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 23 *Pages*

Report No.: 68827

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.
W07484	F16-043	B35VC3	J6E250424-1	M8NVG2AE	9M8NVG20	6147034
		B35VC3	J6E250424-1	M8NVG1AF	9M8NVG10	6147035
		B35VC3	J6E250424-1	M8NVG1AD	9M8NVG10	6147036
		B35VC3	J6E250424-1	M8NVG1AA	9M8NVG10	6147037
		B35VC3	J6E250424-1	M8NVG1AC	9M8NVG10	6147038
		B35VC9	J6E250424-2	M8NVH2AE	9M8NVH20	6147034
		B35VC9	J6E250424-2	M8NVH1AF	9M8NVH10	6147035
		B35VC9	J6E250424-2	M8NVH1AD	9M8NVH10	6147036
		B35VC9	J6E250424-2	M8NVH1AA	9M8NVH10	6147037
		B35VC9	J6E250424-2	M8NVH1AC	9M8NVH10	6147038

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

June 24, 2016

Attention: Scot Fitzgerald

SAF Number	:	F16-043
Date SDG Closed	:	May 25, 2016
Number of Samples	:	Two (2)
Sample Type	:	Soil
SDG Number	:	W07484
Data Deliverable	:	15-Day / Summary

CASE NARRATIVE

I. Introduction

On May 25, 2016, two soil samples were 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:

Gas Proportional Counting
Gross Alpha by method RL-GPC-001
Gross Beta by method RL-GPC-001
Strontium-90 by method RL-GPC-010
Gamma Spectroscopy
Gamma Spec by method RL-GAM-001
Liquid Scintillation Counting
Tritium by method RL-LSC-005

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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.

The analytical results are reported on a dry weight basis.

QC and sample results are reported in the same units.

V. Comments

Gas Proportional Counting

Gross Alpha by method RL-GPC-001:
No analytical or quality issues were noted. The sample results and associated batch QC results are within contractual requirements.

Gross Beta by method RL-GPC-001:
No analytical or quality issues were noted. The sample results and associated batch QC results are within contractual requirements.

Strontium-90 by method RL-GPC-010:
The batch blank result is greater than the MDC but less than the CRDL. No other analytical or quality issues were noted. Except as noted, the sample result and associated batch QC results are within contractual requirements.

Gamma Spectroscopy

Gamma Spec by method RL-GAM-001:
No analytical or quality issues were noted. The sample results and associated batch QC results are within contractual requirements.

Liquid Scintillation Counting

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.

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CH2M Hill Plateau Remediation Company
June 24, 2016

Reviewed and approved:

Digitally signed by
Steven Campbell
Date: 2016.06.24
09:20:54 -07'00'

Steven Campbell
Project Manager Assistant

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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.

CH2MHill Plateau Remediation Company	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			F16-043-009	PAGE 1 OF 1
COLLECTOR: Frank Hall CHPRC	COMPANY CONTACT: TODAK, D	TELEPHONE NO.: 376-6427	PROJECT COORDINATOR: TODAK, D	PRICE CODE: 8C	DATA TURNAROUND
SAMPLING LOCATION: C9400, I-002	PROJECT DESIGNATION: 100-NR-2 Drilling - Soil		SAF NO.: F16-043	AIR QUALITY ☐	15 Days / 15 Days
ICE CHEST NO.: N/A	FIELD LOGBOOK NO.: HNF-N-645-3	ACTUAL SAMPLE DEPTH: 45' to 47'	COA: 304070	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. NA

SPECIAL HANDLING AND/OR STORAGE

PRESERVATION	None	None	None	None	
HOLDING TIME	6 Months	6 Months	6 Months	6 Months	
TYPE OF CONTAINER	G/P	G/P	G/P	G	
NO. OF CONTAINER(S)	1	1	1	1	
VOLUME	500mL	120mL	60mL	60mL	
SAMPLE ANALYSIS	SEE ITEM (1) IN SPECIAL INSTRUCTIONS	SEE ITEM (2) IN SPECIAL INSTRUCTIONS	SRTOT_SEP_PRECIP_GPC: COMMON;	TRITIUM_DIST_LSC: COMMON;	
SAMPLE NO. / MATRIX* / SAMPLE DATE / SAMPLE TIME					
B35VC3 / SOIL / MAY 24 2016 / 1430	✓	✓	✓	✓	

J6E250424
W07484

J6E250424

N/8NVG

June 24, 2016

CHAIN OF POSSESSION		SIGN/ PRINT NAMES	
RELINQUISHED BY/REMOVED FROM: Frank Hall CHPRC	DATE/TIME: MAY 24 2016 1544	RECEIVED BY/STORED IN: SSU #1	DATE/TIME: MAY 24 2016 1544
RELINQUISHED BY/REMOVED FROM: SSU #1	DATE/TIME: MAY 25 2016 1000	RECEIVED BY/STORED IN: Lesly Wall CHPRC	DATE/TIME: MAY 25 2016 1000
RELINQUISHED BY/REMOVED FROM: Lesly Wall CHPRC	DATE/TIME: MAY 25 2016 1415	RECEIVED BY/STORED IN: J. Bock, TARL	DATE/TIME: MAY 25 2016 1415
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

SPECIAL INSTRUCTIONS
SAMPLE B35VB9 PORTION D; SAMPLE B35VC0 PORTION C; SPLIT SPOON PARTS B & A WILL BE COMBINED TO ENSURE ADEQUATE SAMPLE MATERIAL FOR ANALYSIS; SAMPLE A AND B PORTION SAMPLES B35VC1, B35VC2, B35VC3, B35VC4
(1) GAMMA_GS: COMMON {Cesium-137, Cobalt-60, Europium-152, Europium-154, Europium-155};
(2) ALPHA_GPC: COMMON {Gross alpha}; BETA_GPC: COMMON {Gross beta};

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

PRINTED ON 5/23/2016 FSR ID = FSR32401 TRVL NUM = TRVL-16-151 A-6003-618 (REV 2)

CH2MHill Plateau Remediation Company	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	F16-043-014	PAGE 1 OF 1

COLLECTOR	COMPANY CONTACT	TELEPHONE NO.	PROJECT COORDINATOR	PRICE CODE 8C	DATA TURNAROUND
Frank Hall CHPRC	TODAK, D	376-6427	TODAK, D	AIR QUALITY ☐	15 Days / 15 Days
SAMPLING LOCATION	**PROJECT DESIGNATION**		**SAF NO.**		
C9400, I-003	100-NR-2 Drilling - Soil		F16-043		
ICE CHEST NO.	**FIELD LOGBOOK NO.**	**ACTUAL SAMPLE DEPTH**	**COA**	**METHOD OF SHIPMENT**	
N/A	HNF-N-645 4-10	57.17 to 59.67	304070	GOVERNMENT VEHICLE	**ORIGINAL**
SHIPPED TO	**OFFSITE PROPERTY NO.**		**BILL OF LADING/AIR BILL NO.**		
TestAmerica Incorporated, Richland	N/A		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. NA

SPECIAL HANDLING AND/OR STORAGE

PRESERVATION	None	None	None	None
HOLDING TIME	6 Months	6 Months	6 Months	6 Months
TYPE OF CONTAINER	G/P	G/P	G/P	G
NO. OF CONTAINER(S)	1	1	1	1
VOLUME	500mL	120mL	60mL	60mL
SAMPLE ANALYSIS	SEE ITEM (1) IN SPECIAL INSTRUCTIONS	SEE ITEM (2) IN SPECIAL INSTRUCTIONS	SRTOT_SEP_PRECIP_GPC: COMMON;	TRITIUM_DIST_LSC: COMMON;

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME				
B35VC9	SOIL	5-25-16	1125	✓	✓	✓	✓

J6E250424
W07484

M8NVH

June 24, 2016

CHAIN OF POSSESSION		SIGN/ PRINT NAMES	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
Frank Hall CHPRC	MAY 25 2016 1230	Lesly Wall /CHPRC	MAY 25 2016 1230
Lesly Wall /CHPRC	MAY 25 2016 1415	J. Bock, TARI	MAY 25 2016 1415
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
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME

SPECIAL INSTRUCTIONS
SAMPLE B35VC5 PORTION D; SAMPLE B35VC6 PORTION C; SPLIT SPOON PARTS B & A WILL BE COMBINED TO ENSURE ADEQUATE SAMPLE MATERIAL FOR ANALYSIS; SAMPLE A AND B PORTION SAMPLES B35VC7, B35VC8, B35VC9, B35VD0
(1) GAMMA_GS: COMMON {Cesium-137, Cobalt-60, Europium-152, Europium-154, Europium-155};
(2) ALPHA_GPC: COMMON {Gross alpha}; BETA_GPC: COMMON {Gross beta};

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

PRINTED ON 5/23/2016 FSR ID = FSR32402 TRVL NUM = TRVL-16-151 A-6003-618 (REV 2)

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Sample Check-in List

Date/Time Received: 5-25-16 / 1415 Container GM Screen Result: (Airlock) 0 cpm Initials[ ]
Sample GM Screen Result (Sample Receiving) 0 cpm Initials[ ]

Client: FLA SDG #: W07484 SAF #: F16-043 NA [ ]

Lot Number: JGE250424

Chain of Custody # F16-043-009; 014

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

Samples received inside shipping container/cooler/box Yes [ ] 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 [ ]
2. Custody Seals dated and signed? Yes [ ] No [ ] No Custody Seal [ ]
3. Cooler temperature: 12.4 °C Ice NA [ ]
4. Vermiculite/packing materials is NA [ ] Wet [ ] Dry [ ]

Item 5 through 16 for samples. Initial appropriate response.

5. Chain of Custody record present? Yes [ ] No [ ]
6. Number of samples received (Each sample may contain multiple bottles): 2
7. Containers received: 2x 60mLAG; 1x 120mL; 1x 500mLP (x 2)
8. Sample holding times exceeded? NA [ ] Yes [ ] No [ ]
9. Samples have: ____ tape ____ hazard labels ____ custody seals ____ appropriate sample labels
10. Matrix: ____ A (FLT, Wipe, Solid, Soil) ____ I (Water) ____ S (Air, Niosh 7400) ____ T (Biological, Ni-63)
11. Samples:
____ are in good condition ____ are leaking ____ are broken
____ have air bubbles (Only for samples requiring no head space) ____ Other _____
12. Sample pH appropriate for analysis requested Yes [ ] 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 [ ]
14. Description of anomalies (include sample numbers): NA [ ] _____
15. Sample Location, Sample Collector Listed on COC? * Yes [ ] No [ ]
*For documentation only. No corrective action needed.
16. Additional Information: _____

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

Sample Check-in List completed by Sample Custodian:
Signature: _____ Date: 1415

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

[ ] No action necessary; process as is

Project Manager _____ Date 5/26/16

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

TestAmerica Inc TARL

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

Date: 24-Jun-16

Report No. : 68827

SDG No: W07484

Batch	Client Id Work Order	Parameter	Result +- CSU (2 s)			Qual	Units	Tracer Yield	MDL	CRDL	RPD
6147036 GAMMA_GS											
B35VC3											
	M8NVG1AD	CO-60	-1.05E-02	+-	1.6E-02	U	pCi/g		2.63E-02	1.00E-01	
		CS-137	-6.45E-03	+-	1.7E-02	U	pCi/g		2.83E-02	1.00E-01	
		EU-152	2.29E-02	+-	4.1E-02	U	pCi/g		7.14E-02	1.00E-01	
		EU-154	5.07E-02	+-	6.4E-02	U	pCi/g		1.17E-01	1.00E-01	
		EU-155	-1.67E-03	+-	3.6E-02	U	pCi/g		6.20E-02	1.00E-01	
B35VC9											
	M8NVH1AD	CO-60	-3.61E-03	+-	1.5E-02	U	pCi/g		2.50E-02	1.00E-01	
		CS-137	8.29E-03	+-	1.3E-02	U	pCi/g		2.36E-02	1.00E-01	
		EU-152	-2.67E-02	+-	2.7E-02	U	pCi/g		4.40E-02	1.00E-01	
		EU-154	4.11E-02	+-	5.0E-02	U	pCi/g		9.26E-02	1.00E-01	
		EU-155	2.35E-02	+-	2.4E-02	U	pCi/g		4.02E-02	1.00E-01	
B35VC9 DUP											
	M8NVH1AG	CO-60	-2.71E-03	+-	1.5E-02	U	pCi/g		2.68E-02	1.00E-01	-28.5
		CS-137	-7.79E-03	+-	1.3E-02	U	pCi/g		2.25E-02	1.00E-01	6328.8
		EU-152	-1.19E-02	+-	3.0E-02	U	pCi/g		4.97E-02	1.00E-01	-76.6
		EU-154	-4.88E-04	+-	5.5E-02	U	pCi/g		9.49E-02	1.00E-01	204.8
		EU-155	3.46E-02	+-	2.7E-02	U	pCi/g		4.73E-02	1.00E-01	38.4
6147034 9310_ALPHABETA_GPC											
B35VB7 DUP											
	M8NLJ2AG	Alpha	2.64E+00	+-	2.8E+00	U	pCi/g	100%	4.63E+00	5.00E+00	91.4
B35VC3											
	M8NVG2AE	Alpha	1.63E+00	+-	2.6E+00	U	pCi/g	100%	4.24E+00	5.00E+00	
B35VC9											
	M8NVH2AE	Alpha	9.94E+00	+-	3.7E+00		pCi/g	100%	4.75E+00	5.00E+00	
6147035 9310_ALPHABETA_GPC											
B35VC3											
	M8NVG1AF	Beta	2.15E+01	+-	3.3E+00		pCi/g	100%	1.97E+00	1.00E+01	
B35VC3 DUP											
	M8NVG1AG	Beta	1.96E+01	+-	3.1E+00		pCi/g	100%	1.91E+00	1.00E+01	9.6
B35VC9											
	M8NVH1AF	Beta	2.57E+01	+-	4.0E+00		pCi/g	100%	2.11E+00	1.00E+01	
6147037 SRTOT_SEP_PRECIP_GPC											
B35VB7 DUP											
	M8NLJ1AH	STRONTIUM	-1.45E-02	+-	9.8E-02	U	pCi/g	79%	1.74E-01	2.00E+00	21508.3
B35VC3											
	M8NVG1AA	STRONTIUM	5.68E-02	+-	1.0E-01	U	pCi/g	81%	1.72E-01	2.00E+00	
B35VC9											

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

TestAmerica Inc TARL

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

Date: 24-Jun-16

Report No. : 68827

SDG No: W07484

Batch	Client Id Work Order	Parameter	Result +- CSU (2 s)		Qual	Units	Tracer Yield	MDL	CRDL	RPD
6147037 SRTOT_SEP_PRECIP_GPC										
B35VC9										
	M8NVH1AA	STRONTIUM	-1.03E-01	+- 9.0E-02	U	pCi/g	83%	1.70E-01	2.00E+00	
6147038 TRITIUM_DIST_LSC										
B35VC3										
	M8NVG1AC	H-3	8.06E-03	+- 1.9E-01	U	pCi/g	100%	4.37E-01	3.00E+01	
B35VC9										
	M8NVH1AC	H-3	2.83E-02	+- 1.8E-01	U	pCi/g	100%	3.98E-01	3.00E+01	
B35VC9 DUP										
	M8NVH1AH	H-3	6.53E-02	+- 2.1E-01	U	pCi/g	100%	4.65E-01	3.00E+01	79.2

No. of Results: 27

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.

QC Results Summary
TestAmerica Inc TARL

Ordered by Method, Batch No, QC Type,.

Date: 24-Jun-16

Report No. : 68827

SDG No.: W07481

Batch Work Order	Parameter	Result +- CSU (2 s)	Qual	Units	Tracer Yield	LCS Recovery	Bias	MDL
GAMMA_GS								
6147036 BLANK QC,								
M8NXK1AA	CO-60	3.63E-03 +- 7.5E-03	U	pCi/g				1.56E-02
	CS-137	-2.57E-03 +- 6.9E-03	U	pCi/g				1.22E-02
	EU-152	7.51E-03 +- 1.7E-02	U	pCi/g				3.14E-02
	EU-154	1.32E-02 +- 2.3E-02	U	pCi/g				4.68E-02
	EU-155	1.49E-02 +- 1.1E-02	U	pCi/g				2.12E-02
6147036 LCS,								
M8NXK1AC	CS-137	9.46E-01 +- 1.2E-01		pCi/g		98%	0.0	2.33E-02
9310_ALPHABETA_GPC								
6147034 BLANK QC,								
M8NXE2AA	Alpha	-3.17E-01 +- 1.3E+00	U	pCi/g	100%			2.25E+00
6147034 LCS,								
M8NXE2AC	Alpha	9.09E+01 +- 3.9E+01		pCi/g	100%	99%	0.0	2.12E+00
9310_ALPHABETA_GPC								
6147035 BLANK QC,								
M8NXH1AA	Beta	8.79E-01 +- 9.4E-01	U	pCi/g	100%			1.51E+00
6147035 LCS,								
M8NXH1AC	Beta	6.87E+01 +- 1.5E+01		pCi/g	100%	100%	0.0	1.61E+00
SRTOT_SEP_PRECIP_GPC								
6147037 BLANK QC,								
M8NXN1AA	STRONTIUM	5.37E-01 +- 1.9E-01		pCi/g	80%			1.75E-01
6147037 LCS,								
M8NXN1AC	STRONTIUM	3.07E+00 +- 7.5E-01		pCi/g	71%	99%	0.0	2.02E-01
TRITIUM_DIST_LSC								
6147038 MATRIX SPIKE, B35VC3								
M8NVG1AH	H-3	3.68E+00 +- 5.1E-01		pCi/g	100%	81%	-0.2	5.75E-01
6147038 BLANK QC,								
M8NXP1AA	H-3	5.29E-02 +- 7.4E-02	U	pCi/g	100%			1.61E-01
6147038 LCS,								
M8NXP1AC	H-3	4.63E-01 +- 8.4E-02		pCi/g	100%	92%	-0.1	1.24E-01

No. of Results: 15

TestAmerica Inc

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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: 24-Jun-16

Lab Name:	**TestAmerica Inc**	**SDG:**	W07484	**Collection Date:**	5/24/2016 2:30:00 PM
Lot-Sample No.:	**J6E250424-1**	**Report No. :**	68827	**Received Date:**	5/25/2016 2:15:00 PM
Client Sample ID:	**B35VC3**	**COC No. :**	F16-043-009	**Matrix:**	SOIL

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: 6147034	9310_ALPHABETA_GPC			**Work Order:**	M8NVG2AE		**Report DB ID:**	9M8NVG20				
Alpha	**1.63E+00**	U	2.5E+00	2.6E+00	4.24E+00	pCi/g	100%	*0.38*	6/22/16 01:07 p		0.0515	GPC24
						1.85E+00	5.00E+00	*(1.3)*			g	
Batch: 6147035	9310_ALPHABETA_GPC			**Work Order:**	M8NVG1AF		**Report DB ID:**	9M8NVG10				
Beta	**2.15E+01**		2.0E+00	3.3E+00	1.97E+00	pCi/g	100%	*(11.)*	6/16/16 08:59 a		0.1995	GPC31C
						9.37E-01	1.00E+01	*(12.9)*			g	
Batch: 6147036	GAMMA_GS			**Work Order:**	M8NVG1AD		**Report DB ID:**	9M8NVG10				
CO-60	**-1.05E-02**	U	1.6E-02	1.6E-02	2.63E-02	pCi/g		*-0.4*	6/9/16 11:59 p		416.5	GER7$1
						1.31E-02	1.00E-01	*-(1.3)*			g	
CS-137	**-6.45E-03**	U	1.7E-02	1.7E-02	2.83E-02	pCi/g		*-0.23*	6/9/16 11:59 p		416.5	GER7$1
						1.42E-02	1.00E-01	*-0.77*			g	
EU-152	**2.29E-02**	U	4.1E-02	4.1E-02	7.14E-02	pCi/g		*0.32*	6/9/16 11:59 p		416.5	GER7$1
						3.57E-02	1.00E-01	*(1.1)*			g	
EU-154	**5.07E-02**	U	6.4E-02	6.4E-02	1.17E-01	pCi/g		*0.43*	6/9/16 11:59 p		416.5	GER7$1
						5.85E-02	1.00E-01	*(1.6)*			g	
EU-155	**-1.67E-03**	U	3.6E-02	3.6E-02	6.20E-02	pCi/g		*-0.03*	6/9/16 11:59 p		416.5	GER7$1
						3.08E-02	1.00E-01	*-0.09*			g	
Batch: 6147037	SRTOT_SEP_PRECIP_GPC			**Work Order:**	M8NVG1AA		**Report DB ID:**	9M8NVG10				
STRONTIUM	**5.68E-02**	U	1.0E-01	1.0E-01	1.72E-01	pCi/g	81%	*0.33*	6/16/16 09:13 p		2.07	GPC31C
						8.04E-02	2.00E+00	*(1.1)*			g	
Batch: 6147038	TRITIUM_DIST_LSC			**Work Order:**	M8NVG1AC		**Report DB ID:**	9M8NVG10				

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.

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FORM I

SAMPLE RESULTS

Date: 24-Jun-16

Lab Name:	**TestAmerica Inc**	**SDG:**	W07484	**Collection Date:**	5/24/2016 2:30:00 PM
Lot-Sample No.:	**J6E250424-1**	**Report No. :**	68827	**Received Date:**	5/25/2016 2:15:00 PM
Client Sample ID:	**B35VC3**	**COC No. :**	F16-043-009	**Matrix:**	SOIL

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
H-3	**8.06E-03**	U	1.7E-01	1.9E-01	4.37E-01	pCi/g	100%	*0.02*	6/12/16 09:06 p		11.7	LSC9
						1.98E-01	3.00E+01	*0.08*			g	

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

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TestAmerica Inc
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V5.5.1 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 I

SAMPLE RESULTS

Date: 24-Jun-16

Lab Name:	**TestAmerica Inc**	**SDG:**	W07484	**Collection Date:**	5/25/2016 11:25:00 AM
Lot-Sample No.:	**J6E250424-2**	**Report No. :**	68827	**Received Date:**	5/25/2016 2:15:00 PM
Client Sample ID:	**B35VC9**	**COC No. :**	F16-043-014	**Matrix:**	SOIL

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: 6147034	9310_ALPHABETA_GPC			**Work Order:**	M8NVH2AE		**Report DB ID:**	9M8NVH20				
Alpha	**9.94E+00**		3.4E+00	3.7E+00	4.75E+00	pCi/g	100%	*(2.1)*	6/22/16 01:07 p		0.0492	GPC24
						2.09E+00	5.00E+00	*(5.4)*			g	
Batch: 6147035	9310_ALPHABETA_GPC			**Work Order:**	M8NVH1AF		**Report DB ID:**	9M8NVH10				
Beta	**2.57E+01**		2.2E+00	4.0E+00	2.11E+00	pCi/g	100%	*(12.1)*	6/16/16 08:59 a		0.1987	GPC32A
						1.01E+00	1.00E+01	*(12.8)*			g	
Batch: 6147036	GAMMA_GS			**Work Order:**	M8NVH1AD		**Report DB ID:**	9M8NVH10				
CO-60	**-3.61E-03**	U	1.5E-02	1.5E-02	2.50E-02	pCi/g		*-0.14*	6/9/16 11:59 p		354.2	GER17$1
						1.25E-02	1.00E-01	*-0.5*			g	
CS-137	**8.29E-03**	U	1.3E-02	1.3E-02	2.36E-02	pCi/g		*0.35*	6/9/16 11:59 p		354.2	GER17$1
						1.18E-02	1.00E-01	*(1.3)*			g	
EU-152	**-2.67E-02**	U	2.7E-02	2.7E-02	4.40E-02	pCi/g		*-0.61*	6/9/16 11:59 p		354.2	GER17$1
						2.20E-02	1.00E-01	*-(2.)*			g	
EU-154	**4.11E-02**	U	5.0E-02	5.0E-02	9.26E-02	pCi/g		*0.44*	6/9/16 11:59 p		354.2	GER17$1
						4.63E-02	1.00E-01	*(1.6)*			g	
EU-155	**2.35E-02**	U	2.4E-02	2.4E-02	4.02E-02	pCi/g		*0.58*	6/9/16 11:59 p		354.2	GER17$1
						2.00E-02	1.00E-01	*(2.)*			g	
Batch: 6147037	SRTOT_SEP_PRECIP_GPC			**Work Order:**	M8NVH1AA		**Report DB ID:**	9M8NVH10				
STRONTIUM	**-1.03E-01**	U	8.7E-02	9.0E-02	1.70E-01	pCi/g	83%	*-0.61*	6/16/16 09:13 p		2.01	GPC31D
						7.92E-02	2.00E+00	*-(2.3)*			g	
Batch: 6147038	TRITIUM_DIST_LSC			**Work Order:**	M8NVH1AC		**Report DB ID:**	9M8NVH10				

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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: 24-Jun-16

Lab Name:	**TestAmerica Inc**	**SDG:**	W07484	**Collection Date:**	5/25/2016 11:25:00 AM
Lot-Sample No.:	**J6E250424-2**	**Report No. :**	68827	**Received Date:**	5/25/2016 2:15:00 PM
Client Sample ID:	**B35VC9**	**COC No. :**	F16-043-014	**Matrix:**	SOIL

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
H-3	**2.83E-02**	U	1.6E-01	1.8E-01	3.98E-01	pCi/g	100%	*0.07*	6/12/16 09:49 p		11.0	LSC9
						1.80E-01	3.00E+01	*0.32*			g	

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

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TestAmerica Inc
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V5.5.1 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: 24-Jun-16

DUPLICATE RESULTS

Lab Name:	**TestAmerica Inc**	**SDG:**	W07481	**Collection Date:**	5/24/2016 8:30:00 AM
Lot-Sample No.:	**J6E240446-1**	**Report No. :**	68827	**Received Date:**	5/24/2016 1:10:00 PM
Client Sample ID:	**B35VB7 DUP**	**COC No. :**	F13-043-004	**Matrix:**	SOIL

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: 6147034	9310_ALPHABETA_GPC			**Work Order:**	M8NLJ2AG	**Report DB ID:**	M8NLJ2GR		**Orig Sa DB ID:**	9M8NLJ20		
Alpha	2.64E+00	U	2.7E+00	2.8E+00	4.63E+00	pCi/g	100%	0.57	6/22/16 01:07 p		0.0509	GPC24
	7.08E+00		**RPD**	**91.4**		5.00E+00		(1.9)			g	
Batch: 6147037	SRTOT_SEP_PRECIP_GPC			**Work Order:**	M8NLJ1AH	**Report DB ID:**	M8NLJ1HR		**Orig Sa DB ID:**	9M8NLJ10		
STRONTIUM	-1.45E-02	U	9.8E-02	9.8E-02	1.74E-01	pCi/g	79%	-0.08	6/16/16 09:13 p		2.11	GPC31B
	1.48E-02	U	**RPD**	**21508.3**		2.00E+00		-0.3			g	

No. of Results: 2 **Comments:**

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FORM II

Date: 24-Jun-16

DUPLICATE RESULTS

Lab Name:	**TestAmerica Inc**	**SDG:**	W07484	**Collection Date:**	5/24/2016 2:30:00 PM
Lot-Sample No.:	**J6E250424-1**	**Report No. :**	68827	**Received Date:**	5/25/2016 2:15:00 PM
Client Sample ID:	**B35VC3 DUP**	**COC No. :**	F16-043-009	**Matrix:**	SOIL

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: 6147035	9310_ALPHABETA_GPC			**Work Order:** M8NVG1AG		**Report DB ID:** M8NVG1GR			**Orig Sa DB ID:** 9M8NVG10			
Beta	1.96E+01		1.9E+00	3.1E+00	1.91E+00	pCi/g	100%	(10.3)	6/16/16 08:59 a		0.2006	GPC31D
	2.15E+01		**RPD**	**9.6**		1.00E+01		(12.5)			g	

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

June 24, 2016

FORM II

Date: 24-Jun-16

DUPLICATE RESULTS

Lab Name:	**TestAmerica Inc**	**SDG:**	W07484	**Collection Date:**	5/25/2016 11:25:00 AM
Lot-Sample No.:	**J6E250424-2**	**Report No. :**	68827	**Received Date:**	5/25/2016 2:15:00 PM
Client Sample ID:	**B35VC9 DUP**	**COC No. :**	F16-043-014	**Matrix:**	SOIL

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: 6147036	GAMMA_GS			**Work Order:**	M8NVH1AG	**Report DB ID:**	M8NVH1GR		**Orig Sa DB ID:** 9M8NVH10			
CO-60	-2.71E-03	U	1.5E-02	1.5E-02	2.68E-02	pCi/g		-0.1	6/10/16 09:11 a		354.2	GER16$1
	-3.61E-03	U	**RPD**	**-28.5**		1.00E-01		-0.36			g	
CS-137	-7.79E-03	U	1.3E-02	1.3E-02	2.25E-02	pCi/g		-0.35	6/10/16 09:11 a		354.2	GER16$1
	8.29E-03	U	**RPD**	**6328.8**		1.00E-01		-(1.2)			g	
EU-152	-1.19E-02	U	3.0E-02	3.0E-02	4.97E-02	pCi/g		-0.24	6/10/16 09:11 a		354.2	GER16$1
	-2.67E-02	U	**RPD**	**-76.6**		1.00E-01		-0.8			g	
EU-154	-4.88E-04	U	5.5E-02	5.5E-02	9.49E-02	pCi/g		-0.01	6/10/16 09:11 a		354.2	GER16$1
	4.11E-02	U	**RPD**	**204.8**		1.00E-01		-0.02			g	
EU-155	3.46E-02	U	2.7E-02	2.7E-02	4.73E-02	pCi/g		0.73	6/10/16 09:11 a		354.2	GER16$1
	2.35E-02	U	**RPD**	**38.4**		1.00E-01		(2.5)			g	
Batch: 6147038	TRITIUM_DIST_LSC			**Work Order:**	M8NVH1AH	**Report DB ID:**	M8NVH1HR		**Orig Sa DB ID:** 9M8NVH10			
H-3	6.53E-02	U	1.9E-01	2.1E-01	4.65E-01	pCi/g	100%	0.14	6/12/16 10:11 p		11.0	LSC9
	2.83E-02	U	**RPD**	**79.2**		3.00E+01		0.63			g	

No. of Results: 6 **Comments:**

June 24, 2016

FORM II

BLANK RESULTS

Date: 24-Jun-16

Lab Name: TestAmerica Inc

Matrix: SOIL

SDG: W07487

Report No. : 68827

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: 6147038	TRITIUM_DIST_LSC			**Work Order:**	M8NXP1AA		**Report DB ID:**	M8NXP1AB				
H-3	5.29E-02	U	6.7E-02	7.4E-02	1.61E-01	pCi/g	100%	0.33	6/12/16 10:54 p		26.8	LSC9
					7.28E-02	3.00E+01		(1.4)			g	
Batch: 6147036	GAMMA_GS			**Work Order:**	M8NXK1AA		**Report DB ID:**	M8NXK1AB				
CO-60	3.63E-03	U	7.5E-03	7.5E-03	1.56E-02	pCi/g		0.23	6/10/16 09:12 a		348.0	GER17$1
					7.85E-03	1.00E-01		0.97			g	
CS-137	-2.57E-03	U	6.9E-03	6.9E-03	1.22E-02	pCi/g		-0.21	6/10/16 09:12 a		348.0	GER17$1
					6.12E-03	1.00E-01		-0.74			g	
EU-152	7.51E-03	U	1.7E-02	1.7E-02	3.14E-02	pCi/g		0.24	6/10/16 09:12 a		348.0	GER17$1
					1.57E-02	1.00E-01		0.88			g	
EU-154	1.32E-02	U	2.3E-02	2.3E-02	4.68E-02	pCi/g		0.28	6/10/16 09:12 a		348.0	GER17$1
					2.36E-02	1.00E-01		(1.2)			g	
EU-155	1.49E-02	U	1.1E-02	1.1E-02	2.12E-02	pCi/g		0.7	6/10/16 09:12 a		348.0	GER17$1
					1.06E-02	1.00E-01		(2.8)			g	
Batch: 6147034	9310_ALPHABETA_GPC			**Work Order:**	M8NXE2AA		**Report DB ID:**	M8NXE2AB				
Alpha	-3.17E-01	U	1.2E+00	1.3E+00	2.25E+00	pCi/g	100%	-0.14	6/22/16 01:07 p		0.05	GPC24
					1.00E+00	5.00E+00		-0.5			g	
Batch: 6147035	9310_ALPHABETA_GPC			**Work Order:**	M8NXH1AA		**Report DB ID:**	M8NXH1AB				
Beta	8.79E-01	U	9.2E-01	9.4E-01	1.51E+00	pCi/g	100%	0.58	6/16/16 08:59 a		0.2	GPC32B
					7.17E-01	1.00E+01		(1.9)			g	
Batch: 6147037	SRTOT_SEP_PRECIP_GPC			**Work Order:**	M8NXN1AA		**Report DB ID:**	M8NXN1AB				
STRONTIUM	5.37E-01		1.4E-01	1.9E-01	1.75E-01	pCi/g	80%	(3.1)	6/16/16 09:13 p		1.96	GPC32B
					8.13E-02	2.00E+00		(5.8)			g	

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.

June 24, 2016

2001423

FORM II

BLANK RESULTS

Date: 24-Jun-16

Lab Name: TestAmerica Inc

SDG: W07481

Matrix: SOIL

Report No. : 68827

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: 9 **Comments:**

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

rptSTLRchBlank
V5.5.1 A2002

FORM II

LCS RESULTS

Date: 24-Jun-16

Lab Name: TestAmerica Inc

SDG: W07487

Matrix: SOIL

Report No. : 68827

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: 6147038	TRITIUM_DIST_LSC			**Work Order:**	M8NXP1AC		**Report DB ID:**	M8NXP1CS					
H-3	4.63E-01		7.7E-02	8.4E-02	1.24E-01	pCi/g	100%	5.03E-01	1.51E-02	92%	6/12/16 11:16 p	27.5	LSC9
							Rec Limits:	80	120	-0.1		g	
Batch: 6147036	GAMMA_GS			**Work Order:**	M8NXK1AC		**Report DB ID:**	M8NXK1CS					
CS-137	9.46E-01		1.2E-01	1.2E-01	2.33E-02	pCi/g		9.63E-01	9.93E-03	98%	6/10/16 11:05 p	350.1	GER16$1
							Rec Limits:	80	120	0.0		g	
Batch: 6147034	9310_ALPHABETA_GPC			**Work Order:**	M8NXE2AC		**Report DB ID:**	M8NXE2CS					
Alpha	9.09E+01		4.6E+00	3.9E+01	2.12E+00	pCi/g	100%	9.22E+01	9.32E-01	99%	6/22/16 01:07 p	0.05	GPC24
							Rec Limits:	80	120	0.0		g	
Batch: 6147035	9310_ALPHABETA_GPC			**Work Order:**	M8NXH1AC		**Report DB ID:**	M8NXH1CS					
Beta	6.87E+01		2.8E+00	1.5E+01	1.61E+00	pCi/g	100%	6.85E+01	4.86E-01	100%	6/16/16 08:59 a	0.2	GPC32C
							Rec Limits:	80	120	0.0		g	
Batch: 6147037	SRTOT_SEP_PRECIP_GPC			**Work Order:**	M8NXN1AC		**Report DB ID:**	M8NXN1CS					
STRONTIUM	3.07E+00		2.6E-01	7.5E-01	2.02E-01	pCi/g	71%	3.10E+00	2.20E-02	99%	6/16/16 09:13 p	2.19	GPC32A
							Rec Limits:	80	120	0.0		g	

No. of Results: 5 **Comments:**

June 24, 2016

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FORM II

MATRIX SPIKE RESULTS

Date: 24-Jun-16

Lab Name: TestAmerica Inc **SDG:** W07484

Lot-Sample No.: J6E250424-1, B35VC3 **Report No. :** 68827 **Matrix:** SOIL

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: 6147038	**Work Order:** M8NVG1AH			**Report DB ID:** M8NVG1HW			**Orig Sa DB ID:** 9M8NVG10					
H-3	3.68E+00		4.3E-01	5.1E-01	5.75E-01	pCi/g	100%	81.39%	4.52E+00	6/12/16 09:28 p	11.0	TRITIUM_DIST_LSC
	8.06E-03								1.36E-01		g	LSC9

Number of Results: 1

Comments:

June 24, 2016

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TestAmerica Inc
rptSTLRchMs
V5.5.1 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.