MDL | PQL | Analysis Date |
|---|-------------|------------|----|------------|-------|--------|------|------|---------|-----|---------------|
| Alcohols, Glycols - 8015 Prep | | | | | | | | | | | |
| Alcohols, Glycols - 8015 | | | | | | | | | | | |
| Diethyl ether | 60-29-7 | Organics | U | < 5.00e+03 | ug/kg | | | 1.00 | 5.0e+03 | | 12/21/09 |
| Ethylene glycol | 107-21-1 | Organics | U | < 5.00e+03 | ug/kg | | | 1.00 | 5.0e+03 | | 12/21/09 |
| NWTPH-D TPH Diesel Range (Wa) Prep | | | | | | | | | | | |
| NWTPH-D TPH Diesel Range (Wa) | | | | | | | | | | | |
| Total Pet. Hydrocarbons Diesel | TPHDIESEL | LA-523-493 | U | < 5.20 | mg/kg | | | 1.00 | 5.2 | | 12/22/09 |
| Kerosene | TPHKEROSENE | LA-523-493 | U | < 5.20 | mg/kg | | | 1.00 | 5.2 | | 12/22/09 |
| PCBs complete list Prep | | | | | | | | | | | |
| PCBs complete list | | | | | | | | | | | |
| Aroclor-1016 | 12674-11-2 | LA-523-427 | U | < 10.0 | ug/kg | | | 1.00 | 10 | | 01/04/10 |
| Aroclor-1221 | 11104-28-2 | LA-523-427 | U | < 21.0 | ug/kg | | | 1.00 | 21 | | 01/04/10 |
| Aroclor-1232 | 11141-18-5 | LA-523-427 | U | < 10.0 | ug/kg | | | 1.00 | 10 | | 01/04/10 |
| Aroclor-1242 | 53469-21-9 | LA-523-427 | U | < 10.0 | ug/kg | | | 1.00 | 10 | | 01/04/10 |
| Aroclor-1248 | 12672-29-6 | LA-523-427 | U | < 10.0 | ug/kg | | | 1.00 | 10 | | 01/04/10 |
| Aroclor-1254 | 11097-69-1 | LA-523-427 | U | < 10.0 | ug/kg | | | 1.00 | 10 | | 01/04/10 |
| Aroclor-1260 | 11096-82-5 | LA-523-427 | U | < 10.0 | ug/kg | | | 1.00 | 10 | | 01/04/10 |
| Aroclor-1262 | 37324-23-5 | LA-523-427 | U | < 10.0 | ug/kg | | | 1.00 | 10 | | 01/04/10 |
| Aroclor-1268 | 11100-14-4 | LA-523-427 | U | < 10.0 | ug/kg | | | 1.00 | 10 | | 01/04/10 |
| SW-846 8270C Semi-Vols Prep | | | | | | | | | | | |
| SW-846 8270C Semi-Vols | | | | | | | | | | | |
| 4-Nitrophenol | 100-02-7 | LA-523-456 | U | < 350 | ug/kg | | | 1.00 | 3.5e+02 | | 12/22/09 |
| 1,4-Dichlorobenzene | 106-46-7 | LA-523-456 | U | < 270 | ug/kg | | | 1.00 | 2.7e+02 | | 12/22/09 |
| Phenol | 108-95-2 | LA-523-456 | U | < 160 | ug/kg | | | 1.00 | 1.6e+02 | | 12/22/09 |
| 1,2,4-Trichlorobenzene | 120-82-1 | LA-523-456 | U | < 160 | ug/kg | | | 1.00 | 1.6e+02 | | 12/22/09 |

MDL=Minimum Detection Limit

RQ=Result Qualifier

TP Err=Total Propagated Error

DF=Dilution Factor

* - Indicates results that have NOT been validated;

B - The analyte < the RDL but > = the IDL/MDL (inorg)

D - Analyte was identified at a secondary dilution factor

E - Analyte is an estimate, has potentially larger errors (inorg)

U - Analyzed for but not detected above limiting criteria (inorg)

+ - Indicates more than six qualifier symbols

C - The Analyte was found in the Associated Blank. (inorg)

D - Analyte was identified at a secondary dilution factor (inorg)

N - Spike sample recovery is outside control limits. (inorg)

U - Analyzed for but not detected above limiting criteria.

Report WGPP/ver. 5.2

Groundwater Remediation Program

WSCF

ANALYTICAL RESULTS REPORT

Attention: Steve Trent
SAF Number: F10-011
Sample # W09GR01155
Client ID: B22RL1

GPP
WSCF

Matrix: SOIL

Group #: WSCF20091286
Department: Organic
Sampled: 12/09/09
Received: 12/09/09

| Test Performed | CAS # | Method | RQ | Result | Unit | TP Err | Unit | DF | MDL | PQL | Analysis Date |
|--------------------------------|----------|------------|----|--------|-------|--------|------|------|---------|-----|---------------|
| 2,4-Dinitrotoluene | 121-14-2 | LA-523-456 | U | < 160 | ug/kg | | | 1.00 | 1.6e+02 | | 12/22/09 |
| Pyrene | 129-00-0 | LA-523-456 | U | < 160 | ug/kg | | | 1.00 | 1.6e+02 | | 12/22/09 |
| 4-Chloro-3-methylphenol | 59-50-7 | LA-523-456 | U | < 160 | ug/kg | | | 1.00 | 1.6e+02 | | 12/22/09 |
| N-Nitrosodi-n-dipropylamine | 621-64-7 | LA-523-456 | U | < 160 | ug/kg | | | 1.00 | 1.6e+02 | | 12/22/09 |
| Acenaphthene | 83-32-9 | LA-523-456 | U | < 160 | ug/kg | | | 1.00 | 1.6e+02 | | 12/22/09 |
| Pentachlorophenol | 87-86-5 | LA-523-456 | U | < 420 | ug/kg | | | 1.00 | 4.2e+02 | | 12/22/09 |
| 2-Chlorophenol | 95-57-8 | LA-523-456 | U | < 160 | ug/kg | | | 1.00 | 1.6e+02 | | 12/22/09 |
| 4-Nitroaniline | 100-01-6 | LA-523-456 | U | < 290 | ug/kg | | | 1.00 | 2.9e+02 | | 12/22/09 |
| 4-Bromophenylphenyl ether | 101-55-3 | LA-523-456 | U | < 160 | ug/kg | | | 1.00 | 1.6e+02 | | 12/22/09 |
| 2,4-Dimethylphenol | 105-67-9 | LA-523-456 | U | < 240 | ug/kg | | | 1.00 | 2.4e+02 | | 12/22/09 |
| 4-Chloroaniline | 106-47-8 | LA-523-456 | U | < 300 | ug/kg | | | 1.00 | 3.0e+02 | | 12/22/09 |
| Bis(2-chloro-1-methylethyl)eth | 108-60-1 | LA-523-456 | U | < 160 | ug/kg | | | 1.00 | 1.6e+02 | | 12/22/09 |
| Bis(2-chloroethyl) ether | 111-44-4 | LA-523-456 | U | < 160 | ug/kg | | | 1.00 | 1.6e+02 | | 12/22/09 |
| Bis(2-Chloroethoxy)methane | 111-91-1 | LA-523-456 | U | < 160 | ug/kg | | | 1.00 | 1.6e+02 | | 12/22/09 |
| Bis(2-ethylhexyl) phthalate | 117-81-7 | LA-523-456 | U | < 420 | ug/kg | | | 1.00 | 4.2e+02 | | 12/22/09 |
| Di-n-octylphthalate | 117-84-0 | LA-523-456 | U | < 420 | ug/kg | | | 1.00 | 4.2e+02 | | 12/22/09 |
| Hexachlorobenzene | 118-74-1 | LA-523-456 | U | < 160 | ug/kg | | | 1.00 | 1.6e+02 | | 12/22/09 |
| Anthracene | 120-12-7 | LA-523-456 | U | < 160 | ug/kg | | | 1.00 | 1.6e+02 | | 12/22/09 |
| 2,4-Dichlorophenol | 120-83-2 | LA-523-456 | U | < 180 | ug/kg | | | 1.00 | 1.8e+02 | | 12/22/09 |
| Dimethyl phthalate | 131-11-3 | LA-523-456 | U | < 160 | ug/kg | | | 1.00 | 1.6e+02 | | 12/22/09 |
| Dibenzofuran | 132-64-9 | LA-523-456 | U | < 160 | ug/kg | | | 1.00 | 1.6e+02 | | 12/22/09 |
| Benzo(ghi)perylene | 191-24-2 | LA-523-456 | U | < 340 | ug/kg | | | 1.00 | 3.4e+02 | | 12/22/09 |
| Indeno(1,2,3-cd)pyrene | 193-39-5 | LA-523-456 | U | < 350 | ug/kg | | | 1.00 | 3.5e+02 | | 12/22/09 |
| Benzo(b)fluoranthene | 205-99-2 | LA-523-456 | U | < 210 | ug/kg | | | 1.00 | 2.1e+02 | | 12/22/09 |
| Fluoranthene | 206-44-0 | LA-523-456 | U | < 160 | ug/kg | | | 1.00 | 1.6e+02 | | 12/22/09 |

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RQ=Result Qualifier

TP Err=Total Propagated Error

DF=Dilution Factor

- Indicates results that have NOT been validated;

B - The analyte < the RDL but >= the IDL/MDL (inorg)

D - Analyte was identified at a secondary dilution factor

E - Analyte is an estimate, has potentially larger errors(inorg)

U - Analyzed for but not detected above limiting criteria(inorg)

+ - Indicates more than six qualifier symbols

C - The Analyte was found in the Associated Blank.(inorg)

D - Analyte was identified at a secondary dilution factor(inorg)

N - Spike sample recovery is outside control limits.(inorg)

U - Analyzed for but not detected above limiting criteria.

310169

Report WGPP/ver. 5.2

Groundwater Remediation Program

WSCF ANALYTICAL RESULTS REPORT

Attention: Steve Trent
SAF Number: F10-011
Sample # W09GR01155
Client ID: B22RL1

GPP
WSCF

Matrix: SOIL

Group #: WSCF20091286
Department: Organic
Sampled: 12/09/09
Received: 12/09/09

| Test Performed | CAS # | Method | RQ | Result | Unit | TP Err | Unit | DF | MDL | PQL | Analysis Date |
|----------------------------|-----------|------------|----|--------|-------|--------|------|------|---------|-----|---------------|
| Benzo(k)fluoranthene | 207-08-9 | LA-523-456 | U | < 210 | ug/kg | | | 1.00 | 2.1e+02 | | 12/22/09 |
| Acenaphthylene | 208-96-8 | LA-523-456 | U | < 160 | ug/kg | | | 1.00 | 1.6e+02 | | 12/22/09 |
| Chrysene | 218-01-9 | LA-523-456 | U | < 160 | ug/kg | | | 1.00 | 1.6e+02 | | 12/22/09 |
| Benzo(a)pyrene | 50-32-8 | LA-523-456 | U | < 240 | ug/kg | | | 1.00 | 2.4e+02 | | 12/22/09 |
| 2,4-Dinitrophenol | 51-28-5 | LA-523-456 | U | < 650 | ug/kg | | | 1.00 | 6.5e+02 | | 12/22/09 |
| Dibenz[a,h]anthracene | 53-70-3 | LA-523-456 | U | < 350 | ug/kg | | | 1.00 | 3.5e+02 | | 12/22/09 |
| 4,6-Dinitro-2-methylphenol | 534-52-1 | LA-523-456 | U | < 350 | ug/kg | | | 1.00 | 3.5e+02 | | 12/22/09 |
| 1,3-Dichlorobenzene | 541-73-1 | LA-523-456 | U | < 290 | ug/kg | | | 1.00 | 2.9e+02 | | 12/22/09 |
| Benzo(a)anthracene | 56-55-3 | LA-523-456 | U | < 160 | ug/kg | | | 1.00 | 1.6e+02 | | 12/22/09 |
| 2,6-Dinitrotoluene | 606-20-2 | LA-523-456 | U | < 160 | ug/kg | | | 1.00 | 1.6e+02 | | 12/22/09 |
| 4-Chlorophenylphenyl ether | 7005-72-3 | LA-523-456 | U | < 160 | ug/kg | | | 1.00 | 1.6e+02 | | 12/22/09 |
| Hexachlorocyclopentadiene | 77-47-4 | LA-523-456 | U | < 160 | ug/kg | | | 1.00 | 1.6e+02 | | 12/22/09 |
| Isophorone | 78-59-1 | LA-523-456 | U | < 160 | ug/kg | | | 1.00 | 1.6e+02 | | 12/22/09 |
| Diethylphthalate | 84-66-2 | LA-523-456 | U | < 420 | ug/kg | | | 1.00 | 4.2e+02 | | 12/22/09 |
| Di-n-butylphthalate | 84-74-2 | LA-523-456 | U | < 420 | ug/kg | | | 1.00 | 4.2e+02 | | 12/22/09 |
| Phenanthrene | 85-01-8 | LA-523-456 | U | < 160 | ug/kg | | | 1.00 | 1.6e+02 | | 12/22/09 |
| Butylbenzylphthalate | 85-68-7 | LA-523-456 | U | < 160 | ug/kg | | | 1.00 | 1.6e+02 | | 12/22/09 |
| N-Nitrosodiphenylamine | 86-30-6 | LA-523-456 | U | < 170 | ug/kg | | | 1.00 | 1.7e+02 | | 12/22/09 |
| Fluorene | 86-73-7 | LA-523-456 | U | < 160 | ug/kg | | | 1.00 | 1.6e+02 | | 12/22/09 |
| Carbazole | 86-74-8 | LA-523-456 | U | < 160 | ug/kg | | | 1.00 | 1.6e+02 | | 12/22/09 |
| Hexachlorobutadiene | 87-68-3 | LA-523-456 | U | < 160 | ug/kg | | | 1.00 | 1.6e+02 | | 12/22/09 |
| 2-Nitroaniline | 88-74-4 | LA-523-456 | U | < 160 | ug/kg | | | 1.00 | 1.6e+02 | | 12/22/09 |
| 2-Nitrophenol | 88-75-5 | LA-523-456 | U | < 180 | ug/kg | | | 1.00 | 1.8e+02 | | 12/22/09 |
| Naphthalene | 91-20-3 | LA-523-456 | U | < 160 | ug/kg | | | 1.00 | 1.6e+02 | | 12/22/09 |
| 2-Methylnaphthalene | 91-57-6 | LA-523-456 | U | < 160 | ug/kg | | | 1.00 | 1.6e+02 | | 12/22/09 |

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)
 D - Analyte was identified at a secondary dilution factor
 E - Analyte is an estimate, has potentially larger errors (inorg)
 U - Analyzed for but not detected above limiting criteria (inorg)

C - The Analyte was found in the Associated Blank. (inorg)
 D - Analyte was identified at a secondary dilution factor (inorg)
 N - Spike sample recovery is outside control limits. (inorg)
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- Indicates results that have NOT been validated; + - Indicates more than six qualifier symbols

Report WGPP/ver. 5.2

Groundwater Remediation Program

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REVISION 1

WSCF ANALYTICAL RESULTS REPORT

Attention: Steve Trent
SAF Number: F10-011
Sample # W09GR01155
Client ID: B22RL1

GPP
WSCF

Matrix: SOIL

Group #: WSCF20091286
Department: Organic
Sampled: 12/09/09
Received: 12/09/09

| Test Performed | CAS # | Method | RQ | Result | Unit | TP Err | Unit | DF | MDL | PQL | Analysis Date |
|-----------------------------|------------|------------|----|--------|-------|--------|------|------|---------|-----|---------------|
| 2-Chloronaphthalene | 91-58-7 | LA-523-456 | U | < 160 | ug/kg | | | 1.00 | 1.6e+02 | | 12/22/09 |
| 3,3'-Dichlorobenzidine | 91-94-1 | LA-523-456 | U | < 350 | ug/kg | | | 1.00 | 3.5e+02 | | 12/22/09 |
| 2-Methylphenol (cresol, o-) | 95-48-7 | LA-523-456 | U | < 160 | ug/kg | | | 1.00 | 1.6e+02 | | 12/22/09 |
| 1,2-Dichlorobenzene | 95-50-1 | LA-523-456 | U | < 230 | ug/kg | | | 1.00 | 2.3e+02 | | 12/22/09 |
| 2,4,5-Trichlorophenol | 95-95-4 | LA-523-456 | U | < 160 | ug/kg | | | 1.00 | 1.6e+02 | | 12/22/09 |
| Nitrobenzene | 98-95-3 | LA-523-456 | U | < 160 | ug/kg | | | 1.00 | 1.6e+02 | | 12/22/09 |
| 3-Nitroaniline | 99-09-2 | LA-523-456 | U | < 200 | ug/kg | | | 1.00 | 2.0e+02 | | 12/22/09 |
| 3 & 4 Methylphenol Total | 65794-96-9 | LA-523-456 | U | < 160 | ug/kg | | | 1.00 | 1.6e+02 | | 12/22/09 |
| Hexachloroethane | 67-72-1 | LA-523-456 | U | < 270 | ug/kg | | | 1.00 | 2.7e+02 | | 12/22/09 |
| 2,4,6-Trichlorophenol | 88-06-2 | LA-523-456 | U | < 160 | ug/kg | | | 1.00 | 1.6e+02 | | 12/22/09 |
| Tributyl phosphate | 126-73-8 | LA-523-456 | U | < 160 | ug/kg | | | 1.00 | 1.6e+02 | | 12/22/09 |

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C - The Analyte was found in the Associated Blank.(inorg)

D - Analyte was identified at a secondary dilution factor(inorg)

N - Spike sample recovery is outside control limits.(inorg)

U - Analyzed for but not detected above limiting criteria.

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Report WGPP/ver. 5.2

Groundwater Remediation Program

WSCF

ANALYTICAL RESULTS REPORT

Attention: Steve Trent
SAF Number: F10-011
Sample # W09GR01159
Client ID: B22RL2

GPP
WSCF

Matrix: SOIL

Group #: WSCF20091286
Department: Organic
Sampled: 12/09/09
Received: 12/09/09

| Test Performed | CAS # | Method | RQ | Result | Unit | TP Err | Unit | DF | MDL | PQL | Analysis Date |
|------------------------------------|------------|------------|----|---------|-------|--------|------|------|------|-----|---------------|
| VOA Ground Water Protection | | | | | | | | | | | |
| 1,1-Dichloroethene | 75-35-4 | LA-523-455 | U | < 1.10 | ug/kg | | | 1.00 | 1.1 | | 12/18/09 |
| Trichloroethene | 79-01-6 | LA-523-455 | U | < 0.210 | ug/kg | | | 1.00 | 0.21 | | 12/18/09 |
| Benzene | 71-43-2 | LA-523-455 | U | < 1.10 | ug/kg | | | 1.00 | 1.1 | | 12/18/09 |
| Toluene | 108-88-3 | LA-523-455 | U | < 1.10 | ug/kg | | | 1.00 | 1.1 | | 12/18/09 |
| Chlorobenzene | 108-90-7 | LA-523-455 | U | < 1.10 | ug/kg | | | 1.00 | 1.1 | | 12/18/09 |
| 1,1-Dichloroethane | 75-34-3 | LA-523-455 | U | < 1.10 | ug/kg | | | 1.00 | 1.1 | | 12/18/09 |
| Ethylbenzene | 100-41-4 | LA-523-455 | U | < 1.10 | ug/kg | | | 1.00 | 1.1 | | 12/18/09 |
| Styrene | 100-42-5 | LA-523-455 | U | < 1.10 | ug/kg | | | 1.00 | 1.1 | | 12/18/09 |
| cis-1,3-Dichloropropene | 10061-01-5 | LA-523-455 | U | < 1.10 | ug/kg | | | 1.00 | 1.1 | | 12/18/09 |
| trans-1,3-Dichloropropene | 10061-02-6 | LA-523-455 | U | < 1.10 | ug/kg | | | 1.00 | 1.1 | | 12/18/09 |
| 1,2-Dichloroethane | 107-06-2 | LA-523-455 | U | < 1.10 | ug/kg | | | 1.00 | 1.1 | | 12/18/09 |
| 4-Methyl-2-Pentanone | 108-10-1 | LA-523-455 | U | < 1.10 | ug/kg | | | 1.00 | 1.1 | | 12/18/09 |
| Dibromochloromethane | 124-48-1 | LA-523-455 | U | < 1.10 | ug/kg | | | 1.00 | 1.1 | | 12/18/09 |
| Tetrachloroethene | 127-18-4 | LA-523-455 | U | < 1.10 | ug/kg | | | 1.00 | 1.1 | | 12/18/09 |
| Xylenes (total) | 1330-20-7 | LA-523-455 | U | < 1.10 | ug/kg | | | 1.00 | 1.1 | | 12/18/09 |
| 1,2-Dichloroethene(Total) | 540-59-0 | LA-523-455 | U | < 1.10 | ug/kg | | | 1.00 | 1.1 | | 12/18/09 |
| Carbon tetrachloride | 56-23-5 | LA-523-455 | U | < 1.10 | ug/kg | | | 1.00 | 1.1 | | 12/18/09 |
| 2-Hexanone | 591-78-6 | LA-523-455 | U | < 1.10 | ug/kg | | | 1.00 | 1.1 | | 12/18/09 |
| Acetone | 67-64-1 | LA-523-455 | U | < 1.10 | ug/kg | | | 1.00 | 1.1 | | 12/18/09 |
| Chloroform | 67-66-3 | LA-523-455 | U | < 1.10 | ug/kg | | | 1.00 | 1.1 | | 12/18/09 |
| 1,1,1-Trichloroethane | 71-55-6 | LA-523-455 | U | < 1.10 | ug/kg | | | 1.00 | 1.1 | | 12/18/09 |
| Bromomethane | 74-83-9 | LA-523-455 | U | < 1.10 | ug/kg | | | 1.00 | 1.1 | | 12/18/09 |
| Chloromethane | 74-87-3 | LA-523-455 | U | < 1.10 | ug/kg | | | 1.00 | 1.1 | | 12/18/09 |
| Chloroethane | 75-00-3 | LA-523-455 | U | < 1.10 | ug/kg | | | 1.00 | 1.1 | | 12/18/09 |

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Report WGPP/ver. 5.2

Groundwater Remediation Program

WSCF ANALYTICAL RESULTS REPORT

Attention: Steve Trent
SAF Number: F10-011
Sample # W09GR01159
Client ID: B22RL2

GPP
WSCF

Matrix: SOIL

Group #: WSCF20091286
Department: Organic
Sampled: 12/09/09
Received: 12/09/09

| Test Performed | CAS # | Method | RQ | Result | Unit | TP Err | Unit | DF | MDL | PQL | Analysis Date |
|----------------------------|----------|------------|----|--------|-------|--------|------|------|---------|-----|---------------|
| Vinyl chloride | 75-01-4 | LA-523-455 | U | < 1.10 | ug/kg | | | 1.00 | 1.1 | | 12/18/09 |
| Methylenechloride | 75-09-2 | LA-523-455 | U | < 1.10 | ug/kg | | | 1.00 | 1.1 | | 12/18/09 |
| Carbon disulfide | 75-15-0 | LA-523-455 | U | < 1.10 | ug/kg | | | 1.00 | 1.1 | | 12/18/09 |
| Bromoform | 75-25-2 | LA-523-455 | U | < 1.10 | ug/kg | | | 1.00 | 1.1 | | 12/18/09 |
| Bromodichloromethane | 75-27-4 | LA-523-455 | U | < 1.10 | ug/kg | | | 1.00 | 1.1 | | 12/18/09 |
| 1,2-Dichloropropane | 78-87-5 | LA-523-455 | U | < 1.10 | ug/kg | | | 1.00 | 1.1 | | 12/18/09 |
| 2-Butanone | 78-93-3 | LA-523-455 | U | < 1.10 | ug/kg | | | 1.00 | 1.1 | | 12/18/09 |
| 1,1,2-Trichloroethane | 79-00-5 | LA-523-455 | U | < 1.10 | ug/kg | | | 1.00 | 1.1 | | 12/18/09 |
| 1,1,2,2-Tetrachloroethane | 79-34-5 | LA-523-455 | U | < 1.10 | ug/kg | | | 1.00 | 1.1 | | 12/18/09 |
| 1-Butanol | 71-36-3 | LA-523-455 | U | < 110 | ug/kg | | | 1.00 | 1.1e+02 | | 12/18/09 |
| Trichloromonofluoromethane | 75-89-4 | LA-523-455 | U | < 1.10 | ug/kg | | | 1.00 | 1.1 | | 12/18/09 |
| trans-1,2-Dichloroethylene | 156-60-5 | LA-523-455 | U | < 1.10 | ug/kg | | | 1.00 | 1.1 | | 12/18/09 |
| cis-1,2-Dichloroethylene | 156-59-2 | LA-523-455 | U | < 1.10 | ug/kg | | | 1.00 | 1.1 | | 12/18/09 |

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Report WGPP/ver. 5.2

Groundwater Remediation Program

WSCF ANALYTICAL LABORATORY QC REPORT

Department: **Organic**

SDG Number: WSCF20091286
 Matrix: SOLID
 Test: Alcohols, Glycols - 8015

Sample Date: 12/09/09
 Receive Date: 12/09/09

| QC Type | Analyte | CAS # | QC Found | QC Yield | Units | Lower Limit | Upper Limit | RPD(%) | RPD Limit | RQ | Analysis Date |
|--|-----------------|----------|----------|----------|---------|-------------|-------------|--------|-----------|----|---------------|
| Lab ID: W09GR01155 | | | | | | | | | | | |
| BATCH QC ASSOCIATED WITH SAMPLE | | | | | | | | | | | |
| DUP | 2-Bromoethanol | 540-51-2 | 13500 | | RPD | | | 24.675 | 25.000 | | 12/21/09 |
| DUP | Diethyl ether | 60-29-7 | <5000 | | RPD | | | n/a | 25.000 | U | 12/21/09 |
| DUP | Ethylene glycol | 107-21-1 | <5000 | | RPD | | | n/a | 25.000 | U | 12/21/09 |
| MS | 2-Bromoethanol | 540-51-2 | 13700 | 77.841 | % Recov | 70.000 | 125.000 | | | | 12/21/09 |
| MS | Diethyl ether | 60-29-7 | 8300 | 116.901 | % Recov | 75.000 | 125.000 | | | | 12/21/09 |
| MS | Ethylene glycol | 107-21-1 | 9300 | 83.784 | % Recov | 75.000 | 125.000 | | | | 12/21/09 |
| MSD | 2-Bromoethanol | 540-51-2 | 15500 | 88.068 | % Recov | 70.000 | 125.000 | | | | 12/21/09 |
| MSD | Diethyl ether | 60-29-7 | 8100 | 114.085 | % Recov | 75.000 | 125.000 | | | | 12/21/09 |
| MSD | Ethylene glycol | 107-21-1 | 10100 | 90.991 | % Recov | 75.000 | 125.000 | | | | 12/21/09 |
| SPK-RPD | 2-Bromoethanol | 540-51-2 | 88.068 | | RPD | | | 12.328 | 20.000 | | 12/21/09 |
| SPK-RPD | Diethyl ether | 60-29-7 | 114.085 | | RPD | | | 2.438 | 20.000 | | 12/21/09 |
| SPK-RPD | Ethylene glycol | 107-21-1 | 90.991 | | RPD | | | 8.247 | 20.000 | | 12/21/09 |
| BATCH QC | | | | | | | | | | | |
| BLANK | 2-Bromoethanol | 540-51-2 | 17300 | 98.295 | % Recov | 75.000 | 125.000 | | | | 12/21/09 |
| BLANK | Diethyl ether | 60-29-7 | <5000 | n/a | ug/Kg | 0.000 | 10.000 | | | U | 12/21/09 |
| BLANK | Ethylene glycol | 107-21-1 | <5000 | n/a | ug/Kg | 0.000 | 5.000 | | | U | 12/21/09 |
| LCS | 2-Bromoethanol | 540-51-2 | 18800 | 106.818 | % Recov | 70.000 | 130.000 | | | | 12/21/09 |
| LCS | Diethyl ether | 60-29-7 | 7400 | 104.225 | % Recov | 70.000 | 130.000 | | | | 12/21/09 |
| LCS | Ethylene glycol | 107-21-1 | 10200 | 91.892 | % Recov | 70.000 | 130.000 | | | | 12/21/09 |

WSCF ANALYTICAL LABORATORY QC REPORT

Department: **Organic**

SDG Number: WSCF20091286
 Matrix: SOLID
 Test: NWTPH-D TPH Diesel Range (Wa)

Sample Date: 12/09/09
 Receive Date: 12/09/09

| QC Type | Analyte | CAS # | QC Found | QC Yield | Units | Lower Limit | Upper Limit | RPD(%) | RPD Limit | RQ | Analysis Date |
|--|--------------------------------|-------|-------------|----------|---------|-------------|-------------|---------|-----------|--------|---------------|
| Lab ID: W09GR01155 | | | | | | | | | | | |
| BATCH QC ASSOCIATED WITH SAMPLE | | | | | | | | | | | |
| MS | ortho-Terphenyl | Surr | 84-15-1 | 23.954 | 114.000 | % Recov | 70.000 | 130.000 | | | 12/22/09 |
| MS | Total Pet. Hydrocarbons Diesel | | TPHDIESEL | 112.52 | 107.000 | % Recov | 75.000 | 125.000 | | | 12/22/09 |
| MSD | ortho-Terphenyl | Surr | 84-15-1 | 23.459 | 112.000 | % Recov | 70.000 | 130.000 | | | 12/22/09 |
| MSD | Total Pet. Hydrocarbons Diesel | | TPHDIESEL | 109.09 | 104.000 | % Recov | 75.000 | 125.000 | | | 12/22/09 |
| SPK-RPD | ortho-Terphenyl | Surr | 84-15-1 | 112.000 | | RPD | | | 1.770 | 20.000 | 12/22/09 |
| SPK-RPD | Total Pet. Hydrocarbons Diesel | | TPHDIESEL | 104.000 | | RPD | | | 2.844 | 20.000 | 12/22/09 |
| SURR | ortho-Terphenyl | Surr | 84-15-1 | 23.116 | 110.000 | % Recov | 70.000 | 130.000 | | | 12/22/09 |
| BATCH QC | | | | | | | | | | | |
| BLANK | Kerosene | | TPHKEROSENE | < 5.0 | n/a | ug/Kg | | | | U | 12/22/09 |
| BLANK | ortho-Terphenyl | Surr | 84-15-1 | 23.667 | 118.000 | % Recov | 70.000 | 130.000 | | | 12/22/09 |
| BLANK | Total Pet. Hydrocarbons Diesel | | TPHDIESEL | < 5.0 | n/a | ug/Kg | | | | U | 12/22/09 |
| LCS | ortho-Terphenyl | Surr | 84-15-1 | 23.256 | 116.000 | % Recov | 70.000 | 130.000 | | | 12/22/09 |
| LCS | Total Pet. Hydrocarbons Diesel | | TPHDIESEL | 102.80 | 103.000 | % Recov | 80.000 | 120.000 | | | 12/22/09 |

WSCF ANALYTICAL LABORATORY QC REPORT

Department: **Organic**

SDG Number: WSCF20091286
 Matrix: SOLID
 Test: PCBs complete list

Sample Date: 12/09/09
 Receive Date: 12/09/09

| QC Type | Analyte | CAS # | QC Found | QC Yield | Units | Lower Limit | Upper Limit | RPD(%) | RPD Limit | RQ | Analysis Date |
|--|----------------------|------------|----------|----------|---------|-------------|-------------|--------|-----------|----|---------------|
| Lab ID: W09GR01155 | | | | | | | | | | | |
| BATCH QC ASSOCIATED WITH SAMPLE | | | | | | | | | | | |
| SURR | Decachlorobiphenyl | 2051-24-3 | 182.27 | 87.200 | % Recov | 50.000 | 150.000 | | | | 01/04/10 |
| SURR | Tetrachloro-m-xylene | 877-09-8 | 222.11 | 108.000 | % Recov | 50.000 | 150.000 | | | | 01/04/10 |
| Lab ID: W09GR01188 | | | | | | | | | | | |
| BATCH QC ASSOCIATED WITH SAMPLE | | | | | | | | | | | |
| MS | Aroclor-1254 | 11097-69-1 | 255.82 | 103.000 | % Recov | 75.000 | 125.000 | | | | 01/04/10 |
| MS | Decachlorobiphenyl | 2051-24-3 | 238.68 | 95.000 | % Recov | 50.000 | 150.000 | | | | 01/04/10 |
| MS | Tetrachloro-m-xylene | 877-09-8 | 258.80 | 103.000 | % Recov | 50.000 | 150.000 | | | | 01/04/10 |
| MSD | Aroclor-1254 | 11097-69-1 | 274.42 | 111.000 | % Recov | 75.000 | 125.000 | | | | 01/04/10 |
| MSD | Decachlorobiphenyl | 2051-24-3 | 218.81 | 88.300 | % Recov | 50.000 | 150.000 | | | | 01/04/10 |
| MSD | Tetrachloro-m-xylene | 877-09-8 | 264.58 | 107.000 | % Recov | 50.000 | 150.000 | | | | 01/04/10 |
| SPK-RPD | Aroclor-1254 | 11097-69-1 | 111.000 | | RPD | | | 7.477 | 25.000 | | 01/04/10 |
| SPK-RPD | Decachlorobiphenyl | 2051-24-3 | 88.300 | | RPD | | | 7.310 | 20.000 | | 01/04/10 |
| SPK-RPD | Tetrachloro-m-xylene | 877-09-8 | 107.000 | | RPD | | | 3.810 | 20.000 | | 01/04/10 |
| BATCH QC | | | | | | | | | | | |
| BLANK | Aroclor-1016 | 12674-11-2 | < 10 | n/a | UGKG | | | | | U | 01/04/10 |
| BLANK | Aroclor-1221 | 11104-28-2 | < 20 | n/a | ug/Kg | | | | | U | 01/04/10 |
| BLANK | Aroclor-1232 | 11141-16-5 | < 10 | n/a | ug/Kg | | | | | U | 01/04/10 |
| BLANK | Aroclor-1242 | 53469-21-9 | < 10 | n/a | ug/Kg | | | | | U | 01/04/10 |
| BLANK | Aroclor-1248 | 12672-29-6 | < 10 | n/a | ug/Kg | | | | | U | 01/04/10 |
| BLANK | Aroclor-1254 | 11097-69-1 | < 10 | n/a | ug/Kg | | | | | U | 01/04/10 |
| BLANK | Aroclor-1260 | 11096-82-5 | < 10 | n/a | ug/Kg | | | | | U | 01/04/10 |
| BLANK | Aroclor-1262 | 37324-23-5 | < 10 | n/a | ug/Kg | | | | | U | 01/04/10 |
| BLANK | Aroclor-1268 | 11100-14-4 | < 10 | n/a | ug/Kg | | | | | U | 01/04/10 |
| BLANK | Decachlorobiphenyl | 2051-24-3 | 185.67 | 92.800 | % Recov | 50.000 | 150.000 | | | | 01/04/10 |

WSCF ANALYTICAL LABORATORY QC REPORT

Department: **Organic**

SDG Number: WSCF20091286
 Matrix: SOLID
 Test: PCBs complete list

Sample Date:
 Receive Date:

| QC Type | Analyte | CAS # | QC Found | QC Yield | Units | Lower Limit | Upper Limit | RPD(%) | RPD Limit | RQ | Analysis Date |
|---------|----------------------|------------|----------|----------|---------|-------------|-------------|--------|-----------|----|---------------|
| BLANK | Tetrachloro-m-xylene | 877-09-8 | 207.75 | 104.000 | % Recov | 50.000 | 150.000 | | | | 01/04/10 |
| LCS | Aroclor-1254 | 11097-69-1 | 209.90 | 105.000 | % Recov | 70.000 | 130.000 | | | | 01/04/10 |
| LCS | Decachlorobiphenyl | 2051-24-3 | 181.65 | 90.800 | % Recov | 50.000 | 150.000 | | | | 01/04/10 |
| LCS | Tetrachloro-m-xylene | 877-09-8 | 205.87 | 103.000 | % Recov | 50.000 | 150.000 | | | | 01/04/10 |

WSCF ANALYTICAL LABORATORY QC REPORT

Department: **Organic**

SDG Number: WSCF20091286
 Matrix: SOLID
 Test: SW-846 8270C Semi-Vols

Sample Date: 12/09/09
 Receive Date: 12/09/09

| QC Type | Analyte | CAS # | QC Found | QC Yield | Units | Lower Limit | Upper Limit | RPD(%) | RPD Limit | RQ | Analysis Date |
|--|-----------------------------|------------|----------|----------|---------|-------------|-------------|--------|-----------|----|---------------|
| Lab ID: W09GR01155 | | | | | | | | | | | |
| BATCH QC ASSOCIATED WITH SAMPLE | | | | | | | | | | | |
| SURR | 2-Fluorophenol(Surr) | 367-12-4 | 3507.9 | 83.400 | % Recov | 72.000 | 120.000 | | | | 12/22/09 |
| SURR | 2-Fluorobiphenyl(Surr) | 321-60-8 | 3287.2 | 78.100 | % Recov | 66.000 | 122.000 | | | | 12/22/09 |
| SURR | Nitrobenzene-d5(Surr) | 4165-60-0 | 3545.2 | 84.300 | % Recov | 63.000 | 125.000 | | | | 12/22/09 |
| SURR | Phenol-d5(Surr) | 4165-62-2 | 3382.8 | 80.400 | % Recov | 66.000 | 124.000 | | | | 12/22/09 |
| SURR | 2,4,6-Tribromophenol(Surr) | 118-79-6 | 2938.5 | 69.800 | % Recov | 49.000 | 120.000 | | | | 12/22/09 |
| SURR | Terphenyl-d14(Surr) | 98904-43-9 | 4329.3 | 103.000 | % Recov | 58.000 | 128.000 | | | | 12/22/09 |
| Lab ID: W09GR01188 | | | | | | | | | | | |
| BATCH QC ASSOCIATED WITH SAMPLE | | | | | | | | | | | |
| MS | 1,2,4-Trichlorobenzene | 120-82-1 | 6592.2 | 88.300 | % Recov | 75.000 | 121.000 | | | | 12/22/09 |
| MS | 1,4-Dichlorobenzene | 106-46-7 | 6407.1 | 85.800 | % Recov | 68.000 | 121.000 | | | | 12/22/09 |
| MS | 2,4-Dinitrotoluene | 121-14-2 | 6374.7 | 85.400 | % Recov | 66.000 | 113.000 | | | | 12/22/09 |
| MS | 2-Fluorophenol(Surr) | 367-12-4 | 4145.2 | 83.300 | % Recov | 72.000 | 120.000 | | | | 12/22/09 |
| MS | Acenaphthene | 83-32-9 | 6644.9 | 89.000 | % Recov | 69.000 | 125.000 | | | | 12/22/09 |
| MS | 4-Chloro-3-methylphenol | 59-50-7 | 6760.1 | 90.500 | % Recov | 68.000 | 116.000 | | | | 12/22/09 |
| MS | 2-Chlorophenol | 95-57-8 | 6511.6 | 87.200 | % Recov | 65.000 | 124.000 | | | | 12/22/09 |
| MS | N-Nitrosodi-n-dipropylamine | 621-64-7 | 6356.3 | 85.100 | % Recov | 69.000 | 127.000 | | | | 12/22/09 |
| MS | 2-Fluorobiphenyl(Surr) | 321-60-8 | 3995.2 | 80.300 | % Recov | 66.000 | 122.000 | | | | 12/22/09 |
| MS | Phenol | 108-95-2 | 6651.8 | 89.100 | % Recov | 71.000 | 122.000 | | | | 12/22/09 |
| MS | Nitrobenzene-d5(Surr) | 4165-60-0 | 4045.4 | 81.300 | % Recov | 63.000 | 125.000 | | | | 12/22/09 |
| MS | 4-Nitrophenol | 100-02-7 | 6276.2 | 84.100 | % Recov | 55.000 | 113.000 | | | | 12/22/09 |
| MS | Pentachlorophenol | 87-86-5 | 6309.4 | 84.500 | % Recov | 50.000 | 113.000 | | | | 12/22/09 |
| MS | Phenol-d5(Surr) | 4165-62-2 | 4052.2 | 81.400 | % Recov | 66.000 | 124.000 | | | | 12/22/09 |
| MS | Pyrene | 129-00-0 | 7434.9 | 99.600 | % Recov | 67.000 | 125.000 | | | | 12/22/09 |
| MS | 2,4,6-Tribromophenol(Surr) | 118-79-6 | 3840.0 | 77.200 | % Recov | 49.000 | 120.000 | | | | 12/22/09 |
| MS | Terphenyl-d14(Surr) | 98904-43-9 | 4546.5 | 91.300 | % Recov | 58.000 | 128.000 | | | | 12/22/09 |

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Organic

SDG Number: WSCF20091286
 Matrix: SOLID
 Test: SW-846 8270C Semi-Vols

Sample Date: 12/14/09
 Receive Date: 12/14/09

| QC Type | Analyte | CAS # | QC Found | QC Yield | Units | Lower Limit | Upper Limit | RPD(%) | RPD Limit | RQ | Analysis Date |
|---------|-----------------------------|------------|----------|----------|---------|-------------|-------------|--------|-----------|----|---------------|
| MSD | 1,2,4-Trichlorobenzene | 120-82-1 | 8647.5 | 98.800 | % Recov | 75.000 | 121.000 | | | | 12/22/09 |
| MSD | 1,4-Dichlorobenzene | 106-46-7 | 8576.5 | 98.000 | % Recov | 68.000 | 121.000 | | | | 12/22/09 |
| MSD | 2,4-Dinitrotoluene | 121-14-2 | 8329.4 | 95.200 | % Recov | 68.000 | 113.000 | | | | 12/22/09 |
| MSD | 2-Fluorophenol(Surr) | 367-12-4 | 5589.4 | 95.800 | % Recov | 72.000 | 120.000 | | | | 12/22/09 |
| MSD | Acenaphthene | 83-32-9 | 8508.1 | 97.200 | % Recov | 69.000 | 125.000 | | | | 12/22/09 |
| MSD | 4-Chloro-3-methylphenol | 59-50-7 | 8739.3 | 99.900 | % Recov | 68.000 | 116.000 | | | | 12/22/09 |
| MSD | 2-Chlorophenol | 95-57-8 | 8757.1 | 100.000 | % Recov | 65.000 | 124.000 | | | | 12/22/09 |
| MSD | N-Nitrosodi-n-dipropylamine | 621-64-7 | 8638.2 | 98.700 | % Recov | 69.000 | 127.000 | | | | 12/22/09 |
| MSD | 2-Fluorobiphenyl(Surr) | 321-60-8 | 5281.7 | 90.600 | % Recov | 66.000 | 122.000 | | | | 12/22/09 |
| MSD | Phenol | 108-95-2 | 8727.9 | 99.800 | % Recov | 71.000 | 122.000 | | | | 12/22/09 |
| MSD | Nitrobenzene-d5(Surr) | 4165-60-0 | 5369.4 | 92.100 | % Recov | 63.000 | 125.000 | | | | 12/22/09 |
| MSD | 4-Nitrophenol | 100-02-7 | 8045.5 | 92.000 | % Recov | 55.000 | 113.000 | | | | 12/22/09 |
| MSD | Pentachlorophenol | 87-86-5 | 7929.3 | 90.600 | % Recov | 50.000 | 113.000 | | | | 12/22/09 |
| MSD | Phenol-d5(Surr) | 4165-82-2 | 5428.6 | 93.100 | % Recov | 66.000 | 124.000 | | | | 12/22/09 |
| MSD | Pyrene | 129-00-0 | 9566.0 | 109.000 | % Recov | 67.000 | 125.000 | | | | 12/22/09 |
| MSD | 2,4,6-Tribromophenol(Surr) | 118-79-6 | 5101.8 | 87.500 | % Recov | 49.000 | 120.000 | | | | 12/22/09 |
| MSD | Terphenyl-d14(Surr) | 98904-43-9 | 5942.3 | 102.000 | % Recov | 58.000 | 128.000 | | | | 12/22/09 |
| SPK-RPD | 1,2,4-Trichlorobenzene | 120-82-1 | 98.800 | | RPD | | | 11.224 | 20.000 | | 12/22/09 |
| SPK-RPD | 1,4-Dichlorobenzene | 106-46-7 | 98.000 | | RPD | | | 13.275 | 20.000 | | 12/22/09 |
| SPK-RPD | 2,4-Dinitrotoluene | 121-14-2 | 95.200 | | RPD | | | 10.853 | 20.000 | | 12/22/09 |
| SPK-RPD | 2-Fluorophenol(Surr) | 367-12-4 | 95.800 | | RPD | | | 13.959 | 20.000 | | 12/22/09 |
| SPK-RPD | Acenaphthene | 83-32-9 | 97.200 | | RPD | | | 8.808 | 20.000 | | 12/22/09 |
| SPK-RPD | 4-Chloro-3-methylphenol | 59-50-7 | 99.900 | | RPD | | | 9.874 | 20.000 | | 12/22/09 |
| SPK-RPD | 2-Chlorophenol | 95-57-8 | 100.000 | | RPD | | | 13.675 | 20.000 | | 12/22/09 |
| SPK-RPD | N-Nitrosodi-n-dipropylamine | 621-64-7 | 98.700 | | RPD | | | 14.799 | 20.000 | | 12/22/09 |
| SPK-RPD | 2-Fluorobiphenyl(Surr) | 321-60-8 | 90.600 | | RPD | | | 12.054 | 20.000 | | 12/22/09 |
| SPK-RPD | Phenol | 108-95-2 | 99.800 | | RPD | | | 11.329 | 20.000 | | 12/22/09 |
| SPK-RPD | Nitrobenzene-d5(Surr) | 4165-60-0 | 92.100 | | RPD | | | 12.457 | 20.000 | | 12/22/09 |
| SPK-RPD | 4-Nitrophenol | 100-02-7 | 92.000 | | RPD | | | 8.972 | 20.000 | | 12/22/09 |
| SPK-RPD | Pentachlorophenol | 87-86-5 | 90.600 | | RPD | | | 6.967 | 20.000 | | 12/22/09 |

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Organic

SDG Number: WSCF20091286
 Matrix: SOLID
 Test: SW-846 8270C Semi-Vols

Sample Date: 12/14/09
 Receive Date: 12/14/09

| QC Type | Analyte | CAS # | QC Found | QC Yield | Units | Lower Limit | Upper Limit | RPD(%) | RPD Limit | RQ | Analysis Date |
|---------|----------------------------|------------|----------|----------|-------|-------------|-------------|--------|-----------|----|---------------|
| SPK-RPD | Phenol-d5(Surr) | 4185-82-2 | 93.100 | | RPD | | | 13.410 | 20.000 | | 12/22/09 |
| SPK-RPD | Pyrene | 129-00-0 | 109.000 | | RPD | | | 9.012 | 20.000 | | 12/22/09 |
| SPK-RPD | 2,4,6-Tribromophenol(Surr) | 118-79-8 | 87.500 | | RPD | | | 12.508 | 20.000 | | 12/22/09 |
| SPK-RPD | Terphenyl-d14(Surr) | 98904-43-9 | 102.000 | | RPD | | | 11.071 | 20.000 | | 12/22/09 |

BATCH QC

| | | | | | | | | | | | |
|-------|-----------------------------|------------|--------|--------|---------|--------|---------|--|--|---|----------|
| BLANK | 1,2-Dichlorobenzene | 95-50-1 | < 220 | n/a | ug/Kg | | | | | U | 12/22/09 |
| BLANK | 1,2,4-Trichlorobenzene | 120-82-1 | < 150 | n/a | ug/Kg | | | | | U | 12/22/09 |
| BLANK | 1,3-Dichlorobenzene | 541-73-1 | < 270 | n/a | ug/Kg | | | | | U | 12/22/09 |
| BLANK | 1,4-Dichlorobenzene | 106-48-7 | < 250 | n/a | ug/Kg | | | | | U | 12/22/09 |
| BLANK | 2,4-Dichlorophenol | 120-83-2 | < 170 | n/a | ug/Kg | | | | | U | 12/22/09 |
| BLANK | 2,4-Dinitrotoluene | 121-14-2 | < 150 | n/a | ug/Kg | | | | | U | 12/22/09 |
| BLANK | 2,4,5-Trichlorophenol | 95-95-4 | < 150 | n/a | ug/Kg | | | | | U | 12/22/09 |
| BLANK | 2,4,6-Trichlorophenol | 88-06-2 | < 150 | n/a | ug/Kg | | | | | U | 12/22/09 |
| BLANK | 2,4-Dimethylphenol | 105-67-9 | < 230 | n/a | ug/Kg | | | | | U | 12/22/09 |
| BLANK | 2,6-Dinitrotoluene | 606-20-2 | < 150 | n/a | ug/Kg | | | | | U | 12/22/09 |
| BLANK | 2-Chloronaphthalene | 91-58-7 | < 150 | n/a | ug/Kg | | | | | U | 12/22/09 |
| BLANK | 2-Fluorophenol(Surr) | 367-12-4 | 3921.2 | 98.000 | % Recov | 72.000 | 120.000 | | | | 12/22/09 |
| BLANK | 2-Methylnaphthalene | 91-57-8 | < 150 | n/a | ug/Kg | | | | | U | 12/22/09 |
| BLANK | 2-Methylphenol (cresol, o-) | 95-48-7 | < 150 | n/a | ug/Kg | | | | | U | 12/22/09 |
| BLANK | 2-Nitroaniline | 88-74-4 | < 150 | n/a | ug/Kg | | | | | U | 12/22/09 |
| BLANK | 2-Nitrophenol | 88-75-5 | < 170 | n/a | ug/Kg | | | | | U | 12/22/09 |
| BLANK | 3 & 4 Methylphenol Total | 65794-98-9 | < 150 | n/a | ug/Kg | | | | | U | 12/22/09 |
| BLANK | 3-Nitroaniline | 99-09-2 | < 190 | n/a | ug/Kg | | | | | U | 12/22/09 |
| BLANK | 4,6-Dinitro-2-methylphenol | 534-52-1 | < 330 | n/a | ug/Kg | | | | | U | 12/22/09 |
| BLANK | 4-Bromophenylphenyl ether | 101-55-3 | < 150 | n/a | ug/Kg | | | | | U | 12/22/09 |
| BLANK | 4-Chlorophenylphenyl ether | 7005-72-3 | < 150 | n/a | ug/Kg | | | | | U | 12/22/09 |
| BLANK | Acenaphthene | 83-32-9 | < 150 | n/a | ug/Kg | | | | | U | 12/22/09 |
| BLANK | Acenaphthylene | 208-96-8 | < 150 | n/a | ug/Kg | | | | | U | 12/22/09 |
| BLANK | Anthracene | 120-12-7 | < 150 | n/a | ug/Kg | | | | | U | 12/22/09 |

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Organic

SDG Number: WSCF20091286
 Matrix: SOLID
 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 |
|---------|--------------------------------|----------|----------|----------|---------|-------------|-------------|--------|-----------|----|---------------|
| BLANK | Bis(2-chloroethyl) ether | 111-44-4 | < 150 | n/a | ug/Kg | | | | | U | 12/22/09 |
| BLANK | Benzo(a)anthracene | 56-55-3 | < 150 | n/a | ug/Kg | | | | | U | 12/22/09 |
| BLANK | Benzo(b)fluoranthene | 205-99-2 | < 200 | n/a | ug/Kg | | | | | U | 12/22/09 |
| BLANK | Benzo(ghi)perylene | 191-24-2 | < 320 | n/a | ug/Kg | | | | | U | 12/22/09 |
| BLANK | Benzo(a)pyrene | 50-32-8 | < 230 | n/a | ug/Kg | | | | | U | 12/22/09 |
| BLANK | Bis(2-Chloroethoxy)methane | 111-91-1 | < 150 | n/a | ug/Kg | | | | | U | 12/22/09 |
| BLANK | Bis(2-ethylhexyl) phthalate | 117-81-7 | < 400 | n/a | ug/Kg | | | | | U | 12/22/09 |
| BLANK | Bis(2-chloro-1-methylethyl)eth | 108-60-1 | < 150 | n/a | ug/Kg | | | | | U | 12/22/09 |
| BLANK | Benzo(k)fluoranthene | 207-08-9 | < 200 | n/a | ug/Kg | | | | | U | 12/22/09 |
| BLANK | Butylbenzylphthalate | 85-68-7 | < 150 | n/a | ug/Kg | | | | | U | 12/22/09 |
| BLANK | Carbazole | 86-74-8 | < 150 | n/a | ug/Kg | | | | | U | 12/22/09 |
| BLANK | 4-Chloroaniline | 106-47-8 | < 280 | n/a | ug/Kg | | | | | U | 12/22/09 |
| BLANK | 4-Chloro-3-methylphenol | 59-50-7 | < 150 | n/a | ug/Kg | | | | | U | 12/22/09 |
| BLANK | 2-Chlorophenol | 95-57-8 | < 150 | n/a | ug/Kg | | | | | U | 12/22/09 |
| BLANK | Chrysene | 218-01-9 | < 150 | n/a | ug/Kg | | | | | U | 12/22/09 |
| BLANK | 3,3'-Dichlorobenzidine | 91-94-1 | < 330 | n/a | ug/Kg | | | | | U | 12/22/09 |
| BLANK | Dibenz(a,h)anthracene | 53-70-3 | < 330 | n/a | ug/Kg | | | | | U | 12/22/09 |
| BLANK | Dibenzofuran | 132-64-9 | < 150 | n/a | ug/Kg | | | | | U | 12/22/09 |
| BLANK | Di-n-butylphthalate | 84-74-2 | < 400 | n/a | ug/Kg | | | | | U | 12/22/09 |
| BLANK | Diethylphthalate | 84-66-2 | < 400 | n/a | ug/Kg | | | | | U | 12/22/09 |
| BLANK | Dimethyl phthalate | 131-11-3 | < 150 | n/a | ug/Kg | | | | | U | 12/22/09 |
| BLANK | 2,4-Dinitrophenol | 51-28-5 | < 620 | n/a | ug/Kg | | | | | U | 12/22/09 |
| BLANK | Di-n-octylphthalate | 117-84-0 | < 400 | n/a | ug/Kg | | | | | U | 12/22/09 |
| BLANK | N-Nitrosodi-n-dipropylamine | 621-64-7 | < 150 | n/a | ug/Kg | | | | | U | 12/22/09 |
| BLANK | 2-Fluorobiphenyl(Surr) | 321-60-8 | 3831.4 | 95.800 | % Recov | 66.000 | 122.000 | | | | 12/22/09 |
| BLANK | Fluorene | 86-73-7 | < 150 | n/a | ug/Kg | | | | | U | 12/22/09 |
| BLANK | Fluoranthene | 206-44-0 | < 150 | n/a | ug/Kg | | | | | U | 12/22/09 |
| BLANK | Hexachlorobenzene | 118-74-1 | < 150 | n/a | ug/Kg | | | | | U | 12/22/09 |
| BLANK | Hexachlorobutadiene | 87-68-3 | < 150 | n/a | ug/Kg | | | | | U | 12/22/09 |
| BLANK | Hexachlorocyclopentadiene | 77-47-4 | < 150 | n/a | ug/Kg | | | | | U | 12/22/09 |

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Organic

SDG Number: WSCF20091286
 Matrix: SOLID
 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 |
|---------|-----------------------------|------------|----------|----------|---------|-------------|-------------|--------|-----------|----|---------------|
| BLANK | Hexachloroethane | 67-72-1 | < 250 | n/a | ug/Kg | | | | | U | 12/22/09 |
| BLANK | Indeno(1,2,3-cd)pyrene | 193-39-5 | < 330 | n/a | ug/Kg | | | | | U | 12/22/09 |
| BLANK | Isophorone | 78-59-1 | < 150 | n/a | ug/Kg | | | | | U | 12/22/09 |
| BLANK | Phenol | 108-95-2 | < 150 | n/a | ug/Kg | | | | | U | 12/22/09 |
| BLANK | Naphthalene | 91-20-3 | < 150 | n/a | ug/Kg | | | | | U | 12/22/09 |
| BLANK | Nitrobenzene-d5(Surr) | 4165-60-0 | 3778.8 | 94.500 | % Recov | 63.000 | 125.000 | | | | 12/22/09 |
| BLANK | Nitrobenzene | 98-95-3 | < 150 | n/a | ug/Kg | | | | | U | 12/22/09 |
| BLANK | 4-Nitrophenol | 100-02-7 | < 330 | n/a | ug/Kg | | | | | U | 12/22/09 |
| BLANK | 4-Nitroaniline | 100-01-6 | < 280 | n/a | ug/Kg | | | | | U | 12/22/09 |
| BLANK | N-Nitrosodiphenylamine | 86-30-6 | < 170 | n/a | ug/Kg | | | | | U | 12/22/09 |
| BLANK | Pentachlorophenol | 87-86-5 | < 400 | n/a | ug/Kg | | | | | U | 12/22/09 |
| BLANK | Phenanthrene | 85-01-8 | < 150 | n/a | ug/Kg | | | | | U | 12/22/09 |
| BLANK | Phenol-d5(Surr) | 4165-62-2 | 3858.9 | 96.500 | % Recov | 66.000 | 124.000 | | | | 12/22/09 |
| BLANK | Pyrene | 129-00-0 | < 150 | n/a | ug/Kg | | | | | U | 12/22/09 |
| BLANK | Tributyl phosphate | 126-73-8 | < 150 | n/a | ug/Kg | | | | | U | 12/22/09 |
| BLANK | 2,4,6-Tribromophenol(Surr) | 118-79-6 | 3359.0 | 84.000 | % Recov | 49.000 | 120.000 | | | | 12/22/09 |
| BLANK | Terphenyl-d14(Surr) | 98904-43-9 | 4693.2 | 117.000 | % Recov | 58.000 | 128.000 | | | | 12/22/09 |
| LCS | 1,2,4-Trichlorobenzene | 120-82-1 | 5572.2 | 92.900 | % Recov | 76.000 | 118.000 | | | | 12/22/09 |
| LCS | 1,4-Dichlorobenzene | 106-46-7 | 5380.8 | 89.700 | % Recov | 68.000 | 121.000 | | | | 12/22/09 |
| LCS | 2,4-Dinitrotoluene | 121-14-2 | 5301.9 | 88.400 | % Recov | 68.000 | 112.000 | | | | 12/22/09 |
| LCS | 2-Fluorophenol(Surr) | 367-12-4 | 3546.4 | 88.700 | % Recov | 50.000 | 110.000 | | | | 12/22/09 |
| LCS | Acenaphthene | 83-32-9 | 5461.8 | 91.000 | % Recov | 75.000 | 121.000 | | | | 12/22/09 |
| LCS | 4-Chloro-3-methylphenol | 59-50-7 | 5637.2 | 94.000 | % Recov | 68.000 | 117.000 | | | | 12/22/09 |
| LCS | 2-Chlorophenol | 95-57-8 | 5487.4 | 91.500 | % Recov | 84.000 | 114.000 | | | | 12/22/09 |
| LCS | N-Nitrosodi-n-dipropylamine | 621-64-7 | 5323.8 | 88.700 | % Recov | 76.000 | 119.000 | | | | 12/22/09 |
| LCS | 2-Fluorobiphenyl(Surr) | 321-60-8 | 3482.7 | 87.100 | % Recov | 58.000 | 109.000 | | | | 12/22/09 |
| LCS | Phenol | 108-95-2 | 5341.9 | 89.000 | % Recov | 80.000 | 113.000 | | | | 12/22/09 |
| LCS | Nitrobenzene-d5(Surr) | 4165-60-0 | 3521.5 | 88.000 | % Recov | 60.000 | 118.000 | | | | 12/22/09 |
| LCS | 4-Nitrophenol | 100-02-7 | 5687.7 | 94.800 | % Recov | 42.000 | 123.000 | | | | 12/22/09 |
| LCS | Pentachlorophenol | 87-86-5 | 5179.8 | 86.300 | % Recov | 55.000 | 120.000 | | | | 12/22/09 |

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Organic

SDG Number: WSCF20091286
Matrix: SOLID
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-d5(Surr) | 4165-62-2 | 3454.0 | 86.400 | % Recov | 59.000 | 118.000 | | | | 12/22/09 |
| LCS | Pyrene | 129-00-0 | 5800.6 | 96.700 | % Recov | 67.000 | 122.000 | | | | 12/22/09 |
| LCS | 2,4,6-Tribromophenol(Surr) | 118-79-6 | 3458.4 | 86.500 | % Recov | 60.000 | 120.000 | | | | 12/22/09 |
| LCS | Terphenyl-d14(Surr) | 98904-43-9 | 3743.0 | 93.600 | % Recov | 60.000 | 120.000 | | | | 12/22/09 |

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Organic

SDG Number: WSCF20091286
 Matrix: SOLID
 Test: VOA Ground Water Protection

Sample Date: 12/09/09
 Receive Date: 12/09/09

| QC Type | Analyte | CAS # | QC Found | QC Yield | Units | Lower Limit | Upper Limit | RPD(%) | RPD Limit | RQ | Analysis Date |
|--|-----------------------------|------------|----------|----------|---------|-------------|-------------|--------|-----------|----|---------------|
| Lab ID: W09GR01159 | | | | | | | | | | | |
| BATCH QC ASSOCIATED WITH SAMPLE | | | | | | | | | | | |
| MS | 1,1-Dichloroethene | 75-35-4 | 22.370 | 85.000 | % Recov | 63.000 | 117.000 | | | | 12/18/09 |
| MS | Benzene | 71-43-2 | 28.370 | 108.000 | % Recov | 75.000 | 129.000 | | | | 12/18/09 |
| MS | 4-Bromofluorobenzene(Surr) | 460-00-4 | 55.720 | 106.000 | % Recov | 75.000 | 125.000 | | | | 12/18/09 |
| MS | Chlorobenzene | 108-90-7 | 29.110 | 111.000 | % Recov | 79.000 | 119.000 | | | | 12/18/09 |
| MS | 1,2-Dichloroethane-d4(Surr) | 17060-07-0 | 57.760 | 110.000 | % Recov | 75.000 | 125.000 | | | | 12/18/09 |
| MS | Toluene-d8(Surr) | 2037-26-5 | 52.800 | 100.000 | % Recov | 75.000 | 125.000 | | | | 12/18/09 |
| MS | Toluene | 108-88-3 | 29.080 | 111.000 | % Recov | 76.000 | 120.000 | | | | 12/18/09 |
| MS | Trichloroethene | 79-01-6 | 26.300 | 99.900 | % Recov | 73.000 | 123.000 | | | | 12/18/09 |
| MSD | 1,1-Dichloroethene | 75-35-4 | 24.730 | 78.900 | % Recov | 63.000 | 117.000 | | | | 12/18/09 |
| MSD | Benzene | 71-43-2 | 34.280 | 109.000 | % Recov | 75.000 | 129.000 | | | | 12/18/09 |
| MSD | 4-Bromofluorobenzene(Surr) | 460-00-4 | 65.040 | 104.000 | % Recov | 75.000 | 125.000 | | | | 12/18/09 |
| MSD | Chlorobenzene | 108-90-7 | 35.090 | 112.000 | % Recov | 79.000 | 119.000 | | | | 12/18/09 |
| MSD | 1,2-Dichloroethane-d4(Surr) | 17060-07-0 | 67.360 | 108.000 | % Recov | 75.000 | 125.000 | | | | 12/18/09 |
| MSD | Toluene-d8(Surr) | 2037-26-5 | 62.850 | 100.000 | % Recov | 75.000 | 125.000 | | | | 12/18/09 |
| MSD | Toluene | 108-88-3 | 34.430 | 110.000 | % Recov | 76.000 | 120.000 | | | | 12/18/09 |
| MSD | Trichloroethene | 79-01-6 | 31.360 | 100.000 | % Recov | 73.000 | 123.000 | | | | 12/18/09 |
| SPK-RPD | 1,1-Dichloroethene | 75-35-4 | 78.900 | | RPD | | | 7.444 | 20.000 | | 12/18/09 |
| SPK-RPD | Benzene | 71-43-2 | 109.000 | | RPD | | | 0.922 | 20.000 | | 12/18/09 |
| SPK-RPD | 4-Bromofluorobenzene(Surr) | 460-00-4 | 104.000 | | RPD | | | 1.905 | 20.000 | | 12/18/09 |
| SPK-RPD | Chlorobenzene | 108-90-7 | 112.000 | | RPD | | | 0.897 | 20.000 | | 12/18/09 |
| SPK-RPD | 1,2-Dichloroethane-d4(Surr) | 17060-07-0 | 108.000 | | RPD | | | 1.835 | 20.000 | | 12/18/09 |
| SPK-RPD | Toluene-d8(Surr) | 2037-26-5 | 100.000 | | RPD | | | 0.000 | 20.000 | | 12/18/09 |
| SPK-RPD | Toluene | 108-88-3 | 110.000 | | RPD | | | 0.905 | 20.000 | | 12/18/09 |
| SPK-RPD | Trichloroethene | 79-01-6 | 100.000 | | RPD | | | 0.100 | 20.000 | | 12/18/09 |
| SURR | 4-Bromofluorobenzene(Surr) | 460-00-4 | 54.590 | 104.000 | % Recov | 75.000 | 125.000 | | | | 12/18/09 |
| SURR | 1,2-Dichloroethane-d4(Surr) | 17060-07-0 | 56.970 | 108.000 | % Recov | 75.000 | 125.000 | | | | 12/18/09 |

WSCF ANALYTICAL LABORATORY QC REPORT

Department: **Organic**

SDG Number: WSCF20091286
 Matrix: SOLID
 Test: VOA Ground Water Protection

Sample Date: 12/09/09
 Receive Date: 12/09/09

| QC Type | Analyte | CAS # | QC Found | QC Yield | Units | Lower Limit | Upper Limit | RPD(%) | RPD Limit | RQ | Analysis Date |
|-----------------|-----------------------------|------------|----------|----------|---------|-------------|-------------|--------|-----------|----|---------------|
| SURR | Toluene-d8(Surr) | 2037-26-5 | 52.570 | 99.900 | % Recov | 80.000 | 126.000 | | | | 12/18/09 |
| BATCH QC | | | | | | | | | | | |
| BLANK | 1,1-Dichloroethane | 75-34-3 | < 1.0 | n/a | ug/Kg | | | | | U | 12/18/09 |
| BLANK | 1,1,1-Trichloroethane | 71-55-6 | < 1.0 | n/a | ug/Kg | | | | | U | 12/18/09 |
| BLANK | 1,1,2-Trichloroethane | 79-00-5 | < 1.0 | n/a | ug/Kg | | | | | U | 12/18/09 |
| BLANK | 1,1,2,2-Tetrachloroethane | 79-34-5 | < 1.0 | n/a | ug/Kg | | | | | U | 12/18/09 |
| BLANK | 1,1-Dichloroethene | 75-35-4 | < 1.0 | n/a | ug/Kg | | | | | U | 12/18/09 |
| BLANK | 1,2-Dichloroethane | 107-06-2 | < 1.0 | n/a | ug/Kg | | | | | U | 12/18/09 |
| BLANK | 1,2-Dichloroethene(Total) | 540-59-0 | < 1.0 | n/a | ug/Kg | | | | | U | 12/18/09 |
| BLANK | 1-Butanol | 71-36-3 | < 100 | n/a | ug/Kg | | | | | U | 12/18/09 |
| BLANK | 2-Hexanone | 591-78-6 | < 1.0 | n/a | ug/Kg | | | | | U | 12/18/09 |
| BLANK | 4-Methyl-2-Pentanone | 108-10-1 | < 1.0 | n/a | ug/Kg | | | | | U | 12/18/09 |
| BLANK | Acetone | 67-84-1 | < 1.0 | n/a | ug/Kg | | | | | U | 12/18/09 |
| BLANK | Bromodichloromethane | 75-27-4 | < 1.0 | n/a | ug/Kg | | | | | U | 12/18/09 |
| BLANK | Benzene | 71-43-2 | < 1.0 | n/a | ug/Kg | | | | | U | 12/18/09 |
| BLANK | 4-Bromofluorobenzene(Surr) | 460-00-4 | 51.660 | 103.000 | % Recov | 75.000 | 125.000 | | | | 12/18/09 |
| BLANK | Bromoform | 75-25-2 | < 1.0 | n/a | ug/Kg | | | | | U | 12/18/09 |
| BLANK | Carbon disulfide | 75-15-0 | < 1.0 | n/a | ug/Kg | | | | | U | 12/18/09 |
| BLANK | Carbon tetrachloride | 56-23-5 | < 1.0 | n/a | ug/Kg | | | | | U | 12/18/09 |
| BLANK | Dibromochloromethane | 124-48-1 | < 1.0 | n/a | ug/Kg | | | | | U | 12/18/09 |
| BLANK | Chloroform | 67-66-3 | < 1.0 | n/a | ug/Kg | | | | | U | 12/18/09 |
| BLANK | Chlorobenzene | 108-90-7 | < 1.0 | n/a | ug/Kg | | | | | U | 12/18/09 |
| BLANK | cis-1,2-Dichloroethylene | 156-59-2 | < 1.0 | n/a | ug/Kg | | | | | U | 12/18/09 |
| BLANK | cis-1,3-Dichloropropene | 10061-01-5 | < 1.0 | n/a | ug/Kg | | | | | U | 12/18/09 |
| BLANK | Chloroethane | 75-00-3 | < 1.0 | n/a | ug/Kg | | | | | U | 12/18/09 |
| BLANK | 1,2-Dichloroethane-d4(Surr) | 17060-07-0 | 51.290 | 103.000 | % Recov | 75.000 | 125.000 | | | | 12/18/09 |
| BLANK | trans-1,2-Dichloroethylene | 156-60-5 | < 1.0 | n/a | ug/Kg | | | | | U | 12/18/09 |
| BLANK | 1,2-Dichloropropane | 78-87-5 | < 1.0 | n/a | ug/Kg | | | | | U | 12/18/09 |
| BLANK | Ethylbenzene | 100-41-4 | < 1.0 | n/a | ug/Kg | | | | | U | 12/18/09 |

WSCF ANALYTICAL LABORATORY QC REPORT

Department: **Organic**

SDG Number: WSCF20091286
 Matrix: SOLID
 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 | Bromomethane | 74-83-9 | < 1.0 | n/a | ug/Kg | | | | | U | 12/18/09 |
| BLANK | Chloromethane | 74-87-3 | < 1.0 | n/a | ug/Kg | | | | | U | 12/18/09 |
| BLANK | 2-Butenone | 78-93-3 | < 1.0 | n/a | ug/Kg | | | | | U | 12/18/09 |
| BLANK | Methylenechloride | 75-09-2 | < 1.0 | n/a | ug/Kg | | | | | U | 12/18/09 |
| BLANK | Tetrachloroethene | 127-18-4 | < 1.0 | n/a | ug/Kg | | | | | U | 12/18/09 |
| BLANK | Styrene | 100-42-5 | < 1.0 | n/a | ug/Kg | | | | | U | 12/18/09 |
| BLANK | Xylenes (total) | 1330-20-7 | < 1.0 | n/a | ug/Kg | | | | | U | 12/18/09 |
| BLANK | Toluene-d8(Surr) | 2037-28-5 | 49.310 | 98.800 | % Recov | 80.000 | 128.000 | | | | 12/18/09 |
| BLANK | Toluene | 108-88-3 | < 1.0 | n/a | ug/Kg | | | | | U | 12/18/09 |
| BLANK | trans-1,3-Dichloropropene | 10061-02-6 | < 1.0 | n/a | ug/Kg | | | | | U | 12/18/09 |
| BLANK | Trichloromonofluoromethane | 75-89-4 | < 1.0 | n/a | ug/Kg | 0.000 | 5.000 | | | U | 12/18/09 |
| BLANK | Trichloroethene | 79-01-6 | < 0.20 | n/a | ug/Kg | | | | | U | 12/18/09 |
| BLANK | Vinyl chloride | 75-01-4 | < 1.0 | n/a | ug/Kg | | | | | U | 12/18/09 |
| LCS | 1,1-Dichloroethene | 75-35-4 | 21.520 | 86.100 | % Recov | 75.000 | 125.000 | | | | 12/18/09 |
| LCS | Benzene | 71-43-2 | 24.430 | 97.700 | % Recov | 75.000 | 125.000 | | | | 12/18/09 |
| LCS | 4-Bromofluorobenzene(Surr) | 480-00-4 | 51.060 | 102.000 | % Recov | 75.000 | 125.000 | | | | 12/18/09 |
| LCS | Chlorobenzene | 108-90-7 | 25.420 | 102.000 | % Recov | 75.000 | 125.000 | | | | 12/18/09 |
| LCS | 1,2-Dichloroethane-d4(Surr) | 17060-07-0 | 52.680 | 105.000 | % Recov | 75.000 | 125.000 | | | | 12/18/09 |
| LCS | Toluene-d8(Surr) | 2037-26-5 | 49.700 | 99.400 | % Recov | 80.000 | 128.000 | | | | 12/18/09 |
| LCS | Toluene | 108-88-3 | 24.990 | 100.000 | % Recov | 75.000 | 125.000 | | | | 12/18/09 |
| LCS | Trichloroethene | 79-01-6 | 23.680 | 94.700 | % Recov | 75.000 | 125.000 | | | | 12/18/09 |

WSCF ANALYTICAL COMMENT REPORT

Attention: Steve Trent
Project Number: F10-011

Group #: WSCF20091286
Department: Organic

| Sample # | Client ID | Lab Area | Test | Comment |
|----------|-----------|----------|------|---|
| | | VALGROUP | | <p>ICP-MS solid: Aluminum sample result more than 4X the spike amount. Spike information not valid.</p> <p>Copper and Selenium Prep blank above the MDL. "C" flag where appropriate.</p> <p>IC Solid: As the analyte concentrations for W09GR01155 are less than 10X the MDL, the relative percent difference (RPD) limits do not apply. SDB 12/23/09</p> <p>IC Cation - MS/MSD recovers out of limits for ammonia. Data N-flagged. DTS</p> <p>Organics: Results are moisture corrected and reported on a dry weight basis. cgc</p> <p>ICP-AES: High iron preparation blank result; "C" flag if applicable.</p> <p>Soil LCS has no certified lithium and bismuth results. The missing elements were spiked into the LCS, digested, analyzed, and reported.</p> <p>Iron sample result exceeds spiking level by a factor of 4 so spike recoveries are not valid.</p> <p>Sample results less than 5 times the MDL; "B" flag.</p> <p>Estimated boron result due to iron interference; "E" flag.</p> |

Lab Areas: VALGROUP - Group Validation
LOGSAMP - Login for Sample

VALTEST - Test Validation
LOGTEST - Login for Tests

TESTDATA - Test Data Entry

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REVISION 1

WSCF ANALYTICAL RESULTS REPORT

Attention: Steve Trent
SAF Number: F10-011
Sample # W09GR01155
Client ID: B22RL1

GPP
WSCF

Matrix: SOIL

Group #: WSCF20091286
Department: Radiochemistry
Sampled: 12/09/09
Received: 12/09/09

| Test Performed | CAS # | Method | RQ | Result | Unit | TP Err | Unit | DF | MDL | PQL | Analysis Date |
|--------------------------------------|------------|------------|----|-----------|---------|-------------|-------|------|---------|-----|---------------|
| Americium by AEA | | | | | | | | | | | |
| Americium-241 | 14596-10-2 | LA-508-471 | | 0.0330 | pCi/g | + -0.0165 | pCi/g | 1.00 | 0.014 | | 01/05/10 |
| Am-243 tracer by AEA | AM243 | LA-508-471 | | 4.00 | pCi/g | | | 1.00 | 4.0e-03 | | 01/05/10 |
| Gamma Energy Analysis-grd H2O | | | | | | | | | | | |
| Antimony-125 | 14234-35-6 | LA-508-481 | U | 5.25e-03 | pCi/g | + -0.0444 | pCi/g | 1.00 | 0.079 | | 12/15/09 |
| Cobalt-60 | 10198-40-0 | LA-508-481 | U | -3.62e-03 | pCi/g | + -0.0166 | pCi/g | 1.00 | 0.029 | | 12/15/09 |
| Cesium-137 | 10045-97-3 | LA-508-481 | U | -8.60e-03 | pCi/g | + -0.0163 | pCi/g | 1.00 | 0.027 | | 12/15/09 |
| Europium-152 | 14683-23-9 | LA-508-481 | U | 0.0350 | pCi/g | + -0.0632 | pCi/g | 1.00 | 0.095 | | 12/15/09 |
| Europium-154 | 15585-10-1 | LA-508-481 | U | -0.0144 | pCi/g | + -0.0497 | pCi/g | 1.00 | 0.087 | | 12/15/09 |
| Europium-155 | 14391-16-3 | LA-508-481 | U | -6.13e-04 | pCi/g | + -6.13e-03 | pCi/g | 1.00 | 0.14 | | 12/15/09 |
| Gross Alpha on Alpha Plateau | | | | | | | | | | | |
| Gross alpha on alpha plateau | 12587-46-1 | LA-508-415 | | 1.50 | pCi/g | + -0.510 | pCi/g | 1.00 | 0.40 | | 12/21/09 |
| Gross Alpha/Gross Beta (AB32) | | | | | | | | | | | |
| Gross beta | 12587-47-2 | LA-508-415 | | 2.40 | pCi/g | + -0.552 | pCi/g | 1.00 | 0.63 | | 12/18/09 |
| Plutonium Isotopics by AEA | | | | | | | | | | | |
| Plutonium-238 | 13981-16-3 | LA-508-471 | U | -0.0210 | pCi/g | + -0.0267 | pCi/g | 1.00 | 0.052 | | 01/06/10 |
| Pu-239/240 by AEA | PU-239/240 | LA-508-471 | | 0.220 | pCi/g | + -0.0682 | pCi/g | 1.00 | 0.016 | | 01/06/10 |
| Pu-242 | 13982-10-0 | LA-508-471 | | 5.90 | pCi/g | | | 1.00 | 4.7e-03 | | 01/06/10 |
| Strontium 89/90 | | | | | | | | | | | |
| Strontium-89/90 | SR-RAD | LA-508-415 | U | -0.480 | pCi/g | + -0.528 | pCi/g | 1.00 | 0.36 | | 12/28/09 |
| Sr-85 Tracer by Beta Counting | SR85 | LA-508-415 | | 76.6 | Percent | | | 1.00 | 0.0 | | 12/28/09 |
| TC99 by Liquid Scin. | | | | | | | | | | | |
| Tc-99 by Liquid Scin. | 14133-76-7 | LA-508-421 | U | 0.0410 | pCi/g | + -0.153 | pCi/g | 1.00 | 0.30 | | 12/18/09 |
| Uranium Isotopics by AEA | | | | | | | | | | | |
| Uranium-233/234 | U-233/234 | LA-508-471 | | 0.160 | pCi/g | + -0.0528 | pCi/g | 1.00 | 4.8e-03 | | 01/05/10 |

MDL = Minimum Detection Limit

RQ = Result Qualifier

TP Err = Total Propagated Error

DF = Dilution Factor

- Indicates results that have NOT been validated;

B - The analyte < the RDL but > = the IDL/MDL (inorg)

D - Analyte was identified at a secondary dilution factor

E - Analyte is an estimate, has potentially larger errors (inorg)

U - Analyzed for but not detected above limiting criteria (inorg)

+ - Indicates more than six qualifier symbols

C - The Analyte was found in the Associated Blank. (inorg)

D - Analyte was identified at a secondary dilution factor (inorg)

N - Spike sample recovery is outside control limits. (inorg)

U - Analyzed for but not detected above limiting criteria.

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Report WGPP/ver. 5.2

Groundwater Remediation Program

REVISION 1

WSCF ANALYTICAL RESULTS REPORT

Attention: Steve Trent
SAF Number: F10-011
Sample # W09GR01155
Client ID: B22RL1

Group #: WSCF20091286
Department: Radiochemistry
Sampled: 12/09/09
Received: 12/09/09

GPP
WSCF

Matrix: SOIL

| Test Performed | CAS # | Method | RQ | Result | Unit | TP Err | Unit | DF | MDL | PQL | Analysis Date |
|---------------------|------------|------------|----|--------|-------|-----------|-------|------|---------|-----|---------------|
| Uranium-235 | 15117-96-1 | LA-508-471 | | 0.0170 | pCi/g | + -0.0121 | pCi/g | 1.00 | 5.2e-03 | | 01/05/10 |
| Uranium-238 | U-238 | LA-508-471 | | 0.130 | pCi/g | + -0.0455 | pCi/g | 1.00 | 4.8e-03 | | 01/05/10 |
| U-232 tracer by AEA | U232 | LA-508-471 | | 3.90 | pCi/g | | | 1.00 | 0.027 | | 01/05/10 |

MDL=Minimum Detection Limit

RQ=Result Qualifier

TP Err=Total Propagated Error

DF=Dilution Factor

* - Indicates results that have NOT been validated;

B - The analyte < the RDL but > = the IDL/MDL (inorg)

D - Analyte was identified at a secondary dilution factor

E - Analyte is an estimate, has potentially larger errors (inorg)

U - Analyzed for but not detected above limiting criteria (inorg)

+ - Indicates more than six qualifier symbols

C - The Analyte was found in the Associated Blank. (inorg)

D - Analyte was identified at a secondary dilution factor (inorg)

N - Spike sample recovery is outside control limits. (inorg)

U - Analyzed for but not detected above limiting criteria.

Report WGPP/ver. 5.2

Groundwater Remediation Program

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Radiochemistry

SDG Number: WSCF20091286
 Matrix: SOLID
 Test: Americium by AEA

Sample Date: 11/20/09
 Receive Date: 11/20/09

| QC Type | Analyte | CAS # | QC Found | QC Yield | Units | Lower Limit | Upper Limit | RPD(%) | RPD Limit | RQ | Analysis Date |
|--|----------------------|------------|----------|----------|---------|-------------|-------------|--------|-----------|----|---------------|
| Lab ID: W09GR01033 | | | | | | | | | | | |
| BATCH QC ASSOCIATED WITH SAMPLE | | | | | | | | | | | |
| DUP | Americium-241 | 14596-10-2 | U1.4e-2 | | RPD | | | n/a | 20.000 | | 01/05/10 |
| DUP | Am-243 tracer by AEA | AM243 | 4.117 | 90.680 | % Recov | 30.000 | 105.000 | | | | 01/05/10 |
| Lab ID: W09GR01155 | | | | | | | | | | | |
| BATCH QC ASSOCIATED WITH SAMPLE | | | | | | | | | | | |
| SURR | Am-243 tracer by AEA | AM243 | 4.015 | 87.080 | % Recov | 30.000 | 105.000 | | | | 01/05/10 |
| BATCH QC | | | | | | | | | | | |
| BLANK | Americium-241 | 14596-10-2 | 2.9e-2 | 0.029 | pCi/g | -10.000 | 1000.000 | | | | 01/05/10 |
| BLANK | Am-243 tracer by AEA | AM243 | 4.216 | 83.870 | % Recov | 30.000 | 105.000 | | | | 01/05/10 |
| LCS | Americium-241 | 14596-10-2 | 11.76 | 99.241 | % Recov | 80.000 | 120.000 | | | | 01/05/10 |
| LCS | Am-243 tracer by AEA | AM243 | 11.7 | 96.820 | % Recov | 30.000 | 105.000 | | | | 01/05/10 |

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Radiochemistry

SDG Number: WSCF20091286

Matrix: SOLID

Test: Gamma Energy Analysis-grd H2O

Sample Date: 12/09/09

Receive Date: 12/09/09

| QC Type | Analyte | CAS # | QC Found | QC Yield | Units | Lower Limit | Upper Limit | RPD(%) | RPD Limit | RQ | Analysis Date |
|--|--------------|------------|------------|----------|---------|-------------|-------------|--------|-----------|----|---------------|
| Lab ID: W09GR01155 | | | | | | | | | | | |
| BATCH QC ASSOCIATED WITH SAMPLE | | | | | | | | | | | |
| DUP | Cobalt-60 | 10198-40-0 | U-1.497e-3 | | RPD | | | n/a | 20.000 | | 12/15/09 |
| DUP | Cesium-137 | 10045-97-3 | U-1.811e-2 | | RPD | | | n/a | 20.000 | | 12/15/09 |
| DUP | Europium-152 | 14683-23-9 | U4.366e-4 | | RPD | | | n/a | 20.000 | | 12/15/09 |
| DUP | Europium-154 | 15585-10-1 | U2.449e-3 | | RPD | | | n/a | 20.000 | | 12/15/09 |
| DUP | Europium-155 | 14391-16-3 | U5.187e-2 | | RPD | | | n/a | 20.000 | | 12/15/09 |
| DUP | Antimony-125 | 14234-35-6 | U2.987e-2 | | RPD | | | n/a | 20.000 | | 12/15/09 |
| BATCH QC | | | | | | | | | | | |
| BLANK | Cobalt-60 | 10198-40-0 | U3.586e-3 | n/a | pCi/g | -10.000 | 1000.000 | | | | 12/16/09 |
| BLANK | Cesium-137 | 10045-97-3 | U-4.941e-3 | n/a | pCi/g | -10.000 | 1000.000 | | | | 12/16/09 |
| BLANK | Europium-152 | 14683-23-9 | U5.403e-3 | n/a | pCi/g | -10.000 | 1000.000 | | | | 12/16/09 |
| BLANK | Europium-154 | 15585-10-1 | U8.628e-3 | n/a | pCi/g | -10.000 | 1000.000 | | | | 12/16/09 |
| BLANK | Europium-155 | 14391-16-3 | U1.978e-2 | n/a | pCi/g | -10.000 | 1000.000 | | | | 12/16/09 |
| BLANK | Antimony-125 | 14234-35-6 | U2.622e-3 | n/a | pCi/g | -10.000 | 1000.000 | | | | 12/16/09 |
| LCS | Cobalt-60 | 10198-40-0 | 10220 | 102.817 | % Recov | 80.000 | 120.000 | | | | 12/15/09 |
| LCS | Cesium-137 | 10045-97-3 | 6409 | 106.109 | % Recov | 80.000 | 120.000 | | | | 12/15/09 |

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Radiochemistry

SDG Number: WSCF20091286
 Matrix: SOLID
 Test: Gross Alpha on Alpha Plateau

Sample Date: 12/11/09
 Receive Date: 12/11/09

| QC Type | Analyte | CAS # | QC Found | QC Yield | Units | Lower Limit | Upper Limit | RPD(%) | RPD Limit | RQ | Analysis Date |
|--|------------------------------|---------------|----------|----------|---------|-------------|-------------|--------|-----------|----|---------------|
| Lab ID: W09GR01170 | | | | | | | | | | | |
| BATCH QC ASSOCIATED WITH SAMPLE | | | | | | | | | | | |
| DUP | Gross alpha on alpha plateau | 12587-46-1 | 1.4 | | RPD | | | 19.355 | 20.000 | | 12/21/09 |
| BATCH QC | | | | | | | | | | | |
| BLANK | Gross alpha on alpha plateau | 12587-46-1-ap | U1.7E-02 | n/a | pCi/g | -2.000 | 2.000 | | | | 12/21/09 |
| LCS | Gross alpha on alpha plateau | 12587-46-1-ap | 5.5 | 84.615 | % Recov | 80.000 | 120.000 | | | | 12/21/09 |

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Radiochemistry

SDG Number: WSCF20091286
 Matrix: SOLID
 Test: Gross Alpha/Gross Beta (AB32)

Sample Date: 12/11/09
 Receive Date: 12/11/09

| QC Type | Analyte | CAS # | QC Found | QC Yield | Units | Lower Limit | Upper Limit | RPD(%) | RPD Limit | RQ | Analysis Date |
|--|------------|------------|----------|----------|---------|-------------|-------------|--------|-----------|----|---------------|
| Lab ID: W09GR01170 | | | | | | | | | | | |
| BATCH QC ASSOCIATED WITH SAMPLE | | | | | | | | | | | |
| DUP | Gross beta | 12587-47-2 | 2.1 | | RPD | | | 15.385 | 20.000 | | 12/18/09 |
| BATCH QC | | | | | | | | | | | |
| BLANK | Gross beta | 12587-47-2 | U0.35 | n/a | pCi/g | -10.000 | 10.000 | | | | 12/18/09 |
| LCS | Gross beta | 12587-47-2 | 25.2 | 112.701 | % Recov | 80.000 | 120.000 | | | | 12/18/09 |

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Radiochemistry

SDG Number: WSCF20091286
 Matrix: SOLID
 Test: Plutonium Isotopics by AEA

Sample Date: 11/20/09
 Receive Date: 11/20/09

| QC Type | Analyte | CAS # | QC Found | QC Yield | Units | Lower Limit | Upper Limit | RPD(%) | RPD Limit | RQ | Analysis Date |
|--|-------------------|------------|----------|----------|---------|-------------|-------------|--------|-----------|----|---------------|
| Lab ID: W09GR01033 | | | | | | | | | | | |
| BATCH QC ASSOCIATED WITH SAMPLE | | | | | | | | | | | |
| DUP | Plutonium-238 | 13981-16-3 | U2.9e-2 | | RPD | | | n/a | 20.000 | | 01/06/10 |
| DUP | Pu-239/240 by AEA | PU-239/240 | U9.2e-3 | | RPD | | | n/a | 20.000 | | 01/06/10 |
| DUP | Pu-242 | 13982-10-0 | 6.088 | 88.080 | % Recov | 30.000 | 105.000 | | | | 01/06/10 |
| Lab ID: W09GR01155 | | | | | | | | | | | |
| BATCH QC ASSOCIATED WITH SAMPLE | | | | | | | | | | | |
| SURR | Pu-242 | 13982-10-0 | 5.937 | 90.740 | % Recov | 30.000 | 105.000 | | | | 01/06/10 |
| BATCH QC | | | | | | | | | | | |
| BLANK | Plutonium-238 | 13981-16-3 | U-3.6e-2 | n/a | pCi/g | -10.000 | 1000.000 | | | | 01/06/10 |
| BLANK | Pu-239/240 by AEA | PU-239/240 | U5.6e-3 | n/a | pCi/g | -10.000 | 1000.000 | | | | 01/06/10 |
| BLANK | Pu-242 | PU242 | 6.234 | 86.700 | % Recov | 30.000 | 105.000 | | | | 01/06/10 |
| LCS | Pu-239/240 by AEA | PU-239/240 | 12.98 | 101.051 | % Recov | 80.000 | 120.000 | | | | 01/06/10 |
| LCS | Pu-242 | PU242 | 17.3 | 83.310 | % Recov | 30.000 | 105.000 | | | | 01/06/10 |

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Radiochemistry

SDG Number: WSCF20091286
 Matrix: SOLID
 Test: Strontium 89/90

Sample Date: 11/20/09
 Receive Date: 11/20/09

| QC Type | Analyte | CAS # | QC Found | QC Yield | Units | Lower Limit | Upper Limit | RPD(%) | RPD Limit | RQ | Analysis Date |
|--|-------------------------------|------------|-----------|----------|---------|-------------|-------------|--------|-----------|----|---------------|
| Lab ID: W09GR01033 | | | | | | | | | | | |
| BATCH QC ASSOCIATED WITH SAMPLE | | | | | | | | | | | |
| DUP | Sr-85 Tracer by Beta Counting | SR85 | 82.8 | 82.800 | % Recov | 30.000 | 105.000 | | | | 12/28/09 |
| DUP | Strontium-89/90 | SR-RAD | U-3.0E-01 | | RPD | | | n/a | 20.000 | | 12/28/09 |
| Lab ID: W09GR01155 | | | | | | | | | | | |
| BATCH QC ASSOCIATED WITH SAMPLE | | | | | | | | | | | |
| SURR | Sr-85 Tracer by Beta Counting | SR85 | 76.6 | 76.600 | % Recov | 30.000 | 105.000 | | | | 12/28/09 |
| BATCH QC | | | | | | | | | | | |
| BLANK | Sr-85 Tracer by Beta Counting | SR85 | 90.3 | 90.300 | % Recov | 30.000 | 105.000 | | | | 12/28/09 |
| BLANK | Strontium-89/90 | 10098-97-2 | U-8.4E-01 | n/a | pCi/g | -10.000 | 300.000 | | | | 12/28/09 |
| LCS | Sr-85 Tracer by Beta Counting | SR85 | 71.1 | 71.100 | % Recov | 30.000 | 105.000 | | | | 12/28/09 |
| LCS | Strontium-89/90 | 10098-97-2 | 66.2 | 95.252 | % Recov | 80.000 | 120.000 | | | | 12/28/09 |

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Radiochemistry

SDG Number: WSCF20091286
 Matrix: SOLID
 Test: TC99 by Liquid Scin.

Sample Date: 12/04/09
 Receive Date: 12/04/09

| QC Type | Analyte | CAS # | QC Found | QC Yield | Units | Lower Limit | Upper Limit | RPD(%) | RPD Limit | RQ | Analysis Date |
|--|-----------------------|------------|-----------|----------|---------|-------------|-------------|--------|-----------|----|---------------|
| Lab ID: W09GR01124 | | | | | | | | | | | |
| BATCH QC ASSOCIATED WITH SAMPLE | | | | | | | | | | | |
| DUP | Tc-99 by Liquid Scin. | 14133-76-7 | U-1.7E-01 | | RPD | | | n/a | 20.000 | | 12/18/09 |
| MS | Tc-99 by Liquid Scin. | 14133-76-7 | 96.9 | 96.900 | % Recov | 75.000 | 125.000 | | | | 12/18/09 |
| BATCH QC | | | | | | | | | | | |
| BLANK | Tc-99 by Liquid Scin. | 14133-76-7 | U-3.1E-02 | n/a | pCi/g | -10.000 | 1000.000 | | | | 12/18/09 |
| LCS | Tc-99 by Liquid Scin. | 14133-76-7 | 11.0 | 104.762 | % Recov | 80.000 | 120.000 | | | | 12/18/09 |

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Radiochemistry

SDG Number: WSCF20091286
 Matrix: SOLID
 Test: Uranium Isotopics by AEA

Sample Date: 11/20/09
 Receive Date: 11/20/09

| QC Type | Analyte | CAS # | QC Found | QC Yield | Units | Lower Limit | Upper Limit | RPD(%) | RPD Limit | RQ | Analysis Date |
|--|---------------------|------------|-----------|----------|---------|-------------|-------------|--------|-----------|----|---------------|
| Lab ID: W09GR01033 | | | | | | | | | | | |
| BATCH QC ASSOCIATED WITH SAMPLE | | | | | | | | | | | |
| DUP | U-232 tracer by AEA | U232 | 3.963 | 83.710 | % Recov | 30.000 | 105.000 | | | | 01/05/10 |
| DUP | Uranium-233/234 | U-233/234 | 0.13 | | RPD | | | 8.000 | 20.000 | | 01/05/10 |
| DUP | Uranium-235 | 15117-96-1 | 1.9e-2 | | RPD | | | n/a | 20.000 | | 01/05/10 |
| DUP | Uranium-238 | U-238 | 0.14 | | RPD | | | 0.000 | 20.000 | | 01/05/10 |
| Lab ID: W09GR01155 | | | | | | | | | | | |
| BATCH QC ASSOCIATED WITH SAMPLE | | | | | | | | | | | |
| SURR | U-232 tracer by AEA | U232 | 3.865 | 84.190 | % Recov | 30.000 | 105.000 | | | | 01/05/10 |
| BATCH QC | | | | | | | | | | | |
| BLANK | U-232 tracer by AEA | U232 | 4.058 | 61.493 | % Recov | 30.000 | 105.000 | | | | 01/05/10 |
| BLANK | Uranium-233/234 | 13966-29-5 | U3e-03 | n/a | pCi/g | -10.000 | 1000.000 | | | | 01/05/10 |
| BLANK | Uranium-235 | 15117-96-1 | U-3.17e-3 | n/a | pCi/g | -10.000 | 1000.000 | | | | 01/05/10 |
| BLANK | Uranium-238 | 24678-82-8 | U5.8e-3 | n/a | pCi/g | -10.000 | 1000.000 | | | | 01/05/10 |
| LCS | U-232 tracer by AEA | U232 | 11.26 | 85.990 | % Recov | 30.000 | 105.000 | | | | 01/05/10 |
| LCS | Uranium-238 | 24678-82-8 | 18.43 | 115.274 | % Recov | 80.000 | 120.000 | | | | 01/05/10 |

WSCF ANALYTICAL COMMENT REPORT

Attention: Steve Trent
Project Number F10-011

Group #: WSCF20091286
Department: Radiochemistry

| Sample # | Client ID | Lab Area | Test | Comment |
|----------|-----------|----------|------|---|
| | | VALGROUP | | <p>ICP-MS solid: Aluminum sample result more than 4X the spike amount. Spike information not valid.</p> <p>Copper and Selenium Prep blank above the MDL. "C" flag where appropriate.</p> <p>IC Solid: As the analyte concentrations for W09GR01155 are less than 10X the MDL, the relative percent difference (RPD) limits do not apply. SDB 12/23/09</p> <p>IC Cation - MS/MSD recoveries out of limits for ammonia. Data N-flagged. DTS</p> <p>Organics: Results are moisture corrected and reported on a dry weight basis. cgc</p> <p>ICP-AES: High iron preparation blank result; "C" flag if applicable.</p> <p>Soil LCS has no certified lithium and bismuth results. The missing elements were spiked into the LCS, digested, analyzed, and reported.</p> <p>Iron sample result exceeds spiking level by a factor of 4 so spike recoveries are not valid.</p> <p>Sample results less than 5 times the MDL; "B" flag.</p> <p>Estimated boron result due to iron interference; "E" flag.</p> |

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

TENTATIVELY IDENTIFIED PEAK REPORT

Attention:
Project Number

Steve Trent
F10-011 :F10-011

Group #: WSCF20091286
Department: Radiochemistry

| Sample # | Client ID | Test Name | Peak Name | CAS# | RT | RQ | Result | Units |
|------------|-----------|-----------|-------------------------------|--------------------|----|----|--------|-------|
| W09GR01155 | B22RL1 | GPP | Gamma Energy Analysis-grd H2O | AC-228 | | | 0.56 | pCi/g |
| W09GR01155 | B22RL1 | GPP | Gamma Energy Analysis-grd H2O | AC-228 Count Error | | | 44 | % |
| W09GR01155 | B22RL1 | GPP | Gamma Energy Analysis-grd H2O | BI-212 | | | 0.46 | pCi/g |
| W09GR01155 | B22RL1 | GPP | Gamma Energy Analysis-grd H2O | BI-212 Count Error | | | 48 | % |
| W09GR01155 | B22RL1 | GPP | Gamma Energy Analysis-grd H2O | BI-214 | | | 0.53 | pCi/g |
| W09GR01155 | B22RL1 | GPP | Gamma Energy Analysis-grd H2O | BI-214 Count Error | | | 24 | % |
| W09GR01155 | B22RL1 | GPP | Gamma Energy Analysis-grd H2O | K-40 | | | 18 | pCi/g |
| W09GR01155 | B22RL1 | GPP | Gamma Energy Analysis-grd H2O | K-40 Count Error | | | 13 | % |
| W09GR01155 | B22RL1 | GPP | Gamma Energy Analysis-grd H2O | PB-212 | | | 0.65 | pCi/g |
| W09GR01155 | B22RL1 | GPP | Gamma Energy Analysis-grd H2O | PB-212 Count Error | | | 15 | % |
| W09GR01155 | B22RL1 | GPP | Gamma Energy Analysis-grd H2O | RA-226 | | | 0.38 | pCi/g |
| W09GR01155 | B22RL1 | GPP | Gamma Energy Analysis-grd H2O | RA-226 Count Error | | | 23 | % |
| W09GR01155 | B22RL1 | GPP | Gamma Energy Analysis-grd H2O | RA-228 | | | 0.68 | pCi/g |
| W09GR01155 | B22RL1 | GPP | Gamma Energy Analysis-grd H2O | RA-228 Count Error | | | 23 | % |
| W09GR01155 | B22RL1 | GPP | Gamma Energy Analysis-grd H2O | TL-208 | | | 0.17 | pCi/g |
| W09GR01155 | B22RL1 | GPP | Gamma Energy Analysis-grd H2O | TL-208 Count Error | | | 26 | % |

RQ=Result Qualifier

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Groundwater Remediation Program

WGPPE v 5.2 Report#: WSCF20091286 Report Date: 27-jan-2010

Page 1

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REVISION 1

M4W41-SLF-10-043

ATTACHMENT 4

SAMPLE RECEIPT INFORMATION w/SAMPLE RECORD SHEET

Consisting of 8 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

File

ACKNOWLEDGMENT OF SAMPLES RECEIVED

01/21/10


Groundwater Remediation Program

Richland, WA 99354
 Attn: Steve Trent

Customer Code: GPP
 PO#: 30214ES10
 Group#: 20091286
 Project#: F10-011
 Proj Mgr: Steve Trent
 Phone: 373-5869

The following samples were received from you on 12/09/09. 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 |
|------------|-----------|---|--|-------------|
| W09GR01155 | B22RL1 | GPP @2008 @8015GPP @AEA-32 @ALPHA @SR89_90 @SVOCGPP NH4-IC PERSOLID | Solid, or handle as if solid @AB-32 @AEA-30 @AEA-31 @GEA-GPP @GPP6010 @IC-30 @PCBG @TC99-30 @TPHD-WA CN-02 CR+6 | 12/09/09 |
| W09GR01159 | B22RL2 | GPP @VOA-GPP | Solid, or handle as if solid | 12/09/09 |
| W09GR01160 | B22RL3 | GPP @VOA-GPP | Solid, or handle as if solid | 12/09/09 |

Test Acronym Description

| Test Acronym | Description |
|--------------|--------------------------------|
| @2008 | ICP-200.8 MS All possible meta |
| @8015GPP | Alcohols, Glycols - 8015 |
| @AB-32 | Gross Alpha/Gross Beta (AB32) |
| @AEA-30 | Plutonium Isotopics by AEA |
| @AEA-31 | Americium by AEA |
| @AEA-32 | Uranium Isotopics by AEA |
| @ALPHA | Gross Alpha on Alpha Plateau |
| @GEA-GPP | Gamma Energy Analysis-grd H2O |
| @GPP6010 | ICP Metals Analysis, Grd H2O P |
| @IC-30 | Anions by Ion Chromatography |
| @PCBGPP | PCBs complete list |
| @SR89_90 | Strontium 89/90 |
| @SVOCGPP | SW-846 8270C Semi-Vols |
| @TC99-30 | TC99 by Liquid Scin. |
| @TPHD-WA | NWTPH-D TPH Diesel Range (Wa) |
| @VOA-GPP | VOA Ground Water Protection |
| CN-02 | Cyanide by Midi/Spectrophotom |
| CR+6 | Hexavalent chromium |
| NH4-IC | Ammonia (N) by IC |
| PERSOLID | Percent Solids |

COLLECTOR 01/21/10
Helm, Bates
 SAMPLING LOCATION
 C5860 (299-E29-54); I-045
 ICE CHEST NO.

COMPANY CONTACT
 DYEKMAN, DL
 TELEPHONE NO.
 373-2530
 PROJECT DESIGNATION
 ARRA 200-LW-2 OU Characterization Vadose Zone - Soil ("K" Well)
 FIELD LOGBOOK NO.
HNF-N-576-3 pg 92
 ACTUAL SAMPLE DEPTH
159.5-162
 OFFSITE PROPERTY NO.
 N/A

PROJECT COORDINATOR
 DYEKMAN, DL
 SAF NO.
 F10-011
 COA
 302143ES10
 BILL OF LADING/AIR BILL NO.
 N/A

PRICE CODE **8N**
 AIR QUALITY
 DATA TURNAROUND
45 Days / 45 Days
 METHOD OF SHIPMENT
 GOVERNMENT VEHICLE

SHIPPED TO
 Waste Sampling & Characterization **20091286**

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

POSSIBLE SAMPLE HAZARDS/ REMARKS
 Contains Radioactive Material at concentrations that may or may not be regulated for transportation per 49 CFR / IATA Dangerous Goods Regulations but are not releasable per DOE Order 5400.5 (1990/1993)

SPECIAL HANDLING AND/OR STORAGE
 RADIOACTIVE TIE TO: B22T41

| PRESERVATION | Cool-4C | Cool-4C | None | Cool-4C | Cool-4C | Cool-4C | Cool-4C | None | None |
|---------------------|---|---|---|-------------------------|---|--------------------------|---|---|---|
| TYPE OF CONTAINER | g/S | g | G/P | G/P | G/P | G | g | Square Bottle - Poly | G/P |
| NO. OF CONTAINER(S) | 3 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| VOLUME | 40mL | 250mL | 120mL | 120mL | 120mL | 60mL | 250mL | 500mL | 120mL |
| SAMPLE ANALYSIS | SEE ITEM (1) IN SPECIAL INSTRUCTIONS ✓ | SEE ITEM (2) IN SPECIAL INSTRUCTIONS ✓ | SEE ITEM (3) IN SPECIAL INSTRUCTIONS ✓ | Chromium Hex 7196; ✓ | SEE ITEM (4) IN SPECIAL INSTRUCTIONS ✓ | Total Cyanide 7014; ✓ | SEE ITEM (5) IN SPECIAL INSTRUCTIONS ✓ | SEE ITEM (6) IN SPECIAL INSTRUCTIONS ✓ | SEE ITEM (7) IN SPECIAL INSTRUCTIONS ✓ |

| SAMPLE NO. | MATRIX* | SAMPLE DATE | SAMPLE TIME | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
|------------|---------|-------------|-------------|---|---|---|---|---|---|---|---|
| B22RL1 | SOIL | 12-9-09 | 0902 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| W09GR01155 | | | | | | | | | | | |

| CHAIN OF POSSESSION | SIGN/ PRINT NAMES | SPECIAL INSTRUCTIONS |
|--|---|---|
| RELINQUISHED BY/REMOVED FROM <i>Dale Bates Dale Bates</i> | RECEIVED BY/STORED IN T A Frazier | SEE PAGE 2 FOR ALL SPECIAL INSTRUCTIONS |
| DATE/TIME 12-9-9 | DATE/TIME 12-9-09 1330 | |
| RELINQUISHED BY/REMOVED FROM | RECEIVED BY/STORED IN | |
| RELINQUISHED BY/REMOVED FROM | RECEIVED BY/STORED IN | |
| RELINQUISHED BY/REMOVED FROM | RECEIVED BY/STORED IN | |
| RELINQUISHED BY/REMOVED FROM | RECEIVED BY/STORED IN | |
| RELINQUISHED BY/REMOVED FROM | RECEIVED BY/STORED IN | |
| RELINQUISHED BY/REMOVED FROM | RECEIVED BY/STORED IN | |

ORIGINAL
ICED

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

REVISION 1

| | | | | | |
|--|---|---|---|---|---|
| COLLECTOR Helm, Bates | COMPANY CONTACT DYEKMAN, DL | TELEPHONE NO. 373-2530 | PROJECT COORDINATOR DYEKMAN, DL | PRICE CODE 8N | DATA TURNAROUND 45 Days / 45 Days |
| SAMPLING LOCATION C5860 (299-E29-54); I-045 | PROJECT DESIGNATION ARRA 200-LW-2 OU Characterization Vadose Zone - Soil ("K" Well) | | SAF NO. F10-011 | AIR QUALITY <input type="checkbox"/> | |
| ICE CHEST NO. | FIELD LOGBOOK NO. HNF-N- 576-3 pg 92 | ACTUAL SAMPLE DEPTH 159.5-162 | COA 302143ES10 | METHOD OF SHIPMENT GOVERNMENT VEHICLE | |
| SHIPPED TO Waste Sampling & Characterization | OFFSITE PROPERTY NO. N/A | BILL OF LADING/AIR BILL NO. N/A | | | |

SPECIAL INSTRUCTIONS

** The 200 Area S&GRP Characterization and Monitoring Sampling and Analysis GKI applies to this SAF.

- (1)Alcohols, Glycols, & Ketones - 8015 (Ethylene glycol, Diethyl ether)
- (2)Semi-VOA - 8270B (TCL); Semi-VOA - 8270B (Add-On) (Tributyl phosphate, 3+4 Methylphenol (cresol, m+p)) TPH-DieselKerosene Range - WTPH-D (Total petroleum hydrocarbons - diesel range, Total petroleum hydrocarbons - kerosene range)
- (3)ICP/MS - 200.8 (TAL) (Aluminum, Antimony, Barium, Chromium, Cobalt, Cadmium, Copper, Zinc, Manganese, Nickel, Vanadium, Silver) ICP/MS - 200.8 (Add-on) (Arsenic, Lead, Strontium, Thallium, Beryllium, Thorium, Uranium, Selenium) ICP Metals - 6010B (TAL) (Iron) ICP Metals - 6010B (Add-On) (Boron, Bismuth, Lithium) 200.8_HG - ICPMS (Mercury)
- (4)IC Anions - 300.0 (Phosphorus in phosphate, Chloride, Nitrogen in Nitrite, Fluoride, Nitrogen in Nitrate, Sulfate) Cation's (IC) - 300.7 (Nitrogen in ammonium)
- (5)PCBs - 8082 (Aroclor-1262, Aroclor-1260, Aroclor-1254, Aroclor-1242, Aroclor-1232, Aroclor-1268, Aroclor-1221, Aroclor-1016, Aroclor-1248)
- (6)Gamma Spectroscopy (Europium-155, Cesium-137, Europium-154, Europium-152, Cobalt-60) Gamma Spec - Add-on (Antimony-125)
- (7)Gross Alpha (Gross alpha) Gross Beta (Gross beta) Americium-241; Technetium-99 (Technetium-99) Isotopic Uranium (Uranium-233/234, Uranium-235, Uranium-238) Isotopic Plutonium; Strontium-89,90 -- Total Sr;

 ORIGINAL

COLLECTOR
Helm Bates
SAMPLING LOCATION
CS860 (299-E29-54); I-045
ICE CHEST NO.

SHIPPED TO
Waste Sampling & Characterization

COMPANY CONTACT
DYEKMAN, DL
TELEPHONE NO.
373-2530
PROJECT DESIGNATION
ARRA 200-LW-2 OU Characterization Vadose Zone - Soil ("K" Well)
FIELD LOGBOOK NO.
HNF-N-576-3 pg 92
ACTUAL SAMPLE DEPTH
159.5-162
OFFSITE PROPERTY NO.
N/A

PROJECT COORDINATOR
DYEKMAN, DL
PRICE CODE SN
AIR QUALITY
DATA TURNAROUND
45 Days / 45 Days
METHOD OF SHIPMENT
GOVERNMENT VEHICLE
BILL OF LADING/AIR BILL NO.
N/A

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

POSSIBLE SAMPLE HAZARDS/ REMARKS
Contains Radioactive Material at concentrations that may or may not be regulated for transportation per 49 CFR / IATA Dangerous Goods Regulations but are not releasable per DOE Order 5400.5 (1990/1993)

SPECIAL HANDLING AND/OR STORAGE
RADIOACTIVE TIE TO: B22T41

| PRESERVATION | Cool <-7C and >-20C | | MEOH/Cool-4 C | |
|----------------------------|--------------------------------------|--------------------------------------|---------------|--|
| | gGs* | gGs* | | |
| TYPE OF CONTAINER | | | | |
| NO. OF CONTAINER(S) | 5 | 3 | | |
| VOLUME | 40mL | 40mL | | |
| SAMPLE ANALYSIS | SEE ITEM (1) IN SPECIAL INSTRUCTIONS | SEE ITEM (2) IN SPECIAL INSTRUCTIONS | | |

| SAMPLE NO. | MATRIX* | SAMPLE DATE | SAMPLE TIME | | | | | | |
|------------|-----------|-------------|-------------|---|---|--|--|--|--|
| B22RL2 | 1159 SOIL | 12-9-09 | 0902 | ✓ | ✓ | | | | |

CHAIN OF POSSESSION

| | |
|------------------------------|--------------|
| RELINQUISHED BY/REMOVED FROM | DATE/TIME |
| Dale Bates, Dale Bates | 12-9-09 1330 |
| RELINQUISHED BY/REMOVED FROM | DATE/TIME |

SIGN/ PRINT NAMES

| | |
|-----------------------|--------------|
| RECEIVED BY/STORED IN | DATE/TIME |
| T A Frazier | 12-9-09 1330 |
| RECEIVED BY/STORED IN | DATE/TIME |

SPECIAL INSTRUCTIONS
SEE PAGE 2 FOR ALL SPECIAL INSTRUCTIONS

ICED

 ORIGINAL

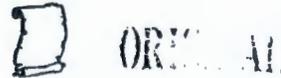
| | | | |
|------------------------------------|-----------------|-------------|-----------|
| LABORATORY SECTION | RECEIVED BY | TITLE | DATE/TIME |
| ORIGINAL SAMPLE DISPOSITION | DISPOSAL METHOD | DISPOSED BY | DATE/TIME |

REVISION 1

| | | | | | |
|--|---|---|--|---|---|
| COLLECTOR Helm, Bates | COMPANY CONTACT DYEKMAN, DL | TELEPHONE NO. 373-2530 | PROJECT COORDINATOR DYEKMAN, DL | PRICE CODE 8N | DATA TURNAROUND 45 Days / 45 Days |
| SAMPLING LOCATION C5860 (299-E29-54); I-045 | PROJECT DESIGNATION ARRA 200-LW-2 OU Characterization Vadose Zone - Soil ("K" Well) | SAF NO. F10-011 | AIR QUALITY <input type="checkbox"/> | | |
| ICE CHEST NO. | FIELD LOGBOOK NO. HNF-N-576-3 pg 9a | ACTUAL SAMPLE DEPTH 159.5-162 | COA 302143ES10 | METHOD OF SHIPMENT GOVERNMENT VEHICLE | |
| SHIPPED TO Waste Sampling & Characterization | OFFSITE PROPERTY NO. N/A | BILL OF LADING/AIR BILL NO. N/A | | | |

SPECIAL INSTRUCTIONS

- ** The 200 Area S&GRP Characterization and Monitoring Sampling and Analysis GKI applies to this SAF.
 - ** All VOA samples will be collected using EPA Method 5035A.
 - ** VOA sample bottle sets will include 3 bottles for high level analysis, 5 bottles for low level analysis, and 1 methanol process control sample.
 - ** The laboratory is to use one of the low level VOA bottles for moisture content determination.
 - ** VOA bottles will be labeled with an appended suffix of K, L, M, N, or P for low level and W, X, or Y for high level. These suffixes are for the purpose of providing bottle weights to the laboratories. These suffixes should not be include as part of the sample ID reported in the final data packages.
- (1)VOA - 5035/8260 (LOW LEVEL); VOA - 5035/8260 (LOW LEVEL) - (Add-On) (Trichloromonofluoromethane, 1-Butanol, cis-1,2-Dichloroethylene, trans-1,2-Dichloroethylene)
(2)VOA - 5035/8260 (HIGH LEVEL); VOA - 5035/8260 (HIGH LEVEL) - (Add-On) (Trichloromonofluoromethane, 1-Butanol, cis-1,2-Dichloroethylene, trans-1,2-Dichloroethylene)



COLLECTOR

Helm, Bates

SAMPLING LOCATION

C5860 (299-E29-54); I-045

ICE CHEST NO.

COMPANY CONTACT

DYEKMAN, DL

TELEPHONE NO.

373-2530

PROJECT COORDINATOR

DYEKMAN, DL

PRICE CODE

8N

DATA
TURNAROUND
45 Days / 45
Days

PROJECT DESIGNATION

ARRA 200-LW-2 OU Characterization Vadose Zone - Soil ("K" Well)

SAF NO.

F10-011

AIR QUALITY

FIELD LOGBOOK NO.

HNF-N-576-3 *92*

ACTUAL SAMPLE DEPTH

159.5-162

COA

302143E510

METHOD OF SHIPMENT

GOVERNMENT VEHICLE

SHIPPED TO

Waste Sampling & Characterization

OFFSITE PROPERTY NO.

N/A

BILL OF LADING/AIR BILL NO.

N/A

MATRIX*

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

POSSIBLE SAMPLE HAZARDS/ REMARKS

Contains Radioactive Material at concentrations that may or may not be regulated for transportation per 49 CFR / IATA Dangerous Goods Regulations but are not releasable per DOE Order 5400.5 (1990/1993)

SPECIAL HANDLING AND/OR STORAGE

RADIOACTIVE TIE TO: B22T41

PRESERVATION

Cool-4C

TYPE OF CONTAINER

3Gs*

NO. OF CONTAINER(S)

1

VOLUME

40ml

SAMPLE ANALYSIS

SEE ITEM (1) IN SPECIAL INSTRUCTIONS

SAMPLE NO.

B22RL3

MATRIX*

H60

SOIL

SAMPLE DATE

12-9-09

SAMPLE TIME

0902



ICED

CHAIN OF POSSESSION

SIGN/ PRINT NAMES

SPECIAL INSTRUCTIONS

RELINQUISHED BY/REMOVED FROM

Dale Bates Dale Bates 12-9-9

DATE/TIME

1330

RECEIVED BY/STORED IN

T A Frazier

DATE/TIME

12-9-09 1330

** The 200 Area S&GRP Characterization and Monitoring Sampling and Analysis GKI applies to this SAF.
 ** All VOA samples will be collected using EPA Method 5035A.
 ** VOA sample bottle sets will include 3 bottles for high level analysis, 5 bottles for low level analysis, and 1 methanol process control sample.
 ** The laboratory is to use one of the low level VOA bottles for moisture content determination.
 ** VOA bottles will be labeled with an appended suffix of K, L, M, N, or P for low level and W, X, or Y for high level. These suffixes are for the purpose of providing bottle weights to the laboratories. These suffixes should not be include as part of the sample ID reported in the final data packages.
 (1)VOA - 5035/8260 (TCL); VOA - 5035/8260 - (Add-On)
 {Trichloromonofluoromethane, 1-Butanol, cis-1,2-Dichloroethylene, trans-1,2-Dichloroethylene}

RELINQUISHED BY/REMOVED FROM

DATE/TIME

RECEIVED BY/STORED IN

DATE/TIME

60 of LABORATORY SECTION

RECEIVED BY

ORIGINAL SAMPLE DISPOSITION

DISPOSAL METHOD

TITLE

DISPOSED BY

DATE/TIME

ORIGINAL

REVISION 1

| | |
|--------------------------------|-----------------|
| S&GRP Operating Procedure | GRP-FS-04-G-030 |
| VOC Soil and Sediment Sampling | Rev. 0, Chg. G |
| | Page 11 of 11 |

Attachment 1 - Sample Record Sheet

SAMPLE RECORD SHEET

| Location: C 5860 Kawai I-045 | | | | | | | |
|--|----------------------------|------------------------------|--|-------------------------------------|-----------------------------------|----------------------------------|--------------------------------|
| Sampler Initials and Date: JL 12-9-09 | | | | | | | |
| Sample Number | Sample Suffix ¹ | Tare Weight provided (grams) | Tare Weight prior to sample ² (grams) | Initial Weight ³ (grams) | Total Weight ⁴ (grams) | Soil Weight ⁵ (grams) | Methanol in sample bottle (ml) |
| B22RL2 | K | No Methanol | | 32.0 | 36.2 | 4.2 | No Methanol |
| B22RL2 | L | | | 31.8 | 37.1 | 5.3 | |
| B22RL2 | M | | | 32.1 | 36.9 | 4.8 | |
| B22RL2 | N | | | 32.1 | 37.1 | 5.0 | |
| B22RL2 | P | | | 32.4 | 37.4 | 5.0 | |
| B22RL2 | W | 37.45 | 38.0 | 38.4 | 43.2 | 4.8 | 10 |
| B22RL2 | X | 37.65 | 37.6 | 38.0 | 43.1 | 5.1 | 10 |
| B22RL2 | Y | 37.70 | 37.7 | 38.1 | 43.0 | 4.9 | 10 |
| B22RL3 | * | 38.22 | 38.2 | 38.6 | 38.6 | 0 | 10 |
| <p>¹Sample suffix of K, L, M, N, and P relate to low-level concentration samples and will not have any preservation beyond freezing between -7°C and -20°C.</p> <p>Sample suffix of W, X, and Y relate to methanol preservation for high-level samples.</p> <p>Sample suffix of "*" relates to methanol blank. Cool these samples to 4°C ± 2°C.</p> <p>²Tare weight prior to sample must be within +/- 0.2 grams of Vendors tare weight or bottle cannot be used. Weigh only the bottle, no labels, stickers or bags.</p> <p>³Initial weight is to include all labels, stickers, bags, methanol (for vendor filled methanol samples with suffix W,X,Y and *) spin bars (for samples with suffix K,L,M,N and P) and anything else that will be associated with the bottle when it is weighed with the sample.</p> <p>⁴Ensure that everything weighed for the empty bottle and no additional items (besides the sample) is weighed.</p> <p>⁵Soil weight is the vial with sample minus Initial Weight.</p> | | | | | | | |