

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: 33071

SDG Nbr	ORDER Nbr	CLIENT ID NUMBER	LOT Nbr	WORK ORDER	RPT DB ID	BATCH
W04927A	W06-005	B1J4P9	J6H080162-1	JAT6P1AA	9JAT6P10	6220432

Comments:



STL Richland
 2800 George Washington Way
 Richland, WA 99354

Tel: 509 375 3131 Fax: 509 375 5590
 www.stl-inc.com

Certificate of Analysis

Pacific Northwest National Laboratories
 Sigma V Building
 Richland, WA 99352

August 22, 2006

Attention: Dot Stewart

SAF Number	:	W06-005
Date SDG Closed	:	August 7, 2006
Number of Samples	:	One (1)
Sample Type	:	Water
SDG Number	:	W04927A
Data Deliverable	:	15-Day / Priority

CASE NARRATIVE

I. Introduction

On August 7, 2006, a request for reanalysis of one water sample was received at STL Richland (STLR). Upon receipt, the sample was assigned the following laboratory ID number to correspond with the Pacific Northwest National Laboratories (PGW) specific ID:

<u>PGW ID#</u>	<u>STLR ID#</u>	<u>MATRIX</u>	<u>DATE OF RECEIPT</u>
B1J4P9	JAT6P(H5GA5)	WATER	5/15/06

II. Sample Receipt

The sample was 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.

Pacific Northwest National Laboratories
August 22, 2006

The requested analysis was:

Liquid Scintillation Counting
Technetium-99 by method RICH-RC-5078

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

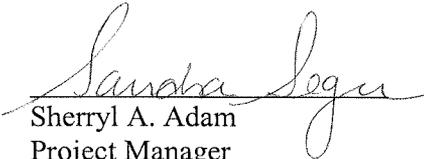
Liquid Scintillation Counting

Technetium-99 by method RICH-RC-5078:

The reanalysis result is within RER acceptance criteria. The LCS, batch blank, samples, sample duplicate (B1J4P9), and sample matrix spike (B1J4P9) results are within contractual requirements.

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

Reviewed and approved:


Sherryl A. Adam
Project Manager

for

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%. $Lc = (1.645 * \text{Sqrt}(2 * (\text{BkgrndCnt}/\text{BkgrndCntMin})/\text{SCntMin})) * (\text{ConvFct}/(\text{Eff} * \text{Yld} * \text{Abn} * \text{Vol}) * \text{IngrFct})$. 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%. $MDC = (4.65 * \text{Sqrt}((\text{BkgrndCnt}/\text{BkgrndCntMin})/\text{SCntMin}) + 2.71/\text{SCntMin}) * (\text{ConvFct}/(\text{Eff} * \text{Yld} * \text{Abn} * \text{Vol}) * \text{IngrFct})$. 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/TotUncert	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 = $(S-D)/[\text{sqrt}(\text{TPUs}^2 + \text{TPUd}^2)]$ 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.

8/22/2006 9:55:47 AM

STL Richland Report

Lab Code: STLRL

FormNbr: R FormatType: FEAD Version: 05 Rpt Nbr: 33071 File Name: h:\Reportdb\ledd\FeadIV\Rad\W04927A.Edd, h:\Reportdb\ledd\FeadIV\Rad\33071.E

Lab Sample Id:	Client Id:	Test User	Contract Nbr	SAF Nbr	Sdg Nbr:	QC Type:	Moisture/ Solids%*:	Distilled Volume	Sample On Date:	Collection Date:				
9JAT6P10	B1J4P9		MW6-SBB-A1	W06-005	W04927A					05/15/2006 11:06				
Batch	Analyte	CAS#	Result	Unit	CntU 2S	TotU 2S	Qual	MDA	TrcYield	Method	Alq Size	Unit	Analy Date/Time	Act
6220432	TC-99	14133-76-7	5.78E+01	pCi/L	5.9E+00	9.2E+00		1.01E+01	100.0	TC99_SEP_LSC	1.265E-01	L	08/21/2006 17:56	I

Tuesday, August 22, 2006

STL Richland QC Blank Report

Lab Code: STLRL

FormNbr: R

FormatType: FEAD

VersionNbr: 05

File Name: h:\Reportdb\ledd\Fead\VRad\W04927A.Edd, h:\Reportdb\ledd\Fead\VRad\33071.E

Lab Sample Id: JAV9G1AB

Sdg/Rept Nbr: W04927A 33071

Collection Date: 05/15/2006 11:06

Client Id: NA

Matrix: WATER WATER

Sample On Date:

Moisture/Solids%*:

QC Type: BLK

Received Date: 08/07/2006

SAF Nbr	Contract Nbr	Test User	Case Nbr	SAS Nbr	Suffix	Decant	Distilled Volume	File Id	FSuffix	RTyp					
	MW6-SBB-A19981								AD	H					
Batch # / Qc Type	Analyt/ CAS#	Result/ Orig Rst	Unit	Tot/Cnt Uncert 2S	Qual	MDC	Tracer Yield	Spk Conc/ %Rec	Analy Method	Aliq Size/	Date/Time Analyzed	RPD/ UCL	RER/ UCL	LCS LCL/UCL	R Typ
6220432 BLK	TC-99 14133-76-7	2.52E+00	pCi/L	6.1E+00 4.3E+00	U	1.02E+01	100.0		TC99_SEP_LS	1.254E-01 L	08/21/2006 21:03				D

Tuesday, August 22, 2006

STL Richland QC Control Sample Report

Lab Code: STLRL

FormNbr: R

FormatType: FEAD

VersionNbr: 05

File Name: h:\Reportdb\eddd\FeadIV\Rad\W04927A.Edd, h:\Reportdb\eddd\FeadIV\Rad\33071.E

Lab Sample Id: JAV9G1CS

Sdg/Rept Nbr: W04927A 33071

Collection Date: 05/15/2006 11:06

Client Id: NA

Matrix: WATER WATER

Sample On Date:

Moisture/Solids%*:

QC Type: BS

Received Date: 08/07/2006

SAF Nbr	Contract Nbr	Test User	Case Nbr	SAS Nbr	Suffix	Decant	Distilled Volume	File Id	FSuffix	RTyp					
	MW6-SBB-A19981								AE	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
6220432 BS	TC-99 14133-76-7	4.12E+02	pCi/L	3.0E+01 1.2E+01		1.02E+01	100.0	5.39E+02 76.4	TC99_SEP_LS	1.254E-01 L	08/21/2006 22:05			70 130	D

Tuesday, August 22, 2006

STL Richland QC Duplicate Report

Lab Code: STLRL

FormNbr: R

FormatType: FEAD

VersionNbr: 05

File Name: h:\Reportdb\ledd\Fead\W04927A.Edd, h:\Reportdb\ledd\Fead\W04927A.Edd, h:\Reportdb\ledd\Fead\W04927A.Edd, h:\Reportdb\ledd\Fead\W04927A.Edd

Lab Sample Id: JAT6P1DR

Sdg/Rept Nbr: W04927A 33071

Collection Date: 05/15/2006 11:06

Client Id: B1J4P9

Matrix: WATER WATER

Sample On Date:

Moisture/Solids%*:

QC Type: DUP

Received Date: 08/07/2006

SAF Nbr	Contract Nbr	Test User	Case Nbr	SAS Nbr	Suffix	Decant	Distilled Volume	File Id	FSuffix	RTyp					
W06-005	MW6-SBB-A19981								AC	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
6220432 DUP	TC-99 14133-76-7	6.06E+01 5.78E+01	pCi/L	9.4E+00 5.9E+00		1.02E+01	100.0		TC99_SEP_LS	1.258E-01 L	08/21/2006 20:00	4.8 20.0	0.4 3		D

Tuesday, August 22, 2006

STL Richland Qc Matrix Spike Report

Lab Code: STLRL

FormNbr: R

FormatType: FEAD

VersionNbr: 05

File Name: h:\Reportdb\edd\Fead\Rad\W04927A.Edd, h:\Reportdb\edd\Fead\Rad\33071.E

Lab Sample Id: JAT6P1CW

Sdg/Rept Nbr: W04927A 33071

Collection Date: 05/15/2006 11:06

Client Id: B1J4P9

Matrix: WATER WATER

Sample On Date:

Moisture/Solids%*:

QC Type: MS

Received Date: 08/07/2006

SAF Nbr	Contract Nbr	Test User	Case Nbr	SAS Nbr	Suffix	Decant	Distilled Volume	File Id	FSuffix	RTyp					
W06-005	MW6-SBB-A19981								AB	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
6220432 MS	TC-99 14133-76-7	2.64E+03	pCi/L	1.7E+02 2.9E+01		1.02E+01	100.0	3.62E+03 72.9	TC99_SEP_LS	1.247E-01 L	08/21/2006 18:58			60 140	D

Lot No., Due Date: J6H080162; 08/22/2006
Client, Site: 384868; PGW 615HANFORD HANFORD
QC Batch No., Method Test: 6220432; RTC99 Tc-99 by LSC
SDG, Matrix: W04927A; 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 => JAT6P1AC 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. 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
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 <input checked="" type="checkbox"/>

First Level Review Pam Anderson Date 8-22-08



STL

Data Review Checklist RADIOCHEMISTRY Second Level Review

QC Batch Number: 6220432
W04927A

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. Adams

Date: 8-22-06

J6H080162

B1J4P9

W04927A

TC99_SEP_LSC

08/07/2006

RECHECK, RECOUNT, OR REANALYSIS ORDER
CONTRACT NO MW6-SBB-

Rec'd 8/7/06

Due 8/22/06

Severn Trent
2800 George Washington
Richland, WA 99354

15 day TAT

SKS 8/8/06

Battelle PNNL Order 060807STLRL-R3560

Sample Delivery W04927

Special None

JATGP

Samples(s)

Lab Sample ID	PNNL Sample	Action	TAT	METHOD_NAME
9H5GA510	B1J4P9	Reanalysis	15/15	TC99_SEP_LSC

J6E 160195

H 56 A5

W04927

Deliver Report Results Dorothy L. Stewart, K6-96

c/o Secretary
3110 Port of Benton Blvd.

The report results must reference the Battelle PNNL-order number, SDG number, and the Battelle PNNL sample identification number shown above.

Seger, Sandra

From: Adam, Sherryl
Sent: Monday, August 07, 2006 3:00 PM
To: Seger, Sandra
Subject: FW: Request for Recheck, Recount, or Reanalysis Order

Attachments: 060807STLRLR3560.rtf



060807STLRLR3560
.rtf (3 KB)

-----Original Message-----

From: Hampt, Heidi [mailto:heidi.hampt@pnl.gov]
Sent: Monday, August 07, 2006 2:42 PM
To: Adam, Sherryl
Cc: Stewart, Dorothy L
Subject: Request for Recheck, Recount, or Reanalysis Order

<<060807STLRLR3560.rtf>>
See Attached

SITL RICHLAND

PNNL <i>J6E160195</i> <i>W04927</i> <i>Due 6-29-06</i> DURATEK F. M. HALL	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	C.O.C. # W06-005-188 Page <u>1</u> of <u>1</u>
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Collector F. M. HALL	Contact/Requester Dot Stewart	Telephone No. MSIN FAX 509-376-5056
SAF No. W06-005	Sampling Origin Hanford Site	Purchase Order/Charge Code
Project Title RCRA, MAY 2006	<i>Logbook: DTS-SAWS-H103B</i>	Ice Chest No. <i>GRP-03-021</i> Temp.
Shipped To (Lab) Severn Trent Incorporated, Richland	Method of Shipment Govt. Vehicle	Bill of Lading/Air Bill No.
Protocol RCRA	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 GW samples submitted under "W", "S", "T", "A" or "G" 06 SAFs into one SDG, not to exceed SDG closure of 14 days. Submit invoices & deliverables to DL Stewart, PNNL
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Sample No.	Lab ID	*	Date	Time	No/Type Container	Sample Analysis	Preservative
B1J4P9		W	<i>5/15/06</i>	<i>1106</i>	1x20-mL P	Activity Scan <i>H5GA5</i>	None
B1J4P9		W	↓	↓	1x1000-mL P	906.0_H3_LSC: Tritium (1)	None
B1J4P9		W	↓	↓	3x1000-mL G/P	TC99_SEP_LSC: Tc-99 (1)	HCl to pH <2
B1J4P9		W	↓	↓	1x500-mL G/P	UTOT_KPA: Uranium (1)	HNO3 to pH <2
 <div style="display: flex; justify-content: space-around;"> <div style="text-align: center;"> <p><i>d. wall</i></p> <p><i>5/15/06</i></p> </div> </div> 							

Relinquished By DURATEK F. M. HALL	Print Sign 	Date/Time MAY 15 2006	Received By S. Welch	Print Sign 	Date/Time MAY 15 2006	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	
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: 5-15-06 14:40

Client: PGW

SDG #: W04927 NA SAF #: W06-005 NA

Work Order Number: J6E760195

Chain of Custody # W06-005-188, 129, 128, 170

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? NA Yes No
4. Cooler temperature: _____ NA 5. Vermiculite/packing materials is NA Wet Dry
6. Number of samples in shipping container: 4
7. Sample holding times exceeded? NA Yes No
8. Samples have:
 - tape
 - custody seals
 - hazard labels
 - appropriate samples labels
9. Samples are:
 - in good condition
 - broken
 - leaking
 - have air bubbles
 (Only for samples requiring head space)
10. Sample pH taken? NA pH < 2 pH > 2 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: 5-15-06 14:40

Client Sample ID	Analysis Requested	Condition	Comments/Action

Client Informed on _____ by _____ Person contacted _____

[] No action necessary; process as is.

Project Manager _____ Date _____

8/9/2006 11:52:39 AM

Sample Preparation/Analysis

Balance Id:1120482733

384868, Pacific Northwest National Laboratory ,
Pacific Northwest National Lab

AM Tc-99 Prp/SepRC5078
S5 Technetium-99 by Liquid Scint
5I CLIENT: HANFORD

PRIORITY

Pipet #: _____

AnalyDueDate: 08/22/2006 *no 4927A*

Sep1 DT/Tm Tech:

Batch: 6220432 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	Count Time Min	Detector Id	Count On Off (24hr) Circle	CR Analyst, Init/Date	Comments:
1 JAT6P-1-AA J6H080162-1-SAMP  05/15/2006 11:06		126.50g,in		60				
		AmtRec: 20ML,500ML,4XLP	#Containers: 6			Scr:	Alpha:	Beta:
2 JAT6P-1-AC-S J6H080162-1-MS  05/15/2006 11:06		124.70g,in	tcsG1669 08/03/06,pd 01/10/06,r	60				
		AmtRec: 20ML,500ML,4XLP	#Containers: 6			Scr:	Alpha:	Beta:
3 JAT6P-1-AD-X J6H080162-1-DUP  05/15/2006 11:06		125.80g,in		60				
		AmtRec: 20ML,500ML,4XLP	#Containers: 6			Scr:	Alpha:	Beta:
4 JAV9G-1-AA-B J6H080000-432-BLK  05/15/2006 11:06		125.40g,in		60				
		AmtRec:	#Containers: 1			Scr:	Alpha:	Beta:
5 JAV9G-1-AC-C J6H080000-432-LCS  05/15/2006 11:06		125.40g,in	tcse1990 08/03/06,pd 01/10/06,r	60				
		AmtRec:	#Containers: 1			Scr:	Alpha:	Beta:
6 JAV9G-1-AD-BN J6H080000-432-IBLK  05/15/2006 11:06				60				
		AmtRec:	#Containers: 1			Scr:	Alpha:	Beta:

8/9/2006 11:52:40 AM

Sample Preparation/Analysis

Balance Id: _____

AM Tc-99 Prp/SepRC5078
S5 Technetium-99 by Liquid Scint
5I CLIENT: HANFORD

Pipet #: _____

AnalyDueDate: 08/22/2006

Sep1 DT/Tm Tech: _____

Batch: 6220432

pCi/L

Sep2 DT/Tm Tech: _____

SEQ Batch, Test: None

Prep Tech: _____



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:
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Comments:

pH < 2.0 mg 8/9/06

All Clients for Batch:

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

JAT6P1AA-SAMP Constituent List:

Tc-99 RDL:1.50E+01 pCi/L LCL:70 UCL:130 RPD:20

JAT6P1AC-MS Constituent List:

JAV9G1AA-BLK:

Tc-99 RDL:1.50E+01 pCi/L LCL: UCL: RPD:

JAV9G1AC-LCS:

Tc-99 RDL:15 pCi/L LCL:70 UCL:130 RPD:20

JAV9G1AD-IBLK:

Tc-99 RDL:1.50E+01 pCi/L LCL: UCL: RPD:

JAT6P1AA-SAMP Calc Info:

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

JAT6P1AC-MS Calc Info:

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

JAV9G1AA-BLK:

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

JAV9G1AC-LCS:

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

JAV9G1AD-IBLK:

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

Approved By _____

Date: _____

8/22/2006 8:36:23 AM

ICOC Fraction Transfer/Status Report

ByDate: 8/22/2005, 8/27/2006, Batch: '6220432', User: *ALL Order By DateTimeAccepting

Q Batch	Work Ord	CurStatus	Accepting	Comments
6220432				
AC		CalcC	RutherfordJ 8/9/2006 8:39:34 AM	
SC		antonsonl	IsBatched 8/8/2006 2:07:15 PM	ICOC_RADCALC v4.8.24
SC		RutherfordJ	InPrep 8/9/2006 8:39:34 AM	RICH-RC-5016 REVISION 6
SC		AndersonE	InPrep 8/21/2006 11:00:02 AM	RICH-RC-5078 REV3
SC		BlackCL	InCnt1 8/21/2006 11:10:56 AM	RICH-RD-0001 REVISION 3
SC		BlackCL	CalcC 8/22/2006 7:59:56 AM	RICH-RD-0001 REVISION 3
AC		AndersonE	8/21/2006 11:00:02	
AC		BlackCL	8/21/2006 11:10:56	
AC		BlackCL	8/22/2006 7:59:56	

AC: Accepting Entry; SC: Status Change