SAF-RC-011
ERDF Lysimeter Sampling
FINAL DATA PACKAGE

COMPLETE COPY OF DATA PACKAGE TO:

Barry Lawrence T2-03 KW 5/6/15
INITIAL/DATE

COMMENTS:

SDG J02178 **SAF-RC-011**

Rad only Chem only ☑ Rad & Chem

☑ Complete Partial

Waste Site: **ERDF Lysimeters 5 through 10, Spring 2015**

Analytical Data Package Prepared For

Washington Closure Hanford

Radiochemical Analysis By

TestAmerica Inc

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

Assigned Laboratory Code: TARL

Data Package Contains 90 *Pages*

Report No.: 65522

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

SDG No.	Order No.	Client Sample ID (List Order)	Lot-Sa No.	Work Order	Report DB ID	Batch No.
J02178	RC-011	J1V5J2	J5D020408-1	M6H241AC	9M6H2410	5092045
		J1V5J2	J5D020408-1	M6H241AF	9M6H2410	5092047
		J1V5J2	J5D020408-1	M6H241AE	9M6H2410	5092048
		J1V5J2	J5D020408-1	M6H242AA	9M6H2420	5105034
		J1V5J2-A	J5D020408-2	M6H281AA	9M6H2810	5092044
		J1V5J3	J5D020408-3	M6H291AC	9M6H2910	5092045
		J1V5J3	J5D020408-3	M6H291AA	9M6H2910	5092046
		J1V5J3	J5D020408-3	M6H291AF	9M6H2910	5092047
		J1V5J3	J5D020408-3	M6H291AE	9M6H2910	5092048
		J1V5J3-A	J5D020408-4	M6H3A1AA	9M6H3A10	5092044
		J1V5J4	J5D020408-5	M6H3C1AC	9M6H3C10	5092045
		J1V5J4	J5D020408-5	M6H3C1AF	9M6H3C10	5092047
		J1V5J4	J5D020408-5	M6H3C1AE	9M6H3C10	5092048
		J1V5J4	J5D020408-5	M6H3C2AA	9M6H3C20	5105034
		J1V5J4-A	J5D020408-6	M6H3D1AA	9M6H3D10	5092044
		J1V5J5	J5D020408-7	M6H3E1AC	9M6H3E10	5092045
		J1V5J5	J5D020408-7	M6H3E1AF	9M6H3E10	5092047
		J1V5J5	J5D020408-7	M6H3E1AE	9M6H3E10	5092048
		J1V5J5	J5D020408-7	M6H3E2AA	9M6H3E20	5105034
		J1V5J5-A	J5D020408-8	M6H3F1AA	9M6H3F10	5092044
		J1V5J6	J5D020408-13	M6H3L1AC	9M6H3L10	5092045
		J1V5J6	J5D020408-13	M6H3L1AA	9M6H3L10	5092046
		J1V5J6	J5D020408-13	M6H3L1AF	9M6H3L10	5092047
		J1V5J6	J5D020408-13	M6H3L1AE	9M6H3L10	5092048
		J1V5J6-A	J5D020408-14	M6H3M1AA	9M6H3M10	5092044
		J1V5J7	J5D020408-9	M6H3G1AC	9M6H3G10	5092045

Report No.: 65522

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SDG No.	Order No.	Client Sample ID (List Order)	Lot-Sa No.	Work Order	Report DB ID	Batch No.
J02178	RC-011	J1V5J7	J5D020408-9	M6H3G1AA	9M6H3G10	5092046
		J1V5J7	J5D020408-9	M6H3G1AF	9M6H3G10	5092047
		J1V5J7	J5D020408-9	M6H3G1AE	9M6H3G10	5092048
		J1V5J7-A	J5D020408-10	M6H3H1AA	9M6H3H10	5092044
	RC-011	J1V5J8	J5D020408-11	M6H3J1AF	9M6H3J10	5092047
		J1V5J8	J5D020408-11	M6H3J1AE	9M6H3J10	5092048
		J1V5J8	J5D020408-11	M6H3J2AA	9M6H3J20	5105034
		J1V5J8	J5D020408-11	M6H3J3AC	9M6H3J30	5107034
		J1V5J8-A	J5D020408-12	M6H3K1AA	9M6H3K10	5092044

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

Certificate of Analysis

Washington Hanford Closure
2620 Fermi Avenue
Richland, WA 99354

April 29, 2015

Attention: Joan Kessner

SAF Number	:	RC-011
Date SDG Closed	:	April 1, 2015
Number of Samples	:	Seven (7)
Sample Type	:	Water
SDG Number	:	J02178
Data Deliverable	:	45– Day / Summary

CASE NARRATIVE

I. Introduction

On April 1, 2015, seven water samples were received at TestAmerica for radiochemical analysis. Upon receipt, the samples were assigned the following laboratory ID numbers to correspond with the Washington Closure Hanford (WCH) specific ID:

WCH ID#	TARL ID#	MATRIX	DATE OF RECEIPT
J1V5J2	M6H24	WATER	04/01/15
J1V5J2-A	M6H28	WATER	04/01/15
J1V5J3	M6H29	WATER	04/01/15
J1V5J3-A	M6H3A	WATER	04/01/15
J1V5J4	M6H3C	WATER	04/01/15
J1V5J4-A	M6H3D	WATER	04/01/15
J1V5J5	M6H3E	WATER	04/01/15
J1V5J5-A	M6H3F	WATER	04/01/15
J1V5J6	M6H3L	WATER	04/01/15
J1V5J6-A	M6H3M	WATER	04/01/15
J1V5J7	M6H3G	WATER	04/01/15
J1V5J7-A	M6H3H	WATER	04/01/15
J1V5J8	M6H3J	WATER	04/01/15
J1V5J8-A	M6H3K	WATER	04/01/15

II. Sample Receipt

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

III. Analytical Results/Methodology

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

The requested analyses were:

Gas Proportional Counting
Gross Alpha by method RL-GPC-001
Gross Beta by method RL-GPC-001
Liquid Scintillation Counting
Technetium-99 by method RL-LSC-014
Laser Induced Phosphorimetry
Total Uranium by method RL-KPA-003

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

Gas Proportional Counting
Gross Alpha by method RL-GPC-001:
The final precipitate weights for samples J1V5J2, J1V5J4, J1V5J5 and J1V5J8 exceeded the acceptance criteria. These samples were reanalyzed in batch 5105034. The achieved MDA for all of the samples and the sample duplicate (J1V5J7) exceeded the CRDL due to reduced aliquot sizes based on the weight screens. The samples were counted for the longest time frame appropriate to this analysis. Except as noted; the LCS, batch blank, samples and sample duplicate (J1V5J7) results are within contractual requirements.

Gross Beta by method RL-GPC-001:
Sample J1V5J8 and the sample duplicate (J1V5J8) agreement was outside the acceptance limits in the original batch. They were reanalyzed in batch 5107034 for acceptable results. The achieved MDA for all of the samples and the sample duplicate (J1V5J8) exceeded the CRDL due to reduced aliquot sizes based on the weight screens. The samples were counted for the longest time frame appropriate to this analysis. Except as noted; the LCS, batch blank, samples and sample duplicate (J1V5J8) results are within contractual requirements.

Liquid Scintillation Counting
Technetium-99 by method RL-LSC-014:
The LCS, batch blank, samples, sample duplicate (J1V5J4) and sample matrix spike (J1V5J5) results are within contractual requirements.

Total Uranium
Batch: 5092048
Total Uranium by method RL-KPA-003:

The LCS, batch blank, samples, sample duplicate (J1V5J2) and sample matrix spike (J1V5J3) results are within contractual requirements.

Batch 5092044: The samples were filtered and preserved at the laboratory per the clients request.
Total Uranium by method RL-KPA-003:
The LCS, batch blank, samples, sample duplicate (J1V5J2-A) and sample matrix spike (J1V5J3-A) 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:

Rhonda Wagar
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.
CSU (#s) ***u_c Combined Standard Uncert.***	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 standard 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.

Sample Results Summary

Date: 29-Apr-15

TestAmerica Inc TARL

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

Report No. : 65522

SDG No: J02178

Batch	Client Id Work Order	Parameter	Result +- CSU (2 s)	Qual	Units	Tracer Yield	MDL	CRDL	RPD
5092045 9310_ALPHABETA_GPC									
	J1V5J2								
	M6H241AC	Beta	4.49E+01 +- 8.6E+00		pCi/L	100%	8.97E+00	4.00E+00	
	J1V5J3								
	M6H291AC	Beta	2.69E+01 +- 6.3E+00		pCi/L	100%	7.58E+00	4.00E+00	
	J1V5J4								
	M6H3C1AC	Beta	1.41E+02 +- 2.3E+01		pCi/L	100%	1.72E+01	4.00E+00	
	J1V5J5								
	M6H3E1AC	Beta	4.10E+01 +- 8.5E+00		pCi/L	100%	9.41E+00	4.00E+00	
	J1V5J6								
	M6H3L1AC	Beta	2.69E+01 +- 6.9E+00		pCi/L	100%	8.84E+00	4.00E+00	
	J1V5J7								
	M6H3G1AC	Beta	1.26E+01 +- 4.6E+00		pCi/L	100%	6.99E+00	4.00E+00	
5092046 9310_ALPHABETA_GPC									
	J1V5J3								
	M6H291AA	Alpha	3.10E-01 +- 7.2E+00	U	pCi/L	100%	1.38E+01	3.00E+00	
	J1V5J6								
	M6H3L1AA	Alpha	7.88E+00 +- 1.0E+01	U	pCi/L	100%	1.74E+01	3.00E+00	
	J1V5J7								
	M6H3G1AA	Alpha	3.63E+00 +- 7.2E+00	U	pCi/L	100%	1.27E+01	3.00E+00	
	J1V5J7 DUP								
	M6H3G1AG	Alpha	1.54E+00 +- 5.5E+00	U	pCi/L	100%	1.02E+01	3.00E+00	80.9
5105034 9310_ALPHABETA_GPC									
	J1V5J2								
	M6H242AA	Alpha	1.81E+01 +- 1.7E+01	U	pCi/L	100%	2.76E+01	3.00E+00	
	J1V5J4								
	M6H3C2AA	Alpha	9.71E+01 +- 4.4E+01		pCi/L	100%	4.78E+01	3.00E+00	
	J1V5J5								
	M6H3E2AA	Alpha	1.95E+01 +- 1.4E+01	U	pCi/L	100%	2.10E+01	3.00E+00	
	J1V5J8								
	M6H3J2AA	Alpha	9.82E+00 +- 1.6E+01	U	pCi/L	100%	2.88E+01	3.00E+00	
5107034 9310_ALPHABETA_GPC									
	J1V5J8								
	M6H3J3AC	Beta	4.19E+01 +- 1.0E+01		pCi/L	100%	1.25E+01	4.00E+00	
	J1V5J8 DUP								
	M6H3J1AH	Beta	4.85E+01 +- 1.0E+01		pCi/L	100%	1.09E+01	4.00E+00	
5092044 UTOT_KPA									
	J1V5J2-A								
	M6H281AA	TOTAL-URANIUM	3.10E+01 +- 3.7E+00		ug/L		8.09E-02	1.40E-01	
	J1V5J2-A DUP								

TestAmerica Inc

rptTALRchSaSummary2 V5.3.6.8 A2002

RPD - Relative Percent Difference.

U Qual - Analyzed for but not detected above limiting criteria, Mdc/Mda/Mdl, Total Uncert, RDL or not identified by gamma scan software.

Sample Results Summary

Date: 29-Apr-15

TestAmerica Inc TARL

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

Report No. : 65522

SDG No: J02178

Batch	Client Id Work Order	Parameter	Result +- CSU (2 s)	Qual	Units	Tracer Yield	MDL	CRDL	RPD
5092044 UTOT_KPA									
	J1V5J2-A DUP								
	M6H281AC	TOTAL-URANIUM	3.00E+01 +- 3.5E+00		ug/L		7.82E-02	1.40E-01	3.1
	J1V5J3-A								
	M6H3A1AA	TOTAL-URANIUM	4.18E-02 +- 5.4E-03	U	ug/L		6.78E-02	1.40E-01	
	J1V5J4-A								
	M6H3D1AA	TOTAL-URANIUM	5.31E+01 +- 6.3E+00		ug/L		8.32E-02	1.40E-01	
	J1V5J5-A								
	M6H3F1AA	TOTAL-URANIUM	4.97E+01 +- 5.9E+00		ug/L		7.23E-02	1.40E-01	
	J1V5J6-A								
	M6H3M1AA	TOTAL-URANIUM	2.74E+00 +- 3.3E-01		ug/L		6.87E-02	1.40E-01	
	J1V5J7-A								
	M6H3H1AA	TOTAL-URANIUM	1.05E-01 +- 1.1E-02		ug/L		7.68E-02	1.40E-01	
	J1V5J8-A								
	M6H3K1AA	TOTAL-URANIUM	3.05E+01 +- 3.6E+00		ug/L		7.48E-02	1.40E-01	
5092047 TC99_ETVDSK_LSC									
	J1V5J2								
	M6H241AF	Tc-99	3.80E+00 +- 4.5E+00	U	pCi/L	100%	9.54E+00	1.50E+01	
	J1V5J3								
	M6H291AF	Tc-99	3.65E+00 +- 4.6E+00	U	pCi/L	100%	9.68E+00	1.50E+01	
	J1V5J4								
	M6H3C1AF	Tc-99	4.80E+00 +- 4.6E+00	U	pCi/L	100%	9.59E+00	1.50E+01	
	J1V5J4 DUP								
	M6H3C1AG	Tc-99	4.85E+00 +- 4.6E+00	U	pCi/L	100%	9.59E+00	1.50E+01	1.0
	J1V5J5								
	M6H3E1AF	Tc-99	6.38E+00 +- 4.6E+00	U	pCi/L	100%	9.60E+00	1.50E+01	
	J1V5J6								
	M6H3L1AF	Tc-99	5.39E+00 +- 4.6E+00	U	pCi/L	100%	9.57E+00	1.50E+01	
	J1V5J7								
	M6H3G1AF	Tc-99	4.62E+00 +- 4.5E+00	U	pCi/L	100%	9.46E+00	1.50E+01	
	J1V5J8								
	M6H3J1AF	Tc-99	7.30E+00 +- 4.7E+00	U	pCi/L	100%	9.70E+00	1.50E+01	
5092048 UTOT_KPA									
	J1V5J2								
	M6H241AE	TOTAL-URANIUM	3.02E+01 +- 3.6E+00		ug/L		8.35E-02	1.40E-01	
	J1V5J2 DUP								
	M6H241AG	TOTAL-URANIUM	3.02E+01 +- 3.6E+00		ug/L		8.35E-02	1.40E-01	0.1
	J1V5J3								
	M6H291AE	TOTAL-URANIUM	7.71E-02 +- 8.2E-03	U	ug/L		8.19E-02	1.40E-01	
	J1V5J4								

TestAmerica Inc

rptTALRchSaSummary2 V5.3.6.8 A2002

RPD - Relative Percent Difference.

U Qual - Analyzed for but not detected above limiting criteria, Mdc/Mda/Mdl, Total Uncert, RDL or not identified by gamma scan software.

Sample Results Summary

Date: 29-Apr-15

TestAmerica Inc TARL

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

Report No. : 65522

SDG No: J02178

Batch	Client Id Work Order	Parameter	Result +- CSU (2 s)	Qual	Units	Tracer Yield	MDL	CRDL	RPD
5092048 UTOT_KPA									
	J1V5J4								
	M6H3C1AE	TOTAL-URANIUM	5.34E+01 +- 6.3E+00		ug/L		8.22E-02	1.40E-01	
	J1V5J5								
	M6H3E1AE	TOTAL-URANIUM	5.40E+01 +- 6.4E+00		ug/L		7.65E-02	1.40E-01	
	J1V5J6								
	M6H3L1AE	TOTAL-URANIUM	3.54E+00 +- 3.6E-01		ug/L		7.73E-02	1.40E-01	
	J1V5J7								
	M6H3G1AE	TOTAL-URANIUM	9.20E-02 +- 9.5E-03		ug/L		8.12E-02	1.40E-01	
	J1V5J8								
	M6H3J1AE	TOTAL-URANIUM	2.99E+01 +- 3.5E+00		ug/L		7.62E-02	1.40E-01	

No. of Results: 40

TestAmerica Inc RPD - Relative Percent Difference.

rptTALRchSaSum
mary2 V5.3.6.8
A2002

QC Results Summary

Date: 29-Apr-15

TestAmerica Inc TARL

Ordered by Method, Batch No, QC Type,.

Report No. : 65522

SDG No.: J02178

Batch Work Order	Parameter	Result +- CSU (2 s)	Qual	Units	Tracer Yield	LCS Recovery	Bias	MDL
9310_ALPHABETA_GPC								
5092045 BLANK QC,								
M6H511AA	Beta	2.91E-01 +- 1.0E+00	U	pCi/L	100%			1.85E+00
5092045 LCS,								
M6H511AC	Beta	2.09E+01 +- 3.2E+00		pCi/L	100%	93%	-0.1	1.89E+00
9310_ALPHABETA_GPC								
5092046 BLANK QC,								
M6H521AA	Alpha	3.34E-02 +- 3.5E-01	U	pCi/L	100%			6.65E-01
5092046 LCS,								
M6H521AC	Alpha	2.01E+01 +- 5.2E+00		pCi/L	100%	86%	-0.1	6.89E-01
9310_ALPHABETA_GPC								
5105034 BLANK QC,								
M6LJD1AA	Alpha	-4.53E-01 +- 4.5E-01	U	pCi/L	100%			9.31E-01
5105034 LCS,								
M6LJD1AC	Alpha	2.21E+01 +- 5.7E+00		pCi/L	100%	95%	-0.1	6.37E-01
9310_ALPHABETA_GPC								
5107034 BLANK QC,								
M6MEN1AA	Beta	4.35E-02 +- 1.1E+00	U	pCi/L	100%			1.96E+00
5107034 LCS,								
M6MEN1AC	Beta	2.33E+01 +- 3.4E+00		pCi/L	100%	102%	0.0	1.72E+00
UTOT_KPA								
5092044 BLANK QC,								
M6H501AA	TOTAL-URANIUM	5.06E-03 +- 5.5E-04	U	ug/L				7.82E-02
5092044 LCS,								
M6H501AC	TOTAL-URANIUM	3.30E+01 +- 3.9E+00		ug/L		99%	0.0	7.82E-02
M6H501AD	TOTAL-URANIUM	2.98E+00 +- 3.5E-01		ug/L		99%	0.0	6.85E-02
5092044 MATRIX SPIKE, J1V5J3-A								
M6H3A1AC	TOTAL-URANIUM	2.87E+01 +- 3.5E+00		ug/L		90%	-0.1	7.46E-02
TC99_ETVDSK_LSC								
5092047 BLANK QC,								
M6H531AA	Tc-99	8.93E+00 +- 4.7E+00	U	pCi/L	100%			9.54E+00
5092047 LCS,								
M6H531AC	Tc-99	9.73E+01 +- 7.1E+00		pCi/L	100%	91%	-0.1	9.36E+00
5092047 MATRIX SPIKE, J1V5J5								
M6H3E1AG	Tc-99	4.64E+02 +- 1.7E+01		pCi/L	100%	86%	-0.1	9.59E+00
UTOT_KPA								
5092048 BLANK QC,								
M6H541AA	TOTAL-URANIUM	0.00E+00 +- 0.0E+00	U	ug/L				7.33E-02
5092048 LCS,								
M6H541AC	TOTAL-URANIUM	3.13E+01 +- 3.7E+00		ug/L		99%	0.0	7.38E-02
M6H541AD	TOTAL-URANIUM	3.37E+00 +- 4.0E-01		ug/L		99%	0.0	7.73E-02
5092048 MATRIX SPIKE, J1V5J3								
M6H291AG	TOTAL-URANIUM	2.87E+01 +- 3.5E+00		ug/L		83%	-0.2	8.06E-02

TestAmerica Inc

rptSTLRchQcSummary V5.3.6.8 A2002

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

U Qual - Analyzed for but not detected above limiting criteria, Mdc/Mda/Mdl, Total Uncert, RDL or not identified by gamma scan software.

QC Results Summary

Date: 29-Apr-15

TestAmerica Inc TARL

Ordered by Method, Batch No, QC Type,.

Report No. : 65522

SDG No.: J02178

Batch Work Order	Parameter	Result +- CSU (2 s)	Qual	Units	Tracer Yield	LCS Recovery	Bias	MDL

No. of Results: 19

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

rptSTLRchQcSum mary V5.3.6.8 A2002

FORM I

SAMPLE RESULTS

Date: 29-Apr-15

Lab Name:	**TestAmerica Inc**	**SDG:**	J02178	**Collection Date:**	4/1/2015 10:03:00 AM
Lot-Sample No.:	**J5D020408-1**	**Report No. :**	65522	**Received Date:**	4/1/2015 2:10:00 PM
Client Sample ID:	**J1V5J2**	**COC No. :**	RC-011-060	**Matrix:**	WATER

Ordered by Client Sample ID, Batch No.

Parameter	Result	Qual	Count Error (2 s)	CSU (2 s)	MDL, Action Lev	Rpt Unit, Lc	Yield CRDL(RL)	Rst/MDL, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Primary Detector
Batch: 5092045	9310_ALPHABETA_GPC			**Work Order:** M6H241AC			**Report DB ID:** 9M6H2410					
Beta	**4.49E+01**		6.6E+00	8.6E+00	8.97E+00	pCi/L	100%	*(5.)*	4/15/15 02:12 p		0.0507	GPC26B
						4.33E+00	4.00E+00	*(10.4)*			L	
Batch: 5092047	TC99_ETVDSK_LSC			**Work Order:** M6H241AF			**Report DB ID:** 9M6H2410					
Tc-99	**3.80E+00**	U	4.1E+00	4.5E+00	9.54E+00	pCi/L	100%	*0.4*	4/23/15 07:20 p		0.1257	LSC9
						4.58E+00	1.50E+01	*(1.7)*			L	
Batch: 5092048	UTOT_KPA			**Work Order:** M6H241AE			**Report DB ID:** 9M6H2410					
TOTAL-URANIUM	**3.02E+01**			3.6E+00	8.35E-02	ug/L		*(361.3)*	4/28/15 10:49 a		25.1	KPAW3
						2.95E-02	1.40E-01	*(16.9)*			ML	
Batch: 5105034	9310_ALPHABETA_GPC			**Work Order:** M6H242AA			**Report DB ID:** 9M6H2420					
Alpha	**1.81E+01**	U	1.7E+01	1.7E+01	2.76E+01	pCi/L	100%	*0.65*	4/16/15 09:44 p		0.0123	GPC22D
						1.26E+01	3.00E+00	*(2.1)*			L	

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

TestAmerica Inc
rptSTLRchSample
V5.3.6.8 A2002

MDC|MDA,Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.
U Qual - Analyzed for but not detected above limiting criteria, Mdc/Mda/Mdl, Total Uncert, RDL or not identified by gamma scan software.

FORM I

SAMPLE RESULTS

Date: 29-Apr-15

Lab Name:	**TestAmerica Inc**	**SDG:**	J02178	**Collection Date:**	4/1/2015 10:03:00 AM
Lot-Sample No.:	**J5D020408-2**	**Report No. :**	65522	**Received Date:**	4/1/2015 2:10:00 PM
Client Sample ID:	**J1V5J2-A**	**COC No. :**	RC-011-060	**Matrix:**	WATER

Ordered by Client Sample ID, Batch No.

Parameter	Result	Qual	Count Error (2 s)	CSU (2 s)	MDL, Action Lev	Rpt Unit, Lc	Yield CRDL(RL)	Rst/MDL, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Primary Detector
Batch: 5092044	UTOT_KPA			**Work Order:**	M6H281AA		**Report DB ID:**	9M6H2810				
TOTAL-URANIUM	**3.10E+01**			3.7E+00	8.09E-02	ug/L		*(382.8)*	4/28/15 12:15 p		25.9	KPAW3
						2.86E-02	1.40E-01	*(16.9)*			ML	

No. of Results: 1 **Comments:**

TestAmerica Inc
rptSTLRchSample
V5.3.6.8 A2002

MDC|MDA,Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.
U Qual - Analyzed for but not detected above limiting criteria, Mdc/Mda/Mdl, Total Uncert, RDL or not identified by gamma scan software.

FORM I

SAMPLE RESULTS

Date: 29-Apr-15

Lab Name: TestAmerica Inc
Lot-Sample No.: J5D020408-3
Client Sample ID: J1V5J3

SDG: J02178
Report No. : 65522
COC No. : RC-011-061

Collection Date: 4/1/2015 10:27:00 AM
Received Date: 4/1/2015 2:10:00 PM
Matrix: WATER

Ordered by Client Sample ID, Batch No.

Parameter	Result	Qual	Count Error (2 s)	CSU (2 s)	MDL, Action Lev	Rpt Unit, Lc	Yield CRDL(RL)	Rst/MDL, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Primary Detector
Batch: 5092045	9310_ALPHABETA_GPC			**Work Order:** M6H291AC			**Report DB ID:** 9M6H2910					
Beta	**2.69E+01**		5.3E+00	6.3E+00	7.58E+00	pCi/L	100%	*(3.5)*	4/15/15 02:12 p		0.0565	GPC26C
						3.65E+00	4.00E+00	*(8.5)*			L	
Batch: 5092046	9310_ALPHABETA_GPC			**Work Order:** M6H291AA			**Report DB ID:** 9M6H2910					
Alpha	**3.10E-01**	U	7.2E+00	7.2E+00	1.38E+01	pCi/L	100%	*0.02*	4/15/15 02:34 p		0.0208	GPC24B
						6.18E+00	3.00E+00	*0.09*			L	
Batch: 5092047	TC99_ETVDSK_LSC			**Work Order:** M6H291AF			**Report DB ID:** 9M6H2910					
Tc-99	**3.65E+00**	U	4.1E+00	4.6E+00	9.68E+00	pCi/L	100%	*0.38*	4/23/15 08:22 p		0.1251	LSC9
						4.64E+00	1.50E+01	*(1.6)*			L	
Batch: 5092048	UTOT_KPA			**Work Order:** M6H291AE			**Report DB ID:** 9M6H2910					
TOTAL-URANIUM	**7.71E-02**	U		8.2E-03	8.19E-02	ug/L		*0.94*	4/28/15 10:53 a		25.6	KPAW3
						2.90E-02	1.40E-01	*(18.9)*			ML	

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

TestAmerica Inc
rptSTLRchSample
V5.3.6.8 A2002

MDC|MDA,Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.
U Qual - Analyzed for but not detected above limiting criteria, Mdc/Mda/Mdl, Total Uncert, RDL or not identified by gamma scan software.

FORM I

SAMPLE RESULTS

Date: 29-Apr-15

Lab Name:	**TestAmerica Inc**	**SDG:**	J02178	**Collection Date:**	4/1/2015 10:27:00 AM
Lot-Sample No.:	**J5D020408-4**	**Report No. :**	65522	**Received Date:**	4/1/2015 2:10:00 PM
Client Sample ID:	**J1V5J3-A**	**COC No. :**	RC-011-061	**Matrix:**	WATER

Ordered by Client Sample ID, Batch No.

Parameter	Result	Qual	Count Error (2 s)	CSU (2 s)	MDL, Action Lev	Rpt Unit, Lc	Yield CRDL(RL)	Rst/MDL, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Primary Detector
Batch: 5092044	UTOT_KPA			**Work Order:**	M6H3A1AA		**Report DB ID:**	9M6H3A10				
TOTAL-URANIUM	**4.18E-02**	U		5.4E-03	6.78E-02	ug/L		*0.62*	4/28/15 12:19 p		30.9	KPAW3
						2.40E-02	1.40E-01	*(15.6)*			ML	

No. of Results: 1 **Comments:**

TestAmerica Inc
rptSTLRchSample
V5.3.6.8 A2002

MDC|MDA,Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.
U Qual - Analyzed for but not detected above limiting criteria, Mdc/Mda/Mdl, Total Uncert, RDL or not identified by gamma scan software.

FORM I

SAMPLE RESULTS

Date: 29-Apr-15

Lab Name:	TestAmerica Inc	**SDG:**	J02178	**Collection Date:**	4/1/2015 9:36:00 AM
Lot-Sample No.:	J5D020408-5	**Report No. :**	65522	**Received Date:**	4/1/2015 2:10:00 PM
Client Sample ID:	J1V5J4	**COC No. :**	RC-011-062	**Matrix:**	WATER

Ordered by Client Sample ID, Batch No.

Parameter	Result	Qual	Count Error (2 s)	CSU (2 s)	MDL, Action Lev	Rpt Unit, Lc	Yield CRDL(RL)	Rst/MDL, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Primary Detector
Batch: 5092045	9310_ALPHABETA_GPC			**Work Order:**	M6H3C1AC		**Report DB ID:**	9M6H3C10				
Beta	**1.41E+02**		1.5E+01	2.3E+01	1.72E+01	pCi/L	100%	*(8.2)*	4/15/15 02:12 p		0.0254	GPC26D
						8.28E+00	4.00E+00	*(12.)*			L	
Batch: 5092047	TC99_ETVDSK_LSC			**Work Order:**	M6H3C1AF		**Report DB ID:**	9M6H3C10				
Tc-99	**4.80E+00**	U	4.1E+00	4.6E+00	9.59E+00	pCi/L	100%	*0.5*	4/23/15 09:24 p		0.1255	LSC9
						4.60E+00	1.50E+01	*(2.1)*			L	
Batch: 5092048	UTOT_KPA			**Work Order:**	M6H3C1AE		**Report DB ID:**	9M6H3C10				
TOTAL-URANIUM	**5.34E+01**			6.3E+00	8.22E-02	ug/L		*(649.3)*	4/28/15 11:01 a		25.5	KPAW3
						2.91E-02	1.40E-01	*(16.9)*			ML	
Batch: 5105034	9310_ALPHABETA_GPC			**Work Order:**	M6H3C2AA		**Report DB ID:**	9M6H3C20				
Alpha	**9.71E+01**		3.6E+01	4.4E+01	4.78E+01	pCi/L	100%	*(2.)*	4/16/15 09:44 p		0.0071	GPC23A
						2.16E+01	3.00E+00	*(4.4)*			L	

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

TestAmerica Inc
rptSTLRchSample
V5.3.6.8 A2002

MDC|MDA,Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.
U Qual - Analyzed for but not detected above limiting criteria, Mdc/Mda/Mdl, Total Uncert, RDL or not identified by gamma scan software.

FORM I

SAMPLE RESULTS

Date: 29-Apr-15

Lab Name:	**TestAmerica Inc**	**SDG:**	J02178	**Collection Date:**	4/1/2015 9:36:00 AM
Lot-Sample No.:	**J5D020408-6**	**Report No. :**	65522	**Received Date:**	4/1/2015 2:10:00 PM
Client Sample ID:	**J1V5J4-A**	**COC No. :**	RC-011-062	**Matrix:**	WATER

Ordered by Client Sample ID, Batch No.

Parameter	Result	Qual	Count Error (2 s)	CSU (2 s)	MDL, Action Lev	Rpt Unit, Lc	Yield CRDL(RL)	Rst/MDL, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Primary Detector
Batch: 5092044	UTOT_KPA			**Work Order:**	M6H3D1AA		**Report DB ID:**	9M6H3D10				
TOTAL-URANIUM	**5.31E+01**			6.3E+00	8.32E-02	ug/L		*(638.6)*	4/28/15 12:23 p		25.2	KPAW3
						2.94E-02	1.40E-01	*(17.)*			ML	

No. of Results: 1 **Comments:**

TestAmerica Inc
rptSTLRchSample
V5.3.6.8 A2002

MDC|MDA,Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.
U Qual - Analyzed for but not detected above limiting criteria, Mdc/Mda/Mdl, Total Uncert, RDL or not identified by gamma scan software.

FORM I

SAMPLE RESULTS

Date: 29-Apr-15

Lab Name:	**TestAmerica Inc**	**SDG:**	J02178	**Collection Date:**	4/1/2015 10:45:00 AM
Lot-Sample No.:	**J5D020408-7**	**Report No. :**	65522	**Received Date:**	4/1/2015 2:10:00 PM
Client Sample ID:	**J1V5J5**	**COC No. :**	RC-011-063	**Matrix:**	WATER

Ordered by Client Sample ID, Batch No.

Parameter	Result	Qual	Count Error (2 s)	CSU (2 s)	MDL, Action Lev	Rpt Unit, Lc	Yield CRDL(RL)	Rst/MDL, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Primary Detector
Batch: 5092045	9310_ALPHABETA_GPC			**Work Order:**	M6H3E1AC		**Report DB ID:**	9M6H3E10				
Beta	**4.10E+01**		6.8E+00	8.5E+00	9.41E+00	pCi/L	100%	*(4.4)*	4/15/15 02:12 p		0.0469	GPC27A
						4.53E+00	4.00E+00	*(9.6)*			L	
Batch: 5092047	TC99_ETVDSK_LSC			**Work Order:**	M6H3E1AF		**Report DB ID:**	9M6H3E10				
Tc-99	**6.38E+00**	U	4.2E+00	4.6E+00	9.60E+00	pCi/L	100%	*0.66*	4/23/15 11:28 p		0.1255	LSC9
						4.60E+00	1.50E+01	*(2.7)*			L	
Batch: 5092048	UTOT_KPA			**Work Order:**	M6H3E1AE		**Report DB ID:**	9M6H3E10				
TOTAL-URANIUM	**5.40E+01**			6.4E+00	7.65E-02	ug/L		*(706.1)*	4/28/15 11:03 a		27.4	KPAW3
						2.71E-02	1.40E-01	*(17.)*			ML	
Batch: 5105034	9310_ALPHABETA_GPC			**Work Order:**	M6H3E2AA		**Report DB ID:**	9M6H3E20				
Alpha	**1.95E+01**	U	1.4E+01	1.4E+01	2.10E+01	pCi/L	100%	*0.93*	4/16/15 09:44 p		0.0124	GPC23C
						9.33E+00	3.00E+00	*(2.7)*			L	

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

MDC|MDA,Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.
U Qual - Analyzed for but not detected above limiting criteria, Mdc/Mda/Mdl, Total Uncert, RDL or not identified by gamma scan software.

FORM I

SAMPLE RESULTS

Date: 29-Apr-15

Lab Name:	**TestAmerica Inc**	**SDG:**	J02178	**Collection Date:**	4/1/2015 10:45:00 AM
Lot-Sample No.:	**J5D020408-8**	**Report No. :**	65522	**Received Date:**	4/1/2015 2:10:00 PM
Client Sample ID:	**J1V5J5-A**	**COC No. :**	RC-011-063	**Matrix:**	WATER

Ordered by Client Sample ID, Batch No.

Parameter	Result	Qual	Count Error (2 s)	CSU (2 s)	MDL, Action Lev	Rpt Unit, Lc	Yield CRDL(RL)	Rst/MDL, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Primary Detector
Batch: 5092044	UTOT_KPA			**Work Order:**	M6H3F1AA		**Report DB ID:**	9M6H3F10				
TOTAL-URANIUM	**4.97E+01**			5.9E+00	7.23E-02	ug/L		*(688.)*	4/28/15 12:25 p		29.0	KPAW3
						2.56E-02	1.40E-01	*(17.)*			ML	

No. of Results: 1 **Comments:**

TestAmerica Inc
rptSTLRchSample
V5.3.6.8 A2002

MDC|MDA,Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.
U Qual - Analyzed for but not detected above limiting criteria, Mdc/Mda/Mdl, Total Uncert, RDL or not identified by gamma scan software.

FORM I

SAMPLE RESULTS

Date: 29-Apr-15

Lab Name: TestAmerica Inc
Lot-Sample No.: J5D020408-13
Client Sample ID: J1V5J6

SDG: J02178
Report No. : 65522
COC No. : RC-011-064

Collection Date: 4/1/2015 9:12:00 AM
Received Date: 4/1/2015 2:10:00 PM
Matrix: WATER

Ordered by Client Sample ID, Batch No.

Parameter	Result	Qual	Count Error (2 s)	CSU (2 s)	MDL, Action Lev	Rpt Unit, Lc	Yield CRDL(RL)	Rst/MDL, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Primary Detector
Batch: 5092045	9310_ALPHABETA_GPC			**Work Order:** M6H3L1AC			**Report DB ID:** 9M6H3L10					
Beta	**2.69E+01**		6.0E+00	6.9E+00	8.84E+00	pCi/L	100%	*(3.)*	4/15/15 02:12 p		0.0475	GPC28B
						4.25E+00	4.00E+00	*(7.8)*			L	
Batch: 5092046	9310_ALPHABETA_GPC			**Work Order:** M6H3L1AA			**Report DB ID:** 9M6H3L10					
Alpha	**7.88E+00**	U	1.0E+01	1.0E+01	1.74E+01	pCi/L	100%	*0.45*	4/15/15 07:23 p		0.0177	GPC23B
						7.93E+00	3.00E+00	*(1.5)*			L	
Batch: 5092047	TC99_ETVDSK_LSC			**Work Order:** M6H3L1AF			**Report DB ID:** 9M6H3L10					
Tc-99	**5.39E+00**	U	4.1E+00	4.6E+00	9.57E+00	pCi/L	100%	*0.56*	4/24/15 03:36 a		0.1258	LSC9
						4.59E+00	1.50E+01	*(2.3)*			L	
Batch: 5092048	UTOT_KPA			**Work Order:** M6H3L1AE			**Report DB ID:** 9M6H3L10					
TOTAL-URANIUM	**3.54E+00**			3.6E-01	7.73E-02	ug/L		*(45.7)*	4/28/15 11:16 a		27.1	KPAW3
						2.74E-02	1.40E-01	*(19.5)*			ML	

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

TestAmerica Inc
rptSTLRchSample
V5.3.6.8 A2002

MDC|MDA,Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.
U Qual - Analyzed for but not detected above limiting criteria, Mdc/Mda/Mdl, Total Uncert, RDL or not identified by gamma scan software.

FORM I

SAMPLE RESULTS

Date: 29-Apr-15

Lab Name:	**TestAmerica Inc**	**SDG:**	J02178	**Collection Date:**	4/1/2015 9:12:00 AM
Lot-Sample No.:	**J5D020408-14**	**Report No. :**	65522	**Received Date:**	4/1/2015 2:10:00 PM
Client Sample ID:	**J1V5J6-A**	**COC No. :**	RC-011-064	**Matrix:**	WATER

Ordered by Client Sample ID, Batch No.

Parameter	Result	Qual	Count Error (2 s)	CSU (2 s)	MDL, Action Lev	Rpt Unit, Lc	Yield CRDL(RL)	Rst/MDL, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Primary Detector
Batch: 5092044	UTOT_KPA			**Work Order:**	M6H3M1AA		**Report DB ID:**	9M6H3M10				
TOTAL-URANIUM	2.74E+00			3.3E-01	6.87E-02	ug/L		*(39.8)*	4/28/15 12:31 p		30.5	KPAW3
						2.43E-02	1.40E-01	*(16.7)*			ML	

No. of Results: 1 **Comments:**

TestAmerica Inc
rptSTLRchSample
V5.3.6.8 A2002

MDC|MDA,Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.
U Qual - Analyzed for but not detected above limiting criteria, Mdc/Mda/Mdl, Total Uncert, RDL or not identified by gamma scan software.

FORM I

SAMPLE RESULTS

Date: 29-Apr-15

Lab Name:	**TestAmerica Inc**	**SDG:**	J02178	**Collection Date:**	4/1/2015 8:47:00 AM
Lot-Sample No.:	**J5D020408-9**	**Report No. :**	65522	**Received Date:**	4/1/2015 2:10:00 PM
Client Sample ID:	**J1V5J7**	**COC No. :**	RC-011-065	**Matrix:**	WATER

Ordered by Client Sample ID, Batch No.

Parameter	Result	Qual	Count Error (2 s)	CSU (2 s)	MDL, Action Lev	Rpt Unit, Lc	Yield CRDL(RL)	Rst/MDL, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Primary Detector
Batch: 5092045	9310_ALPHABETA_GPC			**Work Order:** M6H3G1AC			**Report DB ID:** 9M6H3G10					
Beta	**1.26E+01**		4.3E+00	4.6E+00	6.99E+00	pCi/L	100%	*(1.8)*	4/15/15 02:12 p		0.0612	GPC27B
						3.37E+00	4.00E+00	*(5.5)*			L	
Batch: 5092046	9310_ALPHABETA_GPC			**Work Order:** M6H3G1AA			**Report DB ID:** 9M6H3G10					
Alpha	**3.63E+00**	U	7.1E+00	7.2E+00	1.27E+01	pCi/L	100%	*0.29*	4/15/15 02:34 p		0.0246	GPC24C
						5.77E+00	3.00E+00	*(1.)*			L	
Batch: 5092047	TC99_ETVDSK_LSC			**Work Order:** M6H3G1AF			**Report DB ID:** 9M6H3G10					
Tc-99	**4.62E+00**	U	4.1E+00	4.5E+00	9.46E+00	pCi/L	100%	*0.49*	4/24/15 01:32 a		0.1273	LSC9
						4.54E+00	1.50E+01	*(2.)*			L	
Batch: 5092048	UTOT_KPA			**Work Order:** M6H3G1AE			**Report DB ID:** 9M6H3G10					
TOTAL-URANIUM	**9.20E-02**			9.5E-03	8.12E-02	ug/L		*(1.1)*	4/28/15 11:05 a		25.8	KPAW3
						2.87E-02	1.40E-01	*(19.4)*			ML	

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

TestAmerica Inc
rptSTLRchSample
V5.3.6.8 A2002

MDC|MDA,Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.
U Qual - Analyzed for but not detected above limiting criteria, Mdc/Mda/Mdl, Total Uncert, RDL or not identified by gamma scan software.

FORM I

SAMPLE RESULTS

Date: 29-Apr-15

Lab Name:	**TestAmerica Inc**	**SDG:**	J02178	**Collection Date:**	4/1/2015 8:47:00 AM
Lot-Sample No.:	**J5D020408-10**	**Report No. :**	65522	**Received Date:**	4/1/2015 2:10:00 PM
Client Sample ID:	**J1V5J7-A**	**COC No. :**	RC-011-065	**Matrix:**	WATER

Ordered by Client Sample ID, Batch No.

Parameter	Result	Qual	Count Error (2 s)	CSU (2 s)	MDL, Action Lev	Rpt Unit, Lc	Yield CRDL(RL)	Rst/MDL, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Primary Detector
Batch: 5092044	UTOT_KPA			**Work Order:**	M6H3H1AA		**Report DB ID:**	9M6H3H10				
TOTAL-URANIUM	1.05E-01			1.1E-02	7.68E-02	ug/L		*(1.4)*	4/28/15 12:27 p		27.3	KPAW3
						2.72E-02	1.40E-01	*(19.5)*			ML	

No. of Results: 1 **Comments:**

MDC|MDA,Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.
U Qual - Analyzed for but not detected above limiting criteria, Mdc/Mda/Mdl, Total Uncert, RDL or not identified by gamma scan software.

FORM I

SAMPLE RESULTS

Date: 29-Apr-15

Lab Name:	**TestAmerica Inc**	**SDG:**	J02178	**Collection Date:**	4/1/2015 10:03:00 AM
Lot-Sample No.:	**J5D020408-11**	**Report No. :**	65522	**Received Date:**	4/1/2015 2:10:00 PM
Client Sample ID:	**J1V5J8**	**COC No. :**	RC-011-066	**Matrix:**	WATER

Ordered by Client Sample ID, Batch No.

Parameter	Result	Qual	Count Error (2 s)	CSU (2 s)	MDL, Action Lev	Rpt Unit, Lc	Yield CRDL(RL)	Rst/MDL, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Primary Detector
Batch: 5092047	TC99_ETVDSK_LSC			**Work Order:**	M6H3J1AF		**Report DB ID:**	9M6H3J10				
Tc-99	**7.30E+00**	U	4.2E+00	4.7E+00	9.70E+00	pCi/L	100%	*0.75*	4/24/15 02:34 a		0.1258	LSC9
						4.65E+00	1.50E+01	*(3.1)*			L	
Batch: 5092048	UTOT_KPA			**Work Order:**	M6H3J1AE		**Report DB ID:**	9M6H3J10				
TOTAL-URANIUM	**2.99E+01**			3.5E+00	7.62E-02	ug/L		*(392.6)*	4/28/15 11:07 a		27.5	KPAW3
						2.70E-02	1.40E-01	*(16.9)*			ML	
Batch: 5105034	9310_ALPHABETA_GPC			**Work Order:**	M6H3J2AA		**Report DB ID:**	9M6H3J20				
Alpha	**9.82E+00**	U	1.6E+01	1.6E+01	2.88E+01	pCi/L	100%	*0.34*	4/16/15 09:44 p		0.012	GPC23D
						1.30E+01	3.00E+00	*(1.2)*			L	
Batch: 5107034	9310_ALPHABETA_GPC			**Work Order:**	M6H3J3AC		**Report DB ID:**	9M6H3J30				
Beta	**4.19E+01**		8.4E+00	1.0E+01	1.25E+01	pCi/L	100%	*(3.4)*	4/22/15 02:17 p		0.0378	GPC28C
						6.02E+00	4.00E+00	*(8.3)*			L	

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

TestAmerica Inc
rptSTLRchSample
V5.3.6.8 A2002

MDC|MDA,Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.
U Qual - Analyzed for but not detected above limiting criteria, Mdc/Mda/Mdl, Total Uncert, RDL or not identified by gamma scan software.

FORM I

SAMPLE RESULTS

Date: 29-Apr-15

Lab Name:	**TestAmerica Inc**	**SDG:**	J02178	**Collection Date:**	4/1/2015 10:03:00 AM
Lot-Sample No.:	**J5D020408-12**	**Report No. :**	65522	**Received Date:**	4/1/2015 2:10:00 PM
Client Sample ID:	**J1V5J8-A**	**COC No. :**	RC-011-066	**Matrix:**	WATER

Ordered by Client Sample ID, Batch No.

Parameter	Result	Qual	Count Error (2 s)	CSU (2 s)	MDL, Action Lev	Rpt Unit, Lc	Yield CRDL(RL)	Rst/MDL, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Primary Detector
Batch: 5092044	UTOT_KPA			**Work Order:**	M6H3K1AA		**Report DB ID:**	9M6H3K10				
TOTAL-URANIUM	**3.05E+01**			3.6E+00	7.48E-02	ug/L		*(407.3)*	4/28/15 12:29 p		28.0	KPAW3
						2.65E-02	1.40E-01	*(17.)*			ML	

No. of Results: 1 **Comments:**

TestAmerica Inc
rptSTLRchSample
V5.3.6.8 A2002

MDC|MDA,Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.
U Qual - Analyzed for but not detected above limiting criteria, Mdc/Mda/Mdl, Total Uncert, RDL or not identified by gamma scan software.

FORM II

Date: 29-Apr-15

DUPLICATE RESULTS

Lab Name:	**TestAmerica Inc**	**SDG:**	J02178	**Collection Date:**	4/1/2015 10:03:00 AM
Lot-Sample No.:	**J5D020408-1**	**Report No. :**	65522	**Received Date:**	4/1/2015 2:10:00 PM
Client Sample ID:	**J1V5J2 DUP**	**COC No. :**	RC-011-060	**Matrix:**	WATER

Parameter	Result, Orig Rst	Qual	Count Error (2 s)	CSU (2 s)	MDL, Action Lev	Rpt Unit, CRDL	Yield	Rst/MDL, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Primary Detector
Batch: 5092048	UTOT_KPA			**Work Order:** M6H241AG		**Report DB ID:** M6H241GR			**Orig Sa DB ID:** 9M6H2410			
TOTAL-URANIUM	3.02E+01			3.6E+00	8.35E-02	ug/L		(361.1)	4/28/15 10:51 a		25.1	KPAW3
	3.02E+01		**RPD**	**0.1**		1.40E-01		(16.9)			ML	

No. of Results: 1 **Comments:**

TestAmerica Inc **RPD** - Relative Percent Difference.

rptSTLRchDupV5. **MDC|MDA,Lc** - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.

3.6.8 A2002

FORM II

Date: 29-Apr-15

DUPLICATE RESULTS

Lab Name:	**TestAmerica Inc**	**SDG:**	J02178	**Collection Date:**	4/1/2015 10:03:00 AM
Lot-Sample No.:	**J5D020408-2**	**Report No. :**	65522	**Received Date:**	4/1/2015 2:10:00 PM
Client Sample ID:	**J1V5J2-A DUP**	**COC No. :**	RC-011-060	**Matrix:**	WATER

Parameter	Result, Orig Rst	Qual	Count Error (2 s)	CSU (2 s)	MDL, Action Lev	Rpt Unit, CRDL	Yield	Rst/MDL, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Primary Detector
Batch: 5092044	UTOT_KPA			**Work Order:**	M6H281AC	**Report DB ID:**	M6H281CR		**Orig Sa DB ID:** 9M6H2810			
TOTAL-URANIUM	3.00E+01			3.5E+00	7.82E-02	ug/L		(384.1)	4/28/15 12:17 p		26.8	KPAW3
	3.10E+01		**RPD**	**3.1**		1.40E-01		(16.9)			ML	

No. of Results: 1 **Comments:**

TestAmerica Inc **RPD** - Relative Percent Difference.

rptSTLRchDupV5.3.6.8 A2002 **MDC|MDA,Lc** - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.

FORM II

Date: 29-Apr-15

DUPLICATE RESULTS

Lab Name:	**TestAmerica Inc**	**SDG:**	J02178	**Collection Date:**	4/1/2015 9:36:00 AM
Lot-Sample No.:	**J5D020408-5**	**Report No. :**	65522	**Received Date:**	4/1/2015 2:10:00 PM
Client Sample ID:	**J1V5J4 DUP**	**COC No. :**	RC-011-062	**Matrix:**	WATER

Parameter	Result, Orig Rst	Qual	Count Error (2 s)	CSU (2 s)	MDL, Action Lev	Rpt Unit, CRDL	Yield	Rst/MDL, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Primary Detector
Batch: 5092047	TC99_ETVDSK_LSC			**Work Order:** M6H3C1AG		**Report DB ID:** M6H3C1GR			**Orig Sa DB ID:** 9M6H3C10			
Tc-99	4.85E+00	U	4.1E+00	4.6E+00	9.59E+00	pCi/L	100%	0.51	4/23/15 10:26 p		0.1257	LSC9
	4.80E+00	U	**RPD**	**1.0**		1.50E+01		(2.1)			L	

No. of Results: 1 **Comments:**

TestAmerica Inc
rptSTLRchDupV5. 3.6.8 A2002

RPD - Relative Percent Difference.
MDC|MDA,Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.
U Qual - Analyzed for but not detected above limiting criteria, Mdc/Mda/Mdl, Total Uncert, RDL or not identified by gamma scan software.

FORM II

Date: 29-Apr-15

DUPLICATE RESULTS

Lab Name:	**TestAmerica Inc**	**SDG:**	J02178	**Collection Date:**	4/1/2015 8:47:00 AM
Lot-Sample No.:	**J5D020408-9**	**Report No. :**	65522	**Received Date:**	4/1/2015 2:10:00 PM
Client Sample ID:	**J1V5J7 DUP**	**COC No. :**	RC-011-065	**Matrix:**	WATER

Parameter	Result, Orig Rst	Qual	Count Error (2 s)	CSU (2 s)	MDL, Action Lev	Rpt Unit, CRDL	Yield	Rst/MDL, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Primary Detector
Batch: 5092046	9310_ALPHABETA_GPC			**Work Order:** M6H3G1AG		**Report DB ID:** M6H3G1GR			**Orig Sa DB ID:** 9M6H3G10			
Alpha	1.54E+00	U	5.5E+00	5.5E+00	1.02E+01	pCi/L	100%	0.15	4/15/15 02:34 p		0.0242	GPC24D
	3.63E+00	U	**RPD**	**80.9**		3.00E+00		0.56			L	

No. of Results: 1 **Comments:**

TestAmerica Inc **RPD - Relative Percent Difference.**

rptSTLRchDupV5. 3.6.8 A2002 **MDC|MDA,Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.**

U Qual - Analyzed for but not detected above limiting criteria, Mdc/Mda/Mdl, Total Uncert, RDL or not identified by gamma scan software.

FORM II

Date: 29-Apr-15

DUPLICATE RESULTS

Lab Name:	**TestAmerica Inc**	**SDG:**	J02178	**Collection Date:**	4/1/2015 10:03:00 AM
Lot-Sample No.:	**J5D020408-11**	**Report No. :**	65522	**Received Date:**	4/1/2015 2:10:00 PM
Client Sample ID:	**J1V5J8 DUP**	**COC No. :**	RC-011-066	**Matrix:**	WATER

Parameter	Result, Orig Rst	Qual	Count Error (2 s)	CSU (2 s)	MDL, Action Lev	Rpt Unit, CRDL	Yield	Rst/MDL, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Primary Detector
Batch: 5107034	9310_ALPHABETA_GPC			**Work Order:**	M6H3J1AH	**Report DB ID:**	M6H3J1HR		**Orig Sa DB ID:**			
Beta	4.85E+01		8.0E+00	1.0E+01	1.09E+01	pCi/L	100%	(4.4)	4/22/15 02:17 p		0.0375	GPC28B
			RPD			4.00E+00		(9.5)			L	

No. of Results: 1 **Comments:**

TestAmerica Inc **RPD** - Relative Percent Difference.

rptSTLRchDupV5. 3.6.8 A2002 **MDC|MDA,Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.**

FORM II

BLANK RESULTS

Date: 29-Apr-15

Lab Name: TestAmerica Inc

Matrix: WATER

SDG: J02178

Report No. : 65522

Parameter	Result	Qual	Count Error (2 s)	CSU (2 s)	MDL, Lc	Rpt Unit, CRDL	Yield	Rst/MDL, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Primary Detector
Batch: 5092046	9310_ALPHABETA_GPC			**Work Order:**	M6H521AA		**Report DB ID:**	M6H521AB				
Alpha	3.34E-02	U	3.5E-01	3.5E-01	6.65E-01	pCi/L	100%	0.05	4/15/15 07:23 p		0.2014	GPC23C
					2.95E-01	3.00E+00		0.19			L	
Batch: 5105034	9310_ALPHABETA_GPC			**Work Order:**	M6LJD1AA		**Report DB ID:**	M6LJD1AB				
Alpha	-4.53E-01	U	4.4E-01	4.5E-01	9.31E-01	pCi/L	100%	-0.49	4/16/15 09:44 p		0.2011	GPC23B
					4.28E-01	3.00E+00		-(2.)			L	
Batch: 5092045	9310_ALPHABETA_GPC			**Work Order:**	M6H511AA		**Report DB ID:**	M6H511AB				
Beta	2.91E-01	U	1.0E+00	1.0E+00	1.85E+00	pCi/L	100%	0.16	4/15/15 02:12 p		0.2006	GPC28C
					8.88E-01	4.00E+00		0.58			L	
Batch: 5107034	9310_ALPHABETA_GPC			**Work Order:**	M6MEN1AA		**Report DB ID:**	M6MEN1AB				
Beta	4.35E-02	U	1.1E+00	1.1E+00	1.96E+00	pCi/L	100%	0.02	4/22/15 02:17 p		0.2	GPC28D
					9.47E-01	4.00E+00		0.08			L	
Batch: 5092044	UTOT_KPA			**Work Order:**	M6H501AA		**Report DB ID:**	M6H501AB				
TOTAL-URANIUM	5.06E-03	U		5.5E-04	7.82E-02	ug/L		0.06	4/28/15 12:33 p		26.8	KPAW3
					2.77E-02	1.40E-01		(18.4)			ML	
Batch: 5092048	UTOT_KPA			**Work Order:**	M6H541AA		**Report DB ID:**	M6H541AB				
TOTAL-URANIUM	0.00E+00	U		0.0E+00	7.33E-02	ug/L		0.	4/28/15 11:18 a		28.6	KPAW3
					2.59E-02	1.40E-01		N/A			ML	
Batch: 5092047	TC99_ETVDSK_LSC			**Work Order:**	M6H531AA		**Report DB ID:**	M6H531AB				
Tc-99	8.93E+00	U	4.2E+00	4.7E+00	9.54E+00	pCi/L	100%	0.94	4/24/15 04:38 a		0.1261	LSC9
					4.58E+00	1.50E+01		(3.8)			L	

TestAmerica Inc
rptSTLRchBlank
V5.3.6.8 A2002

MDC|MDA,Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.
U Qual - Analyzed for but not detected above limiting criteria, Mdc/Mda/Mdl, Total Uncert, RDL or not identified by gamma scan software.

FORM II

BLANK RESULTS

Date: 29-Apr-15

Lab Name: TestAmerica Inc

Matrix: WATER

SDG: J02178

Report No. : 65522

Parameter	Result	Qual	Count Error (2 s)	CSU (2 s)	MDL, Lc	Rpt Unit, CRDL	Yield	Rst/MDL, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Primary Detector

No. of Results: 7 Comments:

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

rptSTLRchBlank
V5.3.6.8 A2002

FORM II

LCS RESULTS

Date: 29-Apr-15

Lab Name: TestAmerica Inc

Matrix: WATER

SDG: J02178

Report No. : 65522

Parameter	Result	Qual	Count Error (2 s)	CSU (2 s)	MDL	Report Unit	Yield	Expected	Expected Uncert	Recovery, Bias	Analysis, Prep Date	Aliquot Size	Primary Detector
Batch: 5092046	9310_ALPHABETA_GPC			**Work Order:**	M6H521AC		**Report DB ID:**	M6H521CS					
Alpha	2.01E+01		1.6E+00	5.2E+00	6.89E-01	pCi/L	100%	2.33E+01	2.4E-01	86%	4/15/15 07:23 p	0.2019	GPC23D
							Rec Limits:	70	130	-0.1		L	
Batch: 5105034	9310_ALPHABETA_GPC			**Work Order:**	M6LJD1AC		**Report DB ID:**	M6LJD1CS					
Alpha	2.21E+01		1.6E+00	5.7E+00	6.37E-01	pCi/L	100%	2.33E+01	2.4E-01	95%	4/17/15 08:46 a	0.2007	GPC24A
							Rec Limits:	70	130	-0.1		L	
Batch: 5092045	9310_ALPHABETA_GPC			**Work Order:**	M6H511AC		**Report DB ID:**	M6H511CS					
Beta	2.09E+01		1.8E+00	3.2E+00	1.89E+00	pCi/L	100%	2.25E+01	1.6E-01	93%	4/15/15 02:12 p	0.2022	GPC28D
							Rec Limits:	70	130	-0.1		L	
Batch: 5107034	9310_ALPHABETA_GPC			**Work Order:**	M6MEN1AC		**Report DB ID:**	M6MEN1CS					
Beta	2.33E+01		1.8E+00	3.4E+00	1.72E+00	pCi/L	100%	2.27E+01	1.6E-01	102%	4/22/15 06:28 p	0.2	GPC27A
							Rec Limits:	70	130	0.0		L	
Batch: 5092044	UTOT_KPA			**Work Order:**	M6H501AC		**Report DB ID:**	M6H501CS					
TOTAL-URANIUM	3.30E+01			3.9E+00	7.82E-02	ug/L		3.33E+01	1.8E-01	99%	4/28/15 12:41 p	26.8	KPAW3
							Rec Limits:	70	130	0.0		ML	
Batch: 5092044	UTOT_KPA			**Work Order:**	M6H501AD		**Report DB ID:**	M6H501DS					
TOTAL-URANIUM	2.98E+00			3.5E-01	6.85E-02	ug/L		3.01E+00	1.7E-02	99%	4/28/15 12:43 p	30.6	KPAW3
							Rec Limits:	70	130	0.0		ML	
Batch: 5092048	UTOT_KPA			**Work Order:**	M6H541AC		**Report DB ID:**	M6H541CS					
TOTAL-URANIUM	3.13E+01			3.7E+00	7.38E-02	ug/L		3.15E+01	1.7E-01	99%	4/28/15 11:22 a	28.4	KPAW3
							Rec Limits:	70	130	0.0		ML	
Batch: 5092048	UTOT_KPA			**Work Order:**	M6H541AD		**Report DB ID:**	M6H541DS					

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

rptSTLRchLcs
V5.3.6.8 A2002

FORM II

LCS RESULTS

Date: 29-Apr-15

Lab Name: TestAmerica Inc

SDG: J02178

Matrix: WATER

Report No. : 65522

Parameter	Result	Qual	Count Error (2 s)	CSU (2 s)	MDL	Report Unit	Yield	Expected	Expected Uncert	Recovery, Bias	Analysis, Prep Date	Aliquot Size	Primary Detector
TOTAL-URANIUM	3.37E+00			4.0E-01	7.73E-02	ug/L		3.40E+00	1.9E-02	99%	4/28/15 11:24 a	27.1	KPAW3
							Rec Limits:	70	130	0.0		ML	
Batch: 5092047	TC99_ETVDSK_LSC			**Work Order:**	M6H531AC		**Report DB ID:**	M6H531CS					
Tc-99	9.73E+01		6.5E+00	7.1E+00	9.36E+00	pCi/L	100%	1.07E+02	1.1E+00	91%	4/24/15 05:40 a	0.1281	LSC9
							Rec Limits:	70	130	-0.1		L	

No. of Results: 9 **Comments:**

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

rptSTLRchLcs
V5.3.6.8 A2002

FORM II

MATRIX SPIKE RESULTS

Date: 29-Apr-15

Lab Name: TestAmerica Inc **SDG:** J02178

Lot-Sample No.: J5D020408-3, J1V5J3 **Report No. :** 65522 **Matrix:** WATER

Parameter	SpikeResult, Orig Rst	Qual	Count Error (2 s)	CSU (2 s)	MDC|MDA	Rpt Unit	Yield	Rec-overy	Expected, Uncert	Analysis, Prep Date	Aliquot Size	Analy Method, Primary Detector
Batch: 5092048	**Work Order:** M6H291AG			**Report DB ID:** M6H291GW			**Orig Sa DB ID:** 9M6H2910					
TOTAL-URANIUM	2.87E+01			3.5E+00	8.06E-02	ug/L		83.39%	3.44E+01	4/28/15 10:55 a	26.0	UTOT_KPA
	7.71E-02								1.9E-01		ML	KPAW3

Number of Results: 1

Comments:

TestAmerica Inc
rptSTLRchMs
V5.3.6.8 A2002

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

FORM II

MATRIX SPIKE RESULTS

Date: 29-Apr-15

Lab Name: TestAmerica Inc **SDG:** J02178

Lot-Sample No.: J5D020408-4, J1V5J3-A **Report No. :** 65522 **Matrix:** WATER

Parameter	SpikeResult, Orig Rst	Qual	Count Error (2 s)	CSU (2 s)	MDC|MDA	Rpt Unit	Yield	Rec-overy	Expected, Uncert	Analysis, Prep Date	Aliquot Size	Analy Method, Primary Detector
Batch: 5092044	**Work Order:**	M6H3A1AC		**Report DB ID:**	M6H3A1CW		**Orig Sa DB ID:**	9M6H3A10				
TOTAL-URANIUM	2.87E+01			3.5E+00	7.46E-02	ug/L		90.10%	3.18E+01	4/28/15 12:21 p	28.1	UTOT_KPA
	4.18E-02								1.7E-01		ML	KPAW3

Number of Results: 1

Comments:

TestAmerica Inc
rptSTLRchMs
V5.3.6.8 A2002

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

FORM II

MATRIX SPIKE RESULTS

Date: 29-Apr-15

Lab Name: TestAmerica Inc **SDG:** J02178

Lot-Sample No.: J5D020408-7, J1V5J5 **Report No. :** 65522 **Matrix:** WATER

Parameter	SpikeResult, Orig Rst	Qual	Count Error (2 s)	CSU (2 s)	MDC|MDA	Rpt Unit	Yield	Rec-overy	Expected, Uncert	Analysis, Prep Date	Aliquot Size	Analy Method, Primary Detector
Batch: 5092047	**Work Order:** M6H3E1AG			**Report DB ID:** M6H3E1GW			**Orig Sa DB ID:** 9M6H3E10					
Tc-99	4.64E+02		1.2E+01	1.7E+01	9.59E+00	pCi/L	100%	85.95%	5.40E+02	4/24/15 12:30 a	0.126	TC99_ETVDSK_LSC
	6.38E+00								5.6E+00		L	LSC9

Number of Results: 1

Comments:

TestAmerica Inc
rptSTLRchMs
V5.3.6.8 A2002

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

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Data Review/Verification Checklist

RADIOCHEMISTRY, First Level Review

4/23/2015 7:24:40 AM

Lot No., Due Date: J5D020408; 05/15/2015
Client, Site: 127642; S00W235B00 HANFORD
QC Batch No., Method Test: 5092046; RALPHA-A Alpha by GPC-Am
SDG, Matrix: J02178; WATER

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

6.0 Comments on any No response:
NCM 10-30601

First Level [signature] Date 4/23/15

TestAmerica Richland
QAS_RADCALCv4.8.68.1

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

Data Review Checklist

RADIOCHEMISTRY

Second Level Review

Batch Number: 50920416

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: CRDL = 3.0pCi/L
See NCM #: 10-30601

Second Level Review: [signature] Date: 4/23/15

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

Clouseau
Nonconformance Memo

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

NCM #: **10-30601**
NCM Initiated By: Tom Mcginnis
Date Opened: 04/23/2015
Date Closed:

Classification: **Deficiency**
Status: **PMREVIEW**
Production Area: Environmental - Sep
Tests: Alpha by GPC-Am
Lot #'s (Sample #'s): J5D020000 (46), J5D020408 (1,11,13,3,5,7,9),
QC Batches: 5092046,

Nonconformance: Batch Result Out of Limits
Subcategory: MDA exceeds RDL

Problem Description / Root Cause

Name	Date	Description
Tom Mcginnis	04/23/2015	The final precipiate weights for samples J5D020408-1, 5, 7 and 11 exceeded acceptance criteria. These samples were reanalyzed in batch 5105034. The MDA for the remaining samples in batch 5092046 exceeded the CRDL due to aliquot reduction based on weight screening results. The blank and LCS meet acceptance criteria.

Corrective Action

Name	Date	Corrective Action
Tom Mcginnis	04/23/2015	The PM was notified of the batch deficiencies.

Client Notification Summary

Client	Project Manager	Notified	Response	How Notified	Note	Response	Response Note

Quality Assurance Verification

Verified By	Due Date	Status	Notes
		This section not yet completed by QA.	

Approval History

Date Approved	Approved By	Position

Date Printed: 4/23/2015

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Data Review/Verification Checklist

RADIOCHEMISTRY, First Level Review

4/23/2015 7:27:46 AM

Lot No., Due Date: J5D020408; 05/15/2015
Client, Site: 127642; S00W235B00 HANFORD
QC Batch No., Method Test: 5105034; RALPHA-A Alpha by GPC-Am
SDG, Matrix: J02178; WATER

1.0 COC	
1.1 Is the ICOC page complete; includes all applicable analysis, dates, SOP numbers, and revisions?	Yes ✓ No N/A
2.0 QC Batch	
2.1 Do the Summary/Detailed Reports include a calculated result for each sample listed on the QC Batch Sheet?	Yes ✓ No N/A
2.2 Are the QC appropriate for the analysis included in the batch?	Yes ✓ No N/A
2.3 Is the Analytical Batch Worksheet complete; includes as appropriate, volumes, count times, etc?	Yes ✓ No N/A
2.4 Does the Worksheets include a Tracer Vial label for each sample?	Yes No N/A ✓
3.0 QC & Samples	
3.1 Is the blank results, yield, and MDA within contract limits?	Yes ✓ No N/A
3.2 Is the LCS result, yield, and MDA within contract limits?	Yes ✓ No N/A
3.3 Are the MS/MSD results, yields, and MDA within contract limits?	Yes No N/A ✓
3.4 Are the duplicate result, yields, and MDAs within contract limits?	Yes No N/A ✓
3.5 Are the sample yields and MDAs within contract limits?	Yes No N/A ✓
4.0 Raw Data	
4.1 Were results calculated in the correct units?	Yes ✓ No N/A
4.2 Were analysis volumes entered correctly?	Yes ✓ No N/A
4.3 Were Yields entered correctly?	Yes No N/A ✓
4.4 Were spectra reviewed/meet contractual requirements?	Yes No N/A ✓
4.5 Were raw counts reviewed for anomalies?	Yes ✓ No N/A
5.0 Other	
5.1 Are all nonconformances included and noted?	Yes ✓ No N/A
5.2 Are all required forms filled out?	Yes ✓ No N/A
5.3 Was the correct methodology used?	Yes ✓ No N/A
5.4 Was transcription checked?	Yes ✓ No N/A
5.5 Were all calculations checked at a minimum frequency?	Yes No N/A ✓
5.6 Are worksheet entries complete and correct?	Yes ✓ No N/A
6.0 Comments on any No response: NCM 10-30602	

First Level [signature] Date 4/23/15

TestAmerica Richland
QAS_RADCALCv4.8.68.1

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TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

Data Review Checklist

RADIOCHEMISTRY

Second Level Review

Batch Number: 5105034

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: SRDL = 3.0 pCi/L
See NCM #: 10-30602

Second Level Review: Rhonda [illegible] Date: _____

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

Clouseau
Nonconformance Memo

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

NCM #: **10-30602**
NCM Initiated By: Tom Mcginnis
Date Opened: 04/23/2015
Date Closed:

Classification: **Deficiency**
Status: PMREVIEW
Production Area: Environmental - Sep
Tests: Alpha by GPC-Am
Lot #'s (Sample #'s): J5D020408 (1,11,5,7), J5D150000 (34),
QC Batches: 5105034,

Nonconformance: Batch Result Out of Limits
Subcategory: MDA exceeds RDL

Problem Description / Root Cause

Name	Date	Description
Tom Mcginnis	04/23/2015	The MDA for the samples in reanalysis batch 5105034 exceeds the CRDL due to aliquot reduction based on weight screening and initial precipitate weights from batch 5092046. The blank and LCS meet acceptance criteria.

Corrective Action

Name	Date	Corrective Action
Tom Mcginnis	04/23/2015	The PM was notified of the batch deficiencies.

Client Notification Summary

Client	Project Manager	Notified	Response	How Notified	Note	Response	Response Note

Quality Assurance Verification

Verified By	Due Date	Status	Notes
		This section not yet completed by QA.	

Approval History

Date Approved	Approved By	Position

Date Printed: 4/23/2015

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TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Data Review/Verification Checklist

RADIOCHEMISTRY, First Level Review

4/24/2015 12:22:01 PM

Lot No., Due Date: J5D020408; 05/15/2015
Client, Site: 127642; S00W235B00 HANFORD
QC Batch No., Method Test: 5092045; RBETA-SR Beta by GPC-Sr/Y
SDG, Matrix: J02178; WATER

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

6.0 Comments on any No response:
NCM 10-30623

First Level [signature] **Date** 4/24/15

TestAmerica Richland
QAS_RADCALCv4.8.68.1

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TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

Data Review Checklist

RADIOCHEMISTRY

Second Level Review

Batch Number: 5092045

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: CRDL = 4.0pci/L
See Nonm #: 10-30023

Second Level Review: [signature] Date: 4/24/15

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

Clouseau
Nonconformance Memo

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

NCM #: **10-30623**
NCM Initiated By: Tom Mcginnis
Date Opened: 04/24/2015
Date Closed:

Classification: **Deficiency**
Status: **PMREVIEW**
Production Area: Environmental - Sep
Tests: Beta by GPC-Sr/Y
Lot #'s (Sample #'s): J5D020000 (45), J5D020408 (1,11,13,3,5,7,9),
QC Batches: 5092045,

Nonconformance: Batch Result Out of Limits
Subcategory: MDA exceeds RDL

Problem Description / Root Cause

Name	Date	Description
Tom Mcginnis	04/24/2015	The duplicate agreement for sample J5D020408-11 exceeded acceptance criteria. The sample and duplicate were reanalyzed in batch 5107034. The MDA for the remaining samples in batch 5092045 exceeds the CRDL due to aliquot reduction based on weight screening results. The blank and LCS meet acceptance criteria.

Corrective Action

Name	Date	Corrective Action
Tom Mcginnis	04/24/2015	The PM was notified of the batch deficiencies.

Client Notification Summary

Client	Project Manager	Notified	Response	How Notified	Note	Response	Response Note

Quality Assurance Verification

Verified By	Due Date	Status	Notes
		This section not yet completed by QA.	

Approval History

Date Approved	Approved By	Position

Date Printed: 4/24/2015

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Data Review/Verification Checklist

RADIOCHEMISTRY, First Level Review

4/24/2015 12:51:36 PM

Lot No., Due Date: J5D020408; 05/15/2015
Client, Site: 127642; S00W235B00 HANFORD
QC Batch No., Method Test: 5107034; RBETA-SR Beta by GPC-Sr/Y
SDG, Matrix: J02178; WATER

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

6.0 Comments on any No response:
NCM 10-30624

First Level [signature] Date 4/24/15

TestAmerica Richland
QAS_RADCALCv4.8.68.1

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TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

Data Review Checklist

RADIOCHEMISTRY

Second Level Review

Batch Number: 5107034

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: CRDL = 4.0 pCi/L
See NCM #: 10-30634

Second Level Review: [signature] Date: 4/24/15

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

Clouseau
Nonconformance Memo

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

NCM #: **10-30624**
NCM Initiated By: Tom Mcginnis
Date Opened: 04/24/2015
Date Closed:

Classification: **Deficiency**
Status: **PMREVIEW**
Production Area: Environmental - Sep
Tests: Beta by GPC-Sr/Y
Lot #'s (Sample #'s): J5D020408 (11), J5D170000 (34),
QC Batches: 5107034,

Nonconformance: Batch Result Out of Limits
Subcategory: MDA exceeds RDL

Problem Description / Root Cause

Name	Date	Description
Tom Mcginnis	04/24/2015	The MDA for sample J5D020408-11 and its duplicate analysis exceeds the CRDL due to aliquot reduction based on weight screening results. The blank and LCS meet acceptance criteria.

Corrective Action

Name	Date	Corrective Action
Tom Mcginnis	04/24/2015	The PM was notified of the batch deficiencies.

Client Notification Summary

Client	Project Manager	Notified	Response	How Notified	Note	Response	Response Note

Quality Assurance Verification

Verified By	Due Date	Status	Notes
		This section not yet completed by QA.	

Approval History

Date Approved	Approved By	Position

Date Printed: 4/24/2015

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Data Review/Verification Checklist

RADIOCHEMISTRY, First Level Review

4/24/2015 10:52:04 AM

Lot No., Due Date: J5D020408; 05/15/2015
Client, Site: 127642; S00W235B00 HANFORD
QC Batch No., Method Test: 5092047; RTC99 Tc-99 by LSC
SDG, Matrix: J02178; 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 [signature] **Date** 4/24/15

TestAmerica Richland
QAS_RADCALCv4.8.68.1

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

Data Review Checklist

RADIOCHEMISTRY

Second Level Review

Batch Number: 509 2017

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: CRDL = 15.0 pCi/L

Second Level Review: [signature] Date: 4/24/15

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

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Data Review/Verification Checklist

RADIOCHEMISTRY, First Level Review

4/28/2015 1:09:20 PM

Lot No., Due Date: J5D020408; 05/15/2015
Client, Site: 127642; S00W235B00 HANFORD
QC Batch No., Method Test: 5092048; RUNAT UNat by KPA
SDG, Matrix: J02178; 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 Lisa Anderson **Date** 4/28/15

TestAmerica Richland
QAS_RADCALCv4.8.68.1

Page 1

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

Data Review Checklist
RADIOCHEMISTRY
Second Level Review

Batch Number: 5092048

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: CRDL = 1.0 ug/L

Second Level Review: Brandi Wyer Date: 4/29/15

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

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Data Review/Verification Checklist

RADIOCHEMISTRY, First Level Review

4/28/2015 2:00:25 PM

Lot No., Due Date: J5D020408; 05/15/2015
Client, Site: 127642; S00W235B00 HANFORD
QC Batch No., Method Test: 5092044; RUNAT UNat by KPA
SDG, Matrix: J02178; 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 Tina Quistorff **Date** 4/28/15

TestAmerica Richland
QAS_RADCALCv4.8.68.1

Page 1

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

Data Review Checklist

RADIOCHEMISTRY

Second Level Review

Batch Number: 5092044

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: CRDL = 10 ug/L

Second Level Review: [signature] Date: 4/28/15

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

Washington Closure Hanford — CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

RC-011-060 | Page 1 of 1

Collector: ROGERS, R	Company Contact: Joan Kessner	Telephone No.: 375-4688	Project Coordinator: KESSNER, JH
Price Code: 7N	Data Turnaround: 45 Days		
Project Designation: ERDF	Sampling Location: ERDF Lysimeter #5 sampling_Spring 2015		SAF No.: RC-011
Ice Chest No.: WCH-08-050	Field Logbook No.: EL-1626-03	COA: RERDF22560	Method of Shipment: Local Delivery
Shipped To: TestAmerica Richland	Offsite Property No.: NA		Bill of Lading/Air Bill No.: NA
Other Labs Shipped To: TestAmerica Denver			

Preservation	HNO3 to pH <2	HNO3 to pH <2	HNO3 to pH <2	None
Type of Container	G/P	G/P	G/P	G/P
No. of Container(s)	2	2	2	2
Volume	1000mL	500mL	250mL	250mL
Sample Analysis	Gross Alpha & Beta - 900.0 {Gross alpha, Gross beta}	Technetium-99	Total Uranium	Total Uranium - Filtered

POSSIBLE SAMPLE HAZARDS/REMARKS
Potentially radioactive, less than DOT limits

Special Handling and/or Storage
none

Sample No.	Matrix	Sample Date	Sample Time					
J1V5J2 M6H24	WATER	04/01/15	1003	X	X	X	X	4-1-15
J1V5J2-A M6H28	WATER	04/01/15	1003		4-1-15 LMB		X	

CHAIN OF POSSESSION — Sign/Print Names

Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
Rich Rogers R Rogers	4-1-15 11:00am	(WCH) DWShea DW SHEA	4/1/15 1100
DWShea DWSHEA	4/1/15 1225	C. Bingham	4-1-15 1225
C. Bingham WCH	4-1-15 1410	J. Friesz, TARL	4/1/15 1410

FINAL SAMPLE DISPOSITION: Disposal Method | Disposed By | Date/Time

SPECIAL INSTRUCTIONS

J5D020408
JF 4/2/15
~~J5D020408~~
SOG# J02178
Due 5/15/15

REVIEWED BY KW Date 4/1/15

J5D020408

WCH-EE-011

Washington Closure Hanford — CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

RC-011-061

Collector ROGERS, R	**Company Contact** Joan Kessner	**Telephone No.** 375-4688	**Project Coordinator** KESSNER, JH
Price Code 7N	**Data Turnaround** 45 Days		
Project Designation ERDF	**Sampling Location** ERDF Lysimeter #6_Spring 2015		**SAF No.** RC-011
Ice Chest No. WCH-08-050	**Field Logbook No.** EL-1626-03	**COA** RERDF22560	**Method of Shipment** Local Delivery
Shipped To TestAmerica Richland	**Offsite Property No.** NA		**Bill of Lading/Air Bill No.** NA

Other Labs Shipped To
TestAmerica Denver

POSSIBLE SAMPLE HAZARDS/REMARKS
Potentially radioactive, less than DOT limits

Special Handling and/or Storage
none

Preservation	HNO3 to pH <2	HNO3 to pH <2	HNO3 to pH <2	None								
Type of Container	G/P	G/P	G/P	G/P								
No. of Container(s)	1	1	1	1								
Volume	1000mL	500mL	250mL	250mL								
Sample Analysis	Gross Alpha & Beta - 900.0 {Gross alpha, Gross beta}	Technetium-99	Total Uranium	Total Uranium - Filtered								
Sample No.	**Matrix**	**Sample Date**	**Sample Time**									
J1V5J3 M6H29	WATER	04/01/15	1027	X	X	X	4-1-15 CMB					
J1V5J3-A M6H3A	WATER	04/01/15	1027		4-1-15 CMB		X					

CHAIN OF POSSESSION — **Sign/Print Names**

Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
Rich Rogers R Rogers	4-1-15 11:00AM	WCH DWSHEA DWSHEA	4/1/15 1100
DWSHEA DWSHEA	4/1/15 1225	C. Birnham	4-1-15 1225
C. Birnham WCH	4-1-15 1410	J. Friesz, TARI	4/1/15 1410

FINAL SAMPLE DISPOSITION — Disposal Method — Disposed By — Date/Time

SPECIAL INSTRUCTIONS

J5D020408
SDG# J02178
Due 5/15/15

REVIEWED BY KW
DATE 4/1/15

J5D020408

Washington Closure Hanford

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

RC-011-062

Collector: ROGERS, R	Company Contact: Joan Kessner	Telephone No.: 375-4688	Project Coordinator: KESSNER, JH
Price Code: 7N	Data Turnaround: 45 Days		
Project Designation: ERDF	Sampling Location: ERDF lysimeter #7 sampling_Spring 2015		SAF No.: RC-011
Ice Chest No.: WCH-08-050	Field Logbook No.: EL-1626-03	COA: RERDF22560	Method of Shipment: Local Delivery
Shipped To: TestAmerica Richland	Offsite Property No.: NA		Bill of Lading/Air Bill No.: NA

Other Labs Shipped To: TestAmerica Denver

POSSIBLE SAMPLE HAZARDS/REMARKS

Potentially radioactive, less than DOT limits

Special Handling and/or Storage

none

Preservation	HNO3 to pH <2	HNO3 to pH <2	HNO3 to pH <2	None
Type of Container	G/P	G/P	G/P	G/P
No. of Container(s)	1	1	1	1
Volume	1000mL	500mL	250mL	250mL
Sample Analysis	Gross Alpha & Beta - 900.0 {Gross alpha, Gross beta}	Technetium-99	Total Uranium	Total Uranium - Filtered

Sample No.	Matrix	Sample Date	Sample Time										
J1V5J4 M6H3C	WATER	04/01/15	0936	X	X	X	—	4-1-15 cmB					
J1V5J4-A M6H3D	WATER	04/01/15	0936	—	4-1-15 cmB	—	X						

CHAIN OF POSSESSION — **Sign/Print Names**

Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
Rich Rogers R Rogers	4-1-15 11:00am	WCH DWSHEA	4/1/15 1100
DWSHEA DWSHEA	4/1/15 1225	C. Bingham	4-1-15/1225
C. Bingham WCH	4-1-15 1410	J. Fiesz, TARI	4/1/15 1410

FINAL SAMPLE DISPOSITION: Disposal Method | Disposed By | Date/Time

SPECIAL INSTRUCTIONS

J5D020408
SDG# J02178

REVIEWED BY KW DATE 4/1/15

WCH-EE-011

Washington Closure Hanford — CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

RC-011-063

Collector ROGERS, R	**Company Contact** Joan Kessner	**Telephone No.** 375-4688	**Project Coordinator** KESSNER, JH
Price Code 7N	**Data Turnaround** 45 Days		
Project Designation ERDF	**Sampling Location** ERDF lysimeter #8 sampling_Spring 2015		**SAF No.** RC-011
Ice Chest No. WCH-08-050	**Field Logbook No.** EL-1626-03	**COA** RERDF22560	**Method of Shipment** Local Delivery
Shipped To TestAmerica Richland	**Offsite Property No.** NA		**Bill of Lading/Air Bill No.** NA

Other Labs Shipped To
TestAmerica Denver

POSSIBLE SAMPLE HAZARDS/REMARKS
Potentially radioactive, less than DOT limits

Special Handling and/or Storage
none

Preservation	HNO3 to pH <2	HNO3 to pH <2	HNO3 to pH <2	None								
Type of Container	G/P	G/P	G/P	G/P								
No. of Container(s)	1	1	1	1								
Volume	1000mL	500mL	250mL	250mL								
Sample Analysis	Gross Alpha & Beta - 900.0 {Gross alpha, Gross beta}	Technetium-99	Total Uranium	Total Uranium - Filtered								

Sample No.	Matrix	Sample Date	Sample Time										
J1V5J5 M6H3E	WATER	04/01/15	1045	X	X	X	4-1-15 cmb						
J1V5J5-A M6H3F	WATER	04/01/15	1045	4-1-15 cmb			X						

CHAIN OF POSSESSION — **Sign/Print Names**

Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
Rich Rogers	4-1-15 11:00	DWShea DWSHEA (WCH)	4/1/15 1100
DWShea DWSHEA	4/1/15 1225	C. Bingham	4-1-15 1225
C. Bingham WCH	4-1-15 1410	J. Friesz, TARL	4/1/15 1410

FINAL SAMPLE DISPOSITION — Disposal Method — Disposed By — Date/Time

SPECIAL INSTRUCTIONS

J5D020408
JF 4/2/15
~~J5020408~~
SDG# J02178

REVIEWED BY KW DATE 4/1/15

WCH-EE-011

Washington Closure Hanford — CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

RC-011-064 | Page 1 of 1

Collector: ROGERS, R	Company Contact: Joan Kessner	Telephone No.: 375-4688	Project Coordinator: KESSNER, JH
Price Code: 7N	Data Turnaround: 45 Days		
Project Designation: ERDF	Sampling Location: ERDF lysimeter #9 sampling_Spring 2015		SAF No.: RC-011
Ice Chest No.: WCH-08-050	Field Logbook No.: EL-1626-03	COA: RERDF22560	Method of Shipment: Local Delivery
Shipped To: TestAmerica Richland	Offsite Property No.: NA		Bill of Lading/Air Bill No.: NA

Other Labs Shipped To: TestAmerica Denver

POSSIBLE SAMPLE HAZARDS/REMARKS

Potentially radioactive, less than DOT limits

Special Handling and/or Storage

none

Preservation	HNO3 to pH <2	HNO3 to pH <2	HNO3 to pH <2	None								
Type of Container	G/P	G/P	G/P	G/P								
No. of Container(s)	1	1	1	1								
Volume	1000mL	500mL	250mL	250mL								
Sample Analysis	Gross Alpha & Beta - 900.0 {Gross alpha, Gross beta}	Technetium-99	Total Uranium	Total Uranium - Filtered								
Sample No.	**Matrix**	**Sample Date**	**Sample Time**									
J1V5J6 M6H3L	WATER	04/01/15	0912	X	X	X	—	4-1-15 cmB				
J1V5J6-A M6H3M	WATER	04/01/15	0912	—	4-1-15 cmB		X					

CHAIN OF POSSESSION — **Sign/Print Names**

Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
Rick Rogers R Rogers	4-1-15 1100AM	4/1/15 DWShea DWSHEA	1100 4/1/15 DWShea 4/1/15
DWShea DWSHEA	4/1/15 1225	C. Bingham C Bingham	4-1-15 1225
C Bingham C Bingham WCH	4-1-15 1410	J. Friesz, TARL	4/1/15 1410

FINAL SAMPLE DISPOSITION	Disposal Method	Disposed By	Date/Time

SPECIAL INSTRUCTIONS

J5D020408
SDG# J02178

REVIEWED BY KW DATE 4/1/15

WCH-EE-011

Washington Closure Hanford — CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

RC-011-065 | Page 1 of 1

Collector: ROGERS, R	Company Contact: Joan Kessner	Telephone No.: 375-4688	Project Coordinator: KESSNER, JH
Price Code: 7N	Data Turnaround: 45 Days		
Project Designation: ERDF	Sampling Location: ERDF lysimeter #10 sampling_Spring 2015		SAF No.: RC-011
Ice Chest No.: WCH-08-050	Field Logbook No.: EL-1626-03	COA: RERDF22560	Method of Shipment: Local Delivery
Shipped To: TestAmerica Richland	Offsite Property No.: NA		Bill of Lading/Air Bill No.: NA

Other Labs Shipped To: TestAmerica Denver

POSSIBLE SAMPLE HAZARDS/REMARKS
Potentially radioactive, less than DOT limits

Special Handling and/or Storage
none

Preservation	HNO3 to pH <2	HNO3 to pH <2	HNO3 to pH <2	None
Type of Container	G/P	G/P	G/P	G/P
No. of Container(s)	1	1	1	1
Volume	1000mL	500mL	250mL	250mL
Sample Analysis	Gross Alpha & Beta - 900.0 {Gross alpha, Gross beta}	Technetium-99	Total Uranium	Total Uranium - Filtered

Sample No.	Matrix	Sample Date	Sample Time					
J1V5J7 M6H3G	WATER	04/01/15	0847	X	X	X	—	4-1-15 CMB
J1V5J7-A M6H3H	WATER	04/01/15	0847	—	4-1-15 CMB		X	

CHAIN OF POSSESSION — **Sign/Print Names**

Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
Rich Rogers R Rogers	4.1.15 11:00am	Moshea Dwshea	4/1/15 1100
Moshea Dwshea	4/1/15 1225	C. Bingham Cmb	4-1-15 1225
C. Bingham CMB WCH	4-1-15 1410	J. Friesz, TARL	4/1/15 1410

FINAL SAMPLE DISPOSITION	Disposal Method	Disposed By	Date/Time

SPECIAL INSTRUCTIONS

JF 4/2/15
~~J5D~~ J5D020405
SDG# J02178

REVIEWED BY KW DATE 4/1/15

WCH-EE-011

Washington Closure Hanford — CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

RC-011-066

Collector: ROGERS, R	Company Contact: Joan Kessner	Telephone No.: 375-4688	Project Coordinator: KESSNER, JH
Price Code: 7N	Data Turnaround: 45 Days		
Project Designation: ERDF	Sampling Location: ERDF lysimeter sampling, Dup 5, Spring 2015		SAF No.: RC-011
Ice Chest No.: WCH-08-050	Field Logbook No.: EL-1626-03	COA: RERDF22560	Method of Shipment: Local Delivery
Shipped To: TestAmerica Richland	Offsite Property No.: NA		Bill of Lading/Air Bill No.: NA

Other Labs Shipped To: TestAmerica Denver

POSSIBLE SAMPLE HAZARDS/REMARKS

Potentially radioactive, less than DOT limits

Special Handling and/or Storage

none

Preservation	HNO3 to pH <2	HNO3 to pH <2	HNO3 to pH <2	None								
Type of Container	G/P	G/P	G/P	G/P								
No. of Container(s)	1	1	1	1								
Volume	1000mL	500mL	250mL	250mL								
Sample Analysis	Gross Alpha & Beta - 900.0 {Gross alpha, Gross beta}	Technetium-99	Total Uranium	Total Uranium - Filtered								

Sample No.	Matrix	Sample Date	Sample Time										
J1V5J8 M6H3J	WATER	04/01/15	1003	X	X	X	—	4-1-15					
J1V5J8-A M6H3K	WATER	04/01/15	1003	—	4-1-15		X						

CHAIN OF POSSESSION — **Sign/Print Names**

Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
Rich Rogers R Rogers	4-1-15 11:00am	WCH DWSHEA	4/1/15 1100
DWSHEA DWSHEA	4/1/15 1225	C. Bingham	4-1-15 1225
C. Bingham WCH	4-1-15 1410	J. Friesz, TARL	4/1/15 1410

FINAL SAMPLE DISPOSITION	Disposal Method	Disposed By	Date/Time

SPECIAL INSTRUCTIONS

J5D020408
SDG# J02178

REVIEWED BY KW DATE 4/1/15

WCH-EE-011

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Sample Check-in List

Date/Time Received: 4-1-15 / 1410 Container GM Screen Result: (Airlock) 20 cpm Initials [B]
Sample GM Screen Result (Sample Receiving) 40 cpm Initials [B]

Client: WCH SDG #: J02178 SAF #: RC-011 NA [RW]

Lot Number: ~~J50010~~ JF 4/2/15 ~~J50204108~~ JF 4/2/15 J5D020408 RW 4/2/15

Chain of Custody # RC-011-060;061;062;063;065;066;064

Shipping Container ID or Air Bill Number : hand del. NA [RW]

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

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

Item 5 through 16 for samples. Initial appropriate response.

5. Chain of Custody record present? Yes [B] No [ ]
6. Number of samples received (Each sample may contain multiple bottles): 14
7. Containers received: 9x1p; ~~8x500mlp~~ JF 4/2/15; 16x250mlp, 8x500mlp
8. Sample holding times exceeded? NA [ ] Yes [ ] No [B]
9. Samples have: ____tape ____hazard labels [B] custody seals [B] appropriate sample labels
10. Matrix: ____A (FLT, Wipe, Solid, Soil) [W] I (Water) ____S (Air, Niosh 7400) ____T (Biological, Ni-63)
11. Samples:
    [B] are in good condition ____are leaking ____are broken
    ____have air bubbles (Only for samples requiring no head space) ____Other _____
12. Sample pH appropriate for analysis requested Yes [B] No [ ] NA [ ]
    (If acidification is necessary go to 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 [B]
14. Description of anomalies (include sample numbers): NA [B] _____
15. Sample Location, Sample Collector Listed on COC? * Yes [ ] No [B]
    *For documentation only. No corrective action needed.
16. Additional Information: N/A

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

Sample Check-in List completed by Sample Custodian:
Signature: Julie Bock Date: 4-1-15

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

[X] No action necessary; process as is

Project Manager Brenda Wyatt Date 4/2/15

LS-023 Rev. 17, 05/13

Page 1 of 1

4/15/2015 11:11:35 AM

Sample Preparation/Analysis

Balance Id:1120482733,B145441330

127642, Washington Closure Hanford LLC
Bechtel Hanford, Inc.

AZ Gross Alpha Prp GPC001
S7 Gross Alpha by GPC using Am-241 curve
5I CLIENT: HANFORD

Pipet #: _____

AnalyDueDate: 05/15/2015

Sep1 DT/Tm Tech:

Batch: 5092046 WATER pCi/L PM, Quote: RW2, 27023

Sep2 DT/Tm Tech:

SEQ Batch, Test: None All Tests: AMS5, 5092044 DHSS, 5092045 BCS8, 5092046 AZS7, 5092047 FPS5, 5092048 DHSS,

Prep Tech: PeoplesK

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 M6H24-1-AA J5D020408-1-SAMP 04/01/2015 10:03			24.00g,in	24.00g				70.70mg				AR 4/15/15	Too HEAVY - REANALYSIS INITIATED
			AmtRec: 2XLP;2X500MLP;2X250MLP #Containers: 6						Scr:	Alpha: 5.36E-04 uCi/Sa			Beta: -3.60E-04 uCi/Sa
2 M6H29-1-AA J5D020408-3-SAMP 04/01/2015 10:27			20.80g,in	20.80g				36.00mg			~~20B~~ 24B	4/15/15 1633	4/15/15
			AmtRec: 1XLP;1X500MLP;1X250MLP #Containers: 3						Scr:	Alpha: -9.56E-05 uCi/Sa			Beta: 2.77E-04 uCi/Sa
3 M6H3C-1-AA J5D020408-5-SAMP 04/01/2015 09:36			14.50g,in	14.50g				74.70mg					Too HEAVY - REANALYSIS INITIATED
			AmtRec: 1XLP;1X500MLP;1X250MLP #Containers: 3						Scr:	Alpha: -2.38E-04 uCi/Sa			Beta: 2.13E-04 uCi/Sa
4 M6H3E-1-AA J5D020408-7-SAMP 04/01/2015 10:45			19.00g,in	19.00g				57.50mg					Too HEAVY - REANALYSIS INITIATED
			AmtRec: 1XLP;1X500MLP;1X250MLP #Containers: 3						Scr:	Alpha: 1.69E-04 uCi/Sa			Beta: -2.35E-04 uCi/Sa
5 M6H3G-1-AA J5D020408-9-SAMP 04/01/2015 08:47			24.60g,in	24.60g				33.30mg			24C	1633	4/15/15
			AmtRec: 1XLP;1X500MLP;1X250MLP #Containers: 3						Scr:	Alpha: 2.22E-04 uCi/Sa			Beta: -1.92E-04 uCi/Sa
6 M6H3G-1-AG-X J5D020408-9-DUP 04/01/2015 08:47			24.20g,in	24.20g				32.60mg			24D	—	—
			AmtRec: 1XLP;1X500MLP;1X250MLP #Containers: 3						Scr:	Alpha: 2.22E-04 uCi/Sa			Beta: -1.92E-04 uCi/Sa
7 M6H3J-1-AA J5D020408-11-SAMP 04/01/2015 10:03			19.80g,in	19.80g				54.90mg					Too HEAVY - REANALYSIS INITIATED
			AmtRec: 1XLP;1X500MLP;1X250MLP #Containers: 3						Scr:	Alpha: -1.87E-05 uCi/Sa			Beta: 1.49E-04 uCi/Sa

30601

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 v4.8.69

4/15/2015 11:11:36 AM

Sample Preparation/Analysis

Balance Id:1120482733,B145441330

127642, Washington Closure Hanford LLC ,
Bechtel Hanford, Inc.

AZ Gross Alpha Prp GPC001
S7 Gross Alpha by GPC using Am-241 curve
5I CLIENT: HANFORD

Pipet #: _____

AnalyDueDate: 05/15/2015

Sep1 DT/Tm Tech:

Batch: 5092046 WATER pCi/L PM, Quote: RW2, 27023

Sep2 DT/Tm Tech:

SEQ Batch, Test: None

Prep Tech: ,PeoplesK

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 M6H3L-1-AA J5D020408-13-SAMP			17.70g,in	17.70g			—	35.70mg		23B	2123	4/15/15	
04/01/2015 09:12			AmtRec: 1XLP;1X500MLP;1X250MLP	#Containers: 3					Scr:	Alpha: -2.22E-04 uCi/Sa		Beta: 1.92E-04 uCi/Sa	
9 M6H52-1-AA-B J5D020000-46-BLK			201.40g,in	201.40g			—	0.50mg		23C			
04/11/2015 10:02 pd			AmtRec:	#Containers: 1					Scr:	Alpha:		Beta:	
10 M6H52-1-AC-C J5D020000-46-LCS			201.90g,in	201.90g	ASD5796 11/20/14,pd 04/04/05,r		—	0.00mg		23D			
04/11/2015 10:02 pd			AmtRec:	#Containers: 1					Scr:	Alpha:		Beta:	

4/15/2015 11:11:37 AM

Sample Preparation/Analysis

AZ Gross Alpha Prp GPC001
S7 Gross Alpha by GPC using Am-241 curve
5I CLIENT: HANFORD

Balance Id:1120482733,B145441330

Pipet #: _____

Sep1 DT/Tm Tech:

Sep2 DT/Tm Tech:

Prep Tech: RogersA ,PeoplesK

AnalyDueDate: 05/15/2015

Batch: 5092046 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: M6H52-BLK "Comments S-15-00005",P-15-00086,P-15-00078,P-14-00645,"samples 1, 3, 4, and 7 too heavy"

```
All Clients for Batch:
   127642, Washington Closure Hanford LLC          Bechtel Hanford, Inc.        ,  RW2, 27023

M6H241AA-SAMP Constituent List:
  ALPHA       RDL:3          pCi/L    LCL:       UCL:       RPD:
M6H521AA-BLK:
  ALPHA       RDL:3          pCi/L    LCL:       UCL:       RPD:
M6H521AC-LCS:
  Am-241      RDL:           pCi/L    LCL:70     UCL:130    RPD:20

M6H241AA-SAMP Calc Info:
     Uncert Level (#s).: 2     Decay to SaDt: Y     Blk Subt.: N     Sci.Not.: Y     ODRs: B
M6H521AA-BLK:
     Uncert Level (#s).: 2     Decay to SaDt: Y     Blk Subt.: N     Sci.Not.: Y     ODRs: B
M6H521AC-LCS:
     Uncert Level (#s).: 2     Decay to SaDt: Y     Blk Subt.: N     Sci.Not.: Y     ODRs: B
```

4/23/2015 7:16:27 AM

ICOC Fraction Transfer/Status Report

ByDate: 4/23/2014, 4/28/2015, Batch: '5092046', User: *ALL Order By DateTimeAccepting

Q Batch	Work Ord	CurStatus	Accepting			SOPs,Reagents,Comments
5092046						
AC		**Rev1C**	**PeoplesK**	4/11/2015 9:55:57		
SC			campbellsc	IsBatched	4/6/2015 12:12:07 PM	ICOC_RADCALC v4.9.0
SC			PeoplesK	InPrep	4/11/2015 9:55:57 AM	RL-PRP-004 REVISION 4
SC			RogersA	Prep2C	4/15/2015 12:21:47 PM	RL-GPC-001 REVISION 5
SC			BullJ	InCnt1	4/15/2015 12:26:46 PM	RL-CI-006 REVISION 5
SC			DawkinsO	CalcC	4/15/2015 11:18:51 PM	RL-CI-006 REVISION 5
SC			McginnisT	Rev1C	4/23/2015 7:16:19 AM	RL-DR-001 Rev 7
AC			**RogersA**	4/15/2015 12:21:47		
AC			**BullJ**	4/15/2015 12:26:46		
AC			**DawkinsO**	4/15/2015 11:18:51		
AC			**McginnisT**	4/23/2015 7:16:19		

AC: Accepting Entry; SC: Status Change

TestAmerica Richland

Richland Wa.

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Grp Rec Cnt: 5

ICOCFractions

4/16/2015 3:16:21 PM

Sample Preparation/Analysis

Balance Id:1120482733,B145441330

127642, Washington Closure Hanford LLC ,
Bechtel Hanford, Inc.

AZ Gross Alpha Prp GPC001
S7 Gross Alpha by GPC using Am-241 curve
5I CLIENT: HANFORD

Pipet #: _____

AnalyDueDate: 05/15/2015

Sep1 DT/Tm Tech:

Batch: 5105034 **WATER** **pCi/L** **PM, Quote: RW2, 27023**

Sep2 DT/Tm Tech:

SEQ Batch, Test: None All Tests: AMS5, 5092044 DHSS, 5092045 BCS8, 5092046 AZS7, 5092047 FPS5, 5092048 DHSS, 5105034 AZS7,

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 M6H24-2-AA J5D020408-1-SAMP 04/01/2015 10:03			12.30g,in	12.30g				37.50mg		22D	2344	4/16/15 DD	
			AmtRec: 2XLP;2X500MLP;2X250MLP	#Containers: 6					Scr:	Alpha: 5.36E-04 uCi/Sa		Beta: -3.60E-04 uCi/Sa	
2 M6H3C-2-AA J5D020408-5-SAMP 04/01/2015 09:36			7.10g,in	7.10g				47.30mg		23A			
			AmtRec: 1XLP;1X500MLP;1X250MLP	#Containers: 3					Scr:	Alpha: -2.38E-04 uCi/Sa		Beta: 2.13E-04 uCi/Sa	
3 M6H3E-2-AA J5D020408-7-SAMP 04/01/2015 10:45			12.40g,in	12.40g				39.20mg		23C			
			AmtRec: 1XLP;1X500MLP;1X250MLP	#Containers: 3					Scr:	Alpha: 1.69E-04 uCi/Sa		Beta: -2.35E-04 uCi/Sa	
4 M6H3J-2-AA J5D020408-11-SAMP 04/01/2015 10:03			12.00g,in	12.00g				42.40mg		23D			
			AmtRec: 1XLP;1X500MLP;1X250MLP	#Containers: 3					Scr:	Alpha: -1.87E-05 uCi/Sa		Beta: 1.49E-04 uCi/Sa	
5 M6LJD-1-AA-B J5D150000-34-BLK 04/15/2015 13:13 pd			201.10g,in	201.10g				0.50mg		23B			
			AmtRec:	#Containers: 1					Scr:	Alpha:		Beta:	
6 M6LJD-1-AC-C J5D150000-34-LCS 04/15/2015 13:14 pd			200.70g,in	200.70g	ASD5800 11/20/14,pd 04/04/05,r			0.70mg		24A	1041	4/17/15 JB	
			AmtRec:	#Containers: 1					Scr:	Alpha:		Beta:	

20602

4/16/2015 3:16:23 PM

Sample Preparation/Analysis

AZ Gross Alpha Prp GPC001
S7 Gross Alpha by GPC using Am-241 curve
5I CLIENT: HANFORD

Balance Id:1120482733,B145441330

Pipet #: _____

Sep1 DT/Tm Tech:

Sep2 DT/Tm Tech:

Prep Tech: RogersA ,WattN

AnalyDueDate: 05/15/2015

Batch: 5105034 **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: M6LJD-BLK "Comments P-15-00078",P-14-00645

All Clients for Batch:
127642, Washington Closure Hanford LLC Bechtel Hanford, Inc. , RW2, 27023

M6H242AA-SAMP Constituent List:

ALPHA	RDL:3	pCi/L	LCL:	UCL:	RPD:
M6LJD1AA-BLK:					
ALPHA	RDL:3	pCi/L	LCL:	UCL:	RPD:
M6LJD1AC-LCS:					
Am-241	RDL:	pCi/L	LCL:70	UCL:130	RPD:20

M6H242AA-SAMP Calc Info:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B
M6LJD1AA-BLK:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B
M6LJD1AC-LCS:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B

4/23/2015 7:25:17 AM

ICOC Fraction Transfer/Status Report

ByDate: 4/23/2014, 4/28/2015, Batch: '5105034', User: *ALL Order By DateTimeAccepting

Q Batch	Work Ord	CurStatus	Accepting			SOPs,Reagents,Comments
5105034						
AC		**Rev1C**	**WattN**	4/15/2015 1:04:01 PM		
SC			McginnisT	IsBatched	4/15/2015 12:39:58 PM	ICOC_RADCALC v4.9.0
SC			WattN	InPrep	4/15/2015 1:04:01 PM	RL-KPA-001 REVISION 5
SC			WattN	Prep1C	4/15/2015 1:14:40 PM	RL-GPC-001 REVISION 5
SC			RogersA	Prep2C	4/16/2015 3:19:26 PM	RL-GPC-001 REVISION 5
SC			DawkinsO	InCnt1	4/16/2015 6:43:17 PM	RL-CI-006 REVISION 5
SC			BullJ	CalcC	4/17/2015 12:30:48 PM	RL-CI-006 REVISION 5
SC			McginnisT	Rev1C	4/23/2015 7:25:06 AM	RL-DR-001 Rev 7
AC			**WattN**	4/15/2015 1:14:40 PM		
AC			**RogersA**	4/16/2015 3:19:26 PM		
AC			**DawkinsO**	4/16/2015 6:43:17 PM		
AC			**BullJ**	4/17/2015 12:30:48		
AC			**McginnisT**	4/23/2015 7:25:06		

AC: Accepting Entry; SC: Status Change

TestAmerica Richland

Richland Wa.

Page 1

Grp Rec Cnt: 6

ICOCFractions

4/15/2015 12:21:01 PM

Sample Preparation/Analysis

Balance Id:1120482733,B145441330

127642, Washington Closure Hanford LLC
Bechtel Hanford, Inc.

BC Gross Beta Prp GPC001
S8 Gross Beta by GPC using Sr/Y-90 curve
5I CLIENT: HANFORD

Pipet #: _____

AnalyDueDate: 05/15/2015

Sep1 DT/Tm Tech:

Batch: 5092045 WATER pCi/L PM, Quote: RW2, 27023

Sep2 DT/Tm Tech:

SEQ Batch, Test: None

Prep Tech: PeoplesK

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 M6H24-1-AC J5D020408-1-SAMP 04/01/2015 10:03			50.70g,in	50.70g				164.70mg		26B	1551	4/15/15 JD	
			AmtRec: 2XLP;2X500MLP;2X250MLP #Containers: 6						Scr:	Alpha: 5.36E-04 uCi/Sa		Beta: -3.60E-04 uCi/Sa	
2 M6H29-1-AC J5D020408-3-SAMP 04/01/2015 10:27			56.50g,in	56.50g				114.30mg		26C			
			AmtRec: 1XLP;1X500MLP;1X250MLP #Containers: 3						Scr:	Alpha: -9.56E-05 uCi/Sa		Beta: 2.77E-04 uCi/Sa	
3 M6H3C-1-AC J5D020408-5-SAMP 04/01/2015 09:36			25.40g,in	25.40g				177.00mg		26D			
			AmtRec: 1XLP;1X500MLP;1X250MLP #Containers: 3						Scr:	Alpha: -2.38E-04 uCi/Sa		Beta: 2.13E-04 uCi/Sa	
4 M6H3E-1-AC J5D020408-7-SAMP 04/01/2015 10:45			46.90g,in	46.90g				167.50mg		27A			
			AmtRec: 1XLP;1X500MLP;1X250MLP #Containers: 3						Scr:	Alpha: 1.69E-04 uCi/Sa		Beta: -2.35E-04 uCi/Sa	
5 M6H3G-1-AC J5D020408-9-SAMP 04/01/2015 08:47			61.20g,in	61.20g				94.00mg		27B			
			AmtRec: 1XLP;1X500MLP;1X250MLP #Containers: 3						Scr:	Alpha: 2.22E-04 uCi/Sa		Beta: -1.92E-04 uCi/Sa	
6 M6H3J-1-AC J5D020408-11-SAMP 04/01/2015 10:03			41.50g,in	41.50g				128.40mg		27C			
			AmtRec: 1XLP;1X500MLP;1X250MLP #Containers: 3						Scr:	Alpha: -1.87E-05 uCi/Sa		Beta: 1.49E-04 uCi/Sa	
7 M6H3J-1-AG-X J5D020408-11-DUP 04/01/2015 10:03			40.90g,in	40.90g				135.90mg		28A	—	—	
			AmtRec: 1XLP;1X500MLP;1X250MLP #Containers: 3						Scr:	Alpha: -1.87E-05 uCi/Sa		Beta: 1.49E-04 uCi/Sa	

30623

TestAmerica Richland Wa. | Key: In - Initial Amt, fi - Final Amt, di - Diluted Amt, s1 - Sep1, s2 - Sep2 | Page 1 | ISV - Insufficient Volume for Analysis | WO Cnt: 7

pd - Prep Dt, dc - Date Chg, r - Reference Dt, ec-Enrichment Cell, ct-Cocktailed Added | Prep_SamplePrep v4.8.69

4/15/2015 12:21:02 PM

Sample Preparation/Analysis

Balance Id:1120482733,B145441330

127642, Washington Closure Hanford LLC ,
Bechtel Hanford, Inc.

BC Gross Beta Prp GPC001
S8 Gross Beta by GPC using Sr/Y-90 curve
5I CLIENT: HANFORD

Pipet #: _____

AnalyDueDate: 05/15/2015

Sep1 DT/Tm Tech:

Batch: 5092045 WATER pCi/L PM, Quote: RW2, 27023

Sep2 DT/Tm Tech:

SEQ Batch, Test: None

Prep Tech: ,PeoplesK

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 M6H3L-1-AC J5D020408-13-SAMP			47.50g,in	47.50g				130.90mg		28B	1551	4/15/15 JM	
04/01/2015 09:12			AmtRec: 1XLP;1X500MLP;1X250MLP	#Containers: 3					Scr:	Alpha: -2.22E-04 uCi/Sa		Beta: 1.92E-04 uCi/Sa	
9 M6H51-1-AA-B J5D020000-45-BLK			200.60g,in	200.60g				0.10mg		28C			
04/11/2015 10:12 pd			AmtRec:	#Containers: 1					Scr:	Alpha:		Beta:	
10 M6H51-1-AC-C J5D020000-45-LCS			202.20g,in	202.20g	BESB4672 01/12/15,pd 10/01/01,r			0.30mg		28D			
04/11/2015 10:12 pd			AmtRec:	#Containers: 1					Scr:	Alpha:		Beta:	

4/15/2015 12:21:03 PM

Sample Preparation/Analysis

BC Gross Beta Prp GPC001
S8 Gross Beta by GPC using Sr/Y-90 curve
5I CLIENT: HANFORD

Balance Id:1120482733,B145441330
Pipet #: _____
Sep1 DT/Tm Tech:
Sep2 DT/Tm Tech:
Prep Tech: RogersA ,PeoplesK

AnalyDueDate: 05/15/2015

Batch: 5092045 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: M6H51-BLK "Comments S-15-00005",P-15-00086,P-15-00078,P-14-00628

All Clients for Batch:
127642, Washington Closure Hanford LLC Bechtel Hanford, Inc. , RW2, 27023

M6H241AC-SAMP Constituent List:

BETA	RDL:4	pCi/L	LCL:	UCL:	RPD:
M6H511AA-BLK:					
BETA	RDL:4	pCi/L	LCL:	UCL:	RPD:
M6H511AC-LCS:					
Sr-90	RDL:	pCi/L	LCL:70	UCL:130	RPD:20

M6H241AC-SAMP Calc Info:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B
M6H511AA-BLK:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B
M6H511AC-LCS:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B

4/24/2015 12:15:58 PM

ICOC Fraction Transfer/Status Report

ByDate: 4/24/2014, 4/29/2015, Batch: '5092045', User: *ALL Order By DateTimeAccepting

Q Batch	Work Ord	CurStatus	Accepting			SOPs,Reagents,Comments
5092045						
AC		**Rev1C**	**PeoplesK**	4/11/2015 10:06:56		
SC			campbellsc	IsBatched	4/6/2015 12:12:03 PM	ICOC_RADCALC v4.9.0
SC			PeoplesK	InPrep	4/11/2015 10:06:56 AM	RL-PRP-004 REVISION 4
SC			RogersA	Prep2C	4/15/2015 12:21:40 PM	RL-GPC-001 REVISION 5
SC			BullJ	InCnt1	4/15/2015 12:26:42 PM	RL-CI-006 REVISION 5
SC			DawkinsO	CalcC	4/15/2015 11:18:26 PM	RL-CI-006 REVISION 5
SC			BullJ	CalcC	4/17/2015 12:30:41 PM	RL-CI-006 REVISION 5
SC			McginnisT	Rev1C	4/24/2015 12:15:48 PM	RL-DR-001 Rev 7
AC			**RogersA**	4/15/2015 12:21:40		
AC			**BullJ**	4/15/2015 12:26:42		
AC			**DawkinsO**	4/15/2015 11:18:26		
AC			**BullJ**	4/17/2015 12:30:41		
AC			**McginnisT**	4/24/2015 12:15:48		

AC: Accepting Entry; SC: Status Change

TestAmerica Richland

Richland Wa.

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Grp Rec Cnt: 6

ICOCFractions

4/22/2015 11:09:23 AM

Sample Preparation/Analysis

Balance Id:1120482733,B145441330

127642, Washington Closure Hanford LLC ,
Bechtel Hanford, Inc.

BC Gross Beta Prp GPC001
S8 Gross Beta by GPC using Sr/Y-90 curve
5I CLIENT: HANFORD

Pipet #: _____

AnalyDueDate: 05/15/2015

Sep1 DT/Tm Tech:

Batch: 5107034 WATER pCi/L PM, Quote: RW2, 27023

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 M6H3J-1-AH-X J5D020408-11-DUP			37.50g,in	37.50g				125.70mg		28B	1656	4/22/15	
04/01/2015 10:03			AmtRec: 1XLP;1X500MLP;1X250MLP	#Containers: 3					Scr:	Alpha: -1.87E-05 uCi/Sa		Beta: 1.49E-04 uCi/Sa	
2 M6H3J-3-AC J5D020408-11-SAMP			37.80g,in	37.80g				125.30mg		28C			
04/01/2015 10:03			AmtRec: 1XLP;1X500MLP;1X250MLP	#Containers: 3					Scr:	Alpha: -1.87E-05 uCi/Sa		Beta: 1.49E-04 uCi/Sa	
3 M6MEN-1-AA-B J5D170000-34-BLK			200.00g,in	200.00g				0.20mg		28D			
04/17/2015 15:01 pd			AmtRec:	#Containers: 1					Scr:	Alpha:		Beta:	
4 M6MEN-1-AC-C J5D170000-34-LCS			200.00g,in	200.00g	BESB4675 01/12/15,pd 10/01/01,r			0.60mg		27A	2007	4/22/15	
04/17/2015 15:01 pd			AmtRec:	#Containers: 1					Scr:	Alpha:		Beta:	

30624

4/22/2015 11:09:24 AM

Sample Preparation/Analysis

Balance Id:1120482733,B145441330

BC Gross Beta Prp GPC001
S8 Gross Beta by GPC using Sr/Y-90 curve
5I CLIENT: HANFORD

Pipet #: _____

AnalyDueDate: 05/15/2015

Sep1 DT/Tm Tech:

Batch: 5107034 pCi/L
SEQ Batch, Test: None

Sep2 DT/Tm Tech:

Prep Tech: RogersA ,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:

Comments: M6MEN-BLK "Comments P-15-00078",P-14-00628

All Clients for Batch:
127642, Washington Closure Hanford LLC Bechtel Hanford, Inc. , RW2, 27023

M6H3J1AH-DUP Constituent List:

BETA	RDL:4	pCi/L	LCL:	UCL:	RPD:
M6MEN1AA-BLK:					
BETA	RDL:4	pCi/L	LCL:	UCL:	RPD:
M6MEN1AC-LCS:					
Sr-90	RDL:	pCi/L	LCL:70	UCL:130	RPD:20

M6H3J1AH-DUP Calc Info:

Uncert Level (#s).: 2	Decay to SaDt: Y	Blk Subt.: N	Sci.Not.: Y	ODRs: B
M6MEN1AA-BLK:				
Uncert Level (#s).: 2	Decay to SaDt: Y	Blk Subt.: N	Sci.Not.: Y	ODRs: B
M6MEN1AC-LCS:				
Uncert Level (#s).: 2	Decay to SaDt: Y	Blk Subt.: N	Sci.Not.: Y	ODRs: B

4/24/2015 12:22:36 PM

ICOC Fraction Transfer/Status Report

ByDate: 4/24/2014, 4/29/2015, Batch: '5107034', User: *ALL Order By DateTimeAccepting

Q Batch	Work Ord	CurStatus	Accepting			SOPs,Reagents,Comments
5107034						
AC		**Rev1C**	**WattN**	4/21/2015 8:55:34		
SC			WattN	InPrep	4/21/2015 8:55:34 AM	RL-PRP-004 REVISION 4
SC			wattn	IsBatched	4/21/2015 9:02:07 AM	ICOC_RADCALC v4.9.0
SC			WattN	Prep1C	4/21/2015 9:11:58 AM	RL-GPC-001 REVISION 5
SC			RogersA	Prep2C	4/22/2015 11:12:27 AM	RL-GPC-001 REVISION 5
SC			BullJ	InCnt1	4/22/2015 12:02:30 PM	RL-CI-006 REVISION 5
SC			DawkinsO	CalcC	4/23/2015 12:25:54 AM	RL-CI-006 REVISION 5
SC			McginnisT	Rev1C	4/24/2015 12:22:30 PM	RL-DR-001 Rev 7
AC			**WattN**	4/21/2015 9:11:58		
AC			**RogersA**	4/22/2015 11:12:27		
AC			**BullJ**	4/22/2015 12:02:30		
AC			**DawkinsO**	4/23/2015 12:25:54		
AC			**McginnisT**	4/24/2015 12:22:30		

AC: Accepting Entry; SC: Status Change

TestAmerica Richland

Richland Wa.

Page 1

Grp Rec Cnt: 6

ICOCFractions

4/10/2015 10:32:26 AM

Sample Preparation/Analysis

Balance Id:1120482733,,

127642, Washington Closure Hanford LLC
Bechtel Hanford, Inc.

FP Tc-99 Prp/Sep LSC014
S5 Technetium-99 by Liquid Scint
5I CLIENT: HANFORD

Pipet #: _____

AnalyDueDate: 05/15/2015

Sep1 DT/Tm Tech:

Batch: 5092047 **WATER** **pCi/L** **PM, Quote: RW2, 27023**

Sep2 DT/Tm Tech:

SEQ Batch, Test: None All Tests: AMS5, 5092044 DHSS, 5092045 BCS8, 5092046 AZS7, 5092047 FPS5, 5092048 DHSS,

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 **M6H24-1-AF** J5D020408-1-SAMP 04/01/2015 10:03			125.70g,in	125.70g									
			AmtRec: 2XLP;2X500MLP;2X250MLP #Containers: 6						Scr:	Alpha: 5.36E-04 uCi/Sa		Beta: -3.60E-04 uCi/Sa	
2 **M6H29-1-AF** J5D020408-3-SAMP 04/01/2015 10:27			125.10g,in	125.10g									
			AmtRec: 1XLP;1X500MLP;1X250MLP #Containers: 3						Scr:	Alpha: -9.56E-05 uCi/Sa		Beta: 2.77E-04 uCi/Sa	
3 **M6H3C-1-AF** J5D020408-5-SAMP 04/01/2015 09:36			125.50g,in	125.50g									
			AmtRec: 1XLP;1X500MLP;1X250MLP #Containers: 3						Scr:	Alpha: -2.38E-04 uCi/Sa		Beta: 2.13E-04 uCi/Sa	
4 **M6H3C-1-AG-X** J5D020408-5-DUP 04/01/2015 09:36			125.70g,in	125.70g									
			AmtRec: 1XLP;1X500MLP;1X250MLP #Containers: 3						Scr:	Alpha: -2.38E-04 uCi/Sa		Beta: 2.13E-04 uCi/Sa	
5 **M6H3E-1-AF** J5D020408-7-SAMP 04/01/2015 10:45			125.50g,in	125.50g									
			AmtRec: 1XLP;1X500MLP;1X250MLP #Containers: 3						Scr:	Alpha: 1.69E-04 uCi/Sa		Beta: -2.35E-04 uCi/Sa	
6 **M6H3E-1-AG-S** J5D020408-7-MS 04/01/2015 10:45			126.00g,in	126.00g	tcse3071 04/01/15,pd 07/01/05,r								
			AmtRec: 1XLP;1X500MLP;1X250MLP #Containers: 3						Scr:	Alpha: 1.69E-04 uCi/Sa		Beta: -2.35E-04 uCi/Sa	
7 **M6H3G-1-AF** J5D020408-9-SAMP 04/01/2015 08:47			127.30g,in	127.30g									
			AmtRec: 1XLP;1X500MLP;1X250MLP #Containers: 3						Scr:	Alpha: 2.22E-04 uCi/Sa		Beta: -1.92E-04 uCi/Sa	

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 v4.8.69

4/10/2015 10:32:28 AM

Sample Preparation/Analysis

Balance Id:1120482733,,

127642, Washington Closure Hanford LLC ,
Bechtel Hanford, Inc.

FP Tc-99 Prp/Sep LSC014
S5 Technetium-99 by Liquid Scint
5I CLIENT: HANFORD

Pipet #: _____

AnalyDueDate: 05/15/2015

Sep1 DT/Tm Tech:

Batch: 5092047 WATER pCi/L PM, Quote: RW2, 27023

SEQ Batch, Test: None

Sep2 DT/Tm Tech:

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 **M6H3J-1-AF**			125.80g,in	125.80g									
J5D020408-11-SAMP													
04/01/2015 10:03			AmtRec: 1XLP;1X500MLP;1X250MLP	#Containers: 3					Scr:	Alpha: -1.87E-05 uCi/Sa		Beta: 1.49E-04 uCi/Sa	
9 **M6H3L-1-AF**			125.80g,in	125.80g									
J5D020408-13-SAMP													
04/01/2015 09:12			AmtRec: 1XLP;1X500MLP;1X250MLP	#Containers: 3					Scr:	Alpha: -2.22E-04 uCi/Sa		Beta: 1.92E-04 uCi/Sa	
10 **M6H53-1-AA-B**			126.10g,in	126.10g									
J5D020000-47-BLK													
04/10/2015 10:31 pd			AmtRec:	#Containers: 1					Scr:	Alpha:		Beta:	
11 **M6H53-1-AC-C**			128.10g,in	128.10g	TCSB0678								
J5D020000-47-LCS					04/09/15,pd 07/01/05,r								
04/10/2015 10:32 pd			AmtRec:	#Containers: 1					Scr:	Alpha:		Beta:	
12 **M6H53-1-AD-BN**													
J5D020000-47-IBLK													
04/06/2015 12:01 pd			AmtRec:	#Containers: 1					Scr:	Alpha:		Beta:	

4/10/2015 10:32:29 AM

Sample Preparation/Analysis

FP Tc-99 Prp/Sep LSC014
S5 Technetium-99 by Liquid Scint
5I CLIENT: HANFORD

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

AnalyDueDate: 05/15/2015

Batch: 5092047 **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: M6H53-BLK CommentsS-15-00005,P-15-00086

All Clients for Batch:
127642, Washington Closure Hanford LLC Bechtel Hanford, Inc. , RW2, 27023

M6H241AF-SAMP Constituent List:
Tc-99 RDL:15 pCi/L LCL:70 UCL:130 RPD:20
M6H3E1AG-MS:

M6H531AA-BLK:
Tc-99 RDL:15 pCi/L LCL: UCL: RPD:
M6H531AC-LCS:
Tc-99 RDL:15 pCi/L LCL:70 UCL:130 RPD:20
M6H531AD-IBLK:
Tc-99 RDL:15 pCi/L LCL: UCL: RPD:

M6H241AF-SAMP Calc Info:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B
M6H3E1AG-MS:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B
M6H531AA-BLK:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B
M6H531AC-LCS:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B
M6H531AD-IBLK:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B

4/24/2015 10:51:32 AM

ICOC Fraction Transfer/Status Report

ByDate: 4/24/2014, 4/29/2015, Batch: '5092047', User: *ALL Order By DateTimeAccepting

Q Batch	Work Ord	CurStatus	Accepting			SOPs,Reagents,Comments
5092047						
AC		**Rev1C**	**WattN**	4/10/2015 10:22:15		
SC			campbellsc	IsBatched	4/6/2015 12:12:10 PM	ICOC_RADCALC v4.9.0
SC			WattN	InPrep	4/10/2015 10:22:15 AM	rl-prp-004 revision 4
SC			WattN	Prep1C	4/10/2015 10:32:32 AM	rl-prp-004 revision 4
SC			CarneyA	InSep2	4/20/2015 2:34:36 PM	RL-LSC-014 REVISION 3
SC			CarneyA	Sep2C	4/23/2015 11:57:22 AM	RL-LSC-014 REVISION 3
SC			CarneyA	InCnt1	4/23/2015 11:57:35 AM	RL-CI-005 REVISION 4
SC			BullJ	CalcC	4/24/2015 9:53:08 AM	RL-CI-005 REVISION 3
SC			antonsonl	Rev1C	4/24/2015 10:51:14 AM	RL-DR-001 Rev 7
AC			**WattN**	4/10/2015 10:32:32		
AC			**CarneyA**	4/20/2015 2:34:36 PM		
AC			**CarneyA**	4/23/2015 11:57:22		
AC			**CarneyA**	4/23/2015 11:57:35		
AC			**BullJ**	4/24/2015 9:53:08		
AC			**antonsonl**	4/24/2015 10:51:14		

AC: Accepting Entry; SC: Status Change

TestAmerica Richland

Richland Wa.

Page 1

Grp Rec Cnt: 7

ICOCFractions

4/13/2015 11:09:31 AM

Sample Preparation/Analysis

Balance Id:1120482733,,

127642, Washington Closure Hanford LLC ,
Bechtel Hanford, Inc.

DH UNat_Laser Prp KPA001
SS Total Uranium by KPA
5I CLIENT: HANFORD

Pipet #: _____

AnalyDueDate: 05/15/2015

Sep1 DT/Tm Tech:

Batch: 5092048 WATER ug/L PM, Quote: RW2, 27023

Sep2 DT/Tm Tech:

SEQ Batch, Test: None

Prep Tech: PeoplesK,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 M6H24-1-AE			25.10g,in	25.10g									
J5D020408-1-SAMP													
04/01/2015 10:03			AmtRec: 2XLP;2X500MLP;2X250MLP	#Containers: 6					Scr:	Alpha: 5.36E-04 uCi/Sa		Beta: -3.60E-04 uCi/Sa	
2 M6H24-1-AG-X			25.10g,in	25.10g									
J5D020408-1-DUP													
04/01/2015 10:03			AmtRec: 2XLP;2X500MLP;2X250MLP	#Containers: 6					Scr:	Alpha: 5.36E-04 uCi/Sa		Beta: -3.60E-04 uCi/Sa	
3 M6H29-1-AE			25.60g,in	25.60g									
J5D020408-3-SAMP													
04/01/2015 10:27			AmtRec: 1XLP;1X500MLP;1X250MLP	#Containers: 3					Scr:	Alpha: -9.56E-05 uCi/Sa		Beta: 2.77E-04 uCi/Sa	
4 M6H29-1-AG-S			26.00g,in	26.00g	unsm0442								
J5D020408-3-MS					04/06/15,pd 02/01/86,r								
04/01/2015 10:27			AmtRec: 1XLP;1X500MLP;1X250MLP	#Containers: 3					Scr:	Alpha: -9.56E-05 uCi/Sa		Beta: 2.77E-04 uCi/Sa	
5 M6H3C-1-AE			25.50g,in	25.50g									
J5D020408-5-SAMP													
04/01/2015 09:36			AmtRec: 1XLP;1X500MLP;1X250MLP	#Containers: 3					Scr:	Alpha: -2.38E-04 uCi/Sa		Beta: 2.13E-04 uCi/Sa	
6 M6H3E-1-AE			27.40g,in	27.40g									
J5D020408-7-SAMP													
04/01/2015 10:45			AmtRec: 1XLP;1X500MLP;1X250MLP	#Containers: 3					Scr:	Alpha: 1.69E-04 uCi/Sa		Beta: -2.35E-04 uCi/Sa	
7 M6H3G-1-AE			25.80g,in	25.80g									
J5D020408-9-SAMP													
04/01/2015 08:47			AmtRec: 1XLP;1X500MLP;1X250MLP	#Containers: 3					Scr:	Alpha: 2.22E-04 uCi/Sa		Beta: -1.92E-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 v4.8.69

4/13/2015 11:09:32 AM

Sample Preparation/Analysis

Balance Id:1120482733,,

127642, Washington Closure Hanford LLC ,
Bechtel Hanford, Inc.

DH UNat_Laser Prp KPA001
SS Total Uranium by KPA
5I CLIENT: HANFORD

Pipet #: _____

AnalyDueDate: 05/15/2015

Sep1 DT/Tm Tech:

Batch: 5092048 WATER ug/L

PM, Quote: RW2, 27023

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 M6H3J-1-AE			27.50g,in	27.50g									
J5D020408-11-SAMP													
04/01/2015 10:03			AmtRec: 1XLP;1X500MLP;1X250MLP		#Containers: 3				Scr:	Alpha: -1.87E-05 uCi/Sa		Beta: 1.49E-04 uCi/Sa	
9 M6H3L-1-AE			27.10g,in	27.10g									
J5D020408-13-SAMP													
04/01/2015 09:12			AmtRec: 1XLP;1X500MLP;1X250MLP		#Containers: 3				Scr:	Alpha: -2.22E-04 uCi/Sa		Beta: 1.92E-04 uCi/Sa	
10 M6H54-1-AA-B			28.60g,in	28.60g									
J5D020000-48-BLK													
04/13/2015 10:59 pd			AmtRec:		#Containers: 1				Scr:	Alpha:		Beta:	
11 M6H54-1-AC-C			28.40g,in	28.40g	UNSM0443								
J5D020000-48-LCS					04/06/15,pd 02/01/86,r								
04/13/2015 10:59 pd			AmtRec:		#Containers: 1				Scr:	Alpha:		Beta:	
12 M6H54-1-AD-C			27.10g,in	27.10g	UNSL0212								
J5D020000-48-LCS					03/25/15,pd 02/01/86,r								
04/13/2015 10:59 pd			AmtRec:		#Containers: 1				Scr:	Alpha:		Beta:	

4/13/2015 11:09:33 AM

Sample Preparation/Analysis

DH UNat_Laser Prp KPA001
SS Total Uranium by KPA
5I CLIENT: HANFORD

Balance Id:1120482733,,
Pipet #:
Sep1 DT/Tm Tech:
Sep2 DT/Tm Tech:
Prep Tech: WattN

AnalyDueDate: 05/15/2015

Batch: 5092048 ug/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: M6H54-BLK CommentsS-15-00005

```
All Clients for Batch:
   127642, Washington Closure Hanford LLC          Bechtel Hanford, Inc.        ,  RW2, 27023

M6H241AE-SAMP Constituent List:
  Uranium      RDL:1.00E+00    ug/L      LCL:        UCL:        RPD:
M6H291AG-MS:

M6H541AA-BLK:
  Uranium      RDL:1.00E+00    ug/L      LCL:        UCL:        RPD:
M6H541AC-LCS:
  Uranium      RDL:0.144343    ug/L      LCL:70      UCL:130     RPD:20
M6H541AD-LCS:
  Uranium      RDL:0.144343    ug/L      LCL:70      UCL:130     RPD:20

M6H241AE-SAMP Calc Info:
     Uncert Level (#s).: 2     Decay to SaDt: Y     Blk Subt.: N     Sci.Not.: Y     ODRs: B
M6H291AG-MS:
     Uncert Level (#s).: 2     Decay to SaDt: Y     Blk Subt.: N     Sci.Not.: Y     ODRs: B
M6H541AA-BLK:
     Uncert Level (#s).: 2     Decay to SaDt: Y     Blk Subt.: N     Sci.Not.: Y     ODRs: B
M6H541AC-LCS:
     Uncert Level (#s).: 2     Decay to SaDt: Y     Blk Subt.: N     Sci.Not.: Y     ODRs: B
M6H541AD-LCS:
     Uncert Level (#s).: 2     Decay to SaDt: Y     Blk Subt.: N     Sci.Not.: Y     ODRs: B
```

4/28/2015 1:07:46 PM

ICOC Fraction Transfer/Status Report

ByDate: 4/28/2014, 5/3/2015, Batch: '5092048', User: *ALL Order By DateTimeAccepting

Q Batch	Work Ord	CurStatus	Accepting			SOPs,Reagents,Comments
5092048						
AC		**Rev1C**	**WattN**	4/13/2015 10:53:28		
SC			campbellsc	IsBatched	4/6/2015 12:12:14 PM	ICOC_RADCALC v4.9.0
SC			WattN	InPrep	4/13/2015 10:53:28 AM	rl-prp-004 revision 4
SC			WattN	Prep1C	4/13/2015 11:00:12 AM	RL-KPA-001 REVISION 5
SC			CarneyA	InSep1	4/13/2015 12:49:12 PM	RL-KPA-001 REVISION 4
SC			CarneyA	Sep1C	4/15/2015 3:47:07 PM	RL-KPA-001 REVISION 4
SC			BouslaughP	Cnt1C	4/28/2015 11:35:22 AM	RL-KPA-003 REVISION 5
SC			antonsonl	Rev1C	4/28/2015 1:06:09 PM	RL-DR-001 Rev 7
AC			**WattN**	4/13/2015 11:00:12		
AC			**CarneyA**	4/13/2015 12:49:12		
AC			**CarneyA**	4/15/2015 3:47:07 PM		
AC			**BouslaughP**	4/28/2015 11:35:22		
AC			**antonsonl**	4/28/2015 1:06:09 PM		

AC: Accepting Entry, SC: Status Change

TestAmerica Richland

Richland Wa.

Page 1

Grp Rec Cnt:6

ICOCFractions

4/13/2015 11:08:54 AM

Sample Preparation/Analysis

Balance Id:1120482733,,

127642, Washington Closure Hanford LLC ,
Bechtel Hanford, Inc.

DH UNat_Laser Prp KPA001
SS Total Uranium by KPA
5I CLIENT: HANFORD

Pipet #: _____

AnalyDueDate: 05/15/2015

Sep1 DT/Tm Tech:

Batch: 5092044 **WATER** **ug/L** **PM, Quote: RW2, 27023**

Sep2 DT/Tm Tech:

SEQ Batch, Test: None All Tests: AMS5, 5092044 DHSS, 5092045 BCS8, 5092046 AZS7, 5092047 FPS5, 5092048 DHSS,

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 M6H28-1-AA			25.90g,in	25.90g									
J5D020408-2-SAMP													
04/01/2015 10:03			AmtRec: 2X250MLP		#Containers: 2				Scr:	Alpha: 2.18E-05 uCi/Sa		Beta: -2.67E-05 uCi/Sa	
2 M6H28-1-AC-X			26.80g,in	26.80g									
J5D020408-2-DUP													
04/01/2015 10:03			AmtRec: 2X250MLP		#Containers: 2				Scr:	Alpha: 2.18E-05 uCi/Sa		Beta: -2.67E-05 uCi/Sa	
3 M6H3A-1-AA			30.90g,in	30.90g									
J5D020408-4-SAMP													
04/01/2015 10:27			AmtRec: 1X250MLP		#Containers: 1				Scr:	Alpha: -2.27E-05 uCi/Sa		Beta: -5.05E-12 uCi/Sa	
4 M6H3A-1-AC-S			28.10g,in	28.10g	UNSM0444								
J5D020408-4-MS					04/06/15,pd 02/01/86,r								
04/01/2015 10:27			AmtRec: 1X250MLP		#Containers: 1				Scr:	Alpha: -2.27E-05 uCi/Sa		Beta: -5.05E-12 uCi/Sa	
5 M6H3D-1-AA			25.20g,in	25.20g									
J5D020408-6-SAMP													
04/01/2015 09:36			AmtRec: 1X250MLP		#Containers: 1				Scr:	Alpha: 7.66E-06 uCi/Sa		Beta: -1.87E-05 uCi/Sa	
6 M6H3F-1-AA			29.00g,in	29.00g									
J5D020408-8-SAMP													
04/01/2015 10:45			AmtRec: 1X250MLP		#Containers: 1				Scr:	Alpha: 3.00E-05 uCi/Sa		Beta: -2.66E-06 uCi/Sa	
7 M6H3H-1-AA			27.30g,in	27.30g									
J5D020408-10-SAMP													
04/01/2015 08:47			AmtRec: 1X250MLP		#Containers: 1				Scr:	Alpha: -3.51E-05 uCi/Sa		Beta: 2.67E-05 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 v4.8.69

4/13/2015 11:08:56 AM

Sample Preparation/Analysis

Balance Id:1120482733,,

127642, Washington Closure Hanford LLC ,
Bechtel Hanford, Inc.

DH UNat_Laser Prp KPA001
SS Total Uranium by KPA
5I CLIENT: HANFORD

Pipet #: _____

AnalyDueDate: 05/15/2015

Sep1 DT/Tm Tech:

Batch: 5092044 WATER ug/L

PM, Quote: RW2, 27023

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 M6H3K-1-AA			28.00g,in	28.00g									
J5D020408-12-SAMP													
04/01/2015 10:03			AmtRec: 1X250MLP		#Containers: 1				Scr:	Alpha: -1.67E-05 uCi/Sa		Beta: 2.67E-06 uCi/Sa	
9 M6H3M-1-AA			30.50g,in	30.50g									
J5D020408-14-SAMP													
04/01/2015 09:12			AmtRec: 1X250MLP		#Containers: 1				Scr:	Alpha: -1.71E-05 uCi/Sa		Beta: -1.07E-05 uCi/Sa	
10 M6H50-1-AA-B			26.80g,in	26.80g									
J5D020000-44-BLK													
04/13/2015 11:07 pd			AmtRec:		#Containers: 1				Scr:	Alpha:		Beta:	
11 M6H50-1-AC-C			26.80g,in	26.80g	UNSM0445								
J5D020000-44-LCS					04/06/15,pd 02/01/86,r								
04/13/2015 11:08 pd			AmtRec:		#Containers: 1				Scr:	Alpha:		Beta:	
12 M6H50-1-AD-C			30.60g,in	30.60g	UNSL0213								
J5D020000-44-LCS					03/25/15,pd 02/01/86,r								
04/13/2015 11:08 pd			AmtRec:		#Containers: 1				Scr:	Alpha:		Beta:	

4/13/2015 11:08:57 AM

Sample Preparation/Analysis

DH UNat_Laser Prp KPA001
SS Total Uranium by KPA
5I CLIENT: HANFORD

Balance Id:1120482733,,

Pipet #: _____

AnalyDueDate: 05/15/2015

Sep1 DT/Tm Tech:

Batch: 5092044 ug/L

SEQ Batch, Test: None

Sep2 DT/Tm Tech:

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:

Comments: M6H50-BLK CommentsS-15-00005

```
All Clients for Batch:
   127642, Washington Closure Hanford LLC          Bechtel Hanford, Inc.        ,  RW2, 27023

M6H281AA-SAMP Constituent List:
  Uranium     RDL:1.00E+00    ug/L     LCL:        UCL:        RPD:
M6H3A1AC-MS:

M6H501AA-BLK:
  Uranium     RDL:1.00E+00    ug/L     LCL:        UCL:        RPD:
M6H501AC-LCS:
  Uranium     RDL:0.144343    ug/L     LCL:70      UCL:130     RPD:20
M6H501AD-LCS:
  Uranium     RDL:0.144343    ug/L     LCL:70      UCL:130     RPD:20

M6H281AA-SAMP Calc Info:
     Uncert Level (#s).: 2     Decay to SaDt: Y     Blk Subt.: N     Sci.Not.: Y     ODRs: B
M6H3A1AC-MS:
     Uncert Level (#s).: 2     Decay to SaDt: Y     Blk Subt.: N     Sci.Not.: Y     ODRs: B
M6H501AA-BLK:
     Uncert Level (#s).: 2     Decay to SaDt: Y     Blk Subt.: N     Sci.Not.: Y     ODRs: B
M6H501AC-LCS:
     Uncert Level (#s).: 2     Decay to SaDt: Y     Blk Subt.: N     Sci.Not.: Y     ODRs: B
M6H501AD-LCS:
     Uncert Level (#s).: 2     Decay to SaDt: Y     Blk Subt.: N     Sci.Not.: Y     ODRs: B
```

4/28/2015 1:57:54 PM

ICOC Fraction Transfer/Status Report

ByDate: 4/28/2014, 5/3/2015, Batch: '5092044', User: *ALL Order By DateTimeAccepting

Q Batch	Work Ord	CurStatus	Accepting			SOPs,Reagents,Comments
5092044						
AC		**Rev1C**	**WattN**	4/13/2015 11:01:54		
SC			campbellsc	IsBatched	4/6/2015 12:12:01 PM	ICOC_RADCALC v4.9.0
SC			WattN	InPrep	4/13/2015 11:01:54 AM	RL-KPA-001 REVISION 5
SC			WattN	Prep1C	4/13/2015 11:09:13 AM	RL-KPA-001 REVISION 5
SC			CarneyA	InSep1	4/13/2015 12:49:28 PM	RL-KPA-001 REVISION 4
SC			CarneyA	Sep1C	4/14/2015 2:42:25 PM	RL-KPA-001 REVISION 4
SC			BouslaughP	Cnt1C	4/28/2015 12:55:27 PM	RL-KPA-003 REVISION 5
SC			antonsonl	Rev1C	4/28/2015 1:57:40 PM	RL-DR-001 Rev 7
AC			**WattN**	4/13/2015 11:09:13		
AC			**CarneyA**	4/13/2015 12:49:28		
AC			**CarneyA**	4/14/2015 2:42:25 PM		
AC			**BouslaughP**	4/28/2015 12:55:27		
AC			**antonsonl**	4/28/2015 1:57:40 PM		

AC: Accepting Entry; SC: Status Change

TestAmerica Richland

Richland Wa.

Page 1

Grp Rec Cnt:6

ICOCFractions

ANALYTICAL REPORT

Job Number: 280-67273-1

SDG Number: J02178

Job Description: SAF# RC-011

For:
Washington Closure Hanford
2620 Fermi Avenue
Richland, WA 99354

Attention: Joan H Kessner

Approved for release.
Kae E Yoder
Senior Project Manager
4/22/2015 12:19 PM

Kae E Yoder, Senior Project Manager
4955 Yarrow Street, Arvada, CO, 80002
(303)736-0190
kae.yoder@testamericainc.com
04/22/2015

The test results in this report relate only to the samples in this report and meet all requirements of NELAC, with any exceptions noted. Pursuant to NELAP, this report shall not be reproduced except in full, without the written approval of the laboratory. All questions regarding this report should be directed to the TestAmerica Denver Project Manager.

The Lab Certification ID# is 4025.

Reporting limits are adjusted for sample size used, dilutions and moisture content if applicable.

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CASE NARRATIVE

Client: Washington Closure Hanford

Project: WASHINGTON CLOSURE HANFORD

Report Number: 280-67273-1

SDG #: J02178
SAF#: RC-011

Date SDG Closed: April 2, 2015
Data Deliverable: 45 Day / Summary

CLIENT ID	LAB ID	ANALYSES REQUESTED	ANALYSES PERFORMED
J1V5J2	280-67273-1	6010/300.0/353.2/5310B/9040/9050/ 2540C/2540D	6010B/300.0/353.2/5310B/9040B/9050A/ 2540C/2540D
J1V5J3	280-67273-2	6010/300.0/353.2/5310B/9040/9050/ 2540C/2540D	6010B/300.0/353.2/5310B/9040B/9050A/ 2540C/2540D
J1V5J4	280-67273-3	6010/300.0/353.2/5310B/9040/9050/ 2540C/2540D	6010B/300.0/353.2/5310B/9040B/9050A/ 2540C/2540D
J1V5J5	280-67273-4	6010/300.0/353.2/5310B/9040/9050/ 2540C/2540D	6010B/300.0/353.2/5310B/9040B/9050A/ 2540C/2540D
J1V5J6	280-67273-5	6010/300.0/353.2/5310B/9040/9050/ 2540C/2540D	6010B/300.0/353.2/5310B/9040B/9050A/ 2540C/2540D
J1V5J7	280-67273-6	6010/300.0/353.2/5310B/9040/9050/ 2540C/2540D	6010B/300.0/353.2/5310B/9040B/9050A/ 2540C/2540D
J1V5J8	280-67273-7	6010/300.0/353.2/5310B/9040/9050/ 2540C/2540D	6010B/300.0/353.2/5310B/9040B/9050A/ 2540C/2540D

I certify that this data package is in compliance with the SOW, both technically and for completeness, for other than the conditions detailed in this Case Narrative. 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 signature on the Report Cover.

With exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. All laboratory quality control samples analyzed in conjunction with the samples in this project were within established control limits, with any exceptions noted. Calculations are performed before rounding to avoid round-off errors in calculated results.

This report includes reporting limits (RLs) less than TestAmerica Denver's practical quantitation limits. These reporting limits are being used specifically at the client's request to meet the needs of this project. Please note that data are not normally reported to these levels without qualification, since they are inherently less reliable and potentially less defensible than required by the current NELAC standards.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

RECEIPT
The samples were received on 4/2/2015 9:45 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 2 coolers at receipt time were 2.2º C and 3.8º C.

TOTAL METALS - SW846 6010B
It can be noted that the sample amount was greater than four times the spike amount for Calcium in the Matrix Spike performed on sample J1V5J2; therefore, control limits are not applicable.

No other anomalies were encountered.

GENERAL CHEMISTRY - MCAWW 300.0 - ANIONS
Each sample is analyzed to achieve the lowest possible reporting limits within the constraints of the method. Due to high constituent concentration, samples required dilutions prior to the analysis of Nitrate as N and Sulfate, and the associated results have been flagged with a "D". The reporting limits have been adjusted relative to the dilutions required.

Low levels of Chloride are present in the method blank associated with batch 280-270888. Because the concentration in the method blank is not present at a level greater than half the reporting limit, corrective action is deemed unnecessary.

The Sulfate Matrix Spike performed on sample J1V5J2 in batch 280-270888 exhibited the percent recovery outside the control limits, and the associated sample result has been flagged “N”. It can be noted that the Matrix Spike concentration was present above the instrument calibration range. There is no indication that the analytical system was operating out of control, and method accuracy has been verified by the acceptable LCS analysis data; therefore, corrective action is deemed unnecessary.

The Sulfate Matrix Spike performed on sample J1V5J4 in batch 280-270554 exhibited the percent recovery outside the control limits, and the associated sample result has been flagged “N”. There is no indication that the analytical system was operating out of control, and method accuracy has been verified by the acceptable LCS analysis data; therefore, corrective action is deemed unnecessary.

No other anomalies were encountered.

GENERAL CHEMISTRY - MCAWW 353.2 - NITRATE NITRITE as N

Each sample is analyzed to achieve the lowest possible reporting limit within the constraints of the method. Due to high constituent concentration, the samples presented in this report had to be analyzed at dilutions, and the associated results have been flagged with a “D”. The reporting limits have been adjusted relative to the dilutions required.

No other anomalies were encountered.

GENERAL CHEMISTRY - SM 2540C - TOTAL DISSOLVED SOLIDS

In some cases, samples exhibited elevated detection limits due to the limited sample volume used. The nominal sample amount could not be used due to high constituent concentration.

No other anomalies were encountered.

GENERAL CHEMISTRY - SM 2540D - TOTAL SUSPENDED SOLIDS

Samples J1V5J2, J1V5J4 and J1V5J6 exhibited elevated detection limits due to the limited sample volume used. The nominal sample amount could not be used due to the nature of the sample matrix.

No other anomalies were encountered.

GENERAL CHEMISTRY - SM 5310B - TOTAL ORGANIC CARBON

No anomalies were encountered.

GENERAL CHEMISTRY - SW846 9040B - PH

SU = standard units

No anomalies were encountered.

GENERAL CHEMISTRY - SW846 9050A - SPECIFIC CONDUCTANCE

No anomalies were encountered.

DATA REPORTING QUALIFIERS

Client: Washington Closure Hanford

Job Number: 280-67273-1
Sdg Number: J02178

Lab Section	Qualifier	Description
Metals		
	U	Analyzed for but not detected.
	4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.
General Chemistry		
	U	Analyzed for but not detected.
	B	Estimated result. Result is less than the RL, but greater than MDL
	N	MS, MSD: Spike recovery is outside acceptance limits.
	>	Result greater than quantifiable range or greater than upper limit of the analysis range.
	D	Sample results are obtained from a dilution; the surrogate or matrix spike recoveries reported are calculated from diluted samples.

SAMPLE SUMMARY

Client: Washington Closure Hanford

Job Number: 280-67273-1
Sdg Number: J02178

Lab Sample ID	Client Sample ID	Client Matrix	Date/Time Sampled	Date/Time Received
280-67273-1	J1V5J2	Water	04/01/2015 1003	04/02/2015 0945
280-67273-1MS	J1V5J2	Water	04/01/2015 1003	04/02/2015 0945
280-67273-2	J1V5J3	Water	04/01/2015 1027	04/02/2015 0945
280-67273-3	J1V5J4	Water	04/01/2015 0936	04/02/2015 0945
280-67273-4	J1V5J5	Water	04/01/2015 1045	04/02/2015 0945
280-67273-5	J1V5J6	Water	04/01/2015 0912	04/02/2015 0945
280-67273-6	J1V5J7	Water	04/01/2015 0847	04/02/2015 0945
280-67273-7	J1V5J8	Water	04/01/2015 1003	04/02/2015 0945

METHOD SUMMARY

Client: Washington Closure Hanford

Job Number: 280-67273-1
Sdg Number: J02178

Description	Lab Location	Method	Preparation Method
Matrix: Water			
Metals (ICP)	TAL DEN	SW846 6010B	
Preparation, Total Metals	TAL DEN		SW846 3010A
Anions, Ion Chromatography	TAL DEN	MCAWW 300.0	
Nitrogen, Nitrate-Nitrite	TAL DEN	MCAWW 353.2	
pH	TAL DEN	SW846 9040B	
Specific Conductance	TAL DEN	SW846 9050A	
Solids, Total Dissolved (TDS)	TAL DEN	SM SM 2540C	
Solids, Total Suspended (TSS)	TAL DEN	SM SM 2540D	
Organic Carbon, Total (TOC)	TAL DEN	SM SM 5310B	

Lab References:

TAL DEN = TestAmerica Denver

Method References:

MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.

SM = "Standard Methods For The Examination Of Water And Wastewater"

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

METHOD / ANALYST SUMMARY

Client: Washington Closure Hanford

Job Number: 280-67273-1
Sdg Number: J02178

Method	Analyst	Analyst ID
SW846 6010B	Scott, Samantha J	SJS
MCAWW 300.0	Phan, Thu L	TLP
MCAWW 353.2	Janssen, Elizabeth L	ELJ
SW846 9040B	Simons, Nicole A	NAS
SW846 9050A	Bland, Morgan R	MRB
SM SM 2540C	Cherry, Scott V	SVC
SM SM 2540D	Woolley, Mark -	MW1
SM SM 5310B	Jewell, Connie C	CCJ

SAMPLE RESULTS

Client: Washington Closure Hanford

Job Number: 280-67273-1
Sdg Number: J02178

Client Sample ID: **J1V5J2**

Lab Sample ID: 280-67273-1
Client Matrix: Water

Date Sampled: 04/01/2015 1003
Date Received: 04/02/2015 0945

6010B Metals (ICP)

Analysis Method:	6010B	Analysis Batch:	280-271424	Instrument ID:	MT_026
Prep Method:	3010A	Prep Batch:	280-270981	Lab File ID:	26a040615.asc
Dilution:	1.0			Initial Weight/Volume:	50 mL
Analysis Date:	04/06/2015 1501			Final Weight/Volume:	50 mL
Prep Date:	04/03/2015 1445				

Analyte	Result (mg/L)	Qualifier	MDL	RL
Calcium	615		0.035	0.20
Magnesium	99.5		0.011	0.20
Potassium	30.9		0.24	3.0
Sodium	182		0.092	0.50

Client: Washington Closure Hanford

Job Number: 280-67273-1
Sdg Number: J02178

Client Sample ID: **J1V5J3**

Lab Sample ID: 280-67273-2
Client Matrix: Water

Date Sampled: 04/01/2015 1027
Date Received: 04/02/2015 0945

6010B Metals (ICP)

Analysis Method:	6010B	Analysis Batch:	280-271424	Instrument ID:	MT_026
Prep Method:	3010A	Prep Batch:	280-270981	Lab File ID:	26a040615.asc
Dilution:	1.0			Initial Weight/Volume:	50 mL
Analysis Date:	04/06/2015 1513			Final Weight/Volume:	50 mL
Prep Date:	04/03/2015 1445				

Analyte	Result (mg/L)	Qualifier	MDL	RL
Calcium	375		0.035	0.20
Magnesium	0.81		0.011	0.20
Potassium	26.4		0.24	3.0
Sodium	173		0.092	0.50

Client: Washington Closure Hanford

Job Number: 280-67273-1
Sdg Number: J02178

Client Sample ID: **J1V5J4**

Lab Sample ID: 280-67273-3
Client Matrix: Water

Date Sampled: 04/01/2015 0936
Date Received: 04/02/2015 0945

6010B Metals (ICP)

Analysis Method:	6010B	Analysis Batch:	280-271424	Instrument ID:	MT_026
Prep Method:	3010A	Prep Batch:	280-270981	Lab File ID:	26a040615.asc
Dilution:	1.0			Initial Weight/Volume:	50 mL
Analysis Date:	04/06/2015 1526			Final Weight/Volume:	50 mL
Prep Date:	04/03/2015 1445				

Analyte	Result (mg/L)	Qualifier	MDL	RL
Calcium	513		0.035	0.20
Magnesium	118		0.011	0.20
Potassium	36.4		0.24	3.0
Sodium	232		0.092	0.50

Client: Washington Closure Hanford

Job Number: 280-67273-1
Sdg Number: J02178

Client Sample ID: **J1V5J5**

Lab Sample ID: 280-67273-4
Client Matrix: Water

Date Sampled: 04/01/2015 1045
Date Received: 04/02/2015 0945

6010B Metals (ICP)

Analysis Method:	6010B	Analysis Batch:	280-271424	Instrument ID:	MT_026
Prep Method:	3010A	Prep Batch:	280-270981	Lab File ID:	26a040615.asc
Dilution:	1.0			Initial Weight/Volume:	50 mL
Analysis Date:	04/06/2015 1529			Final Weight/Volume:	50 mL
Prep Date:	04/03/2015 1445				

Analyte	Result (mg/L)	Qualifier	MDL	RL
Calcium	654		0.035	0.20
Magnesium	147		0.011	0.20
Potassium	29.8		0.24	3.0
Sodium	184		0.092	0.50

Client: Washington Closure Hanford

Job Number: 280-67273-1
Sdg Number: J02178

Client Sample ID: **J1V5J6**

Lab Sample ID: 280-67273-5
Client Matrix: Water

Date Sampled: 04/01/2015 0912
Date Received: 04/02/2015 0945

6010B Metals (ICP)

Analysis Method:	6010B	Analysis Batch:	280-271424	Instrument ID:	MT_026
Prep Method:	3010A	Prep Batch:	280-270981	Lab File ID:	26a040615.asc
Dilution:	1.0			Initial Weight/Volume:	50 mL
Analysis Date:	04/06/2015 1532			Final Weight/Volume:	50 mL
Prep Date:	04/03/2015 1445				

Analyte	Result (mg/L)	Qualifier	MDL	RL
Calcium	544		0.035	0.20
Magnesium	44.1		0.011	0.20
Potassium	21.6		0.24	3.0
Sodium	122		0.092	0.50

Client: Washington Closure Hanford

Job Number: 280-67273-1
Sdg Number: J02178

Client Sample ID: **J1V5J7**

Lab Sample ID: 280-67273-6
Client Matrix: Water

Date Sampled: 04/01/2015 0847
Date Received: 04/02/2015 0945

6010B Metals (ICP)

Analysis Method:	6010B	Analysis Batch:	280-271424	Instrument ID:	MT_026
Prep Method:	3010A	Prep Batch:	280-270981	Lab File ID:	26a040615.asc
Dilution:	1.0			Initial Weight/Volume:	50 mL
Analysis Date:	04/06/2015 1535			Final Weight/Volume:	50 mL
Prep Date:	04/03/2015 1445				

Analyte	Result (mg/L)	Qualifier	MDL	RL
Calcium	304		0.035	0.20
Magnesium	0.89		0.011	0.20
Potassium	17.9		0.24	3.0
Sodium	148		0.092	0.50

Client: Washington Closure Hanford

Job Number: 280-67273-1
Sdg Number: J02178

Client Sample ID: **J1V5J8**

Lab Sample ID: 280-67273-7
Client Matrix: Water

Date Sampled: 04/01/2015 1003
Date Received: 04/02/2015 0945

6010B Metals (ICP)

Analysis Method:	6010B	Analysis Batch:	280-271424	Instrument ID:	MT_026
Prep Method:	3010A	Prep Batch:	280-270981	Lab File ID:	26a040615.asc
Dilution:	1.0			Initial Weight/Volume:	50 mL
Analysis Date:	04/06/2015 1538			Final Weight/Volume:	50 mL
Prep Date:	04/03/2015 1445				

Analyte	Result (mg/L)	Qualifier	MDL	RL
Calcium	589		0.035	0.20
Magnesium	95.6		0.011	0.20
Potassium	29.6		0.24	3.0
Sodium	178		0.092	0.50

General Chemistry

Client Sample ID: **J1V5J2**

Lab Sample ID: 280-67273-1
Client Matrix: Water

Date Sampled: 04/01/2015 1003
Date Received: 04/02/2015 0945

Analyte	Result	Qual	Units	MDL	RL	Dil	Method
Chloride	93.1		mg/L	0.25	3.0	1.0	300.0
Analysis Batch: 280-270888	Analysis Date: 04/03/2015 0239						
Nitrate as N	48.6	D	mg/L	0.42	2.5	10	300.0
Analysis Batch: 280-270887	Analysis Date: 04/03/2015 0942						
Sulfate	1970	D N	mg/L	2.3	50.0	10	300.0
Analysis Batch: 280-270888	Analysis Date: 04/03/2015 0942						
Nitrate Nitrite as N	51.3	D	mg/L	0.38	1.5	20	353.2
Analysis Batch: 280-271420	Analysis Date: 04/06/2015 1634						
Total Dissolved Solids	3270		mg/L	9.4	20.0	1.0	SM 2540C
Analysis Batch: 280-271330	Analysis Date: 04/06/2015 1438						
Total Suspended Solids	138		mg/L	1.8	6.7	1.0	SM 2540D
Analysis Batch: 280-271519	Analysis Date: 04/07/2015 1555						
Total Organic Carbon - Quad	8.7		mg/L	0.16	1.0	1.0	SM 5310B
Analysis Batch: 280-271885	Analysis Date: 04/09/2015 0711						

Analyte	Result	Qual	Units	RL	RL	Dil	Method
pH	7.74		SU	0.100	0.100	1.0	9040B
Analysis Batch: 280-270963	Analysis Date: 04/02/2015 2019						
Specific Conductance	2260		umho/cm	1.00	1.00	1.0	9050A
Analysis Batch: 280-270954	Analysis Date: 04/02/2015 1846						

General Chemistry

Client Sample ID: **J1V5J3**

Lab Sample ID: 280-67273-2
Client Matrix: Water

Date Sampled: 04/01/2015 1027
Date Received: 04/02/2015 0945

Analyte	Result	Qual	Units	MDL	RL	Dil	Method
Chloride	112		mg/L	0.25	3.0	1.0	300.0
Analysis Batch: 280-270888	Analysis Date: 04/03/2015 0339						
Nitrate as N	52.5	D	mg/L	0.42	2.5	10	300.0
Analysis Batch: 280-270887	Analysis Date: 04/03/2015 1042						
Sulfate	949	D	mg/L	2.3	50.0	10	300.0
Analysis Batch: 280-270888	Analysis Date: 04/03/2015 1042						
Nitrate Nitrite as N	58.2	D	mg/L	0.95	3.8	50	353.2
Analysis Batch: 280-271420	Analysis Date: 04/06/2015 1414						
Total Dissolved Solids	1990		mg/L	9.4	20.0	1.0	SM 2540C
Analysis Batch: 280-271330	Analysis Date: 04/06/2015 1438						
Total Suspended Solids	49.6		mg/L	1.1	4.0	1.0	SM 2540D
Analysis Batch: 280-271519	Analysis Date: 04/07/2015 1555						
Total Organic Carbon - Quad	12.0		mg/L	0.16	1.0	1.0	SM 5310B
Analysis Batch: 280-271885	Analysis Date: 04/09/2015 0801						

Analyte	Result	Qual	Units	RL	RL	Dil	Method
pH	9.10		SU	0.100	0.100	1.0	9040B
Analysis Batch: 280-270963	Analysis Date: 04/02/2015 2019						
Specific Conductance	1060		umho/cm	1.00	1.00	1.0	9050A
Analysis Batch: 280-270954	Analysis Date: 04/02/2015 1846						

General Chemistry

Client Sample ID: **J1V5J4**

Lab Sample ID: 280-67273-3
Client Matrix: Water

Date Sampled: 04/01/2015 0936
Date Received: 04/02/2015 0945

Analyte	Result	Qual	Units	MDL	RL	Dil	Method
Chloride	116		mg/L	0.25	3.0	1.0	300.0
Analysis Batch: 280-270888	Analysis Date: 04/03/2015 0359						
Nitrate as N	22.5	D	mg/L	0.21	1.3	5.0	300.0
Analysis Batch: 280-270887	Analysis Date: 04/03/2015 0842						
Sulfate	1810	D N	mg/L	2.3	50.0	10	300.0
Analysis Batch: 280-272554	Analysis Date: 04/14/2015 1301						
Nitrate Nitrite as N	24.0	D	mg/L	0.19	0.75	10	353.2
Analysis Batch: 280-271420	Analysis Date: 04/06/2015 1701						
Total Dissolved Solids	2900		mg/L	9.4	20.0	1.0	SM 2540C
Analysis Batch: 280-271330	Analysis Date: 04/06/2015 1438						
Total Suspended Solids	2470		mg/L	18.3	66.7	1.0	SM 2540D
Analysis Batch: 280-271519	Analysis Date: 04/07/2015 1555						
Total Organic Carbon - Quad	9.3		mg/L	0.16	1.0	1.0	SM 5310B
Analysis Batch: 280-271885	Analysis Date: 04/09/2015 0817						

Analyte	Result	Qual	Units	RL	RL	Dil	Method
pH	7.66		SU	0.100	0.100	1.0	9040B
Analysis Batch: 280-270963	Analysis Date: 04/02/2015 2019						
Specific Conductance	1230		umho/cm	1.00	1.00	1.0	9050A
Analysis Batch: 280-270954	Analysis Date: 04/02/2015 1846						

General Chemistry

Client Sample ID: **J1V5J5**

Lab Sample ID: 280-67273-4
Client Matrix: Water

Date Sampled: 04/01/2015 1045
Date Received: 04/02/2015 0945

Analyte	Result	Qual	Units	MDL	RL	Dil	Method
Chloride	182		mg/L	0.25	3.0	1.0	300.0
Analysis Batch: 280-270888	Analysis Date: 04/03/2015 0418						
Nitrate as N	54.3	D	mg/L	0.42	2.5	10	300.0
Analysis Batch: 280-270887	Analysis Date: 04/03/2015 1102						
Sulfate	2140	D	mg/L	4.6	100	20	300.0
Analysis Batch: 280-272554	Analysis Date: 04/14/2015 1400						
Nitrate Nitrite as N	62.2	D	mg/L	0.38	1.5	20	353.2
Analysis Batch: 280-271420	Analysis Date: 04/06/2015 1703						
Total Dissolved Solids	3690		mg/L	9.4	20.0	1.0	SM 2540C
Analysis Batch: 280-271330	Analysis Date: 04/06/2015 1438						
Total Suspended Solids	25.2		mg/L	1.1	4.0	1.0	SM 2540D
Analysis Batch: 280-271519	Analysis Date: 04/07/2015 1555						
Total Organic Carbon - Quad	11.9		mg/L	0.16	1.0	1.0	SM 5310B
Analysis Batch: 280-271885	Analysis Date: 04/09/2015 0836						

Analyte	Result	Qual	Units	RL	RL	Dil	Method
pH	7.57		SU	0.100	0.100	1.0	9040B
Analysis Batch: 280-270963	Analysis Date: 04/02/2015 2019						
Specific Conductance	1270		umho/cm	1.00	1.00	1.0	9050A
Analysis Batch: 280-270954	Analysis Date: 04/02/2015 1846						

General Chemistry

Client Sample ID: **J1V5J6**

Lab Sample ID: 280-67273-5
Client Matrix: Water

Date Sampled: 04/01/2015 0912
Date Received: 04/02/2015 0945

Analyte	Result	Qual	Units	MDL	RL	Dil	Method
Chloride	154		mg/L	0.25	3.0	1.0	300.0
Analysis Batch: 280-270888	Analysis Date: 04/03/2015 0438						
Nitrate as N	62.8	D	mg/L	0.42	2.5	10	300.0
Analysis Batch: 280-270887	Analysis Date: 04/03/2015 0822						
Sulfate	1390	D	mg/L	2.3	50.0	10	300.0
Analysis Batch: 280-270888	Analysis Date: 04/03/2015 0822						
Nitrate Nitrite as N	67.0	D	mg/L	0.95	3.8	50	353.2
Analysis Batch: 280-271420	Analysis Date: 04/06/2015 1420						
Total Dissolved Solids	2650		mg/L	9.4	20.0	1.0	SM 2540C
Analysis Batch: 280-271330	Analysis Date: 04/06/2015 1438						
Total Suspended Solids	299		mg/L	2.8	10.0	1.0	SM 2540D
Analysis Batch: 280-271519	Analysis Date: 04/07/2015 1555						
Total Organic Carbon - Quad	9.4		mg/L	0.16	1.0	1.0	SM 5310B
Analysis Batch: 280-271885	Analysis Date: 04/09/2015 0852						

Analyte	Result	Qual	Units	RL	RL	Dil	Method
pH	7.90		SU	0.100	0.100	1.0	9040B
Analysis Batch: 280-270963	Analysis Date: 04/02/2015 2019						
Specific Conductance	1100		umho/cm	1.00	1.00	1.0	9050A
Analysis Batch: 280-270954	Analysis Date: 04/02/2015 1846						

General Chemistry

Client Sample ID: **J1V5J7**

Lab Sample ID: 280-67273-6
Client Matrix: Water

Date Sampled: 04/01/2015 0847
Date Received: 04/02/2015 0945

Analyte	Result	Qual	Units	MDL	RL	Dil	Method
Chloride	77.2		mg/L	0.25	3.0	1.0	300.0
Analysis Batch: 280-270888	Analysis Date: 04/03/2015 0458						
Nitrate as N	35.2	D	mg/L	0.21	1.3	5.0	300.0
Analysis Batch: 280-270887	Analysis Date: 04/03/2015 0802						
Sulfate	812	D	mg/L	1.2	25.0	5.0	300.0
Analysis Batch: 280-270888	Analysis Date: 04/03/2015 0802						
Nitrate Nitrite as N	38.3	D	mg/L	0.19	0.75	10	353.2
Analysis Batch: 280-271420	Analysis Date: 04/06/2015 1640						
Total Dissolved Solids	1600		mg/L	4.7	10.0	1.0	SM 2540C
Analysis Batch: 280-271330	Analysis Date: 04/06/2015 1438						
Total Suspended Solids	8.0		mg/L	1.1	4.0	1.0	SM 2540D
Analysis Batch: 280-271519	Analysis Date: 04/07/2015 1555						
Total Organic Carbon - Quad	10.4		mg/L	0.16	1.0	1.0	SM 5310B
Analysis Batch: 280-271885	Analysis Date: 04/09/2015 0909						

Analyte	Result	Qual	Units	RL	RL	Dil	Method
pH	8.58		SU	0.100	0.100	1.0	9040B
Analysis Batch: 280-270963	Analysis Date: 04/02/2015 2019						
Specific Conductance	918		umho/cm	1.00	1.00	1.0	9050A
Analysis Batch: 280-270954	Analysis Date: 04/02/2015 1846						

Client: Washington Closure Hanford

Job Number: 280-67273-1
Sdg Number: J02178

General Chemistry

Client Sample ID: **J1V5J8**

Lab Sample ID: 280-67273-7
Client Matrix: Water

Date Sampled: 04/01/2015 1003
Date Received: 04/02/2015 0945

Analyte	Result	Qual	Units	MDL	RL	Dil	Method
Chloride	92.7		mg/L	0.25	3.0	1.0	300.0
Analysis Batch: 280-270888	Analysis Date: 04/03/2015 0558						
Nitrate as N	48.1	D	mg/L	0.42	2.5	10	300.0
Analysis Batch: 280-270887	Analysis Date: 04/03/2015 0902						
Sulfate	1960	D	mg/L	2.3	50.0	10	300.0
Analysis Batch: 280-270888	Analysis Date: 04/03/2015 0902						
Nitrate Nitrite as N	52.9	D	mg/L	0.95	3.8	50	353.2
Analysis Batch: 280-271420	Analysis Date: 04/06/2015 1424						
Total Dissolved Solids	3290		mg/L	9.4	20.0	1.0	SM 2540C
Analysis Batch: 280-271330	Analysis Date: 04/06/2015 1438						
Total Suspended Solids	126		mg/L	1.1	4.0	1.0	SM 2540D
Analysis Batch: 280-271519	Analysis Date: 04/07/2015 1555						
Total Organic Carbon - Quad	8.7		mg/L	0.16	1.0	1.0	SM 5310B
Analysis Batch: 280-271885	Analysis Date: 04/09/2015 1002						

Analyte	Result	Qual	Units	RL	RL	Dil	Method
pH	7.84		SU	0.100	0.100	1.0	9040B
Analysis Batch: 280-270963	Analysis Date: 04/02/2015 2019						
Specific Conductance	1190		umho/cm	1.00	1.00	1.0	9050A
Analysis Batch: 280-270954	Analysis Date: 04/02/2015 1846						

QUALITY CONTROL RESULTS

Client: Washington Closure Hanford

Job Number: 280-67273-1
Sdg Number: J02178

Method Blank - Batch: 280-270981

Method: 6010B
Preparation: 3010A

Lab Sample ID:	MB 280-270981/1-A	Analysis Batch:	280-271424	Instrument ID:	MT_026
Client Matrix:	Water	Prep Batch:	280-270981	Lab File ID:	26a040615.asc
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	50 mL
Analysis Date:	04/06/2015 1456	Units:	mg/L	Final Weight/Volume:	50 mL
Prep Date:	04/03/2015 1445				
Leach Date:	N/A				

Analyte	Result	Qual	MDL	RL
Calcium	0.035	U	0.035	0.20
Magnesium	0.011	U	0.011	0.20
Potassium	0.24	U	0.24	3.0
Sodium	0.092	U	0.092	0.50

Lab Control Sample - Batch: 280-270981

Method: 6010B
Preparation: 3010A

Lab Sample ID:	LCS 280-270981/2-A	Analysis Batch:	280-271424	Instrument ID:	MT_026
Client Matrix:	Water	Prep Batch:	280-270981	Lab File ID:	26a040615.asc
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	50 mL
Analysis Date:	04/06/2015 1459	Units:	mg/L	Final Weight/Volume:	50 mL
Prep Date:	04/03/2015 1445				
Leach Date:	N/A				

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Calcium	50.0	51.34	103	90 - 111	
Magnesium	50.0	48.60	97	90 - 113	
Potassium	50.0	55.67	111	89 - 114	
Sodium	50.0	54.10	108	90 - 115	

Matrix Spike - Batch: 280-270981

Method: 6010B
Preparation: 3010A

Lab Sample ID:	280-67273-1	Analysis Batch:	280-271424	Instrument ID:	MT_026
Client Matrix:	Water	Prep Batch:	280-270981	Lab File ID:	26a040615.asc
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	50 mL
Analysis Date:	04/06/2015 1510	Units:	mg/L	Final Weight/Volume:	50 mL
Prep Date:	04/03/2015 1445				
Leach Date:	N/A				

Analyte	Sample Result/Qual	Spike Amount	Result	% Rec.	Limit	Qual
Calcium	615	50.0	657.6	86	48 - 153	4
Magnesium	99.5	50.0	144.5	90	62 - 146	
Potassium	30.9	50.0	87.31	113	76 - 132	
Sodium	182	50.0	237.4	111	70 - 203	

Client: Washington Closure Hanford

Job Number: 280-67273-1
Sdg Number: J02178

Duplicate - Batch: 280-270981

Method: 6010B
Preparation: 3010A

Lab Sample ID:	280-67273-1	Analysis Batch:	280-271424	Instrument ID:	MT_026
Client Matrix:	Water	Prep Batch:	280-270981	Lab File ID:	26a040615.asc
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	50 mL
Analysis Date:	04/06/2015 1507	Units:	mg/L	Final Weight/Volume:	50 mL
Prep Date:	04/03/2015 1445				
Leach Date:	N/A				

Analyte	Sample Result/Qual	Result	RPD	Limit	Qual
Calcium	615	585.3	5	25	
Magnesium	99.5	95.44	4	25	
Potassium	30.9	29.56	4	25	
Sodium	182	177.2	3	40	

Client: Washington Closure Hanford

Job Number: 280-67273-1
Sdg Number: J02178

Method Blank - Batch: 280-270887

Method: 300.0
Preparation: N/A

Lab Sample ID:	MB 280-270887/37	Analysis Batch:	280-270887	Instrument ID:	WC_IonChrom11
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	0037.d
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	5 mL
Analysis Date:	04/03/2015 0219	Units:	mg/L	Final Weight/Volume:	5 mL
Prep Date:	N/A				
Leach Date:	N/A				

Analyte	Result	Qual	MDL	RL
Nitrate as N	0.042	U	0.042	0.25

Method Reporting Limit Check - Batch: 280-270887

Method: 300.0
Preparation: N/A

Lab Sample ID:	MRL 280-270887/10	Analysis Batch:	280-270887	Instrument ID:	WC_IonChrom11
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	0010.d
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	5 mL
Analysis Date:	04/02/2015 1721	Units:	mg/L	Final Weight/Volume:	5 mL
Prep Date:	N/A				
Leach Date:	N/A				

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Nitrate as N	0.200	0.220	110	50 - 150	B

Lab Control Sample - Batch: 280-270887

Method: 300.0
Preparation: N/A

Lab Sample ID:	LCS 280-270887/36	Analysis Batch:	280-270887	Instrument ID:	WC_IonChrom11
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	0036.d
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	5 mL
Analysis Date:	04/03/2015 0159	Units:	mg/L	Final Weight/Volume:	5 mL
Prep Date:	N/A				
Leach Date:	N/A				

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Nitrate as N	5.00	4.86	97	90 - 110	

Client: Washington Closure Hanford

Job Number: 280-67273-1
Sdg Number: J02178

Matrix Spike - Batch: 280-270887

Method: 300.0
Preparation: N/A

Lab Sample ID:	280-67273-1	Analysis Batch:	280-270887	Instrument ID:	WC_IonChrom11
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	0060.d
Dilution:	10	Leach Batch:	N/A	Initial Weight/Volume:	5 mL
Analysis Date:	04/03/2015 1022	Units:	mg/L	Final Weight/Volume:	5 mL
Prep Date:	N/A				25 uL
Leach Date:	N/A				

Analyte	Sample Result/Qual	Spike Amount	Result	% Rec.	Limit	Qual
Nitrate as N	48.6	50.0	98.10	99	80 - 120	D

Duplicate - Batch: 280-270887

Method: 300.0
Preparation: N/A

Lab Sample ID:	280-67273-1	Analysis Batch:	280-270887	Instrument ID:	WC_IonChrom11
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	0059.d
Dilution:	10	Leach Batch:	N/A	Initial Weight/Volume:	5 mL
Analysis Date:	04/03/2015 1002	Units:	mg/L	Final Weight/Volume:	5 mL
Prep Date:	N/A				25 uL
Leach Date:	N/A				

Analyte	Sample Result/Qual	Result	RPD	Limit	Qual
Nitrate as N	48.6	47.73	2	15	D

Client: Washington Closure Hanford

Job Number: 280-67273-1
Sdg Number: J02178

Method Blank - Batch: 280-270888

Method: 300.0
Preparation: N/A

Lab Sample ID:	MB 280-270888/37	Analysis Batch:	280-270888	Instrument ID:	WC_IonChrom11
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	0037.d
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	5 mL
Analysis Date:	04/03/2015 0219	Units:	mg/L	Final Weight/Volume:	5 mL
Prep Date:	N/A				
Leach Date:	N/A				

Analyte	Result	Qual	MDL	RL
Chloride	0.719	B	0.25	3.0
Sulfate	0.23	U	0.23	5.0

Method Reporting Limit Check - Batch: 280-270888

Method: 300.0
Preparation: N/A

Lab Sample ID:	MRL 280-270888/10	Analysis Batch:	280-270888	Instrument ID:	WC_IonChrom11
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	0010.d
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	5 mL
Analysis Date:	04/02/2015 1721	Units:	mg/L	Final Weight/Volume:	5 mL
Prep Date:	N/A				
Leach Date:	N/A				

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Chloride	2.50	2.34	94	50 - 150	B
Sulfate	2.50	2.40	96	50 - 150	B

Lab Control Sample - Batch: 280-270888

Method: 300.0
Preparation: N/A

Lab Sample ID:	LCS 280-270888/36	Analysis Batch:	280-270888	Instrument ID:	WC_IonChrom11
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	0036.d
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	5 mL
Analysis Date:	04/03/2015 0159	Units:	mg/L	Final Weight/Volume:	5 mL
Prep Date:	N/A				
Leach Date:	N/A				

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Chloride	100	100.4	100	90 - 110	
Sulfate	100	97.40	97	90 - 110	

Client: Washington Closure Hanford

Job Number: 280-67273-1
Sdg Number: J02178

Matrix Spike - Batch: 280-270888

Method: 300.0
Preparation: N/A

Lab Sample ID:	280-67273-1	Analysis Batch:	280-270888	Instrument ID:	WC_IonChrom11
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	0040.d
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	5 mL
Analysis Date:	04/03/2015 0319	Units:	mg/L	Final Weight/Volume:	5 mL
Prep Date:	N/A				25 uL
Leach Date:	N/A				

Analyte	Sample Result/Qual	Spike Amount	Result	% Rec.	Limit	Qual
Chloride	93.1	25.0	120.4	109	80 - 120	

Matrix Spike - Batch: 280-270888

Method: 300.0
Preparation: N/A

Lab Sample ID:	280-67273-1	Analysis Batch:	280-270888	Instrument ID:	WC_IonChrom11
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	0060.d
Dilution:	10	Leach Batch:	N/A	Initial Weight/Volume:	5 mL
Analysis Date:	04/03/2015 1022	Units:	mg/L	Final Weight/Volume:	5 mL
Prep Date:	N/A				25 uL
Leach Date:	N/A				

Analyte	Sample Result/Qual	Spike Amount	Result	% Rec.	Limit	Qual
Sulfate	1970	250	2029	24	80 - 120	D > N

Client: Washington Closure Hanford

Job Number: 280-67273-1
Sdg Number: J02178

Duplicate - Batch: 280-270888

Method: 300.0
Preparation: N/A

Lab Sample ID:	280-67273-1	Analysis Batch:	280-270888	Instrument ID:	WC_IonChrom11
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	0039.d
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	5 mL
Analysis Date:	04/03/2015 0259	Units:	mg/L	Final Weight/Volume:	5 mL
Prep Date:	N/A				25 uL
Leach Date:	N/A				

Analyte	Sample Result/Qual	Result	RPD	Limit	Qual
Chloride	93.1	93.27	0.2	15	

Duplicate - Batch: 280-270888

Method: 300.0
Preparation: N/A

Lab Sample ID:	280-67273-1	Analysis Batch:	280-270888	Instrument ID:	WC_IonChrom11
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	0059.d
Dilution:	10	Leach Batch:	N/A	Initial Weight/Volume:	5 mL
Analysis Date:	04/03/2015 1002	Units:	mg/L	Final Weight/Volume:	5 mL
Prep Date:	N/A				25 uL
Leach Date:	N/A				

Analyte	Sample Result/Qual	Result	RPD	Limit	Qual
Sulfate	1970	1932	2	15	D

Client: Washington Closure Hanford

Job Number: 280-67273-1
Sdg Number: J02178

Method Blank - Batch: 280-272554

Method: 300.0
Preparation: N/A

Lab Sample ID:	MB 280-272554/8	Analysis Batch:	280-272554	Instrument ID:	WC_IonChrom11
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	0016.d
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	5 mL
Analysis Date:	04/14/2015 1241	Units:	mg/L	Final Weight/Volume:	5 mL
Prep Date:	N/A				
Leach Date:	N/A				

Analyte	Result	Qual	MDL	RL
Sulfate	0.23	U	0.23	5.0

Method Reporting Limit Check - Batch: 280-272554

Method: 300.0
Preparation: N/A

Lab Sample ID:	MRL 280-272554/3	Analysis Batch:	280-272554	Instrument ID:	WC_IonChrom11
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	0011.d
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	5 mL
Analysis Date:	04/14/2015 1101	Units:	mg/L	Final Weight/Volume:	5 mL
Prep Date:	N/A				
Leach Date:	N/A				

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Sulfate	2.50	2.48	99	50 - 150	B

Lab Control Sample - Batch: 280-272554

Method: 300.0
Preparation: N/A

Lab Sample ID:	LCS 280-272554/7	Analysis Batch:	280-272554	Instrument ID:	WC_IonChrom11
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	0015.d
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	5 mL
Analysis Date:	04/14/2015 1221	Units:	mg/L	Final Weight/Volume:	5 mL
Prep Date:	N/A				
Leach Date:	N/A				

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Sulfate	100	102.3	102	90 - 110	

Client: Washington Closure Hanford

Job Number: 280-67273-1
Sdg Number: J02178

Matrix Spike - Batch: 280-272554

Method: 300.0
Preparation: N/A

Lab Sample ID:	280-67273-3	Analysis Batch:	280-272554	Instrument ID:	WC_IonChrom11
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	0019.d
Dilution:	10	Leach Batch:	N/A	Initial Weight/Volume:	5 mL
Analysis Date:	04/14/2015 1340	Units:	mg/L	Final Weight/Volume:	5 mL
Prep Date:	N/A				25 uL
Leach Date:	N/A				

Analyte	Sample Result/Qual	Spike Amount	Result	% Rec.	Limit	Qual
Sulfate	1810	250	1907	37	80 - 120	D N

Duplicate - Batch: 280-272554

Method: 300.0
Preparation: N/A

Lab Sample ID:	280-67273-3	Analysis Batch:	280-272554	Instrument ID:	WC_IonChrom11
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	0018.d
Dilution:	10	Leach Batch:	N/A	Initial Weight/Volume:	5 mL
Analysis Date:	04/14/2015 1320	Units:	mg/L	Final Weight/Volume:	5 mL
Prep Date:	N/A				25 uL
Leach Date:	N/A				

Analyte	Sample Result/Qual	Result	RPD	Limit	Qual
Sulfate	1810	1779	2	15	D

Client: Washington Closure Hanford

Job Number: 280-67273-1
Sdg Number: J02178

Method Blank - Batch: 280-271420

Method: 353.2
Preparation: N/A

Lab Sample ID:	MB 280-271420/75	Analysis Batch:	280-271420	Instrument ID:	WC_Alp 2
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	C:\FLOW_4\040615.RST
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	
Analysis Date:	04/06/2015 1354	Units:	mg/L	Final Weight/Volume:	
Prep Date:	N/A				
Leach Date:	N/A				

Analyte	Result	Qual	MDL	RL
Nitrate Nitrite as N	0.019	U	0.019	0.075

Method Reporting Limit Check - Batch: 280-271420

Method: 353.2
Preparation: N/A

Lab Sample ID:	MRL 280-271420/18	Analysis Batch:	280-271420	Instrument ID:	WC_Alp 2
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	C:\FLOW_4\040615.RST
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	100 mL
Analysis Date:	04/06/2015 1200	Units:	mg/L	Final Weight/Volume:	100 mL
Prep Date:	N/A				
Leach Date:	N/A				

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Nitrate Nitrite as N	0.100	0.0801	80	50 - 150	B

Lab Control Sample - Batch: 280-271420

Method: 353.2
Preparation: N/A

Lab Sample ID:	LCS 280-271420/74	Analysis Batch:	280-271420	Instrument ID:	WC_Alp 2
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	C:\FLOW_4\040615.RST
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	100 mL
Analysis Date:	04/06/2015 1352	Units:	mg/L	Final Weight/Volume:	100 mL
Prep Date:	N/A				
Leach Date:	N/A				

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Nitrate Nitrite as N	5.00	5.20	104	90 - 110	

Client: Washington Closure Hanford

Job Number: 280-67273-1
Sdg Number: J02178

Matrix Spike - Batch: 280-271420

Method: 353.2
Preparation: N/A

Lab Sample ID:	280-67273-1	Analysis Batch:	280-271420	Instrument ID:	WC_Alp 2
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	C:\FLOW_4\040615.RST
Dilution:	20	Leach Batch:	N/A	Initial Weight/Volume:	5 mL
Analysis Date:	04/06/2015 1638	Units:	mg/L	Final Weight/Volume:	5 mL
Prep Date:	N/A				
Leach Date:	N/A				

Analyte	Sample Result/Qual	Spike Amount	Result	% Rec.	Limit	Qual
Nitrate Nitrite as N	51.3	80.0	134.0	103	90 - 110	D

Duplicate - Batch: 280-271420

Method: 353.2
Preparation: N/A

Lab Sample ID:	280-67273-1	Analysis Batch:	280-271420	Instrument ID:	WC_Alp 2
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	C:\FLOW_4\040615.RST
Dilution:	20	Leach Batch:	N/A	Initial Weight/Volume:	
Analysis Date:	04/06/2015 1636	Units:	mg/L	Final Weight/Volume:	
Prep Date:	N/A				
Leach Date:	N/A				

Analyte	Sample Result/Qual	Result	RPD	Limit	Qual
Nitrate Nitrite as N	51.3	51.58	0.6	20	D

Client: Washington Closure Hanford

Job Number: 280-67273-1
Sdg Number: J02178

Lab Control Sample/
Lab Control Sample Duplicate Recovery Report - Batch: 280-270963

Method: 9040B
Preparation: N/A

LCS Lab Sample ID:	LCS 280-270963/4	Analysis Batch:	280-270963	Instrument ID:	No Equipment Assigned
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	N/A
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	
Analysis Date:	04/02/2015 2019	Units:	SU	Final Weight/Volume:	1 mL
Prep Date:	N/A				
Leach Date:	N/A				

LCSD Lab Sample ID:	LCSD 280-270963/5	Analysis Batch:	280-270963	Instrument ID:	No Equipment Assigned
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	N/A
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	
Analysis Date:	04/02/2015 2019	Units:	SU	Final Weight/Volume:	
Prep Date:	N/A				
Leach Date:	N/A				

Analyte	% Rec. LCS	% Rec. LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
pH	100	100	99 - 101	0	5		

Laboratory Control/
Laboratory Duplicate Data Report - Batch: 280-270963

Method: 9040B
Preparation: N/A

LCS Lab Sample ID:	LCS 280-270963/4	Units:	SU	LCSD Lab Sample ID:	LCSD 280-270963/5
Client Matrix:	Water			Client Matrix:	Water
Dilution:	1.0			Dilution:	1.0
Analysis Date:	04/02/2015 2019			Analysis Date:	04/02/2015 2019
Prep Date:	N/A			Prep Date:	N/A
Leach Date:	N/A			Leach Date:	N/A

Analyte	LCS Spike Amount	LCSD Spike Amount	LCS Result/Qual	LCSD Result/Qual
pH	7.00	7.00	6.980	6.970

Duplicate - Batch: 280-270963

Method: 9040B
Preparation: N/A

Lab Sample ID:	280-67273-1	Analysis Batch:	280-270963	Instrument ID:	No Equipment Assigned
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	N/A
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	
Analysis Date:	04/02/2015 2019	Units:	SU	Final Weight/Volume:	
Prep Date:	N/A				
Leach Date:	N/A				

Analyte	Sample Result/Qual	Result	RPD	Limit	Qual
pH	7.74	7.760	0.3	5	

Client: Washington Closure Hanford

Job Number: 280-67273-1
Sdg Number: J02178

Method Blank - Batch: 280-270954

Method: 9050A
Preparation: N/A

Lab Sample ID:	MB 280-270954/5	Analysis Batch:	280-270954	Instrument ID:	WC_Cond_Orion
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	N/A
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	
Analysis Date:	04/02/2015 1846	Units:	umho/cm	Final Weight/Volume:	25 mL
Prep Date:	N/A				
Leach Date:	N/A				

Analyte	Result	Qual	RL	RL
Specific Conductance	1.00	U	1.00	1.00

Lab Control Sample/
Lab Control Sample Duplicate Recovery Report - Batch: 280-270954

Method: 9050A
Preparation: N/A

LCS Lab Sample ID:	LCS 280-270954/3	Analysis Batch:	280-270954	Instrument ID:	WC_Cond_Orion
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	N/A
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	
Analysis Date:	04/02/2015 1846	Units:	umho/cm	Final Weight/Volume:	25 mL
Prep Date:	N/A				
Leach Date:	N/A				

LCSD Lab Sample ID:	LCSD 280-270954/4	Analysis Batch:	280-270954	Instrument ID:	WC_Cond_Orion
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	N/A
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	
Analysis Date:	04/02/2015 1846	Units:	umho/cm	Final Weight/Volume:	25 mL
Prep Date:	N/A				
Leach Date:	N/A				

	% Rec.						
Analyte	LCS	LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
Specific Conductance	95	96	90 - 110	1	10		

Laboratory Control/
Laboratory Duplicate Data Report - Batch: 280-270954

Method: 9050A
Preparation: N/A

LCS Lab Sample ID:	LCS 280-270954/3	Units:	umho/cm	LCSD Lab Sample ID:	LCSD 280-270954/4
Client Matrix:	Water			Client Matrix:	Water
Dilution:	1.0			Dilution:	1.0
Analysis Date:	04/02/2015 1846			Analysis Date:	04/02/2015 1846
Prep Date:	N/A			Prep Date:	N/A
Leach Date:	N/A			Leach Date:	N/A

Analyte	LCS Spike Amount	LCSD Spike Amount	LCS Result/Qual	LCSD Result/Qual
Specific Conductance	1410	1410	1340	1353

Client: Washington Closure Hanford

Job Number: 280-67273-1
Sdg Number: J02178

Duplicate - Batch: 280-270954

Method: 9050A
Preparation: N/A

Lab Sample ID:	280-67273-1	Analysis Batch:	280-270954	Instrument ID:	WC_Cond_Orion
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	N/A
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	
Analysis Date:	04/02/2015 1846	Units:	umho/cm	Final Weight/Volume:	25 mL
Prep Date:	N/A				
Leach Date:	N/A				

Analyte	Sample Result/Qual	Result	RPD	Limit	Qual
Specific Conductance	2260	2149	5	10	

Client: Washington Closure Hanford

Job Number: 280-67273-1
Sdg Number: J02178

Method Blank - Batch: 280-271330

Method: SM 2540C
Preparation: N/A

Lab Sample ID:	MB 280-271330/1	Analysis Batch:	280-271330	Instrument ID:	WC_Cond_Orion
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	N/A
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	100 mL
Analysis Date:	04/06/2015 1438	Units:	mg/L	Final Weight/Volume:	100 mL
Prep Date:	N/A				
Leach Date:	N/A				

Analyte	Result	Qual	MDL	RL
Total Dissolved Solids	4.7	U	4.7	10.0

Lab Control Sample/
Lab Control Sample Duplicate Recovery Report - Batch: 280-271330

Method: SM 2540C
Preparation: N/A

LCS Lab Sample ID:	LCS 280-271330/2	Analysis Batch:	280-271330	Instrument ID:	WC_Cond_Orion
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	N/A
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	100 mL
Analysis Date:	04/06/2015 1438	Units:	mg/L	Final Weight/Volume:	100 mL
Prep Date:	N/A				
Leach Date:	N/A				

LCSD Lab Sample ID:	LCSD 280-271330/3	Analysis Batch:	280-271330	Instrument ID:	WC_Cond_Orion
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	N/A
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	100 mL
Analysis Date:	04/06/2015 1438	Units:	mg/L	Final Weight/Volume:	100 mL
Prep Date:	N/A				
Leach Date:	N/A				

	% Rec.						
Analyte	LCS	LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
Total Dissolved Solids	97	96	86 - 110	1	20		

Laboratory Control/
Laboratory Duplicate Data Report - Batch: 280-271330

Method: SM 2540C
Preparation: N/A

LCS Lab Sample ID:	LCS 280-271330/2	Units:	mg/L	LCSD Lab Sample ID:	LCSD 280-271330/3
Client Matrix:	Water			Client Matrix:	Water
Dilution:	1.0			Dilution:	1.0
Analysis Date:	04/06/2015 1438			Analysis Date:	04/06/2015 1438
Prep Date:	N/A			Prep Date:	N/A
Leach Date:	N/A			Leach Date:	N/A

Analyte	LCS Spike Amount	LCSD Spike Amount	LCS Result/Qual	LCSD Result/Qual
Total Dissolved Solids	501	501	486.0	481.0

Client: Washington Closure Hanford

Job Number: 280-67273-1
Sdg Number: J02178

Duplicate - Batch: 280-271330

Method: SM 2540C
Preparation: N/A

Lab Sample ID:	280-67273-1	Analysis Batch:	280-271330	Instrument ID:	WC_Cond_Orion
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	N/A
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	50 mL
Analysis Date:	04/06/2015 1438	Units:	mg/L	Final Weight/Volume:	100 mL
Prep Date:	N/A				
Leach Date:	N/A				

Analyte	Sample Result/Qual	Result	RPD	Limit	Qual
Total Dissolved Solids	3270	3264	0.2	10	

Client: Washington Closure Hanford

Job Number: 280-67273-1
Sdg Number: J02178

Method Blank - Batch: 280-271519

Method: SM 2540D
Preparation: N/A

Lab Sample ID:	MB 280-271519/3	Analysis Batch:	280-271519	Instrument ID:	No Equipment Assigned
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	N/A
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	250 mL
Analysis Date:	04/07/2015 1555	Units:	mg/L	Final Weight/Volume:	250 mL
Prep Date:	N/A				
Leach Date:	N/A				

Analyte	Result	Qual	MDL	RL
Total Suspended Solids	1.1	U	1.1	4.0

Lab Control Sample/
Lab Control Sample Duplicate Recovery Report - Batch: 280-271519

Method: SM 2540D
Preparation: N/A

LCS Lab Sample ID:	LCS 280-271519/1	Analysis Batch:	280-271519	Instrument ID:	No Equipment Assigned
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	N/A
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	250 mL
Analysis Date:	04/07/2015 1555	Units:	mg/L	Final Weight/Volume:	250 mL
Prep Date:	N/A				
Leach Date:	N/A				

LCSD Lab Sample ID:	LCSD 280-271519/2	Analysis Batch:	280-271519	Instrument ID:	No Equipment Assigned
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	N/A
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	250 mL
Analysis Date:	04/07/2015 1555	Units:	mg/L	Final Weight/Volume:	250 mL
Prep Date:	N/A				
Leach Date:	N/A				

	% Rec.						
Analyte	LCS	LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
Total Suspended Solids	96	92	86 - 114	5	20		

Laboratory Control/
Laboratory Duplicate Data Report - Batch: 280-271519

Method: SM 2540D
Preparation: N/A

LCS Lab Sample ID:	LCS 280-271519/1	Units: mg/L	LCSD Lab Sample ID: LCSD 280-271519/2
Client Matrix:	Water		Client Matrix: Water
Dilution:	1.0		Dilution: 1.0
Analysis Date:	04/07/2015 1555		Analysis Date: 04/07/2015 1555
Prep Date:	N/A		Prep Date: N/A
Leach Date:	N/A		Leach Date: N/A

Analyte	LCS Spike Amount	LCSD Spike Amount	LCS Result/Qual	LCSD Result/Qual
Total Suspended Solids	100	100	96.00	91.60

Client: Washington Closure Hanford

Job Number: 280-67273-1
Sdg Number: J02178

Duplicate - Batch: 280-271519

Method: SM 2540D
Preparation: N/A

Lab Sample ID:	280-67273-1	Analysis Batch:	280-271519	Instrument ID:	No Equipment Assigned
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	N/A
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	150 mL
Analysis Date:	04/07/2015 1555	Units:	mg/L	Final Weight/Volume:	250 mL
Prep Date:	N/A				
Leach Date:	N/A				

Analyte	Sample Result/Qual	Result	RPD	Limit	Qual
Total Suspended Solids	138	134.0	3	10	

Client: Washington Closure Hanford

Job Number: 280-67273-1
Sdg Number: J02178

Method Blank - Batch: 280-271885

Method: SM 5310B
Preparation: N/A

Lab Sample ID:	MB 280-271885/35	Analysis Batch:	280-271885	Instrument ID:	WC_SHI2
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	040815D.txt
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	
Analysis Date:	04/09/2015 0149	Units:	mg/L	Final Weight/Volume:	
Prep Date:	N/A				
Leach Date:	N/A				

Analyte	Result	Qual	MDL	RL
Total Organic Carbon - Quad	0.16	U	0.16	1.0

Lab Control Sample - Batch: 280-271885

Method: SM 5310B
Preparation: N/A

Lab Sample ID:	LCS 280-271885/34	Analysis Batch:	280-271885	Instrument ID:	WC_SHI2
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	040815D.txt
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	
Analysis Date:	04/09/2015 0130	Units:	mg/L	Final Weight/Volume:	200 mL
Prep Date:	N/A				
Leach Date:	N/A				

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Total Organic Carbon - Quad	25.0	23.79	95	88 - 112	

Matrix Spike - Batch: 280-271885

Method: SM 5310B
Preparation: N/A

Lab Sample ID:	280-67273-1	Analysis Batch:	280-271885	Instrument ID:	WC_SHI2
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	040815D.txt
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	
Analysis Date:	04/09/2015 0728	Units:	mg/L	Final Weight/Volume:	50 mL
Prep Date:	N/A				
Leach Date:	N/A				

Analyte	Sample Result/Qual	Spike Amount	Result	% Rec.	Limit	Qual
Total Organic Carbon - Quad	8.7	25.0	32.55	95	88 - 112	

Client: Washington Closure Hanford

Job Number: 280-67273-1
Sdg Number: J02178

Duplicate - Batch: 280-271885

Method: SM 5310B
Preparation: N/A

Lab Sample ID:	280-67273-1	Analysis Batch:	280-271885	Instrument ID:	WC_SHI2
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	040815D.txt
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	
Analysis Date:	04/09/2015 0744	Units:	mg/L	Final Weight/Volume:	
Prep Date:	N/A				
Leach Date:	N/A				

Analyte	Sample Result/Qual	Result	RPD	Limit	Qual
Total Organic Carbon - Quad	8.7	8.77	0.4	15	

Client: Washington Closure Hanford

Job Number: 280-67273-1
Sdg Number: J02178

QC Association Summary

Lab Sample ID	Client Sample ID	Report Basis	Client Matrix	Method	Prep Batch
Metals					
Prep Batch: 280-270981					
LCS 280-270981/2-A	Lab Control Sample	T	Water	3010A	
MB 280-270981/1-A	Method Blank	T	Water	3010A	
280-67273-1	J1V5J2	T	Water	3010A	
280-67273-1DU	Duplicate	T	Water	3010A	
280-67273-1MS	Matrix Spike	T	Water	3010A	
280-67273-2	J1V5J3	T	Water	3010A	
280-67273-3	J1V5J4	T	Water	3010A	
280-67273-4	J1V5J5	T	Water	3010A	
280-67273-5	J1V5J6	T	Water	3010A	
280-67273-6	J1V5J7	T	Water	3010A	
280-67273-7	J1V5J8	T	Water	3010A	
Analysis Batch:280-271424					
LCS 280-270981/2-A	Lab Control Sample	T	Water	6010B	280-270981
MB 280-270981/1-A	Method Blank	T	Water	6010B	280-270981
280-67273-1	J1V5J2	T	Water	6010B	280-270981
280-67273-1DU	Duplicate	T	Water	6010B	280-270981
280-67273-1MS	Matrix Spike	T	Water	6010B	280-270981
280-67273-2	J1V5J3	T	Water	6010B	280-270981
280-67273-3	J1V5J4	T	Water	6010B	280-270981
280-67273-4	J1V5J5	T	Water	6010B	280-270981
280-67273-5	J1V5J6	T	Water	6010B	280-270981
280-67273-6	J1V5J7	T	Water	6010B	280-270981
280-67273-7	J1V5J8	T	Water	6010B	280-270981

Report Basis
T = Total

Client: Washington Closure Hanford

Job Number: 280-67273-1
Sdg Number: J02178

QC Association Summary

Lab Sample ID	Client Sample ID	Report Basis	Client Matrix	Method	Prep Batch
General Chemistry					
Analysis Batch:280-270887					
LCS 280-270887/36	Lab Control Sample	T	Water	300.0	
MB 280-270887/37	Method Blank	T	Water	300.0	
280-67273-1	J1V5J2	T	Water	300.0	
280-67273-1DU	Duplicate	T	Water	300.0	
280-67273-1MS	Matrix Spike	T	Water	300.0	
280-67273-2	J1V5J3	T	Water	300.0	
280-67273-3	J1V5J4	T	Water	300.0	
280-67273-4	J1V5J5	T	Water	300.0	
280-67273-5	J1V5J6	T	Water	300.0	
280-67273-6	J1V5J7	T	Water	300.0	
280-67273-7	J1V5J8	T	Water	300.0	
Analysis Batch:280-270888					
LCS 280-270888/36	Lab Control Sample	T	Water	300.0	
MB 280-270888/37	Method Blank	T	Water	300.0	
280-67273-1	J1V5J2	T	Water	300.0	
280-67273-1DU	Duplicate	T	Water	300.0	
280-67273-1MS	Matrix Spike	T	Water	300.0	
280-67273-2	J1V5J3	T	Water	300.0	
280-67273-3	J1V5J4	T	Water	300.0	
280-67273-4	J1V5J5	T	Water	300.0	
280-67273-5	J1V5J6	T	Water	300.0	
280-67273-6	J1V5J7	T	Water	300.0	
280-67273-7	J1V5J8	T	Water	300.0	
Analysis Batch:280-270954					
LCS 280-270954/3	Lab Control Sample	T	Water	9050A	
LCSD 280-270954/4	Lab Control Sample Duplicate	T	Water	9050A	
MB 280-270954/5	Method Blank	T	Water	9050A	
280-67273-1	J1V5J2	T	Water	9050A	
280-67273-1DU	Duplicate	T	Water	9050A	
280-67273-2	J1V5J3	T	Water	9050A	
280-67273-3	J1V5J4	T	Water	9050A	
280-67273-4	J1V5J5	T	Water	9050A	
280-67273-5	J1V5J6	T	Water	9050A	
280-67273-6	J1V5J7	T	Water	9050A	
280-67273-7	J1V5J8	T	Water	9050A	

Client: Washington Closure Hanford

Job Number: 280-67273-1
Sdg Number: J02178

QC Association Summary

Lab Sample ID	Client Sample ID	Report Basis	Client Matrix	Method	Prep Batch
General Chemistry					
Analysis Batch:280-270963					
LCS 280-270963/4	Lab Control Sample	T	Water	9040B	
LCSD 280-270963/5	Lab Control Sample Duplicate	T	Water	9040B	
280-67273-1	J1V5J2	T	Water	9040B	
280-67273-1DU	Duplicate	T	Water	9040B	
280-67273-2	J1V5J3	T	Water	9040B	
280-67273-3	J1V5J4	T	Water	9040B	
280-67273-4	J1V5J5	T	Water	9040B	
280-67273-5	J1V5J6	T	Water	9040B	
280-67273-6	J1V5J7	T	Water	9040B	
280-67273-7	J1V5J8	T	Water	9040B	
Analysis Batch:280-271330					
LCS 280-271330/2	Lab Control Sample	T	Water	SM 2540C	
LCSD 280-271330/3	Lab Control Sample Duplicate	T	Water	SM 2540C	
MB 280-271330/1	Method Blank	T	Water	SM 2540C	
280-67273-1	J1V5J2	T	Water	SM 2540C	
280-67273-1DU	Duplicate	T	Water	SM 2540C	
280-67273-2	J1V5J3	T	Water	SM 2540C	
280-67273-3	J1V5J4	T	Water	SM 2540C	
280-67273-4	J1V5J5	T	Water	SM 2540C	
280-67273-5	J1V5J6	T	Water	SM 2540C	
280-67273-6	J1V5J7	T	Water	SM 2540C	
280-67273-7	J1V5J8	T	Water	SM 2540C	
Analysis Batch:280-271420					
LCS 280-271420/74	Lab Control Sample	T	Water	353.2	
MB 280-271420/75	Method Blank	T	Water	353.2	
280-67273-1	J1V5J2	T	Water	353.2	
280-67273-1DU	Duplicate	T	Water	353.2	
280-67273-1MS	Matrix Spike	T	Water	353.2	
280-67273-2	J1V5J3	T	Water	353.2	
280-67273-3	J1V5J4	T	Water	353.2	
280-67273-4	J1V5J5	T	Water	353.2	
280-67273-5	J1V5J6	T	Water	353.2	
280-67273-6	J1V5J7	T	Water	353.2	
280-67273-7	J1V5J8	T	Water	353.2	

Client: Washington Closure Hanford

Job Number: 280-67273-1
Sdg Number: J02178

QC Association Summary

Lab Sample ID	Client Sample ID	Report Basis	Client Matrix	Method	Prep Batch
General Chemistry					
Analysis Batch:280-271519					
LCS 280-271519/1	Lab Control Sample	T	Water	SM 2540D	
LCSD 280-271519/2	Lab Control Sample Duplicate	T	Water	SM 2540D	
MB 280-271519/3	Method Blank	T	Water	SM 2540D	
280-67273-1	J1V5J2	T	Water	SM 2540D	
280-67273-1DU	Duplicate	T	Water	SM 2540D	
280-67273-2	J1V5J3	T	Water	SM 2540D	
280-67273-3	J1V5J4	T	Water	SM 2540D	
280-67273-4	J1V5J5	T	Water	SM 2540D	
280-67273-5	J1V5J6	T	Water	SM 2540D	
280-67273-6	J1V5J7	T	Water	SM 2540D	
280-67273-7	J1V5J8	T	Water	SM 2540D	
Analysis Batch:280-271885					
LCS 280-271885/34	Lab Control Sample	T	Water	SM 5310B	
MB 280-271885/35	Method Blank	T	Water	SM 5310B	
280-67273-1	J1V5J2	T	Water	SM 5310B	
280-67273-1DU	Duplicate	T	Water	SM 5310B	
280-67273-1MS	Matrix Spike	T	Water	SM 5310B	
280-67273-2	J1V5J3	T	Water	SM 5310B	
280-67273-3	J1V5J4	T	Water	SM 5310B	
280-67273-4	J1V5J5	T	Water	SM 5310B	
280-67273-5	J1V5J6	T	Water	SM 5310B	
280-67273-6	J1V5J7	T	Water	SM 5310B	
280-67273-7	J1V5J8	T	Water	SM 5310B	
Analysis Batch:280-272554					
LCS 280-272554/7	Lab Control Sample	T	Water	300.0	
MB 280-272554/8	Method Blank	T	Water	300.0	
280-67273-3	J1V5J4	T	Water	300.0	
280-67273-3DU	Duplicate	T	Water	300.0	
280-67273-3MS	Matrix Spike	T	Water	300.0	
280-67273-4	J1V5J5	T	Water	300.0	

Report Basis
T = Total

Washington Closure Hanford

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

RC-011-060

Collector: ROGERS, R	Company Contact: Joan Kessner	Telephone No.: 375-4688	Project Coordinator: KESSNER, JH
Price Code: 7N	Data Turnaround: 45 Days		
Project Designation: ERDF	Sampling Location: ERDF Lysimeter #5 sampling_Spring 2015		SAF No.: RC-011
Ice Chest No.: WCH-08-067	Field Logbook No.: EL-1626-03	COA: RERDF22560	Method of Shipment: Commercial Carrier
Shipped To: TestAmerica Denver	Offsite Property No.: A131398		Bill of Lading/Air Bill No.: See OSPC

Other Labs Shipped To: TestAmerica Richland

POSSIBLE SAMPLE HAZARDS/REMARKS

Potentially radioactive, less than DOT limits

Special Handling and/or Storage

none

Preservation	HNO3 to pH <2	Cool 4C	H2SO4 to pH <2	H2SO4 to pH <2	Cool 4C	
Type of Container	G/P	G/P	G/P	aGs*	G/P	
No. of Container(s)	2	2	2	3	2	
Volume	500mL	1000mL	250mL	250mL	250mL	
Sample Analysis	See item (1) in Special Instructions	See item (2) in Special Instructions	NO2/NO3 - 353.2	Total Organic Carbon (TOC) - 5310B	Conductivity - 9050; pH (Water) - 9040 {pH Measurement}	

280-67273 Chain of Custody

Sample No.	Matrix	Sample Date	Sample Time										
J1[illegible]5J2	WATER	04/01/15	1003	X	X	X	X	X					

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CHAIN OF POSSESSION — Sign/Print Names

Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
Rich Rogers R Rogers	4.1.15 11:00 am	WCH DWSHEA DWSHEA	4/1/15 1100
DWSHEA DWSHEA	4/1/15 1225	C. Bingham Cmy	4-1-15 1225
C. Bingham Cmy WCH	4-1-15 1245	Fed EX	4-1-15
		[illegible]	4/2/15 943

FINAL SAMPLE DISPOSITION	Disposal Method	Disposed By	Date/Time

SPECIAL INSTRUCTIONS

(1) ICP Metals - 6010TR (Client List) {Calcium, Magnesium, Potassium, Sodium}
(2) IC Anions - 300.0 {Chloride, Nitrogen in Nitrate, Sulfate}; TDS - 2540C; TSS - 2540D

3.6, 2.0 + 0.2 IR-5
4/2/15 TP

SDG J02178
P.B. 4-3-15

REVIEWED BY KW DATE 4/1/15

WCH-EE-011

Washington Closure Hanford

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

RC-011-061

Collector ROGERS, R	**Company Contact** Joan Kessner	**Telephone No.** 375-4688	**Project Coordinator** KESSNER, JH
Price Code 7N	**Data Turnaround** 45 Days		
Project Designation ERDF	**Sampling Location** ERDF Lysimeter #6_Spring 2015		**SAF No.** RC-011
Ice Chest No. WCH-08-067	**Field Logbook No.** EL-1626-03	**COA** RERDF22560	**Method of Shipment** Commercial Carrier
Shipped To TestAmerica Denver	**Offsite Property No.** A131398		**Bill of Lading/Air Bill No.** See OSPC

Other Labs Shipped To
TestAmerica Richland

POSSIBLE SAMPLE HAZARDS/REMARKS
Potentially radioactive, less than DOT limits

Special Handling and/or Storage
none

Preservation	HNO3 to pH <2	Cool 4C	H2SO4 to pH <2	H2SO4 to pH <2	Cool 4C							
Type of Container	G/P	G/P	G/P	aGs*	G/P							
No. of Container(s)	1	1	1	1	1							
Volume	500mL	1000mL	250mL	250mL	250mL							
Sample Analysis	See item (1) in Special Instructions	See item (2) in Special Instructions	NO2/NO3 - 353.2	Total Organic Carbon (TOC) - 5310B	Conductivity - 9050; pH (Water) - 9040 {pH Measurement}							
Sample No.	**Matrix**	**Sample Date**	**Sample Time**									
J0/5J3	WATER	04/01/15	1027	X	X	X	X	X				

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CHAIN OF POSSESSION — **Sign/Print Names**

Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
Rich Rogers R Rogers	4-1-15 11:00AM	WCH DWSHEA DWSHEA	4/1/15 1100
DWSHEA DWSHEA	4/1/15 1225	C. Bingham	4-1-15 1225
C. Bingham WCH	4-1-15 1245	fed EX	4-1-15
			4/2/15 945

FINAL SAMPLE DISPOSITION — Disposal Method — Disposed By — Date/Time

SPECIAL INSTRUCTIONS
(1) ICP Metals - 6010TR (Client List) {Calcium, Magnesium, Potassium, Sodium}
(2) IC Anions - 300.0 {Chloride, Nitrate, Nitrate, Sulfate}; TDS - 2540C; TSS - 2540D

SDG J02178
D.B. 4-3-15

REVIEWED BY KW DATE 4/1/15

WCH-EE-011

Washington Closure Hanford

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

RC-011-062

Collector ROGERS, R	**Company Contact** Joan Kessner	**Telephone No.** 375-4688	**Project Coordinator** KESSNER, JH
Price Code 7N	**Data Turnaround** 45 Days		
Project Designation ERDF	**Sampling Location** ERDF lysimeter #7 sampling_Spring 2015		**SAF No.** RC-011
Ice Chest No. WCH-08-067	**Field Logbook No.** EL-1626-03	**COA** RERDF22560	**Method of Shipment** Commercial Carrier
Shipped To TestAmerica Denver	**Offsite Property No.** A131398		**Bill of Lading/Air Bill No.** See OSPC

Other Labs Shipped To
TestAmerica Richland

POSSIBLE SAMPLE HAZARDS/REMARKS
Potentially radioactive, less than DOT limits

Special Handling and/or Storage
none

Preservation	HNO3 to pH <2	Cool 4C	H2SO4 to pH <2	H2SO4 to pH <2	Cool 4C							
Type of Container	G/P	G/P	G/P	aGs*	G/P							
No. of Container(s)	1	1	1	1	1							
Volume	500mL	1000mL	250mL	250mL	250mL							
Sample Analysis	See item (1) in Special Instructions	See item (2) in Special Instructions	NO2/NO3 - 353.2	Total Organic Carbon (TOC) - 5310B	Conductivity - 9050; pH (Water) - 9040 {pH Measurement}							
Sample No.	**Matrix**	**Sample Date**	**Sample Time**									
J4V5J4	WATER	04/01/15	0936	X	X	X	X	X				

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CHAIN OF POSSESSION — **Sign/Print Names**

Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
Rich Rogers RRogers	4-1-15 1100am	(WCH) DWSHEA DWSHEA	4/1/15 1100
DWSHEA DWSHEA	4/1/15 1225	C. Bingham Cindy	4-1-15 1225
C. Bingham Cindy WCH	4-1-15 1245	fed EX	4-1-15
		[illegible]	4/2/15 945

FINAL SAMPLE DISPOSITION — Disposal Method — Disposed By — Date/Time

SPECIAL INSTRUCTIONS
(1) ICP Metals - 6010TR (Client List) {Calcium, Magnesium, Potassium, Sodium}
(2) IC Anions - 300.0 {Chloride, Nitrogen in Nitrate, Sulfate}; TDS - 2540C; TSS - 2540D

SDG J02178
D.B.
4-3-15

REVIEWED BY KW DATE 4/1/15

Washington Closure Hanford

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

RC-011-063

Collector ROGERS, R	**Company Contact** Joan Kessner	**Telephone No.** 375-4688	**Project Coordinator** KESSNER, JH
Price Code 7N	**Data Turnaround** 45 Days		
Project Designation ERDF	**Sampling Location** ERDF lysimeter #8 sampling_Spring 2015		**SAF No.** RC-011
Ice Chest No. WCH-08-067	**Field Logbook No.** EL-1626-03	**COA** RERDF22560	**Method of Shipment** Commercial Carrier
Shipped To TestAmerica Denver	**Offsite Property No.** A131398		**Bill of Lading/Air Bill No.** See OSPC

Other Labs Shipped To
TestAmerica Richland

POSSIBLE SAMPLE HAZARDS/REMARKS
Potentially radioactive, less than DOT limits

Special Handling and/or Storage
none

Preservation	HNO3 to pH <2	Cool 4C	H2SO4 to pH <2	H2SO4 to pH <2	Cool 4C							
Type of Container	G/P	G/P	G/P	aGs*	G/P							
No. of Container(s)	1	1	1	1	1							
Volume	500mL	1000mL	250mL	250mL	250mL							
Sample Analysis	See item (1) in Special Instructions	See item (2) in Special Instructions	NO2/NO3 - 353.2	Total Organic Carbon (TOC) - 5310B	Conductivity - 9050; pH (Water) - 9040 {pH Measurement}							
Sample No.	**Matrix**	**Sample Date**	**Sample Time**									
JN2/5J5	WATER	04/01/15	1045	X	X	X	X	X				

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CHAIN OF POSSESSION — **Sign/Print Names**

Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
Rich Rogers R Rogers	4-1-15 11:00am	(WCH) DWSHEA DWSHEA	4/1/15 1100
DWSHEA DWSHEA	4/1/15 1225	C. Bingham Cbingham	4-1-15 1225
C. Bingham Cbingham WCH	4-1-15 1245	Fed EX	4-1-15
		[illegible]	4/2/15 945

FINAL SAMPLE DISPOSITION — Disposal Method — Disposed By — Date/Time

SPECIAL INSTRUCTIONS
(1) ICP Metals - 6010TR (Client List) {Calcium, Magnesium, Potassium, Sodium}
(2) IC Anions - 300.0 {Chloride, Nitrogen in Nitrate, Sulfate}; TDS - 2540C; TSS - 2540D

REVIEWED BY KW DATE 4/1/15

SDG J02178
D.b. 4-3-15

WCH-EE-011

Washington Closure Hanford

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

RC-011-064

Collector ROGERS, R	**Company Contact** Joan Kessner	**Telephone No.** 375-4688	**Project Coordinator** KESSNER, JH
Price Code 7N	**Data Turnaround** 45 Days		
Project Designation ERDF	**Sampling Location** ERDF lysimeter #9 sampling_Spring 2015		**SAF No.** RC-011
Ice Chest No. WCH-08-067	**Field Logbook No.** EL-1626-03	**COA** RERDF22560	**Method of Shipment** Commercial Carrier
Shipped To TestAmerica Denver	**Offsite Property No.** A131398		**Bill of Lading/Air Bill No.** See OSPC

Other Labs Shipped To
TestAmerica Richland

POSSIBLE SAMPLE HAZARDS/REMARKS
Potentially radioactive, less than DOT limits

Special Handling and/or Storage
none

Preservation	HNO3 to pH <2	Cool 4C	H2SO4 to pH <2	H2SO4 to pH <2	Cool 4C							
Type of Container	G/P	G/P	G/P	aGs*	G/P							
No. of Container(s)	1	1	1	1	1							
Volume	500mL	1000mL	250mL	250mL	250mL							
Sample Analysis	See item (1) in Special Instructions	See item (2) in Special Instructions	NO2/NO3 - 353.2	Total Organic Carbon (TOC) - 5310B	Conductivity - 9050; pH (Water) - 9040 {pH Measurement}							
Sample No.	**Matrix**	**Sample Date**	**Sample Time**									
J3/5J6	WATER	04/01/15	0912	X	X	X	X	X				

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CHAIN OF POSSESSION — **Sign/Print Names**

Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
Rich Rogers R Rogers	4.1.15 11:00am	(WCH) DWShea DWSHEA	4/1/15 1100
DWShea DWSHEA	4/1/15 1225	C. Bingham	4-1-15 1225
C. Bingham WCH	4-1-15 1245	fed EX	4-1-15
			4/2/15 943

FINAL SAMPLE DISPOSITION — Disposal Method — Disposed By — Date/Time

SPECIAL INSTRUCTIONS
(1) ICP Metals - 6010TR (Client List) {Calcium, Magnesium, Potassium, Sodium}
(2) IC Anions - 300.0 {Chloride, Nitrate, Sulfate}; TDS - 2540C; TSS - 2540D

REVIEWED BY KW DATE 4/1/15

SDG J02178
D.B. 4-3-15

WCH-EE-011

Washington Closure Hanford

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

RC-011-065

Collector ROGERS, R	**Company Contact** Joan Kessner	**Telephone No.** 375-4688	**Project Coordinator** KESSNER, JH
Price Code 7N	**Data Turnaround** 45 Days		
Project Designation ERDF	**Sampling Location** ERDF lysimeter #10 sampling_Spring 2015		**SAF No.** RC-011
Ice Chest No. WCH-08-067	**Field Logbook No.** EL-1626-03	**COA** RERDF22560	**Method of Shipment** Commercial Carrier
Shipped To TestAmerica Denver	**Offsite Property No.** A131398		**Bill of Lading/Air Bill No.** See OSPC

Other Labs Shipped To
TestAmerica Richland

POSSIBLE SAMPLE HAZARDS/REMARKS
Potentially radioactive, less than DOT limits

Special Handling and/or Storage
none

Preservation	HNO3 to pH <2	Cool 4C	H2SO4 to pH <2	H2SO4 to pH <2	Cool 4C							
Type of Container	G/P	G/P	G/P	aGs*	G/P							
No. of Container(s)	1	1	1	1	1							
Volume	500mL	1000mL	250mL	250mL	250mL							
Sample Analysis	See item (1) in Special Instructions	See item (2) in Special Instructions	NO2/NO3 - 353.2	Total Organic Carbon (TOC) - 5310B	Conductivity - 9050; pH (Water) - 9040 {pH Measurement}							
Sample No.	**Matrix**	**Sample Date**	**Sample Time**									
J4V5J7	WATER	04/01/15	0847	X	X	X	X	X				

CHAIN OF POSSESSION — **Sign/Print Names**

Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
Rich Rogers R Rogers	4-1-15 11:00am	(WCH) DWSHEA DWSHEA	4/1/15 1100
DWSHEA DWSHEA	4/1/15 1225	C. Bingham	4-1-15 1225
C. Bingham WCH	4-1-15 1245	fed EX	4-1-15
			4/2/15 945

FINAL SAMPLE DISPOSITION	Disposal Method	Disposed By	Date/Time

SPECIAL INSTRUCTIONS
(1) ICP Metals - 6010TR (Client List) {Calcium, Magnesium, Potassium, Sodium}
(2) IC Anions - 300.0 {Chloride, Nitrate, Sulfate}; TDS - 2540C; TSS - 2540D

REVIEWED BY RW DATE 4/1/15

SDG J02178
D.B. 4-3-15

WCH-EE-011

Washington Closure Hanford

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

RC-011-066

Collector ROGERS, R	**Company Contact** Joan Kessner	**Telephone No.** 375-4688	**Project Coordinator** KESSNER, JH
Price Code 7N	**Data Turnaround** 45 Days		
Project Designation ERDF	**Sampling Location** ERDF lysimeter sampling, Dup 5, Spring 2015		**SAF No.** RC-011
Ice Chest No. WCH-08-067	**Field Logbook No.** EL-1626-03	**COA** RERDF22560	**Method of Shipment** Commercial Carrier
Shipped To TestAmerica Denver	**Offsite Property No.** A131398		**Bill of Lading/Air Bill No.** See OSPC

Other Labs Shipped To
TestAmerica Richland

POSSIBLE SAMPLE HAZARDS/REMARKS
Potentially radioactive, less than DOT limits

Special Handling and/or Storage
none

Preservation	HNO3 to pH <2	Cool 4C	H2SO4 to pH <2	H2SO4 to pH <2	Cool 4C							
Type of Container	G/P	G/P	G/P	aGs*	G/P							
No. of Container(s)	1	1	1	1	1							
Volume	500mL	1000mL	250mL	250mL	250mL							
Sample Analysis	See item (1) in Special Instructions	See item (2) in Special Instructions	NO2/NO3 - 353.2	Total Organic Carbon (TOC) - 5310B	Conductivity - 9050; pH (Water) - 9040 {pH Measurement}							
Sample No.	**Matrix**	**Sample Date**	**Sample Time**									
JV5J8	WATER	04/01/15	1003	X	X	X	X	X				

CHAIN OF POSSESSION — **Sign/Print Names**

Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
Rich Rogers R Rogers	4-1-15 11:00AM	WCH DWSHEA DWSHEA	4/1/15 1100
DWSHEA DWSHEA	4/1/15 1225	C. Bingham Cindy	4-1-15 1225
C. Bingham Cindy WCH	4-1-15 1245	fed Ex	
			4/2/15 945

FINAL SAMPLE DISPOSITION	Disposal Method	Disposed By	Date/Time

SPECIAL INSTRUCTIONS
(1) ICP Metals - 6010TR (Client List) {Calcium, Magnesium, Potassium, Sodium}
(2) IC Anions - 300.0 {Chloride, Nitrogen in Nitrate, Sulfate}; TDS - 2540C; TSS - 2540D

SDG J02178
D.B. 4-3-15

REVIEWED BY KW DATE 4/1/15

WCH-EE-011

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

90 w/ permission

Project 28002142
Report Due: 5/18/2015
TALs TAT: 15 Days
D.B. 4-3-15

Sample Check-in List

Date/Time Received: 4/2/15 945 GM Screen Result 15 microR/hr

Client: Washington Closure Hanford SDG#: J02178 NA[ ] SAF #: RC-011 NA [ ]

Job Number: 07273 Chain of Custody # RC-011-060, -061, -062, -063, -064, -065, -066 DB 4-3-15

Shipping Container ID: WCH 08067, WCH 08030 Air Bill # 773272173876, 773272173980

1. Custody Seals on shipping container intact? NA [ ] Yes [✓] No [ ]
2. Custody Seals dated and signed? NA [ ] Yes [✓] No [ ]
3. Chain of Custody record present? NA [ ] Yes [✓] No [ ]
4. Cooler Temperature °C: 3.6, 2.0+0.2 NA [ ] 5. Vermiculite/packing materials is NA [ ] Wet [ ] Dry [ ]
6. Number of samples in shipping container: 7
7. Sample holding times exceeded? NA [ ] Yes [ ] No [X]
8. Samples have:
   - X Tape
   - X Custody Seals
   - X Hazard Labels
   - X Appropriate Sample Labels
9. Samples are:
   - X In Good Condition
   - Broken
   - Leaking
   - Have Air Bubbles (Only for samples requiring no head space.)
10. Sample pH taken? NA [X] pH<2 [X] pH>2 [ ] pH>9 [ ] Amount HNO_3 Added
11. Sample Location, Sample Collector Listed? * Y
    *For documentation only. No corrective action needed.
12. Were any anomalies identified in sample receipt? Yes [ ] No [X]
13. Description of anomalies (include sample numbers):

Sample Custodian: [signature] Date: 4/2/15

Client Sample ID	Analysis Requested	Condition	Comments/Action

Client Informed on _____ by _____ Person Contacted _____

[ ] No action necessary; process as is.

Project Manager Darlene Bandy Date 4-3-15

LS-023, Rev. 7, 1/08

From: (509) 376-7492
1162 Shipping
US DOE c/o WCH
2355 Stevens Dr

Richland, WA 99354

Origin ID: PSCA

FedEx Express

J15121502230 3uv

Ship Date: 01APR15
ActWgt: 77.0 LB
CAD: 105266502/INET3610

Delivery Address Bar Code

Ref # RERDF22500
Invoice #
PO #
Dept #

SHIP TO: (303) 736-0190
BILL THIRD PARTY

Kae Yoder
TestAmerica
4955 Yarrow St.
A131398
ARVADA, CO 80002

1 of 2

THU - 02 APR 10:30A
PRIORITY OVERNIGHT

TRK# 0201 7732 7217 3876

MASTER

XH WHHA

80002
CO-US
DEN

537J2/8FC5/EE4B

After printing this label:
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3. Place label in shipping pouch and affix it to your shipment so that the barcode portion of the label can be read and scanned.

Warning: Use only the printed original label for shipping. Using a photocopy of this label for shipping purposes is fraudulent and could result in additional billing charges, along with the cancellation of your FedEx account number.
Use of this system constitutes your agreement to the service conditions in the current FedEx Service Guide, available on fedex.com.FedEx will not be responsible for any claim in excess of $100 per package, whether the result of loss, damage, delay, non-delivery,misdelivery,or misinformation, unless you declare a higher value, pay an additional charge, document your actual loss and file a timely claim.Limitations found in the current FedEx Service Guide apply. Your right to recover from FedEx for any loss, including intrinsic value of the package, loss of sales, income interest, profit, attorney's fees, costs, and other forms of damage whether direct, incidental,consequential, or special is limited to the greater of $100 or the authorized declared value. Recovery cannot exceed actual documented loss.Maximum for items of extraordinary value is $1,000, e.g. jewelry, precious metals, negotiable instruments and other items listed in our ServiceGuide. Written claims must be filed within strict time limits, see current FedEx Service Guide.

From: (509) 376-7492
1182 Shipping
US DOE c/o WCH
2355 Stevens Dr

Richland, WA 99354

Origin ID: PSCA

FedEx Express

J1512150222303uv

Ship Date: 01APR15
ActWgt: 65.0 LB
CAD: 105266502/INET3610

Delivery Address Bar Code

Ref # RERDF22560
Invoice #
PO #
Dept #

SHIP TO: (303) 736-0190 BILL THIRD PARTY

Kae Yoder
TestAmerica
4955 Yarrow St.
A131398
ARVADA, CO 80002

2 of 2

THU - 02 APR 10:30A
PRIORITY OVERNIGHT

MPS# 7732 7217 3980
0263
Mstr# 7732 7217 3876 0201

XH WHHA

80002
CO-US
DEN

537J2/6FC5/EE4B

After printing this label:
1. Use the 'Print' button on this page to print your label to your laser or inkjet printer.
2. Fold the printed page along the horizontal line.
3. Place label in shipping pouch and affix it to your shipment so that the barcode portion of the label can be read and scanned.

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