

Analytical Data Package Prepared For

CH2M Hill Plateau Remediation

Radiochemical Analysis By

TestAmerica TARL

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

Data Package Contains _____ Pages

Report Nbr: 55901

SDG Nbr	ORDER Nbr	CLIENT ID NUMBER	LOT Nbr	WORK ORDER	RPT DB ID	BATCH
W06557	I13-023	B2P1V9	J3D250418-1	M0NVF1AA	9M0NVF10	3115045
		B2P1V9	J3D250418-1	M0NVF1AC	9M0NVF10	3122072
		B2P1V9	J3D250418-1	M0NVF1AD	9M0NVF10	3122076
		B2P1V9	J3D250418-1	M0NVF1AE	9M0NVF10	3122075
		B2P1V9	J3D250418-1	M0NVF1AF	9M0NVF10	3122074
		B2P1V9	J3D250418-1	M0NVF1AG	9M0NVF10	3122073
		B2P2B4	J3D250418-2	M0NVG1AA	9M0NVG10	3122076
		B2P2L2	J3D250418-3	M0NVH1AA	9M0NVH10	3122076
		B2P2N9	J3D250418-4	M0NVL1AA	9M0NVL10	3122076
		B2P2X4	J3D250418-5	M0NVP1AA	9M0NVP10	3122076
		B2P311	J3D250418-6	M0NVT1AA	9M0NVT10	3122076
		B2P316	J3D250418-7	M0NV11AA	9M0NV110	3122076
		B2P321	J3D250418-8	M0NV31AA	9M0NV310	3122076
	S13-005	B2P4B9	J3D300450-1	M0P8C1AA	9M0P8C10	3122076
		B2P4C8	J3D300450-2	M0P8D1AA	9M0P8D10	3122076

Comments:

Report Nbr: 55901

SDG Nbr	ORDER Nbr	CLIENT ID NUMBER	LOT Nbr	WORK ORDER	RPT DB ID	BATCH
W06557	I13-023	B2P2T2	J3D300451-1	M0P8E2AA	9M0P8E20	3175091
		B2P326	J3D300451-2	M0P8F1AA	9M0P8F10	3122076
		B2P360	J3D300451-3	M0P8G1AA	9M0P8G10	3122076
	S13-005	B2P491	J3D300453-1	M0P8L1AA	9M0P8L10	3122076
		B2P492	J3D300453-2	M0P8M1AA	9M0P8M10	3122076
	I13-023	B2P2L8	J3E010410-1	M0QAD1AA	9M0QAD10	3122076
	S13-005	B2P4B0	J3E010411-1	M0QAE1AA	9M0QAE10	3122076
		B2P4B1	J3E010411-2	M0QAF1AA	9M0QAF10	3122076
	W13-004	B2P7R8	J3E010415-1	M0QCN1AA	9M0QCN10	3121068
		B2P7R9	J3E010415-2	M0QCP1AA	9M0QCP10	3121068
		B2P7T0	J3E010415-3	M0CCQ1AA	9M0CCQ10	3121068
		INTRA-LAB BLANK	J3E020000-75	M0QTA1AA	9M0QTA10	3122075

Comments:

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

Certificate of Analysis

TestAmerica Laboratories, Inc.

CH2M Hill Plateau Remediation Company
P.O. Box 1600
Mail Stop – R3-60
Richland, WA 99352

June 26, 2013

Attention: Scot Fitzgerald

SAF Number	:	I13-023, S13-005, W13-004
Date SDG Closed	:	May 1, 2013
Number of Samples	:	Twenty One (21)
Sample Type	:	Water
SDG Number	:	W06557
Data Deliverable	:	30-Day / Summary

CASE NARRATIVE

I. Introduction

Between April 25, 2013 and May 01, 2013, twenty one water samples were received at TestAmerica (TARL). Upon receipt, the samples were assigned the following laboratory ID numbers to correspond with the CH2M specific IDs:

<u>CH2M ID#</u>	<u>TARL ID#</u>	<u>DATE OF RECEIPT</u>	<u>MATRIX</u>
B2P1V9	M0NVF	4/25/13	WATER
B2P2B4	M0NVG	4/25/13	WATER
B2P2L2	M0NVH	4/25/13	WATER
B2P2N9	M0NVL	4/25/13	WATER
B2P2X4	M0NVP	4/25/13	WATER
B2P311	M0NVT	4/25/13	WATER
B2P316	M0NV1	4/25/13	WATER
B2P321	M0NV3	4/25/13	WATER
B2P4B9	M0P8C	4/29/13	WATER
B2P4C8	M0P8D	4/29/13	WATER
B2P2T2	M0P8E	4/29/13	WATER
B2P326	M0P8F	4/29/13	WATER
B2P360	M0P8G	4/29/13	WATER
B2P491	M0P8L	4/29/13	WATER

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June 26, 2013

B2P492	M0P8M	4/29/13	WATER
B2P2L8	M0QAD	4/30/13	WATER
B2P4B0	M0QAE	4/30/13	WATER
B2P4B1	M0QAF	4/30/13	WATER
B2P7R8	M0QCN	5/01/13	WATER
B2P7R9	M0QCP	5/01/13	WATER
B2P7T0	M0QCQ	5/01/13	WATER

II. Sample Receipt

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

During the bi-weekly phone call on January 9, 2013 TARL was notified that all groundwater samples received after January 1, 2013 will have a 30 day turnaround time regardless if the chain of custodies have a turn around time that is greater than 30 days.

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:

Gas Proportional Counting

Strontium-90 by method RL-GPC-003

Gamma Spectroscopy

Gamma Spee by method RL-GAM-001

Liquid Scintillation Counting

Carbon-14 by method RL-LSC-008

Technetium-99 by TEVA method RL-LSC-014

Tritium by method RL-LSC-005

Chemical Analysis

Hexavalent Chromium by EPA method 7196A

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.

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June 26, 2013

V. Comments

Gas Proportional Counting

Strontium-90 by method RL-GPC-003:

The LCS, batch blank, samples and sample duplicate (B2P1V9) results are within contractual requirements.

Gamma Spectroscopy

Gamma Spec by method RL-GAM-001:

There was insufficient volume for a duplicate. Sample B2P1V9 was recounted on a different detector for the duplicate (B2P1V9 DUP). Except as noted, the LCS, batch blank, samples and sample duplicate (B2P1V9) results are within contractual requirements.

Liquid Scintillation Counting

Carbon-14 by method RL-LSC-008:

The TSIE for sample B2P2T2 exceeded acceptance criteria. The sample was successfully recounted in batch 3175091. Except as noted, the LCS, batch blank, samples and sample duplicate (B2N773) results are within contractual requirements.

Technetium-99 by TEVA method RL-LSC-014:

The LCS, batch blank, samples, sample duplicate (B2P1V9) and sample matrix spike (B2P1V9) results are within contractual requirements.

Tritium by method RL-LSC-005:

The LCS, batch blank, samples and sample duplicate (B2P1V9) results are within contractual requirements.

Chemical Analysis

Hexavalent Chromium by EPA method 7196A

Batch 3115045

The LCS, batch blank, samples, sample duplicate (B2P1V9) sample matrix spike (B2P1V9) and matrix spike duplicate (B2P1V9) results are within contractual requirements.

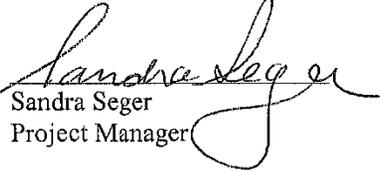
Batch 3121068

The LCS, batch blank, samples, sample duplicate (B2P7R8) sample matrix spike (B2P7R8) and matrix spike duplicate (B2P7R8) results are within contractual requirements.

CH2M Hill Plateau Remediation Company
June 26, 2013

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:


Sandra Seger
Project Manager

SAMPLE ISSUE RESOLUTION

SIR NUM SDR13-209
REV NUM 0
DATE INITIATED 7/23/2013

SAMPLE EVENT INFORMATION

SAF NUM(S) I13-023
OPERABLE UNIT(S) 100-KR-4
PROJECT(S) CERC13
SAMPLE EVENT TITLE(S) CERC13
LABORATORY TestAmerica Incorporated, Richland

SAMPLING INFORMATION

NUMBER OF SAMPLES 2
SAMPLE NUMBERS B2P2B4, B2P316
SAMPLE MATRIX WATER
COLLECTION DATE 4/24/2013 - 4/24/2013
SDG NUM W06557

ISSUE BACKGROUND

CLASS Chain of Custody Issue (Field)
TYPE No/Illegible Relinquish/Receipt Date/Time
DESCRIPTION Chain of custody I13-023-078 is missing the "Received By" time on the second line.
Chain of Custody I13-023-098 has an incorrect time entry on the second "Relinquished By" line which was not lined out, initialed or dated.

DISPOSITION

DESCRIPTION PROPOSED DISPOSITION: Document the excursions, insert the SIR into the data package and close the SIR.
JUSTIFICATION ACCEPTED DISPOSITION: Accept the proposed disposition.
SUBMITTED BY: Susan Puckett/CHPRC Date: 7/23/13
ACCEPTED BY: Susan Puckett/CHPRC Date: 7/23/13

Drinking Water Method Cross References

DRINKING WATER ASTM METHOD CROSS REFERENCES		
Referenced Method	Isotope(s)	TestAmerica Richland's SOP No.
EPA 901.1	Cs-134, I-131	RL-GAM-001
EPA 900.0	Alpha & Beta	RL-GPC-001
EPA 00-02	Gross Alpha (Coprecipitation)	RL-GPC-002
EPA 903.0	Total Alpha Radium (Ra-226)	RL-RA-002
EPA 903.1	Ra-226	RL-RA-001
EPA 904.0	Ra-228	RL-RA-001
EPA 905.0	Sr-89/90	RL-GPC-003
ASTM D5174	Uranium	RL-KPA-003
EPA 906.0	Tritium	RL-LSC-005

Results in this report relate only to the sample(s) analyzed.

Uncertainty Estimation

TestAmerica 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 TestAmerica.
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</i> - Combined Uncertainty.	All known uncertainties associated with the preparation and analysis of the sample are propagated to give a measure of the uncertainty associated with the result, <i>u_c</i> the combined uncertainty. The uncertainty is absolute and in the same units as the result.
(#s), Coverage Factor	The coverage factor defines the width of the confidence interval, 1, 2 or 3 standard deviations.
CRDL (RL)	Contractual Required Detection Limit as defined in the Client's Statement Of Work or TestAmerica "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 TestAmerica 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.

6/26/2013 12:20:55 PM

TestAmerica Report

Lab Code: TARL

FormNbr: R FormatType: FEAD Version: 05 Rpt Nbr: 55901 File Name: h:\Reportdb\edd\Feed\IVRad\W06557.Edd, h:\Reportdb\edd\Feed\IVRad\55901.Ed

Lab Sample Id:	Client Id:	Test User:	Contract Nbr:	SAF Nbr:	Sdg Nbr:	QC Type:	Moisture/Solids%:	Distilled Volume:	Sample On Date:	Collection Date:			
9MONV110 B2P316			MW6-SBB-A1	I13-023	W06557					04/24/2013 14:42			
Batch 3122076	AnalYTE C-14	CAS# 14762-75-5	Result 1.29E+01	Unit pCi/L	CntU 2S 7.6E+00	Qual U	MDA 1.70E+01	TrcYield 100.0	Method C14_LSC	Alq Size 7.54E-02	Unit L	Analy Date/Time 06/20/2013 00:36	Act 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:			
9MONV310 B2P321			MW6-SBB-A1	I13-023	W06557					04/24/2013 13:16			
Batch 3122076	AnalYTE C-14	CAS# 14762-75-5	Result 9.15E+00	Unit pCi/L	CntU 2S 7.5E+00	Qual U	MDA 1.71E+01	TrcYield 100.0	Method C14_LSC	Alq Size 7.51E-02	Unit L	Analy Date/Time 06/20/2013 01:37	Act 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:			
9MONV110 B2P1V9			MW6-SBB-A1	I13-023	W06557					04/25/2013 08:53			
Batch 3122072	AnalYTE H-3	CAS# 10028-17-8	Result 2.57E+04	Unit pCi/L	CntU 2S 5.5E+02	Qual U	MDA 3.38E+02	TrcYield 100.0	Method 906.0_H3_LSC	Alq Size 5.017E-03	Unit L	Analy Date/Time 05/16/2013 14:27	Act I
3122076	C-14	14762-75-5	2.45E+02	pCi/L	1.3E+01	2.4E+01	1.69E+01	100.0	C14_LSC	7.59E-02	L	06/19/2013 17:28	I
3122075	BE-7	13966-02-4	1.95E+01	pCi/L	1.4E+01	1.4E+01	2.83E+01		GAMMA_GS	2.50E+00	L	05/21/2013 13:25	I
3122075	CO-60	10198-40-0	3.22E-01	pCi/L	1.5E+00	1.5E+00	3.04E+00		GAMMA_GS	2.50E+00	L	05/21/2013 13:25	I
3122075	CS-134	13967-70-9	-7.21E-01	pCi/L	1.6E+00	1.6E+00	2.75E+00		GAMMA_GS	2.50E+00	L	05/21/2013 13:25	I
3122075	CS-137	10045-97-3	9.59E-01	pCi/L	1.7E+00	1.7E+00	3.14E+00		GAMMA_GS	2.50E+00	L	05/21/2013 13:25	I
3122075	EU-152	14683-23-9	-4.32E-01	pCi/L	3.8E+00	3.8E+00	6.69E+00		GAMMA_GS	2.50E+00	L	05/21/2013 13:25	I
3122075	EU-154	15585-10-1	8.08E-01	pCi/L	4.8E+00	4.8E+00	9.18E+00		GAMMA_GS	2.50E+00	L	05/21/2013 13:25	I
3122075	EU-155	14391-16-3	1.35E+00	pCi/L	3.2E+00	3.2E+00	5.84E+00		GAMMA_GS	2.50E+00	L	05/21/2013 13:25	I
3122075	K-40	13966-00-2	-5.96E+01	pCi/L	4.8E+01	4.8E+01	1.04E+02		GAMMA_GS	2.50E+00	L	05/21/2013 13:25	I
3122075	RU-106	13967-48-1	4.76E+00	pCi/L	1.2E+01	1.2E+01	2.26E+01		GAMMA_GS	2.50E+00	L	05/21/2013 13:25	I
3122075	SB-125	14234-35-6	-9.29E-01	pCi/L	3.6E+00	3.6E+00	6.25E+00		GAMMA_GS	2.50E+00	L	05/21/2013 13:25	I
3122074	Sr-90	10098-97-2	9.35E-01	pCi/L	8.0E-01	8.0E-01	1.53E+00	84.1	SRISO_SEP_PRE	5.004E-01	L	05/25/2013 17:30	I
3122073	TC-99	14133-76-7	2.05E+00	pCi/L	4.2E+00	5.8E+00	9.99E+00	100.0	TC99_ETVDSK_LS	1.259E-01	L	06/05/2013 10:07	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:			
9MONVG10 B2P2B4			MW6-SBB-A1	I13-023	W06557					04/24/2013 09:06			
Batch 3122076	AnalYTE C-14	CAS# 14762-75-5	Result 4.13E+01	Unit pCi/L	CntU 2S 8.5E+00	Qual U	MDA 1.73E+01	TrcYield 100.0	Method C14_LSC	Alq Size 7.45E-02	Unit L	Analy Date/Time 06/19/2013 19:30	Act I

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

TestAmerica

rptFeedRadSummaryEdd v3.48

TestAmerica Report

6/26/2013 12:20:55 PM

Lab Code: TARL

FormNbr: R FormatType: FEAD Version: 05 Rpt Nbr: 55901 File Name: h:\Reportdb\dd\Fead\IVRad\W06557.Edd, h:\Reportdb\dd\Fead\IVRad\55901.Ed

Lab Sample Id:	Client Id:	Test User	Contract Nbr	SAF Nbr	Sdg Nbr:	QC Type:	Moisture/Solids%:	Distilled Volume	Sample On Date:	Collection Date:
9M0NVH10 B2P2L2			MW6-SBB-A1 113-023	W06557						
Batch Analyte	CAS#	14762-75-5	Result	Unit	CntU 2S	Qual	MDA	TrcYield	Method	Alq Size
3122076 C-14			2.43E+02	pCi/L	1.3E+01	2.4E+01	1.71E+01	100.0	C14_LSC	7.50E-02

Lab Sample Id:	Client Id:	Test User	Contract Nbr	SAF Nbr	Sdg Nbr:	QC Type:	Moisture/Solids%:	Distilled Volume	Sample On Date:	Collection Date:
9M0NVL10 B2P2N9			MW6-SBB-A1 113-023	W06557						
Batch Analyte	CAS#	14762-75-5	Result	Unit	CntU 2S	Qual	MDA	TrcYield	Method	Alq Size
3122076 C-14			3.90E+02	pCi/L	1.5E+01	3.5E+01	1.71E+01	100.0	C14_LSC	7.50E-02

Lab Sample Id:	Client Id:	Test User	Contract Nbr	SAF Nbr	Sdg Nbr:	QC Type:	Moisture/Solids%:	Distilled Volume	Sample On Date:	Collection Date:
9M0NVP10 B2P2X4			MW6-SBB-A1 113-023	W06557						
Batch Analyte	CAS#	14762-75-5	Result	Unit	CntU 2S	Qual	MDA	TrcYield	Method	Alq Size
3122076 C-14			-1.73E+00	pCi/L	7.1E+00	8.7E+00	1.70E+01	100.0	C14_LSC	7.56E-02

Lab Sample Id:	Client Id:	Test User	Contract Nbr	SAF Nbr	Sdg Nbr:	QC Type:	Moisture/Solids%:	Distilled Volume	Sample On Date:	Collection Date:
9M0NVT10 B2P311			MW6-SBB-A1 113-023	W06557						
Batch Analyte	CAS#	14762-75-5	Result	Unit	CntU 2S	Qual	MDA	TrcYield	Method	Alq Size
3122076 C-14			1.26E+01	pCi/L	7.6E+00	9.3E+00	1.71E+01	100.0	C14_LSC	7.50E-02

Lab Sample Id:	Client Id:	Test User	Contract Nbr	SAF Nbr	Sdg Nbr:	QC Type:	Moisture/Solids%:	Distilled Volume	Sample On Date:	Collection Date:
9M0P8C10 B2P4B9			MW6-SBB-A1 S13-005	W06557						
Batch Analyte	CAS#	14762-75-5	Result	Unit	CntU 2S	Qual	MDA	TrcYield	Method	Alq Size
3122076 C-14			2.44E+02	pCi/L	1.3E+01	2.4E+01	1.71E+01	100.0	C14_LSC	7.54E-02

Lab Sample Id:	Client Id:	Test User	Contract Nbr	SAF Nbr	Sdg Nbr:	QC Type:	Moisture/Solids%:	Distilled Volume	Sample On Date:	Collection Date:
9M0P8D10 B2P4C8			MW6-SBB-A1 S13-005	W06557						
Batch Analyte	CAS#	14762-75-5	Result	Unit	CntU 2S	Qual	MDA	TrcYield	Method	Alq Size
3122076 C-14			2.31E+02	pCi/L	1.3E+01	2.3E+01	1.69E+01	100.0	C14_LSC	7.58E-02

Lab Sample Id:	Client Id:	Test User	Contract Nbr	SAF Nbr	Sdg Nbr:	QC Type:	Moisture/Solids%:	Distilled Volume	Sample On Date:	Collection Date:
9M0P8E20 B2P2T2			MW6-SBB-A1 113-023	W06557						
Batch Analyte	CAS#	14762-75-5	Result	Unit	CntU 2S	Qual	MDA	TrcYield	Method	Alq Size
3175091 C-14			7.36E+01	pCi/L	8.7E+00	1.3E+01	1.52E+01	100.0	C14_LSC	7.51E-02

TestAmerica
 rptFeadRadSummaryE.d 3.48
 U Qual - Analyzed for, but the result is less than the Mdc or gamma scan did not identify the nuclide.
 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.

TestAmerica Report

6/26/2013 12:20:55 PM

Lab Code: TARL

FormNbr: R FormatType: FEAD Version: 05 Rpt Nbr: 55901 File Name: h:\Reportdb\edd\Fead\W06557.Edd, h:\Reportdb\edd\Fead\W06557.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:	
9MOP8F10 B2P326			MW6-SBB-A1 113-023		W06557						
Batch Analyte		CAS#	Result	Unit	TotU 2S	Qual	MDA	TrcYield	Method	Unit Analy Date/Time	
3122076 C-14		14762-75-5	1.31E+01	pCi/L	7.6E+00	9.3E+00	U	1.70E+01	100.0	C14_LSC	04/25/2013 12:51
9MOP8G10 B2P360			MW6-SBB-A1 113-023		W06557						
Batch Analyte		CAS#	Result	Unit	TotU 2S	Qual	MDA	TrcYield	Method	Unit Analy Date/Time	
3122076 C-14		14762-75-5	1.57E+02	pCi/L	1.1E+01	1.8E+01		1.70E+01	100.0	C14_LSC	04/25/2013 07:44

Lab Sample Id:	Client Id:	Test User	Contract Nbr	SAF Nbr	Sdg Nbr:	QC Type:	Moisture/Solids%:	Distilled Volume	Sample On Date:	Collection Date:	
9MOP8L10 B2P491			MW6-SBB-A1 S13-005		W06557						
Batch Analyte		CAS#	Result	Unit	TotU 2S	Qual	MDA	TrcYield	Method	Unit Analy Date/Time	
3122076 C-14		14762-75-5	2.62E+03	pCi/L	3.6E+01	2.1E+02		1.71E+01	100.0	C14_LSC	04/29/2013 11:00
9MOP8M10 B2P492			MW6-SBB-A1 S13-005		W06557						
Batch Analyte		CAS#	Result	Unit	TotU 2S	Qual	MDA	TrcYield	Method	Unit Analy Date/Time	
3122076 C-14		14762-75-5	2.64E+03	pCi/L	3.6E+01	2.1E+02		1.71E+01	100.0	C14_LSC	04/29/2013 11:00

Lab Sample Id:	Client Id:	Test User	Contract Nbr	SAF Nbr	Sdg Nbr:	QC Type:	Moisture/Solids%:	Distilled Volume	Sample On Date:	Collection Date:	
9M0QAD10 B2P2L8			MW6-SBB-A1 113-023		W06557						
Batch Analyte		CAS#	Result	Unit	TotU 2S	Qual	MDA	TrcYield	Method	Unit Analy Date/Time	
3122076 C-14		14762-75-5	5.97E+00	pCi/L	7.4E+00	9.1E+00	U	1.71E+01	100.0	C14_LSC	04/29/2013 12:25
9M0QAE10 B2P4B0			MW6-SBB-A1 S13-005		W06557						
Batch Analyte		CAS#	Result	Unit	TotU 2S	Qual	MDA	TrcYield	Method	Unit Analy Date/Time	
3122076 C-14		14762-75-5	2.27E+02	pCi/L	1.3E+01	2.3E+01		1.71E+01	100.0	C14_LSC	04/29/2013 09:40

Lab Sample Id:	Client Id:	Test User	Contract Nbr	SAF Nbr	Sdg Nbr:	QC Type:	Moisture/Solids%:	Distilled Volume	Sample On Date:	Collection Date:	
9M0QAF10 B2P4B1			MW6-SBB-A1 S13-005		W06557						
Batch Analyte		CAS#	Result	Unit	TotU 2S	Qual	MDA	TrcYield	Method	Unit Analy Date/Time	
3122076 C-14		14762-75-5	2.29E+02	pCi/L	1.3E+01	2.3E+01		1.70E+01	100.0	C14_LSC	04/29/2013 09:40

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

TestAmerica
 rpt\FeadRadSummaryEdd v3.48

6/26/2013 12:20:55 PM

TestAmerica Report

Lab Code: TARL

File Name: h:\Report\bledd\Fead\Rad\W06557.Edd, h:\Report\bledd\Fead\Rad\55901.Ed

Rpt Nbr: 55901

Version: 05

FormatType: FEAD

FormNbr: R

Lab Sample Id:	Client Id:	Test User	Contract Nbr	SAF Nbr	Sdg Nbr:	QC Type:	Moisture/Solids%:	Distilled Volume	Sample On Date:	Collection Date:	Unit	Alq Size	Analy Date/Time	Act
9M0CTA10 NA	NA		MW6-SBB-A1		W06557	BLK				04/25/2013 08:53				
Batch	Analyte	CAS#	Result	Unit	CntU 2S	TotU 2S	MDA	TrcYield	Method					
3122075	BE-7	13966-02-4	-1.18E+01	pCi/L	1.4E+01	1.4E+01	2.14E+01		GAMMA_GS		L	2.50E+00	05/21/2013 20:19	I
3122075	CO-60	10198-40-0	1.00E+00	pCi/L	1.4E+00	1.4E+00	3.14E+00		GAMMA_GS		L	2.50E+00	05/21/2013 20:19	I
3122075	CS-134	13967-70-9	-3.56E-02	pCi/L	1.5E+00	1.5E+00	2.76E+00		GAMMA_GS		L	2.50E+00	05/21/2013 20:19	I
3122075	CS-137	10045-97-3	9.21E-01	pCi/L	1.6E+00	1.6E+00	3.11E+00		GAMMA_GS		L	2.50E+00	05/21/2013 20:19	I
3122075	EU-152	14683-23-9	1.74E+00	pCi/L	3.8E+00	3.8E+00	7.16E+00		GAMMA_GS		L	2.50E+00	05/21/2013 20:19	I
3122075	EU-154	15585-10-1	3.12E+00	pCi/L	4.2E+00	4.2E+00	9.19E+00		GAMMA_GS		L	2.50E+00	05/21/2013 20:19	I
3122075	EU-155	14391-16-3	7.36E-01	pCi/L	2.5E+00	2.5E+00	4.64E+00		GAMMA_GS		L	2.50E+00	05/21/2013 20:19	I
3122075	K-40	13966-00-2	3.16E+00	pCi/L	4.0E+01	4.0E+01	1.86E+01		GAMMA_GS		L	2.50E+00	05/21/2013 20:19	I
3122075	RU-106	13967-48-1	2.97E+00	pCi/L	1.2E+01	1.2E+01	2.38E+01		GAMMA_GS		L	2.50E+00	05/21/2013 20:19	I
3122075	SB-125	14234-35-6	-9.80E-01	pCi/L	3.4E+00	3.4E+00	6.03E+00		GAMMA_GS		L	2.50E+00	05/21/2013 20:19	I

TestAmerica

rptFeadRadSummaryEdd v3.48

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

Wednesday, June 26, 2013

TestAmerica QC Blank Report

Lab Code: TARL

FormNbr: R FormatType: FEAD VersionNbr: 05 File Name: h:\Reportdb\edd\Fead\IVRad\W06557.Edd, h:\Reportdb\edd\Fead\IVRad\55901.Ed

Lab Sample Id: M0QR91AB Sdg/Rept Nbr: W06557 55901 Collection Date: 04/25/2013 08:53
Client Id: NA Matrix: WATER WATER Sample On Date:
Moisture/Solids%*: QC Type: BLK Received Date: 04/25/2013

SAF Nbr	Contract Nbr	Test User	Case Nbr	SAS Nbr	Suffix	Decant	Distilled Volume	File Id	FSuffix	RType
	MW6-SBB-A19981								BD	H

Batch # / Qc Type	Analyt/ CAS#	Result/ Orig Rst	Unit	Tot/Cnt Uncert 2S	Qu- al	MDC	Tracer Yield	Spk Concl/ %Rec	Analy Method	Aliq Size/	Date/Time Analyzed	RPD/ UCL	RER/ UCL	LCS LCU/UCL	Typ
3122074	Sr-90	3.09E-01	pCi/L	8.6E-01	U	1.76E+00	78.2		SRISO_SEP_P	5.002E-01	05/25/2013				D
BLK	10098-97-2			8.6E-01						L	17:30				

TestAmerica

rptFeadRadEdd v3.68

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

Wednesday, June 26, 2013

TestAmerica QC Blank Report

Lab Code: TARL

FormNbr: R FormatType: FEAD VersionNbr: 05 File Name: h:\Report\bld\Fead\IVRad\W06557.Edd, h:\Report\bld\Fead\IVRad\55901.E

Lab Sample Id: M0QTA1AB Sdg/Rept Nbr: W06557 55901 Collection Date: 04/25/2013 08:53
Client Id: NA Matrix: WATER WATER Sample On Date:
Moisture/Solids%*: QC Type: BLK Received Date: 04/25/2013

Batch # / Qc Type	Analyt/ CAS#	Result/ Orig Rst	Unit	Tot/Cnt Uncert 2S	Case Nbr	SAS Nbr	Suffix	Decant	Distilled Volume	Date/Time Analyzed	RPD/ UCL	RER/ UCL	LCS LCU/ UCL	R Typ
3122075 BE-7	13966-02-4	-1.18E+01	pCi/L	1.4E+01	U	2.14E+01		GAMMA_GS	2.50E+00	05/21/2013 20:19				D
3122075 CO-60	10198-40-0	1.00E+00	pCi/L	1.4E+00	U	3.14E+00		GAMMA_GS	2.50E+00	05/21/2013 20:19				D
3122075 CS-134	13967-70-9	-3.56E-02	pCi/L	1.5E+00	U	2.76E+00		GAMMA_GS	2.50E+00	05/21/2013 20:19				D
3122075 CS-137	10045-97-3	9.21E-01	pCi/L	1.6E+00	U	3.11E+00		GAMMA_GS	2.50E+00	05/21/2013 20:19				D
3122075 EU-152	14683-23-9	1.74E+00	pCi/L	3.8E+00	U	7.16E+00		GAMMA_GS	2.50E+00	05/21/2013 20:19				D
3122075 EU-154	15885-10-1	3.12E+00	pCi/L	4.2E+00	U	9.19E+00		GAMMA_GS	2.50E+00	05/21/2013 20:19				D
3122075 EU-155	14391-16-3	7.36E-01	pCi/L	2.5E+00	U	4.64E+00		GAMMA_GS	2.50E+00	05/21/2013 20:19				D
3122075 K-40	13966-00-2	3.16E+00	pCi/L	4.0E+01	U	1.86E+01		GAMMA_GS	2.50E+00	05/21/2013 20:19				D
3122075 RU-106	13967-48-1	2.97E+00	pCi/L	1.2E+01	U	2.38E+01		GAMMA_GS	2.50E+00	05/21/2013 20:19				D
3122075 SB-125	14234-35-6	-9.80E-01	pCi/L	3.4E+00	U	6.03E+00		GAMMA_GS	2.50E+00	05/21/2013 20:19				D

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

TestAmerica
rptFeadRadEdd v3.68

Wednesday, June 26, 2013

TestAmerica QC Control Sample Report

Lab Code: TARL

FormNbr: R FormatType: FEAD VersionNbr: 05 File Name: h:\Reportdb\edd\Fead\IVRad\W06557.Edd, h:\Reportdb\edd\Fead\IVRad\W06557.Edd

Lab Sample Id: M0QR71CS **Sdg/Rept Nbr:** W06557 **55901** **Collection Date:** 04/25/2013 08:53
Client Id: NA **Matrix:** WATER **WATER** **Sample On Date:**
Moisture/Solids%*: **QC Type:** BS **Received Date:** 04/25/2013

SAF Nbr	Contract Nbr	Test User	Case Nbr	SAS Nbr	Suffix	Decant	Distilled Volume	File Id	Fsuffix	RType
	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 LCU/UCL	Typ
3122072	H-3	2.38E+03	pCi/L	2.5E+02	100.0	3.62E+02	100.0	2.70E+03	906.0_H3_LSC	5.036E-03	05/16/2013			70	D
BS	10028-17-8			2.2E+02				88.3		L	18:36			130	

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

TestAmerica
 rptFeadRadEdd v3.68

Wednesday, June 26, 2013

TestAmerica QC Control Sample Report

Lab Code: TARL

FormNbr: R FormatType: FEAD VersionNbr: 05 File Name: h:\Reportdb\ledd\Fead\VRad\W06557.Edd, h:\Reportdb\ledd\Fead\VRad\55901.Ed

Lab Sample Id: M0QR81CS **Sdg/Rept Nbr:** W06557 **55901** **Collection Date:** 04/25/2013 08:53
Client Id: NA **Matrix:** WATER **WATER** **Sample On Date:**
Moisture/Solids%*: **QC Type:** BS **Received Date:** 04/25/2013

SAF Nbr	Contract Nbr	Test User	Case Nbr	SAS Nbr	Suffix	Decant	Distilled Volume	File Id	FSuffix	RType
	MW6-SBB-A19981								BC	H

Batch # / Qc Type	Analyt/ CAS#	Result/ Orig Rst	Unit	Tot/Cnt Uncert 2S	Qu- al	MDC	Tracer Yield	Spk Concl/ %Rec	Analy Method	Aliq Size/	Date/Time Analyzed	RPD/ UCL	RER/ UCL	LCS LCL/UCL	Type
3122073	TC-99	4.27E+02	pCi/L	2.9E+01		1.00E+01	100.0	5.46E+02	TC99_ETVDSK	1.254E-01	06/05/2013			70	D
BS	14133-76-7			1.2E+01				78.1			14:15			130	

TestAmerica
 rpt\FeadRadEdd v3.68

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

Wednesday, June 26, 2013

TestAmerica QC Control Sample Report

Lab Code: TARL

FormNbr: R FormatType: FEAD VersionNbr: 05 File Name: h:\Report\bleddd\Fead\Rad\W06557.Edd, h:\Report\bleddd\Fead\Rad\55901.Ed

Lab Sample Id: M0QR91CS **Sdg/Rept Nbr:** W06557 **55901** **Collection Date:** 04/25/2013 08:53
Client Id: NA **Matrix:** WATER **WATER**
Moisture/Solids%*: **QC Type:** BS **Received Date:** 04/25/2013

SAF Nbr	Contract Nbr	Test User	Case Nbr	SAS Nbr	Suffix	Decant	Distilled Volume	File Id	F Suffix	R Typ
	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	RE / UCL	LCS / LCL/UCL	R Typ
3122074	Sr-90	1.52E+01	pCi/L	3.0E+00		1.70E+00	81.1	1.36E+01	SRISO_SEP_P	5.005E-01	05/25/2013			70	D
BS	10098-97-2			1.4E+00				111.8		L	17:30			130	

TestAmerica rpt\FeadRadEdd v3.68 8
 U Qual - Analyzed for, but the result is less than the Mdc or gamma scan did not identify the nuclide.
 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.

Wednesday, June 26, 2013

TestAmerica QC Control Sample Report

Lab Code: TARL

FormNbr: R FormatType: FEAD VersionNbr: 05 File Name: h:\Report\bled\Fead\IVRad\W06557.Edd, h:\Report\bled\Fead\IVRad\55901.Ed

Lab Sample Id: M0QTA1CS **Sdg/Rept Nbr:** W06557 **Collection Date:** 04/25/2013 08:53
Client Id: NA **Matrix:** WATER **Decant:** 55901 **Sample On Date:**
Moisture/Solids%*: **QC Type:** BS **Received Date:** 04/25/2013

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
3122075	CO-60	3.27E+01	pCi/L	6.2E+00	4.28E+00	4.28E+00	2.95E+01	110.9	GAMMA_GS	2.4999E+00	05/21/2013 20:21	L	70	130	D
BS	10198-40-0			6.2E+00											
3122075	CS-137	3.70E+01	pCi/L	6.1E+00	3.06E+00	3.06E+00	4.00E+01	92.4	GAMMA_GS	2.4999E+00	05/21/2013 20:21	L	70	130	D
BS	10045-97-3			6.1E+00											
3122075	EU-152	6.48E+01	pCi/L	1.3E+01	8.22E+00	8.22E+00	6.14E+01	105.5	GAMMA_GS	2.4999E+00	05/21/2013 20:21	L	70	130	D
BS	14683-23-9			1.3E+01											

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

TestAmerica
 rptFeadRadEdd v3.68

Wednesday, June 26, 2013

TestAmerica QC Control Sample Report

Lab Code: TARL

FormNbr: R FormatType: FEAD VersionNbr: 05 File Name: h:\Reportdb\edd\Fead\Rad\W06557.Edd, h:\Reportdb\edd\Fead\Rad\W06557.Edd, h:\Reportdb\edd\Fead\Rad\W06557.Edd

Lab Sample Id: M0QTC1CS **Sdg/Rept Nbr:** W06557 **55901** **Collection Date:** 04/25/2013 08:53
Client Id: NA **Matrix:** WATER **WATER**
Moisture/Solids%*: **QC Type:** BS **Received Date:** 04/25/2013

SAF Nbr	Contract Nbr	Test User	Case Nbr	SAS Nbr	Suffix	Decant	Distilled Volume	File Id	F Suffix	R Typ
	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 LCU/ UCL	R Typ
3122076	C-14	4.84E+02	pCi/L	4.3E+01		1.71E+01	100.0	4.92E+02	C14_LSC	7.50E-02	06/20/2013			70	D
BS	14762-75-5			1.7E+01				98.4		L	14:53			130	

TestAmerica
 rptFeadRadEdd v3.68

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

Wednesday, June 26, 2013

TestAmerica QC Duplicate Report

Lab Code: TARL

File Name: h:\Reportdb\ledd\Fead\VRad\W06557.Edd, h:\Reportdb\ledd\Fead\VRad\55901.Ed

FormatType: FEAD

VersionNbr: 05

FormNbr: R

Lab Sample Id: M0NVF1LR **Sdg/Rept Nbr:** W06557 **Collection Date:** 04/25/2013 08:53
Client Id: B2P1V9 **Matrix:** WATER **Sample On Date:**
Moisture/Solids%*: **QC Type:** DUP **Received Date:** 04/25/2013

SAF Nbr	Contract Nbr	Test User	Case Nbr	SAS Nbr	Suffix	Decant	Distilled Volume	File Id	F.Suffix	RType			
113-023	MW6-SBB-A19981								AT	H			
Batch # / Qc Type	Analyt/ CAS#	Result/ Orig Rst	Unit	MDC	Tracer Yield	Spk Concl/ %Rec	Analy Method	Aliq Size/	Date/Time Analyzed	RPD/ UCL	RER/ UCL	LCS LCL/UCL	R Typ
3122072 H-3	2.60E+04	2.60E+04	pCi/L	3.39E+02	100.0		906.0_H3_LSC	5.01E-03	05/16/2013	1.2	0.5		D
DUP	10028-17-8	2.57E+04						L	15:50	20.0	3		

TestAmerica

rptFeadRadEdd v3.68

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

Wednesday, June 26, 2013

TestAmerica QC Duplicate Report

Lab Code: TARL

FormNbr: R FormatType: FEAD VersionNbr: 05 File Name: h:\Report\bldd\FeadIV\Rad\W06557.Edd, h:\Report\bldd\FeadIV\Rad\55901.Ed

Lab Sample Id: M0NVF1NR **Sdg/Rept Nbr:** W06557 **Collection Date:** 04/25/2013 08:53
Client Id: B2P1V9 **Matrix:** WATER **Decant:** 55901 **Sample On Date:**
Moisture/Solids%*: **QC Type:** DUP **Received Date:** 04/25/2013

SAF Nbr	Contract Nbr	Test User	Case Nbr	SAS Nbr	Suffix	Distilled Volume	File Id	F Suffix	R Typ						
113-023	MW6-SBB-A19981							AV	H						
Batch # / Qc Type	AnalYU CAS#	Result/ Orig Ret	Unit	Tot/Cnt Uncert 2S	Qu- al	MDC	Tracer Yield	Spk Concl/ %Rec	Analy Method	Aliq Size/	Date/Time Analyzed	RPD/ UCL	RER/ UCL	LCS LCL/UCL	R Typ
3122073	TC-99	-1.07E+00	pCi/L	5.7E+00	U	1.00E+01	100.0		TC99_ETVDSK	1.253E-01	06/05/2013	636.9	0.8		D
DUP	14133-76-7	2.05E+00		4.1E+00						L	12:11	20.0	3		

TestAmerica
 rptFeadRadEdd v3.68

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

Wednesday, June 26, 2013

TestAmerica QC Duplicate Report

Lab Code: TARL

File Name: h:\Report\bld\edd\Fead\W06557.Edd, h:\Report\bld\edd\Fead\W06557.Edd

FormatType: FEAD

FormNbr: R

VersionNbr: 05

Lab Sample Id: M0NVF1QR **Sdg/Rept Nbr:** W06557 **Collection Date:** 04/25/2013 08:53
Client Id: B2P1V9 **Matrix:** WATER **Sample On Date:**
Moisture/Solids%*: **QC Type:** DUP **Received Date:** 04/25/2013

SAF Nbr	Contract Nbr	Test User	Case Nbr	SAS Nbr	Suffix	Decant	Distilled Volume	File Id	FSuffix	RType					
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 LCU/CL	Type
3122075	BE-7	-1.17E+01	pCi/L	1.7E+01	U	2.75E+01			GAMMA_GS	2.50E+00	05/21/2013 23:47	802.9	2.6		D
DUP	13966-02-4	1.95E+01		1.7E+01						L		20.0	3		
3122075	CO-60	1.21E+00	pCi/L	1.4E+00	U	3.08E+00			GAMMA_GS	2.50E+00	05/21/2013 23:47	115.7	0.9		D
DUP	10198-40-0	3.22E-01		1.4E+00						L		20.0	3		
3122075	CS-134	3.54E-02	pCi/L	1.6E+00	U	2.92E+00			GAMMA_GS	2.50E+00	05/21/2013 23:47	0.0	0.7		D
DUP	13967-70-9	-7.21E-01		1.6E+00						L		20.0	3		
3122075	CS-137	-1.12E-01	pCi/L	1.5E+00	U	2.70E+00			GAMMA_GS	2.50E+00	05/21/2013 23:47	252.7	1.1		D
DUP	10045-97-3	9.59E-01		1.5E+00						L		20.0	3		
3122075	EU-152	1.63E+00	pCi/L	4.4E+00	U	7.98E+00			GAMMA_GS	2.50E+00	05/21/2013 23:47	344.0	0.7		D
DUP	14683-23-9	-4.32E-01		4.4E+00						L		20.0	3		
3122075	EU-154	-2.27E+00	pCi/L	3.6E+00	U	6.14E+00			GAMMA_GS	2.50E+00	05/21/2013 23:47	0.0	1.2		D
DUP	15585-10-1	8.08E-01		3.6E+00						L		20.0	3		
3122075	EU-155	-1.96E-01	pCi/L	3.7E+00	U	6.52E+00			GAMMA_GS	2.50E+00	05/21/2013 23:47	267.9	0.6		D
DUP	14391-16-3	1.35E+00		3.7E+00						L		20.0	3		
3122075	K-40	-3.83E-01	pCi/L	2.0E+01	U	4.39E+01			GAMMA_GS	2.50E+00	05/21/2013 23:47	0.0	4.2		D
DUP	13966-00-2	-5.96E+01		2.0E+01						L		20.0	3		
3122075	RU-106	-7.04E+00	pCi/L	1.5E+01	U	2.59E+01			GAMMA_GS	2.50E+00	05/21/2013 23:47	0.0	1.1		D
DUP	13967-48-1	4.76E+00		1.5E+01						L		20.0	3		
3122075	SB-125	3.59E-01	pCi/L	3.7E+00	U	6.63E+00			GAMMA_GS	2.50E+00	05/21/2013 23:47	0.0	0.5		D
DUP	14234-35-6	-9.29E-01		3.7E+00						L		20.0	3		

TestAmerica
 rptFeadRadEdd v3.68
 U Qual - Analyzed for, but the result is less than the Mdc or gamma scan did not identify the nuclide.
 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.

Wednesday, June 26, 2013

TestAmerica QC Duplicate Report

Lab Code: TARL

FormNbr: R FormatType: FEAD VersionNbr: 05 File Name: h:\Reportdb\edd\Fead\Rad\W06557.Edd, h:\Reportdb\edd\Fead\Rad\55901.Ed

Lab Sample Id: M0NVF1RR **Sdg/Rept Nbr:** W06557 **55901** **Collection Date:** 04/25/2013 08:53
Client Id: B2P1V9 **Matrix:** WATER **WATER**
Moisture/Solids%*: **QC Type:** DUP

SAF Nbr	Contract Nbr	Test User	Case Nbr	SAS Nbr	Suffix	Decant	Distilled Volume	File Id	F Suffix	R TYP			
									AY	H			
113-023	MW6-SBB-A19981												
Batch # / Qc Type	Analyt/ CAS#	Result/ Orig Rst	Unit	Tot/Cnt Uncert 2S	Tracer Yield	Spk Conc/ %Rec	Analy Method	Aliq Size/	Date/Time Analyzed	RPD/ UCL	RER/ UCL	LCS LCLUCL	Typ
3122076	C-14	2.56E+02	pCi/L	2.5E+01	100.0		C14_LSC	7.56E-02	06/19/2013	4.1	0.6		D
DUP	14762-75-5	2.45E+02		1.3E+01				L	18:29	20.0	3		

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

TestAmerica
 rptFeadRadEdd v3.68

Wednesday, June 26, 2013

TestAmerica Qc Matrix Spike Report

Lab Code: TARL

FormNbr: R FormatType: FEAD VersionNbr: 05 File Name: h:\Reportdb\ledd\Fead\W06557.Edd, h:\Reportdb\ledd\Fead\W06557.Edd, h:\Reportdb\ledd\Fead\W06557.Edd

Lab Sample Id: M0NVF1MW **Sdg/Rept Nbr:** W06557 **Collection Date:** 04/25/2013 08:53
Client Id: B2P1V9 **Matrix:** WATER **Decant:** 55901 **Sample On Date:**
Moisture/Solids%*: **QC Type:** MS **Received Date:** 04/25/2013

SAF Nbr	Contract Nbr	Test User	Case Nbr	SAS Nbr	Suffix	Distilled Volume	File Id	FSuffix	RType
113-023	MW6-SBB-A19981							AU	H

Batch # / Qc Type	Analyt/ CAS#	Result/ Orig Rst	Unit	Tot/Cnt	Uncert	2S	Qu- al	MDC	Tracer Yield	Spk Concl/ %Rec	Analy Method	Allq Size/	Date/Time Analyzed	RPD/ UCL	RER/ UCL	LCS LCL/UCL	R Typ
3122073	TC-99	2.92E+03	pCi/L	1.6E+02	2.9E+01		1.00E+01	100.0		3.62E+03	TC99_ETVDSK	1.259E-01	06/05/2013			60	D
MS	14133-76-7									80.5		L	11:09			140	

TestAmerica

rptFeadRadEdd v3.68

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

Analyst: H. Raitavi		BATCH #											
Start Date: 4/25/2013		SDG #											
Start Time: 14:10		Matrix											
End Date: 4/25/2013		SOP Information											
End Time: 15:00		RL-WC-003											
Analyst Signature: <i>HR</i>		Revision 4											
Date: 04/25/13		Instrument Information											
		Instrument: Hach DR2010											
		Wavelength: 540											
<p>Calibration Curve Information</p> <p>$y = 0.0107x + 0.4887x - 0.0005$ $R^2 = 1.0000$</p>													
<p>ICV/CCV Information: Cr-13-00149 04/25/13</p>		<p>LCS Information: Cr-13-00149 04/25/13</p>											
<p>Matrix Spike Information: Cr-13-00149 04/25/13</p>		<p>IR Squared 1.0000</p>											
<p>Concentration (mg/L) 50</p>		<p>2nd Coeff (a) 0.0107</p>											
<p>Pipettor(s) 70, 190</p>		<p>1st Coeff (b) 0.4887</p>											
<p>Volume Used (mL) 1.00</p>		<p>Constant (c) -0.0005</p>											
<p>Final Volume (mL) 100.00</p>		<p>Intercept 0.0010</p>											
<p>Expected Value (mg/L) 0.475</p>		<p>MDL (mg/L) 0.008</p>											
		<p>Instrument Information</p>											
		<p>Instrument: Hach DR2010</p>											
		<p>Wavelength: 540</p>											
Sample ID	Client ID	Type	Sample Volume (mL)	Final Volume (mL)	Sample ABS.	Color Blank ABS.	Corrected ABS.	Dilution Factor	Curve Conc. (mg/L)	Expected (mg/L)	% Rec. / RPD	Final Reported Conc. (mg/L)	Qualifier
n/a	n/a	ICV	95.000	100.000	0.961		0.961	1	0.4790	0.4750	100.85%	0.479	U
n/a	n/a	ICB	95.000	100.000	0.000		0.000	1	-0.0005			<MDL	U
n/a	n/a	CCV	95.000	100.000	0.941		0.941	1	0.4688	0.4750	98.70%	0.469	U
n/a	n/a	CCB	95.000	100.000	0.000		0.000	1	-0.0005			<MDL	U
MONWNTAA	n/a	BLK	95.000	100.000	0.001		0.001	1	0.0000	0.4750	97.31%	<MDL	U
MONWNTAC	n/a	LCS	95.000	100.000	0.928		0.928	1	0.4622			0.462	U
MONVF1AA	B2P1V9	Sample	95.000	100.000	0.603		0.603	1	0.2881			0.298	U
MONVF1AC-S	B2P1V9-MS	MS*	95.000	100.000	1.034		1.034	2	1.0325	0.7500	97.92%	0.734	U
MONVF1AD-D	B2P1V9-MSD	MSD*	95.000	100.000	1.028		1.028	2	1.0264	0.7500	97.11%	0.728	U
MONVF1AEX	B2P1V9-DUP	Duplicate	95.000	100.000	0.602		0.602	1	0.2976		0.17%	0.298	U
			95.000	100.000				1					
			95.000	100.000				1					
			95.000	100.000				1					
			95.000	100.000				1					
n/a	n/a	CCV	95.000	100.000	0.938		0.938	1	0.4673	0.4750	98.36%	0.467	U
n/a	n/a	CCB	95.000	100.000	0.002		0.002	1	0.0005			<MDL	U

*if the parent sample is above the MDL, the Final Reported Conc. (mg/L) for the MS and MSD is corrected for the parent sample.
CG-223 Rev. 6/1/2013

Analyst: H.R		BATCH #	
Start Date: 5/1/2013	16:30	SDG #	3121068
End Date: 5/1/2013	17:30	Matrix	Water
SOP Information		Revision 4	
RL-WC-003		Revision 4	
Revision 4			
Instrument Information		Instrument: Hach DR2010	
Wavelength: 540			
<div style="display: flex; justify-content: space-between;"> <div> <p>R Squared: 1.0000</p> <p>2nd Coeff (e): 0.0229</p> <p>1st Coeff (b): 0.4724</p> <p>Constant (c): -0.0004</p> <p>Intercept: 0.0008</p> </div> <div> <p>MDL (mg/L): 0.008</p> </div> </div>			
Amount (mL)		Conc. (mg/L)	
Blank	0.000	0.000	0.000
Std. 1	0.100	0.048	0.089
Std. 2	0.500	0.238	0.498
Std. 3	0.750	0.356	0.727
Std. 4	1.500	0.713	1.409
Std. 5	2.000	0.950	1.848
Standard Volume (mL):		95.000	
Date of Curve:		5/1/2013	
Calibration Information:		LCS Information:	
Cr-13-00155		Cr-13-00155	
05/01/13		05/01/13	
50		50	
70,190		190	
1.000		1.00	
100.000		100.00	
0.475		0.475	
ICV/CCV Information:		Matrix Spike Information:	
Cr-13-00156		Cr-13-00155	
05/01/13		05/01/13	
50		50	
05/02/13		05/02/13	
190		190	
1.00		1.50	
100.000		100.00	
0.475		0.713	
Concentration (mg/L)		Dilution Factor	
Expiration Date:		Corrected ABS.	
Pipettor(s)		Color Blank ABS.	
Volume Used (mL)		Sample ABS.	
Final Volume (mL)		Final Volume (mL)	
Expected Value (mg/L)		Sample Volume (mL)	
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TestAmerica <small>THE LEADER IN ENVIRONMENTAL TESTING</small>	Data Review/Verification Checklist RADIOCHEMISTRY, First Level Review	6/6/2013 7:40:58 PM
Lot No., Due Date: J3D250418; 06/03/2013 Client, Site: 384868; A210440HANFORD HANFORD QC Batch No., Method Test: 3122074; RSR85907 Sr-85/90 by GPC-7 SDG, Matrix: W06557; WATER		
1.0 COC		
1.1 Is the ICOC page complete; includes all applicable analysis, dates, SOP numbers, and revisions?	Yes No N/A	<input checked="" type="checkbox"/>
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	<input checked="" type="checkbox"/>
2.2 Are the QC appropriate for the analysis included in the batch?	Yes No N/A	<input checked="" type="checkbox"/>
2.3 Is the Analytical Batch Worksheet complete; includes as appropriate, volumes, count times, etc?	Yes No N/A	<input checked="" type="checkbox"/>
2.4 Does the Worksheets include a Tracer Vial label for each sample?	Yes No N/A	<input checked="" type="checkbox"/>
3.0 QC & Samples		
3.1 Is the blank results, yield, and MDA within contract limits?	Yes No N/A	<input checked="" type="checkbox"/>
3.2 Is the LCS result, yield, and MDA within contract limits?	Yes No N/A	<input checked="" type="checkbox"/>
3.3 Are the MS/MSD results, yields, and MDA within contract limits?	Yes No N/A	<input checked="" type="checkbox"/>
3.4 Are the duplicate result, yields, and MDAs within contract limits?	Yes No N/A	<input checked="" type="checkbox"/>
3.5 Are the sample yields and MDAs within contract limits?	Yes No N/A	<input checked="" type="checkbox"/>
4.0 Raw Data		
4.1 Were results calculated in the correct units?	Yes No N/A	<input checked="" type="checkbox"/>
4.2 Were analysis volumes entered correctly?	Yes No N/A	<input checked="" type="checkbox"/>
4.3 Were Yields entered correctly?	Yes No N/A	<input checked="" type="checkbox"/>
4.4 Were spectra reviewed/meet contractual requirements?	Yes No N/A	<input checked="" type="checkbox"/>
4.5 Were raw counts reviewed for anomalies?	Yes No N/A	<input checked="" type="checkbox"/>
5.0 Other		
5.1 Are all nonconformances included and noted?	Yes No N/A	<input checked="" type="checkbox"/>
5.2 Are all required forms filled out?	Yes No N/A	<input checked="" type="checkbox"/>
5.3 Was the correct methodology used?	Yes No N/A	<input checked="" type="checkbox"/>
5.4 Was transcription checked?	Yes No N/A	<input checked="" type="checkbox"/>
5.5 Were all calculations checked at a minimum frequency?	Yes No N/A	<input checked="" type="checkbox"/>
5.6 Are worksheet entries complete and correct?	Yes No N/A	<input checked="" type="checkbox"/>
6.0 Comments on any No response:		
Thomas DM [Signature]		
First Level	Date	6/6/13
TestAmerica Richland QAS_RADCALCv4.8.44		Page 1



Data Review Checklist
RADIOCHEMISTRY
 Second Level Review

Batch Number: 3122074

Review Item	Yes (✓)	No (✓)	NA (✓)
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 within contract acceptance criteria?	✓		
6. Is the LCS Minimum Detectable Activity ≤ the Contract Detection Limit?	✓		
7. Do the MS/MSD results and yields meet acceptance criteria?			✓
8. Do the duplicate sample results and yields meet acceptance criteria?	✓		
C. Other			
1. Are all Non-conformances 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: *Laundra Segger* Date: 6/10/13



Data Review/Verification Checklist
RADIOCHEMISTRY, First Level Review

6/6/2013 5:09:34 PM

Lot No., Due Date: J3D250418; 06/03/2013
Client, Site: 384868; A210440HANFORD HANFORD
QC Batch No., Method Test: 3122075; RGAMMA Gamma by GER
SDG, Matrix: W06557; 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

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

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 _____ Date 6/6/13



Data Review/Verification Checklist
RADIOCHEMISTRY, First Level Review

6/26/2013 10:28:05 AM

Lot No., Due Date: J3D250418,J3D300450,J3D300451,J3D300453,J3E010410,J3E010411; 06/03/2013
Client, Site: 384868; A210440HANFORD HANFORD
QC Batch No., Method Test: 3122076; RC14 C-14 by LSC
SDG, Matrix: W06557; 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: NCM 10-23702		

Thomas DME
First Level _____ Date 6/26/13



Data Review/Verification Checklist
RADIOCHEMISTRY, First Level Review

6/26/2013 10:31:42 AM

Lot No., Due Date: J3D300451; 06/03/2013
Client, Site: 384868; A210440HANFORD HANFORD
QC Batch No., Method Test: 3175091; RC14 C-14 by LSC
SDG, Matrix: W06557; 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:

NCM 10-23702

First Level _____ Date 6/26/13



Data Review Checklist
RADIOCHEMISTRY
 Second Level Review

Batch Number: 3122076 & 3175091

Review Item	Yes (✓)	No (✓)	NA (✓)
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 within contract acceptance criteria?	✓		
6. Is the LCS Minimum Detectable Activity ≤ the Contract Detection Limit?	✓		
7. Do the MS/MSD results and yields meet acceptance criteria?			✓
8. Do the duplicate sample results and yields meet acceptance criteria?	✓		
C. Other			
1. Are all Non-conformances 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: Sample B2P2A2 was recounted,
See NCM 10-23702

Second Level Review: *Sandra Segura* Date: 6-26-13

Clouseau Nonconformance Memo



NCM #: 10-23702 NCM Initiated By: Tom McGinnis Date Opened: 06/26/2013 Date Closed:	Classification: Deficiency Status: PMREVIEW Production Area: Environmental - Sep Tests: C-14 by LSC Lot #'s (Sample #'s): J3D250418 (1,2,3,4,5,6,7,8), J3D300450 (1,2), J3D300451 (1,2,3), J3D300453 (1,2), J3E010410 (1), J3E010411 (1,2), J3E020000 (76), QC Batches: 3122076, 3175091,
Nonconformance: Other (describe in detail) Subcategory: Other (explanation required)	

Problem Description / Root Cause

<u>Name</u>	<u>Date</u>	<u>Description</u>
Tom McGinnis	06/26/2013	The TSIE for sample J3D300451-1 exceeded acceptance criteria. It was successfully recounted in batch 3175091. All other batch results meet acceptance criteria.

Corrective Action

<u>Name</u>	<u>Date</u>	<u>Corrective Action</u>
Tom McGinnis	06/26/2013	The PM was notified of the batch deficiency.

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>
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Data Review/Verification Checklist
RADIOCHEMISTRY, First Level Review

6/25/2013 9:14:21 AM

Lot No., Due Date: J3D250418; 06/03/2013
Client, Site: 384868; A210440HANFORD HANFORD
QC Batch No., Method Test: 3122073; RTC99 Tc-99 by LSC
SDG, Matrix: W06557; 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:

Thomas OME
First Level _____ Date 6/25/13



Data Review Checklist
RADIOCHEMISTRY
 Second Level Review

Batch Number: 3122073

Review Item	Yes (✓)	No (✓)	NA (✓)
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 within contract acceptance criteria?	✓		
6. Is the LCS Minimum Detectable Activity ≤ the Contract Detection Limit?	✓		
7. Do the MS/MSD results and yields meet acceptance criteria?	✓		
8. Do the duplicate sample results and yields meet acceptance criteria?	✓		
C. Other			
1. Are all Non-conformances 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: Sandra Seguer Date: 6-25-13



Data Review/Verification Checklist
RADIOCHEMISTRY, First Level Review

5/24/2013 11:19:11 AM

Lot No., Due Date: J3D250418; 06/03/2013
Client, Site: 384868; A210440HANFORD HANFORD
QC Batch No., Method Test: 3122072; RTRITIUM H-3 by LSC
SDG, Matrix: W06557; 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:

Thomas DME
First Level _____ Date 5/24/13



Data Review Checklist
RADIOCHEMISTRY
 Second Level Review

Batch Number: 3122072

Review Item	Yes (√)	No (√)	NA (√)
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 within contract acceptance criteria?	✓		
6. Is the LCS Minimum Detectable Activity ≤ the Contract Detection Limit?	✓		
7. Do the MS/MSD results and yields meet acceptance criteria?			✓
8. Do the duplicate sample results and yields meet acceptance criteria?	✓		
C. Other			
1. Are all Non-conformances 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: *Sandra Legner* Date: 5-29-13



Richland Laboratory
Data Review Check List
Hexavalent Chromium

Batch Number(s):	3115045	Lab Sample Numbers or SDG:	W06557		
Method/Test/Parameter: Cr+6 <input checked="" type="checkbox"/> RL-WC-003(Aqueous) <input type="checkbox"/> RL-WC-004(Solid)					
Review Item	Yes (✓)	No (✓)	N/A (✓)	2 nd Level Review (✓)	
A. Initial Calibration					
1. Performed at required frequency with required number of levels?	✓			✓	
2. Correlation coefficient greater than 0.97?	✓			✓	
3. Initial calibration verification (ICV) analyzed immediately after calibration and results within 10% of expected?	✓			✓	
4. Initial calibration blank (ICB) analyzed immediately after ICV and concentrations of all parameters ≤ reporting limit?	✓			✓	
B. Continuing Calibration					
1. CCV analyzed at required frequency and all parameters within 10% of expected?	✓			✓	
2. CCB analyzed at required frequency and all results ≤ reporting limit?	✓			✓	
C. Sample Analysis					
1. Were any samples with concentrations above the linear range diluted and reanalyzed?			✓	✓	
2. Were all sample holding times met?	✓			✓	
D. QC Samples					
1. All results for the preparation blank below limits?	✓			✓	
2. LCS percent recovery within 85-115 %	✓			✓	
3. PbCrO ₄ percent recovery within 75-125 %?			✓	✓	
4. Sample and Duplicate within 20% (aqueous) or 35% (solid) RPD?	✓			✓	
5. MS or MS/MSD recoveries within 85-115 % (aqueous) or 75-125 % (solid)?	✓			✓	
6. On MS failure, PDMS within 85-115%?			✓	✓	
E. Other					
1. Are all nonconformances included and noted?			✓	✓	
2. Is the correct date and time of analysis shown?	✓			✓	
3. Did the analyst sign and date the front page of the analytical run?	✓			✓	
4. Correct methodology used?	✓			✓	
5. Transcriptions checked?	✓			✓	
6. Calculations checked at minimum frequency?	✓			✓	
7. Units checked?	✓			✓	

Comments on any "No" response or list NCM number:

Analyst H. Rahavi Date 4/25/13 2nd Review [Signature] Date 4/25/13



**Richland Laboratory
Data Review Check List
Hexavalent Chromium**

Batch Number(s):	3121068	Lab Sample Numbers or SDG:	W06557	
Method/Test/Parameter:	Cr+6 <input checked="" type="checkbox"/> RL-WC-003(Aqueous) <input type="checkbox"/> RL-WC-004(Solid)			
Review Item	Yes (✓)	No (✓)	N/A (✓)	2 nd Level Review (✓)
A. Initial Calibration				
1. Performed at required frequency with required number of levels?	✓			✓
2. Correlation coefficient greater than 0.97?	✓			✓
3. Initial calibration verification (ICV) analyzed immediately after calibration and results within 10% of expected?	✓			✓
4. Initial calibration blank (ICB) analyzed immediately after ICV and concentrations of all parameters ≤ reporting limit?	✓			✓
B. Continuing Calibration				
1. CCV analyzed at required frequency and all parameters within 10% of expected?	✓			✓
2. CCB analyzed at required frequency and all results ≤ reporting limit?	✓			✓
C. Sample Analysis				
1. Were any samples with concentrations above the linear range diluted and reanalyzed?			✓	✓
2. Were all sample holding times met?	✓			✓
D. QC Samples				
1. All results for the preparation blank below limits?	✓			✓
2. LCS percent recovery within 85-115%	✓			✓
3. PbCrO ₄ percent recovery within 75-125%?	✓			✓
4. Sample and Duplicate within 20% (aqueous) or 35% (solid) RPD?	✓			✓
5. MS or MS/MSD recoveries within 85-115% (aqueous) or 75-125% (solid)?	✓			✓
6. On MS failure, PDMS within 85-115%?			✓	✓
E. Other				
1. Are all nonconformances included and noted?			✓	✓
2. Is the correct date and time of analysis shown?	✓			✓
3. Did the analyst sign and date the front page of the analytical run?	✓			✓
4. Correct methodology used?	✓			✓
5. Transcriptions checked?	✓			✓
6. Calculations checked at minimum frequency?	✓			✓
7. Units checked?	✓			✓

Comments on any "No" response or list NCM number:

Analyst TDA for HLC

Date 5/2/13 2nd Review [Signature]

Date 5/3/13

CH2M Hill Plateau Remediation Company		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST		C.O.C.# I13-023-071	
Collector Robert Crow		Contact/Requester Karen Waters-Husted		Telephone No. 376-4650	
SAF No. I13-023		Sampling Origin Hanford Site		Purchase Order/Charge Code 300071ES20	
Project Title 100KR4, MAY 2013		Logbook No. HNF-N-506 55 / 29		Ice Chest No. N/A	
Shipped To (Lab) TestAmerica Incorporated, Richland		Method of Shipment GOVERNMENT VEHICLE		Bill of Lading/Air Bill No. N/A	
Protocol CERCLA		Priority: 30 Days		Offsite Property No. N/A	
POSSIBLE SAMPLE HAZARDS/REMARKS ** ** Contains Radioactive Material at concentrations that are not regulated for transportation per 49 CFR but are not releasable per DOE Order 5400.5 (1990/1993)					
SPECIAL INSTRUCTIONS Hold Time Total Activity Exemption: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> 100 Area Generator Knowledge Information Form applies. The CACN for all analytical work at WSCF is 401647.					

Sample No.	Filter	* Date	Time	No/Type Container	Sample Analysis	Holding Time	Preservative
B2P1V9	N	4-25-13	0853	1x500-mL aG	7196_CR6: COMMON	24 Hours	Cool~4C
B2P1V9	N			1x1-L P	906.0_TRITIUM_LSC: COMMON	6 Months	None
B2P1V9	N			1x20-mL P	Activity Scan	6 Months	None
B2P1V9	N			2x1-L G/P	C14_LSC: COMMON	6 Months	None
B2P1V9	N			3x1-L G/P	GAMMA_GS: List-1 (10)	6 Months	HNO3 to pH <2
B2P1V9	N			3x1-L G/P	SRISO_SEP_PRECIP_GPC: COMMON	6 Months	HNO3 to pH <2
B2P1V9	N	4-25-13	0853	1x500-mL P	TC99_ETVDSK_LSC: COMMON	6 Months	HCl to pH <2

J3D250418
 W065547
 Due 4-25-13

Relinquished By Robert Crow	Print RCrow	Sign	Date/Time APR 25 2013 0909	Received By FM HALL	Print [Signature]	Sign	Date/Time APR 25 2013 0909
Relinquished By FM HALL	Print [Signature]	Sign	Date/Time 4-25-13	Received By J. Boul	Print J. Boul	Sign	Date/Time 4-25-13
Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time

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

Disposal Method (e.g., Return to customer, per lab procedure, used in process)

CH2M Hill Plateau Remediation Company		C.O.C.# I13-023-078 Page 1 of 1	
CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			
Collector <i>R. Crow</i>	Contact/Requester Karen Waters-Husted	Telephone No. 376-4650	
SAF No. I13-023	Sampling Origin Hanford Site	Purchase Order/Charge Code 300071ES20	
Project Title 100KR4, MAY 2013	Logbook No. HNF-N-506 55 / 28	Ice Chest No. N/A	
Shipped To (Lab) TestAmerica Incorporated, Richland	Method of Shipment GOVERNMENT VEHICLE	Bill of Lading/Air Bill No. N/A	
Protocol CERCLA	Priority: 30 Days	Offsite Property No. N/A	
POSSIBLE SAMPLE HAZARDS/REMARKS *** Contains Radioactive Material at concentrations that are not regulated for transportation per 49 CFR but are not releasable per DOE Order 5400.5 (1990/1993)		SPECIAL INSTRUCTIONS Hold Time Total Activity Exemption: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> 100 Area Generator Knowledge Information Form applies. The CAGN for all analytical work at WSCF is 401647.	
Sample No.	Filter	* Date	Time
B2P2B4	N	4-24-13	0906
B2P2B4	N	4-24-13	0906
		No/Type Container	Sample Analysis
		1x20-mL P	Activity Scan
		2x1-L G/P	C14_L-SC: COMMON
			MSDN 15
		Holding Time	Preservative
		6 Months	None
		6 Months	None

330250418
watson
Duo

Relinquished By <i>R. Crow</i>	Print <i>R. Crow</i>	Sign	Date/Time APR 24 2013 1243	Received By SSU-1	Print	Sign	Date/Time APR 24 2013 1243	Matrix *
Relinquished By SSU # 1			Date/Time 4-25-13	Received By F.M. Hall			Date/Time 4-25-13	S = Soil = Drum Solids SE = Sediment = DL = Drum Liquids SO = Solid = T = Tissue SL = Sludge = WI = Wine W = Water = L = Liquid O = Oil = V = Vegetation A = Air = X = Other
Relinquished By F.M. Hall			Date/Time 4-25-13 1135	Received By J. Ball			Date/Time 4-25-13	
Relinquished By			Date/Time	Received By			Date/Time	
FINAL SAMPLE DISPOSITION				Disposal Method (e.g., Return to customer, per lab procedure, used in process)				Date/Time

CH2MHill Plateau Remediation Company		C.O.C. # 113-023-081	
Collector SCOTT KING		Contact/Requester Karen Waters-Husted	Telephone No. 376-4650
SAF No. 113-023		Sampling Origin Hanford Site	Purchase Order/Charge Code 300071ES20
Project Title 100KR4, MAY 2013		Logbook No. HNF-N-506-56 / 44	Ice Chest No. N/A
Shipped To (Lab) TestAmerica Incorporated, Richland		Method of Shipment GOVERNMENT VEHICLE	Bill of Lading/Air Bill No. N/A
Protocol CERCLA		Priority: 30 Days	Offsite Property No. N/A
POSSIBLE SAMPLE HAZARDS/REMARKS ** ** Contains Radioactive Material at concentrations that are not regulated for transportation per 49 CRF but are not releasable per DOE Order 5400.5 (1990/1993)			
SPECIAL INSTRUCTIONS		Hold Time	Total Activity Exemption: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
100 Area Generator Knowledge Information Form applies. The CACN for all analytical work at WSCF is 401647.			
Sample No.	Filter	* Date	Time
B2P2L2	N	4-24-13	12:17
B2P2L2	N	↓	↓
Sample Analysis		Holding Time	Preservative
Activity Scan		6 Months	None
C14_LSC: COMMON		6 Months	None

30303018
 1006551
 Due

Relinquished By SCOTT KING	Print <i>[Signature]</i>	Sign	Date/Time APR 24 2013 1950	Received By <i>[Signature]</i>	Print #1	Sign	Date/Time APR 24 2013 1950
Relinquished By SSA #1	Print <i>[Signature]</i>	Sign	Date/Time 4-25-13	Received By F M HALL	Print HALL	Sign	Date/Time 4-25-13
Relinquished By F M HALL	Print <i>[Signature]</i>	Sign	Date/Time 4-25-13	Received By J. BOUL	Print BOUL	Sign	Date/Time 4-25-13
Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time

CH2M Hill Plateau Remediation Company		C.O.C.# I13-023-085 Page 1 of 1	
CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			
Collector SCOTT KING	Contact/Requester Karen Waters-Husted	Telephone No. 376-4650	
SAF No. I13-023	Sampling Origin Hanford Site	Purchase Order/Charge Code 300071ES20	
Project Title 100KR4, MAY 2013	Logbook No. HNF-N-506-56/44	Ice Chest No. N/A	
Shipped To (Lab) TestAmerica Incorporated, Richland	Method of Shipment GOVERNMENT VEHICLE	Bill of Lading/Air Bill No. N/A	
Protocol CERCLA	Priority: 30 Days	Offsite Property No. N/A	
POSSIBLE SAMPLE HAZARDS/REMARKS ** ** Contains Radioactive Material at concentrations that are not regulated for transportation per 49 CFR but are not releasable per DOE Order 5400.5 (1990/1993)		SPECIAL INSTRUCTIONS Hold Time 100 Area Generator Knowledge Information Form applies. The CACN for all analytical work at WSCF is 401647.	
Sample No.	Filter	* Date	Time
B2P2N9	N	W 4-24-13	1346
B2P2N9	N	W	↓
		No/Type Container	Sample Analysis
		1x20-mL P	Activity Scan
		2x1-L G/P	C14_LSC: COMMON
			MONUL
		Holding Time	Preservative
		6 Months	None
		6 Months	None

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W06557
Dw

Relinquished By SCOTT KING	Print <i>Scott King</i>	Sign	Date/Time APR 24 2013	Received By SSU #1	Print #1	Sign	Date/Time APR 24 2013	Matrix *
Relinquished By SSU #1	Print #1	Sign	Date/Time 4-25-13	Received By FM Hall	Print FM Hall	Sign	Date/Time 4-25-13	S = Soil
Relinquished By FM Hall	Print FM Hall	Sign	Date/Time 4-25-13	Received By J. Beck	Print J. Beck	Sign	Date/Time 4-25-13	SE = Sediment
Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time	SO = Solid
								SL = Sludge
								W = Water
								O = Oil
								A = Air
								DS = Drum Solids
								DL = Drum Liquids
								T = Tissue
								WI = Wipe
								L = Liquid
								V = Vegetation
								X = Other
FINAL SAMPLE DISPOSITION		Disposal Method (e.g., Return to customer, per lab procedure, used in process)		Disposed By		Date/Time		

CH2M Hill Plateau Remediation Company		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST		C.O.C. # 113-023-093	
Collector <i>Susan Agutter</i>		Contact/Requester Karen Waters-Husted	Telephone No. 376-4650	Page 1 of 1	
SAF No. 113-023		Sampling Origin Hamford Site	Purchase Order/Charge Code 30007IES20		
Project Title 100KR4, MAY 2013		Logbook No. HNF-N-506 54 / 64	Ice Chest No. N/A		
Shipped To (Lab) TestAmerica Incorporated, Richland		Method of Shipment GOVERNMENT VEHICLE	Bill of Lading/Air Bill No. N/A		
Protocol CERCLA		Priority: 30 Days	Offsite Property No. N/A		
POSSIBLE SAMPLE HAZARDS/REMARKS		SPECIAL INSTRUCTIONS	Hold Time	Total Activity Exemption: Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
*** Contains Radioactive Material at concentrations that are not regulated for transportation per 49 CFR but are not releasable per DOE Order 5400.5 (1990/1993)		100 Area Generator Knowledge Information Form applies. The CACN for all analytical work at WSCF is 401647.			
Sample No.	Filter	* Date	Time	No/Type Container	Sample Analysis
B2P2X4	N	W 4-24-13	0939	1x20-mL P	Activity Scan
B2P2X4	N	W 4-24-13	0939	2x1-L G/P	C14_LSC: COMMON
3302650414 W02655N MONNP					
				Holding Time	Preservative
				6 Months	None
				6 Months	None

Relinquished By <i>Susan Agutter</i>	Print 	Sign	Date/Time APR 24 2013 1515	Received By <i>SU #1</i>	Print 	Sign	Date/Time APR 24 2013 1515	Matrix *
Relinquished By <i>SU #1</i>	Print 	Sign	Date/Time 4-25-13 0940	Received By <i>F M HAIL</i>	Print 	Sign	Date/Time 4-25-13	S = Soil = Drum Solids SE = Sediment = Drum Liquids SO = Solid = Tissue SL = Sludge = WI = Wipe W = Water = L = Liquid O = Oil = V = Vegetation A = Air = X = Other
Relinquished By <i>F M HAIL</i>	Print 	Sign	Date/Time 4-25-13 1135	Received By <i>J. BULLOCK</i>	Print 	Sign	Date/Time 4-25-13	
Relinquished By				Received By				
FINAL SAMPLE DISPOSITION				Disposal Method (e.g., Return to customer, per lab procedure, used in process)				Date/Time
				Disposed By				

A-6004-842 (REV 2)

PRINTED ON 3/21/2013

CH2M Hill Plateau Remediation Company		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST		C.O.C.# I13-023-098 Page 1 of 1	
Collector	Susan Aguilera	Contact/Requester	Karen Waters-Husted	Telephone No.	376-4650
SAF No.	I13-023	Sampling Origin	Hanford Site	Purchase Order/Charge Code	300071ES20
Project Title	100KR4, MAY 2013	Logbook No.	HNF-N-506 54/64	Ice Chest No.	N/A
Shipped To (Lab)	TestAmerica Incorporated, Richland	Method of Shipment	GOVERNMENT VEHICLE	Bill of Lading/Air Bill No.	N/A
Protocol	CERCLA	Priority:	30 Days	Offsite Property No.	N/A
POSSIBLE SAMPLE HAZARDS/REMARKS *** Contains Radioactive Material at concentrations that are not regulated for transportation per 49 CFR but are not releasable per DOE Order 5400.5 (1990/1993)			SPECIAL INSTRUCTIONS Hold Time 100 Area Generator Knowledge Information Form applies. The CACN for all analytical work at WSCF is 401647.		
Sample No.	Filter	Date	Time	No/Type Container	Sample Analysis
B2P316	N	4-24-13	1442	1x20-mL P	Activity Scan
B2P316	N	4-24-13	1442	2x1-L G/P	C14_LSC: COMMON
				Holding Time 6 Months Preservative None	
				Holding Time 6 Months Preservative None	

SSASAS0119
 wadessn
 Due

Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time	Matrix *
Susan Aguilera			APR 24 2013 1515	SSA # 1			APR 24 2013 1515	S = Soil DS = Drum Solids
Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time	SE = Sediment DL = Drum Liquids
SSA # 4			1135 4-25-13	F.M. Hall			4-25-13	SO = Solid T = Tissue
Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time	SL = Sludge WI = Wipe
F.M. Hall			1135 4-25-13	S. Boul			4-25-13	W = Water L = Liquid
Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time	O = Oil V = Vegetation
								A = Air X = Other



Sample Check-in List

Date/Time Received: 4-25-13/1135 Container GM Screen Result: (Airlock) .4 Initials [B]
Sample GM Screen Result (Sample Receiving) .6 Initials [B]

Client: Plw SDG # W065577 SAF #: I13-023 NA []

Lot Number: J3D250418

Chain of Custody # I13-023-071; 078; 081; 085; 093; 097; 098; 099

Shipping Container ID or Air Bill Number: Hand deliv. NA [SLP]

Samples received inside shipping container/cooler/box Yes [B]] Continue with 1 through 4. Initial appropriate response.
No []] Go to 5, add comment to #16.

- 1. Custody Seals on shipping container intact? Yes [] No [] No Custody Seal [B]
2. Custody Seals dated and signed? Yes [] No [] No Custody Seal [B]
3. Cooler temperature: 00.6 C Ice NA []
4. Vermiculite/packing materials is NA [B] Wet [] Dry []

Item 5 through 16 for samples. Initial appropriate response.

- 5. Chain of Custody record present? Yes [B]] No []
6. Number of samples received (Each sample may contain multiple bottles): 8
7. Containers received: 8 x Vial 20; 1 x 500 mL PG; 1 x 500 mL P; 23 x LP

- 8. Sample holding times exceeded? NA [] Yes [] No [B]
9. Samples have: tape hazard labels [B] custody seals [B] appropriate sample labels
10. Matrix: A (FLT, Wipe, Solid, Soil) [B] I (Water) S (Air, Niosh 7400) T (Biological, Ni-63)

11. Samples: [B] are in good condition are leaking are broken
[] have air bubbles (Only for samples requiring no head space) Other

12. Sample pH appropriate for analysis requested Yes [B]] No [] NA []
(If acidification is necessary go to 17, then document sample ID, initial pH, amount of HNO3 added and pH after addition on table)

13. Were any anomalies identified in sample receipt? Yes [] No [B]]
14. Description of anomalies (include sample numbers): NA [B]]

15. Sample Location, Sample Collector Listed on COC? * Yes [B]] No []
*For documentation only. No corrective action needed.

16. Additional Information: N/A

[] Client/Courier denied temperature check. [B]] Client/Courier unpack cooler.

Sample Check-in List completed by Sample Custodian:
Signature: [Signature] Date: 4-25-13

Client Notification needed? Yes [] No [SLP] Date:
By:
Person contacted:

[SLP] No action necessary, process as is
Project Manager [Signature] Date 4-25-13

CH2M Hill Plateau Remediation Company		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST		C.O.C.# S13-005-088	
Collector <i>Ray Shepard</i>		Contact/Requester	Karen Waters-Husted	Telephone No.	376-4650
SAF No.	S13-005	Sampling Origin	Hanford Site	Purchase Order/Charge Code	300071ES20
Project Title	SURV, MAY 2013	Logbook No.	HNF-N-506 <i>54 / 67</i>	Ice Chest No.	N/A
Shipped To (Lab)	TestAmerica Incorporated, Richland	Method of Shipment	GOVERNMENT VEHICLE	Bill of Lading/Air Bill No.	N/A
Protocol	SURV	Priority:	30 Days	Offsite Property No.	N/A
POSSIBLE SAMPLE HAZARDS/REMARKS *** Contains Radioactive Material at concentrations that are not regulated for transportation per 49 CFR but are not releasable per DOE Order 5400.5 (1990/1993)					
Sample No.	Filter	* Date	Time	No/Type Container	Sample Analysis
B2P4B9	N	W APR 25 2013	1130	1x20-mL P	Activity Scan
B2P4B9	N	W	1	2x1-L G/P	C14_LSC: COMMON
Holding Time: 6 Months Holding Time: 6 Months Sample Analysis: <i>MORSE</i> Sample Analysis: Preservative Sample Analysis: None Sample Analysis: None					

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W06557
Due



Relinquished By <i>Ray Shepard</i>	Signature <i>[Signature]</i>	Date/Time APR 25 2013 1200	Received By <i>SSuth</i>	Signature <i>[Signature]</i>	Date/Time APR 25 2013 1220
Relinquished By <i>SSuth</i>	Signature <i>[Signature]</i>	Date/Time APR 29 2013 0730	Received By <i>Am Aguilar</i>	Signature <i>[Signature]</i>	Date/Time APR 29 2013 0730
Relinquished By <i>Am Aguilar</i>	Signature <i>[Signature]</i>	Date/Time APR 29 2013 0825	Received By <i>Tom McGinnis</i>	Signature <i>[Signature]</i>	Date/Time APR 29 2013 0825
Relinquished By	Signature	Date/Time	Received By	Signature	Date/Time

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

Disposal Method (e.g., Return to customer, per lab procedure, used in process)

CH2M Hill Plateau Remediation Company		C.O.C. # S13-005-089	
Collector Robert Crow		Page 1 of 1	
Project Title SURV, MAY 2013		Telephone No.	376-4650
SAF No.	S13-005	Purchase Order/Charge Code	30007IES20
Logbook No.	HNF-N-506 55/29	Ice Chest No.	N/A
Method of Shipment	GOVERNMENT VEHICLE	Bill of Lading/Air Bill No.	N/A
Priority:	30 Days	Offsite Property No.	N/A
POSSIBLE SAMPLE HAZARDS/REMARKS *** Contains Radioactive Material at concentrations that are not regulated for transportation per 49 CRF but are not releasable per DOE Order 5400.5 (1990/1993)		SPECIAL INSTRUCTIONS Hold Time Total Activity Exemption: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Site-Wide Generator Knowledge Information Form applies. The CACN for all analytical work at WSCF is 401647.	
Sample No.	Filter * Date	Time	No./Type Container
B2P4C8	N W 4-25-13	0943	1x20-mL P
B2P4C8	N W 4-25-13	0943	2x1-L GIP
Sample Analysis Activity Scan C14_LSC: COMMON		Holding Time	Preservative
		6 Months	None
		6 Months	None

330300450
 W06557
 Due

Requisitioned By Robert Crow	Print R Crow	Sign	Date/Time APR 25 2013 1353	Received By SSU-1	Print	Sign	Date/Time APR 25 2013 1353	Matrix * DS = Drum Solids
Requisitioned By SSU-1				Received By Um Aguilar only			APR 29 2013 0730	DL = Drum Liquids
Requisitioned By Um Aguilar only				Received By Tam McGrath Jones			APR 29 2013 0825	T = Tissue
Requisitioned By				Received By				WI = Wipe
								L = Liquid
								V = Vegetation
								X = Other
FINAL SAMPLE DISPOSITION		Disposal Method (e.g., Return to customer, per lab procedure, used in process)		Disposed By		Date/Time		
PRINTED O 3/25/2013								A-6004-842 (REV 2)

TestAmerica

Sample Check-in List

THE LEADER IN ENVIRONMENTAL TESTING

Date/Time Received: 4/29/13 0825 Container GM Screen Result: (Airlock) 0.05 Initials [MT]
Sample GM Screen Result (Sample Receiving) 0.05 Initials [MT]

Client: PGW SDG #: WDUSSN SAF #: S13-005 NA []

Lot Number: J3D300450

Chain of Custody #: S13-005-088; 089

Shipping Container ID or Air Bill Number: GWS-175 NA []

Samples received inside shipping container/cooler/box Yes [MT] Continue with 1 through 4. Initial appropriate response.
No [] Go to 5, add comment to #16.

- 1. Custody Seals on shipping container intact? Yes [] No [] No Custody Seal [MT]
2. Custody Seals dated and signed? Yes [] No [] No Custody Seal [SKS]
3. Cooler temperature: _____ °C NA [MT]
4. Vermiculite/packing materials is NA [MT] Wet [] Dry []

Item 5 through 16 for samples. Initial appropriate response.

- 5. Chain of Custody record present? Yes [MT] No []
6. Number of samples received (Each sample may contain multiple bottles): 5 B 4-30-13 2
7. Containers received: 5 x 1x20ml EP, 10 x 1LP 2 x vial 20; 4 x LP
8. Sample holding times exceeded? NA [MT] Yes [] No [SKS]
9. Samples have: _____ tape _____ hazard labels _____ custody seals _____ appropriate sample labels
10. Matrix: _____ A (FLT, Wipe, Solid, Soil) _____ I (Water) _____ S (Air, Niosh 7400) _____ T (Biological, Ni-63)
11. Samples: _____ are in good condition _____ are leaking _____ are broken
_____ have air bubbles (Only for samples requiring no head space) _____ Other _____
12. Sample pH appropriate for analysis requested Yes [SKS] No [] NA []
13. Were any anomalies identified in sample receipt? Yes [] No [MT]
14. Description of anomalies (include sample numbers): NA [MT]
15. Sample Location, Sample Collector Listed on COC? * Yes [SKS] No []
16. Additional Information: N/A

[] Client/Courier denied temperature check. [MT] Client/Courier unpack cooler.

Sample Check-in List completed by Sample-Custodian:
Signature: TOM DOME Date: 4/29/13 0825

Client Notification needed? Yes [] No [SKS] Date:
By:
Person contacted:

[SKS] No action necessary; process as is
Project Manager: Sandra Segon Date 5-2-13

CH2MHill Plateau Remediation Company		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST		C.O.C. # I13-023-089			
Collector Roy Shepard		Contact/Requester Karen Waters-Husted		Telephone No. 376-4650			
SAF No. I13-023		Sampling Origin Hanford Site		Purchase Order/Charge Code 30007IES20			
Project Title 100KCR4, MAY 2013		Logbook No. HNF-N-506 54/64		Ice Chest No. N/A			
Shipped To (Lab) TestAmerica Incorporated, Richland		Method of Shipment GOVERNMENT VEHICLE		Bill of Lading/Air Bill No. N/A			
Protocol CERCLA		Priority: 30 Days		Offsite Property No. N/A			
POSSIBLE SAMPLE HAZARDS/REMARKS ** ** Contains Radioactive Material at concentrations that are not regulated for transportation per 49 CFR but are not releasable per DOE Order 5400.5 (1990/1995)							
SPECIAL INSTRUCTIONS Hold Time Total Activity Exemption: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> 100 Area Generator Knowledge Information Form applies. The CACN for all analytical work at WSCF is 401647.							
Sample No.	Filter *	Date	Time	No/Type Container	Sample Analysis	Holding Time	Preservative
B2P2T2	N	APR 25 2013	0840	1x20-mL P	Activity Scan	6 Months	None
B2P2T2	N	/	/	2x1-L G/P	C14_LSC: COMMON	6 Months	None

J3D300451
 wadessn
 Due



Relinquished By Roy Shepard	Print <i>[Signature]</i>	Received By <i>[Signature]</i>	Sign <i>[Signature]</i>	Date/Time APR 25 2013	Matrix * S = Soil SE = Sediment SO = Solid SL = Sludge W = Water O = Oil A = Air
Relinquished By <i>[Signature]</i>	Print <i>[Signature]</i>	Received By <i>[Signature]</i>	Sign <i>[Signature]</i>	Date/Time APR 29 2013 0730	DS = Drum Solids DL = Drum Liquids T = Tissue WI = Wipe L = Liquid V = Vegetation X = Other
Relinquished By <i>[Signature]</i>	Print <i>[Signature]</i>	Received By <i>[Signature]</i>	Sign <i>[Signature]</i>	Date/Time APR 29 2013 0825	

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

CH2M Hill Plateau Remediation Company		C.O.C. # I13-023-100	
Project Title 100KR4, MAY 2013		Page 1 of 1	
Collector Robert Crow	Contact/Requester Karen Waters-Husted	Telephone No. 376-4650	
SAF No. I13-023	Sampling Origin Hamford Site	Purchase Order/Charge Code 300071ES20	
Project Title 100KR4, MAY 2013	Logbook No. HNF-N-506 55 / 27	Ice Chest No. N/A	
Shipped To (Lab) TestAmerica Incorporated, Richland	Method of Shipment GOVERNMENT VEHICLE	Bill of Lading/Air Bill No. N/A	
Protocol CERCLA	Priority: 30 Days	Offsite Property No. N/A	
POSSIBLE SAMPLE HAZARDS/REMARKS ** ** Contains Radioactive Material at concentrations that are not regulated for transportation per 49 CFR but are not releasable per DOE Order 5400.5 (1990/1995)			
SPECIAL INSTRUCTIONS 100 Area Generator Knowledge Information Form applies. The CACN for all analytical work at WSCF is 401647.		Total Activity Exemption: Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
Sample No.	Filter	* Date	Time
B2P326	N	W 4-25-13	1251
B2P326	N	W 4-25-13	1251
Sample Analysis		Holding Time	Preservative
Activity Scan		6 Months	None
C14_LSC: COMMON		6 Months	None

330300451
watersh
Dw

Relinquished By Robert Crow	Print RCrow	Sign	Date/Time APR 25 2013 1352	Received By SSU-1	Print	Sign	Date/Time APR 25 2013 1352
Relinquished By SSU #1			4-29-13	Received By Cm Aguilar CML			4-29-13 0730
Relinquished By Cm Aguilar CML			4-29-13 0825	Received By Tim McGinnis			4-29-13 0825
Relinquished By			Date/Time	Received By			Date/Time
Disposal Method (e.g., Return to customer, per lab procedure, used in process)				Disposed By			
FINAL SAMPLE DISPOSITION				Date/Time			

CH2M Hill Plateau Remediation Company		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST		C.O.C.# I13-023-106	
Collector Roy Shepard		Contact/Requester Karen Waters-Husted	Telephone No. 376-4650	Page 1 of 1	
SAF No. I13-023	Sampling Origin Hamford Site	Purchase Order/Charge Code 300071ES20	Ice Chest No. N/A		
Project Title 100KR4, MAY 2013	Logbook No. HNF-N-506 54/66	Bill of Lading/Air Bill No. N/A	Offsite Property No. N/A		
Shipped To (Lab) TestAmerica Incorporated, Richland	Method of Shipment GOVERNMENT VEHICLE				
Protocol CERCLA	Priority: 30 Days	PRIORITY	Total Activity Exemption: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>		
POSSIBLE SAMPLE HAZARDS/REMARKS ** ** Contains Radioactive Material at concentrations that are not regulated for transportation per 49 CFR but are not releasable per DOE Order 5400.5 (1990/1993)					
Sample No.	Filter	Date	Time	No/Type Container	Sample Analysis
B2P360	N	W APR 25 2013	0744	1x20-mL P	Activity Scan
B2P360	N	W APR 25 2013	0744	2x1-L G/P	C14_LSC: COMMON

330300451
witness
Duc

Relinquished By Roy Shepard	Print	Sign	Received By SSU #1	Print	Sign	Date/Time APR 25 2013 1220	Matrix *
Relinquished By SSU #1	Print	Sign	Received By Em Aguilar Cmgf	Print	Sign	Date/Time APR 29 2013 0730	S = Soil SE = Sediment SO = Solid SL = Sludge W = Water O = Oil A = Air
Relinquished By Em Aguilar Cmgf	Print	Sign	Received By Tam McGinnis	Print	Sign	Date/Time APR 29 2013 0825	DS = Drum Solids DL = Drum Liquids T = Tissue WI = Wine L = Liquid V = Vegetation X = Other
Relinquished By	Print	Sign	Received By	Print	Sign	Date/Time	
FINAL SAMPLE DISPOSITION Disposal Method (e.g., Return to customer, per lab procedure, used in process)							Disposed By

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

Sample Check-in List

Date/Time Received: 4-29-13/0825 Container GM Screen Result: (Airlock) 0.05 Initials [B]
Sample GM Screen Result (Sample Receiving) 0.05 Initials [B]

Client: Plow SDG #: W06557 SAF #: IB-023 NA []

Lot Number: J3D300451

Chain of Custody # IB-023-089; 100; 106

Shipping Container ID or Air Bill Number: Hand deliv. NA [S/S]

Samples received inside shipping container/cooler/box Yes [B] Continue with 1 through 4. Initial appropriate response.
No [] Go to 5, add comment to #16.

- 1. Custody Seals on shipping container intact? Yes [] No [] No Custody Seal [B]
2. Custody Seals dated and signed? Yes [] No [] No Custody Seal [B]
3. Cooler temperature: _____ °C NA [B]
4. Vermiculite/packing materials is NA [B] Wet [] Dry []

Item 5 through 16 for samples. Initial appropriate response.

- 5. Chain of Custody record present? Yes [B] No []
6. Number of samples received (Each sample may contain multiple bottles): 3
7. Containers received: 3x vial 20; 6x 4

- 8. Sample holding times exceeded? NA [] Yes [] No [B]
9. Samples have: _____ tape _____ hazard labels S/S custody seals [B] appropriate sample labels

10. Matrix: _____ A (FLT, Wipe, Solid, Soil) [B] I (Water) _____ S (Air, Niosh 7400) _____ T (Biological, Ni-63)

11. Samples: [B] are in good condition _____ are leaking _____ are broken
_____ have air bubbles (Only for samples requiring no head space) Other _____

12. Sample pH appropriate for analysis requested Yes [B] No [] NA []
(If acidification is necessary go to 17, then document sample ID, initial pH, amount of HNO3 added and pH after addition on table)

13. Were any anomalies identified in sample receipt? Yes [] No [B]

14. Description of anomalies (include sample numbers): NA [B] N/A

15. Sample Location, Sample Collector Listed on COC? * Yes [B] No []
*For documentation only. No corrective action needed.

16. Additional Information: N/A

[] Client/Courier denied temperature check. [B] Client/Courier unpack cooler.

Sample Check-in List completed by Sample Custodian:
Signature: [Signature] Date: 4-29-13

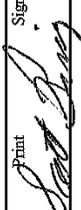
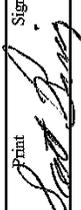
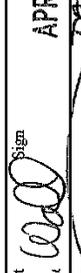
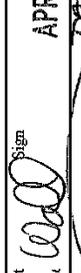
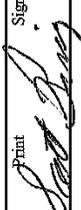
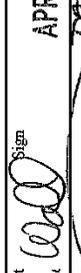
Client Notification needed? Yes [] No [S/S] Date: _____
By: _____
Person contacted: _____

[S/S] No action necessary; process as is
Project Manager: [Signature] Date: 5-2-13

CH2M Hill Plateau Remediation Company		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST		C.O.C. # S13-005-084 Page 1 of 1			
Collector SCOTTKING	Contact/Requester Karen Waters-Husted	Telephone No. 376-4650					
SAF No. S13-005	Sampling Origin Hanford Site	Purchase Order/Charge Code 300071ES20					
Project Title SURV, MAY 2013	Logbook No. HNF-N-506 566/44	Ice Chest No. N/A					
Shipped To (Lab) TestAmerica Incorporated, Richland	Method of Shipment GOVERNMENT VEHICLE	Bill of Lading/Air Bill No. N/A					
Protocol SURV	Priority: 30 Days	Offsite Property No. N/A					
POSSIBLE SAMPLE HAZARDS/REMARKS ** ** Contains Radioactive Material at concentrations that are not regulated for transportation per 49 CFR but are not releasable per DOE Order 5400.5 (1990/1993)							
Sample No. B2P491	Filter N	Date APR 29 2013	No/Type Container 1x20-ml P	Activity Scan C14_LSC: COMMON	Sample Analysis mops-l	Holding Time 6 Months	Preservative None
Sample No. B2P491	Filter N	Date APR 29 2013	No/Type Container 2x1-L G/P	Activity Scan C14_LSC: COMMON	Sample Analysis mops-l	Holding Time 6 Months	Preservative None

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 J3D300453

Relinquished By SCOTTKING	Print 	Sign L.D. WALL	Date/Time APR 29 2013 1120	Received By L.D. WALL	Print 	Sign L.D. WALL	Date/Time APR 29 2013 1126	Matrix * S = Soil SE = Sediment SO = Solid SL = Sludge W = Water O = Oil A = Air DS = Drum Solids DL = Drum Liquids T = Tissue WI = Wipe L = Liquid V = Vegetation X = Other	
Relinquished By L.D. WALL	Print 	Sign L.D. WALL	Date/Time APR 29 2013 1330	Received By Tom McGinnis	Print 	Sign Tom McGinnis	Date/Time APR 29 2013 1330		
Relinquished By L.D. WALL	Print 	Sign L.D. WALL	Date/Time APR 29 2013 1330	Received By Tom McGinnis	Print 	Sign Tom McGinnis	Date/Time APR 29 2013 1330		
Relinquished By L.D. WALL	Print 	Sign L.D. WALL	Date/Time APR 29 2013 1330	Received By Tom McGinnis	Print 	Sign Tom McGinnis	Date/Time APR 29 2013 1330		
FINAL SAMPLE DISPOSITION								Disposal Method (e.g., Return to customer, per lab procedure, used in process)	Date/Time

CH2M Hill Plateau Remediation Company		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST		C.O.C. # S13-005-085				
Collector SCOTT KING		Contact/Requester Karen Waters-Husted	Telephone No. 376-4650	Page 1 of 1				
SAF No. S13-005	Sampling Origin Hanford Site	Logbook No. HNF-N-506	Purchase Order/Charge Code 300071ES20	Ice Chest No. N/A				
Project Title SURV, MAY 2013	Method of Shipment GOVERNMENT VEHICLE	Bill of Lading/Air Bill No. N/A	Offsite Property No. N/A					
Shipped To (Lab) TestAmerica Incorporated, Richland	Priority: 30 Days	SPECIAL INSTRUCTIONS Hold Time Total Activity Exemption: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Site-Wide Generator Knowledge Information Form applies. The CACN for all analytical work at WSCF is 401647.						
Protocol SURV	POSSIBLE SAMPLE HAZARDS/REMARKS ** ** Contains Radioactive Material at concentrations that are not regulated for transportation per 49 CFR but are not releasable per DOE Order 5400.5 (1990/1993)							
Sample No.	Filter	*	Date	Time	No/Type Container	Sample Analysis	Holding Time	Preservative
B2P492	N		APR 29 2013	1100	1x20-mL P	Activity Scan	6 Months	None
B2P492	N		W	↓	2x1-L/GP	C14_LSC: COMMON	6 Months	None

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Relinquished By SCOTT KING	Print <i>Scott King</i>	Sign <i>Scott King</i>	Date/Time APR 29 2013 1120	Received By L.D. WALL	Print <i>L.D. WALL</i>	Sign <i>L.D. WALL</i>	Date/Time APR 29 2013 1120
Relinquished By L.D. WALL	Print <i>L.D. WALL</i>	Sign <i>L.D. WALL</i>	Date/Time APR 29 2013 1330	Received By TOM DWIGGINS	Print <i>TOM DWIGGINS</i>	Sign <i>TOM DWIGGINS</i>	Date/Time APR 29 2013 1330
Relinquished By			Date/Time	Received By			Date/Time
Relinquished By			Date/Time	Received By			Date/Time

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

Disposal Method (e.g., Return to customer, per lab procedure, used in process)

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

Sample Check-in List

Date/Time Received: 4/29/13 1330 Container GM Screen Result: (Airlock) 0.05 Initials [MT]
Sample GM Screen Result (Sample Receiving) 0.05 Initials [MT]

Client: CH2MHill SDG #: W06557 SAF #: S13-005 NA []

Lot Number: J3D300453

Chain of Custody # S13-005-0841085

Shipping Container ID or Air Bill Number: GWS-272 GWS-315 NA [MT]

Samples received inside shipping container/cooler/box Yes [MT] Continue with 1 through 4. Initial appropriate response. No [] Go to 5, add comment to #16.

- 1. Custody Seals on shipping container intact? Yes [] No [] No Custody Seal [MT]
2. Custody Seals dated and signed? Yes [] No [] No Custody Seal [MT]
3. Cooler temperature: GWS-272-3.1 C NA [MT]
4. Vermiculite/packing materials is NA [MT] Wet [] Dry []

Item 5 through 16 for samples. Initial appropriate response.

- 5. Chain of Custody record present? Yes [MT] No []
6. Number of samples received (Each sample may contain multiple bottles): 4 2 134-30-13
7. Containers received: 4x 120MLP 2x 500MLAG 13x 1LP 1x 500MLP 4-30-13
2x vial 20; 4 x LP
8. Sample holding times exceeded? NA [] Yes [] No [MT]
9. Samples have: tape hazard labels custody seals SIS appropriate sample labels
10. Matrix: A (FLT, Wipe, Solid, Soil) I (Water) S (Air, Niosh 7400) T (Biological, Ni-63)
11. Samples: are in good condition are leaking are broken
have air bubbles (Only for samples requiring no head space) Other
12. Sample pH appropriate for analysis requested Yes [B] No [] NA []
(If acidification is necessary go to 17, then document sample ID, initial pH, amount of HNO3 added and pH after addition on table)
13. Were any anomalies identified in sample receipt? Yes [] No [MT]
14. Description of anomalies (include sample numbers): NA [MT]
15. Sample Location, Sample Collector Listed on COC? * Yes [MT] No []
*For documentation only. No corrective action needed.
16. Additional Information: N/A

[] Client/Courier denied temperature check. [MT] Client/Courier unpack cooler.

Sample Check-in List completed by Sample Custodian:

Signature: Tom DMC Date: 4/29/13

Client Notification needed? Yes [] No [X] Date: By: Person contacted:

[X] No action necessary; process as is

Project Manager Sandra Loger Date 5-2-13

CH2M Hill Plateau Remediation Company		C.O.C. # 113-023-082	
Collector DAVE FLOYD		Page 1 of 1	
Contract/Requester Karen Waters-Husted		Telephone No. 376-4650	
Sampling Origin Hanford Site		Purchase Order/Charge Code 300071ES20	
Logbook No. HNF-N-506 55 / 30		Ice Chest No. N/A	
Method of Shipment GOVERNMENT VEHICLE		Bill of Lading/Air Bill No. N/A	
Priority: 30 Days		Offsite Property No. N/A	
SPECIAL INSTRUCTIONS 100 Area Generator Knowledge Information Form applies. The CACN for all analytical work at WSCF is 401647.		Total Activity Exemption: Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
POSSIBLE SAMPLE HAZARDS/REMARKS *** Contains Radioactive Material at concentrations that are not regulated for transportation per 49 CRF but are not releasable per DOE Order 5400.5 (1990/1993)		Hold Time	
Sample No.	Filter	* Date	Time
B2P2L8	N	W 4-29-13	1225
B2P2L8	N	W 4-29-13	1225
Sample Analysis		Holding Time	
Activity Scan		6 Months	
C14_LSC: COMMON		6 Months	
No/Type Container		Preservative	
1x20-mL P		None	
2x1-L G/P		None	



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Relinquished By DAVE FLOYD	Print <i>[Signature]</i>	Sign	Received By <i>[Signature]</i>	Date/Time APR 29 2013 1348
Relinquished By 554 #1	Print	Sign	Received By <i>[Signature]</i>	Date/Time APR 30 2013 0900
Relinquished By <i>[Signature]</i>	Print	Sign	Received By <i>[Signature]</i>	Date/Time APR 30 2013 0950
Relinquished By /	Print	Sign	Received By	Date/Time

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

Disposed By

Disposal Method (e.g., Return to customer, per lab procedure, used in process)

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

Sample Check-in List

Date/Time Received: 4-30-13 / 0950 Container GM Screen Result: (Airlock) .4 Initials [B]
Sample GM Screen Result (Sample Receiving) .4 Initials [B]

Client: PLW SDG # W06557 SAF #: I13-023 NA []

Lot Number: J3E010410

Chain of Custody # I13-023-082

Shipping Container ID or Air Bill Number: hand de au NA [AS]

Samples received inside shipping container/cooler/box Yes [B]] Continue with 1 through 4. Initial appropriate response.
No []] Go to 5, add comment to #16.

- 1. Custody Seals on shipping container intact? Yes [] No [] No Custody Seal [B]]
2. Custody Seals dated and signed? Yes [] No [] No Custody Seal [B]]
3. Cooler temperature: _____ °C NA [B]]
4. Vermiculite/packing materials is NA [B]] Wet [] Dry []

Item 5 through 16 for samples. Initial appropriate response.

- 5. Chain of Custody record present? Yes [B]] No []
6. Number of samples received (Each sample may contain multiple bottles): 1
7. Containers received: 1x vinyl 20, 2x 4

- 8. Sample holding times exceeded? NA [] Yes [] No [B]]
9. Samples have: _____ tape _____ hazard labels [B] custody seals [B] appropriate sample labels
10. Matrix: _____ A (FLT, Wipe, Solid, Soil) [B] I (Water) _____ S (Air, Niosh 7400) _____ T (Biological, Ni-63)

11. Samples: [B] are in good condition _____ are leaking _____ are broken
_____ have air bubbles (Only for samples requiring no head space) _____ Other _____

12. Sample pH appropriate for analysis requested Yes [B]] No [] NA []
(If acidification is necessary go to 17, then document sample ID, initial pH, amount of HNO3 added and pH after addition on table)

- 13. Were any anomalies identified in sample receipt? Yes [] No [B]]
14. Description of anomalies (include sample numbers): NA [B]]

15. Sample Location, Sample Collector Listed on COC? * Yes [B]] No []
*For documentation only. No corrective action needed.

16. Additional Information: N/A

[] Client/Courier denied temperature check. [B] Client/Courier unpack cooler.

Sample Check-in List completed by Sample Custodian:
Signature: Julie Pech Date: 4-30-13

Client Notification needed? Yes [] No [B]] Date: _____
By: _____
Person contacted: _____

[B] No action necessary; process as is
Project Manager: Sandra Seger Date: 5-2-13

CH2MHill Plateau Remediation Company		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST				C.O.C. # S13-005-086	
Collector DAVE FLOYD		Contact/Requester Karen Waters-Husted	Telephone No. 376-4650	Page 1 of 1			
SAF No. S13-005	Sampling Origin Hanford Site	Purchase Order/Charge Code 300071ES20					
Project Title SURV, MAY 2013	Logbook No. HNF-N-506 55/30	Ice Chest No. N/A					
Shipped To (Lab) TestAmerica Incorporated, Richland	Method of Shipment GOVERNMENT VEHICLE	Bill of Lading/Air Bill No. N/A					
Protocol SURV	Priority: 30 Days	Offsite Property No. PRIORITY					
POSSIBLE SAMPLE HAZARDS/REMARKS		Hold Time	Total Activity Exemption: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>				
*** Contains Radioactive Material at concentrations that are not regulated for transportation per 49 CRF but are not releasable per DOE Order 5400.5 (1990/1993) ***		SPECIAL INSTRUCTIONS		Site-Wide Generator Knowledge Information Form applies. The CACN for all analytical work at WSCF is 401647.			
Sample No.	Filter *	Date	Time	No/Type Container	Sample Analysis	Holding Time	Preservative
B2P4B0	N	4-29-13	0940	1x20-mL P	Activity Scan	6 Months	None
B2P4B0	N	4-29-13	0840	2x1-L G/P	C14_LSC: COMMON	6 Months	None

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 Due



Relinquished By DAVE FLOYD	Print	Sign	Date/Time APR 29 2013 1347	Received By SSU #1	Print	Sign	Date/Time APR 29 2013 1347	Matrix * S = Soil, SE = Sediment, SO = Solid, SL = Sludge, W = Water, O = Oil, A = Air, DS = Drum Solids, DL = Drum Liquids, T = Tissue, WI = Wipe, L = Liquid, V = Vegetation, X = Other
Relinquished By SSU #1	Print	Sign	Date/Time APR 30 2013 0700	Received By D. Weibel	Print	Sign	Date/Time APR 30 2013 0900	
Relinquished By D. Weibel	Print	Sign	Date/Time APR 30 2013 0950	Received By J. Beck	Print	Sign	Date/Time APR 30 2013 0950	
Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time	
FINAL SAMPLE DISPOSITION		Disposal Method (e.g., Return to customer, per lab procedure, used in process)		Disposed By		Date/Time		

CH2M Hill Plateau Remediation Company		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST		C.O.C.# S13-005-087	
Collector DAVE FLOYD		Contact/Requester Karen Waters-Husted	Telephone No. 376-4650	Page 1 of 1	
SAF No. S13-005	Sampling Origin Hamford Site	Logbook No. HNF-N-506 55 / 30	Purchase Order/Charge Code 300071ES20	Ice Chest No. N/A	
Project Title SURV, MAY 2013	Method of Shipment GOVERNMENT VEHICLE	Bill of Lading/Air Bill No. N/A		Offsite Property No. N/A	
Shipped To (Lab) TestAmerica Incorporated, Richland	Priority: 30 Days				
Protocol SURV					
POSSIBLE SAMPLE HAZARDS/REMARKS *** Contains Radioactive Material at concentrations that are not regulated for transportation per 49 CFR but are not releasable per DOE Order 5400.5 (1990/1993)					
SPECIAL INSTRUCTIONS Hold Time Total Activity Exemption: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Site-Wide Generator Knowledge Information Form applies. The CACN for all analytical work at WSCF is 401647.					
Sample No.	Filter	* Date	Time	No./Type Container	Sample Analysis
B2P4B1	N	4-29-13	0940	1x20-mL P	Activity Scan
B2P4B1	N	4-29-13	0940	2x1-L GIP	C14_LSC: COMMON
					MOQAF
					6 Months
					6 Months
					Preservative
					None
					None

J3E010411
 W06557
 Due

Relinquished By DAVE FLOYD	Sign	Date/Time APR 29 2013	Received By SSU #1	Sign	Date/Time APR 29 2013	Matrix *
Relinquished By SSU #1			Received By D. Webb			S = Soil
Relinquished By D. Webb			Received By J. Esch			SE = Sediment
Relinquished By			Received By			SO = Solid
						SL = Sludge
						W = Water
						O = Oil
						A = Air
						DS = Drum Solids
						DL = Drum Liquids
						T = Tissue
						WI = Wipe
						L = Liquid
						V = Vegetation
						X = Other
FINAL SAMPLE DISPOSITION		Disposal Method (e.g., Return to customer, per lab procedure, used in process)		Disposed By		Date/Time
PRINTED O 3/25/2013						A-6004-842 (REV 2)



Sample Check-in List

Date/Time Received: 4-30-13/0950 Container GM Screen Result: (Airlock) .4 Initials [B]
Sample GM Screen Result (Sample Receiving) .4 Initials [B]

Client: Pbw SDG #: W01557 SAF #: S13-005 NA []

Lot Number: J3E010411

Chain of Custody # JTA 4-30-13 S13-005-086; 087

Shipping Container ID or Air Bill Number: Hand de Ov NA []

Samples received inside shipping container/cooler/box Yes [B]] Continue with 1 through 4. Initial appropriate response.
No []] Go to 5, add comment to #16.

- 1. Custody Seals on shipping container intact? Yes [] No [] No Custody Seal [B]]
2. Custody Seals dated and signed? Yes [] No [] No Custody Seal [B]]
3. Cooler temperature: °C NA [B]]
4. Vermiculite/packing materials is NA [B]] Wet [] Dry []

Item 5 through 16 for samples. Initial appropriate response.

- 5. Chain of Custody record present? Yes [B]] No []
6. Number of samples received (Each sample may contain multiple bottles): 2
7. Containers received: 2x vial 20, 4x LP

- 8. Sample holding times exceeded? NA [] Yes [] No [B]]
9. Samples have: tape hazard labels [B] custody seals [B] appropriate sample labels
10. Matrix: A (FLT, Wipe, Solid, Soil) [B] I (Water) S (Air, Niosh 7400) T (Biological, Ni-63)

11. Samples: [B] are in good condition are leaking are broken
have air bubbles (Only for samples requiring no head space) Other

12. Sample pH appropriate for analysis requested Yes [B]] No [] NA []
(If acidification is necessary go to 17, then document sample ID, initial pH, amount of HNO3 added and pH after addition on table)

13. Were any anomalies identified in sample receipt? Yes [] No [B]]

14. Description of anomalies (include sample numbers): NA [B]]

15. Sample Location, Sample Collector Listed on COC? * Yes [B]] No []
*For documentation only. No corrective action needed.

16. Additional Information: N/A

[] Client/Courier denied temperature check. [B]] Client/Courier unpack cooler.

Sample Check-in List completed by Sample Custodian:
Signature: Juan Bock Date: 4-30-13

Client Notification needed? Yes [] No [B]] Date:
By:
Person contacted:

[B] No action necessary, process as is
Project Manager: Sandra Seger Date: 5-2-13

CH2M Hill Plateau Remediation Company		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST				C.O.C.# W13-004-128		
Collector L.D. Wall CHPRC	Contact/Requester Karen Waters-Husted	Telephone No.	376-4650		Page 1 of 1			
SAF No. W13-004	Sampling Origin Hanford Site	Purchase Order/Charge Code	30007IES20					
Project Title RCRA, APRIL 2013	Logbook No. HNF-N-506 5/1/84	Ice Chest No.	N/A					
Shipped To (Lab) TestAmerica Incorporated, Richland	Method of Shipment GOVERNMENT VEHICLE	Bill of Lading/Air Bill No.	N/A					
Protocol RCRA	Priority: 30 Days	Offsite Property No.	N/A					
POSSIBLE SAMPLE HAZARDS/REMARKS *** Contains Radioactive Material at concentrations that are not regulated for transportation per 49 CFR but are not releasable per DOE Order 5400.5 (1990/1993)								
SPECIAL INSTRUCTIONS Hold Time Total Activity Exemption: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Site Wide Generator Knowledge Information Form applies. The CACN for all analytical work at WSCF is 401647.								
Sample No.	Filter	*	Date	Time	No./Type Container	Sample Analysis	Holding Time	Preservative
B2P7R9	N	W	5/1/13	0945	1x20-mL P	Activity Scan	6 Months	None
B2P7R9	N	W	↓	↓	1x500-mL aG	7196_CR6: COMMON	24 Hours	Cool-4C

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Relinquished By L.D. Wall CHPRC	Date/Time MAY 01 2013 1155	Received By J. Book	Date/Time MAY 01 2013 1155	Print J. Book	Sign J. Book	Matrix *
Relinquished By	Date/Time	Received By	Date/Time	Print	Sign	S = Soil DS = Drum Solids SE = Sediment DL = Drum Liquids SO = Solid T = Tissue SL = Sludge WI = Wipe W = Water L = Liquid O = Oil V = Vegetation A = Air X = Other
Relinquished By	Date/Time	Received By	Date/Time	Print	Sign	
Relinquished By	Date/Time	Received By	Date/Time	Print	Sign	
FINAL SAMPLE DISPOSITION Disposal Method (e.g., Return to customer, per lab procedure, used in process)						Date/Time

CH2M Hill Plateau Remediation Company		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST		C.O.C. # W13-004-129	Page 1 of 1
Collector L.D. Wall CHPRC W13-004	Contact/Requester Karen Waters-Husted	Telephone No. 376-4650			
SAF No. W13-004	Sampling Origin Hanford Site	Purchase Order/Charge Code 30007IES20			
Project Title RCRA, APRIL 2013	Logbook No. HNF-N-506 5/1/84	Ice Chest No. N/A			
Shipped To (Lab) TestAmerica Incorporated, Richland	Method of Shipment GOVERNMENT VEHICLE	Bill of Lading/Air Bill No. N/A			
Protocol RCRA	Priority: 30 Days	Offsite Property No. N/A			
POSSIBLE SAMPLE HAZARDS/REMARKS		SPECIAL INSTRUCTIONS	Hold Time	Total Activity Exemption: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
*** Contains Radioactive Material at concentrations that are not regulated for transportation per 49 CFR but are not releasable per DOE Order 5100.5 (1990/1993)		Site Wide Generator Knowledge Information Form applies. The CACN for all analytical work at WSCF is 401647.			
Sample No.	Filter	Date	Time	No./Type Container	Sample Analysis
B2P7T0	N	W 5/1/13	0945	1x20-mL P	Activity Scan
B2P7T0	N	W	↓	1x600-mL aG	7196_CRG: COMMON mDQCQ

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Relinquished By L.D. Wall CHPRC	Date/Time MAY 01 2013 11SS	Received By J. Bue	Date/Time MAY 01 2013 11SS	Print back TAKE	Sign	Matrix *
Relinquished By	Date/Time	Received By	Date/Time			S = Soil DS = Drum Solids SE = Sediment DL = Drum Liquids SO = Solid T = Tissue SL = Sludge WI = Wipe 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
PRINTED O 4/15/2013						A-6004-842 (REV 2)

TestAmerica

Sample Check-in List

THE LEADER IN ENVIRONMENTAL TESTING

Date/Time Received: 5-1-13/1155 Container GM Screen Result: (Airlock) 14 Initials [B]
Sample GM Screen Result (Sample Receiving) 14 Initials [B]

Client: Pbw SDG #: W06557 SAF #: W13-004 NA []

Lot Number: J3E010415

Chain of Custody # W13-004-127, 128, 129

Shipping Container ID or Air Bill Number: hand de au NA [B]

Samples received inside shipping container/cooler/box Yes [B] Continue with 1 through 4. Initial appropriate response.
No [] Go to 5, add comment to #16.

- 1. Custody Seals on shipping container intact? Yes [] No [] No Custody Seal [B]
2. Custody Seals dated and signed? Yes [] No [] No Custody Seal [B]
3. Cooler temperature: 5.4 °C on Ice NA [B] SKS 5-2-13
4. Vermiculite/packing materials is NA [B] Wet [] Dry []

Item 5 through 16 for samples. Initial appropriate response.

- 5. Chain of Custody record present? Yes [B] No []
6. Number of samples received (Each sample may contain multiple bottles): 3
7. Containers received: 3 x vial 20, 3 x 500 mL AB

- 8. Sample holding times exceeded? NA [] Yes [] No [B]
9. Samples have: tape hazard labels [B] custody seals [B] appropriate sample labels
10. Matrix: A (FLT, Wipe, Solid, Soil) [B] I (Water) S (Air, Niosh 7400) T (Biological, Ni-63)

11. Samples: [B] are in good condition are leaking are broken
have air bubbles (Only for samples requiring no head space) Other

12. Sample pH appropriate for analysis requested Yes [SKS] No [] NA [B] SKS 5-2-13
(If acidification is necessary go to 17, then document sample ID, initial pH, amount of HNO3 added and pH after addition on table)

13. Were any anomalies identified in sample receipt? Yes [] No [B]
14. Description of anomalies (include sample numbers): NA [B]

15. Sample Location, Sample Collector Listed on COC? * Yes [B] No []
*For documentation only. No corrective action needed.

16. Additional Information: N/A

[] Client/Courier denied temperature check. [B] Client/Courier unpack cooler.

Sample Check-in List completed by Sample Custodian:
Signature: [Signature] Date: 5-1-13 5-1-13

Client Notification needed? Yes [] No [B] Date:
By:
Person contacted:

[B] No action necessary; process as is
Project Manager: [Signature] Date: 5-2-13

5/14/2013 9:57:09 AM **Sample Preparation/Analysis** Balance Id: 1120403183

384868, CH2M Hill Plateau Remediation Company **CL Sr-90 Ppt/Sep-GPC003(GPC004) GPC 010** Pipet #: _____
 Pacific Northwest National Lab **0# TE-Sr-85 by Nai and Sr-90 by GPC 7 day ingrowth** Sep1 DT/Tm Tech: 2045 5/14/13 APA
 AnalytDueDate: 06/03/2013 5I CLIENT: HANFORD Sep2 DT/Tm Tech: 1145 5/22/13 APA

Batch: 3122074 **WATER** pCi/L **PM, Quote: SS, 57671** Prep Tech: ,RichardsonB
 SEQ Batch, Test: None All Tests: 3115045 88EA, 3122072 ARS6, 3122073 FPS5, 3122074 CLTL, 3122075 AWT, 3122076 5SS3,

Work Ord, Lot, Sample Date	Total Amt/Unit	Total Acidified/Unit	Initial Aliquot Amt/Unit	Adj Aliq Amt (Un-Acidified)	QC Tracer Prep Date	Tracer Yield	Dish Size	Ppt or Geometry	Count Time Min	Detector Id	Count On Off (24hr) Circle	CR Analyst, Init/Date	Comments:
1 M0NVF-1-AF J3D250418-1-SAMP	500.40g.in		500.40g	500.40g	SRTC0892 04/10/13	Y90 0.3mγ	1.5"	11.1mg	100	31C	1834		5/24/1300 5/28/1300
04/25/2013 08:53					AmfRec: 1XVIAL20;2X500ML;9XLP #Containers: 12								Alpha: 1.79E-03 uCi/Sa Beta: -2.67E-04 uCi/Sa
2 M0NVF-1-AP-X J3D250418-1-DUP	500.60g.in		500.60g	500.60g	SRTC0893 04/10/13	Y90 0.5mγ		10.7mg		31D	1834		5/24/1300 5/28/1300
04/25/2013 08:53					AmfRec: 1XVIAL20;2X500ML;9XLP #Containers: 12								Alpha: 1.79E-03 uCi/Sa Beta: -2.67E-04 uCi/Sa
3 M0QR9-1-AA-B J3E020000-74-BLK	500.20g.in		500.20g	500.20g	SRTC0894 04/10/13	Y90 0.3mγ		10.7mg		32B	1834		5/24/1300 5/25/1300
04/25/2013 14:40 pd					AmfRec: 1XVIAL20;2X500ML;9XLP #Containers: 1								Alpha: _____ Beta: _____
4 M0QR9-1-AC-C J3E020000-74-LCS	500.50g.in		500.50g	500.50g	STSF0229 04/10/13	Y90 0.5mγ		10.9mg		32C	1834		5/24/1300 5/25/1300
05/02/2013 14:40 pd					AmfRec: _____ #Containers: 1								Alpha: _____ Beta: _____
05/02/2013 14:40 pd					AmfRec: _____ #Containers: 1								Alpha: _____ Beta: _____

TestAmerica Key: In - Initial Amt, fi - Final Amt, di - Diluted Amt, s1 - Sep1, s2 - Sep2 Page 1
 Richland Wa. pd - Prep Dt, dc - Date Chg, r - Reference Dt, ec-Enrichment Cell, ct-Cocktailed Added

ISV - Insufficient Volume for Analysis
 WO Cnt: 4
 Prep_SamplePrep v4.8.61

5/14/2013 9:57:11 AM Balance Id: 1120403183

Sample Preparation/Analysis

CL Sr-90 Prp/Sep GPC003(GPC004) Pipet #:

TL Sr-85 by NaI and Sr-90 by GPC 7 day ingrowth

51 CLIENT: HANFORD Sep1 DT/Tm Tech:

AnalyDueDate: 06/03/2013 Sep2 DT/Tm Tech:

Batch: 3122074 Prep Tech: RichardsonB

SEQ Batch, Test: None Count On | Off

Work Ord, Lot, Sample Date	Total Amt/Unit	Total Acidified/Unit	Initial Aliquot Amt/Unit	Adj Aliq Amt (Un-Acidified)	QC Tracer Prep Date	Tracer Yield	Dish Size	Ppt or Geometry	Count Time Min	Detector Id	Count On Off (24hr) Circle	CR Analyst, Init/Date	Comments:

Comments: MOQR9-BLK CommentsP-12-00228;P-13-00079

→ 12.1 mg is 100% yield recovery for Sr 5/23/13 APA

All Clients for Batch: 384868, CHEM Hill Plateau Remediation Company Pacific Northwest National Lab, SS , 57671

MONVF1AF-SAMP Constituent List:

Sr-85 RDL:	pCi/L	LCL:20	UCL:105	RPD:20	Sr-90 RDL:2	RDL:2	pCi/L	LCL:70	UCL:130	RPD:20
MOQR91AA-BLK:										
Sr-85 RDL:	pCi/L	LCL:20	UCL:105	RPD:20	Sr-90 RDL:2	RDL:2	pCi/L	LCL:70	UCL:130	RPD:20
MOQR91AC-LCS:										
Sr-85 RDL:	pCi/L	LCL:20	UCL:105	RPD:20	Sr-90 RDL:2	RDL:2	pCi/L	LCL:70	UCL:130	RPD:20

MONVF1AF-SAMP Calc Info:

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

MOQR91AA-BLK:

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

MOQR91AC-LCS:

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

6/6/2013 7:40:19 PM

ICOC Fraction Transfer/Status Report

ByDate: 6/6/2012, 6/11/2013, Batch: '3122074', User: *ALL Order By DateTimeAccepting

Q Batch	Work Ord	CurStatus	Accepting	Comments
3122074				
AC	Rev1C	RichardsonB	5/6/2013 9:56:38 PM	
SC		DavilaN	IsBatched 5/2/2013 2:44:05 PM	ICOC_RADCALC v4.8.49
SC		RichardsonB	InPrep 5/6/2013 9:56:38 PM	RL-PRP-004 REVISION 2
SC		AshworthA	Sep1C 5/13/2013 10:39:22 PM	RL-GPC-010 REVISION 3
SC		AshworthA	Sep2C 5/23/2013 12:10:51 PM	RL-GPC-010 REVISION 3
SC		NortonJ	InCnt1 5/23/2013 12:59:14 PM	RL-CI-006 REVISION 3
SC		DawkinsO	CalcC 5/26/2013 10:12:53 PM	RL-CI-006 REVISION 4
SC		mcginnist	Rev1C 6/6/2013 7:40:13 PM	RL-DR-001 Rev 2
AC		AshworthA	5/13/2013 10:39:22	
AC		AshworthA	5/23/2013 12:10:51	
AC		NortonJ	5/23/2013 12:59:14	
AC		DawkinsO	5/26/2013 10:12:53	
AC		mcginnist	6/6/2013 7:40:13 PM	

AC: Accepting Entry; SC: Status Change

TestAmerica Richland
Richland Wa.

PGW

Balance Id: 1120482733

Sample Preparation/Analysis

5/17/2013 1:03:03 PM

384868, CH2M Hill Plateau Remediation Company
Pacific Northwest National Lab

AW Gamma Prp GAM001
TA Gamma by HPGE
SI CLIENT: HANFORD

Analyte Due Date: 06/03/2013

Batch: 3122075 WATER pCi/L

PM, Quote: SS, 57671
SEQ Batch, Test: None All Tests: 3115045 88EA, 3122072 ARS6, 3122073 FPSS, 3122074 CLTL, 3122075 AWTA, 3122076 5SS3,

Sep1 DT/Tm Tech:

Sep2 DT/Tm Tech:

Prep Tech: SannoHS

Work Ord. Lot, Sample Date	Total Amt/Unit	Total Acidified/Unit	Initial Aliquot Amt/Unit	Adj Aliq Amt (Ur-Acidified)	QC Tracer Prep Date	Tracer Yield	Dish Size	Ppt or Geometry	Count Time Min	Detector Id	Count On (24hr)	CR Analyst, Init/Date	Comments:
1 MONVF-1-AE	2500.00g,in		2500.00g										
J3D250418-1-SAMP													
04/25/2013 08:53													
AmtrRec: 1XVIAL202X500ML-9XLP #Containers: 12													
2 MONVF-1-AQ-X													
J3D250418-1-DUP													
04/25/2013 08:53													
AmtrRec: 1XVIAL202X500ML-9XLP #Containers: 12													
3 M0QTA-1-AA-B	2500.00g,in		2500.00g										
J3E020000-75-BLK													
05/02/2013 14:40 pd													
AmtrRec: 1 #Containers: 1													
4 M0QTA-1-AC-C	2499.90g,in		2499.90g										
J3E020000-75-LCS													
05/02/2013 14:40 pd													
AmtrRec: 1 #Containers: 1													

G11 15:05
100ml
DAMIN

G10 0127
5/21/1300

J.S-U

Beta:

Beta:

5/17/2013 1:03:04 PM

Sample Preparation/Analysis

Balance Id:1120482733

AW Gamma Prp GAM001
TA Gamma by HPGE
SI CLIENT: HANFORD

Pipet #:

AnalyDueDate: 06/03/2013

Sep1 DT/Tm Tech:

Batch: 3122075

pcil/L

Sep2 DT/Tm Tech:

SEQ Batch, Test: None

Prep Tech: Sannohs

Work Ord, Lot, Sample Date	Total Amt/Unit	Total Acidified/Unit	Initial Aliquot Amt/Unit	Adj Aliq Amt (Un-Acidified)	QC Tracer Prep Date	Tracer Yield	Dish Size	Ppt or Geometry	Count Time Min	Detector Id	Count On Off (24hr) Circle	CR Analyst, Init/Date	Comments:
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Comments: MONVF-SAMP *Comments:SV-Recount DUP On a Different Detector*
MOQTA-BLK CommentsP-13-00105,S-12-00228

All Clients for Batch:
384868, CH2M Hill Plateau Remediation Company Pacific Northwest National Lab, SS , 57671

MONVFIAE-SAMP Constituent List:

CO-60	RDL:2.50E+01	pCi/L	LCL:70	UCL:130	RPD:20	CS-134	RDL:1.50E+01	pCi/L	LCL:70	UCL:130	RPD:20		
CS-137	RDL:1.50E+01	pCi/L	LCL:70	UCL:130	RPD:20	CS-137DA	RDL:1.50E+01	pCi/L	LCL:70	UCL:130	RPD:20		
EU-152	RDL:5.00E+01	pCi/L	LCL:70	UCL:130	RPD:20	EU-154	RDL:5.00E+01	pCi/L	LCL:70	UCL:130	RPD:20		
EU-155	RDL:5.00E+01	pCi/L	LCL:70	UCL:130	RPD:20	K-40	RDL:0.00E+00	pCi/L	LCL:70	UCL:130	RPD:20		
SB-125	RDL:5.00E+01	pCi/L	LCL:70	UCL:130	RPD:20								
MOQTALAA-BLK:													
CO-60	RDL:2.50E+01	pCi/L	LCL:70	UCL:130	RPD:20	CS-134	RDL:1.50E+01	pCi/L	LCL:70	UCL:130	RPD:20		
CS-137	RDL:1.50E+01	pCi/L	LCL:70	UCL:130	RPD:20	CS-137DA	RDL:1.50E+01	pCi/L	LCL:70	UCL:130	RPD:20		
EU-152	RDL:5.00E+01	pCi/L	LCL:70	UCL:130	RPD:20	EU-154	RDL:5.00E+01	pCi/L	LCL:70	UCL:130	RPD:20		
EU-155	RDL:5.00E+01	pCi/L	LCL:70	UCL:130	RPD:20	K-40	RDL:0.00E+00	pCi/L	LCL:70	UCL:130	RPD:20		
SB-125	RDL:5.00E+01	pCi/L	LCL:70	UCL:130	RPD:20								
MOQTALAC-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								

MONVFIAE-SAMP Calc Info:

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

6/10/2013 9:24:57 AM

ICOC Fraction Transfer/Status Report

ByDate: 6/10/2012, 6/15/2013, Batch: '3122075', User: *ALL Order By DateTimeAccepting

Q Batch	Work Ord	CurStatus	Accepting	Comments
3122075				
AC	Rev1C	SannohS	5/17/2013 12:52:40	
SC		DavilaN	IsBatched	5/2/2013 2:44:09 PM ICOC_RADCALC v4.8.49
SC		SannohS	InPrep	5/17/2013 12:52:40 PM RL-GAM-001 REVISION 3
SC		SannohS	Prep1C	5/21/2013 12:52:33 PM RL-GAM-001 REVISION 3
SC		NortonJ	InCnt1	5/21/2013 1:18:37 PM RL-CI-007 REV. 2
SC		mcginnist	Rev1C	6/6/2013 5:08:31 PM RL-DR-001 Rev 2
SC		AntonsonL	Rev1C	6/10/2013 9:19:56 AM RL-DR-001 Rev 2
AC		SannohS	5/21/2013 12:52:33	
AC		NortonJ	5/21/2013 1:18:37 PM	
AC		mcginnist	6/6/2013 5:08:31 PM	
AC		AntonsonL	6/10/2013 9:19:56	

AC: Accepting Entry; SC: Status Change

TestAmerica Richland

Richland Wa.

Sample Preparation/Analysis													
6/19/2013 9:36:09 AM		Balance Id:1117411003		Pipet #:		Sep1 DT/Tm Tech:		Sep2 DT/Tm Tech:					
384868, CH2M Hill Plateau Remediation Company		55 C-14 Prp/Sep LSC008		PM, Quote: SS, 57671		Prep Tech: AshworthA							
Pacific Northwest National Lab		S3 Carbon-14 by Liquid Scint		SI CLIENT: HANFORD									
AnalytDueDate: 06/03/2013		pCi/L											
Batch: 3122076 WATER		QC Tracer		Tracer Yield		Dish Size		Ppt or Geometry					
SEQ Batch, Test: None		Prep Date		Yield		Size		Geometry					
Work Ord, Lot, Sample Date	Total Amt/Unit	Total Amt/Unit	Initial Aliquot Amt/Unit	Adj Aliq Amt (Un-Acidified)	QC Tracer Prep Date	Tracer Yield	Dish Size	Ppt or Geometry	Count Time Min	Detector Id	Count On Off (24hr) Circle	CR Analyst, Init/Date	Comments:
1 MONVF-1-AD 75.90g, in 75.90g													
J3D250418-1-SAMP													
04/25/2013 08:53													Beta: -2.67E-04 uCi/Sa
2 MONVF-1-AR-X 75.60g, in 75.60g													
J3D250418-1-DUP													
04/25/2013 08:53													Beta: -2.67E-04 uCi/Sa
3 MONVG-1-AA 74.50g, in 74.50g													
J3D250418-2-SAMP													
04/24/2013 09:06													Beta: -5.34E-05 uCi/Sa
4 MONVH-1-AA 75.00g, in 75.00g													
J3D250418-3-SAMP													
04/24/2013 12:17													Beta: 5.02E-04 uCi/Sa
5 MONVL-1-AA 75.00g, in 75.00g													
J3D250418-4-SAMP													
04/24/2013 13:46													Beta: 3.74E-04 uCi/Sa
6 MONVP-1-AA 75.60g, in 75.60g													
J3D250418-5-SAMP													
04/24/2013 09:39													Beta: 1.07E-05 uCi/Sa
7 MONVT-1-AA 75.00g, in 75.00g													
J3D250418-6-SAMP													
04/24/2013 11:19													Beta: 2.24E-04 uCi/Sa
										23702			
Key: In - Initial Amt, fi - Final Amt, di - Diluted Amt, s1 - Sep1, s2 - Sep2										Page 1		WO Cnt: 7	
Richland Wa. pd - Prep Dt, dc - Date Chg, r - Reference Dt, ec-Enrichment Cell, ct-Cocktailed Added										ISV - Insufficient Volume for Analysis		Prep_SamplePrep v4.8.61	

Sample Preparation/Analysis													
6/19/2013 9:36:11 AM		Balance Id:		Pipet #:		Sep1 DT/Tm Tech:		Sep2 DT/Tm Tech:					
384868, CH2M Hill Plateau Remediation Company		55 C-14 Prp/Sep LSC008		S3 Carbon-14 by Liquid Scint		5I CLIENT: HANFORD		Prep Tech: AshworthA					
Pacific Northwest National Lab		PM, Quote: SS, 57671											
AnalytDueDate: 06/03/2013		WATER		pCi/L									
Batch: 3122076		None											
SEQ Batch, Test:													
Work Ord, Lot, Sample Date	Total Amt#/Unit	Total Acified/Unit	Initial Aliquot Amt#/Unit	Adj Aliq Amt (Un-Acified)	QC Tracer Prep Date	Tracer Yield	Dish Size	Ppt or Geometry	Count Time Min	Detector Id	Count On Off (24hr) Circle	CR Analyst, Init/Date	Comments:
8 MONV1-1-AA													
75.40g, in 75.40g													
J3D250418-7-SAMP													
04/24/2013 14:42													
AmiRec: 1XVIAL20;2XLP #Containers: 3													
75.10g, in 75.10g													
9 MONV3-1-AA													
J3D250418-8-SAMP													
04/24/2013 13:16													
AmiRec: 1XVIAL20;2XLP #Containers: 3													
75.40g, in 75.40g													
10 WOP8C-1-AA													
J3D300450-1-SAMP													
04/25/2013 11:30													
AmiRec: 1XVIAL20;2XLP #Containers: 3													
75.80g, in 75.80g													
11 WOP8D-1-AA													
J3D300450-2-SAMP													
04/25/2013 09:43													
AmiRec: 1XVIAL20;2XLP #Containers: 3													
75.10g, in 75.10g													
12 WOP8E-1-AA													
J3D300451-1-SAMP													
04/25/2013 08:40													
AmiRec: 1XVIAL20;2XLP #Containers: 3													
75.30g, in 75.30g													
13 WOP8F-1-AA													
J3D300451-2-SAMP													
04/25/2013 12:51													
AmiRec: 1XVIAL20;2XLP #Containers: 3													
75.40g, in 75.40g													
14 WOP8G-1-AA													
J3D300451-3-SAMP													
04/25/2013 07:44													
AmiRec: 1XVIAL20;2XLP #Containers: 3													
Alpha: 2.28E-05 uCi/Sa Beta: 2.67E-04 uCi/Sa													
Alpha: -5.96E-05 uCi/Sa Beta: 3.52E-04 uCi/Sa													
Alpha: 2.66E-05 uCi/Sa Beta: 1.50E-04 uCi/Sa													
Alpha: -2.04E-04 uCi/Sa Beta: 2.78E-04 uCi/Sa													
Alpha: 9.97E-05 uCi/Sa Beta: -8.66E-08 uCi/Sa													
Alpha: 1.74E-04 uCi/Sa Beta: 4.91E-04 uCi/Sa													
Alpha: 3.06E-04 uCi/Sa Beta: -1.92E-04 uCi/Sa													
Key: In - Initial Amt, fi - Final Amt, di - Diluted Amt, s1 - Sep1, s2 - Sep2 Page 2													
pd - Prep Dt, dc - Date Ctg, r - Reference Dt, ec-Enrichment Cell, ct-Cocktailed Added													
TestAmerica Key: In - Initial Amt, fi - Final Amt, di - Diluted Amt, s1 - Sep1, s2 - Sep2 Page 2													
Richland Wa. pd - Prep Dt, dc - Date Ctg, r - Reference Dt, ec-Enrichment Cell, ct-Cocktailed Added													
WO Cnt: 14													
Prep_SamplePrep v4.8.61													

Sample Preparation/Analysis									
6/19/2013 9:36:13 AM		Balance Id:		Pipet #:		Sep1 DT/Tm Tech:		Sep2 DT/Tm Tech:	
384868, CH2M Hill Plateau Remediation Company		55 C-14 Pp/Sep LSC008		S3 Carbon-14 by Liquid Scint		5I CLIENT: HANFORD		Prep Tech: AshworthA	
Pacific Northwest National Lab		PM, Quote: SS, 57671		QC Tracer		Tracer Yield		Detector Id	
AnalyteDueDate: 06/03/2013		pCi/L		QC Prep Date		#Containers: 3		Beta: 1.07E-04 uCi/Sa	
Batch: 3122076		WATER		Initial Aliquot Amt/Unit		75.50g, in 75.50g		Beta: 1.07E-04 uCi/Sa	
SEQ Batch, Test: None		75.50g, in 75.50g		Adj Aliq Amt (Un-Acidified)		75.50g, in 75.50g		Beta: 1.07E-04 uCi/Sa	
15M0P8L-1-AA		75.50g, in 75.50g		Total Amt/Unit		75.50g, in 75.50g		Beta: 1.07E-04 uCi/Sa	
J3D300453-1-SAMP		75.50g, in 75.50g		Total Acidified/Unit		75.50g, in 75.50g		Beta: 1.07E-04 uCi/Sa	
04/29/2013 11:00		75.50g, in 75.50g		Total Amt/Unit		75.50g, in 75.50g		Beta: 1.07E-04 uCi/Sa	
16M0P8M-1-AA		75.50g, in 75.50g		Total Acidified/Unit		75.50g, in 75.50g		Beta: 1.07E-04 uCi/Sa	
J3D300453-2-SAMP		75.50g, in 75.50g		Total Amt/Unit		75.50g, in 75.50g		Beta: 1.07E-04 uCi/Sa	
04/29/2013 11:00		75.50g, in 75.50g		Total Acidified/Unit		75.50g, in 75.50g		Beta: 1.07E-04 uCi/Sa	
17M0QAD-1-AA		75.50g, in 75.50g		Total Amt/Unit		75.50g, in 75.50g		Beta: 1.07E-04 uCi/Sa	
J3E010410-1-SAMP		75.50g, in 75.50g		Total Acidified/Unit		75.50g, in 75.50g		Beta: 1.07E-04 uCi/Sa	
04/29/2013 12:25		75.50g, in 75.50g		Total Amt/Unit		75.50g, in 75.50g		Beta: 1.07E-04 uCi/Sa	
18M0QAE-1-AA		75.50g, in 75.50g		Total Acidified/Unit		75.50g, in 75.50g		Beta: 1.07E-04 uCi/Sa	
J3E010411-1-SAMP		75.50g, in 75.50g		Total Amt/Unit		75.50g, in 75.50g		Beta: 1.07E-04 uCi/Sa	
04/29/2013 09:40		75.50g, in 75.50g		Total Acidified/Unit		75.50g, in 75.50g		Beta: 1.07E-04 uCi/Sa	
19M0QAF-1-AA		75.50g, in 75.50g		Total Amt/Unit		75.50g, in 75.50g		Beta: 1.07E-04 uCi/Sa	
J3E010411-2-SAMP		75.50g, in 75.50g		Total Acidified/Unit		75.50g, in 75.50g		Beta: 1.07E-04 uCi/Sa	
04/29/2013 09:40		75.50g, in 75.50g		Total Amt/Unit		75.50g, in 75.50g		Beta: 1.07E-04 uCi/Sa	
20M0QTC-1-AA-B		75.50g, in 75.50g		Total Acidified/Unit		75.50g, in 75.50g		Beta: 1.07E-04 uCi/Sa	
J3E020000-76-BLK		75.50g, in 75.50g		Total Amt/Unit		75.50g, in 75.50g		Beta: 1.07E-04 uCi/Sa	
05/02/2013 14:40 pd		75.50g, in 75.50g		Total Acidified/Unit		75.50g, in 75.50g		Beta: 1.07E-04 uCi/Sa	
21M0QTC-1-AC-C		75.50g, in 75.50g		Total Amt/Unit		75.50g, in 75.50g		Beta: 1.07E-04 uCi/Sa	
J3E020000-76-LCS		75.50g, in 75.50g		Total Acidified/Unit		75.50g, in 75.50g		Beta: 1.07E-04 uCi/Sa	
05/02/2013 14:40 pd		75.50g, in 75.50g		Total Amt/Unit		75.50g, in 75.50g		Beta: 1.07E-04 uCi/Sa	

TestAmerica Key: In - Initial Amt, fi - Final Amt, di - Diluted Amt, s1 - Sep1, s2 - Sep2 Page 3
 Richland Wa. pd - Prep Dt, dc - Date Chg, r - Reference Dt, ec-Enrichment Cell, ct-Cocktailed Added
 ISV - Insufficient Volume for Analysis
 WO Cnt: 21
 Prep_SamplePrep v4.8.61

6/19/2013 9:36:14 AM										Sample Preparation/Analysis										Balance Id:	
5S C-14 Prp/Sep LSC008										S3 Carbon-14 by Liquid Scint										Pipet #:	
5I CLIENT: HANFORD										5I CLIENT: HANFORD										Sep1 DT/Tm Tech:	
Batch: 3122076										pCi/L										Sep2 DT/Tm Tech:	
SEQ Batch, Test: None										Prep Tech:										Prep Tech:	
Work Ord, Lot, Sample Date	Total Amt/Unit	Total Acidified/Unit	Initial Aliquot Amt/Unit	Adj Aliq Amt (Un-Acidified)	QC Tracer Prep Date	Tracer Yield	Dish Size	Ppt or Geometry	Count Time Min	Detector Id	Count On Off (24hr) Circle	CR Analyst, Init/Date	Comments:								
22M0QTC-1-AD-BI																					
J3E020000-76-IBLK																					
05/02/2013 14:40 pd																					
23M0QTC-1-AE-BI																					
J3E020000-76-IBLK																					
05/02/2013 14:40 pd																					
AmfRec: #Containers: 1										Scr: Alpha: Beta:											
AmfRec: #Containers: 1										Scr: Alpha: Beta:											
Key: In - Initial Amt, fi - Final Amt, di - Diluted Amt, s1 - Sep1, s2 - Sep2										ISV - Insufficient Volume for Analysis										WO Cnt: 23	
pd - Prep Dt, dc - Date Crig, r - Reference Dt, ec-Enrichment Cell, ct-Cocktailed Added																				Prep_SamplePrep v4.8.61	

6/19/2013 9:36:15 AM		Sample Preparation/Analysis		Balance Id:									
55 C-14 Pp/Sep LSC008		S3 Carbon-14 by Liquid Scint		Pipet #:									
5I CLIENT: HANFORD		5I CLIENT: HANFORD		Sep1 DT/Tm Tech:									
Batch: 3122076		pCi/L		Sep2 DT/Tm Tech:									
SEQ Batch, Test: None				Prep Tech:									
Work Ord, Lot, Sample Date	Total Amt/Unit	Total Amt/Unit	Initial Aliquot Amt/Unit	Adj Aliq Amt (Un-Acidified)	QC Tracer Prep Date	Tracer Yield	Dish Size	Ppt or Geometry	Count Time Min	Detector Id	Count On / Off (24hr) Circle	CR Analyst, Init/Date	Comments:
Comments: MONVF-SAMP Comments													
<p>All Clients for Batch:</p> <p>384868, CH2M Hill Plateau Remediation Company Pacific Northwest National Lab, SS , 57671</p> <p>MONVF1AD-SAMP Constituent List:</p> <p>C-14 RDL:2.00E+02 pCi/L LCL:70 UCL:130 RPD:20</p> <p>MOQTC1AA-BLK: C-14 RDL:2.00E+02 pCi/L LCL: UCL: RPD:</p> <p>MOQTC1AC-LCS: C-14 RDL:200 pCi/L LCL:70 UCL:130 RPD:20</p> <p>MOQTC1AD-IBLK: C-14 RDL:2.00E+02 pCi/L LCL: UCL: RPD:</p> <p>MOQTC1AE-IBLK: C-14 RDL:2.00E+02 pCi/L LCL: UCL: RPD:</p> <p>MONVF1AD-SAMP Calc Info:</p> <p>Uncert Level (#s): 2 Decay to SaDt: Y Blk Subt.: N Sci. Not.: Y ODRs: B</p> <p>MOQTC1AA-BLK: Uncert Level (#s): 2 Decay to SaDt: Y Blk Subt.: N Sci. Not.: Y ODRs: B</p> <p>MOQTC1AC-LCS: Uncert Level (#s): 2 Decay to SaDt: Y Blk Subt.: N Sci. Not.: Y ODRs: B</p> <p>MOQTC1AD-IBLK: Uncert Level (#s): 2 Decay to SaDt: Y Blk Subt.: N Sci. Not.: Y ODRs: B</p> <p>MOQTC1AE-IBLK: Uncert Level (#s): 2 Decay to SaDt: Y Blk Subt.: N Sci. Not.: Y ODRs: B</p>													
Test/America	Key: In - Initial Amt,	fi - Final Amt,	di - Diluted Amt,	s1 - Sep1, s2 - Sep2	Page 5	ISV - Insufficient Volume for Analysis			WO Cnt: 23	Prep_SamplePrep v4.8.61			
Richland Wa.	pd - Prep Dt,	dc - Date Chg,	r - Reference Dt,	ec-Enrichment Cell,	ct-Cocktailed Added								

6/26/2013 10:13:55 AM

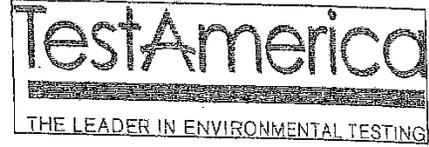
ICOC Fraction Transfer/Status Report

ByDate: 6/26/2012, 7/1/2013, Batch: '3122076', User: *ALL Order By DateTimeAccepting

Q Batch	Work Ord	CurStatus	Accepting	Comments
3122076				
AC	Rev1C	AshworthA	6/19/2013 9:42:04	
SC		DavilaN	IsBatched	5/2/2013 2:44:20 PM
SC		AshworthA	Sep2C	6/19/2013 9:42:04 AM
SC		ClarkR	InCnt1	6/19/2013 9:57:27 AM
SC		NortonJ	Cnt1C	6/24/2013 11:40:44 AM
SC		mcginnist	Rev1C	6/26/2013 10:13:40 AM
AC		ClarkR	6/19/2013 9:57:27	ICOC_RADCALC v4.8.49
AC		NortonJ	6/24/2013 11:40:44	RL-LSC-008 REVISION 3
AC		mcginnist	6/26/2013 10:13:40	RL-CI-005 REVISION 4
				RL-CI-005 REVISION 3
				RL-DR-001 Rev 2

AC: Accepting Entry; SC: Status Change

TestAmerica Richland
Richland Wa.



RE-COUNT REQUEST

DUE DATE 6-3-13

CUSTOMER PGW

ANALYSIS Cl⁻

MATRIX WATER

LOT NUMBER _____

SAMPLE DELIVERY GROUP _____

OLD BATCH NUMBER 3122076

NEW BATCH NUMBER 3175091

LAB SAMPLE ID	CLIENT ID	REASON FOR REQUEST & ANALYSIS COMMENTS
1)		
2)		
3)	MOP8E1AA	→ High TSIE
4)		
5)	MOQTCIAE - BN	
6)		
7)		Recount
8)		
9)		
10)		
11)		
12)		
13)		
14)		
15)		
16)		
17)		
18)		
19)		
20)		

Sample Preparation/Analysis

6/25/2013 7:54:28 AM Balance Id: _____ Pipet #: _____

384868, CH2M Hill Plateau Remediation Company 5S C-14 Prp/Sep LSC008
 Pacific Northwest National Lab S3 Carbon-14 by Liquid Scint

PRIORITY

Analyte Due Date: 06/03/2013 5I CLIENT: HANFORD

Batch: 3175091 WATER PM, Quote: SS, 576Z1
 SEQ Batch, Test: None pCi/L

Work Ord, Lot, Sample Date	Total Amt/Unit	Total Acidified/Unit	Initial Aliquot Amt/Unit	Acj Aliq Amt (Ur-Acidified)	QC Tracer Prep Date	Tracer Yield	Dish Size	Ppt or Geometry	Count Time Min	Detector Id	Count On Off (24hr) Circle	CR Analyst, Init/Date	Comments:
1 MOP8E-2-AA													
U3D300451-1-SAMP 04/25/2013 08:40 AmtRec: 1XVIAL20;2XLP #Containers: 3 Scr: Alpha: 9.97E-05 uCi/Sa Beta: -6.66E-08 uCi/Sa													
2 M0QTC-2-AE-BN													
U3E020000-76-IBLK 06/25/2013 07:54 pd AmtRec: #Containers: 1 Scr: Alpha: Beta:													

Comments:

All Clients for Batch:
 384868, CH2M Hill Plateau Remediation Company Pacific Northwest National Lab, SS / 57671

MOP8E2AA-SAMP Constituent List:
 C-14 RDL: 2.00E+02 pCi/L LCL: 70 UCL: 130 RPD: 20
 M0QTC2AE-IBLK Constituent List:
 C-14 RDL: 200 pCi/L LCL: UCL: RPD:
 MOP8E2AA-SAMP Calc Info:
 Uncert Level (#s): 2 Decay to SaDt: Y Blk Subt.: N Sci. Not.: Y ODRs: B
 M0QTC2AE-IBLK Calc Info:
 Uncert Level (#s): 2 Decay to SaDt: Y Blk Subt.: N Sci. Not.: Y ODRs: B

Test/America Key: In - Initial Amt, fi - Final Amt, di - Diluted Amt, s1 - Sep1, s2 - Sep2 Page 1
 Richland Wa. pd - Prep Dt, dc - Date Chg, r - Reference Dt, ec-Enrichment Cell, ct-Cocktailed Added

23702
 WO Cnt: 2
 ICOC v4.8.49

6/26/2013 10:30:44 AM

ICOC Fraction Transfer/Status Report

ByDate: 6/26/2012, 7/1/2013, Batch: '3175091', User: *ALL Order By DateTimeAccepting

Q Batch	Work Ord	CurStatus	Accepting	Comments
3175091				
AC	Rev1C	ClarkR	6/25/2013 8:49:04	
SC		ClarkR	InCnt1 6/25/2013 8:49:04 AM	RL-CI-005 REVISION 3
SC		NortonJ	CalcC 6/26/2013 9:17:00 AM	RL-CI-005 REVISION 3
SC		mcginnist	Rev1C 6/26/2013 10:30:39 AM	RL-DR-001 Rev 2
AC		NortonJ	6/26/2013 9:17:00	
AC		mcginnist	6/26/2013 10:30:39	

AC: Accepting Entry; SC: Status Change

TestAmerica Richland

Richland Wa.

5/6/2013 10:05:33 PM		Sample Preparation/Analysis		Balance Id:1120403183									
384868, CH2M Hill Plateau Remediation Company		FP Tc-99 Prp/Sep LSC014		Pipet #:									
Pacific Northwest National Lab		S5 Technetium-99 by Liquid Scint		Sep1 DT/Tm Tech:									
AnalyteDate: 06/03/2013		5l CLIENT: HANFORD		Sep2 DT/Tm Tech:									
Batch: 3122073 WATER pCi/L		PM, Quote: SS, 57671		Prep Tech: ,RichardsonB									
SEQ Batch, Test: None All Tests: 3115045 88EA, 3122072 ARS6, 3122073 FPS5, 3122074 CLTL, 3122075 AWTA, 3122076 5SS3,													
Work Ord. Lot, Sample Date	Total Amt/Unit	Total Amt/Unit	Initial Aliquot Amt/Unit	Adj. Aliq Amt (Un-Acidified)	QC Tracer Prep Date	Tracer Yield	Dish Size	Ppt or Geometry	Count Time Min	Detector Id	Count On (24hr) Circle	CR Analyst, Init/Date	Comments:
1 MONVF-1-AG	125.90g.in	125.90g	125.90g.in	125.90g									
J3D250418-1-SAMP													
04/25/2013 08:53													Beta: -2.67E-04 uCi/Sa
2 MONVF-1-AM-S	125.90g.in	125.90g	125.90g.in	125.90g									
J3D250418-1-MS													
04/25/2013 08:53													Beta: -2.67E-04 uCi/Sa
3 MONVF-1-AN-X	125.90g.in	125.90g	125.90g.in	125.90g									
J3D250418-1-DUP													
04/25/2013 08:53													Beta: -2.67E-04 uCi/Sa
4 M0QR8-1-AA-B	125.00g.in	125.00g	125.00g.in	125.00g									
J3E020000-73-BLK													
05/02/2013 14:40 pd													Beta: -2.67E-04 uCi/Sa
5 M0QR8-1-AC-C	125.40g.in	125.40g	125.40g.in	125.40g									
J3E020000-73-LCS													
05/02/2013 14:40 pd													Beta: -2.67E-04 uCi/Sa
6 M0QR8-1-AD-BN	125.40g.in	125.40g	125.40g.in	125.40g									
J3E020000-73-IBLK													
05/02/2013 14:40 pd													Beta: -2.67E-04 uCi/Sa

TestAmerica Key: In - Initial Amt, fi - Final Amt, di - Diluted Amt, s1 - Sep1, s2 - Sep2 Page 1
 Richland Wa. pd - Prep Dt, dc - Date Chg, r - Reference Dt, ec-Enrichment Cell, ct-Cocktailed Added
 ISV - Insufficient Volume for Analysis
 WO Cnt: 6
 Prep_SamplePrep v4.8.6f

5/6/2013 10:05:34 PM		Sample Preparation/Analysis		Balance Id:									
FP Tc-99 Prp/Sep LSC014		S5 Technetium-99 by Liquid Scint		Pipet #:									
AnalytDueDate: 06/03/2013		5I CLIENT: HANFORD		Sep1 DT/Tm Tech:									
Batch: 3122073		pCi/L		Sep2 DT/Tm Tech:									
SEQ Batch, Test: None				Prep Tech:									
Work Ord, Lot, Sample Date	Total Amt/Unit	Total Acidified/Unit	Initial Aliquot Amt/Unit	Adj Aliq Amt (Un-Acidified)	QC Tracer Prep Date	Tracer Yield	Dish Size	Ppt or Geometry	Count Time Min	Detector Id	Count On (24hr) Circle	CR Analyst, Init/Date	Comments:
Comments: M0QR8-BLK Comments P-12-00228, P-13-00079													
All Clients for Batch:													
384868, CH2M Hill Plateau Remediation Company Pacific Northwest National Lab, SS , 57671													
NONVFLAG-SAMP Constituent List:													
Tc-99	RDL:15	pCi/L	LCL:70	UCL:130	RPD:20								
NONVFLAM-MS Constituent List:													
M0QR81AA-BLK:	RDL:15	pCi/L	LCL:	UCL:	RPD:								
M0QR81AC-LCS:	RDL:15	pCi/L	LCL:70	UCL:130	RPD:20								
M0QR81AD-IBLK:	RDL:15	pCi/L	LCL:	UCL:	RPD:								
NONVFLAG-SAMP Calc Info:													
Uncert Level (#s): 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B													
NONVFLAM-MS Calc Info:													
Uncert Level (#s): 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B													
M0QR81AA-BLK:													
Uncert Level (#s): 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B													
M0QR81AC-LCS:													
Uncert Level (#s): 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B													
M0QR81AD-IBLK:													
Uncert Level (#s): 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B													

6/25/2013 9:13:39 AM		ICOC Fraction Transfer/Status Report			
ByDate: 6/25/2012, 6/30/2013, Batch: '3122073', User: *ALL Order By DateTimeAccepting					
Q Batch	Work Ord	CurStatus	Accepting		Comments
3122073					
AC	Rev1C	RichardsonB	5/6/2013 10:02:53 PM		
SC		DavilaN	IsBatched	5/2/2013 2:44:02 PM	ICOC_RADCALC v4.8.49
SC		RichardsonB	InPrep	5/6/2013 10:02:53 PM	RL-PRP-004 REVISION 2
SC		NortonJ	InCnt1	6/3/2013 12:49:02 PM	RL-CI-005 REV. 2
SC		NortonJ	Cnt1C	6/6/2013 1:07:07 PM	RL-CI-005 REVISION 3
SC		NortonJ	Cnt1C	6/6/2013 2:59:43 PM	RL-CI-005 REVISION 3
SC		mcginnist	Rev1C	6/25/2013 9:09:52 AM	RL-DR-001 Rev 2
AC		NortonJ	6/3/2013 12:49:02 PM		
AC		NortonJ	6/6/2013 1:07:07 PM		
AC		NortonJ	6/6/2013 2:59:43 PM		
AC		mcginnist	6/25/2013 9:09:52		

48

Sample Preparation/Analysis

5/2/2013 2:40:45 PM
384868, CH2M Hill Plateau Remediation Company
, Pacific Northwest National Lab

AR H-3 Prp/Sep LSC005
S6 Tritium by Liquid Scint
51 CLIENT: HANFORD

AnalytDueDate: 06/03/2013

Balance Id:
Pipet #:

Sep1 DT/Tm Tech:
Sep2 DT/Tm Tech:

PM, Quote: SS , 57671

Batch: 3122072 WATER pCi/L
SEQ Batch, Test: None

Prep Tech:

Work Ord, Lot, Sample Date	Total Amt/Unit	Total Acidified/Unit	Initial Aliquot Amt/Unit	Adj Aliq Amt (Un-Acidified)	QC Tracer Prep Date	Tracer Yield	Dish Size	Ppt or Geometry	Count Time Min	Detector Id	Count On Off (24hr) Circle	CR Analyst, Init/Date	Comments:
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1 MONVF-1-AC

J3D250418-1-SAMP

04/25/2013 08:53
AmfRec: 1XV/AL20;2X500ML;9XLP #Containers: 12
Scr: Alpha: 1.79E-03 uCi/Sa Beta: -2.67E-04 uCi/Sa

2 MONVF-1-AL-X

J3D250418-1-DJUP

04/25/2013 08:53
AmfRec: 1XV/AL20;2X500ML;9XLP #Containers: 12
Scr: Alpha: 1.79E-03 uCi/Sa Beta: -2.67E-04 uCi/Sa

3 MQQR7-1-AA-B

J3E020000-72-BLK

05/02/2013 14:40 pd
AmfRec: #Containers: 1
Scr: Alpha: Beta:

4 MQQR7-1-AC-C

J3E020000-72-LCS

05/02/2013 14:40 pd
AmfRec: #Containers: 1
Scr: Alpha: Beta:

5 MQQR7-1-AD-BN

J3E020000-72-BLK

05/02/2013 14:40 pd
AmfRec: #Containers: 1
Scr: Alpha: Beta:

Comments:

All Clients for Batch:
384868, CH2M Hill Plateau Remediation Company Pacific Northwest National Lab, SS , 57671

MONVFAC-SAMP Constituent List:
H-3 RDL: 400 pCi/L LCL: 70 UCL: 130 RPD: 20

TestAmerica Key: In - Initial Amt, fl - Final Amt, di - Diluted Amt, s1 - Sep1, s2 - Sep2 Page 1
Richland Wa. pd - Prep Dt, dc - Date Chg, r - Reference Dt, ec-Enrichment Cell, ct-Cocktailed Added
ISV - Insufficient Volume for Analysis
WO Cnt: 5
ICOC v4.8.49

5/2/2013 2:40:46 PM **Sample Preparation/Analysis** Balance Id: _____
 AR H-3 Prp/Sep LSC005 Pipet #: _____
 S6 Tritium by Liquid Scint Sep1 DT/Tm Tech: _____
 51 CLIENT: HANFORD Sep2 DT/Tm Tech: _____

Analyte Due Date: 06/03/2013 pCi/L
 Batch: 3122072
 SEQ Batch, Test: None

Work Ord, Lot, Sample Date	Total Amt/Unit	Total Acidified/Unit	Initial Aliquot Amt/Unit	Adj Aliq Amt (Un-Acidified)	QC Tracer Prep Date	Tracer Yield	Dish Size	Ppt or Geometry	Count Time Min	Detector Id	Count On Off (24hr) Circle	CR Analyst, Init/Date	Comments:
M0QR71AA-BLK:													
M0QR71AC-LCS:													
M0QR71AD-TELK:													
M0NVF1AC-SAMP Calc Info:													
Uncert Level (#s): 2		Decay to SaDt: Y		Blk Subst.: N		Sci.Not.: Y		ODRs: B					
M0QR71AA-BLK:													
Uncert Level (#s): 2		Decay to SaDt: Y		Blk Subst.: N		Sci.Not.: Y		ODRs: B					
M0QR71AC-LCS:													
Uncert Level (#s): 2		Decay to SaDt: Y		Blk Subst.: N		Sci.Not.: Y		ODRs: B					
M0QR71AD-TELK:													
Uncert Level (#s): 2		Decay to SaDt: Y		Blk Subst.: N		Sci.Not.: Y		ODRs: B					

TestAmerica Key: In - Initial Amt, fi - Final Amt, di - Diluted Amt, s1 - Sep1, s2 - Sep2 Page 2
 Richland Wa. pd - Prep Dt, dc - Date Chg, r - Reference Dt, ec-Enrichment Cell, cf-Cocktailed Added
 ISV - Insufficient Volume for Analysis
 WO Cnt: 5
 ICOC v4.8.49

5/24/2013 11:18:27 AM		ICOC Fraction Transfer/Status Report			
ByDate: 5/24/2012, 5/29/2013, Batch: '3122072', User: *ALL Order By DateTimeAccepting					
Q Batch	Work Ord	CurStatus	Accepting		Comments
3122072					
AC	Rev1C	NortonP	5/15/2013 3:22:51 PM		
SC		DavilaN	IsBatched	5/2/2013 2:43:57 PM	ICOC_RADCALC v4.8.49
SC		NortonP	Sep1C	5/15/2013 3:22:51 PM	RL-LSC-005 REVISION 2
SC		DawkinsO	InCnt1	5/15/2013 4:13:07 PM	RL-CI-005 REV. 2
SC		NortonJ	Cnt1C	5/20/2013 2:54:46 PM	RL-CI-005 REV. 2
SC		mcginnist	Rev1C	5/24/2013 11:18:18 AM	RL-DR-001 Rev 2
AC		DawkinsO	5/15/2013 4:13:07 PM		
AC		NortonJ	5/20/2013 2:54:46 PM		
AC		mcginnist	5/24/2013 11:18:18		

4/25/2013 2:02:07 PM **Sample Preparation/Analysis** Balance Id: _____ Pipet #: _____

384868, CH2M Hill Plateau Remediation Company **88 NO SAMPLE PREPARATION PERFORMED / DIRECT INJECTION**

Pacific Northwest National Lab EA Chromium, Hexavalent (7196A)

AnalyteDueDate: 05/24/2013 5I CLIENT: HANFORD

Batch: 3115045 WATER mg/L PM, Quote: SS, 57671

SEQ Batch, Test None All Tests: 5SS3, ARS6, AWTA, CLTL, FPS5, 3115045 88EA,

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 MONVF-1-AA								
J3D250418-1-SAMP 04/25/2013 08:53								
AmtRec: 1XVIAL20:2X500ML:9XLP #Containers: 12								
2 MONVF-1-AH-S								
J3D250418-1-MS 04/25/2013 08:53								
AmtRec: 1XVIAL20:2X500ML:9XLP #Containers: 12								
3 MONVF-1-AJ-D								
J3D250418-1-MSD 04/25/2013 08:53								
AmtRec: 1XVIAL20:2X500ML:9XLP #Containers: 12								
4 MONVF-1-AK-X								
J3D250418-1-DUP 04/25/2013 08:53								
AmtRec: 1XVIAL20:2X500ML:9XLP #Containers: 12								
5 MONWN-1-AA-B								
J3D250000-45-BLK 04/25/2013 14:01 pd								
AmtRec: #Containers: 1								
6 MONWN-1-AC-C								
J3D250000-45-LCS 04/25/2013 14:01 pd								
AmtRec: #Containers: 1								

Key: In - Initial Amt, fi - Final Amt, di - Diluted Amt, s1 - Sep1, s2 - Sep2 Page 1
 pd - Prep Dt, dc - Date Chg, r - Reference Dt, ec-Enrichment Cell, ct-Cocktailed Added

TestAmerica Key: In - Initial Amt, fi - Final Amt, di - Diluted Amt, s1 - Sep1, s2 - Sep2 Page 1
 Richland Wa. pd - Prep Dt, dc - Date Chg, r - Reference Dt, ec-Enrichment Cell, ct-Cocktailed Added

ISV - Insufficient Volume for Analysis WO Cnt: 6
 ICOC v4.8.49

4/25/2013 2:02:08 PM **Sample Preparation/Analysis** Balance Id: _____ Pipet #: _____

88 NO SAMPLE PREPARATION PERFORMED / DIRECT INJECTION
EA Chromium, Hexavalent (7196A)
5l CLIENT: HANFORD

AnalyDueDate: 05/24/2013
Batch: 3115045
SEQ Batch, Test: None mg/L

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:
Comments:								
All Clients for Batch:								
384868, CHEM Hill Plateau Remediation Company Pacific Northwest National Lab, SS , 57671								
MONVF1AA-SAMP Constituent List:								
MONVF1AE-MS Constituent List:								
MONVF1AJ-MSD:								
MONWN1AA-BLK:								
MONWN1AC-LCS:								
MONVF1AA-SAMP Calc Info:								
Uncert Level (#):	2	Decay to SaDt: Y	Blk Subt.: N	Sci.Not.: Y	ODRs: B			
MONVF1AE-MS Calc Info:								
Uncert Level (#):	2	Decay to SaDt: Y	Blk Subt.: N	Sci.Not.: Y	ODRs: B			
MONVF1AJ-MSD:								
Uncert Level (#):	2	Decay to SaDt: Y	Blk Subt.: N	Sci.Not.: Y	ODRs: B			
MONWN1AA-BLK:								
Uncert Level (#):	2	Decay to SaDt: Y	Blk Subt.: N	Sci.Not.: Y	ODRs: B			
MONWN1AC-LCS:								
Uncert Level (#):	2	Decay to SaDt: Y	Blk Subt.: N	Sci.Not.: Y	ODRs: B			

TestAmerica Key: In - Initial Amt, fi - Final Amt, di - Diluted Amt, s1 - Sep1, s2 - Sep2 Page 2
Richland Wa. pd - Prep Dt, dc - Date Chg, r - Reference Dt, ec-Enrichment Cell, ct-Cocktailed Added

ISV - Insufficient Volume for Analysis WO Cnt: 6 ICOC v4.8.49

5/1/2013 3:40:15 PM **Sample Preparation/Analysis** Balance Id: _____ Pipet #: _____

384868, CH2M Hill Plateau Remediation Company **88 NO SAMPLE PREPARATION PERFORMED / DIRECT INJECTION**

Pacific Northwest National Lab EA Chromium, Hexavalent (7196A)

Analyte Due Date: 05/31/2013 51 CLIENT: HANFORD

PM, Quote: SS, 57671

Batch: 3121068 WATER mg/L

SEP Batch, Test: None

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 M0QCN-1-AA								
J3E010415-1-SAMP								
05/01/2013 09:45								
Amt/Rec: 1XVIAL20;1X500MLAG #Containers: 2								
2 M0QCN-1-AC-S								
J3E010415-1-IMS								
05/01/2013 09:45								
Amt/Rec: 1XVIAL20;1X500MLAG #Containers: 2								
3 M0QCN-1-AD-D								
J3E010415-1-MSD								
05/01/2013 09:45								
Amt/Rec: 1XVIAL20;1X500MLAG #Containers: 2								
4 M0QCN-1-AE-X								
J3E010415-1-DJP								
05/01/2013 09:45								
Amt/Rec: 1XVIAL20;1X500MLAG #Containers: 2								
5 M0QCP-1-AA								
J3E010415-2-SAMP								
05/01/2013 09:45								
Amt/Rec: 1XVIAL20;1X500MLAG #Containers: 2								
6 M0QCC-1-AA								
J3E010415-3-SAMP								
05/01/2013 09:45								
Amt/Rec: 1XVIAL20;1X500MLAG #Containers: 2								
7 M0QCR-1-AA-B								
J3E010000-68-BLK								
05/01/2013 15:40 pd								
Amt/Rec: _____ #Containers: 1								

TestAmerica Key: In - Initial Amt, fi - Final Amt, di - Diluted Amt, s1 - Sep1, s2 - Sep2 Page 1

Richland Wa. pd - Prep Dt, dc - Date Chg, r - Reference Dt, ec-Enrichment Cell, ct-Cocktailed Added

ISV - Insufficient Volume for Analysis

WO Cnt: 7

ICOC v4.8.49

5/1/2013 3:40:16 PM **Sample Preparation/Analysis** Balance Id: _____ Pipet #: _____

88 NO SAMPLE PREPARATION PERFORMED / DIRECT INJECTION
EA Chromium, Hexavalent (7196A)
51 CLIENT: HANFORD

Analyte Due Date: 05/31/2013
Batch: 3121068
SEQ Batch, Test: None mg/L

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:
8 MQQCR-1-AC-C								
J3E010000-68-LCS								
05/01/2013 15:40 pd								
AmiRec: _____ #Containers: 1								
Scr: _____ Alpha: _____ Beta: _____								
Comments:								
All Clients for Batch: 394868, CHEM Hill Plateau Remediation Company Pacific Northwest National Lab, SS , 57671								
MQQCN1AA-SAMP Constituent List:								
MQQCN1AC-MS Constituent List:								
MQQCN1AD-MSD:								
MQQCR1AA-BLK:								
MQQCR1AC-LCS:								
MQQCN1AA-SAMP Calc Info:								
Uncert Level (#s): 2	Decay to SaDt: Y	Blk Subst.: N	Sci.Not.: Y	ODRs: B				
MQQCN1AC-MS Calc Info:								
Uncert Level (#s): 2	Decay to SaDt: Y	Blk Subst.: N	Sci.Not.: Y	ODRs: B				
MQQCN1AD-MSD:								
Uncert Level (#s): 2	Decay to SaDt: Y	Blk Subst.: N	Sci.Not.: Y	ODRs: B				
MQQCR1AA-BLK:								
Uncert Level (#s): 2	Decay to SaDt: Y	Blk Subst.: N	Sci.Not.: Y	ODRs: B				
MQQCR1AC-LCS:								
Uncert Level (#s): 2	Decay to SaDt: Y	Blk Subst.: N	Sci.Not.: Y	ODRs: B				

TestAmerica Key: In - Initial Amt, fi - Final Amt, di - Diluted Amt, s1 - Sep1, s2 - Sep2 Page 2
Richland Wa. pd - Prep Dt, dc - Date Chg, r - Reference Dt, ec-Enrichment Cell, ct-Cocktailed Added
ISV - Insufficient Volume for Analysis
WO Cnt: 8
ICOC v4.8.49