Analytical Data Package Prepared For

CH2M Hill Plateau Remediation

Radiochemical Analysis By

TestAmerica Inc TARL

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

Data Package Contains _____ Pages

Report Nbr: 58614

SDG Nbr	ORDER Nbr	CLIENT ID NUMBER	LOT Nbr	WORK ORDER	RPT DB ID	BATCH
W06645	W14-012	B2TM29	J4A020428-1	M2Q931AA	9M2Q9310	4006042
		B2TLX7	J4A020428-2	M2Q941AA	9M2Q9410	4006042
		B2TLK3	J4A020428-3	M2Q951AA	9M2Q9510	4006042
	S14-012	B2THW7	J4A020429-1	M2Q961AA	9M2Q9610	4006042
		B2THX0	J4A020429-2	M2Q971AA	9M2Q9710	4006042
		B2THY5	J4A020429-3	M2Q981AA	9M2Q9810	4006042
	I14-011	B2TKP9	J4A020430-1	M2Q991AA	9M2Q9910	4006042
		B2TKT9	J4A020430-2	M2RAA1AA	9M2RAA10	4006042
		B2TR79	J4A020430-3	M2RAC1AA	9M2RAC10	4006042
		B2TKM2	J4A030407-1	M2REV1AA	9M2REV10	4006042
		B2TKM8	J4A030407-2	M2REW1AA	9M2REW10	4006042
	I14-010	B2TL01	J4A030414-1	M2RHE1AA	9M2RHE10	4006042
		B2TL01	J4A030414-1	M2RHE1AC	9M2RHE10	4006043
		B2TKY3	J4A030414-2	M2RHF1AA	9M2RHF10	4006042
		B2TKY3	J4A030414-2	M2RHF1AC	9M2RHF10	4006043

Comments:

JANUARY 31, 2014

Report Nbr: 58614

SDG Nbr	ORDER Nbr	CLIENT ID NUMBER	LOT Nbr	WORK ORDER	RPT DB ID	BATCH
W06645	I14-010	B2TL04	J4A030414-3	M2RHG1AA	9M2RHG10	4006042
		B2TL04	J4A030414-3	M2RHG1AC	9M2RHG10	4006043
		B2TKY7	J4A030414-4	M2RHH1AA	9M2RHH10	4006042
		B2TKY7	J4A030414-4	M2RHH1AC	9M2RHH10	4006043
	W14-012	B2TLY8	J4A030415-1	M2RHJ1AA	9M2RHJ10	4006042
		B2TLY8	J4A030415-1	M2RHJ1AC	9M2RHJ10	4006043
		B2TLT2	J4A030415-2	M2RHK1AA	9M2RHK10	4006042
		B2TLT2	J4A030415-2	M2RHK1AC	9M2RHK10	4006043
	S14-001	B2V0V6	J4A030416-1	M2RHL1AA	9M2RHL10	4006042
		B2V0V6	J4A030416-1	M2RHL1AC	9M2RHL10	4006043
		B2V0K4	J4A030416-2	M2RHM1AA	9M2RHM10	4006042
		B2V0K4	J4A030416-2	M2RHM1AC	9M2RHM10	4006043
		B2V0M1	J4A030416-3	M2RHN1AA	9M2RHN10	4006042
		B2V0M1	J4A030416-3	M2RHN1AC	9M2RHN10	4006043

Comments:

JANUARY 31, 2014

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Certificate of Analysis

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

January 31, 2014

Attention: Scot Fitzgerald

SAF Number	:	I14-010, I14-011, S14-001, S14-012, W14-012
Date SDG Closed	:	January 2, 2014
Number of Samples	:	Twenty (20)
Sample Type	:	Water
SDG Number	:	W06645
Data Deliverable	:	30-Day / Summary

CASE NARRATIVE

I. Introduction

Between December 30, 2013 and January 2, 2014, twenty 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:

CH2M ID#	TARL ID#	DATE OF RECEIPT	MATRIX
B2TM29	M2Q93	12/30/13	WATER
B2TLX7	M2Q94	12/30/13	WATER
B2TLK3	M2Q95	12/30/13	WATER
B2THW7	M2Q96	12/30/13	WATER
B2THX0	M2Q97	12/30/13	WATER
B2THY5	M2Q98	12/30/13	WATER
B2TKP9	M2Q99	12/30/13	WATER
B2TKT9	M2RAA	12/30/13	WATER
B2TR79	M2RAC	12/30/13	WATER
B2TKM2	M2REV	12/31/13	WATER
B2TKM8	M2REW	12/31/13	WATER
B2TL01	M2RHE	12/30/13	WATER

B2TKY3	M2RHF	12/30/13	WATER
B2TL04	M2RHG	12/30/13	WATER
B2TKY7	M2RHH	12/30/13	WATER
B2TLY8	M2RHJ	12/30/13	WATER
B2TLT2	M2RHK	12/30/13	WATER
B2V0V6	M2RHL	1/02/14	WATER
B2V0K4	M2RHM	1/02/14	WATER
B2V0M1	M2RHN	1/02/14	WATER

II. Sample Receipt

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

During the monthly phone call on November 13, 2013 TARL was notified that all groundwater samples received will continue to 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:

Gamma Spectroscopy
Iodine-129 (LL) by method RL-GAM-002
Liquid Scintillation Counting
Selenium-79 by method RL-LSC-012

IV. Quality Control

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

QC and sample results are reported in the same units.

V. Comments

Gamma Spectroscopy

Iodine-129 (LL) by method RL-GAM-002:

The RPD for the duplicate sample (B2TM29) is greater than 20%. The sample and duplicate results are below the CRDL. Except as noted, the LCS, batch blank, samples and sample duplicate (B2TM29) results are within contractual requirements.

Liquid Scintillation Counting

Selenium-79 by method RL-LSC-012:

There is no LCS for selenium-79. Except as noted, batch blank, samples and sample duplicate (B2TL01) results are within contractual requirements.

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

Reviewed and approved:

Sandra Seger
Project Manager

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

1/31/2014 8:24:11 AM

TestAmerica Inc Report

Lab Code: TARL

FormNbr: R **FormatType:** FEAD **Version:** 05 **Rpt Nbr:** 58614 **File Name:** h:\Reportdb\edd\FeadIV\Rad\W06645.Edd, h:\Reportdb\edd\FeadIV\Rad\58614.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:
9M2Q9310	B2TM29		MW6-SBB-A1	W14-012	W06645					12/26/2013 08:41

Batch	Analyte	CAS#	Result	Unit	CntU 2S	TotU 2S	Qual	MDA	TrcYield	Method	Alq Size	Unit	Analy Date/Time	Act
4006042	I-129	15046-84-1	8.71E-02	pCi/L	1.3E-01	1.3E-01	U	2.34E-01	93.5	I129LL_SEP_LEPS	3.6081E+00	L	01/28/2014 06:46	I

Lab Sample Id:	Client Id:	Test User	Contract Nbr	SAF Nbr	Sdg Nbr:	QC Type:	Moisture/ Solids%*:	Distilled Volume	Sample On Date:	Collection Date:
9M2Q9410	B2TLX7		MW6-SBB-A1	W14-012	W06645					12/23/2013 10:10

Batch	Analyte	CAS#	Result	Unit	CntU 2S	TotU 2S	Qual	MDA	TrcYield	Method	Alq Size	Unit	Analy Date/Time	Act
4006042	I-129	15046-84-1	2.48E+00	pCi/L	3.9E-01	3.9E-01		2.55E-01	95.4	I129LL_SEP_LEPS	3.8079E+00	L	01/28/2014 10:11	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:
9M2Q9510	B2TLK3		MW6-SBB-A1	W14-012	W06645					12/23/2013 10:10

Batch	Analyte	CAS#	Result	Unit	CntU 2S	TotU 2S	Qual	MDA	TrcYield	Method	Alq Size	Unit	Analy Date/Time	Act
4006042	I-129	15046-84-1	2.36E+00	pCi/L	4.1E-01	4.1E-01		1.99E-01	96.5	I129LL_SEP_LEPS	3.7556E+00	L	01/28/2014 10:11	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:
9M2Q9610	B2THW7		MW6-SBB-A1	S14-012	W06645					12/23/2013 11:08

Batch	Analyte	CAS#	Result	Unit	CntU 2S	TotU 2S	Qual	MDA	TrcYield	Method	Alq Size	Unit	Analy Date/Time	Act
4006042	I-129	15046-84-1	3.04E+00	pCi/L	4.7E-01	4.7E-01		2.23E-01	95.1	I129LL_SEP_LEPS	3.7699E+00	L	01/28/2014 13:38	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:
9M2Q9710	B2THX0		MW6-SBB-A1	S14-012	W06645					12/23/2013 12:00

Batch	Analyte	CAS#	Result	Unit	CntU 2S	TotU 2S	Qual	MDA	TrcYield	Method	Alq Size	Unit	Analy Date/Time	Act
4006042	I-129	15046-84-1	2.52E+00	pCi/L	3.9E-01	3.9E-01		1.61E-01	95.4	I129LL_SEP_LEPS	3.7751E+00	L	01/28/2014 13:39	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:
9M2Q9810	B2THY5		MW6-SBB-A1	S14-012	W06645					12/19/2013 12:11

Batch	Analyte	CAS#	Result	Unit	CntU 2S	TotU 2S	Qual	MDA	TrcYield	Method	Alq Size	Unit	Analy Date/Time	Act
4006042	I-129	15046-84-1	4.87E+00	pCi/L	6.8E-01	6.8E-01		2.91E-01	95.4	I129LL_SEP_LEPS	3.0454E+00	L	01/28/2014 17:06	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:
9M2Q9910	B2TKP9		MW6-SBB-A1	I14-011	W06645					12/30/2013 10:58

Batch	Analyte	CAS#	Result	Unit	CntU 2S	TotU 2S	Qual	MDA	TrcYield	Method	Alq Size	Unit	Analy Date/Time	Act
4006042	I-129	15046-84-1	1.04E-02	pCi/L	8.3E-02	8.3E-02	U	1.53E-01	95.9	I129LL_SEP_LEPS	3.7242E+00	L	01/28/2014 17:07	I

TestAmerica Inc

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.

I

JANUARY 31, 2014

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TestAmerica Inc Report

Lab Code: TARL

FormNbr: R **FormatType:** FEAD **Version:** 05 **Rpt Nbr:** 58614 **File Name:** h:\Reportdb\edd\FeadIV\Rad\W06645.Edd, h:\Reportdb\edd\FeadIV\Rad\58614.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:
9M2RAA10	B2TKT9		MW6-SBB-A1	I14-011	W06645					12/30/2013 09:51

Batch	Analyte	CAS#	Result	Unit	CntU 2S	TotU 2S	Qual	MDA	TrcYield	Method	Alq Size	Unit	Analy Date/Time	Act
4006042	I-129	15046-84-1	2.17E-02	pCi/L	1.1E-01	1.1E-01	U	1.95E-01	95.1	I129LL_SEP_LEPS	3.7769E+00	L	01/28/2014 20:34	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:
9M2RAC10	B2TR79		MW6-SBB-A1	I14-011	W06645					12/30/2013 10:58

Batch	Analyte	CAS#	Result	Unit	CntU 2S	TotU 2S	Qual	MDA	TrcYield	Method	Alq Size	Unit	Analy Date/Time	Act
4006042	I-129	15046-84-1	-1.50E-02	pCi/L	8.8E-02	8.8E-02	U	1.56E-01	94.9	I129LL_SEP_LEPS	3.8076E+00	L	01/28/2014 20:34	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:
9M2REV10	B2TKM2		MW6-SBB-A1	I14-011	W06645					12/30/2013 12:04

Batch	Analyte	CAS#	Result	Unit	CntU 2S	TotU 2S	Qual	MDA	TrcYield	Method	Alq Size	Unit	Analy Date/Time	Act
4006042	I-129	15046-84-1	-2.22E-02	pCi/L	1.1E-01	1.1E-01	U	1.86E-01	96.5	I129LL_SEP_LEPS	3.6585E+00	L	01/28/2014 23:58	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:
9M2REW10	B2TKM8		MW6-SBB-A1	I14-011	W06645					12/30/2013 13:16

Batch	Analyte	CAS#	Result	Unit	CntU 2S	TotU 2S	Qual	MDA	TrcYield	Method	Alq Size	Unit	Analy Date/Time	Act
4006042	I-129	15046-84-1	2.55E-02	pCi/L	9.4E-02	9.4E-02	U	1.74E-01	95.4	I129LL_SEP_LEPS	3.6842E+00	L	01/28/2014 23:58	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:
9M2RHE10	B2TL01		MW6-SBB-A1	I14-010	W06645					12/30/2013 12:35

Batch	Analyte	CAS#	Result	Unit	CntU 2S	TotU 2S	Qual	MDA	TrcYield	Method	Alq Size	Unit	Analy Date/Time	Act
4006042	I-129	15046-84-1	3.73E-01	pCi/L	3.4E-01	3.4E-01		2.13E-01	89.7	I129LL_SEP_LEPS	3.8252E+00	L	01/29/2014 06:58	I
4006043	Se-79	15758-45-9	8.39E+01	pCi/L	6.6E+00	8.4E+00		1.15E+01	74.9	SE79_SEP_IE_LS	2.003E-01	L	01/15/2014 21:42	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:
9M2RHF10	B2TKY3		MW6-SBB-A1	I14-010	W06645					12/30/2013 12:35

Batch	Analyte	CAS#	Result	Unit	CntU 2S	TotU 2S	Qual	MDA	TrcYield	Method	Alq Size	Unit	Analy Date/Time	Act
4006042	I-129	15046-84-1	5.10E-01	pCi/L	1.5E-01	1.5E-01		1.51E-01	98.4	I129LL_SEP_LEPS	3.8559E+00	L	01/29/2014 06:59	I
4006043	Se-79	15758-45-9	1.06E+02	pCi/L	8.1E+00	1.0E+01		1.50E+01	57.2	SE79_SEP_IE_LS	2.013E-01	L	01/15/2014 23:26	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:

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).
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1/31/2014 8:24:11 AM

TestAmerica Inc Report

Lab Code: TARL

FormNbr: R **FormatType:** FEAD **Version:** 05 **Rpt Nbr:** 58614 **File Name:** h:\Reportdb\edd\FeadIV\Rad\W06645.Edd, h:\Reportdb\edd\FeadIV\Rad\58614.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:
9M2RHG10	B2TL04		MW6-SBB-A1	I14-010	W06645					12/30/2013 07:30

Batch	Analyte	CAS#	Result	Unit	CntU 2S	TotU 2S	Qual	MDA	TrcYield	Method	Alq Size	Unit	Analy Date/Time	Act
4006042	I-129	15046-84-1	-7.43E-02	pCi/L	1.3E-01	1.3E-01	U	2.08E-01	98.1	I129LL_SEP_LEPS	3.0743E+00	L	01/29/2014 10:26	I
4006043	Se-79	15758-45-9	2.97E+01	pCi/L	5.8E+00	6.4E+00		1.47E+01	58.3	SE79_SEP_IE_LS	2.013E-01	L	01/16/2014 00:18	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:
9M2RHH10	B2TKY7		MW6-SBB-A1	I14-010	W06645					12/30/2013 11:45

Batch	Analyte	CAS#	Result	Unit	CntU 2S	TotU 2S	Qual	MDA	TrcYield	Method	Alq Size	Unit	Analy Date/Time	Act
4006042	I-129	15046-84-1	7.58E-02	pCi/L	9.1E-02	9.1E-02	U	1.74E-01	97.3	I129LL_SEP_LEPS	3.8761E+00	L	01/29/2014 10:27	I
4006043	Se-79	15758-45-9	3.62E+01	pCi/L	5.3E+00	6.2E+00		1.15E+01	74.7	SE79_SEP_IE_LS	2.005E-01	L	01/16/2014 01:11	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:
9M2RHJ10	B2TLY8		MW6-SBB-A1	W14-012	W06645					12/30/2013 08:00

Batch	Analyte	CAS#	Result	Unit	CntU 2S	TotU 2S	Qual	MDA	TrcYield	Method	Alq Size	Unit	Analy Date/Time	Act
4006042	I-129	15046-84-1	4.61E-02	pCi/L	9.8E-02	9.8E-02	U	1.81E-01	96.8	I129LL_SEP_LEPS	3.8935E+00	L	01/29/2014 14:05	I
4006043	Se-79	15758-45-9	7.85E+00	pCi/L	4.3E+00	4.8E+00	U	1.09E+01	78.7	SE79_SEP_IE_LS	2.019E-01	L	01/16/2014 02:03	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:
9M2RHK10	B2TLT2		MW6-SBB-A1	W14-012	W06645					12/30/2013 10:53

Batch	Analyte	CAS#	Result	Unit	CntU 2S	TotU 2S	Qual	MDA	TrcYield	Method	Alq Size	Unit	Analy Date/Time	Act
4006042	I-129	15046-84-1	1.04E+00	pCi/L	2.9E-01	2.9E-01		1.74E-01	95.7	I129LL_SEP_LEPS	3.8626E+00	L	01/29/2014 14:05	I
4006043	Se-79	15758-45-9	1.77E+02	pCi/L	9.0E+00	1.3E+01		1.29E+01	66.0	SE79_SEP_IE_LS	2.02E-01	L	01/16/2014 02:56	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:
9M2RHL10	B2V0V6		MW6-SBB-A1	S14-001	W06645					12/31/2013 08:00

Batch	Analyte	CAS#	Result	Unit	CntU 2S	TotU 2S	Qual	MDA	TrcYield	Method	Alq Size	Unit	Analy Date/Time	Act
4006042	I-129	15046-84-1	4.73E-02	pCi/L	1.1E-01	1.1E-01	U	1.94E-01	98.4	I129LL_SEP_LEPS	3.8641E+00	L	01/29/2014 17:57	I
4006043	Se-79	15758-45-9	3.45E+01	pCi/L	6.0E+00	6.7E+00		1.48E+01	57.7	SE79_SEP_IE_LS	2.016E-01	L	01/16/2014 03:48	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:
9M2RHM10	B2V0K4		MW6-SBB-A1	S14-001	W06645					12/31/2013 12:07

Batch	Analyte	CAS#	Result	Unit	CntU 2S	TotU 2S	Qual	MDA	TrcYield	Method	Alq Size	Unit	Analy Date/Time	Act
4006042	I-129	15046-84-1	4.21E-01	pCi/L	1.4E-01	1.4E-01		1.62E-01	97.0	I129LL_SEP_LEPS	3.7886E+00	L	01/29/2014 17:58	I
4006043	Se-79	15758-45-9	3.94E+01	pCi/L	6.2E+00	7.0E+00		1.50E+01	57.3	SE79_SEP_IE_LS	2.011E-01	L	01/16/2014 04:40	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.

1/31/2014 8:24:11 AM

TestAmerica Inc Report

Lab Code: TARL

FormNbr: R **FormatType:** FEAD **Version:** 05 **Rpt Nbr:** 58614 **File Name:** h:\Reportdb\edd\FeadIV\Rad\W06645.Edd, h:\Reportdb\edd\FeadIV\Rad\58614.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:
9M2RHN10	B2V0M1		MW6-SBB-A1	S14-001	W06645					12/31/2013 11:06

Batch	Analyte	CAS#	Result	Unit	CntU 2S	TotU 2S	Qual	MDA	TrcYield	Method	Alq Size	Unit	Analy Date/Time	Act
4006042	I-129	15046-84-1	7.55E-02	pCi/L	1.2E-01	1.2E-01	U	2.24E-01	97.0	I129LL_SEP_LEPS	3.8598E+00	L	01/29/2014 21:23	I
4006043	Se-79	15758-45-9	3.38E+01	pCi/L	5.7E+00	6.4E+00		1.35E+01	63.5	SE79_SEP_IE_LS	2.007E-01	L	01/16/2014 05:32	I

JANUARY 31, 2014

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.

Friday, January 31, 2014

TestAmerica Inc QC Blank Report

Lab Code: TARL

FormNbr: R **FormatType:** FEAD **VersionNbr:** 05 **File Name:** h:\Reportdb\edd\FeadIV\Rad\W06645.Edd, h:\Reportdb\edd\FeadIV\Rad\58614.Ed

Lab Sample Id:	M2RNF1AB	**Sdg/Rept Nbr:**	W06645	58614	**Collection Date:** 12/26/2013 08:41
Client Id:	NA	**Matrix:**	WATER	WATER	**Sample On Date:**
Moisture/Solids%*:		**QC Type:**	BLK		**Received Date:** 12/30/2013

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

Batch # / Qc Type	Analyt/ CAS#	Result/ Orig Rst	Unit	Tot/Cnt Uncert 2S	Qu-al	MDC	Tracer Yield	Spk Conc/ %Rec	Analy Method	Aliq Size/	Date/Time Analyzed	RPD/ UCL	RER/ UCL	LCS LCL/UCL	R Typ
4006042	I-129	5.41E-02	pCi/L	8.6E-02	U	1.63E-01	95.7		I129LL_SEP_L	3.9257E+00	01/29/2014				D
BLK	15046-84-1			8.6E-02						L	21:26				

JANUARY 31, 2014

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.

Friday, January 31, 2014

TestAmerica Inc QC Blank Report

Lab Code: TARL

FormNbr: R **FormatType:** FEAD **VersionNbr:** 05 **File Name:** h:\Reportdb\edd\FeadIV\Rad\W06645.Edd, h:\Reportdb\edd\FeadIV\Rad\58614.Ed

Lab Sample Id:	M2RNG1AB	**Sdg/Rept Nbr:**	W06645	58614	**Collection Date:** 12/30/2013 12:35
Client Id:	NA	**Matrix:**	WATER	WATER	**Sample On Date:**
Moisture/Solids%*:		**QC Type:**	BLK		**Received Date:** 12/30/2013

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

Batch # / Qc Type	Analyt/ CAS#	Result/ Orig Rst	Unit	Tot/Cnt Uncert 2S	Qu-al	MDC	Tracer Yield	Spk Conc/ %Rec	Analy Method	Aliq Size/	Date/Time Analyzed	RPD/ UCL	RER/ UCL	LCS LCL/UCL	R Typ
4006043	Se-79	2.04E+01	pCi/L	5.6E+00		1.24E+01	69.3		SE79_SEP_IE	2.007E-01	01/16/2014				D
BLK	15758-45-9			5.0E+00						L	06:24				

JANUARY 31, 2014

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.

Friday, January 31, 2014

TestAmerica Inc QC Control Sample Report

Lab Code: TARL

FormNbr: R **FormatType:** FEAD **VersionNbr:** 05 **File Name:** h:\Reportdb\edd\FeadIV\Rad\W06645.Edd, h:\Reportdb\edd\FeadIV\Rad\58614.Ed

Lab Sample Id: M2RNF1CS **Sdg/Rept Nbr:** W06645 58614 **Collection Date:** 12/26/2013 08:41

Client Id: NA **Matrix:** WATER WATER **Sample On Date:**

Moisture/Solids%*: **QC Type:** BS **Received Date:** 12/30/2013

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

Batch # / Qc Type	Analyt/ CAS#	Result/ Orig Rst	Unit	Tot/Cnt Uncert 2S	Qu-al	MDC	Tracer Yield	Spk Conc/ %Rec	Analy Method	Aliq Size/	Date/Time Analyzed	RPD/ UCL	RER/ UCL	LCS LCL/UCL	R Typ
4006042	I-129	9.45E+00	pCi/L	1.1E+00		2.06E-01	95.4	9.87E+00	I129LL_SEP_L	3.9669E+00	01/30/2014			70	D
BS	15046-84-1			1.1E+00				95.7		L	01:51			130	

JANUARY 31, 2014

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.

Friday, January 31, 2014

TestAmerica Inc QC Duplicate Report

Lab Code: TARL

FormNbr: R **FormatType:** FEAD **VersionNbr:** 05 **File Name:** h:\Reportdb\edd\FeadIV\Rad\W06645.Edd, h:\Reportdb\edd\FeadIV\Rad\58614.Ed

Lab Sample Id: M2Q931CR **Sdg/Rept Nbr:** W06645 58614 **Collection Date:** 12/26/2013 08:41

Client Id: B2TM29 **Matrix:** WATER WATER **Sample On Date:**

Moisture/Solids%*: **QC Type:** DUP **Received Date:** 12/30/2013

SAF Nbr	Contract Nbr	Test User	Case Nbr	SAS Nbr	Suffix	Decant	Distilled Volume	File Id	FSuffix	RTyp
W14-012	MW6-SBB-A19981								AU	H

Batch # / Qc Type	Analyt/ CAS#	Result/ Orig Rst	Unit	Tot/Cnt Uncert 2S	Qu-al	MDC	Tracer Yield	Spk Conc/ %Rec	Analy Method	Aliq Size/	Date/Time Analyzed	RPD/ UCL	RER/ UCL	LCS LCL/UCL	R Typ
4006042	I-129	-8.38E-03	pCi/L	8.3E-02	U	1.49E-01	97.0		I129LL_SEP_L	3.7623E+00	01/28/2014	242.6	1.6		D
DUP	15046-84-1	8.71E-02		8.3E-02						L	06:46	20.0	3		

JANUARY 31, 2014

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.

Friday, January 31, 2014

TestAmerica Inc QC Duplicate Report

Lab Code: TARL

FormNbr: R **FormatType:** FEAD **VersionNbr:** 05 **File Name:** h:\Reportdb\edd\FeadIV\Rad\W06645.Edd, h:\Reportdb\edd\FeadIV\Rad\58614.Ed

Lab Sample Id: M2RHE1DR **Sdg/Rept Nbr:** W06645 58614 **Collection Date:** 12/30/2013 12:35

Client Id: B2TL01 **Matrix:** WATER WATER **Sample On Date:**

Moisture/Solids%*: **QC Type:** DUP **Received Date:** 12/30/2013

SAF Nbr	Contract Nbr	Test User	Case Nbr	SAS Nbr	Suffix	Decant	Distilled Volume	File Id	FSuffix	RTyp
I14-010	MW6-SBB-A19981								AV	H

Batch # / Qc Type	Analyt/ CAS#	Result/ Orig Rst	Unit	Tot/Cnt Uncert 2S	Qu-al	MDC	Tracer Yield	Spk Conc/ %Rec	Analy Method	Aliq Size/	Date/Time Analyzed	RPD/ UCL	RER/ UCL	LCS LCL/UCL	R Typ
4006043	Se-79	9.43E+01	pCi/L	9.0E+00		1.21E+01	70.3		SE79_SEP_IE	2.028E-01	01/15/2014	11.6	1.6		D
DUP	15758-45-9	8.39E+01		7.0E+00						L	22:34	20.0	3		

JANUARY 31, 2014

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
THE LEADER IN ENVIRONMENTAL TESTING

Data Review/Verification Checklist
RADIOCHEMISTRY, First Level Review

1/30/2014 2:03:27 PM

Lot No., Due Date: J4A020428,J4A020429,J4A020430,J4A030407,J4A030414,J4A030415,J4A030416; 02/03/2014
Client, Site: 384868; A210440HANFORD HANFORD
QC Batch No., Method Test: 4006042; RGAMLEPS Gamma by LEPS
SDG, Matrix: W06645; 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:

First Level_____ **Date**_____

TestAmerica Richland
QAS_RADCALCv4.8.44

Page 1

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

Data Review Checklist
RADIOCHEMISTRY
Second Level Review

Batch Number: 4006042

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 Nonconformances (NCM) included and noted?			✓
2. Was the correct methodology used?	✓		
3. Were units checked?	✓		

Comments on any "No" response: _____

Second Level Review: Sandra Legen Date: 1-31-14

DR-001, Rev. 01, 10/30/2013

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Data Review/Verification Checklist
RADIOCHEMISTRY, First Level Review

1/24/2014 9:26:54 AM

Lot No., Due Date: J4A030414,J4A030415,J4A030416; 02/03/2014
Client, Site: 384868; A210440HANFORD HANFORD
QC Batch No., Method Test: 4006043; RSE79 Se-79 by LSC
SDG, Matrix: W06645; WATER

1.0 COC

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

2.0 QC Batch

	Yes	No	N/A
2.1 Do the Summary/Detailed Reports include a calculated result for each sample listed on the QC Batch Sheet?	✓		
2.2 Are the QC appropriate for the analysis included in the batch?	✓		
2.3 Is the Analytical Batch Worksheet complete; includes as appropriate, volumes, count times, etc?	✓		
2.4 Does the Worksheets include a Tracer Vial label for each sample?	✓		

3.0 QC & Samples

	Yes	No	N/A
3.1 Is the blank results, yield, and MDA within contract limits?	✓		
3.2 Is the LCS result, yield, and MDA within contract limits?			✓
3.3 Are the MS/MSD results, yields, and MDA within contract limits?			✓
3.4 Are the duplicate result, yields, and MDAs within contract limits?	✓		
3.5 Are the sample yields and MDAs within contract limits?	✓		

4.0 Raw Data

	Yes	No	N/A
4.1 Were results calculated in the correct units?	✓		
4.2 Were analysis volumes entered correctly?	✓		
4.3 Were Yields entered correctly?			✓
4.4 Were spectra reviewed/meet contractual requirements?			✓
4.5 Were raw counts reviewed for anomalies?	✓		

5.0 Other

	Yes	No	N/A
5.1 Are all nonconformances included and noted?			✓
5.2 Are all required forms filled out?	✓		
5.3 Was the correct methodology used?	✓		
5.4 Was transcription checked?	✓		
5.5 Were all calculations checked at a minimum frequency?			✓
5.6 Are worksheet entries complete and correct?	✓		

6.0 Comments on any No response:

First Level Lisa Antonson Date 1/24/14

TestAmerica Richland
QAS_RADCALCv4.8.44

Page 1

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

Data Review Checklist
RADIOCHEMISTRY
Second Level Review

Batch Number: 4006043

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 Nonconformances (NCM) included and noted?			✓
2. Was the correct methodology used?	✓		
3. Were units checked?	✓		

Comments on any "No" response: _____

Second Level Review: Sandra Legan Date: 1-24-14

DR-001, Rev. 01, 10/30/2013

CH2MHill Plateau Remediation Company	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	C.O.C. # W14-012-115 Page 1 of 1

Collector	SCOTT KING	Contact/Requester	Karen Waters-Husted	Telephone No.	509-376-4650
SAF No.	W14-012	Sampling Origin	Hanford Site	Purchase Order/Charge Code	300071ES20
Project Title	RCRA, DECEMBER 2013	Logbook No.	HNF-N-506 60 / 49	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 **PRIORITY**	Offsite Property No.	N/A

POSSIBLE SAMPLE HAZARDS/REMARKS

** ** Contains Radioactive Material at concentations 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 ☑ No ☐

Site Wide Generator Knowledge Information Form applies.
The CACN for analytical work at WSCF is 401647.
FY13 and FY14 samples cannot be in the same SDG.

Sample No.	Filter	*	Date	Time	No/Type Container	Sample Analysis	Holding Time	Preservative
B2TM29	N	W	DEC 2 6 2013	0841	1x20-mL P	Activity Scan	6 Months	None
B2TM29	N	W	/	/	2x4-L G/P	I129LL_SEP_LEPS_GS_LL: COMMON M2Q93	6 Months	None

J4A020428
W06645
Due

J4A020428

Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
SCOTT KING	Scott King		DEC 2 6 2013 / 1310	SSu #1			DEC 2 6 2013 / 1310
SSu #1			DEC 3 0 2013 / 0830	Kevin Patterson			DEC 3 0 2013 / 0830
Kevin Patterson			DEC 3 0 2013 1300	J. Bock Jbock TALK			DEC 3 0 2013 1300

Matrix *

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

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

PRINTED O 12/4/2013 A-6004-842 (REV 2)

CH2MHill Plateau Remediation Company	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	C.O.C. # W14-012-018 Page 1 of 1

Collector	John Fulton	Contact/Requester	Karen Waters-Husted	Telephone No.	509-376-4650
SAF No.	W14-012	Sampling Origin	Hanford Site	Purchase Order/Charge Code	300071ES20
Project Title	RCRA, DECEMBER 2013	Logbook No.	HNF-N-506 60 / 48	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 PRIORITY	Offsite Property No.	N/A

POSSIBLE SAMPLE HAZARDS/REMARKS

** ** Contains Radioactive Material at concentations 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 ☑ No ☐

Site Wide Generator Knowledge Information Form applies.
The CACN for analytical work at WSCF is 401647.
FY13 and FY14 samples cannot be in the same SDG.

Sample No.	Filter	*	Date	Time	No/Type Container	Sample Analysis	Holding Time	Preservative
B2TLX7	N	W	12-23-13	1010	1x20-mL P	Activity Scan	6 Months	None
B2TLX7	N	W	↓	↓	2x4-L G/P	I129LL_SEP_LEPS_GS_LL: COMMON M2Q94	6 Months	None

J4A020428
W06645
Due

Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
John Fulton	[signature]		DEC 2 3 2013 1345	SSU-1			DEC 2 3 2013 1345
SSU-1			DEC 3 0 2013 /0830	Kevin Patterson	[signature]		DEC 3 0 2013 /0830
Kevin Patterson	[signature]		DEC 3 0 2013 1300	J. Bolk	Jack TALR		DEC 3 0 2013 1300

Matrix *

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

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

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CH2MHill Plateau Remediation Company	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	C.O.C. # W14-012-019 Page 1 of 1

Collector	John Fulton	Contact/Requester	Karen Waters-Husted	Telephone No.	509-376-4650
SAF No.	W14-012	Sampling Origin	Hanford Site	Purchase Order/Charge Code	300071ES20
Project Title	RCRA, DECEMBER 2013	Logbook No.	HNF-N-506 601 48	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	PRIORITY	Offsite Property No.	N/A

POSSIBLE SAMPLE HAZARDS/REMARKS

** ** Contains Radioactive Material at concentations 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 ☑ No ☐

Site Wide Generator Knowledge Information Form applies.
The CACN for analytical work at WSCF is 401647.
FY13 and FY14 samples cannot be in the same SDG.

Sample No.	Filter	*	Date	Time	No/Type Container	Sample Analysis	Holding Time	Preservative
B2TLK3	N	W	12-23-13	1010	1x20-mL P	Activity Scan	6 Months	None
B2TLK3	N	W	↓	↓	2x4-L G/P	I129LL_SEP_LEPS_GS_LL: COMMON m2Q95	6 Months	None

J4A020420
W06645
Due

Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
John Fulton			DEC 2 3 2013 1345	SSU-1			DEC 2 3 2013 1345
SSU-1			DEC 3 0 2013 0830	Kevin Patterson			DEC 3 0 2013 0830
Kevin Patterson			DEC 3 0 2013 1300	J. Bock			DEC 3 0 2013 1300

Matrix *

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		

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

PRINTED O 12/12/2013

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JANUARY 31, 2014

TestAmerica
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Sample Check-in List

Date/Time Received: PGW 12-30-13 / 1500 SKS 1/6/14 Container GM Screen Result: (Airlock) 60 cpm Initials [BB]
Sample GM Screen Result (Sample Receiving) 40 cpm Initials [BB]

Client: PGW SDG #: WD6645 SAF #: W14-012 NA [ ]

Lot Number: J4A020428

Chain of Custody # W14-012-115; 018; 019

Shipping Container ID or Air Bill Number: hand delivered NA [SKS]

Samples received inside shipping container/cooler/box Yes [BB] 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 [BB]
2. Custody Seals dated and signed? Yes [ ] No [ ] No Custody Seal [BB]
3. Cooler temperature: _____ °C NA [BB]
4. Vermiculite/packing materials is NA [BB] Wet [ ] Dry [ ]

Item 5 through 16 for samples. Initial appropriate response.

5. Chain of Custody record present? Yes [BB] No [ ]
6. Number of samples received (Each sample may contain multiple bottles): 3
7. Containers received: 3x Vial 020; 6x 4Lp
8. Sample holding times exceeded? NA [ ] Yes [ ] No [BB]
9. Samples have: ____tape ____hazard labels SKS custody seals BB appropriate sample labels
10. Matrix: ____A (FLT, Wipe, Solid, Soil) BB I (Water) ____S (Air, Niosh 7400) ____T (Biological, Ni-63)
11. Samples:
    BB 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 [BB] No [ ] NA [ ]
    (If acidification is necessary go to pH area & document sample ID, initial pH, amount of HNO_3 added and pH after addition on table)
13. Were any anomalies identified in sample receipt? Yes [ ] No [BB]
14. Description of anomalies (include sample numbers): NA [BB]
15. Sample Location, Sample Collector Listed on COC? * Yes [BB] No [ ]
    *For documentation only. No corrective action needed.
16. Additional Information: N/A

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

Sample Check-in List completed by Sample Custodian:
Signature: [signature] Date: 1-2-14

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

[SKS] No action necessary; process as is

Project Manager [signature] Date 1-6-14

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Page 1 of 1

CH2MHill Plateau Remediation Company	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	C.O.C. # S14-012-164 Page 1 of 1

Collector	John Fulton	Contact/Requester	Karen Waters-Husted	Telephone No.	509-376-4650
SAF No.	S14-012	Sampling Origin	Hanford Site	Purchase Order/Charge Code	300071ES20
Project Title	SURV, DECEMBER 2013	Logbook No.	HNF-N-506 60/48	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 PRIORITY	Offsite Property No.	N/A

POSSIBLE SAMPLE HAZARDS/REMARKS

** ** Contains Radioactive Material at concentations 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 ☑ No ☐

Site Wide Generator Knowledge Information Form applies.
The CACN for analytical work at WSCF is 401647.
FY13 and FY14 samples cannot be in the same SDG.

Sample No.	Filter	*	Date	Time	No/Type Container	Sample Analysis	Holding Time	Preservative
B2THW7	N	W	12-23-13	1108	1x20-mL P	Activity Scan	6 Months	None
B2THW7	N	W	↓	↓	2x4-L G/P	I129LL_SEP_LEPS_GS_LL: COMMON m2Q96	6 Months	None

J4A020429
WO6645
Due

J4A020429

Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
John Fulton			DEC 2 3 2013 1345	SSU-1			DEC 2 3 2013 1345
SSU-1			DEC 3 0 2013 1080	Kevin Patterson			DEC 3 0 2013 1080
Kevin Patterson			DEC 3 0 2013 1300	J. Bock-TALL			DEC 3 0 2013 1300
Relinquished By			Date/Time	Received By			Date/Time

Matrix *

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

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

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CH2MHill Plateau Remediation Company	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	C.O.C. # S14-012-165
		Page 1 of 1

Collector	John Fulton	Contact/Requester	Karen Waters-Husted	Telephone No.	509-376-4650
SAF No.	S14-012	Sampling Origin	Hanford Site	Purchase Order/Charge Code	300071ES20
Project Title	SURV, DECEMBER 2013	Logbook No.	HNF-N-506 60/48	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	PRIORITY	Offsite Property No.	N/A

POSSIBLE SAMPLE HAZARDS/REMARKS

** ** Contains Radioactive Material at concentations 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 ☑ No ☐

Site Wide Generator Knowledge Information Form applies.
The CACN for analytical work at WSCF is 401647.
FY13 and FY14 samples cannot be in the same SDG.

Sample No.	Filter	*	Date	Time	No/Type Container	Sample Analysis	Holding Time	Preservative
B2THX0	N	W	12-23-13	1200	1x20-mL P	Activity Scan	6 Months	None
B2THX0	N	W	↓	↓	2x4-L G/P	I129LL_SEP_LEPS_GS_LL: COMMON m2Q97	6 Months	None

J4A020429
W06645
Due

J4A020429

Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
John Fulton			DEC 2 3 2013 1345	SSU-1			DEC 2 3 2013 1345
SSU-1			DEC 3 0 2013 /0830	Kevin Patterson			DEC 3 0 2013 /0830
Kevin Patterson			DEC 3 0 2013 1300	J. Bock		Bock TALR	DEC 3 0 2013 1300

Matrix *

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

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

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CH2MHill Plateau Remediation Company	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	C.O.C. # S14-012-171
		Page 1 of 1

Collector	Roy Shepard	Contact/Requester	Karen Waters-Husted	Telephone No.	509-376-4650
SAF No.	S14-012	Sampling Origin	Hanford Site	Purchase Order/Charge Code	300071ES20
Project Title	SURV, DECEMBER 2013	Logbook No.	HNF-N-506 53/82	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 PRIORITY	Offsite Property No.	N/A

POSSIBLE SAMPLE HAZARDS/REMARKS

** ** Contains Radioactive Material at concentations 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 ☑ No ☐

Site Wide Generator Knowledge Information Form applies.
The CACN for analytical work at WSCF is 401647.
FY13 and FY14 samples cannot be in the same SDG.

Sample No.	Filter	*	Date	Time	No/Type Container	Sample Analysis	Holding Time	Preservative
B2THY5	N	W	12/19/13	1211	1x20-mL P	Activity Scan	6 Months	None
B2THY5	N	W	↓	↓	2x4-L G/P	I129LL_SEP_LEPS_GS_LL: COMMON M2Q98	6 Months	None

J4A020429
W06645

Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
Roy Shepard			DEC 19 2013 1300	SSU-1			DEC 19 2013 1300
SSU-1			DEC 30 2013 0830	Kevin Patterson			DEC 30 2013 0830
Kevin Patterson			DEC 30 2013 1300	J. Bock		TALR	DEC 30 2013 1300

Matrix *

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

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

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Sample Check-in List

Date/Time Received: PGW 12-30-13 / 1300 SKS 1/6/14 Container GM Screen Result: (Airlock) 60 cpm Initials [BB]
Sample GM Screen Result (Sample Receiving) 40 cpm Initials [BB]

Client: PGW SDG #: WD6645 SAF #: S14-012 NA [ ]

Lot Number: J4A020429

Chain of Custody # S14-012-164; 165; 171

Shipping Container ID or Air Bill Number : hand delivered NA [SKS]

Samples received inside shipping container/cooler/box Yes [BB] 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 [BB]
2. Custody Seals dated and signed? Yes [ ] No [ ] No Custody Seal [BB]
3. Cooler temperature: _____ °C NA [BB]
4. Vermiculite/packing materials is NA [BB] Wet [ ] Dry [ ]

Item 5 through 16 for samples. Initial appropriate response.

5. Chain of Custody record present? Yes [BB] No [ ]
6. Number of samples received (Each sample may contain multiple bottles): 3
7. Containers received: 3 x vial 20; 6 x 4Lp
8. Sample holding times exceeded? NA [ ] Yes [ ] No [BB]
9. Samples have: _____tape _____hazard labels SKS custody seals [BB] appropriate sample labels
10. Matrix: _____A (FLT, Wipe, Solid, Soil) [BB] I (Water) _____S (Air, Niosh 7400) _____T (Biological, Ni-63)
11. Samples:
    [BB] 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 [BB] No [ ] NA [ ]
    (If acidification is necessary go to pH area & document sample ID, initial pH, amount of HNO_3 added and pH after addition on table)
13. Were any anomalies identified in sample receipt? Yes [ ] No [BB]
14. Description of anomalies (include sample numbers): NA [BB]
15. Sample Location, Sample Collector Listed on COC? * Yes [BB] No [ ]
    *For documentation only. No corrective action needed.
16. Additional Information: N/A

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

Sample Check-in List completed by Sample Custodian:
Signature: [signature] Date: 1-2-14

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

SKS No action necessary; process as is

Project Manager [signature] Date 1-6-14

CH2MHill Plateau Remediation Company	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	C.O.C. # I14-011-018
		Page 1 of 1

Collector	SCOTT KING	Contact/Requester	Karen Waters-Husted	Telephone No.	509-376-4650
SAF No.	I14-011	Sampling Origin	Hanford Site	Purchase Order/Charge Code	300071ES20
Project Title	2ZP1, DECEMBER 2013	Logbook No.	HNF-N-506 (00 / 51)	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	PRIORITY	Offsite Property No.	N/A

POSSIBLE SAMPLE HAZARDS/REMARKS

** ** Contains Radioactive Material at concentations 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 ☑ No ☐

200 Area Generator Knowledge Information Form applies.
The CACN for analytical work at WSCF is 401647.
FY13 and FY14 samples cannot be in the same SDG.

Sample No.	Filter	*	Date	Time	No/Type Container	Sample Analysis	Holding Time	Preservative
B2TKP9	N	W	DEC 30 2013	1058	1x20-mL P	Activity Scan	6 Months	None
B2TKP9	N	W	↓	↓	2x4-L G/P	I129LL_SEP_LEPS_GS_LL: COMMON M2Q99	6 Months	None

J4A020430
W0645
Due

J4A020430

Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
SCOTT KING	[signature]		DEC 30 2013 1300	J. Bock	J Bock TAUR		DEC 30 2013 1300
Relinquished By			Date/Time	Received By			Date/Time
Relinquished By			Date/Time	Received By			Date/Time
Relinquished By			Date/Time	Received By			Date/Time

Matrix *

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

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

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CH2MHill Plateau Remediation Company

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

C.O.C. # **I14-011-021**

Page 1 of 1

Collector	SCOTT KING	**Contact/Requester**	Karen Waters-Husted	**Telephone No.**	509-376-4650
SAF No.	I14-011	**Sampling Origin**	Hanford Site	**Purchase Order/Charge Code**	300071ES20
Project Title	2ZP1, DECEMBER 2013	**Logbook No.**	HNF-N-506 60/51	**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** **PRIORITY**	**Offsite Property No.**	N/A

POSSIBLE SAMPLE HAZARDS/REMARKS

** ** Contains Radioactive Material at concentations 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 ☑ No ☐

200 Area Generator Knowledge Information Form applies.
The CACN for analytical work at WSCF is 401647.
FY13 and FY14 samples cannot be in the same SDG.

Sample No.	Filter	*	Date	Time	No/Type Container	Sample Analysis	Holding Time	Preservative
B2TKT9	N		DEC 30 2013	0951	1x20-mL P	Activity Scan	6 Months	None
B2TKT9	N	W	↓	↓	2x4-L G/P	I129LL_SEP_LEPS_GS_LL: COMMON M2RAA	6 Months	None

J4A02043
W06645
Due

J4A020430

Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
SCOTT KING	Scott King		DEC 30 2013 1300	J. Bock	Bock	TALR	DEC 30 2013 1300
Relinquished By			Date/Time	Received By			Date/Time
Relinquished By			Date/Time	Received By			Date/Time
Relinquished By			Date/Time	Received By			Date/Time

Matrix *

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

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

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CH2MHill Plateau Remediation Company	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	C.O.C. # I14-011-087 Page 1 of 1

Collector	SCOTT KING	Contact/Requester	Karen Waters-Husted	Telephone No.	509-376-4650
SAF No.	I14-011	Sampling Origin	Hanford Site	Purchase Order/Charge Code	300071ES20
Project Title	2ZP1, DECEMBER 2013	Logbook No.	HNF-N-506 60/51	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 PRIORITY	Offsite Property No.	N/A

POSSIBLE SAMPLE HAZARDS/REMARKS

** ** Contains Radioactive Material at concentations 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 ☑ No ☐

200 Area Generator Knowledge Information Form applies.
The CACN for analytical work at WSCF is 401647.
FY13 and FY14 samples cannot be in the same SDG.

Sample No.	Filter	*	Date	Time	No/Type Container	Sample Analysis	Holding Time	Preservative
B2TR79	N	W	DEC 30 2013	1058	1x20-mL P	Activity Scan	6 Months	None
B2TR79	N	W	✓	✓	2x4-L G/P	I129LL_SEP_LEPS_GS_LL: COMMON M2RAC	6 Months	None

J4A020430
W06645
Due

Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
SCOTT KING	Scott King		DEC 30 2013 1300	J. Bock	J Bock	TALR	DEC 30 2013 1300
Relinquished By			Date/Time	Received By			Date/Time
Relinquished By			Date/Time	Received By			Date/Time
Relinquished By			Date/Time	Received By			Date/Time

Matrix *

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

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

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JANUARY 31, 2014

TestAmerica
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Sample Check-in List

Date/Time Received: PGW 12-30-13 / 1300 SKS 1-6-14 Container GM Screen Result: (Airlock) 60 cpm Initials [BB]
Sample GM Screen Result (Sample Receiving) 40 cpm Initials [BB]

Client: PGW SDG #: W06645 SAF #: I14-011 NA [ ]

Lot Number: J4A020430

Chain of Custody # I14-011-018, 021, 087

Shipping Container ID or Air Bill Number : hand delivered NA [SKS]

Samples received inside shipping container/cooler/box Yes [BB] 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 [BB]
2. Custody Seals dated and signed? Yes [ ] No [ ] No Custody Seal [BB]
3. Cooler temperature: _____ °C NA [BB]
4. Vermiculite/packing materials is NA [BB] Wet [ ] Dry [ ]

Item 5 through 16 for samples. Initial appropriate response.

5. Chain of Custody record present? Yes [BB] No [ ]
6. Number of samples received (Each sample may contain multiple bottles): 3
7. Containers received: 3x vial 20; 6x 4Lp
8. Sample holding times exceeded? NA [ ] Yes [ ] No [BB]
9. Samples have: ____tape ____hazard labels [SKS] custody seals [BB] appropriate sample labels
10. Matrix: ____A (FLT, Wipe, Solid, Soil) [BB] I (Water) ____S (Air, Niosh 7400) ____T (Biological, Ni-63)
11. Samples:
    [BB] 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 [BB] No [ ] NA [ ]
    (If acidification is necessary go to pH area & document sample ID, initial pH, amount of HNO_3 added and pH after addition on table)
13. Were any anomalies identified in sample receipt? Yes [ ] No [BB]
14. Description of anomalies (include sample numbers): NA [BB]
15. Sample Location, Sample Collector Listed on COC? * Yes [BB] No [ ]
    *For documentation only. No corrective action needed.
16. Additional Information: N/A

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

Sample Check-in List completed by Sample Custodian:
Signature: [signature] Date: 1-2-14

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

[SKS] No action necessary; process as is

Project Manager [signature] Date 1-6-14

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Page 1 of 1

CH2MHill Plateau Remediation Company	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	C.O.C. # I14-011-013
		Page 1 of 1

Collector	SCOTT KING	Contact/Requester	Karen Waters-Husted	Telephone No.	509-376-4650
SAF No.	I14-011	Sampling Origin	Hanford Site	Purchase Order/Charge Code	300071ES20
Project Title	2ZP1, DECEMBER 2013	Logbook No.	HNF-N-506 60/51	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	PRIORITY	Offsite Property No.	N/A

POSSIBLE SAMPLE HAZARDS/REMARKS

** ** Contains Radioactive Material at concentations 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 ☑ No ☐

200 Area Generator Knowledge Information Form applies.
The CACN for analytical work at WSCF is 401647.
FY13 and FY14 samples cannot be in the same SDG.

Sample No.	Filter	*	Date	Time	No/Type Container	Sample Analysis	Holding Time	Preservative
B2TKM2	N	W	DEC 30 2013	1204	1x20-mL P	Activity Scan	6 Months	None
B2TKM2	N	W	↓	↓	2x4-L G/P	I129LL_SEP_LEPS_GS_LL: COMMON m2REV	6 Months	None

J4A030407
W06645
Due

J4A030407

Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
SCOTT KING	[signature]		DEC 30 2013 1530	SSU #1			DEC 30 2013 1530
SSU #1			12/31/13 1300	D Brotherton	[signature]		12/31/13 1300
D W Brotherton	[signature]		12-31-13 1340	Tom McGinnis	[signature] TALR		12/31/13 1340

Matrix *

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

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

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CH2MHill Plateau Remediation Company	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	C.O.C. # I14-011-014
		Page 1 of 1

Collector	SCOTT KING	Contact/Requester	Karen Waters-Husted	Telephone No.	509-376-4650
SAF No.	I14-011	Sampling Origin	Hanford Site	Purchase Order/Charge Code	300071ES20
Project Title	2ZP1, DECEMBER 2013	Logbook No.	HNF-N-506 60/51	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 PRIORITY	Offsite Property No.	N/A

POSSIBLE SAMPLE HAZARDS/REMARKS

** ** Contains Radioactive Material at concentations 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 ☑ No ☐

200 Area Generator Knowledge Information Form applies.
The CACN for analytical work at WSCF is 401647.
FY13 and FY14 samples cannot be in the same SDG.

Sample No.	Filter	*	Date	Time	No/Type Container	Sample Analysis	Holding Time	Preservative
B2TKM8	N	W	DEC 30 2013	1316	1x20-mL P	Activity Scan	6 Months	None
B2TKM8	N	W	✓	✓	2x4-L G/P	I129LL_SEP_LEPS_GS_LL: COMMON MAREW	6 Months	None

J4A030407
W0645

J4A030407

Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
SCOTT KING	Scott King		DEC 30 2013 1530	SSU #1			DEC 30 2013 1530
SSU #1			12/31/13 1300	D. Brotherton	DW Brotherton		12/31/13 1300
DW Brotherton	DW Brotherton		12-31-13 1340 1400	Tom McGinnis	TOM DW		12/31/13 1340
			12/31/13				

Matrix *

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

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

PRINTED O 10/24/2013 A-6004-842 (REV 2)

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Sample Check-in List

Date/Time Received: 12/31/13 1340 Container GM Screen Result: (Airlock) 20 cpm Initials[TT]
Sample GM Screen Result (Sample Receiving) 20 cpm Initials[TT]

Client: PGW SDG #: WD6645 SAF #: I14-011 NA [ ]

Lot Number: J4A030407

Chain of Custody # I14-011-013, 014

Shipping Container ID or Air Bill Number: Hand Delivered NA [SKS] 3 coolers

Samples received inside shipping container/cooler/box Yes [TT] 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 [TT]
2. Custody Seals dated and signed? Yes [ ] No [ ] No Custody Seal [TT]
3. Cooler temperature: SKS 1/6/14 ~~12.0~~ °C TT NA [SKS]
4. Vermiculite/packing materials is NA [ ] Wet [ ] Dry [TT]

Item 5 through 16 for samples. Initial appropriate response.

5. Chain of Custody record present? Yes [TT] No [ ]
6. Number of samples received (Each sample may contain multiple bottles): 2
7. Containers received: 2 x Vial 20; 4 x 4L
8. Sample holding times exceeded? NA [ ] Yes [ ] No [TT]
9. Samples have: ____ tape ____ hazard labels TT custody seals TT appropriate sample labels
10. Matrix: ____ A (FLT, Wipe, Solid, Soil) TT I (Water) ____ S (Air, Niosh 7400) ____ T (Biological, Ni-63)
11. Samples:
    TT 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 [ ] No [ ] NA [ ]
    (If acidification is necessary go to pH area & document sample ID, initial pH, amount of HNO_3 added and pH after addition on table)
13. Were any anomalies identified in sample receipt? Yes [ ] No [TT]
14. Description of anomalies (include sample numbers): NA [TT]
15. Sample Location, Sample Collector Listed on COC? * Yes [TT] No [ ]
    *For documentation only. No corrective action needed.
16. Additional Information: N/A

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

Sample Check-in List completed by Sample Custodian:
Signature: Tom DM Date: 12/31/13

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

SKS No action necessary; process as is

Project Manager Sandra Steger Date 1-6-14

LS-023 Rev. 17, 05/13

CH2MHill Plateau Remediation Company	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	C.O.C. # I14-010-004 Page 1 of 1

Collector	Roy Shepard	Contact/Requester	Karen Waters-Husted	Telephone No.	509-376-4650
SAF No.	I14-010	Sampling Origin	Hanford Site	Purchase Order/Charge Code	300071ES20
Project Title	2UP1, DECEMBER 2013	Logbook No.	HNF-N-506 53/85	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	PRIORITY	Offsite Property No.	N/A

POSSIBLE SAMPLE HAZARDS/REMARKS

** ** Contains Radioactive Material at concentations that are not regulated for transportation per 49 CRF but are not releasable per DOE Order 5400 5 (1990/1993)

SPECIAL INSTRUCTIONS **Hold Time**

200 Area Generator Knowledge Information Form applies.
The CACN for analytical work at WSCF is 401647.
FY13 and FY14 samples cannot be in the same SDG.

Total Activity Exemption: Yes ☑ No ☐

Sample No.	Filter	*	Date	Time	No/Type Container	Sample Analysis	Holding Time	Preservative
B2TL01	N	W	12/30/13	1235	1x20-mL P	Activity Scan	6 Months	None
B2TL01	N	W	↓	↓	2x4-L G/P	I129LL_SEP_LEPS_GS_LL: COMMON	6 Months	None
B2TL01	N	W	↓	↓	2x1-L G/P	SE79_SEP_IE_LSC: COMMON MARHE	6 Months	HNO3 to pH <2

J4A030414
W0645

J4A030414

Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
Roy Shepard			DEC 30 2013 1500	SSU #1			DEC 30 2013 1500
SSU #1			12/30/13 1505	RA Shepard			12/30/13 1505
RA Shepard			12/30/13 1515	J. Bock		TALL	12-30-13 1515
Relinquished By			Date/Time	Received By			Date/Time

Matrix *

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	

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

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CH2MHill Plateau Remediation Company	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	C.O.C. # I14-010-005 Page 1 of 1

Collector	Roy Shepard	Contact/Requester	Karen Waters-Husted	Telephone No.	509-376-4650
SAF No.	I14-010	Sampling Origin	Hanford Site	Purchase Order/Charge Code	300071ES20
Project Title	2UP1, DECEMBER 2013	Logbook No.	HNF-N-506 53/85	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	PRIORITY	Offsite Property No.	N/A

POSSIBLE SAMPLE HAZARDS/REMARKS

** ** Contains Radioactive Material at concentations 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 ☑ No ☐

200 Area Generator Knowledge Information Form applies.
The CACN for analytical work at WSCF is 401647.
FY13 and FY14 samples cannot be in the same SDG.

Sample No.	Filter	*	Date	Time	No/Type Container	Sample Analysis	Holding Time	Preservative
B2TKY3	N	W	12/30/13	1235	1x20-mL P	Activity Scan	6 Months	None
B2TKY3	N	W	↓	↓	2x4-L G/P	I129LL_SEP_LEPS_GS_LL: COMMON	6 Months	None
B2TKY3	N	W	↓	↓	2x1-L G/P	SE79_SEP_IE_LSC: COMMON MARHF	6 Months	HNO3 to pH <2

J4A030414
W0dd4S

J4A030414

Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
Roy Shepard	[signature]	[signature]	DEC 30 2013 1500	SSU#1			DEC 30 2013 1500
SSU#1	12/30/13		1505	RA Shepard	[signature]		12/30/13 1505
RA Shepard	[signature]		12/30/13 1515	J Bock	[signature]	TALR	12-30-13 1515

Matrix *

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

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

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CH2MHill Plateau Remediation Company	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	C.O.C. # I14-010-006 Page 1 of 1

Collector	Roy Shepard	Contact/Requester	Karen Waters-Husted	Telephone No.	509-376-4650
SAF No.	I14-010	Sampling Origin	Hanford Site	Purchase Order/Charge Code	300071ES20
Project Title	2UP1, DECEMBER 2013	Logbook No.	HNF-N-506 53 /85	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	PRIORITY	Offsite Property No.	N/A

POSSIBLE SAMPLE HAZARDS/REMARKS

** ** Contains Radioactive Material at concentations 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 ☑ No ☐

200 Area Generator Knowledge Information Form applies.
The CACN for analytical work at WSCF is 401647.
FY13 and FY14 samples cannot be in the same SDG.

Sample No.	Filter	*	Date	Time	No/Type Container	Sample Analysis	Holding Time	Preservative
B2TL04	N	W	12/30/13	0730	1x20-mL P	Activity Scan	6 Months	None
B2TL04	N	W	↓	↓	2x4-L G/P	I129LL_SEP_LEPS_GS_LL: COMMON	6 Months	None
B2TL04	N	W	↓	↓	2x1-L G/P	SE79_SEP_IE_LSC: COMMON MARHG	6 Months	HNO3 to pH <2

J4A030414
W0d045

Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
Roy Shepard			DEC 3 0 2013 1500	SSU#1			DEC 3 0 2013 1500
SSU#1			12/30/13 1505	RA SHEPARD			12/30/13 1505
RA SHEPARD			12/30/13 1515	J. BOCK			TALK 12-30-13 1515
Relinquished By			Date/Time	Received By			Date/Time

Matrix *

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

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

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CH2MHill Plateau Remediation Company	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	C.O.C. # I14-010-007 Page 1 of 1

Collector	Roy Shepard	Contact/Requester	Karen Waters-Husted	Telephone No.	509-376-4650
SAF No.	I14-010	Sampling Origin	Hanford Site	Purchase Order/Charge Code	300071ES20
Project Title	2UP1, DECEMBER 2013	Logbook No.	HNF-N-506 53 85	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	PRIORITY	Offsite Property No.	N/A

POSSIBLE SAMPLE HAZARDS/REMARKS

** ** Contains Radioactive Material at concentations 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 ☑ No ☐

200 Area Generator Knowledge Information Form applies.
The CACN for analytical work at WSCF is 401647.
FY13 and FY14 samples cannot be in the same SDG.

Sample No.	Filter	*	Date	Time	No/Type Container	Sample Analysis	Holding Time	Preservative
B2TKY7	N	W	12/30/13	1145	1x20-mL P	Activity Scan	6 Months	None
B2TKY7	N	W	↓	↓	2x4-L G/P	I129LL_SEP_LEPS_GS_LL: COMMON	6 Months	None
B2TKY7	N	W	↓	↓	2x1-L G/P	SE79_SEP_IE_LSC: COMMON marHH	6 Months	HNO3 to pH <2

J4A030414
W0L645

Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
Roy Shepard			DEC 30 2013 1500	SSU #1			DEC 30 2013 1500
SSU #1			12/30/13 1505	RA Shepard			12/30/13 1506
RA Shepard			12/30/13 1515	J. Sock			12-30-13 1515
Relinquished By			Date/Time	Received By			Date/Time

Matrix *

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	

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

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JANUARY 31, 2014

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Sample Check-in List

Date/Time Received: 12-30-13 / 1515 Container GM Screen Result: (Airlock) 60 cpm Initials [JB]
Sample GM Screen Result (Sample Receiving) 40 cpm Initials [JB]

Client: PGW SDG #: W06645 SAF #: I14-010 NA [ ]

Lot Number: J4A030414

Chain of Custody # I14-010-004; 005; 006; 007

Shipping Container ID or Air Bill Number : Hand de Liv. NA [SKS]

Samples received inside shipping container/cooler/box Yes [JB] 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 [JB]
2. Custody Seals dated and signed? Yes [ ] No [ ] No Custody Seal [JB]
3. Cooler temperature: _____ °C NA [JB]
4. Vermiculite/packing materials is NA [JB] Wet [ ] Dry [ ]

Item 5 through 16 for samples. Initial appropriate response.

5. Chain of Custody record present? Yes [JB] No [ ]
6. Number of samples received (Each sample may contain multiple bottles): 4
7. Containers received: 4 x Vial 20; 8 x Lp; 8 x 4Lp
8. Sample holding times exceeded? NA [ ] Yes [ ] No [JB]
9. Samples have: ____tape ____hazard labels JB custody seals JB appropriate sample labels
10. Matrix: ____A (FLT, Wipe, Solid, Soil) JB I (Water) ____S (Air, Niosh 7400) ____T (Biological, Ni-63)
11. Samples:
JB 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 [JB] No [ ] NA [ ]
(If acidification is necessary go to pH area & document sample ID, initial pH, amount of HNO_3 added and pH after addition on table)
13. Were any anomalies identified in sample receipt? Yes [~~SKS~~] SKS 1/6/14 No [JB] SKS 1/6/14 SKS - NO Anomalies identified SKS 1-6-14
14. Description of anomalies (include sample numbers): NA [JB]
15. Sample Location, Sample Collector Listed on COC? * Yes [SKS] No [JB] SKS 1-6-14
*For documentation only. No corrective action needed.
16. Additional Information: N/A

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

Sample Check-in List completed by Sample Custodian:
Signature: [signature] Date: 1-4-13 3 JB 1-3-13

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

[SKS] No action necessary; process as is

Project Manager [signature] Date 1-6-14

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Page 1 of 1

CH2MHill Plateau Remediation Company	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	C.O.C. # W14-012-029
		Page 1 of 1

Collector	Roy Shepard	Contact/Requester	Karen Waters-Husted	Telephone No.	509-376-4650
SAF No.	W14-012	Sampling Origin	Hanford Site	Purchase Order/Charge Code	300071ES20
Project Title	RCRA, DECEMBER 2013	Logbook No.	HNF-N-506 53/85	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 PRIORITY	Offsite Property No.	N/A

POSSIBLE SAMPLE HAZARDS/REMARKS

** ** Contains Radioactive Material at concentations 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 ☑ No ☐

Site Wide Generator Knowledge Information Form applies.
The CACN for analytical work at WSCF is 401647.
FY13 and FY14 samples cannot be in the same SDG.

Sample No.	Filter	*	Date	Time	No/Type Container	Sample Analysis	Holding Time	Preservative
B2TLY8	N	W	12/30/13	0800	1x20-mL P	Activity Scan	6 Months	None
B2TLY8	N	W	↓	↓	2x4-L G/P	I129LL_SEP_LEPS_GS_LL: COMMON	6 Months	None
B2TLY8	N	W	↓	↓	2x1-L G/P	SE79_SEP_IE_LSC: COMMON M2RHJ	6 Months	HNO3 to pH <2

J4A030415
W0dd45
Due

J4A030415

Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
Roy Shepard	[signature]	[signature]	DEC 30 2013 1500	SSU#1			DEC 30 2013 1500
SSU#1	12/30/13	1505		RA SHEPARD	[signature]	[signature]	12/30/13 1505
RA SHEPARD	[signature]	[signature]	12/30/13 1515	J. Bock	[signature]	TALE	12-30-13 1515

Matrix *

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

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

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CH2MHill Plateau Remediation Company	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	C.O.C. # W14-012-030
		Page 1 of 1

Collector	Roy Shepard	Contact/Requester	Karen Waters-Husted	Telephone No.	509-376-4650
SAF No.	W14-012	Sampling Origin	Hanford Site	Purchase Order/Charge Code	300071ES20
Project Title	RCRA, DECEMBER 2013	Logbook No.	HNF-N-506 53/85	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 PRIORITY	Offsite Property No.	N/A

POSSIBLE SAMPLE HAZARDS/REMARKS

** ** Contains Radioactive Material at concentations 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 ☑ No ☐

Site Wide Generator Knowledge Information Form applies.
The CACN for analytical work at WSCF is 401647.
FY13 and FY14 samples cannot be in the same SDG.

Sample No.	Filter	*	Date	Time	No/Type Container	Sample Analysis	Holding Time	Preservative
B2TLT2	N	W	12/30/13	1053	1x20-mL P	Activity Scan	6 Months	None
B2TLT2	N	W	↓	↓	2x4-L G/P	I129LL_SEP_LEPS_GS_LL: COMMON	6 Months	None
B2TLT2	N	W	↓	↓	2x1-L G/P	SE79_SEP_IE_LSC: COMMON M2RHK	6 Months	HNO3 to pH <2

J4A030415
W0d645
Due

J4A030415

Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
Roy Shepard	[signature]	[signature]	DEC 30 2013 1500	SSLL #1			DEC 30 2013 1500
SSLL #1			12/30/13 1505	RA SHEPARD	[signature]	[signature]	12/30/13 1505
RA SHEPARD	[signature]	[signature]	12/30/13 1515	J BOCK	J Bock	TALR	12-30-13 1515

Matrix *

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

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

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TestAmerica
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Sample Check-in List

Date/Time Received: 12-30-13 / 1515 Container GM Screen Result: (Airlock) 60 cpm Initials [BS]
Sample GM Screen Result (Sample Receiving) 40 cpm Initials [BS]

Client: PLW SDG #: WO 6645 SAF #: W14-012 NA [ ]

Lot Number: J4A030415

Chain of Custody # W14-012-029; 030

Shipping Container ID or Air Bill Number : hand delivery NA [SKS]

Samples received inside shipping container/cooler/box Yes [BS] 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 [BS]
2. Custody Seals dated and signed? Yes [ ] No [ ] No Custody Seal [BS]
3. Cooler temperature: _____°C NA [BS]
4. Vermiculite/packing materials is NA [BS] Wet [ ] Dry [ ]

Item 5 through 16 for samples. Initial appropriate response.

5. Chain of Custody record present? Yes [BS] No [ ]
6. Number of samples received (Each sample may contain multiple bottles): 2
7. Containers received: 2x Vial 20; 4x 4p; 4x 4Lp
8. Sample holding times exceeded? NA [ ] Yes [ ] No [BS]
9. Samples have: ____tape ____hazard labels [BS] custody seals [BS] appropriate sample labels
10. Matrix: ____A (FLT, Wipe, Solid, Soil) [BS] I (Water) ____S (Air, Niosh 7400) ____T (Biological, Ni-63)
11. Samples:
    [BS] 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 [BS] No [ ] NA [ ]
    (If acidification is necessary go to pH area & document sample ID, initial pH, amount of HNO_3 added and pH after addition on table)
13. Were any anomalies identified in sample receipt? Yes [ ] No [BS]
14. Description of anomalies (include sample numbers): NA [BS]
15. Sample Location, Sample Collector Listed on COC? * Yes [SKS] ~~No [BS]~~ SKS1-614
    *For documentation only. No corrective action needed.
16. Additional Information: N/A

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

Sample Check-in List completed by Sample Custodian:
Signature: [signature] Date: 1-4-13 3 BS 1-3-13

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

[SKS] No action necessary; process as is

Project Manager [signature] Date 1-6-14

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Page 1 of 1

CH2MHill Plateau Remediation Company	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	C.O.C. # S14-001-142 Page 1 of 1

Collector	Roy Shepard	Contact/Requester	Karen Waters-Husted	Telephone No.	509-376-4650
SAF No.	S14-001	Sampling Origin	Hanford Site	Purchase Order/Charge Code	300071ES20
Project Title	SURV, JANUARY 2014	Logbook No.	HNF-N-506 53 /86	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 PRIORITY	Offsite Property No.	N/A

POSSIBLE SAMPLE HAZARDS/REMARKS

** ** Contains Radioactive Material at concentrations that may or may not be regulated for transportation per 49 CFR/IATA Dangerous Goods Regulations but are not releasable per DOE Order 458.1.

SPECIAL INSTRUCTIONS **Hold Time** Total Activity Exemption: Yes ☑ No ☐

Site Wide Generator Knowledge Information Form applies.
The CACN for analytical work at WSCF is 401647.

Sample No.	Filter	*	Date	Time	No/Type Container	Sample Analysis	Holding Time	Preservative
B2V0V6	N	W	12/31/13	0800	1x20-mL P	Activity Scan	6 Months	None
B2V0V6	N	W	↓	↓	2x4-L G/P	I129LL_SEP_LEPS_GS_LL: COMMON	6 Months	None
B2V0V6	N	W	↓	↓	2x1-L G/P	SE79_SEP_IE_LSC: COMMON m2RHL	6 Months	HNO3 to pH <2

J4A030416
W06645

J4A030416

Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
Roy Shepard			DEC 3 1 2013 1500	SSU #1			DEC 3 1 2013 1500
SSU #1			JAN 0 2 2014 0940	B.E. Briggs CHPRC			JAN 0 2 2014 0940
B.E. Briggs CHPRC			JAN 0 2 2014 1405	J. Bock TALA			JAN 0 2 2014 1405

Matrix *

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	

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

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JANUARY 31, 2014

CH2MHill Plateau Remediation Company	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	C.O.C. # S14-001-143 Page 1 of 1

Collector	Roy Shepard	Contact/Requester	Karen Waters-Husted	Telephone No.	509-376-4650
SAF No.	S14-001	Sampling Origin	Hanford Site	Purchase Order/Charge Code	300071ES20
Project Title	SURV, JANUARY 2014	Logbook No.	HNF-N-506 53/86	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	PRIORITY	Offsite Property No.	N/A

POSSIBLE SAMPLE HAZARDS/REMARKS
** ** Contains Radioactive Material at concentrations that may or may not be regulated for transportation per 49 CFR/IATA Dangerous Goods Regulations but are not releasable per DOE Order 458.1.

SPECIAL INSTRUCTIONS **Hold Time** Total Activity Exemption: Yes ☑ No ☐
Site Wide Generator Knowledge Information Form applies.
The CACN for analytical work at WSCF is 401647.

Sample No.	Filter	*	Date	Time	No/Type Container	Sample Analysis	Holding Time	Preservative
B2V0K4	N	W	12/31/13	1207	1x20-mL P	Activity Scan	6 Months	None
B2V0K4	N	W	↓	↓	2x4-L G/P	I129LL_SEP_LEPS_GS_LL: COMMON	6 Months	None
B2V0K4	N	W	↓	↓	2x1-L G/P	SE79_SEP_IE_LSC: COMMON m2RHm	6 Months	HNO3 to pH <2

J4A030416
WO6645

Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
Roy Shepard			DEC 3 1 2013 1500	SSU #4			DEC 3 1 2013 1500
SSU #4			JAN 0 2 2014 0940	S.E. Briggs CHPRC		BeBriggs	JAN 0 2 2014 0940
S.E. Briggs CHPRC		BeBriggs	JAN 0 2 2014 1405	J. Bock		J. Bock TALL	JAN 0 2 2014 1405
Relinquished By			Date/Time	Received By			Date/Time

Matrix *

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

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

PRINTED O 11/26/2013 A-6004-842 (REV 2)

JANUARY 31, 2014

JANUARY 31, 2014

CH2MHill Plateau Remediation Company	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	C.O.C. # S14-001-147 Page 1 of 1

Collector	Roy Shepard	Contact/Requester	Karen Waters-Husted	Telephone No.	509-376-4650
SAF No.	S14-001	Sampling Origin	Hanford Site	Purchase Order/Charge Code	300071ES20
Project Title	SURV, JANUARY 2014	Logbook No.	HNF-N-506 53/86	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	PRIORITY	Offsite Property No.	N/A

POSSIBLE SAMPLE HAZARDS/REMARKS

** ** Contains Radioactive Material at concentrations that may or may not be regulated for transportation per 49 CFR/IATA Dangerous Goods Regulations but are not releasable per DOE Order 458.1.

SPECIAL INSTRUCTIONS **Hold Time** Total Activity Exemption: Yes ☑ No ☐

Site Wide Generator Knowledge Information Form applies.
The CACN for analytical work at WSCF is 401647.

Sample No.	Filter	*	Date	Time	No/Type Container	Sample Analysis	Holding Time	Preservative
B2V0M1	N	W	12/31/13	1106	1x20-mL P	Activity Scan	6 Months	None
B2V0M1	N	W	↓	↓	2x4-L G/P	I129LL_SEP_LEPS_GS_LL: COMMON	6 Months	None
B2V0M1	N	W	↓	↓	2x1-L G/P	SE79_SEP_IE_LSC: COMMON M2RHN	6 Months	HNO3 to pH <2

J4A030416
W06645

Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
Roy Shepard			DEC 3 1 2013 1500	SSU #4			DEC 3 1 2013 1500
SSU #4			JAN 0 2 2014 0940	B.E. Briggs CHPRC			JAN 0 2 2014 0940
B.E. Briggs CHPRC			JAN 0 2 2014 1405	J. Bock			JAN 0 2 2014 1405

Matrix *

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	

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

PRINTED O 11/26/2013

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TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Sample Check-in List

Date/Time Received: 1-2-14 / 1405 Container GM Screen Result: (Airlock) 40 cpm Initials [JB]
Sample GM Screen Result (Sample Receiving) 40 cpm Initials [JB]

Client: PGW SDG #: WO66645 SAF #: 514-001 NA [ ]

Lot Number: 14A0304116

Chain of Custody # 514-001-142; 143; 147

Shipping Container ID or Air Bill Number : Hand de Liv. NA [SKS]

Samples received inside shipping container/cooler/box Yes [JB] 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 [JB]
2. Custody Seals dated and signed? Yes [ ] No [ ] No Custody Seal [JB]
3. Cooler temperature: _____°C NA [JB].
4. Vermiculite/packing materials is NA [JB] Wet [ ] Dry [ ]

Item 5 through 16 for samples. Initial appropriate response.

5. Chain of Custody record present? Yes [JB] No [ ]
6. Number of samples received (Each sample may contain multiple bottles): 3
7. Containers received: 3x Vial 20; 6x 4p; 6x 4p
8. Sample holding times exceeded? NA [ ] Yes [ ] No [JB]
9. Samples have: ____tape ____hazard labels [JB] custody seals [JB] appropriate sample labels
10. Matrix: ____A (FLT, Wipe, Solid, Soil) [JB] I (Water) ____S (Air, Niosh 7400) ____T (Biological, Ni-63)
11. Samples:
    [JB] 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 [JB] No [ ] NA [ ]
    (If acidification is necessary go to pH area & document sample ID, initial pH, amount of HNO_3 added and pH after addition on table)
13. Were any anomalies identified in sample receipt? Yes [ ] No [JB]
14. Description of anomalies (include sample numbers): NA [JB] _____
15. Sample Location, Sample Collector Listed on COC? * Yes [JB] No [ ]
    *For documentation only. No corrective action needed.
16. Additional Information: N/A

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

Sample Check-in List completed by Sample Custodian:
Signature: Jane Bock Date: 1-2-14

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

[SKS] No action necessary; process as is

Project Manager Sandra Segen Date 1-6-14

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1/27/2014 2:10:46 PM

Sample Preparation/Analysis

384868, CH2M Hill Plateau Remediation Company
, Pacific Northwest National Lab

BN I-129 Prp/Sep GAM002
TB Gamma by LEPD
5I CLIENT: HANFORD

Balance Id:
Pipet #:

AnalyDueDate: 02/03/2014

Sep1 DT/Tm Tech:

Batch: 4006042 WATER pCi/L
SEQ Batch, Test: None All Tests: 4006042 BNTB,

PM, Quote: SS , 57671

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 (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 M2Q93-1-AA J4A020428-1-SAMP 12/26/2013 08:41			3608.10g,in	3608.10g	ITA13535 12/13/13 AmtRec: 1XVIAL20;2X4LP			34.6mg	200	L4	1006	1/28/14	
					#Containers: 3					Scr:	Alpha: 3.16E-04 uCi/Sa	Beta: 1.28E-04 uCi/Sa	
2 M2Q93-1-AC-X J4A020428-1-DUP 12/26/2013 08:41			3762.30g,in	3762.30g	ITA13536 12/13/13 AmtRec: 1XVIAL20;2X4LP			35.9mg		L5	1006		
					#Containers: 3					Scr:	Alpha: 3.16E-04 uCi/Sa	Beta: 1.28E-04 uCi/Sa	
3 M2Q94-1-AA J4A020428-2-SAMP 12/23/2013 10:10			3807.90g,in	3807.90g	ITA13537 12/13/13 AmtRec: 1XVIAL20;2X4LP			35.3mg		L4	1331	1/28/14	
					#Containers: 3					Scr:	Alpha: -5.44E-05 uCi/Sa	Beta: 1.83E-03 uCi/Sa	
4 M2Q95-1-AA J4A020428-3-SAMP 12/23/2013 10:10			3755.60g,in	3755.60g	ITA13538 12/13/13 AmtRec: 1XVIAL20;2X4LP			35.7mg		L5	1331		
					#Containers: 3					Scr:	Alpha: 1.10E-03 uCi/Sa	Beta: -3.84E-04 uCi/Sa	
5 M2Q96-1-AA J4A020429-1-SAMP 12/23/2013 11:08			3769.90g,in	3769.90g	ITA13539 12/13/13 AmtRec: 1XVIAL20;2X4LP			35.2mg		L4	1658	1/28/14	
					#Containers: 3					Scr:	Alpha: -4.52E-04 uCi/Sa	Beta: 1.28E-04 uCi/Sa	
6 M2Q97-1-AA J4A020429-2-SAMP 12/23/2013 12:00			3775.10g,in	3775.10g	ITA13540 12/13/13 AmtRec: 1XVIAL20;2X4LP			35.3mg		L5	1659		
					#Containers: 3					Scr:	Alpha: 1.79E-04 uCi/Sa	Beta: 3.84E-04 uCi/Sa	
7 M2Q98-1-AA J4A020429-3-SAMP 12/19/2013 12:11			3045.40g,in	3045.40g	ITA13541 12/13/13 AmtRec: 1XVIAL20;2X4LP			35.3mg		L4	2026	1/28/14	
					#Containers: 3					Scr:	Alpha: -7.88E-04 uCi/Sa	Beta: 8.11E-04 uCi/Sa	

TestAmerica Richland Wa. Key: In - Initial Amt, fi - Final Amt, di - Diluted Amt, s1 - Sep1, s2 - Sep2 pd - Prep Dt, dc - Date Chg, r - Reference Dt, ec-Enrichment Cell, ct-Cocktailed Added Page 1 ISV - Insufficient Volume for Analysis WO Cnt: 7 Prep_SamplePrep v4.8.65

JANUARY 31, 2014

1/27/2014 2:10:47 PM

Sample Preparation/Analysis

384868, CH2M Hill Plateau Remediation Company
, Pacific Northwest National Lab

BN I-129 Prp/Sep GAM002
TB Gamma by LEPD
5I CLIENT: HANFORD

Balance Id:
Pipet #:

AnalyDueDate: 02/03/2014

Sep1 DT/Tm Tech:

Batch: 4006042 WATER pCi/L PM, Quote: SS , 57671
SEQ Batch, Test: None

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 (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:
8 M2Q99-1-AA J4A020430-1-SAMP 12/30/2013 10:58			3724.20g,in AmtRec: 1XVIAL20;2X4LP	3724.20g	ITA13542 12/13/13 #Containers: 3			35.5mg	200	L5	2027	1/28/14 00	Scr: Alpha: -1.41E-03 uCi/Sa Beta: 1.24E-03 uCi/Sa
9 M2RAA-1-AA J4A020430-2-SAMP 12/30/2013 09:51			3776.90g,in AmtRec: 1XVIAL20;2X4LP	3776.90g	ITA13543 12/13/13 #Containers: 3			35.2mg		L4	2354		Scr: Alpha: 2.19E-04 uCi/Sa Beta: 4.25E-05 uCi/Sa
10 M2RAC-1-AA J4A020430-3-SAMP 12/30/2013 10:58			3807.60g,in AmtRec: 1XVIAL20;2X4LP	3807.60g	ITA13544 12/13/13 #Containers: 3			35.1mg		L5	2354		Scr: Alpha: -3.39E-04 uCi/Sa Beta: 9.82E-04 uCi/Sa
11 M2REV-1-AA J4A030407-1-SAMP 12/30/2013 12:04			3658.50g,in AmtRec: 1XVIAL20;2X4LP	3658.50g	ITA13545 12/13/13 #Containers: 3			35.7mg		L4	0317		Scr: Alpha: 2.76E-04 uCi/Sa Beta: 4.69E-04 uCi/Sa
12 M2REW-1-AA J4A030407-2-SAMP 12/30/2013 13:16			3684.20g,in AmtRec: 1XVIAL20;2X4LP	3684.20g	ITA13546 12/13/13 #Containers: 3			35.3mg		L5			Scr: Alpha: -5.66E-04 uCi/Sa Beta: 5.55E-04 uCi/Sa
13 M2RHE-1-AA J4A030414-1-SAMP 12/30/2013 12:35			3825.20g,in AmtRec: 1XVIAL20;2XLP;2X4LP	3825.20g	ITA13547 12/13/13 #Containers: 5			33.2mg		L1	1018	1/29/14	Scr: Alpha: 6.39E-03 uCi/Sa 2.8E-01L Beta: -4.80E-04 uCi/Sa
14 M2RHF-1-AA J4A030414-2-SAMP 12/30/2013 12:35			3855.90g,in AmtRec: 1XVIAL20;2XLP;2X4LP	3855.90g	ITA13548 12/13/13 #Containers: 5			36.4mg		L5	1019		Scr: Alpha: 3.68E-03 uCi/Sa Beta: 8.00E-04 uCi/Sa

JANUARY 31, 2014

1/27/2014 2:10:48 PM

Sample Preparation/Analysis

384868, CH2M Hill Plateau Remediation Company
, Pacific Northwest National Lab

BN I-129 Prp/Sep GAM002
TB Gamma by LEPD
5I CLIENT: HANFORD

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

AnalyDueDate: 02/03/2014

Batch: 4006042 WATER pCi/L PM, Quote: SS , 57671
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:
15 M2RHG-1-AA J4A030414-3-SAMP 12/30/2013 07:30			3074.30g,in	3074.30g	ITA13549 12/13/13			36.3mg	200	LH	1346	1/29/14	
			AmtRec: 1XVIAL20;2XLP;2X4LP		#Containers: 5				Scr:	Alpha: 3.38E-04 uCi/Sa		Beta: 1.33E-03 uCi/Sa	
16 M2RHH-1-AA J4A030414-4-SAMP 12/30/2013 11:45			3876.10g,in	3876.10g	ITA13550 12/13/13			36.0mg		LS	1347		
			AmtRec: 1XVIAL20;2XLP;2X4LP		#Containers: 5				Scr:	Alpha: 6.22E-04 uCi/Sa		Beta: 1.87E-03 uCi/Sa	
17 M2RHJ-1-AA J4A030415-1-SAMP 12/30/2013 08:00			3893.50g,in	3893.50g	ITA13551 12/13/13			35.8mg		LH	1725	1/29/14	
			AmtRec: 1XVIAL20;2XLP;2X4LP		#Containers: 5				Scr:	Alpha: 1.93E-04 uCi/Sa		Beta: -7.47E-04 uCi/Sa	
18 M2RHK-1-AA J4A030415-2-SAMP 12/30/2013 10:53			3862.60g,in	3862.60g	ITA13552 12/13/13			35.4mg		LS	1725		
			AmtRec: 1XVIAL20;2XLP;2X4LP		#Containers: 5				Scr:	Alpha:		Beta:	
19 M2RHL-1-AA J4A030416-1-SAMP 12/31/2013 08:00			3864.10g,in	3864.10g	ITA13553 12/13/13			36.4mg		LH	2117	1/29/14	
			AmtRec: 1XVIAL20;2XLP;2X4LP		#Containers: 5				Scr:	Alpha: 8.66E-05 uCi/Sa		Beta: -7.47E-04 uCi/Sa	
20 M2RHM-1-AA J4A030416-2-SAMP 12/31/2013 12:07			3788.60g,in	3788.60g	ITA13554 12/13/13			35.9mg		LS	2118		
			AmtRec: 1XVIAL20;2XLP;2X4LP		#Containers: 5				Scr:	Alpha: 5.13E-04 uCi/Sa		Beta: -7.47E-04 uCi/Sa	
21 M2RHN-1-AA J4A030416-3-SAMP 12/31/2013 11:06			3859.80g,in	3859.80g	ITA13555 12/13/13			35.9mg		LH	0043		
			AmtRec: 1XVIAL20;2XLP;2X4LP		#Containers: 5				Scr:	Alpha: 2.59E-03 uCi/Sa		Beta: -1.07E-03 uCi/Sa	

JANUARY 31, 2014

1/27/2014 2:10:49 PM

Sample Preparation/Analysis

BN I-129 Prp/Sep GAM002
TB Gamma by LEPD
5I CLIENT: HANFORD

AnalyDueDate: 02/03/2014

Batch: 4006042 pCi/L
SEQ Batch, Test: None

Balance Id:
Pipet #:
Sep1 DT/Tm Tech:
Sep2 DT/Tm Tech:
Prep Tech: NortonJ,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:
22 M2RNF-1-AA-B J4A060000-42-BLK			3925.70g,in	3925.70g	ITA13556 12/13/13			35.4mg	200	L5	0046	1/28/14	
01/06/2014 12:42 pd			AmtRec:	#Containers: 1					Scr:	Alpha:		Beta:	
23 M2RNF-1-AC-C J4A060000-42-LCS			3966.90g,in	3966.90g	ISD1619 10/10/13			35.9mg		L5	0511	1/30/14	
01/06/2014 12:42 pd			AmtRec:	#Containers: 1					Scr:	Alpha:		Beta:	

JANUARY 31, 2014

1/27/2014 2:10:49 PM

Sample Preparation/Analysis

BN I-129 Prp/Sep GAM002
TB Gamma by LEPD
5I CLIENT: HANFORD

Balance Id:

Pipet #:

AnalyDueDate: 02/03/2014

Sep1 DT/Tm Tech:

Batch: 4006042 pCi/L

Sep2 DT/Tm Tech:

SEQ Batch, Test: None

Prep Tech: NortonJ,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:

Comments: M2RNF-BLK "Comments S-13-00328",S-14-00006,P-13-00420,P-14-00442,S-12-00214,S-13-00126,P-14-00028,S-13-00229,S-13-00345,P-14-00031

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

M2Q931AA-SAMP Constituent List:
  I-129       RDL:0.50E+00    pCi/L    LCL:        UCL:        RPD:
M2RNF1AA-BLK:
  I-129       RDL:0.50E+00    pCi/L    LCL:        UCL:        RPD:
M2RNF1AC-LCS:
  I-129       RDL:5           pCi/L    LCL:70      UCL:130     RPD:20

M2Q931AA-SAMP Calc Info:
    Uncert Level (#s).: 2     Decay to SaDt: Y     Blk Subt.: N     Sci.Not.: Y     ODRs: B
M2RNF1AA-BLK:
    Uncert Level (#s).: 2     Decay to SaDt: Y     Blk Subt.: N     Sci.Not.: Y     ODRs: B
M2RNF1AC-LCS:
    Uncert Level (#s).: 2     Decay to SaDt: Y     Blk Subt.: N     Sci.Not.: Y     ODRs: B
```


JANUARY 31, 2014

1/30/2014 1:58:04 PM

ICOC Fraction Transfer/Status Report

ByDate: 1/30/2013, 2/4/2014, Batch: '4006042', User: *ALL Order By DateTimeAccepting

Q Batch	Work Ord	CurStatus	Accepting			Comments
4006042						
AC		Rev1C	SannohS	1/14/2014 9:54:44		
SC			campbellsc	IsBatched	1/6/2014 1:00:54 PM	ICOC_RADCALC v4.8.49
SC			SannohS	InPrep	1/14/2014 9:54:44 AM	RL-GAM-002 REVISION 3
SC			NortonJ	InSep1	1/24/2014 10:35:02 AM	RL-GAM-002 REVISION 3
SC			DawkinsO	InCnt1	1/27/2014 4:55:03 PM	RL-CI-007 REVISION 3
SC			BullJ	CalcC	1/30/2014 9:53:27 AM	RL-CI-007 REVISION 3
SC			antonsonl	Rev1C	1/30/2014 1:49:14 PM	RL-DR-001 Rev 4
AC			NortonJ	1/24/2014 10:35:02		
AC			DawkinsO	1/27/2014 4:55:03 PM		
AC			BullJ	1/30/2014 9:53:27		
AC			antonsonl	1/30/2014 1:49:14 PM		

AC: Accepting Entry; SC: Status Change

TestAmerica Richland

Richland Wa.

Page 1

Grp Rec Cnt: 5

ICOCFractions v4.8.44

1/8/2014 8:16:06 AM

Sample Preparation/Analysis

Balance Id:1120403183

384868, CH2M Hill Plateau Remediation Company
, Pacific Northwest National Lab

CY Se-79 Prp PRP004, Sep LSC012
TM Selenium-79 by Liquid Scint
5I CLIENT: HANFORD

Pipet #: _____

AnalyDueDate: 02/03/2014

Sep1 DT/Tm Tech:

Batch: 4006043 WATER pCi/L

PM, Quote: SS , 57671

Sep2 DT/Tm Tech:

SEQ Batch, Test: None

Prep Tech: ,WattN

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 M2RHE-1-AC J4A030414-1-SAMP 12/30/2013 12:35			200.30g,in	200.30g	SETA0975 07/19/13				50				
			AmtRec: 1XVIAL20;2XLP;2X4LP		#Containers: 5					Scr: Alpha: 6.39E-03 uCi/Sa 2.8E-01L		Beta: -4.80E-04 uCi/Sa	
2 M2RHE-1-AD-X J4A030414-1-DUP 12/30/2013 12:35			202.80g,in	202.80g	SETA0976 07/19/13								
			AmtRec: 1XVIAL20;2XLP;2X4LP		#Containers: 5					Scr: Alpha: 6.39E-03 uCi/Sa 2.8E-01L		Beta: -4.80E-04 uCi/Sa	
3 M2RHF-1-AC J4A030414-2-SAMP 12/30/2013 12:35			201.30g,in	201.30g	SETA0977 07/19/13								
			AmtRec: 1XVIAL20;2XLP;2X4LP		#Containers: 5					Scr: Alpha: 3.68E-03 uCi/Sa		Beta: 8.00E-04 uCi/Sa	
4 M2RHG-1-AC J4A030414-3-SAMP 12/30/2013 07:30			201.30g,in	201.30g	SETA0978 07/19/13								
			AmtRec: 1XVIAL20;2XLP;2X4LP		#Containers: 5					Scr: Alpha: 3.38E-04 uCi/Sa		Beta: 1.33E-03 uCi/Sa	
5 M2RHH-1-AC J4A030414-4-SAMP 12/30/2013 11:45			200.50g,in	200.50g	SETA0979 07/19/13								
			AmtRec: 1XVIAL20;2XLP;2X4LP		#Containers: 5					Scr: Alpha: 6.22E-04 uCi/Sa		Beta: 1.87E-03 uCi/Sa	
6 M2RHJ-1-AC J4A030415-1-SAMP 12/30/2013 08:00			201.90g,in	201.90g	SETA0980 07/19/13								
			AmtRec: 1XVIAL20;2XLP;2X4LP		#Containers: 5					Scr: Alpha: 1.93E-04 uCi/Sa		Beta: -7.47E-04 uCi/Sa	
7 M2RHK-1-AC J4A030415-2-SAMP 12/30/2013 10:53			202.00g,in	202.00g	SETA0981 07/19/13								
			AmtRec: 1XVIAL20;2XLP;2X4LP		#Containers: 5					Scr: Alpha:		Beta:	

TestAmerica Richland Wa.

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

ISV - Insufficient Volume for Analysis

WO Cnt: 7
Prep_SamplePrep v4.8.65

JANUARY 31, 2014

1/8/2014 8:16:07 AM

Sample Preparation/Analysis

Balance Id:1120403183

384868, CH2M Hill Plateau Remediation Company
, Pacific Northwest National Lab

CY Se-79 Prp PRP004, Sep LSC012
TM Selenium-79 by Liquid Scint
5I CLIENT: HANFORD

Pipet #: _____

AnalyDueDate: 02/03/2014

Sep1 DT/Tm Tech:

Batch: 4006043 WATER pCi/L

PM, Quote: SS , 57671

Sep2 DT/Tm Tech:

SEQ Batch, Test: None

Prep Tech: ,WattN

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:
8 M2RHL-1-AC J4A030416-1-SAMP 12/31/2013 08:00			201.60g,in	201.60g	SETA0982 07/19/13								
			AmtRec: 1XVIAL20;2XLP;2X4LP		#Containers: 5					Scr:	Alpha: 8.66E-05 uCi/Sa		Beta: -7.47E-04 uCi/Sa
9 M2RHM-1-AC J4A030416-2-SAMP 12/31/2013 12:07			201.10g,in	201.10g	SETA0983 07/19/13								
			AmtRec: 1XVIAL20;2XLP;2X4LP		#Containers: 5					Scr:	Alpha: 5.13E-04 uCi/Sa		Beta: -7.47E-04 uCi/Sa
10 M2RHN-1-AC J4A030416-3-SAMP 12/31/2013 11:06			200.70g,in	200.70g	SETA0984 07/19/13								
			AmtRec: 1XVIAL20;2XLP;2X4LP		#Containers: 5					Scr:	Alpha: 2.59E-03 uCi/Sa		Beta: -1.07E-03 uCi/Sa
11 M2RNG-1-AA-B J4A060000-43-BLK 01/06/2014 12:42 pd			200.70g,in	200.70g	SETA0985 07/19/13								
			AmtRec:		#Containers: 1					Scr:	Alpha:		Beta:
12 M2RNG-1-AC-BN J4A060000-43-IBLK 01/06/2014 12:42 pd													
			AmtRec:		#Containers: 1					Scr:	Alpha:		Beta:

JANUARY 31, 2014

1/8/2014 8:16:08 AM

Sample Preparation/Analysis

CY Se-79 Prp PRP004, Sep LSC012
TM Selenium-79 by Liquid Scint
5I CLIENT: HANFORD

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

AnalyDueDate: 02/03/2014

Batch: 4006043 pCi/L
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:

Comments: M2RNG-BLK CommentsP-13-00706,s-12-00228

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

M2RHE1AC-SAMP Constituent List:
  Se-79        RDL:3.00E+01    pCi/L     LCL:        UCL:        RPD:
M2RNG1AA-BLK:
  Se-79        RDL:3.00E+01    pCi/L     LCL:        UCL:        RPD:
M2RNG1AC-IBLK:
  Se-79        RDL:3.00E+01    pCi/L     LCL:        UCL:        RPD:

M2RHE1AC-SAMP Calc Info:
     Uncert Level (#s).: 2     Decay to SaDt: Y     Blk Subt.: N     Sci.Not.: Y     ODRs: B
M2RNG1AA-BLK:
     Uncert Level (#s).: 2     Decay to SaDt: Y     Blk Subt.: N     Sci.Not.: Y     ODRs: B
M2RNG1AC-IBLK:
     Uncert Level (#s).: 2     Decay to SaDt: Y     Blk Subt.: N     Sci.Not.: Y     ODRs: B
```

1/24/2014 9:24:52 AM

ICOC Fraction Transfer/Status Report

ByDate: 1/24/2013, 1/29/2014, Batch: '4006043', User: *ALL Order By DateTimeAccepting

Q Batch	Work Ord	CurStatus	Accepting			Comments
4006043						
AC		Rev1C	WattN	1/8/2014 7:53:29 AM		
SC			campbellsc	IsBatched	1/6/2014 1:01:07 PM	ICOC_RADCALC v4.8.49
SC			WattN	InPrep	1/8/2014 7:53:29 AM	RL-PRP-004 REVISION 2
SC			WattN	Prep1C	1/8/2014 8:16:13 AM	RL-PRP-004 REVISION 2
SC			JorgensonD	Sep2C	1/15/2014 2:00:03 PM	RL-LSC-012 REV 3
SC			BullJ	InCnt1	1/15/2014 2:15:11 PM	RL-CI-005 REVISION 3
SC			BullJ	CalcC	1/16/2014 8:31:58 AM	RL-CI-005 REVISION 3
SC			BullJ	CalcC	1/21/2014 8:48:37 AM	RL-CI-005 REVISION 3
SC			antonsonl	Rev1C	1/24/2014 9:24:38 AM	RL-DR-001 Rev 4
AC			WattN	1/8/2014 8:16:13 AM		
AC			JorgensonD	1/15/2014 2:00:03 PM		
AC			BullJ	1/15/2014 2:15:11 PM		
AC			BullJ	1/16/2014 8:31:58		
AC			BullJ	1/21/2014 8:48:37		
AC			antonsonl	1/24/2014 9:24:38		

AC: Accepting Entry; SC: Status Change

TestAmerica Richland

Richland Wa.

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Grp Rec Cnt: 7

ICOCFractions v4.8.44