

Analytical Data Package Prepared For
Pacific Northwest National Lab

Radiochemical Analysis By

STL Richland STLRL

2800 G.W. Way, Richland Wa, 99354, (509)-375-3131.

Data Package Contains _____ Pages

Report Nbr: 32590

| SDG Nbr | ORDER Nbr | CLIENT ID NUMBER | LOT Nbr | WORK ORDER | RPT DB ID | BATCH | |
|---------|-----------|------------------|--------------|--------------|-----------|----------|---------|
| W04929 | X06-035 | B1J643 | J6E180213-1 | H5NGL1AA | 9H5NGL10 | 6152453 | |
| | | B1J643 | J6E180213-1 | H5NGL1AC | 9H5NGL10 | 6152456 | |
| | | B1J643 | J6E180213-1 | H5NGL1AD | 9H5NGL10 | 6156354 | |
| | | B1J643 | J6E180213-1 | H5NGL1AE | 9H5NGL10 | 6152445 | |
| | | B1J643 | J6E180213-1 | H5NGL1AF | 9H5NGL10 | 6156356 | |
| | | B1J643 | J6E180213-1 | H5NGL1AG | 9H5NGL10 | 6152451 | |
| | | B1J6N4 | J6E180213-2 | H5NG71AA | 9H5NG710 | 6152457 | |
| | | B1J5Y2 | J6E240217-1 | H53ML1AA | 9H53ML10 | 6156354 | |
| | | B1J601 | J6E240217-10 | H53PA1AA | 9H53PA10 | 6152451 | |
| | | X06-035 | B1J602 | J6E240217-11 | H53PF1AA | 9H53PF10 | 6152445 |
| | | | B1J603 | J6E240217-12 | H53PH1AA | 9H53PH10 | 6152453 |
| | | | B1J603 | J6E240217-12 | H53PH1AC | 9H53PH10 | 6152456 |
| | | | B1J604 | J6E240217-13 | H53PP1AA | 9H53PP10 | 6156354 |
| | | | B1J605 | J6E240217-14 | H53PT1AA | 9H53PT10 | 6156356 |
| | | B1J606 | J6E240217-15 | H53P21AA | 9H53P210 | 6152457 | |

Comments:

Report Nbr: 32590

| SDG Nbr | ORDER Nbr | CLIENT ID NUMBER | LOT Nbr | WORK ORDER | RPT DB ID | BATCH |
|---------|-----------|------------------|--------------|------------|-----------|---------|
| W04929 | X06-035 | B1J607 | J6E240217-16 | H53P61AA | 9H53P610 | 6152451 |
| | | B1J608 | J6E240217-17 | H53P71AA | 9H53P710 | 6152445 |
| | | B1J609 | J6E240217-18 | H53QJ1AA | 9H53QJ10 | 6152453 |
| | | B1J609 | J6E240217-18 | H53QJ1AC | 9H53QJ10 | 6152456 |
| | | B1J5Y3 | J6E240217-2 | H53ND1AA | 9H53ND10 | 6156356 |
| | | B1J5Y4 | J6E240217-3 | H53NE1AA | 9H53NE10 | 6152457 |
| | | B1J5Y5 | J6E240217-4 | H53NN1AA | 9H53NN10 | 6152451 |
| | | B1J5Y6 | J6E240217-5 | H53NV1AA | 9H53NV10 | 6152445 |
| | | B1J5Y7 | J6E240217-6 | H53NX1AC | 9H53NX10 | 6152456 |
| | | B1J5Y7 | J6E240217-6 | H53NX2AA | 9H53NX20 | 6152453 |
| | | B1J5Y8 | J6E240217-7 | H53N01AA | 9H53N010 | 6156354 |
| | | B1J5Y9 | J6E240217-8 | H53N21AA | 9H53N210 | 6156356 |
| | | B1J600 | J6E240217-9 | H53N31AA | 9H53N310 | 6152457 |

Comments:



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 Richland, WA 99354

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Certificate of Analysis

Pacific Northwest National Laboratories
 Sigma V Building
 Richland, WA 99352

July 7, 2005 *2006 Receipt 8/11/12*

Attention: Dot Stewart

SAF Number : X06-035
 Date SDG Closed : May 23, 2006
 Number of Samples : Twenty (20)
 Sample Type : Water
 SDG Number : W04929
 Data Deliverable : 45-Day / Summary

CASE NARRATIVE

I. Introduction

Between May 17, 2006 and May 23, 2006, twenty water 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 Pacific Northwest National Laboratories (PGW) specific IDs:

| <u>PGW ID#</u> | <u>STLR ID#</u> | <u>MATRIX</u> | <u>DATE OF RECEIPT</u> |
|----------------|-----------------|---------------|------------------------|
| B1J643 | H5NGL | WATER | 5/17/06 |
| B1J6N4 | H5NG7 | WATER | 5/17/06 |
| B1J5Y2 | H53ML | WATER | 5/23/06 |
| B1J5Y3 | H53ND | WATER | 5/23/06 |
| B1J5Y4 | H53NE | WATER | 5/23/06 |
| B1J5Y5 | H53NN | WATER | 5/23/06 |
| B1J5Y6 | H53NV | WATER | 5/23/06 |
| B1J5Y7 | H53NX | WATER | 5/23/06 |
| B1J5Y8 | H53N0 | WATER | 5/23/06 |
| B1J5Y9 | H53N2 | WATER | 5/23/06 |
| B1J600 | H53N3 | WATER | 5/23/06 |
| B1J601 | H53PA | WATER | 5/23/06 |
| B1J602 | H53PF | WATER | 5/23/06 |

| | | | |
|--------|-------|-------|---------|
| B1J603 | H53PH | WATER | 5/23/06 |
| B1J604 | H53PP | WATER | 5/23/06 |
| B1J605 | H53PT | WATER | 5/23/06 |
| B1J606 | H53P2 | WATER | 5/23/06 |
| B1J607 | H53P6 | WATER | 5/23/06 |
| B1J608 | H53P7 | WATER | 5/23/06 |
| B1J609 | H53QJ | WATER | 5/23/06 |

II. Sample Receipt

The samples were received in good condition and no anomalies were noted during check-in.

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 analyses were:

Alpha Spectroscopy

Plutonium-238, -239/240 by method RICH-RC-5010

Gas Proportional Counting

Gross Alpha by method RICH-RC-5014

Gross Beta by method RICH-RC-5014

Gamma Spectroscopy

Gamma Spec (LL) by method RICH-RC-5017

Iodine-129 (LL) by method RICH-RC-5025

Liquid Scintillation Counting

Technetium-99 by TEVA method RICH-RC-5065

Laser Induced Phosphorimetry

Total Uranium by method RICH-RC-5058

IV. Quality Control

The analytical results for each analysis performed 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

Plutonium-238, -239/240 by method RICH-RC-5010

The LCS, batch blank, samples and sample duplicate (B1J5Y6) results are within contractual requirements.

Gas Proportional Counting

Gross Alpha by method RICH-RC-5014:

The duplicate was out of RPD 20% on the first count, but in at 9.4% on the second count. The RER of the first count was 2.05. The LCS, batch blank, samples and sample duplicate (B1J5Y7) results are within contractual requirements.

Gross Beta by method RICH-RC-5014:

The LCS, batch blank, samples and sample duplicate (B1J5Y7) results are within contractual requirements.

Gamma Spectroscopy

Gamma Spec (LL) by method RICH-RC-5017:

The LCS, batch blank, samples and sample duplicate (B1J5Y2) results are within contractual requirements.

Iodine-129 (LL) by method RICH-RC-5025:

The LCS recovery is slightly elevated at 132%. The LCS, batch blank, samples and sample duplicate (B1J5Y4) results are within contractual requirements.

Liquid Scintillation Counting

Technetium-99 by TEVA method RICH-RC-5065:

The LCS, batch blank, samples, sample duplicate (B1J5Y9), and sample matrix spike (B1J605) results are within contractual requirements.

Total Uranium

Total Uranium by method RICH-RC-5058:

The LCS, batch blank, samples, sample duplicate (B1J5Y5), and sample matrix spike (B1J5Y5) results are within contractual requirements.

Pacific Northwest National Laboratories
July 7, 2006

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:



Sherryl A. Adam
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, $R = \text{constants} * f(x,y,z,...)$. 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/\sqrt{n}), 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) <i>u_c_Combined Uncertainty.</i> | 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, <i>u_c the combined uncertainty</i> . 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. |

STL Richland Report

FormNbr: R FormatType: FEAD Version: 05 Rpt Nbr: 32590 File Name: h:\Reportdb\edd\Fead\Rad\W04929.Edd, h:\Reportdb\edd\Fead\Rad\32590.Edd

| Lab Sample Id: | Client Id: | Test User | Contract Nbr | SAF Nbr | Sdg Nbr: | QC Type: | Moisture/Solids%*: | Distilled Volume | Sample On Date: | Collection Date: | | | | |
|----------------|------------|------------|--------------|---------|----------|----------|--------------------|------------------|-----------------|------------------|------------|------|-----------------|-----|
| 9H53ML10 | B1J5Y2 | | MW6-SBB-A1 | X06-035 | W04929 | | | | | 05/23/2006 10:30 | | | | |
| Batch | Analyte | CAS# | Result | Unit | CntU 2S | TotU 2S | Qual | MDA | TrcYield | Method | Alq Size | Unit | Analy Date/Time | Act |
| 6156354 | BE-7 | 13966-02-4 | -1.74E-01 | pCi/L | 2.6E+01 | 2.6E+01 | U | 4.69E+01 | | GAMMALL_GS | 1.9727E+00 | L | 06/27/200 09:00 | I |
| 6156354 | CO-60 | 10198-40-0 | 5.69E+01 | pCi/L | 9.8E+00 | 9.8E+00 | | 2.96E+00 | | GAMMALL_GS | 1.9727E+00 | L | 06/27/200 09:00 | I |
| 6156354 | CS-134 | 13967-70-9 | 8.60E-01 | pCi/L | 2.1E+00 | 2.1E+00 | U | 3.94E+00 | | GAMMALL_GS | 1.9727E+00 | L | 06/27/200 09:00 | I |
| 6156354 | CS-137 | 10045-97-3 | 2.06E+02 | pCi/L | 2.7E+01 | 2.7E+01 | | 3.49E+00 | | GAMMALL_GS | 1.9727E+00 | L | 06/27/200 09:00 | I |
| 6156354 | EU-152 | 14683-23-9 | 9.37E-01 | pCi/L | 5.2E+00 | 5.2E+00 | U | 9.28E+00 | | GAMMALL_GS | 1.9727E+00 | L | 06/27/200 09:00 | I |
| 6156354 | EU-154 | 15585-10-1 | 2.83E+00 | pCi/L | 4.6E+00 | 4.6E+00 | U | 9.92E+00 | | GAMMALL_GS | 1.9727E+00 | L | 06/27/200 09:00 | I |
| 6156354 | EU-155 | 14391-16-3 | 8.05E-01 | pCi/L | 4.7E+00 | 4.7E+00 | U | 8.43E+00 | | GAMMALL_GS | 1.9727E+00 | L | 06/27/200 09:00 | I |
| 6156354 | K-40 | 13966-00-2 | -3.04E+01 | pCi/L | 3.3E+01 | 3.3E+01 | U | 6.85E+01 | | GAMMALL_GS | 1.9727E+00 | L | 06/27/200 09:00 | I |
| 6156354 | RU-106 | 13967-48-1 | 7.26E+00 | pCi/L | 1.7E+01 | 1.7E+01 | U | 3.25E+01 | | GAMMALL_GS | 1.9727E+00 | L | 06/27/200 09:00 | I |
| 6156354 | SB-125 | 14234-35-6 | 3.38E+00 | pCi/L | 5.9E+00 | 5.9E+00 | U | 1.07E+01 | | GAMMALL_GS | 1.9727E+00 | L | 06/27/200 09:00 | I |

| Lab Sample Id: | Client Id: | Test User | Contract Nbr | SAF Nbr | Sdg Nbr: | QC Type: | Moisture/Solids%*: | Distilled Volume | Sample On Date: | Collection Date: | | | | |
|----------------|------------|------------|--------------|---------|----------|----------|--------------------|------------------|-----------------|------------------|----------|------|-----------------|-----|
| 9H53N010 | B1J5Y8 | | MW6-SBB-A1 | X06-035 | W04929 | | | | | 05/23/2006 10:30 | | | | |
| Batch | Analyte | CAS# | Result | Unit | CntU 2S | TotU 2S | Qual | MDA | TrcYield | Method | Alq Size | Unit | Analy Date/Time | Act |
| 6156354 | BE-7 | 13966-02-4 | -8.22E+00 | pCi/L | 3.2E+01 | 3.2E+01 | U | 5.46E+01 | | GAMMALL_GS | 2.50E+00 | L | 06/27/200 10:53 | I |
| 6156354 | CO-60 | 10198-40-0 | 5.30E+01 | pCi/L | 9.5E+00 | 9.5E+00 | | 3.62E+00 | | GAMMALL_GS | 2.50E+00 | L | 06/27/200 10:53 | I |
| 6156354 | CS-134 | 13967-70-9 | 1.96E+00 | pCi/L | 2.9E+00 | 2.9E+00 | U | 5.55E+00 | | GAMMALL_GS | 2.50E+00 | L | 06/27/200 10:53 | I |
| 6156354 | CS-137 | 10045-97-3 | 2.10E+02 | pCi/L | 2.8E+01 | 2.8E+01 | | 4.27E+00 | | GAMMALL_GS | 2.50E+00 | L | 06/27/200 10:53 | I |
| 6156354 | EU-152 | 14683-23-9 | 8.50E-01 | pCi/L | 6.1E+00 | 6.1E+00 | U | 1.10E+01 | | GAMMALL_GS | 2.50E+00 | L | 06/27/200 10:53 | I |
| 6156354 | EU-154 | 15585-10-1 | 6.56E-01 | pCi/L | 5.2E+00 | 5.2E+00 | U | 1.06E+01 | | GAMMALL_GS | 2.50E+00 | L | 06/27/200 10:53 | I |
| 6156354 | EU-155 | 14391-16-3 | 1.49E-01 | pCi/L | 4.3E+00 | 4.3E+00 | U | 7.40E+00 | | GAMMALL_GS | 2.50E+00 | L | 06/27/200 10:53 | I |
| 6156354 | K-40 | 13966-00-2 | 7.00E+00 | pCi/L | 3.7E+01 | 3.7E+01 | U | 3.27E+01 | | GAMMALL_GS | 2.50E+00 | L | 06/27/200 10:53 | I |
| 6156354 | RU-106 | 13967-48-1 | 3.45E+00 | pCi/L | 2.3E+01 | 2.3E+01 | U | 4.18E+01 | | GAMMALL_GS | 2.50E+00 | L | 06/27/200 10:53 | I |
| 6156354 | SB-125 | 14234-35-6 | -1.53E+00 | pCi/L | 7.1E+00 | 7.1E+00 | U | 1.22E+01 | | GAMMALL_GS | 2.50E+00 | L | 06/27/200 10:53 | I |

| Lab Sample Id: | Client Id: | Test User | Contract Nbr | SAF Nbr | Sdg Nbr: | QC Type: | Moisture/Solids%*: | Distilled Volume | Sample On Date: | Collection Date: | | | | |
|----------------|------------|------------|--------------|---------|----------|----------|--------------------|------------------|-----------------|------------------|----------|------|-----------------|-----|
| 9H53N210 | B1J5Y9 | | MW6-SBB-A1 | X06-035 | W04929 | | | | | 05/23/2006 10:30 | | | | |
| Batch | Analyte | CAS# | Result | Unit | CntU 2S | TotU 2S | Qual | MDA | TrcYield | Method | Alq Size | Unit | Analy Date/Time | Act |
| 6156356 | TC-99 | 14133-76-7 | 1.97E+02 | pCi/L | 8.3E+00 | 1.7E+01 | | 9.26E+00 | 100.0 | TC99_ETVDSK_LS | 1.25E-01 | L | 06/30/200 03:44 | I |

7/7/2006 3:34:34 PM

STL Richland Report

Lab Code: STLRL

FormNbr: R FormatType: FEAD Version: 05 Rpt Nbr: 32590 File Name: h:\Reportdb\edd\FeadIV\Rad\W04929.Edd, h:\Reportdb\edd\FeadIV\Rad\32590.Edd

| Lab Sample Id: | Client Id: | Test User | Contract Nbr | SAF Nbr | Sdg Nbr: | QC Type: | Moisture/Solids%*: | Distilled Volume | Sample On Date: | Collection Date: | | | | |
|----------------|------------|------------|--------------|---------|----------|----------|--------------------|------------------|-----------------|------------------|------------|------|-----------------|-----|
| 9H53N310 | B1J600 | | MW6-SBB-A1 | X06-035 | W04929 | | | | | 05/23/2006 10:30 | | | | |
| Batch | Analyte | CAS# | Result | Unit | CntU 2S | TotU 2S | Qual | MDA | TrcYield | Method | Alq Size | Unit | Analy Date/Time | Act |
| 6152457 | I-129L | 15046-84-1 | 1.07E+01 | pCi/L | 1.3E+00 | 1.3E+00 | | 4.29E-01 | 96.5 | I129LL_SEP_LEPS | 3.9819E+00 | L | 06/28/200 17:44 | I |
| Lab Sample Id: | Client Id: | Test User | Contract Nbr | SAF Nbr | Sdg Nbr: | QC Type: | Moisture/Solids%*: | Distilled Volume | Sample On Date: | Collection Date: | | | | |
| 9H53ND10 | B1J5Y3 | | MW6-SBB-A1 | X06-035 | W04929 | | | | | 05/23/2006 10:30 | | | | |
| Batch | Analyte | CAS# | Result | Unit | CntU 2S | TotU 2S | Qual | MDA | TrcYield | Method | Alq Size | Unit | Analy Date/Time | Act |
| 6156356 | TC-99 | 14133-76-7 | 2.10E+02 | pCi/L | 8.6E+00 | 1.8E+01 | | 9.42E+00 | 100.0 | TC99_ETVDSK_LS | 1.252E-01 | L | 06/30/200 02:41 | I |
| Lab Sample Id: | Client Id: | Test User | Contract Nbr | SAF Nbr | Sdg Nbr: | QC Type: | Moisture/Solids%*: | Distilled Volume | Sample On Date: | Collection Date: | | | | |
| 9H53NE10 | B1J5Y4 | | MW6-SBB-A1 | X06-035 | W04929 | | | | | 05/23/2006 10:30 | | | | |
| Batch | Analyte | CAS# | Result | Unit | CntU 2S | TotU 2S | Qual | MDA | TrcYield | Method | Alq Size | Unit | Analy Date/Time | Act |
| 6152457 | I-129L | 15046-84-1 | 9.72E+00 | pCi/L | 1.3E+00 | 1.3E+00 | | 3.98E-01 | 93.0 | I129LL_SEP_LEPS | 3.9088E+00 | L | 06/28/200 17:43 | I |
| Lab Sample Id: | Client Id: | Test User | Contract Nbr | SAF Nbr | Sdg Nbr: | QC Type: | Moisture/Solids%*: | Distilled Volume | Sample On Date: | Collection Date: | | | | |
| 9H53NN10 | B1J5Y5 | | MW6-SBB-A1 | X06-035 | W04929 | | | | | 05/23/2006 10:30 | | | | |
| Batch | Analyte | CAS# | Result | Unit | CntU 2S | TotU 2S | Qual | MDA | TrcYield | Method | Alq Size | Unit | Analy Date/Time | Act |
| 6152451 | Uranium | 7440-61-1 | 9.41E+02 | ug/L | 1.1E+02 | 1.1E+02 | | 8.19E-02 | | UTOT_KPA | 2.56E-02 | ML | 07/05/200 13:33 | I |
| Lab Sample Id: | Client Id: | Test User | Contract Nbr | SAF Nbr | Sdg Nbr: | QC Type: | Moisture/Solids%*: | Distilled Volume | Sample On Date: | Collection Date: | | | | |
| 9H53NV10 | B1J5Y6 | | MW6-SBB-A1 | X06-035 | W04929 | | | | | 05/23/2006 10:30 | | | | |
| Batch | Analyte | CAS# | Result | Unit | CntU 2S | TotU 2S | Qual | MDA | TrcYield | Method | Alq Size | Unit | Analy Date/Time | Act |
| 6152445 | PU-238 | 13981-16-3 | 3.19E-02 | pCi/L | 8.1E-02 | 8.1E-02 | U | 1.91E-01 | 81.0 | PUISO_PLATE_AE | 2.00E-01 | L | 07/07/200 13:14 | I |
| 6152445 | PU-239 | PU-239/240 | 6.86E+00 | pCi/L | 1.0E+00 | 1.5E+00 | | 2.51E-01 | 81.0 | PUISO_PLATE_AE | 2.00E-01 | L | 07/07/200 13:14 | I |
| Lab Sample Id: | Client Id: | Test User | Contract Nbr | SAF Nbr | Sdg Nbr: | QC Type: | Moisture/Solids%*: | Distilled Volume | Sample On Date: | Collection Date: | | | | |
| 9H53NX10 | B1J5Y7 | | MW6-SBB-A1 | X06-035 | W04929 | | | | | 05/23/2006 10:30 | | | | |
| Batch | Analyte | CAS# | Result | Unit | CntU 2S | TotU 2S | Qual | MDA | TrcYield | Method | Alq Size | Unit | Analy Date/Time | Act |
| 6152456 | BETA | 12587-47-2 | 6.15E+01 | pCi/L | 3.9E+00 | 8.9E+00 | | 2.92E+00 | 100.0 | 9310_ALPHABETA | 2.007E-01 | L | 06/24/200 11:04 | I |
| Lab Sample Id: | Client Id: | Test User | Contract Nbr | SAF Nbr | Sdg Nbr: | QC Type: | Moisture/Solids%*: | Distilled Volume | Sample On Date: | Collection Date: | | | | |
| 9H53NX20 | B1J5Y7 | | MW6-SBB-A1 | X06-035 | W04929 | | | | | 05/23/2006 10:30 | | | | |

7/7/2006 3:34:34 PM

STL Richland Report

Lab Code: STLRL

FormNbr: R FormatType: FEAD Version: 05 Rpt Nbr: 32590 File Name: h:\Reportdb\edd\FeadI\Rad\W04929.Edd, h:\Reportdb\edd\FeadI\Rad\32590.Edd

| Batch | Analyte | CAS# | Result | Unit | CntU 2S | TotU 2S | Qual | MDA | TrcYield | Method | Alq Size | Unit | Analy Date/Time | Act |
|-----------------------|-------------------|------------------|---------------------|----------------|-----------------|-----------------|---------------------------|-------------------------|------------------------|-------------------------|------------|------|-----------------|-----|
| 6152453 | ALPHA | 12587-46-1 | 5.79E+00 | pCi/L | 2.2E+00 | 2.5E+00 | | 1.83E+00 | 100.0 | 9310_ALPHABETA | 1.998E-01 | L | 06/27/200 17:12 | I |
| Lab Sample Id: | Client Id: | Test User | Contract Nbr | SAF Nbr | Sdg Nbr: | QC Type: | Moisture/Solids%*: | Distilled Volume | Sample On Date: | Collection Date: | | | | |
| 9H53P210 | B1J606 | | MW6-SBB-A1 | X06-035 | W04929 | | | | | 05/23/2006 10:30 | | | | |
| 6152457 | I-129L | 15046-84-1 | 9.99E+00 | pCi/L | 1.2E+00 | 1.2E+00 | | 3.56E-01 | 96.2 | I129LL_SEP_LEPS | 3.9603E+00 | L | 06/28/200 19:41 | I |
| Lab Sample Id: | Client Id: | Test User | Contract Nbr | SAF Nbr | Sdg Nbr: | QC Type: | Moisture/Solids%*: | Distilled Volume | Sample On Date: | Collection Date: | | | | |
| 9H53P610 | B1J607 | | MW6-SBB-A1 | X06-035 | W04929 | | | | | 05/23/2006 10:30 | | | | |
| 6152451 | Uranium | 7440-61-1 | 9.63E+02 | ug/L | 1.1E+02 | 1.1E+02 | | 8.06E-02 | | UTOT_KPA | 2.60E-02 | ML | 07/05/200 13:46 | I |
| Lab Sample Id: | Client Id: | Test User | Contract Nbr | SAF Nbr | Sdg Nbr: | QC Type: | Moisture/Solids%*: | Distilled Volume | Sample On Date: | Collection Date: | | | | |
| 9H53P710 | B1J608 | | MW6-SBB-A1 | X06-035 | W04929 | | | | | 05/23/2006 10:30 | | | | |
| 6152445 | PU-238 | 13981-16-3 | 1.06E-01 | pCi/L | 1.2E-01 | 1.2E-01 | U | 9.54E-02 | 101.1 | PUISO_PLATE_AE | 1.995E-01 | L | 07/07/200 13:14 | I |
| 6152445 | PU-239 | PU-239/240 | 5.64E+00 | pCi/L | 8.9E-01 | 1.2E+00 | | 2.42E-01 | 101.1 | PUISO_PLATE_AE | 1.995E-01 | L | 07/07/200 13:14 | I |
| Lab Sample Id: | Client Id: | Test User | Contract Nbr | SAF Nbr | Sdg Nbr: | QC Type: | Moisture/Solids%*: | Distilled Volume | Sample On Date: | Collection Date: | | | | |
| 9H53PA10 | B1J601 | | MW6-SBB-A1 | | W04929 | | | | | 05/23/2006 10:30 | | | | |
| 6152451 | Uranium | 7440-61-1 | 9.12E+02 | ug/L | 1.1E+02 | 1.1E+02 | | 8.06E-02 | | UTOT_KPA | 2.60E-02 | ML | 07/05/200 13:43 | I |
| Lab Sample Id: | Client Id: | Test User | Contract Nbr | SAF Nbr | Sdg Nbr: | QC Type: | Moisture/Solids%*: | Distilled Volume | Sample On Date: | Collection Date: | | | | |
| 9H53PF10 | B1J602 | | MW6-SBB-A1 | X06-035 | W04929 | | | | | 05/23/2006 10:30 | | | | |
| 6152445 | PU-238 | 13981-16-3 | 0.00E+00 | pCi/L | 1.6E-01 | 1.6E-01 | U | 1.76E-01 | 52.7 | PUISO_PLATE_AE | 2.004E-01 | L | 07/07/200 13:14 | I |
| 6152445 | PU-239 | PU-239/240 | 8.37E+00 | pCi/L | 1.5E+00 | 2.1E+00 | | 3.11E-01 | 52.7 | PUISO_PLATE_AE | 2.004E-01 | L | 07/07/200 13:14 | I |
| Lab Sample Id: | Client Id: | Test User | Contract Nbr | SAF Nbr | Sdg Nbr: | QC Type: | Moisture/Solids%*: | Distilled Volume | Sample On Date: | Collection Date: | | | | |
| 9H53PH10 | B1J603 | | MW6-SBB-A1 | X06-035 | W04929 | | | | | 05/23/2006 10:30 | | | | |
| 6152453 | ALPHA | 12587-46-1 | 7.97E+00 | pCi/L | 2.8E+00 | 3.2E+00 | | 2.16E+00 | 100.0 | 9310_ALPHABETA | 1.998E-01 | L | 06/24/200 11:02 | I |

7/7/2006 3:34:34 PM

STL Richland Report

Lab Code: STLRL

FormNbr: R FormatType: FEAD Version: 05 Rpt Nbr: 32590 File Name: h:\Reportdb\edd\FeadIV\Rad\W04929.Edd, h:\Reportdb\edd\FeadIV\Rad\32590.Edd

6152456 BETA 12587-47-2 6.06E+01 pCi/L 3.9E+00 8.5E+00 2.85E+00 100.0 9310_ALPHABETA 2.008E-01 L 06/24/200 11:04 I

| Lab Sample Id: | Client Id: | Test User | Contract Nbr | SAF Nbr | Sdg Nbr: | QC Type: | Moisture/Solids%*: | Distilled Volume | Sample On Date: | Collection Date: | | | | |
|----------------|------------|------------|--------------|---------|----------|----------|--------------------|------------------|-----------------|------------------|----------|------|-----------------|-----|
| 9H53PP10 | B1J604 | | MW6-SBB-A1 | X06-035 | W04929 | | | | | 05/23/2006 10:30 | | | | |
| Batch | Analyte | CAS# | Result | Unit | CntU 2S | TotU 2S | Qual | MDA | TrcYield | Method | Alq Size | Unit | Analy Date/Time | Act |
| 6156354 | BE-7 | 13966-02-4 | 2.68E+01 | pCi/L | 3.4E+01 | 3.4E+01 | U | 6.26E+01 | | GAMMALL_GS | 2.50E+00 | L | 06/27/200 10:54 | I |
| 6156354 | CO-60 | 10198-40-0 | 4.93E+01 | pCi/L | 1.1E+01 | 1.1E+01 | | 3.41E+00 | | GAMMALL_GS | 2.50E+00 | L | 06/27/200 10:54 | I |
| 6156354 | CS-134 | 13967-70-9 | 4.85E-02 | pCi/L | 2.7E+00 | 2.7E+00 | U | 4.95E+00 | | GAMMALL_GS | 2.50E+00 | L | 06/27/200 10:54 | I |
| 6156354 | CS-137 | 10045-97-3 | 2.13E+02 | pCi/L | 2.8E+01 | 2.8E+01 | | 4.22E+00 | | GAMMALL_GS | 2.50E+00 | L | 06/27/200 10:54 | I |
| 6156354 | EU-152 | 14683-23-9 | 9.13E-01 | pCi/L | 6.5E+00 | 6.5E+00 | U | 1.14E+01 | | GAMMALL_GS | 2.50E+00 | L | 06/27/200 10:54 | I |
| 6156354 | EU-154 | 15585-10-1 | 9.60E-01 | pCi/L | 6.2E+00 | 6.2E+00 | U | 1.20E+01 | | GAMMALL_GS | 2.50E+00 | L | 06/27/200 10:54 | I |
| 6156354 | EU-155 | 14391-16-3 | 2.19E-01 | pCi/L | 4.3E+00 | 4.3E+00 | U | 7.45E+00 | | GAMMALL_GS | 2.50E+00 | L | 06/27/200 10:54 | I |
| 6156354 | K-40 | 13966-00-2 | -8.47E+00 | pCi/L | 4.1E+01 | 4.1E+01 | U | 9.05E+01 | | GAMMALL_GS | 2.50E+00 | L | 06/27/200 10:54 | I |
| 6156354 | RU-106 | 13967-48-1 | -5.92E+00 | pCi/L | 2.2E+01 | 2.2E+01 | U | 3.89E+01 | | GAMMALL_GS | 2.50E+00 | L | 06/27/200 10:54 | I |
| 6156354 | SB-125 | 14234-35-6 | 6.71E-01 | pCi/L | 8.2E+00 | 8.2E+00 | U | 1.43E+01 | | GAMMALL_GS | 2.50E+00 | L | 06/27/200 10:54 | I |

| Lab Sample Id: | Client Id: | Test User | Contract Nbr | SAF Nbr | Sdg Nbr: | QC Type: | Moisture/Solids%*: | Distilled Volume | Sample On Date: | Collection Date: | | | | |
|----------------|------------|------------|--------------|---------|----------|----------|--------------------|------------------|-----------------|------------------|-----------|------|-----------------|-----|
| 9H53PT10 | B1J605 | | MW6-SBB-A1 | X06-035 | W04929 | | | | | 05/23/2006 10:30 | | | | |
| Batch | Analyte | CAS# | Result | Unit | CntU 2S | TotU 2S | Qual | MDA | TrcYield | Method | Alq Size | Unit | Analy Date/Time | Act |
| 6156356 | TC-99 | 14133-76-7 | 1.87E+02 | pCi/L | 8.0E+00 | 1.6E+01 | | 8.90E+00 | 100.0 | TC99_ETVDSK_LS | 1.256E-01 | L | 06/30/200 05:49 | I |

| Lab Sample Id: | Client Id: | Test User | Contract Nbr | SAF Nbr | Sdg Nbr: | QC Type: | Moisture/Solids%*: | Distilled Volume | Sample On Date: | Collection Date: | | | | |
|----------------|------------|------------|--------------|---------|----------|----------|--------------------|------------------|-----------------|------------------|-----------|------|-----------------|-----|
| 9H53QJ10 | B1J609 | | MW6-SBB-A1 | X06-035 | W04929 | | | | | 05/23/2006 10:30 | | | | |
| Batch | Analyte | CAS# | Result | Unit | CntU 2S | TotU 2S | Qual | MDA | TrcYield | Method | Alq Size | Unit | Analy Date/Time | Act |
| 6152453 | ALPHA | 12587-46-1 | 4.21E+00 | pCi/L | 2.0E+00 | 2.2E+00 | | 1.80E+00 | 100.0 | 9310_ALPHABETA | 1.996E-01 | L | 06/24/200 11:02 | I |
| 6152456 | BETA | 12587-47-2 | 6.04E+01 | pCi/L | 3.9E+00 | 8.6E+00 | | 2.95E+00 | 100.0 | 9310_ALPHABETA | 2.019E-01 | L | 06/24/200 11:04 | I |

| Lab Sample Id: | Client Id: | Test User | Contract Nbr | SAF Nbr | Sdg Nbr: | QC Type: | Moisture/Solids%*: | Distilled Volume | Sample On Date: | Collection Date: | | | | |
|----------------|------------|------------|--------------|---------|----------|----------|--------------------|------------------|-----------------|------------------|------------|------|-----------------|-----|
| 9H5NG710 | B1J6N4 | | MW6-SBB-A1 | X06-035 | W04929 | | | | | 05/17/2006 09:19 | | | | |
| Batch | Analyte | CAS# | Result | Unit | CntU 2S | TotU 2S | Qual | MDA | TrcYield | Method | Alq Size | Unit | Analy Date/Time | Act |
| 6152457 | I-129L | 15046-84-1 | 2.65E-02 | pCi/L | 1.4E-01 | 1.4E-01 | U | 2.55E-01 | 94.1 | I129LL_SEP_LEPS | 4.0001E+00 | L | 06/28/200 15:50 | I |

| Lab Sample Id: | Client Id: | Test User | Contract Nbr | SAF Nbr | Sdg Nbr: | QC Type: | Moisture/Solids%*: | Distilled Volume | Sample On Date: | Collection Date: |
|----------------|------------|-----------|--------------|---------|----------|----------|--------------------|------------------|-----------------|------------------|
| 9H5NGL10 | B1J643 | | MW6-SBB-A1 | X06-035 | W04929 | | | | | 05/17/2006 09:19 |

STL Richland U Qual - Analyzed for, but the result is less than the Mdc or gamma scan did not identify the nuclide. 4
 rptFeadRadSummaryEdd v3.48 J Qual - No U qualifier has been assigned and the result is below the Reporting Limit (CRDL).
 B Qual- Analyte was found in the associated laboratory blank above the MDC.

STL Richland Report

FormNbr: R FormatType: FEAD Version: 05 Rpt Nbr: 32590 File Name: h:\Reportdb\ledd\FeadIV\Rad\W04929.Edd, h:\Reportdb\ledd\FeadIV\Rad\32590.Edd

| Batch | Analyte | CAS# | Result | Unit | CntU 2S | TotU 2S | Qual | MDA | TrcYield | Method | Alq Size | Unit | Analy Date/Time | Act |
|---------|---------|------------|-----------|-------|---------|---------|------|----------|----------|----------------|-----------|------|-----------------|-----|
| 6152453 | ALPHA | 12587-46-1 | 2.95E+00 | pCi/L | 1.9E+00 | 2.0E+00 | | 2.48E+00 | 100.0 | 9310_ALPHABETA | 2.00E-01 | L | 06/24/200 11:02 | I |
| 6152456 | BETA | 12587-47-2 | 8.37E+00 | pCi/L | 2.1E+00 | 2.4E+00 | | 3.42E+00 | 100.0 | 9310_ALPHABETA | 1.99E-01 | L | 06/24/200 11:04 | I |
| 6156354 | BE-7 | 13966-02-4 | 2.83E+01 | pCi/L | 2.5E+01 | 2.5E+01 | U | 5.18E+01 | | GAMMALL_GS | 1.999E+00 | L | 06/27/200 09:00 | I |
| 6156354 | CO-60 | 10198-40-0 | -4.87E-01 | pCi/L | 2.9E+00 | 2.9E+00 | U | 5.42E+00 | | GAMMALL_GS | 1.999E+00 | L | 06/27/200 09:00 | I |
| 6156354 | CS-134 | 13967-70-9 | -3.68E-01 | pCi/L | 2.1E+00 | 2.1E+00 | U | 4.00E+00 | | GAMMALL_GS | 1.999E+00 | L | 06/27/200 09:00 | I |
| 6156354 | CS-137 | 10045-97-3 | -1.46E+00 | pCi/L | 2.6E+00 | 2.6E+00 | U | 4.33E+00 | | GAMMALL_GS | 1.999E+00 | L | 06/27/200 09:00 | I |
| 6156354 | EU-152 | 14683-23-9 | 2.81E+00 | pCi/L | 5.4E+00 | 5.4E+00 | U | 1.03E+01 | | GAMMALL_GS | 1.999E+00 | L | 06/27/200 09:00 | I |
| 6156354 | EU-154 | 15585-10-1 | 4.78E-01 | pCi/L | 7.3E+00 | 7.3E+00 | U | 1.41E+01 | | GAMMALL_GS | 1.999E+00 | L | 06/27/200 09:00 | I |
| 6156354 | EU-155 | 14391-16-3 | 4.15E-01 | pCi/L | 3.9E+00 | 3.9E+00 | U | 6.87E+00 | | GAMMALL_GS | 1.999E+00 | L | 06/27/200 09:00 | I |
| 6156354 | K-40 | 13966-00-2 | -3.13E+01 | pCi/L | 4.9E+01 | 4.9E+01 | U | 1.06E+02 | | GAMMALL_GS | 1.999E+00 | L | 06/27/200 09:00 | I |
| 6156354 | RU-106 | 13967-48-1 | 1.09E+01 | pCi/L | 2.2E+01 | 2.2E+01 | U | 4.26E+01 | | GAMMALL_GS | 1.999E+00 | L | 06/27/200 09:00 | I |
| 6156354 | SB-125 | 14234-35-6 | 6.92E-01 | pCi/L | 5.3E+00 | 5.3E+00 | U | 9.78E+00 | | GAMMALL_GS | 1.999E+00 | L | 06/27/200 09:00 | I |
| 6152445 | PU-238 | 13981-16-3 | 0.00E+00 | pCi/L | 8.9E-02 | 8.9E-02 | U | 9.83E-02 | 90.5 | PUISO_PLATE_AE | 2.005E-01 | L | 07/07/200 13:14 | I |
| 6152445 | PU-239 | PU-239/240 | -7.24E-03 | pCi/L | 1.4E-02 | 1.5E-02 | U | 1.73E-01 | 90.5 | PUISO_PLATE_AE | 2.005E-01 | L | 07/07/200 13:14 | I |
| 6156356 | TC-99 | 14133-76-7 | -3.47E+00 | pCi/L | 3.7E+00 | 5.3E+00 | U | 8.91E+00 | 100.0 | TC99_ETVDSK_LS | 1.251E-01 | L | 06/30/200 01:39 | I |
| 6152451 | Uranium | 7440-61-1 | 2.29E+00 | ug/L | 2.3E-01 | 2.3E-01 | | 8.19E-02 | | UTOT_KPA | 2.56E-02 | ML | 07/05/200 13:27 | I |

Friday, July 07, 2006

STL Richland QC Blank Report

Lab Code: STLRL

FormNbr: R

FormatType: FEAD

VersionNbr: 05

File Name: h:\Reportdb\eddd\FeadIV\Rad\W04929.Edd, h:\Reportdb\eddd\FeadIV\Rad\32590.Edd

Lab Sample Id: H6J6V1AB

Sdg/Rept Nbr: W04929 32590

Collection Date: 05/23/2006 10:30

Client Id: NA

Matrix: WATER WATER

Sample On Date:

Moisture/Solids%*:

QC Type: BLK

Received Date: 05/23/2006

| SAF Nbr | Contract Nbr | Test User | Case Nbr | SAS Nbr | Suffix | Decant | Distilled Volume | File Id | FSuffix | RTyp | | | | | |
|----------------------|----------------------|---------------------|----------|----------------------|-----------|----------|------------------|-------------------|-----------------|----------------|-----------------------|-------------|-------------|----------------|----------|
| | MW6-SBB-A19981 | | | | | | | | BE | H | | | | | |
| Batch # / Qc Type | Analyt/ CAS# | Result/ Orig Rst | Unit | Tot/Cnt Uncert 2S | Qu- al | MDC | Tracer Yield | Spk Conc/ %Rec | Analy Method | Aliq Size/ | Date/Time Analyzed | RPD/ UCL | RER/ UCL | LCS LCL/UCL | R Typ |
| 6152445 BLK | PU-238 13981-16-3 | 0.00E+00 | pCi/L | 9.1E-02 9.1E-02 | U | 1.01E-01 | 93.0 | | PUISO_PLATE | 2.006E-01 L | 07/07/2006 13:15 | | | | D |
| 6152445 BLK | PU-239 PU-239/240 | 1.26E-01 | pCi/L | 1.5E-01 1.5E-01 | U | 2.34E-01 | 93.0 | | PUISO_PLATE | 2.006E-01 L | 07/07/2006 13:15 | | | | D |

Friday, July 07, 2006

STL Richland QC Blank Report

Lab Code: STLR

FormNbr: R

FormatType: FEAD

VersionNbr: 05

File Name: h:\Reportdb\edd\FeadIV\Rad\W04929.Edd, h:\Reportdb\edd\FeadIV\Rad\32590.Edd

Lab Sample Id: H6J7D1AB

Sdg/Rept Nbr: W04929 32590

Collection Date: 05/23/2006 10:30

Client Id: NA

Matrix: WATER WATER

Sample On Date:

Moisture/Solids%*:

QC Type: BLK

Received Date: 05/23/2006

| SAF Nbr | Contract Nbr | Test User | Case Nbr | SAS Nbr | Suffix | Decant | Distilled Volume | File Id | FSuffix | RTyp | | | | | |
|----------------------|----------------------|---------------------|----------|----------------------|-----------|----------|------------------|-------------------|-----------------|----------------|-----------------------|-------------|-------------|----------------|----------|
| | MW6-SBB-A19981 | | | | | | | | BG | H | | | | | |
| Batch # / Qc Type | Analyt/ CAS# | Result/ Orig Rst | Unit | Tot/Cnt Uncert 2S | Qu- al | MDC | Tracer Yield | Spk Conc/ %Rec | Analy Method | Aliq Size/ | Date/Time Analyzed | RPD/ UCL | RER/ UCL | LCS LCL/UCL | R Typ |
| 6152451 BLK | Uranium 7440-61-1 | 7.76E-02 | ug/L | 8.0E-03 8.0E-03 | U | 8.22E-02 | | | UTOT_KPA | 2.55E-02 ML | 07/05/2006 13:17 | | | | D |

Friday, July 07, 2006

STL Richland QC Blank Report

Lab Code: STLRL

FormNbr: R

FormatType: FEAD

VersionNbr: 05

File Name: h:\Reportdb\edd\FeadIV\Rad\W04929.Edd, h:\Reportdb\edd\FeadIV\Rad\32590.Edd

Lab Sample Id: H6J7T1AB

Sdg/Rept Nbr: W04929 32590

Collection Date: 05/23/2006 10:30

Client Id: NA

Matrix: WATER WATER

Sample On Date:

Moisture/Solids%*:

QC Type: BLK

Received Date: 05/23/2006

| SAF Nbr | Contract Nbr | Test User | Case Nbr | SAS Nbr | Suffix | Decant | Distilled Volume | File Id | FSuffix | RTyp | | | | | |
|----------------------|---------------------|---------------------|----------|----------------------|-----------|----------|------------------|-------------------|-----------------|----------------|-----------------------|-------------|-------------|----------------|----------|
| | MW6-SBB-A19981 | | | | | | | | BJ | H | | | | | |
| Batch # / Qc Type | Analyt/ CAS# | Result/ Orig Rst | Unit | Tot/Cnt Uncert 2S | Qu- al | MDC | Tracer Yield | Spk Conc/ %Rec | Analy Method | Aliq Size/ | Date/Time Analyzed | RPD/ UCL | RER/ UCL | LCS LCL/UCL | R Typ |
| 6152453 BLK | ALPHA 12587-46-1 | 2.62E-01 | pCi/L | 5.3E-01 5.2E-01 | U | 1.18E+00 | 100.0 | | 9310_ALPHAB | 1.995E-01 L | 06/24/2006 12:05 | | | | D |

Friday, July 07, 2006

STL Richland QC Blank Report

Lab Code: STLRL

FormNbr: R

FormatType: FEAD

VersionNbr: 05

File Name: h:\Reportdb\edd\Fead\Rad\W04929.Edd, h:\Reportdb\edd\Fead\Rad\32590.Edd

Lab Sample Id: H6J841AB

Sdg/Rept Nbr: W04929 32590

Collection Date: 05/23/2006 10:30

Client Id: NA

Matrix: WATER WATER

Sample On Date:

Moisture/Solids%*:

QC Type: BLK

Received Date: 05/23/2006

| SAF Nbr | Contract Nbr | Test User | Case Nbr | SAS Nbr | Suffix | Decant | Distilled Volume | File Id | FSuffix | RType | | | | | |
|----------------------|--------------------|---------------------|----------|----------------------|-----------|----------|------------------|-------------------|-----------------|----------------|-----------------------|-------------|-------------|----------------|----------|
| | MW6-SBB-A19981 | | | | | | | | BL | H | | | | | |
| Batch # / Qc Type | Analyt/ CAS# | Result/ Orig Rst | Unit | Tot/Cnt Uncert 2S | Qu- al | MDC | Tracer Yield | Spk Conc/ %Rec | Analy Method | Aliq Size/ | Date/Time Analyzed | RPD/ UCL | RER/ UCL | LCS LCL/UCL | R Typ |
| 6152456 BLK | BETA 12587-47-2 | 7.92E-01 | pCi/L | 1.3E+00 1.2E+00 | U | 2.64E+00 | 100.0 | | 9310_ALPHAB | 2.015E-01 L | 06/24/2006 11:04 | | | | D |

Friday, July 07, 2006

STL Richland QC Blank Report

Lab Code: STLRL

FormNbr: R

FormatType: FEAD

VersionNbr: 05

File Name: h:\Reportdb\ledd\FeadIV\Rad\W04929.Edd, h:\Reportdb\ledd\FeadIV\Rad\32590.Edd

Lab Sample Id: H6J9C1AB

Sdg/Rept Nbr: W04929 32590

Collection Date: 05/23/2006 10:30

Client Id: NA

Matrix: WATER WATER

Sample On Date:

Moisture/Solids%*:

QC Type: BLK

Received Date: 05/23/2006

| SAF Nbr | Contract Nbr | Test User | Case Nbr | SAS Nbr | Suffix | Decant | Distilled Volume | File Id | FSuffix | RTyp | | | | | |
|----------------------|----------------------|---------------------|----------|----------------------|-----------|----------|------------------|-------------------|-----------------|-----------------|-----------------------|-------------|-------------|----------------|----------|
| | MW6-SBB-A19981 | | | | | | | | BN | H | | | | | |
| Batch # / Qc Type | Analyt/ CAS# | Result/ Orig Rst | Unit | Tot/Cnt Uncert 2S | Qu- al | MDC | Tracer Yield | Spk Conc/ %Rec | Analy Method | Aliq Size/ | Date/Time Analyzed | RPD/ UCL | RER/ UCL | LCS LCL/UCL | R Typ |
| 6152457 BLK | I-129L 15046-84-1 | -3.62E-02 | pCi/L | 1.1E-01 1.1E-01 | U | 1.89E-01 | 96.2 | | I129LL_SEP_L | 4.0003E+00 L | 06/28/2006 19:42 | | | | D |

Friday, July 07, 2006

STL Richland QC Blank Report

Lab Code: STLR

FormNbr: R

FormatType: FEAD

VersionNbr: 05

File Name: h:\Reportdb\eddd\FeadIV\Rad\W04929.Edd, h:\Reportdb\eddd\FeadIV\Rad\32590.Edd

Lab Sample Id: H6P3C1AB

Sdg/Rept Nbr: W04929 32590

Collection Date: 05/23/2006 10:30

Client Id: NA

Matrix: WATER WATER

Sample On Date:

Moisture/Solids%*:

QC Type: BLK

Received Date: 05/23/2006

| SAF Nbr | Contract Nbr | Test User | Case Nbr | SAS Nbr | Suffix | Decant | Distilled Volume | File Id | FSuffix | RTyp | | | | | |
|----------------------|----------------------|---------------------|----------|----------------------|-----------|----------|------------------|-------------------|-----------------|-----------------|-----------------------|-------------|-------------|----------------|----------|
| | MW6-SBB-A19981 | | | | | | | | BP | H | | | | | |
| Batch # / Qc Type | Analyt/ CAS# | Result/ Orig Rst | Unit | Tot/Cnt Uncert 2S | Qu- al | MDC | Tracer Yield | Spk Conc/ %Rec | Analy Method | Aliq Size/ | Date/Time Analyzed | RPD/ UCL | RER/ UCL | LCS LCL/UCL | R Typ |
| 6156354 BLK | BE-7 13966-02-4 | -2.55E+00 | pCi/L | 2.1E+01 2.1E+01 | U | 3.84E+01 | | | GAMMALL_GS | 2.5002E+00 L | 06/27/2006 10:54 | | | | D |
| 6156354 BLK | CO-60 10198-40-0 | -1.73E+00 | pCi/L | 2.2E+00 2.2E+00 | U | 3.51E+00 | | | GAMMALL_GS | 2.5002E+00 L | 06/27/2006 10:54 | | | | D |
| 6156354 BLK | CS-134 13967-70-9 | 1.43E+00 | pCi/L | 2.0E+00 2.0E+00 | U | 4.15E+00 | | | GAMMALL_GS | 2.5002E+00 L | 06/27/2006 10:54 | | | | D |
| 6156354 BLK | CS-137 10045-97-3 | -8.31E-01 | pCi/L | 1.7E+00 1.7E+00 | U | 2.95E+00 | | | GAMMALL_GS | 2.5002E+00 L | 06/27/2006 10:54 | | | | D |
| 6156354 BLK | EU-152 14683-23-9 | 2.59E+00 | pCi/L | 5.1E+00 5.1E+00 | U | 9.56E+00 | | | GAMMALL_GS | 2.5002E+00 L | 06/27/2006 10:54 | | | | D |
| 6156354 BLK | EU-154 15585-10-1 | -3.02E+00 | pCi/L | 4.9E+00 4.9E+00 | U | 8.49E+00 | | | GAMMALL_GS | 2.5002E+00 L | 06/27/2006 10:54 | | | | D |
| 6156354 BLK | EU-155 14391-16-3 | -1.53E+00 | pCi/L | 3.8E+00 3.8E+00 | U | 6.43E+00 | | | GAMMALL_GS | 2.5002E+00 L | 06/27/2006 10:54 | | | | D |
| 6156354 BLK | K-40 13966-00-2 | -1.29E+01 | pCi/L | 3.7E+01 3.7E+01 | U | 8.57E+01 | | | GAMMALL_GS | 2.5002E+00 L | 06/27/2006 10:54 | | | | D |
| 6156354 BLK | RU-106 13967-48-1 | -1.48E-01 | pCi/L | 1.8E+01 1.8E+01 | U | 3.26E+01 | | | GAMMALL_GS | 2.5002E+00 L | 06/27/2006 10:54 | | | | D |
| 6156354 BLK | SB-125 14234-35-6 | 2.14E+00 | pCi/L | 4.0E+00 4.0E+00 | U | 7.91E+00 | | | GAMMALL_GS | 2.5002E+00 L | 06/27/2006 10:54 | | | | D |

Friday, July 07, 2006

STL Richland QC Blank Report

Lab Code: STLR

FormNbr: R

FormatType: FEAD

VersionNbr: 05

File Name: h:\Reportdb\edd\FeadIV\Rad\W04929.Edd, h:\Reportdb\edd\FeadIV\Rad\32590.Edd

Lab Sample Id: H6P3G1AB

Sdg/Rept Nbr: W04929 32590

Collection Date: 05/23/2006 10:30

Client Id: NA

Matrix: WATER WATER

Sample On Date:

Moisture/Solids%*:

QC Type: BLK

Received Date: 05/23/2006

| SAF Nbr | Contract Nbr | Test User | Case Nbr | SAS Nbr | Suffix | Decant | Distilled Volume | File Id | FSuffix | RTyp | | | | | |
|----------------------|---------------------|---------------------|----------|----------------------|-----------|----------|------------------|-------------------|-----------------|----------------|-----------------------|-------------|-------------|----------------|----------|
| | MW6-SBB-A19981 | | | | | | | | BR | H | | | | | |
| Batch # / Qc Type | Analyt/ CAS# | Result/ Orig Rst | Unit | Tot/Cnt Uncert 2S | Qu- al | MDC | Tracer Yield | Spk Conc/ %Rec | Analy Method | Aliq Size/ | Date/Time Analyzed | RPD/ UCL | RER/ UCL | LCS LCL/UCL | R Typ |
| 6156356 BLK | TC-99 14133-76-7 | -9.68E-01 | pCi/L | 5.5E+00 3.9E+00 | U | 9.43E+00 | 100.0 | | TC99_ETVDSK | 1.249E-01 L | 06/30/2006 07:54 | | | | D |

Friday, July 07, 2006

STL Richland QC Control Sample Report

Lab Code: STLR

FormNbr: R

FormatType: FEAD

VersionNbr: 05

File Name: h:\Reportdb\edd\Fead\Rad\W04929.Edd, h:\Reportdb\edd\Fead\Rad\32590.Edd

Lab Sample Id: H6J6V1CS

Sdg/Rept Nbr: W04929 32590

Collection Date: 05/23/2006 10:30

Client Id: NA

Matrix: WATER WATER

Sample On Date:

Moisture/Solids%*:

QC Type: BS

Received Date: 05/23/2006

| SAF Nbr | Contract Nbr | Test User | Case Nbr | SAS Nbr | Suffix | Decant | Distilled Volume | File Id | FSuffix | RTyp | | | | | |
|----------------------|----------------------|---------------------|----------|----------------------|-----------|----------|------------------|-------------------|-----------------|---------------|-----------------------|-------------|-------------|----------------|----------|
| | MW6-SBB-A19981 | | | | | | | | BF | H | | | | | |
| Batch # / Qc Type | Analyt/ CAS# | Result/ Orig Rst | Unit | Tot/Cnt Uncert 2S | Qu- al | MDC | Tracer Yield | Spk Conc/ %Rec | Analy Method | Aliq Size/ | Date/Time Analyzed | RPD/ UCL | RER/ UCL | LCS LCL/UCL | R Typ |
| 6152445 BS | PU-239 PU-239/240 | 4.27E+00 | pCi/L | 1.2E+00 1.0E+00 | | 2.89E-01 | 56.5 | 4.65E+00 91.9 | PUISO_PLATE | 2.00E-01 L | 07/07/2006 13:15 | | | 70 130 | D |

Friday, July 07, 2006

STL Richland QC Control Sample Report

Lab Code: STLRL

FormNbr: R

FormatType: FEAD

VersionNbr: 05

File Name: h:\Reportdb\edd\FeadIV\Rad\W04929.Edd, h:\Reportdb\edd\FeadIV\Rad\32590.Edd

Lab Sample Id: H6J7D1CS

Sdg/Rept Nbr: W04929 32590

Collection Date: 05/23/2006 10:30

Client Id: NA

Matrix: WATER WATER

Sample On Date:

Moisture/Solids%*:

QC Type: BS

Received Date: 05/23/2006

| SAF Nbr | Contract Nbr | Test User | Case Nbr | SAS Nbr | Suffix | Decant | Distilled Volume | File Id | FSuffix | RTyp | | | | | |
|----------------------|----------------------|---------------------|----------|----------------------|-----------|----------|------------------|-------------------|-----------------|----------------|-----------------------|-------------|-------------|----------------|----------|
| | MW6-SBB-A19981 | | | | | | | | BH | H | | | | | |
| Batch # / Qc Type | Analyt/ CAS# | Result/ Orig Rst | Unit | Tot/Cnt Uncert 2S | Qu- al | MDC | Tracer Yield | Spk Conc/ %Rec | Analy Method | Aliq Size/ | Date/Time Analyzed | RPD/ UCL | RER/ UCL | LCS LCL/UCL | R Typ |
| 6152451 BS | Uranium 7440-61-1 | 3.48E+01 | ug/L | 4.1E+00 4.1E+00 | | 8.48E-02 | | 3.67E+01 94.8 | UTOT_KPA | 2.47E-02 ML | 07/05/2006 13:22 | | | 70 130 | D |

Friday, July 07, 2006

STL Richland QC Control Sample Report

Lab Code: STLRL

FormNbr: R

FormatType: FEAD

VersionNbr: 05

File Name: h:\Reportdb\edd\FeadIV\Rad\W04929.Edd, h:\Reportdb\edd\FeadIV\Rad\32590.Edd

Lab Sample Id: H6J7D1DS

Sdg/Rept Nbr: W04929 32590

Collection Date: 05/23/2006 10:30

Client Id: NA

Matrix: WATER WATER

Sample On Date:

Moisture/Solids%*:

QC Type: BS

Received Date: 05/23/2006

| SAF Nbr | Contract Nbr | Test User | Case Nbr | SAS Nbr | Suffix | Decant | Distilled Volume | File Id | FSuffix | RTyp | | | | | |
|----------------------|----------------------|---------------------|----------|----------------------|-----------|----------|------------------|-------------------|-----------------|----------------|-----------------------|-------------|-------------|----------------|----------|
| | MW6-SBB-A19981 | | | | | | | | BI | H | | | | | |
| Batch # / Qc Type | Analyt/ CAS# | Result/ Orig Rst | Unit | Tot/Cnt Uncert 2S | Qu- al | MDC | Tracer Yield | Spk Conc/ %Rec | Analy Method | Aliq Size/ | Date/Time Analyzed | RPD/ UCL | RER/ UCL | LCS LCL/UCL | R Typ |
| 6152451 BS | Uranium 7440-61-1 | 3.41E+01 | ug/L | 4.0E+00 4.0E+00 | | 8.19E-02 | | 3.52E+01 96.7 | UTOT_KPA | 2.56E-02 ML | 07/05/2006 13:24 | | | 70 130 | D |

Friday, July 07, 2006

STL Richland QC Control Sample Report

Lab Code: STLRL

FormNbr: R

FormatType: FEAD

VersionNbr: 05

File Name: h:\Reportdb\edd\Fead\I\Rad\W04929.Edd, h:\Reportdb\edd\Fead\I\Rad\32590.Edd

Lab Sample Id: H6J7T1CS

Sdg/Rept Nbr: W04929 32590

Collection Date: 05/23/2006 10:30

Client Id: NA

Matrix: WATER WATER

Sample On Date:

Moisture/Solids%*:

QC Type: BS

Received Date: 05/23/2006

| SAF Nbr | Contract Nbr | Test User | Case Nbr | SAS Nbr | Suffix | Decant | Distilled Volume | File Id | FSuffix | RTyp | | | | | |
|----------------------|---------------------|---------------------|----------|----------------------|-----------|----------|------------------|-------------------|-----------------|----------------|-----------------------|-------------|-------------|----------------|----------|
| | MW6-SBB-A19981 | | | | | | | | BK | H | | | | | |
| Batch # / Qc Type | Analyt/ CAS# | Result/ Orig Rst | Unit | Tot/Cnt Uncert 2S | Qu- al | MDC | Tracer Yield | Spk Conc/ %Rec | Analy Method | Aliq Size/ | Date/Time Analyzed | RPD/ UCL | RER/ UCL | LCS LCL/UCL | R Typ |
| 6152453 BS | ALPHA 12587-46-1 | 2.14E+01 | pCi/L | 5.3E+00 3.1E+00 | | 9.43E-01 | 100.0 | 2.28E+01 93.8 | 9310_ALPHAB | 1.999E-01 L | 06/24/2006 12:05 | | | 70 130 | D |

Friday, July 07, 2006

STL Richland QC Control Sample Report

Lab Code: STLRL

FormNbr: R

FormatType: FEAD

VersionNbr: 05

File Name: h:\Reportdb\edd\Fead\Rad\W04929.Edd, h:\Reportdb\edd\Fead\Rad\32590.Edd

Lab Sample Id: H6J841CS

Sdg/Rept Nbr: W04929 32590

Collection Date: 05/23/2006 10:30

Client Id: NA

Matrix: WATER WATER

Sample On Date:

Moisture/Solids%*:

QC Type: BS

Received Date: 05/23/2006

| SAF Nbr | Contract Nbr | Test User | Case Nbr | SAS Nbr | Suffix | Decant | Distilled Volume | File Id | FSuffix | RTyp | | | | | |
|----------------------|--------------------|---------------------|----------|----------------------|-----------|----------|------------------|-------------------|-----------------|----------------|-----------------------|-------------|-------------|----------------|----------|
| | MW6-SBB-A19981 | | | | | | | | BM | H | | | | | |
| Batch # / Qc Type | Analyt/ CAS# | Result/ Orig Rst | Unit | Tot/Cnt Uncert 2S | Qu- al | MDC | Tracer Yield | Spk Conc/ %Rec | Analy Method | Aliq Size/ | Date/Time Analyzed | RPD/ UCL | RER/ UCL | LCS LCL/UCL | R Typ |
| 6152456 BS | BETA 12587-47-2 | 1.73E+01 | pCi/L | 3.5E+00 2.3E+00 | | 2.69E+00 | 100.0 | 2.31E+01 74.9 | 9310_ALPHAB | 1.993E-01 L | 06/24/2006 11:04 | | | 70 130 | D |

Friday, July 07, 2006

STL Richland QC Control Sample Report

Lab Code: STLRL

FormNbr: R

FormatType: FEAD

VersionNbr: 05

File Name: h:\Reportdb\edd\Fead\I\Rad\W04929.Edd, h:\Reportdb\edd\Fead\I\Rad\32590.Edd

Lab Sample Id: H6J9C1CS

Sdg/Rept Nbr: W04929 32590

Collection Date: 05/23/2006 10:30

Client Id: NA

Matrix: WATER WATER

Sample On Date:

Moisture/Solids%*:

QC Type: BS

Received Date: 05/23/2006

| SAF Nbr | Contract Nbr | Test User | Case Nbr | SAS Nbr | Suffix | Decant | Distilled Volume | File Id | FSuffix | RTyp | | | | | |
|----------------------|----------------------|---------------------|----------|----------------------|-----------|----------|------------------|-------------------|-----------------|-----------------|-----------------------|-------------|-------------|----------------|----------|
| | MW6-SBB-A19981 | | | | | | | | BO | H | | | | | |
| Batch # / Qc Type | Analyt/ CAS# | Result/ Orig Rst | Unit | Tot/Cnt Uncert 2S | Qu- al | MDC | Tracer Yield | Spk Conc/ %Rec | Analy Method | Aliq Size/ | Date/Time Analyzed | RPD/ UCL | RER/ UCL | LCS LCL/UCL | R Typ |
| 6152457 BS | I-129L 15046-84-1 | 1.28E+01 | pCi/L | 1.7E+00 1.7E+00 | | 5.62E-01 | 69.4 | 9.71E+00 132.2 | I129LL_SEP_L | 4.0005E+00 L | 06/28/2006 19:42 | | | 70 130 | D |

Friday, July 07, 2006

STL Richland QC Control Sample Report

Lab Code: STLR

FormNbr: R

FormatType: FEAD

VersionNbr: 05

File Name: h:\Reportdb\edd\FeadIV\Rad\W04929.Edd, h:\Reportdb\edd\FeadIV\Rad\32590.Edd

Lab Sample Id: H6P3C1CS

Sdg/Rept Nbr: W04929 32590

Collection Date: 05/23/2006 10:30

Client Id: NA

Matrix: WATER WATER

Sample On Date:

Moisture/Solids%*:

QC Type: BS

Received Date: 05/23/2006

| SAF Nbr | Contract Nbr | Test User | Case Nbr | SAS Nbr | Suffix | Decant | Distilled Volume | File Id | FSuffix | RTyp | | | | | |
|----------------------|----------------------|---------------------|----------|----------------------|-----------|----------|------------------|-------------------|-----------------|-----------------|-----------------------|-------------|-------------|----------------|----------|
| | MW6-SBB-A19981 | | | | | | | | BQ | H | | | | | |
| Batch # / Qc Type | Analyt/ CAS# | Result/ Orig Rst | Unit | Tot/Cnt Uncert 2S | Qu- al | MDC | Tracer Yield | Spk Conc/ %Rec | Analy Method | Aliq Size/ | Date/Time Analyzed | RPD/ UCL | RER/ UCL | LCS LCL/UCL | R Typ |
| 6156354 BS | CO-60 10198-40-0 | 2.86E+01 | pCi/L | 6.2E+00 6.2E+00 | | 2.75E+00 | | 3.04E+01 94.1 | GAMMALL_GS | 2.5001E+00 L | 06/27/2006 10:54 | | | 70 130 | D |
| 6156354 BS | CS-137 10045-97-3 | 1.91E+01 | pCi/L | 4.4E+00 4.4E+00 | | 3.18E+00 | | 1.99E+01 96.2 | GAMMALL_GS | 2.5001E+00 L | 06/27/2006 10:54 | | | 70 130 | D |
| 6156354 BS | EU-152 14683-23-9 | 6.29E+01 | pCi/L | 1.5E+01 1.5E+01 | | 8.59E+00 | | 6.14E+01 102.5 | GAMMALL_GS | 2.5001E+00 L | 06/27/2006 10:54 | | | 70 130 | D |

Friday, July 07, 2006

STL Richland QC Control Sample Report

Lab Code: STLRL

FormNbr: R

FormatType: FEAD

VersionNbr: 05

File Name: h:\Reportdb\ledd\Fead\I\Rad\W04929.Edd, h:\Reportdb\ledd\Fead\I\Rad\32590.Edd

Lab Sample Id: H6P3G1CS

Sdg/Rept Nbr: W04929 32590

Collection Date: 05/23/2006 10:30

Client Id: NA

Matrix: WATER WATER

Sample On Date:

Moisture/Solids%*:

QC Type: BS

Received Date: 05/23/2006

| SAF Nbr | Contract Nbr | Test User | Case Nbr | SAS Nbr | Suffix | Decant | Distilled Volume | File Id | FSuffix | RTyp | | | | | |
|----------------------|---------------------|---------------------|----------|----------------------|-----------|----------|------------------|-------------------|-----------------|----------------|-----------------------|-------------|-------------|----------------|----------|
| | MW6-SBB-A19981 | | | | | | | | BS | H | | | | | |
| Batch # / Qc Type | Analyt/ CAS# | Result/ Orig Rst | Unit | Tot/Cnt Uncert 2S | Qu- al | MDC | Tracer Yield | Spk Conc/ %Rec | Analy Method | Aliq Size/ | Date/Time Analyzed | RPD/ UCL | RER/ UCL | LCS LCL/UCL | R Typ |
| 6156356 BS | TC-99 14133-76-7 | 4.83E+02 | pCi/L | 3.4E+01 1.2E+01 | | 9.56E+00 | 100.0 | 5.48E+02 88.2 | TC99_ETVDSK | 1.254E-01 L | 06/30/2006 08:57 | | | 70 130 | D |

Friday, July 07, 2006

STL Richland QC Duplicate Report

Lab Code: STLRL

FormNbr: R

FormatType: FEAD

VersionNbr: 05

File Name: h:\Reportdb\edd\FeadI\Rad\W04929.Edd, h:\Reportdb\edd\FeadI\Rad\32590.Edd

Lab Sample Id: H53ML1CR

Sdg/Rept Nbr: W04929 32590

Collection Date: 05/23/2006 10:30

Client Id: B1J5Y2

Matrix: WATER WATER

Sample On Date:

Moisture/Solids%*:

QC Type: DUP

Received Date: 05/23/2006

| SAF Nbr | Contract Nbr | Test User | Case Nbr | SAS Nbr | Suffix | Decant | Distilled Volume | File Id | FSuffix | RTyp | | | | | |
|----------------------|----------------------|------------------------|----------|----------------------|-----------|----------|------------------|-------------------|-----------------|-----------------|-----------------------|----------------|-------------|----------------|----------|
| X06-035 | MW6-SBB-A19981 | | | | | | | | AV | H | | | | | |
| Batch # / Qc Type | Analyt/ CAS# | Result/ Orig Rst | Unit | Tot/Cnt Uncert 2S | Qu- al | MDC | Tracer Yield | Spk Conc/ %Rec | Analy Method | Aliq Size/ | Date/Time Analyzed | RPD/ UCL | RER/ UCL | LCS LCL/UCL | R Typ |
| 6156354 DUP | BE-7 13966-02-4 | 2.55E+01 -1.74E-01 | pCi/L | 2.7E+01 2.7E+01 | U | 5.08E+01 | | | GAMMALL_GS | 1.9727E+00 L | 06/27/2006 10:53 | 202.8 20.0 | 1.3 3 | | D |
| 6156354 DUP | CO-60 10198-40-0 | 5.48E+01 5.69E+01 | pCi/L | 1.0E+01 1.0E+01 | | 4.77E+00 | | | GAMMALL_GS | 1.9727E+00 L | 06/27/2006 10:53 | 3.8 20.0 | 0.3 3 | | D |
| 6156354 DUP | CS-134 13967-70-9 | 9.75E-01 8.60E-01 | pCi/L | 2.3E+00 2.3E+00 | U | 4.39E+00 | | | GAMMALL_GS | 1.9727E+00 L | 06/27/2006 10:53 | 12.6 20.0 | 0.1 3 | | D |
| 6156354 DUP | CS-137 10045-97-3 | 2.19E+02 2.06E+02 | pCi/L | 2.9E+01 2.9E+01 | | 3.76E+00 | | | GAMMALL_GS | 1.9727E+00 L | 06/27/2006 10:53 | 6.3 20.0 | 0.7 3 | | D |
| 6156354 DUP | EU-152 14683-23-9 | -2.87E+00 9.37E-01 | pCi/L | 5.4E+00 5.4E+00 | U | 8.94E+00 | | | GAMMALL_GS | 1.9727E+00 L | 06/27/2006 10:53 | 0.0 20.0 | 1. 3 | | D |
| 6156354 DUP | EU-154 15585-10-1 | 1.46E+00 2.83E+00 | pCi/L | 5.0E+00 5.0E+00 | U | 1.01E+01 | | | GAMMALL_GS | 1.9727E+00 L | 06/27/2006 10:53 | 63.5 20.0 | 0.4 3 | | D |
| 6156354 DUP | EU-155 14391-16-3 | -1.64E+00 8.05E-01 | pCi/L | 3.9E+00 3.9E+00 | U | 6.71E+00 | | | GAMMALL_GS | 1.9727E+00 L | 06/27/2006 10:53 | 0.0 20.0 | 0.9 3 | | D |
| 6156354 DUP | K-40 13966-00-2 | -2.02E+01 -3.04E+01 | pCi/L | 3.3E+01 3.3E+01 | U | 7.02E+01 | | | GAMMALL_GS | 1.9727E+00 L | 06/27/2006 10:53 | 0.0 20.0 | 0.4 3 | | D |
| 6156354 DUP | RU-106 13967-48-1 | 1.58E+00 7.26E+00 | pCi/L | 1.8E+01 1.8E+01 | U | 3.21E+01 | | | GAMMALL_GS | 1.9727E+00 L | 06/27/2006 10:53 | 128.4 20.0 | 0.5 3 | | D |
| 6156354 DUP | SB-125 14234-35-6 | -2.69E+00 3.38E+00 | pCi/L | 6.1E+00 6.1E+00 | U | 1.03E+01 | | | GAMMALL_GS | 1.9727E+00 L | 06/27/2006 10:53 | 1765.2 20.0 | 1.4 3 | | D |

Friday, July 07, 2006

STL Richland QC Duplicate Report

Lab Code: STLRL

FormNbr: R

FormatType: FEAD

VersionNbr: 05

File Name: h:\Reportdb\edd\Fead\I\Rad\W04929.Edd, h:\Reportdb\edd\Fead\I\Rad\32590.Edd

Lab Sample Id: H53N21CR

Sdg/Rept Nbr: W04929 32590

Collection Date: 05/23/2006 10:30

Client Id: B1J5Y9

Matrix: WATER WATER

Sample On Date:

Moisture/Solids%*:

QC Type: DUP

Received Date: 05/23/2006

| SAF Nbr | Contract Nbr | Test User | Case Nbr | SAS Nbr | Suffix | Decant | Distilled Volume | File Id | FSuffix | RTyp | | | | | |
|----------------------|---------------------|----------------------|----------|----------------------|-----------|----------|------------------|-------------------|-----------------|---------------|-----------------------|-------------|-------------|----------------|----------|
| X06-035 | MW6-SBB-A19981 | | | | | | | | AW | H | | | | | |
| Batch # / Qc Type | Analyt/ CAS# | Result/ Orig Rst | Unit | Tot/Cnt Uncert 2S | Qu- al | MDC | Tracer Yield | Spk Conc/ %Rec | Analy Method | Aliq Size/ | Date/Time Analyzed | RPD/ UCL | RER/ UCL | LCS LCL/UCL | R Typ |
| 6156356 DUP | TC-99 14133-76-7 | 2.04E+02 1.97E+02 | pCi/L | 1.8E+01 8.4E+00 | | 9.25E+00 | 100.0 | | TC99_ETVDSK | 1.25E-01 L | 06/30/2006 04:46 | 3.6 20.0 | 0.6 3 | | D |

Friday, July 07, 2006

STL Richland QC Duplicate Report

Lab Code: STLRL

FormNbr: R

FormatType: FEAD

VersionNbr: 05

File Name: h:\Reportdb\edd\FeadIV\Rad\W04929.Edd, h:\Reportdb\edd\FeadIV\Rad\32590.Edd

Lab Sample Id: H53NE1CR

Sdg/Rept Nbr: W04929 32590

Collection Date: 05/23/2006 10:30

Client Id: B1J5Y4

Matrix: WATER WATER

Sample On Date:

Moisture/Solids%*:

QC Type: DUP

Received Date: 05/23/2006

| SAF Nbr | Contract Nbr | Test User | Case Nbr | SAS Nbr | Suffix | Decant | Distilled Volume | File Id | FSuffix | RTyp | | | | | |
|----------------------|----------------------|----------------------|----------|----------------------|-----------|----------|------------------|-------------------|-----------------|-----------------|-----------------------|-------------|-------------|----------------|----------|
| X06-035 | MW6-SBB-A19981 | | | | | | | | AX | H | | | | | |
| Batch # / Qc Type | Analyt/ CAS# | Result/ Orig Rst | Unit | Tot/Cnt Uncert 2S | Qu- al | MDC | Tracer Yield | Spk Conc/ %Rec | Analy Method | Aliq Size/ | Date/Time Analyzed | RPD/ UCL | RER/ UCL | LCS LCL/UCL | R Typ |
| 6152457 DUP | I-129L 15046-84-1 | 1.00E+01 9.72E+00 | pCi/L | 1.3E+00 1.3E+00 | | 4.59E-01 | 92.7 | | I129LL_SEP_L | 3.3239E+00 L | 06/28/2006 17:43 | 3.2 20.0 | 0.3 3 | | D |

Friday, July 07, 2006

STL Richland QC Duplicate Report

Lab Code: STLRL

FormNbr: R

FormatType: FEAD

VersionNbr: 05

File Name: h:\Reportdb\edd\FeadIV\Rad\W04929.Edd, h:\Reportdb\edd\FeadIV\Rad\32590.Edd

Lab Sample Id: H53NN1DR

Sdg/Rept Nbr: W04929 32590

Collection Date: 05/23/2006 10:30

Client Id: B1J5Y5

Matrix: WATER WATER

Sample On Date:

Moisture/Solids%*:

QC Type: DUP

Received Date: 05/23/2006

| SAF Nbr | Contract Nbr | Test User | Case Nbr | SAS Nbr | Suffix | Decant | Distilled Volume | File Id | FSuffix | RTyp | | | | | |
|----------------------|----------------------|----------------------|----------|----------------------|-----------|----------|------------------|-------------------|-----------------|----------------|-----------------------|-------------|-------------|----------------|----------|
| X06-035 | MW6-SBB-A19981 | | | | | | | | AZ | H | | | | | |
| Batch # / Qc Type | Analyt/ CAS# | Result/ Orig Rst | Unit | Tot/Cnt Uncert 2S | Qu- al | MDC | Tracer Yield | Spk Conc/ %Rec | Analy Method | Aliq Size/ | Date/Time Analyzed | RPD/ UCL | RER/ UCL | LCS LCL/UCL | R Typ |
| 6152451 DUP | Uranium 7440-61-1 | 9.09E+02 9.41E+02 | ug/L | 1.1E+02 1.1E+02 | | 8.25E-02 | | | UTOT_KPA | 2.54E-02 ML | 07/05/2006 13:41 | 3.5 20.0 | 0.4 3 | | D |

Friday, July 07, 2006

STL Richland QC Duplicate Report

Lab Code: STLRL

FormNbr: R

FormatType: FEAD

VersionNbr: 05

File Name: h:\Reportdb\edd\FeadIV\Rad\W04929.Edd, h:\Reportdb\edd\FeadIV\Rad\32590.Edd

Lab Sample Id: H53NV1CR

Sdg/Rept Nbr: W04929 32590

Collection Date: 05/23/2006 10:30

Client Id: B1J5Y6

Matrix: WATER WATER

Sample On Date:

Moisture/Solids%*:

QC Type: DUP

Received Date: 05/23/2006

| SAF Nbr | Contract Nbr | Test User | Case Nbr | SAS Nbr | Suffix | Decant | Distilled Volume | File Id | FSuffix | RTyp | | | | | |
|----------------------|----------------------|-----------------------|----------|----------------------|-----------|----------|------------------|-------------------|-----------------|----------------|-----------------------|---------------|-------------|----------------|----------|
| X06-035 | MW6-SBB-A19981 | | | | | | | | BA | H | | | | | |
| Batch # / Qc Type | Analyt/ CAS# | Result/ Orig Rst | Unit | Tot/Cnt Uncert 2S | Qu- al | MDC | Tracer Yield | Spk Conc/ %Rec | Analy Method | Aliq Size/ | Date/Time Analyzed | RPD/ UCL | RER/ UCL | LCS LCL/UCL | R Typ |
| 6152445 DUP | PU-238 13981-16-3 | -7.81E-03 3.19E-02 | pCi/L | 1.6E-02 1.6E-02 | U | 1.87E-01 | 85.0 | | PUISO_PLATE | 2.005E-01 L | 07/07/2006 13:14 | 330.0 20.0 | 3.6 3 | | D |
| 6152445 DUP | PU-239 PU-239/240 | 6.08E+00 6.86E+00 | pCi/L | 1.4E+00 9.7E-01 | | 1.87E-01 | 85.0 | | PUISO_PLATE | 2.005E-01 L | 07/07/2006 13:14 | 12.1 20.0 | 0.8 3 | | D |

Friday, July 07, 2006

STL Richland QC Duplicate Report

Lab Code: STLRL

FormNbr: R

FormatType: FEAD

VersionNbr: 05

File Name: h:\Reportdb\edd\FeadIV\Rad\W04929.Edd, h:\Reportdb\edd\FeadIV\Rad\32590.Edd

Lab Sample Id: H53NX1ER

Sdg/Rept Nbr: W04929 32590

Collection Date: 05/23/2006 10:30

Client Id: B1J5Y7

Matrix: WATER WATER

Sample On Date:

Moisture/Solids%*:

QC Type: DUP

Received Date: 05/23/2006

| SAF Nbr | Contract Nbr | Test User | Case Nbr | SAS Nbr | Suffix | Decant | Distilled Volume | File Id | FSuffix | RTyp | | | | | |
|----------------------|--------------------|----------------------|----------|----------------------|-----------|----------|------------------|-------------------|-----------------|----------------|-----------------------|-------------|-------------|----------------|----------|
| X06-035 | MW6-SBB-A19981 | | | | | | | | BB | H | | | | | |
| Batch # / Qc Type | Analyt/ CAS# | Result/ Orig Rst | Unit | Tot/Cnt Uncert 2S | Qu- al | MDC | Tracer Yield | Spk Conc/ %Rec | Analy Method | Aliq Size/ | Date/Time Analyzed | RPD/ UCL | RER/ UCL | LCS LCL/UCL | R Typ |
| 6152456 DUP | BETA 12587-47-2 | 5.93E+01 6.15E+01 | pCi/L | 8.5E+00 3.9E+00 | | 2.98E+00 | 100.0 | | 9310_ALPHAB | 1.994E-01 L | 06/24/2006 11:04 | 3.6 20.0 | 0.4 3 | | D |

Friday, July 07, 2006

STL Richland QC Duplicate Report

Lab Code: STLRL

FormNbr: R

FormatType: FEAD

VersionNbr: 05

File Name: h:\Reportdb\edd\FeadIV\Rad\W04929.Edd, h:\Reportdb\edd\FeadIV\Rad\32590.Edd

Lab Sample Id: H53NX2DR

Sdg/Rept Nbr: W04929 32590

Collection Date: 05/23/2006 10:30

Client Id: B1J5Y7

Matrix: WATER WATER

Sample On Date:

Moisture/Solids%*:

QC Type: DUP

Received Date: 05/23/2006

| SAF Nbr | Contract Nbr | Test User | Case Nbr | SAS Nbr | Suffix | Decant | Distilled Volume | File Id | FSuffix | RTyp | | | | | |
|----------------------|-----------------|---------------------|----------|----------------------|-----------|----------|------------------|-------------------|-----------------|---------------|-----------------------|-------------|-------------|----------------|----------|
| X06-035 | MW6-SBB-A19981 | | | | | | | | BC | H | | | | | |
| Batch # / Qc Type | Analyt/ CAS# | Result/ Orig Rst | Unit | Tot/Cnt Uncert 2S | Qu- al | MDC | Tracer Yield | Spk Conc/ %Rec | Analy Method | Aliq Size/ | Date/Time Analyzed | RPD/ UCL | RER/ UCL | LCS LCL/UCL | R Typ |
| 6152453 | ALPHA | 6.36E+00 | pCi/L | 3.0E+00 | | 2.24E+00 | 100.0 | | 9310_ALPHAB | 1.985E-01 | 06/27/2006 | 9.4 | 0.3 | | D |
| DUP | 12587-46-1 | 5.79E+00 | | 2.7E+00 | | | | | | L | 17:12 | 20.0 | 3 | | |

Friday, July 07, 2006

STL Richland Qc Matrix Spike Report

Lab Code: STLRL

FormNbr: R

FormatType: FEAD

VersionNbr: 05

File Name: h:\Reportdb\edd\Fead\W04929.Edd, h:\Reportdb\edd\Fead\W04929.Edd, h:\Reportdb\edd\Fead\W04929.Edd, h:\Reportdb\edd\Fead\W04929.Edd

Lab Sample Id: H53NN1CW

Sdg/Rept Nbr: W04929 32590

Collection Date: 05/23/2006 10:30

Client Id: B1J5Y5

Matrix: WATER WATER

Sample On Date:

Moisture/Solids%*:

QC Type: MS

Received Date: 05/23/2006

| SAF Nbr | Contract Nbr | Test User | Case Nbr | SAS Nbr | Suffix | Decant | Distilled Volume | File Id | FSuffix | RTyp | | | | | |
|----------------------|----------------------|---------------------|----------|----------------------|-----------|----------|------------------|-------------------|-----------------|----------------|-----------------------|-------------|-------------|----------------|----------|
| X06-035 | MW6-SBB-A19981 | | | | | | | | AY | H | | | | | |
| Batch # / Qc Type | Analyt/ CAS# | Result/ Orig Rst | Unit | Tot/Cnt Uncert 2S | Qu- al | MDC | Tracer Yield | Spk Conc/ %Rec | Analy Method | Aliq Size/ | Date/Time Analyzed | RPD/ UCL | RER/ UCL | LCS LCL/UCL | R Typ |
| 6152451 MS | Uranium 7440-61-1 | 4.86E+01 | ug/L | 1.6E+02 1.6E+02 | U | 8.42E-02 | | 3.58E+01 135.6 | UTOT_KPA | 2.49E-02 ML | 07/05/2006 13:37 | | | 60 140 | D |

Friday, July 07, 2006

STL Richland Qc Matrix Spike Report

Lab Code: STLRL

FormNbr: R

FormatType: FEAD

VersionNbr: 05

File Name: h:\Reportdb\ledd\Fead\I\Rad\W04929.Edd, h:\Reportdb\ledd\Fead\I\Rad\32590.Edd

Lab Sample Id: H53PT1CW

Sdg/Rept Nbr: W04929 32590

Collection Date: 05/23/2006 10:30

Client Id: B1J605

Matrix: WATER WATER

Sample On Date:

Moisture/Solids%*:

QC Type: MS

Received Date: 05/23/2006

| SAF Nbr | Contract Nbr | Test User | Case Nbr | SAS Nbr | Suffix | Decant | Distilled Volume | File Id | FSuffix | RTyp | | | | | |
|----------------------|---------------------|---------------------|----------|----------------------|-----------|----------|------------------|-------------------|-----------------|----------------|-----------------------|-------------|-------------|----------------|----------|
| X06-035 | MW6-SBB-A19981 | | | | | | | | BD | H | | | | | |
| Batch # / Qc Type | Analyt/ CAS# | Result/ Orig Rst | Unit | Tot/Cnt Uncert 2S | Qu- al | MDC | Tracer Yield | Spk Conc/ %Rec | Analy Method | Aliq Size/ | Date/Time Analyzed | RPD/ UCL | RER/ UCL | LCS LCL/UCL | R Typ |
| 6156356 MS | TC-99 14133-76-7 | 3.11E+03 | pCi/L | 2.0E+02 3.0E+01 | | 9.29E+00 | 100.0 | 3.61E+03 86.2 | TC99_ETVDSK | 1.253E-01 L | 06/30/2006 06:52 | | | 60 140 | D |

Lot No., Due Date: J6E240217,J6E180213; 07/07/2006
 Client, Site: 384868; PGW 615HANFORD HANFORD
 QC Batch No., Method Test: 6152445; RPUISO Pulso by ALP
 SDG, Matrix: W04929; WATER

| | | | | |
|------|--|-----|----|-----|
| 8.0 | Correction Calculation Protocol Used. OK | Yes | No | N/A |
| 8.01 | The Appropriate Methods Were Used To Analyze the Samples OK | Yes | No | N/A |
| 8.02 | Final Results Are in the Appropriate Activity Units OK | Yes | No | N/A |
| 8.03 | Batch Contains the Required QC Appropriate for the Method OK | Yes | No | N/A |
| 8.04 | The Correct Tracer and QC Vials Where Used in the Samples OK | Yes | No | N/A |
| 8.05 | Sample was Appropriately Traced Before or After Fractionating the Sample OK | Yes | No | N/A |
| 8.06 | At Least the Minimum Sample Volume Was Used OK | Yes | No | N/A |
| 8.07 | The Correct Count Geometry was Used. OK | Yes | No | N/A |
| 8.08 | The Sample was Counted for the Minimum Count Time or CRDL was Achieved. OK | Yes | No | N/A |
| 8.09 | Method Blank is within Control Limits. OK | Yes | No | N/A |
| 8.1 | Comments: | | | |
| 8.11 | Matrix Blank is within Control Limits. No Matrix Blanks (MBIks) found in Batch! | Yes | No | N/A |
| 8.12 | Method Blank(s) < QAS Limit Value (No B Flag Necessary). OK | Yes | No | N/A |
| 8.13 | QAS Specified Duplicate Equation Value within Control Limits. RPD > UCL : 20.0=> H53NV1AC PU-238 330.0 (RPD) | Yes | No | N/A |
| 8.14 | LCS within Control Limits. OK | Yes | No | N/A |
| 8.15 | MLCS within Control Limits. No Matrix Spikes (MLCS) found in Batch! | Yes | No | N/A |
| 8.16 | MS within Control Limits. No Matrix Spike Samples (MS) found in Batch! | Yes | No | N/A |
| 8.17 | Tracer within Control Limits. OK | Yes | No | N/A |
| 8.18 | Samples are above Minimum Tracer Yield (No Failed Samples) OK | Yes | No | N/A |
| 8.19 | Sample Specific MDC <= CRDL. OK | Yes | No | N/A |
| 8.2 | Comments: | | | |
| 8.21 | Result < Lc, Activity Not Detected, U Flag. No Limit Specified! | Yes | No | N/A |
| 8.22 | Result < Mdc, Activity Not Detected, U Flag. Batch Positive Result => H53NV1AA PU-239 6.9E+00 L:2.5E-01 H53PF1AA PU-239 8.4E+00 L:3.1E-01 H53P71AA PU-238 1.1E-01 L:9.5E-02 H53P71AA PU-239 5.6E+00 L:2.4E-01 | Yes | No | N/A |
| 8.23 | Result <= Action Level, when Defined. OK; No Action Level Found => PU-238 PU-239 OK; No Callin Level Found => PU-238 PU-239 | Yes | No | N/A |

| | |
|--|--|
| 8.24 Result + 3s >=0, Not Too Negative. OK | Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/> |
| 8.25 Counting Spectrum are within FWHM Limits. FWHM > maxFWHM => H53NV1AA PU-239 72.6>0 H53NV1AC PU-239 87.092>0 H53PF1AA PU-239 41.438>0 H53P71AA PU-239 67.672>0 H6J6V1AC PU-239 41.64>0 Q:V1 | Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A <input type="checkbox"/> |
| 8.26 Instruments have Current Calibrations. | Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/> |
| 8.27 Correct Count Library Used. Library Not Specified => H5NGL1AE I:[NUC_LIBR]AR_PU Q: H53NV1AA I:[NUC_LIBR]AR_PU Q: H53NV1AC I:[NUC_LIBR]AR_PU Q: H53PF1AA I:[NUC_LIBR]AR_PU Q: H53P71AA I:[NUC_LIBR]AR_PU Q: H6J6V1AA I:[NUC_LIBR]AR_PU Q: H6J6V1AC I:[NUC_LIBR]AR_PU Q: | Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/> |
| 8.28 Instrument Background within Limits at Time of Counting. (Not Applicable to this version. To be developed in later versions) | Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/> |
| 8.29 Instrument Check Source within Limits at the Time of Counting. (Not Applicable to this version. To be developed in later versions) | Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/> |
| 8.3 Comments: | |
| 8.31 Results Blank Subtracted as Appropriate. OK | Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/> |

First Level Review Pam Anderson

Date 7-7-04



STL

Data Review Checklist RADIOCHEMISTRY Second Level Review

QC Batch Number: 6152445
W04929

| Review Item | Yes (✓) | No (✓) | N/A (✓) |
|---|---------|--------|---------|
| A. Sample Analysis | | | |
| 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 | | | |
| 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 | | | |
| 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: Sheryl A. Adam Date: 7-7-06

Lot No., Due Date: J6E240217, J6E180213; 07/07/2006
Client, Site: 384868; PGW 615HANFORD HANFORD
QC Batch No., Method Test: 6152453; RALPHA-A Alpha by GPC-Am
SDG, Matrix: W04929; WATER

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:
See NCM # 10-08245 for response to Item 3.4

First Level Review



Date 6-28-06



STL

Data Review Checklist RADIOCHEMISTRY Second Level Review

QC Batch Number: 6152453
W04929

| Review Item | Yes (✓) | No (✓) | N/A (✓) |
|---|---------|--------|---------|
| A. Sample Analysis | | | |
| 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 | | | |
| 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 | | | |
| 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: See NCR

Second Level Review: Sheryl A Adams Date: 6-28-06

Clouseau Nonconformance Memo



| | |
|---|---------------------------------------|
| NCM #: 10-08245 | Classification: Anomaly |
| NCM Initiated By: Matt Lardy | Status: GLREVIEW |
| Date Opened: 06/28/2006 | Production Area: Environmental - Prep |
| Date Closed: | Tests: Alpha by GPC-Am |
| | Lot #'s (Sample #'s): J6E240217 (6), |
| | QC Batches: 6152453 |
| Nonconformance: Dups not within acceptance limits | |
| Subcategory: Other (explanation required) | |

Problem Description / Root Cause

| <u>Name</u> | <u>Date</u> | <u>Description</u> |
|-------------|-------------|--|
| Matt Lardy | 06/28/2006 | The duplicates were out of RPD 20% on first count, but in at 9.4% at second count. The RER of first count was 2.05. The sample results are accepted and reported with the recount of the duplicates. |

Corrective Action

| <u>Name</u> | <u>Date</u> | <u>Corrective Action</u> |
|-------------|-------------|----------------------------|
| Matt Lardy | 06/28/2006 | Report the sample results. |

Client Notification Summary

| <u>Client</u> | <u>Project Manager</u> | <u>Notified</u> | <u>Response</u> | <u>How Notified</u> | <u>Note</u> |
|---------------|------------------------|-----------------|-----------------|---------------------|----------------------|
| | | | <u>Response</u> | | <u>Response Note</u> |

Quality Assurance Verification

| <u>Verified By</u> | <u>Due Date</u> | <u>Status</u> | <u>Notes</u> |
|--------------------|-----------------|---------------------------------------|--------------|
| | | This section not yet completed by QA. | |

Approval History

| <u>Date Approved</u> | <u>Approved By</u> | <u>Position</u> |
|----------------------|--------------------|-----------------|
|----------------------|--------------------|-----------------|

Lot No., Due Date: J6E240217,J6E180213; 07/07/2006
 Client, Site: 384868; PGW 615HANFORD HANFORD
 QC Batch No., Method Test: 6152456; RBETA-SR Beta by GPC-Sr/Y
 SDG, Matrix: W04929; WATER

| | | | | |
|------|--|-----|----|-----|
| 8.0 | Correction Calculation Protocol Used. OK | Yes | No | N/A |
| 8.01 | The Appropriate Methods Were Used To Analyze the Samples OK | Yes | No | N/A |
| 8.02 | Final Results Are in the Appropriate Activity Units OK | Yes | No | N/A |
| 8.03 | Batch Contains the Required QC Appropriate for the Method OK | Yes | No | N/A |
| 8.04 | The Correct Tracer and QC Vials Where Used in the Samples OK | Yes | No | N/A |
| 8.05 | Sample was Appropriately Traced Before or After Fractionating the Sample OK | Yes | No | N/A |
| 8.06 | At Least the Minimum Sample Volume Was Used OK | Yes | No | N/A |
| 8.07 | The Correct Count Geometry was Used. OK | Yes | No | N/A |
| 8.08 | The Sample was Counted for the Minimum Count Time or CRDL was Achieved. OK | Yes | No | N/A |
| 8.09 | Method Blank is within Control Limits. OK | Yes | No | N/A |
| 8.1 | Comments: | | | |
| 8.11 | Matrix Blank is within Control Limits. No Matrix Blanks (MBIks) found in Batch! | Yes | No | N/A |
| 8.12 | Method Blank(s) < QAS Limit Value (No B Flag Necessary). OK | Yes | No | N/A |
| 8.13 | QAS Specified Duplicate Equation Value within Control Limits. OK (RPD) | Yes | No | N/A |
| 8.14 | LCS within Control Limits. OK | Yes | No | N/A |
| 8.15 | MLCS within Control Limits. No Matrix Spikes (MLCS) found in Batch! | Yes | No | N/A |
| 8.16 | MS within Control Limits. No Matrix Spike Samples (MS) found in Batch! | Yes | No | N/A |
| 8.17 | Tracer within Control Limits. OK | Yes | No | N/A |
| 8.18 | Samples are above Minimum Tracer Yield (No Failed Samples) OK | Yes | No | N/A |
| 8.19 | Sample Specific MDC <= CRDL. OK | Yes | No | N/A |
| 8.2 | Comments: | | | |
| 8.21 | Result < Lc, Activity Not Detected, U Flag. No Limit Specified! | Yes | No | N/A |
| 8.22 | Result < Mdc, Activity Not Detected, U Flag. Batch Positive Result => H5NGL1AC BETA 8.4E+00 L:3.4E+00 H53NX1AC BETA 6.1E+01 L:2.9E+00 H53PH1AC BETA 6.1E+01 L:2.8E+00 H53QJ1AC BETA 6.0E+01 L:2.9E+00 | Yes | No | N/A |
| 8.23 | Result <= Action Level, when Defined. OK; No Action Level Found => BETA OK; No Callin Level Found => BETA | Yes | No | N/A |
| 8.24 | Result + 3s >=0, Not Too Negative. OK | Yes | No | N/A |

| | | | |
|---|-----|----|-----|
| 8.25 Counting Spectrum are within FWHM Limits. No FWHM found in Batch Data! | Yes | No | N/A |
| 8.26 Instruments have Current Calibrations. | Yes | No | N/A |
| 8.27 Correct Count Library Used. No Count Library found in Batch Data! | Yes | No | N/A |
| 8.28 Instrument Background within Limits at Time of Counting. (Not Applicable to this version. To be developed in later versions) | Yes | No | N/A |
| 8.29 Instrument Check Source within Limits at the Time of Counting. (Not Applicable to this version. To be developed in later versions) | Yes | No | N/A |
| 8.3 Comments: | | | |
| 8.31 Results Blank Subtracted as Appropriate. OK | Yes | No | N/A |

First Level Review

Pam Anderson

Date

6.27.06



STL

Data Review Checklist RADIOCHEMISTRY Second Level Review

QC Batch Number: 6152456

| Review Item | Yes (✓) | No (✓) | N/A (✓) |
|---|---------|--------|---------|
| A. Sample Analysis | | | |
| 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 | | | |
| 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 | | | |
| 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: Sherrif A Adams Date: 6-27-06

Lot No., Due Date: J6E240217, J6E180213; 07/07/2006
Client, Site: 384868; PGW 615HANFORD HANFORD
QC Batch No., Method Test: 6156354; RGAMMA Gamma by GER
SDG, Matrix: W04929; WATER

1.0 COC

1.1 Is the ICOC page complete; includes all applicable analysis, dates, SOP numbers, and revisions? Yes No N/A

✓ 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

✓ Yes No N/A

2.2 Are the QC appropriate for the analysis included in the batch? Yes No N/A

✓ Yes No N/A

2.3 Is the Analytical Batch Worksheet complete; includes as appropriate, volumes, count times, etc? Yes No N/A

✓ Yes No N/A

2.4 Does the Worksheets include a Tracer Vial label for each sample? Yes No N/A

✓ Yes No N/A

3.0 QC & Samples

3.1 Is the blank results, yield, and MDA within contract limits? Yes No N/A

✓ Yes No N/A

3.2 Is the LCS result, yield, and MDA within contract limits? Yes No N/A

✓ Yes No N/A

3.3 Are the MS/MSD results, yields, and MDA within contract limits? Yes No N/A

✓ Yes No N/A

3.4 Are the duplicate result, yields, and MDAs within contract limits? Yes No N/A

✓ Yes No N/A

3.5 Are the sample yields and MDAs within contract limits? Yes No N/A

✓ Yes No N/A

4.0 Raw Data

4.1 Were results calculated in the correct units? Yes No N/A

✓ Yes No N/A

4.2 Were analysis volumes entered correctly? Yes No N/A

✓ Yes No N/A

4.3 Were Yields entered correctly? Yes No N/A

✓ Yes No N/A

4.4 Were spectra reviewed/meet contractual requirements? Yes No N/A

✓ Yes No N/A

4.5 Were raw counts reviewed for anomalies? Yes No N/A

✓ Yes No N/A

5.0 Other

5.1 Are all nonconformances included and noted? Yes No N/A

✓ Yes No N/A

5.2 Are all required forms filled out? Yes No N/A

✓ Yes No N/A

5.3 Was the correct methodology used? Yes No N/A

✓ Yes No N/A

5.4 Was transcription checked? Yes No N/A

✓ Yes No N/A

5.5 Were all calculations checked at a minimum frequency? Yes No N/A

✓ Yes No N/A

5.6 Are worksheet entries complete and correct? Yes No N/A

✓ Yes No N/A

6.0 Comments on any No response:

First Level Review

Pam Anderson

Date

6-27-06



STL

Data Review Checklist RADIOCHEMISTRY Second Level Review

QC Batch Number: 6156354

| Review Item | Yes (✓) | No (✓) | N/A (✓) |
|---|---------|--------|---------|
| A. Sample Analysis | | | |
| 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 | | | |
| 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 | | | |
| 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: Sherryl A Adam Date: 6-28-06

Lot No., Due Date: J6E240217, J6E180213; 07/07/2006
 Client, Site: 384868; PGW 615HANFORD HANFORD
 QC Batch No., Method Test: 6152457; RGAMLEPS Gamma by LEPS
 SDG, Matrix: W04929; WATER

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:

10-08258

First Level Review Pam Anderson

Date 6-29-06



STL

Data Review Checklist RADIOCHEMISTRY Second Level Review

QC Batch Number: 6152457

| Review Item | Yes (✓) | No (✓) | N/A (✓) |
|---|---------|--------|---------|
| A. Sample Analysis | | | |
| 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 | | | |
| 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 | | | |
| 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: Sheryl A. Adam Date: 6-29-06

Clouseau Nonconformance Memo



| | |
|--|---|
| NCM #: 10-08258 | Classification: Anomaly |
| NCM Initiated By: Pam Anderson | Status: GLREVIEW |
| Date Opened: 06/29/2006 | Production Area: Environmental - Sep |
| Date Closed: | Tests: Gamma by LEPS |
| | Lot #'s (Sample #'s): J6E180213 (2), J6E240217 (15,3,9), J6F010000 (457), |
| | QC Batches: 6152457 |
| Nonconformance: LCS result out of limits | |
| Subcategory: Analyte was recovered high in the LCS | |

Problem Description / Root Cause

| <u>Name</u> | <u>Date</u> | <u>Description</u> |
|--------------|-------------|--|
| Pam Anderson | 06/29/2006 | The LCS has a slightly elevated LCS at 132% recovery. Data will be accepted. |

Corrective Action

| <u>Name</u> | <u>Date</u> | <u>Corrective Action</u> |
|--------------|-------------|--------------------------|
| Pam Anderson | 06/29/2006 | Note in case narrative. |

Client Notification Summary

| <u>Client</u> | <u>Project Manager</u> | <u>Notified</u> | <u>Response</u> | <u>How Notified</u> | <u>Note</u> |
|---------------|------------------------|-----------------|-----------------|---------------------|----------------------|
| | | | <u>Response</u> | | <u>Response Note</u> |

Quality Assurance Verification

| <u>Verified By</u> | <u>Due Date</u> | <u>Status</u> | <u>Notes</u> |
|--------------------|-----------------|---------------|---------------------------------------|
| | | | This section not yet completed by QA. |

Approval History

| <u>Date Approved</u> | <u>Approved By</u> | <u>Position</u> |
|----------------------|--------------------|-----------------|
|----------------------|--------------------|-----------------|

Lot No., Due Date: J6E240217,J6E180213; 07/07/2006
 Client, Site: 384868; PGW 615HANFORD HANFORD
 QC Batch No., Method Test: 6156356; RTC99 Tc-99 by LSC
 SDG, Matrix: W04929; WATER

| | | | | |
|------|---|-----|----|-----|
| 8.0 | Correction Calculation Protocol Used. OK | Yes | No | N/A |
| 8.01 | The Appropriate Methods Were Used To Analyze the Samples OK | Yes | No | N/A |
| 8.02 | Final Results Are in the Appropriate Activity Units OK | Yes | No | N/A |
| 8.03 | Batch Contains the Required QC Appropriate for the Method OK | Yes | No | N/A |
| 8.04 | The Correct Tracer and QC Vials Where Used in the Samples Incorrect Tracer/Vial => H53PT1AC TCSG<>TCSE Q:V9 | Yes | No | N/A |
| 8.05 | Sample was Appropriately Traced Before or After Fractionating the Sample OK | Yes | No | N/A |
| 8.06 | At Least the Minimum Sample Volume Was Used OK | Yes | No | N/A |
| 8.07 | The Correct Count Geometry was Used. OK | Yes | No | N/A |
| 8.08 | The Sample was Counted for the Minimum Count Time or CRDL was Achieved. OK | Yes | No | N/A |
| 8.09 | Method Blank is within Control Limits. OK | Yes | No | N/A |
| 8.1 | Comments: | | | |
| 8.11 | Matrix Blank is within Control Limits. No Matrix Blanks (MBIks) found in Batch! | Yes | No | N/A |
| 8.12 | Method Blank(s) < QAS Limit Value (No B Flag Necessary). OK | Yes | No | N/A |
| 8.13 | QAS Specified Duplicate Equation Value within Control Limits. OK (RPD) | Yes | No | N/A |
| 8.14 | LCS within Control Limits. OK | Yes | No | N/A |
| 8.15 | MLCS within Control Limits. No Matrix Spikes (MLCS) found in Batch! | Yes | No | N/A |
| 8.16 | MS within Control Limits. OK | Yes | No | N/A |
| 8.17 | Tracer within Control Limits. No Tracers found in Batch! | Yes | No | N/A |
| 8.18 | Samples are above Minimum Tracer Yield (No Failed Samples) No Tracers found in Batch! | Yes | No | N/A |
| 8.19 | Sample Specific MDC <= CRDL. OK | Yes | No | N/A |
| 8.2 | Comments: | | | |
| 8.21 | Result < Lc, Activity Not Detected, U Flag. No Limit Specified! | Yes | No | N/A |
| 8.22 | Result < Mdc, Activity Not Detected, U Flag. No Positive Results OK Calc_IDL Not Calculated | Yes | No | N/A |
| 8.23 | Result <= Action Level, when Defined. OK; No Action Level Found => TC-99 OK; No Callin Level Found => TC-99 | Yes | No | N/A |
| 8.24 | Result + 3s >=0, Not Too Negative. OK | Yes | No | N/A |
| 8.25 | Counting Spectrum are within FWHM Limits. No FWHM found in Batch Data! | Yes | No | N/A |

8.26 Instruments have Current Calibrations. Yes No N/A

8.27 Correct Count Library Used. Yes No N/A
No Count Library found in Batch Data!

8.28 Instrument Background within Limits at Time of Counting. (Not Applicable to this version. To be developed in later version) Yes No N/A

8.29 Instrument Check Source within Limits at the Time of Counting. (Not Applicable to this version. To be developed in later version) Yes No N/A

8.3 Comments:

8.31 Results Blank Subtracted as Appropriate. Yes No N/A
OK

First Level Review Pam Anderson Date 7.3.06



STL

Data Review Checklist RADIOCHEMISTRY Second Level Review

QC Batch Number: 6156356
W04929

| Review Item | Yes (✓) | No (✓) | N/A (✓) |
|---|---------|--------|---------|
| A. Sample Analysis | ✓ | | |
| 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 | | | |
| 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 | | | |
| 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: Sheryl A Adam Date: 7-5-06

Lot No., Due Date: J6E240217,J6E180213; 07/07/2006
 Client, Site: 384868; PGW 615HANFORD HANFORD
 QC Batch No., Method Test: 6152451; RUNAT UNat by KPA
 SDG, Matrix: W04929; WATER

| | | | | |
|------|--|-----|----|-----|
| 8.0 | Correction Calculation Protocol Used. OK | Yes | No | N/A |
| 8.01 | The Appropriate Methods Were Used To Analyze the Samples OK | Yes | No | N/A |
| 8.02 | Final Results Are in the Appropriate Activity Units OK | Yes | No | N/A |
| 8.03 | Batch Contains the Required QC Appropriate for the Method OK | Yes | No | N/A |
| 8.04 | The Correct Tracer and QC Vials Where Used in the Samples OK | Yes | No | N/A |
| 8.05 | Sample was Appropriately Traced Before or After Fractionating the Sample OK | Yes | No | N/A |
| 8.06 | At Least the Minimum Sample Volume Was Used No Count Analysis Size found in Batch Data! | Yes | No | N/A |
| 8.07 | The Correct Count Geometry was Used. No Count Geometry found in Batch Data! | Yes | No | N/A |
| 8.08 | The Sample was Counted for the Minimum Count Time or CRDL was Achieved. No Count Duration Field Found in Batch Data! | Yes | No | N/A |
| 8.09 | Method Blank is within Control Limits. OK | Yes | No | N/A |
| 8.1 | Comments: | | | |
| 8.11 | Matrix Blank is within Control Limits. No Matrix Blanks (MBIks) found in Batch! | Yes | No | N/A |
| 8.12 | Method Blank(s) < QAS Limit Value (No B Flag Necessary). OK | Yes | No | N/A |
| 8.13 | QAS Specified Duplicate Equation Value within Control Limits. OK (RPD) | Yes | No | N/A |
| 8.14 | LCS within Control Limits. OK | Yes | No | N/A |
| 8.15 | MLCS within Control Limits. No Matrix Spikes (MLCS) found in Batch! | Yes | No | N/A |
| 8.16 | MS within Control Limits. No Matrix Spike Samples (MS) found in Batch! | Yes | No | N/A |
| 8.17 | Tracer within Control Limits. No Tracers found in Batch! | Yes | No | N/A |
| 8.18 | Samples are above Minimum Tracer Yield (No Failed Samples) No Tracers found in Batch! | Yes | No | N/A |
| 8.19 | Sample Specific MDC <= CRDL. OK | Yes | No | N/A |
| 8.2 | Comments: | | | |
| 8.21 | Result < Lc, Activity Not Detected, U Flag. No Limit Specified! | Yes | No | N/A |
| 8.22 | Result < Mdc, Activity Not Detected, U Flag. Batch Positive Result => H53NN1AA Uranium 9.4E+02 L:8.2E-02 H53P61AA Uranium 9.6E+02 L:8.1E-02 H53PA1AA Uranium 9.1E+02 L:8.1E-02 H5NGL1AG Uranium 2.3E+00 L:8.2E-02 | Yes | No | N/A |
| 8.23 | Result <= Action Level, when Defined. OK; No Action Level Found => Uranium OK; No Callin Level Found => Uranium | Yes | No | N/A |
| 8.24 | Result + 3s >=0, Not Too Negative. OK | Yes | No | N/A |

| | | |
|---|------------|-------------------------------------|
| 8.25 Counting Spectrum are within FWHM Limits. No FWHM found in Batch Data! | Yes No N/A | <input checked="" type="checkbox"/> |
| 8.26 Instruments have Current Calibrations. | Yes No N/A | |
| 8.27 Correct Count Library Used. No Count Library found in Batch Data! | Yes No N/A | <input checked="" type="checkbox"/> |
| 8.28 Instrument Background within Limits at Time of Counting. (Not Applicable to this version. To be developed in later versions) | Yes No N/A | <input checked="" type="checkbox"/> |
| 8.29 Instrument Check Source within Limits at the Time of Counting. (Not Applicable to this version. To be developed in later versions) | Yes No N/A | <input checked="" type="checkbox"/> |
| 8.3 Comments: | | |
| 8.31 Results Blank Subtracted as Appropriate. OK | Yes No N/A | <input checked="" type="checkbox"/> |

First Level Review Pam Anderson

Date 7-6-04



STL

Data Review Checklist RADIOCHEMISTRY Second Level Review

QC Batch Number: 6152451
604929

| Review Item | Yes (✓) | No (✓) | N/A (✓) |
|---|---------|--------|---------|
| A. Sample Analysis | ✓ | | |
| 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 | | | |
| 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 | | | |
| 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: Sheryl A Adam Date: 7-6-04

PNNL *SW 5118-06*
J6E180183
W04929
Due
R. Fox

J6E180213
 W04929
Due 6.30.06

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

C.O.C. # **X06-035-35**
 Page 1 of 1

| | | | |
|---|-------------------------------------|-------------------------------|--------------------------------------|
| Collector <i>R. Fox</i> | Contact/Requester Dot Stewart | Telephone No. 509-376-5056 | MSIN FAX |
| SAF No. X06-035 | Sampling Origin Hanford Site | Purchase Order/Charge Code | |
| Project Title SPECIAL SAMPLING, APRIL 2006 | Method of Shipment Govt. Vehicle | | Ice Chest No. <i>6RP-03-02</i> Temp. |
| Shipped To (Lab) Severn Trent Incorporated, Richland | Method of Shipment Govt. Vehicle | Bill of Lading/Air Bill No. | |
| Protocol SURV | Priority: 45 Days | Offsite Property No. | |

POSSIBLE SAMPLE HAZARDS/REMARKS
 ** **

SPECIAL INSTRUCTIONS Hold Time Total Activity Exemption: Yes No
 Batch all PNNL samples submitted under this X SAF into one SDG, not to exceed SDG closure of 14 days.
 Submit invoices & deliverables to DL Stewart, PNNL.

| Sample No. | Lab ID | * | Date | Time | No/Type Container | Sample Analysis | Preservative |
|-----------------|--------|---|----------------|-------------|-------------------|---------------------------------------|---------------|
| B1J643 | | W | <i>5/17/06</i> | <i>0919</i> | 1x1000-mL P | 9310_ALPHABETA_GPC: Alpha + Beta (2) | HNO3 to pH <2 |
| B1J643 | | W | ↓ | ↓ | 1x20-mL P | Activity Scan | None |
| B1J643 | | W | ↓ | ↓ | 1x4000-mL G/P | GAMMALL_GS: List-1 (9) | HNO3 to pH <2 |
| B1J643 | | W | ↓ | ↓ | 1x1000-mL G/P | PUISO_PLATE_AEA: Pu-238 + 239/240 (2) | HNO3 to pH <2 |
| B1J643 | | W | ↓ | ↓ | 1x500-mL P | TC99_ETVDSK_LSC: Tc-99 (1) | HCl to pH <2 |
| B1J643 | | W | ↓ | ↓ | 1x500-mL G/P | UTOT_KPA: Uranium (1) | HNO3 to pH <2 |
| B1J6N4 | | W | ↓ | ↓ | 2x4000-mL G/P | I129LL_SEP_LEPS_GS_LL: I-129 (1) | None |
| <i>D. Welch</i> | | | | | | | |
| <i>5/17/06</i> | | | | | | | |

| | | | | | | | | |
|----------------------------------|-----------------------------|----------------------------|--------------------------|---|-----------------------------|----------------------------|--------------------------|----------|
| Relinquished By <i>R. Fox</i> | Print <i>[Signature]</i> | Sign <i>[Signature]</i> | Date/Time <i>1450</i> | Received By <i>S. Welch</i> | Print <i>[Signature]</i> | Sign <i>[Signature]</i> | Date/Time <i>1450</i> | Matrix * |
| Relinquished By | Date/Time | Received By | Date/Time | S = Soil DS = Drum Solid SE = Sediment DI = Drum Liquid SO = Solid T = Tissue SL = Sludge WI = Wine W = Water L = Liquid O = Oil V = Vegetation A = Air X = Other | | | | |
| Relinquished By | Date/Time | Received By | Date/Time | | | | | |
| Relinquished By | Date/Time | Received By | Date/Time | | | | | |

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



STL

Sample Check-in List

Date/Time Received: 5-17-06 14:50

Client: PGW SDG #: W04929 NA SAF #: X06-035 NA

Work Order Number: J6E180213

Chain of Custody # X06-035-35

Shipping Container ID: GRP-03-021

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 adjusted pH
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): N/A

Sample Custodian: S. Welch Date: 5-17-06

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

Client Informed on _____ by _____ Person contacted _____

[] No action necessary; process as is.

Project Manager _____ Date _____

PNNL
 J6E240217
 W04929
 Due 7.7.06

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

C.O.C.#
X06-035-4
 Page 1 of 1

| | | | | |
|--|--|--------------------------------------|--------------------------------|--------------|
| Collector DURATEK J. G. HOGAN | Contact/Requester Dot Stewart | Telephone No. 509-376-5056 | MSIN | FAX |
| SAF No. X06-035 | Sampling Origin Hanford Site | Purchase Order/Charge Code | | |
| Project Title SPECIAL SAMPLING, APRIL 2006 | DTS-SAWS-H103 B | | Ice Chest No. SML311 | Temp. |
| Shipped To (Lab) Severn Trent Incorporated, Richland | Method of Shipment Govt. Vehicle | Bill of Lading/Air Bill No. | | |
| Protocol SURV | Priority: 45 Days | | Offsite Property No. | |

| | | | |
|---|---|------------------|--|
| POSSIBLE SAMPLE HAZARDS/REMARKS ** ** | SPECIAL INSTRUCTIONS Batch all PNNL samples submitted under this X SAF into one SDG, not to exceed SDG closure of 14 days. Submit invoices & deliverables to DL Stewart, PNNL. | Hold Time | Total Activity Exemption: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> |
|---|---|------------------|--|

| Sample No. | Lab ID | * | Date | Time | No/Type Container | Sample Analysis | Preservative | |
|------------|--------|---|---------|------|-------------------|---------------------------------------|---------------|---------------|
| B1J5Y2 | | W | 5-23-06 | 1030 | 1x20-mL P | Activity Scan H53ML | None | |
| B1J5Y2 | | W | ↓ | ↓ | 1x4000-mL G/P | GAMMALL_GS: List-1 (9) | HNO3 to pH <2 | |
| B1J5Y3 | | W | | | 1x20-mL P | Activity Scan | None | |
| B1J5Y3 | | W | | | 1x500-mL P | TC99_ETVDSK_LSC: Tc-99 (1) | H53ND | HCl to pH <2 |
| B1J5Y4 | | W | | | 1x20-mL P | Activity Scan | None | |
| B1J5Y4 | | W | | | 2x4000-mL G/P | I129LL_SEP_LEPS_GS_LL: I-129 (1) | H53NE | None |
| B1J5Y5 | | W | | | 1x20-mL P | Activity Scan | None | |
| B1J5Y5 | | W | | | 1x500-mL G/P | UTOT_KPA: Uranium (1) | H53NN | HNO3 to pH <2 |
| B1J5Y6 | | W | | | 1x20-mL P | Activity Scan | None | |
| B1J5Y6 | | W | | | 1x1000-mL G/P | PUISO_PLATE_AEA: Pu-238 + 239/240 (2) | H53NV | HNO3 to pH <2 |
| B1J5Y7 | | W | | | 1x1000-mL P | 9310_ALPHABETA_GPC: Alpha + Beta (2) | HNO3 to pH <2 | |
| B1J5Y7 | | W | ↓ | ↓ | 1x20-mL P | Activity Scan H53NX | None | |

| | | | | | | | | |
|--|---|--------------------|---------------------------------------|--|--------------------------|------------------|-----------------------------------|-----------------|
| Relinquished By DURATEK J. G. HOGAN | Print J. G. Hogan | Sign | Date/Time MAY 23 2006 14:35 | Received By S. Welch | Print S. Welch | Sign | Date/Time 5-23-06 14:35 | Matrix * |
| Relinquished By | Date/Time | Received By | Date/Time | S = Soil DS = Drum Solid SF = Sediment DI = Drum Liquid SO = Solid T = Tissue SL = Sludge WI = Wine W = Water L = Liquid O = Oil V = Vegetation A = Air X = Other | | | | |
| Relinquished By | Date/Time | Received By | Date/Time | | | | | |
| Relinquished By | Date/Time | Received By | Date/Time | | | | | |
| FINAL SAMPLE DISPOSITION | Disposal Method (e.g., Return to customer, per lab procedure, used in process) | | | Disposed By | | Date/Time | | |

| | | |
|-------------|---|------------------------------|
| PNNL | CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST | C.O.C. # X06-035-5 |
| | | Page <u>1</u> of <u>1</u> |

| | | |
|---|-------------------------------------|--|
| Collector DURATEK J. G. HOGAN | Contact/Requester Dot Stewart | Telephone No. MSIN FAX 509-376-5056 |
| SAF No. X06-035 | Sampling Origin Hanford Site | Purchase Order/Charge Code |
| Project Title SPECIAL SAMPLING, APRIL 2006 | DTS-SAWS-H103 B | Ice Chest No. SML311 Temp. |
| Shipped To (Lab) Severn Trent Incorporated, Richland | Method of Shipment Govt. Vehicle | Bill of Lading/Air Bill No. |
| Protocol SURV | Priority: 45 Days | Offsite Property No. |

| | |
|---|--|
| POSSIBLE SAMPLE HAZARDS/REMARKS ** ** | SPECIAL INSTRUCTIONS Hold Time Total Activity Exemption: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Batch all PNNL samples submitted under this X SAF into one SDG, not to exceed SDG closure of 14 days. Submit invoices & deliverables to DL Stewart, PNNL. |
|---|--|

| Sample No. | Lab ID | * | Date | Time | No/Type Container | Sample Analysis | Preservative |
|------------|--------|---|---------|------|-------------------|---|---------------|
| B1J5Y8 | | W | 5-23-06 | 1030 | 1x20-mL P | Activity Scan H53N0 | None |
| B1J5Y8 | | W | | | 1x4000-mL G/P | GAMMALL_GS: List-1 (9) | HNO3 to pH <2 |
| B1J5Y9 | | W | | | 1x20-mL P | Activity Scan H53N2 | None |
| B1J5Y9 | | W | | | 1x500-mL P | TC99_ETVDSK_LSC: Tc-99 (1) | HCl to pH <2 |
| B1J600 | | W | | | 1x20-mL P | Activity Scan H53N3 | None |
| B1J600 | | W | | | 2x4000-mL G/P | I129LL_SEP_LEPS_GS_LL: I-129 (1) | None |
| B1J601 | | W | | | 1x20-mL P | Activity Scan H53PA | None |
| B1J601 | | W | | | 1x500-mL G/P | UTOT_KPA: Uranium (1) | HNO3 to pH <2 |
| B1J602 | | W | | | 1x20-mL P | Activity Scan H53PF | None |
| B1J602 | | W | | | 1x1000-mL G/P | PUISO_PLATE_AEA: Pu-238 + 239/240 (2) | HNO3 to pH <2 |
| B1J603 | | W | | | 1x1000-mL P | 9310_ALPHABETA_GPC: Alpha + Beta (2) | HNO3 to pH <2 |
| B1J603 | | W | | | 1x20-mL P | Activity Scan H53PH | None |

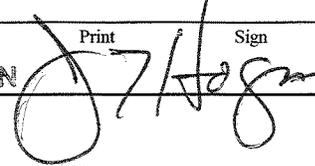
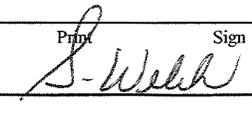
| | | | | |
|---|--|--------------------------------|-----------------------------------|--|
| Relinquished By DURATEK J. G. HOGAN | Date/Time MAY 23 2006 | Received By J. Welch | Date/Time 5-23-06 14:35 | Matrix * S = Soil DS = Drum Solid SE = Sediment DI. = Drum Liquid SO = Solid T = Tissue SL = Sludge WI = Wine W = Water L. = Liquid O = Oil V = Vegetation A = Air X = Other |
| Relinquished By | Date/Time | Received By | Date/Time | |
| Relinquished By | Date/Time | Received By | Date/Time | |
| Relinquished By | Date/Time | Received By | Date/Time | |
| FINAL SAMPLE DISPOSITION | Disposal Method (e.g., Return to customer, per lab procedure, used in process) | | Disposed By | Date/Time |

| | | |
|-------------|---|------------------------------|
| PNNL | CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST | C.O.C. # X06-035-6 |
| | | Page <u>1</u> of <u>1</u> |

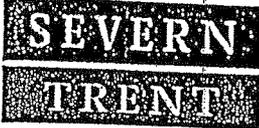
| | | |
|---|-------------------------------------|---|
| Collector DURATEK J. G. HOGAN | Contact/Requester Dot Stewart | Telephone No. MSIN FAX 509-376-5056 |
| SAF No. X06-035 | Sampling Origin Hanford Site | Purchase Order/Charge Code |
| Project Title SPECIAL SAMPLING, APRIL 2006 | DTS-SAWS-H103B | Ice Chest No. GRP-03-014 Temp. |
| Shipped To (Lab) Severn Trent Incorporated, Richland | Method of Shipment Govt. Vehicle | Bill of Lading/Air Bill No. |
| Protocol SURV | Priority: 45 Days | Offsite Property No. |

| | |
|---|--|
| POSSIBLE SAMPLE HAZARDS/REMARKS ** ** | SPECIAL INSTRUCTIONS Hold Time Total Activity Exemption: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Batch all PNNL samples submitted under this X SAF into one SDG, not to exceed SDG closure of 14 days. Submit invoices & deliverables to DL Stewart, PNNL. |
|---|--|

| Sample No. | Lab ID | * | Date | Time | No/Type Container | Sample Analysis | Preservative | |
|------------|--------|---|--|--|-------------------|---------------------------------------|---------------|---------------|
| B1J604 | | W | 5-23-06 | 1030 | 1x20-mL P | Activity Scan | None | |
| B1J604 | | W | | | 1x4000-mL G/P | GAMMALL_GS: List-1 (9) | HNO3 to pH <2 | |
| B1J605 | | W | | | 1x20-mL P | Activity Scan | H53PT | None |
| B1J605 | | W | | | 1x500-mL P | TC99_ETVDSK_LSC: Tc-99 (1) | | HCl to pH <2 |
| B1J606 | | W | | | 1x20-mL P | Activity Scan | H53P2 | None |
| B1J606 | | W | | | 2x4000-mL G/P | I129LL_SEP_LEPS_GS_LL: I-129 (1) | | None |
| B1J607 | | W | | | 1x20-mL P | Activity Scan | H53P6 | None |
| B1J607 | | W | | | 1x500-mL G/P | UTOT_KPA: Uranium (1) | | HNO3 to pH <2 |
| B1J608 | | W | | | 1x20-mL P | Activity Scan | H53P7 | None |
| B1J608 | | W | | | 1x1000-mL G/P | PUISO_PLATE_AEA: Pu-238 + 239/240 (2) | | HNO3 to pH <2 |
| B1J609 | | W | | | 1x1000-mL P | 9310_ALPHABETA_GPC: Alpha + Beta (2) | | HNO3 to pH <2 |
| B1J609 | | W | | | Activity Scan | H53QJ | None | |

| | | | | | | | | |
|---|--|-------------|---------------------------------|---|--|------|-----------------------------|----------|
| Relinquished By DURATEK J. G. HOGAN | Print  | Sign | Date/Time MAY 23 2006 | Received By S. Welch | Print  | Sign | Date/Time 5-23-06 | Matrix * |
| Relinquished By | Date/Time | Received By | Date/Time | S = Soil DS = Drum Solid SF = Sediment DI = Drum Liquid SO = Solid T = Tissue SL = Sludge WI = Wine W = Water L = Liquid O = Oil V = Vegetation A = Air X = Other | | | | |
| Relinquished By | Date/Time | Received By | Date/Time | | | | | |
| Relinquished By | Date/Time | Received By | Date/Time | | | | | |

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



STL

Sample Check-in List

Date/Time Received: 5-23-06 14:35

Client: PGW

SDG #: W04929 NA SAF #: X06-035 NA

Work Order Number: U6E240217

Chain of Custody # X06-035-4,5,6

Shipping Container ID: 5mk 311

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: 18
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 adjusted pH
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): N/A

Sample Custodian: S. Welch Date: 5-23-06 14:35

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

Client Informed on _____ by _____ Person contacted _____

No action necessary; process as is.

Project Manager _____ Date _____

6/23/2006 10:35:27 AM

Sample Preparation/Analysis

Balance Id:1120482733

384868, Pacific Northwest National Laboratory
Pacific Northwest National Lab

6D Pu PrpRC5016, SepRC5010(5039)
SO Plutonium-238,239/40 by Alpha Spec

Pipet #: _____

AnalyDueDate: 06/30/2006 *W04929*

5I CLIENT: HANFORD

PGW

Sep1 DT/Tm Tech:

Batch: 6152445 WATER pCi/L
SEQ Batch, Test: None

PM, Quote: HC , 57671

Sep2 DT/Tm Tech:

Prep Tech: ,RutherfordJ



| Work Order, Lot, Sample Date/Time | 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 H5NGL-1-AE J6E180213-1-SAMP 05/17/2006 09:19 | 200.50g,in | | PUTC10146 05/16/06,pd 06/07/94,r | 200 | | | | |
| AmtRec: 20ML,2X500ML,2XLP,4LP #Containers: 6 | | | | | | | Scr: | Alpha: 5.27E-04 uCi/Sa Beta: -6.91E-04 uCi/Sa |
| 2 H53NV-1-AA J6E240217-5-SAMP 05/23/2006 10:30 | 200.00g,in | | PUTC10147 05/16/06,pd 06/07/94,r | 200 | | | | |
| AmtRec: 20ML,LP #Containers: 2 | | | | | | | Scr: | Alpha: 1.35E-04 uCi/Sa Beta: -2.00E-04 uCi/Sa |
| 3 H53NV-1-AC-X J6E240217-5-DUP 05/23/2006 10:30 | 200.50g,in | | PUTC10148 05/16/06,pd 06/07/94,r | 200 | | | | |
| AmtRec: 20ML,LP #Containers: 2 | | | | | | | Scr: | Alpha: 1.35E-04 uCi/Sa Beta: -2.00E-04 uCi/Sa |
| 4 H53PF-1-AA J6E240217-11-SAMP 05/23/2006 10:30 | 200.40g,in | | PUTC10149 05/16/06,pd 06/07/94,r | 200 | | | | |
| AmtRec: 20ML,LP #Containers: 2 | | | | | | | Scr: | Alpha: -7.75E-05 uCi/Sa Beta: -2.09E-05 uCi/Sa |
| 5 H53P7-1-AA J6E240217-17-SAMP 05/23/2006 10:30 | 199.50g,in | | PUTC10150 05/16/06,pd 06/07/94,r | 200 | | | | |
| AmtRec: 20ML,LP #Containers: 2 | | | | | | | Scr: | Alpha: 2.89E-04 uCi/Sa Beta: -2.48E-04 uCi/Sa |
| 6 H6J6V-1-AA-B J6F010000-445-BLK 05/23/2006 10:30 | 200.60g,in | | PUTC10151 05/16/06,pd 06/07/94,r | 200 | | | | |
| AmtRec: #Containers: 1 | | | | | | | Scr: | Alpha: Beta: |
| 7 H6J6V-1-AC-C J6F010000-445-LCS 05/23/2006 10:30 | 200.00g,in | | PUSG0841 05/16/06,pd 06/07/94,r | 200 | | | | |
| AmtRec: #Containers: 1 | | | | | | | Scr: | Alpha: Beta: |

ICOC Fraction Transfer/Status Report

ByDate: 7/7/2005, 7/12/2006, Batch: '6152445', User: *ALL Order By DateTimeAccepting

| Q Batch | Work Ord | CurStatus | Accepting | Comments |
|----------------|----------|-------------|---------------------|-------------------------|
| 6152445 | | | | |
| AC | CalcC | RutherfordJ | 6/23/2006 10:15:29 | |
| SC | | antonsonl | IsBatched | 6/2/2006 11:07:37 AM |
| SC | | RutherfordJ | InPrep | 6/23/2006 10:15:29 AM |
| SC | | RutherfordJ | Prep1C | 6/23/2006 10:39:38 AM |
| SC | | ManisD | Sep1C | 7/7/2006 9:04:53 AM |
| SC | | ManisD | Sep2C | 7/7/2006 11:15:37 AM |
| SC | | BlackCL | InCnt1 | 7/7/2006 11:21:47 AM |
| SC | | DAWKINSO | CalcC | 7/7/2006 3:14:07 PM |
| AC | | RutherfordJ | 6/23/2006 10:39:38 | ICOC_RADCALC v4.8.24 |
| AC | | ManisD | 7/7/2006 9:04:53 AM | RICH-RC-5016 REVISION 6 |
| AC | | ManisD | 7/7/2006 11:15:37 | RICH-RC-5016 REVISION 6 |
| AC | | BlackCL | 7/7/2006 11:21:47 | RICH-RC-5010 REV 4 |
| AC | | DAWKINSO | 7/7/2006 3:14:07 PM | RICH-RC-5039 REV 5 |
| | | | | RICH-RD-0008 REVISION 4 |
| | | | | RICH-RD-0008 REVISION 4 |

AC: Accepting Entry; SC: Status Change

6/22/2006 8:49:10 AM

Sample Preparation/Analysis

Balance Id:1120482733

384868, Pacific Northwest National Laboratory ,
Pacific Northwest National Lab

AZ Gross Alpha PrpRC5014
S7 Gross Alpha by GPC using Am-241 curve
5I CLIENT: HANFORD

Pipet #: 229

AnalyDueDate: 06/30/2006 *W04929*

Sep1 DT/Tm Tech:

Batch: 6152453 WATER pCi/L
SEQ Batch, Test: None

PM, Quote: HC , 57671

Sep2 DT/Tm Tech:

Prep Tech: ,RutherfordJ

Scott

| Work Order, Lot, Sample Date/Time | 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 H5NGL-1-AA J6E180213-1-SAMP 05/17/2006 09:19 | 200.00g,in | | | | | | | | | |
| <p style="text-align: center;"><i>1.5 54.9 50 NA 1128 6/24/06</i></p> <p>AmtRec: 20ML,2X500ML,2XLP,4LP #Containers: 6 Scr: Alpha: 5.27E-04 uCi/Sa Beta: -6.91E-04 uCi/Sa</p> | | | | | | | | | | |
| 2 H53NX-1-AA J6E240217-6-SAMP 05/23/2006 10:30 | 199.80g,in | | | | | | | | | |
| <p style="text-align: center;"><i>47.4 NB</i></p> <p>AmtRec: 20ML,LP #Containers: 2 Scr: Alpha: -8.36E-05 uCi/Sa Beta: 8.68E-05 uCi/Sa</p> | | | | | | | | | | |
| 3 H53NX-1-AD-X J6E240217-6-DUP 05/23/2006 10:30 | 198.50g,in | | | | | | | | | |
| <p style="text-align: center;"><i>55.6 NC</i></p> <p>AmtRec: 20ML,LP #Containers: 2 Scr: Alpha: -8.36E-05 uCi/Sa Beta: 8.68E-05 uCi/Sa</p> | | | | | | | | | | |
| 4 H53PH-1-AA J6E240217-12-SAMP 05/23/2006 10:30 | 199.80g,in | | | | | | | | | |
| <p style="text-align: center;"><i>55.7 ND</i></p> <p>AmtRec: 20ML,LP #Containers: 2 Scr: Alpha: -5.02E-05 uCi/Sa Beta: -9.04E-06 uCi/Sa</p> | | | | | | | | | | |
| 5 H53QJ-1-AA J6E240217-18-SAMP 05/23/2006 10:30 | 199.60g,in | | | | | | | | | |
| <p style="text-align: center;"><i>49.0 NS</i></p> <p>AmtRec: 20ML,LP #Containers: 2 Scr: Alpha: 4.87E-05 uCi/Sa Beta: 2.97E-06 uCi/Sa</p> | | | | | | | | | | |
| 6 H6J7T-1-AA-B J6F010000-453-BLK 05/23/2006 10:30 | 199.50g,in | | | | | | | | | |
| <p style="text-align: center;"><i>0.1 10A 1231 6/24/06</i></p> <p>AmtRec: #Containers: 1 Scr: Alpha: Beta:</p> | | | | | | | | | | |
| 7 H6J7T-1-AC-C J6F010000-453-LCS 05/23/2006 10:30 | 199.90g,in | | ASD3881 05/26/06,pd 02/09/06,r | | | | | | | |
| <p style="text-align: center;"><i>0.3 ND</i></p> <p>AmtRec: #Containers: 1 Scr: Alpha: Beta:</p> | | | | | | | | | | |

6/27/2006 1:54:34 PM

Sample Preparation/Analysis

Balance Id:1120482733

384868, Pacific Northwest National Laboratory ,
Pacific Northwest National Lab

AZ Gross Alpha PrpRC5014
S7 Gross Alpha by GPC using Am-241 curve
5I CLIENT: HANFORD

Pipet #: _____

AnalyDueDate: 06/30/2006

Sep1 DT/Tm Tech:

Batch: 6152453 WATER pCi/L PM, Quote: HC , 57671
SEQ Batch, Test: None All Tests: 6152445 6DSO, 6152451 DHSS, 6152453 AZS7, 6152456 BCS8, 6152457 BNTB, 6156354 AWTA, 6156356 FPS5,

Sep2 DT/Tm Tech:

Prep Tech: ,RutherfordJ

| 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 H5NGL-1-AA J6E180213-1-SAMP 05/17/2006 09:19 | 200.00g,in | | | | | | | | | |
|  AmtRec: 20ML,2X500ML,2XLP,4LP #Containers: 6 Scr: Alpha: 5.27E-04 uCi/Sa Beta: -6.91E-04 uCi/Sa | | | | | | | | | | |
| 2 H53NX-1-AA J6E240217-6-SAMP 05/23/2006 10:30 | 199.80g,in | | | | | | | | | |
|  AmtRec: 20ML,LP #Containers: 2 Scr: Alpha: -8.36E-05 uCi/Sa Beta: 8.68E-05 uCi/Sa | | | | | | | | | | |
| 3 H53NX-1-AD-X J6E240217-6-DUP 05/23/2006 10:30 | 198.50g,in | | | | | | | | | |
|  AmtRec: 20ML,LP #Containers: 2 Scr: Alpha: -8.36E-05 uCi/Sa Beta: 8.68E-05 uCi/Sa | | | | | | | | | | |
| 4 H53NX-2-AA J6E240217-6-SAMP 05/23/2006 10:30 | 199.8g | | | 1.5 | 47.4mg | 56min | 10D | 1738 | 6/27/0600 | |
|  AmtRec: 20ML,LP #Containers: 2 Scr: Alpha: -8.36E-05 uCi/Sa Beta: 8.68E-05 uCi/Sa | | | | | | | | | | |
| 5 H53NX-2-AD-X J6E240217-6-DUP 05/23/2006 10:30 | 198.5mg | | | | 55.6mg | | 10E | | | |
|  AmtRec: 20ML,LP #Containers: 2 Scr: Alpha: -8.36E-05 uCi/Sa Beta: 8.68E-05 uCi/Sa | | | | | | | | | | |
| 6 H53PH-1-AA J6E240217-12-SAMP 05/23/2006 10:30 | 199.80g,in | | | | | | | | | |
|  AmtRec: 20ML,LP #Containers: 2 Scr: Alpha: -5.02E-05 uCi/Sa Beta: -9.04E-06 uCi/Sa | | | | | | | | | | |
| 7 H53QJ-1-AA J6E240217-18-SAMP 05/23/2006 10:30 | 199.60g,in | | | | | | | | | |
|  AmtRec: 20ML,LP #Containers: 2 Scr: Alpha: 4.87E-05 uCi/Sa Beta: 2.97E-06 uCi/Sa | | | | | | | | | | |

6/27/2006 1:54:34 PM

Sample Preparation/Analysis

Balance Id:1120482733

AZ Gross Alpha PrpRC5014
S7 Gross Alpha by GPC using Am-241 curve
5I CLIENT: HANFORD

Pipet #: _____

AnalyDueDate: 06/30/2006

Sep1 DT/Tm Tech:

Batch: 6152453

pCi/L

Sep2 DT/Tm Tech:

SEQ Batch, Test: None

Prep Tech: ,RutherfordJ



| Work Order, Lot, Sample Date/Time | 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 H6J7T-1-AA-B J6F010000-453-BLK | 199.50g,in | | | | | | | | | |
| 05/23/2006 10:30 | AmtRec: | #Containers: 1 | | | | | Scr: | Alpha: | | Beta: |

| | | | | | | | | | | |
|---|------------|----------------|--------------------------------------|--|--|--|------|--------|--|-------|
| 9 H6J7T-1-AC-C J6F010000-453-LCS | 199.90g,in | | ASD3881 05/26/06,pd 02/09/06,r | | | | | | | |
| 05/23/2006 10:30 | AmtRec: | #Containers: 1 | | | | | Scr: | Alpha: | | Beta: |

Comments:

All Clients for Batch:

384868, Pacific Northwest National Laboratory Pacific Northwest National Lab, HC , 57671

H5NGL1AA-SAMP Constituent List:

| | | | | | |
|---------------|-------|-------|--------|---------|--------|
| ALPHA | RDL:3 | pCi/L | LCL: | UCL: | RPD: |
| H6J7T1AA-BLK: | | | | | |
| ALPHA | RDL:3 | pCi/L | LCL: | UCL: | RPD: |
| H6J7T1AC-LCS: | | | | | |
| Am-241 | RDL: | pCi/L | LCL:70 | UCL:130 | RPD:20 |

H5NGL1AA-SAMP Calc Info:

| | | | | |
|----------------------|------------------|--------------|-------------|---------|
| Uncert Level (#s): 2 | Decay to SaDt: Y | Blk Subt.: N | Sci.Not.: Y | ODRs: B |
| H6J7T1AA-BLK: | | | | |
| Uncert Level (#s): 2 | Decay to SaDt: Y | Blk Subt.: N | Sci.Not.: Y | ODRs: B |
| H6J7T1AC-LCS: | | | | |
| Uncert Level (#s): 2 | Decay to SaDt: Y | Blk Subt.: N | Sci.Not.: Y | ODRs: B |

Approved By _____ Date: _____

ICOC Fraction Transfer/Status Report

ByDate: 6/28/2005, 7/3/2006, Batch: '6152453', User: *ALL Order By DateTimeAccepting

| Q Batch | Work Ord | CurStatus | Accepting | Comments |
|----------------|----------|-------------|----------------------|-----------------------|
| 6152453 | | | | |
| AC | CalcC | RutherfordJ | 6/22/2006 8:34:29 | |
| SC | | antonsonl | IsBatched | 6/2/2006 11:07:37 AM |
| SC | | RutherfordJ | InPrep | 6/22/2006 8:34:29 AM |
| SC | | RutherfordJ | Prep1C | 6/22/2006 8:52:35 AM |
| SC | | BlackCL | InCnt1 | 6/24/2006 10:09:49 AM |
| SC | | BlackCL | CalcC | 6/24/2006 12:41:45 PM |
| SC | | DAWKINSO | InCnt1 | 6/27/2006 2:08:01 PM |
| SC | | DAWKINSO | CalcC | 6/27/2006 11:31:57 PM |
| AC | | RutherfordJ | 6/22/2006 8:52:35 | |
| AC | | BlackCL | 6/24/2006 10:09:49 | |
| AC | | BlackCL | 6/24/2006 12:41:45 | |
| AC | | DAWKINSO | 6/27/2006 2:08:01 PM | |
| AC | | DAWKINSO | 6/27/2006 11:31:57 | |

AC: Accepting Entry; SC: Status Change

6/22/2006 8:49:12 AM

Sample Preparation/Analysis

Balance Id:1120482733

384868, Pacific Northwest National Laboratory ,
Pacific Northwest National Lab

BC Gross Beta PrpRC5014
S8 Gross Beta by GPC using Sr/Y-90 curve
5I CLIENT: HANFORD

Pipet #: 229

AnalyDueDate: 06/30/2006

Sep1 DT/Tm Tech:

Batch: 6152456 WATER pCi/L
SEQ Batch, Test: None

PM, Quote: HC , 57671

Sep2 DT/Tm Tech:

Prep Tech: ,RutherfordJ

Scott

| Work Order, Lot, Sample Date/Time | 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 H5NGL-1-AC J6E180213-1-SAMP 05/17/2006 09:19 | 199.00g,in | | | | | | | | | |
| <p>AmtRec: 20ML,2X500ML,2XLP,4LP #Containers: 6</p> <p>Scr: Alpha: 5.27E-04 uCi/Sa Beta: -6.91E-04 uCi/Sa</p> <p><i>1.5 88.5 100 20A 115 6/24/06</i></p> | | | | | | | | | | |
| 2 H53NX-1-AC J6E240217-6-SAMP 05/23/2006 10:30 | 200.70g,in | | | | | | | | | |
| <p>AmtRec: 20ML,LP #Containers: 2</p> <p>Scr: Alpha: -8.36E-05 uCi/Sa Beta: 8.68E-05 uCi/Sa</p> <p><i>22.5 20B</i></p> | | | | | | | | | | |
| 3 H53NX-1-AE-X J6E240217-6-DUP 05/23/2006 10:30 | 199.40g,in | | | | | | | | | |
| <p>AmtRec: 20ML,LP #Containers: 2</p> <p>Scr: Alpha: -8.36E-05 uCi/Sa Beta: 8.68E-05 uCi/Sa</p> <p><i>82.0 20C</i></p> | | | | | | | | | | |
| 4 H53PH-1-AC J6E240217-12-SAMP 05/23/2006 10:30 | 200.80g,in | | | | | | | | | |
| <p>AmtRec: 20ML,LP #Containers: 2</p> <p>Scr: Alpha: -5.02E-05 uCi/Sa Beta: -9.04E-06 uCi/Sa</p> <p><i>90.1 20D 27C</i></p> | | | | | | | | | | |
| 5 H53QJ-1-AC J6E240217-18-SAMP 05/23/2006 10:30 | 201.90g,in | | | | | | | | | |
| <p>AmtRec: 20ML,LP #Containers: 2</p> <p>Scr: Alpha: 4.87E-05 uCi/Sa Beta: 2.97E-06 uCi/Sa</p> <p><i>97.0 28B</i></p> | | | | | | | | | | |
| 6 H6J84-1-AA-B J6F010000-456-BLK 05/23/2006 10:30 | 201.50g,in | | | | | | | | | |
| <p>AmtRec: #Containers: 1</p> <p>Scr: Alpha: Beta:</p> <p><i>0.1 28C</i></p> | | | | | | | | | | |
| 7 H6J84-1-AC-C J6F010000-456-LCS 05/23/2006 10:30 | 199.30g,in | | BESB2826 05/26/06,pd 12/28/05,r | | | | | | | |
| <p>AmtRec: #Containers: 1</p> <p>Scr: Alpha: Beta:</p> <p><i>0.4 28D</i></p> | | | | | | | | | | |

6/22/2006 8:49:14 AM

Sample Preparation/Analysis

Balance Id:1120482733

BC Gross Beta PrpRC5014
S8 Gross Beta by GPC using Sr/Y-90 curve
5I CLIENT: HANFORD

Pipet #: _____

AnalyDueDate: 06/30/2006

Sep1 DT/Tm Tech:

Batch: 6152456
SEQ Batch, Test: None

pCi/L

Sep2 DT/Tm Tech:

Prep Tech: ,RutherfordJ



| Work Order, Lot, Sample Date/Time | 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: |
|--------------------------------------|-------------------|-----------------------------|------------------------|--------------|--------------------|-------------------|----------------|---------------------------------|--------------------------|-----------|
|--------------------------------------|-------------------|-----------------------------|------------------------|--------------|--------------------|-------------------|----------------|---------------------------------|--------------------------|-----------|

Comments: PH < 2.0
JHR
6/22/06

All Clients for Batch:
384868, Pacific Northwest National Laboratory Pacific Northwest National Lab, HC , 57671

H5NGL1AC-SAMP Constituent List:

| Constituent | RDL | Unit | LCL | UCL | RPD |
|---------------|-----|-------|-----|-----|-----|
| BETA | 4 | pCi/L | | | |
| H6J841AA-BLK: | | | | | |
| BETA | 4 | pCi/L | | | |
| H6J841AC-LCS: | | | | | |
| Sr-90 | | pCi/L | 70 | 130 | 20 |

H5NGL1AC-SAMP Calc Info:

| Sample | Uncert Level (#s) | Decay to SaDt | Blk Subt. | Sci.Not. | ODRs |
|---------------|-------------------|---------------|-----------|----------|------|
| H5NGL1AC-SAMP | 2 | Y | N | Y | B |
| H6J841AA-BLK | 2 | Y | N | Y | B |
| H6J841AC-LCS | 2 | Y | N | Y | B |

Approved By _____ Date: _____

6/27/2006 7:44:47 AM

ICOC Fraction Transfer/Status Report

ByDate: 6/27/2005, 7/2/2006, Batch: '6152456', User: *ALL Order By DateTimeAccepting

| Q Batch | Work Ord | CurStatus | Accepting | Comments |
|----------------|----------|--------------------|--------------------------------------|-------------------------|
| 6152456 | | | | |
| AC | | CalcC | RutherfordJ 6/22/2006 8:34:36 | |
| SC | | antonsonl | IsBatched 6/2/2006 11:07:37 AM | ICOC_RADCALC v4.8.24 |
| SC | | RutherfordJ | InPrep 6/22/2006 8:34:36 AM | RICH-RC-5014 REVISION 6 |
| SC | | RutherfordJ | Prep1C 6/22/2006 8:52:43 AM | RICH-RC-5014 REVISION 6 |
| SC | | ScottM | InPrep2 6/22/2006 10:08:56 AM | RICH-RC-5014 REVISION 6 |
| SC | | BlackCL | InCnt1 6/24/2006 10:09:46 AM | RICH-RD-0003 REVISION 4 |
| SC | | BlackCL | CalcC 6/24/2006 12:26:50 PM | RICH-RD-0003 REVISION 4 |
| AC | | RutherfordJ | 6/22/2006 8:52:43 | |
| AC | | ScottM | 6/22/2006 10:08:56 | |
| AC | | BlackCL | 6/24/2006 10:09:46 | |
| AC | | BlackCL | 6/24/2006 12:26:50 | |

AC: Accepting Entry; SC: Status Change

6/22/2006 4:32:00 PM

Sample Preparation/Analysis

Balance Id:1120482733

384868, Pacific Northwest National Laboratory
Pacific Northwest National Lab

AW Gamma PrpRC5017
TA Gamma by HPGE
5I CLIENT: HANFORD

Pipet #: _____

AnalyDueDate: 06/30/2006 *NO 4929*

Sep1 DT/Tm Tech: _____

Batch: 6156354 WATER pCi/L
SEQ Batch, Test: None

PM, Quote: HC , 57671

Sep2 DT/Tm Tech: _____

Prep Tech: ,RutherfordJ *J. Rutherford*

| Work Order, Lot, Sample Date/Time | 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 H5NGL-1-AD J6E180213-1-SAMP  05/17/2006 09:19 | 1999.00g,in | | | | | 100 | 66 | 1040 | 6/27/06 | |
| AmtRec: 20ML,2X500ML,2XLP,4LP #Containers: 6 | | | | | | | Scr: | Alpha: 5.27E-04 uCi/Sa | Beta: -6.91E-04 uCi/Sa | |
| 2 H53ML-1-AA J6E240217-1-SAMP  05/23/2006 10:30 | 1972.70g,in | | | | | 100 | 611 | 1040 | | |
| AmtRec: 20ML,4LP #Containers: 2 | | | | | | | Scr: | Alpha: 2.41E-04 uCi/Sa | Beta: 3.47E-04 uCi/Sa | |
| 3 H53ML-1-AC-X J6E240217-1-DUP  05/23/2006 10:30 | 1972.70g,in | | | | | 100 | 612 | 1033 | | |
| AmtRec: 20ML,4LP #Containers: 2 | | | | | | | Scr: | Alpha: 2.41E-04 uCi/Sa | Beta: 3.47E-04 uCi/Sa | |
| 4 H53N0-1-AA J6E240217-7-SAMP  05/23/2006 10:30 | 2500.00g,in | | | | | 100 | 65 | 1033 | | |
| AmtRec: 20ML,4LP #Containers: 2 | | | | | | | Scr: | Alpha: 9.72E-04 uCi/Sa | Beta: -4.67E-04 uCi/Sa | |
| 5 H53PP-1-AA J6E240217-13-SAMP  05/23/2006 10:30 | 2500.00g,in | | | | | 100 | 66 | 1234 | | |
| AmtRec: 20ML,4LP #Containers: 2 | | | | | | | Scr: | Alpha: 7.10E-04 uCi/Sa | Beta: -3.69E-05 uCi/Sa | |
| 6 H6P3C-1-AA-B J6F050000-354-BLK  05/23/2006 10:30 | 2500.20g,in | | | | | 100 | 67 | 1234 | | |
| AmtRec: #Containers: 1 | | | | | | | Scr: | Alpha: | Beta: | |
| 7 H6P3C-1-AC-C J6F050000-354-LCS  05/23/2006 10:30 | 2500.10g,in | | QCAG1222 06/14/06,pd 06/08/05,r | | | 100 | 610 | 1234 | | |
| AmtRec: #Containers: 1 | | | | | | | Scr: | Alpha: | Beta: | |

6/22/2006 4:32:03 PM

Sample Preparation/Analysis

Balance Id:1120482733

AW Gamma PrpRC5017
TA Gamma by HPGE
5I CLIENT: HANFORD

Pipet #: _____

AnalyDueDate: 06/30/2006

Sep1 DT/Tm Tech:

Batch: 6156354
SEQ Batch, Test: None

pCi/L

Sep2 DT/Tm Tech:

Prep Tech: ,RutherfordJ



| Work Order, Lot, Sample Date/Time | 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: |
|-----------------------------------|----------------|--------------------------|---------------------|-----------|-----------------|----------------|-------------|------------------------------|-----------------------|-----------|
|-----------------------------------|----------------|--------------------------|---------------------|-----------|-----------------|----------------|-------------|------------------------------|-----------------------|-----------|

Comments: PHC2.0
JWR
6/22/06

All Clients for Batch:
384868, Pacific Northwest National Laboratory Pacific Northwest National Lab, HC , 57671

H5NGL1AD-SAMP Constituent List:

| | | | | | | | | | | | |
|--------|--------------|-------|--------|---------|--------|----------|--------------|-------|--------|---------|--------|
| Co-60 | RDL:0.00E+00 | pCi/L | LCL: | UCL: | RPD: | Cs-134 | RDL:0.00E+00 | pCi/L | LCL: | UCL: | RPD: |
| Cs-137 | RDL:6.00E+00 | pCi/L | LCL:70 | UCL:130 | RPD:20 | Cs-137DA | RDL:6.00E+00 | pCi/L | LCL:70 | UCL:130 | RPD:20 |
| Eu-154 | RDL:0.00E+00 | pCi/L | LCL: | UCL: | RPD: | Eu-155 | RDL:.00E+00 | pCi/L | LCL: | UCL: | RPD: |
| K-40 | RDL:0.00E+00 | pCi/L | LCL: | UCL: | RPD: | Sb-125 | RDL:0.00E+00 | pCi/L | LCL: | UCL: | RPD: |

H6P3C1AA-BLK:

| | | | | | | | | | | | |
|--------|--------------|-------|------|------|------|----------|--------------|-------|------|------|------|
| Co-60 | RDL:0.00E+00 | pCi/L | LCL: | UCL: | RPD: | Cs-134 | RDL:0.00E+00 | pCi/L | LCL: | UCL: | RPD: |
| Cs-137 | RDL:6.00E+00 | pCi/L | LCL: | UCL: | RPD: | Cs-137DA | RDL:6.00E+00 | pCi/L | LCL: | UCL: | RPD: |
| Eu-154 | RDL:0.00E+00 | pCi/L | LCL: | UCL: | RPD: | Eu-155 | RDL:.00E+00 | pCi/L | LCL: | UCL: | RPD: |
| K-40 | RDL:0.00E+00 | pCi/L | LCL: | UCL: | RPD: | Sb-125 | RDL:0.00E+00 | pCi/L | LCL: | UCL: | RPD: |

H6P3C1AC-LCS:

| | | | | | | | | | | | |
|--------|--------|-------|--------|---------|--------|----------|--------|-------|--------|---------|--------|
| Cs-137 | RDL:15 | pCi/L | LCL:70 | UCL:130 | RPD:20 | Cs-137DA | RDL:15 | pCi/L | LCL:70 | UCL:130 | RPD:20 |
| K-40 | RDL:6 | pCi/L | LCL:70 | UCL:130 | RPD:20 | Ra-226 | RDL:-- | pCi/L | LCL:70 | UCL:130 | RPD:20 |
| RA-228 | RDL:-- | pCi/L | LCL:70 | UCL:130 | RPD:20 | RA-228DA | RDL:-- | pCi/L | LCL:70 | UCL:130 | RPD:20 |
| U-238 | RDL:-- | pCi/L | LCL:70 | UCL:130 | RPD:20 | | | | | | |

H5NGL1AD-SAMP Calc Info:

| | | | | |
|----------------------|------------------|--------------|-------------|---------|
| Uncert Level (#s): 2 | Decay to SaDt: Y | Blk Subt.: N | Sci.Not.: Y | ODRs: B |
| Uncert Level (#s): 2 | Decay to SaDt: Y | Blk Subt.: N | Sci.Not.: Y | ODRs: B |
| Uncert Level (#s): 2 | Decay to SaDt: Y | Blk Subt.: N | Sci.Not.: Y | ODRs: B |

Approved By _____ Date: _____

6/27/2006 4:40:55 PM

ICOC Fraction Transfer/Status Report

ByDate: 6/27/2005, 7/2/2006, Batch: '6156354', User: *ALL Order By DateTimeAccepting

| Q Batch | Work Ord | CurStatus | Accepting | Comments |
|----------------|----------|-------------|-------------------------------|-------------------------|
| 6156354 | | | | |
| AC | CalcC | RutherfordJ | 6/22/2006 4:03:13 PM | |
| SC | | wagarr | IsBatched 6/5/2006 3:16:46 PM | ICOC_RADCALC v4.8.24 |
| SC | | RutherfordJ | InPrep 6/22/2006 4:03:13 PM | RICH-RC-5017 REVISION 5 |
| SC | | RutherfordJ | Prep1C 6/22/2006 4:33:21 PM | RICH-RC-5017 REVISION 5 |
| SC | | RutherfordJ | Prep1C 6/23/2006 9:15:23 AM | RICH-RC-5017 REVISION 5 |
| SC | | ScottM | InPrep2 6/23/2006 2:34:14 PM | RICH-RC-5017 REVISION 4 |
| SC | | ScottM | Prep2C 6/27/2006 7:57:49 AM | RICH-RC-5017 REVISION 4 |
| SC | | BlackCL | InCnt1 6/27/2006 8:23:25 AM | RICH-RD-0007 REVISION 5 |
| SC | | BlackCL | CalcC 6/27/2006 12:51:33 PM | RICH-RD-0007 REVISION 5 |
| AC | | RutherfordJ | 6/22/2006 4:33:21 PM | |
| AC | | RutherfordJ | 6/23/2006 9:15:23 | |
| AC | | ScottM | 6/23/2006 2:34:14 PM | |
| AC | | ScottM | 6/27/2006 7:57:49 | |
| AC | | BlackCL | 6/27/2006 8:23:25 | |
| AC | | BlackCL | 6/27/2006 12:51:33 | |

AC: Accepting Entry; SC: Status Change

6/22/2006 3:18:06 PM

Sample Preparation/Analysis

Balance Id:1120482733

384868, Pacific Northwest National Laboratory
Pacific Northwest National Lab

BN I-129 Prp/SepRC5025

TB Gamma by LEPD

Pipet #: _____

AnalyDueDate: 06/30/2006

W04929

5I CLIENT: HANFORD

Sep1 DT/Tm Tech:

Batch: 6152457 WATER

pCi/L

PM, Quote: HC , 57671

Sep2 DT/Tm Tech:

SEQ Batch, Test: None

Prep Tech: ,RutherfordJ

| Work Order, Lot, Sample Date/Time | Total Amt/Unit | Initial Aliquot Amt/Unit | QC Tracer Prep Date | Dish Size | Plor Geometry | Count Time Min | Detector Id | Count On Off (24hr) Circle | CR Analyst, Init/Date | Comments: |
|---|----------------|--------------------------|---------------------|-----------|---------------|----------------|-------------|------------------------------|-----------------------|------------------------|
| 1 H5NG7-1-AA J6E180213-2-SAMP 05/17/2006 09:19 | 4000.10g,in | 4000.10g,in | ITA5428 06/20/06 | IFA | 34.8 | 100 | L2 | 1730 6/28/06 | | Beta: -4.42E-04 uCi/Sa |
| 2 H53NE-1-AA J6E240217-3-SAMP 05/23/2006 10:30 | 3908.80g,in | 3908.80g,in | ITA5429 06/20/06 | | 34.4 | 100 | L4 | 1923 | | Beta: -7.38E-04 uCi/Sa |
| 3 H53NE-1-AC-X J6E240217-3-DUP 05/23/2006 10:30 | 3323.90g,in | 3323.90g,in | ITA5430 06/20/06 | | 34.3 | 100 | L5 | | | Beta: -7.38E-04 uCi/Sa |
| 4 H53N3-1-AA J6E240217-9-SAMP 05/23/2006 10:30 | 3981.90g,in | 3981.90g,in | ITA5431 06/20/06 | | 35.7 | 100 | L2 | 1924 | | Beta: -4.50E-04 uCi/Sa |
| 5 H53P2-1-AA J6E240217-15-SAMP 05/23/2006 10:30 | 3960.30g,in | 3960.30g,in | ITA5432 06/20/06 | | 35.6 | 100 | L4 | 2121 | | Beta: -6.40E-04 uCi/Sa |
| 6 H6J9C-1-AA-B J6F010000-457-BLK 05/23/2006 10:30 | 4000.30g,in | 4000.30g,in | ITA5433 06/20/06 | | 35.6 | 100 | L5 | 2122 | | Beta: |
| 7 H6J9C-1-AC-C J6F010000-457-LCS 05/23/2006 10:30 | 4000.50g,in | 4000.50g,in | ISD0658 05/10/06 | | 37.7 | 100 | L2 | 2122 | | Beta: |