Analytical Data Package Prepared For

CH2M Hill Plateau Remediation

Radiochemical Analysis By

TestAmerica Inc

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

Assigned Laboratory Code: TARL

Data Package Contains 14 *Pages*

Report No.: 67518

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.
W07250	F14-003	B31CX0	J5I290417-1	M7M2C1AC	9M7M2C10	5274032
		B31CX0	J5I290417-1	M7M2C1AD	9M7M2C10	5274033
		B31CX0	J5I290417-1	M7M2C1AA	9M7M2C10	5274034

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Certificate of Analysis

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

October 30, 2015

Attention: Scot Fitzgerald

SAF Number	:	F14-003
Date SDG Closed	:	September 29, 2015
Number of Samples	:	One (1)
Sample Type	:	Water
SDG Number	:	W07250
Data Deliverable	:	15-Day / Summary

CASE NARRATIVE

I. Introduction

On September 29, 2015, one sample was received at TestAmerica (TARL). Upon receipt, the sample was assigned laboratory ID numbers to correspond with the CH2M specific IDs.

II. Sample Receipt

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

III. Analytical Results/Methodology

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

The requested analyses were:

Gamma Spectroscopy
Iodine-129 (LL) by method RL-GAM-002
Liquid Scintillation Counting
Technetium-99 by TEVA method RL-LSC-014
Tritium by method RL-LSC-005

IV. Quality Control

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

QC and sample results are reported in the same units.

V. Comments

Gamma Spectroscopy
Iodine-129 (LL) by method RL-GAM-002:
No analytical or quality issues were noted. The sample results and associated batch QC results are within contractual requirements.

Liquid Scintillation Counting
Technetium-99 by TEVA method RL-LSC-014:
No analytical or quality issues were noted. The sample results and associated batch QC results are within contractual requirements.

Tritium by method RL-LSC-005:
No analytical or quality issues were noted. The sample results and associated batch QC results are within contractual requirements.

We certify that this data package is in compliance with the SOW, both technically and for completeness, including a full description of, explanation of, and corrective actions for, any and all deviations, from either the analyses requested or the case narrative requested. Release of the data contained in this hard copy data package has been authorized by the Laboratory Analytical Manager (or designee) and the laboratory's client services representative as verified by their signatures on this report.

Reviewed and approved:

for Whitney Ritari
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.

CH2MHill Plateau Remediation Company	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			F14-003-520	PAGE 1 OF 1
COLLECTOR Brotherton	COMPANY CONTACT TODAK, D	TELEPHONE NO. 376-6427	PROJECT COORDINATOR TODAK, D	PRICE CODE 7H	DATA TURNAROUND
SAMPLING LOCATION C9439, I-001	PROJECT DESIGNATION FY2014 200-ZP-1 Remedial Action Wells Sampling and Analysis - Water		SAF NO. F14-003	AIR QUALITY ☐	30 Days / 30 Days
ICE CHEST NO. N/A	FIELD LOGBOOK NO. ~~HNF-N~~ 64:2/25	ACTUAL SAMPLE DEPTH 306.64 FT	COA 302938	METHOD OF SHIPMENT GOVERNMENT VEHICLE	ORIGINAL
SHIPPED TO TestAmerica Incorporated, Richland	OFFSITE PROPERTY NO. N/A		BILL OF LADING/AIR BILL NO. N/A		

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

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

SPECIAL HANDLING AND/OR STORAGE

PRESERVATION	None	None	HCl to pH <2
HOLDING TIME	6 Months	6 Months	6 Months
TYPE OF CONTAINER	P	G/P	P
NO. OF CONTAINER(S)	1	2	1
VOLUME	1L	4L	500mL
SAMPLE ANALYSIS	TRITIUM_DIST_LSC: COMMON;	I129LL_SEP_LEPS_GS: COMMON;	TC99_ETVDSK_LSC: COMMON;

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME			
B31CX0	WATER	8-28-15	1413	—	—	—

J5I290417
WD7250
mmac

J5I290417

CHAIN OF POSSESSION		SIGN/ PRINT NAMES		SPECIAL INSTRUCTIONS
RELINQUISHED BY/REMOVED FROM Brotherton	DATE/TIME 8-28-15 1415	RECEIVED BY/STORED IN SSU-1	DATE/TIME 8-28-15 1415	TRVL-15-80 The laboratory is to report all TICs for Method 8260.
RELINQUISHED BY/REMOVED FROM SSU-1	DATE/TIME SEP 29 2015 0830	RECEIVED BY/STORED IN CHRIS FULTON CHPRC	DATE/TIME SEP 29 2015 0830	
RELINQUISHED BY/REMOVED FROM CHRIS FULTON CHPRC	DATE/TIME SEP 29 2015 0945	RECEIVED BY/STORED IN J. Friesz, TARL	DATE/TIME SEP 29 2015 0945	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	

TRVL- 15- 080

LABORATORY SECTION	RECEIVED BY	TITLE	DATE/TIME
FINAL SAMPLE DISPOSITION	DISPOSAL METHOD	DISPOSED BY	DATE/TIME

PRINTED ON 5/11/2015

A-6003-618 (REV 2)

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Sample Check-in List

Date/Time Received: 9/29/15 0945 Container GM Screen Result: (Airlock) 0 cpm Initials[J]
Sample GM Screen Result (Sample Receiving) 0 cpm Initials[ ]

Client: FLA SDG # W0N250 SAF #: F14-003 NA [ ]

Lot Number: JSI2904M

Chain of Custody # F14-003-520

Shipping Container ID or Air Bill Number : _____ NA [J]

Samples received inside shipping container/cooler/box Yes [J] 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 [J]
2. Custody Seals dated and signed? Yes [ ] No [ ] No Custody Seal [J]
3. Cooler temperature: 4.1 °C w/ ICE NA [ ]
4. Vermiculite/packing materials is NA [J] Wet [ ] Dry [ ]

Item 5 through 16 for samples. Initial appropriate response.

5. Chain of Custody record present? Yes [J] No [ ]
6. Number of samples received (Each sample may contain multiple bottles): 1
7. Containers received: 1x500mLp; 1x1Lp; 2x4Lp
8. Sample holding times exceeded? NA [ ] Yes [ ] No [J]
9. Samples have: ____tape ____hazard labels ____custody seals ____appropriate sample labels
10. Matrix: ____A (FLT, Wipe, Solid, Soil) ____W (Water) ____S (Air, Niosh 7400) ____T (Biological, Ni-63)
11. Samples:
    ____are in good condition ____are leaking ____are broken
    ____have air bubbles (Only for samples requiring no head space) ____Other _____
12. Sample pH appropriate for analysis requested Yes [J] 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 [J]
14. Description of anomalies (include sample numbers): NA [J] _____
15. Sample Location, Sample Collector Listed on COC? * Yes [J] No [ ]
    *For documentation only. No corrective action needed.
16. Additional Information: N/A

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

Sample Check-in List completed by Sample Custodian:
Signature: _____ Date: 9/29/15

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

[ ] No action necessary, process as is

Project Manager _____ Date 9-30-15

LS-023 Rev. 17, 05/13

Sample Results Summary

Date: 30-Oct-15

TestAmerica Inc TARL

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

Report No. : 67518

SDG No: W07250

Batch	Client Id Work Order	Parameter	Result +- CSU (2 s)	Qual	Units	Tracer Yield	MDL	CRDL	RPD
5274032 I129LL_SEP_LEPS_GS									
B31CX0									
	M7M2C1AC	I129	1.00E+00 +- 4.8E-01		pCi/L	105%	5.18E-01	1.00E+00	
B31CX0 DUP									
	M7M2C1AE	I129	7.62E-01 +- 4.0E-01	U	pCi/L	95%	4.19E-01	1.00E+00	27.3
5274033 TC99_ETVDSK_LSC									
B31CX0									
	M7M2C1AD	TC-99	6.45E+02 +- 2.0E+01		pCi/L	100%	9.49E+00	1.50E+01	
B31CX0 DUP									
	M7M2C1AG	TC-99	6.31E+02 +- 2.0E+01		pCi/L	100%	9.58E+00	1.50E+01	2.2
5274034 TRITIUM_DIST_LSC									
B31CX0									
	M7M2C1AA	H-3	1.23E+03 +- 1.8E+02		pCi/L	100%	2.97E+02	4.00E+02	
B31CX0 DUP									
	M7M2C1AJ	H-3	1.34E+03 +- 1.9E+02		pCi/L	100%	2.95E+02	4.00E+02	8.0

No. of Results: 6

TestAmerica Inc RPD - Relative Percent Difference.

rptTALRchSaSum
mary2 V5.4.1
A2002

QC Results Summary
TestAmerica Inc TARL

Ordered by Method, Batch No, QC Type,.

Date: 30-Oct-15

Report No. : 67518

SDG No.: W07250

Batch Work Order	Parameter	Result +- CSU (2 s)	Qual	Units	Tracer Yield	LCS Recovery	Bias	MDL
I129LL_SEP_LEPS_GS								
5274032 BLANK QC,								
M7NJ41AA	I129	1.79E-01 +- 2.7E-01	U	pCi/L	96%			5.40E-01
5274032 LCS,								
M7NJ41AC	I129	1.76E+01 +- 2.2E+00		pCi/L	94%	92%	-0.1	5.52E-01
TC99_ETVDSK_LSC								
5274033 MATRIX SPIKE, B31CX0								
M7M2C1AF	TC-99	4.87E+02 +- 3.7E+01		pCi/L	100%	92%	-0.1	9.36E+00
5274033 BLANK QC,								
M7NJ51AA	TC-99	1.98E-01 +- 4.3E+00	U	pCi/L	100%			9.27E+00
5274033 LCS,								
M7NJ51AC	TC-99	9.43E+01 +- 7.2E+00		pCi/L	100%	87%	-0.1	9.61E+00
TRITIUM_DIST_LSC								
5274034 MATRIX SPIKE, B31CX0								
M7M2C1AH	H-3	1.44E+03 +- 3.2E+02		pCi/L	100%	96%	0.0	3.46E+02
5274034 LCS,								
M7NJ61AC	H-3	3.29E+03 +- 2.6E+02		pCi/L	100%	117%	0.2	3.12E+02
TRITIUM_DIST_LSC								
5299020 BLANK QC,								
M7NJ62AA	H-3	4.99E+01 +- 1.4E+02	U	pCi/L	100%			3.11E+02

No. of Results: 8

TestAmerica Inc
rptSTLRchQcSummary V5.4.1 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.

FORM I

SAMPLE RESULTS

Date: 30-Oct-15

Lab Name:	TestAmerica Inc	**SDG:**	W07250	**Collection Date:**	9/28/2015 2:13:00 PM
Lot-Sample No.:	J5I290417-1	**Report No. :**	67518	**Received Date:**	9/29/2015 9:45:00 AM
Client Sample ID:	B31CX0	**COC No. :**	F14-003-520	**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: 5274032	I129LL_SEP_LEPS_GS			**Work Order:**	M7M2C1AC		**Report DB ID:**	9M7M2C10				
I129	**1.00E+00**		4.8E-01	4.8E-01	5.18E-01	pCi/L	105%	*(1.9)*	10/13/15 01:51 p		2.0163	LEP4$1
						2.61E-01	1.00E+00	*(4.2)*			L	
Batch: 5274033	TC99_ETVDSK_LSC			**Work Order:**	M7M2C1AD		**Report DB ID:**	9M7M2C10				
TC-99	**6.45E+02**		1.4E+01	2.0E+01	9.49E+00	pCi/L	100%	*(68.)*	10/7/15 07:19 a		0.127	LSC8
						4.55E+00	1.50E+01	*(63.7)*			L	
Batch: 5274034	TRITIUM_DIST_LSC			**Work Order:**	M7M2C1AA		**Report DB ID:**	9M7M2C10				
H-3	**1.23E+03**		1.7E+02	1.8E+02	2.97E+02	pCi/L	100%	*(4.2)*	10/22/15 03:56 a		0.00501	LSC9
						1.41E+02	4.00E+02	*(13.4)*			L	

No. of Results: 3 **Comments:**

October 30, 2015

TestAmerica Inc
rptSTLRchSample
V5.4.1 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: 30-Oct-15

DUPLICATE RESULTS

Lab Name:	**TestAmerica Inc**	**SDG:**	W07250	**Collection Date:**	9/28/2015 2:13:00 PM
Lot-Sample No.:	**J5I290417-1**	**Report No. :**	67518	**Received Date:**	9/29/2015 9:45:00 AM
Client Sample ID:	**B31CX0 DUP**	**COC No. :**	F14-003-520	**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: 5274032	I129LL_SEP_LEPS_GS			**Work Order:**	M7M2C1AE	**Report DB ID:**	M7M2C1ER		**Orig Sa DB ID:** 9M7M2C10			
I129	7.62E-01		4.0E-01	4.0E-01	4.19E-01	pCi/L	95%	(1.8)	10/13/15 01:51 p		2.0081	LEP5$1
	1.00E+00		**RPD**	**27.3**		1.00E+00		(3.8)			L	
Batch: 5274033	TC99_ETVDSK_LSC			**Work Order:**	M7M2C1AG	**Report DB ID:**	M7M2C1GR		**Orig Sa DB ID:** 9M7M2C10			
TC-99	6.31E+02		1.4E+01	2.0E+01	9.58E+00	pCi/L	100%	(65.8)	10/7/15 09:23 a		0.1262	LSC8
	6.45E+02		**RPD**	**2.2**		1.50E+01		(63.1)			L	
Batch: 5274034	TRITIUM_DIST_LSC			**Work Order:**	M7M2C1AJ	**Report DB ID:**	M7M2C1JR		**Orig Sa DB ID:** 9M7M2C10			
H-3	1.34E+03		1.7E+02	1.9E+02	2.95E+02	pCi/L	100%	(4.5)	10/22/15 06:40 a		0.00504	LSC9
	1.23E+03		**RPD**	**8.0**		4.00E+02		(14.2)			L	

No. of Results: 3 **Comments:**

RPD - Relative Percent Difference.
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: 30-Oct-15

Lab Name: TestAmerica Inc

Matrix: WATER

SDG: W07250

Report No. : 67518

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: 5299020	TRITIUM_DIST_LSC			**Work Order:**	M7NJ62AA		**Report DB ID:**	M7NJ62AB				
H-3	4.99E+01	U	1.3E+02	1.4E+02	3.11E+02	pCi/L	100%	0.16	10/26/15 09:44 p		0.00502	LSC9
					1.48E+02	4.00E+02		0.7			L	
Batch: 5274032	I129LL_SEP_LEPS_GS			**Work Order:**	M7NJ41AA		**Report DB ID:**	M7NJ41AB				
I129	1.79E-01	U	2.7E-01	2.7E-01	5.40E-01	pCi/L	96%	0.33	10/13/15 04:01 p		2.0195	LEP4$1
					2.61E-01	1.00E+00		(1.3)			L	
Batch: 5274033	TC99_ETVDSK_LSC			**Work Order:**	M7NJ51AA		**Report DB ID:**	M7NJ51AB				
TC-99	1.98E-01	U	3.8E+00	4.3E+00	9.27E+00	pCi/L	100%	0.02	10/7/15 10:25 a		0.1298	LSC8
					4.45E+00	1.50E+01		0.09			L	

No. of Results: 3 **Comments:**

October 30, 2015

TestAmerica Inc
rptSTLRchBlank
V5.4.1 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

LCS RESULTS

Date: 30-Oct-15

Lab Name: TestAmerica Inc

Matrix: WATER

SDG: W07250

Report No. : 67518

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: 5274034	TRITIUM_DIST_LSC			**Work Order:**	M7NJ61AC		**Report DB ID:**	M7NJ61CS					
H-3	3.29E+03		2.3E+02	2.6E+02	3.12E+02	pCi/L	100%	2.81E+03	8.42E+01	117%	10/22/15 09:26 a	0.005	LSC9
							Rec Limits:	70	130	0.2		L	
Batch: 5274032	I129LL_SEP_LEPS_GS			**Work Order:**	M7NJ41AC		**Report DB ID:**	M7NJ41CS					
I129	1.76E+01		2.2E+00	2.2E+00	5.52E-01	pCi/L	94%	1.91E+01	3.08E-01	92%	10/13/15 04:02 p	2.0017	LEP5$1
							Rec Limits:	70	130	-0.1		L	
Batch: 5274033	TC99_ETVDSK_LSC			**Work Order:**	M7NJ51AC		**Report DB ID:**	M7NJ51CS					
TC-99	9.43E+01		6.5E+00	7.2E+00	9.61E+00	pCi/L	100%	1.09E+02	6.43E-01	87%	10/7/15 11:27 a	0.1251	LSC8
							Rec Limits:	70	130	-0.1		L	

No. of Results: 3 **Comments:**

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

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FORM II

MATRIX SPIKE RESULTS

Date: 30-Oct-15

Lab Name: TestAmerica Inc **SDG:** W07250

Lot-Sample No.: J5i290417-1, B31CX0 **Report No. :** 67518 **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: 5274033	**Work Order:**	M7M2C1AF		**Report DB ID:**	M7M2C1FW		**Orig Sa DB ID:**	9M7M2C10				
TC-99	4.87E+02		1.8E+01	3.7E+01	9.36E+00	pCi/L	100%	92.24%	5.28E+02	10/7/15 08:21 a	0.1287	TC99_ETVDSK_LSC
	6.45E+02								3.02E+00		L	LSC8
Batch: 5274034	**Work Order:**	M7M2C1AH		**Report DB ID:**	M7M2C1HW		**Orig Sa DB ID:**	9M7M2C10				
H-3	1.44E+03		2.3E+02	3.2E+02	3.46E+02	pCi/L	100%	95.69%	1.51E+03	10/22/15 05:18 a	0.0043	TRITIUM_DIST_LSC
	1.23E+03								4.52E+01		L	LSC9

Number of Results: 2

Comments:

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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.