0067079 Rev. 1 Dayes 8/9/05

Analytical Data Package Prepared For

# Fluor Hanford Inc.

MAR 2005 RECEIVED

Radiochemical Analysis By

## STL Richland

*2800 G.W. Way, Richland Wa, 99352, (509)-375-3131.*

**Assigned Laboratory Code: STLRL**

*Data Package Contains 103 Pages*

**Report No.: 28261**

| SDG No. | Order No. | Client Sample ID (List Order) | Lot-Sa No. | Work Order | Report DB ID | Batch No. |
|---|---|---|---|---|---|---|
| W04569 | F05-009 | B1CDF2 | J5C020167-3 | G5DGX1AD | 9G5DGX10 | 5063294 |
| | | B1CDF2 | J5C020167-3 | G5DGX1AE | 9G5DGX10 | 5063543 |
| | | B1CDF3 | J5C020167-4 | G5DG21AD | 9G5DG210 | 5063294 |
| | | B1CDF3 | J5C020167-4 | G5DG21AE | 9G5DG210 | 5063543 |
| | | B1CDF4 | J5C020167-2 | G5DGT1AD | 9G5DGT10 | 5063294 |
| | | B1CDF4 | J5C020167-2 | G5DGT1AE | 9G5DGT10 | 5063543 |
| | | B1CDF5 | J5C020167-1 | G5DGR1AD | 9G5DGR10 | 5063294 |
| | | B1CDF5 | J5C020167-1 | G5DGR1AE | 9G5DGR10 | 5063543 |
| | | B1CDF6 | J5C020167-6 | G5DHH1AD | 9G5DHH10 | 5063294 |
| | | B1CDF6 | J5C020167-6 | G5DHH1AE | 9G5DHH10 | 5063543 |
| | | B1CDF7 | J5C020167-5 | G5DHE1AD | 9G5DHE10 | 5063294 |
| | | B1CDF7 | J5C020167-5 | G5DHE1AE | 9G5DHE10 | 5063543 |
| | | B1CDF8 | J5C010147-1 | G494H1AD | 9G494H10 | 5063294 |
| | | B1CDF8 | J5C010147-1 | G494H1AE | 9G494H10 | 5063543 |
| | | B1CDF9 | J5C030200-1 | G5GDT1AD | 9G5GDT10 | 5063294 |
| | | B1CDF9 | J5C030200-1 | G5GDT1AJ | 9G5GDT10 | 5063543 |
| | | B1CDH0 | J5C030200-2 | G5GD71AD | 9G5GD710 | 5063294 |
| | | B1CDH0 | J5C030200-2 | G5GD71AE | 9G5GD710 | 5063543 |
| | | B1CDH1 | J5C030200-3 | G5GEC1AD | 9G5GEC10 | 5063294 |
| | | B1CDH1 | J5C030200-3 | G5GEC1AE | 9G5GEC10 | 5063543 |
| | | B1CDH2 | J5C010147-2 | G494L1AD | 9G494L10 | 5063294 |
| | | B1CDH2 | J5C010147-2 | G494L1AE | 9G494L10 | 5063543 |
| | | B1CDH3 | J5C010147-3 | G494N1AD | 9G494N10 | 5063294 |
| | | B1CDH3 | J5C010147-3 | G494N1AE | 9G494N10 | 5063543 |
| | | B1CF38 | J5C030200-4 | G5GEF1AD | 9G5GEF10 | 5063294 |
| | | B1CF38 | J5C030200-4 | G5GEF1AE | 9G5GEF10 | 5063543 |

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## Report No.: 28261

| SDG No. | Order No. | Client Sample ID (List Order) | Lot-Sa No. | Work Order | Report DB ID | Batch No. |
|---|---|---|---|---|---|---|
| W04569 | F05-009 | B1CF72 | J5C040248-1 | G5KJL1AC | 9G5KJL10 | 5063294 |
| | | B1CF72 | J5C040248-1 | G5KJL1AE | 9G5KJL10 | 5063543 |
| | | B1CF73 | J5C040248-2 | G5KJT1AC | 9G5KJT10 | 5063294 |
| | | B1CF73 | J5C040248-2 | G5KJT1AE | 9G5KJT10 | 5063543 |

SEVERN TRENT STL

STL Richland
2800 George Washington Way
Richland, WA 99354

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# Certificate of Analysis

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

March 14, 2005

AMENDED DATA REVISED Sol 4/21/05

Attention: Steve Trent

| | | |
|---|---|---|
| SAF Number | : | F05-009 |
| Date SDG Closed | : | March 4, 2005 |
| Number of Samples | : | Fifteen (15) |
| Sample Type | : | Soil |
| SDG Number | : | W04569 |
| Data Deliverable | : | 7-Day / 15-Day Summary |

## CASE NARRATIVE

### I. Introduction

Between March 1, 2005 and March 4, 2005, fifteen soil samples were received at STL Richland (STLR) for radiochemical analysis. Upon receipt, the samples were assigned the following laboratory ID numbers to correspond with the Fluor Hanford (FH) specific IDs:

| FH ID# | STLR ID# | MATRIX | DATE OF RECEIPT |
|---|---|---|---|
| B1CDF8 | G494H | SOIL | 3/1/05 |
| B1CDH2 | G494L | SOIL | 3/1/05 |
| B1CDH3 | G494N | SOIL | 3/1/05 |
| B1CDF5 | G5DGR | SOIL | 3/1/05 |
| B1CDF4 | G5DGT | SOIL | 3/1/05 |
| B1CDF2 | G5DGX | SOIL | 3/1/05 |
| B1CDF3 | G5DG2 | SOIL | 3/1/05 |
| B1CDF7 | G5DHE | SOIL | 3/1/05 |
| B1CDF6 | G5DHH | SOIL | 3/1/05 |
| B1CDF9 | G5GDT | SOIL | 3/3/05 |
| B1CDH0 | G5GD7 | SOIL | 3/3/05 |
| B1CDH1 | G5GEC | SOIL | 3/3/05 |
| B1CF38 | G5GEF | SOIL | 3/3/05 |
| B1CF72 | G5KJL | SOIL | 3/4/05 |
| B1CF73 | G5KJT | SOIL | 3/4/05 |

### II. Sample Receipt

The samples were received in good condition and no anomalies were noted during check-in. The Total Uranium analysis was cancelled for this SAF on 3/4/05 per Steve Trent.

## III. Analytical Results/Methodology

The analytical results for this report are presented by laboratory sample ID. Each set of data includes sample identification information, analytical results and the appropriate associated statistical errors.

The requested analysis was:

**Alpha Spectroscopy**
Uranium-234, -235, -238 by method RUCH-RC-5067
**Liquid Scintillation Counting**
Technetium-99 by method RICH-RC-5078

## IV. Quality Control

The analytical results for each analysis performed under SDG W04569 includes a minimum of one laboratory control sample (LCS), one method (reagent) blank, and one duplicate sample analysis. Any exceptions have been noted in the "Comments" section.

QC and sample results are reported in the same units.

## V. Comments

**Alpha Spectroscopy**
Uranium-234, -235, -238 by method RUCH-RC-5067:
The LCS, batch blank, samples and sample duplicate (B1CF72) results are within contractual requirements.

**Liquid Scintillation Counting**
Technetium-99 by method RICH-RC-5078:
The LCS, batch blank, samples, sample duplicate (B1CDF9) and sample matrix spike (B1CDF9) results are within contractual requirements.

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

Reviewed and approved:

for Becky Warrington
Project Manager

## Drinking Water Method Cross References

| | DRINKING WATER ASTM METHOD CROSS REFERENCES | |
|---|---|---|
| | | |
| **Referenced Method** | **Isotope(s)** | **STL Richland's SOP number** |
| EPA 901.1 | Cs-134, I-131 | RICH-RC-5017 |
| EPA 900.0 | Alpha & Beta | RICH-RC-5014 |
| EPA 903.1 | Ra-226 | RICH-RC-5005 |
| EPA 904.0 | Ra-228 | RICH-RC-5005 |
| EPA 905.0 | Sr89/90 | RICH-RC-5006 |
| ASTM D2460 | Total Radium | RICH-RC-5027 |
| Standard Method 7500-U-C & ASTM D5174 | Uranium | RICH-RC-5058 |
| EPA 906.0 | Tritium | RICH-RC-5007 |
| | | |
| | | |
| | | |
| | | |
| NOTE: | | |
| The Gross Alpha LCS is prepared with Am-241 (unless otherwise specified in the case narrative) | | |
| The Gross Beta LCS is prepared with Sr/Y-90 (unless otherwise specified in the case narrative) | | |

## Uncertainty Estimation

STL Richland has adopted the internationally accepted approach to estimating uncertainties described in "NIST Technical Note 1297, 1994 Edition". The approach, "Law of Propagation of Errors", involves the identification of all variables in an analytical method which are used to derive a result. These variables are related to the analytical result (R) by some functional relationship, R = constants * f(x,y,z,...). The components (x,y,z) are evaluated to determine their contribution to the overall method uncertainty. The individual component uncertainties ($u_i$) are then combined using a statistical model that provides the most probable overall uncertainty value. All component uncertainties are categorized as type A, evaluated by statistical methods, or type B, evaluated by other means. Uncertainties not included in the components, such as sample homogeneity, are combined with the component uncertainty as the square root of the sum-of-the-squares of the individual uncertainties. The uncertainty associated with the derived result is the combined uncertainty ($u_c$) multiplied by the coverage factor (1,2, or 3).

When three or more sample replicates are used to derive the analytical result, the type A uncertainty is the standard deviation of the mean value (S/vn), where S is the standard deviation of the derived results. The type B uncertainties are all other random or non-random components that are not included in the standard deviation.

The derivation of the general "Law of Propagation of Errors" equations and specific example are available on request.

## Report Definitions

| | |
|---|---|
| **Action Lev** | An agreed upon activity level used to trigger some action when the final result is greater than or equal to the Action Level. Often the Action Level is related to the Decision Limit. |
| **Batch** | The QC preparation batch number that relates laboratory samples to QC samples that were prepared and analyzed together. |
| **Bias** | Defined by the equation (Result/Expected)-1 as defined by ANSI N13.30. |
| **COC No** | Chain of Custody Number assigned by the Client or STL Richland. |
| **Count Error (#s)** | Poisson counting statistics of the gross sample count and background. The uncertainty is absolute and in the same units as the result. For Liquid Scintillation Counting (LSC) the batch blank count is the background. |
| **Total Uncert (#s)** ***$u_c$ - Combined Uncertainty.*** | All known uncertainties associated with the preparation and analysis of the sample are propagated to give a measure of the uncertainty associated with the result, ***$u_c$ the combined uncertainty.*** The uncertainty is absolute and in the same units as the result. |
| **(#s), Coverage Factor** | The coverage factor defines the width of the confidence interval, 1, 2 or 3 standard deviations. |
| **CRDL (RL)** | Contractual Required Detection Limit as defined in the Client's Statement Of Work or STL Richland "default" nominal detection limit. Often referred to the reporting level (RL) |
| **Lc** | Decision Level based on instrument background or blank, adjusted by the Efficiency, Chemical Yield, and Volume associated with the sample. The Type I error probability is approximately 5%. Lc=(1.645 * Sqrt(2*(BkgrndCnt/BkgrndCntMin)/SCntMin)) * (ConvFct/(Eff*Yld*Abn*Vol) * IngrFct). For LSC methods the batch blank is used as a measure of the background variability. Lc cannot be calculated when the background count is zero. |
| **Lot-Sample No** | The number assigned by the LIMS software to track samples received on the same day for a given client. The sample number is a sequential number assigned to each sample in the Lot. |
| **MDC\|MDA** | Detection Level based on instrument background or blank, adjusted by the Efficiency, Chemical Yield, and Volume with a Type I and II error probability of approximately 5%. MDC = (4.65 * Sqrt((BkgrndCnt/BkgrndCntMin)/SCntMin) + 2.71/SCntMin) * (ConvFct/(Eff * Yld * Abn * Vol) * IngrFct). For LSC methods the batch blank is used as a measure of the background variability. |
| **Primary Detector** | The instrument identifier associated with the analysis of the sample aliquot. |
| **Ratio U-234/U-238** | The U-234 result divided by the U-238 result. The U-234/U-238 ratio for natural uranium in NIST SRM 4321C is 1.038. |
| **Rst/MDC** | Ratio of the Result to the MDC. A value greater than 1 may indicate activity above background at a high level of confidence. Caution should be used when applying this factor and it should be used in concert with the qualifiers associated with the result. |
| **Rst/TotUcert** | Ratio of the Result to the Total Uncertainty. If the uncertainty has a coverage factor of 2 a value greater than 1 may indicate activity above background at approximately the 95% level of confidence assuming a two-sided confidence interval. Caution should be used when applying this factor and it should be used in concert with the qualifiers associated with the result. |
| **Report DB No** | Sample Identifier used by the report system. The number is based upon the first five digits of the **Work Order** Number. |
| **RER** | The equation Replicate Error Ratio = (S-D)/[sqrt($TPUs^2$ + $TPUd^2$)] as defined by ICPT BOA where S is the original sample result, D is the result of the duplicate, TPUs is the total uncertainty of the original sample and TPUd is the total uncertainty of the duplicate sample. |
| **SDG** | Sample Delivery Group Number assigned by the Client or assigned by STL Richland upon sample receipt. |
| **Sum Rpt Alpha Spec Rst(s)** | The sum of the reported alpha spec results for tests derived from the same sample excluding duplicate result where the results are in the same units. |
| **Work Order** | The LIMS software assign test specific identifier. |
| **Yield** | The recovery of the tracer added to the sample such as Pu-242 used to trace a Pu-239/40 method. |

# Sample Results Summary

## STL Richland STLRL

Ordered by Method, Batch No., Client Sample ID.

Date: 14-Mar-05

**Report No. :** 28261

**SDG No:** W04569

| Batch | Client Id Work Order | Parameter | Result +- Uncertainty ( 2s) | Qual | Units | Yield | MDC or MDA | CRDL | RPD |
|---|---|---|---|---|---|---|---|---|---|
| 5063543 KWSR | | | | | | | | | |
| B1CDF2 | | | | | | | | | |
| | G5DGX1AE | U-234 | 7.47E-01 +- 1.80E-01 | | pCi/g | 62% | 2.70E-02 | 1.00E+00 | |
| | | U-235 | 1.81E-02 +- 1.94E-02 | U | pCi/g | 62% | 2.28E-02 | 1.00E+00 | |
| | | U-238 | 8.05E-01 +- 1.91E-01 | | pCi/g | 62% | 2.28E-02 | 1.00E+00 | |
| B1CDF3 | | | | | | | | | |
| | G5DG21AE | U-234 | 6.36E-01 +- 1.68E-01 | | pCi/g | 54% | 1.54E-02 | 1.00E+00 | |
| | | U-235 | 4.54E-02 +- 3.32E-02 | | pCi/g | 54% | 1.54E-02 | 1.00E+00 | |
| | | U-238 | 5.85E-01 +- 1.58E-01 | | pCi/g | 54% | 1.54E-02 | 1.00E+00 | |
| B1CDF4 | | | | | | | | | |
| | G5DGT1AE | U-234 | 5.92E-01 +- 1.46E-01 | | pCi/g | 68% | 3.83E-02 | 1.00E+00 | |
| | | U-235 | 1.97E-02 +- 1.96E-02 | U | pCi/g | 68% | 2.42E-02 | 1.00E+00 | |
| | | U-238 | 6.03E-01 +- 1.48E-01 | | pCi/g | 68% | 3.34E-02 | 1.00E+00 | |
| B1CDF5 | | | | | | | | | |
| | G5DGR1AE | U-234 | 6.07E-01 +- 1.39E-01 | | pCi/g | 90% | 2.91E-02 | 1.00E+00 | |
| | | U-235 | 2.98E-02 +- 2.23E-02 | | pCi/g | 90% | 2.64E-02 | 1.00E+00 | |
| | | U-238 | 6.33E-01 +- 1.43E-01 | | pCi/g | 90% | 2.32E-02 | 1.00E+00 | |
| B1CDF6 | | | | | | | | | |
| | G5DHH1AE | U-234 | 7.22E-01 +- 1.60E-01 | | pCi/g | 88% | 9.49E-03 | 1.00E+00 | |
| | | U-235 | 3.85E-02 +- 2.42E-02 | | pCi/g | 88% | 9.49E-03 | 1.00E+00 | |
| | | U-238 | 7.60E-01 +- 1.67E-01 | | pCi/g | 88% | 1.68E-02 | 1.00E+00 | |
| B1CDF7 | | | | | | | | | |
| | G5DHE1AE | U-234 | 9.25E-01 +- 1.91E-01 | | pCi/g | 91% | 8.36E-03 | 1.00E+00 | |
| | | U-235 | 2.78E-02 +- 1.91E-02 | | pCi/g | 91% | 8.36E-03 | 1.00E+00 | |
| | | U-238 | 8.64E-01 +- 1.81E-01 | | pCi/g | 91% | 8.36E-03 | 1.00E+00 | |
| B1CDF8 | | | | | | | | | |
| | G494H1AE | U-234 | 6.14E-01 +- 1.42E-01 | | pCi/g | 84% | 2.23E-02 | 1.00E+00 | |
| | | U-235 | 2.12E-03 +- 7.37E-03 | U | pCi/g | 84% | 2.00E-02 | 1.00E+00 | |
| | | U-238 | 5.78E-01 +- 1.35E-01 | | pCi/g | 84% | 2.23E-02 | 1.00E+00 | |
| B1CDF9 | | | | | | | | | |
| | G5GDT1AJ | U-234 | 6.37E-01 +- 1.47E-01 | | pCi/g | 83% | 9.98E-03 | 1.00E+00 | |
| | | U-235 | 2.95E-03 +- 7.53E-03 | U | pCi/g | 83% | 1.76E-02 | 1.00E+00 | |
| | | U-238 | 6.14E-01 +- 1.43E-01 | | pCi/g | 83% | 1.76E-02 | 1.00E+00 | |
| B1CDH0 | | | | | | | | | |
| | G5GD71AE | U-234 | 4.68E-01 +- 1.11E-01 | | pCi/g | 85% | 1.53E-02 | 1.00E+00 | |
| | | U-235 | 2.23E-02 +- 1.73E-02 | | pCi/g | 85% | 8.63E-03 | 1.00E+00 | |
| | | U-238 | 4.72E-01 +- 1.12E-01 | | pCi/g | 85% | 8.63E-03 | 1.00E+00 | |
| B1CDH1 | | | | | | | | | |
| | G5GEC1AE | U-234 | 6.93E-01 +- 1.51E-01 | | pCi/g | 99% | 1.96E-02 | 1.00E+00 | |

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rptSTLRchSaSummary2 V4.11 A97

RPD - Relative Percent Difference.

U Qual - Analyzed for, but the result is less than the Mdc/Mda|Total Uncert or gamma scan software did not identify the nuclide.

# Sample Results Summary

## STL Richland STLRL

Ordered by Method, Batch No., Client Sample ID.

**Date:** 14-Mar-05

**Report No. :** 28261

**SDG No:** W04569

| Batch | Client Id / Work Order | Parameter | Result +- Uncertainty ( 2s) | Qual | Units | Yield | MDC or MDA | CRDL | RPD |
|---|---|---|---|---|---|---|---|---|---|
| 5063543 KWSR | | | | | | | | | |
| B1CDH1 | | | | | | | | | |
| | G5GEC1AE | U-235 | 1.12E-02 +- 1.27E-02 | U | pCi/g | 99% | 1.75E-02 | 1.00E+00 | |
| | | U-238 | 7.61E-01 +- 1.63E-01 | | pCi/g | 99% | 1.96E-02 | 1.00E+00 | |
| B1CDH2 | | | | | | | | | |
| | G494L1AE | U-234 | 1.23E+00 +- 2.67E-01 | | pCi/g | 66% | 2.61E-02 | 1.00E+00 | |
| | | U-235 | 4.53E-02 +- 3.04E-02 | | pCi/g | 66% | 2.21E-02 | 1.00E+00 | |
| | | U-238 | 1.06E+00 +- 2.36E-01 | | pCi/g | 66% | 2.92E-02 | 1.00E+00 | |
| B1CDH3 | | | | | | | | | |
| | G494N1AE | U-234 | 7.77E-01 +- 1.69E-01 | | pCi/g | 86% | 3.03E-02 | 1.00E+00 | |
| | | U-235 | 2.57E-02 +- 1.98E-02 | | pCi/g | 86% | 1.92E-02 | 1.00E+00 | |
| | | U-238 | 7.66E-01 +- 1.67E-01 | | pCi/g | 86% | 2.49E-02 | 1.00E+00 | |
| B1CF38 | | | | | | | | | |
| | G5GEF1AE | U-234 | 6.63E-01 +- 1.52E-01 | | pCi/g | 83% | 1.75E-02 | 1.00E+00 | |
| | | U-235 | 3.65E-02 +- 2.39E-02 | | pCi/g | 83% | 9.89E-03 | 1.00E+00 | |
| | | U-238 | 5.93E-01 +- 1.39E-01 | | pCi/g | 83% | 2.30E-02 | 1.00E+00 | |
| B1CF72 | | | | | | | | | |
| | G5KJL1AE | U-234 | 6.31E-01 +- 1.47E-01 | | pCi/g | 78% | 3.36E-02 | 1.00E+00 | |
| | | U-235 | 3.60E-02 +- 2.46E-02 | | pCi/g | 78% | 2.12E-02 | 1.00E+00 | |
| | | U-238 | 6.87E-01 +- 1.57E-01 | | pCi/g | 78% | 2.76E-02 | 1.00E+00 | |
| B1CF72 DUP | | | | | | | | | |
| | G5KJL1AG | U-234 | 6.23E-01 +- 1.50E-01 | | pCi/g | 70% | 3.56E-02 | 1.00E+00 | 1.3 |
| | | U-235 | 4.47E-02 +- 3.01E-02 | | pCi/g | 70% | 3.23E-02 | 1.00E+00 | 21.6 |
| | | U-238 | 6.89E-01 +- 1.62E-01 | | pCi/g | 70% | 2.85E-02 | 1.00E+00 | 0.2 |
| B1CF73 | | | | | | | | | |
| | G5KJT1AE | U-234 | 2.49E+00 +- 4.80E-01 | | pCi/g | 72% | 3.52E-02 | 1.00E+00 | |
| | | U-235 | 6.93E-02 +- 3.56E-02 | | pCi/g | 72% | 2.23E-02 | 1.00E+00 | |
| | | U-238 | 2.51E+00 +- 4.85E-01 | | pCi/g | 72% | 3.38E-02 | 1.00E+00 | |
| 5063294 TC99_ETVDSK_LSC | | | | | | | | | |
| B1CDF2 | | | | | | | | | |
| | G5DGX1AD | TC-99 | -1.26E-01 +- 3.47E-01 | U | pCi/g | 100% | 6.42E-01 | 1.50E+01 | |
| B1CDF3 | | | | | | | | | |
| | G5DG21AD | TC-99 | -1.39E-01 +- 3.46E-01 | U | pCi/g | 100% | 6.42E-01 | 1.50E+01 | |
| B1CDF4 | | | | | | | | | |
| | G5DGT1AD | TC-99 | -2.11E-01 +- 3.25E-01 | U | pCi/g | 100% | 6.12E-01 | 1.50E+01 | |
| B1CDF5 | | | | | | | | | |
| | G5DGR1AD | TC-99 | -5.22E-02 +- 3.20E-01 | U | pCi/g | 100% | 5.87E-01 | 1.50E+01 | |
| B1CDF6 | | | | | | | | | |
| | G5DHH1AD | TC-99 | -3.82E-02 +- 3.52E-01 | U | pCi/g | 100% | 6.42E-01 | 1.50E+01 | |
| B1CDF7 | | | | | | | | | |

STL Richland

rptSTLRchSaSummary2 V4.11 A97

RPD - Relative Percent Difference.

U Qual - Analyzed for, but the result is less than the Mdc/Mda|Total Uncert or gamma scan software did not identify the nuclide.

## Sample Results Summary

## STL Richland STLRL

Ordered by Method, Batch No., Client Sample ID.

**Date:** 14-Mar-05

**Report No. :** 28261

**SDG No:** W04569

| Batch | Client Id Work Order | Parameter | Result +- Uncertainty ( 2s) | Qual | Units | Yield | MDC or MDA | CRDL | RPD |
|---|---|---|---|---|---|---|---|---|---|
| 5063294 | TC99_ETVDSK_LSC | | | | | | | | |
| B1CDF7 | | | | | | | | | |
| | G5DHE1AD | TC-99 | 5.00E-02 +- 3.25E-01 | U | pCi/g | 100% | 5.84E-01 | 1.50E+01 | |
| B1CDF8 | | | | | | | | | |
| | G494H1AD | TC-99 | -1.41E-01 +- 3.14E-01 | U | pCi/g | 100% | 5.85E-01 | 1.50E+01 | |
| B1CDF9 | | | | | | | | | |
| | G5GDT1AD | TC-99 | -3.21E-02 +- 3.53E-01 | U | pCi/g | 100% | 6.46E-01 | 1.50E+01 | |
| B1CDF9 DUP | | | | | | | | | |
| | G5GDT1AG | TC-99 | 1.10E-02 +- 3.55E-01 | U | pCi/g | 100% | 6.42E-01 | 1.50E+01 | -409.7 |
| B1CDH0 | | | | | | | | | |
| | G5GD71AD | TC-99 | -2.41E-02 +- 3.36E-01 | U | pCi/g | 100% | 6.12E-01 | 1.50E+01 | |
| B1CDH1 | | | | | | | | | |
| | G5GEC1AD | TC-99 | 5.54E-02 +- 3.58E-01 | U | pCi/g | 100% | 6.48E-01 | 1.50E+01 | |
| B1CDH2 | | | | | | | | | |
| | G494L1AD | TC-99 | 4.97E-02 +- 3.40E-01 | U | pCi/g | 100% | 6.12E-01 | 1.50E+01 | |
| B1CDH3 | | | | | | | | | |
| | G494N1AD | TC-99 | -7.11E-03 +- 3.54E-01 | U | pCi/g | 100% | 6.42E-01 | 1.50E+01 | |
| B1CF38 | | | | | | | | | |
| | G5GEF1AD | TC-99 | 1.72E-01 +- 3.64E-01 | U | pCi/g | 100% | 6.42E-01 | 1.50E+01 | |
| B1CF72 | | | | | | | | | |
| | G5KJL1AC | TC-99 | 1.32E-02 +- 3.56E-01 | U | pCi/g | 100% | 6.47E-01 | 1.50E+01 | |
| B1CF73 | | | | | | | | | |
| | G5KJT1AC | TC-99 | -1.77E-01 +- 3.28E-01 | U | pCi/g | 100% | 6.13E-01 | 1.50E+01 | |

**No. of Results:** 64

STL Richland

rptSTLRchSaSummary2 V4.11 A97

RPD - Relative Percent Difference.

U Qual - Analyzed for, but the result is less than the Mdc/Mda/Total Uncert or gamma scan software did not identify the nuclide.

# QC Results Summary

## STL Richland STLRL

Ordered by Method, Batch No, QC Type,.

**Date:** 14-Mar-05

**Report No. :** 28261

**SDG No.:** W04569

| Batch Work Order | Parameter | Result +- Uncertainty ( 2s) | Qual | Units | Yield | Recovery | Bias | MDC\|MDA |
|---|---|---|---|---|---|---|---|---|
| **KWSR** | | | | | | | | |
| 5063543 BLANK QC | | | | | | | | |
| G5L1G1AA | U-234 | 2.64E-02 +- 2.00E-02 | | pCi/g | 93% | | | 2.21E-02 |
| | U-235 | -6.44E-04 +- 1.29E-03 | U | pCi/g | 93% | | | 1.54E-02 |
| | U-238 | 2.51E-02 +- 1.87E-02 | | pCi/g | 93% | | | 1.54E-02 |
| 5063543 LCS | | | | | | | | |
| G5L1G1AC | U-234 | 1.59E+00 +- 3.07E-01 | | pCi/g | 97% | 97% | 0.0 | 1.52E-02 |
| | U-238 | 1.65E+00 +- 3.17E-01 | | pCi/g | 97% | 96% | 0.0 | 8.61E-03 |
| **TC99_ETVDSK_LSC** | | | | | | | | |
| 5063294 MATRIX SPIKE | | | | | | | | |
| G5GDT1AF | TC-99 | 1.88E+02 +- 1.11E+01 | | pCi/g | 100% | 83% | -0.2 | 6.46E-01 |
| 5063294 BLANK QC | | | | | | | | |
| G5JXF1AA | TC-99 | 1.20E-01 +- 3.61E-01 | U | pCi/g | 100% | | | 6.43E-01 |
| 5063294 LCS | | | | | | | | |
| G5JXF1AC | TC-99 | 1.97E+02 +- 1.16E+01 | | pCi/g | 100% | 87% | -0.1 | 6.43E-01 |

**No. of Results:** 8

STL Richland

rptSTLRchQcSummary V4.11 A97

**Bias** - (Result/Expected)-1 as defined by ANSI N13.30.

U Qual - Analyzed for, but the result is less than the Mdc/Mda/Total Uncert or gamma scan software did not identify the nuclide.

# FORM I

## SAMPLE RESULTS

Date: 14-Mar-05

| | | | | | |
|---|---|---|---|---|---|
| Lab Name: | STL Richland | SDG: | W04569 | Collection Date: | 3/1/2005 8:50:00 AM |
| Lot-Sample No.: | J5C020167-3 | Report No. : | 28261 | Received Date: | 3/1/2005 2:00:00 PM |
| Client Sample ID: | B1CDF2 | COC No. : | F05-009-025 | Matrix: | SOIL |

Ordered by Client Sample ID, Batch No.

| Parameter | Result | Qual | Count Error ( 2 s) | Total Uncert( 2 s) | MDC\|MDA, Action Lev | Rpt Unit, Lc | Yield CRDL(RL) | Rst/MDC, Rst/TotUcert | Analysis, Prep Date | Total Sa Size | Aliquot Size | Primary Detector |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Batch: 5063294 | TC99_ETVDSK_LSC | | | Work Order: | G5DGX1AD | | Report DB ID: | 9G5DGX10 | | | | |
| TC-99 | ***-1.26E-01*** | U | 2.61E-01 | 3.47E-01 | 6.42E-01 | pCi/g | 100% | *-0.2* | 3/11/05 02:43 a | | 2.0 | LSC4 |
| | | | | | | 3.09E-01 | 1.50E+01 | *-0.73* | | | G | |
| Batch: 5063543 | KWSR | | | Work Order: | G5DGX1AE | | Report DB ID: | 9G5DGX10 | | | | |
| U-234 | ***7.47E-01*** | | | 1.80E-01 | 2.70E-02 | pCi/g | 62% | *(27.7)* | 3/10/05 03:40 p | | 2.03 | ALP6 |
| | | | | | | 7.02E-03 | 1.00E+00 | *(8.3)* | | | G | |
| U-235 | ***1.81E-02*** | U | | 1.94E-02 | 2.28E-02 | pCi/g | 62% | *0.79* | 3/10/05 03:40 p | | 2.03 | ALP6 |
| | | | | | | 4.96E-03 | 1.00E+00 | *(1.9)* | | | G | |
| U-238 | ***8.05E-01*** | | | 1.91E-01 | 2.28E-02 | pCi/g | 62% | *(35.2)* | 3/10/05 03:40 p | | 2.03 | ALP6 |
| | | | | | | 4.96E-03 | 1.00E+00 | *(8.4)* | | | G | |

***Ratio U-234/238 = 0.9***

No. of Results: 4 Comments:

STL Richland
rptSTLRchSample
V4.11 A97

MDC|MDA,Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.
U Qual - Analyzed for, but the result is less than the Mdc/Mda|Total Uncert or gamma scan software did not identify the nuclide.

# FORM I

## SAMPLE RESULTS

Date: 14-Mar-05

| | | | | | |
|---|---|---|---|---|---|
| Lab Name: | STL Richland | SDG: | W04569 | Collection Date: | 3/1/2005 9:50:00 AM |
| Lot-Sample No.: | J5C020167-4 | Report No. : | 28261 | Received Date: | 3/1/2005 2:00:00 PM |
| Client Sample ID: | B1CDF3 | COC No. : | F05-009-026 | Matrix: | SOIL |

Ordered by Client Sample ID, Batch No.

| Parameter | Result | Qual | Count Error ( 2 s) | Total Uncert( 2 s) | MDC\|MDA, Action Lev | Rpt Unit, Lc | Yield CRDL(RL) | Rst/MDC, Rst/TotUcert | Analysis, Prep Date | Total Sa Size | Aliquot Size | Primary Detector |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Batch: 5063294 | TC99_ETVDSK_LSC | | | Work Order: G5DG21AD | | | Report DB ID: 9G5DG210 | | | | | |
| TC-99 | ***-1.39E-01*** | U | 2.61E-01 | 3.46E-01 | 6.42E-01 | pCi/g | 100% | *-0.22* | 3/11/05 03:45 a | | 2.0 | LSC4 |
| | | | | | | 3.09E-01 | 1.50E+01 | *-0.8* | | | G | |
| Batch: 5063543 | KWSR | | | Work Order: G5DG21AE | | | Report DB ID: 9G5DG210 | | | | | |
| U-234 | ***6.36E-01*** | | | 1.68E-01 | 1.54E-02 | pCi/g | 54% | *(41.3)* | 3/10/05 03:41 p | | 2.0 | ALP7 |
| | | | | | | | 1.00E+00 | *(7.6)* | | | G | |
| U-235 | ***4.54E-02*** | | | 3.32E-02 | 1.54E-02 | pCi/g | 54% | *(3.)* | 3/10/05 03:41 p | | 2.0 | ALP7 |
| | | | | | | | 1.00E+00 | *(2.7)* | | | G | |
| U-238 | ***5.85E-01*** | | | 1.58E-01 | 1.54E-02 | pCi/g | 54% | *(38.)* | 3/10/05 03:41 p | | 2.0 | ALP7 |
| | | | | | | | 1.00E+00 | *(7.4)* | | | G | |

***Ratio U-234/238 = 1.1***

No. of Results: 4 Comments:

STL Richland
rptSTLRchSample
V4.11 A97

MDC|MDA,Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.
U Qual - Analyzed for, but the result is less than the Mdc/Mda|Total Uncert or gamma scan software did not identify the nuclide.

# FORM I

## SAMPLE RESULTS

Date: 14-Mar-05

| | | | | | |
|---|---|---|---|---|---|
| Lab Name: | STL Richland | SDG: | W04569 | Collection Date: | 3/1/2005 10:30:00 AM |
| Lot-Sample No.: | J5C020167-2 | Report No. : | 28261 | Received Date: | 3/1/2005 2:00:00 PM |
| Client Sample ID: | B1CDF4 | COC No. : | F05-009-027 | Matrix: | SOIL |

Ordered by Client Sample ID, Batch No.

| Parameter | Result | Qual | Count Error ( 2 s) | Total Uncert( 2 s) | MDC\|MDA, Action Lev | Rpt Unit, Lc | Yield CRDL(RL) | Rst/MDC, Rst/TotUcert | Analysis, Prep Date | Total Sa Size | Aliquot Size | Primary Detector |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Batch: 5063294 | TC99_ETVDSK_LSC | | | Work Order: | G5DGT1AD | | Report DB ID: | 9G5DGT10 | | | | |
| TC-99 | ***-2.11E-01*** | U | 2.45E-01 | 3.25E-01 | 6.12E-01 | pCi/g | 100% | *-0.35* | 3/11/05 01:41 a | | 2.1 | LSC4 |
| | | | | | | 2.94E-01 | 1.50E+01 | *-(1.3)* | | | G | |
| Batch: 5063543 | KWSR | | | Work Order: | G5DGT1AE | | Report DB ID: | 9G5DGT10 | | | | |
| U-234 | ***5.92E-01*** | | | 1.46E-01 | 3.83E-02 | pCi/g | 68% | *(15.4)* | 3/10/05 03:40 p | | 2.0 | ALP5 |
| | | | | | | 1.34E-02 | 1.00E+00 | *(8.1)* | | | G | |
| U-235 | ***1.97E-02*** | U | | 1.96E-02 | 2.42E-02 | pCi/g | 68% | *0.81* | 3/10/05 03:40 p | | 2.0 | ALP5 |
| | | | | | | 6.30E-03 | 1.00E+00 | *(2.)* | | | G | |
| U-238 | ***6.03E-01*** | | | 1.48E-01 | 3.34E-02 | pCi/g | 68% | *(18.)* | 3/10/05 03:40 p | | 2.0 | ALP5 |
| | | | | | | 1.09E-02 | 1.00E+00 | *(8.2)* | | | G | |

***Ratio U-234/238 = 1.0***

No. of Results: 4 Comments:

STL Richland
rptSTLRchSample
V4.11 A97

MDC|MDA,Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.
U Qual - Analyzed for, but the result is less than the Mdc/Mda|Total Uncert or gamma scan software did not identify the nuclide.

# FORM I

## SAMPLE RESULTS

Date: 14-Mar-05

| | | | | | |
|---|---|---|---|---|---|
| **Lab Name:** | STL Richland | **SDG:** | W04569 | **Collection Date:** | 3/1/2005 11:10:00 AM |
| **Lot-Sample No.:** | J5C020167-1 | **Report No. :** | 28261 | **Received Date:** | 3/1/2005 2:00:00 PM |
| **Client Sample ID:** | B1CDF5 | **COC No. :** | F05-009-028 | **Matrix:** | SOIL |

Ordered by Client Sample ID, Batch No.

| Parameter | Result | Qual | Count Error ( 2 s) | Total Uncert( 2 s) | MDC\|MDA, Action Lev | Rpt Unit, Lc | Yield CRDL(RL) | Rst/MDC, Rst/TotUcert | Analysis, Prep Date | Total Sa Size | Aliquot Size | Primary Detector |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Batch:** 5063294 | TC99_ETVDSK_LSC | | | **Work Order:** | G5DGR1AD | | **Report DB ID:** | 9G5DGR10 | | | | |
| TC-99 | ***-5.22E-02*** | U | 2.40E-01 | 3.20E-01 | 5.87E-01 | pCi/g | 100% | *-0.09* | 3/11/05 12:39 a | | 2.2 | LSC4 |
| | | | | | | 2.82E-01 | 1.50E+01 | *-0.33* | | | G | |
| **Batch:** 5063543 | KWSR | | | **Work Order:** | G5DGR1AE | | **Report DB ID:** | 9G5DGR10 | | | | |
| U-234 | ***6.07E-01*** | | | 1.39E-01 | 2.91E-02 | pCi/g | 90% | *(20.9)* | 3/10/05 03:40 p | | 2.0 | ALP4 |
| | | | | | | 9.96E-03 | 1.00E+00 | *(8.7)* | | | G | |
| U-235 | ***2.98E-02*** | | | 2.23E-02 | 2.64E-02 | pCi/g | 90% | *(1.1)* | 3/10/05 03:40 p | | 2.0 | ALP4 |
| | | | | | | 8.63E-03 | 1.00E+00 | *(2.7)* | | | G | |
| U-238 | ***6.33E-01*** | | | 1.43E-01 | 2.32E-02 | pCi/g | 90% | *(27.2)* | 3/10/05 03:40 p | | 2.0 | ALP4 |
| | | | | | | 7.04E-03 | 1.00E+00 | *(8.8)* | | | G | |

***Ratio U-234/238 = 1.0***

**No. of Results:** 4 **Comments:**

STL Richland
rptSTLRchSample
V4.11 A97

**MDC|MDA,Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.**
**U Qual - Analyzed for, but the result is less than the Mdc/Mda|Total Uncert or gamma scan software did not identify the nuclide.**

# FORM I

## SAMPLE RESULTS

Date: 14-Mar-05

| | | | | | |
|---|---|---|---|---|---|
| Lab Name: | STL Richland | SDG: | W04569 | Collection Date: | 2/24/2005 1:30:00 PM |
| Lot-Sample No.: | J5C020167-6 | Report No. : | 28261 | Received Date: | 3/1/2005 9:20:00 AM |
| Client Sample ID: | B1CDF6 | COC No. : | F05-009-030 | Matrix: | SOIL |

Ordered by Client Sample ID, Batch No.

| Parameter | Result | Qual | Count Error ( 2 s) | Total Uncert( 2 s) | MDC\|MDA, Action Lev | Rpt Unit, Lc | Yield CRDL(RL) | Rst/MDC, Rst/TotUcert | Analysis, Prep Date | Total Sa Size | Aliquot Size | Primary Detector |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Batch: 5063294 | TC99_ETVDSK_LSC | | | Work Order: | G5DHH1AD | | Report DB ID: 9G5DHH10 | | | | | |
| TC-99 | ***-3.82E-02*** | U | 2.64E-01 | 3.52E-01 | 6.42E-01 | pCi/g | 100% | *-0.06* | 3/11/05 05:50 a | | 2.0 | LSC4 |
| | | | | | | 3.09E-01 | 1.50E+01 | *-0.22* | | | G | |
| Batch: 5063543 | KWSR | | | Work Order: | G5DHH1AE | | Report DB ID: 9G5DHH10 | | | | | |
| U-234 | ***7.22E-01*** | | | 1.60E-01 | 9.49E-03 | pCi/g | 88% | *(76.)* | 3/10/05 03:41 p | | 2.0 | ALP9 |
| | | | | | | | 1.00E+00 | *(9.)* | | | G | |
| U-235 | ***3.85E-02*** | | | 2.42E-02 | 9.49E-03 | pCi/g | 88% | *(4.1)* | 3/10/05 03:41 p | | 2.0 | ALP9 |
| | | | | | | | 1.00E+00 | *(3.2)* | | | G | |
| U-238 | ***7.60E-01*** | | | 1.67E-01 | 1.68E-02 | pCi/g | 88% | *(45.3)* | 3/10/05 03:41 p | | 2.0 | ALP9 |
| | | | | | | 3.65E-03 | 1.00E+00 | *(9.1)* | | | G | |

***Ratio U-234/238 = 1.0***

No. of Results: 4 Comments:

STL Richland
rptSTLRchSample
V4.11 A97

MDC|MDA,Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.
U Qual - Analyzed for, but the result is less than the Mdc/Mda|Total Uncert or gamma scan software did not identify the nuclide.

# FORM I

## SAMPLE RESULTS

Date: 14-Mar-05

| | | | | | |
|---|---|---|---|---|---|
| Lab Name: | STL Richland | SDG: | W04569 | Collection Date: | 2/25/2005 9:40:00 AM |
| Lot-Sample No.: | J5C020167-5 | Report No. : | 28261 | Received Date: | 3/1/2005 9:20:00 AM |
| Client Sample ID: | B1CDF7 | COC No. : | F05-009-030 | Matrix: | SOIL |

Ordered by Client Sample ID, Batch No.

| Parameter | Result | Qual | Count Error ( 2 s) | Total Uncert( 2 s) | MDC\|MDA, Action Lev | Rpt Unit, Lc | Yield CRDL(RL) | Rst/MDC, Rst/TotUcert | Analysis, Prep Date | Total Sa Size | Aliquot Size | Primary Detector |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Batch: 5063294 | TC99_ETVDSK_LSC | | | Work Order: | G5DHE1AD | | Report DB ID: | 9G5DHE10 | | | | |
| TC-99 | ***5.00E-02*** | U | 2.43E-01 | 3.25E-01 | 5.84E-01 | pCi/g | 100% | *0.09* | 3/11/05 04:48 a | | 2.2 | LSC4 |
| | | | | | | 2.81E-01 | 1.50E+01 | *0.31* | | | G | |
| Batch: 5063543 | KWSR | | | Work Order: | G5DHE1AE | | Report DB ID: | 9G5DHE10 | | | | |
| U-234 | ***9.25E-01*** | | | 1.91E-01 | 8.36E-03 | pCi/g | 91% | *(110.7)* | 3/10/05 03:41 p | | 2.1 | ALP8 |
| | | | | | | | 1.00E+00 | *(9.7)* | | | G | |
| U-235 | ***2.78E-02*** | | | 1.91E-02 | 8.36E-03 | pCi/g | 91% | *(3.3)* | 3/10/05 03:41 p | | 2.1 | ALP8 |
| | | | | | | | 1.00E+00 | *(2.9)* | | | G | |
| U-238 | ***8.64E-01*** | | | 1.81E-01 | 8.36E-03 | pCi/g | 91% | *(103.3)* | 3/10/05 03:41 p | | 2.1 | ALP8 |
| | | | | | | | 1.00E+00 | *(9.6)* | | | G | |

***Ratio U-234/238 = 1.1***

No. of Results: 4 Comments:

STL Richland
rptSTLRchSample
V4.11 A97

MDC|MDA,Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.
U Qual - Analyzed for, but the result is less than the Mdc/Mda|Total Uncert or gamma scan software did not identify the nuclide.

# FORM I

## SAMPLE RESULTS

Date: 14-Mar-05

| | | | | | |
|---|---|---|---|---|---|
| **Lab Name:** | STL Richland | **SDG:** | W04569 | **Collection Date:** | 2/28/2005 4:10:00 PM |
| **Lot-Sample No.:** | J5C010147-1 | **Report No. :** | 28261 | **Received Date:** | 3/1/2005 9:30:00 AM |
| **Client Sample ID:** | B1CDF8 | **COC No. :** | | **Matrix:** | SOIL |

Ordered by Client Sample ID, Batch No.

| Parameter | Result | Qual | Count Error ( 2 s) | Total Uncert( 2 s) | MDC\|MDA, Action Lev | Rpt Unit, Lc | Yield CRDL(RL) | Rst/MDC, Rst/TotUcert | Analysis, Prep Date | Total Sa Size | Aliquot Size | Primary Detector |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Batch: 5063294 | TC99_ETVDSK_LSC | | | Work Order: G494H1AD | | | Report DB ID: 9G494H10 | | | | | |
| TC-99 | ***-1.41E-01*** | U | 2.37E-01 | 3.14E-01 | 5.85E-01 | pCi/g | 100% | *-0.24* | 3/10/05 09:32 p | | 2.2 | LSC4 |
| | | | | | | 2.81E-01 | 1.50E+01 | *-0.9* | | | G | |
| Batch: 5063543 | KWSR | | | Work Order: G494H1AE | | | Report DB ID: 9G494H10 | | | | | |
| U-234 | ***6.14E-01*** | | | 1.42E-01 | 2.23E-02 | pCi/g | 84% | *(27.5)* | 3/10/05 03:38 p | | 2.07 | ALP1 |
| | | | | | | 6.38E-03 | 1.00E+00 | *(8.7)* | | | G | |
| U-235 | ***2.12E-03*** | U | | 7.37E-03 | 2.00E-02 | pCi/g | 84% | *0.11* | 3/10/05 03:38 p | | 2.07 | ALP1 |
| | | | | | | 5.21E-03 | 1.00E+00 | *0.58* | | | G | |
| U-238 | ***5.78E-01*** | | | 1.35E-01 | 2.23E-02 | pCi/g | 84% | *(25.9)* | 3/10/05 03:38 p | | 2.07 | ALP1 |
| | | | | | | 6.38E-03 | 1.00E+00 | *(8.5)* | | | G | |

***Ratio U-234/238 = 1.1***

**No. of Results:** 4 **Comments:**

STL Richland
rptSTLRchSample
V4.11 A97

**MDC|MDA,Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.**
**U Qual - Analyzed for, but the result is less than the Mdc/Mda|Total Uncert or gamma scan software did not identify the nuclide.**

# FORM I

## SAMPLE RESULTS

**Date:** 14-Mar-05

| | | | | | |
|---|---|---|---|---|---|
| **Lab Name:** | STL Richland | **SDG:** | W04569 | **Collection Date:** | 3/2/2005 10:00:00 AM |
| **Lot-Sample No.:** | J5C030200-1 | **Report No. :** | 28261 | **Received Date:** | 3/3/2005 8:55:00 AM |
| **Client Sample ID:** | B1CDF9 | **COC No. :** | | **Matrix:** | SOIL |

Ordered by Client Sample ID, Batch No.

| Parameter | Result | Qual | Count Error ( 2 s) | Total Uncert( 2 s) | MDC\|MDA, Action Lev | Rpt Unit, Lc | Yield CRDL(RL) | Rst/MDC, Rst/TotUcert | Analysis, Prep Date | Total Sa Size | Aliquot Size | Primary Detector |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Batch:** 5063294 | TC99_ETVDSK_LSC | | | **Work Order:** G5GDT1AD | | | **Report DB ID:** 9G5GDT10 | | | | | |
| TC-99 | ***-3.21E-02*** | U | 2.65E-01 | 3.53E-01 | 6.46E-01 | pCi/g | 100% | *-0.05* | 3/11/05 06:52 a | | 2.0 | LSC4 |
| | | | | | | 3.10E-01 | 1.50E+01 | *-0.18* | | | G | |
| **Batch:** 5063543 | KWSR | | | **Work Order:** G5GDT1AJ | | | **Report DB ID:** 9G5GDT10 | | | | | |
| U-234 | ***6.37E-01*** | | | 1.47E-01 | 9.98E-03 | pCi/g | 83% | *(63.8)* | 3/10/05 03:42 p | | 2.0 | ALP10 |
| | | | | | | | 1.00E+00 | *(8.7)* | | | G | |
| U-235 | ***2.95E-03*** | U | | 7.53E-03 | 1.76E-02 | pCi/g | 83% | *0.17* | 3/10/05 03:42 p | | 2.0 | ALP10 |
| | | | | | | 3.83E-03 | 1.00E+00 | *0.78* | | | G | |
| U-238 | ***6.14E-01*** | | | 1.43E-01 | 1.76E-02 | pCi/g | 83% | *(34.8)* | 3/10/05 03:42 p | | 2.0 | ALP10 |
| | | | | | | 3.83E-03 | 1.00E+00 | *(8.6)* | | | G | |

***Ratio U-234/238 = 1.0***

**No. of Results:** 4 **Comments:**

STL Richland
rptSTLRchSample
V4.11 A97

**MDC|MDA,Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.**
**U Qual - Analyzed for, but the result is less than the Mdc/Mda|Total Uncert or gamma scan software did not identify the nuclide.**

# FORM I

## SAMPLE RESULTS

**Date:** 14-Mar-05

| | | | | | |
|---|---|---|---|---|---|
| **Lab Name:** | STL Richland | **SDG:** | W04569 | **Collection Date:** | 3/2/2005 12:40:00 PM |
| **Lot-Sample No.:** | J5C030200-2 | **Report No. :** | 28261 | **Received Date:** | 3/3/2005 8:55:00 AM |
| **Client Sample ID:** | B1CDH0 | **COC No. :** | | **Matrix:** | SOIL |

Ordered by Client Sample ID, Batch No.

| Parameter | Result | Qual | Count Error ( 2 s) | Total Uncert( 2 s) | MDC\|MDA, Action Lev | Rpt Unit, Lc | Yield CRDL(RL) | Rst/MDC, Rst/TotUcert | Analysis, Prep Date | Total Sa Size | Aliquot Size | Primary Detector |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Batch:** 5063294 | TC99_ETVDSK_LSC | | | **Work Order:** | G5GD71AD | | **Report DB ID:** | 9G5GD710 | | | | |
| TC-99 | ***-2.41E-02*** | U | 2.52E-01 | 3.36E-01 | 6.12E-01 | pCi/g | 100% | *-0.04* | 3/11/05 11:01 a | | 2.1 | LSC4 |
| | | | | | | 2.94E-01 | 1.50E+01 | *-0.14* | | | G | |
| **Batch:** 5063543 | KWSR | | | **Work Order:** | G5GD71AE | | **Report DB ID:** | 9G5GD710 | | | | |
| U-234 | ***4.68E-01*** | | | 1.11E-01 | 1.53E-02 | pCi/g | 85% | *(30.6)* | 3/10/05 03:42 p | | 2.03 | ALP11 |
| | | | | | | 3.32E-03 | 1.00E+00 | *(8.4)* | | | G | |
| U-235 | ***2.23E-02*** | | | 1.73E-02 | 8.63E-03 | pCi/g | 85% | *(2.6)* | 3/10/05 03:42 p | | 2.03 | ALP11 |
| | | | | | | | 1.00E+00 | *(2.6)* | | | G | |
| U-238 | ***4.72E-01*** | | | 1.12E-01 | 8.63E-03 | pCi/g | 85% | *(54.6)* | 3/10/05 03:42 p | | 2.03 | ALP11 |
| | | | | | | | 1.00E+00 | *(8.4)* | | | G | |

***Ratio U-234/238 = 1.0***

**No. of Results:** 4 **Comments:**

STL Richland
rptSTLRchSample
V4.11 A97

**MDC|MDA,Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.**
**U Qual - Analyzed for, but the result is less than the Mdc/Mda|Total Uncert or gamma scan software did not identify the nuclide.**

# FORM I

## SAMPLE RESULTS

Date: 14-Mar-05

| | | | | | |
|---|---|---|---|---|---|
| Lab Name: | STL Richland | SDG: | W04569 | Collection Date: | 3/2/2005 3:30:00 PM |
| Lot-Sample No.: | J5C030200-3 | Report No. : | 28261 | Received Date: | 3/3/2005 8:55:00 AM |
| Client Sample ID: | B1CDH1 | COC No. : | | Matrix: | SOIL |

Ordered by Client Sample ID, Batch No.

| Parameter | Result | Qual | Count Error ( 2 s) | Total Uncert( 2 s) | MDC\|MDA, Action Lev | Rpt Unit, Lc | Yield CRDL(RL) | Rst/MDC, Rst/TotUcert | Analysis, Prep Date | Total Sa Size | Aliquot Size | Primary Detector |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Batch: 5063294 | TC99_ETVDSK_LSC | | | Work Order: | G5GEC1AD | | Report DB ID: 9G5GEC10 | | | | | |
| TC-99 | ***5.54E-02*** | U | 2.69E-01 | 3.58E-01 | 6.48E-01 | pCi/g | 100% | *0.09* | 3/11/05 12:03 p | | 2.0 | LSC4 |
| | | | | | | 3.11E-01 | 1.50E+01 | *0.31* | | | G | |
| Batch: 5063543 | KWSR | | | Work Order: | G5GEC1AE | | Report DB ID: 9G5GEC10 | | | | | |
| U-234 | ***6.93E-01*** | | | 1.51E-01 | 1.96E-02 | pCi/g | 99% | *(35.4)* | 3/10/05 07:46 p | | 2.0 | ALP1 |
| | | | | | | 5.59E-03 | 1.00E+00 | *(9.2)* | | | G | |
| U-235 | ***1.12E-02*** | U | | 1.27E-02 | 1.75E-02 | pCi/g | 99% | *0.64* | 3/10/05 07:46 p | | 2.0 | ALP1 |
| | | | | | | 4.57E-03 | 1.00E+00 | *(1.8)* | | | G | |
| U-238 | ***7.61E-01*** | | | 1.63E-01 | 1.96E-02 | pCi/g | 99% | *(38.9)* | 3/10/05 07:46 p | | 2.0 | ALP1 |
| | | | | | | 5.59E-03 | 1.00E+00 | *(9.4)* | | | G | |

***Ratio U-234/238 = 0.9***

No. of Results: 4 Comments:

STL Richland
rptSTLRchSample
V4.11 A97

MDC|MDA,Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.
U Qual - Analyzed for, but the result is less than the Mdc/Mda|Total Uncert or gamma scan software did not identify the nuclide.

# FORM I

## SAMPLE RESULTS

Date: 14-Mar-05

| | | | | | |
|---|---|---|---|---|---|
| Lab Name: | STL Richland | SDG: | W04569 | Collection Date: | 2/28/2005 9:30:00 AM |
| Lot-Sample No.: | J5C010147-2 | Report No. : | 28261 | Received Date: | 3/1/2005 9:30:00 AM |
| Client Sample ID: | B1CDH2 | COC No. : | | Matrix: | SOIL |

Ordered by Client Sample ID, Batch No.

| Parameter | Result | Qual | Count Error ( 2 s) | Total Uncert( 2 s) | MDC\|MDA, Action Lev | Rpt Unit, Lc | Yield CRDL(RL) | Rst/MDC, Rst/TotUcert | Analysis, Prep Date | Total Sa Size | Aliquot Size | Primary Detector |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Batch: 5063294 | TC99_ETVDSK_LSC | | | Work Order: G494L1AD | | | Report DB ID: 9G494L10 | | | | | |
| TC-99 | ***4.97E-02*** | U | 2.55E-01 | 3.40E-01 | 6.12E-01 | pCi/g | 100% | *0.08* | 3/10/05 10:34 p | | 2.1 | LSC4 |
| | | | | | | 2.94E-01 | 1.50E+01 | *0.29* | | | G | |
| Batch: 5063543 | KWSR | | | Work Order: G494L1AE | | | Report DB ID: 9G494L10 | | | | | |
| U-234 | ***1.23E+00*** | | | 2.67E-01 | 2.61E-02 | pCi/g | 66% | *(47.)* | 3/10/05 03:39 p | | 2.05 | ALP2 |
| | | | | | | 6.80E-03 | 1.00E+00 | *(9.2)* | | | G | |
| U-235 | ***4.53E-02*** | | | 3.04E-02 | 2.21E-02 | pCi/g | 66% | *(2.)* | 3/10/05 03:39 p | | 2.05 | ALP2 |
| | | | | | | 4.81E-03 | 1.00E+00 | *(3.)* | | | G | |
| U-238 | ***1.06E+00*** | | | 2.36E-01 | 2.92E-02 | pCi/g | 66% | *(36.3)* | 3/10/05 03:39 p | | 2.05 | ALP2 |
| | | | | | | 8.33E-03 | 1.00E+00 | *(9.)* | | | G | |

***Ratio U-234/238 = 1.2***

**No. of Results:** 4 **Comments:**

STL Richland
rptSTLRchSample
V4.11 A97

**MDC|MDA,Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.**
**U Qual - Analyzed for, but the result is less than the Mdc/Mda|Total Uncert or gamma scan software did not identify the nuclide.**

# FORM I

## SAMPLE RESULTS

Date: 14-Mar-05

| | | | | | |
|---|---|---|---|---|---|
| Lab Name: | STL Richland | SDG: | W04569 | Collection Date: | 2/28/2005 1:00:00 PM |
| Lot-Sample No.: | J5C010147-3 | Report No. : | 28261 | Received Date: | 3/1/2005 9:30:00 AM |
| Client Sample ID: | B1CDH3 | COC No. : | | Matrix: | SOIL |

Ordered by Client Sample ID, Batch No.

| Parameter | Result | Qual | Count Error ( 2 s) | Total Uncert( 2 s) | MDC\|MDA, Action Lev | Rpt Unit, Lc | Yield CRDL(RL) | Rst/MDC, Rst/TotUcert | Analysis, Prep Date | Total Sa Size | Aliquot Size | Primary Detector |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Batch: 5063294 | TC99_ETVDSK_LSC | | | Work Order: | G494N1AD | | Report DB ID: 9G494N10 | | | | | |
| TC-99 | ***-7.11E-03*** | U | 2.65E-01 | 3.54E-01 | 6.42E-01 | pCi/g | 100% | *-0.01* | 3/10/05 11:37 p | | 2.0 | LSC4 |
| | | | | | | 3.09E-01 | 1.50E+01 | *-0.04* | | | G | |
| Batch: 5063543 | KWSR | | | Work Order: | G494N1AE | | Report DB ID: 9G494N10 | | | | | |
| U-234 | ***7.77E-01*** | | | 1.69E-01 | 3.03E-02 | pCi/g | 86% | *(25.6)* | 3/10/05 03:39 p | | 2.02 | ALP3 |
| | | | | | | 1.06E-02 | 1.00E+00 | *(9.2)* | | | G | |
| U-235 | ***2.57E-02*** | | | 1.98E-02 | 1.92E-02 | pCi/g | 86% | *(1.3)* | 3/10/05 03:39 p | | 2.02 | ALP3 |
| | | | | | | 4.99E-03 | 1.00E+00 | *(2.6)* | | | G | |
| U-238 | ***7.66E-01*** | | | 1.67E-01 | 2.49E-02 | pCi/g | 86% | *(30.7)* | 3/10/05 03:39 p | | 2.02 | ALP3 |
| | | | | | | 7.89E-03 | 1.00E+00 | *(9.2)* | | | G | |

***Ratio U-234/238 = 1.0***

No. of Results: 4 Comments:

STL Richland
rptSTLRchSample
V4.11 A97

MDC|MDA,Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.
U Qual - Analyzed for, but the result is less than the Mdc/Mda|Total Uncert or gamma scan software did not identify the nuclide.

# FORM I

## SAMPLE RESULTS

Date: 14-Mar-05

| | | | | | |
|---|---|---|---|---|---|
| Lab Name: | STL Richland | SDG: | W04569 | Collection Date: | 3/2/2005 10:00:00 AM |
| Lot-Sample No.: | J5C030200-4 | Report No. : | 28261 | Received Date: | 3/3/2005 8:55:00 AM |
| Client Sample ID: | B1CF38 | COC No. : | | Matrix: | SOIL |

Ordered by Client Sample ID, Batch No.

| Parameter | Result | Qual | Count Error ( 2 s) | Total Uncert( 2 s) | MDC\|MDA, Action Lev | Rpt Unit, Lc | Yield CRDL(RL) | Rst/MDC, Rst/TotUcert | Analysis, Prep Date | Total Sa Size | Aliquot Size | Primary Detector |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Batch: 5063294 | TC99_ETVDSK_LSC | | | Work Order: | G5GEF1AD | | Report DB ID: | 9G5GEF10 | | | | |
| TC-99 | ***1.72E-01*** | U | 2.71E-01 | 3.64E-01 | 6.42E-01 | pCi/g | 100% | *0.27* | 3/11/05 01:05 p | | 2.0 | LSC4 |
| | | | | | | 3.09E-01 | 1.50E+01 | *0.94* | | | G | |
| Batch: 5063543 | KWSR | | | Work Order: | G5GEF1AE | | Report DB ID: | 9G5GEF10 | | | | |
| U-234 | ***6.63E-01*** | | | 1.52E-01 | 1.75E-02 | pCi/g | 83% | *(38.)* | 3/10/05 07:46 p | | 2.06 | ALP2 |
| | | | | | | 3.80E-03 | 1.00E+00 | *(8.7)* | | | G | |
| U-235 | ***3.65E-02*** | | | 2.39E-02 | 9.89E-03 | pCi/g | 83% | *(3.7)* | 3/10/05 07:46 p | | 2.06 | ALP2 |
| | | | | | | | 1.00E+00 | *(3.)* | | | G | |
| U-238 | ***5.93E-01*** | | | 1.39E-01 | 2.30E-02 | pCi/g | 83% | *(25.7)* | 3/10/05 07:46 p | | 2.06 | ALP2 |
| | | | | | | 6.58E-03 | 1.00E+00 | *(8.5)* | | | G | |

***Ratio U-234/238 = 1.1***

No. of Results: 4 Comments:

STL Richland
rptSTLRchSample
V4.11 A97

MDC|MDA,Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.
U Qual - Analyzed for, but the result is less than the Mdc/Mda|Total Uncert or gamma scan software did not identify the nuclide.

# FORM I

## SAMPLE RESULTS

Date: 14-Mar-05

| | | | | | |
|---|---|---|---|---|---|
| **Lab Name:** | STL Richland | **SDG:** | W04569 | **Collection Date:** | 3/3/2005 11:00:00 AM |
| **Lot-Sample No.:** | J5C040248-1 | **Report No. :** | 28261 | **Received Date:** | 3/4/2005 11:30:00 AM |
| **Client Sample ID:** | B1CF72 | **COC No. :** | F05-009-086 | **Matrix:** | WATER |

Ordered by Client Sample ID, Batch No.

| Parameter | Result | Qual | Count Error ( 2 s) | Total Uncert( 2 s) | MDC\|MDA, Action Lev | Rpt Unit, Lc | Yield CRDL(RL) | Rst/MDC, Rst/TotUcert | Analysis, Prep Date | Total Sa Size | Aliquot Size | Primary Detector |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Batch: 5063294 | TC99_ETVDSK_LSC | | | Work Order: G5KJL1AC | | | Report DB ID: 9G5KJL10 | | | | | |
| TC-99 | ***1.32E-02*** | U | 2.67E-01 | 3.56E-01 | 6.47E-01 | pCi/g | 100% | *0.02* | 3/11/05 04:12 p | | 2.0 | LSC4 |
| | | | | | | 3.11E-01 | 1.50E+01 | *0.07* | | | G | |
| Batch: 5063543 | KWSR | | | Work Order: G5KJL1AE | | | Report DB ID: 9G5KJL10 | | | | | |
| U-234 | ***6.31E-01*** | | | 1.47E-01 | 3.36E-02 | pCi/g | 78% | *(18.8)* | 3/10/05 07:46 p | | 2.0 | ALP3 |
| | | | | | | 1.17E-02 | 1.00E+00 | *(8.6)* | | | G | |
| U-235 | ***3.60E-02*** | | | 2.46E-02 | 2.12E-02 | pCi/g | 78% | *(1.7)* | 3/10/05 07:46 p | | 2.0 | ALP3 |
| | | | | | | 5.53E-03 | 1.00E+00 | *(2.9)* | | | G | |
| U-238 | ***6.87E-01*** | | | 1.57E-01 | 2.76E-02 | pCi/g | 78% | *(24.9)* | 3/10/05 07:46 p | | 2.0 | ALP3 |
| | | | | | | 8.74E-03 | 1.00E+00 | *(8.7)* | | | G | |

***Ratio U-234/238 = 0.9***

**No. of Results:** 4 **Comments:**

STL Richland
rptSTLRchSample
V4.11 A97

MDC|MDA,Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.
U Qual - Analyzed for, but the result is less than the Mdc/Mda|Total Uncert or gamma scan software did not identify the nuclide.

# FORM I

## SAMPLE RESULTS

Date: 14-Mar-05

| | | | | | |
|---|---|---|---|---|---|
| Lab Name: | STL Richland | SDG: | W04569 | Collection Date: | 3/3/2005 1:50:00 PM |
| Lot-Sample No.: | J5C040248-2 | Report No. : | 28261 | Received Date: | 3/4/2005 11:30:00 AM |
| Client Sample ID: | B1CF73 | COC No. : | F05-009-087 | Matrix: | WATER |

Ordered by Client Sample ID, Batch No.

| Parameter | Result | Qual | Count Error ( 2 s) | Total Uncert( 2 s) | MDC\|MDA, Action Lev | Rpt Unit, Lc | Yield CRDL(RL) | Rst/MDC, Rst/TotUcert | Analysis, Prep Date | Total Sa Size | Aliquot Size | Primary Detector |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Batch: 5063294 | TC99_ETVDSK_LSC | | | Work Order: G5KJT1AC | | Report DB ID: 9G5KJT10 | | | | | | |
| TC-99 | *-1.77E-01* | U | 2.47E-01 | 3.28E-01 | 6.13E-01 | pCi/g | 100% | *-0.29* | 3/11/05 05:14 p | | 2.1 | LSC4 |
| | | | | | | 2.95E-01 | 1.50E+01 | *-(1.1)* | | | G | |
| Batch: 5063543 | KWSR | | | Work Order: G5KJT1AE | | Report DB ID: 9G5KJT10 | | | | | | |
| U-234 | ***2.49E+00*** | | | 4.80E-01 | 3.52E-02 | pCi/g | 72% | *(70.6)* | 3/10/05 07:47 p | | 2.04 | ALP5 |
| | | | | | | 1.23E-02 | 1.00E+00 | *(10.4)* | | | G | |
| U-235 | ***6.93E-02*** | | | 3.56E-02 | 2.23E-02 | pCi/g | 72% | *(3.1)* | 3/10/05 07:47 p | | 2.04 | ALP5 |
| | | | | | | 5.80E-03 | 1.00E+00 | *(3.9)* | | | G | |
| U-238 | ***2.51E+00*** | | | 4.85E-01 | 3.38E-02 | pCi/g | 72% | *(74.3)* | 3/10/05 07:47 p | | 2.04 | ALP5 |
| | | | | | | 1.16E-02 | 1.00E+00 | *(10.4)* | | | G | |

***Ratio U-234/238 = 1.0***

No. of Results: 4 Comments:

STL Richland
rptSTLRchSample
V4.11 A97

MDC|MDA,Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.
U Qual - Analyzed for, but the result is less than the Mdc/Mda|Total Uncert or gamma scan software did not identify the nuclide.

# FORM II

Date: 14-Mar-05

## DUPLICATE RESULTS

| | | | | | |
|---|---|---|---|---|---|
| Lab Name: | STL Richland | SDG: | W04569 | Collection Date: | 3/2/2005 10:00:00 AM |
| Lot-Sample No.: | J5C030200-1 | Report No. : | 28261 | Received Date: | 3/3/2005 8:55:00 AM |
| Client Sample ID: | B1CDF9 DUP | COC No. : | | Matrix: | SOIL |

| Parameter | Result, Orig Rst | Qual | Count Error ( 2 s) | Total Uncert( 2 s) | MDC\|MDA, Action Lev | Rpt Unit, CRDL | Yield | Rst/MDC, Rst/TotUcert | Analysis, Prep Date | Total Sa Size | Aliquot Size | Primary Detector |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Batch: 5063294 | TC99_ETVDSK_LSC | | | Work Order: G5GDT1AG | | Report DB ID: G5GDT1GR | | | Orig Sa DB ID: 9G5GDT10 | | | |
| TC-99 | 1.10E-02 | U | 2.66E-01 | 3.55E-01 | 6.42E-01 | pCi/g | 100% | 0.02 | 3/11/05 09:59 a | | 2.0 | LSC4 |
| | -3.21E-02 | U | RPD | -409.7 | | 1.50E+01 | | 0.06 | | | G | |

No. of Results: 1 Comments:

STL Richland
rptSTLRchDupV4.1
1 A97

RPD - Relative Percent Difference.
MDC|MDA,Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.
U Qual - Analyzed for, but the result is less than the Mdc/Mda|Total Uncert or gamma scan software did not identify the nuclide.

# FORM II

Date: 14-Mar-05

## DUPLICATE RESULTS

| | | | | | |
|---|---|---|---|---|---|
| **Lab Name:** | STL Richland | **SDG:** | W04569 | **Collection Date:** | 3/3/2005 11:00:00 AM |
| **Lot-Sample No.:** | J5C040248-1 | **Report No. :** | 28261 | **Received Date:** | 3/4/2005 11:30:00 AM |
| **Client Sample ID:** | B1CF72 DUP | **COC No. :** | F05-009-086 | **Matrix:** | WATER |

| Parameter | Result, Orig Rst | Qual | Count Error ( 2 s) | Total Uncert( 2 s) | MDC\|MDA, Action Lev | Rpt Unit, CRDL | Yield | Rst/MDC, Rst/TotUcert | Analysis, Prep Date | Total Sa Size | Aliquot Size | Primary Detector |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Batch: 5063543 KWSR | | | | Work Order: G5KJL1AG | | Report DB ID: G5KJL1GR | | | Orig Sa DB ID: 9G5KJL10 | | | |
| U-234 | 6.23E-01 | | | 1.50E-01 | 3.56E-02 | pCi/g | 70% | (17.5) | 3/10/05 07:47 p | | 2.09 | ALP4 |
| | 6.31E-01 | | RPD | 1.3 | | 1.00E+00 | | (8.3) | | | G | |
| U-235 | 4.47E-02 | | | 3.01E-02 | 3.23E-02 | pCi/g | 70% | (1.4) | 3/10/05 07:47 p | | 2.09 | ALP4 |
| | 3.60E-02 | | RPD | 21.6 | | 1.00E+00 | | (3.) | | | G | |
| U-238 | 6.89E-01 | | | 1.62E-01 | 2.85E-02 | pCi/g | 70% | (24.2) | 3/10/05 07:47 p | | 2.09 | ALP4 |
| | 6.87E-01 | | RPD | 0.2 | | 1.00E+00 | | (8.5) | | | G | |

*Ratio U-234/238 = 0.9* *Alpha Spec Result Sum = 1.4E+00*

**No. of Results:** 3 **Comments:**

STL Richland RPD - Relative Percent Difference.

rptSTLRchDupV4.1 MDC|MDA,Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.

1 A97

# FORM II

## BLANK RESULTS

Date: 14-Mar-05

Lab Name: STL Richland

SDG: W04569

Matrix: SOIL

Report No. : 28261

| Parameter | Result | Qual | Count Error ( 2 s) | Total Uncert( 2 s) | MDC\|MDA , | Rpt Unit, CRDL | Yield | Rst/MDC, Rst/TotUcert | Analysis, Prep Date | Total Sa Size | Aliquot Size | Primary Detector |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Batch: 5063294 | TC99_ETVDSK_LSC | | | Work Order: | G5JXF1AA | | Report DB ID: | G5JXF1AB | | | | |
| TC-99 | 1.20E-01 | U | 2.70E-01 | 3.61E-01 | 6.43E-01 | pCi/g | 100% | 0.19 | 3/11/05 02:08 p | | 2.0 | LSC4 |
| | | | | | 3.09E-01 | 2.00E+01 | | 0.66 | | | G | |
| Batch: 5063543 | KWSR | | | Work Order: | G5L1G1AA | | Report DB ID: | G5L1G1AB | | | | |
| U-234 | 2.64E-02 | | | 2.00E-02 | 2.21E-02 | pCi/g | 93% | (1.2) | 3/10/05 07:48 p | | 2.0 | ALP6 |
| | | | | | 6.70E-03 | 1.00E+00 | | (2.6) | | | G | |
| U-235 | -6.44E-04 | U | | 1.29E-03 | 1.54E-02 | pCi/g | 93% | -0.04 | 3/10/05 07:48 p | | 2.0 | ALP6 |
| | | | | | 3.35E-03 | 1.00E+00 | | -1. | | | G | |
| U-238 | 2.51E-02 | | | 1.87E-02 | 1.54E-02 | pCi/g | 93% | (1.6) | 3/10/05 07:48 p | | 2.0 | ALP6 |
| | | | | | 3.35E-03 | 1.00E+00 | | (2.7) | | | G | |
| | | | | | | | | ***Ratio U-234/238 = 1.1*** | | | | |

No. of Results: 4 Comments:

STL Richland
rptSTLRchBlank
V4.11 A97

MDC|MDA,Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.
U Qual - Analyzed for, but the result is less than the Mdc/Mda|Total Uncert or gamma scan software did not identify the nuclide.

# FORM II

## LCS RESULTS

**Date:** 14-Mar-05

**Lab Name:** STL Richland

**Matrix:** SOIL

**SDG:** W04569

**Report No. :** 28261

| Parameter | Result | Qual | Count Error ( 2 s) | Total Uncert( 2 s) | MDC\|MDA | Report Unit | Yield | Expected | Expected Uncert | Recovery, Bias | Analysis, Prep Date | Aliquot Size | Primary Detector |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Batch:** 5063294 | TC99_ETVDSK_LSC | | | **Work Order:** | G5JXF1AC | | **Report DB ID:** | G5JXF1CS | | | | | |
| TC-99 | 1.97E+02 | | 1.92E+00 | 1.16E+01 | 6.43E-01 | pCi/g | 100% | 2.26E+02 | 2.87E+00 | 87% | 3/11/05 03:10 p | 2.0 | LSC4 |
| | | | | | | | **Rec Limits:** | 70 | 130 | -0.1 | | G | |
| **Batch:** 5063543 | KWSR | | | **Work Order:** | G5L1G1AC | | **Report DB ID:** | G5L1G1CS | | | | | |
| U-234 | 1.59E+00 | | | 3.07E-01 | 1.52E-02 | pCi/g | 97% | 1.64E+00 | 1.01E-02 | 97% | 3/10/05 07:48 p | 2.0 | ALP7 |
| | | | | | | | **Rec Limits:** | 20 | 105 | 0.0 | | G | |
| U-238 | 1.65E+00 | | | 3.17E-01 | 8.61E-03 | pCi/g | 97% | 1.72E+00 | 1.05E-02 | 96% | 3/10/05 07:48 p | 2.0 | ALP7 |
| | | | | | | | **Rec Limits:** | 20 | 105 | 0.0 | | G | |

**No. of Results:** 3 **Comments:**

**STL Richland** **Bias** - (Result/Expected)-1 as defined by ANSI N13.30.

rptSTLRchLcs
V4.11 A97

# FORM II

## MATRIX SPIKE RESULTS

Date: 14-Mar-05

Lab Name: STL Richland SDG: W04569

Lot-Sample No.: J5C030200-1 Report No. : 28261 Matrix: SOIL

| Parameter | SpikeResult, Orig Rst | Qual | Count Error ( 2 s) | Total Uncert( 2 s) | MDC\|MDA | Rpt Unit, CRDL | Yield | Rec-overy | Exp-ected | Exp Uncert | Analysis, Prep Date | Aliquot Size | Primary Detector |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Batch: 5063294 | TC99_ETVDSK_LSC | | | Work Order: | G5GDT1AF | | Report DB ID: | G5GDT1FW | | | Orig Sa DB ID: | 9G5GDT10 | |
| TC-99 | 1.88E+02 | | 1.88E+00 | 1.11E+01 | 6.46E-01 | pCi/g | 100% | 83.39% | 2.26E+02 | 1.86E+01 | 3/11/05 07:54 a | 2.0 | LSC4 |
| | -3.21E-02 | *RPD* | 34.0 | | | | | | | | | G | |

No. of Results: 1 Comments:

STL Richland
rptSTLRchMs
V4.11 A97

RER - Replicate Error Ratio = (S-D)/[sqrt(sq(TPUs)+sq(TPUd))] as defined by ICPT BOA.
Bias - (Result/Expected)-1 as defined by ANSI N13.30.

SEVERN TRENT STL

# Data Review/Verification Checklist

RADIOCHEMISTRY, First Level Review

3/11/2005 1:34:11 PM

**Lot No., Due Date:** J5C010147,J5C020167,J5C030200,J5C040248; 03/11/2005

**Client, Site:** 108302; FLUOR- SOILS Hanford Site

**QC Batch No., Method Test:** 5063543; RUISO Uiso by ALP

**SDG, Matrix:** W04569; SOIL

| | Yes | No | N/A |
|---|---|---|---|
| **1.0 COC** | | | |
| 1.1 Is the ICOC page complete; includes all applicable analysis, dates, SOP numbers, and revisions? | ✓ | | |
| **2.0 QC Batch** | | | |
| 2.1 Do the Summary/Detailed Reports include a calculated result for each sample listed on the QC Batch Sheet? | ✓ | | |
| 2.2 Are the QC appropriate for the analysis included in the batch? | ✓ | | |
| 2.3 Is the Analytical Batch Worksheet complete; includes as appropriate, volumes, count times, etc? | ✓ | | |
| 2.4 Does the Worksheets include a Tracer Vial label for each sample? | ✓ | | |
| **3.0 QC & Samples** | | | |
| 3.1 Is the blank results, yield, and MDA within contract limits? | ✓ | | |
| 3.2 Is the LCS result, yield, and MDA within contract limits? | ✓ | | |
| 3.3 Are the MS/MSD results, yields, and MDA within contract limits? | | | ✓ |
| 3.4 Are the duplicate result, yields, and MDAs within contract limits? | ✓ | | |
| 3.5 Are the sample yields and MDAs within contract limits? | ✓ | | |
| **4.0 Raw Data** | | | |
| 4.1 Were results calculated in the correct units? | ✓ | | |
| 4.2 Were analysis volumes entered correctly? | ✓ | | |
| 4.3 Were Yields entered correctly? | | | |
| 4.4 Were spectra reviewed/meet contractual requirements? | ✓ | | |
| 4.5 Were raw counts reviewed for anomalies? | ✓ | | |
| **5.0 Other** | | | |
| 5.1 Are all nonconformances included and noted? | | | ✓ |
| 5.2 Are all required forms filled out? | ✓ | | |
| 5.3 Was the correct methodology used? | ✓ | | |
| 5.4 Was transcription checked? | ✓ | | |
| 5.5 Were all calculations checked at a minimum frequency? | ✓ | | |
| 5.6 Are worksheet entries complete and correct? | ✓ | | |

6.0 Comments on any No response:

**First Level Review** Pam Cinderson **Date** 3-11-05

SEVERN TRENT STL

Data Review Checklist
RADIOCHEMISTRY
Second Level Review

QC Batch Number: 5063543

| Review Item | Yes (√) | No (√) | N/A (√) |
|---|---|---|---|
| A. Sample Analysis<br>1. Are the sample yields within acceptance criteria? | ✓ | | |
| 2. Is the sample Minimum Detectable Activity < the Contract Detection Limit? | ✓ | | |
| 3. Are the correct isotopes reported? | ✓ | | |
| B. QC Samples<br>1. Is the Minimum Detectable Activity for the blank result ≤ the Contract Detection Limit? | ✓ | | |
| 2. Does the blank result meet the Contract criteria? | ✓ | | |
| 3. Is the blank result < the Contract Detection Limit? | ✓ | | |
| 4. Is the blank result > the Contract Detection Limit but the sample result < the Contract Detection Limit? | | | ✓ |
| 5. Is the LCS recovery with contract acceptance criteria? | ✓ | | |
| 7. Is the LCS Minimum Detectable Activity ≤ the Contract Detection Limit? | ✓ | | |
| 8. Do the MS/MSD results and yields meet acceptance criteria? | | | ✓ |
| 9. Do the duplicate sample results and yields meet acceptance criteria? | ✓ | | |
| C. Other<br>1. Are all Nonconformances included and noted? | | | ✓ |
| 2. Are all required forms filled out? | ✓ | | |
| 3. Was the correct methodology used? | ✓ | | |
| 4. Was transcription checked? | ✓ | | |
| 5. Were all calculations checked at a minimum frequency? | ✓ | | |
| 6. Were units checked? | ✓ | | |

Comments on any "No" response: _____

Second Level Review: Jackie Waddell Date: 3/11/05

LS-038B, Rev. 10, 8/02

SEVERN TRENT **STL**

# Data Review/Verification Checklist

RADIOCHEMISTRY, First Level Review

3/14/2005 12:15:23 PM

**Lot No., Due Date:** J5C010147,J5C020167,J5C030200,J5C040248; 03/11/2005

**Client, Site:** 108302; FLUOR- SOILS Hanford Site

**QC Batch No., Method Test:** 5063294; RTC99 Tc-99 by LSC

**SDG, Matrix:** W04569; SOIL

| | | | |
|---|---|---|---|
| **1.0 COC** | | | |
| 1.1 Is the ICOC page complete; includes all applicable analysis, dates, SOP numbers, and revisions? | ✓ Yes | No | N/A |
| **2.0 QC Batch** | | | |
| 2.1 Do the Summary/Detailed Reports include a calculated result for each sample listed on the QC Batch Sheet? | ✓ Yes | No | N/A |
| 2.2 Are the QC appropriate for the analysis included in the batch? | ✓ Yes | No | N/A |
| 2.3 Is the Analytical Batch Worksheet complete; includes as appropriate, volumes, count times, etc? | ✓ Yes | No | N/A |
| 2.4 Does the Worksheets include a Tracer Vial label for each sample? | Yes | No | ✓ N/A |
| **3.0 QC & Samples** | | | |
| 3.1 Is the blank results, yield, and MDA within contract limits? | ✓ Yes | No | N/A |
| 3.2 Is the LCS result, yield, and MDA within contract limits? | ✓ Yes | No | N/A |
| 3.3 Are the MS/MSD results, yields, and MDA within contract limits? | ✓ Yes | No | N/A |
| 3.4 Are the duplicate result, yields, and MDAs within contract limits? | ✓ Yes | No | N/A |
| 3.5 Are the sample yields and MDAs within contract limits? | ✓ Yes | No | N/A |
| **4.0 Raw Data** | | | |
| 4.1 Were results calculated in the correct units? | ✓ Yes | No | N/A |
| 4.2 Were analysis volumes entered correctly? | ✓ Yes | No | N/A |
| 4.3 Were Yields entered correctly? | Yes | No | ✓ N/A |
| 4.4 Were spectra reviewed/meet contractual requirements? | Yes | No | ✓ N/A |
| 4.5 Were raw counts reviewed for anomalies? | ✓ Yes | No | N/A |
| **5.0 Other** | | | |
| 5.1 Are all nonconformances included and noted? | Yes | No | ✓ N/A |
| 5.2 Are all required forms filled out? | ✓ Yes | No | N/A |
| 5.3 Was the correct methodology used? | ✓ Yes | No | N/A |
| 5.4 Was transcription checked? | ✓ Yes | No | N/A |
| 5.5 Were all calculations checked at a minimum frequency? | ✓ Yes | No | N/A |
| 5.6 Are worksheet entries complete and correct? | ✓ Yes | No | N/A |

6.0 Comments on any No response:

**First Level Review** Pam Anderson **Date** 3-14-05

SEVERN TRENT STL

Data Review Checklist
RADIOCHEMISTRY
Second Level Review

QC Batch Number: 5063294

| Review Item | Yes (√) | No (√) | N/A (√) |
|---|---|---|---|
| A. Sample Analysis<br>1. Are the sample yields within acceptance criteria? | | | ✓ |
| 2. Is the sample Minimum Detectable Activity < the Contract Detection Limit? | ✓ | | |
| 3. Are the correct isotopes reported? | ✓ | | |
| B. QC Samples<br>1. Is the Minimum Detectable Activity for the blank result ≤ the Contract Detection Limit? | ✓ | | |
| 2. Does the blank result meet the Contract criteria? | ✓ | | |
| 3. Is the blank result < the Contract Detection Limit? | ✓ | | |
| 4. Is the blank result > the Contract Detection Limit but the sample result < the Contract Detection Limit? | | | ✓ |
| 5. Is the LCS recovery with contract acceptance criteria? | ✓ | | |
| 7. Is the LCS Minimum Detectable Activity ≤ the Contract Detection Limit? | ✓ | | |
| 8. Do the MS/MSD results and yields meet acceptance criteria? | ✓ | | |
| 9. Do the duplicate sample results and yields meet acceptance criteria? | ✓ | | |
| C. Other<br>1. Are all Nonconformances included and noted? | | | ✓ |
| 2. Are all required forms filled out? | ✓ | | |
| 3. Was the correct methodology used? | ✓ | | |
| 4. Was transcription checked? | ✓ | | |
| 5. Were all calculations checked at a minimum frequency? | ✓ | | |
| 6. Were units checked? | ✓ | | |

Comments on any "No" response: _____

Second Level Review: Jackie Waddell Date: 3/14/05

LS-038B, Rev. 10, 8/02

| Fluor Hanford Inc. | CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST | | | F05-009-031 | PAGE 1 OF 1 |
|---|---|---|---|---|---|
| COLLECTOR<br>POPE/PFISTER/MOKLER/TYRA | COMPANY CONTACT<br>JACKSON, RL | TELEPHONE NO.<br>372-9004 | PROJECT COORDINATOR<br>TRENT, SJ | PRICE CODE 8B | DATA TURNAROUND |
| SAMPLING LOCATION<br>216-U-1 & 216-U-2; C4711 44'-46' | PROJECT DESIGNATION<br>U Plant Closure Contaminant Plume Refinement | | SAF NO.<br>F05-009 | AIR QUALITY ☐ | 7 Days / ~~15 Days~~ RP 2/28/05 |
| ICE CHEST NO.<br>Q-50639 | FIELD LOGBOOK NO. | COA<br>119141ES10 | METHOD OF SHIPMENT<br>GOVERNMENT VEHICLE | | |
| SHIPPED TO<br>Severn Trent Incorporated, Richland | OFFSITE PROPERTY NO.<br>N/A | | BILL OF LADING/AIR BILL NO.<br>N/A | | |

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

POSSIBLE SAMPLE HAZARDS/ REMARKS
Due ~~4/04/05~~ 3/09 OR 3/01/05
J5C010147
SDG# W04569

SPECIAL HANDLING AND/OR STORAGE

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| PRESERVATION | None | | | | | | | | | | | |
| TYPE OF CONTAINER | aG | | | | | | | | | | | |
| NO. OF CONTAINER(S) | 1 | | | | | | | | | | | |
| VOLUME | 60mL | | | | | | | | | | | |
| SAMPLE ANALYSIS | Isotopic Uranium; Technetium-99; Total Uranium; | | | | | | | | | | | |

| SAMPLE NO. | MATRIX* | SAMPLE DATE | SAMPLE TIME | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| B1CDF8 | SOIL | 2/28/05 | 1610 | X | G494H | | | | | | | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |

| CHAIN OF POSSESSION | | SIGN/ PRINT NAMES | |
|---|---|---|---|
| RELINQUISHED BY/REMOVED FROM<br>JSPope/[illegible] 2-28-05 | DATE/TIME<br>1700 | RECEIVED BY/STORED IN<br>MO-026 / Ref. #1 2-28-05 | DATE/TIME<br>1700 |
| RELINQUISHED BY/REMOVED FROM<br>MO-026 / Frig #1 3/1/05 | DATE/TIME<br>0600 | RECEIVED BY/STORED IN<br>[illegible] / David Tyra 3/1/05 | DATE/TIME<br>0600 |
| RELINQUISHED BY/REMOVED FROM<br>[illegible] / David Tyra 3/1/05 | DATE/TIME<br>0930 | RECEIVED BY/STORED IN<br>[illegible] / A. Rhinehart 3/01/05 | DATE/TIME<br>400 Re 9:30 |
| RELINQUISHED BY/REMOVED FROM | DATE/TIME | RECEIVED BY/STORED IN | DATE/TIME |
| RELINQUISHED BY/REMOVED FROM | DATE/TIME | RECEIVED BY/STORED IN | DATE/TIME |
| RELINQUISHED BY/REMOVED FROM | DATE/TIME | RECEIVED BY/STORED IN | DATE/TIME |
| RELINQUISHED BY/REMOVED FROM | DATE/TIME | RECEIVED BY/STORED IN | DATE/TIME |

SPECIAL INSTRUCTIONS

** The STL-RL laboratory is to achieve a detection limit of 1 pCi/gm for Tc-99.
** The STL laboratories will close SDGs upon accumulation of 5 samples or at a minimum weekly.

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

A-6003-618(03/03)

| Fluor Hanford Inc. | CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST | F05-009-035 | PAGE 1 OF 1 |
|---|---|---|---|

| COLLECTOR | COMPANY CONTACT | TELEPHONE NO. | PROJECT COORDINATOR | PRICE CODE 8B | DATA TURNAROUND |
|---|---|---|---|---|---|
| POPE/PFISTER/MOKLER/TYRA | JACKSON, RL | 372-9004 | TRENT, SJ | AIR QUALITY ☐ | 7 Days / 15 Days |
| **SAMPLING LOCATION** | **PROJECT DESIGNATION** | | **SAF NO.** | | |
| 216-U-1 & 216-U-2; C4766 44'-46' | U Plant Closure Contaminant Plume Refinement | | F05-009 | | |
| **ICE CHEST NO.** | **FIELD LOGBOOK NO.** | **COA** | **METHOD OF SHIPMENT** | | |
| | | 119141ES10 | GOVERNMENT VEHICLE | | |
| **SHIPPED TO** | **OFFSITE PROPERTY NO.** | | **BILL OF LADING/AIR BILL NO.** | | |
| Severn Trent Incorporated, Richland | N/A | | N/A | | |

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

**POSSIBLE SAMPLE HAZARDS/ REMARKS**

J5C010147
SDG#W04569

**SPECIAL HANDLING AND/OR STORAGE**

| | |
|---|---|
| PRESERVATION | None |
| TYPE OF CONTAINER | aG |
| NO. OF CONTAINER(S) | 1 |
| VOLUME | 60mL |
| SAMPLE ANALYSIS | Isotopic Uranium; Technetium-99; Total Uranium; |

| SAMPLE NO. | MATRIX* | SAMPLE DATE | SAMPLE TIME | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| B1CDH2 | SOIL | 2-28-05 | 0930 | X | G4L | | | | | | | |

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

| RELINQUISHED BY/REMOVED FROM | DATE/TIME | RECEIVED BY/STORED IN | DATE/TIME |
|---|---|---|---|
| JSPoPz/RSPfr | 2-28-05 1700 | MV-026/RGF #1 | 2-28-05 1700 |
| MO-026/FRIG #1 | 3/1/05 0600 | DJ Tyra/David Tyra | 3/1/05 0600 |
| DJ Tyra/David Tyra | 3/1/05 0930 | A. Rhinehart | 3/1/05 9:30 |
| | | | |
| | | | |
| | | | |
| | | | |

**SPECIAL INSTRUCTIONS**

** The STL-RL laboratory is to achieve a detection limit of 1 pCi/gm for Tc-99.
** The STL laboratories will close SDGs upon accumulation of 5 samples or at a minimum weekly.

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

A-6003-618(03/03)

| Fluor Hanford Inc. | CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST | | | F05-009-036 | PAGE 1 OF 1 |
|---|---|---|---|---|---|
| COLLECTOR<br>POPE/PFISTER/MOKLER/TYRA | COMPANY CONTACT<br>JACKSON, RL | TELEPHONE NO.<br>372-9004 | PROJECT COORDINATOR<br>TRENT, SJ | PRICE CODE 8B<br>AIR QUALITY ☐ | DATA TURNAROUND<br>7 Days / 15 Days |
| SAMPLING LOCATION<br>216-U-1 & 216-U-2; C4705 44'-46' | PROJECT DESIGNATION<br>U Plant Closure Contaminant Plume Refinement | | SAF NO.<br>F05-009 | | |
| ICE CHEST NO. | FIELD LOGBOOK NO. | COA<br>119141ES10 | METHOD OF SHIPMENT<br>GOVERNMENT VEHICLE | | |
| SHIPPED TO<br>Severn Trent Incorporated, Richland | OFFSITE PROPERTY NO.<br>N/A | | BILL OF LADING/AIR BILL NO.<br>N/A | | |

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

POSSIBLE SAMPLE HAZARDS/ REMARKS

J5C010147
W04569

SPECIAL HANDLING AND/OR STORAGE

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| PRESERVATION | None | | | | | | | | | | | |
| TYPE OF CONTAINER | aG | | | | | | | | | | | |
| NO. OF CONTAINER(S) | 1 | | | | | | | | | | | |
| VOLUME | 60mL | | | | | | | | | | | |
| SAMPLE ANALYSIS | Isotopic Uranium; Technetium-99; Total Uranium; | | | | | | | | | | | |

| SAMPLE NO. | MATRIX* | SAMPLE DATE | SAMPLE TIME | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| B1CDH3 | SOIL | 2-28-05 | 1300 | X | G494N | | | | | | | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |

| CHAIN OF POSSESSION | | SIGN/ PRINT NAMES | |
|---|---|---|---|
| RELINQUISHED BY/REMOVED FROM<br>JSPope/ASPope | DATE/TIME<br>2-28-05 1700 | RECEIVED BY/STORED IN<br>MO-026/Ref #1 | DATE/TIME<br>2-28-05 1700 |
| RELINQUISHED BY/REMOVED FROM<br>MO-026/Frig #1 | DATE/TIME<br>3/1/05 0600 | RECEIVED BY/STORED IN<br>David Tyra | DATE/TIME<br>3/1/05 0600 |
| RELINQUISHED BY/REMOVED FROM<br>David Tyra/David Tyra | DATE/TIME<br>3/1/05 0930 | RECEIVED BY/STORED IN<br>[signature] A. Rhinehart | DATE/TIME<br>3/1/05 9:30 |
| RELINQUISHED BY/REMOVED FROM | DATE/TIME | RECEIVED BY/STORED IN | DATE/TIME |
| RELINQUISHED BY/REMOVED FROM | DATE/TIME | RECEIVED BY/STORED IN | DATE/TIME |
| RELINQUISHED BY/REMOVED FROM | DATE/TIME | RECEIVED BY/STORED IN | DATE/TIME |
| RELINQUISHED BY/REMOVED FROM | DATE/TIME | RECEIVED BY/STORED IN | DATE/TIME |

SPECIAL INSTRUCTIONS

** The STL-RL laboratory is to achieve a detection limit of 1 pCi/gm for Tc-99.
** The STL laboratories will close SDGs upon accumulation of 5 samples or at a minimum weekly.

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

A-6003-618(03/03)

37

SEVERN TRENT STL

## Sample Check-in List

Date/Time Received: 3/01/05 @ 9:30 am

Client: FHI SDG #: W04569 NA [ ] SAF #: F05-009 NA [✓]

Work Order Number: JSC010147 Chain of Custody # F05-009-031, -035, -036

Shipping Container ID: NA Air Bill # NA

1. Custody Seals on shipping container intact? NA [ ] Yes [✓] No [ ]
2. Custody Seals dated and signed? NA [ ] Yes [✓] No [ ]
3. Chain of Custody record present? Yes [✓] No [ ]
4. Cooler temperature: _____ NA [✓] - 5. Vermiculite/packing materials is NA [ ] Wet [ ] Dry [✓]
6. Number of samples in shipping container: 3
7. Sample holding times exceeded? NA [✓] Yes [ ] No [ ]
8. Samples have:
   - ___ tape
   - [✓] custody seals
   - ___ hazard labels
   - [✓] appropriate samples labels
9. Samples are:
   - [✓] in good condition
   - ___ broken
   - ___ leaking
   - ___ have air bubbles (Only for samples requiring head space)
10. Sample pH taken? NA [✓] pH<2 [ ] pH>2 [ ] pH>9 [ ]
11. Sample Location, Sample Collector Listed? * Yes [✓] No [ ]
    *For documentation only. No corrective action needed.
12. Were any anomalies identified in sample receipt? Yes [ ] No [✓]
13. Description of anomalies (include sample numbers): _____

Sample Custodian: [signature] Date: 3/01/05

| Client Sample ID | Analysis Requested | Condition | Comments/Action |
|---|---|---|---|
| | | | |
| | | | |
| | | | |

Client Informed on _____ by _____ Person contacted _____

[ ] No action necessary; process as is.

Project Manager _____ Date _____

LS-023, 9/03, Rev. 5

| Fluor Hanford Inc. | CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST | F05-009-028 | PAGE 1 OF 1 |
|---|---|---|---|

| COLLECTOR | COMPANY CONTACT | TELEPHONE NO. | PROJECT COORDINATOR | PRICE CODE 8B | DATA TURNAROUND |
|---|---|---|---|---|---|
| POPE/PFISTER/MOKLER/TYRA | JACKSON, RL | 372-9004 | TRENT, SJ | AIR QUALITY ☐ | 7 Days / 15 Days |

| SAMPLING LOCATION | PROJECT DESIGNATION | SAF NO. |
|---|---|---|
| 216-U-1 & 216-U-2; C4712 42'-44' | U Plant Closure Contaminant Plume Refinement | F05-009 |

| ICE CHEST NO. | FIELD LOGBOOK NO. | COA | METHOD OF SHIPMENT |
|---|---|---|---|
| Q-50639 | | 119141ES10 | GOVERNMENT VEHICLE |

| SHIPPED TO | OFFSITE PROPERTY NO. | BILL OF LADING/AIR BILL NO. |
|---|---|---|
| Severn Trent Incorporated, Richland | N/A | N/A |

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

POSSIBLE SAMPLE HAZARDS/REMARKS
JH 3/2/05
WO45712419
Due 3/08/05
J5C020167

SPECIAL HANDLING AND/OR STORAGE

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| PRESERVATION | None | | | | | | | | | | |
| TYPE OF CONTAINER | aG | | | | | | | | | | |
| NO. OF CONTAINER(S) | 1 | | | | | | | | | | |
| VOLUME | 60mL | | | | | | | | | | |
| SAMPLE ANALYSIS | Isotopic Uranium; Technetium-99; Total Uranium; | | | | | | | | | | |

| SAMPLE NO. | MATRIX* | SAMPLE DATE | SAMPLE TIME | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| B1CDF5 | SOIL | 3-1-05 | 1110 | X | | 65DGR | | | | | | |
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| CHAIN OF POSSESSION | | SIGN/ PRINT NAMES | |
|---|---|---|---|
| RELINQUISHED BY/REMOVED FROM | DATE/TIME | RECEIVED BY/STORED IN | DATE/TIME |
| JSPope/RGPfister 3-2-05 | 1400 | D.H.Robinson | 3/1/05 14:0 |
| RELINQUISHED BY/REMOVED FROM | DATE/TIME | RECEIVED BY/STORED IN | DATE/TIME |
| RELINQUISHED BY/REMOVED FROM | DATE/TIME | RECEIVED BY/STORED IN | DATE/TIME |
| RELINQUISHED BY/REMOVED FROM | DATE/TIME | RECEIVED BY/STORED IN | DATE/TIME |
| RELINQUISHED BY/REMOVED FROM | DATE/TIME | RECEIVED BY/STORED IN | DATE/TIME |
| RELINQUISHED BY/REMOVED FROM | DATE/TIME | RECEIVED BY/STORED IN | DATE/TIME |
| RELINQUISHED BY/REMOVED FROM | DATE/TIME | RECEIVED BY/STORED IN | DATE/TIME |

SPECIAL INSTRUCTIONS

** The STL-RL laboratory is to achieve a detection limit of 1 pCi/gm for Tc-99.
** The STL laboratories will close SDGs upon accumulation of 5 samples or at a minimum weekly.

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

618(03/03)

| Fluor Hanford Inc. | CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST | | F05-009-027 | PAGE 1 OF 1 |
|---|---|---|---|---|
| COLLECTOR<br>POPE/PFISTER/MOKLER/TYRA | COMPANY CONTACT<br>JACKSON, RL | TELEPHONE NO.<br>372-9004 | PROJECT COORDINATOR<br>TRENT, SJ | PRICE CODE 8B<br>AIR QUALITY ☐ |
| SAMPLING LOCATION<br>216-U-1 & 216-U-2; C4712 35'-37' | PROJECT DESIGNATION<br>U Plant Closure Contaminant Plume Refinement | | SAF NO.<br>F05-009 | DATA TURNAROUND<br>7 Days / 15 Days |
| ICE CHEST NO. | FIELD LOGBOOK NO. | COA<br>119141ES10 | METHOD OF SHIPMENT<br>GOVERNMENT VEHICLE | |
| SHIPPED TO<br>Severn Trent Incorporated, Richland | OFFSITE PROPERTY NO.<br>N/A | | BILL OF LADING/AIR BILL NO.<br>N/A | |

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

POSSIBLE SAMPLE HAZARDS/ REMARKS: 2/23/2005 W045729 69 Due 3/08/05 J5C020167

SPECIAL HANDLING AND/OR STORAGE

| | |
|---|---|
| PRESERVATION | None |
| TYPE OF CONTAINER | aG |
| NO. OF CONTAINER(S) | 1 |
| VOLUME | 60mL |
| SAMPLE ANALYSIS | Isotopic Uranium; Technetium-99; Total Uranium; |

| SAMPLE NO. | MATRIX* | SAMPLE DATE | SAMPLE TIME | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| B1CDF4 | SOIL | 3/1/05 | 1030 | X | G5DGT | | | | | | | | |
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CHAIN OF POSSESSION / SIGN/ PRINT NAMES

| RELINQUISHED BY/REMOVED FROM | DATE/TIME | RECEIVED BY/STORED IN | DATE/TIME |
|---|---|---|---|
| [illegible] | 3-1-05 1400 | D. Harbinson [illegible] | 3/1/05 14:00 |
| | | | |
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SPECIAL INSTRUCTIONS

** The STL-RL laboratory is to achieve a detection limit of 1 pCi/gm for Tc-99.
** The STL laboratories will close SDGs upon accumulation of 5 samples or at a minimum weekly.

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

A-6003-618(03/03)

| Fluor Hanford Inc. | CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST | F05-009-025 | PAGE 1 OF 1 |
|---|---|---|---|

| | | | |
|---|---|---|---|
| **COLLECTOR** POPE/PFISTER/MOKLER/TYRA | **COMPANY CONTACT** JACKSON, RL | **TELEPHONE NO.** 372-9004 | **PROJECT COORDINATOR** TRENT, SJ | **PRICE CODE** 8B | **DATA TURNAROUND** |
| **SAMPLING LOCATION** 216-U-1 & 216-U-2; C4712 10'-12' | **PROJECT DESIGNATION** U Plant Closure Contaminant Plume Refinement | | **SAF NO.** F05-009 | **AIR QUALITY** ☐ | **7 Days / 15 Days** |
| **ICE CHEST NO.** | **FIELD LOGBOOK NO.** | **COA** 119141ES10 | **METHOD OF SHIPMENT** GOVERNMENT VEHICLE | | |
| **SHIPPED TO** Severn Trent Incorporated, Richland | **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=Vegitation, W=Water, WI=Wipe, X=Other

**POSSIBLE SAMPLE HAZARDS/ REMARKS** W04572 HH 3/2/05 Due 3/08/05 J5C020167

**SPECIAL HANDLING AND/OR STORAGE**

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **PRESERVATION** | None | | | | | | | | | | |
| **TYPE OF CONTAINER** | aG | | | | | | | | | | |
| **NO. OF CONTAINER(S)** | 1 | | | | | | | | | | |
| **VOLUME** | 60mL | | | | | | | | | | |
| **SAMPLE ANALYSIS** | Isotopic Uranium; Technetium-99; Total Uranium; | | | | | | | | | | |

| SAMPLE NO. | MATRIX* | SAMPLE DATE | SAMPLE TIME | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| B1CDF2 | SOIL | 3-1-05 | 0950 | X | | G-5DGX | | | | | | |
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| CHAIN OF POSSESSION | | SIGN/ PRINT NAMES | |
|---|---|---|---|
| RELINQUISHED BY/REMOVED FROM | DATE/TIME | RECEIVED BY/STORED IN | DATE/TIME |
| BPope/Ag | 3-1-05 1400 | D. Robinson | 3/1/05 1400 |
| RELINQUISHED BY/REMOVED FROM | DATE/TIME | RECEIVED BY/STORED IN | DATE/TIME |
| RELINQUISHED BY/REMOVED FROM | DATE/TIME | RECEIVED BY/STORED IN | DATE/TIME |
| RELINQUISHED BY/REMOVED FROM | DATE/TIME | RECEIVED BY/STORED IN | DATE/TIME |
| RELINQUISHED BY/REMOVED FROM | DATE/TIME | RECEIVED BY/STORED IN | DATE/TIME |
| RELINQUISHED BY/REMOVED FROM | DATE/TIME | RECEIVED BY/STORED IN | DATE/TIME |
| RELINQUISHED BY/REMOVED FROM | DATE/TIME | RECEIVED BY/STORED IN | DATE/TIME |

**SPECIAL INSTRUCTIONS**

** The STL-RL laboratory is to achieve a detection limit of 1 pCi/gm for Tc-99.
** The STL laboratories will close SDGs upon accumulation of 5 samples or at a minimum weekly.

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

A-6003-618(03/03)

| Fluor Hanford Inc. | CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST | F05-009-026 | PAGE 1 OF 1 |
|---|---|---|---|

| COLLECTOR | COMPANY CONTACT | TELEPHONE NO. | PROJECT COORDINATOR | PRICE CODE 8B | DATA TURNAROUND |
|---|---|---|---|---|---|
| POPE/PFISTER/MOKLER/TYRA | JACKSON, RL | 372-9004 | TRENT, SJ | AIR QUALITY ☐ | 7 Days / 15 Days |

| SAMPLING LOCATION | PROJECT DESIGNATION | SAF NO. |
|---|---|---|
| 216-U-1 & 216-U-2; C4712 301-321 | U Plant Closure Contaminant Plume Refinement | F05-009 |

| ICE CHEST NO. | FIELD LOGBOOK NO. | COA | METHOD OF SHIPMENT |
|---|---|---|---|
| | | 119141ES10 | GOVERNMENT VEHICLE |

| SHIPPED TO | OFFSITE PROPERTY NO. | BILL OF LADING/AIR BILL NO. |
|---|---|---|
| Severn Trent Incorporated, Richland | N/A | N/A |

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

POSSIBLE SAMPLE HAZARDS/ REMARKS: WO4572 Due 3/08/05 J5C020167

SPECIAL HANDLING AND/OR STORAGE:

| | |
|---|---|
| PRESERVATION | None |
| TYPE OF CONTAINER | aG |
| NO. OF CONTAINER(S) | 1 |
| VOLUME | 60mL |
| SAMPLE ANALYSIS | Isotopic Uranium; Technetium-99; Total Uranium; |

| SAMPLE NO. | MATRIX* | SAMPLE DATE | SAMPLE TIME | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| B1CDF3 | SOIL | 3-1-05 | 0950 | X | G5DG2 | | | | | | | | |

| CHAIN OF POSSESSION | | SIGN/ PRINT NAMES | |
|---|---|---|---|
| RELINQUISHED BY/REMOVED FROM | DATE/TIME | RECEIVED BY/STORED IN | DATE/TIME |
| J SPOPE/ASPfister | 3-1-05 1400 | D. HARBINSON | 3/1/05 14:00 |
| RELINQUISHED BY/REMOVED FROM | DATE/TIME | RECEIVED BY/STORED IN | DATE/TIME |
| RELINQUISHED BY/REMOVED FROM | DATE/TIME | RECEIVED BY/STORED IN | DATE/TIME |
| RELINQUISHED BY/REMOVED FROM | DATE/TIME | RECEIVED BY/STORED IN | DATE/TIME |
| RELINQUISHED BY/REMOVED FROM | DATE/TIME | RECEIVED BY/STORED IN | DATE/TIME |
| RELINQUISHED BY/REMOVED FROM | DATE/TIME | RECEIVED BY/STORED IN | DATE/TIME |
| RELINQUISHED BY/REMOVED FROM | DATE/TIME | RECEIVED BY/STORED IN | DATE/TIME |

SPECIAL INSTRUCTIONS

** The STL-RL laboratory is to achieve a detection limit of 1 pCi/gm for Tc-99.
** The STL laboratories will close SDGs upon accumulation of 5 samples or at a minimum weekly.

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

A-6003-618(03/03)

| Fluor Hanford Inc. | CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST | | F05-009-030 | PAGE 1 OF 1 |
|---|---|---|---|---|
| COLLECTOR<br>POPE/PFISTER/MOKLER/TYRA/HUGHES 40-42' 2/25/05 | COMPANY CONTACT<br>JACKSON, RL | TELEPHONE NO.<br>372-9004 | PROJECT COORDINATOR<br>TRENT, SJ | PRICE CODE 8B<br>DATA TURNAROUND |
| SAMPLING LOCATION<br>216-U-1 & 216-U-2; C4713 ~~44-46'~~ | PROJECT DESIGNATION<br>U Plant Closure Contaminant Plume Refinement | | SAF NO.<br>F05-009 | AIR QUALITY ☐<br>7 Days / 15 Days |
| ICE CHEST NO.<br>GRP-05-003 | FIELD LOGBOOK NO.<br>HNF-N-4391 | COA<br>119141ES10 | METHOD OF SHIPMENT<br>GOVERNMENT VEHICLE | |
| SHIPPED TO<br>Severn Trent Incorporated, Richland | OFFSITE PROPERTY NO.<br>N/A | | BILL OF LADING/AIR BILL NO.<br>N/A | |

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

POSSIBLE SAMPLE HAZARDS/ REMARKS: W04572269 JK 3/2/05; JSC020167

SPECIAL HANDLING AND/OR STORAGE

| | |
|---|---|
| PRESERVATION | None |
| TYPE OF CONTAINER | aG |
| NO. OF CONTAINER(S) | 1 |
| VOLUME | 60mL |
| SAMPLE ANALYSIS | Isotopic Uranium; Technetium-99; Total Uranium; |

| SAMPLE NO. | MATRIX* | SAMPLE DATE | SAMPLE TIME | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| B1CDF7 | SOIL | 2-25-05 | 0940 | ✓ | | G5DHE | | | | | | |

CHAIN OF POSSESSION — SIGN/ PRINT NAMES

| RELINQUISHED BY/REMOVED FROM | DATE/TIME | RECEIVED BY/STORED IN | DATE/TIME |
|---|---|---|---|
| R. PFISTER | 2/25/05 1505 | FRIG #1 @ MO-026 | 2/25/05 1505 |
| MO026 Fridge #1 | 2-28-05/0900 | KEVIN D. HUGHES | 2-28-05 0900 |
| KEVIN D. HUGHES | 2-28-05/0920 | Pam Anderson | 2-28 0920 |
| | | | |
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SPECIAL INSTRUCTIONS

** The STL-RL laboratory is to achieve a detection limit of 1 pCi/gm for Tc-99.
** The STL laboratories will close SDGs upon accumulation of 5 samples or at a minimum weekly.

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

A-6003-618(03/03)

| Fluor Hanford Inc. | CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST | F05-009-029 | PAGE 1 OF 1 |
|---|---|---|---|

| COLLECTOR | COMPANY CONTACT | TELEPHONE NO. | PROJECT COORDINATOR | PRICE CODE 8B | DATA TURNAROUND |
|---|---|---|---|---|---|
| POPE/PFISTER/MOKLER/TYRA | JACKSON, RL | 372-9004 | TRENT, SJ | AIR QUALITY ☐ | 7 Days / 15 Days |
| **SAMPLING LOCATION** | **PROJECT DESIGNATION** | | **SAF NO.** | | |
| 216-U-1 & 216-U-2; C4718 44'-46' | U Plant Closure Contaminant Plume Refinement | | F05-009 | | |
| **ICE CHEST NO.** | **FIELD LOGBOOK NO.** | **COA** | **METHOD OF SHIPMENT** | | |
| GRP-05-003 | | 119141ES10 | GOVERNMENT VEHICLE | | |
| **SHIPPED TO** | **OFFSITE PROPERTY NO.** | | **BILL OF LADING/AIR BILL NO.** | | |
| Severn Trent Incorporated, Richland | N/A | | N/A | | |

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

**POSSIBLE SAMPLE HAZARDS/ REMARKS**: W045 2269 JH 3/2/05 J5C020167

**SPECIAL HANDLING AND/OR STORAGE**

| | |
|---|---|
| PRESERVATION | None |
| TYPE OF CONTAINER | aG |
| NO. OF CONTAINER(S) | 1 |
| VOLUME | 60mL |
| SAMPLE ANALYSIS | Isotopic Uranium; Technetium-99; Total Uranium; |

| SAMPLE NO. | MATRIX* | SAMPLE DATE | SAMPLE TIME | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| B1CDF6 | SOIL | 2/24/05 | 1330 | X | GSPHT | | | | | | | |
| | | | | | | | | | | | | |
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| CHAIN OF POSSESSION | | SIGN/ PRINT NAMES | |
|---|---|---|---|
| RELINQUISHED BY/REMOVED FROM | DATE/TIME | RECEIVED BY/STORED IN | DATE/TIME |
| J. Mokler | 2/24/5 1425 | FRIDGE (MO-026) | 2/24/5 1425 |
| RELINQUISHED BY/REMOVED FROM | DATE/TIME | RECEIVED BY/STORED IN | DATE/TIME |
| MO026 Fridge #1 | 2-28-05/0900 | Kevin DUGHES | 2-28-05 0900 |
| RELINQUISHED BY/REMOVED FROM | DATE/TIME | RECEIVED BY/STORED IN | DATE/TIME |
| Kevin DUGHES | 2-28-05 0920 | Pam Anderson | 2/28/05 0920 |
| RELINQUISHED BY/REMOVED FROM | DATE/TIME | RECEIVED BY/STORED IN | DATE/TIME |
| RELINQUISHED BY/REMOVED FROM | DATE/TIME | RECEIVED BY/STORED IN | DATE/TIME |
| RELINQUISHED BY/REMOVED FROM | DATE/TIME | RECEIVED BY/STORED IN | DATE/TIME |
| RELINQUISHED BY/REMOVED FROM | DATE/TIME | RECEIVED BY/STORED IN | DATE/TIME |

**SPECIAL INSTRUCTIONS**

** The STL-RL laboratory is to achieve a detection limit of 1 pCi/gm for Tc-99.
** The STL laboratories will close SDGs upon accumulation of 5 samples or at a minimum weekly.

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


A-6003-618(03/03)

SEVERN TRENT STL

## Sample Check-in List

Date/Time Received: 2/28/05 @ 9:20 AM 69 JH 3/2/05

Client: FHI SDG #: W04522 NA [ ] SAF #: F05-009 NA [ ]

Work Order Number: JSC020167 Chain of Custody # F05-009-29,-30

Shipping Container ID: N/A Air Bill # N/A

1. Custody Seals on shipping container intact? NA [ ] Yes [✓] No [ ]
2. Custody Seals dated and signed? NA [ ] Yes [✓] No [ ]
3. Chain of Custody record present? Yes [✓] No [ ]
4. Cooler temperature: _____ NA [✓] 5. Vermiculite/packing materials is NA [ ] Wet [ ] Dry [✓]
6. Number of samples in shipping container: 2
7. Sample holding times exceeded? NA [✓] Yes [ ] No [ ]
8. Samples have:
   - ____ tape
   - [✓] custody seals
   - ____ hazard labels
   - [✓] appropriate samples labels
9. Samples are:
   - [✓] in good condition
   - ____ broken
   - ____ leaking
   - ____ have air bubbles (Only for samples requiring head space)
10. Sample pH taken? NA [✓] pH<2 [ ] pH>2 [ ] pH>9 [ ]
11. Sample Location, Sample Collector Listed? * Yes [✓] No [ ]
    *For documentation only. No corrective action needed.
12. Were any anomalies identified in sample receipt? Yes [ ] No [✓]
13. Description of anomalies (include sample numbers): _____

Sample Custodian: [signature] Date: 5/2/05

| Client Sample ID | Analysis Requested | Condition | Comments/Action |
|---|---|---|---|
| | | | |
| | | | |
| | | | |

Client Informed on _____ by _____ Person contacted _____

[ ] No action necessary; process as is.

Project Manager _____ Date _____

LS-023, 9/03, Rev. 5

SEVERN TRENT STL

## Sample Check-in List

Date/Time Received: 3/1/05 14:00 69 JH 3/2/05

Client: FLUOR SDG #: W04572 NA [ ] SAF #: F05-009 NA [ ]

Work Order Number: J5C080167 Chain of Custody # F05009028, F05009027, F05009025, F05009026

Shipping Container ID: N/A Air Bill # N/A

1. Custody Seals on shipping container intact? NA [✓] Yes [ ] No [ ]
2. Custody Seals dated and signed? NA [✓] Yes [ ] No [ ]
3. Chain of Custody record present? Yes [✓] No [ ]
4. Cooler temperature: _____ NA [✓] 5. Vermiculite/packing materials is NA [✓] Wet [ ] Dry [ ]
6. Number of samples in shipping container: 4
7. Sample holding times exceeded? NA [ ] Yes [ ] No [ ]
8. Samples have:
   - ✓ tape
   - ✓ custody seals
   - ___ hazard labels
   - ✓ appropriate samples labels
9. Samples are:
   - ✓ in good condition
   - ___ broken
   - ___ leaking
   - ___ have air bubbles (Only for samples requiring head space)
10. Sample pH taken? SOIL NA [✓] pH<2 [ ] pH>2 [ ] pH>9 [ ]
11. Sample Location, Sample Collector Listed? * Yes [ ] No [ ]
    *For documentation only. No corrective action needed.
12. Were any anomalies identified in sample receipt? Yes [ ] No [✓]
13. Description of anomalies (include sample numbers): _____

Sample Custodian: [signature] Date: 3/1/05

| Client Sample ID | Analysis Requested | Condition | Comments/Action |
|---|---|---|---|
| | | | |
| | | | |
| | | | |

Client Informed on _____ by _____ Person contacted _____

[ ] No action necessary; process as is.

Project Manager _____ Date _____

LS-023, 9/03, Rev. 5

FLH

**Fluor Hanford Inc.**

**CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST**

F05-009-032

PAGE 1 OF 1

| | | | |
|---|---|---|---|
| **COLLECTOR** POPE/PFISTER/MOKLER/TYRA | **COMPANY CONTACT** JACKSON, RL | **TELEPHONE NO.** 372-9004 | **PROJECT COORDINATOR** TRENT, SJ |
| **SAMPLING LOCATION** 216-U-1 & 216-U-2; C4769 44'-46' | **PROJECT DESIGNATION** U Plant Closure Contaminant Plume Refinement | | **SAF NO.** F05-009 |
| **ICE CHEST NO.** Q-50639 | **FIELD LOGBOOK NO.** | **COA** 119141E510 | **METHOD OF SHIPMENT** GOVERNMENT VEHICLE |
| **SHIPPED TO** Severn Trent Incorporated, Richland | **OFFSITE PROPERTY NO.** N/A | | **BILL OF LADING/AIR BILL NO.** N/A |

**PRICE CODE** 8B

**AIR QUALITY** ☐

**DATA TURNAROUND** 7 Days / 15 Days

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

**POSSIBLE SAMPLE HAZARDS/ REMARKS**
'N04569
J5C030200
Due 3/11/05

**SPECIAL HANDLING AND/OR STORAGE**

| | |
|---|---|
| **PRESERVATION** | None |
| **TYPE OF CONTAINER** | aG |
| **NO. OF CONTAINER(S)** | 1 |
| **VOLUME** | 60mL |
| **SAMPLE ANALYSIS** | Isotopic Uranium; Technetium-99; Total Uranium; |

| SAMPLE NO. | MATRIX* | SAMPLE DATE | SAMPLE TIME | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| B1CDF9 | SOIL | 3-2-05 | 1000 | X | | GSGDT | | | | | | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |

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

| RELINQUISHED BY/REMOVED FROM | DATE/TIME | RECEIVED BY/STORED IN | DATE/TIME |
|---|---|---|---|
| R. Pfister/[signature] 3/2/05 | 1655 | MO-026 FRIG #1 3/2/1 | 1655 |
| MO-026/Ref. #1 3-3-05 | 0600 | J.S. Pope/[signature] 3-3-05 | 0600 |
| JS Pope/[signature] 3-3-05 | 0855 | T. Heidelberg [signature] | 3/3/05 0855 |
| | | | |
| | | | |
| | | | |
| | | | |

**SPECIAL INSTRUCTIONS**

** The STL-RL laboratory is to achieve a detection limit of 1 pCi/gm for Tc-99.
** The STL laboratories will close SDGs upon accumulation of 5 samples or at a minimum weekly.

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

A-6003-618(03/03)

| Fluor Hanford Inc. | CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST | | F05-009-033 | PAGE 1 OF 1 |
|---|---|---|---|---|
| COLLECTOR<br>POPE/PFISTER/MOKLER/TYRA | COMPANY CONTACT<br>JACKSON, RL | TELEPHONE NO.<br>372-9004 | PROJECT COORDINATOR<br>TRENT, SJ | PRICE CODE 88<br>AIR QUALITY ☐ |
| SAMPLING LOCATION<br>216-U-1 & 216-U-2; C 4708 44'-46' | PROJECT DESIGNATION<br>U Plant Closure Contaminant Plume Refinement | | SAF NO.<br>F05-009 | DATA TURNAROUND<br>7 Days / 15 Days |
| ICE CHEST NO. | FIELD LOGBOOK NO. | COA<br>119141ES10 | METHOD OF SHIPMENT<br>GOVERNMENT VEHICLE | |
| SHIPPED TO<br>Severn Trent Incorporated, Richland | OFFSITE PROPERTY NO.<br>N/A | | BILL OF LADING/AIR BILL NO.<br>N/A | |

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

POSSIBLE SAMPLE HAZARDS/ REMARKS

W04569
J5C030200

SPECIAL HANDLING AND/OR STORAGE

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| PRESERVATION | None | | | | | | | | | | |
| TYPE OF CONTAINER | aG | | | | | | | | | | |
| NO. OF CONTAINER(S) | 1 | | | | | | | | | | |
| VOLUME | 60mL | | | | | | | | | | |
| SAMPLE ANALYSIS | Isotopic Uranium; Technetium-99; Total Uranium; | | | | | | | | | | |

| SAMPLE NO. | MATRIX* | SAMPLE DATE | SAMPLE TIME | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| B1CDH0 | SOIL | 3-2-05 | 1240 | X | G5GD7 | | | | | | | |
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| CHAIN OF POSSESSION | | SIGN/ PRINT NAMES | |
|---|---|---|---|
| RELINQUISHED BY/REMOVED FROM<br>R. PFISTER/[signature] 3/2/05 | DATE/TIME<br>1655 | RECEIVED BY/STORED IN<br>MO-026 FRIG #1 3/2/05 | DATE/TIME<br>1655 |
| RELINQUISHED BY/REMOVED FROM<br>MO-026/Ref. #1 3-3-05 | DATE/TIME<br>0600 | RECEIVED BY/STORED IN<br>J.S. Pope [signature] 3-3-05 | DATE/TIME<br>0600 |
| RELINQUISHED BY/REMOVED FROM<br>J.S. Pope/[signature] 3-3-05 | DATE/TIME<br>0855 | RECEIVED BY/STORED IN<br>T. Richelberg [signature] | DATE/TIME<br>3-3-05 0855 |
| RELINQUISHED BY/REMOVED FROM | DATE/TIME | RECEIVED BY/STORED IN | DATE/TIME |
| RELINQUISHED BY/REMOVED FROM | DATE/TIME | RECEIVED BY/STORED IN | DATE/TIME |
| RELINQUISHED BY/REMOVED FROM | DATE/TIME | RECEIVED BY/STORED IN | DATE/TIME |
| RELINQUISHED BY/REMOVED FROM | DATE/TIME | RECEIVED BY/STORED IN | DATE/TIME |

SPECIAL INSTRUCTIONS

** The STL-RL laboratory is to achieve a detection limit of 1 pCi/gm for Tc-99.
** The STL laboratories will close SDGs upon accumulation of 5 samples or at a minimum weekly.

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

A-6003-618(03/03)

| Fluor Hanford Inc. | CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST | F05-009-034 | PAGE 1 OF 1 |
|---|---|---|---|

| COLLECTOR | COMPANY CONTACT | TELEPHONE NO. | PROJECT COORDINATOR | PRICE CODE 8B | DATA TURNAROUND |
|---|---|---|---|---|---|
| POPE/PFISTER/MOKLER/TYRA | JACKSON, RL | 372-9004 | TRENT, SJ | AIR QUALITY ☐ | 7 Days / 15 Days |
| **SAMPLING LOCATION** | **PROJECT DESIGNATION** | | **SAF NO.** | | |
| 216-U-1 & 216-U-2; C4707 44'-46' | U Plant Closure Contaminant Plume Refinement | | F05-009 | | |
| **ICE CHEST NO.** | **FIELD LOGBOOK NO.** | **COA** | **METHOD OF SHIPMENT** | | |
| | | 119141ES10 | GOVERNMENT VEHICLE | | |
| **SHIPPED TO** | **OFFSITE PROPERTY NO.** | | **BILL OF LADING/AIR BILL NO.** | | |
| Severn Trent Incorporated, Richland | N/A | | N/A | | |

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

**POSSIBLE SAMPLE HAZARDS/ REMARKS**

W04569
J5C030200

**SPECIAL HANDLING AND/OR STORAGE**

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| PRESERVATION | None | | | | | | | | | | |
| TYPE OF CONTAINER | aG | | | | | | | | | | |
| NO. OF CONTAINER(S) | 1 | | | | | | | | | | |
| VOLUME | 60mL | | | | | | | | | | |
| SAMPLE ANALYSIS | Isotopic Uranium; Technetium-99; Total Uranium; | | | | | | | | | | |

| SAMPLE NO. | MATRIX* | SAMPLE DATE | SAMPLE TIME | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| B1CDH1 | SOIL | 3/2/05 | 1530 | X | G5EEC | | | | | | | |
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**CHAIN OF POSSESSION** / **SIGN/ PRINT NAMES**

| RELINQUISHED BY/REMOVED FROM | DATE/TIME | RECEIVED BY/STORED IN | DATE/TIME |
|---|---|---|---|
| R. Pfister/[illegible] | 3/2/05 1655 | MO-026 FRIG #1 | 3/2/05 1655 |
| MO-026 / Ref. #1 | 3-3-05 0600 | J.S. Pope / [illegible] | 3-3-05 0600 |
| J.S. Pope / [illegible] | 3-3-05 0855 | T. Heidelberg [illegible] | 3-3-05 0855 |
| | | | |
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**SPECIAL INSTRUCTIONS**

** The STL-RL laboratory is to achieve a detection limit of 1 pCi/gm for Tc-99.
** The STL laboratories will close SDGs upon accumulation of 5 samples or at a minimum weekly.

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

A-6003-618(03/03)

| Fluor Hanford Inc. | CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST | | | F05-009-053 | PAGE 1 OF 1 |
|---|---|---|---|---|---|
| COLLECTOR<br>POPE/PFISTER/MOKLER/TYRA | COMPANY CONTACT<br>JACKSON, RL | TELEPHONE NO.<br>372-9004 | PROJECT COORDINATOR<br>TRENT, SJ | PRICE CODE 8B<br>AIR QUALITY ☐ | DATA TURNAROUND<br>7 Days / 15 Days |
| SAMPLING LOCATION<br>216-U-1 & 216-U-2; C4709 44'-46' | PROJECT DESIGNATION<br>U Plant Closure Contaminant Plume Refinement | | SAF NO.<br>F05-009 | | |
| ICE CHEST NO. | FIELD LOGBOOK NO. | COA<br>119141E510 | METHOD OF SHIPMENT<br>GOVERNMENT VEHICLE | | |
| SHIPPED TO<br>Severn Trent Incorporated, Richland | OFFSITE PROPERTY NO.<br>N/A | | BILL OF LADING/AIR BILL NO.<br>N/A | | |

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

POSSIBLE SAMPLE HAZARDS/ REMARKS: Duplicate W04569 J5C030200

SPECIAL HANDLING AND/OR STORAGE

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| PRESERVATION | None | | | | | | | | | | | |
| TYPE OF CONTAINER | aG | | | | | | | | | | | |
| NO. OF CONTAINER(S) | 1 | | | | | | | | | | | |
| VOLUME | 60mL | | | | | | | | | | | |
| SAMPLE ANALYSIS | Isotopic Uranium; Technetium-99; Total Uranium; | | | | | | | | | | | |

| SAMPLE NO. | MATRIX* | SAMPLE DATE | SAMPLE TIME | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| B1CF38 | SOIL | 3-2-05 | 1000 | X | G5GEF | | | | | | | |
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| CHAIN OF POSSESSION | | SIGN/ PRINT NAMES | |
|---|---|---|---|
| RELINQUISHED BY/REMOVED FROM<br>R. PFISTER/[signature] 3/2/05 | DATE/TIME<br>1655 | RECEIVED BY/STORED IN<br>MO-026 FRIG#1 3/2/05 | DATE/TIME<br>1655 |
| RELINQUISHED BY/REMOVED FROM<br>MO-026 /RCF #1 3-3-05 | DATE/TIME<br>0600 | RECEIVED BY/STORED IN<br>J.S. Pope/[signature] 3-3-05 | DATE/TIME<br>0600 |
| RELINQUISHED BY/REMOVED FROM<br>J.S. Pope/[signature] 3-3-05 | DATE/TIME<br>0855 | RECEIVED BY/STORED IN<br>T. Heidelberg [signature] | DATE/TIME<br>3-3-05 0855 |
| RELINQUISHED BY/REMOVED FROM | DATE/TIME | RECEIVED BY/STORED IN | DATE/TIME |
| RELINQUISHED BY/REMOVED FROM | DATE/TIME | RECEIVED BY/STORED IN | DATE/TIME |
| RELINQUISHED BY/REMOVED FROM | DATE/TIME | RECEIVED BY/STORED IN | DATE/TIME |
| RELINQUISHED BY/REMOVED FROM | DATE/TIME | RECEIVED BY/STORED IN | DATE/TIME |

SPECIAL INSTRUCTIONS

** The STL-RL laboratory is to achieve a detection limit of 1 pCi/gm for Tc-99.
** The STL laboratories will close SDGs upon accumulation of 5 samples or at a minimum weekly.

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

A-6003-618(03/03)

SEVERN TRENT STL

## Sample Check-in List

Date/Time Received: 3-3-05 0855

Client: FLH SDG #: W04569 NA [ ] SAF #: F05-009 NA [ ]

Work Order Number: JSC030200 Chain of Custody # F05-009-034, 32, 53, 33

Shipping Container ID: Uha Air Bill # _____

1. Custody Seals on shipping container intact? NA [ ] Yes [✓] No [ ]
2. Custody Seals dated and signed? NA [ ] Yes [✓] No [ ]
3. Chain of Custody record present? Yes [✓] No [ ]
4. Cooler temperature: _____ NA [✓] 5. Vermiculite/packing materials is NA [✓] Wet [ ] Dry [ ]
6. Number of samples in shipping container: 4
7. Sample holding times exceeded? NA [ ] Yes [ ] No [✓]
8. Samples have:
   - ✓ tape
   - ✓ custody seals
   - ____ hazard labels
   - ____ appropriate samples labels
9. Samples are:
   - ✓ in good condition
   - ____ broken
   - ____ leaking
   - ____ have air bubbles (Only for samples requiring head space)
10. Sample pH taken? NA [✓] pH<2 [ ] pH>2 [ ] pH>9 [ ]
11. Sample Location, Sample Collector Listed? * Yes [ ] No [✓]
    *For documentation only. No corrective action needed.
12. Were any anomalies identified in sample receipt? Yes [ ] No [✓]
13. Description of anomalies (include sample numbers): _____

Sample Custodian: [signature] Date: 3-3-05

| Client Sample ID | Analysis Requested | Condition | Comments/Action |
|---|---|---|---|
| | | | |
| | | | |
| | | | |

Client Informed on _____ by _____ Person contacted _____

[ ] No action necessary; process as is.

Project Manager _____ Date _____

LS-023, 9/03, Rev. 5

| Fluor Hanford Inc. | CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST | | | F05-009-086 | PAGE 1 OF 1 |
|---|---|---|---|---|---|
| COLLECTOR<br>POPE/PFISTER/MOKLER/TYRA | COMPANY CONTACT<br>JACKSON, RL | TELEPHONE NO.<br>372-9004 | PROJECT COORDINATOR<br>TRENT, SJ | PRICE CODE 8B<br>AIR QUALITY ☐ | DATA TURNAROUND<br>7 Days / 15 Days |
| SAMPLING LOCATION<br>216-U-8 ; C4720 44ft-46ft | PROJECT DESIGNATION<br>U Plant Closure Contaminant Plume Refinement | | SAF NO.<br>F05-009 | | |
| ICE CHEST NO.<br>Q-50639 | FIELD LOGBOOK NO.<br>HNF-N-4391 | COA<br>119141ES10 | METHOD OF SHIPMENT<br>GOVERNMENT VEHICLE | | |
| SHIPPED TO<br>Severn Trent Incorporated, Richland | OFFSITE PROPERTY NO.<br>N/A | | BILL OF LADING/AIR BILL NO.<br>N/A | | |

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

POSSIBLE SAMPLE HAZARDS/ REMARKS
J5C040248
SDG# W04569
Due 3/11/05

SPECIAL HANDLING AND/OR STORAGE

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| PRESERVATION | None | | | | | | | | | | |
| TYPE OF CONTAINER | aG | | | | | | | | | | |
| NO. OF CONTAINER(S) | 1 | | | | | | | | | | |
| VOLUME | 60mL | | | | | | | | | | |
| SAMPLE ANALYSIS | Isotopic Uranium; Technetium-99; Total Uranium; | | | | | | | | | | |

| SAMPLE NO. | MATRIX* | SAMPLE DATE | SAMPLE TIME | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| B1CF72 | SOIL | 3-3-05 | 1100 | X | | GSKJL | | | | | | |
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| CHAIN OF POSSESSION | | SIGN/ PRINT NAMES | |
|---|---|---|---|
| RELINQUISHED BY/REMOVED FROM<br>J. Moker [signature] | DATE/TIME<br>3/3/05-15:00 | RECEIVED BY/STORED IN<br>~~RFF 4~~ 3/3/05 MO-026-RFF1 | DATE/TIME<br>3/3/05 1500 |
| RELINQUISHED BY/REMOVED FROM<br>MO-026, RFF #1, 3/4/05, 0630 | DATE/TIME | RECEIVED BY/STORED IN<br>David Tyra [signature], 3/4/05 0630 | DATE/TIME |
| RELINQUISHED BY/REMOVED FROM<br>David Tyra/[signature] 3/4/05 1130 | DATE/TIME | RECEIVED BY/STORED IN<br>[signature] / A. Rhinehart 3/4/05 1130 | DATE/TIME |
| RELINQUISHED BY/REMOVED FROM | DATE/TIME | RECEIVED BY/STORED IN | DATE/TIME |
| RELINQUISHED BY/REMOVED FROM | DATE/TIME | RECEIVED BY/STORED IN | DATE/TIME |
| RELINQUISHED BY/REMOVED FROM | DATE/TIME | RECEIVED BY/STORED IN | DATE/TIME |
| RELINQUISHED BY/REMOVED FROM | DATE/TIME | RECEIVED BY/STORED IN | DATE/TIME |

SPECIAL INSTRUCTIONS

** The STL-RL laboratory is to achieve a detection limit of 1 pCi/gm for Tc-99.
** The STL laboratories will close SDGs upon accumulation of 5 samples or at a minimum weekly.

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

A-6003-618(03/03)

| Fluor Hanford Inc. | CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST | | F05-009-087 | PAGE 1 OF 1 |
|---|---|---|---|---|
| COLLECTOR<br>POPE/PFISTER/MOKLER/TYRA | COMPANY CONTACT<br>JACKSON, RL | TELEPHONE NO.<br>372-9004 | PROJECT COORDINATOR<br>TRENT, SJ | PRICE CODE 8B<br>AIR QUALITY ☐ |
| SAMPLING LOCATION<br>216-U-8 ; C4721 ~~44ft - 46ft~~ 42' - 44' | PROJECT DESIGNATION<br>U Plant Closure Contaminant Plume Refinement | | SAF NO.<br>F05-009 | DATA TURNAROUND<br>7 Days / 15 Days |
| ICE CHEST NO. | FIELD LOGBOOK NO.<br>HNF-N-4391 | COA<br>119141ES10 | METHOD OF SHIPMENT<br>GOVERNMENT VEHICLE | |
| SHIPPED TO<br>Severn Trent Incorporated, Richland | OFFSITE PROPERTY NO.<br>N/A | | BILL OF LADING/AIR BILL NO.<br>N/A | |

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

POSSIBLE SAMPLE HAZARDS/ REMARKS

J5C040248
SDG# W04569
Due 3/11/05

SPECIAL HANDLING AND/OR STORAGE

| | |
|---|---|
| PRESERVATION | None |
| TYPE OF CONTAINER | aG |
| NO. OF CONTAINER(S) | 1 |
| VOLUME | 60mL |
| SAMPLE ANALYSIS | Isotopic Uranium; Technetium-99; Total Uranium; |

| SAMPLE NO. | MATRIX* | SAMPLE DATE | SAMPLE TIME | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| B1CF73 | SOIL | 3/3/05 | 1350 | X | | G5H5T | | | | | | |
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| CHAIN OF POSSESSION | | SIGN/ PRINT NAMES | |
|---|---|---|---|
| RELINQUISHED BY/REMOVED FROM<br>D. Mokler / [signature] | DATE/TIME<br>3/3/5 1500 | RECEIVED BY/STORED IN<br>MO-026 / RFF 1 | DATE/TIME<br>3/3/5-1500 |
| RELINQUISHED BY/REMOVED FROM<br>MO-026 / RFF #1 / 3-4-05 / 0630 | DATE/TIME | RECEIVED BY/STORED IN<br>David Tyra / [signature] / 3-4-05 / 0630 | DATE/TIME |
| RELINQUISHED BY/REMOVED FROM<br>David Tyra / [signature] | DATE/TIME<br>3/4/05 1130 | RECEIVED BY/STORED IN<br>[signature] A. Rhinehart | DATE/TIME<br>3/4/05 1130 |
| RELINQUISHED BY/REMOVED FROM | DATE/TIME | RECEIVED BY/STORED IN | DATE/TIME |
| RELINQUISHED BY/REMOVED FROM | DATE/TIME | RECEIVED BY/STORED IN | DATE/TIME |
| RELINQUISHED BY/REMOVED FROM | DATE/TIME | RECEIVED BY/STORED IN | DATE/TIME |
| RELINQUISHED BY/REMOVED FROM | DATE/TIME | RECEIVED BY/STORED IN | DATE/TIME |

SPECIAL INSTRUCTIONS

** The STL-RL laboratory is to achieve a detection limit of 1 pCi/gm for Tc-99.
** The STL laboratories will close SDGs upon accumulation of 5 samples or at a minimum weekly.

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

A-6003-618(03/03)

SEVERN TRENT STL

## Sample Check-in List

Date/Time Received: 3/04/05 @ 11:30am

Client: FLH SDG #: W04569 NA [ ] SAF #: F05-009 NA [ ]

Work Order Number: J5C040248 Chain of Custody # F05-009-086, -087

Shipping Container ID: N/A Air Bill # N/A

1. Custody Seals on shipping container intact? NA [ ] Yes [✓] No [ ]
2. Custody Seals dated and signed? NA [ ] Yes [✓] No [ ]
3. Chain of Custody record present? Yes [✓] No [ ]
4. Cooler temperature: _____ NA [✓] 5. Vermiculite/packing materials is NA [ ] Wet [ ] Dry [✓]
6. Number of samples in shipping container: 2
7. Sample holding times exceeded? NA [✓] Yes [ ] No [ ]
8. Samples have:
   - ___ tape
   - [✓] custody seals
   - ___ hazard labels
   - [✓] appropriate samples labels
9. Samples are:
   - [✓] in good condition
   - ___ broken
   - ___ leaking
   - ___ have air bubbles (Only for samples requiring head space)
10. Sample pH taken? NA [✓] pH<2 [ ] pH>2 [ ] pH>9 [ ]
11. Sample Location, Sample Collector Listed? * Yes [✓] No [ ]
    *For documentation only. No corrective action needed.
12. Were any anomalies identified in sample receipt? Yes [ ] No [✓]
13. Description of anomalies (include sample numbers): _____

Sample Custodian: [signature] Date: 3/04/05

| Client Sample ID | Analysis Requested | Condition | Comments/Action |
|---|---|---|---|
| | | | |
| | | | |
| | | | |

Client Informed on _____ by _____ Person contacted _____

[ ] No action necessary; process as is.

Project Manager _____ Date _____

LS-023, 9/03, Rev. 5

3/5/2005 1:10:47 PM

# Sample Preparation/Analysis

Balance Id:1120373922

108302, FLUOR HANFORD IC , Flour
Hanford Inc

KW Uiso PrpRC5013/5032/5086 SepRC5067(5039)
SR Uranium-234,235,238 by Alpha Spec
5I CLIENT: HANFORD

Pipet #: _____

Report Due: 03/11/2005

Sep1 DT/Tm Tech:

Batch: 5063543 SOIL pCi/g PM, Quote: BG2, 50639

Sep2 DT/Tm Tech:

SEQ Batch, Test: None

[redacted]

Prep Tech: ,HansenM

| Work Order, Lot, Sample DateTime | Total Amt/Unit | Initial Aliquot Amt/Unit | QC Tracer Prep Date | Dish Size | Ppt or Geometry | Count Time Min | Detector Id | Count On \| Off (24hr) Circle | CR Analyst, Init/Date | Comments: |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 G494H-1-AE<br>J5C010147-1-SAMP<br>[redacted]<br>02/28/2005 16:10 | | 2.07g,in<br>AmtRec: JAR60MLG | UITC12533<br>01/31/05,pd<br>10/12/04,r<br>#Containers: 1 | | | 200 | | Scr Rst: | Alpha: 6.68E+01 pCi/g | Beta: 1.78E+01 pCi/g |
| 2 G494L-1-AE<br>J5C010147-2-SAMP<br>[redacted]<br>02/28/2005 09:30 | | 2.05g,in<br>AmtRec: JAR60MLG | UITC12534<br>01/31/05,pd<br>10/12/04,r<br>#Containers: 1 | | | | | Scr Rst: | Alpha: 8.59E+01 pCi/g | Beta: 2.56E+01 pCi/g |
| 3 G494N-1-AE<br>J5C010147-3-SAMP<br>[redacted]<br>02/28/2005 13:00 | | 2.02g,in<br>AmtRec: JAR60MLG | UITC12535<br>01/31/05,pd<br>10/12/04,r<br>#Containers: 1 | | | | | Scr Rst: | Alpha: 8.68E+01 pCi/g | Beta: 2.09E+01 pCi/g |
| 4 G5DGR-1-AE<br>J5C020167-1-SAMP<br>[redacted]<br>03/01/2005 11:10 | | 2.00g,in<br>AmtRec: JAR60MLG | UITC12536<br>01/31/05,pd<br>10/12/04,r<br>#Containers: 1 | | | | | Scr Rst: | Alpha: 4.72E+01 pCi/g | Beta: 1.40E+01 pCi/g |
| 5 G5DGT-1-AE<br>J5C020167-2-SAMP<br>[redacted]<br>03/01/2005 10:30 | | 2.00g,in<br>AmtRec: JAR60MLG | UITC12537<br>01/31/05,pd<br>10/12/04,r<br>#Containers: 1 | | | | | Scr Rst: | Alpha: 5.73E+01 pCi/g | Beta: 1.62E+01 pCi/g |
| 6 G5DGX-1-AE<br>J5C020167-3-SAMP<br>[redacted]<br>03/01/2005 08:50 | | 2.03g,in<br>AmtRec: JAR60MLG | UITC12538<br>01/31/05,pd<br>10/12/04,r<br>#Containers: 1 | | | | | Scr Rst: | Alpha: 4.78E+01 pCi/g | Beta: 1.20E+01 pCi/g |
| 7 G5DG2-1-AE<br>J5C020167-4-SAMP<br>[redacted]<br>03/01/2005 09:50 | | 2.00g,in<br>AmtRec: JAR60MLG | UITC12539<br>01/31/05,pd<br>10/12/04,r<br>#Containers: 1 | | | | | Scr Rst: | Alpha: 6.26E+01 pCi/g | Beta: 1.65E+01 pCi/g |



55

3/5/2005 1:13:11 PM

# Sample Preparation/Analysis

Balance Id:1120373922

108302, FLUOR HANFORD IC , Flour
Hanford Inc

KW Uiso PrpRC5013/5032/5086 SepRC5067(5039)
SR Uranium-234,235,238 by Alpha Spec
5I CLIENT: HANFORD

Pipet #: _____

Report Due: 03/11/2005

Sep1 DT/Tm Tech:

Batch: 5063543 SOIL pCi/g PM, Quote: BG2, 50639

Sep2 DT/Tm Tech:

SEQ Batch, Test: None

Prep Tech: ,HansenM

[redacted]

| Work Order, Lot, Sample DateTime | Total Amt/Unit | Initial Aliquot Amt/Unit | QC Tracer Prep Date | Dish Size | Ppt or Geometry | Count Time Min | Detector Id | Count On \| Off (24hr) Circle | CR Analyst, Init/Date | Comments: |
|---|---|---|---|---|---|---|---|---|---|---|
| 8 G5DHE-1-AE<br>J5C020167-5-SAMP<br>[redacted]<br>02/25/2005 09:40 | | 2.10g,in<br>AmtRec: JAR60MLG | UITC12540<br>01/31/05,pd<br>10/12/04,r<br>#Containers: 1 | | | 200 | | Scr Rst: | Alpha: 6.68E+01 pCi/g | Beta: 1.27E+01 pCi/g |
| 9 G5DHH-1-AE<br>J5C020167-6-SAMP<br>[redacted]<br>02/24/2005 13:30 | | 2.00g,in<br>AmtRec: JAR60MLG | UITC12541<br>01/31/05,pd<br>10/12/04,r<br>#Containers: 1 | | | | | Scr Rst: | Alpha: 6.20E+01 pCi/g | Beta: 1.75E+01 pCi/g |
| 10 G5GDT-1-AJ<br>J5C030200-1-SAMP<br>[redacted]<br>03/02/2005 10:00 | | 2.00g,in<br>AmtRec: 60MLG | UITC12542<br>01/31/05,pd<br>10/12/04,r<br>#Containers: 1 | | | | | Scr Rst: | Alpha: 6.98E+01 pCi/g | Beta: 1.67E+01 pCi/g |
| 11 G5GD7-1-AE<br>J5C030200-2-SAMP<br>[redacted]<br>03/02/2005 12:40 | | 2.03g,in<br>AmtRec: 60MLG | UITC12543<br>01/31/05,pd<br>10/12/04,r<br>#Containers: 1 | | | | | Scr Rst: | Alpha: 5.15E+01 pCi/g | Beta: 1.40E+01 pCi/g |
| 12 G5GEC-1-AE<br>J5C030200-3-SAMP<br>[redacted]<br>03/02/2005 15:30 | | 2.00g,in<br>AmtRec: 60MLG | UITC12544<br>01/31/05,pd<br>10/12/04,r<br>#Containers: 1 | | | | | Scr Rst: | Alpha: 8.83E+01 pCi/g | Beta: 2.06E+01 pCi/g |
| 13 G5GEF-1-AE<br>J5C030200-4-SAMP<br>[redacted]<br>03/02/2005 10:00 | | 2.06g,in<br>AmtRec: 60MLG | UITC12545<br>01/31/05,pd<br>10/12/04,r<br>#Containers: 1 | | | | | Scr Rst: | Alpha: 4.79E+01 pCi/g | Beta: 1.24E+01 pCi/g |
| 14 G5KJL-1-AE<br>J5C040248-1-SAMP<br>[redacted]<br>03/03/2005 11:00 | | 2.00g,in<br>AmtRec: JAR60MLG | UITC12546<br>01/31/05,pd<br>10/12/04,r<br>#Containers: 1 | | | | | Scr Rst: | Alpha: | Beta: |



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3/5/2005 1:13:12 PM

# Sample Preparation/Analysis

Balance Id:1120373922

108302, FLUOR HANFORD IC , Flour
Hanford Inc

KW Uiso PrpRC5013/5032/5086 SepRC5067(5039)
SR Uranium-234,235,238 by Alpha Spec
5I CLIENT: HANFORD

Pipet #: _____

**Report Due: 03/11/2005**

Sep1 DT/Tm Tech:

**Batch: 5063543 SOIL pCi/g PM, Quote: BG2, 50639**
SEQ Batch, Test: None

Sep2 DT/Tm Tech:

Prep Tech: ,HansenM

[redacted]

| Work Order, Lot, Sample DateTime | Total Amt/Unit | Initial Aliquot Amt/Unit | QC Tracer Prep Date | Dish Size | Ppt or Geometry | Count Time Min | Detector Id | Count On \| Off (24hr) Circle | CR Analyst, Init/Date | Comments: |
|---|---|---|---|---|---|---|---|---|---|---|
| 15G5KJL-1-AG-X<br>J5C040248-1-DUP<br>[redacted]<br>03/03/2005 11:00 | | 2.09g,in<br>AmtRec: JAR60MLG | UITC12547<br>01/31/05,pd<br>10/12/04,r<br>#Containers: 1 | | | 200 | | Scr Rst: | Alpha: | Beta: |
| 16G5KJT-1-AE<br>J5C040248-2-SAMP<br>[redacted]<br>03/03/2005 13:50 | | 2.04g,in<br>AmtRec: JAR60MLG | UITC12548<br>01/31/05,pd<br>10/12/04,r<br>#Containers: 1 | | | | | Scr Rst: | Alpha: | Beta: |
| 17G5L1G-1-AA-B<br>J5C040000-543-BLK<br>[redacted]<br>03/03/2005 11:00 | | 2.00g,in<br>AmtRec: | UITC12549<br>01/31/05,pd<br>10/12/04,r<br>#Containers: 1 | | | | | Scr Rst: | Alpha: | Beta: |
| 18G5L1G-1-AC-C<br>J5C040000-543-LCS<br>[redacted]<br>03/03/2005 11:00 | | 2.00g,in<br>AmtRec: | UISH0348<br>02/10/05,pd<br>07/23/04,r<br>#Containers: 1 | | | | | Scr Rst: | Alpha: | Beta: |

**Comments:** Sample G5KJL-X over flowed while wet ashing lost 10-20% mH 3/9/05
Sample was crushed mH 3/9/05

All Clients for Batch:
108302, FLUOR HANFORD IC Flour Hanford Inc , BG2, 50639

G494H1AE-SAMP Constituent List:

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| U-232 | RDL: | pCi/g | LCL:20 | UCL:105 | RPD:35 | U-234 | RDL:1 | pCi/g | LCL: | UCL: | RPD: |
| U-235 | RDL:1 | pCi/g | LCL: | UCL: | RPD: | U-238 | RDL:1 | pCi/g | LCL: | UCL: | RPD: |

G5L1G1AA-BLK:

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| U-232 | RDL: | pCi/g | LCL:20 | UCL:105 | RPD:35 | U-234 | RDL:1 | pCi/g | LCL: | UCL: | RPD: |
| U-235 | RDL:1 | pCi/g | LCL: | UCL: | RPD: | U-238 | RDL:1 | pCi/g | LCL: | UCL: | RPD: |

3/11/2005 11:58:20 AM

# ICOC Fraction Transfer/Status Report

ByDate: 3/11/2004, 3/16/2005, Batch: '5063543', User: *ALL Order By DateTimeAccepting

| Q | Batch | Work Ord | CurStatus | Accepting | | | Comments |
|---|---|---|---|---|---|---|---|
| 5063543 | | | | | | | |
| AC | | | CalcC | WhitneyT | 3/4/2005 6:36:08 PM | | |
| SC | | | | wagnerj | IsBatched | 3/4/2005 5:41:41 PM | ICOC_RADCALC v4.8.08 |
| SC | | | | WhitneyT | InPrep | 3/4/2005 6:36:08 PM | RICH-RC-5013 REVISION 5 |
| SC | | | | WhitneyT | Prep1C | 3/5/2005 12:05:33 PM | RICH-RC-5013 REVISION 5 |
| SC | | | | HansenM | InPrep2 | 3/5/2005 1:32:17 PM | RICH-RC-5032 REVISION 2 |
| SC | | | | HansenM | Prep2C | 3/8/2005 2:02:44 PM | RICH-RC-5032 REVISION 2 |
| SC | | | | FinchA | InSep1 | 3/9/2005 8:05:15 AM | RICH-RC-5067 REVISION 6 |
| SC | | | | FinchA | Sep1C | 3/10/2005 8:05:43 AM | RICH-RC-5067 REVISION 6 |
| SC | | | | BarbosaH | InSep2 | 3/10/2005 8:47:52 AM | RICHRC5039 REV4 |
| SC | | | | BarbosaH | Sep2C | 3/10/2005 1:05:56 PM | RICHRC5039 REV4 |
| SC | | | | BlackCL | CalcC | 3/11/2005 8:23:10 AM | RICH-RD-0008 REVISION 3 |
| AC | | | | WhitneyT | 3/5/2005 12:05:33 PM | | jwDone |
| AC | | | | HansenM | 3/5/2005 1:32:17 PM | | |
| AC | | | | HansenM | 3/8/2005 2:02:44 PM | | |
| AC | | | | FinchA | 3/9/2005 8:05:15 AM | | |
| AC | | | | FinchA | 3/10/2005 8:05:43 | | |
| AC | | | | BarbosaH | 3/10/2005 8:47:52 | | |
| AC | | | | BarbosaH | 3/10/2005 1:05:56 PM | | |
| AC | | | | BlackCL | 3/11/2005 8:23:10 | | |

*AC: Accepting Entry; SC: Status Change*

*STL Richland*

Richland Wa.



Grp Rec Cnt: 9

ICOCFractions v4.8.09

3/4/2005 5:26:26 PM

# Sample Preparation/Analysis

108302, FLUOR HANFORD IC , Flour
Hanford Inc

**AN Tc-99 Prp/SepRC5013/5078**
**S5 Technetium-99 by Liquid Scint**
**5I CLIENT: HANFORD**

**PRIORITY**

**Report Due: 03/11/2005**

**Balance Id:**
**Pipet #:** _____
**Sep1 DT/Tm Tech:**
**Sep2 DT/Tm Tech:**
**Prep Tech:**

**Batch: 5063294** **SOIL** **pCi/g** **PM, Quote: BG2, 50639**
SEQ Batch, Test: None All Tests: 7SSR, 7ZSS, 88OV, ANS5, 5063294 ANS5, 5063295 88OV,
[redacted]

| Work Order, Lot, Sample DateTime | Total Amt/Unit | Initial Aliquot Amt/Unit | QC Tracer Prep Date | Count Time Min | Detector Id | Count On \| Off (24hr) Circle | CR Analyst, Init/Date | Comments: |
|---|---|---|---|---|---|---|---|---|
| **1 G494H-1-AD** J5C010147-1-SAMP [redacted] 02/28/2005 16:10 | | AmtRec: JAR60MLG | #Containers: 1 | | | | Scr Rst: Alpha: 6.68E+01 pCi/g | Beta: 1.78E+01 pCi/g |
| **2 G494L-1-AD** J5C010147-2-SAMP [redacted] 02/28/2005 09:30 | | AmtRec: JAR60MLG | #Containers: 1 | | | | Scr Rst: Alpha: 8.59E+01 pCi/g | Beta: 2.56E+01 pCi/g |
| **3 G494N-1-AD** J5C010147-3-SAMP [redacted] 02/28/2005 13:00 | | AmtRec: JAR60MLG | #Containers: 1 | | | | Scr Rst: Alpha: 8.68E+01 pCi/g | Beta: 2.09E+01 pCi/g |
| **4 G5DGR-1-AD** J5C020167-1-SAMP [redacted] 03/01/2005 11:10 | | AmtRec: JAR60MLG | #Containers: 1 | | | | Scr Rst: Alpha: 4.72E+01 pCi/g | Beta: 1.40E+01 pCi/g |
| **5 G5DGT-1-AD** J5C020167-2-SAMP [redacted] 03/01/2005 10:30 | | AmtRec: JAR60MLG | #Containers: 1 | | | | Scr Rst: Alpha: 5.73E+01 pCi/g | Beta: 1.62E+01 pCi/g |
| **6 G5DGX-1-AD** J5C020167-3-SAMP [redacted] 03/01/2005 08:50 | | AmtRec: JAR60MLG | #Containers: 1 | | | | Scr Rst: Alpha: 4.78E+01 pCi/g | Beta: 1.20E+01 pCi/g |
| **7 G5DG2-1-AD** J5C020167-4-SAMP [redacted] 03/01/2005 09:50 | | AmtRec: JAR60MLG | #Containers: 1 | | | | Scr Rst: Alpha: 6.26E+01 pCi/g | Beta: 1.65E+01 pCi/g |

STL Richland Key: In - Initial Amt, fi - Final Amt, di - Diluted Amt, s1 - Sep1, s2 - Sep2 Page 1 ISV - Insufficient Volume for Analysis WO Cnt: 7
Richland Wa. pd - Prep Dt, r - Reference Dt, ec-Enrichment Cell, ct-Cocktailed Added ICOC v4.8.08

3/4/2005 5:26:27 PM

# Sample Preparation/Analysis

108302, FLUOR HANFORD IC , Flour
Hanford Inc

AN Tc-99 Prp/SepRC5013/5078
S5 Technetium-99 by Liquid Scint
5I CLIENT: HANFORD

PRIORITY

Report Due: 03/11/2005

Balance Id:
Pipet #:
Sep1 DT/Tm Tech:
Sep2 DT/Tm Tech:
Prep Tech:

Batch: 5063294 SOIL pCi/g PM, Quote: BG2, 50639
SEQ Batch, Test: None

[redacted]

| Work Order, Lot, Sample DateTime | Total Amt/Unit | Initial Aliquot Amt/Unit | QC Tracer Prep Date | Count Time Min | Detector Id | Count On \| Off (24hr) Circle | CR Analyst, Init/Date | Comments: |
|---|---|---|---|---|---|---|---|---|
| 8 G5DHE-1-AD<br>J5C020167-5-SAMP<br>[redacted]<br>02/25/2005 09:40 | | AmtRec: JAR60MLG | #Containers: 1 | | | Scr Rst: | Alpha: 6.68E+01 pCi/g | Beta: 1.27E+01 pCi/g |
| 9 G5DHH-1-AD<br>J5C020167-6-SAMP<br>[redacted]<br>02/24/2005 13:30 | | AmtRec: JAR60MLG | #Containers: 1 | | | Scr Rst: | Alpha: 6.20E+01 pCi/g | Beta: 1.75E+01 pCi/g |
| 10 G5GDT-1-AD<br>J5C030200-1-SAMP<br>[redacted]<br>03/02/2005 10:00 | | AmtRec: 60MLG | #Containers: 1 | | | Scr Rst: | Alpha: 6.98E+01 pCi/g | Beta: 1.67E+01 pCi/g |
| 11 G5GDT-1-AF-S<br>J5C030200-1-MS<br>[redacted]<br>03/02/2005 10:00 | | [redacted]<br>Ex:3/3/06<br>AmtRec: 60MLG | #Containers: 1 | | | Scr Rst: | Alpha: 6.98E+01 pCi/g | Beta: 1.67E+01 pCi/g |
| 12 G5GDT-1-AG-X<br>J5C030200-1-DUP<br>[redacted]<br>03/02/2005 10:00 | | AmtRec: 60MLG | #Containers: 1 | | | Scr Rst: | Alpha: 6.98E+01 pCi/g | Beta: 1.67E+01 pCi/g |
| 13 G5GD7-1-AD<br>J5C030200-2-SAMP<br>[redacted]<br>03/02/2005 12:40 | | AmtRec: 60MLG | #Containers: 1 | | | Scr Rst: | Alpha: 5.15E+01 pCi/g | Beta: 1.40E+01 pCi/g |
| 14 G5GEC-1-AD<br>J5C030200-3-SAMP<br>[redacted]<br>03/02/2005 15:30 | | AmtRec: 60MLG | #Containers: 1 | | | Scr Rst: | Alpha: 8.83E+01 pCi/g | Beta: 2.06E+01 pCi/g |

3/4/2005 5:26:28 PM

# Sample Preparation/Analysis

108302, FLUOR HANFORD IC , Flour
Hanford Inc

AN Tc-99 Prp/SepRC5013/5078
S5 Technetium-99 by Liquid Scint
5I CLIENT: HANFORD

PRIORITY

Report Due: 03/11/2005

Batch: 5063294 SOIL pCi/g PM, Quote: BG2, 50639
SEQ Batch, Test: None

[redacted]

Balance Id:
Pipet #:
Sep1 DT/Tm Tech:
Sep2 DT/Tm Tech:
Prep Tech:

| Work Order, Lot, Sample DateTime | Total Amt/Unit | Initial Aliquot Amt/Unit | QC Tracer Prep Date | Count Time Min | Detector Id | Count On \| Off (24hr) Circle | CR Analyst, Init/Date | Comments: |
|---|---|---|---|---|---|---|---|---|
| 15G5GEF-1-AD<br>J5C030200-4-SAMP<br>[redacted]<br>03/02/2005 10:00 | | AmtRec: 60MLG | #Containers: 1 | | | | Scr Rst: Alpha: 4.79E+01 pCi/g | Beta: 1.24E+01 pCi/g |
| 16G5JXF-1-AA-B<br>J5C040000-294-BLK<br>[redacted]<br>03/02/2005 10:00 | | AmtRec: | #Containers: 1 | | | | Scr Rst: Alpha: | Beta: |
| 17G5JXF-1-AC-C<br>J5C040000-294-LCS<br>[redacted]<br>03/02/2005 10:00 | [redacted] | AmtRec: | #Containers: 1 | | | | Scr Rst: Alpha: | Beta: |
| 18G5JXF-1-AD-BN<br>J5C040000-294-IBLK<br>[redacted]<br>03/02/2005 10:00 | | AmtRec: | #Containers: 1 | | | | Scr Rst: Alpha: | Beta: |
| 19G5JXF-1-AE-BN<br>J5C040000-294-IBLK<br>[redacted]<br>03/02/2005 10:00 | | AmtRec: | #Containers: 1 | | | | Scr Rst: Alpha: | Beta: |
| 20G5KJL-1-AC<br>J5C040248-1-SAMP<br>[redacted]<br>03/03/2005 11:00 | | AmtRec: JAR60MLG | #Containers: 1 | | | | Scr Rst: Alpha: | Beta: |
| 21G5KJT-1-AC<br>J5C040248-2-SAMP<br>[redacted]<br>03/03/2005 13:50 | | AmtRec: JAR60MLG | #Containers: 1 | | | | Scr Rst: Alpha: | Beta: |

3/4/2005 5:26:29 PM

# Sample Preparation/Analysis

108302, FLUOR HANFORD IC , Flour
Hanford Inc

AN Tc-99 Prp/SepRC5013/5078
S5 Technetium-99 by Liquid Scint
5I CLIENT: HANFORD

PRIORITY

Report Due: 03/11/2005

Balance Id:
Pipet #:
Sep1 DT/Tm Tech:
Sep2 DT/Tm Tech:
Prep Tech:

**Batch: 5063294 SOIL pCi/g PM, Quote: BG2, 50639**
SEQ Batch, Test: None

[redacted]

| Work Order, Lot, Sample DateTime | Total Amt/Unit | Initial Aliquot Amt/Unit | QC Tracer Prep Date | Count Time Min | Detector Id | Count On \| Off (24hr) Circle | CR Analyst, Init/Date | Comments: |
|---|---|---|---|---|---|---|---|---|

**Comments:**

All Clients for Batch:
108302, FLUOR HANFORD IC Flour Hanford Inc , BG2, 50639
108302, FLUOR HANFORD IC Flour Hanford Inc , BG2, 50639

G494H1AD-SAMP Constituent List:
Tc-99 RDL:15 pCi/g LCL:70 UCL:130 RPD:35
G5GDT1AF-MS:

G5JXF1AA-BLK:
Tc-99 RDL:15 pCi/g LCL: UCL: RPD:
G5JXF1AC-LCS:
Tc-99 RDL:15 pCi/g LCL:70 UCL:130 RPD:35
G5JXF1AD-IBLK:
Tc-99 RDL:15 pCi/g LCL: UCL: RPD:
G5JXF1AE-IBLK:
Tc-99 RDL:15 pCi/g LCL: UCL: RPD:

G494H1AD-SAMP Calc Info:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B
G5GDT1AF-MS:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B
G5JXF1AA-BLK:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B
G5JXF1AC-LCS:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B
G5JXF1AD-IBLK:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B
G5JXF1AE-IBLK:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B

Approved By _____ Date: _____

3/14/2005 10:57:22 AM

# ICOC Fraction Transfer/Status Report

ByDate: 3/14/2004, 3/18/2005, Batch: '5063294', User: *ALL Order By DateTimeAccepting

| Q Batch | Work Ord | CurStatus | Accepting | | | Comments |
|---|---|---|---|---|---|---|
| 5063294 | | | | | | |
| AC | | CalcC | WhitneyT | 3/4/2005 6:36:00 PM | | |
| SC | | | heidelbergt | IsBatched | 3/4/2005 9:47:46 AM | ICOC_RADCALC v4.8.08 |
| SC | | | WhitneyT | InPrep | 3/4/2005 6:36:00 PM | RICH-RC-5013 REVISION 5 |
| SC | | | WhitneyT | Prep1C | 3/5/2005 12:04:49 PM | RICH-RC-5013 REVISION 5 |
| SC | | | FinchA | InSep1 | 3/7/2005 2:19:06 PM | RICH-RC-5078 REVISION2 |
| SC | | | FinchA | Sep1C | 3/10/2005 2:18:38 PM | RICH-RC-5079 REVISION 2 |
| SC | | | StringerR | InCnt1 | 3/10/2005 2:41:04 PM | RICH-RD-0001 REVISION 3 |
| SC | | | BlackCL | CalcC | 3/14/2005 9:41:31 AM | RICH-RD-0001 REVISION 3 |
| AC | | | WhitneyT | 3/5/2005 12:04:49 PM | | jwDone |
| AC | | | FinchA | 3/7/2005 2:19:06 PM | | |
| AC | | | FinchA | 3/10/2005 2:18:38 PM | | |
| AC | | | StringerR | 3/10/2005 2:41:04 PM | | |
| AC | | | BlackCL | 3/14/2005 9:41:31 | | |

*AC: Accepting Entry; SC: Status Change*

*STL Richland*

Richland Wa.



Grp Rec Cnt: 6

ICOCFractions v4.8.09