

**SEMI-ANNUAL REPORT OF THE DEPARTMENT OF ENERGY,  
OFFICE OF ENVIRONMENTAL MANAGEMENT,  
QUALITY ASSESSMENT PROGRAM**

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# **A**bstract

This report presents the results from the analysis of the 49th set of environmental quality assessment samples (QAP XLIX) that were received on or before December 1, 1998.

# INTRODUCTION

This Quality Assessment Program (QAP) is designed to test the quality of the environmental measurements being reported to the Department of Energy by its contractors. Since 1976, real or synthetic environmental samples that have been prepared and thoroughly analyzed at the Environmental Measurements Laboratory (EML) have been distributed at first quarterly and then semi-annually to these contractors. Their results, which are returned to EML within 90 days, are compiled with EML's results and are reported back to the participating contractors 30 days later. A summary of the reported results is available to the participants 4 days after the reporting deadline via the Internet at [www.eml.doe.gov](http://www.eml.doe.gov).

This is the 55th report of this program. Preceding reports in this series are:

HASL-317	(February 1, 1977)	EML-439	(March 1, 1985)
HASL-319	(May 2, 1977)	EML-448	(October 1, 1985)
HASL-323	(August 1, 1977)	EML-453	(March 1, 1986)
HASL-331	(November 1, 1977)	EML-454	(March 1, 1986)
EML-336	(January 1, 1978)	EML-477	(October 1, 1986)
EML-337	(February 1, 1978)	EML-478	(March 1, 1987)
EML-340	(May 1, 1978)	EML-498	(September 1, 1987)
EML-343	(August 1, 1978)	EML-518	(January 2, 1989)
EML-346	(November 1, 1978)	EML-525*	(August 1, 1989)
EML-350	(February 1, 1979)	EML-526	(January 2, 1990)
EML-351	(February 1, 1979)	EML-530	(July 2, 1990)
EML-354	(May 1, 1979)	EML-535	(January 1, 1991)
EML-358	(August 1, 1979)	EML-539	(July 1, 1991)
EML-364	(November 1, 1979)	EML-543	(January 2, 1992)
EML-368	(February 1, 1980)	EML-546	(July 1, 1992)
EML-377	(August 1, 1980)	EML-551	(January 4, 1993)
EML-387	(February 1, 1981)	EML-556	(July 1, 1993)
EML-388	(February 1, 1981)	EML-559	(January 5, 1994)
EML-393	(August 3, 1981)	EML-561	(July 1, 1994)
EML-402	(February 1, 1982)	EML-565	(January 5, 1995)
EML-414	(April 1, 1983)	EML-569	(July 3, 1995)
EML-417	(September 1, 1983)	EML-576	(February 1, 1996, Revised)
EML-426	(March 1, 1984)	EML-581	(July 1, 1996)
PNL-5079	(April 1, 1984)	EML-587	(January 1997)
EML-431	(September 1, 1984)	EML-591	(July 1997)
EML-432	(November 1, 1984)	EML-594	(January 1998)
EML-438	(March 1, 1985)	EML-596	(July 1998)

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\*Please note this is a corrected report number.

# RESULTS

The results from the analysis of QAP-XLIX samples received on or before December 1, 1998 are listed according to the TABLE OF CONTENTS. The data for the different kinds of samples are given in the following units:

Air Filters	Bq filter <sup>-1</sup>
Soil	Bq kg <sup>-1</sup>
Tissue	Bq kg <sup>-1</sup>
Vegetation	Bq kg <sup>-1</sup>
Water	Bq L <sup>-1</sup>

The values for elemental uranium are reported in  $\mu\text{g filter}^{-1}$ , g, or mL. Some programs require the use of pCi as reporting units, the conversion can be found on page 2.

The 'EML value' listed in the tables to which the contractors' results are compared is the mean of replicate determinations for each nuclide. The EML uncertainty is the standard deviation of the mean. All other uncertainties are as reported by the participants.

The control limit concept was established from percentiles of historic data distributions (1982-1992). The evaluation of this historic data and the development of the control limits are presented in DOE report EML-564. The control limits for QAP-XLIX were developed from percentiles of data distributions for the years 1993-1998.

Participants' analytical performance is evaluated based on the historical analytical capabilities for individual analyte/matrix pairs. The criteria for acceptable performance, "A", has been chosen to be between the 15<sup>th</sup> and 85<sup>th</sup> percentile of the cumulative normalized distribution, which can be viewed as the middle 70% of all historic measurements. The acceptable with warning criteria, "W", is between the 5<sup>th</sup> and 15<sup>th</sup> percentile and between the 85<sup>th</sup> and 95<sup>th</sup> percentile. In other words, the middle 90% of all reported values are acceptable, while the outer 5<sup>th</sup>-15<sup>th</sup> (10%) and 85<sup>th</sup>-95<sup>th</sup> percentiles (10%) are in the warning area. The not acceptable criteria, "N", is established at less than the 5<sup>th</sup> percentile and greater than the 95<sup>th</sup> percentile, that is, the outer 10% of the historical data. These control limits for all 48 i/j pairs are listed in the Table of Control Limits (p. 3).

QAP is an external assessment of environmental radiological analyses. If your laboratory is performing other types of analyses (screening, high-level radiological), this evaluation system may not be appropriate, and you should continue to use an evaluation system appropriate to your data quality objectives.

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Results Ordered by Matrix/Nuclide

Air

<sup>241</sup> Am	202
Bq U	204
<sup>60</sup> Co	205
<sup>137</sup> Cs	208
Gross Alpha (GA)	211
Gross Beta (GB)	213
<sup>54</sup> Mn	215
<sup>238</sup> Pu	218
<sup>239</sup> Pu	220
<sup>125</sup> Sb	222
<sup>90</sup> Sr	225
<sup>234</sup> U	227
<sup>238</sup> U	228
ug U	229

Soil

<sup>228</sup> Ac	230
<sup>241</sup> Am	232
<sup>212</sup> Bi	234
<sup>214</sup> Bi	236
Bq U	238
<sup>60</sup> Co	239
<sup>137</sup> Cs	240
<sup>40</sup> K	243
<sup>210</sup> Pb	246
<sup>212</sup> Pb	247
<sup>214</sup> Pb	249
<sup>238</sup> Pu	251
<sup>239</sup> Pu	252

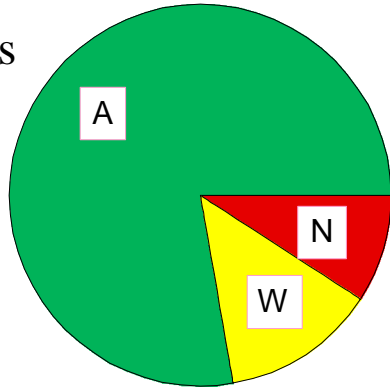
<sup>226</sup> Ra	.....	254
<sup>90</sup> Sr	.....	256
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<sup>63</sup> Ni	.....	303
<sup>238</sup> Pu	.....	304
<sup>239</sup> Pu	.....	306
<sup>90</sup> Sr	.....	308
<sup>234</sup> U	.....	310
<sup>238</sup> U	.....	313
ug U	.....	314

List of Labcodes of Participating Laboratories for EML QAP XLVII

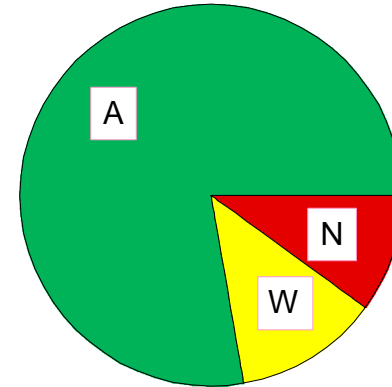
Laboratories Reporting Data	.....	315
Laboratories Not Reporting Data	.....	318

# QAP 49 Summary of Evaluations of 3217 Reported Analyses

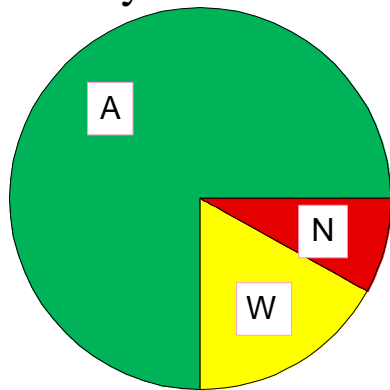
Air Filter:  
878 Analyses



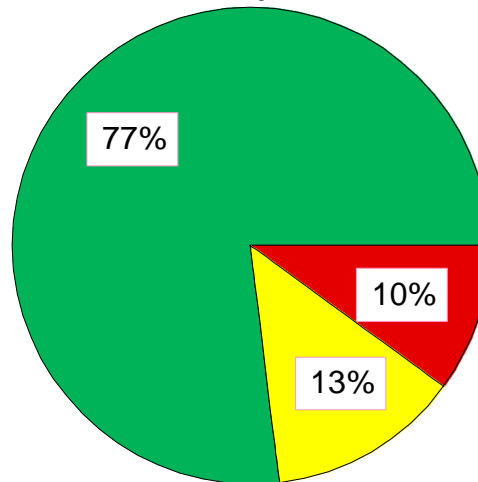
Soil: 953  
Analyses



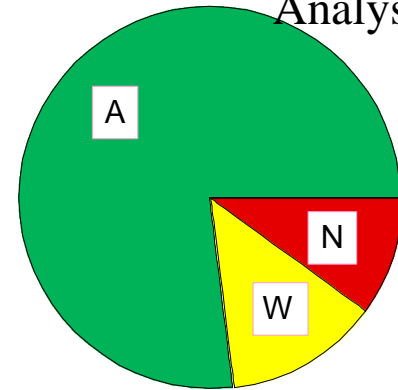
Vegetation:  
430 Analyses



Summary: All  
Analyses



Water: 956  
Analyses



 Acceptable

 Warning

 Not Acceptable

### QAP 49 Statistical Summary

Nuclide	EML Value	EML Error	Reported Values EML Value			No.* of Reported Values
			Mean	Median	Std. Dev.	
<b>Matrix: AI</b>						
AM241	0.510	0.008	1.102	1.062	0.219	54
Bq U	0.530	0.020	1.053	1.015	0.220	15
CO60	9.160	0.580	0.993	0.993	0.074	101
CS137	22.470	1.030	1.005	1.001	0.090	99
GROSS ALPHA	1.650	0.160	1.028	0.982	0.166	73
GROSS BETA	2.160	0.070	0.958	0.926	0.160	75
MN54	4.920	0.400	1.042	1.043	0.092	95
PU238	0.460	0.005	1.065	1.080	0.093	43
PU239	0.420	0.006	1.081	1.096	0.095	44
SB125	8.890	0.550	1.004	1.016	0.131	88
SR90	1.120	0.050	0.979	1.005	0.125	34
U234	0.260	0.010	1.039	1.000	0.175	29
U238	0.260	0.010	1.062	1.031	0.174	30
ug U	20.960	0.100	1.025	1.001	0.129	16

<b>Matrix: SO</b>						
AC228**	52.600	2.900	1.051	1.027	0.219	49
AM241	7.470	0.410	1.092	1.051	0.209	57
BI212**	58.300	5.900	0.842	0.919	0.278	42
BI214**	28.800	0.500	1.097	1.084	0.225	52
Bq U	237.000	16.000	0.869	0.920	0.144	17
CO60	1.240	0.110	1.200	1.339	0.319	12
CS137	954.000	38.000	1.078	1.090	0.095	96
K40	314.000	13.000	1.114	1.122	0.141	94
PB210**	32.000	3.300	1.240	1.013	0.908	14
PB212**	52.800	3.700	1.057	1.036	0.226	52
PB214**	29.100	1.200	1.101	1.076	0.236	53
PU238	0.530	0.270	1.113	1.453	0.309	3
PU239	13.090	0.570	0.999	1.005	0.112	56
RA226**	29.000	1.000	2.442	1.393	2.086	45
SR90	39.630	0.003	1.096	1.089	0.278	44
TH228**	52.700	4.000	1.157	1.044	0.602	34
TH234**	114.000	6.000	1.069	0.984	0.365	36
TL208**	18.300	1.100	1.441	1.140	0.713	50
U234	113.000	6.000	0.940	0.949	0.100	35
U238	120.000	9.000	0.888	0.902	0.088	42
ug U	9.700	0.700	0.943	0.924	0.077	20

\*Statistical summary of "A" and "W" reported values

## QAP 49 Statistical Summary

Nuclide	EML Value	EML Error	Reported Values EML Value			No.* of Reported Values
			Mean	Median	Std. Dev.	
<b>Matrix: VE</b>						
AM241	2.330	0.060	1.207	1.138	0.344	44
CM244	1.760	0.070	1.051	1.071	0.228	26
CO60	20.000	1.000	1.051	1.050	0.136	80
CS137	390.000	20.000	1.087	1.108	0.100	83
K40	460.000	20.000	1.113	1.122	0.139	77
PU238	0.310	0.070	1.105	1.306	0.365	4
PU239	3.720	0.270	1.066	1.074	0.120	38
SR90	606.000	40.000	0.952	1.012	0.178	43
<b>Matrix: WA</b>						
AM241	1.250	0.080	1.051	1.040	0.112	58
Bq U	1.050	0.080	1.014	1.029	0.136	21
CO60	49.400	1.200	1.039	1.032	0.049	105
CS137	50.000	1.700	1.051	1.036	0.078	107
FE55	139.000	2.000	0.986	1.018	0.098	16
GROSS ALPHA	1080.000	60.000	0.939	0.971	0.130	65
GROSS BETA	1420.000	60.000	0.905	0.880	0.122	70
H3	76.200	2.900	1.116	1.062	0.187	59
MN54	32.400	1.400	1.093	1.090	0.068	93
NI63**	95.700	0.900	1.094	1.190	0.226	14
PU238	1.100	0.010	1.049	1.071	0.092	51
PU239	1.410	0.040	1.085	1.085	0.095	55
SR90	2.110	0.180	1.102	1.090	0.132	52
U234	0.510	0.030	1.045	1.039	0.093	37
U238	0.520	0.050	1.026	1.019	0.058	37
ug U	0.040	0.003	1.039	1.050	0.073	21

Units for matrices:

Air filter: AI=Bq/filter

Soil: SO=Bq/kg

Vegetation: VE=Bq/kg

Water: WA=Bq/L.

Values for elemental uranium in µg/filter, g or mL.

Conversion from Bq/kg or L to pCi/g or mL:

1 Bq/kg or L = 0.027 pCi/g or mL

Example: Convert 3 Bq/kg to pCi/g

3 Bq/kg x 27 pCi/Bq/1000 g/kg = 0.081 pCi/g

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\*Statistical summary of "A" and "W" reported values

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### QAP 49 Control Limits\* by Matrix

Nuclide	Lower Limit	Lower Middle Limit	Upper Middle Limit	Upper Limit
<b>Matrix: AI</b>				
AM241	0.73	0.88	1.46	2.58
Bq U	0.80	0.90	1.53	3.35
CO60	0.75	0.83	1.10	1.32
CS137	0.73	0.82	1.14	1.37
GROSS ALPHA	0.50	0.81	1.32	1.55
GROSS BETA	0.72	0.89	1.39	1.67
MN54	0.76	0.84	1.18	1.42
PU238	0.74	0.89	1.15	1.40
PU239	0.76	0.90	1.19	1.44
SB125	0.61	0.83	1.19	1.43
SR90	0.61	0.83	1.33	1.93
U234	0.83	0.90	1.40	1.92
U238	0.84	0.90	1.31	2.61
ug U	0.72	0.90	1.29	1.93

<b>Matrix: SO</b>				
AC228**	0.00	0.00	0.00	0.00
AM241	0.63	0.79	1.48	2.31
BI212**	0.00	0.00	0.00	0.00
BI214**	0.00	0.00	0.00	0.00
Bq U	0.42	0.61	1.16	1.39
CO60	0.67	0.83	1.74	2.54
CS137	0.83	0.90	1.21	1.32
K40	0.78	0.90	1.25	1.53
PB210**	0.00	0.00	0.00	0.00
PB212**	0.00	0.00	0.00	0.00
PB214**	0.00	0.00	0.00	0.00
PU238	0.52	0.74	1.37	2.84
PU239	0.69	0.89	1.24	1.74
RA226**	0.00	0.00	0.00	0.00
SR90	0.60	0.77	1.64	3.66
TH228**	0.00	0.00	0.00	0.00
TH234**	0.00	0.00	0.00	0.00
TL208**	0.00	0.00	0.00	0.00
U234	0.47	0.70	1.11	1.30
U238	0.44	0.69	1.10	1.42
ug U	0.46	0.67	1.10	1.22

\*Control limits are established from historical QAP data and reported as: the ratio of Reported Value vs. EML Value

\*\*Where historical data are insufficient, limits were not applied

### QAP 49 Control Limits\* by Matrix

Nuclide	Lower Limit	Lower Middle Limit	Upper Middle Limit	Upper Limit
<b>Matrix: VE</b>				
AM241	0.68	0.89	1.60	2.70
CM244	0.44	0.81	1.30	1.62
CO60	0.69	0.86	1.24	1.46
CS137	0.80	0.90	1.25	1.40
K40	0.79	0.90	1.24	1.42
PU238	0.66	0.81	2.89	7.94
PU239	0.68	0.86	1.23	1.59
SR90	0.50	0.73	1.13	1.33
<b>Matrix: WA</b>				
AM241	0.75	0.90	1.24	1.49
Bq U	0.67	0.90	1.26	1.42
CO60	0.80	0.90	1.14	1.20
CS137	0.80	0.90	1.18	1.26
FE55	0.44	0.60	1.34	1.53
GROSS ALPHA	0.61	0.83	1.17	1.32
GROSS BETA	0.55	0.71	1.32	1.54
H3	0.71	0.82	1.22	1.79
MN54	0.80	0.90	1.17	1.25
NI63**	0.00	0.00	0.00	0.00
PU238	0.78	0.90	1.11	1.25
PU239	0.80	0.90	1.15	1.39
SR90	0.75	0.89	1.21	1.50
U234	0.80	0.90	1.22	1.40
U238	0.80	0.90	1.17	1.26
ug U	0.80	0.90	1.18	1.34

The following are recommended performance criteria for analysis of environmental levels of analytes:  
Acceptable: Lower Middle Limit  $\leq$  A  $\leq$  Upper Middle Limit

Acceptable with Warning: Lower Limit  $\leq$  W < Lower Middle Limit or Upper Middle Limit < W  $\leq$  Upper Limit

Not Acceptable: N < Lower Limit or N > Upper Limit

\*Control limits are established from historical QAP data and reported as: the ratio of Reported Value vs. EML Value

\*\*Where historical data are insufficient, limits were not applied

## QAP 49 Summary of Matrix Evaluations by Laboratory

Matrix	Evaluation Summary			Total Analyses	Evaluation Percentages		
	A	W	N		%A	%W	%N
<b>Lab: AC</b> Analytical Chemistry Laboratory, Argonne National Lab							
WA	2	0	0	2	100	0	0
SO	2	0	0	2	100	0	0
<b>Totals:</b>	<b>4</b>	<b>0</b>	<b>0</b>	<b>4</b>	<b>100%</b>	<b>0%</b>	<b>0%</b>
<b>Lab: AF</b> Air Force Analytical Lab, Brooks AFB							
VE	3	1	2	6	50	17	33
SO	12	2	2	16	75	13	13
WA	5	2	4	11	45	18	36
AI	6	0	3	9	67	0	33
<b>Totals:</b>	<b>26</b>	<b>5</b>	<b>11</b>	<b>42</b>	<b>62%</b>	<b>12%</b>	<b>26%</b>
<b>Lab: AG</b> Paragon Analytics, Inc, Fort Collins, CO							
WA	12	0	0	12	100	0	0
AI	9	0	3	12	75	0	25
SO	15	2	0	17	88	12	0
VE	7	0	0	7	100	0	0
<b>Totals:</b>	<b>43</b>	<b>2</b>	<b>3</b>	<b>48</b>	<b>90%</b>	<b>4%</b>	<b>6%</b>
<b>Lab: AI</b> Nuclear Technology Services, Inc., Roswell, GA							
AI	0	2	0	2	0	100	0
SO	11	1	0	12	92	8	0
WA	5	4	2	11	45	36	18
VE	3	3	1	7	43	43	14
<b>Totals:</b>	<b>19</b>	<b>10</b>	<b>3</b>	<b>32</b>	<b>59%</b>	<b>31%</b>	<b>9%</b>
<b>Lab: AL</b> Ames Laboratory, Ames, IA							
WA	0	0	3	3	0	0	100
AI	4	2	0	6	67	33	0
VE	0	0	3	3	0	0	100
SO	1	0	2	3	33	0	67
<b>Totals:</b>	<b>5</b>	<b>2</b>	<b>8</b>	<b>15</b>	<b>33%</b>	<b>13%</b>	<b>53%</b>
<b>Lab: AM</b> American Radiation Services, Inc., Baton Rouge							
VE	3	2	1	6	50	33	17
SO	16	2	0	18	89	11	0
WA	8	1	4	13	62	8	31
AI	3	9	1	13	23	69	8
<b>Totals:</b>	<b>30</b>	<b>14</b>	<b>6</b>	<b>50</b>	<b>60%</b>	<b>28%</b>	<b>12%</b>



## QAP 49 Summary of Matrix Evaluations by Laboratory

Matrix	Evaluation Summary			Total Analyses	Evaluation Percentages		
	A	W	N		%A	%W	%N
<b>Lab: AN</b> Argonne National Laboratory							
SO	6	0	2	8	75	0	25
WA	10	0	0	10	100	0	0
AI	10	0	0	10	100	0	0
<b>Totals:</b>	<b>26</b>	<b>0</b>	<b>2</b>	<b>28</b>	<b>93%</b>	<b>0%</b>	<b>7%</b>
<b>Lab: AP</b> Aberdeen Proving Ground, Aberdeen, MD							
AI	2	0	0	2	100	0	0
<b>Totals:</b>	<b>2</b>	<b>0</b>	<b>0</b>	<b>2</b>	<b>100%</b>	<b>0%</b>	<b>0%</b>
<b>Lab: AT</b> ATL International inc., Germantown, MD							
WA	4	0	0	4	100	0	0
VE	4	0	0	4	100	0	0
SO	3	0	0	3	100	0	0
<b>Totals:</b>	<b>11</b>	<b>0</b>	<b>0</b>	<b>11</b>	<b>100%</b>	<b>0%</b>	<b>0%</b>
<b>Lab: AU</b> ORISE EESD/ESSAP, Oak Ridge							
VE	6	0	0	6	100	0	0
SO	7	0	0	7	100	0	0
WA	11	1	0	12	92	8	0
AI	6	1	4	11	55	9	36
<b>Totals:</b>	<b>30</b>	<b>2</b>	<b>4</b>	<b>36</b>	<b>83%</b>	<b>6%</b>	<b>11%</b>
<b>Lab: BA</b> Bettis Atomic Power Lab, West Mifflin, PA							
VE	2	0	0	2	100	0	0
SO	1	1	0	2	50	50	0
WA	5	3	0	8	63	38	0
AI	3	1	0	4	75	25	0
<b>Totals:</b>	<b>11</b>	<b>5</b>	<b>0</b>	<b>16</b>	<b>69%</b>	<b>31%</b>	<b>0%</b>
<b>Lab: BC</b> Babcock & Wilcox MC #42, Lynchburg, VA							
WA	6	1	1	8	75	13	13
AI	4	1	4	9	44	11	44
SO	2	2	1	5	40	40	20
VE	3	1	0	4	75	25	0
<b>Totals:</b>	<b>15</b>	<b>5</b>	<b>6</b>	<b>26</b>	<b>58%</b>	<b>19%</b>	<b>23%</b>
<b>Lab: BE</b> RUST Geotech, Grand Junction, CO							
SO	8	0	0	8	100	0	0
WA	14	1	0	15	93	7	0

## QAP 49 Summary of Matrix Evaluations by Laboratory

Matrix	Evaluation Summary				Evaluation Percentages		
	A	W	N	Total Analyses	%A	%W	%N
AI	12	1	0	13	92	8	0
VE	6	1	0	7	86	14	0
<b>Totals:</b>	<b>40</b>	<b>3</b>	<b>0</b>	<b>43</b>	<b>93%</b>	<b>7%</b>	<b>0%</b>
<b>Lab: BL</b> Barringer Laboratories Inc., Golden, CO							
VE	6	2	0	8	75	25	0
SO	24	0	1	25	96	0	4
WA	15	3	2	20	75	15	10
AI	15	3	0	18	83	17	0
<b>Totals:</b>	<b>60</b>	<b>8</b>	<b>3</b>	<b>71</b>	<b>85%</b>	<b>11%</b>	<b>4%</b>
<b>Lab: BM</b> Battelle Memorial Institute, Columbus, OH							
AI	8	0	0	8	100	0	0
WA	8	0	0	8	100	0	0
SO	6	0	0	6	100	0	0
VE	5	0	0	5	100	0	0
<b>Totals:</b>	<b>27</b>	<b>0</b>	<b>0</b>	<b>27</b>	<b>100%</b>	<b>0%</b>	<b>0%</b>
<b>Lab: BN</b> Brookhaven National Laboratory, Upton, NY							
SO	24	0	0	24	100	0	0
WA	3	7	10	20	15	35	50
AI	4	4	10	18	22	22	56
VE	9	0	0	9	100	0	0
<b>Totals:</b>	<b>40</b>	<b>11</b>	<b>20</b>	<b>71</b>	<b>56%</b>	<b>15%</b>	<b>28%</b>
<b>Lab: BP</b> Battelle Pacific Northwest National Laboratory							
WA	12	2	0	14	86	14	0
AI	13	0	0	13	100	0	0
SO	12	1	0	13	92	8	0
VE	7	0	0	7	100	0	0
<b>Totals:</b>	<b>44</b>	<b>3</b>	<b>0</b>	<b>47</b>	<b>94%</b>	<b>6%</b>	<b>0%</b>
<b>Lab: BQ</b> Becquerel Laboratories Inc., Mississauga, Ontario, Canada							
SO	8	1	1	10	80	10	10
WA	5	1	0	6	83	17	0
AI	6	0	1	7	86	0	14
VE	1	0	2	3	33	0	67
<b>Totals:</b>	<b>20</b>	<b>2</b>	<b>4</b>	<b>26</b>	<b>77%</b>	<b>8%</b>	<b>15%</b>
<b>Lab: BU</b> Autoridad Regulatoria, Buenos Aires, Argentina							
VE	7	0	0	7	100	0	0

## QAP 49 Summary of Matrix Evaluations by Laboratory

Matrix	Evaluation Summary			Total Analyses	Evaluation Percentages		
	A	W	N		%A	%W	%N
AI	11	2	0	13	85	15	0
SO	8	1	0	9	89	11	0
WA	10	2	0	12	83	17	0
<b>Totals:</b>	<b>36</b>	<b>5</b>	<b>0</b>	<b>41</b>	<b>88%</b>	<b>12%</b>	<b>0%</b>
<b>Lab: BX</b> B&W Nuclear Envir. Services, Lynchburg, VA							
VE	4	2	1	7	57	29	14
SO	5	3	0	8	63	38	0
WA	10	3	1	14	71	21	7
AI	6	1	4	11	55	9	36
<b>Totals:</b>	<b>25</b>	<b>9</b>	<b>6</b>	<b>40</b>	<b>63%</b>	<b>23%</b>	<b>15%</b>
<b>Lab: CA</b> Atomic Energy Control Board, Ottawa, Canada							
SO	1	0	0	1	100	0	0
WA	4	1	1	6	67	17	17
AI	5	1	0	6	83	17	0
<b>Totals:</b>	<b>10</b>	<b>2</b>	<b>1</b>	<b>13</b>	<b>77%</b>	<b>15%</b>	<b>8%</b>
<b>Lab: CB</b> Radiation Protection Bureau, Ontario, Canada							
AI	14	1	0	15	93	7	0
WA	2	0	0	2	100	0	0
<b>Totals:</b>	<b>16</b>	<b>1</b>	<b>0</b>	<b>17</b>	<b>94%</b>	<b>6%</b>	<b>0%</b>
<b>Lab: CD</b> Gentilly-2 Nuclear Power Plant, Quebec Canada							
AI	6	0	0	6	100	0	0
WA	4	1	0	5	80	20	0
VE	3	0	0	3	100	0	0
SO	8	0	0	8	100	0	0
<b>Totals:</b>	<b>21</b>	<b>1</b>	<b>0</b>	<b>22</b>	<b>95%</b>	<b>5%</b>	<b>0%</b>
<b>Lab: CH</b> California State Dept. Health Serv., Sanitation & Radiation Laboratory							
VE	6	1	0	7	86	14	0
SO	17	0	0	17	100	0	0
WA	13	2	0	15	87	13	0
AI	14	0	0	14	100	0	0
<b>Totals:</b>	<b>50</b>	<b>3</b>	<b>0</b>	<b>53</b>	<b>94%</b>	<b>6%</b>	<b>0%</b>
<b>Lab: CL</b> Core Laboratories, Casper, WY							
VE	5	2	0	7	71	29	0
SO	12	3	0	15	80	20	0
WA	10	2	1	13	77	15	8

## QAP 49 Summary of Matrix Evaluations by Laboratory

Matrix	Evaluation Summary			Total Analyses	Evaluation Percentages		
	A	W	N		%A	%W	%N
AI	10	0	1	11	91	0	9
<b>Totals:</b>	<b>37</b>	<b>7</b>	<b>2</b>	<b>46</b>	<b>80%</b>	<b>15%</b>	<b>4%</b>
<b>Lab: CM</b> Metropolitan Water Reclamation District of Greater Chicago, IL							
WA	20	0	0	20	100	0	0
SO	9	0	0	9	100	0	0
<b>Totals:</b>	<b>29</b>	<b>0</b>	<b>0</b>	<b>29</b>	<b>100%</b>	<b>0%</b>	<b>0%</b>
<b>Lab: CN</b> China Institute for Radiation Protection							
AI	4	1	0	5	80	20	0
VE	4	0	0	4	100	0	0
SO	3	0	0	3	100	0	0
<b>Totals:</b>	<b>11</b>	<b>1</b>	<b>0</b>	<b>12</b>	<b>92%</b>	<b>8%</b>	<b>0%</b>
<b>Lab: CO</b> Bedford Institute of Oceanography, Dartmouth Nova Scotia, Canada							
VE	2	0	0	2	100	0	0
SO	1	0	2	3	33	0	67
AI	4	0	0	4	100	0	0
<b>Totals:</b>	<b>7</b>	<b>0</b>	<b>2</b>	<b>9</b>	<b>78%</b>	<b>0%</b>	<b>22%</b>
<b>Lab: CR</b> Laboratorio de Fisica Nuclear Aplicada, Costa Rica							
VE	2	1	0	3	67	33	0
SO	8	1	0	9	89	11	0
AI	0	0	4	4	0	0	100
<b>Totals:</b>	<b>10</b>	<b>2</b>	<b>4</b>	<b>16</b>	<b>63%</b>	<b>13%</b>	<b>25%</b>
<b>Lab: CS</b> Boeing North American, Canoga Park, CA							
VE	8	0	0	8	100	0	0
AI	14	0	0	14	100	0	0
SO	24	0	0	24	100	0	0
WA	6	2	0	8	75	25	0
<b>Totals:</b>	<b>52</b>	<b>2</b>	<b>0</b>	<b>54</b>	<b>96%</b>	<b>4%</b>	<b>0%</b>
<b>Lab: DH</b> Duke Engineering Services Hanford							
SO	3	1	0	4	75	25	0
WA	4	1	0	5	80	20	0
AI	1	1	0	2	50	50	0
<b>Totals:</b>	<b>8</b>	<b>3</b>	<b>0</b>	<b>11</b>	<b>73%</b>	<b>27%</b>	<b>0%</b>

## QAP 49 Summary of Matrix Evaluations by Laboratory

Matrix	Evaluation Summary			Total Analyses	Evaluation Percentages		
	A	W	N		%A	%W	%N
<b>Lab: EG</b> LMITCO/INEL, Scoville							
VE	7	1	0	8	88	13	0
SO	8	0	0	8	100	0	0
WA	14	0	0	14	100	0	0
AI	10	0	0	10	100	0	0
<b>Totals:</b>	<b>39</b>	<b>1</b>	<b>0</b>	<b>40</b>	<b>98%</b>	<b>3%</b>	<b>0%</b>
<b>Lab: EM</b> 3M, Empore Disks, St. Paul, MN							
SO	0	0	3	3	0	0	100
WA	2	2	0	4	50	50	0
AI	0	0	4	4	0	0	100
<b>Totals:</b>	<b>2</b>	<b>2</b>	<b>7</b>	<b>11</b>	<b>18%</b>	<b>18%</b>	<b>64%</b>
<b>Lab: EP</b> US EPA, Las Vegas							
WA	8	0	0	8	100	0	0
AI	7	0	0	7	100	0	0
SO	2	0	0	2	100	0	0
VE	3	0	0	3	100	0	0
<b>Totals:</b>	<b>20</b>	<b>0</b>	<b>0</b>	<b>20</b>	<b>100%</b>	<b>0%</b>	<b>0%</b>
<b>Lab: EG</b> EGL Environmental, Santa Paula, CA							
WA	8	1	3	12	67	8	25
AI	4	2	0	6	67	33	0
SO	14	1	0	15	93	7	0
<b>Totals:</b>	<b>26</b>	<b>4</b>	<b>3</b>	<b>33</b>	<b>79%</b>	<b>12%</b>	<b>9%</b>
<b>Lab: EI</b> The University of the South Pacific, Fiji Islands							
AI	3	1	1	5	60	20	20
<b>Totals:</b>	<b>3</b>	<b>1</b>	<b>1</b>	<b>5</b>	<b>60%</b>	<b>20%</b>	<b>20%</b>
<b>Lab: FL</b> Florida Dept of Health & Rehab. Serv., Orlando							
VE	4	0	0	4	100	0	0
SO	3	1	0	4	75	25	0
WA	7	1	0	8	88	13	0
AI	5	1	0	6	83	17	0
<b>Totals:</b>	<b>19</b>	<b>3</b>	<b>0</b>	<b>22</b>	<b>86%</b>	<b>14%</b>	<b>0%</b>
<b>Lab: FM</b> Florida Mobile Emergency Radiological Laboratory, Orlando							
AI	5	0	0	5	100	0	0
WA	4	0	0	4	100	0	0

## QAP 49 Summary of Matrix Evaluations by Laboratory

Matrix	Evaluation Summary			Total Analyses	Evaluation Percentages		
	A	W	N		%A	%W	%N
<b>Totals:</b>	<b>9</b>	<b>0</b>	<b>0</b>	<b>9</b>	<b>100%</b>	<b>0%</b>	<b>0%</b>
<b>Lab: FN</b> Fermi Lab, Batavia, IL							
WA	4	0	0	4	100	0	0
AI	4	0	0	4	100	0	0
VE	3	0	0	3	100	0	0
SO	2	0	0	2	100	0	0
<b>Totals:</b>	<b>13</b>	<b>0</b>	<b>0</b>	<b>13</b>	<b>100%</b>	<b>0%</b>	<b>0%</b>
<b>Lab: FS</b> Florida State University, Tallahassee							
SO	8	0	1	9	89	0	11
<b>Totals:</b>	<b>8</b>	<b>0</b>	<b>1</b>	<b>9</b>	<b>89%</b>	<b>0%</b>	<b>11%</b>
<b>Lab: GA</b> Lockheed Martin, Pikton, OH							
VE	4	2	0	6	67	33	0
SO	12	1	0	13	92	8	0
WA	5	2	3	10	50	20	30
AI	9	2	0	11	82	18	0
<b>Totals:</b>	<b>30</b>	<b>7</b>	<b>3</b>	<b>40</b>	<b>75%</b>	<b>18%</b>	<b>8%</b>
<b>Lab: GC</b> Georgia Power Company Environmental Lab							
VE	3	0	0	3	100	0	0
SO	6	0	0	6	100	0	0
WA	6	1	1	8	75	13	13
AI	1	1	0	2	50	50	0
<b>Totals:</b>	<b>16</b>	<b>2</b>	<b>1</b>	<b>19</b>	<b>84%</b>	<b>11%</b>	<b>5%</b>
<b>Lab: GE</b> General Engineering Labs, Charleston, SC							
VE	6	1	0	7	86	14	0
AI	10	2	1	13	77	15	8
SO	14	0	0	14	100	0	0
WA	14	0	1	15	93	0	7
<b>Totals:</b>	<b>44</b>	<b>3</b>	<b>2</b>	<b>49</b>	<b>90%</b>	<b>6%</b>	<b>4%</b>
<b>Lab: GP</b> GPU Nuclear, Inc., Harrisburg, PA							
VE	8	0	0	8	100	0	0
SO	2	0	1	3	67	0	33
WA	12	0	1	13	92	0	8
AI	9	0	4	13	69	0	31

## QAP 49 Summary of Matrix Evaluations by Laboratory

Matrix	Evaluation Summary			Total Analyses	Evaluation Percentages		
	A	W	N		%A	%W	%N
<b>Totals:</b>	<b>31</b>	<b>0</b>	<b>6</b>	<b>37</b>	<b>84%</b>	<b>0%</b>	<b>16%</b>
<b>Lab: GS</b> USGS/NWQL, Arvada, CO							
WA	3	0	0	3	100	0	0
<b>Totals:</b>	<b>3</b>	<b>0</b>	<b>0</b>	<b>3</b>	<b>100%</b>	<b>0%</b>	<b>0%</b>
<b>Lab: GT</b> Georgia Institute of Technology							
WA	8	2	1	11	73	18	9
SO	5	2	0	7	71	29	0
VE	1	5	0	6	17	83	0
AI	11	0	0	11	100	0	0
<b>Totals:</b>	<b>25</b>	<b>9</b>	<b>1</b>	<b>35</b>	<b>71%</b>	<b>26%</b>	<b>3%</b>
<b>Lab: HC</b> Lawrence Livermore Laboratory, California							
WA	3	0	0	3	100	0	0
AI	1	1	0	2	50	50	0
<b>Totals:</b>	<b>4</b>	<b>1</b>	<b>0</b>	<b>5</b>	<b>80%</b>	<b>20%</b>	<b>0%</b>
<b>Lab: HT</b> Technical University, Budapest, Hungary							
SO	0	0	6	6	0	0	100
WA	0	1	6	7	0	14	86
<b>Totals:</b>	<b>0</b>	<b>1</b>	<b>12</b>	<b>13</b>	<b>0%</b>	<b>8%</b>	<b>92%</b>
<b>Lab: HU</b> Water Resources Research Centre (VITUKI), Hungary							
VE	3	1	0	4	75	25	0
SO	8	0	2	10	80	0	20
AI	3	1	1	5	60	20	20
<b>Totals:</b>	<b>14</b>	<b>2</b>	<b>3</b>	<b>19</b>	<b>74%</b>	<b>11%</b>	<b>16%</b>
<b>Lab: IA</b> Bhabha Atomic Research Centre, India							
VE	5	4	0	9	56	44	0
SO	5	4	3	12	42	33	25
AI	12	0	0	12	100	0	0
<b>Totals:</b>	<b>22</b>	<b>8</b>	<b>3</b>	<b>33</b>	<b>67%</b>	<b>24%</b>	<b>9%</b>
<b>Lab: ID</b> Institute of Radiation Protection and Dosimetry, Rio de Janeiro, Brazil							
VE	4	2	0	6	67	33	0
AI	9	0	0	9	100	0	0

## QAP 49 Summary of Matrix Evaluations by Laboratory

Matrix	Evaluation Summary				Evaluation Percentages		
	A	W	N	Total Analyses	%A	%W	%N
SO	12	0	0	12	100	0	0
WA	6	1	1	8	75	13	13
<b>Totals:</b>	<b>31</b>	<b>3</b>	<b>1</b>	<b>35</b>	<b>89%</b>	<b>9%</b>	<b>3%</b>
<b>Lab: IE</b> IEA, Inc., Morrisville, NC							
VE	0	1	2	3	0	33	67
SO	7	1	1	9	78	11	11
WA	5	1	1	7	71	14	14
<b>Totals:</b>	<b>12</b>	<b>3</b>	<b>4</b>	<b>19</b>	<b>63%</b>	<b>16%</b>	<b>21%</b>
<b>Lab: IL</b> ISU Environmental Monitoring Program, Pocatello, ID							
VE	2	1	0	3	67	33	0
SO	8	0	1	9	89	0	11
WA	5	0	0	5	100	0	0
AI	6	0	0	6	100	0	0
<b>Totals:</b>	<b>21</b>	<b>1</b>	<b>1</b>	<b>23</b>	<b>91%</b>	<b>4%</b>	<b>4%</b>
<b>Lab: IN</b> Lockheed Martin Idaho Technical Corp., Analytical Laboratory							
WA	8	1	1	10	80	10	10
SO	12	0	0	12	100	0	0
VE	3	0	0	3	100	0	0
AI	5	0	0	5	100	0	0
<b>Totals:</b>	<b>28</b>	<b>1</b>	<b>1</b>	<b>30</b>	<b>93%</b>	<b>3%</b>	<b>3%</b>
<b>Lab: IS</b> Quanterra- St. Louis							
VE	4	1	1	6	67	17	17
SO	16	1	3	20	80	5	15
WA	5	6	0	11	45	55	0
AI	6	3	2	11	55	27	18
<b>Totals:</b>	<b>31</b>	<b>11</b>	<b>6</b>	<b>48</b>	<b>65%</b>	<b>23%</b>	<b>13%</b>
<b>Lab: IT</b> Quanterra- Richland Laboratory							
VE	6	0	0	6	100	0	0
SO	18	2	0	20	90	10	0
WA	13	1	0	14	93	7	0
AI	13	1	0	14	93	7	0
<b>Totals:</b>	<b>50</b>	<b>4</b>	<b>0</b>	<b>54</b>	<b>93%</b>	<b>7%</b>	<b>0%</b>
<b>Lab: JE</b> Jacobs Engineering, Oak Ridge, TN							
AI	2	0	0	2	100	0	0
SO	6	0	0	6	100	0	0



## QAP 49 Summary of Matrix Evaluations by Laboratory

Matrix	Evaluation Summary				Evaluation Percentages		
	A	W	N	Total Analyses	%A	%W	%N
WA	2	0	3	5	40	0	60
<b>Totals:</b>	<b>10</b>	<b>0</b>	<b>3</b>	<b>13</b>	<b>77%</b>	<b>0%</b>	<b>23%</b>
<b>Lab: JL</b> Jefferson Lab, Newport News, VA							
WA	3	0	1	4	75	0	25
AI	0	0	2	2	0	0	100
<b>Totals:</b>	<b>3</b>	<b>0</b>	<b>3</b>	<b>6</b>	<b>50%</b>	<b>0%</b>	<b>50%</b>
<b>Lab: KA</b> Knolls Atomic Power Lab, Schenectady							
SO	4	0	0	4	100	0	0
WA	8	2	0	10	80	20	0
AI	2	0	0	2	100	0	0
<b>Totals:</b>	<b>14</b>	<b>2</b>	<b>0</b>	<b>16</b>	<b>88%</b>	<b>13%</b>	<b>0%</b>
<b>Lab: KR</b> Korea Atomic Energy Research Institute							
VE	3	1	0	4	75	25	0
SO	4	0	0	4	100	0	0
AI	6	1	0	7	86	14	0
<b>Totals:</b>	<b>13</b>	<b>2</b>	<b>0</b>	<b>15</b>	<b>87%</b>	<b>13%</b>	<b>0%</b>
<b>Lab: LA</b> Los Alamos National Laboratory, NM							
WA	21	9	1	31	68	29	3
VE	8	4	0	12	67	33	0
AI	21	0	0	21	100	0	0
SO	8	1	3	12	67	8	25
<b>Totals:</b>	<b>58</b>	<b>14</b>	<b>4</b>	<b>76</b>	<b>76%</b>	<b>18%</b>	<b>5%</b>
<b>Lab: LB</b> Lawrence Berkeley Lab UCB							
VE	0	0	3	3	0	0	100
SO	2	0	0	2	100	0	0
WA	3	0	0	3	100	0	0
AI	1	3	0	4	25	75	0
<b>Totals:</b>	<b>6</b>	<b>3</b>	<b>3</b>	<b>12</b>	<b>50%</b>	<b>25%</b>	<b>25%</b>
<b>Lab: LE</b> Lyle Environmental Management, Columbus, Ohio							
WA	1	0	1	2	50	0	50
<b>Totals:</b>	<b>1</b>	<b>0</b>	<b>1</b>	<b>2</b>	<b>50%</b>	<b>0%</b>	<b>50%</b>

## QAP 49 Summary of Matrix Evaluations by Laboratory

Matrix	Evaluation Summary			Total Analyses	Evaluation Percentages		
	A	W	N		%A	%W	%N
<b>Lab: LL</b> LLNL Chemistry and Material Science/Environmental							
VE	5	0	1	6	83	0	17
SO	6	0	2	8	75	0	25
WA	9	2	0	11	82	18	0
AI	11	0	0	11	100	0	0
<b>Totals:</b>	<b>31</b>	<b>2</b>	<b>3</b>	<b>36</b>	<b>86%</b>	<b>6%</b>	<b>8%</b>
<b>Lab: LN</b> Los Alamos National Lab, ES&H							
WA	1	1	2	4	25	25	50
AI	3	3	1	7	43	43	14
<b>Totals:</b>	<b>4</b>	<b>4</b>	<b>3</b>	<b>11</b>	<b>36%</b>	<b>36%</b>	<b>27%</b>
<b>Lab: LV</b> UNLV, Dept of Health Physics							
SO	9	2	0	11	82	18	0
WA	7	0	2	9	78	0	22
VE	3	1	0	4	75	25	0
AI	4	2	3	9	44	22	33
<b>Totals:</b>	<b>23</b>	<b>5</b>	<b>5</b>	<b>33</b>	<b>70%</b>	<b>15%</b>	<b>15%</b>
<b>Lab: LW</b> Lawrence Livermore National Lab, Waste							
SO	4	0	0	4	100	0	0
WA	3	0	0	3	100	0	0
<b>Totals:</b>	<b>7</b>	<b>0</b>	<b>0</b>	<b>7</b>	<b>100%</b>	<b>0%</b>	<b>0%</b>
<b>Lab: MA</b> ORNL Health Sciences Research Div.							
VE	3	0	1	4	75	0	25
SO	3	0	0	3	100	0	0
AI	0	0	4	4	0	0	100
<b>Totals:</b>	<b>6</b>	<b>0</b>	<b>5</b>	<b>11</b>	<b>55%</b>	<b>0%</b>	<b>45%</b>
<b>Lab: ME</b> Radiation Control Program, Jamaica Plain, MA							
VE	3	1	0	4	75	25	0
SO	4	2	1	7	57	29	14
WA	4	1	0	5	80	20	0
AI	2	5	0	7	29	71	0
<b>Totals:</b>	<b>13</b>	<b>9</b>	<b>1</b>	<b>23</b>	<b>57%</b>	<b>39%</b>	<b>4%</b>
<b>Lab: MH</b> Maine Health & Environmental Testing Laboratory							
SO	9	0	0	9	100	0	0
WA	8	0	0	8	100	0	0

## QAP 49 Summary of Matrix Evaluations by Laboratory

Matrix	Evaluation Summary			Total Analyses	Evaluation Percentages		
	A	W	N		%A	%W	%N
VE	3	1	0	4	75	25	0
AI	2	4	0	6	33	67	0
<b>Totals:</b>	<b>22</b>	<b>5</b>	<b>0</b>	<b>27</b>	<b>81%</b>	<b>19%</b>	<b>0%</b>

**Lab: ML** Babcock & Wilcox of Ohio, Mound, Miamisburg, OH

VE	1	0	0	1	100	0	0
SO	3	0	0	3	100	0	0
WA	5	0	0	5	100	0	0
<b>Totals:</b>	<b>9</b>	<b>0</b>	<b>0</b>	<b>9</b>	<b>100%</b>	<b>0%</b>	<b>0%</b>

**Lab: NA** US EPA NAREL, Montgomery, AL

VE	5	1	0	6	83	17	0
SO	13	0	0	13	100	0	0
WA	4	0	3	7	57	0	43
AI	5	1	1	7	71	14	14
<b>Totals:</b>	<b>27</b>	<b>2</b>	<b>4</b>	<b>33</b>	<b>82%</b>	<b>6%</b>	<b>12%</b>

**Lab: ND** Dept. of Environmental Health and Safety, NC State University

WA	3	0	0	3	100	0	0
AI	5	1	0	6	83	17	0
<b>Totals:</b>	<b>8</b>	<b>1</b>	<b>0</b>	<b>9</b>	<b>89%</b>	<b>11%</b>	<b>0%</b>

**Lab: NL** Fluor Daniel Fernald, Inc., Ohio

WA	8	0	0	8	100	0	0
AI	8	1	0	9	89	11	0
SO	14	0	0	14	100	0	0
<b>Totals:</b>	<b>30</b>	<b>1</b>	<b>0</b>	<b>31</b>	<b>97%</b>	<b>3%</b>	<b>0%</b>

**Lab: NM** Environmental Evaluation Group, Carlsbad, NM

WA	4	1	0	5	80	20	0
AI	4	1	0	5	80	20	0
SO	6	1	0	7	86	14	0
<b>Totals:</b>	<b>14</b>	<b>3</b>	<b>0</b>	<b>17</b>	<b>82%</b>	<b>18%</b>	<b>0%</b>

**Lab: NP** JAF Environmental Laboratory, New York Power Authority

VE	2	1	0	3	67	33	0
SO	0	1	1	2	0	50	50
WA	4	0	1	5	80	0	20
AI	5	0	0	5	100	0	0

## QAP 49 Summary of Matrix Evaluations by Laboratory

Matrix	Evaluation Summary			Total Analyses	Evaluation Percentages		
	A	W	N		%A	%W	%N
<b>Totals:</b>	<b>11</b>	<b>2</b>	<b>2</b>	<b>15</b>	<b>73%</b>	<b>13%</b>	<b>13%</b>
<b>Lab: NQ</b> New Mexico Department of Health, Albuquerque							
SO	11	3	0	14	79	21	0
WA	5	3	2	10	50	30	20
AI	4	3	0	7	57	43	0
<b>Totals:</b>	<b>20</b>	<b>9</b>	<b>2</b>	<b>31</b>	<b>65%</b>	<b>29%</b>	<b>6%</b>
<b>Lab: NR</b> Naval Reactors Facility Chemistry, Scoville, ID							
VE	3	0	0	3	100	0	0
SO	2	0	0	2	100	0	0
<b>Totals:</b>	<b>5</b>	<b>0</b>	<b>0</b>	<b>5</b>	<b>100%</b>	<b>0%</b>	<b>0%</b>
<b>Lab: NS</b> State Lab of Public Health, North Carolina							
AI	5	0	1	6	83	0	17
WA	5	1	1	7	71	14	14
<b>Totals:</b>	<b>10</b>	<b>1</b>	<b>2</b>	<b>13</b>	<b>77%</b>	<b>8%</b>	<b>15%</b>
<b>Lab: NZ</b> National Radiation Laboratory, New Zealand							
VE	6	0	0	6	100	0	0
SO	10	0	0	10	100	0	0
WA	14	2	4	20	70	10	20
AI	14	6	2	22	64	27	9
<b>Totals:</b>	<b>44</b>	<b>8</b>	<b>6</b>	<b>58</b>	<b>76%</b>	<b>14%</b>	<b>10%</b>
<b>Lab: OB</b> ORG Laboratories, East Syracuse, NY							
VE	0	0	3	3	0	0	100
SO	8	0	2	10	80	0	20
WA	4	0	1	5	80	0	20
AI	1	1	4	6	17	17	67
<b>Totals:</b>	<b>13</b>	<b>1</b>	<b>10</b>	<b>24</b>	<b>54%</b>	<b>4%</b>	<b>42%</b>
<b>Lab: OC</b> Radiation Protection Service Laboratory, Ontario, Canada							
WA	15	0	4	19	79	0	21
AI	7	11	0	18	39	61	0
SO	28	5	0	33	85	15	0
VE	5	7	0	12	42	58	0
<b>Totals:</b>	<b>55</b>	<b>23</b>	<b>4</b>	<b>82</b>	<b>67%</b>	<b>28%</b>	<b>5%</b>

## QAP 49 Summary of Matrix Evaluations by Laboratory

Matrix	Evaluation Summary			Total Analyses	Evaluation Percentages		
	A	W	N		%A	%W	%N
<b>Lab: OD</b> ORNL, Radiobioassay Lab							
AI	20	0	0	20	100	0	0
WA	24	2	0	26	92	8	0
<b>Totals:</b>	<b>44</b>	<b>2</b>	<b>0</b>	<b>46</b>	<b>96%</b>	<b>4%</b>	<b>0%</b>
<b>Lab: OL</b> ORNL Environmental Sciences Div							
VE	3	0	0	3	100	0	0
SO	3	0	0	3	100	0	0
WA	3	0	0	3	100	0	0
AI	3	1	0	4	75	25	0
<b>Totals:</b>	<b>12</b>	<b>1</b>	<b>0</b>	<b>13</b>	<b>92%</b>	<b>8%</b>	<b>0%</b>
<b>Lab: OT</b> ORNL Radioactive Material Analysis Lab							
VE	7	0	0	7	100	0	0
SO	15	0	0	15	100	0	0
WA	8	2	1	11	73	18	9
AI	11	0	0	11	100	0	0
<b>Totals:</b>	<b>41</b>	<b>2</b>	<b>1</b>	<b>44</b>	<b>93%</b>	<b>5%</b>	<b>2%</b>
<b>Lab: OU</b> Outreach Laboratory, Broken Arrow, OK							
VE	3	0	0	3	100	0	0
AI	5	1	0	6	83	17	0
WA	7	4	3	14	50	29	21
SO	13	0	0	13	100	0	0
<b>Totals:</b>	<b>28</b>	<b>5</b>	<b>3</b>	<b>36</b>	<b>78%</b>	<b>14%</b>	<b>8%</b>
<b>Lab: PA</b> Mason & Hanger-Silas Mason Co., Inc., Battelle Pantex, Amarillo, TX							
AI	2	0	0	2	100	0	0
<b>Totals:</b>	<b>2</b>	<b>0</b>	<b>0</b>	<b>2</b>	<b>100%</b>	<b>0%</b>	<b>0%</b>
<b>Lab: PK</b> Pakistan Institute of Nuclear Science & Technology							
VE	2	0	0	2	100	0	0
SO	1	0	0	1	100	0	0
AI	4	0	0	4	100	0	0
<b>Totals:</b>	<b>7</b>	<b>0</b>	<b>0</b>	<b>7</b>	<b>100%</b>	<b>0%</b>	<b>0%</b>
<b>Lab: PO</b> Institute of Oceanology PAN, Poland							
VE	3	1	0	4	75	25	0
SO	4	0	0	4	100	0	0
AI	2	3	0	5	40	60	0

## QAP 49 Summary of Matrix Evaluations by Laboratory

Matrix	Evaluation Summary			Total Analyses	Evaluation Percentages		
	A	W	N		%A	%W	%N
<b>Totals:</b>	<b>9</b>	<b>4</b>	<b>0</b>	<b>13</b>	<b>69%</b>	<b>31%</b>	<b>0%</b>
<b>Lab: PR</b> Princeton Plasma Physics Lab							
WA	5	0	0	5	100	0	0
AI	5	0	0	5	100	0	0
<b>Totals:</b>	<b>10</b>	<b>0</b>	<b>0</b>	<b>10</b>	<b>100%</b>	<b>0%</b>	<b>0%</b>
<b>Lab: RA</b> V. G. Khlopin Radium Institute, St. Petersburg, Russia							
SO	22	3	0	25	88	12	0
AI	9	0	2	11	82	0	18
VE	9	0	0	9	100	0	0
<b>Totals:</b>	<b>40</b>	<b>3</b>	<b>2</b>	<b>45</b>	<b>89%</b>	<b>7%</b>	<b>4%</b>
<b>Lab: RC</b> US NRC Region I Laboratory, PA							
WA	4	0	0	4	100	0	0
AI	6	0	0	6	100	0	0
SO	3	0	0	3	100	0	0
<b>Totals:</b>	<b>13</b>	<b>0</b>	<b>0</b>	<b>13</b>	<b>100%</b>	<b>0%</b>	<b>0%</b>
<b>Lab: RE</b> Bechtel Nevada, Mercury, NV							
VE	6	1	0	7	86	14	0
SO	9	0	0	9	100	0	0
WA	12	0	0	12	100	0	0
AI	9	1	0	10	90	10	0
<b>Totals:</b>	<b>36</b>	<b>2</b>	<b>0</b>	<b>38</b>	<b>95%</b>	<b>5%</b>	<b>0%</b>
<b>Lab: RG</b> Thermo Nutech Rocky Flats Plant, Golden							
WA	2	0	0	2	100	0	0
<b>Totals:</b>	<b>2</b>	<b>0</b>	<b>0</b>	<b>2</b>	<b>100%</b>	<b>0%</b>	<b>0%</b>
<b>Lab: RI</b> Waste Management Services of Hanford, Inc., 222S Lab							
VE	1	0	2	3	33	0	67
AI	6	1	1	8	75	13	13
WA	4	2	1	7	57	29	14
SO	1	0	0	1	100	0	0
<b>Totals:</b>	<b>12</b>	<b>3</b>	<b>4</b>	<b>19</b>	<b>63%</b>	<b>16%</b>	<b>21%</b>

## QAP 49 Summary of Matrix Evaluations by Laboratory

Matrix	Evaluation Summary			Total Analyses	Evaluation Percentages		
	A	W	N		%A	%W	%N
<b>Lab: RK</b> Rock Island Arsenal, Illinois							
AI	1	1	0	2	50	50	0
<b>Totals:</b>	<b>1</b>	<b>1</b>	<b>0</b>	<b>2</b>	<b>50%</b>	<b>50%</b>	<b>0%</b>
<b>Lab: SA</b> Sandia Labs Radioactive Sample Diag. Prog., NM							
SO	2	0	0	2	100	0	0
WA	2	1	0	3	67	33	0
AI	7	0	0	7	100	0	0
<b>Totals:</b>	<b>11</b>	<b>1</b>	<b>0</b>	<b>12</b>	<b>92%</b>	<b>8%</b>	<b>0%</b>
<b>Lab: SB</b> SC Dept. of Health and Environment Control Radiological Lab							
VE	3	0	0	3	100	0	0
SO	2	0	0	2	100	0	0
WA	2	2	1	5	40	40	20
AI	2	0	0	2	100	0	0
<b>Totals:</b>	<b>9</b>	<b>2</b>	<b>1</b>	<b>12</b>	<b>75%</b>	<b>17%</b>	<b>8%</b>
<b>Lab: SK</b> Savannah River Plant							
AI	4	1	0	5	80	20	0
SO	12	0	0	12	100	0	0
WA	4	0	2	6	67	0	33
<b>Totals:</b>	<b>20</b>	<b>1</b>	<b>2</b>	<b>23</b>	<b>87%</b>	<b>4%</b>	<b>9%</b>
<b>Lab: SL</b> Stanford Linear Accelerator Center							
WA	3	0	0	3	100	0	0
<b>Totals:</b>	<b>3</b>	<b>0</b>	<b>0</b>	<b>3</b>	<b>100%</b>	<b>0%</b>	<b>0%</b>
<b>Lab: SN</b> Sanford Cohen Associates, Inc., Montgomery, AL							
SO	8	1	0	9	89	11	0
WA	6	0	0	6	100	0	0
AI	3	0	0	3	100	0	0
VE	5	1	0	6	83	17	0
<b>Totals:</b>	<b>22</b>	<b>2</b>	<b>0</b>	<b>24</b>	<b>92%</b>	<b>8%</b>	<b>0%</b>
<b>Lab: SR</b> Savannah River Environmental Laboratory							
VE	6	1	0	7	86	14	0
SO	8	1	0	9	89	11	0
WA	7	5	0	12	58	42	0
AI	11	0	1	12	92	0	8

## QAP 49 Summary of Matrix Evaluations by Laboratory

Matrix	Evaluation Summary			Total Analyses	Evaluation Percentages		
	A	W	N		%A	%W	%N
<b>Totals:</b>	<b>32</b>	<b>7</b>	<b>1</b>	<b>40</b>	<b>80%</b>	<b>18%</b>	<b>3%</b>
<b>Lab: ST</b> SC DHEC, Aiken, South Carolina							
WA	1	0	0	1	100	0	0
<b>Totals:</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>100%</b>	<b>0%</b>	<b>0%</b>
<b>Lab: SW</b> Southwest Research Institute, San Antonio, TX							
AI	5	2	4	11	45	18	36
WA	4	3	4	11	36	27	36
SO	12	2	2	16	75	13	13
VE	0	5	2	7	0	71	29
<b>Totals:</b>	<b>21</b>	<b>12</b>	<b>12</b>	<b>45</b>	<b>47%</b>	<b>27%</b>	<b>27%</b>
<b>Lab: TE</b> Teledyne Isotopes Midwest Lab, Northbrook, IL							
SO	10	0	0	10	100	0	0
WA	6	2	0	8	75	25	0
AI	6	1	0	7	86	14	0
VE	3	1	0	4	75	25	0
<b>Totals:</b>	<b>25</b>	<b>4</b>	<b>0</b>	<b>29</b>	<b>86%</b>	<b>14%</b>	<b>0%</b>
<b>Lab: TI</b> Teledyne Brown Engineering Environmental Services, Westwood, NJ							
WA	12	0	1	13	92	0	8
AI	9	2	0	11	82	18	0
SO	5	1	1	7	71	14	14
VE	6	1	0	7	86	14	0
<b>Totals:</b>	<b>32</b>	<b>4</b>	<b>2</b>	<b>38</b>	<b>84%</b>	<b>11%</b>	<b>5%</b>
<b>Lab: TM</b> Thermo NUtech Albuquerque Lab, NM							
AI	11	0	0	11	100	0	0
SO	17	0	0	17	100	0	0
WA	9	1	1	11	82	9	9
VE	4	2	1	7	57	29	14
<b>Totals:</b>	<b>41</b>	<b>3</b>	<b>2</b>	<b>46</b>	<b>89%</b>	<b>7%</b>	<b>4%</b>
<b>Lab: TN</b> Thermo NUTech, Richmond, CA							
AI	11	1	1	13	85	8	8
WA	11	1	3	15	73	7	20
VE	4	0	3	7	57	0	43
SO	8	0	2	10	80	0	20



## QAP 49 Summary of Matrix Evaluations by Laboratory

Matrix	Evaluation Summary			Total Analyses	Evaluation Percentages		
	A	W	N		%A	%W	%N
<b>Totals:</b>	<b>34</b>	<b>2</b>	<b>9</b>	<b>45</b>	<b>76%</b>	<b>4%</b>	<b>20%</b>
<b>Lab: TO</b> Thermo NUtech Oak Ridge Laboratory							
VE	2	0	3	5	40	0	60
SO	16	0	2	18	89	0	11
WA	12	2	0	14	86	14	0
AI	5	1	0	6	83	17	0
<b>Totals:</b>	<b>35</b>	<b>3</b>	<b>5</b>	<b>43</b>	<b>81%</b>	<b>7%</b>	<b>12%</b>
<b>Lab: TP</b> Taiwan Power Company, Taipei, Taiwan							
AI	6	0	1	7	86	0	14
VE	4	0	0	4	100	0	0
SO	2	1	0	3	67	33	0
WA	6	1	0	7	86	14	0
<b>Totals:</b>	<b>18</b>	<b>2</b>	<b>1</b>	<b>21</b>	<b>86%</b>	<b>10%</b>	<b>5%</b>
<b>Lab: TT</b> Tracer Technologies International, Inc., Cleveland							
SO	0	1	1	2	0	50	50
WA	3	1	0	4	75	25	0
<b>Totals:</b>	<b>3</b>	<b>2</b>	<b>1</b>	<b>6</b>	<b>50%</b>	<b>33%</b>	<b>17%</b>
<b>Lab: TW</b> Taiwan Radiation Monitoring Center							
VE	3	0	0	3	100	0	0
SO	7	0	0	7	100	0	0
WA	4	1	0	5	80	20	0
AI	5	1	0	6	83	17	0
<b>Totals:</b>	<b>19</b>	<b>2</b>	<b>0</b>	<b>21</b>	<b>90%</b>	<b>10%</b>	<b>0%</b>
<b>Lab: TX</b> Texas Dept. of Health/Laboratories, Austin							
VE	6	0	0	6	100	0	0
SO	16	0	0	16	100	0	0
WA	11	1	0	12	92	8	0
AI	11	0	0	11	100	0	0
<b>Totals:</b>	<b>44</b>	<b>1</b>	<b>0</b>	<b>45</b>	<b>98%</b>	<b>2%</b>	<b>0%</b>
<b>Lab: TY</b> Scientific Production Association, Russia							
SO	3	0	1	4	75	0	25
<b>Totals:</b>	<b>3</b>	<b>0</b>	<b>1</b>	<b>4</b>	<b>75%</b>	<b>0%</b>	<b>25%</b>

## QAP 49 Summary of Matrix Evaluations by Laboratory

Matrix	Evaluation Summary			Total Analyses	Evaluation Percentages		
	A	W	N		%A	%W	%N
<b>Lab: UC</b> Lockheed Martin, Paducah, KY							
WA	5	0	0	5	100	0	0
AI	3	0	3	6	50	0	50
SO	1	1	0	2	50	50	0
VE	0	0	3	3	0	0	100
<b>Totals:</b>	<b>9</b>	<b>1</b>	<b>6</b>	<b>16</b>	<b>56%</b>	<b>6%</b>	<b>38%</b>
<b>Lab: UP</b> Lockheed Martin Energy Systems, Y-12 Plant, Oak Ridge							
WA	11	1	0	12	92	8	0
AI	10	1	1	12	83	8	8
SO	6	0	0	6	100	0	0
<b>Totals:</b>	<b>27</b>	<b>2</b>	<b>1</b>	<b>30</b>	<b>90%</b>	<b>7%</b>	<b>3%</b>
<b>Lab: UY</b> Lockheed Martin Energy Systems, Y-12 Plant, Oak Ridge							
SO	13	1	0	14	93	7	0
WA	11	0	0	11	100	0	0
AI	9	2	0	11	82	18	0
<b>Totals:</b>	<b>33</b>	<b>3</b>	<b>0</b>	<b>36</b>	<b>92%</b>	<b>8%</b>	<b>0%</b>
<b>Lab: WA</b> Environmental Radiation Lab, Off. of Public Health Labs, Seattle							
AI	9	4	0	13	69	31	0
VE	4	3	0	7	57	43	0
SO	17	1	0	18	94	6	0
WA	12	2	0	14	86	14	0
<b>Totals:</b>	<b>42</b>	<b>10</b>	<b>0</b>	<b>52</b>	<b>81%</b>	<b>19%</b>	<b>0%</b>
<b>Lab: WC</b> Waste Management Federal Services of Hanford							
AI	12	0	0	12	100	0	0
WA	9	2	1	12	75	17	8
VE	5	2	0	7	71	29	0
SO	4	1	0	5	80	20	0
<b>Totals:</b>	<b>30</b>	<b>5</b>	<b>1</b>	<b>36</b>	<b>83%</b>	<b>14%</b>	<b>3%</b>
<b>Lab: WE</b> Westinghouse Electric Corp., Madison, PA							
VE	3	1	0	4	75	25	0
SO	12	0	0	12	100	0	0
WA	2	0	2	4	50	0	50
AI	1	3	1	5	20	60	20
<b>Totals:</b>	<b>18</b>	<b>4</b>	<b>3</b>	<b>25</b>	<b>72%</b>	<b>16%</b>	<b>12%</b>

## QAP 49 Summary of Matrix Evaluations by Laboratory

Matrix	Evaluation Summary			Total Analyses	Evaluation Percentages		
	A	W	N		%A	%W	%N
<b>Lab: WI</b> WIPP Site, Westinghouse Electric Corp.							
WA	6	3	0	9	67	33	0
<b>Totals:</b>	<b>6</b>	<b>3</b>	<b>0</b>	<b>9</b>	<b>67%</b>	<b>33%</b>	<b>0%</b>
<b>Lab: WS</b> Weldon Springs Site, St Charles, MO							
SO	3	1	0	4	75	25	0
AI	1	0	0	1	100	0	0
<b>Totals:</b>	<b>4</b>	<b>1</b>	<b>0</b>	<b>5</b>	<b>80%</b>	<b>20%</b>	<b>0%</b>
<b>Lab: WV</b> West Valley Nuclear Services Co, Inc, NY							
WA	6	1	0	7	86	14	0
AI	2	0	0	2	100	0	0
<b>Totals:</b>	<b>8</b>	<b>1</b>	<b>0</b>	<b>9</b>	<b>89%</b>	<b>11%</b>	<b>0%</b>
<b>Lab: YA</b> Duke Engineering Environmental Lab, Westboro, MA							
VE	6	1	0	7	86	14	0
AI	9	1	0	10	90	10	0
SO	7	1	0	8	88	13	0
WA	11	1	1	13	85	8	8
<b>Totals:</b>	<b>33</b>	<b>4</b>	<b>1</b>	<b>38</b>	<b>87%</b>	<b>11%</b>	<b>3%</b>
<b>Lab: YP</b> US Army Proving Ground, Yuma, AZ							
SO	1	0	0	1	100	0	0
WA	1	0	0	1	100	0	0
AI	1	0	0	1	100	0	0
<b>Totals:</b>	<b>3</b>	<b>0</b>	<b>0</b>	<b>3</b>	<b>100%</b>	<b>0%</b>	<b>0%</b>
<b>Lab: YU</b> Institute of Occupational and Radiological Health, Yugoslavia							
AI	3	1	0	4	75	25	0
VE	3	0	0	3	100	0	0
SO	2	0	0	2	100	0	0
WA	3	0	0	3	100	0	0
<b>Totals:</b>	<b>11</b>	<b>1</b>	<b>0</b>	<b>12</b>	<b>92%</b>	<b>8%</b>	<b>0%</b>

## QAP 49 Summary of Laboratory Evaluations by Matrix

Matrix: AI Air Filter

Labcode	Evaluation Summary			Total Analyses	Evaluation Percentages		
	A	W	N		%A	%W	%N
AF	6	0	3	9	67	0	33
AG	9	0	3	12	75	0	25
AI	0	2	0	2	0	100	0
AL	4	2	0	6	67	33	0
AM	3	9	1	13	23	69	8
AN	10	0	0	10	100	0	0
AP	2	0	0	2	100	0	0
AU	6	1	4	11	55	9	36
BA	3	1	0	4	75	25	0
BC	4	1	4	9	44	11	44
BE	12	1	0	13	92	8	0
BL	15	3	0	18	83	17	0
BM	8	0	0	8	100	0	0
BN	4	4	10	18	22	22	56
BP	13	0	0	13	100	0	0
BQ	6	0	1	7	86	0	14
BU	11	2	0	13	85	15	0
BX	6	1	4	11	55	9	36
CA	5	1	0	6	83	17	0
CB	14	1	0	15	93	7	0
CD	6	0	0	6	100	0	0
CH	14	0	0	14	100	0	0
CL	10	0	1	11	91	0	9
CN	4	1	0	5	80	20	0
CO	4	0	0	4	100	0	0
CR	0	0	4	4	0	0	100
CS	14	0	0	14	100	0	0
DH	1	1	0	2	50	50	0
EG	10	0	0	10	100	0	0
EM	0	0	4	4	0	0	100
EP	7	0	0	7	100	0	0
FG	4	2	0	6	67	33	0
FJ	3	1	1	5	60	20	20
FL	5	1	0	6	83	17	0
FM	5	0	0	5	100	0	0
FN	4	0	0	4	100	0	0
GA	9	2	0	11	82	18	0
GC	1	1	0	2	50	50	0
GE	10	2	1	13	77	15	8
GP	9	0	4	13	69	0	31
GT	11	0	0	11	100	0	0
HC	1	1	0	2	50	50	0
HU	3	1	1	5	60	20	20
IA	12	0	0	12	100	0	0
ID	9	0	0	9	100	0	0
IL	6	0	0	6	100	0	0
IN	5	0	0	5	100	0	0
IS	6	3	2	11	55	27	18
IT	13	1	0	14	93	7	0
JE	2	0	0	2	100	0	0
JL	0	0	2	2	0	0	100
KA	2	0	0	2	100	0	0
KR	6	1	0	7	86	14	0
LA	21	0	0	21	100	0	0
LB	1	3	0	4	25	75	0

## QAP 49 Summary of Laboratory Evaluations by Matrix

Matrix: AI Air Filter

Labcode	Evaluation Summary			Total Analyses	Evaluation Percentages		
	A	W	N		%A	%W	%N
LL	11	0	0	11	100	0	0
LN	3	3	1	7	43	43	14
LV	4	2	3	9	44	22	33
MA	0	0	4	4	0	0	100
ME	2	5	0	7	29	71	0
MH	2	4	0	6	33	67	0
NA	5	1	1	7	71	14	14
ND	5	1	0	6	83	17	0
NL	8	1	0	9	89	11	0
NM	4	1	0	5	80	20	0
NP	5	0	0	5	100	0	0
NQ	4	3	0	7	57	43	0
NS	5	0	1	6	83	0	17
NZ	14	6	2	22	64	27	9
OB	1	1	4	6	17	17	67
OC	7	11	0	18	39	61	0
OD	20	0	0	20	100	0	0
OL	3	1	0	4	75	25	0
OT	11	0	0	11	100	0	0
OU	5	1	0	6	83	17	0
PA	2	0	0	2	100	0	0
PK	4	0	0	4	100	0	0
PO	2	3	0	5	40	60	0
PR	5	0	0	5	100	0	0
RA	9	0	2	11	82	0	18
RC	6	0	0	6	100	0	0
RE	9	1	0	10	90	10	0
RI	6	1	1	8	75	13	13
RK	1	1	0	2	50	50	0
SA	7	0	0	7	100	0	0
SB	2	0	0	2	100	0	0
SK	4	1	0	5	80	20	0
SN	3	0	0	3	100	0	0
SR	11	0	1	12	92	0	8
SW	5	2	4	11	45	18	36
TE	6	1	0	7	86	14	0
TI	9	2	0	11	82	18	0
TM	11	0	0	11	100	0	0
TN	11	1	1	13	85	8	8
TO	5	1	0	6	83	17	0
TP	6	0	1	7	86	0	14
TW	5	1	0	6	83	17	0
TX	11	0	0	11	100	0	0
UC	3	0	3	6	50	0	50
UP	10	1	1	12	83	8	8
UY	9	2	0	11	82	18	0
WA	9	4	0	13	69	31	0
WC	12	0	0	12	100	0	0
WE	1	3	1	5	20	60	20
WS	1	0	0	1	100	0	0
WV	2	0	0	2	100	0	0
YA	9	1	0	10	90	10	0
YP	1	0	0	1	100	0	0
YU	3	1	0	4	75	25	0

## QAP 49 Summary of Laboratory Evaluations by Matrix

Matrix: AI Air Filter

Labcode	Evaluation Summary			Total Analyses	Evaluation Percentages		
	A	W	N		%A	%W	%N
<hr/>							
Totals							
109 Labs:	678	118	81	877	77%	13%	9%
<hr/>							

## QAP 49 Summary of Laboratory Evaluations by Matrix

Matrix: SO Soil

Labcode	Evaluation Summary			Total Analyses	Evaluation Percentages		
	A	W	N		%A	%W	%N
AC	2	0	0	2	100	0	0
AF	12	2	2	16	75	13	13
AG	15	2	0	17	88	12	0
AI	11	1	0	12	92	8	0
AL	1	0	2	3	33	0	67
AM	16	2	0	18	89	11	0
AN	6	0	2	8	75	0	25
AT	3	0	0	3	100	0	0
AU	7	0	0	7	100	0	0
BA	1	1	0	2	50	50	0
BC	2	2	1	5	40	40	20
BE	8	0	0	8	100	0	0
BL	24	0	1	25	96	0	4
BM	6	0	0	6	100	0	0
BN	24	0	0	24	100	0	0
BP	12	1	0	13	92	8	0
BQ	8	1	1	10	80	10	10
BU	8	1	0	9	89	11	0
BX	5	3	0	8	63	38	0
CA	1	0	0	1	100	0	0
CD	8	0	0	8	100	0	0
CH	17	0	0	17	100	0	0
CL	12	3	0	15	80	20	0
CM	9	0	0	9	100	0	0
CN	3	0	0	3	100	0	0
CO	1	0	2	3	33	0	67
CR	8	1	0	9	89	11	0
CS	24	0	0	24	100	0	0
DH	3	1	0	4	75	25	0
EG	8	0	0	8	100	0	0
EM	0	0	3	3	0	0	100
EP	2	0	0	2	100	0	0
FG	14	1	0	15	93	7	0
FL	3	1	0	4	75	25	0
FN	2	0	0	2	100	0	0
FS	8	0	1	9	89	0	11
GA	12	1	0	13	92	8	0
GC	6	0	0	6	100	0	0
GE	14	0	0	14	100	0	0
GP	2	0	1	3	67	0	33
GT	5	2	0	7	71	29	0
HT	0	0	6	6	0	0	100
HU	8	0	2	10	80	0	20
IA	5	4	3	12	42	33	25
ID	12	0	0	12	100	0	0
IE	7	1	1	9	78	11	11
IL	8	0	1	9	89	0	11
IN	12	0	0	12	100	0	0
IS	16	1	3	20	80	5	15
IT	18	2	0	20	90	10	0
JE	6	0	0	6	100	0	0
KA	4	0	0	4	100	0	0
KR	4	0	0	4	100	0	0
LA	8	1	3	12	67	8	25
LB	2	0	0	2	100	0	0

## QAP 49 Summary of Laboratory Evaluations by Matrix

Matrix: SO Soil

Labcode	Evaluation Summary			Total Analyses	Evaluation Percentages		
	A	W	N		%A	%W	%N
LL	6	0	2	8	75	0	25
LV	9	2	0	11	82	18	0
LW	4	0	0	4	100	0	0
MA	3	0	0	3	100	0	0
ME	4	2	1	7	57	29	14
MH	9	0	0	9	100	0	0
ML	3	0	0	3	100	0	0
NA	13	0	0	13	100	0	0
NL	14	0	0	14	100	0	0
NM	6	1	0	7	86	14	0
NP	0	1	1	2	0	50	50
NQ	11	3	0	14	79	21	0
NR	2	0	0	2	100	0	0
NZ	10	0	0	10	100	0	0
OB	8	0	2	10	80	0	20
OC	28	5	0	33	85	15	0
OL	3	0	0	3	100	0	0
OT	15	0	0	15	100	0	0
OU	13	0	0	13	100	0	0
PK	1	0	0	1	100	0	0
PO	4	0	0	4	100	0	0
RA	22	3	0	25	88	12	0
RC	3	0	0	3	100	0	0
RE	9	0	0	9	100	0	0
RI	1	0	0	1	100	0	0
SA	2	0	0	2	100	0	0
SB	2	0	0	2	100	0	0
SK	12	0	0	12	100	0	0
SN	8	1	0	9	89	11	0
SR	8	1	0	9	89	11	0
SW	12	2	2	16	75	13	13
TE	10	0	0	10	100	0	0
TI	5	1	1	7	71	14	14
TM	17	0	0	17	100	0	0
TN	8	0	2	10	80	0	20
TO	16	0	2	18	89	0	11
TP	2	1	0	3	67	33	0
TT	0	1	1	2	0	50	50
TW	7	0	0	7	100	0	0
TX	16	0	0	16	100	0	0
TY	3	0	1	4	75	0	25
UC	1	1	0	2	50	50	0
UP	6	0	0	6	100	0	0
UY	13	1	0	14	93	7	0
WA	17	1	0	18	94	6	0
WC	4	1	0	5	80	20	0
WE	12	0	0	12	100	0	0
WS	3	1	0	4	75	25	0
YA	7	1	0	8	88	13	0
YP	1	0	0	1	100	0	0
YU	2	0	0	2	100	0	0



## QAP 49 Summary of Laboratory Evaluations by Matrix

Matrix: SO Soil

Labcode	Evaluation Summary			Total Analyses	Evaluation Percentages		
	A	W	N		%A	%W	%N
<hr/>							
Totals 106 Labs:	838	65	50	953	88%	7%	5%
<hr/>							

## QAP 49 Summary of Laboratory Evaluations by Matrix

Matrix: VE Vegetation

Labcode	Evaluation Summary			Total Analyses	Evaluation Percentages		
	A	W	N		%A	%W	%N
AF	3	1	2	6	50	17	33
AG	7	0	0	7	100	0	0
AI	3	3	1	7	43	43	14
AL	0	0	3	3	0	0	100
AM	3	2	1	6	50	33	17
AT	4	0	0	4	100	0	0
AU	6	0	0	6	100	0	0
BA	2	0	0	2	100	0	0
BC	3	1	0	4	75	25	0
BE	6	1	0	7	86	14	0
BL	6	2	0	8	75	25	0
BM	5	0	0	5	100	0	0
BN	9	0	0	9	100	0	0
BP	7	0	0	7	100	0	0
BQ	1	0	2	3	33	0	67
BU	7	0	0	7	100	0	0
BX	4	2	1	7	57	29	14
CD	3	0	0	3	100	0	0
CH	6	1	0	7	86	14	0
CL	5	2	0	7	71	29	0
CN	4	0	0	4	100	0	0
CO	2	0	0	2	100	0	0
CR	2	1	0	3	67	33	0
CS	8	0	0	8	100	0	0
EG	7	1	0	8	88	13	0
EP	3	0	0	3	100	0	0
FL	4	0	0	4	100	0	0
FN	3	0	0	3	100	0	0
GA	4	2	0	6	67	33	0
GC	3	0	0	3	100	0	0
GE	6	1	0	7	86	14	0
GP	8	0	0	8	100	0	0
GT	1	5	0	6	17	83	0
HU	3	1	0	4	75	25	0
IA	5	4	0	9	56	44	0
ID	4	2	0	6	67	33	0
IE	0	1	2	3	0	33	67
IL	2	1	0	3	67	33	0
IN	3	0	0	3	100	0	0
IS	4	1	1	6	67	17	17
IT	6	0	0	6	100	0	0
KR	3	1	0	4	75	25	0
LA	8	4	0	12	67	33	0
LB	0	0	3	3	0	0	100
LL	5	0	1	6	83	0	17
LV	3	1	0	4	75	25	0
MA	3	0	1	4	75	0	25
ME	3	1	0	4	75	25	0
MH	3	1	0	4	75	25	0
ML	1	0	0	1	100	0	0
NA	5	1	0	6	83	17	0
NP	2	1	0	3	67	33	0
NR	3	0	0	3	100	0	0
NZ	6	0	0	6	100	0	0
OB	0	0	3	3	0	0	100

## QAP 49 Summary of Laboratory Evaluations by Matrix

Matrix: VE Vegetation

Labcode	Evaluation Summary			Total Analyses	Evaluation Percentages		
	A	W	N		%A	%W	%N
OC	5	7	0	12	42	58	0
OL	3	0	0	3	100	0	0
OT	7	0	0	7	100	0	0
OU	3	0	0	3	100	0	0
PK	2	0	0	2	100	0	0
PO	3	1	0	4	75	25	0
RA	9	0	0	9	100	0	0
RE	6	1	0	7	86	14	0
RI	1	0	2	3	33	0	67
SB	3	0	0	3	100	0	0
SN	5	1	0	6	83	17	0
SR	6	1	0	7	86	14	0
SW	0	5	2	7	0	71	29
TE	3	1	0	4	75	25	0
TI	6	1	0	7	86	14	0
TM	4	2	1	7	57	29	14
TN	4	0	3	7	57	0	43
TO	2	0	3	5	40	0	60
TP	4	0	0	4	100	0	0
TW	3	0	0	3	100	0	0
TX	6	0	0	6	100	0	0
UC	0	0	3	3	0	0	100
WA	4	3	0	7	57	43	0
WC	5	2	0	7	71	29	0
WE	3	1	0	4	75	25	0
YA	6	1	0	7	86	14	0
YU	3	0	0	3	100	0	0
<hr/>							
<b>Totals</b>							
<b>82 Labs:</b>	<b>323</b>	<b>72</b>	<b>35</b>	<b>430</b>	<b>75%</b>	<b>17%</b>	<b>8%</b>
<hr/>							

## QAP 49 Summary of Laboratory Evaluations by Matrix

Matrix: WAWater

Labcode	Evaluation Summary			Total Analyses	Evaluation Percentages		
	A	W	N		%A	%W	%N
AC	2	0	0	2	100	0	0
AF	5	2	4	11	45	18	36
AG	12	0	0	12	100	0	0
AI	5	4	2	11	45	36	18
AL	0	0	3	3	0	0	100
AM	8	1	4	13	62	8	31
AN	10	0	0	10	100	0	0
AT	4	0	0	4	100	0	0
AU	11	1	0	12	92	8	0
BA	5	3	0	8	63	38	0
BC	6	1	1	8	75	13	13
BE	14	1	0	15	93	7	0
BL	15	3	2	20	75	15	10
BM	8	0	0	8	100	0	0
BN	3	7	10	20	15	35	50
BP	12	2	0	14	86	14	0
BQ	5	1	0	6	83	17	0
BU	10	2	0	12	83	17	0
BX	10	3	1	14	71	21	7
CA	4	1	1	6	67	17	17
CB	2	0	0	2	100	0	0
CD	4	1	0	5	80	20	0
CH	13	2	0	15	87	13	0
CL	10	2	1	13	77	15	8
CM	20	0	0	20	100	0	0
CS	6	2	0	8	75	25	0
DH	4	1	0	5	80	20	0
EG	14	0	0	14	100	0	0
EM	2	2	0	4	50	50	0
EP	8	0	0	8	100	0	0
FG	8	1	3	12	67	8	25
FL	7	1	0	8	88	13	0
FM	4	0	0	4	100	0	0
FN	4	0	0	4	100	0	0
GA	5	2	3	10	50	20	30
GC	6	1	1	8	75	13	13
GE	14	0	1	15	93	0	7
GP	12	0	1	13	92	0	8
GS	3	0	0	3	100	0	0
GT	8	2	1	11	73	18	9
HC	3	0	0	3	100	0	0
HT	0	1	6	7	0	14	86
ID	6	1	1	8	75	13	13
IE	5	1	1	7	71	14	14
IL	5	0	0	5	100	0	0
IN	8	1	1	10	80	10	10
IS	5	6	0	11	45	55	0
IT	13	1	0	14	93	7	0
JE	2	0	3	5	40	0	60
JL	3	0	1	4	75	0	25
KA	8	2	0	10	80	20	0
LA	21	9	1	31	68	29	3
LB	3	0	0	3	100	0	0
LE	1	0	1	2	50	0	50
LL	9	2	0	11	82	18	0

## QAP 49 Summary of Laboratory Evaluations by Matrix

Matrix: WAWater

Labcode	Evaluation Summary			Total Analyses	Evaluation Percentages		
	A	W	N		%A	%W	%N
LN	1	1	2	4	25	25	50
LV	7	0	2	9	78	0	22
LW	3	0	0	3	100	0	0
ME	4	1	0	5	80	20	0
MH	8	0	0	8	100	0	0
ML	5	0	0	5	100	0	0
NA	4	0	3	7	57	0	43
ND	3	0	0	3	100	0	0
NL	8	0	0	8	100	0	0
NM	4	1	0	5	80	20	0
NP	4	0	1	5	80	0	20
NQ	5	3	2	10	50	30	20
NS	5	1	1	7	71	14	14
NZ	14	2	4	20	70	10	20
OB	4	0	1	5	80	0	20
OC	15	0	4	19	79	0	21
OD	24	2	0	26	92	8	0
OL	3	0	0	3	100	0	0
OT	8	2	1	11	73	18	9
OU	7	4	3	14	50	29	21
PR	5	0	0	5	100	0	0
RC	4	0	0	4	100	0	0
RE	12	0	0	12	100	0	0
RG	2	0	0	2	100	0	0
RI	4	2	1	7	57	29	14
SA	2	1	0	3	67	33	0
SB	2	2	1	5	40	40	20
SK	4	0	2	6	67	0	33
SL	3	0	0	3	100	0	0
SN	6	0	0	6	100	0	0
SR	7	5	0	12	58	42	0
ST	1	0	0	1	100	0	0
SW	4	3	4	11	36	27	36
TE	6	2	0	8	75	25	0
TI	12	0	1	13	92	0	8
TM	9	1	1	11	82	9	9
TN	11	1	3	15	73	7	20
TO	12	2	0	14	86	14	0
TP	6	1	0	7	86	14	0
TT	3	1	0	4	75	25	0
TW	4	1	0	5	80	20	0
TX	11	1	0	12	92	8	0
UC	5	0	0	5	100	0	0
UP	11	1	0	12	92	8	0
UY	11	0	0	11	100	0	0
WA	12	2	0	14	86	14	0
WC	9	2	1	12	75	17	8
WE	2	0	2	4	50	0	50
WI	6	3	0	9	67	33	0
WV	6	1	0	7	86	14	0
YA	11	1	1	13	85	8	8
YP	1	0	0	1	100	0	0
YU	3	0	0	3	100	0	0

## QAP 49 Summary of Laboratory Evaluations by Matrix

Matrix: WAWater

Labcode	Evaluation Summary			Total Analyses	Evaluation Percentages		
	A	W	N		%A	%W	%N
<hr/>							
Totals 108 Labs:	738	123	95	956	77%	13%	10%
<hr/>							

## QAP 49 Summary of Matrix Evaluations by Radionuclide

**Matrix:** Air Filter

Radio-Nuclide	Evaluation Summary			Total Analyses	Evaluation Percentages		
	A	W	N		%A	%W	%N
SB125	74	14	15	103	72	14	15
GROSS BETA	44	31	1	76	58	41	1
CO60	95	6	6	107	89	6	6
CS137	85	14	9	108	79	13	8
SR90	29	5	7	41	71	12	17
PU238	37	6	9	52	71	12	17
PU239	39	5	8	52	75	10	15
GROSS ALPHA	63	10	3	76	83	13	4
U234	28	1	4	33	85	3	12
U238	27	3	5	35	77	9	14
Bq U	13	2	1	16	81	13	6
ug U	14	2	1	17	82	12	6
AM241	45	9	4	58	78	16	7
MN54	85	10	9	104	82	10	9
<b>Totals:</b>	<b>678</b>	<b>118</b>	<b>82</b>	<b>878</b>	<b>77%</b>	<b>13%</b>	<b>9%</b>

### QAP 49 Summary of Matrix Evaluations by Radionuclide

**Matrix:** Soil

Radio-Nuclide	Evaluation Summary			Total Analyses	Evaluation Percentages		
	A	W	N		%A	%W	%N
TL208	50	0	0	50	100	0	0
PB210	14	0	0	14	100	0	0
BI214	52	0	0	52	100	0	0
PB214	53	0	0	53	100	0	0
BI212	42	0	0	42	100	0	0
TH228	34	0	0	34	100	0	0
ug U	19	1	4	24	79	4	17
SR90	38	6	2	46	83	13	4
PB212	52	0	0	52	100	0	0
Bq U	16	1	2	19	84	5	11
U238	40	2	4	46	87	4	9
U234	33	2	5	40	83	5	13
AM241	52	5	4	61	85	8	7
RA226	45	0	0	45	100	0	0
PU238	2	1	0	3	67	33	0
K40	70	24	8	102	69	24	8
CS137	85	11	16	112	76	10	14
CO60	10	2	2	14	71	14	14
PU239	46	10	3	59	78	17	5
TH234	36	0	0	36	100	0	0
AC228	49	0	0	49	100	0	0
<b>Totals:</b>	<b>838</b>	<b>65</b>	<b>50</b>	<b>953</b>	<b>88%</b>	<b>7%</b>	<b>5%</b>



### QAP 49 Summary of Matrix Evaluations by Radionuclide

**Matrix:** Vegetation

Radio-Nuclide	Evaluation Summary			Total Analyses	Evaluation Percentages		
	A	W	N		%A	%W	%N
CO60	66	14	9	89	74	16	10
CS137	78	5	7	90	87	6	8
SR90	31	12	4	47	66	26	9
PU238	4	0	0	4	100	0	0
PU239	35	3	3	41	85	7	7
AM241	33	11	2	46	72	24	4
CM244	19	7	1	27	70	26	4
K40	57	20	9	86	66	23	10
<b>Totals:</b>	<b>323</b>	<b>72</b>	<b>35</b>	<b>430</b>	<b>75%</b>	<b>17%</b>	<b>8%</b>

## QAP 49 Summary of Matrix Evaluations by Radionuclide

**Matrix:** Water

Radio-Nuclide	Evaluation Summary			Total Analyses	Evaluation Percentages		
	A	W	N		%A	%W	%N
GROSS ALPHA	50	15	7	72	69	21	10
FE55	16	0	0	16	100	0	0
H3	45	14	15	74	61	19	20
MN54	76	17	14	107	71	16	13
GROSS BETA	68	2	3	73	93	3	4
ug U	19	2	3	24	79	8	13
Bq U	17	4	1	22	77	18	5
U238	36	1	8	45	80	2	18
U234	35	2	5	42	83	5	12
AM241	49	9	4	62	79	15	6
PU239	41	14	6	61	67	23	10
PU238	35	16	8	59	59	27	14
SR90	39	13	12	64	61	20	19
CS137	97	10	4	111	87	9	4
CO60	101	4	5	110	92	4	5
NI63	14	0	0	14	100	0	0
<b>Totals:</b>	<b>738</b>	<b>123</b>	<b>95</b>	<b>956</b>	<b>77%</b>	<b>13%</b>	<b>10%</b>

## QAP 49 EML Results

### Environmental Measurements Laboratory, New York, NY

Matrix	Radionuclide	EML Value	EML Error
Air Filter	Gross Alpha	1.650	0.160
Air Filter	Gross Beta	2.160	0.070
Air Filter	54Mn	4.920	0.400
Air Filter	60Co	9.160	0.580
Air Filter	90Sr	1.120	0.050
Air Filter	125Sb	8.890	0.550
Air Filter	137Cs	22.470	1.030
Air Filter	234U	0.260	0.010
Air Filter	238U	0.260	0.010
Air Filter	Bq U	0.530	0.020
Air Filter	ug U	20.960	0.100
Air Filter	238Pu	0.460	0.005
Air Filter	239Pu	0.420	0.006
Air Filter	241Am	0.510	0.008
Soil	40K	314.000	13.000
Soil	60Co	1.240	0.110
Soil	90Sr	39.630	0.003
Soil	137Cs	954.000	38.000
Soil	234U	113.000	6.000
Soil	238U	120.000	9.000
Soil	Bq U	237.000	16.000
Soil	ug U	9.700	0.700
Soil	238Pu	0.530	0.270
Soil	239Pu	13.090	0.570
Soil	241Am	7.470	0.410
Soil	208Tl	18.300	1.100
Soil	210Pb	32.000	3.300
Soil	212Bi	58.300	5.900
Soil	212Pb	52.800	3.700
Soil	214Bi	28.800	0.500
Soil	214Pb	29.100	1.200
Soil	226Ra	29.000	1.000
Soil	228Ac	52.600	2.900
Soil	228Th	52.700	4.000
Soil	234Th	114.000	6.000
Water	3H	76.200	2.900
Water	54Mn	32.400	1.400
Water	55Fe	139.000	2.000
Water	60Co	49.400	1.200
Water	90Sr	2.110	0.180
Water	137Cs	50.000	1.700
Water	234U	0.510	0.030
Water	238U	0.520	0.050
Water	Bq U	1.050	0.080
Water	ug U	0.040	0.003
Water	238Pu	1.100	0.010
Water	239Pu	1.410	0.040
Water	241Am	1.250	0.080
Water	63Ni	95.700	0.900

**Values are Bq/filter, Bq/Kg and Bq/L, elemental uranium in µg/filter, g, or mL.**

**pCi/g or mL = Bq x 0.027**

## QAP 49 EML Results

### Environmental Measurements Laboratory, New York, NY

Matrix	Radionuclide	EML Value	EML Error
Water	Gross Alpha	1080.000	60.000
Water	Gross Beta	1420.000	60.000
Vegetation	40K	460.000	20.000
Vegetation	60Co	20.000	1.000
Vegetation	90Sr	606.000	40.000
Vegetation	137Cs	390.000	20.000
Vegetation	238Pu	0.310	0.070
Vegetation	239Pu	3.720	0.270
Vegetation	241Am	2.330	0.060
Vegetation	244Cm	1.760	0.070

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Values are Bq/filter, Bq/Kg and Bq/L, elemental uranium in µg/filter, g, or mL.  
pCi/g or mL = Bq x 0.027

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## QAP 49 Results by Laboratory

**Lab:** AC Analytical Chemistry Laboratory, Argonne National Lab

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No. Test	Radionuclide	Reported Value	Reported Error	EML Value	EML Error	<u>Reported</u> EML	Evaluation	QAP 48 Evaluation
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**Matrix:** SO Soil Bq / kg

1	SR90	39.600	2.600	39.630	0.003	0.999	A
1	ug U	8.780	0.880	9.700	0.700	0.905	A

**Matrix:** WA Water Bq / L

1	SR90	2.140	0.090	2.110	0.180	1.014	A
1	ug U	0.044	0.004	0.040	0.003	1.100	A

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**Values for elemental uranium are reported in µg/filter, g, or mL.      pCi/g or mL=Bq x 0.027**

**Evaluation:** A=Acceptable, W=Acceptable with Warning, N=Not Acceptable

If the evaluation system is not appropriate for the types of analyses performed in your lab, apply a site specific evaluation.

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## QAP 49 Results by Laboratory

**Lab:** AF Air Force Analytical Lab, Brooks AFB

No. Test	Radionuclide	Reported Value	Reported Error	EML Value	EML Error	Reported EML	Evaluation	QAP 48 Evaluation
<b>Matrix:</b> AI Air Filter Bq / filter								
1	AM241	0.140	0.020	0.510	0.008	0.275	N	W
1	Bq U	0.510	0.060	0.530	0.020	0.962	A	
1	CO60	7.870	0.880	9.160	0.580	0.859	A	A
1	CS137	19.580	2.140	22.470	1.030	0.871	A	A
1	MN54	4.500	0.600	4.920	0.400	0.915	A	A
1	PU238	0.107	0.020	0.460	0.005	0.233	N	
1	PU239	0.120	0.020	0.420	0.006	0.286	N	W
1	SB125	8.120	1.220	8.890	0.550	0.913	A	A
1	SR90	1.160	0.160	1.120	0.050	1.036	A	W
<b>Matrix:</b> SO Soil Bq / kg								
1	AC228	46.620	8.510	52.600	2.900	0.886	A	
1	AM241	7.400	1.480	7.470	0.410	0.991	A	N
1	BI212	37.370	17.760	58.300	5.900	0.641	A	
1	BI214	22.200	9.620	28.800	0.500	0.771	A	
1	Bq U	121.730	11.870	237.000	16.000	0.514	W	
1	CS137	723.350	83.990	954.000	38.000	0.758	N	W
1	K40	231.990	44.770	314.000	13.000	0.739	N	A
1	PB210	35.150	6.230	32.000	3.300	1.098	A	
1	PB212	39.590	7.400	52.800	3.700	0.750	A	
1	PB214	29.600	6.290	29.100	1.200	1.017	A	
1	PU239	9.990	2.590	13.090	0.570	0.763	W	A
1	RA226	113.220	96.200	29.000	1.000	3.904	A	
1	SR90	48.100	18.500	39.630	0.003	1.214	A	N
1	TH228	103.230	49.580	52.700	4.000	1.959	A	
1	TH234	67.340	54.020	114.000	6.000	0.591	A	
1	TL208	16.650	3.330	18.300	1.100	0.910	A	
<b>Matrix:</b> VE Vegetation Bq / kg								
1	AM241	6.290	1.110	2.330	0.060	2.700	W	W
1	CO60	31.450	27.010	20.000	1.000	1.572	N	A
1	CS137	444.000	58.830	390.000	20.000	1.138	A	W
1	K40	1400.450	407.370	460.000	20.000	3.044	N	W
1	PU239	4.070	0.740	3.720	0.270	1.094	A	N
1	SR90	551.300	22.200	606.000	40.000	0.910	A	N
<b>Matrix:</b> WA Water Bq / L								
1	AM241	1.050	0.170	1.250	0.080	0.840	W	A
1	Bq U	1.170	0.110	1.050	0.080	1.114	A	
1	CO60	0.210	0.020	49.400	1.200	0.004	N	N
1	CS137	0.200	0.030	50.000	1.700	0.004	N	A
1	GROSS ALPHA	1110.000	59.200	1080.000	60.000	1.028	A	A
1	GROSS BETA	1235.800	44.400	1420.000	60.000	0.870	A	A

**Values for elemental uranium are reported in µg/filter, g, or mL. pCi/g or mL=Bq x 0.027**

**Evaluation:** A=Acceptable, W=Acceptable with Warning, N=Not Acceptable

If the evaluation system is not appropriate for the types of analyses performed in your lab, apply a site specific evaluation.

## QAP 49 Results by Laboratory

**Lab:** AF Air Force Analytical Lab, Brooks AFB

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No. Test	Radionuclide	Reported Value	Reported Error	EML Value	EML Error	Reported EML	Evaluation	QAP 48 Evaluation
<b>Matrix:</b> WA Water Bq/L								
1	H3	1498.500	3.700	76.200	2.900	19.665	N	N
1	MN54	0.140	0.020	32.400	1.400	0.004	N	A
1	PU238	0.890	0.140	1.100	0.010	0.809	W	W
1	PU239	1.440	0.200	1.410	0.040	1.021	A	A
1	SR90	2.250	0.210	2.110	0.180	1.066	A	A

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**Values for elemental uranium are reported in µg/filter, g, or mL.      pCi/g or mL=Bq x 0.027**

**Evaluation:** A=Acceptable, W=Acceptable with Warning, N=Not Acceptable

If the evaluation system is not appropriate for the types of analyses performed in your lab, apply a site specific evaluation.

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## QAP 49 Results by Laboratory

**Lab:** AG Paragon Analytics, Inc, Fort Collins, CO

No. Test	Radionuclide	Reported Value	Reported Error	EML Value	EML Error	Reported EML	Evaluation	QAP 48 Evaluation
<b>Matrix: AI Air Filter Bq / filter</b>								
1	AM241	0.226	0.030	0.510	0.008	0.443	N	W
1	Bq U	0.526	0.045	0.530	0.020	0.992	A	A
1	CO60	8.500	1.700	9.160	0.580	0.928	A	A
1	CS137	22.300	4.100	22.470	1.030	0.992	A	A
1	MN54	5.000	1.300	4.920	0.400	1.016	A	A
1	PU238	0.310	0.040	0.460	0.005	0.674	N	W
1	PU239	0.303	0.040	0.420	0.006	0.721	N	A
1	SB125	9.600	2.200	8.890	0.550	1.080	A	A
1	SR90	1.000	0.180	1.120	0.050	0.893	A	A
1	U234	0.250	0.032	0.260	0.010	0.962	A	W
1	U238	0.262	0.033	0.260	0.010	1.008	A	A
1	ug U	20.600	3.400	20.960	0.100	0.983	A	A
<b>Matrix: SO Soil Bq / kg</b>								
1	AC228	58.000	11.000	52.600	2.900	1.103	A	
1	AM241	8.600	2.000	7.470	0.410	1.151	A	A
1	BI212	57.000	28.000	58.300	5.900	0.978	A	
1	BI214	32.600	7.800	28.800	0.500	1.132	A	
1	Bq U	212.000	18.000	237.000	16.000	0.895	A	A
1	CS137	1173.000	200.000	954.000	38.000	1.230	W	A
1	K40	396.000	74.000	314.000	13.000	1.261	W	A
1	PB212	60.000	11.000	52.800	3.700	1.136	A	
1	PB214	35.000	7.400	29.100	1.200	1.203	A	
1	PU239	13.400	2.100	13.090	0.570	1.024	A	A
1	SR90	45.300	9.300	39.630	0.003	1.143	A	A
1	TH228	59.000	32.000	52.700	4.000	1.120	A	
1	TH234	110.000	31.000	114.000	6.000	0.965	A	
1	TL208	21.500	4.400	18.300	1.100	1.175	A	
1	U234	102.000	13.000	113.000	6.000	0.903	A	A
1	U238	105.000	13.000	120.000	9.000	0.875	A	A
1	ug U	8.900	1.500	9.700	0.700	0.918	A	A
<b>Matrix: VE Vegetation Bq / kg</b>								
1	AM241	2.230	0.460	2.330	0.060	0.957	A	A
1	CM244	2.090	0.440	1.760	0.070	1.188	A	A
1	CO60	21.600	4.100	20.000	1.000	1.080	A	A
1	CS137	480.000	81.000	390.000	20.000	1.231	A	A
1	K40	516.000	93.000	460.000	20.000	1.122	A	A
1	PU239	3.930	0.560	3.720	0.270	1.056	A	A
1	SR90	644.000	115.000	606.000	40.000	1.063	A	A
<b>Matrix: WA Water Bq / L</b>								
1	AM241	1.280	0.160	1.250	0.080	1.024	A	A

**Values for elemental uranium are reported in µg/filter, g, or mL. pCi/g or mL=Bq x 0.027**

**Evaluation:** A=Acceptable, W=Acceptable with Warning, N=Not Acceptable

If the evaluation system is not appropriate for the types of analyses performed in your lab, apply a site specific evaluation.



## QAP 49 Results by Laboratory

**Lab:** AG Paragon Analytics, Inc, Fort Collins, CO

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No. Test	Radionuclide	Reported Value	Reported Error	EML Value	EML Error	Reported EML	Evaluation	QAP 48 Evaluation
<b>Matrix:</b> WA Water Bq/L								
1	Bq U	1.080	0.100	1.050	0.080	1.029	A	A
1	CO60	53.400	8.500	49.400	1.200	1.081	A	A
1	CS137	51.600	8.500	50.000	1.700	1.032	A	A
1	H3	79.000	21.000	76.200	2.900	1.037	A	A
1	MN54	35.200	5.900	32.400	1.400	1.086	A	A
1	PU238	1.180	0.150	1.100	0.010	1.073	A	W
1	PU239	1.430	0.180	1.410	0.040	1.014	A	A
1	SR90	1.890	0.340	2.110	0.180	0.896	A	A
1	U234	0.531	0.073	0.510	0.030	1.041	A	A
1	U238	0.523	0.072	0.520	0.050	1.006	A	A
1	ug U	0.043	0.007	0.040	0.003	1.077	A	A

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**Values for elemental uranium are reported in µg/filter, g, or mL.      pCi/g or mL=Bq x 0.027**

**Evaluation:** A=Acceptable, W=Acceptable with Warning, N=Not Acceptable

If the evaluation system is not appropriate for the types of analyses performed in your lab, apply a site specific evaluation.

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## QAP 49 Results by Laboratory

**Lab:** AI Nuclear Technology Services, Inc., Roswell, GA

No. Test	Radionuclide	Reported Value	Reported Error	EML Value	EML Error	Reported EML	Evaluation	QAP 48 Evaluation
<b>Matrix:</b> AI Air Filter Bq / filter								
1	GROSS ALPHA	1.280	0.051	1.650	0.160	0.776	W	
1	GROSS BETA	1.700	0.050	2.160	0.070	0.787	W	
<b>Matrix:</b> SO Soil Bq / kg								
1	AC228	51.500	3.450	52.600	2.900	0.979	A	
1	AM241	11.000	2.000	7.470	0.410	1.473	A	N
1	BI214	38.900	2.190	28.800	0.500	1.351	A	
1	CS137	1010.000	6.160	954.000	38.000	1.059	A	N
1	K40	389.000	17.700	314.000	13.000	1.239	A	W
1	PB212	12.600	2.260	52.800	3.700	0.239	A	
1	PB214	37.000	2.630	29.100	1.200	1.271	A	
1	PU239	16.400	1.860	13.090	0.570	1.253	W	A
1	RA226	174.000	33.600	29.000	1.000	6.000	A	
1	TH228	49.700	1.830	52.700	4.000	0.943	A	
1	TH234	103.000	17.700	114.000	6.000	0.904	A	
1	TL208	19.500	1.260	18.300	1.100	1.066	A	
<b>Matrix:</b> VE Vegetation Bq / kg								
1	AM241	2.010	0.440	2.330	0.060	0.863	W	A
1	CM244	2.620	0.730	1.760	0.070	1.489	W	A
1	CO60	21.300	1.470	20.000	1.000	1.065	A	A
1	CS137	459.000	5.290	390.000	20.000	1.177	A	N
1	K40	646.000	28.300	460.000	20.000	1.404	W	A
1	PU239	3.450	0.270	3.720	0.270	0.927	A	A
1	SR90	4.610	0.034	606.000	40.000	0.008	N	
<b>Matrix:</b> WA Water Bq / L								
1	AM241	0.960	0.013	1.250	0.080	0.768	W	
1	Bq U	0.860	0.043	1.050	0.080	0.819	W	A
1	CO60	54.500	0.443	49.400	1.200	1.103	A	A
1	CS137	50.200	4.740	50.000	1.700	1.004	A	A
1	GROSS ALPHA	915.000	70.100	1080.000	60.000	0.847	A	
1	GROSS BETA	1230.000	56.900	1420.000	60.000	0.866	A	
1	H3	634.000	86.000	76.200	2.900	8.320	N	N
1	MN54	35.000	0.473	32.400	1.400	1.080	A	A
1	PU238	0.920	0.023	1.100	0.010	0.836	W	N
1	PU239	1.210	0.029	1.410	0.040	0.858	W	N
1	SR90	1.430	0.322	2.110	0.180	0.678	N	

**Values for elemental uranium are reported in µg/filter, g, or mL. pCi/g or mL=Bq x 0.027**

**Evaluation:** A=Acceptable, W=Acceptable with Warning, N=Not Acceptable

If the evaluation system is not appropriate for the types of analyses performed in your lab, apply a site specific evaluation.

## QAP 49 Results by Laboratory

**Lab:** AL Ames Laboratory, Ames, IA

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No. Test	Radionuclide	Reported Value	Reported Error	EML Value	EML Error	Reported EML	Evaluation	QAP 48 Evaluation
<b>Matrix:</b> AI Air Filter Bq / filter								
1	CO60	9.905	0.300	9.160	0.580	1.081	A	A
1	CS137	22.556	0.100	22.470	1.030	1.004	A	W
1	GROSS ALPHA	1.683	0.400	1.650	0.160	1.020	A	A
1	GROSS BETA	1.866	0.300	2.160	0.070	0.864	W	W
1	MN54	5.053	0.500	4.920	0.400	1.027	A	W
1	SB125	6.185	0.600	8.890	0.550	0.696	W	N
<b>Matrix:</b> SO Soil Bq / kg								
1	CS137	1788.300	0.070	954.000	38.000	1.875	N	N
1	K40	616.240	0.500	314.000	13.000	1.963	N	N
1	RA226	308.340	3.400	29.000	1.000	10.632	A	
<b>Matrix:</b> VE Vegetation Bq / kg								
1	CO60	36.373	0.800	20.000	1.000	1.819	N	N
1	CS137	763.800	0.100	390.000	20.000	1.958	N	N
1	K40	870.140	0.700	460.000	20.000	1.892	N	N
<b>Matrix:</b> WA Water Bq / L								
1	CO60	71.470	0.200	49.400	1.200	1.447	N	W
1	CS137	79.025	0.200	50.000	1.700	1.581	N	W
1	MN54	45.536	0.300	32.400	1.400	1.405	N	A

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**Values for elemental uranium are reported in µg/filter, g, or mL.      pCi/g or mL=Bq x 0.027**

**Evaluation:** A=Acceptable, W=Acceptable with Warning, N=Not Acceptable

If the evaluation system is not appropriate for the types of analyses performed in your lab, apply a site specific evaluation.

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## QAP 49 Results by Laboratory

**Lab:** AM American Radiation Services, Inc., Baton Rouge

No. Test	Radionuclide	Reported Value	Reported Error	EML Value	EML Error	Reported EML	Evaluation	QAP 48 Evaluation
<b>Matrix:</b> AI Air Filter Bq / filter								
1	AM241	0.480	0.050	0.510	0.008	0.941	A	N
1	Bq U	0.940	0.020	0.530	0.020	1.774	W	W
1	CO60	7.250	0.110	9.160	0.580	0.791	W	A
1	CS137	17.940	0.180	22.470	1.030	0.798	W	A
1	GROSS ALPHA	2.470	0.020	1.650	0.160	1.497	W	W
1	GROSS BETA	2.980	0.030	2.160	0.070	1.380	A	W
1	MN54	4.150	0.110	4.920	0.400	0.843	A	A
1	PU238	0.270	0.010	0.460	0.005	0.587	N	
1	PU239	0.340	0.010	0.420	0.006	0.810	W	
1	SB125	5.720	0.280	8.890	0.550	0.643	W	W
1	SR90	0.830	0.080	1.120	0.050	0.741	W	
1	U234	0.480	0.020	0.260	0.010	1.846	W	N
1	U238	0.470	0.020	0.260	0.010	1.808	W	N

**Matrix:** SO Soil Bq / kg

1	AC228	51.050	5.180	52.600	2.900	0.971	A	
1	AM241	10.320	1.850	7.470	0.410	1.382	A	W
1	BI212	30.330	7.030	58.300	5.900	0.520	A	
1	BI214	40.320	2.590	28.800	0.500	1.400	A	
1	Bq U	146.010	13.310	237.000	16.000	0.616	A	W
1	CS137	1049.940	9.990	954.000	38.000	1.101	A	A
1	K40	372.180	38.850	314.000	13.000	1.185	A	A
1	PB210	72.880	31.440	32.000	3.300	2.277	A	
1	PB212	60.300	1.470	52.800	3.700	1.142	A	
1	PB214	36.260	3.700	29.100	1.200	1.246	A	
1	PU239	12.570	2.220	13.090	0.570	0.960	A	
1	RA226	54.750	12.210	29.000	1.000	1.888	A	
1	SR90	54.750	8.510	39.630	0.003	1.382	A	
1	TH228	29.510	2.600	52.700	4.000	0.560	A	
1	TH234	139.110	31.450	114.000	6.000	1.220	A	
1	TL208	16.270	0.730	18.300	1.100	0.889	A	
1	U234	68.470	18.200	113.000	6.000	0.606	W	W
1	U238	72.540	18.600	120.000	9.000	0.604	W	W

**Matrix:** VE Vegetation Bq / kg

1	AM241	3.840	1.850	2.330	0.060	1.648	W	A
1	CO60	23.310	2.960	20.000	1.000	1.165	A	A
1	CS137	432.850	6.280	390.000	20.000	1.110	A	A
1	K40	547.540	35.520	460.000	20.000	1.190	A	A
1	PU239	2.180	0.630	3.720	0.270	0.586	N	
1	SR90	406.210	73.990	606.000	40.000	0.670	W	

**Values for elemental uranium are reported in µg/filter, g, or mL. pCi/g or mL=Bq x 0.027**

**Evaluation:** A=Acceptable, W=Acceptable with Warning, N=Not Acceptable

If the evaluation system is not appropriate for the types of analyses performed in your lab, apply a site specific evaluation.

## QAP 49 Results by Laboratory

**Lab:** AM American Radiation Services, Inc., Baton Rouge

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No. Test	Radionuclide	Reported Value	Reported Error	EML Value	EML Error	Reported EML	Evaluation	QAP 48 Evaluation
<b>Matrix:</b> WA Water Bq/L								
1	AM241	2.180	0.530	1.250	0.080	1.744	N	A
1	Bq U	1.060	0.220	1.050	0.080	1.010	A	A
1	CO60	49.570	0.630	49.400	1.200	1.003	A	W
1	CS137	53.390	0.750	50.000	1.700	1.068	A	W
1	GROSS ALPHA	1139.370	7.740	1080.000	60.000	1.055	A	W
1	GROSS BETA	1801.150	8.170	1420.000	60.000	1.268	A	A
1	H3	323.100	15.000	76.200	2.900	4.240	N	
1	MN54	30.240	3.030	32.400	1.400	0.933	A	A
1	PU238	0.580	0.020	1.100	0.010	0.527	N	
1	PU239	0.820	0.020	1.410	0.040	0.582	N	
1	SR90	1.860	0.020	2.110	0.180	0.882	W	
1	U234	0.590	0.220	0.510	0.030	1.157	A	W
1	U238	0.490	0.220	0.520	0.050	0.942	A	A

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**Values for elemental uranium are reported in µg/filter, g, or mL.      pCi/g or mL=Bq x 0.027**

**Evaluation:** A=Acceptable, W=Acceptable with Warning, N=Not Acceptable

If the evaluation system is not appropriate for the types of analyses performed in your lab, apply a site specific evaluation.

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## QAP 49 Results by Laboratory

**Lab:** AN Argonne National Laboratory

No. Test	Radionuclide	Reported Value	Reported Error	EML Value	EML Error	Reported EML	Evaluation	QAP 48 Evaluation
<b>Matrix:</b> AI Air Filter Bq / filter								
1	AM241	0.530	0.020	0.510	0.008	1.039	A	A
1	CO60	9.720	0.530	9.160	0.580	1.061	A	W
1	CS137	22.600	0.700	22.470	1.030	1.006	A	A
1	MN54	5.300	0.350	4.920	0.400	1.077	A	A
1	PU238	0.520	0.020	0.460	0.005	1.130	A	A
1	PU239	0.470	0.020	0.420	0.006	1.119	A	A
1	SB125	10.590	0.930	8.890	0.550	1.191	A	A
1	SR90	1.220	0.020	1.120	0.050	1.089	A	A
1	U234	0.290	0.010	0.260	0.010	1.115	A	A
1	U238	0.280	0.010	0.260	0.010	1.077	A	A
<b>Matrix:</b> SO Soil Bq / kg								
1	AM241	7.400	0.450	7.470	0.410	0.991	A	A
1	CS137	1092.000	4.000	954.000	38.000	1.145	A	A
1	K40	363.000	11.000	314.000	13.000	1.156	A	A
1	PU239	13.640	0.600	13.090	0.570	1.042	A	A
1	SR90	44.800	0.900	39.630	0.003	1.130	A	A
1	TH228	55.800	4.000	52.700	4.000	1.059	A	A
1	U234	174.000	19.000	113.000	6.000	1.540	N	A
1	U238	186.000	22.000	120.000	9.000	1.550	N	A
<b>Matrix:</b> WA Water Bq / L								
1	AM241	1.250	0.030	1.250	0.080	1.000	A	A
1	CO60	50.600	2.100	49.400	1.200	1.024	A	A
1	CS137	50.800	0.800	50.000	1.700	1.016	A	A
1	H3	79.400	3.000	76.200	2.900	1.042	A	A
1	MN54	34.800	0.700	32.400	1.400	1.074	A	A
1	PU238	1.170	0.060	1.100	0.010	1.064	A	A
1	PU239	1.570	0.080	1.410	0.040	1.113	A	A
1	SR90	2.160	0.050	2.110	0.180	1.024	A	A
1	U234	0.520	0.010	0.510	0.030	1.020	A	A
1	U238	0.510	0.010	0.520	0.050	0.981	A	A

**Values for elemental uranium are reported in µg/filter, g, or mL. pCi/g or mL=Bq x 0.027**

**Evaluation:** A=Acceptable, W=Acceptable with Warning, N=Not Acceptable

If the evaluation system is not appropriate for the types of analyses performed in your lab, apply a site specific evaluation.

## QAP 49 Results by Laboratory

**Lab:** AP Aberdeen Proving Ground, Aberdeen, MD

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No. Test	Radionuclide	Reported Value	Reported Error	EML Value	EML Error	<u>Reported EML</u>	Evaluation	QAP 48 Evaluation
<b>Matrix:</b> AI Air Filter Bq / filter								
1	GROSS ALPHA	2.060	0.240	1.650	0.160	1.248	A	
1	GROSS BETA	2.930	0.260	2.160	0.070	1.356	A	

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**Values for elemental uranium are reported in µg/filter, g, or mL.      pCi/g or mL=Bq x 0.027**

**Evaluation:** A=Acceptable, W=Acceptable with Warning, N=Not Acceptable

If the evaluation system is not appropriate for the types of analyses performed in your lab, apply a site specific evaluation.

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## QAP 49 Results by Laboratory

**Lab:** AT ATL International inc., Germantown, MD

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No. Test	Radionuclide	Reported Value	Reported Error	EML Value	EML Error	<u>Reported</u> EML	Evaluation	QAP 48 Evaluation
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**Matrix:** SO Soil Bq / kg

1	AM241	7.818	1.441	7.470	0.410	1.047	A	W
1	CS137	970.500	81.000	954.000	38.000	1.017	A	W
1	K40	380.800	41.100	314.000	13.000	1.213	A	W

**Matrix:** VE Vegetation Bq / kg

1	AM241	2.768	0.963	2.330	0.060	1.188	A	
1	CO60	19.550	2.680	20.000	1.000	0.977	A	
1	CS137	396.600	33.200	390.000	20.000	1.017	A	
1	K40	514.500	56.300	460.000	20.000	1.118	A	

**Matrix:** WA Water Bq / L

1	AM241	1.300	0.221	1.250	0.080	1.040	A	A
1	CO60	48.980	4.460	49.400	1.200	0.991	A	W
1	CS137	47.820	4.220	50.000	1.700	0.956	A	A
1	MN54	32.480	3.600	32.400	1.400	1.002	A	A

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**Values for elemental uranium are reported in µg/filter, g, or mL.      pCi/g or mL=Bq x 0.027**

**Evaluation:** A=Acceptable, W=Acceptable with Warning, N=Not Acceptable

If the evaluation system is not appropriate for the types of analyses performed in your lab, apply a site specific evaluation.

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## QAP 49 Results by Laboratory

**Lab:** AU ORISE EESD/ESSAP, Oak Ridge

No. Test	Radionuclide	Reported Value	Reported Error	EML Value	EML Error	Reported EML	Evaluation	QAP 48 Evaluation
<b>Matrix:</b> AI Air Filter Bq / filter								
1	AM241	0.853	0.064	0.510	0.008	1.673	W	N
1	CO60	9.190	0.240	9.160	0.580	1.003	A	W
1	CS137	22.350	1.030	22.470	1.030	0.995	A	N
1	GROSS ALPHA	1.890	0.040	1.650	0.160	1.145	A	A
1	GROSS BETA	2.040	0.040	2.160	0.070	0.944	A	A
1	MN54	5.570	0.400	4.920	0.400	1.132	A	W
1	PU238	0.819	0.073	0.460	0.005	1.780	N	N
1	PU239	0.735	0.066	0.420	0.006	1.750	N	N
1	SB125	8.320	0.730	8.890	0.550	0.936	A	W
1	U234	0.201	0.024	0.260	0.010	0.773	N	W
1	U238	0.194	0.024	0.260	0.010	0.746	N	W
<b>Matrix:</b> SO Soil Bq / kg								
1	AM241	8.300	1.400	7.470	0.410	1.111	A	A
1	CS137	1113.000	58.000	954.000	38.000	1.167	A	A
1	K40	388.000	24.000	314.000	13.000	1.236	A	A
1	PU239	12.400	1.900	13.090	0.570	0.947	A	A
1	SR90	49.000	7.000	39.630	0.003	1.236	A	A
1	U234	102.000	12.000	113.000	6.000	0.903	A	A
1	U238	105.000	14.000	120.000	9.000	0.875	A	A
<b>Matrix:</b> VE Vegetation Bq / kg								
1	AM241	2.160	0.300	2.330	0.060	0.927	A	A
1	CO60	23.000	3.000	20.000	1.000	1.150	A	A
1	CS137	446.000	25.000	390.000	20.000	1.144	A	A
1	K40	559.000	48.000	460.000	20.000	1.215	A	A
1	PU239	3.720	0.460	3.720	0.270	1.000	A	A
1	SR90	624.000	16.000	606.000	40.000	1.030	A	A
<b>Matrix:</b> WA Water Bq / L								
1	AM241	1.350	0.120	1.250	0.080	1.080	A	W
1	CO60	52.000	1.500	49.400	1.200	1.053	A	W
1	CS137	52.000	2.600	50.000	1.700	1.040	A	A
1	GROSS ALPHA	991.000	40.000	1080.000	60.000	0.918	A	A
1	GROSS BETA	1303.000	37.000	1420.000	60.000	0.918	A	A
1	H3	61.000	15.000	76.200	2.900	0.801	W	A
1	MN54	36.800	2.300	32.400	1.400	1.136	A	A
1	PU238	1.200	0.110	1.100	0.010	1.091	A	A
1	PU239	1.500	0.130	1.410	0.040	1.064	A	W
1	SR90	2.070	0.400	2.110	0.180	0.981	A	A
1	U234	0.509	0.089	0.510	0.030	0.998	A	W
1	U238	0.514	0.089	0.520	0.050	0.988	A	N

**Values for elemental uranium are reported in µg/filter, g, or mL. pCi/g or mL=Bq x 0.027**

**Evaluation:** A=Acceptable, W=Acceptable with Warning, N=Not Acceptable

If the evaluation system is not appropriate for the types of analyses performed in your lab, apply a site specific evaluation.

## QAP 49 Results by Laboratory

**Lab:** BA Bettis Atomic Power Lab, West Mifflin, PA

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No. Test	Radionuclide	Reported Value	Reported Error	EML Value	EML Error	Reported EML	Evaluation	QAP 48 Evaluation
<b>Matrix:</b> AI Air Filter Bq / filter								
1	CO60	8.970	0.360	9.160	0.580	0.979	A	A
1	CS137	23.600	1.700	22.470	1.030	1.050	A	A
1	MN54	5.630	0.440	4.920	0.400	1.144	A	W
1	SB125	6.850	0.320	8.890	0.550	0.771	W	A
<b>Matrix:</b> SO Soil Bq / kg								
1	CS137	1041.000	45.000	954.000	38.000	1.091	A	A
1	SR90	24.400	2.330	39.630	0.003	0.616	W	
<b>Matrix:</b> VE Vegetation Bq / kg								
1	CO60	24.700	3.900	20.000	1.000	1.235	A	
1	CS137	420.000	20.000	390.000	20.000	1.077	A	A
<b>Matrix:</b> WA Water Bq / L								
1	CO60	50.300	3.300	49.400	1.200	1.018	A	A
1	CS137	53.300	7.000	50.000	1.700	1.066	A	A
1	MN54	38.400	5.300	32.400	1.400	1.185	W	A
1	PU238	1.260	0.290	1.100	0.010	1.145	W	A
1	PU239	1.700	0.370	1.410	0.040	1.206	W	A
1	SR90	2.410	0.270	2.110	0.180	1.142	A	A
1	U234	0.570	0.100	0.510	0.030	1.118	A	
1	U238	0.540	0.100	0.520	0.050	1.038	A	

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**Values for elemental uranium are reported in µg/filter, g, or mL.      pCi/g or mL=Bq x 0.027**

**Evaluation:** A=Acceptable, W=Acceptable with Warning, N=Not Acceptable

If the evaluation system is not appropriate for the types of analyses performed in your lab, apply a site specific evaluation.

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## QAP 49 Results by Laboratory

**Lab:** BC Babcock & Wilcox MC #42, Lynchburg, VA

No. Test	Radionuclide	Reported Value	Reported Error	EML Value	EML Error	Reported EML	Evaluation	QAP 48 Evaluation
<b>Matrix:</b> AI Air Filter Bq / filter								
1	CO60	15.100	0.770	9.160	0.580	1.648	N	N
1	CS137	44.200	3.400	22.470	1.030	1.967	N	N
1	GROSS ALPHA	2.400	0.050	1.650	0.160	1.455	W	A
1	GROSS BETA	2.080	0.040	2.160	0.070	0.963	A	A
1	MN54	9.070	0.540	4.920	0.400	1.843	N	N
1	SB125	18.600	0.970	8.890	0.550	2.092	N	N
1	SR90	1.150	0.100	1.120	0.050	1.027	A	W
1	U234	0.300	0.020	0.260	0.010	1.154	A	W
1	U238	0.310	0.030	0.260	0.010	1.192	A	W
<b>Matrix:</b> SO Soil Bq / kg								
1	CS137	1099.000	76.000	954.000	38.000	1.152	A	A
1	K40	403.000	25.200	314.000	13.000	1.283	W	W
1	SR90	27.200	2.500	39.630	0.003	0.686	W	
1	U234	165.000	8.900	113.000	6.000	1.460	N	A
1	U238	95.800	6.300	120.000	9.000	0.798	A	A
<b>Matrix:</b> VE Vegetation Bq / kg								
1	CO60	21.100	1.500	20.000	1.000	1.055	A	A
1	CS137	447.000	29.600	390.000	20.000	1.146	A	A
1	K40	559.000	31.500	460.000	20.000	1.215	A	A
1	SR90	337.800	22.700	606.000	40.000	0.557	W	W
<b>Matrix:</b> WA Water Bq / L								
1	CO60	51.500	2.600	49.400	1.200	1.043	A	A
1	CS137	55.300	4.200	50.000	1.700	1.106	A	A
1	GROSS ALPHA	1113.700	25.600	1080.000	60.000	1.031	A	W
1	GROSS BETA	1198.000	20.000	1420.000	60.000	0.844	A	A
1	MN54	37.200	2.400	32.400	1.400	1.148	A	A
1	SR90	4.810	0.370	2.110	0.180	2.280	N	W
1	U234	0.640	0.060	0.510	0.030	1.255	W	W
1	U238	0.550	0.070	0.520	0.050	1.058	A	W

**Values for elemental uranium are reported in µg/filter, g, or mL. pCi/g or mL=Bq x 0.027**

**Evaluation:** A=Acceptable, W=Acceptable with Warning, N=Not Acceptable

If the evaluation system is not appropriate for the types of analyses performed in your lab, apply a site specific evaluation.

## QAP 49 Results by Laboratory

**Lab:** BE RUST Geotech, Grand Junction, CO

No. Test	Radionuclide	Reported Value	Reported Error	EML Value	EML Error	Reported EML	Evaluation	QAP 48 Evaluation
<b>Matrix: AI Air Filter Bq / filter</b>								
1	AM241	0.560	0.050	0.510	0.008	1.098	A	A
1	CO60	9.100	0.500	9.160	0.580	0.993	A	A
1	CS137	23.100	2.000	22.470	1.030	1.028	A	A
1	GROSS ALPHA	1.580	0.090	1.650	0.160	0.958	A	A
1	GROSS BETA	1.750	0.070	2.160	0.070	0.810	W	A
1	MN54	5.600	0.700	4.920	0.400	1.138	A	A
1	PU238	0.500	0.040	0.460	0.005	1.087	A	A
1	PU239	0.450	0.040	0.420	0.006	1.071	A	A
1	SB125	8.300	0.500	8.890	0.550	0.934	A	A
1	SR90	1.110	0.080	1.120	0.050	0.991	A	A
1	U234	0.250	0.020	0.260	0.010	0.962	A	A
1	U238	0.250	0.020	0.260	0.010	0.962	A	A
1	ug U	20.600		20.960	0.100	0.983	A	A
<b>Matrix: SO Soil Bq / kg</b>								
1	AM241	7.850	0.770	7.470	0.410	1.051	A	A
1	CS137	1069.000	150.000	954.000	38.000	1.121	A	A
1	K40	390.000	80.000	314.000	13.000	1.242	A	A
1	PU239	13.300	1.300	13.090	0.570	1.016	A	A
1	SR90	41.800	4.500	39.630	0.003	1.055	A	A
1	U234	105.100	7.900	113.000	6.000	0.930	A	A
1	U238	108.300	8.000	120.000	9.000	0.903	A	A
1	ug U	8.900		9.700	0.700	0.918	A	A
<b>Matrix: VE Vegetation Bq / kg</b>								
1	AM241	2.540	0.360	2.330	0.060	1.090	A	A
1	CM244	2.070	0.290	1.760	0.070	1.176	A	A
1	CO60	22.000	3.000	20.000	1.000	1.100	A	A
1	CS137	447.000	50.000	390.000	20.000	1.146	A	A
1	K40	601.000	140.000	460.000	20.000	1.307	W	W
1	PU239	4.500	0.460	3.720	0.270	1.210	A	A
1	SR90	635.000	39.000	606.000	40.000	1.048	A	A
<b>Matrix: WA Water Bq / L</b>								
1	AM241	1.400	0.140	1.250	0.080	1.120	A	A
1	CO60	52.200	4.000	49.400	1.200	1.057	A	N
1	CS137	53.100	4.000	50.000	1.700	1.062	A	A
1	FE55	142.200	6.800	139.000	2.000	1.023	A	A
1	GROSS ALPHA	1045.000	71.000	1080.000	60.000	0.968	A	A
1	GROSS BETA	1122.000	53.000	1420.000	60.000	0.790	A	A
1	H3	93.000	7.400	76.200	2.900	1.220	A	A
1	MN54	38.500	3.000	32.400	1.400	1.188	W	W
1	NI63	122.200	1.900	95.700	0.900	1.277	A	

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**Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable**

If the evaluation system is not appropriate for the types of analyses performed in your lab, apply a site specific evaluation.

## QAP 49 Results by Laboratory

**Lab:** BE RUST Geotech, Grand Junction, CO

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No. Test	Radionuclide	Reported Value	Reported Error	EML Value	EML Error	Reported EML	Evaluation	QAP 48 Evaluation
<b>Matrix:</b> WA Water Bq/L								
1	PU238	1.170	0.110	1.100	0.010	1.064	A	A
1	PU239	1.590	0.150	1.410	0.040	1.128	A	A
1	SR90	2.200	0.200	2.110	0.180	1.043	A	A
1	U234	0.530	0.060	0.510	0.030	1.039	A	A
1	U238	0.530	0.060	0.520	0.050	1.019	A	A
1	ug U	0.042		0.040	0.003	1.060	A	A

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## QAP 49 Results by Laboratory

**Lab:** BL Barringer Laboratories Inc., Golden, CO

No. Test	Radionuclide	Reported Value	Reported Error	EML Value	EML Error	Reported EML	Evaluation	QAP 48 Evaluation
<b>Matrix:</b> AI Air Filter Bq / filter								
1	AM241	0.599	0.041	0.510	0.008	1.175	A	W
2	AM241	0.552	0.035	0.510	0.008	1.082	A	W
1	Bq U	0.528	0.008	0.530	0.020	0.996	A	A
1	CO60	10.000	0.300	9.160	0.580	1.092	A	A
1	CS137	26.700	0.800	22.470	1.030	1.188	W	A
1	GROSS ALPHA	1.560	0.030	1.650	0.160	0.945	A	A
1	GROSS BETA	1.700	0.030	2.160	0.070	0.787	W	A
1	MN54	5.980	0.220	4.920	0.400	1.215	W	A
1	PU238	0.522	0.039	0.460	0.005	1.135	A	A
2	PU238	0.518	0.041	0.460	0.005	1.126	A	A
1	PU239	0.476	0.037	0.420	0.006	1.133	A	A
2	PU239	0.444	0.037	0.420	0.006	1.057	A	A
1	SB125	10.200	0.500	8.890	0.550	1.147	A	A
1	SR90	1.220	0.240	1.120	0.050	1.089	A	A
2	SR90	1.090	0.310	1.120	0.050	0.973	A	A
1	U234	0.261	0.004	0.260	0.010	1.004	A	A
1	U238	0.254	0.004	0.260	0.010	0.977	A	A
1	ug U	21.070	0.330	20.960	0.100	1.005	A	

**Matrix:** SO Soil Bq / kg

1	AC228	58.000	5.200	52.600	2.900	1.103	A	
1	AM241	3.680	1.270	7.470	0.410	0.493	N	
1	BI212	58.000	2.100	58.300	5.900	0.995	A	
1	BI214	31.000	2.100	28.800	0.500	1.076	A	
1	Bq U	223.000		237.000	16.000	0.941	A	A
2	Bq U	213.000	3.000	237.000	16.000	0.899	A	A
1	CS137	1097.000	40.000	954.000	38.000	1.150	A	A
1	K40	355.000	16.000	314.000	13.000	1.131	A	A
1	PB210	27.700	5.800	32.000	3.300	0.866	A	
1	PB212	62.100	3.700	52.800	3.700	1.176	A	
1	PB214	35.500	2.300	29.100	1.200	1.220	A	
1	PU239	15.500	0.500	13.090	0.570	1.184	A	A
2	PU239	13.100	0.600	13.090	0.570	1.001	A	A
1	RA226	44.400	3.300	29.000	1.000	1.531	A	
1	SR90	34.000	4.400	39.630	0.003	0.858	A	A
2	SR90	39.700	4.900	39.630	0.003	1.002	A	A
1	TH228	60.300	2.200	52.700	4.000	1.144	A	
1	TH234	141.000	10.000	114.000	6.000	1.237	A	
1	TL208	19.100	1.400	18.300	1.100	1.044	A	
1	U234	110.000		113.000	6.000	0.973	A	A
2	U234	105.000	2.000	113.000	6.000	0.929	A	A
2	U238	103.000	2.000	120.000	9.000	0.858	A	A
1	U238	108.000		120.000	9.000	0.900	A	A
1	ug U	8.910		9.700	0.700	0.919	A	
2	ug U	8.510	0.140	9.700	0.700	0.877	A	

**Values for elemental uranium are reported in µg/filter, g, or mL. pCi/g or mL=Bq x 0.027**

**Evaluation:** A=Acceptable, W=Acceptable with Warning, N=Not Acceptable

If the evaluation system is not appropriate for the types of analyses performed in your lab, apply a site specific evaluation.

## QAP 49 Results by Laboratory

**Lab:** BL Barringer Laboratories Inc., Golden, CO

No. Test	Radionuclide	Reported Value	Reported Error	EML Value	EML Error	Reported EML	Evaluation	QAP 48 Evaluation
<b>Matrix: VE Vegetation Bq / kg</b>								
1	AM241	2.930	0.510	2.330	0.060	1.258	A	N
1	CM244	1.330	0.250	1.760	0.070	0.756	W	N
1	CO60	20.000	1.400	20.000	1.000	1.000	A	A
1	CS137	438.000	16.000	390.000	20.000	1.123	A	A
1	K40	483.000	25.000	460.000	20.000	1.050	A	A
2	PU239	3.950	0.370	3.720	0.270	1.062	A	A
1	PU239	4.370	0.240	3.720	0.270	1.175	A	A
1	SR90	417.000	18.000	606.000	40.000	0.688	W	A

**Matrix: WA Water Bq / L**

2	AM241	1.270	0.220	1.250	0.080	1.016	A	A
1	AM241	1.510	0.230	1.250	0.080	1.208	A	A
1	CO60	51.000	2.100	49.400	1.200	1.032	A	A
1	CS137	52.000	2.100	50.000	1.700	1.040	A	A
1	FE55	148.000	5.000	139.000	2.000	1.065	A	W
1	GROSS ALPHA	956.000	14.000	1080.000	60.000	0.885	A	W
1	GROSS BETA	1055.000	14.000	1420.000	60.000	0.743	A	A
1	H3	81.800	4.100	76.200	2.900	1.073	A	W
1	MN54	35.100	1.500	32.400	1.400	1.083	A	A
1	NI63	103.000	3.000	95.700	0.900	1.076	A	A
1	PU238	1.470	0.120	1.100	0.010	1.336	N	W
2	PU238	1.340	0.130	1.100	0.010	1.218	W	W
1	PU239	1.680	0.130	1.410	0.040	1.191	W	A
2	PU239	1.790	0.140	1.410	0.040	1.270	W	A
2	SR90	2.280	0.630	2.110	0.180	1.081	A	A
1	SR90	2.170	0.500	2.110	0.180	1.028	A	A
1	U234	0.510	0.010	0.510	0.030	1.000	A	A
1	U238	0.495	0.010	0.520	0.050	0.952	A	W
1	ug U	1.030	0.020	0.040	0.003	25.750	N	
2	ug U	0.041	0.001	0.040	0.003	1.025	A	

**Values for elemental uranium are reported in µg/filter, g, or mL. pCi/g or mL=Bq x 0.027**

**Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable**

If the evaluation system is not appropriate for the types of analyses performed in your lab, apply a site specific evaluation.

## QAP 49 Results by Laboratory

**Lab:** BM Battelle Memorial Institute, Columbus, OH

No. Test	Radionuclide	Reported Value	Reported Error	EML Value	EML Error	Reported EML	Evaluation	QAP 48 Evaluation
<b>Matrix:</b> AI Air Filter Bq / filter								
1	AM241	0.460	0.060	0.510	0.008	0.902	A	A
1	CO60	9.260	0.280	9.160	0.580	1.011	A	A
1	CS137	22.200	0.330	22.470	1.030	0.988	A	A
1	PU238	0.497	0.070	0.460	0.005	1.080	A	A
1	PU239	0.472	0.064	0.420	0.006	1.124	A	A
1	SR90	1.140	0.040	1.120	0.050	1.018	A	A
1	U234	0.260	0.040	0.260	0.010	1.000	A	A
1	U238	0.270	0.040	0.260	0.010	1.038	A	A
<b>Matrix:</b> SO Soil Bq / kg								
1	AM241	7.700	1.180	7.470	0.410	1.031	A	A
1	CS137	1041.000	7.000	954.000	38.000	1.091	A	A
1	PU239	12.600	2.500	13.090	0.570	0.963	A	W
1	SR90	40.600	2.700	39.630	0.003	1.024	A	A
1	U234	110.000	14.600	113.000	6.000	0.973	A	A
1	U238	114.400	15.200	120.000	9.000	0.953	A	A
<b>Matrix:</b> VE Vegetation Bq / kg								
1	AM241	2.360	0.600	2.330	0.060	1.013	A	A
1	CO60	20.500	1.600	20.000	1.000	1.025	A	A
1	CS137	431.000	4.000	390.000	20.000	1.105	A	A
1	PU239	3.670	0.730	3.720	0.270	0.987	A	A
1	SR90	663.000	12.000	606.000	40.000	1.094	A	A
<b>Matrix:</b> WA Water Bq / L								
1	AM241	1.220	0.180	1.250	0.080	0.976	A	A
1	CO60	46.500	3.500	49.400	1.200	0.941	A	A
1	CS137	49.300	3.300	50.000	1.700	0.986	A	A
1	PU238	1.200	0.190	1.100	0.010	1.091	A	A
1	PU239	1.580	0.240	1.410	0.040	1.121	A	A
1	SR90	2.230	0.260	2.110	0.180	1.057	A	A
1	U234	0.540	0.080	0.510	0.030	1.059	A	A
1	U238	0.540	0.080	0.520	0.050	1.038	A	A

**Values for elemental uranium are reported in µg/filter, g, or mL. pCi/g or mL=Bq x 0.027**

**Evaluation:** A=Acceptable, W=Acceptable with Warning, N=Not Acceptable

If the evaluation system is not appropriate for the types of analyses performed in your lab, apply a site specific evaluation.



## QAP 49 Results by Laboratory

**Lab:** BN Brookhaven National Laboratory, Upton, NY

No. Test	Radionuclide	Reported Value	Reported Error	EML Value	EML Error	Reported EML	Evaluation	QAP 48 Evaluation
<b>Matrix:</b> AI Air Filter Bq / filter								
1	CO60	12.210	1.010	9.160	0.580	1.333	N	A
2	CO60	9.990	1.010	9.160	0.580	1.091	A	A
3	CO60	12.030	1.010	9.160	0.580	1.313	W	A
3	CS137	38.480	1.990	22.470	1.030	1.713	N	W
2	CS137	33.670	1.990	22.470	1.030	1.498	N	W
1	CS137	36.700	1.990	22.470	1.030	1.633	N	W
2	GROSS ALPHA	1.490	0.020	1.650	0.160	0.903	A	W
3	GROSS ALPHA	1.450	0.020	1.650	0.160	0.879	A	W
1	GROSS ALPHA	1.460	0.020	1.650	0.160	0.885	A	W
2	GROSS BETA	1.770	0.040	2.160	0.070	0.819	W	A
3	GROSS BETA	1.760	0.040	2.160	0.070	0.815	W	A
1	GROSS BETA	1.690	0.040	2.160	0.070	0.782	W	A
3	MN54	8.880	0.660	4.920	0.400	1.805	N	W
2	MN54	7.290	0.660	4.920	0.400	1.482	N	W
1	MN54	8.360	0.660	4.920	0.400	1.699	N	W
2	SB125	13.990	0.360	8.890	0.550	1.574	N	W
1	SB125	14.210	0.360	8.890	0.550	1.598	N	W
3	SB125	14.840	0.360	8.890	0.550	1.669	N	W

**Matrix:** SO Soil Bq / kg

1	AC228	45.030	0.750	52.600	2.900	0.856	A	
2	AC228	43.360	0.750	52.600	2.900	0.824	A	
3	AC228	43.510	0.750	52.600	2.900	0.827	A	
1	BI212	31.570	1.520	58.300	5.900	0.542	A	
3	BI212	35.280	1.520	58.300	5.900	0.605	A	
2	BI212	33.150	1.520	58.300	5.900	0.569	A	
1	BI214	25.810	0.580	28.800	0.500	0.896	A	
2	BI214	27.200	0.580	28.800	0.500	0.944	A	
3	BI214	26.260	0.580	28.800	0.500	0.912	A	
1	CS137	959.410	2.190	954.000	38.000	1.006	A	A
3	CS137	959.780	2.190	954.000	38.000	1.006	A	A
2	CS137	954.970	2.190	954.000	38.000	1.001	A	A
3	K40	284.460	3.950	314.000	13.000	0.906	A	A
2	K40	282.500	3.950	314.000	13.000	0.900	A	A
1	K40	291.670	3.950	314.000	13.000	0.929	A	A
1	PB212	51.280	0.690	52.800	3.700	0.971	A	
2	PB212	49.950	0.690	52.800	3.700	0.946	A	
3	PB212	49.730	0.690	52.800	3.700	0.942	A	
1	PB214	26.850	1.790	29.100	1.200	0.923	A	
2	PB214	27.380	1.790	29.100	1.200	0.941	A	
3	PB214	30.900	1.790	29.100	1.200	1.062	A	
1	TL208	16.420	0.990	18.300	1.100	0.897	A	
2	TL208	18.710	0.990	18.300	1.100	1.022	A	
3	TL208	16.920	0.990	18.300	1.100	0.925	A	

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## QAP 49 Results by Laboratory

**Lab:** BN Brookhaven National Laboratory, Upton, NY

No. Test	Radionuclide	Reported Value	Reported Error	EML Value	EML Error	Reported EML	Evaluation	QAP 48 Evaluation
<b>Matrix:</b> VE Vegetation Bq / kg								
1	CO60	18.630	0.380	20.000	1.000	0.931	A	A
2	CO60	18.160	0.380	20.000	1.000	0.908	A	A
3	CO60	17.700	0.380	20.000	1.000	0.885	A	A
2	CS137	435.860	1.490	390.000	20.000	1.118	A	A
1	CS137	432.530	1.490	390.000	20.000	1.109	A	A
3	CS137	432.900	1.490	390.000	20.000	1.110	A	A
3	K40	444.370	8.970	460.000	20.000	0.966	A	A
1	K40	451.030	8.970	460.000	20.000	0.980	A	A
2	K40	429.570	8.970	460.000	20.000	0.934	A	A

**Matrix:** WA Water Bq / L

3	CO60	54.170	1.090	49.400	1.200	1.097	A	A
2	CO60	52.840	1.090	49.400	1.200	1.070	A	A
1	CO60	51.500	1.090	49.400	1.200	1.043	A	A
2	CS137	61.680	0.190	50.000	1.700	1.234	W	N
1	CS137	61.240	0.190	50.000	1.700	1.225	W	N
3	CS137	61.310	0.190	50.000	1.700	1.226	W	N
1	GROSS ALPHA	8.410	0.600	1080.000	60.000	0.008	N	A
2	GROSS ALPHA	8.720	0.600	1080.000	60.000	0.008	N	A
3	GROSS ALPHA	9.820	0.600	1080.000	60.000	0.009	N	A
3	GROSS BETA	12.770	0.270	1420.000	60.000	0.009	N	A
1	GROSS BETA	12.430	0.270	1420.000	60.000	0.009	N	A
2	GROSS BETA	12.090	0.270	1420.000	60.000	0.009	N	A
3	H3	57.310	3.020	76.200	2.900	0.752	W	A
1	H3	50.410	3.020	76.200	2.900	0.662	N	A
2	H3	56.180	3.020	76.200	2.900	0.737	W	A
1	MN54	39.410	1.360	32.400	1.400	1.216	W	A
2	MN54	39.180	1.360	32.400	1.400	1.209	W	A
3	MN54	42.180	1.360	32.400	1.400	1.302	N	A
1	SR90	7.070	0.300	2.110	0.180	3.351	N	A
2	SR90	7.660	0.300	2.110	0.180	3.630	N	A

**Values for elemental uranium are reported in µg/filter, g, or mL. pCi/g or mL=Bq x 0.027**

**Evaluation:** A=Acceptable, W=Acceptable with Warning, N=Not Acceptable

If the evaluation system is not appropriate for the types of analyses performed in your lab, apply a site specific evaluation.

## QAP 49 Results by Laboratory

**Lab:** BP Battelle Pacific Northwest National Laboratory

No. Test	Radionuclide	Reported Value	Reported Error	EML Value	EML Error	Reported EML	Evaluation	QAP 48 Evaluation
<b>Matrix:</b> AI Air Filter Bq / filter								
1	AM241	0.575	0.019	0.510	0.008	1.127	A	A
1	Bq U	0.542	0.014	0.530	0.020	1.023	A	
1	CO60	9.500	0.200	9.160	0.580	1.037	A	A
1	CS137	22.900	0.500	22.470	1.030	1.019	A	A
1	GROSS ALPHA	1.650	0.110	1.650	0.160	1.000	A	A
1	GROSS BETA	1.950	0.060	2.160	0.070	0.903	A	A
1	MN54	5.200	0.100	4.920	0.400	1.057	A	A
1	PU238	0.519	0.010	0.460	0.005	1.128	A	A
1	PU239	0.489	0.010	0.420	0.006	1.164	A	A
1	SB125	7.900	0.200	8.890	0.550	0.889	A	A
1	SR90	1.160	0.090	1.120	0.050	1.036	A	W
1	U234	0.264	0.010	0.260	0.010	1.015	A	
1	U238	0.267	0.010	0.260	0.010	1.027	A	A

**Matrix:** SO Soil Bq / kg

1	AC228	44.000	3.000	52.600	2.900	0.837	A	
1	BI212	64.000	10.000	58.300	5.900	1.098	A	
1	BI214	27.000	3.000	28.800	0.500	0.938	A	
1	Bq U	226.000	6.000	237.000	16.000	0.954	A	
1	CS137	902.000	18.000	954.000	38.000	0.945	A	A
1	K40	305.000	7.000	314.000	13.000	0.971	A	A
1	PB212	50.000	8.000	52.800	3.700	0.947	A	
1	PB214	29.000	3.000	29.100	1.200	0.997	A	
1	PU239	14.000	0.300	13.090	0.570	1.070	A	A
1	SR90	88.000	16.000	39.630	0.003	2.221	W	W
1	TL208	41.000	7.000	18.300	1.100	2.240	A	
1	U234	109.000	4.000	113.000	6.000	0.965	A	
1	U238	112.000	4.000	120.000	9.000	0.933	A	

**Matrix:** VE Vegetation Bq / kg

1	AM241	2.670	0.170	2.330	0.060	1.146	A	A
1	CM244	1.620	0.160	1.760	0.070	0.920	A	A
1	CO60	18.000	0.400	20.000	1.000	0.900	A	A
1	CS137	374.000	8.000	390.000	20.000	0.959	A	A
1	K40	451.000	9.000	460.000	20.000	0.980	A	A
1	PU239	4.100	0.400	3.720	0.270	1.102	A	A
1	SR90	651.000	88.000	606.000	40.000	1.074	A	A

**Matrix:** WA Water Bq / L

1	AM241	1.430	0.040	1.250	0.080	1.144	A	A
1	Bq U	1.130	0.030	1.050	0.080	1.076	A	
1	CO60	50.300	0.100	49.400	1.200	1.018	A	A
1	CS137	52.100	1.000	50.000	1.700	1.042	A	A

**Values for elemental uranium are reported in µg/filter, g, or mL. pCi/g or mL=Bq x 0.027**

**Evaluation:** A=Acceptable, W=Acceptable with Warning, N=Not Acceptable

If the evaluation system is not appropriate for the types of analyses performed in your lab, apply a site specific evaluation.

## QAP 49 Results by Laboratory

**Lab:** BP Battelle Pacific Northwest National Laboratory

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No. Test	Radionuclide	Reported Value	Reported Error	EML Value	EML Error	<u>Reported EML</u>	Evaluation	QAP 48 Evaluation
<b>Matrix:</b> WA Water Bq/L								
1	FE55	145.000	10.000	139.000	2.000	1.043	A	A
1	GROSS ALPHA	1066.000	26.000	1080.000	60.000	0.987	A	A
1	GROSS BETA	1376.000	30.000	1420.000	60.000	0.969	A	A
1	H3	80.800	4.300	76.200	2.900	1.060	A	A
1	MN54	35.100	0.700	32.400	1.400	1.083	A	A
1	NI63	86.000	10.000	95.700	0.900	0.899	A	
1	PU238	1.230	0.040	1.100	0.010	1.118	W	A
1	PU239	1.640	0.030	1.410	0.040	1.163	W	A
1	U234	0.560	0.030	0.510	0.030	1.098	A	
1	U238	0.550	0.010	0.520	0.050	1.058	A	A

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**Values for elemental uranium are reported in µg/filter, g, or mL.      pCi/g or mL=Bq x 0.027**

**Evaluation:** A=Acceptable, W=Acceptable with Warning, N=Not Acceptable

If the evaluation system is not appropriate for the types of analyses performed in your lab, apply a site specific evaluation.

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## QAP 49 Results by Laboratory

**Lab:** BQ Becquerel Laboratories Inc., Mississauga, Ontario, Canada

No. Test	Radionuclide	Reported Value	Reported Error	EML Value	EML Error	Reported EML	Evaluation	QAP 48 Evaluation
<b>Matrix:</b> AI Air Filter Bq / filter								
1	CO60	8.600	0.200	9.160	0.580	0.939	A	A
1	CS137	24.400	0.200	22.470	1.030	1.086	A	A
1	GROSS ALPHA	3.090	0.080	1.650	0.160	1.873	N	
1	GROSS BETA	2.160	0.040	2.160	0.070	1.000	A	
1	MN54	4.600	0.100	4.920	0.400	0.935	A	A
1	SB125	9.000	0.300	8.890	0.550	1.012	A	N
1	ug U	26.000	1.000	20.960	0.100	1.240	A	A
<b>Matrix:</b> SO Soil Bq / kg								
1	AC228	87.000	30.000	52.600	2.900	1.654	A	
1	CS137	1070.000	30.000	954.000	38.000	1.122	A	N
1	K40	490.000	5.000	314.000	13.000	1.561	N	A
1	PB210	33.000	10.000	32.000	3.300	1.031	A	
1	PB212	52.000	7.000	52.800	3.700	0.985	A	
1	RA226	39.000	2.000	29.000	1.000	1.345	A	
1	TH228	53.000	3.000	52.700	4.000	1.006	A	
1	TH234	120.000	40.000	114.000	6.000	1.053	A	
1	TL208	30.000	9.000	18.300	1.100	1.639	A	
1	ug U	11.300	0.300	9.700	0.700	1.165	W	A
<b>Matrix:</b> VE Vegetation Bq / kg								
1	CO60	68.000	20.000	20.000	1.000	3.400	N	
1	CS137	434.000	17.000	390.000	20.000	1.113	A	A
1	K40	721.000	7.000	460.000	20.000	1.567	N	W
<b>Matrix:</b> WA Water Bq / L								
1	CO60	49.000	1.000	49.400	1.200	0.992	A	A
1	CS137	45.000	1.000	50.000	1.700	0.900	A	A
1	GROSS ALPHA	1140.000	40.000	1080.000	60.000	1.056	A	
1	GROSS BETA	1130.000	20.000	1420.000	60.000	0.796	A	
1	MN54	30.600	0.900	32.400	1.400	0.944	A	A
1	ug U	0.048	0.002	0.040	0.003	1.200	W	A

**Values for elemental uranium are reported in µg/filter, g, or mL. pCi/g or mL=Bq x 0.027**

**Evaluation:** A=Acceptable, W=Acceptable with Warning, N=Not Acceptable

If the evaluation system is not appropriate for the types of analyses performed in your lab, apply a site specific evaluation.

## QAP 49 Results by Laboratory

**Lab:** BU Autoridad Regulatoria, Buenos Aires, Argentina

No. Test	Radionuclide	Reported Value	Reported Error	EML Value	EML Error	Reported EML	Evaluation	QAP 48 Evaluation
<b>Matrix: AI Air Filter Bq / filter</b>								
1	AM241	0.600	0.030	0.510	0.008	1.176	A	A
1	Bq U	0.490	0.030	0.530	0.020	0.925	A	A
1	CO60	9.100	0.500	9.160	0.580	0.993	A	A
1	CS137	23.000	1.200	22.470	1.030	1.024	A	A
1	GROSS ALPHA	1.500	0.100	1.650	0.160	0.909	A	A
1	GROSS BETA	1.800	0.100	2.160	0.070	0.833	W	A
1	MN54	4.700	0.800	4.920	0.400	0.955	A	A
1	PU238	0.510	0.020	0.460	0.005	1.109	A	A
1	PU239	0.460	0.020	0.420	0.006	1.095	A	A
1	SB125	8.500	0.800	8.890	0.550	0.956	A	A
1	U234	0.240	0.010	0.260	0.010	0.923	A	A
1	U238	0.240	0.010	0.260	0.010	0.923	A	A
1	ug U	18.000	1.300	20.960	0.100	0.859	W	A
<b>Matrix: SO Soil Bq / kg</b>								
1	AM241	7.600	0.400	7.470	0.410	1.017	A	A
1	Bq U	218.000	10.000	237.000	16.000	0.920	A	A
1	CS137	860.000	90.000	954.000	38.000	0.901	A	W
1	K40	290.000	30.000	314.000	13.000	0.924	A	W
1	PU239	11.000	0.800	13.090	0.570	0.840	W	A
1	RA226	34.000	2.000	29.000	1.000	1.172	A	A
1	U234	105.000	8.000	113.000	6.000	0.929	A	A
1	U238	108.000	6.000	120.000	9.000	0.900	A	A
1	ug U	8.400	0.600	9.700	0.700	0.866	A	A
<b>Matrix: VE Vegetation Bq / kg</b>								
1	AM241	2.900	0.200	2.330	0.060	1.245	A	A
1	CM244	1.800	0.100	1.760	0.070	1.023	A	A
1	CO60	21.000	3.000	20.000	1.000	1.050	A	A
1	CS137	430.000	25.000	390.000	20.000	1.103	A	W
1	K40	530.000	60.000	460.000	20.000	1.152	A	A
1	PU239	4.300	0.250	3.720	0.270	1.156	A	A
1	SR90	678.000	34.000	606.000	40.000	1.119	A	A
<b>Matrix: WA Water Bq / L</b>								
1	AM241	1.390	0.090	1.250	0.080	1.112	A	A
1	Bq U	1.160	0.060	1.050	0.080	1.105	A	A
1	CO60	57.000	3.000	49.400	1.200	1.154	W	A
1	CS137	47.000	3.000	50.000	1.700	0.940	A	A
1	GROSS ALPHA	1140.000	75.000	1080.000	60.000	1.056	A	W
1	GROSS BETA	1090.000	50.000	1420.000	60.000	0.768	A	A
1	H3	76.900	1.500	76.200	2.900	1.009	A	A
1	PU238	1.230	0.050	1.100	0.010	1.118	W	A

**Values for elemental uranium are reported in µg/filter, g, or mL. pCi/g or mL=Bq x 0.027**

**Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable**

If the evaluation system is not appropriate for the types of analyses performed in your lab, apply a site specific evaluation.

## QAP 49 Results by Laboratory

**Lab:** BU Autoridad Regulatoria, Buenos Aires, Argentina

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No. Test	Radionuclide	Reported Value	Reported Error	EML Value	EML Error	<u>Reported EML</u>	Evaluation	QAP 48 Evaluation
<b>Matrix:</b> WA Water Bq/L								
1	PU239	1.450	0.060	1.410	0.040	1.028	A	A
1	U234	0.620	0.030	0.510	0.030	1.216	A	A
1	U238	0.550	0.030	0.520	0.050	1.058	A	A
1	ug U	0.043	0.003	0.040	0.003	1.075	A	A

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**Values for elemental uranium are reported in µg/filter, g, or mL.      pCi/g or mL=Bq x 0.027**

**Evaluation:** A=Acceptable, W=Acceptable with Warning, N=Not Acceptable

If the evaluation system is not appropriate for the types of analyses performed in your lab, apply a site specific evaluation.

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## QAP 49 Results by Laboratory

**Lab:** BX B&W Nuclear Envir. Services, Lynchburg, VA

No. Test	Radionuclide	Reported Value	Reported Error	EML Value	EML Error	Reported EML	Evaluation	QAP 48 Evaluation
<b>Matrix:</b> AI Air Filter Bq / filter								
1	AM241	0.500	0.040	0.510	0.008	0.980	A	A
1	CO60	16.500	0.010	9.160	0.580	1.801	N	N
1	CS137	46.900	3.110	22.470	1.030	2.087	N	N
1	GROSS ALPHA	2.360	0.050	1.650	0.160	1.430	W	A
1	GROSS BETA	2.180	0.040	2.160	0.070	1.009	A	A
1	MN54	10.300	0.010	4.920	0.400	2.093	N	N
1	PU238	0.500	0.020	0.460	0.005	1.087	A	W
1	PU239	0.420	0.020	0.420	0.006	1.000	A	A
1	SB125	19.600	1.080	8.890	0.550	2.205	N	N
1	U234	0.250	0.020	0.260	0.010	0.962	A	W
1	U238	0.320	0.040	0.260	0.010	1.231	A	A
<b>Matrix:</b> SO Soil Bq / kg								
1	AM241	6.500	1.400	7.470	0.410	0.870	A	A
1	CS137	1094.000	84.000	954.000	38.000	1.147	A	A
1	K40	418.000	23.700	314.000	13.000	1.331	W	W
1	PU239	13.200	0.800	13.090	0.570	1.008	A	A
1	RA226	222.000	27.000	29.000	1.000	7.655	A	
1	SR90	26.500	2.500	39.630	0.003	0.669	W	
1	U234	146.200	7.400	113.000	6.000	1.294	W	A
1	U238	105.500	5.900	120.000	9.000	0.879	A	A
<b>Matrix:</b> VE Vegetation Bq / kg								
1	AM241	3.000	0.900	2.330	0.060	1.288	A	W
1	CM244	1.600	0.600	1.760	0.070	0.909	A	W
1	CO60	24.600	1.900	20.000	1.000	1.230	A	A
1	CS137	480.000	33.300	390.000	20.000	1.231	A	A
1	K40	596.000	34.000	460.000	20.000	1.296	W	W
1	PU239	0.500	0.010	3.720	0.270	0.134	N	W
1	SR90	370.000	27.700	606.000	40.000	0.611	W	W
<b>Matrix:</b> WA Water Bq / L								
1	AM241	1.270	0.140	1.250	0.080	1.016	A	A
1	CO60	50.500	2.800	49.400	1.200	1.022	A	W
1	CS137	54.200	3.900	50.000	1.700	1.084	A	A
1	FE55	116.200	9.770	139.000	2.000	0.836	A	A
1	GROSS ALPHA	980.500	23.830	1080.000	60.000	0.908	A	W
1	GROSS BETA	1206.000	20.000	1420.000	60.000	0.849	A	A
1	H3	116.500	10.700	76.200	2.900	1.529	W	A
1	MN54	35.700	2.100	32.400	1.400	1.102	A	A
1	NI63	93.600	7.800	95.700	0.900	0.978	A	
1	PU238	1.230	0.060	1.100	0.010	1.118	W	A
1	PU239	1.530	0.080	1.410	0.040	1.085	A	A

**Values for elemental uranium are reported in µg/filter, g, or mL. pCi/g or mL=Bq x 0.027**

**Evaluation:** A=Acceptable, W=Acceptable with Warning, N=Not Acceptable

If the evaluation system is not appropriate for the types of analyses performed in your lab, apply a site specific evaluation.



## QAP 49 Results by Laboratory

**Lab:** BX B&W Nuclear Envir. Services, Lynchburg, VA

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No. Test	Radionuclide	Reported Value	Reported Error	EML Value	EML Error	<u>Reported</u> EML	Evaluation	QAP 48 Evaluation
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**Matrix:** WA Water Bq/L

1	SR90	2.260	0.500	2.110	0.180	1.071	A	W
1	U234	0.670	0.070	0.510	0.030	1.314	W	A
1	U238	0.680	0.090	0.520	0.050	1.308	N	A

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**Values for elemental uranium are reported in µg/filter, g, or mL.      pCi/g or mL=Bq x 0.027**

**Evaluation:** A=Acceptable, W=Acceptable with Warning, N=Not Acceptable

If the evaluation system is not appropriate for the types of analyses performed in your lab, apply a site specific evaluation.

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## QAP 49 Results by Laboratory

**Lab:** CA Atomic Energy Control Board, Ottawa, Canada

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No. Test	Radionuclide	Reported Value	Reported Error	EML Value	EML Error	Reported EML	Evaluation	QAP 48 Evaluation
<b>Matrix:</b> AI Air Filter Bq / filter								
1	CO60	8.300	0.200	9.160	0.580	0.906	A	A
1	CS137	22.500	2.300	22.470	1.030	1.001	A	A
1	GROSS ALPHA	1.800	0.200	1.650	0.160	1.091	A	A
1	GROSS BETA	1.700	0.200	2.160	0.070	0.787	W	A
1	MN54	4.500	0.300	4.920	0.400	0.915	A	A
1	SB125	8.200	0.300	8.890	0.550	0.922	A	A
<b>Matrix:</b> SO Soil Bq / kg								
1	ug U	9.400	0.900	9.700	0.700	0.969	A	A
<b>Matrix:</b> WA Water Bq / L								
1	CO60	50.800	5.100	49.400	1.200	1.028	A	A
1	CS137	51.000	5.100	50.000	1.700	1.020	A	A
1	GROSS ALPHA	180.000	20.000	1080.000	60.000	0.167	N	
1	GROSS BETA	950.000	90.000	1420.000	60.000	0.669	W	
1	MN54	34.400	3.400	32.400	1.400	1.062	A	A
1	ug U	0.041	0.004	0.040	0.003	1.013	A	W

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**Values for elemental uranium are reported in µg/filter, g, or mL.      pCi/g or mL=Bq x 0.027**

**Evaluation:** A=Acceptable, W=Acceptable with Warning, N=Not Acceptable

If the evaluation system is not appropriate for the types of analyses performed in your lab, apply a site specific evaluation.

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## QAP 49 Results by Laboratory

**Lab:** CB Radiation Protection Bureau, Ontario, Canada

No. Test	Radionuclide	Reported Value	Reported Error	EML Value	EML Error	Reported EML	Evaluation	QAP 48 Evaluation
<b>Matrix:</b> AI Air Filter Bq / filter								
3	AM241	0.500	0.030	0.510	0.008	0.980	A	
2	AM241	0.420	0.090	0.510	0.008	0.824	W	
1	AM241	0.600	0.070	0.510	0.008	1.176	A	
3	CO60	9.200	0.120	9.160	0.580	1.004	A	
2	CO60	8.500	0.110	9.160	0.580	0.928	A	
1	CO60	9.100	0.120	9.160	0.580	0.993	A	
1	CS137	22.800	0.670	22.470	1.030	1.015	A	
3	CS137	23.300	0.540	22.470	1.030	1.037	A	
2	CS137	23.100	0.640	22.470	1.030	1.028	A	
2	MN54	5.200	0.130	4.920	0.400	1.057	A	
1	MN54	5.100	0.140	4.920	0.400	1.037	A	
3	MN54	5.200	0.130	4.920	0.400	1.057	A	
3	SB125	9.000	0.160	8.890	0.550	1.012	A	
1	SB125	9.700	0.190	8.890	0.550	1.091	A	
2	SB125	9.400	0.170	8.890	0.550	1.057	A	

**Matrix:** WA Water Bq / L

1	SR90	2.460	0.250	2.110	0.180	1.166	A	A
2	SR90	2.270	0.250	2.110	0.180	1.076	A	A

**Values for elemental uranium are reported in µg/filter, g, or mL. pCi/g or mL=Bq x 0.027**

**Evaluation:** A=Acceptable, W=Acceptable with Warning, N=Not Acceptable

If the evaluation system is not appropriate for the types of analyses performed in your lab, apply a site specific evaluation.

## QAP 49 Results by Laboratory

**Lab:** CD Gently-2 Nuclear Power Plant, Quebec Canada

No. Test	Radionuclide	Reported Value	Reported Error	EML Value	EML Error	Reported EML	Evaluation	QAP 48 Evaluation
<b>Matrix:</b> AI Air Filter Bq / filter								
1	CO60	8.900	0.100	9.160	0.580	0.972	A	A
1	CS137	20.700	0.200	22.470	1.030	0.921	A	W
1	GROSS ALPHA	1.500	0.100	1.650	0.160	0.909	A	W
1	GROSS BETA	3.000	0.200	2.160	0.070	1.389	A	N
1	MN54	5.200	0.100	4.920	0.400	1.057	A	A
1	SB125	8.600	0.200	8.890	0.550	0.967	A	A
<b>Matrix:</b> SO Soil Bq / kg								
1	AC228	55.000	2.000	52.600	2.900	1.046	A	
1	BI212	55.000	1.000	58.300	5.900	0.943	A	
1	BI214	32.000	2.000	28.800	0.500	1.111	A	
1	CS137	1051.000	4.000	954.000	38.000	1.102	A	A
1	K40	338.000	10.000	314.000	13.000	1.076	A	W
1	PB212	58.000	1.000	52.800	3.700	1.098	A	
1	PB214	30.000	2.000	29.100	1.200	1.031	A	
1	TL208	61.000	3.000	18.300	1.100	3.333	A	
<b>Matrix:</b> VE Vegetation Bq / kg								
1	CO60	21.000	1.000	20.000	1.000	1.050	A	A
1	CS137	419.000	3.000	390.000	20.000	1.074	A	A
1	K40	481.000	1.000	460.000	20.000	1.046	A	A
<b>Matrix:</b> WA Water Bq / L								
1	CO60	51.000	0.500	49.400	1.200	1.032	A	A
1	CS137	51.000	0.500	50.000	1.700	1.020	A	A
1	GROSS ALPHA	770.000	40.000	1080.000	60.000	0.713	W	W
1	GROSS BETA	1170.000	60.000	1420.000	60.000	0.824	A	A
1	MN54	35.000	0.500	32.400	1.400	1.080	A	A

**Values for elemental uranium are reported in µg/filter, g, or mL. pCi/g or mL=Bq x 0.027**

**Evaluation:** A=Acceptable, W=Acceptable with Warning, N=Not Acceptable

If the evaluation system is not appropriate for the types of analyses performed in your lab, apply a site specific evaluation.

## QAP 49 Results by Laboratory

**Lab:** CH California State Dept. Health Serv., Sanitation & Radiation Laboratory

No. Test	Radionuclide	Reported Value	Reported Error	EML Value	EML Error	Reported EML	Evaluation	QAP 48 Evaluation
<b>Matrix:</b> AI Air Filter Bq / filter								
1	AM241	0.535	0.027	0.510	0.008	1.049	A	A
1	Bq U	0.510	0.025	0.530	0.020	0.962	A	A
1	CO60	9.080	0.170	9.160	0.580	0.991	A	A
1	CS137	21.400	0.180	22.470	1.030	0.952	A	A
1	GROSS ALPHA	1.800	0.046	1.650	0.160	1.091	A	A
1	GROSS BETA	2.060	0.039	2.160	0.070	0.954	A	A
1	MN54	4.800	0.130	4.920	0.400	0.976	A	A
1	PU238	0.484	0.026	0.460	0.005	1.052	A	A
1	PU239	0.441	0.024	0.420	0.006	1.050	A	A
1	SB125	9.610	0.310	8.890	0.550	1.081	A	A
1	SR90	1.140	0.077	1.120	0.050	1.018	A	A
1	U234	0.239	0.011	0.260	0.010	0.919	A	A
1	U238	0.249	0.110	0.260	0.010	0.958	A	A
1	ug U	20.700	2.100	20.960	0.100	0.988	A	A

**Matrix:** SO Soil Bq / kg

1	AC228	57.800	2.000	52.600	2.900	1.099	A	
1	AM241	8.380	0.510	7.470	0.410	1.122	A	
1	BI212	69.200	5.000	58.300	5.900	1.187	A	
1	BI214	25.900	1.300	28.800	0.500	0.899	A	
1	Bq U	224.000	11.000	237.000	16.000	0.945	A	
1	CS137	1088.000	2.800	954.000	38.000	1.140	A	
1	K40	369.000	8.000	314.000	13.000	1.175	A	
1	PB212	55.500	0.940	52.800	3.700	1.051	A	
1	PB214	28.800	1.600	29.100	1.200	0.990	A	
1	PU239	13.600	0.660	13.090	0.570	1.039	A	
1	RA226	25.900	1.300	29.000	1.000	0.893	A	
1	SR90	46.200	4.000	39.630	0.003	1.166	A	
1	TH228	54.200	3.400	52.700	4.000	1.028	A	
1	TL208	51.500	2.000	18.300	1.100	2.814	A	
1	U234	109.000	5.100	113.000	6.000	0.965	A	
1	U238	110.000	5.200	120.000	9.000	0.917	A	
1	ug U	9.990	1.000	9.700	0.700	1.030	A	

**Matrix:** VE Vegetation Bq / kg

1	AM241	2.530	0.130	2.330	0.060	1.086	A	A
1	CM244	1.810	0.120	1.760	0.070	1.028	A	A
1	CO60	23.200	0.900	20.000	1.000	1.160	A	A
1	CS137	457.000	2.300	390.000	20.000	1.172	A	A
1	K40	594.000	13.000	460.000	20.000	1.291	W	A
1	PU239	3.870	0.190	3.720	0.270	1.040	A	A
1	SR90	613.000	7.900	606.000	40.000	1.012	A	A

**Values for elemental uranium are reported in µg/filter, g, or mL. pCi/g or mL=Bq x 0.027**

**Evaluation:** A=Acceptable, W=Acceptable with Warning, N=Not Acceptable

If the evaluation system is not appropriate for the types of analyses performed in your lab, apply a site specific evaluation.

## QAP 49 Results by Laboratory

**Lab:** CH California State Dept. Health Serv., Sanitation & Radiation Laboratory

No. Test	Radionuclide	Reported Value	Reported Error	EML Value	EML Error	Reported EML	Evaluation	QAP 48 Evaluation
<b>Matrix:</b> WA Water Bq/L								
1	AM241	1.310	0.025	1.250	0.080	1.048	A	
1	Bq U	1.090	0.039	1.050	0.080	1.038	A	
1	CO60	52.700	0.740	49.400	1.200	1.067	A	
1	CS137	53.400	0.640	50.000	1.700	1.068	A	
1	FE55	142.000	1.900	139.000	2.000	1.022	A	
1	GROSS ALPHA	885.000	117.000	1080.000	60.000	0.819	W	
1	GROSS BETA	1176.000	86.000	1420.000	60.000	0.828	A	
1	H3	80.400	4.400	76.200	2.900	1.055	A	
1	MN54	35.900	0.580	32.400	1.400	1.108	A	
1	PU238	1.200	0.082	1.100	0.010	1.091	A	
1	PU239	1.530	0.095	1.410	0.040	1.085	A	
1	SR90	2.750	0.220	2.110	0.180	1.303	W	
1	U234	0.518	0.027	0.510	0.030	1.016	A	
1	U238	0.551	0.028	0.520	0.050	1.060	A	
1	ug U	0.041	0.004	0.040	0.003	1.015	A	

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**Values for elemental uranium are reported in µg/filter, g, or mL.      pCi/g or mL=Bq x 0.027**

**Evaluation:** A=Acceptable, W=Acceptable with Warning, N=Not Acceptable

If the evaluation system is not appropriate for the types of analyses performed in your lab, apply a site specific evaluation.

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## QAP 49 Results by Laboratory

**Lab:** CL Core Laboratories, Casper, WY

No. Test	Radionuclide	Reported Value	Reported Error	EML Value	EML Error	Reported EML	Evaluation	QAP 48 Evaluation
<b>Matrix:</b> AI Air Filter Bq / filter								
1	AM241	0.510	0.100	0.510	0.008	1.000	A	A
1	Bq U	0.550	0.100	0.530	0.020	1.038	A	A
1	CO60	9.400	0.500	9.160	0.580	1.026	A	A
1	CS137	22.000	0.900	22.470	1.030	0.979	A	A
1	MN54	5.300	0.600	4.920	0.400	1.077	A	A
1	PU238	0.030	0.010	0.460	0.005	0.065	N	W
1	PU239	0.480	0.100	0.420	0.006	1.143	A	A
1	SB125	8.500	0.600	8.890	0.550	0.956	A	A
1	SR90	1.200	0.300	1.120	0.050	1.071	A	N
1	U234	0.280	0.050	0.260	0.010	1.077	A	A
1	U238	0.280	0.050	0.260	0.010	1.077	A	A

**Matrix:** SO Soil Bq / kg

1	AC228	65.300	11.700	52.600	2.900	1.241	A	
1	AM241	5.800	1.500	7.470	0.410	0.776	W	A
1	BI214	41.000	7.400	28.800	0.500	1.424	A	
1	Bq U	186.000	36.000	237.000	16.000	0.785	A	A
1	CS137	950.000	28.500	954.000	38.000	0.996	A	A
1	K40	400.000	36.000	314.000	13.000	1.274	W	A
1	PB212	61.500	3.100	52.800	3.700	1.165	A	
1	PB214	42.900	7.300	29.100	1.200	1.474	A	
1	PU239	13.100	2.700	13.090	0.570	1.001	A	A
1	RA226	331.000	66.300	29.000	1.000	11.414	A	
1	SR90	26.300	12.500	39.630	0.003	0.664	W	W
1	TH228	58.200	5.800	52.700	4.000	1.104	A	
1	TL208	21.700	4.600	18.300	1.100	1.186	A	
1	U234	101.000	15.700	113.000	6.000	0.894	A	A
1	U238	86.100	14.900	120.000	9.000	0.717	A	A

**Matrix:** VE Vegetation Bq / kg

1	AM241	3.800	1.500	2.330	0.060	1.631	W	N
1	CM244	1.200	1.100	1.760	0.070	0.682	W	N
1	CO60	23.300	2.600	20.000	1.000	1.165	A	W
1	CS137	366.000	14.600	390.000	20.000	0.938	A	W
1	K40	500.000	45.000	460.000	20.000	1.087	A	W
1	PU239	4.100	1.900	3.720	0.270	1.102	A	W
1	SR90	610.000	30.000	606.000	40.000	1.007	A	N

**Matrix:** WA Water Bq / L

1	AM241	1.300	0.200	1.250	0.080	1.040	A	W
1	Bq U	1.000	0.200	1.050	0.080	0.952	A	W
1	CO60	49.700	2.000	49.400	1.200	1.006	A	A
1	CS137	50.700	1.500	50.000	1.700	1.014	A	A

**Values for elemental uranium are reported in µg/filter, g, or mL. pCi/g or mL=Bq x 0.027**

**Evaluation:** A=Acceptable, W=Acceptable with Warning, N=Not Acceptable

If the evaluation system is not appropriate for the types of analyses performed in your lab, apply a site specific evaluation.

## QAP 49 Results by Laboratory

**Lab:** CL Core Laboratories, Casper, WY

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No. Test	Radionuclide	Reported Value	Reported Error	EML Value	EML Error	Reported EML	Evaluation	QAP 48 Evaluation
<b>Matrix:</b> WA Water Bq/L								
1	FE55	136.000	8.000	139.000	2.000	0.978	A	A
1	H3	108.000	7.600	76.200	2.900	1.417	W	A
1	MN54	35.300	1.400	32.400	1.400	1.090	A	A
1	NI63	136.000	5.000	95.700	0.900	1.421	A	A
1	PU238	0.100	0.050	1.100	0.010	0.091	N	N
1	PU239	1.400	0.200	1.410	0.040	0.993	A	N
1	SR90	2.700	0.300	2.110	0.180	1.280	W	A
1	U234	0.500	0.100	0.510	0.030	0.980	A	W
1	U238	0.600	0.200	0.520	0.050	1.154	A	A

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**Values for elemental uranium are reported in µg/filter, g, or mL.      pCi/g or mL=Bq x 0.027**

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If the evaluation system is not appropriate for the types of analyses performed in your lab, apply a site specific evaluation.

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## QAP 49 Results by Laboratory

**Lab:** CM Metropolitan Water Reclamation District of Greater Chicago, IL

No. Test	Radionuclide	Reported Value	Reported Error	EML Value	EML Error	<u>Reported EML</u>	Evaluation	QAP 48 Evaluation
<b>Matrix: SO Soil Bq/kg</b>								
2	CS137	1010.000	48.000	954.000	38.000	1.059	A	
3	CS137	1050.000	50.000	954.000	38.000	1.101	A	
1	CS137	987.000	47.000	954.000	38.000	1.035	A	
1	K40	379.000	23.000	314.000	13.000	1.207	A	
2	K40	379.000	23.000	314.000	13.000	1.207	A	
3	K40	391.000	24.000	314.000	13.000	1.245	A	
3	RA226	154.000	13.600	29.000	1.000	5.310	A	
2	RA226	156.000	13.700	29.000	1.000	5.379	A	
1	RA226	155.000	13.500	29.000	1.000	5.345	A	

**Matrix: WA Water Bq/L**

3	CO60	48.500	1.600	49.400	1.200	0.982	A	
2	CO60	48.800	1.600	49.400	1.200	0.988	A	
1	CO60	47.900	1.500	49.400	1.200	0.970	A	
2	CS137	49.400	1.700	50.000	1.700	0.988	A	
3	CS137	49.600	1.600	50.000	1.700	0.992	A	
1	CS137	48.300	1.700	50.000	1.700	0.966	A	
1	GROSS ALPHA	977.000	26.000	1080.000	60.000	0.905	A	
4	GROSS ALPHA	1073.000	40.000	1080.000	60.000	0.994	A	
2	GROSS ALPHA	1121.000	42.000	1080.000	60.000	1.038	A	
3	GROSS ALPHA	1069.000	40.000	1080.000	60.000	0.990	A	
3	GROSS BETA	1439.000	33.000	1420.000	60.000	1.013	A	
2	GROSS BETA	1439.000	33.000	1420.000	60.000	1.013	A	
4	GROSS BETA	1398.000	32.000	1420.000	60.000	0.985	A	
1	GROSS BETA	1413.000	33.000	1420.000	60.000	0.995	A	
3	H3	80.800	2.300	76.200	2.900	1.060	A	
1	H3	83.900	2.300	76.200	2.900	1.101	A	
2	H3	79.700	2.300	76.200	2.900	1.046	A	
1	MN54	32.600	1.100	32.400	1.400	1.006	A	
2	MN54	33.100	1.100	32.400	1.400	1.022	A	
3	MN54	33.100	1.100	32.400	1.400	1.022	A	

**Values for elemental uranium are reported in µg/filter, g, or mL. pCi/g or mL=Bq x 0.027**

**Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable**

If the evaluation system is not appropriate for the types of analyses performed in your lab, apply a site specific evaluation.

## QAP 49 Results by Laboratory

**Lab:** CN China Institute for Radiation Protection

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No. Test	Radionuclide	Reported Value	Reported Error	EML Value	EML Error	Reported EML	Evaluation	QAP 48 Evaluation
<b>Matrix:</b> AI Air Filter Bq / filter								
1	AM241	0.910	0.130	0.510	0.008	1.784	W	
1	CO60	9.860	0.580	9.160	0.580	1.076	A	A
1	CS137	23.020	1.190	22.470	1.030	1.024	A	A
1	MN54	5.030	0.290	4.920	0.400	1.022	A	A
1	SB125	9.350	0.520	8.890	0.550	1.052	A	A
<b>Matrix:</b> SO Soil Bq / kg								
1	AM241	8.340	1.100	7.470	0.410	1.116	A	
1	CS137	1046.700	63.770	954.000	38.000	1.097	A	A
1	K40	331.600	31.640	314.000	13.000	1.056	A	A
<b>Matrix:</b> VE Vegetation Bq / kg								
1	AM241	3.700	0.230	2.330	0.060	1.588	A	
1	CO60	19.940	1.200	20.000	1.000	0.997	A	A
1	CS137	437.500	27.850	390.000	20.000	1.122	A	A
1	K40	469.900	40.120	460.000	20.000	1.022	A	A

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**Values for elemental uranium are reported in  $\mu\text{g}/\text{filter}$ , g, or mL.       $\text{pCi}/\text{g}$  or  $\text{mL}=\text{Bq} \times 0.027$**

**Evaluation:** A=Acceptable, W=Acceptable with Warning, N=Not Acceptable

If the evaluation system is not appropriate for the types of analyses performed in your lab, apply a site specific evaluation.

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## QAP 49 Results by Laboratory

**Lab:** CO Bedford Institute of Oceanography, Dartmouth. Nova Scotia, Canada

No. Test	Radionuclide	Reported Value	Reported Error	EML Value	EML Error	Reported EML	Evaluation	QAP 48 Evaluation
<b>Matrix:</b> AI Air Filter Bq / filter								
1	CO60	9.500	0.300	9.160	0.580	1.037	A	A
1	CS137	22.800	0.600	22.470	1.030	1.015	A	A
1	MN54	5.300	0.200	4.920	0.400	1.077	A	A
1	SB125	8.800	0.600	8.890	0.550	0.990	A	A
<b>Matrix:</b> SO Soil Bq / kg								
1	CO60	1106.000	36.000	1.240	0.110	891.935	N	
1	CS137	1118.000	33.000	954.000	38.000	1.172	A	A
1	CS137	566.000	16.000	954.000	38.000	0.593	N	A
<b>Matrix:</b> VE Vegetation Bq / kg								
1	CO60	23.000	3.000	20.000	1.000	1.150	A	A
1	CS137	434.000	8.000	390.000	20.000	1.113	A	A

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**Values for elemental uranium are reported in µg/filter, g, or mL.      pCi/g or mL=Bq x 0.027**

**Evaluation:** A=Acceptable, W=Acceptable with Warning, N=Not Acceptable

If the evaluation system is not appropriate for the types of analyses performed in your lab, apply a site specific evaluation.

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## QAP 49 Results by Laboratory

**Lab:** CR Laboratorio de Fisica Nuclear Aplicada, Costa Rica

No. Test	Radionuclide	Reported Value	Reported Error	EML Value	EML Error	Reported EML	Evaluation	QAP 48 Evaluation
<b>Matrix:</b> AI Air Filter Bq / filter								
1	CO60	16.200	0.800	9.160	0.580	1.769	N	A
1	CS137	38.500	1.500	22.470	1.030	1.713	N	W
1	MN54	8.300	0.400	4.920	0.400	1.687	N	A
1	SB125	16.400	0.200	8.890	0.550	1.845	N	W
<b>Matrix:</b> SO Soil Bq / kg								
1	AC228	70.000	13.000	52.600	2.900	1.331	A	
1	BI212	69.000	31.000	58.300	5.900	1.184	A	
1	BI214	40.000	6.000	28.800	0.500	1.389	A	
1	CS137	1180.000	47.000	954.000	38.000	1.237	W	W
1	K40	328.000	58.000	314.000	13.000	1.045	A	W
1	PB212	63.000	6.000	52.800	3.700	1.193	A	
1	PB214	41.000	7.000	29.100	1.200	1.409	A	
1	RA226	152.000	37.000	29.000	1.000	5.241	A	
1	TL208	48.000	9.000	18.300	1.100	2.623	A	
<b>Matrix:</b> VE Vegetation Bq / kg								
1	CO60	25.000	3.000	20.000	1.000	1.250	W	W
1	CS137	464.000	19.000	390.000	20.000	1.190	A	A
1	K40	546.000	74.000	460.000	20.000	1.187	A	W

**Values for elemental uranium are reported in µg/filter, g, or mL. pCi/g or mL=Bq x 0.027**

**Evaluation:** A=Acceptable, W=Acceptable with Warning, N=Not Acceptable

If the evaluation system is not appropriate for the types of analyses performed in your lab, apply a site specific evaluation.

## QAP 49 Results by Laboratory

**Lab:** CS Boeing North American, Canoga Park, CA

No. Test	Radionuclide	Reported Value	Reported Error	EML Value	EML Error	Reported EML	Evaluation	QAP 48 Evaluation
<b>Matrix:</b> AI Air Filter Bq / filter								
1	AM241	0.520	0.039	0.510	0.008	1.019	A	W
1	CO60	8.351	0.276	9.160	0.580	0.912	A	N
1	CS137	19.960	0.880	22.470	1.030	0.888	A	N
1	GROSS ALPHA	1.780	0.080	1.650	0.160	1.079	A	A
1	GROSS BETA	2.940	0.230	2.160	0.070	1.361	A	W
1	MN54	4.442	0.222	4.920	0.400	0.903	A	N
1	SB125	8.586	0.317	8.890	0.550	0.966	A	N
<b>Matrix:</b> SO Soil Bq / kg								
1	AC228	46.780	1.090	52.600	2.900	0.889	A	
1	AM241	7.684	0.546	7.470	0.410	1.029	A	A
1	BI214	27.950	0.727	28.800	0.500	0.970	A	
1	CS137	950.900	40.980	954.000	38.000	0.997	A	A
1	K40	322.600	15.100	314.000	13.000	1.027	A	A
1	PB210	21.970	4.622	32.000	3.300	0.687	A	
1	PB212	54.170	2.784	52.800	3.700	1.026	A	
1	PB214	28.950	1.031	29.100	1.200	0.995	A	
1	RA226	69.850	4.477	29.000	1.000	2.409	A	
1	TH234	97.660	6.690	114.000	6.000	0.857	A	
1	TL208	17.230	0.650	18.300	1.100	0.942	A	
1	U238	100.500	21.940	120.000	9.000	0.837	A	N
<b>Matrix:</b> VE Vegetation Bq / kg								
1	AM241	2.476	0.635	2.330	0.060	1.063	A	N
1	AM241	2.476	0.635	2.330	0.060	1.063	A	N
1	CO60	18.240	0.668	20.000	1.000	0.912	A	A
1	CS137	355.800	15.410	390.000	20.000	0.912	A	A
1	K40	433.800	20.430	460.000	20.000	0.943	A	A
<b>Matrix:</b> WA Water Bq / L								
1	AM241	1.275	0.108	1.250	0.080	1.020	A	A
1	CO60	50.660	1.606	49.400	1.200	1.026	A	A
1	CO60	50.660	1.606	49.400	1.200	1.026	A	A
1	CS137	50.750	2.197	50.000	1.700	1.015	A	A
1	MN54	38.820	1.898	32.400	1.400	1.198	W	A
1	MN54	38.820	1.898	32.400	1.400	1.198	W	A

**Values for elemental uranium are reported in µg/filter, g, or mL. pCi/g or mL=Bq x 0.027**

**Evaluation:** A=Acceptable, W=Acceptable with Warning, N=Not Acceptable

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## QAP 49 Results by Laboratory

**Lab:** DH Duke Engineering Services Hanford

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No. Test	Radionuclide	Reported Value	Reported Error	EML Value	EML Error	Reported EML	Evaluation	QAP 48 Evaluation
<b>Matrix:</b> AI Air Filter Bq / filter								
1	GROSS ALPHA	1.500	0.220	1.650	0.160	0.909	A	A
1	GROSS BETA	1.750	0.200	2.160	0.070	0.810	W	A
<b>Matrix:</b> SO Soil Bq / kg								
1	AM241	5.900	1.800	7.470	0.410	0.790	W	
1	CO60	1.370	0.630	1.240	0.110	1.105	A	
1	CS137	969.000	8.000	954.000	38.000	1.016	A	A
1	K40	331.000	27.000	314.000	13.000	1.054	A	A
<b>Matrix:</b> WA Water Bq / L								
1	CO60	49.100	2.100	49.400	1.200	0.994	A	N
1	CS137	49.300	1.900	50.000	1.700	0.986	A	A
1	GROSS ALPHA	867.000	120.000	1080.000	60.000	0.803	W	N
1	GROSS BETA	1388.000	103.000	1420.000	60.000	0.977	A	N
1	MN54	33.600	1.700	32.400	1.400	1.037	A	A

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**Values for elemental uranium are reported in µg/filter, g, or mL.      pCi/g or mL=Bq x 0.027**

**Evaluation:** A=Acceptable, W=Acceptable with Warning, N=Not Acceptable

If the evaluation system is not appropriate for the types of analyses performed in your lab, apply a site specific evaluation.

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## QAP 49 Results by Laboratory

**Lab:** EG LMITCO/INEL, Scoville

No. Test	Radionuclide	Reported Value	Reported Error	EML Value	EML Error	Reported EML	Evaluation	QAP 48 Evaluation
<b>Matrix: AI Air Filter Bq / filter</b>								
1	AM241	0.568	0.044	0.510	0.008	1.114	A	A
1	CO60	8.800	0.100	9.160	0.580	0.961	A	A
1	CS137	21.800	0.200	22.470	1.030	0.970	A	A
1	MN54	5.000	0.100	4.920	0.400	1.016	A	A
1	PU238	0.502	0.035	0.460	0.005	1.091	A	A
1	PU239	0.462	0.033	0.420	0.006	1.100	A	A
1	SB125	8.830	0.130	8.890	0.550	0.993	A	A
1	SR90	1.230	0.050	1.120	0.050	1.098	A	A
1	U234	0.271	0.033	0.260	0.010	1.042	A	A
1	U238	0.283	0.039	0.260	0.010	1.088	A	A
<b>Matrix: SO Soil Bq / kg</b>								
1	AM241	7.420	0.750	7.470	0.410	0.993	A	A
1	CS137	1110.000	20.000	954.000	38.000	1.164	A	A
1	K40	350.000	60.000	314.000	13.000	1.115	A	A
1	PU238	0.450	0.080	0.530	0.270	0.849	A	
1	PU239	13.700	1.100	13.090	0.570	1.047	A	A
1	SR90	48.600	2.100	39.630	0.003	1.226	A	A
1	U234	106.000	11.000	113.000	6.000	0.938	A	A
1	U238	111.000	13.000	120.000	9.000	0.925	A	A
<b>Matrix: VE Vegetation Bq / kg</b>								
1	AM241	2.510	0.230	2.330	0.060	1.077	A	A
1	CM244	1.890	0.180	1.760	0.070	1.074	A	A
1	CO60	18.900	2.300	20.000	1.000	0.945	A	A
1	CS137	397.000	9.000	390.000	20.000	1.018	A	A
1	K40	483.000	68.000	460.000	20.000	1.050	A	A
1	PU238	0.300	0.040	0.310	0.070	0.968	A	A
1	PU239	4.340	0.420	3.720	0.270	1.167	A	A
1	SR90	718.000	21.000	606.000	40.000	1.185	W	A
<b>Matrix: WA Water Bq / L</b>								
1	AM241	1.240	0.100	1.250	0.080	0.992	A	A
1	CO60	50.500	1.100	49.400	1.200	1.022	A	A
1	CS137	51.300	1.100	50.000	1.700	1.026	A	A
1	FE55	114.000	48.000	139.000	2.000	0.820	A	A
1	GROSS ALPHA	1160.000	70.000	1080.000	60.000	1.074	A	W
1	GROSS BETA	1630.000	50.000	1420.000	60.000	1.148	A	
1	H3	75.000	6.000	76.200	2.900	0.984	A	
1	MN54	34.700	1.000	32.400	1.400	1.071	A	A
1	NI63	78.000	7.000	95.700	0.900	0.815	A	
1	PU238	1.180	0.100	1.100	0.010	1.073	A	A
1	PU239	1.540	0.130	1.410	0.040	1.092	A	A

**Values for elemental uranium are reported in µg/filter, g, or mL. pCi/g or mL=Bq x 0.027**

**Evaluation:** A=Acceptable, W=Acceptable with Warning, N=Not Acceptable

If the evaluation system is not appropriate for the types of analyses performed in your lab, apply a site specific evaluation.

## QAP 49 Results by Laboratory

**Lab:** EG LMITCO/INEL, Scoville

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<b>No. Test</b>	<b>Radionuclide</b>	<b>Reported Value</b>	<b>Reported Error</b>	<b>EML Value</b>	<b>EML Error</b>	<b>Reported EML</b>	<b>Evaluation</b>	<b>QAP 48 Evaluation</b>
<b>Matrix:</b> WA Water Bq/L								
1	SR90	2.200	0.200	2.110	0.180	1.043	A	A
1	U234	0.510	0.070	0.510	0.030	1.000	A	A
1	U238	0.490	0.080	0.520	0.050	0.942	A	A

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**Values for elemental uranium are reported in µg/filter, g, or mL.      pCi/g or mL=Bq x 0.027**

**Evaluation:** A=Acceptable, W=Acceptable with Warning, N=Not Acceptable

If the evaluation system is not appropriate for the types of analyses performed in your lab, apply a site specific evaluation.

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## QAP 49 Results by Laboratory

**Lab:** EM 3M, Empore Disks, St. Paul, MN

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No. Test	Radionuclide	Reported Value	Reported Error	EML Value	EML Error	Reported EML	Evaluation	QAP 48 Evaluation
<b>Matrix:</b> AI Air Filter Bq / filter								
1	PU238	0.075	0.003	0.460	0.005	0.163	N	
1	PU239	0.072	0.003	0.420	0.006	0.171	N	
1	U234	0.101	0.004	0.260	0.010	0.388	N	
1	U238	0.095	0.004	0.260	0.010	0.365	N	
<b>Matrix:</b> SO Soil Bq / kg								
1	PU239	0.009	0.001	13.090	0.570	0.001	N	
1	U234	0.118	0.007	113.000	6.000	0.001	N	
1	U238	0.108	0.006	120.000	9.000	0.001	N	
<b>Matrix:</b> WA Water Bq / L								
1	PU238	0.862	0.027	1.100	0.010	0.784	W	
1	PU239	1.149	0.032	1.410	0.040	0.815	W	
1	U234	0.460	0.022	0.510	0.030	0.902	A	
1	U238	0.489	0.023	0.520	0.050	0.940	A	

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**Values for elemental uranium are reported in µg/filter, g, or mL.      pCi/g or mL=Bq x 0.027**

**Evaluation:** A=Acceptable, W=Acceptable with Warning, N=Not Acceptable

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## QAP 49 Results by Laboratory

**Lab:** EP US EPA, Las Vegas

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No. Test	Radionuclide	Reported Value	Reported Error	EML Value	EML Error	Reported EML	Evaluation	QAP 48 Evaluation
<b>Matrix:</b> AI Air Filter Bq / filter								
1	AM241	0.547	0.050	0.510	0.008	1.073	A	A
1	CO60	9.420	1.270	9.160	0.580	1.028	A	A
1	CS137	22.310	2.870	22.470	1.030	0.993	A	A
1	MN54	5.130	0.790	4.920	0.400	1.043	A	A
1	PU238	0.476	0.036	0.460	0.005	1.035	A	A
1	PU239	0.446	0.034	0.420	0.006	1.062	A	A
1	SB125	8.770	1.530	8.890	0.550	0.987	A	A
<b>Matrix:</b> SO Soil Bq / kg								
1	AM241	7.620	0.803	7.470	0.410	1.020	A	A
1	PU239	13.000	1.030	13.090	0.570	0.993	A	A
<b>Matrix:</b> VE Vegetation Bq / kg								
1	AM241	2.630	0.305	2.330	0.060	1.129	A	A
1	CM244	1.880	0.190	1.760	0.070	1.068	A	A
1	PU239	4.080	0.355	3.720	0.270	1.097	A	A
<b>Matrix:</b> WA Water Bq / L								
1	AM241	1.320	0.120	1.250	0.080	1.056	A	A
1	CO60	50.570	6.600	49.400	1.200	1.024	A	W
1	CS137	50.190	6.500	50.000	1.700	1.004	A	A
1	H3	74.660	5.890	76.200	2.900	0.980	A	A
1	MN54	34.940	4.770	32.400	1.400	1.078	A	A
1	PU238	1.120	0.091	1.100	0.010	1.018	A	A
1	PU239	1.470	0.116	1.410	0.040	1.043	A	A
1	SR90	2.320	0.402	2.110	0.180	1.100	A	A

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**Values for elemental uranium are reported in µg/filter, g, or mL.      pCi/g or mL=Bq x 0.027**

**Evaluation:** A=Acceptable, W=Acceptable with Warning, N=Not Acceptable

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## QAP 49 Results by Laboratory

**Lab:** FG FGL Environmental, Santa Paula, CA

No. Test	Radionuclide	Reported Value	Reported Error	EML Value	EML Error	Reported EML	Evaluation	QAP 48 Evaluation
<b>Matrix:</b> AI Air Filter Bq / filter								
1	CO60	8.910	0.140	9.160	0.580	0.973	A	A
1	CS137	23.180	0.140	22.470	1.030	1.032	A	A
1	GROSS ALPHA	1.602	0.118	1.650	0.160	0.971	A	A
1	GROSS BETA	1.624	0.122	2.160	0.070	0.752	W	A
1	MN54	5.078	0.140	4.920	0.400	1.032	A	A
1	SB125	10.770	0.600	8.890	0.550	1.211	W	A
<b>Matrix:</b> SO Soil Bq / kg								
1	AC228	60.110	1.200	52.600	2.900	1.143	A	
1	BI212	66.280	6.690	58.300	5.900	1.137	A	
1	BI214	47.800	8.000	28.800	0.500	1.660	A	
1	CS137	888.300	1.000	954.000	38.000	0.931	A	A
1	K40	302.000	6.410	314.000	13.000	0.962	A	A
1	PB210	130.000	58.700	32.000	3.300	4.063	A	
1	PB212	69.040	1.200	52.800	3.700	1.308	A	
1	PB214	41.410	2.050	29.100	1.200	1.423	A	
1	PU239	9.450	1.300	13.090	0.570	0.722	W	
1	RA226	204.100	15.300	29.000	1.000	7.038	A	
1	TH228	32.640	5.600	52.700	4.000	0.619	A	
1	TH234	66.300	6.100	114.000	6.000	0.582	A	
1	TL208	29.110	1.000	18.300	1.100	1.591	A	
1	U234	110.400	8.990	113.000	6.000	0.977	A	
1	U238	97.370	4.660	120.000	9.000	0.811	A	
<b>Matrix:</b> WA Water Bq / L								
1	AM241	1.638	0.063	1.250	0.080	1.310	W	N
1	Bq U	1.058	0.370	1.050	0.080	1.008	A	W
1	CO60	50.760	0.400	49.400	1.200	1.028	A	A
1	CS137	46.160	0.850	50.000	1.700	0.923	A	A
1	GROSS ALPHA	1153.000	53.000	1080.000	60.000	1.068	A	W
1	GROSS BETA	1231.000	63.000	1420.000	60.000	0.867	A	A
1	H3	3220.000	340.000	76.200	2.900	42.257	N	A
1	MN54	32.600	0.900	32.400	1.400	1.006	A	N
1	PU238	1.118	0.062	1.100	0.010	1.016	A	A
1	PU239	1.414	0.071	1.410	0.040	1.003	A	A
1	U234	0.246	0.109	0.510	0.030	0.482	N	
1	U238	0.190	0.060	0.520	0.050	0.366	N	

**Values for elemental uranium are reported in µg/filter, g, or mL. pCi/g or mL=Bq x 0.027**

**Evaluation:** A=Acceptable, W=Acceptable with Warning, N=Not Acceptable

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## QAP 49 Results by Laboratory

**Lab:** FJ The University of the South Pacific, Fiji Islands

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No. Test	Radionuclide	Reported Value	Reported Error	EML Value	EML Error	Reported EML	Evaluation	QAP 48 Evaluation
<b>Matrix:</b> AI Air Filter Bq / filter								
1	AM241	0.460	0.090	0.510	0.008	0.902	A	A
1	CO60	10.400	0.280	9.160	0.580	1.135	W	W
1	CS137	23.900	0.220	22.470	1.030	1.064	A	A
1	MN54	7.590	0.490	4.920	0.400	1.543	N	N
1	SB125	9.510	0.210	8.890	0.550	1.070	A	W

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**Values for elemental uranium are reported in  $\mu\text{g}/\text{filter}$ , g, or mL.       $\text{pCi/g or mL} = \text{Bq} \times 0.027$**

**Evaluation:** A=Acceptable, W=Acceptable with Warning, N=Not Acceptable

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## QAP 49 Results by Laboratory

**Lab:** FL Florida Dept of Health & Rehab. Serv., Orlando

No. Test	Radionuclide	Reported Value	Reported Error	EML Value	EML Error	Reported EML	Evaluation	QAP 48 Evaluation
<b>Matrix: AI Air Filter Bq / filter</b>								
1	CO60	8.630	0.050	9.160	0.580	0.942	A	A
1	CS137	23.830	0.100	22.470	1.030	1.061	A	A
1	GROSS ALPHA	1.460	0.070	1.650	0.160	0.885	A	W
1	GROSS BETA	2.080	0.070	2.160	0.070	0.963	A	A
1	MN54	5.250	0.050	4.920	0.400	1.067	A	A
1	SB125	7.300	0.200	8.890	0.550	0.821	W	A
<b>Matrix: SO Soil Bq / kg</b>								
1	AM241	6.600	0.600	7.470	0.410	0.884	A	A
1	CS137	945.000	2.000	954.000	38.000	0.991	A	A
1	K40	332.000	6.000	314.000	13.000	1.057	A	A
1	U238	82.000	4.000	120.000	9.000	0.683	W	A
<b>Matrix: VE Vegetation Bq / kg</b>								
1	AM241	2.600	0.500	2.330	0.060	1.116	A	W
1	CO60	20.200	0.500	20.000	1.000	1.010	A	A
1	CS137	402.000	2.000	390.000	20.000	1.031	A	A
1	K40	499.000	9.000	460.000	20.000	1.085	A	A
<b>Matrix: WA Water Bq / L</b>								
1	AM241	1.600	0.400	1.250	0.080	1.280	W	W
1	CO60	51.300	0.400	49.400	1.200	1.038	A	A
1	CS137	52.700	0.600	50.000	1.700	1.054	A	A
1	GROSS ALPHA	1207.380	19.510	1080.000	60.000	1.118	A	N
1	GROSS BETA	1405.500	13.940	1420.000	60.000	0.990	A	A
1	H3	84.080	3.100	76.200	2.900	1.103	A	A
1	MN54	36.400	0.500	32.400	1.400	1.123	A	A
1	NI63	95.230	0.670	95.700	0.900	0.995	A	

**Values for elemental uranium are reported in µg/filter, g, or mL. pCi/g or mL=Bq x 0.027**

**Evaluation:** A=Acceptable, W=Acceptable with Warning, N=Not Acceptable

If the evaluation system is not appropriate for the types of analyses performed in your lab, apply a site specific evaluation.

## QAP 49 Results by Laboratory

**Lab:** FM Florida Mobile Emergency Radiological Laboratory, Orlando

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No. Test	Radionuclide	Reported Value	Reported Error	EML Value	EML Error	Reported EML	Evaluation	QAP 48 Evaluation
<b>Matrix:</b> AI Air Filter Bq / filter								
1	AM241	0.570	0.030	0.510	0.008	1.118	A	
1	CO60	9.150	0.070	9.160	0.580	0.999	A	A
1	CS137	24.400	0.160	22.470	1.030	1.086	A	A
1	MN54	5.600	0.160	4.920	0.400	1.138	A	A
1	SB125	9.780	0.090	8.890	0.550	1.100	A	A

**Matrix:** WA Water Bq / L

1	AM241	1.300	0.110	1.250	0.080	1.040	A	
1	CO60	49.700	0.320	49.400	1.200	1.006	A	A
1	CS137	51.200	0.360	50.000	1.700	1.024	A	A
1	MN54	34.400	0.320	32.400	1.400	1.062	A	A

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**Values for elemental uranium are reported in µg/filter, g, or mL.      pCi/g or mL=Bq x 0.027**

**Evaluation:** A=Acceptable, W=Acceptable with Warning, N=Not Acceptable

If the evaluation system is not appropriate for the types of analyses performed in your lab, apply a site specific evaluation.

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## QAP 49 Results by Laboratory

**Lab:** FN Fermi Lab, Batavia, IL

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No. Test	Radionuclide	Reported Value	Reported Error	EML Value	EML Error	<u>Reported EML</u>	Evaluation	QAP 48 Evaluation
<b>Matrix:</b> AI Air Filter Bq / filter								
1	CO60	8.760	0.660	9.160	0.580	0.956	A	A
1	CS137	21.100	2.100	22.470	1.030	0.939	A	A
1	MN54	4.640	0.510	4.920	0.400	0.943	A	A
1	SB125	10.000	0.600	8.890	0.550	1.125	A	A
<b>Matrix:</b> SO Soil Bq / kg								
1	CS137	954.000	96.000	954.000	38.000	1.000	A	A
1	K40	321.000	34.000	314.000	13.000	1.022	A	A
<b>Matrix:</b> VE Vegetation Bq / kg								
1	CO60	20.700	1.700	20.000	1.000	1.035	A	W
1	CS137	388.000	39.000	390.000	20.000	0.995	A	W
1	K40	452.000	47.000	460.000	20.000	0.983	A	A
<b>Matrix:</b> WA Water Bq / L								
1	CO60	47.500	3.500	49.400	1.200	0.962	A	A
1	CS137	49.600	5.100	50.000	1.700	0.992	A	A
1	H3	79.800	8.700	76.200	2.900	1.047	A	A
1	MN54	34.300	3.500	32.400	1.400	1.059	A	A

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**Values for elemental uranium are reported in µg/filter, g, or mL.      pCi/g or mL=Bq x 0.027**

**Evaluation:** A=Acceptable, W=Acceptable with Warning, N=Not Acceptable

If the evaluation system is not appropriate for the types of analyses performed in your lab, apply a site specific evaluation.

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## QAP 49 Results by Laboratory

**Lab:** FS Florida State University, Tallahassee

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No. Test	Radionuclide	Reported Value	Reported Error	EML Value	EML Error	<u>Reported EML</u>	Evaluation	QAP 48 Evaluation
<b>Matrix:</b> SO Soil Bq / kg								
1	AC228	47.500	3.600	52.600	2.900	0.903	A	
1	AM241	4.370	0.240	7.470	0.410	0.585	N	A
1	BI214	29.400	2.000	28.800	0.500	1.021	A	
1	CS137	954.000	36.000	954.000	38.000	1.000	A	A
1	K40	325.000	20.000	314.000	13.000	1.035	A	A
1	PB210	29.600	8.400	32.000	3.300	0.925	A	
1	PB214	25.000	4.800	29.100	1.200	0.859	A	
1	TH234	96.200	17.800	114.000	6.000	0.844	A	
1	TL208	54.500	5.200	18.300	1.100	2.978	A	

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**Values for elemental uranium are reported in  $\mu\text{g}/\text{filter}$ , g, or mL.      pCi/g or mL=Bq x 0.027**

**Evaluation:** A=Acceptable, W=Acceptable with Warning, N=Not Acceptable

If the evaluation system is not appropriate for the types of analyses performed in your lab, apply a site specific evaluation.

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## QAP 49 Results by Laboratory

**Lab:** GA Lockheed Martin, Pikton, OH

No. Test	Radionuclide	Reported Value	Reported Error	EML Value	EML Error	Reported EML	Evaluation	QAP 48 Evaluation
<b>Matrix:</b> AI Air Filter Bq / filter								
1	AM241	0.560	0.018	0.510	0.008	1.098	A	A
1	CO60	8.770	0.560	9.160	0.580	0.957	A	A
1	CS137	21.500	0.900	22.470	1.030	0.957	A	A
1	MN54	5.220	0.640	4.920	0.400	1.061	A	A
1	PU238	0.550	0.021	0.460	0.005	1.196	W	A
1	PU239	0.480	0.020	0.420	0.006	1.143	A	W
1	SB125	9.230	1.430	8.890	0.550	1.038	A	A
1	SR90	0.780	0.052	1.120	0.050	0.696	W	
1	U234	0.340	0.051	0.260	0.010	1.308	A	W
1	U238	0.340	0.050	0.260	0.010	1.308	A	A
1	ug U	27.000	3.800	20.960	0.100	1.288	A	
<b>Matrix:</b> SO Soil Bq / kg								
1	AM241	6.900	1.200	7.470	0.410	0.924	A	A
1	BI212	65.700	16.600	58.300	5.900	1.127	A	
1	BI214	31.300	7.700	28.800	0.500	1.087	A	
1	CS137	1023.000	30.000	954.000	38.000	1.072	A	A
1	K40	351.000	59.000	314.000	13.000	1.118	A	A
1	PB212	53.700	7.400	52.800	3.700	1.017	A	
1	PB214	36.800	10.300	29.100	1.200	1.265	A	
1	PU239	11.000	0.790	13.090	0.570	0.840	W	A
1	TH234	108.000	22.000	114.000	6.000	0.947	A	
1	TL208	21.400	4.100	18.300	1.100	1.169	A	
1	U234	110.000	9.400	113.000	6.000	0.973	A	W
1	U238	113.000	4.200	120.000	9.000	0.942	A	W
1	ug U	8.560		9.700	0.700	0.882	A	A
<b>Matrix:</b> VE Vegetation Bq / kg								
1	AM241	2.900	0.200	2.330	0.060	1.245	A	A
1	CM244	1.900	0.160	1.760	0.070	1.080	A	A
1	CO60	26.600	4.300	20.000	1.000	1.330	W	A
1	CS137	432.000	15.000	390.000	20.000	1.108	A	A
1	K40	581.000	79.000	460.000	20.000	1.263	W	A
1	PU239	3.800	0.350	3.720	0.270	1.022	A	A
<b>Matrix:</b> WA Water Bq / L								
1	AM241	1.400	0.210	1.250	0.080	1.120	A	A
1	CO60	46.800	4.600	49.400	1.200	0.947	A	W
1	CS137	51.000	4.000	50.000	1.700	1.020	A	A
1	MN54	38.900	5.300	32.400	1.400	1.201	W	A
1	PU238	1.100	0.040	1.100	0.010	1.000	A	W
1	PU239	1.600	0.050	1.410	0.040	1.135	A	A
1	SR90	2.600	0.030	2.110	0.180	1.232	W	

**Values for elemental uranium are reported in µg/filter, g, or mL. pCi/g or mL=Bq x 0.027**

**Evaluation:** A=Acceptable, W=Acceptable with Warning, N=Not Acceptable

If the evaluation system is not appropriate for the types of analyses performed in your lab, apply a site specific evaluation.

## QAP 49 Results by Laboratory

**Lab:** GA Lockheed Martin, Pikton, OH

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No. Test	Radionuclide	Reported Value	Reported Error	EML Value	EML Error	Reported EML	Evaluation	QAP 48 Evaluation
<b>Matrix:</b> WA Water Bq/L								
1	U234	0.740	0.080	0.510	0.030	1.451	N	A
1	U238	0.740	0.080	0.520	0.050	1.423	N	A
1	ug U	0.059	0.007	0.040	0.003	1.475	N	

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**Values for elemental uranium are reported in µg/filter, g, or mL.      pCi/g or mL=Bq x 0.027**

**Evaluation:** A=Acceptable, W=Acceptable with Warning, N=Not Acceptable

If the evaluation system is not appropriate for the types of analyses performed in your lab, apply a site specific evaluation.

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## QAP 49 Results by Laboratory

**Lab:** GC Georgia Power Company Environmental Lab

No. Test	Radionuclide	Reported Value	Reported Error	EML Value	EML Error	Reported EML	Evaluation	QAP 48 Evaluation
<b>Matrix: AI Air Filter Bq / filter</b>								
1	GROSS ALPHA	1.550	0.003	1.650	0.160	0.939	A	W
1	GROSS BETA	1.690	0.020	2.160	0.070	0.782	W	A
<b>Matrix: SO Soil Bq / kg</b>								
1	AC228	54.700	9.000	52.600	2.900	1.040	A	
1	BI214	34.000	1.800	28.800	0.500	1.181	A	
1	CS137	933.100	35.100	954.000	38.000	0.978	A	A
1	K40	369.500	21.230	314.000	13.000	1.177	A	A
1	PB212	48.100	2.400	52.800	3.700	0.911	A	
1	RA226	212.600	56.100	29.000	1.000	7.331	A	
<b>Matrix: VE Vegetation Bq / kg</b>								
1	CO60	21.200	2.500	20.000	1.000	1.060	A	A
1	CS137	399.200	5.300	390.000	20.000	1.024	A	A
1	K40	494.000	47.400	460.000	20.000	1.074	A	A
<b>Matrix: WA Water Bq / L</b>								
1	CO60	51.200	2.530	49.400	1.200	1.036	A	A
1	CS137	54.000	3.140	50.000	1.700	1.080	A	A
1	FE55	141.000	3.700	139.000	2.000	1.014	A	A
1	GROSS ALPHA	504.000	53.200	1080.000	60.000	0.467	N	A
1	GROSS BETA	1218.000	25.200	1420.000	60.000	0.858	A	W
1	H3	79.000	1.310	76.200	2.900	1.037	A	A
1	MN54	36.000	2.180	32.400	1.400	1.111	A	A
1	SR90	2.620	0.160	2.110	0.180	1.242	W	A

**Values for elemental uranium are reported in µg/filter, g, or mL. pCi/g or mL=Bq x 0.027**

**Evaluation:** A=Acceptable, W=Acceptable with Warning, N=Not Acceptable

If the evaluation system is not appropriate for the types of analyses performed in your lab, apply a site specific evaluation.

## QAP 49 Results by Laboratory

**Lab:** GE General Engineering Labs, Charleston, SC

No. Test	Radionuclide	Reported Value	Reported Error	EML Value	EML Error	Reported EML	Evaluation	QAP 48 Evaluation
<b>Matrix:</b> AI Air Filter Bq / filter								
1	AM241	0.549	0.142	0.510	0.008	1.077	A	W
1	CO60	9.183	1.553	9.160	0.580	1.003	A	A
1	CS137	22.588	3.056	22.470	1.030	1.005	A	A
1	GROSS ALPHA	1.632	0.007	1.650	0.160	0.989	A	A
1	GROSS BETA	1.780	0.004	2.160	0.070	0.824	W	A
1	MN54	5.300	1.022	4.920	0.400	1.077	A	A
1	PU238	0.509	0.117	0.460	0.005	1.106	A	A
1	PU239	0.461	0.107	0.420	0.006	1.097	A	A
1	SB125	2.722	1.082	8.890	0.550	0.306	N	A
1	SR90	1.184	0.097	1.120	0.050	1.057	A	N
1	U234	0.242	0.073	0.260	0.010	0.932	A	A
1	U238	0.246	0.073	0.260	0.010	0.945	A	A
1	ug U	16.940	0.662	20.960	0.100	0.808	W	A

**Matrix:** SO Soil Bq / kg

1	AC228	53.595	14.605	52.600	2.900	1.019	A	
1	AM241	6.956	1.541	7.470	0.410	0.931	A	
1	BI212	31.758	14.905	58.300	5.900	0.545	A	
1	CS137	980.685	140.339	954.000	38.000	1.028	A	A
1	K40	350.316	63.867	314.000	13.000	1.116	A	A
1	PB212	56.534	9.290	52.800	3.700	1.071	A	
1	PB214	32.560	8.984	29.100	1.200	1.119	A	
1	PU239	12.173	2.554	13.090	0.570	0.930	A	A
1	RA226	29.981	11.380	29.000	1.000	1.034	A	
1	SR90	32.930	4.186	39.630	0.003	0.831	A	A
1	TH228	53.600	14.600	52.700	4.000	1.017	A	
1	TH234	109.280	84.147	114.000	6.000	0.959	A	
1	U234	103.045	21.009	113.000	6.000	0.912	A	A
1	U238	117.290	23.785	120.000	9.000	0.977	A	A

**Matrix:** VE Vegetation Bq / kg

1	AM241	2.690	0.824	2.330	0.060	1.154	A	A
1	CM244	2.035	0.673	1.760	0.070	1.156	A	A
1	CO60	19.349	4.423	20.000	1.000	0.967	A	A
1	CS137	377.955	54.560	390.000	20.000	0.969	A	A
1	K40	468.420	81.073	460.000	20.000	1.018	A	A
1	PU239	5.032	1.091	3.720	0.270	1.353	W	W
1	SR90	588.239	7.950	606.000	40.000	0.971	A	A

**Matrix:** WA Water Bq / L

1	AM241	1.230	0.239	1.250	0.080	0.984	A	A
1	CO60	53.502	7.493	49.400	1.200	1.083	A	A
1	CS137	52.558	7.238	50.000	1.700	1.051	A	A

**Values for elemental uranium are reported in µg/filter, g, or mL. pCi/g or mL=Bq x 0.027**

**Evaluation:** A=Acceptable, W=Acceptable with Warning, N=Not Acceptable

If the evaluation system is not appropriate for the types of analyses performed in your lab, apply a site specific evaluation.

## QAP 49 Results by Laboratory

**Lab:** GE General Engineering Labs, Charleston, SC

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No. Test	Radionuclide	Reported Value	Reported Error	EML Value	EML Error	<u>Reported EML</u>	Evaluation	QAP 48 Evaluation
<b>Matrix:</b> WA Water Bq/L								
1	FE55	116.971	21.328	139.000	2.000	0.842	A	A
1	GROSS ALPHA	1124.800	46.990	1080.000	60.000	1.041	A	W
1	GROSS BETA	1228.400	39.220	1420.000	60.000	0.865	A	A
1	H3	91.865	17.109	76.200	2.900	1.206	A	A
1	MN54	36.419	5.788	32.400	1.400	1.124	A	A
1	NI63	55.445	6.660	95.700	0.900	0.579	A	
1	PU238	1.136	0.246	1.100	0.010	1.033	A	A
1	PU239	1.462	0.308	1.410	0.040	1.037	A	A
1	SR90	0.201	0.035	2.110	0.180	0.095	N	A
1	U234	0.540	0.172	0.510	0.030	1.059	A	A
1	U238	0.518	0.166	0.520	0.050	0.996	A	A
1	ug U	0.041	0.001	0.040	0.003	1.013	A	A

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**Values for elemental uranium are reported in µg/filter, g, or mL.      pCi/g or mL=Bq x 0.027**

**Evaluation:** A=Acceptable, W=Acceptable with Warning, N=Not Acceptable

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## QAP 49 Results by Laboratory

**Lab:** GP GPU Nuclear, Inc., Harrisburg, PA

No. Test	Radionuclide	Reported Value	Reported Error	EML Value	EML Error	Reported EML	Evaluation	QAP 48 Evaluation
<b>Matrix: AI Air Filter Bq / filter</b>								
1	AM241	0.500	0.050	0.510	0.008	0.980	A	A
1	Bq U	0.420		0.530	0.020	0.792	N	A
1	CO60	9.300	1.600	9.160	0.580	1.015	A	A
1	CS137	22.000	3.000	22.470	1.030	0.979	A	N
1	GROSS ALPHA	1.700	0.200	1.650	0.160	1.030	A	A
1	GROSS BETA	2.000	0.200	2.160	0.070	0.926	A	A
1	MN54	5.000	0.900	4.920	0.400	1.016	A	A
1	PU238	0.480	0.050	0.460	0.005	1.043	A	W
1	PU239	0.440	0.040	0.420	0.006	1.048	A	A
1	SB125	13.000	2.000	8.890	0.550	1.462	N	W
1	SR90	1.000	0.300	1.120	0.050	0.893	A	A
1	U234	0.200	0.020	0.260	0.010	0.769	N	A
1	U238	0.210	0.030	0.260	0.010	0.808	N	A
<b>Matrix: SO Soil Bq / kg</b>								
1	CS137	1000.000	100.000	954.000	38.000	1.048	A	A
1	K40	350.000	30.000	314.000	13.000	1.115	A	A
1	SR90	19.000	7.000	39.630	0.003	0.479	N	
<b>Matrix: VE Vegetation Bq / kg</b>								
1	AM241	2.800	0.800	2.330	0.060	1.202	A	
1	CM244	1.500	0.600	1.760	0.070	0.852	A	
1	CO60	21.000	3.000	20.000	1.000	1.050	A	A
1	CS137	410.000	40.000	390.000	20.000	1.051	A	A
1	K40	520.000	50.000	460.000	20.000	1.130	A	A
1	PU238	0.260	0.150	0.310	0.070	0.839	A	
1	PU239	3.400	0.600	3.720	0.270	0.914	A	
1	SR90	580.000	50.000	606.000	40.000	0.957	A	A
<b>Matrix: WA Water Bq / L</b>								
1	AM241	1.400	0.300	1.250	0.080	1.120	A	A
1	Bq U	0.970		1.050	0.080	0.924	A	A
1	CO60	51.000	5.000	49.400	1.200	1.032	A	N
1	CS137	52.000	5.000	50.000	1.700	1.040	A	A
1	FE55	160.000	20.000	139.000	2.000	1.151	A	N
1	GROSS ALPHA	980.000	100.000	1080.000	60.000	0.907	A	A
1	GROSS BETA	1300.000	100.000	1420.000	60.000	0.915	A	A
1	MN54	34.000	3.000	32.400	1.400	1.049	A	A
1	PU238	1.100	0.100	1.100	0.010	1.000	A	A
1	PU239	1.500	0.200	1.410	0.040	1.064	A	A
1	SR90	1.500	0.600	2.110	0.180	0.711	N	A
1	U234	0.470	0.110	0.510	0.030	0.922	A	A
1	U238	0.500	0.120	0.520	0.050	0.962	A	A

**Values for elemental uranium are reported in µg/filter, g, or mL. pCi/g or mL=Bq x 0.027**

**Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable**

If the evaluation system is not appropriate for the types of analyses performed in your lab, apply a site specific evaluation.

## QAP 49 Results by Laboratory

**Lab:** GS USGS/NWQL, Arvada, CO

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No. Test	Radionuclide	Reported Value	Reported Error	EML Value	EML Error	<u>Reported</u> EML	Evaluation	QAP 48 Evaluation
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**Matrix:** WA Water Bq/L

1	GROSS ALPHA	1208.700	81.000	1080.000	60.000	1.119	A	N
1	GROSS BETA	1363.500	65.500	1420.000	60.000	0.960	A	A
1	ug U	0.040	0.002	0.040	0.003	1.000	A	A

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**Values for elemental uranium are reported in µg/filter, g, or mL.      pCi/g or mL=Bq x 0.027**

**Evaluation:** A=Acceptable, W=Acceptable with Warning, N=Not Acceptable

If the evaluation system is not appropriate for the types of analyses performed in your lab, apply a site specific evaluation.

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## QAP 49 Results by Laboratory

**Lab:** GT Georgia Institute of Technology

No. Test	Radionuclide	Reported Value	Reported Error	EML Value	EML Error	Reported EML	Evaluation	QAP 48 Evaluation
<b>Matrix: AI Air Filter Bq / filter</b>								
1	AM241	0.540	0.100	0.510	0.008	1.059	A	A
1	CO60	8.300	1.000	9.160	0.580	0.906	A	A
1	CS137	21.000	4.000	22.470	1.030	0.935	A	A
1	GROSS ALPHA	1.800	0.100	1.650	0.160	1.091	A	A
1	GROSS BETA	2.000	0.100	2.160	0.070	0.926	A	A
1	MN54	4.800	1.000	4.920	0.400	0.976	A	A
1	PU238	0.520	0.100	0.460	0.005	1.130	A	A
1	PU239	0.490	0.100	0.420	0.006	1.167	A	A
1	SB125	9.600	1.000	8.890	0.550	1.080	A	W
1	SR90	0.960	0.100	1.120	0.050	0.857	A	A
1	U238	0.250	0.050	0.260	0.010	0.962	A	A
<b>Matrix: SO Soil Bq / kg</b>								
1	AM241	7.400	3.000	7.470	0.410	0.991	A	A
1	CO60	1.900	1.000	1.240	0.110	1.532	A	A
1	CS137	1200.000	100.000	954.000	38.000	1.258	W	A
1	K40	400.000	80.000	314.000	13.000	1.274	W	A
1	PU239	13.300	5.000	13.090	0.570	1.016	A	A
1	SR90	44.000	20.000	39.630	0.003	1.110	A	A
1	U238	102.000	20.000	120.000	9.000	0.850	A	A
<b>Matrix: VE Vegetation Bq / kg</b>								
1	AM241	1.900	0.500	2.330	0.060	0.815	W	A
1	CO60	25.000	5.000	20.000	1.000	1.250	W	A
1	CS137	490.000	100.000	390.000	20.000	1.256	W	A
1	K40	580.000	50.000	460.000	20.000	1.261	W	A
1	PU239	4.300	0.500	3.720	0.270	1.156	A	A
1	SR90	440.000	10.000	606.000	40.000	0.726	W	A
<b>Matrix: WA Water Bq / L</b>								
1	AM241	1.200	0.400	1.250	0.080	0.960	A	A
1	CO60	50.000	6.000	49.400	1.200	1.012	A	A
1	CS137	52.000	8.000	50.000	1.700	1.040	A	A
1	GROSS ALPHA	1000.000	50.000	1080.000	60.000	0.926	A	A
1	GROSS BETA	1300.000	50.000	1420.000	60.000	0.915	A	A
1	H3	82.000	10.000	76.200	2.900	1.076	A	A
1	MN54	35.000	6.000	32.400	1.400	1.080	A	A
1	PU238	1.300	0.400	1.100	0.010	1.182	W	W
1	PU239	1.800	0.400	1.410	0.040	1.277	W	W
1	SR90	1.900	0.500	2.110	0.180	0.900	A	A
1	U238	0.690	0.150	0.520	0.050	1.327	N	A

**Values for elemental uranium are reported in µg/filter, g, or mL. pCi/g or mL=Bq x 0.027**

**Evaluation:** A=Acceptable, W=Acceptable with Warning, N=Not Acceptable

If the evaluation system is not appropriate for the types of analyses performed in your lab, apply a site specific evaluation.



## QAP 49 Results by Laboratory

**Lab:** HC Lawrence Livermore Laboratory, California

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No. Test	Radionuclide	Reported Value	Reported Error	EML Value	EML Error	<u>Reported</u> EML	Evaluation	QAP 48 Evaluation
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**Matrix:** AI Air Filter Bq / filter

1	GROSS ALPHA	1.497	0.150	1.650	0.160	0.907	A	W
1	GROSS BETA	1.603	0.160	2.160	0.070	0.742	W	W

**Matrix:** WA Water Bq / L

1	GROSS ALPHA	1012.000	58.000	1080.000	60.000	0.937	A	A
1	GROSS BETA	1347.000	57.000	1420.000	60.000	0.949	A	A
1	H3	78.100	14.400	76.200	2.900	1.025	A	A

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**Values for elemental uranium are reported in  $\mu\text{g}/\text{filter}$ , g, or mL.      pCi/g or mL=Bq x 0.027**

**Evaluation:** A=Acceptable, W=Acceptable with Warning, N=Not Acceptable

If the evaluation system is not appropriate for the types of analyses performed in your lab, apply a site specific evaluation.

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## QAP 49 Results by Laboratory

**Lab:** HT Technical University, Budapest, Hungary

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No. Test	Radionuclide	Reported Value	Reported Error	EML Value	EML Error	Reported EML	Evaluation	QAP 48 Evaluation
<b>Matrix:</b> SO Soil Bq/kg								
1	AM241	41.000	5.000	7.470	0.410	5.489	N	
1	Bq U	470.500	45.000	237.000	16.000	1.985	N	
1	PU239	5.000	0.600	13.090	0.570	0.382	N	
1	U234	220.000	25.000	113.000	6.000	1.947	N	
1	U238	223.500	25.000	120.000	9.000	1.862	N	
1	ug U	18.100	1.500	9.700	0.700	1.866	N	
<b>Matrix:</b> WA Water Bq/L								
1	AM241	2.600	0.200	1.250	0.080	2.080	N	
1	Bq U	1.670	0.167	1.050	0.080	1.590	N	
1	PU238	1.250	0.200	1.100	0.010	1.136	W	
1	PU239	1.100	0.150	1.410	0.040	0.780	N	
1	U234	0.785	0.090	0.510	0.030	1.539	N	
1	U238	0.800	0.090	0.520	0.050	1.538	N	
1	ug U	0.065	0.007	0.040	0.003	1.625	N	

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**Values for elemental uranium are reported in µg/filter, g, or mL.      pCi/g or mL=Bq x 0.027**

**Evaluation:** A=Acceptable, W=Acceptable with Warning, N=Not Acceptable

If the evaluation system is not appropriate for the types of analyses performed in your lab, apply a site specific evaluation.

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## QAP 49 Results by Laboratory

**Lab:** HU Water Resources Research Centre (VITUKI), Hungary

No. Test	Radionuclide	Reported Value	Reported Error	EML Value	EML Error	Reported EML	Evaluation	QAP 48 Evaluation
<b>Matrix:</b> AI Air Filter Bq / filter								
1	AM241	0.340	0.190	0.510	0.008	0.667	N	
1	CO60	7.880	0.260	9.160	0.580	0.860	A	A
1	CS137	25.900	0.770	22.470	1.030	1.153	W	A
1	MN54	5.760	0.200	4.920	0.400	1.171	A	A
1	SB125	10.230	0.200	8.890	0.550	1.151	A	A
<b>Matrix:</b> SO Soil Bq / kg								
1	AC228	49.100	1.200	52.600	2.900	0.933	A	
1	AM241	8.300	3.800	7.470	0.410	1.111	A	
1	BI214	25.600	1.000	28.800	0.500	0.889	A	
1	Bq U	9.400	0.700	237.000	16.000	0.040	N	
1	CO60	0.760	0.220	1.240	0.110	0.613	N	
1	CS137	896.000	23.000	954.000	38.000	0.939	A	W
1	K40	342.000	24.000	314.000	13.000	1.089	A	A
1	PB212	52.600	1.500	52.800	3.700	0.996	A	
1	PB214	31.200	1.000	29.100	1.200	1.072	A	
1	TL208	16.600	0.600	18.300	1.100	0.907	A	
<b>Matrix:</b> VE Vegetation Bq / kg								
1	AM241	2.700	1.200	2.330	0.060	1.159	A	
1	CO60	21.500	0.500	20.000	1.000	1.075	A	A
1	CS137	430.000	11.000	390.000	20.000	1.103	A	A
1	K40	588.000	40.000	460.000	20.000	1.278	W	A

**Values for elemental uranium are reported in µg/filter, g, or mL. pCi/g or mL=Bq x 0.027**

**Evaluation:** A=Acceptable, W=Acceptable with Warning, N=Not Acceptable

If the evaluation system is not appropriate for the types of analyses performed in your lab, apply a site specific evaluation.

## QAP 49 Results by Laboratory

**Lab:** IA Bhabha Atomic Research Centre, India

No. Test	Radionuclide	Reported Value	Reported Error	EML Value	EML Error	Reported EML	Evaluation	QAP 48 Evaluation
<b>Matrix:</b> AI Air Filter Bq / filter								
2	CO60	8.310	0.090	9.160	0.580	0.907	A	W
3	CO60	8.230	0.090	9.160	0.580	0.898	A	W
1	CO60	8.530	0.090	9.160	0.580	0.931	A	W
1	CS137	21.120	0.110	22.470	1.030	0.940	A	A
2	CS137	20.710	0.110	22.470	1.030	0.922	A	A
3	CS137	21.190	0.110	22.470	1.030	0.943	A	A
1	MN54	4.400	0.060	4.920	0.400	0.894	A	W
2	MN54	4.480	0.060	4.920	0.400	0.911	A	W
3	MN54	4.320	0.060	4.920	0.400	0.878	A	W
2	SB125	8.640	0.240	8.890	0.550	0.972	A	A
3	SB125	7.940	0.230	8.890	0.550	0.893	A	A
1	SB125	8.330	0.230	8.890	0.550	0.937	A	A

**Matrix:** SO Soil Bq / kg

2	CO60	1.210	0.200	1.240	0.110	0.976	A	
3	CO60	0.850	0.200	1.240	0.110	0.685	W	
1	CO60	1.580	0.200	1.240	0.110	1.274	A	
3	CS137	683.000	2.000	954.000	38.000	0.716	N	N
2	CS137	687.000	2.000	954.000	38.000	0.720	N	N
1	CS137	685.000	2.000	954.000	38.000	0.718	N	N
1	K40	254.000	6.000	314.000	13.000	0.809	W	N
3	K40	246.000	6.000	314.000	13.000	0.783	W	N
2	K40	250.000	6.000	314.000	13.000	0.796	W	N
3	RA226	21.300	1.500	29.000	1.000	0.734	A	
2	RA226	23.700	1.500	29.000	1.000	0.817	A	
1	RA226	21.500	1.600	29.000	1.000	0.741	A	

**Matrix:** VE Vegetation Bq / kg

1	CO60	15.700	0.700	20.000	1.000	0.785	W	W
3	CO60	16.600	0.700	20.000	1.000	0.830	W	W
2	CO60	16.700	0.700	20.000	1.000	0.835	W	W
3	CS137	361.000	2.000	390.000	20.000	0.926	A	N
2	CS137	359.000	2.000	390.000	20.000	0.921	A	N
1	CS137	370.000	2.000	390.000	20.000	0.949	A	N
3	K40	437.000	11.000	460.000	20.000	0.950	A	W
1	K40	397.000	11.000	460.000	20.000	0.863	W	W
2	K40	424.000	11.000	460.000	20.000	0.922	A	W

**Values for elemental uranium are reported in µg/filter, g, or mL. pCi/g or mL=Bq x 0.027**

**Evaluation:** A=Acceptable, W=Acceptable with Warning, N=Not Acceptable

If the evaluation system is not appropriate for the types of analyses performed in your lab, apply a site specific evaluation.

## QAP 49 Results by Laboratory

**Lab:** ID Institute of Radiation Protection and Dosimetry, Rio de Janeiro, Brazil

No. Test	Radionuclide	Reported Value	Reported Error	EML Value	EML Error	Reported EML	Evaluation	QAP 48 Evaluation
<b>Matrix:</b> AI Air Filter Bq / filter								
1	CO60	9.700	0.592	9.160	0.580	1.059	A	W
1	CS137	22.820	1.230	22.470	1.030	1.016	A	W
1	GROSS ALPHA	1.397	0.103	1.650	0.160	0.847	A	W
1	GROSS BETA	2.257	0.116	2.160	0.070	1.045	A	A
1	MN54	5.250	0.315	4.920	0.400	1.067	A	W
1	PU238	0.497	0.071	0.460	0.005	1.080	A	N
1	PU239	0.463	0.039	0.420	0.006	1.102	A	N
1	SB125	9.600	0.657	8.890	0.550	1.080	A	W
1	SR90	1.080	0.088	1.120	0.050	0.964	A	
<b>Matrix:</b> SO Soil Bq / kg								
1	AC228	60.060	3.690	52.600	2.900	1.142	A	
1	AM241	7.900	0.750	7.470	0.410	1.058	A	A
1	BI212	30.110	2.340	58.300	5.900	0.516	A	
1	BI214	29.850	1.650	28.800	0.500	1.036	A	
1	Bq U	217.770	12.470	237.000	16.000	0.919	A	A
1	CS137	1056.330	52.910	954.000	38.000	1.107	A	A
1	K40	303.700	27.160	314.000	13.000	0.967	A	A
1	PB212	57.280	3.070	52.800	3.700	1.085	A	
1	PB214	35.470	2.510	29.100	1.200	1.219	A	
1	PU239	12.530	0.650	13.090	0.570	0.957	A	W
1	SR90	48.630	4.110	39.630	0.003	1.227	A	A
1	U238	112.170	6.410	120.000	9.000	0.935	A	
<b>Matrix:</b> VE Vegetation Bq / kg								
1	CO60	17.960	0.940	20.000	1.000	0.898	A	A
1	CS137	367.270	18.540	390.000	20.000	0.942	A	A
1	K40	403.530	23.880	460.000	20.000	0.877	W	A
1	K40	403.530	23.880	460.000	20.000	0.877	W	A
1	PU239	3.570	0.505	3.720	0.270	0.960	A	A
1	SR90	586.330	29.530	606.000	40.000	0.968	A	A
<b>Matrix:</b> WA Water Bq / L								
1	Bq U	1.130	0.068	1.050	0.080	1.076	A	A
1	CO60	51.540	2.750	49.400	1.200	1.043	A	A
1	CS137	51.390	2.630	50.000	1.700	1.028	A	A
1	H3	118.330	11.040	76.200	2.900	1.553	W	A
1	MN54	34.970	1.920	32.400	1.400	1.079	A	A
1	PU239	1.100	0.350	1.410	0.040	0.780	N	A
1	SR90	2.480	0.132	2.110	0.180	1.175	A	W
1	U238	0.577	0.036	0.520	0.050	1.110	A	A

**Values for elemental uranium are reported in µg/filter, g, or mL. pCi/g or mL=Bq x 0.027**

**Evaluation:** A=Acceptable, W=Acceptable with Warning, N=Not Acceptable

If the evaluation system is not appropriate for the types of analyses performed in your lab, apply a site specific evaluation.

## QAP 49 Results by Laboratory

Lab: IE IEA, Inc., Morrisville, NC

No. Test	Radionuclide	Reported Value	Reported Error	EML Value	EML Error	Reported EML	Evaluation	QAP 48 Evaluation
<b>Matrix: SO Soil Bq / kg</b>								
1	AC228	50.410	7.340	52.600	2.900	0.958	A	
1	BI212	39.220	8.550	58.300	5.900	0.673	A	
1	CS137	1125.000	7.000	954.000	38.000	1.179	A	A
1	K40	424.600	19.200	314.000	13.000	1.352	W	A
1	PB212	46.750	1.650	52.800	3.700	0.885	A	
1	PB214	33.200	2.430	29.100	1.200	1.141	A	
1	TH234	226.700	17.700	114.000	6.000	1.989	A	
1	TL208	21.050	1.500	18.300	1.100	1.150	A	
1	U238	226.700	17.700	120.000	9.000	1.889	N	A

**Matrix: VE Vegetation Bq / kg**

1	CO60	27.200	1.670	20.000	1.000	1.360	W	A
1	CS137	565.700	6.400	390.000	20.000	1.451	N	A
1	K40	672.400	28.300	460.000	20.000	1.462	N	A

**Matrix: WA Water Bq / L**

1	AM241	1.910	1.380	1.250	0.080	1.528	N	A
1	CO60	51.980	1.200	49.400	1.200	1.052	A	A
1	CS137	54.770	1.530	50.000	1.700	1.095	A	A
1	GROSS ALPHA	932.600	19.900	1080.000	60.000	0.864	A	A
1	GROSS BETA	962.100	15.500	1420.000	60.000	0.678	W	A
1	H3	65.550	8.010	76.200	2.900	0.860	A	A
1	MN54	32.270	1.280	32.400	1.400	0.996	A	A

Values for elemental uranium are reported in  $\mu\text{g}/\text{filter}$ , g, or mL. pCi/g or mL=Bq x 0.027

Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable

If the evaluation system is not appropriate for the types of analyses performed in your lab, apply a site specific evaluation.

## QAP 49 Results by Laboratory

**Lab:** IL ISU Environmental Monitoring Program, Pocatello, ID

No. Test	Radionuclide	Reported Value	Reported Error	EML Value	EML Error	Reported EML	Evaluation	QAP 48 Evaluation
<b>Matrix:</b> AI Air Filter Bq / filter								
1	CO60	8.900	0.100	9.160	0.580	0.972	A	A
1	CS137	21.300	0.300	22.470	1.030	0.948	A	A
1	GROSS ALPHA	1.990	0.030	1.650	0.160	1.206	A	
1	GROSS BETA	2.220	0.020	2.160	0.070	1.028	A	
1	MN54	4.900	0.100	4.920	0.400	0.996	A	A
1	SB125	9.200	0.100	8.890	0.550	1.035	A	A
<b>Matrix:</b> SO Soil Bq / kg								
1	AC228	78.700	7.400	52.600	2.900	1.496	A	
1	BI212	63.900	3.900	58.300	5.900	1.096	A	
1	BI214	49.100	6.500	28.800	0.500	1.705	A	
1	CS137	994.900	17.500	954.000	38.000	1.043	A	N
1	K40	609.500	90.300	314.000	13.000	1.941	N	N
1	PB212	64.000	3.900	52.800	3.700	1.212	A	
1	PB214	49.100	6.500	29.100	1.200	1.687	A	
1	RA226	62.700	8.300	29.000	1.000	2.162	A	
1	TL208	23.000	1.400	18.300	1.100	1.257	A	
<b>Matrix:</b> VE Vegetation Bq / kg								
1	CO60	18.800	2.500	20.000	1.000	0.940	A	W
1	CS137	437.800	10.300	390.000	20.000	1.123	A	W
1	K40	580.100	99.500	460.000	20.000	1.261	W	N
<b>Matrix:</b> WA Water Bq / L								
1	CO60	52.200	0.600	49.400	1.200	1.057	A	A
1	CS137	52.300	0.800	50.000	1.700	1.046	A	A
1	GROSS ALPHA	1034.900	29.200	1080.000	60.000	0.958	A	
1	GROSS BETA	1060.000	25.500	1420.000	60.000	0.746	A	
1	MN54	36.000	0.500	32.400	1.400	1.111	A	A

**Values for elemental uranium are reported in µg/filter, g, or mL. pCi/g or mL=Bq x 0.027**

**Evaluation:** A=Acceptable, W=Acceptable with Warning, N=Not Acceptable

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## QAP 49 Results by Laboratory

**Lab:** IN Lockheed Martin Idaho Technical Corp., Analytical Laboratory

No. Test	Radionuclide	Reported Value	Reported Error	EML Value	EML Error	Reported EML	Evaluation	QAP 48 Evaluation
<b>Matrix:</b> AI Air Filter Bq / filter								
1	AM241	0.540	0.050	0.510	0.008	1.059	A	
1	CO60	8.500	0.300	9.160	0.580	0.928	A	A
1	CS137	21.600	0.800	22.470	1.030	0.961	A	A
1	MN54	4.890	0.500	4.920	0.400	0.994	A	A
1	SB125	8.900	0.900	8.890	0.550	1.001	A	A
<b>Matrix:</b> SO Soil Bq / kg								
1	AM241	8.300	1.250	7.470	0.410	1.111	A	A
1	BI212	47.500	3.000	58.300	5.900	0.815	A	
1	BI214	34.000	8.000	28.800	0.500	1.181	A	
1	CS137	1136.000	175.000	954.000	38.000	1.191	A	A
1	K40	356.000	101.000	314.000	13.000	1.134	A	A
1	PB212	56.900	6.000	52.800	3.700	1.078	A	
1	PB214	33.400	9.800	29.100	1.200	1.148	A	
1	PU239	12.980	2.700	13.090	0.570	0.992	A	A
1	TH234	114.500	5.000	114.000	6.000	1.004	A	
1	TL208	19.400	2.200	18.300	1.100	1.060	A	
1	U234	116.000	17.000	113.000	6.000	1.027	A	W
1	U238	115.000	17.000	120.000	9.000	0.958	A	W
<b>Matrix:</b> VE Vegetation Bq / kg								
1	CO60	21.200	4.000	20.000	1.000	1.060	A	A
1	CS137	455.800	18.400	390.000	20.000	1.169	A	A
1	K40	513.600	48.300	460.000	20.000	1.117	A	A
<b>Matrix:</b> WA Water Bq / L								
1	AM241	1.260	0.120	1.250	0.080	1.008	A	A
1	CO60	51.200	3.400	49.400	1.200	1.036	A	W
1	CS137	52.000	3.200	50.000	1.700	1.040	A	A
1	H3	53.000	14.000	76.200	2.900	0.696	N	
1	MN54	35.800	2.100	32.400	1.400	1.105	A	W
1	PU238	1.200	0.090	1.100	0.010	1.091	A	A
1	PU239	1.440	0.100	1.410	0.040	1.021	A	A
1	SR90	2.690	0.340	2.110	0.180	1.275	W	A
1	U234	0.502	0.075	0.510	0.030	0.984	A	A
1	U238	0.500	0.080	0.520	0.050	0.962	A	A

**Values for elemental uranium are reported in µg/filter, g, or mL. pCi/g or mL=Bq x 0.027**

**Evaluation:** A=Acceptable, W=Acceptable with Warning, N=Not Acceptable

If the evaluation system is not appropriate for the types of analyses performed in your lab, apply a site specific evaluation.



## QAP 49 Results by Laboratory

**Lab:** IS    Quanterra- St. Louis

No. Test	Radionuclide	Reported Value	Reported Error	EML Value	EML Error	<u>Reported</u> EML	Evaluation	<u>QAP 48</u> Evaluation
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**Matrix:** AI Air Filter Bq / filter

1	AM241	0.397	0.184	0.510	0.008	0.778	W	N
1	CO60	9.500	1.170	9.160	0.580	1.037	A	A
1	CS137	22.400	2.440	22.470	1.030	0.997	A	A
1	GROSS ALPHA	2.010	0.200	1.650	0.160	1.218	A	A
1	GROSS BETA	2.010	0.200	2.160	0.070	0.931	A	A
1	MN54	5.340	0.690	4.920	0.400	1.085	A	A
1	PU238	0.392	0.112	0.460	0.005	0.851	W	
1	PU239	0.378	0.108	0.420	0.006	0.899	W	
1	SB125	9.710	1.280	8.890	0.550	1.092	A	A
1	SR90	0.256	0.074	1.120	0.050	0.228	N	A
1	ug U	14.900	2.000	20.960	0.100	0.711	N	W

**Matrix:** SO Soil Bq / kg

1	AC228	48.500	14.500	52.600	2.900	0.922	A	
1	AM241	10.340	5.810	7.470	0.410	1.384	A	A
1	BI212	62.300	29.000	58.300	5.900	1.069	A	
1	BI214	21.900	5.800	28.800	0.500	0.760	A	
1	CS137	923.000	116.000	954.000	38.000	0.968	A	A
1	K40	326.000	46.900	314.000	13.000	1.038	A	W
1	PB210	31.800	32.000	32.000	3.300	0.994	A	
1	PB212	50.100	10.000	52.800	3.700	0.949	A	
1	PB214	28.500	7.400	29.100	1.200	0.979	A	
1	PU239	17.075	5.226	13.090	0.570	1.304	W	
1	RA226	103.600	50.400	29.000	1.000	3.572	A	
1	SR90	51.060	17.390	39.630	0.003	1.288	A	A
3	TH228	66.300	22.300	52.700	4.000	1.258	A	
2	TH228	65.400	23.400	52.700	4.000	1.241	A	
1	TH228	57.800	20.200	52.700	4.000	1.097	A	
1	TH234	110.000	31.000	114.000	6.000	0.965	A	
1	TL208	19.900	4.100	18.300	1.100	1.087	A	
1	ug U	2.700	0.390	9.700	0.700	0.278	N	N
2	ug U	2.630	0.380	9.700	0.700	0.271	N	N
3	ug U	2.560	0.370	9.700	0.700	0.264	N	N

**Matrix:** VE Vegetation Bq / kg

1	AM241	3.354	1.675	2.330	0.060	1.439	A	N
1	CO60	23.200	5.500	20.000	1.000	1.160	A	W
1	CS137	459.200	54.200	390.000	20.000	1.177	A	A
1	K40	563.500	78.800	460.000	20.000	1.225	A	W
1	PU239	6.220	1.619	3.720	0.270	1.672	N	W
1	SR90	416.250	83.250	606.000	40.000	0.687	W	W

**Values for elemental uranium are reported in µg/filter, g, or mL.      pCi/g or mL=Bq x 0.027**

**Evaluation:** A=Acceptable, W=Acceptable with Warning, N=Not Acceptable

If the evaluation system is not appropriate for the types of analyses performed in your lab, apply a site specific evaluation.

## QAP 49 Results by Laboratory

**Lab:** IS Quanterra- St. Louis

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No. Test	Radionuclide	Reported Value	Reported Error	EML Value	EML Error	<u>Reported EML</u>	Evaluation	QAP 48 Evaluation
<b>Matrix:</b> WA Water Bq/L								
1	AM241	1.032	0.249	1.250	0.080	0.826	W	W
1	CO60	55.100	5.400	49.400	1.200	1.115	A	W
1	CS137	55.900	5.700	50.000	1.700	1.118	A	W
1	GROSS ALPHA	1188.000	122.000	1080.000	60.000	1.100	A	A
1	GROSS BETA	1243.000	124.000	1420.000	60.000	0.875	A	A
1	H3	118.400	12.100	76.200	2.900	1.554	W	A
1	MN54	39.000	3.900	32.400	1.400	1.204	W	W
1	PU238	1.303	0.362	1.100	0.010	1.185	W	A
1	PU239	1.733	0.470	1.410	0.040	1.229	W	W
1	SR90	1.699	0.383	2.110	0.180	0.805	W	A
1	ug U	0.040	0.005	0.040	0.003	1.008	A	

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**Values for elemental uranium are reported in µg/filter, g, or mL.      pCi/g or mL=Bq x 0.027**

**Evaluation:** A=Acceptable, W=Acceptable with Warning, N=Not Acceptable

If the evaluation system is not appropriate for the types of analyses performed in your lab, apply a site specific evaluation.

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## QAP 49 Results by Laboratory

**Lab:** IT Quanterra- Richland Laboratory

No. Test	Radionuclide	Reported Value	Reported Error	EML Value	EML Error	Reported EML	Evaluation	QAP 48 Evaluation
<b>Matrix:</b> AI Air Filter Bq / filter								
1	AM241	0.460	0.070	0.510	0.008	0.902	A	A
1	Bq U	0.490	0.020	0.530	0.020	0.925	A	
1	CO60	8.820	0.330	9.160	0.580	0.963	A	A
1	CS137	21.800	0.300	22.470	1.030	0.970	A	A
1	GROSS ALPHA	1.960	0.030	1.650	0.160	1.188	A	A
1	GROSS BETA	2.200	0.070	2.160	0.070	1.019	A	A
1	MN54	5.220	0.170	4.920	0.400	1.061	A	A
1	PU238	0.500	0.030	0.460	0.005	1.087	A	A
1	PU239	0.480	0.020	0.420	0.006	1.143	A	A
1	SB125	9.100	0.500	8.890	0.550	1.024	A	A
1	SR90	1.090	0.120	1.120	0.050	0.973	A	A
1	U234	0.240	0.010	0.260	0.010	0.923	A	A
1	U238	0.230	0.010	0.260	0.010	0.885	W	A
1	ug U	20.400	0.500	20.960	0.100	0.973	A	A

**Matrix:** SO Soil Bq / kg

1	AC228	62.000	1.800	52.600	2.900	1.179	A	
1	AM241	4.880	0.760	7.470	0.410	0.653	W	A
1	BI212	61.000	3.000	58.300	5.900	1.046	A	
1	BI214	32.000	3.000	28.800	0.500	1.111	A	
1	Bq U	193.000	13.000	237.000	16.000	0.814	A	
1	CS137	1129.000	46.000	954.000	38.000	1.183	A	A
1	K40	373.000	22.000	314.000	13.000	1.188	A	A
1	PB210	41.000	5.500	32.000	3.300	1.281	A	
1	PB212	61.000	3.000	52.800	3.700	1.155	A	
1	PB214	35.000	1.500	29.100	1.200	1.203	A	
1	PU238	0.770	0.080	0.530	0.270	1.453	W	
1	PU239	14.500	1.200	13.090	0.570	1.108	A	A
1	RA226	32.000	3.000	29.000	1.000	1.103	A	
1	SR90	43.000	2.400	39.630	0.003	1.085	A	A
1	TH228	57.000	7.000	52.700	4.000	1.082	A	
1	TH234	236.000	13.000	114.000	6.000	2.070	A	
1	TL208	20.300	2.200	18.300	1.100	1.109	A	
1	U234	92.000	4.000	113.000	6.000	0.814	A	A
1	U238	98.000	7.000	120.000	9.000	0.817	A	A
1	ug U	10.200	0.500	9.700	0.700	1.052	A	A

**Matrix:** VE Vegetation Bq / kg

1	AM241	2.200	0.240	2.330	0.060	0.944	A	A
1	CM244	1.940	0.110	1.760	0.070	1.102	A	W
1	CO60	24.700	2.400	20.000	1.000	1.235	A	W
1	CS137	486.000	20.000	390.000	20.000	1.246	A	A
1	K40	567.000	8.000	460.000	20.000	1.233	A	A
1	PU239	3.930	0.170	3.720	0.270	1.056	A	A

**Values for elemental uranium are reported in µg/filter, g, or mL. pCi/g or mL=Bq x 0.027**

**Evaluation:** A=Acceptable, W=Acceptable with Warning, N=Not Acceptable

If the evaluation system is not appropriate for the types of analyses performed in your lab, apply a site specific evaluation.

## QAP 49 Results by Laboratory

**Lab:** IT Quanterra- Richland Laboratory

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No. Test	Radionuclide	Reported Value	Reported Error	EML Value	EML Error	Reported EML	Evaluation	QAP 48 Evaluation
<b>Matrix:</b> WA Water Bq/L								
1	AM241	1.410	0.080	1.250	0.080	1.128	A	A
1	Bq U	1.050	0.100	1.050	0.080	1.000	A	
1	CO60	53.400	3.000	49.400	1.200	1.081	A	W
1	CS137	51.800	2.500	50.000	1.700	1.036	A	A
1	GROSS ALPHA	933.000	4.000	1080.000	60.000	0.864	A	A
1	GROSS BETA	1182.000	2.000	1420.000	60.000	0.832	A	A
1	H3	79.000	5.000	76.200	2.900	1.037	A	A
1	MN54	35.800	1.500	32.400	1.400	1.105	A	A
1	PU238	1.270	0.030	1.100	0.010	1.155	W	A
1	PU239	1.580	0.120	1.410	0.040	1.121	A	A
1	SR90	2.240	0.300	2.110	0.180	1.062	A	A
1	U234	0.500	0.010	0.510	0.030	0.980	A	A
1	U238	0.530	0.080	0.520	0.050	1.019	A	A
1	ug U	0.040	0.000	0.040	0.003	0.998	A	A

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**Values for elemental uranium are reported in µg/filter, g, or mL.      pCi/g or mL=Bq x 0.027**

**Evaluation:** A=Acceptable, W=Acceptable with Warning, N=Not Acceptable

If the evaluation system is not appropriate for the types of analyses performed in your lab, apply a site specific evaluation.

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## QAP 49 Results by Laboratory

**Lab:** JE Jacobs Engineering, Oak Ridge, TN

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No. Test	Radionuclide	Reported Value	Reported Error	EML Value	EML Error	<u>Reported</u> EML	Evaluation	<u>QAP 48</u> Evaluation
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**Matrix:** AI Air Filter Bq / filter

1	GROSS ALPHA	1.811	0.200	1.650	0.160	1.098	A	A
1	GROSS BETA	2.250	0.200	2.160	0.070	1.042	A	A

**Matrix:** SO Soil Bq / kg

1	AC228	53.280	6.590	52.600	2.900	1.013	A	
1	BI214	39.800	5.120	28.800	0.500	1.382	A	
1	CS137	1124.960	27.630	954.000	38.000	1.179	A	A
1	K40	363.110	58.290	314.000	13.000	1.156	A	A
1	PB212	42.610	3.370	52.800	3.700	0.807	A	
1	PB214	28.390	5.500	29.100	1.200	0.976	A	

**Matrix:** WA Water Bq / L

1	CO60	91.670	2.710	49.400	1.200	1.856	N	N
1	CS137	92.450	3.510	50.000	1.700	1.849	N	A
1	GROSS ALPHA	967.750	97.800	1080.000	60.000	0.896	A	A
1	GROSS BETA	1477.500	95.600	1420.000	60.000	1.040	A	A
1	MN54	68.310	3.250	32.400	1.400	2.108	N	W

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**Values for elemental uranium are reported in µg/filter, g, or mL.      pCi/g or mL=Bq x 0.027**

**Evaluation:** A=Acceptable, W=Acceptable with Warning, N=Not Acceptable

If the evaluation system is not appropriate for the types of analyses performed in your lab, apply a site specific evaluation.

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## QAP 49 Results by Laboratory

**Lab:** JL Jefferson Lab, Newport News, VA

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No. Test	Radionuclide	Reported Value	Reported Error	EML Value	EML Error	<u>Reported</u> EML	Evaluation	QAP 48 Evaluation
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**Matrix:** AI Air Filter Bq / filter

1	GROSS ALPHA	3.010	0.070	1.650	0.160	1.824	N	
1	GROSS BETA	0.480	0.040	2.160	0.070	0.222	N	

**Matrix:** WA Water Bq / L

1	AM241	0.750	0.360	1.250	0.080	0.600	N	W
1	CO60	50.900	2.500	49.400	1.200	1.030	A	N
1	CS137	50.600	3.500	50.000	1.700	1.012	A	A
1	MN54	35.200	2.700	32.400	1.400	1.086	A	A

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**Values for elemental uranium are reported in µg/filter, g, or mL.      pCi/g or mL=Bq x 0.027**

**Evaluation:** A=Acceptable, W=Acceptable with Warning, N=Not Acceptable

If the evaluation system is not appropriate for the types of analyses performed in your lab, apply a site specific evaluation.

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## QAP 49 Results by Laboratory

**Lab:** KA Knolls Atomic Power Lab, Schenectady

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No. Test	Radionuclide	Reported Value	Reported Error	EML Value	EML Error	Reported EML	Evaluation	QAP 48 Evaluation
<b>Matrix:</b> AI Air Filter Bq / filter								
1	GROSS ALPHA	1.700	0.060	1.650	0.160	1.030	A	A
1	GROSS BETA	2.060	0.050	2.160	0.070	0.954	A	A
<b>Matrix:</b> SO Soil Bq / kg								
1	CS137	967.500	108.500	954.000	38.000	1.014	A	A
1	K40	328.100	51.300	314.000	13.000	1.045	A	A
1	PU239	13.760	0.080	13.090	0.570	1.051	A	A
1	SR90	43.300	1.900	39.630	0.003	1.093	A	A
<b>Matrix:</b> WA Water Bq / L								
1	CO60	47.990	1.690	49.400	1.200	0.971	A	A
1	CS137	48.420	3.310	50.000	1.700	0.968	A	A
1	FE55	149.000	6.000	139.000	2.000	1.072	A	W
1	GROSS ALPHA	1052.000	61.000	1080.000	60.000	0.974	A	A
1	GROSS BETA	1389.000	55.000	1420.000	60.000	0.978	A	A
1	H3	99.000	9.000	76.200	2.900	1.299	W	A
1	MN54	31.010	2.270	32.400	1.400	0.957	A	A
1	PU239	1.682	0.008	1.410	0.040	1.193	W	A
1	SR90	2.396	0.308	2.110	0.180	1.136	A	A
1	ug U	0.042	0.000	0.040	0.003	1.050	A	A

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**Values for elemental uranium are reported in µg/filter, g, or mL.      pCi/g or mL=Bq x 0.027**

**Evaluation:** A=Acceptable, W=Acceptable with Warning, N=Not Acceptable

If the evaluation system is not appropriate for the types of analyses performed in your lab, apply a site specific evaluation.

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## QAP 49 Results by Laboratory

**Lab:** KR Korea Atomic Energy Research Institute

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No. Test	Radionuclide	Reported Value	Reported Error	EML Value	EML Error	Reported EML	Evaluation	QAP 48 Evaluation
<b>Matrix:</b> AI Air Filter Bq / filter								
1	CO60	8.800	0.900	9.160	0.580	0.961	A	
1	CS137	21.500	2.300	22.470	1.030	0.957	A	
1	GROSS ALPHA	1.600	0.030	1.650	0.160	0.970	A	A
1	GROSS BETA	1.930	0.030	2.160	0.070	0.894	A	A
1	MN54	4.600	0.500	4.920	0.400	0.935	A	
1	SB125	7.700	0.900	8.890	0.550	0.866	A	
1	SR90	0.860	0.050	1.120	0.050	0.768	W	
<b>Matrix:</b> SO Soil Bq / kg								
1	CS137	1043.100	44.200	954.000	38.000	1.093	A	A
1	K40	381.100	49.600	314.000	13.000	1.214	A	A
1	PU239	11.700	0.200	13.090	0.570	0.894	A	
1	SR90	35.700	0.700	39.630	0.003	0.901	A	A
<b>Matrix:</b> VE Vegetation Bq / kg								
1	CO60	20.400	1.400	20.000	1.000	1.020	A	A
1	CS137	397.400	10.200	390.000	20.000	1.019	A	A
1	K40	486.800	42.400	460.000	20.000	1.058	A	A
1	SR90	714.400	7.500	606.000	40.000	1.179	W	A

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**Values for elemental uranium are reported in µg/filter, g, or mL.      pCi/g or mL=Bq x 0.027**

**Evaluation:** A=Acceptable, W=Acceptable with Warning, N=Not Acceptable

If the evaluation system is not appropriate for the types of analyses performed in your lab, apply a site specific evaluation.

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## QAP 49 Results by Laboratory

**Lab:** LA Los Alamos National Laboratory, NM

No. Test	Radionuclide	Reported Value	Reported Error	EML Value	EML Error	Reported EML	Evaluation	QAP 48 Evaluation
<b>Matrix:</b> AI Air Filter Bq / filter								
3	AM241	0.563	0.017	0.510	0.008	1.104	A	A
2	AM241	0.560	0.017	0.510	0.008	1.098	A	A
1	AM241	0.543	0.017	0.510	0.008	1.065	A	A
1	CO60	9.190	0.720	9.160	0.580	1.003	A	A
3	CO60	9.070	0.730	9.160	0.580	0.990	A	A
2	CO60	9.120	0.740	9.160	0.580	0.996	A	A
1	CS137	22.000	1.700	22.470	1.030	0.979	A	A
2	CS137	22.100	1.700	22.470	1.030	0.984	A	A
3	CS137	22.100	1.700	22.470	1.030	0.984	A	A
1	MN54	5.160	0.430	4.920	0.400	1.049	A	A
3	MN54	5.150	0.430	4.920	0.400	1.047	A	A
2	MN54	5.060	0.420	4.920	0.400	1.028	A	A
1	PU238	0.467	0.017	0.460	0.005	1.015	A	A
2	PU238	0.490	0.017	0.460	0.005	1.065	A	A
3	PU238	0.446	0.015	0.460	0.005	0.970	A	A
1	PU239	0.471	0.017	0.420	0.006	1.121	A	A
3	PU239	0.437	0.015	0.420	0.006	1.040	A	A
2	PU239	0.466	0.016	0.420	0.006	1.110	A	A
3	SB125	9.150	0.770	8.890	0.550	1.029	A	A
2	SB125	9.110	0.770	8.890	0.550	1.025	A	A
1	SB125	8.910	0.750	8.890	0.550	1.002	A	A

**Matrix:** SO Soil Bq / kg

1	AM241	8.470	0.740	7.470	0.410	1.134	A	A
2	AM241	7.660	0.740	7.470	0.410	1.025	A	A
3	AM241	7.920	0.740	7.470	0.410	1.060	A	A
3	CS137	785.000	56.000	954.000	38.000	0.823	N	W
2	CS137	629.000	45.000	954.000	38.000	0.659	N	W
1	CS137	628.000	45.000	954.000	38.000	0.658	N	W
3	K40	333.000	35.000	314.000	13.000	1.061	A	A
2	K40	317.000	34.000	314.000	13.000	1.010	A	A
1	K40	253.000	29.000	314.000	13.000	0.806	W	A
3	PU239	13.000	0.500	13.090	0.570	0.993	A	A
2	PU239	13.100	0.500	13.090	0.570	1.001	A	A
1	PU239	12.600	0.500	13.090	0.570	0.963	A	A

**Matrix:** VE Vegetation Bq / kg

2	CO60	26.800	3.200	20.000	1.000	1.340	W	A
1	CO60	25.800	3.100	20.000	1.000	1.290	W	A
3	CO60	25.000	2.700	20.000	1.000	1.250	W	A
1	CS137	443.000	36.000	390.000	20.000	1.136	A	A
2	CS137	462.000	37.000	390.000	20.000	1.185	A	A
3	CS137	456.000	37.000	390.000	20.000	1.169	A	A
3	K40	470.000	51.000	460.000	20.000	1.022	A	W
2	K40	436.000	48.000	460.000	20.000	0.948	A	W

**Values for elemental uranium are reported in µg/filter, g, or mL. pCi/g or mL=Bq x 0.027**

**Evaluation:** A=Acceptable, W=Acceptable with Warning, N=Not Acceptable

If the evaluation system is not appropriate for the types of analyses performed in your lab, apply a site specific evaluation.

## QAP 49 Results by Laboratory

**Lab:** LA Los Alamos National Laboratory, NM

No. Test	Radionuclide	Reported Value	Reported Error	EML Value	EML Error	Reported EML	Evaluation	QAP 48 Evaluation
<b>Matrix:</b> VE Vegetation Bq / kg								
1	K40	382.000	43.000	460.000	20.000	0.830	W	W
2	SR90	671.000	41.700	606.000	40.000	1.107	A	
1	SR90	620.000	39.400	606.000	40.000	1.023	A	
3	SR90	622.400	39.200	606.000	40.000	1.027	A	
<b>Matrix:</b> WA Water Bq / L								
2	AM241	1.180	0.040	1.250	0.080	0.944	A	A
3	AM241	1.340	0.040	1.250	0.080	1.072	A	A
1	AM241	1.300	0.040	1.250	0.080	1.040	A	A
3	Bq U	1.050	0.250	1.050	0.080	1.000	A	
2	Bq U	1.025	0.250	1.050	0.080	0.976	A	
1	Bq U	1.025	0.250	1.050	0.080	0.976	A	
1	CO60	56.900	6.100	49.400	1.200	1.152	W	W
3	CO60	52.100	5.700	49.400	1.200	1.055	A	W
2	CO60	54.300	5.800	49.400	1.200	1.099	A	W
1	CS137	60.100	6.300	50.000	1.700	1.202	W	W
2	CS137	58.800	6.200	50.000	1.700	1.176	A	W
3	CS137	58.800	6.200	50.000	1.700	1.176	A	W
1	GROSS ALPHA	884.300	156.880	1080.000	60.000	0.819	W	A
3	GROSS ALPHA	1110.000	193.510	1080.000	60.000	1.028	A	A
1	GROSS BETA	1102.600	62.160	1420.000	60.000	0.776	A	A
3	GROSS BETA	1158.100	65.120	1420.000	60.000	0.816	A	A
2	H3	104.000	30.000	76.200	2.900	1.365	W	A
3	H3	106.000	30.000	76.200	2.900	1.391	W	A
1	H3	115.000	31.000	76.200	2.900	1.509	W	A
1	MN54	40.600	4.600	32.400	1.400	1.253	N	W
2	MN54	37.100	4.200	32.400	1.400	1.145	A	W
3	MN54	37.200	4.300	32.400	1.400	1.148	A	W
3	PU238	1.110	0.040	1.100	0.010	1.009	A	A
2	PU238	1.110	0.040	1.100	0.010	1.009	A	A
1	PU238	1.060	0.040	1.100	0.010	0.964	A	A
1	PU239	1.460	0.050	1.410	0.040	1.035	A	A
3	PU239	1.450	0.050	1.410	0.040	1.028	A	A
2	PU239	1.480	0.050	1.410	0.040	1.050	A	A
3	SR90	2.819	0.335	2.110	0.180	1.336	W	
2	SR90	2.756	0.333	2.110	0.180	1.306	W	
1	SR90	2.851	0.336	2.110	0.180	1.351	W	

**Values for elemental uranium are reported in µg/filter, g, or mL. pCi/g or mL=Bq x 0.027**

**Evaluation:** A=Acceptable, W=Acceptable with Warning, N=Not Acceptable

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## QAP 49 Results by Laboratory

**Lab:** LB Lawrence Berkeley Lab UCB

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No. Test	Radionuclide	Reported Value	Reported Error	EML Value	EML Error	Reported EML	Evaluation	QAP 48 Evaluation
<b>Matrix:</b> AI Air Filter Bq / filter								
1	CO60	10.400	1.100	9.160	0.580	1.135	W	
1	CS137	26.000	2.000	22.470	1.030	1.157	W	
1	MN54	5.900	0.800	4.920	0.400	1.199	W	
1	SB125	9.600	0.700	8.890	0.550	1.080	A	
<b>Matrix:</b> SO Soil Bq / kg								
1	CS137	1131.000	124.000	954.000	38.000	1.186	A	
1	K40	383.000	66.000	314.000	13.000	1.220	A	
<b>Matrix:</b> VE Vegetation Bq / kg								
1	CO60	34.000	4.000	20.000	1.000	1.700	N	
1	CS137	648.000	52.000	390.000	20.000	1.662	N	
1	K40	753.000	90.000	460.000	20.000	1.637	N	
<b>Matrix:</b> WA Water Bq / L								
1	CO60	51.000	9.000	49.400	1.200	1.032	A	
1	CS137	52.000	7.000	50.000	1.700	1.040	A	
1	MN54	34.000	5.000	32.400	1.400	1.049	A	

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**Values for elemental uranium are reported in µg/filter, g, or mL.      pCi/g or mL=Bq x 0.027**

**Evaluation:** A=Acceptable, W=Acceptable with Warning, N=Not Acceptable

If the evaluation system is not appropriate for the types of analyses performed in your lab, apply a site specific evaluation.

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## QAP 49 Results by Laboratory

**Lab:** LE Lyle Environmental Management, Columbus, Ohio

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No. Test	Radionuclide	Reported Value	Reported Error	EML Value	EML Error	Reported EML	Evaluation	QAP 48 Evaluation
<b>Matrix:</b> WA Water Bq/L								
1	GROSS ALPHA	545.000		1080.000	60.000	0.505	N	
1	GROSS BETA	1630.000		1420.000	60.000	1.148	A	

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**Values for elemental uranium are reported in µg/filter, g, or mL.      pCi/g or mL=Bq x 0.027**

**Evaluation:** A=Acceptable, W=Acceptable with Warning, N=Not Acceptable

If the evaluation system is not appropriate for the types of analyses performed in your lab, apply a site specific evaluation.

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## QAP 49 Results by Laboratory

**Lab:** LL LLNL Chemistry and Material Science/Environmental

No. Test	Radionuclide	Reported Value	Reported Error	EML Value	EML Error	Reported EML	Evaluation	QAP 48 Evaluation
<b>Matrix:</b> AI Air Filter Bq / filter								
1	AM241	0.567	0.031	0.510	0.008	1.112	A	A
1	CO60	9.010	0.252	9.160	0.580	0.984	A	A
1	CS137	22.400	0.493	22.470	1.030	0.997	A	N
2	GROSS ALPHA	1.520	0.010	1.650	0.160	0.921	A	A
2	GROSS BETA	2.330	0.011	2.160	0.070	1.079	A	A
1	MN54	5.160	0.269	4.920	0.400	1.049	A	A
1	PU238	0.479	0.045	0.460	0.005	1.041	A	A
1	PU239	0.463	0.044	0.420	0.006	1.102	A	A
1	SB125	9.670	0.774	8.890	0.550	1.088	A	W
1	U234	0.251	0.023	0.260	0.010	0.965	A	N
1	U238	0.252	0.023	0.260	0.010	0.969	A	N
<b>Matrix:</b> SO Soil Bq / kg								
1	AM241	7.620	1.860	7.470	0.410	1.020	A	A
1	CS137	716.000	21.500	954.000	38.000	0.751	N	A
1	K40	242.000	68.300	314.000	13.000	0.771	N	A
1	PU239	13.200	1.570	13.090	0.570	1.008	A	A
1	RA226	26.300	20.500	29.000	1.000	0.907	A	
1	TH228	39.900	6.540	52.700	4.000	0.757	A	
1	U234	98.900	8.540	113.000	6.000	0.875	A	A
1	U238	105.000	9.010	120.000	9.000	0.875	A	N
<b>Matrix:</b> VE Vegetation Bq / kg								
1	AM241	2.810	0.638	2.330	0.060	1.206	A	A
1	CM244	3.580	0.806	1.760	0.070	2.034	N	A
1	CO60	22.300	3.520	20.000	1.000	1.115	A	A
1	CS137	454.000	14.500	390.000	20.000	1.164	A	A
1	K40	519.000	76.800	460.000	20.000	1.128	A	A
1	PU239	3.420	0.620	3.720	0.270	0.919	A	A
<b>Matrix:</b> WA Water Bq / L								
1	AM241	1.350	0.119	1.250	0.080	1.080	A	A
1	CO60	49.100	3.240	49.400	1.200	0.994	A	A
1	CS137	49.400	3.560	50.000	1.700	0.988	A	A
1	GROSS ALPHA	819.000	13.400	1080.000	60.000	0.758	W	A
1	GROSS BETA	1330.000	14.400	1420.000	60.000	0.937	A	A
1	H3	91.500	4.030	76.200	2.900	1.201	A	A
1	MN54	33.600	3.430	32.400	1.400	1.037	A	A
1	PU238	1.240	0.138	1.100	0.010	1.127	W	A
1	PU239	1.530	0.165	1.410	0.040	1.085	A	A
1	U234	0.503	0.047	0.510	0.030	0.986	A	A
1	U238	0.519	0.048	0.520	0.050	0.998	A	A

**Values for elemental uranium are reported in µg/filter, g, or mL. pCi/g or mL=Bq x 0.027**

**Evaluation:** A=Acceptable, W=Acceptable with Warning, N=Not Acceptable

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## QAP 49 Results by Laboratory

**Lab:** LN Los Alamos National Lab, ES&H

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No. Test	Radionuclide	Reported Value	Reported Error	EML Value	EML Error	Reported EML	Evaluation	QAP 48 Evaluation
<b>Matrix:</b> AI Air Filter Bq / filter								
1	AM241	0.370	0.070	0.510	0.008	0.725	N	
1	CO60	8.100	0.280	9.160	0.580	0.884	A	A
1	CS137	18.100	0.290	22.470	1.030	0.806	W	A
1	GROSS ALPHA	1.700	0.200	1.650	0.160	1.030	A	A
1	GROSS BETA	1.650	0.160	2.160	0.070	0.764	W	A
1	MN54	4.300	0.220	4.920	0.400	0.874	A	A
1	SB125	5.700	0.350	8.890	0.550	0.641	W	A

**Matrix:** WA Water Bq / L

1	CO60	50.300	2.890	49.400	1.200	1.018	A	N
1	CS137	61.600	8.930	50.000	1.700	1.232	W	N
1	H3	370.000	13.690	76.200	2.900	4.856	N	W
1	MN54	48.700	8.970	32.400	1.400	1.503	N	A

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**Values for elemental uranium are reported in µg/filter, g, or mL.      pCi/g or mL=Bq x 0.027**

**Evaluation:** A=Acceptable, W=Acceptable with Warning, N=Not Acceptable

If the evaluation system is not appropriate for the types of analyses performed in your lab, apply a site specific evaluation.

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## QAP 49 Results by Laboratory

**Lab:** LV UNLV, Dept of Health Physics

No. Test	Radionuclide	Reported Value	Reported Error	EML Value	EML Error	Reported EML	Evaluation	QAP 48 Evaluation
<b>Matrix:</b> AI Air Filter Bq / filter								
1	AM241	0.894	0.051	0.510	0.008	1.753	W	N
1	CO60	8.400	0.160	9.160	0.580	0.917	A	A
1	CS137	20.500	0.200	22.470	1.030	0.912	A	A
1	GROSS ALPHA	1.600	0.200	1.650	0.160	0.970	A	W
1	GROSS BETA	1.780	0.100	2.160	0.070	0.824	W	N
1	MN54	4.280	0.200	4.920	0.400	0.870	A	A
1	PU238	0.251	0.026	0.460	0.005	0.546	N	
1	PU239	0.248	0.007	0.420	0.006	0.590	N	
1	SB125	4.420	0.250	8.890	0.550	0.497	N	A
<b>Matrix:</b> SO Soil Bq / kg								
1	AC228	68.700	3.100	52.600	2.900	1.306	A	
1	AM241	13.100	0.700	7.470	0.410	1.754	W	W
1	BI212	37.900	2.900	58.300	5.900	0.650	A	
1	BI214	36.300	1.800	28.800	0.500	1.260	A	
1	CS137	1140.000	4.000	954.000	38.000	1.195	A	W
1	K40	391.000	10.000	314.000	13.000	1.245	A	A
1	PB212	70.300	4.600	52.800	3.700	1.331	A	
1	PB214	43.700	2.500	29.100	1.200	1.502	A	
1	PU239	9.870	0.740	13.090	0.570	0.754	W	N
1	TH234	90.100	5.100	114.000	6.000	0.790	A	
1	TL208	21.000	0.700	18.300	1.100	1.148	A	
<b>Matrix:</b> VE Vegetation Bq / kg								
1	AM241	3.790	1.440	2.330	0.060	1.627	W	
1	CO60	20.000	0.700	20.000	1.000	1.000	A	A
1	CS137	415.000	6.000	390.000	20.000	1.064	A	A
1	K40	475.000	27.000	460.000	20.000	1.033	A	N
<b>Matrix:</b> WA Water Bq / L								
1	AM241	1.470	0.240	1.250	0.080	1.176	A	W
1	CO60	50.100	1.100	49.400	1.200	1.014	A	W
1	CS137	51.300	1.200	50.000	1.700	1.026	A	A
1	GROSS ALPHA	1240.000	25.000	1080.000	60.000	1.148	A	N
1	GROSS BETA	1030.000	120.000	1420.000	60.000	0.725	A	N
1	H3	89.000	7.100	76.200	2.900	1.168	A	A
1	MN54	37.400	3.000	32.400	1.400	1.154	A	W
1	PU238	0.259	0.249	1.100	0.010	0.235	N	N
1	PU239	0.394	0.012	1.410	0.040	0.279	N	N

**Values for elemental uranium are reported in µg/filter, g, or mL. pCi/g or mL=Bq x 0.027**

**Evaluation:** A=Acceptable, W=Acceptable with Warning, N=Not Acceptable

If the evaluation system is not appropriate for the types of analyses performed in your lab, apply a site specific evaluation.

## QAP 49 Results by Laboratory

**Lab:** LW Lawrence Livermore National Lab, Waste

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No. Test	Radionuclide	Reported Value	Reported Error	EML Value	EML Error	<u>Reported</u> EML	Evaluation	<u>QAP 48</u> Evaluation
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**Matrix:** SO Soil Bq / kg

1	AM241	9.630	2.530	7.470	0.410	1.289	A
1	PU239	12.800	1.540	13.090	0.570	0.978	A
1	U234	88.900	20.700	113.000	6.000	0.787	A
1	U238	94.000	21.500	120.000	9.000	0.783	A

**Matrix:** WA Water Bq / L

1	GROSS ALPHA	1048.600	6.900	1080.000	60.000	0.971	A
1	GROSS BETA	1292.400	4.800	1420.000	60.000	0.910	A
1	H3	78.440	20.000	76.200	2.900	1.029	A      A

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**Values for elemental uranium are reported in µg/filter, g, or mL.      pCi/g or mL=Bq x 0.027**

**Evaluation:** A=Acceptable, W=Acceptable with Warning, N=Not Acceptable

If the evaluation system is not appropriate for the types of analyses performed in your lab, apply a site specific evaluation.

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## QAP 49 Results by Laboratory

**Lab:** MA ORNL Health Sciences Research Div.

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No. Test	Radionuclide	Reported Value	Reported Error	EML Value	EML Error	<u>Reported</u> EML	Evaluation	<u>QAP 48</u> Evaluation
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**Matrix:** AI Air Filter Bq / filter

1	CO60	9398.000	1295.000	9.160	0.580	1,025.983	N	
1	CS137	***.***	3663.000	22.470	1.030	983.044	N	
1	MN54	4440.000	1443.000	4.920	0.400	902.439	N	
1	SB125	8695.000	3293.000	8.890	0.550	978.065	N	

**Matrix:** SO Soil Bq / kg

1	AM241	8.900	3.000	7.470	0.410	1.191	A	A
1	CS137	1114.000	74.000	954.000	38.000	1.168	A	W
1	K40	370.000	44.000	314.000	13.000	1.178	A	A

**Matrix:** VE Vegetation Bq / kg

1	AM241	0.370	0.370	2.330	0.060	0.159	N	W
1	CO60	24.000	3.300	20.000	1.000	1.200	A	W
1	CS137	477.000	33.000	390.000	20.000	1.223	A	W
1	K40	562.000	64.000	460.000	20.000	1.222	A	A

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**Values for elemental uranium are reported in µg/filter, g, or mL.      pCi/g or mL=Bq x 0.027**

**Evaluation:** A=Acceptable, W=Acceptable with Warning, N=Not Acceptable

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## QAP 49 Results by Laboratory

**Lab:** ME Radiation Control Program, Jamaica Plain, MA

No. Test	Radionuclide	Reported Value	Reported Error	EML Value	EML Error	Reported EML	Evaluation	QAP 48 Evaluation
<b>Matrix:</b> AI Air Filter Bq / filter								
1	AM241	0.760	0.060	0.510	0.008	1.490	W	N
1	CO60	10.200	0.310	9.160	0.580	1.114	W	W
1	CS137	25.600	1.230	22.470	1.030	1.139	W	W
1	GROSS ALPHA	2.220	0.080	1.650	0.160	1.345	W	W
1	GROSS BETA	2.400	0.070	2.160	0.070	1.111	A	A
1	MN54	6.100	0.350	4.920	0.400	1.240	W	W
1	SB125	9.700	0.390	8.890	0.550	1.091	A	A
<b>Matrix:</b> SO Soil Bq / kg								
1	AM241	6.610	0.700	7.470	0.410	0.885	A	A
1	CO60	1.010	0.200	1.240	0.110	0.815	W	
1	CS137	703.000	33.000	954.000	38.000	0.737	N	A
1	K40	280.000	15.600	314.000	13.000	0.892	W	A
1	PB214	13.700	1.080	29.100	1.200	0.471	A	
1	TH228	115.000	18.400	52.700	4.000	2.182	A	
1	TH234	209.000	9.870	114.000	6.000	1.833	A	
<b>Matrix:</b> VE Vegetation Bq / kg								
1	AM241	2.070	0.470	2.330	0.060	0.888	W	
1	CO60	21.500	0.790	20.000	1.000	1.075	A	W
1	CS137	437.000	20.000	390.000	20.000	1.121	A	N
1	K40	491.000	27.300	460.000	20.000	1.067	A	N
<b>Matrix:</b> WA Water Bq / L								
1	AM241	1.250	0.320	1.250	0.080	1.000	A	A
1	CO60	53.000	1.500	49.400	1.200	1.073	A	A
1	CS137	55.200	2.530	50.000	1.700	1.104	A	A
1	H3	109.000	4.500	76.200	2.900	1.430	W	W
1	MN54	34.200	1.280	32.400	1.400	1.056	A	A

**Values for elemental uranium are reported in µg/filter, g, or mL. pCi/g or mL=Bq x 0.027**

**Evaluation:** A=Acceptable, W=Acceptable with Warning, N=Not Acceptable

If the evaluation system is not appropriate for the types of analyses performed in your lab, apply a site specific evaluation.

## QAP 49 Results by Laboratory

**Lab:** MH Maine Health & Environmental Testing Laboratory

No. Test	Radionuclide	Reported Value	Reported Error	EML Value	EML Error	Reported EML	Evaluation	QAP 48 Evaluation
<b>Matrix:</b> AI Air Filter Bq / filter								
1	CO60	9.840	0.260	9.160	0.580	1.074	A	W
1	CS137	25.860	0.970	22.470	1.030	1.151	W	W
1	GROSS ALPHA	1.650	0.060	1.650	0.160	1.000	A	
1	GROSS BETA	1.850	0.020	2.160	0.070	0.856	W	
1	MN54	5.840	0.230	4.920	0.400	1.187	W	W
1	SB125	6.170	0.220	8.890	0.550	0.694	W	W
<b>Matrix:</b> SO Soil Bq / kg								
1	AC228	51.240	3.780	52.600	2.900	0.974	A	
1	AM241	6.390	0.640	7.470	0.410	0.855	A	
1	BI212	27.230	3.650	58.300	5.900	0.467	A	
1	BI214	29.120	2.160	28.800	0.500	1.011	A	
1	CS137	969.500	46.850	954.000	38.000	1.016	A	A
1	K40	328.400	17.660	314.000	13.000	1.046	A	A
1	PB212	50.680	3.700	52.800	3.700	0.960	A	
1	PB214	29.040	2.170	29.100	1.200	0.998	A	
1	TL208	16.080	1.050	18.300	1.100	0.879	A	
<b>Matrix:</b> VE Vegetation Bq / kg								
1	AM241	1.970	0.410	2.330	0.060	0.845	W	
1	CO60	20.710	0.810	20.000	1.000	1.035	A	A
1	CS137	421.690	20.440	390.000	20.000	1.081	A	A
1	K40	505.990	26.540	460.000	20.000	1.100	A	A
<b>Matrix:</b> WA Water Bq / L								
1	CO60	50.030	1.540	49.400	1.200	1.013	A	W
1	CS137	50.730	2.530	50.000	1.700	1.015	A	A
1	GROSS ALPHA	1229.930	6.210	1080.000	60.000	1.139	A	W
1	GROSS BETA	1551.570	10.170	1420.000	60.000	1.093	A	A
1	H3	78.360	5.220	76.200	2.900	1.028	A	A
1	MN54	34.270	1.420	32.400	1.400	1.058	A	A
1	U234	0.514	0.051	0.510	0.030	1.008	A	A
1	U238	0.529	0.051	0.520	0.050	1.017	A	A

**Values for elemental uranium are reported in µg/filter, g, or mL. pCi/g or mL=Bq x 0.027**

**Evaluation:** A=Acceptable, W=Acceptable with Warning, N=Not Acceptable

If the evaluation system is not appropriate for the types of analyses performed in your lab, apply a site specific evaluation.

## QAP 49 Results by Laboratory

**Lab:** ML Babcock & Wilcox of Ohio, Mound, Miamisburg, OH

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No. Test	Radionuclide	Reported Value	Reported Error	EML Value	EML Error	Reported EML	Evaluation	QAP 48 Evaluation
<b>Matrix:</b> SO Soil Bq / kg								
1	PU239	13.540	1.030	13.090	0.570	1.034	A	A
1	U234	99.090	7.560	113.000	6.000	0.877	A	A
1	U238	109.800	8.280	120.000	9.000	0.915	A	A
<b>Matrix:</b> VE Vegetation Bq / kg								
1	PU239	4.350	0.400	3.720	0.270	1.169	A	A
<b>Matrix:</b> WA Water Bq / L								
1	H3	81.030	17.390	76.200	2.900	1.063	A	A
1	PU238	1.210	0.090	1.100	0.010	1.100	A	A
1	PU239	1.600	0.120	1.410	0.040	1.135	A	A
1	U234	0.490	0.040	0.510	0.030	0.961	A	A
1	U238	0.500	0.040	0.520	0.050	0.962	A	A

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## QAP 49 Results by Laboratory

**Lab:** MS Manufacturing Sciences Corporation, Oak Ridge

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No. Test	Radionuclide	Reported Value	Reported Error	EML Value	EML Error	<u>Reported</u> EML	Evaluation	QAP 48 Evaluation
<b>Matrix:</b> AI Air Filter Bq / filter								
1	AM241	0.450	0.050	0.510	0.008	0.882	A	A
1	CO60	8.960	0.900	9.160	0.580	0.978	A	A
1	CS137	21.100	1.100	22.470	1.030	0.939	A	A
1	GROSS ALPHA	1.980	0.200	1.650	0.160	1.200	A	
1	GROSS BETA	2.080	0.210	2.160	0.070	0.963	A	
1	MN54	4.620	0.460	4.920	0.400	0.939	A	A
1	SB125	9.050	0.450	8.890	0.550	1.018	A	A
<b>Matrix:</b> SO Soil Bq / kg								
1	AM241	8.700	1.000	7.470	0.410	1.165	A	
1	CS137	1025.000	103.000	954.000	38.000	1.074	A	
1	K40	355.000	35.000	314.000	13.000	1.130	A	
<b>Matrix:</b> WA Water Bq / L								
1	AM241	1.590	0.200	1.250	0.080	1.272	A	A
1	CO60	52.500	5.300	49.400	1.200	1.063	A	A
1	CS137	52.100	5.200	50.000	1.700	1.042	A	A
1	GROSS ALPHA	1025.000	100.000	1080.000	60.000	0.949	A	
1	GROSS BETA	1300.000	130.000	1420.000	60.000	0.915	A	
1	H3	74.000	3.700	76.200	2.900	1.015	A	N
1	MN54	35.600	3.600	32.400	1.400	1.099	A	A

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**Values for elemental uranium are reported in µg/filter, g, or mL.      pCi/g or mL=Bq x 0.027**

**Evaluation:** A=Acceptable, W=Acceptable with Warning, N=Not Acceptable

If the evaluation system is not appropriate for the types of analyses performed in your lab, apply a site specific evaluation.

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## QAP 49 Results by Laboratory

**Lab:** NA US EPA NAREL, Montgomery, AL

No. Test	Radionuclide	Reported Value	Reported Error	EML Value	EML Error	Reported EML	Evaluation	QAP 48 Evaluation
<b>Matrix:</b> AI Air Filter Bq / filter								
1	CO60	8.710	0.080	9.160	0.580	0.951	A	A
1	CS137	23.280	0.160	22.470	1.030	1.036	A	A
1	MN54	5.010	0.080	4.920	0.400	1.018	A	A
1	PU238	0.480	0.028	0.460	0.005	1.043	A	
1	PU239	0.439	0.026	0.420	0.006	1.045	A	
1	SB125	1.400	0.110	8.890	0.550	0.157	N	A
1	SR90	0.840	0.170	1.120	0.050	0.750	W	A
<b>Matrix:</b> SO Soil Bq / kg								
1	BI212	45.000	8.000	58.300	5.900	0.772	A	
1	BI214	24.000	1.500	28.800	0.500	0.833	A	
1	CS137	923.200	4.400	954.000	38.000	0.968	A	A
1	K40	304.000	12.000	314.000	13.000	0.968	A	A
1	PB212	49.800	1.500	52.800	3.700	0.943	A	
1	PB214	27.400	1.700	29.100	1.200	0.942	A	
1	PU239	12.200	2.200	13.090	0.570	0.932	A	A
1	RA226	35.000	1.500	29.000	1.000	1.207	A	
1	TH228	55.000	8.000	52.700	4.000	1.044	A	
1	TH234	98.000	10.000	114.000	6.000	0.860	A	
1	TL208	17.000	0.900	18.300	1.100	0.929	A	
1	U234	96.000	12.000	113.000	6.000	0.850	A	A
1	U238	100.000	11.000	120.000	9.000	0.833	A	A
<b>Matrix:</b> VE Vegetation Bq / kg								
1	CO60	22.200	0.700	20.000	1.000	1.110	A	W
1	CS137	486.600	3.500	390.000	20.000	1.248	A	A
1	K40	544.000	17.000	460.000	20.000	1.183	A	A
1	PU238	0.510	0.100	0.310	0.070	1.645	A	
1	PU239	4.610	0.330	3.720	0.270	1.239	W	A
1	SR90	627.000	12.000	606.000	40.000	1.035	A	A
<b>Matrix:</b> WA Water Bq / L								
1	CO60	49.800	0.600	49.400	1.200	1.008	A	A
1	CS137	52.600	0.800	50.000	1.700	1.052	A	A
1	H3	79.200	3.000	76.200	2.900	1.039	A	W
1	MN54	35.300	0.700	32.400	1.400	1.090	A	A
1	SR90	1.200	0.600	2.110	0.180	0.569	N	A
1	U234	0.074	0.010	0.510	0.030	0.145	N	
1	U238	0.060	0.009	0.520	0.050	0.115	N	

**Values for elemental uranium are reported in µg/filter, g, or mL. pCi/g or mL=Bq x 0.027**

**Evaluation:** A=Acceptable, W=Acceptable with Warning, N=Not Acceptable

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## QAP 49 Results by Laboratory

**Lab:** ND Dept. of Environmental Health and Safety, NC State University

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No. Test	Radionuclide	Reported Value	Reported Error	EML Value	EML Error	<u>Reported</u> EML	Evaluation	QAP 48 Evaluation
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**Matrix:** AI Air Filter Bq / filter

1	CO60	8.813	0.228	9.160	0.580	0.962	A	
1	CS137	21.074	0.848	22.470	1.030	0.938	A	
1	GROSS ALPHA	1.620	0.133	1.650	0.160	0.982	A	
1	GROSS BETA	2.133	0.126	2.160	0.070	0.987	A	
1	MN54	4.866	0.247	4.920	0.400	0.989	A	
1	SB125	7.239	0.290	8.890	0.550	0.814	W	

**Matrix:** WA Water Bq / L

1	CO60	49.586	1.775	49.400	1.200	1.004	A	
1	CS137	47.630	2.489	50.000	1.700	0.953	A	
1	MN54	34.701	2.083	32.400	1.400	1.071	A	

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**Values for elemental uranium are reported in  $\mu\text{g}/\text{filter}$ , g, or mL.      pCi/g or mL=Bq x 0.027**

**Evaluation:** A=Acceptable, W=Acceptable with Warning, N=Not Acceptable

If the evaluation system is not appropriate for the types of analyses performed in your lab, apply a site specific evaluation.

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## QAP 49 Results by Laboratory

**Lab:** NL Fluor Daniel Fernald, Inc., Ohio

No. Test	Radionuclide	Reported Value	Reported Error	EML Value	EML Error	Reported EML	Evaluation	QAP 48 Evaluation
<b>Matrix:</b> AI Air Filter Bq / filter								
1	Bq U	0.538	0.063	0.530	0.020	1.015	A	
1	CO60	9.300	1.560	9.160	0.580	1.015	A	A
1	CS137	24.000	5.900	22.470	1.030	1.068	A	A
1	MN54	5.060	1.610	4.920	0.400	1.028	A	A
1	PU238	0.472	0.108	0.460	0.005	1.026	A	W
1	PU239	0.447	0.101	0.420	0.006	1.064	A	A
1	SB125	10.600	1.400	8.890	0.550	1.192	W	A
1	U234	0.266	0.063	0.260	0.010	1.023	A	A
1	U238	0.272	0.064	0.260	0.010	1.046	A	W
<b>Matrix:</b> SO Soil Bq / kg								
1	AC228	56.400	10.500	52.600	2.900	1.072	A	
1	BI212	55.200	9.500	58.300	5.900	0.947	A	
1	BI214	31.100	7.100	28.800	0.500	1.080	A	
1	CS137	1010.000	181.000	954.000	38.000	1.059	A	A
1	K40	332.000	52.000	314.000	13.000	1.057	A	A
1	PB212	55.200	9.500	52.800	3.700	1.045	A	
1	PB214	31.500	7.200	29.100	1.200	1.082	A	
1	PU239	13.560	3.160	13.090	0.570	1.036	A	W
1	TH228	55.200	9.500	52.700	4.000	1.047	A	
1	TH234	95.600	37.200	114.000	6.000	0.839	A	
1	TL208	53.600	10.800	18.300	1.100	2.929	A	
1	U234	113.000	27.000	113.000	6.000	1.000	A	A
1	U238	117.000	28.000	120.000	9.000	0.975	A	A
1	ug U	9.370	2.220	9.700	0.700	0.966	A	
<b>Matrix:</b> WA Water Bq / L								
1	Bq U	1.210	0.120	1.050	0.080	1.152	A	
1	CO60	50.100	6.100	49.400	1.200	1.014	A	W
1	CS137	50.600	8.500	50.000	1.700	1.012	A	W
1	MN54	36.000	5.300	32.400	1.400	1.111	A	W
1	PU238	1.160	0.260	1.100	0.010	1.055	A	W
1	PU239	1.540	0.350	1.410	0.040	1.092	A	A
1	U234	0.502	0.120	0.510	0.030	0.984	A	A
1	U238	0.521	0.120	0.520	0.050	1.002	A	A

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**Evaluation:** A=Acceptable, W=Acceptable with Warning, N=Not Acceptable

If the evaluation system is not appropriate for the types of analyses performed in your lab, apply a site specific evaluation.



## QAP 49 Results by Laboratory

**Lab:** NM Environmental Evaluation Group, Carlsbad, NM

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No. Test	Radionuclide	Reported Value	Reported Error	EML Value	EML Error	Reported EML	Evaluation	QAP 48 Evaluation
<b>Matrix:</b> AI Air Filter Bq / filter								
1	AM241	0.478	0.013	0.510	0.008	0.937	A	A
1	CS137	17.510	1.300	22.470	1.030	0.779	W	A
1	PU238	0.482	0.010	0.460	0.005	1.048	A	A
1	PU239	0.433	0.009	0.420	0.006	1.031	A	A
1	SR90	1.004	0.140	1.120	0.050	0.896	A	
<b>Matrix:</b> SO Soil Bq / kg								
2	AM241	7.840	0.380	7.470	0.410	1.050	A	A
3	AM241	9.120	0.410	7.470	0.410	1.221	A	A
1	AM241	7.010	0.350	7.470	0.410	0.938	A	A
1	CS137	903.000	46.000	954.000	38.000	0.947	A	A
2	PU239	13.300	0.400	13.090	0.570	1.016	A	A
1	PU239	10.300	0.300	13.090	0.570	0.787	W	A
3	PU239	12.900	0.400	13.090	0.570	0.985	A	A
<b>Matrix:</b> WA Water Bq / L								
1	AM241	1.250	0.033	1.250	0.080	1.000	A	A
1	CS137	54.460	2.800	50.000	1.700	1.089	A	W
1	PU238	1.111	0.026	1.100	0.010	1.010	A	A
1	PU239	1.458	0.033	1.410	0.040	1.034	A	A
1	SR90	1.759	0.254	2.110	0.180	0.834	W	

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**Values for elemental uranium are reported in µg/filter, g, or mL.      pCi/g or mL=Bq x 0.027**

**Evaluation:** A=Acceptable, W=Acceptable with Warning, N=Not Acceptable

If the evaluation system is not appropriate for the types of analyses performed in your lab, apply a site specific evaluation.

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## QAP 49 Results by Laboratory

**Lab:** NP JAF Environmental Laboratory, New York Power Authority

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No. Test	Radionuclide	Reported Value	Reported Error	EML Value	EML Error	<u>Reported EML</u>	Evaluation	QAP 48 Evaluation
<b>Matrix:</b> AI Air Filter Bq / filter								
1	CO60	9.070	0.070	9.160	0.580	0.990	A	A
1	CS137	22.000	0.100	22.470	1.030	0.979	A	A
1	GROSS BETA	1.990	0.020	2.160	0.070	0.921	A	A
1	MN54	5.370	0.070	4.920	0.400	1.091	A	W
1	SB125	9.300	0.100	8.890	0.550	1.046	A	A
<b>Matrix:</b> SO Soil Bq / kg								
1	CS137	653.000	1.000	954.000	38.000	0.684	N	W
1	K40	259.000	4.000	314.000	13.000	0.825	W	
<b>Matrix:</b> VE Vegetation Bq / kg								
1	CO60	17.500	0.600	20.000	1.000	0.875	A	A
1	CS137	334.000	2.000	390.000	20.000	0.856	W	W
1	K40	462.000	12.000	460.000	20.000	1.004	A	
<b>Matrix:</b> WA Water Bq / L								
1	CO60	52.200	1.000	49.400	1.200	1.057	A	W
1	CS137	48.800	1.100	50.000	1.700	0.976	A	A
1	GROSS BETA	1225.000	5.000	1420.000	60.000	0.863	A	A
1	H3	444.000	37.000	76.200	2.900	5.827	N	W
1	MN54	32.900	1.000	32.400	1.400	1.015	A	A

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**Values for elemental uranium are reported in µg/filter, g, or mL.      pCi/g or mL=Bq x 0.027**

**Evaluation:** A=Acceptable, W=Acceptable with Warning, N=Not Acceptable

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## QAP 49 Results by Laboratory

**Lab:** NQ New Mexico Department of Health, Albuquerque

No. Test	Radionuclide	Reported Value	Reported Error	EML Value	EML Error	Reported EML	QAP 48 Evaluation
<b>Matrix:</b> AI Air Filter Bq / filter							
1	AM241	0.444	0.027	0.510	0.008	0.871	W
1	GROSS ALPHA	1.440	0.220	1.650	0.160	0.873	A
1	GROSS BETA	1.860	0.280	2.160	0.070	0.861	W
1	PU238	0.405	0.024	0.460	0.005	0.880	W
1	PU239	0.380	0.022	0.420	0.006	0.905	A
1	U234	0.261	0.015	0.260	0.010	1.004	A
1	U238	0.259	0.015	0.260	0.010	0.996	A

**Matrix:** SO Soil Bq / kg

1	AC228	63.300	6.700	52.600	2.900	1.203	A
1	AM241	8.400	1.500	7.470	0.410	1.124	A
1	BI212	68.500	9.600	58.300	5.900	1.175	A
1	BI214	33.000	3.700	28.800	0.500	1.146	A
1	CS137	1190.000	140.000	954.000	38.000	1.247	W
1	K40	410.000	47.000	314.000	13.000	1.306	W
1	PB212	68.100	7.800	52.800	3.700	1.290	A
1	PB214	37.800	4.800	29.100	1.200	1.299	A
1	PU239	11.300	1.300	13.090	0.570	0.863	W
1	RA226	33.900	1.400	29.000	1.000	1.169	A
1	TH234	125.000	16.000	114.000	6.000	1.096	A
1	TL208	20.700	2.600	18.300	1.100	1.131	A
1	U234	110.700	6.400	113.000	6.000	0.980	A
1	U238	111.900	6.400	120.000	9.000	0.933	A

**Matrix:** WA Water Bq / L

1	AM241	1.100	0.090	1.250	0.080	0.880	W
1	CO60	60.400	6.600	49.400	1.200	1.223	N
1	CS137	61.000	6.900	50.000	1.700	1.220	W
1	GROSS ALPHA	1273.000	116.000	1080.000	60.000	1.179	W
1	GROSS BETA	1357.000	115.000	1420.000	60.000	0.956	A
1	MN54	41.900	4.900	32.400	1.400	1.293	N
1	PU238	1.120	0.070	1.100	0.010	1.018	A
1	PU239	1.430	0.090	1.410	0.040	1.014	A
1	U234	0.552	0.036	0.510	0.030	1.082	A
1	U238	0.539	0.035	0.520	0.050	1.037	A

**Values for elemental uranium are reported in µg/filter, g, or mL. pCi/g or mL=Bq x 0.027**

**Evaluation:** A=Acceptable, W=Acceptable with Warning, N=Not Acceptable

If the evaluation system is not appropriate for the types of analyses performed in your lab, apply a site specific evaluation.

## QAP 49 Results by Laboratory

**Lab:** NR Naval Reactors Facility Chemistry, Scoville, ID

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No. Test	Radionuclide	Reported Value	Reported Error	EML Value	EML Error	<u>Reported</u> EML	Evaluation	QAP 48 Evaluation
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**Matrix:** SO Soil Bq / kg

1	CS137	1003.000	201.000	954.000	38.000	1.051	A	A
1	K40	317.000	63.000	314.000	13.000	1.010	A	A

**Matrix:** VE Vegetation Bq / kg

1	CO60	19.800	4.000	20.000	1.000	0.990	A	A
1	CS137	414.000	83.000	390.000	20.000	1.062	A	A
1	K40	448.000	90.000	460.000	20.000	0.974	A	A

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**Values for elemental uranium are reported in µg/filter, g, or mL.      pCi/g or mL=Bq x 0.027**

**Evaluation:** A=Acceptable, W=Acceptable with Warning, N=Not Acceptable

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## QAP 49 Results by Laboratory

**Lab:** NS State Lab of Public Health, North Carolina

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No. Test	Radionuclide	Reported Value	Reported Error	EML Value	EML Error	Reported EML	Evaluation	QAP 48 Evaluation
<b>Matrix:</b> AI Air Filter Bq / filter								
1	CO60	9.136	0.100	9.160	0.580	0.997	A	W
1	CS137	22.358	0.107	22.470	1.030	0.995	A	A
1	GROSS ALPHA	3.066	0.162	1.650	0.160	1.858	N	W
1	GROSS BETA	2.237	0.085	2.160	0.070	1.036	A	A
1	MN54	5.444	0.067	4.920	0.400	1.107	A	A
1	SB125	8.963	0.126	8.890	0.550	1.008	A	A

**Matrix:** WA Water Bq/L

1	Bq U	0.767	0.227	1.050	0.080	0.730	W	
1	CO60	53.469	0.593	49.400	1.200	1.082	A	W
1	CS137	53.333	0.518	50.000	1.700	1.067	A	A
1	GROSS ALPHA	1081.317	57.279	1080.000	60.000	1.001	A	
1	GROSS BETA	1330.600	45.863	1420.000	60.000	0.937	A	
1	H3	80.918	6.412	76.200	2.900	1.062	A	A
1	MN54	37.741	0.481	32.400	1.400	*,***,***	N	A

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**Values for elemental uranium are reported in µg/filter, g, or mL.      pCi/g or mL=Bq x 0.027**

**Evaluation:** A=Acceptable, W=Acceptable with Warning, N=Not Acceptable

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## QAP 49 Results by Laboratory

**Lab:** NZ National Radiation Laboratory, New Zealand

No. Test	Radionuclide	Reported Value	Reported Error	EML Value	EML Error	Reported EML	Evaluation	QAP 48 Evaluation
<b>Matrix:</b> AI Air Filter Bq / filter								
2	CO60	9.100	0.500	9.160	0.580	0.993	A	
1	CO60	9.100	0.500	9.160	0.580	0.993	A	
2	CS137	24.100	1.200	22.470	1.030	1.073	A	
1	CS137	24.300	1.200	22.470	1.030	1.081	A	
1	GROSS ALPHA	1.400	0.100	1.650	0.160	0.848	A	
2	GROSS ALPHA	1.500	0.100	1.650	0.160	0.909	A	
2	GROSS BETA	1.900	0.100	2.160	0.070	0.880	W	
1	GROSS BETA	1.900	0.100	2.160	0.070	0.880	W	
2	MN54	5.600	0.300	4.920	0.400	1.138	A	
1	MN54	5.700	0.300	4.920	0.400	1.159	A	
1	PU238	0.610	0.020	0.460	0.005	1.326	W	
2	PU238	0.590	0.020	0.460	0.005	1.283	W	
1	PU239	0.570	0.020	0.420	0.006	1.357	W	
2	PU239	0.550	0.020	0.420	0.006	1.310	W	
2	SB125	10.200	0.500	8.890	0.550	1.147	A	
1	SB125	10.300	0.500	8.890	0.550	1.159	A	
1	SR90	0.400	0.030	1.120	0.050	0.357	N	
2	SR90	0.500	0.040	1.120	0.050	0.446	N	
2	U234	0.260	0.020	0.260	0.010	1.000	A	
1	U234	0.280	0.050	0.260	0.010	1.077	A	
1	U238	0.330	0.050	0.260	0.010	1.269	A	
2	U238	0.280	0.020	0.260	0.010	1.077	A	

**Matrix:** SO Soil Bq / kg

1	CS137	1046.000	54.000	954.000	38.000	1.096	A	
2	CS137	1024.000	53.000	954.000	38.000	1.073	A	
2	PU239	12.700	1.100	13.090	0.570	0.970	A	
1	PU239	14.400	1.400	13.090	0.570	1.100	A	
2	SR90	40.900	3.500	39.630	0.003	1.032	A	
1	SR90	41.500	3.600	39.630	0.003	1.047	A	
1	U234	106.000	4.000	113.000	6.000	0.938	A	
2	U234	108.000	3.000	113.000	6.000	0.956	A	
1	U238	115.000	4.000	120.000	9.000	0.958	A	
2	U238	115.000	3.000	120.000	9.000	0.958	A	

**Matrix:** VE Vegetation Bq / kg

1	CO60	20.800	1.200	20.000	1.000	1.040	A	
1	CS137	426.000	22.000	390.000	20.000	1.092	A	
2	PU239	4.300	0.300	3.720	0.270	1.156	A	
1	PU239	3.900	0.300	3.720	0.270	1.048	A	
1	SR90	577.000	30.000	606.000	40.000	0.952	A	
2	SR90	487.000	24.000	606.000	40.000	0.804	A	

**Values for elemental uranium are reported in µg/filter, g, or mL. pCi/g or mL=Bq x 0.027**

**Evaluation:** A=Acceptable, W=Acceptable with Warning, N=Not Acceptable

If the evaluation system is not appropriate for the types of analyses performed in your lab, apply a site specific evaluation.

## QAP 49 Results by Laboratory

**Lab:** NZ National Radiation Laboratory, New Zealand

No. Test	Radionuclide	Reported Value	Reported Error	EML Value	EML Error	Reported EML	Evaluation	QAP 48 Evaluation
<b>Matrix:</b> WA Water Bq/L								
1	CO60	50.000	3.000	49.400	1.200	1.012	A	
2	CO60	48.000	3.000	49.400	1.200	0.972	A	
2	CS137	50.000	3.000	50.000	1.700	1.000	A	
1	CS137	53.000	3.000	50.000	1.700	1.060	A	
1	GROSS ALPHA	684.000	39.000	1080.000	60.000	0.633	W	
2	GROSS ALPHA	693.000	39.000	1080.000	60.000	0.642	W	
1	GROSS BETA	1029.000	40.000	1420.000	60.000	0.725	A	
2	GROSS BETA	1050.000	41.000	1420.000	60.000	0.739	A	
1	MN54	36.000	2.000	32.400	1.400	1.111	A	
2	MN54	35.000	2.000	32.400	1.400	1.080	A	
1	PU238	1.890	0.080	1.100	0.010	1.718	N	
2	PU238	1.110	0.040	1.100	0.010	1.009	A	
1	PU239	2.530	0.100	1.410	0.040	1.794	N	
2	PU239	1.510	0.050	1.410	0.040	1.071	A	
1	SR90	3.400	0.100	2.110	0.180	1.611	N	
2	SR90	4.000	0.100	2.110	0.180	1.896	N	
1	U234	0.570	0.050	0.510	0.030	1.118	A	
2	U234	0.460	0.040	0.510	0.030	0.902	A	
2	U238	0.520	0.040	0.520	0.050	1.000	A	
1	U238	0.560	0.050	0.520	0.050	1.077	A	

Values for elemental uranium are reported in µg/filter, g, or mL. pCi/g or mL=Bq x 0.027

Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable

If the evaluation system is not appropriate for the types of analyses performed in your lab, apply a site specific evaluation.

## QAP 49 Results by Laboratory

**Lab:** OB OBG Laboratories, East Syracuse, NY

No. Test	Radionuclide	Reported Value	Reported Error	EML Value	EML Error	Reported EML	Evaluation	QAP 48 Evaluation
<b>Matrix:</b> AI Air Filter Bq / filter								
1	CO60	15.300	2.710	9.160	0.580	1.670	N	
1	CS137	35.700	6.800	22.470	1.030	1.589	N	
1	GROSS ALPHA	1.830	0.183	1.650	0.160	1.109	A	A
1	GROSS BETA	1.910	0.190	2.160	0.070	0.884	W	A
1	MN54	9.400	1.900	4.920	0.400	1.911	N	
1	SB125	15.800	3.110	8.890	0.550	1.777	N	
<b>Matrix:</b> SO Soil Bq / kg								
1	AC228	75.400	22.000	52.600	2.900	1.433	A	
1	BI212	63.300	43.300	58.300	5.900	1.086	A	
1	BI214	34.300	13.700	28.800	0.500	1.191	A	
1	CS137	1370.000	259.000	954.000	38.000	1.436	N	
1	K40	492.000	113.000	314.000	13.000	1.567	N	
1	PB210	26.500	139.000	32.000	3.300	0.828	A	
1	PB212	107.000	23.400	52.800	3.700	2.027	A	
1	PB214	6.750	19.000	29.100	1.200	0.232	A	
1	RA226	41.800	12.400	29.000	1.000	1.441	A	
1	TL208	25.900	8.020	18.300	1.100	1.415	A	
<b>Matrix:</b> VE Vegetation Bq / kg								
1	CO60	38.900	9.140	20.000	1.000	1.945	N	
1	CS137	632.000	120.000	390.000	20.000	1.621	N	
1	K40	856.000	188.000	460.000	20.000	1.861	N	
<b>Matrix:</b> WA Water Bq / L								
1	CO60	51.400	8.880	49.400	1.200	1.040	A	
1	CS137	58.000	11.200	50.000	1.700	1.160	A	
1	GROSS ALPHA	1110.000	7.290	1080.000	60.000	1.028	A	W
1	GROSS BETA	1320.000	8.730	1420.000	60.000	0.930	A	A
1	MN54	43.500	8.100	32.400	1.400	1.343	N	

**Values for elemental uranium are reported in µg/filter, g, or mL. pCi/g or mL=Bq x 0.027**

**Evaluation:** A=Acceptable, W=Acceptable with Warning, N=Not Acceptable

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## QAP 49 Results by Laboratory

**Lab:** OC Radiation Protection Service Laboratory, Ontario, Canada

No. Test	Radionuclide	Reported Value	Reported Error	EML Value	EML Error	Reported EML	Evaluation	QAP 48 Evaluation
<b>Matrix:</b> AI Air Filter Bq / filter								
3	CO60	10.000	3.000	9.160	0.580	1.092	A	
1	CO60	10.000	3.000	9.160	0.580	1.092	A	
2	CO60	10.000	3.000	9.160	0.580	1.092	A	
3	CS137	27.000	5.000	22.470	1.030	1.202	W	
2	CS137	28.000	5.000	22.470	1.030	1.246	W	
1	CS137	28.000	5.000	22.470	1.030	1.246	W	
1	GROSS ALPHA	1.400	0.200	1.650	0.160	0.848	A	
2	GROSS ALPHA	1.400	0.200	1.650	0.160	0.848	A	
3	GROSS ALPHA	1.400	0.200	1.650	0.160	0.848	A	
1	GROSS BETA	1.900	0.200	2.160	0.070	0.880	W	
2	GROSS BETA	1.900	0.200	2.160	0.070	0.880	W	
3	GROSS BETA	1.900	0.200	2.160	0.070	0.880	W	
3	MN54	6.000	2.000	4.920	0.400	1.220	W	
2	MN54	6.000	2.000	4.920	0.400	1.220	W	
1	MN54	6.000	2.000	4.920	0.400	1.220	W	
1	SB125	10.000	3.000	8.890	0.550	1.125	A	
3	SB125	11.000	3.000	8.890	0.550	1.237	W	
2	SB125	11.000	3.000	8.890	0.550	1.237	W	

**Matrix:** SO Soil Bq / kg

2	AC228	39.000	18.000	52.600	2.900	0.741	A	
1	AC228	41.000	18.000	52.600	2.900	0.779	A	
3	AC228	48.000	18.000	52.600	2.900	0.913	A	
1	BI212	23.000	15.000	58.300	5.900	0.395	A	
2	BI212	25.000	15.000	58.300	5.900	0.429	A	
3	BI212	24.000	15.000	58.300	5.900	0.412	A	
3	BI214	21.000	10.000	28.800	0.500	0.729	A	
2	BI214	28.000	10.000	28.800	0.500	0.972	A	
1	BI214	25.000	10.000	28.800	0.500	0.868	A	
1	CS137	850.000	300.000	954.000	38.000	0.891	W	
2	CS137	840.000	300.000	954.000	38.000	0.881	W	
3	CS137	830.000	300.000	954.000	38.000	0.870	W	
1	K40	400.000	200.000	314.000	13.000	1.274	W	
3	K40	400.000	200.000	314.000	13.000	1.274	W	
2	K40	380.000	200.000	314.000	13.000	1.210	A	
1	PB212	58.000	10.000	52.800	3.700	1.098	A	
2	PB212	63.000	10.000	52.800	3.700	1.193	A	
3	PB212	54.000	10.000	52.800	3.700	1.023	A	
2	PB214	31.000	10.000	29.100	1.200	1.065	A	
1	PB214	28.000	10.000	29.100	1.200	0.962	A	
3	PB214	27.000	10.000	29.100	1.200	0.928	A	
1	RA226	25.000	10.000	29.000	1.000	0.862	A	
2	RA226	28.000	10.000	29.000	1.000	0.966	A	
3	RA226	21.000	10.000	29.000	1.000	0.724	A	
3	TH228	42.000	15.000	52.700	4.000	0.797	A	
2	TH228	37.000	15.000	52.700	4.000	0.702	A	

**Values for elemental uranium are reported in µg/filter, g, or mL. pCi/g or mL=Bq x 0.027**

**Evaluation:** A=Acceptable, W=Acceptable with Warning, N=Not Acceptable

If the evaluation system is not appropriate for the types of analyses performed in your lab, apply a site specific evaluation.

## QAP 49 Results by Laboratory

**Lab:** OC Radiation Protection Service Laboratory, Ontario, Canada

No. Test	Radionuclide	Reported Value	Reported Error	EML Value	EML Error	<u>Reported EML</u>	QAP 48 Evaluation
<b>Matrix: SO Soil Bq / kg</b>							
1	TH228	40.000	15.000	52.700	4.000	0.759	A
2	TH234	140.000	40.000	114.000	6.000	1.228	A
3	TH234	120.000	40.000	114.000	6.000	1.053	A
1	TH234	170.000	40.000	114.000	6.000	1.491	A
1	TL208	40.000	15.000	18.300	1.100	2.186	A
3	TL208	42.000	15.000	18.300	1.100	2.295	A
2	TL208	37.000	15.000	18.300	1.100	2.022	A
<b>Matrix: VE Vegetation Bq / kg</b>							
3	CO60	16.000	5.000	20.000	1.000	0.800	W
2	CO60	16.000	5.000	20.000	1.000	0.800	W
1	CO60	17.000	5.000	20.000	1.000	0.850	W
1	CS137	390.000	20.000	390.000	20.000	1.000	A
3	CS137	380.000	20.000	390.000	20.000	0.974	A
2	CS137	380.000	20.000	390.000	20.000	0.974	A
1	K40	640.000	100.000	460.000	20.000	1.391	W
2	K40	640.000	100.000	460.000	20.000	1.391	W
3	K40	610.000	100.000	460.000	20.000	1.326	W
1	SR90	510.000	25.000	606.000	40.000	0.842	A
2	SR90	440.000	22.000	606.000	40.000	0.726	W
3	SR90	500.000	25.000	606.000	40.000	0.825	A
<b>Matrix: WA Water Bq / L</b>							
3	CO60	50.000	5.000	49.400	1.200	1.012	A
1	CO60	54.000	5.000	49.400	1.200	1.093	A
2	CO60	53.000	5.000	49.400	1.200	1.073	A
1	CS137	50.000	5.000	50.000	1.700	1.000	A
2	CS137	50.000	5.000	50.000	1.700	1.000	A
3	CS137	50.000	5.000	50.000	1.700	1.000	A
1	GROSS ALPHA	1100.000	60.000	1080.000	60.000	1.019	A
2	GROSS ALPHA	1100.000	60.000	1080.000	60.000	1.019	A
2	GROSS BETA	1200.000	20.000	1420.000	60.000	0.845	A
1	GROSS BETA	1200.000	20.000	1420.000	60.000	0.845	A
3	H3	251.000	10.000	76.200	2.900	3.294	N
2	H3	252.000	10.000	76.200	2.900	3.307	N
1	H3	247.000	10.000	76.200	2.900	3.241	N
1	MN54	42.000	5.000	32.400	1.400	1.296	N
2	MN54	30.000	5.000	32.400	1.400	0.926	A
3	MN54	35.000	5.000	32.400	1.400	1.080	A
2	SR90	2.300	0.200	2.110	0.180	1.090	A
3	SR90	2.300	0.200	2.110	0.180	1.090	A
1	SR90	2.400	0.200	2.110	0.180	1.137	A

**Values for elemental uranium are reported in µg/filter, g, or mL. pCi/g or mL=Bq x 0.027**

**Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable**

If the evaluation system is not appropriate for the types of analyses performed in your lab, apply a site specific evaluation.

## QAP 49 Results by Laboratory

**Lab:** OD ORNL, Radiobioassay Lab

No. Test	Radionuclide	Reported Value	Reported Error	EML Value	EML Error	Reported EML	Evaluation	QAP 48 Evaluation
<b>Matrix:</b> AI Air Filter Bq / filter								
1	CO60	8.996	0.146	9.160	0.580	0.982	A	A
2	CO60	9.078	0.140	9.160	0.580	0.991	A	A
1	CO60	9.000	0.140	9.160	0.580	0.983	A	A
2	CO60	9.080	0.140	9.160	0.580	0.991	A	A
1	CS137	22.780	1.010	22.470	1.030	1.014	A	A
2	CS137	22.620	0.995	22.470	1.030	1.007	A	A
1	CS137	22.780	1.010	22.470	1.030	1.014	A	A
2	CS137	22.620	1.000	22.470	1.030	1.007	A	A
1	GROSS ALPHA	1.600	0.060	1.650	0.160	0.970	A	A
1	GROSS ALPHA	1.600	0.060	1.650	0.160	0.970	A	A
1	GROSS BETA	2.520	0.080	2.160	0.070	1.167	A	A
1	GROSS BETA	2.520	0.080	2.160	0.070	1.167	A	A
2	MN54	5.030	0.321	4.920	0.400	1.022	A	A
1	MN54	5.084	0.327	4.920	0.400	1.033	A	A
2	MN54	5.030	0.320	4.920	0.400	1.022	A	A
1	MN54	5.080	0.330	4.920	0.400	1.033	A	A
2	SB125	8.329	0.174	8.890	0.550	0.937	A	A
1	SB125	8.449	0.181	8.890	0.550	0.950	A	A
1	SB125	8.450	0.180	8.890	0.550	0.951	A	A
2	SB125	8.330	0.170	8.890	0.550	0.937	A	A

**Matrix:** WA Water Bq / L

1	AM241	1.316	0.133	1.250	0.080	1.053	A	A
1	AM241	1.320	0.130	1.250	0.080	1.056	A	A
1	CO60	50.660	2.170	49.400	1.200	1.026	A	A
2	CO60	51.750	2.510	49.400	1.200	1.048	A	A
2	CO60	51.750	2.510	49.400	1.200	1.048	A	A
1	CO60	50.660	2.170	49.400	1.200	1.026	A	A
1	CS137	51.020	3.370	50.000	1.700	1.020	A	A
2	CS137	58.530	4.000	50.000	1.700	1.171	A	A
1	CS137	51.020	3.370	50.000	1.700	1.020	A	A
2	CS137	58.530	4.000	50.000	1.700	1.171	A	A
1	H3	80.170	4.670	76.200	2.900	1.052	A	A
1	H3	80.170	4.670	76.200	2.900	1.052	A	A
2	MN54	34.100	3.190	32.400	1.400	1.052	A	A
1	MN54	38.790	3.120	32.400	1.400	1.197	W	A
2	MN54	34.100	3.190	32.400	1.400	1.052	A	A
1	MN54	38.790	3.120	32.400	1.400	1.197	W	A
1	PU238	1.178	0.121	1.100	0.010	1.071	A	A
1	PU238	1.180	0.120	1.100	0.010	1.073	A	A
1	PU239	1.542	0.157	1.410	0.040	1.094	A	A
1	PU239	1.540	0.160	1.410	0.040	1.092	A	A
1	SR90	2.390	0.280	2.110	0.180	1.133	A	A
1	SR90	2.390	0.280	2.110	0.180	1.133	A	A
1	U234	0.503	0.052	0.510	0.030	0.986	A	A
1	U234	0.503	0.052	0.510	0.030	0.986	A	A

**Values for elemental uranium are reported in µg/filter, g, or mL. pCi/g or mL=Bq x 0.027**

**Evaluation:** A=Acceptable, W=Acceptable with Warning, N=Not Acceptable

If the evaluation system is not appropriate for the types of analyses performed in your lab, apply a site specific evaluation.

## QAP 49 Results by Laboratory

**Lab:** OD ORNL, Radiobioassay Lab

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No. Test	Radionuclide	Reported Value	Reported Error	EML Value	EML Error	Reported EML	Evaluation	QAP 48 Evaluation
<b>Matrix:</b> WA Water Bq/L								
1	U238	0.532	0.055	0.520	0.050	1.023	A	A
1	U238	0.532	0.055	0.520	0.050	1.023	A	A

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**Values for elemental uranium are reported in µg/filter, g, or mL.      pCi/g or mL=Bq x 0.027**

**Evaluation:** A=Acceptable, W=Acceptable with Warning, N=Not Acceptable

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## QAP 49 Results by Laboratory

**Lab:** OL ORNL Environmental Sciences Div.

No. Test	Radionuclide	Reported Value	Reported Error	EML Value	EML Error	<u>Reported EML</u>	Evaluation	QAP 48 Evaluation
<b>Matrix:</b> AI Air Filter Bq / filter								
1	CO60	9.790	0.340	9.160	0.580	1.069	A	A
1	CS137	24.830	1.770	22.470	1.030	1.105	A	A
1	MN54	5.820	0.360	4.920	0.400	1.183	W	A
1	SB125	10.220	0.470	8.890	0.550	1.150	A	W
<b>Matrix:</b> SO Soil Bq / kg								
1	CO60	1.320	0.320	1.240	0.110	1.065	A	
1	CS137	1059.200	26.800	954.000	38.000	1.110	A	A
1	K40	362.900	26.100	314.000	13.000	1.156	A	A
<b>Matrix:</b> VE Vegetation Bq / kg								
1	CO60	20.590	1.090	20.000	1.000	1.030	A	A
1	CS137	439.600	6.600	390.000	20.000	1.127	A	A
1	K40	527.200	20.100	460.000	20.000	1.146	A	A
<b>Matrix:</b> WA Water Bq / L								
1	CO60	50.460	1.580	49.400	1.200	1.021	A	A
1	CS137	50.120	1.290	50.000	1.700	1.002	A	A
1	MN54	34.270	0.950	32.400	1.400	1.058	A	A

**Values for elemental uranium are reported in  $\mu\text{g}/\text{filter}$ , g, or mL.      pCi/g or mL=Bq x 0.027**

**Evaluation:** A=Acceptable, W=Acceptable with Warning, N=Not Acceptable

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## QAP 49 Results by Laboratory

**Lab:** OT ORNL Radioactive Material Analysis Lab

No. Test	Radionuclide	Reported Value	Reported Error	EML Value	EML Error	Reported EML	Evaluation	QAP 48 Evaluation
<b>Matrix:</b> AI Air Filter Bq / filter								
1	AM241	0.480	0.030	0.510	0.008	0.941	A	A
1	Bq U	0.480	0.040	0.530	0.020	0.906	A	A
1	CO60	9.400	0.700	9.160	0.580	1.026	A	A
1	CS137	24.000	1.000	22.470	1.030	1.068	A	A
1	GROSS ALPHA	1.600	0.100	1.650	0.160	0.970	A	A
1	GROSS BETA	2.000	0.100	2.160	0.070	0.926	A	A
1	MN54	5.400	0.200	4.920	0.400	1.098	A	W
1	PU238	0.480	0.030	0.460	0.005	1.043	A	A
1	PU239	0.450	0.030	0.420	0.006	1.071	A	A
1	SB125	8.900	0.500	8.890	0.550	1.001	A	A
1	SR90	1.100	0.100	1.120	0.050	0.982	A	N

**Matrix:** SO Soil Bq / kg

1	AC228	42.000	10.000	52.600	2.900	0.798	A	
1	AM241	6.500	1.000	7.470	0.410	0.870	A	A
1	BI212	47.000	11.000	58.300	5.900	0.806	A	
1	BI214	37.000	14.000	28.800	0.500	1.285	A	
1	Bq U	160.000	20.000	237.000	16.000	0.675	A	A
1	CS137	920.000	10.000	954.000	38.000	0.964	A	A
1	K40	320.000	40.000	314.000	13.000	1.019	A	A
1	PB212	47.000	11.000	52.800	3.700	0.890	A	
1	PB214	37.000	14.000	29.100	1.200	1.271	A	
1	PU239	14.000	2.000	13.090	0.570	1.070	A	A
1	RA226	37.000	14.000	29.000	1.000	1.276	A	
1	SR90	31.000	5.000	39.630	0.003	0.782	A	A
1	TH228	21.000	1.000	52.700	4.000	0.398	A	
1	TH234	78.000	6.000	114.000	6.000	0.684	A	
1	TL208	47.000	11.000	18.300	1.100	2.568	A	

**Matrix:** VE Vegetation Bq / kg

1	AM241	2.900	0.500	2.330	0.060	1.245	A	A
1	CM244	2.000	0.400	1.760	0.070	1.136	A	W
1	CO60	19.000	3.000	20.000	1.000	0.950	A	A
1	CS137	380.000	10.000	390.000	20.000	0.974	A	W
1	K40	480.000	60.000	460.000	20.000	1.043	A	A
1	PU239	4.400	0.700	3.720	0.270	1.183	A	A
1	SR90	580.000	20.000	606.000	40.000	0.957	A	A

**Matrix:** WA Water Bq / L

1	AM241	1.200	0.100	1.250	0.080	0.960	A	W
1	Bq U	0.830	0.080	1.050	0.080	0.790	W	A
1	CO60	52.000	2.000	49.400	1.200	1.053	A	A
1	CS137	53.000	2.000	50.000	1.700	1.060	A	A

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**Evaluation:** A=Acceptable, W=Acceptable with Warning, N=Not Acceptable

If the evaluation system is not appropriate for the types of analyses performed in your lab, apply a site specific evaluation.

## QAP 49 Results by Laboratory

**Lab:** OT ORNL Radioactive Material Analysis Lab

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<b>No. Test</b>	<b>Radionuclide</b>	<b>Reported Value</b>	<b>Reported Error</b>	<b>EML Value</b>	<b>EML Error</b>	<b>Reported EML</b>	<b>Evaluation</b>	<b>QAP 48 Evaluation</b>
<b>Matrix:</b> WA Water Bq/L								
1	GROSS ALPHA	1200.000	100.000	1080.000	60.000	1.111	A	A
1	GROSS BETA	1400.000	100.000	1420.000	60.000	0.986	A	A
1	H3	43.000	4.000	76.200	2.900	0.564	N	W
1	MN54	36.000	2.000	32.400	1.400	1.111	A	A
1	PU238	0.940	0.070	1.100	0.010	0.855	W	W
1	PU239	1.400	0.100	1.410	0.040	0.993	A	A
1	SR90	2.100	0.300	2.110	0.180	0.995	A	A

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## QAP 49 Results by Laboratory

**Lab:** OU Outreach Laboratory, Broken Arrow, OK

No. Test	Radionuclide	Reported Value	Reported Error	EML Value	EML Error	Reported EML	Evaluation	QAP 48 Evaluation
<b>Matrix:</b> AI Air Filter Bq / filter								
1	CO60	8.970	0.290	9.160	0.580	0.979	A	A
1	CS137	25.300	0.610	22.470	1.030	1.126	A	W
1	GROSS ALPHA	2.190	0.167	1.650	0.160	1.327	W	N
1	GROSS BETA	2.590	0.199	2.160	0.070	1.199	A	A
1	MN54	4.590	1.200	4.920	0.400	0.933	A	A
1	SB125	8.430	1.800	8.890	0.550	0.948	A	W
<b>Matrix:</b> SO Soil Bq / kg								
1	BI212	52.100	3.200	58.300	5.900	0.894	A	
1	BI214	33.200	2.300	28.800	0.500	1.153	A	
1	Bq U	237.000	16.000	237.000	16.000	1.000	A	
1	CS137	1110.000	52.100	954.000	38.000	1.164	A	W
1	K40	326.000	15.200	314.000	13.000	1.038	A	W
1	PB212	49.100	6.200	52.800	3.700	0.930	A	
1	PB214	31.300	1.700	29.100	1.200	1.076	A	
1	SR90	37.600	9.200	39.630	0.003	0.949	A	
1	TH228	121.000	4.000	52.700	4.000	2.296	A	
1	TH234	115.000	2.400	114.000	6.000	1.009	A	
1	U234	115.000	2.340	113.000	6.000	1.018	A	
1	U238	93.300	2.160	120.000	9.000	0.778	A	
1	ug U	9.300	0.400	9.700	0.700	0.959	A	A
<b>Matrix:</b> VE Vegetation Bq / kg								
1	CO60	20.100	1.490	20.000	1.000	1.005	A	W
1	CS137	385.000	62.000	390.000	20.000	0.987	A	N
1	K40	416.000	21.800	460.000	20.000	0.904	A	N
<b>Matrix:</b> WA Water Bq / L								
1	AM241	1.270	0.190	1.250	0.080	1.016	A	
1	CO60	51.800	1.600	49.400	1.200	1.049	A	N
1	CS137	44.500	1.100	50.000	1.700	0.890	W	A
1	GROSS ALPHA	833.000	104.000	1080.000	60.000	0.771	W	A
1	GROSS BETA	1250.000	144.000	1420.000	60.000	0.880	A	A
1	H3	201.000	12.900	76.200	2.900	2.638	N	W
1	MN54	38.800	1.100	32.400	1.400	1.198	W	A
1	NI63	103.000	15.200	95.700	0.900	1.076	A	
1	PU238	1.070	0.140	1.100	0.010	0.973	A	
1	PU239	1.540	0.090	1.410	0.040	1.092	A	
1	SR90	2.010	0.270	2.110	0.180	0.953	A	
1	U234	0.399	0.050	0.510	0.030	0.782	N	A
1	U238	0.402	0.050	0.520	0.050	0.773	N	A
1	ug U	0.033	0.000	0.040	0.003	0.823	W	A

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**Evaluation:** A=Acceptable, W=Acceptable with Warning, N=Not Acceptable

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## QAP 49 Results by Laboratory

**Lab:** PA Mason & Hanger-Silas Mason Co., Inc., Battelle Pantex, Amarillo, TX

No. Test	Radionuclide	Reported Value	Reported Error	EML Value	EML Error	Reported EML	Evaluation	QAP 48 Evaluation
<b>Matrix:</b> AI Air Filter Bq / filter								
1	GROSS ALPHA	1.540	0.110	1.650	0.160	0.933	A	A
1	GROSS BETA	2.090	0.100	2.160	0.070	0.968	A	A

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**Values for elemental uranium are reported in  $\mu\text{g}/\text{filter}$ , g, or mL.      pCi/g or mL=Bq x 0.027**

**Evaluation:** A=Acceptable, W=Acceptable with Warning, N=Not Acceptable

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## QAP 49 Results by Laboratory

**Lab:** PK Pakistan Institute of Nuclear Science & Technology

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No. Test	Radionuclide	Reported Value	Reported Error	EML Value	EML Error	Reported EML	Evaluation	QAP 48 Evaluation
<b>Matrix:</b> AI Air Filter Bq / filter								
1	CO60	9.035	0.380	9.160	0.580	0.986	A	
1	CS137	21.190	0.380	22.470	1.030	0.943	A	N
1	MN54	4.990	0.520	4.920	0.400	1.014	A	
1	SB125	8.081	0.300	8.890	0.550	0.909	A	
<b>Matrix:</b> SO Soil Bq / kg								
1	CS137	946.260	39.350	954.000	38.000	0.992	A	A
<b>Matrix:</b> VE Vegetation Bq / kg								
1	CS137	430.240	12.230	390.000	20.000	1.103	A	A
1	K40	449.980	50.150	460.000	20.000	0.978	A	A

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**Values for elemental uranium are reported in  $\mu\text{g}/\text{filter}$ , g, or mL.       $\text{pCi/g or mL} = \text{Bq} \times 0.027$**

**Evaluation:** A=Acceptable, W=Acceptable with Warning, N=Not Acceptable

If the evaluation system is not appropriate for the types of analyses performed in your lab, apply a site specific evaluation.

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## QAP 49 Results by Laboratory

**Lab:** PO Institute of Oceanology PAN, Poland

No. Test	Radionuclide	Reported Value	Reported Error	EML Value	EML Error	Reported EML	Evaluation	QAP 48 Evaluation
<b>Matrix:</b> AI Air Filter Bq / filter								
1	AM241	0.700	0.100	0.510	0.008	1.373	A	
1	CO60	10.500	0.500	9.160	0.580	1.146	W	A
1	CS137	26.600	1.300	22.470	1.030	1.184	W	A
1	MN54	6.100	0.300	4.920	0.400	1.240	W	A
1	SB125	9.900	0.500	8.890	0.550	1.114	A	A
<b>Matrix:</b> SO Soil Bq / kg								
1	AM241	9.000	0.600	7.470	0.410	1.205	A	
1	CO60	1.100	0.400	1.240	0.110	0.887	A	
1	CS137	1045.000	50.000	954.000	38.000	1.095	A	A
1	K40	329.000	20.000	314.000	13.000	1.048	A	A
<b>Matrix:</b> VE Vegetation Bq / kg								
1	AM241	2.000	0.300	2.330	0.060	0.858	W	
1	CO60	19.800	1.200	20.000	1.000	0.990	A	A
1	CS137	412.000	25.000	390.000	20.000	1.056	A	A
1	K40	496.000	22.000	460.000	20.000	1.078	A	A

**Values for elemental uranium are reported in  $\mu\text{g}/\text{filter}$ , g, or mL. pCi/g or mL=Bq x 0.027**

**Evaluation:** A=Acceptable, W=Acceptable with Warning, N=Not Acceptable

If the evaluation system is not appropriate for the types of analyses performed in your lab, apply a site specific evaluation.

## QAP 49 Results by Laboratory

**Lab:** PR Princeton Plasma Physics Lab

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No. Test	Radionuclide	Reported Value	Reported Error	EML Value	EML Error	Reported EML	Evaluation	QAP 48 Evaluation
<b>Matrix:</b> AI Air Filter Bq / filter								
1	AM241	0.629	0.191	0.510	0.008	1.234	A	
1	CO60	9.344	0.095	9.160	0.580	1.020	A	
1	CS137	21.873	0.290	22.470	1.030	0.973	A	
1	MN54	4.717	0.161	4.920	0.400	0.959	A	
1	SB125	9.289	0.691	8.890	0.550	1.045	A	

**Matrix:** WA Water Bq / L

1	AM241	1.536	0.004	1.250	0.080	1.229	A	
1	CO60	53.189	0.308	49.400	1.200	1.077	A	
1	CS137	52.087	0.284	50.000	1.700	1.042	A	
1	H3	81.950	0.850	76.200	2.900	1.075	A	A
1	MN54	36.360	0.460	32.400	1.400	1.122	A	

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**Values for elemental uranium are reported in  $\mu\text{g}/\text{filter}$ , g, or mL.      pCi/g or mL=Bq x 0.027**

**Evaluation:** A=Acceptable, W=Acceptable with Warning, N=Not Acceptable

If the evaluation system is not appropriate for the types of analyses performed in your lab, apply a site specific evaluation.

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## QAP 49 Results by Laboratory

**Lab:** RA V. G. Khlopin Radium Institute, St. Petersburg, Russia

No. Test	Radionuclide	Reported Value	Reported Error	EML Value	EML Error	Reported EML	Evaluation	QAP 48 Evaluation
<b>Matrix:</b> AI Air Filter Bq / filter								
2	CO60	9.360	0.220	9.160	0.580	1.022	A	A
1	CO60	9.290	0.430	9.160	0.580	1.014	A	A
2	CS137	23.300	0.870	22.470	1.030	1.037	A	A
1	CS137	24.200	0.650	22.470	1.030	1.077	A	A
1	MN54	5.070	0.070	4.920	0.400	1.030	A	A
2	MN54	5.180	0.130	4.920	0.400	1.053	A	A
1	SB125	9.750	0.330	8.890	0.550	1.097	A	A
2	SB125	9.920	0.380	8.890	0.550	1.116	A	A
1	U234	285.000	28.000	0.260	0.010	1,096.154	N	A
1	U238	280.000	28.000	0.260	0.010	1,076.923	N	A
1	ug U	22.400	1.700	20.960	0.100	1.069	A	A

**Matrix:** SO Soil Bq / kg

1	AC228	51.400	6.000	52.600	2.900	0.977	A	
2	AC228	52.500	3.800	52.600	2.900	0.998	A	
1	BI214	27.500	3.600	28.800	0.500	0.955	A	
2	BI214	30.600	6.800	28.800	0.500	1.063	A	
2	CS137	1030.000	40.000	954.000	38.000	1.080	A	W
1	CS137	1020.000	40.000	954.000	38.000	1.069	A	W
1	K40	404.000	42.000	314.000	13.000	1.287	W	W
2	K40	425.000	40.000	314.000	13.000	1.354	W	W
2	PB212	53.100	1.900	52.800	3.700	1.006	A	
1	PB212	53.000	2.300	52.800	3.700	1.004	A	
2	PB214	25.900	6.000	29.100	1.200	0.890	A	
1	PB214	28.700	2.900	29.100	1.200	0.986	A	
1	PU239	16.700	2.500	13.090	0.570	1.276	W	W
1	RA226	27.300	3.900	29.000	1.000	0.941	A	
2	RA226	29.000	4.200	29.000	1.000	1.000	A	
1	SR90	45.000	10.000	39.630	0.003	1.136	A	A
2	TH228	50.300	6.200	52.700	4.000	0.954	A	
1	TH228	47.000	7.100	52.700	4.000	0.892	A	
1	TH234	160.000	50.000	114.000	6.000	1.404	A	
2	TH234	140.000	40.000	114.000	6.000	1.228	A	
2	TL208	16.700	2.300	18.300	1.100	0.913	A	
1	TL208	16.500	3.300	18.300	1.100	0.902	A	
1	U234	108.000	11.000	113.000	6.000	0.956	A	A
1	U238	107.000	11.000	120.000	9.000	0.892	A	A
1	ug U	8.600	0.500	9.700	0.700	0.887	A	A

**Matrix:** VE Vegetation Bq / kg

2	CO60	19.900	1.200	20.000	1.000	0.995	A	A
1	CO60	19.400	1.200	20.000	1.000	0.970	A	A
2	CS137	407.000	20.000	390.000	20.000	1.044	A	A
1	CS137	408.000	18.000	390.000	20.000	1.046	A	A
2	K40	555.000	60.000	460.000	20.000	1.207	A	A

**Values for elemental uranium are reported in µg/filter, g, or mL. pCi/g or mL=Bq x 0.027**

**Evaluation:** A=Acceptable, W=Acceptable with Warning, N=Not Acceptable

If the evaluation system is not appropriate for the types of analyses performed in your lab, apply a site specific evaluation.

## QAP 49 Results by Laboratory

**Lab:** RA V. G. Khlopin Radium Institute, St. Petersburg, Russia

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No. Test	Radionuclide	Reported Value	Reported Error	EML Value	EML Error	<u>Reported EML</u>	Evaluation	QAP 48 Evaluation
<b>Matrix:</b> VE Vegetation Bq / kg								
1	K40	532.000	69.000	460.000	20.000	1.157	A	A
1	PU238	0.300	0.100	0.310	0.070	0.968	A	A
1	PU239	4.400	0.700	3.720	0.270	1.183	A	W
1	SR90	590.000	100.000	606.000	40.000	0.974	A	A

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**Values for elemental uranium are reported in µg/filter, g, or mL.      pCi/g or mL=Bq x 0.027**

**Evaluation:** A=Acceptable, W=Acceptable with Warning, N=Not Acceptable

If the evaluation system is not appropriate for the types of analyses performed in your lab, apply a site specific evaluation.

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## QAP 49 Results by Laboratory

**Lab:** RC US NRC Region I Laboratory, PA

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No. Test	Radionuclide	Reported Value	Reported Error	EML Value	EML Error	Reported EML	Evaluation	QAP 48 Evaluation
<b>Matrix:</b> AI Air Filter Bq / filter								
1	CO60	9.160	0.650	9.160	0.580	1.000	A	A
1	CS137	22.500	1.200	22.470	1.030	1.001	A	A
1	GROSS ALPHA	1.810	0.130	1.650	0.160	1.097	A	A
1	GROSS BETA	1.960	0.140	2.160	0.070	0.907	A	A
1	MN54	5.200	0.460	4.920	0.400	1.057	A	A
1	SB125	9.060	0.880	8.890	0.550	1.019	A	A

**Matrix:** SO Soil Bq / kg

1	CO60	1.920	0.410	1.240	0.110	1.548	A	
1	CS137	980.000	67.000	954.000	38.000	1.027	A	A
1	K40	352.000	19.000	314.000	13.000	1.121	A	A

**Matrix:** WA Water Bq / L

1	CO60	48.500	2.500	49.400	1.200	0.982	A	A
1	CS137	48.700	2.500	50.000	1.700	0.974	A	A
1	H3	72.000	5.000	76.200	2.900	0.945	A	A
1	MN54	32.800	1.700	32.400	1.400	1.012	A	A

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**Values for elemental uranium are reported in µg/filter, g, or mL.      pCi/g or mL=Bq x 0.027**

**Evaluation:** A=Acceptable, W=Acceptable with Warning, N=Not Acceptable

If the evaluation system is not appropriate for the types of analyses performed in your lab, apply a site specific evaluation.

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## QAP 49 Results by Laboratory

**Lab:** RE Bechtel Nevada, Mercury, NV

No. Test	Radionuclide	Reported Value	Reported Error	EML Value	EML Error	Reported EML	Evaluation	QAP 48 Evaluation
<b>Matrix:</b> AI Air Filter Bq / filter								
1	AM241	0.515	0.039	0.510	0.008	1.010	A	A
1	CO60	8.820	0.910	9.160	0.580	0.963	A	A
1	CS137	21.300	1.900	22.470	1.030	0.948	A	A
1	MN54	5.180	0.570	4.920	0.400	1.053	A	A
1	PU238	0.403	0.033	0.460	0.005	0.876	W	A
1	PU239	0.382	0.032	0.420	0.006	0.910	A	A
1	SB125	8.390	1.010	8.890	0.550	0.944	A	A
1	SR90	1.320	0.060	1.120	0.050	1.179	A	A
1	U234	0.254	0.023	0.260	0.010	0.977	A	A
1	U238	0.267	0.024	0.260	0.010	1.027	A	A
<b>Matrix:</b> SO Soil Bq / kg								
1	AM241	6.700	0.870	7.470	0.410	0.897	A	A
1	CS137	967.000	72.000	954.000	38.000	1.014	A	A
1	K40	343.000	32.000	314.000	13.000	1.092	A	A
1	PU239	14.100	1.700	13.090	0.570	1.077	A	A
1	RA226	28.400	3.400	29.000	1.000	0.979	A	A
1	SR90	47.300	3.500	39.630	0.003	1.194	A	A
1	TH228	54.200	5.300	52.700	4.000	1.028	A	A
1	U234	107.000	15.000	113.000	6.000	0.947	A	A
1	U238	116.000	16.000	120.000	9.000	0.967	A	A
<b>Matrix:</b> VE Vegetation Bq / kg								
1	AM241	2.560	0.280	2.330	0.060	1.099	A	A
1	CM244	1.830	0.210	1.760	0.070	1.040	A	A
1	CO60	19.300	2.700	20.000	1.000	0.965	A	A
1	CS137	389.000	32.000	390.000	20.000	0.997	A	A
1	K40	599.000	65.000	460.000	20.000	1.302	W	A
1	PU239	3.840	0.430	3.720	0.270	1.032	A	A
1	SR90	587.000	8.000	606.000	40.000	0.969	A	A
<b>Matrix:</b> WA Water Bq / L								
1	AM241	1.320	0.120	1.250	0.080	1.056	A	A
1	CO60	51.600	5.200	49.400	1.200	1.045	A	A
1	CS137	51.800	5.100	50.000	1.700	1.036	A	A
1	GROSS ALPHA	1070.000	36.000	1080.000	60.000	0.991	A	A
1	GROSS BETA	1250.000	29.000	1420.000	60.000	0.880	A	A
1	H3	83.700	20.100	76.200	2.900	1.098	A	A
1	MN54	37.300	3.900	32.400	1.400	1.151	A	A
1	PU238	1.010	0.110	1.100	0.010	0.918	A	N
1	PU239	1.410	0.140	1.410	0.040	1.000	A	N
1	SR90	2.260	0.210	2.110	0.180	1.071	A	A
1	U234	0.487	0.058	0.510	0.030	0.955	A	A

**Values for elemental uranium are reported in µg/filter, g, or mL. pCi/g or mL=Bq x 0.027**

**Evaluation:** A=Acceptable, W=Acceptable with Warning, N=Not Acceptable

If the evaluation system is not appropriate for the types of analyses performed in your lab, apply a site specific evaluation.



## QAP 49 Results by Laboratory

**Lab:** RE Bechtel Nevada, Mercury, NV

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No. Test	Radionuclide	Reported Value	Reported Error	EML Value	EML Error	<u>Reported</u> EML	Evaluation	QAP 48 Evaluation
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**Matrix:** WA Water Bq/L

1	U238	0.508	0.061	0.520	0.050	0.977	A	A
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**Values for elemental uranium are reported in µg/filter, g, or mL.      pCi/g or mL=Bq x 0.027**

**Evaluation:** A=Acceptable, W=Acceptable with Warning, N=Not Acceptable

If the evaluation system is not appropriate for the types of analyses performed in your lab, apply a site specific evaluation.

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## QAP 49 Results by Laboratory

**Lab:** RG Thermo Nutech Rocky Flats Plant, Golden

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No. Test	Radionuclide	Reported Value	Reported Error	EML Value	EML Error	<u>Reported EML</u>	Evaluation	QAP 48 Evaluation
<b>Matrix:</b> WA Water Bq/L								
1	GROSS ALPHA	1027.200	62.300	1080.000	60.000	0.951	A	A
1	GROSS BETA	1271.200	56.000	1420.000	60.000	0.895	A	A

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**Values for elemental uranium are reported in µg/filter, g, or mL.      pCi/g or mL=Bq x 0.027**

**Evaluation:** A=Acceptable, W=Acceptable with Warning, N=Not Acceptable

If the evaluation system is not appropriate for the types of analyses performed in your lab, apply a site specific evaluation.

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## QAP 49 Results by Laboratory

**Lab:** RI Waste Management Services of Hanford, Inc., 222S Lab

No. Test	Radionuclide	Reported Value	Reported Error	EML Value	EML Error	Reported EML	Evaluation	QAP 48 Evaluation
<b>Matrix:</b> AI Air Filter Bq / filter								
1	AM241	0.466	0.032	0.510	0.008	0.914	A	A
1	CO60	8.000	0.782	9.160	0.580	0.873	A	A
1	CS137	18.300	1.480	22.470	1.030	0.814	W	A
1	MN54	4.770	0.717	4.920	0.400	0.970	A	A
1	PU238	0.522	0.038	0.460	0.005	1.135	A	A
1	PU239	0.648	0.045	0.420	0.006	1.543	N	W
1	SB125	10.300	1.670	8.890	0.550	1.159	A	A
1	SR90	1.070	0.076	1.120	0.050	0.955	A	A
<b>Matrix:</b> SO Soil Bq / kg								
1	CS137	1080.000	30.300	954.000	38.000	1.132	A	A
<b>Matrix:</b> VE Vegetation Bq / kg								
1	CO60	35.000	6.740	20.000	1.000	1.750	N	N
1	CS137	459.000	23.600	390.000	20.000	1.177	A	A
1	SR90	292.000	16.900	606.000	40.000	0.482	N	A
<b>Matrix:</b> WA Water Bq / L								
1	AM241	1.300	0.104	1.250	0.080	1.040	A	A
1	CO60	52.100	3.590	49.400	1.200	1.055	A	N
1	CS137	62.800	4.860	50.000	1.700	1.256	W	A
1	MN54	33.700	4.250	32.400	1.400	1.040	A	A
1	PU238	1.390	0.116	1.100	0.010	1.264	N	A
1	PU239	1.630	0.129	1.410	0.040	1.156	W	A
1	SR90	2.410	0.245	2.110	0.180	1.142	A	A

**Values for elemental uranium are reported in µg/filter, g, or mL. pCi/g or mL=Bq x 0.027**

**Evaluation:** A=Acceptable, W=Acceptable with Warning, N=Not Acceptable

If the evaluation system is not appropriate for the types of analyses performed in your lab, apply a site specific evaluation.

## QAP 49 Results by Laboratory

**Lab:** RK Rock Island Arsenal, Illinois

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No. Test	Radionuclide	Reported Value	Reported Error	EML Value	EML Error	<u>Reported EML</u>	Evaluation	QAP 48 Evaluation
<b>Matrix:</b> AI Air Filter Bq / filter								
1	GROSS ALPHA	1.300	0.150	1.650	0.160	0.788	W	W
1	GROSS BETA	2.190	0.140	2.160	0.070	1.014	A	A

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**Values for elemental uranium are reported in  $\mu\text{g}/\text{filter}$ , g, or mL.       $\text{pCi}/\text{g}$  or  $\text{mL}=\text{Bq} \times 0.027$**

**Evaluation:** A=Acceptable, W=Acceptable with Warning, N=Not Acceptable

If the evaluation system is not appropriate for the types of analyses performed in your lab, apply a site specific evaluation.

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## QAP 49 Results by Laboratory

**Lab:** SA Sandia Labs Radioactive Sample Diag. Prog., NM

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No. Test	Radionuclide	Reported Value	Reported Error	EML Value	EML Error	Reported EML	Evaluation	QAP 48 Evaluation
<b>Matrix:</b> AI Air Filter Bq / filter								
1	CO60	9.400	1.200	9.160	0.580	1.026	A	A
1	CS137	23.000	2.900	22.470	1.030	1.024	A	A
1	GROSS ALPHA	1.840	0.240	1.650	0.160	1.115	A	A
1	GROSS BETA	2.040	0.250	2.160	0.070	0.944	A	A
1	MN54	5.500	0.700	4.920	0.400	1.118	A	A
1	SB125	8.100	1.100	8.890	0.550	0.911	A	A
1	ug U	23.300	1.200	20.960	0.100	1.112	A	A
<b>Matrix:</b> SO Soil Bq / kg								
1	CS137	990.000	29.000	954.000	38.000	1.038	A	A
1	K40	353.000	16.000	314.000	13.000	1.124	A	A
<b>Matrix:</b> WA Water Bq / L								
1	CO60	53.000	2.400	49.400	1.200	1.073	A	A
1	CS137	53.000	2.800	50.000	1.700	1.060	A	A
1	MN54	38.000	1.800	32.400	1.400	1.173	W	A

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**Values for elemental uranium are reported in µg/filter, g, or mL.      pCi/g or mL=Bq x 0.027**

**Evaluation:** A=Acceptable, W=Acceptable with Warning, N=Not Acceptable

If the evaluation system is not appropriate for the types of analyses performed in your lab, apply a site specific evaluation.

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## QAP 49 Results by Laboratory

**Lab:** SB SC Dept. of Health and Environment Control Radiological Lab

No. Test	Radionuclide	Reported Value	Reported Error	EML Value	EML Error	<u>Reported EML</u>	Evaluation	QAP 48 Evaluation
<b>Matrix:</b> AI Air Filter Bq / filter								
1	CO60	9.740	0.930	9.160	0.580	1.063	A	
1	CS137	24.800	3.600	22.470	1.030	1.104	A	
<b>Matrix:</b> SO Soil Bq / kg								
1	CS137	1031.000	128.000	954.000	38.000	1.081	A	
1	K40	372.000	57.000	314.000	13.000	1.185	A	
<b>Matrix:</b> VE Vegetation Bq / kg								
1	CO60	21.200	2.810	20.000	1.000	1.060	A	
1	CS137	429.000	53.600	390.000	20.000	1.100	A	
1	K40	538.000	72.800	460.000	20.000	1.170	A	
<b>Matrix:</b> WA Water Bq / L								
1	AM241	1.390	0.780	1.250	0.080	1.112	A	
1	CO60	59.100	5.410	49.400	1.200	1.196	W	
1	CS137	61.600	8.890	50.000	1.700	1.232	W	
1	H3	81.500	6.700	76.200	2.900	1.070	A	
1	MN54	42.100	4.870	32.400	1.400	1.299	N	

**Values for elemental uranium are reported in µg/filter, g, or mL. pCi/g or mL=Bq x 0.027**

**Evaluation:** A=Acceptable, W=Acceptable with Warning, N=Not Acceptable

If the evaluation system is not appropriate for the types of analyses performed in your lab, apply a site specific evaluation.

## QAP 49 Results by Laboratory

**Lab:** SK Savannah River Plant

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No. Test	Radionuclide	Reported Value	Reported Error	EML Value	EML Error	Reported EML	Evaluation	QAP 48 Evaluation
<b>Matrix:</b> AI Air Filter Bq / filter								
1	AM241	0.650	0.050	0.510	0.008	1.275	A	A
1	CO60	8.600	0.900	9.160	0.580	0.939	A	A
1	CS137	21.000	2.000	22.470	1.030	0.935	A	A
1	MN54	4.700	0.400	4.920	0.400	0.955	A	A
1	SB125	5.700	0.600	8.890	0.550	0.641	W	A
<b>Matrix:</b> SO Soil Bq / kg								
1	AC228	57.000	3.000	52.600	2.900	1.084	A	
1	AM241	10.200	0.800	7.470	0.410	1.365	A	A
1	BI212	59.000	1.000	58.300	5.900	1.012	A	
1	BI214	38.000	1.000	28.800	0.500	1.319	A	
1	CO60	1.740	0.270	1.240	0.110	1.403	A	
1	CS137	1080.000	66.000	954.000	38.000	1.132	A	W
1	K40	328.000	20.000	314.000	13.000	1.045	A	A
1	PB212	61.000	4.000	52.800	3.700	1.155	A	
1	PB214	38.000	1.000	29.100	1.200	1.306	A	
1	RA226	38.000	4.000	29.000	1.000	1.310	A	
1	TH234	180.000	17.000	114.000	6.000	1.579	A	
1	TL208	21.100	0.300	18.300	1.100	1.153	A	
<b>Matrix:</b> WA Water Bq / L								
1	AM241	1.170	0.220	1.250	0.080	0.936	A	A
1	CO60	49.500	4.200	49.400	1.200	1.002	A	A
1	CS137	49.300	3.000	50.000	1.700	0.986	A	A
1	MN54	31.500	1.900	32.400	1.400	0.972	A	A
1	PU238	0.245	0.011	1.100	0.010	0.223	N	A
1	PU239	0.324	0.010	1.410	0.040	0.230	N	A

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**Values for elemental uranium are reported in µg/filter, g, or mL.      pCi/g or mL=Bq x 0.027**

**Evaluation:** A=Acceptable, W=Acceptable with Warning, N=Not Acceptable

If the evaluation system is not appropriate for the types of analyses performed in your lab, apply a site specific evaluation.

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## QAP 49 Results by Laboratory

**Lab:** SL Stanford Linear Accelerator Center

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No. Test	Radionuclide	Reported Value	Reported Error	EML Value	EML Error	<u>Reported EML</u>	Evaluation	QAP 48 Evaluation
<b>Matrix:</b> WA Water Bq/L								
1	CO60	49.000	3.000	49.400	1.200	0.992	A	A
1	CS137	50.000	3.000	50.000	1.700	1.000	A	A
1	MN54	34.000	2.000	32.400	1.400	1.049	A	A

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**Values for elemental uranium are reported in µg/filter, g, or mL.      pCi/g or mL=Bq x 0.027**

**Evaluation:** A=Acceptable, W=Acceptable with Warning, N=Not Acceptable

If the evaluation system is not appropriate for the types of analyses performed in your lab, apply a site specific evaluation.

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## QAP 49 Results by Laboratory

**Lab:** SN Sanford Cohen Associates, Inc., Montgomery, AL

No. Test	Radionuclide	Reported Value	Reported Error	EML Value	EML Error	Reported EML	Evaluation	QAP 48 Evaluation
<b>Matrix: AI Air Filter Bq / filter</b>								
1	AM241	0.590	0.084	0.510	0.008	1.157	A	A
1	PU238	0.492	0.064	0.460	0.005	1.070	A	
1	PU239	0.458	0.060	0.420	0.006	1.090	A	A
<b>Matrix: SO Soil Bq / kg</b>								
1	AM241	7.736	3.269	7.470	0.410	1.036	A	A
1	BI212	37.259	7.767	58.300	5.900	0.639	A	
1	BI214	31.988	4.330	28.800	0.500	1.111	A	
1	CS137	1113.947	111.321	954.000	38.000	1.168	A	A
1	K40	406.462	40.585	314.000	13.000	1.294	W	W
1	PB212	63.855	6.628	52.800	3.700	1.209	A	
1	PB214	35.578	5.638	29.100	1.200	1.223	A	
1	PU239	13.438	4.293	13.090	0.570	1.027	A	A
1	TL208	19.692	2.394	18.300	1.100	1.076	A	
<b>Matrix: VE Vegetation Bq / kg</b>								
1	AM241	2.505	1.093	2.330	0.060	1.075	A	W
1	CM244	1.590	0.862	1.760	0.070	0.903	A	A
1	CO60	23.589	2.742	20.000	1.000	1.179	A	A
1	CS137	485.757	48.687	390.000	20.000	1.246	A	A
1	K40	611.296	60.094	460.000	20.000	1.329	W	N
1	PU239	3.284	1.183	3.720	0.270	0.883	A	A
<b>Matrix: WA Water Bq / L</b>								
1	AM241	1.295	0.202	1.250	0.080	1.036	A	A
1	CO60	49.982	4.477	49.400	1.200	1.012	A	A
1	CS137	47.885	4.280	50.000	1.700	0.958	A	A
1	MN54	34.620	3.681	32.400	1.400	1.069	A	A
1	PU238	1.191	0.189	1.100	0.010	1.083	A	A
1	PU239	1.525	0.232	1.410	0.040	1.082	A	A

**Values for elemental uranium are reported in µg/filter, g, or mL. pCi/g or mL=Bq x 0.027**

**Evaluation:** A=Acceptable, W=Acceptable with Warning, N=Not Acceptable

If the evaluation system is not appropriate for the types of analyses performed in your lab, apply a site specific evaluation.

## QAP 49 Results by Laboratory

**Lab:** SR Savannah River Environmental Laboratory

No. Test	Radionuclide	Reported Value	Reported Error	EML Value	EML Error	Reported EML	Evaluation	QAP 48 Evaluation
<b>Matrix:</b> AI Air Filter Bq / filter								
1	AM241	0.511	0.023	0.510	0.008	1.002	A	A
1	CO60	8.760	0.158	9.160	0.580	0.956	A	A
1	CS137	21.000	0.418	22.470	1.030	0.935	A	A
1	GROSS ALPHA	1.590	0.130	1.650	0.160	0.964	A	W
1	GROSS BETA	2.170	0.150	2.160	0.070	1.005	A	A
1	MN54	4.870	0.144	4.920	0.400	0.990	A	A
1	PU238	0.469	0.023	0.460	0.005	1.020	A	A
1	PU239	0.434	0.024	0.420	0.006	1.033	A	A
1	SB125	5.240	0.179	8.890	0.550	0.589	N	A
1	SR90	1.240	0.150	1.120	0.050	1.107	A	W
1	U234	0.262	0.018	0.260	0.010	1.008	A	A
1	U238	0.264	0.018	0.260	0.010	1.015	A	A
<b>Matrix:</b> SO Soil Bq / kg								
1	AC228	61.400	1.600	52.600	2.900	1.167	A	
1	BI212	40.800	3.600	58.300	5.900	0.700	A	
1	BI214	31.400	1.200	28.800	0.500	1.090	A	
1	CS137	1090.000	20.000	954.000	38.000	1.143	A	A
1	K40	394.000	12.000	314.000	13.000	1.255	W	A
1	PB212	51.300	1.400	52.800	3.700	0.972	A	
1	PB214	31.300	1.400	29.100	1.200	1.076	A	
1	SR90	50.400	19.200	39.630	0.003	1.272	A	
1	TL208	19.300	0.900	18.300	1.100	1.055	A	
<b>Matrix:</b> VE Vegetation Bq / kg								
1	AM241	3.142	0.525	2.330	0.060	1.348	A	A
1	CM244	2.200	0.440	1.760	0.070	1.250	A	A
1	CO60	23.900	0.700	20.000	1.000	1.195	A	A
1	CS137	460.000	8.800	390.000	20.000	1.179	A	A
1	K40	563.000	16.600	460.000	20.000	1.224	A	A
1	PU239	3.986	0.655	3.720	0.270	1.072	A	A
1	SR90	754.800	51.800	606.000	40.000	1.246	W	N
<b>Matrix:</b> WA Water Bq / L								
1	AM241	1.690	0.083	1.250	0.080	1.352	W	
1	CO60	50.600	0.900	49.400	1.200	1.024	A	A
1	CS137	51.000	1.350	50.000	1.700	1.020	A	A
1	GROSS ALPHA	809.000	118.000	1080.000	60.000	0.749	W	A
1	GROSS BETA	1816.000	409.000	1420.000	60.000	1.279	A	A
1	H3	77.300	3.600	76.200	2.900	1.014	A	A
1	MN54	35.500	1.000	32.400	1.400	1.096	A	A
1	PU238	1.310	0.073	1.100	0.010	1.191	W	A
1	PU239	1.880	0.094	1.410	0.040	1.333	W	A

**Values for elemental uranium are reported in µg/filter, g, or mL. pCi/g or mL=Bq x 0.027**

**Evaluation:** A=Acceptable, W=Acceptable with Warning, N=Not Acceptable

If the evaluation system is not appropriate for the types of analyses performed in your lab, apply a site specific evaluation.

## QAP 49 Results by Laboratory

**Lab:** SR Savannah River Environmental Laboratory

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No. Test	Radionuclide	Reported Value	Reported Error	EML Value	EML Error	<u>Reported</u> EML	Evaluation	QAP 48 Evaluation
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**Matrix:** WA Water Bq/L

1	SR90	2.386	0.721	2.110	0.180	1.131	A	A
1	U234	0.547	0.030	0.510	0.030	1.073	A	A
1	U238	0.609	0.037	0.520	0.050	1.171	W	A

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**Values for elemental uranium are reported in µg/filter, g, or mL.      pCi/g or mL=Bq x 0.027**

**Evaluation:** A=Acceptable, W=Acceptable with Warning, N=Not Acceptable

If the evaluation system is not appropriate for the types of analyses performed in your lab, apply a site specific evaluation.

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## QAP 49 Results by Laboratory

**Lab:** ST SC DHEC, Aiken, South Carolina

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No. Test	Radionuclide	Reported Value	Reported Error	EML Value	EML Error	<u>Reported</u> EML	Evaluation	QAP 48 Evaluation
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**Matrix:** WA Water Bq/L

1	H3	85.320	6.810	76.200	2.900	1.120	A	A
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**Values for elemental uranium are reported in µg/filter, g, or mL.      pCi/g or mL=Bq x 0.027**

**Evaluation:** A=Acceptable, W=Acceptable with Warning, N=Not Acceptable

If the evaluation system is not appropriate for the types of analyses performed in your lab, apply a site specific evaluation.

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## QAP 49 Results by Laboratory

**Lab:** SW Southwest Research Institute, San Antonio, TX

No. Test	Radionuclide	Reported Value	Reported Error	EML Value	EML Error	Reported EML	Evaluation	QAP 48 Evaluation
<b>Matrix:</b> AI Air Filter Bq / filter								
1	AM241	0.870	0.050	0.510	0.008	1.706	W	A
1	CO60	9.400	0.090	9.160	0.580	1.026	A	A
1	CS137	22.740	0.290	22.470	1.030	1.012	A	A
1	GROSS ALPHA	1.510	0.060	1.650	0.160	0.915	A	W
1	GROSS BETA	1.620	0.060	2.160	0.070	0.750	W	A
1	MN54	5.300	0.100	4.920	0.400	1.077	A	A
1	PU238	0.760	0.050	0.460	0.005	1.652	N	N
1	PU239	0.310	0.030	0.420	0.006	0.738	N	W
1	SB125	9.150	0.300	8.890	0.550	1.029	A	A
1	SR90	0.390	0.100	1.120	0.050	0.348	N	W
1	U238	21.700		0.260	0.010	83.462	N	
<b>Matrix:</b> SO Soil Bq / kg								
1	AC228	83.140	13.200	52.600	2.900	1.581	A	
1	AM241	9.410	1.040	7.470	0.410	1.260	A	W
1	BI212	85.470	5.300	58.300	5.900	1.466	A	
1	BI214	44.550	2.290	28.800	0.500	1.547	A	
1	CS137	1228.000	5.000	954.000	38.000	1.287	W	N
1	K40	427.400	57.800	314.000	13.000	1.361	W	W
1	PB210	35.880	15.770	32.000	3.300	1.121	A	
1	PB212	78.040	2.100	52.800	3.700	1.478	A	
1	PB214	42.130	8.510	29.100	1.200	1.448	A	
1	PU239	2.810	0.520	13.090	0.570	0.215	N	N
1	RA226	43.960	2.500	29.000	1.000	1.516	A	
1	SR90	20.190	14.100	39.630	0.003	0.509	N	N
1	TH228	83.140	13.200	52.700	4.000	1.578	A	
1	TH234	143.200	9.900	114.000	6.000	1.256	A	
1	TL208	28.810	2.300	18.300	1.100	1.574	A	
1	ug U	9.010		9.700	0.700	0.929	A	A
<b>Matrix:</b> VE Vegetation Bq / kg								
1	AM241	9.480	0.960	2.330	0.060	4.069	N	W
1	CM244	1.040	0.520	1.760	0.070	0.591	W	
1	CO60	27.500	1.400	20.000	1.000	1.375	W	N
1	CS137	489.950	3.300	390.000	20.000	1.256	W	N
1	K40	592.500	26.800	460.000	20.000	1.288	W	N
1	PU239	2.670	0.370	3.720	0.270	0.718	W	N
1	SR90	157.960	25.000	606.000	40.000	0.261	N	N
<b>Matrix:</b> WA Water Bq / L								
1	AM241	1.630	0.080	1.250	0.080	1.304	W	A
1	CO60	52.340	0.030	49.400	1.200	1.060	A	A
1	CS137	54.760	0.040	50.000	1.700	1.095	A	A

**Values for elemental uranium are reported in µg/filter, g, or mL. pCi/g or mL=Bq x 0.027**

**Evaluation:** A=Acceptable, W=Acceptable with Warning, N=Not Acceptable

If the evaluation system is not appropriate for the types of analyses performed in your lab, apply a site specific evaluation.

## QAP 49 Results by Laboratory

**Lab:** SW Southwest Research Institute, San Antonio, TX

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No. Test	Radionuclide	Reported Value	Reported Error	EML Value	EML Error	Reported EML	Evaluation	QAP 48 Evaluation
<b>Matrix:</b> WA Water Bq/L								
1	GROSS ALPHA	796.850	13.710	1080.000	60.000	0.738	W	A
1	GROSS BETA	1183.060	13.240	1420.000	60.000	0.833	A	A
1	H3	1098.000	60.000	76.200	2.900	14.409	N	N
1	MN54	37.070	0.040	32.400	1.400	1.144	A	A
1	PU238	1.640	0.080	1.100	0.010	1.491	N	A
1	PU239	1.180	0.060	1.410	0.040	0.837	W	N
1	SR90	0.740	0.190	2.110	0.180	0.351	N	N
1	U238	0.045		0.520	0.050	0.086	N	

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**Values for elemental uranium are reported in µg/filter, g, or mL.      pCi/g or mL=Bq x 0.027**

**Evaluation:** A=Acceptable, W=Acceptable with Warning, N=Not Acceptable

If the evaluation system is not appropriate for the types of analyses performed in your lab, apply a site specific evaluation.

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## QAP 49 Results by Laboratory

**Lab:** TE Teledyne Isotopes Midwest Lab, Northbrook, IL

No. Test	Radionuclide	Reported Value	Reported Error	EML Value	EML Error	Reported EML	Evaluation	QAP 48 Evaluation
<b>Matrix: AI Air Filter Bq / filter</b>								
1	CO60	9.300	0.300	9.160	0.580	1.015	A	A
1	CS137	22.400	0.500	22.470	1.030	0.997	A	A
1	GROSS ALPHA	2.200	0.100	1.650	0.160	1.333	W	
1	GROSS BETA	2.800	0.100	2.160	0.070	1.296	A	
1	MN54	5.300	0.300	4.920	0.400	1.077	A	A
1	SB125	10.000	0.800	8.890	0.550	1.125	A	A
1	SR90	1.100	0.100	1.120	0.050	0.982	A	A
<b>Matrix: SO Soil Bq / kg</b>								
1	AC228	54.100	3.300	52.600	2.900	1.029	A	
1	BI212	55.400	10.300	58.300	5.900	0.950	A	
1	BI214	28.500	6.500	28.800	0.500	0.990	A	
1	CS137	915.700	8.200	954.000	38.000	0.960	A	A
1	K40	296.200	39.900	314.000	13.000	0.943	A	A
1	PB212	53.600	1.500	52.800	3.700	1.015	A	
1	PB214	31.000	5.900	29.100	1.200	1.065	A	
1	RA226	115.300	2.200	29.000	1.000	3.976	A	
1	SR90	37.400	1.900	39.630	0.003	0.944	A	A
1	TL208	20.100	3.100	18.300	1.100	1.098	A	
<b>Matrix: VE Vegetation Bq / kg</b>								
1	CO60	18.100	1.500	20.000	1.000	0.905	A	A
1	CS137	340.400	4.800	390.000	20.000	0.873	W	A
1	K40	417.500	28.200	460.000	20.000	0.908	A	A
1	SR90	672.500	32.500	606.000	40.000	1.110	A	A
<b>Matrix: WA Water Bq / L</b>								
1	CO60	49.300	2.800	49.400	1.200	0.998	A	A
1	CS137	50.100	3.200	50.000	1.700	1.002	A	A
1	FE55	140.600	9.200	139.000	2.000	1.012	A	A
1	GROSS ALPHA	1178.300	47.200	1080.000	60.000	1.091	A	A
1	GROSS BETA	1613.600	171.800	1420.000	60.000	1.136	A	A
1	H3	102.200	4.500	76.200	2.900	1.341	W	N
1	MN54	35.900	3.400	32.400	1.400	1.108	A	A
1	SR90	3.000	0.900	2.110	0.180	1.422	W	N

**Values for elemental uranium are reported in µg/filter, g, or mL. pCi/g or mL=Bq x 0.027**

**Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable**

If the evaluation system is not appropriate for the types of analyses performed in your lab, apply a site specific evaluation.

## QAP 49 Results by Laboratory

**Lab:** TI Teledyne Brown Engineering Environmental Services, Westwood, NJ

No. Test	Radionuclide	Reported Value	Reported Error	EML Value	EML Error	Reported EML	Evaluation	QAP 48 Evaluation
<b>Matrix: AI Air Filter Bq / filter</b>								
1	AM241	0.540	0.050	0.510	0.008	1.059	A	A
1	CO60	8.800	0.900	9.160	0.580	0.961	A	A
1	CS137	22.600	2.300	22.470	1.030	1.006	A	A
1	GROSS ALPHA	2.100	0.100	1.650	0.160	1.273	A	A
1	GROSS BETA	1.700	0.100	2.160	0.070	0.787	W	A
1	MN54	5.200	0.500	4.920	0.400	1.057	A	A
1	PU238	0.430	0.050	0.460	0.005	0.935	A	N
1	PU239	0.400	0.050	0.420	0.006	0.952	A	N
1	SB125	9.000	0.900	8.890	0.550	1.012	A	A
1	SR90	0.910	0.120	1.120	0.050	0.813	W	A
1	ug U	25.000	4.000	20.960	0.100	1.193	A	A
<b>Matrix: SO Soil Bq / kg</b>								
1	AM241	4.300	1.200	7.470	0.410	0.576	N	A
1	CO60	1.850	0.600	1.240	0.110	1.492	A	A
1	CS137	1188.000	119.000	954.000	38.000	1.245	W	A
1	K40	381.000	38.200	314.000	13.000	1.213	A	A
1	PU239	12.000	2.000	13.090	0.570	0.917	A	A
1	SR90	38.000	4.000	39.630	0.003	0.959	A	A
1	ug U	10.000	2.000	9.700	0.700	1.031	A	A
<b>Matrix: VE Vegetation Bq / kg</b>								
1	AM241	2.500	0.500	2.330	0.060	1.073	A	A
1	CM244	1.900	0.400	1.760	0.070	1.080	A	A
1	CO60	21.900	2.200	20.000	1.000	1.095	A	A
1	CS137	496.000	49.600	390.000	20.000	1.272	W	A
1	K40	523.000	52.300	460.000	20.000	1.137	A	A
1	PU239	3.300	0.700	3.720	0.270	0.887	A	N
1	SR90	520.000	10.000	606.000	40.000	0.858	A	N
<b>Matrix: WA Water Bq / L</b>								
1	AM241	1.300	0.200	1.250	0.080	1.040	A	A
1	CO60	49.000	4.900	49.400	1.200	0.992	A	A
1	CS137	51.100	5.100	50.000	1.700	1.022	A	A
1	FE55	140.000	20.000	139.000	2.000	1.007	A	W
1	GROSS ALPHA	1100.000	100.000	1080.000	60.000	1.019	A	A
1	GROSS BETA	1100.000	100.000	1420.000	60.000	0.775	A	A
1	H3	450.000	50.000	76.200	2.900	5.906	N	A
1	MN54	33.500	3.400	32.400	1.400	1.034	A	A
1	NI63	110.000	10.000	95.700	0.900	1.149	A	A
1	PU238	1.100	0.200	1.100	0.010	1.000	A	A
1	PU239	1.600	0.200	1.410	0.040	1.135	A	W
1	SR90	2.200	0.300	2.110	0.180	1.043	A	A

**Values for elemental uranium are reported in µg/filter, g, or mL. pCi/g or mL=Bq x 0.027**

**Evaluation:** A=Acceptable, W=Acceptable with Warning, N=Not Acceptable

If the evaluation system is not appropriate for the types of analyses performed in your lab, apply a site specific evaluation.



## QAP 49 Results by Laboratory

**Lab:** TI Teledyne Brown Engineering Environmental Services, Westwood, NJ

No. Test	Radionuclide	Reported Value	Reported Error	EML Value	EML Error	Reported EML	Evaluation	QAP 48 Evaluation
<b>Matrix:</b> WA Water Bq/L								
1	ug U	0.046	0.007	0.040	0.003	1.150	A	A

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**Values for elemental uranium are reported in µg/filter, g, or mL.      pCi/g or mL=Bq x 0.027**

**Evaluation:** A=Acceptable, W=Acceptable with Warning, N=Not Acceptable

If the evaluation system is not appropriate for the types of analyses performed in your lab, apply a site specific evaluation.

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## QAP 49 Results by Laboratory

**Lab:** TM Thermo NUtech Albuquerque Lab, NM

No. Test	Radionuclide	Reported Value	Reported Error	EML Value	EML Error	<u>Reported</u> EML	Evaluation	<u>QAP 48</u> Evaluation
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**Matrix:** AI Air Filter Bq / filter

1	CO60	7.940	0.423	9.160	0.580	0.867	A	A
1	CS137	19.200	0.675	22.470	1.030	0.854	A	W
1	GROSS ALPHA	1.870	0.240	1.650	0.160	1.133	A	N
1	GROSS BETA	1.970	0.178	2.160	0.070	0.912	A	N
1	MN54	4.540	0.339	4.920	0.400	0.923	A	A
1	PU238	0.482	0.025	0.460	0.005	1.048	A	A
1	PU239	0.473	0.025	0.420	0.006	1.126	A	W
1	SB125	7.520	0.716	8.890	0.550	0.846	A	W
1	U234	0.260	0.015	0.260	0.010	1.000	A	A
1	U238	0.268	0.016	0.260	0.010	1.031	A	A
1	ug U	19.500	1.250	20.960	0.100	0.930	A	A

**Matrix:** SO Soil Bq / kg

1	AC228	72.500	7.300	52.600	2.900	1.378	A	
1	AM241	7.930	2.980	7.470	0.410	1.062	A	A
1	BI212	75.500	20.700	58.300	5.900	1.295	A	
1	BI214	41.000	3.890	28.800	0.500	1.424	A	
1	CS137	1030.000	30.800	954.000	38.000	1.080	A	A
1	K40	345.000	32.900	314.000	13.000	1.099	A	A
1	PB212	62.400	3.830	52.800	3.700	1.182	A	
1	PB214	35.700	5.060	29.100	1.200	1.227	A	
1	PU239	14.400	1.420	13.090	0.570	1.100	A	A
1	RA226	31.000	4.110	29.000	1.000	1.069	A	
1	SR90	42.900	10.200	39.630	0.003	1.083	A	W
1	TH228	65.300	7.260	52.700	4.000	1.239	A	
1	TH234	92.500	23.700	114.000	6.000	0.811	A	
1	TL208	60.500	6.730	18.300	1.100	3.306	A	
1	U234	115.000	6.440	113.000	6.000	1.018	A	A
1	U238	123.000	6.810	120.000	9.000	1.025	A	A
1	ug U	8.510	0.438	9.700	0.700	0.877	A	A

**Matrix:** VE Vegetation Bq / kg

1	AM241	2.960	0.500	2.330	0.060	1.270	A	A
1	CM244	2.630	0.481	1.760	0.070	1.494	W	A
1	CO60	21.500	3.750	20.000	1.000	1.075	A	N
1	CS137	437.000	14.400	390.000	20.000	1.121	A	A
1	K40	574.000	85.700	460.000	20.000	1.248	W	A
1	PU239	4.130	0.361	3.720	0.270	1.110	A	A
1	SR90	33.800	2.350	606.000	40.000	0.056	N	A

**Matrix:** WA Water Bq / L

1	CO60	53.400	1.720	49.400	1.200	1.081	A	W
1	CS137	55.800	1.740	50.000	1.700	1.116	A	W

**Values for elemental uranium are reported in µg/filter, g, or mL. pCi/g or mL=Bq x 0.027**

**Evaluation:** A=Acceptable, W=Acceptable with Warning, N=Not Acceptable

If the evaluation system is not appropriate for the types of analyses performed in your lab, apply a site specific evaluation.

## QAP 49 Results by Laboratory

**Lab:** TM Thermo NUtech Albuquerque Lab, NM

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No. Test	Radionuclide	Reported Value	Reported Error	EML Value	EML Error	Reported EML	Evaluation	QAP 48 Evaluation
<b>Matrix:</b> WA Water Bq/L								
1	GROSS ALPHA	1480.000	167.000	1080.000	60.000	1.370	N	A
1	GROSS BETA	1470.000	110.000	1420.000	60.000	1.035	A	A
1	MN54	38.300	1.280	32.400	1.400	1.182	W	W
1	PU238	1.200	0.077	1.100	0.010	1.091	A	A
1	PU239	1.520	0.093	1.410	0.040	1.078	A	A
1	SR90	2.230	0.235	2.110	0.180	1.057	A	W
1	U234	0.576	0.043	0.510	0.030	1.129	A	A
1	U238	0.571	0.043	0.520	0.050	1.098	A	A
1	ug U	0.041	0.003	0.040	0.003	1.015	A	W

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**Values for elemental uranium are reported in µg/filter, g, or mL.      pCi/g or mL=Bq x 0.027**

**Evaluation:** A=Acceptable, W=Acceptable with Warning, N=Not Acceptable

If the evaluation system is not appropriate for the types of analyses performed in your lab, apply a site specific evaluation.

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## QAP 49 Results by Laboratory

**Lab:** TN Thermo NUTech, Richmond, CA

No. Test	Radionuclide	Reported Value	Reported Error	EML Value	EML Error	Reported EML	Evaluation	QAP 48 Evaluation
<b>Matrix:</b> AI Air Filter Bq / filter								
1	AM241	0.520	0.050	0.510	0.008	1.020	A	A
1	CO60	8.180	0.160	9.160	0.580	0.893	A	A
1	CS137	20.600	4.000	22.470	1.030	0.917	A	A
1	GROSS ALPHA	1.400	0.350	1.650	0.160	0.848	A	A
1	GROSS BETA	1.700	0.400	2.160	0.070	0.787	W	A
1	MN54	4.870	0.500	4.920	0.400	0.990	A	A
1	PU238	0.470	0.050	0.460	0.005	1.022	A	W
1	PU239	0.450	0.050	0.420	0.006	1.071	A	W
1	SB125	5.000	1.000	8.890	0.550	0.562	N	A
1	SR90	1.050	0.100	1.120	0.050	0.937	A	A
1	U234	0.260	0.010	0.260	0.010	1.000	A	A
1	U238	0.250	0.010	0.260	0.010	0.962	A	A
1	ug U	20.000	4.000	20.960	0.100	0.954	A	A

**Matrix:** SO Soil Bq / kg

1	AM241	10.000	1.000	7.470	0.410	1.339	A	A
1	CS137	88.300	9.000	954.000	38.000	0.093	N	
1	K40	2.920	0.300	314.000	13.000	0.009	N	A
1	PU239	12.600	1.300	13.090	0.570	0.963	A	W
1	RA226	0.200	0.040	29.000	1.000	0.007	A	
1	SR90	41.000	4.000	39.630	0.003	1.035	A	N
1	TH228	0.490	0.050	52.700	4.000	0.009	A	
1	U234	103.000	10.000	113.000	6.000	0.912	A	A
1	U238	108.000	11.000	120.000	9.000	0.900	A	A
1	ug U	8.840	0.900	9.700	0.700	0.911	A	W

**Matrix:** VE Vegetation Bq / kg

1	AM241	2.550	0.250	2.330	0.060	1.094	A	A
1	CM244	1.880	0.500	1.760	0.070	1.068	A	A
1	CO60	0.220	0.030	20.000	1.000	0.011	N	W
1	CS137	3.920	0.400	390.000	20.000	0.010	N	W
1	K40	4.850	1.000	460.000	20.000	0.011	N	W
1	PU239	3.500	0.700	3.720	0.270	0.941	A	A
1	SR90	678.000	68.000	606.000	40.000	1.119	A	A

**Matrix:** WA Water Bq / L

1	AM241	1.240	0.120	1.250	0.080	0.992	A	A
1	CO60	0.098	0.010	49.400	1.200	0.002	N	A
1	CS137	0.098	0.010	50.000	1.700	0.002	N	A
1	FE55	148.000	15.000	139.000	2.000	1.065	A	W
1	GROSS ALPHA	820.000	120.000	1080.000	60.000	0.759	W	W
1	GROSS BETA	1240.000	200.000	1420.000	60.000	0.873	A	A
1	H3	78.000	8.000	76.200	2.900	1.024	A	W

**Values for elemental uranium are reported in µg/filter, g, or mL. pCi/g or mL=Bq x 0.027**

**Evaluation:** A=Acceptable, W=Acceptable with Warning, N=Not Acceptable

If the evaluation system is not appropriate for the types of analyses performed in your lab, apply a site specific evaluation.

## QAP 49 Results by Laboratory

**Lab:** TN Thermo NUTech, Richmond, CA

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No. Test	Radionuclide	Reported Value	Reported Error	EML Value	EML Error	Reported EML	Evaluation	QAP 48 Evaluation
<b>Matrix:</b> WA Water Bq/L								
1	MN54	0.067	0.007	32.400	1.400	0.002	N	A
1	NI63	122.000	12.000	95.700	0.900	1.275	A	
1	PU238	1.150	0.110	1.100	0.010	1.045	A	N
1	PU239	1.480	0.150	1.410	0.040	1.050	A	N
1	SR90	2.160	0.210	2.110	0.180	1.024	A	A
1	U234	0.530	0.050	0.510	0.030	1.039	A	A
1	U238	0.520	0.050	0.520	0.050	1.000	A	A
1	ug U	0.043	0.004	0.040	0.003	1.075	A	A

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**Values for elemental uranium are reported in µg/filter, g, or mL.      pCi/g or mL=Bq x 0.027**

**Evaluation:** A=Acceptable, W=Acceptable with Warning, N=Not Acceptable

If the evaluation system is not appropriate for the types of analyses performed in your lab, apply a site specific evaluation.

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## QAP 49 Results by Laboratory

**Lab:** TO Thermo NUtech Oak Ridge Laboratory

No. Test	Radionuclide	Reported Value	Reported Error	EML Value	EML Error	Reported EML	Evaluation	QAP 48 Evaluation
<b>Matrix: AI Air Filter Bq / filter</b>								
1	GROSS ALPHA	2.430	0.500	1.650	0.160	1.473	W	W
1	GROSS BETA	2.530	0.400	2.160	0.070	1.171	A	A
1	PU238	0.410	0.090	0.460	0.005	0.891	A	
1	PU239	0.430	0.080	0.420	0.006	1.024	A	
1	U234	0.250	0.090	0.260	0.010	0.962	A	
1	U238	0.270	0.100	0.260	0.010	1.038	A	
<b>Matrix: SO Soil Bq / kg</b>								
1	AC228	35.900	7.300	52.600	2.900	0.683	A	
1	AM241	9.600	3.800	7.470	0.410	1.285	A	N
1	BI212	26.500	16.600	58.300	5.900	0.455	A	
1	BI214	27.402	6.985	28.800	0.500	0.951	A	
1	BI214	22.800	5.400	28.800	0.500	0.792	A	
1	CS137	693.900	70.900	954.000	38.000	0.727	N	A
1	K40	224.000	43.100	314.000	13.000	0.713	N	A
1	PB210	20.400	2.400	32.000	3.300	0.637	A	
1	PB212	39.000	6.800	52.800	3.700	0.739	A	
1	PB214	24.700	11.800	29.100	1.200	0.849	A	
1	PU239	13.900	4.200	13.090	0.570	1.062	A	N
1	RA226	23.800	8.600	29.000	1.000	0.821	A	
1	SR90	37.800	3.000	39.630	0.003	0.954	A	A
1	TH234	98.700	45.300	114.000	6.000	0.866	A	
1	TL208	15.856	3.862	18.300	1.100	0.866	A	
1	TL208	31.500	6.600	18.300	1.100	1.721	A	
1	U234	110.400	26.900	113.000	6.000	0.977	A	A
1	U238	108.100	30.100	120.000	9.000	0.901	A	A
<b>Matrix: VE Vegetation Bq / kg</b>								
1	AM241	2.620	1.780	2.330	0.060	1.124	A	A
1	CO60	13.600	2.400	20.000	1.000	0.680	N	A
1	CS137	291.600	30.600	390.000	20.000	0.748	N	
1	K40	358.900	52.900	460.000	20.000	0.780	N	A
1	SR90	519.000	13.600	606.000	40.000	0.856	A	N
<b>Matrix: WA Water Bq / L</b>								
1	AM241	1.400	0.300	1.250	0.080	1.120	A	A
1	CO60	50.100	3.700	49.400	1.200	1.014	A	A
1	CS137	49.700	4.900	50.000	1.700	0.994	A	A
1	FE55	118.200	43.800	139.000	2.000	0.850	A	W
1	GROSS ALPHA	936.000	26.000	1080.000	60.000	0.867	A	W
1	GROSS BETA	1248.000	20.000	1420.000	60.000	0.879	A	A
1	H3	85.500	26.000	76.200	2.900	1.122	A	W
1	MN54	34.600	16.900	32.400	1.400	1.068	A	A

**Values for elemental uranium are reported in µg/filter, g, or mL. pCi/g or mL=Bq x 0.027**

**Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable**

If the evaluation system is not appropriate for the types of analyses performed in your lab, apply a site specific evaluation.

## QAP 49 Results by Laboratory

**Lab:** TO Thermo NUtech Oak Ridge Laboratory

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No. Test	Radionuclide	Reported Value	Reported Error	EML Value	EML Error	Reported EML	Evaluation	QAP 48 Evaluation
<b>Matrix:</b> WA Water Bq/L								
1	NI63	117.700	1.000	95.700	0.900	1.230	A	
1	PU238	1.240	0.280	1.100	0.010	1.127	W	A
1	PU239	1.640	0.340	1.410	0.040	1.163	W	A
1	SR90	2.300	0.100	2.110	0.180	1.090	A	W
1	U234	0.590	0.220	0.510	0.030	1.157	A	A
1	U238	0.580	0.230	0.520	0.050	1.115	A	A

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**Values for elemental uranium are reported in µg/filter, g, or mL.      pCi/g or mL=Bq x 0.027**

**Evaluation:** A=Acceptable, W=Acceptable with Warning, N=Not Acceptable

If the evaluation system is not appropriate for the types of analyses performed in your lab, apply a site specific evaluation.

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## QAP 49 Results by Laboratory

**Lab:** TP Taiwan Power Company, Taipei, Taiwan

No. Test	Radionuclide	Reported Value	Reported Error	EML Value	EML Error	Reported EML	Evaluation	QAP 48 Evaluation
<b>Matrix:</b> AI Air Filter Bq / filter								
1	CO60	9.480	0.050	9.160	0.580	1.035	A	A
1	CS137	23.200	0.220	22.470	1.030	1.032	A	A
1	GROSS ALPHA	1.600	0.080	1.650	0.160	0.970	A	W
1	GROSS BETA	2.090	0.100	2.160	0.070	0.968	A	A
1	MN54	4.900	0.100	4.920	0.400	0.996	A	A
1	SB125	8.620	0.080	8.890	0.550	0.970	A	A
1	SR90	3.270	0.060	1.120	0.050	2.920	N	A
<b>Matrix:</b> SO Soil Bq / kg								
1	CS137	918.530	5.180	954.000	38.000	0.963	A	A
1	K40	327.740	5.220	314.000	13.000	1.044	A	A
1	SR90	68.400	2.340	39.630	0.003	1.726	W	A
<b>Matrix:</b> VE Vegetation Bq / kg								
1	CO60	18.070	0.050	20.000	1.000	0.903	A	A
1	CS137	373.170	11.710	390.000	20.000	0.957	A	A
1	K40	458.780	4.090	460.000	20.000	0.997	A	A
1	SR90	644.160	25.790	606.000	40.000	1.063	A	A
<b>Matrix:</b> WA Water Bq / L								
1	CO60	44.870	0.400	49.400	1.200	0.908	A	A
1	CS137	47.750	1.100	50.000	1.700	0.955	A	A
1	GROSS ALPHA	996.700	98.000	1080.000	60.000	0.923	A	A
1	GROSS BETA	1371.000	105.000	1420.000	60.000	0.965	A	A
1	H3	115.640	9.990	76.200	2.900	1.518	W	A
1	MN54	31.470	0.750	32.400	1.400	0.971	A	A
1	SR90	2.500	0.230	2.110	0.180	1.185	A	A

**Values for elemental uranium are reported in µg/filter, g, or mL. pCi/g or mL=Bq x 0.027**

**Evaluation:** A=Acceptable, W=Acceptable with Warning, N=Not Acceptable

If the evaluation system is not appropriate for the types of analyses performed in your lab, apply a site specific evaluation.



## QAP 49 Results by Laboratory

**Lab:** TT Tracer Technologies International, Inc., Cleveland

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No. Test	Radionuclide	Reported Value	Reported Error	EML Value	EML Error	<u>Reported</u> EML	Evaluation	QAP 48 Evaluation
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**Matrix:** SO Soil Bq/kg

1	CS137	750.000	9.230	954.000	38.000	0.786	N	N
1	K40	266.000	5.570	314.000	13.000	0.847	W	W

**Matrix:** WA Water Bq/L

1	CO60	54.000	3.200	49.400	1.200	1.093	A	W
1	CS137	55.000	6.820	50.000	1.700	1.100	A	A
1	H3	69.000	7.090	76.200	2.900	0.906	A	A
1	MN54	38.000	7.090	32.400	1.400	1.173	W	A

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**Values for elemental uranium are reported in µg/filter, g, or mL.      pCi/g or mL=Bq x 0.027**

**Evaluation:** A=Acceptable, W=Acceptable with Warning, N=Not Acceptable

If the evaluation system is not appropriate for the types of analyses performed in your lab, apply a site specific evaluation.

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## QAP 49 Results by Laboratory

**Lab:** TW Taiwan Radiation Monitoring Center

No. Test	Radionuclide	Reported Value	Reported Error	EML Value	EML Error	Reported EML	Evaluation	QAP 48 Evaluation
<b>Matrix:</b> AI Air Filter Bq / filter								
1	CO60	9.400	0.200	9.160	0.580	1.026	A	A
1	CS137	22.200	0.600	22.470	1.030	0.988	A	A
1	GROSS ALPHA	1.730	0.050	1.650	0.160	1.048	A	A
1	GROSS BETA	1.860	0.040	2.160	0.070	0.861	W	A
1	MN54	5.000	0.200	4.920	0.400	1.016	A	A
1	SB125	9.700	0.200	8.890	0.550	1.091	A	A
<b>Matrix:</b> SO Soil Bq / kg								
1	AC228	54.000	1.000	52.600	2.900	1.027	A	
1	BI214	25.300	0.800	28.800	0.500	0.878	A	
1	CS137	1040.000	8.000	954.000	38.000	1.090	A	A
1	K40	371.000	7.000	314.000	13.000	1.182	A	A
1	PB212	52.600	0.900	52.800	3.700	0.996	A	
1	PB214	29.000	1.000	29.100	1.200	0.997	A	
1	TL208	16.500	0.500	18.300	1.100	0.902	A	
<b>Matrix:</b> VE Vegetation Bq / kg								
1	CO60	21.000	0.600	20.000	1.000	1.050	A	A
1	CS137	455.000	4.000	390.000	20.000	1.167	A	A
1	K40	540.000	20.000	460.000	20.000	1.174	A	A
<b>Matrix:</b> WA Water Bq / L								
1	CO60	49.200	0.700	49.400	1.200	0.996	A	A
1	CS137	51.000	1.000	50.000	1.700	1.020	A	A
1	GROSS ALPHA	820.000	30.000	1080.000	60.000	0.759	W	N
1	GROSS BETA	1192.000	50.000	1420.000	60.000	0.839	A	A
1	MN54	36.200	0.800	32.400	1.400	1.117	A	A

**Values for elemental uranium are reported in µg/filter, g, or mL. pCi/g or mL=Bq x 0.027**

**Evaluation:** A=Acceptable, W=Acceptable with Warning, N=Not Acceptable

If the evaluation system is not appropriate for the types of analyses performed in your lab, apply a site specific evaluation.

## QAP 49 Results by Laboratory

**Lab:** TX Texas Dept. of Health/Laboratories, Austin

No. Test	Radionuclide	Reported Value	Reported Error	EML Value	EML Error	Reported EML	Evaluation	QAP 48 Evaluation
<b>Matrix:</b> AI Air Filter Bq / filter								
1	AM241	0.491	0.014	0.510	0.008	0.963	A	A
1	CO60	8.250	0.070	9.160	0.580	0.901	A	A
1	CS137	21.900	0.100	22.470	1.030	0.975	A	A
1	GROSS ALPHA	1.770	0.050	1.650	0.160	1.073	A	A
1	GROSS BETA	2.090	0.070	2.160	0.070	0.968	A	A
1	MN54	5.060	0.070	4.920	0.400	1.028	A	A
1	PU238	0.525	0.016	0.460	0.005	1.141	A	A
1	PU239	0.460	0.014	0.420	0.006	1.095	A	A
1	SB125	8.810	0.110	8.890	0.550	0.991	A	W
1	U234	0.254	0.010	0.260	0.010	0.977	A	
1	U238	0.268	0.011	0.260	0.010	1.031	A	
<b>Matrix:</b> SO Soil Bq / kg								
1	AC228	52.200	1.500	52.600	2.900	0.992	A	
1	AM241	9.850	0.890	7.470	0.410	1.319	A	A
1	BI212	46.700	1.600	58.300	5.900	0.801	A	
1	BI214	25.100	1.200	28.800	0.500	0.872	A	
1	CS137	914.000	4.000	954.000	38.000	0.958	A	A
1	K40	315.000	12.000	314.000	13.000	1.003	A	A
1	PB210	27.700	9.300	32.000	3.300	0.866	A	
1	PB214	29.300	2.100	29.100	1.200	1.007	A	
1	PU239	12.300	0.500	13.090	0.570	0.940	A	A
1	RA226	44.300	3.500	29.000	1.000	1.528	A	
1	SR90	47.100	9.700	39.630	0.003	1.188	A	A
1	TH228	53.700	2.200	52.700	4.000	1.019	A	
1	TH234	128.000	15.000	114.000	6.000	1.123	A	
1	TL208	16.800	0.700	18.300	1.100	0.918	A	
1	U234	105.000	2.000	113.000	6.000	0.929	A	A
1	U238	112.000	3.000	120.000	9.000	0.933	A	A
<b>Matrix:</b> VE Vegetation Bq / kg								
1	AM241	3.330	0.390	2.330	0.060	1.429	A	A
1	CO60	23.200	1.100	20.000	1.000	1.160	A	A
1	CS137	435.000	2.000	390.000	20.000	1.115	A	A
1	K40	518.000	20.000	460.000	20.000	1.126	A	A
1	PU239	3.880	0.230	3.720	0.270	1.043	A	A
1	SR90	643.000	33.000	606.000	40.000	1.061	A	A
<b>Matrix:</b> WA Water Bq / L								
1	AM241	1.320	0.060	1.250	0.080	1.056	A	W
1	CO60	51.900	0.400	49.400	1.200	1.051	A	A
1	CS137	52.000	0.500	50.000	1.700	1.040	A	A
1	GROSS ALPHA	1103.000	30.000	1080.000	60.000	1.021	A	W

**Values for elemental uranium are reported in µg/filter, g, or mL. pCi/g or mL=Bq x 0.027**

**Evaluation:** A=Acceptable, W=Acceptable with Warning, N=Not Acceptable

If the evaluation system is not appropriate for the types of analyses performed in your lab, apply a site specific evaluation.

## QAP 49 Results by Laboratory

**Lab:** TX Texas Dept. of Health/Laboratories, Austin

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No. Test	Radionuclide	Reported Value	Reported Error	EML Value	EML Error	Reported EML	Evaluation	QAP 48 Evaluation
<b>Matrix:</b> WA Water Bq/L								
1	GROSS BETA	1208.000	35.000	1420.000	60.000	0.851	A	A
1	H3	80.900	5.600	76.200	2.900	1.062	A	A
1	MN54	36.300	0.400	32.400	1.400	1.120	A	A
1	PU238	1.162	0.047	1.100	0.010	1.056	A	A
1	PU239	1.567	0.055	1.410	0.040	1.111	A	A
1	SR90	2.720	0.710	2.110	0.180	1.289	W	A
1	U234	0.533	0.032	0.510	0.030	1.045	A	A
1	U238	0.527	0.031	0.520	0.050	1.013	A	W

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**Values for elemental uranium are reported in µg/filter, g, or mL.      pCi/g or mL=Bq x 0.027**

**Evaluation:** A=Acceptable, W=Acceptable with Warning, N=Not Acceptable

If the evaluation system is not appropriate for the types of analyses performed in your lab, apply a site specific evaluation.

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## QAP 49 Results by Laboratory

**Lab:** TY Scientific Production Association, Russia

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No. Test	Radionuclide	Reported Value	Reported Error	EML Value	EML Error	<u>Reported EML</u>	Evaluation	QAP 48 Evaluation
<b>Matrix:</b> SO Soil Bq / kg								
1	CO60	2.000	1.000	1.240	0.110	1.613	A	
1	CS137	864.000	1.000	954.000	38.000	0.906	A	
1	K40	336.000	15.000	314.000	13.000	1.070	A	
1	U234	28.000	3.000	113.000	6.000	0.248	N	

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**Values for elemental uranium are reported in µg/filter, g, or mL.      pCi/g or mL=Bq x 0.027**

**Evaluation:** A=Acceptable, W=Acceptable with Warning, N=Not Acceptable

If the evaluation system is not appropriate for the types of analyses performed in your lab, apply a site specific evaluation.

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## QAP 49 Results by Laboratory

**Lab:** UC Lockheed Martin, Paducah, KY

No. Test	Radionuclide	Reported Value	Reported Error	EML Value	EML Error	Reported EML	Evaluation	QAP 48 Evaluation
<b>Matrix:</b> AI Air Filter Bq / filter								
1	CO60	9.117	1.238	9.160	0.580	0.995	A	A
1	CS137	31.338	10.810	22.470	1.030	1.395	N	W
1	GROSS ALPHA	1.620	0.080	1.650	0.160	0.982	A	A
1	GROSS BETA	2.380	0.080	2.160	0.070	1.102	A	A
1	PU238	0.107	0.010	0.460	0.005	0.233	N	
1	PU239	0.100	0.009	0.420	0.006	0.238	N	
<b>Matrix:</b> SO Soil Bq / kg								
1	CS137	1160.320	98.420	954.000	38.000	1.216	W	W
1	K40	380.240	16.290	314.000	13.000	1.211	A	A
<b>Matrix:</b> VE Vegetation Bq / kg								
1	CO60	2.230	0.190	20.000	1.000	0.112	N	A
1	CS137	44.900	4.620	390.000	20.000	0.115	N	A
1	K40	53.110	4.820	460.000	20.000	0.115	N	A
<b>Matrix:</b> WA Water Bq / L								
1	CO60	52.250	5.280	49.400	1.200	1.058	A	A
1	CS137	53.290	6.200	50.000	1.700	1.066	A	A
1	GROSS ALPHA	993.230	66.710	1080.000	60.000	0.920	A	A
1	GROSS BETA	1224.570	50.490	1420.000	60.000	0.862	A	A
1	ug U	0.042		0.040	0.003	1.050	A	A

**Values for elemental uranium are reported in µg/filter, g, or mL. pCi/g or mL=Bq x 0.027**

**Evaluation:** A=Acceptable, W=Acceptable with Warning, N=Not Acceptable

If the evaluation system is not appropriate for the types of analyses performed in your lab, apply a site specific evaluation.

## QAP 49 Results by Laboratory

**Lab:** UP Lockheed Martin Energy Systems, Y-12 Plant, Oak Ridge

No. Test	Radionuclide	Reported Value	Reported Error	EML Value	EML Error	Reported EML	Evaluation	QAP 48 Evaluation
<b>Matrix: AI Air Filter Bq / filter</b>								
1	AM241	0.557	0.068	0.510	0.008	1.092	A	
1	Bq U	0.678	0.083	0.530	0.020	1.279	A	
1	CO60	9.580	0.467	9.160	0.580	1.046	A	W
1	CS137	23.800	1.420	22.470	1.030	1.059	A	W
1	GROSS ALPHA	1.640	0.081	1.650	0.160	0.994	A	A
1	GROSS BETA	1.900	0.066	2.160	0.070	0.880	W	A
1	MN54	5.410	0.528	4.920	0.400	1.100	A	W
1	PU238	0.488	0.066	0.460	0.005	1.061	A	
1	PU239	0.471	0.064	0.420	0.006	1.121	A	
1	SB125	3.410	0.813	8.890	0.550	0.384	N	N
1	SR90	1.040	0.223	1.120	0.050	0.929	A	
1	ug U	21.390	2.000	20.960	0.100	1.021	A	A
<b>Matrix: SO Soil Bq / kg</b>								
1	AM241	9.390	2.020	7.470	0.410	1.257	A	A
1	Bq U	234.000	18.800	237.000	16.000	0.987	A	
1	CS137	1101.000	88.000	954.000	38.000	1.154	A	A
1	PU239	13.900	4.030	13.090	0.570	1.062	A	A
1	SR90	38.850	10.730	39.630	0.003	0.980	A	
1	ug U	9.180	0.500	9.700	0.700	0.946	A	A
<b>Matrix: WA Water Bq / L</b>								
1	AM241	1.400	0.192	1.250	0.080	1.120	A	N
1	Bq U	1.450	0.212	1.050	0.080	1.381	W	
1	CO60	54.100	1.590	49.400	1.200	1.095	A	A
1	CS137	54.600	3.220	50.000	1.700	1.092	A	A
1	GROSS ALPHA	1052.000	105.000	1080.000	60.000	0.974	A	A
1	GROSS BETA	1488.000	97.000	1420.000	60.000	1.048	A	A
1	H3	84.000	23.600	76.200	2.900	1.102	A	A
1	MN54	36.500	3.020	32.400	1.400	1.127	A	A
1	PU238	1.100	0.166	1.100	0.010	1.000	A	W
1	PU239	1.510	0.204	1.410	0.040	1.071	A	W
1	SR90	2.513	0.606	2.110	0.180	1.191	A	A
1	ug U	0.043	0.004	0.040	0.003	1.075	A	A
<b>Matrix: AI Air Filter Bq / filter</b>								
1	AM241	0.522	0.073	0.510	0.008	1.024	A	A
1	Bq U	0.554	0.064	0.530	0.020	1.045	A	A
1	CO60	9.260	1.100	9.160	0.580	1.011	A	A
1	CS137	23.100	1.800	22.470	1.030	1.028	A	A
1	GROSS ALPHA	1.320	0.120	1.650	0.160	0.800	W	A
1	GROSS BETA	1.810	0.085	2.160	0.070	0.838	W	A
1	MN54	5.080	0.700	4.920	0.400	1.033	A	A

**Values for elemental uranium are reported in µg/filter, g, or mL. pCi/g or mL=Bq x 0.027**

**Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable**

If the evaluation system is not appropriate for the types of analyses performed in your lab, apply a site specific evaluation.

## QAP 49 Results by Laboratory

**Lab:** UY Lockheed Martin Energy Systems, Y-12 Plant, Oak Ridge

No. Test	Radionuclide	Reported Value	Reported Error	EML Value	EML Error	Reported EML	Evaluation	QAP 48 Evaluation
<b>Matrix:</b> AI Air Filter Bq / filter								
1	PU238	0.465	0.051	0.460	0.005	1.011	A	A
1	PU239	0.441	0.050	0.420	0.006	1.050	A	A
1	SB125	8.470	0.800	8.890	0.550	0.953	A	A
1	SR90	1.150	0.110	1.120	0.050	1.027	A	W
<b>Matrix:</b> SO Soil Bq / kg								
1	AC228	71.000	32.000	52.600	2.900	1.350	A	
1	AM241	7.530	1.800	7.470	0.410	1.008	A	A
1	BI212	60.000	30.000	58.300	5.900	1.029	A	
1	BI214	33.000	15.000	28.800	0.500	1.146	A	
1	Bq U	216.000	22.000	237.000	16.000	0.911	A	A
1	CS137	1100.000	100.000	954.000	38.000	1.153	A	A
1	K40	415.000	120.000	314.000	13.000	1.322	W	A
1	PB212	58.000	30.000	52.800	3.700	1.098	A	
1	PB214	34.000	15.000	29.100	1.200	1.168	A	
1	PU239	12.700	1.400	13.090	0.570	0.970	A	A
1	SR90	43.600	3.500	39.630	0.003	1.100	A	A
1	TH228	50.000	6.000	52.700	4.000	0.949	A	
1	TH234	108.000	11.000	114.000	6.000	0.947	A	
1	TL208	21.000	12.000	18.300	1.100	1.148	A	
<b>Matrix:</b> WA Water Bq / L								
1	AM241	1.260	0.150	1.250	0.080	1.008	A	A
1	Bq U	1.120	0.150	1.050	0.080	1.067	A	A
1	CO60	50.200	4.000	49.400	1.200	1.016	A	A
1	CS137	52.700	7.000	50.000	1.700	1.054	A	A
1	GROSS ALPHA	942.000	49.000	1080.000	60.000	0.872	A	A
1	GROSS BETA	1220.000	45.000	1420.000	60.000	0.859	A	A
1	H3	74.800	18.000	76.200	2.900	0.982	A	A
1	MN54	35.600	4.000	32.400	1.400	1.099	A	A
1	PU238	1.130	0.130	1.100	0.010	1.027	A	A
1	PU239	1.520	0.170	1.410	0.040	1.078	A	A
1	SR90	2.000	0.300	2.110	0.180	0.948	A	A

**Values for elemental uranium are reported in µg/filter, g, or mL. pCi/g or mL=Bq x 0.027**

**Evaluation:** A=Acceptable, W=Acceptable with Warning, N=Not Acceptable

If the evaluation system is not appropriate for the types of analyses performed in your lab, apply a site specific evaluation.



## QAP 49 Results by Laboratory

**Lab:** WA Environmental Radiation Lab, Off. of Public Health Labs. Seattle

No. Test	Radionuclide	Reported Value	Reported Error	EML Value	EML Error	Reported EML	Evaluation	QAP 48 Evaluation
<b>Matrix:</b> AI Air Filter Bq / filter								
1	AM241	0.440	0.040	0.510	0.008	0.863	W	A
1	Bq U	0.470	0.060	0.530	0.020	0.887	W	A
1	CO60	8.700	0.200	9.160	0.580	0.950	A	A
1	CS137	21.400	0.600	22.470	1.030	0.952	A	A
1	GROSS ALPHA	1.910	0.070	1.650	0.160	1.158	A	A
1	GROSS BETA	2.230	0.060	2.160	0.070	1.032	A	A
1	MN54	5.200	0.300	4.920	0.400	1.057	A	W
1	PU238	0.510	0.050	0.460	0.005	1.109	A	A
1	PU239	0.500	0.040	0.420	0.006	1.190	W	W
1	SB125	9.300	0.500	8.890	0.550	1.046	A	W
1	SR90	1.340	0.230	1.120	0.050	1.196	A	A
1	U234	0.240	0.040	0.260	0.010	0.923	A	A
1	U238	0.230	0.040	0.260	0.010	0.885	W	A

**Matrix:** SO Soil Bq / kg

1	AC228	54.700	2.600	52.600	2.900	1.040	A	
1	AM241	7.160	0.640	7.470	0.410	0.959	A	A
1	BI212	61.400	8.300	58.300	5.900	1.053	A	
1	BI214	28.700	1.900	28.800	0.500	0.997	A	
1	Bq U	247.000	9.000	237.000	16.000	1.042	A	A
1	CS137	1080.000	30.000	954.000	38.000	1.132	A	A
1	K40	399.000	15.000	314.000	13.000	1.271	W	A
1	PB212	57.500	2.600	52.800	3.700	1.089	A	
1	PB214	30.200	2.200	29.100	1.200	1.038	A	
1	PU238	0.550	0.350	0.530	0.270	1.038	A	
1	PU239	13.500	1.000	13.090	0.570	1.031	A	A
1	RA226	135.000	17.000	29.000	1.000	4.655	A	
1	SR90	46.100	3.900	39.630	0.003	1.163	A	A
1	TH228	190.000	33.000	52.700	4.000	3.605	A	
1	TH234	101.000	11.000	114.000	6.000	0.886	A	
1	TL208	18.600	1.000	18.300	1.100	1.016	A	
1	U234	116.000	7.000	113.000	6.000	1.027	A	A
1	U238	123.000	7.000	120.000	9.000	1.025	A	A

**Matrix:** VE Vegetation Bq / kg

1	AM241	1.720	0.250	2.330	0.060	0.738	W	W
1	CM244	2.640	0.300	1.760	0.070	1.500	W	
1	CO60	21.000	1.500	20.000	1.000	1.050	A	A
1	CS137	409.000	30.000	390.000	20.000	1.049	A	A
1	K40	470.000	31.000	460.000	20.000	1.022	A	A
1	PU239	4.370	0.400	3.720	0.270	1.175	A	A
1	SR90	709.000	22.000	606.000	40.000	1.170	W	A

**Values for elemental uranium are reported in µg/filter, g, or mL. pCi/g or mL=Bq x 0.027**

**Evaluation:** A=Acceptable, W=Acceptable with Warning, N=Not Acceptable

If the evaluation system is not appropriate for the types of analyses performed in your lab, apply a site specific evaluation.

## QAP 49 Results by Laboratory

**Lab:** WA Environmental Radiation Lab, Off. of Public Health Labs. Seattle

No. Test	Radionuclide	Reported Value	Reported Error	EML Value	EML Error	Reported EML	Evaluation	QAP 48 Evaluation
<b>Matrix:</b> WA Water Bq/L								
1	AM241	1.090	0.110	1.250	0.080	0.872	W	A
1	Bq U	1.130	0.100	1.050	0.080	1.076	A	A
1	CO60	50.100	1.500	49.400	1.200	1.014	A	A
1	CS137	50.000	2.200	50.000	1.700	1.000	A	A
1	GROSS ALPHA	949.000	83.000	1080.000	60.000	0.879	A	A
1	GROSS BETA	1370.000	80.000	1420.000	60.000	0.965	A	A
1	H3	93.000	4.000	76.200	2.900	1.220	A	A
1	MN54	35.400	2.300	32.400	1.400	1.093	A	A
1	NI63	119.000	4.000	95.700	0.900	1.243	A	
1	PU238	1.180	0.090	1.100	0.010	1.073	A	A
1	PU239	1.650	0.100	1.410	0.040	1.170	W	A
1	SR90	2.130	0.440	2.110	0.180	1.009	A	A
1	U234	0.500	0.070	0.510	0.030	0.980	A	A
1	U238	0.560	0.070	0.520	0.050	1.077	A	A

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**Values for elemental uranium are reported in µg/filter, g, or mL.      pCi/g or mL=Bq x 0.027**

**Evaluation:** A=Acceptable, W=Acceptable with Warning, N=Not Acceptable

If the evaluation system is not appropriate for the types of analyses performed in your lab, apply a site specific evaluation.

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## QAP 49 Results by Laboratory

**Lab:** WC Waste Management Federal Services of Hanford

No. Test	Radionuclide	Reported Value	Reported Error	EML Value	EML Error	Reported EML	Evaluation	QAP 48 Evaluation
<b>Matrix: AI Air Filter Bq / filter</b>								
1	AM241	0.610	0.100	0.510	0.008	1.196	A	W
1	CO60	9.200	0.800	9.160	0.580	1.004	A	A
1	CS137	22.000	3.400	22.470	1.030	0.979	A	A
1	GROSS ALPHA	1.500	0.200	1.650	0.160	0.909	A	A
1	GROSS BETA	2.300	0.200	2.160	0.070	1.065	A	A
1	MN54	5.000	0.700	4.920	0.400	1.016	A	A
1	PU238	0.500	0.080	0.460	0.005	1.087	A	W
1	PU239	0.470	0.080	0.420	0.006	1.119	A	A
1	SB125	9.800	0.800	8.890	0.550	1.102	A	N
1	SR90	1.300	0.200	1.120	0.050	1.161	A	A
1	U234	0.280	0.050	0.260	0.010	1.077	A	A
1	U238	0.270	0.050	0.260	0.010	1.038	A	A
<b>Matrix: SO Soil Bq / kg</b>								
1	AM241	8.400	1.000	7.470	0.410	1.124	A	W
1	CS137	1081.000	150.000	954.000	38.000	1.133	A	A
1	K40	413.000	54.000	314.000	13.000	1.315	W	W
1	PU239	13.000	2.300	13.090	0.570	0.993	A	A
1	SR90	61.000	10.000	39.630	0.003	1.539	A	N
<b>Matrix: VE Vegetation Bq / kg</b>								
1	AM241	4.800	1.300	2.330	0.060	2.060	W	A
1	CM244	1.700	0.700	1.760	0.070	0.966	A	A
1	CO60	23.000	0.200	20.000	1.000	1.150	A	A
1	CS137	460.000	69.000	390.000	20.000	1.179	A	A
1	K40	589.000	73.000	460.000	20.000	1.280	W	A
1	PU239	4.000	0.400	3.720	0.270	1.075	A	A
1	SR90	667.000	86.000	606.000	40.000	1.101	A	A
<b>Matrix: WA Water Bq / L</b>								
1	AM241	1.400	0.230	1.250	0.080	1.120	A	A
1	CO60	59.000	4.600	49.400	1.200	1.194	W	A
1	CS137	62.000	8.600	50.000	1.700	1.240	W	A
1	GROSS ALPHA	1056.000	106.000	1080.000	60.000	0.978	A	A
1	GROSS BETA	1341.000	134.000	1420.000	60.000	0.944	A	A
1	H3	80.000	9.300	76.200	2.900	1.050	A	A
1	MN54	42.000	6.000	32.400	1.400	1.296	N	A
1	PU238	1.100	0.180	1.100	0.010	1.000	A	A
1	PU239	1.600	0.230	1.410	0.040	1.135	A	A
1	SR90	2.300	0.320	2.110	0.180	1.090	A	A
1	U234	0.570	0.100	0.510	0.030	1.118	A	A
1	U238	0.560	0.100	0.520	0.050	1.077	A	A

**Values for elemental uranium are reported in µg/filter, g, or mL. pCi/g or mL=Bq x 0.027**

**Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable**

If the evaluation system is not appropriate for the types of analyses performed in your lab, apply a site specific evaluation.

## QAP 49 Results by Laboratory

**Lab:** WE Westinghouse Electric Corp., Madison, PA

No. Test	Radionuclide	Reported Value	Reported Error	EML Value	EML Error	Reported EML	QAP 48 Evaluation
<b>Matrix:</b> AI Air Filter Bq / filter							
1	CO60	9.990	0.230	9.160	0.580	1.091	A
1	CS137	26.900	4.900	22.470	1.030	1.197	W
1	MN54	6.130	0.630	4.920	0.400	1.246	W
1	SB125	10.900	0.590	8.890	0.550	1.226	W
1	SR90	9.210	0.830	1.120	0.050	8.223	N
<b>Matrix:</b> SO Soil Bq / kg							
1	AC228	37.500	13.000	52.600	2.900	0.713	A
1	BI212	37.200	22.000	58.300	5.900	0.638	A
1	BI214	33.900	17.000	28.800	0.500	1.177	A
1	CS137	1130.000	290.000	954.000	38.000	1.184	A
1	K40	366.000	27.000	314.000	13.000	1.166	A
1	PB212	53.400	7.900	52.800	3.700	1.011	A
1	PB214	39.400	10.000	29.100	1.200	1.354	A
1	RA226	34.400	17.000	29.000	1.000	1.186	A
1	SR90	40.200	30.000	39.630	0.003	1.014	A
1	TH228	37.200	22.000	52.700	4.000	0.706	A
1	TH234	52.800	40.000	114.000	6.000	0.463	A
1	TL208	17.400	10.000	18.300	1.100	0.951	A
<b>Matrix:</b> VE Vegetation Bq / kg							
1	CO60	21.900	2.700	20.000	1.000	1.095	A
1	CS137	469.000	120.000	390.000	20.000	1.203	A
1	K40	522.000	39.000	460.000	20.000	1.135	A
1	SR90	316.000	32.000	606.000	40.000	0.521	W
<b>Matrix:</b> WA Water Bq / L							
1	CO60	53.400	2.600	49.400	1.200	1.081	A
1	CS137	58.200	6.800	50.000	1.700	1.164	A
1	MN54	40.500	2.700	32.400	1.400	1.250	N
1	SR90	12.900	0.880	2.110	0.180	6.114	N

**Values for elemental uranium are reported in µg/filter, g, or mL. pCi/g or mL=Bq x 0.027**

**Evaluation:** A=Acceptable, W=Acceptable with Warning, N=Not Acceptable

If the evaluation system is not appropriate for the types of analyses performed in your lab, apply a site specific evaluation.

## QAP 49 Results by Laboratory

**Lab:** WI WIPP Site, Westinghouse Electric Corp.

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No. Test	Radionuclide	Reported Value	Reported Error	EML Value	EML Error	Reported EML	Evaluation	QAP 48 Evaluation
<b>Matrix:</b> WA Water Bq/L								
1	CO60	55.980	4.243	49.400	1.200	1.133	A	W
3	CO60	55.720	4.223	49.400	1.200	1.128	A	W
2	CO60	55.850	4.229	49.400	1.200	1.131	A	W
3	CS137	56.620	7.027	50.000	1.700	1.132	A	A
2	CS137	55.960	6.945	50.000	1.700	1.119	A	A
1	CS137	56.260	6.983	50.000	1.700	1.125	A	A
2	MN54	39.490	3.990	32.400	1.400	1.219	W	A
3	MN54	39.010	3.946	32.400	1.400	1.204	W	A
1	MN54	38.340	3.878	32.400	1.400	1.183	W	A

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**Values for elemental uranium are reported in µg/filter, g, or mL.      pCi/g or mL=Bq x 0.027**

**Evaluation:** A=Acceptable, W=Acceptable with Warning, N=Not Acceptable

If the evaluation system is not appropriate for the types of analyses performed in your lab, apply a site specific evaluation.

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## QAP 49 Results by Laboratory

**Lab:** WS Weldon Springs Site, St Charles, MO

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No. Test	Radionuclide	Reported Value	Reported Error	EML Value	EML Error	Reported EML	Evaluation	QAP 48 Evaluation
<b>Matrix:</b> AI Air Filter Bq / filter								
1	GROSS ALPHA	1.695	0.040	1.650	0.160	1.027	A	A
<b>Matrix:</b> SO Soil Bq / kg								
1	AM241	13.100	2.410	7.470	0.410	1.754	W	A
1	CS137	1077.100	36.000	954.000	38.000	1.129	A	A
1	K40	363.710	18.900	314.000	13.000	1.158	A	A
1	U238	122.800	15.700	120.000	9.000	1.023	A	A

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**Values for elemental uranium are reported in µg/filter, g, or mL.      pCi/g or mL=Bq x 0.027**

**Evaluation:** A=Acceptable, W=Acceptable with Warning, N=Not Acceptable

If the evaluation system is not appropriate for the types of analyses performed in your lab, apply a site specific evaluation.

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## QAP 49 Results by Laboratory

**Lab:** WV West Valley Nuclear Services Co, Inc, NY

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No. Test	Radionuclide	Reported Value	Reported Error	EML Value	EML Error	<u>Reported</u> EML	Evaluation	QAP 48 Evaluation
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**Matrix:** AI Air Filter Bq / filter

1	GROSS ALPHA	1.530	0.031	1.650	0.160	0.927	A	W
1	GROSS BETA	2.170	0.036	2.160	0.070	1.005	A	A

**Matrix:** WA Water Bq / L

1	CO60	52.060	0.540	49.400	1.200	1.054	A	A
1	CS137	50.620	0.440	50.000	1.700	1.012	A	A
1	GROSS ALPHA	848.410	59.830	1080.000	60.000	0.786	W	A
1	GROSS BETA	1279.460	59.760	1420.000	60.000	0.901	A	A
1	H3	80.920	4.630	76.200	2.900	1.062	A	A
1	MN54	36.320	0.480	32.400	1.400	1.121	A	A
1	SR90	2.430	0.240	2.110	0.180	1.152	A	A

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**Values for elemental uranium are reported in µg/filter, g, or mL.      pCi/g or mL=Bq x 0.027**

**Evaluation:** A=Acceptable, W=Acceptable with Warning, N=Not Acceptable

If the evaluation system is not appropriate for the types of analyses performed in your lab, apply a site specific evaluation.

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## QAP 49 Results by Laboratory

**Lab:** YA Duke Engineering Environmental Lab, Westboro, MA

No. Test	Radionuclide	Reported Value	Reported Error	EML Value	EML Error	Reported EML	Evaluation	QAP 48 Evaluation
<b>Matrix: AI Air Filter Bq / filter</b>								
1	AM241	0.524	0.018	0.510	0.008	1.027	A	A
1	Bq U	0.567	0.013	0.530	0.020	1.070	A	
1	CO60	8.845	0.237	9.160	0.580	0.966	A	A
1	CS137	22.292	0.370	22.470	1.030	0.992	A	A
1	GROSS ALPHA	1.555	0.017	1.650	0.160	0.943	A	A
1	GROSS BETA	1.906	0.021	2.160	0.070	0.882	W	A
1	MN54	5.223	0.257	4.920	0.400	1.062	A	A
1	PU238	0.499	0.008	0.460	0.005	1.085	A	A
1	PU239	0.462	0.008	0.420	0.006	1.099	A	A
1	SR90	1.221	0.081	1.120	0.050	1.090	A	A
<b>Matrix: SO Soil Bq / kg</b>								
1	AM241	6.736	0.241	7.470	0.410	0.902	A	A
1	Bq U	225.805	6.418	237.000	16.000	0.953	A	
1	CS137	1176.415	3.330	954.000	38.000	1.233	W	A
1	K40	384.060	8.010	314.000	13.000	1.223	A	A
1	PU239	13.858	0.433	13.090	0.570	1.059	A	A
1	SR90	51.603	3.083	39.630	0.003	1.302	A	W
1	U234	107.238	2.985	113.000	6.000	0.949	A	A
1	U238	113.800	3.157	120.000	9.000	0.948	A	A
<b>Matrix: VE Vegetation Bq / kg</b>								
1	AM241	2.533	0.122	2.330	0.060	1.087	A	A
1	CM244	1.376	0.088	1.760	0.070	0.782	W	A
1	CO60	20.590	0.647	20.000	1.000	1.030	A	A
1	CS137	415.880	2.720	390.000	20.000	1.066	A	A
1	K40	511.340	13.505	460.000	20.000	1.112	A	A
1	PU239	3.881	0.099	3.720	0.270	1.043	A	A
1	SR90	615.803	31.943	606.000	40.000	1.016	A	A
<b>Matrix: WA Water Bq / L</b>								
1	AM241	1.240	0.040	1.250	0.080	0.992	A	A
1	CO60	49.013	0.752	49.400	1.200	0.992	A	A
1	CS137	48.902	0.913	50.000	1.700	0.978	A	A
1	FE55	136.543	11.347	139.000	2.000	0.982	A	W
1	GROSS ALPHA	720.020	16.773	1080.000	60.000	0.667	W	A
1	GROSS BETA	1194.977	16.403	1420.000	60.000	0.842	A	A
1	H3	81.079	2.504	76.200	2.900	1.064	A	A
1	MN54	33.781	0.802	32.400	1.400	1.043	A	A
1	NI63	124.073	9.990	95.700	0.900	1.296	A	
1	PU238	1.195	0.038	1.100	0.010	1.086	A	A
1	PU239	1.534	0.046	1.410	0.040	1.088	A	A
1	SR90	1.449	0.315	2.110	0.180	0.687	N	A

**Values for elemental uranium are reported in µg/filter, g, or mL. pCi/g or mL=Bq x 0.027**

**Evaluation:** A=Acceptable, W=Acceptable with Warning, N=Not Acceptable

If the evaluation system is not appropriate for the types of analyses performed in your lab, apply a site specific evaluation.



## QAP 49 Results by Laboratory

**Lab:** YA Duke Engineering Environmental Lab, Westboro, MA

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No. Test	Radionuclide	Reported Value	Reported Error	EML Value	EML Error	<u>Reported</u> EML	Evaluation	QAP 48 Evaluation
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Matrix: WA Water Bq/L

1	ug U	0.040	0.001	0.040	0.003	0.990	A	W
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**Values for elemental uranium are reported in µg/filter, g, or mL.      pCi/g or mL=Bq x 0.027**

**Evaluation:** A=Acceptable, W=Acceptable with Warning, N=Not Acceptable

If the evaluation system is not appropriate for the types of analyses performed in your lab, apply a site specific evaluation.

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## QAP 49 Results by Laboratory

**Lab:** YP US Army Proving Ground, Yuma, AZ

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No. Test	Radionuclide	Reported Value	Reported Error	EML Value	EML Error	Reported EML	Evaluation	QAP 48 Evaluation
<b>Matrix:</b> AI Air Filter Bq / filter								
1	ug U	20.900	0.940	20.960	0.100	0.997	A	A
<b>Matrix:</b> SO Soil Bq / kg								
1	ug U	8.240	1.510	9.700	0.700	0.849	A	A
<b>Matrix:</b> WA Water Bq / L								
1	ug U	0.040	0.002	0.040	0.003	1.000	A	A

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**Values for elemental uranium are reported in µg/filter, g, or mL.      pCi/g or mL=Bq x 0.027**

**Evaluation:** A=Acceptable, W=Acceptable with Warning, N=Not Acceptable

If the evaluation system is not appropriate for the types of analyses performed in your lab, apply a site specific evaluation.

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## QAP 49 Results by Laboratory

**Lab:** YU Institute of Occupational and Radiological Health, Yugoslavia

No. Test	Radionuclide	Reported Value	Reported Error	EML Value	EML Error	Reported EML	Evaluation	QAP 48 Evaluation
<b>Matrix:</b> AI Air Filter Bq / filter								
1	CO60	8.100	0.500	9.160	0.580	0.884	A	W
1	CS137	19.300	0.700	22.470	1.030	0.859	A	W
1	MN54	4.300	0.400	4.920	0.400	0.874	A	W
1	SB125	7.000	0.200	8.890	0.550	0.787	W	W
<b>Matrix:</b> SO Soil Bq / kg								
1	CS137	951.000	20.000	954.000	38.000	0.997	A	A
1	K40	315.000	10.000	314.000	13.000	1.003	A	A
<b>Matrix:</b> VE Vegetation Bq / kg								
1	CO60	17.800	1.200	20.000	1.000	0.890	A	W
1	CS137	367.000	20.000	390.000	20.000	0.941	A	W
1	K40	535.000	20.000	460.000	20.000	1.163	A	W
<b>Matrix:</b> WA Water Bq / L								
1	CO60	48.300	1.500	49.400	1.200	0.978	A	A
1	CS137	48.200	1.500	50.000	1.700	0.964	A	A
1	MN54	33.000	1.100	32.400	1.400	1.019	A	A

**Values for elemental uranium are reported in µg/filter, g, or mL. pCi/g or mL=Bq x 0.027**

**Evaluation:** A=Acceptable, W=Acceptable with Warning, N=Not Acceptable

If the evaluation system is not appropriate for the types of analyses performed in your lab, apply a site specific evaluation.

## QAP 49 Results by Nuclide

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**Matrix:** AI Air Filter Bq / filter  
**Radionuclide:** AM241

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**EML Value:** 0.510  
**EML Error:** 0.008

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Labcode	Test #	Reported Value	Reported Error	Reported EML	QAP 48 Evaluation	Evaluation
AF	1	0.1400	0.0200	0.275	W	N
AG	1	0.2260	0.0300	0.443	W	N
AM	1	0.4800	0.0500	0.941	N	A
AN	1	0.5300	0.0200	1.039	A	A
AU	1	0.8530	0.0640	1.673	N	W
BE	1	0.5600	0.0500	1.098	A	A
BL	1	0.5990	0.0410	1.175	W	A
BL	2	0.5520	0.0350	1.082	W	A
BM	1	0.4600	0.0600	0.902	A	A
BP	1	0.5750	0.0190	1.127	A	A
BU	1	0.6000	0.0300	1.176	A	A
BX	1	0.5000	0.0400	0.980	A	A
CB	1	0.6000	0.0700	1.176		A
CB	2	0.4200	0.0900	0.824		W
CB	3	0.5000	0.0300	0.980		A
CH	1	0.5350	0.0270	1.049	A	A
CL	1	0.5100	0.1000	1.000	A	A
CN	1	0.9100	0.1300	1.784		W
CS	1	0.5198	0.0387	1.019	W	A
EG	1	0.5680	0.0440	1.114	A	A
EP	1	0.5470	0.0504	1.073	A	A
FJ	1	0.4600	0.0900	0.902	A	A
FM	1	0.5700	0.0300	1.118		A
GA	1	0.5600	0.0180	1.098	A	A
GE	1	0.5494	0.1421	1.077	W	A
GP	1	0.5000	0.0500	0.980	A	A
GT	1	0.5400	0.1000	1.059	A	A
HU	1	0.3400	0.1900	0.667		N
IN	1	0.5400	0.0500	1.059		A
IS	1	0.3967	0.1841	0.778	N	W
IT	1	0.4600	0.0700	0.902	A	A
LA	1	0.5430	0.0170	1.065	A	A
LA	2	0.5600	0.0170	1.098	A	A
LA	3	0.5630	0.0170	1.104	A	A
LL	1	0.5670	0.0307	1.112	A	A
LN	1	0.3700	0.0700	0.725		N
LV	1	0.8940	0.0510	1.753	N	W
ME	1	0.7600	0.0600	1.490	N	W
MS	1	0.4500	0.0500	0.882	A	A
NM	1	0.4780	0.0130	0.937	A	A
NQ	1	0.4440	0.0270	0.871		W
OT	1	0.4800	0.0300	0.941	A	A

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Values for elemental uranium are reported in µg/filter, g or mL. pCi/g or mL = Bq x 0.027

Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable

If the evaluation system is not appropriate for the types of analyses performed in your lab, apply site specific evaluation.

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## QAP 49 Results by Nuclide

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**Matrix:** AI Air Filter Bq / filter  
**Radionuclide:** AM241

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**EML Value:** 0.510  
**EML Error:** 0.008

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Labcode	Test #	Reported Value	Reported Error	Reported EML	QAP 48 Evaluation	Evaluation
PO	1	0.7000	0.1000	1.373		A
PR	1	0.6291	0.1915	1.234		A
RE	1	0.5150	0.0390	1.010	A	A
RI	1	0.4660	0.0322	0.914	A	A
SK	1	0.6500	0.0500	1.275	A	A
SN	1	0.5900	0.0840	1.157	A	A
SR	1	0.5110	0.0230	1.002	A	A
SW	1	0.8700	0.0500	1.706	A	W
TI	1	0.5400	0.0500	1.059	A	A
TN	1	0.5200	0.0500	1.020	A	A
TX	1	0.4910	0.0140	0.963	A	A
UP	1	0.5570	0.0675	1.092		A
UY	1	0.5220	0.0730	1.024	A	A
WA	1	0.4400	0.0400	0.863	A	W
WC	1	0.6100	0.1000	1.196	W	A
YA	1	0.5239	0.0181	1.027	A	A

**Total Number Reported: 58**

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Values for elemental uranium are reported in µg/filter, g or mL. pCi/g or mL = Bq x 0.027

**Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable**

If the evaluation system is not appropriate for the types of analyses performed in your lab, apply site specific evaluation.

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## QAP 49 Results by Nuclide

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Matrix: AI Air Filter Bq / filter  
Radionuclide: Bq U

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EML Value: 0.530  
EML Error: 0.020

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Labcode	Test #	Reported Value	Reported Error	Reported EML	QAP 48 Evaluation	Evaluation
AF	1	0.5100	0.0600	0.962		A
AG	1	0.5260	0.0450	0.992	A	A
AM	1	0.9400	0.0200	1.774	W	W
BL	1	0.5280	0.0080	0.996	A	A
BP	1	0.5420	0.0140	1.023		A
BU	1	0.4900	0.0300	0.925	A	A
CH	1	0.5100	0.0250	0.962	A	A
CL	1	0.5500	0.1000	1.038	A	A
GP	1	0.4200		0.792	A	N
IT	1	0.4900	0.0200	0.925		A
NL	1	0.5380	0.0630	1.015		A
OT	1	0.4800	0.0400	0.906	A	A
UP	1	0.6780	0.0830	1.279		A
UY	1	0.5540	0.0640	1.045	A	A
WA	1	0.4700	0.0600	0.887	A	W
YA	1	0.5673	0.0128	1.070		A

**Total Number Reported: 16**

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Values for elemental uranium are reported in µg/filter, g or mL. pCi/g or mL = Bq x 0.027

Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable

If the evaluation system is not appropriate for the types of analyses performed in your lab, apply site specific evaluation.

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### QAP 49 Results by Nuclide

Matrix: AI Air Filter Bq / filter  
Radionuclide: CO60

EML Value: 9.160  
EML Error: 0.580

Labcode	Test #	Reported Value	Reported Error	Reported EML	QAP 48 Evaluation	Evaluation
AF	1	7.8700	0.8800	0.859	A	A
AG	1	8.5000	1.7000	0.928	A	A
AL	1	9.9054	0.3000	1.081	A	A
AM	1	7.2500	0.1100	0.791	A	W
AN	1	9.7200	0.5300	1.061	W	A
AU	1	9.1900	0.2400	1.003	W	A
BA	1	8.9700	0.3600	0.979	A	A
BC	1	15.1000	0.7700	1.648	N	N
BE	1	9.1000	0.5000	0.993	A	A
BL	1	10.0000	0.3000	1.092	A	A
BM	1	9.2600	0.2800	1.011	A	A
BN	1	12.2100	1.0100	1.333	A	N
BN	2	9.9900	1.0100	1.091	A	A
BN	3	12.0300	1.0100	1.313	A	W
BP	1	9.5000	0.2000	1.037	A	A
BQ	1	8.6000	0.2000	0.939	A	A
BU	1	9.1000	0.5000	0.993	A	A
BX	1	16.5000	0.0100	1.801	N	N
CA	1	8.3000	0.2000	0.906	A	A
CB	1	9.1000	0.1200	0.993		A
CB	2	8.5000	0.1100	0.928		A
CB	3	9.2000	0.1200	1.004		A
CD	1	8.9000	0.1000	0.972	A	A
CH	1	9.0800	0.1700	0.991	A	A
CL	1	9.4000	0.5000	1.026	A	A
CN	1	9.8600	0.5800	1.076	A	A
CO	1	9.5000	0.3000	1.037	A	A
CR	1	16.2000	0.8000	1.769	A	N
CS	1	8.3510	0.2760	0.912	N	A
EG	1	8.8000	0.1000	0.961	A	A
EP	1	9.4200	1.2700	1.028	A	A
FG	1	8.9100	0.1400	0.973	A	A
FJ	1	10.4000	0.2800	1.135	W	W
FL	1	8.6300	0.0500	0.942	A	A
FM	1	9.1500	0.0700	0.999	A	A
FN	1	8.7600	0.6600	0.956	A	A
GA	1	8.7700	0.5600	0.957	A	A
GE	1	9.1834	1.5529	1.003	A	A
GP	1	9.3000	1.6000	1.015	A	A
GT	1	8.3000	1.0000	0.906	A	A
HU	1	7.8800	0.2600	0.860	A	A

Values for elemental uranium are reported in µg/filter, g or mL. pCi/g or mL = Bq x 0.027

Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable

If the evaluation system is not appropriate for the types of analyses performed in your lab, apply site specific evaluation.

### QAP 49 Results by Nuclide

Matrix: AI Air Filter Bq / filter  
Radionuclide: CO60

EML Value: 9.160  
EML Error: 0.580

Labcode	Test #	Reported Value	Reported Error	Reported EML	QAP 48 Evaluation	Evaluation
IA	1	8.5300	0.0900	0.931	W	A
IA	2	8.3100	0.0900	0.907	W	A
IA	3	8.2300	0.0900	0.898	W	A
ID	1	9.7000	0.5920	1.059	W	A
IL	1	8.9000	0.1000	0.972	A	A
IN	1	8.5000	0.3000	0.928	A	A
IS	1	9.5000	1.1700	1.037	A	A
IT	1	8.8200	0.3300	0.963	A	A
KR	1	8.8000	0.9000	0.961		A
LA	1	9.1900	0.7200	1.003	A	A
LA	2	9.1200	0.7400	0.996	A	A
LA	3	9.0700	0.7300	0.990	A	A
LB	1	10.4000	1.1000	1.135		W
LL	1	9.0100	0.2520	0.984	A	A
LN	1	8.1000	0.2800	0.884	A	A
LV	1	8.4000	0.1600	0.917	A	A
MA	1	9398.0000	1295.0000	1025.983		N
ME	1	10.2000	0.3100	1.114	W	W
MH	1	9.8400	0.2600	1.074	W	A
MS	1	8.9600	0.9000	0.978	A	A
NA	1	8.7100	0.0800	0.951	A	A
ND	1	8.8130	0.2280	0.962		A
NL	1	9.3000	1.5600	1.015	A	A
NP	1	9.0700	0.0700	0.990	A	A
NS	1	9.1360	0.1000	0.997	W	A
NZ	1	9.1000	0.5000	0.993		A
NZ	2	9.1000	0.5000	0.993		A
OB	1	15.3000	2.7100	1.670		N
OC	1	10.0000	3.0000	1.092		A
OC	2	10.0000	3.0000	1.092		A
OC	3	10.0000	3.0000	1.092		A
OD	1	8.9960	0.1460	0.982	A	A
OD	1	9.0000	0.1400	0.983	A	A
OD	2	9.0780	0.1400	0.991	A	A
OD	2	9.0800	0.1400	0.991	A	A
OL	1	9.7900	0.3400	1.069	A	A
OT	1	9.4000	0.7000	1.026	A	A
OU	1	8.9700	0.2900	0.979	A	A
PK	1	9.0350	0.3800	0.986		A
PO	1	10.5000	0.5000	1.146	A	W
PR	1	9.3443	0.0945	1.020		A
RA	1	9.2900	0.4300	1.014	A	A

Values for elemental uranium are reported in µg/filter, g or mL. pCi/g or mL = Bq x 0.027

Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable

If the evaluation system is not appropriate for the types of analyses performed in your lab, apply site specific evaluation.



## QAP 49 Results by Nuclide

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**Matrix:** AI Air Filter Bq / filter  
**Radionuclide:** CO60

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**EML Value:** 9.160  
**EML Error:** 0.580

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Labcode	Test #	Reported Value	Reported Error	Reported EML	QAP 48 Evaluation	Evaluation
RA	2	9.3600	0.2200	1.022	A	A
RC	1	9.1600	0.6500	1.000	A	A
RE	1	8.8200	0.9100	0.963	A	A
RI	1	8.0000	0.7820	0.873	A	A
SA	1	9.4000	1.2000	1.026	A	A
SB	1	9.7400	0.9300	1.063		A
SK	1	8.6000	0.9000	0.939	A	A
SR	1	8.7600	0.1580	0.956	A	A
SW	1	9.4000	0.0900	1.026	A	A
TE	1	9.3000	0.3000	1.015	A	A
TI	1	8.8000	0.9000	0.961	A	A
TM	1	7.9400	0.4230	0.867	A	A
TN	1	8.1800	0.1600	0.893	A	A
TP	1	9.4800	0.0500	1.035	A	A
TW	1	9.4000	0.2000	1.026	A	A
TX	1	8.2500	0.0700	0.901	A	A
UC	1	9.1170	1.2380	0.995	A	A
UP	1	9.5800	0.4670	1.046	W	A
UY	1	9.2600	1.1000	1.011	A	A
WA	1	8.7000	0.2000	0.950	A	A
WC	1	9.2000	0.8000	1.004	A	A
WE	1	9.9900	0.2300	1.091		A
YA	1	8.8449	0.2368	0.966	A	A
YU	1	8.1000	0.5000	0.884	W	A

**Total Number Reported: 107**

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Values for elemental uranium are reported in µg/filter, g or mL. pCi/g or mL = Bq x 0.027

**Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable**

If the evaluation system is not appropriate for the types of analyses performed in your lab, apply site specific evaluation.

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## QAP 49 Results by Nuclide

Matrix: AI Air Filter Bq / filter  
Radionuclide: CS137

EML Value: 22.470  
EML Error: 1.030

Labcode	Test #	Reported Value	Reported Error	Reported EML	QAP 48 Evaluation	Evaluation
AF	1	19.5800	2.1400	0.871	A	A
AG	1	22.3000	4.1000	0.992	A	A
AL	1	22.5560	0.1000	1.004	W	A
AM	1	17.9400	0.1800	0.798	A	W
AN	1	22.6000	0.7000	1.006	A	A
AU	1	22.3500	1.0300	0.995	N	A
BA	1	23.6000	1.7000	1.050	A	A
BC	1	44.2000	3.4000	1.967	N	N
BE	1	23.1000	2.0000	1.028	A	A
BL	1	26.7000	0.8000	1.188	A	W
BM	1	22.2000	0.3300	0.988	A	A
BN	1	36.7000	1.9900	1.633	W	N
BN	2	33.6700	1.9900	1.498	W	N
BN	3	38.4800	1.9900	1.713	W	N
BP	1	22.9000	0.5000	1.019	A	A
BQ	1	24.4000	0.2000	1.086	A	A
BU	1	23.0000	1.2000	1.024	A	A
BX	1	46.9000	3.1100	2.087	N	N
CA	1	22.5000	2.3000	1.001	A	A
CB	1	22.8000	0.6700	1.015		A
CB	2	23.1000	0.6400	1.028		A
CB	3	23.3000	0.5400	1.037		A
CD	1	20.7000	0.2000	0.921	W	A
CH	1	21.4000	0.1800	0.952	A	A
CL	1	22.0000	0.9000	0.979	A	A
CN	1	23.0200	1.1900	1.024	A	A
CO	1	22.8000	0.6000	1.015	A	A
CR	1	38.5000	1.5000	1.713	W	N
CS	1	19.9600	0.8800	0.888	N	A
EG	1	21.8000	0.2000	0.970	A	A
EP	1	22.3100	2.8700	0.993	A	A
FG	1	23.1800	0.1400	1.032	A	A
FJ	1	23.9000	0.2200	1.064	A	A
FL	1	23.8300	0.1000	1.061	A	A
FM	1	24.4000	0.1600	1.086	A	A
FN	1	21.1000	2.1000	0.939	A	A
GA	1	21.5000	0.9000	0.957	A	A
GE	1	22.5885	3.0559	1.005	A	A
GP	1	22.0000	3.0000	0.979	N	A
GT	1	21.0000	4.0000	0.935	A	A
HU	1	25.9000	0.7700	1.153	A	W

Values for elemental uranium are reported in µg/filter, g or mL. pCi/g or mL = Bq x 0.027

Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable

If the evaluation system is not appropriate for the types of analyses performed in your lab, apply site specific evaluation.

### QAP 49 Results by Nuclide

Matrix: AI Air Filter Bq / filter  
Radionuclide: CS137

EML Value: 22.470  
EML Error: 1.030

Labcode	Test #	Reported Value	Reported Error	Reported EML	QAP 48 Evaluation	Evaluation
IA	1	21.1200	0.1100	0.940	A	A
IA	2	20.7100	0.1100	0.922	A	A
IA	3	21.1900	0.1100	0.943	A	A
ID	1	22.8200	1.2300	1.016	W	A
IL	1	21.3000	0.3000	0.948	A	A
IN	1	21.6000	0.8000	0.961	A	A
IS	1	22.4000	2.4400	0.997	A	A
IT	1	21.8000	0.3000	0.970	A	A
KR	1	21.5000	2.3000	0.957		A
LA	1	22.0000	1.7000	0.979	A	A
LA	2	22.1000	1.7000	0.984	A	A
LA	3	22.1000	1.7000	0.984	A	A
LB	1	26.0000	2.0000	1.157		W
LL	1	22.4000	0.4930	0.997	N	A
LN	1	18.1000	0.2900	0.806	A	W
LV	1	20.5000	0.2000	0.912	A	A
MA	1	****.****	3663.0000	983.044		N
ME	1	25.6000	1.2300	1.139	W	W
MH	1	25.8600	0.9700	1.151	W	W
MS	1	21.1000	1.1000	0.939	A	A
NA	1	23.2800	0.1600	1.036	A	A
ND	1	21.0740	0.8480	0.938		A
NL	1	24.0000	5.9000	1.068	A	A
NM	1	17.5100	1.3000	0.779	A	W
NP	1	22.0000	0.1000	0.979	A	A
NS	1	22.3580	0.1070	0.995	A	A
NZ	1	24.3000	1.2000	1.081		A
NZ	2	24.1000	1.2000	1.073		A
OB	1	35.7000	6.8000	1.589		N
OC	1	28.0000	5.0000	1.246		W
OC	2	28.0000	5.0000	1.246		W
OC	3	27.0000	5.0000	1.202		W
OD	1	22.7800	1.0100	1.014	A	A
OD	1	22.7800	1.0100	1.014	A	A
OD	2	22.6200	0.9950	1.007	A	A
OD	2	22.6200	1.0000	1.007	A	A
OL	1	24.8300	1.7700	1.105	A	A
OT	1	24.0000	1.0000	1.068	A	A
OU	1	25.3000	0.6100	1.126	W	A
PK	1	21.1900	0.3800	0.943	N	A
PO	1	26.6000	1.3000	1.184	A	W
PR	1	21.8733	0.2903	0.973		A

Values for elemental uranium are reported in µg/filter, g or mL. pCi/g or mL = Bq x 0.027

Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable

If the evaluation system is not appropriate for the types of analyses performed in your lab, apply site specific evaluation.

## QAP 49 Results by Nuclide

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Matrix: AI Air Filter Bq / filter  
Radionuclide: CS137

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EML Value: 22.470  
EML Error: 1.030

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Labcode	Test #	Reported Value	Reported Error	Reported EML	QAP 48 Evaluation	Evaluation
RA	1	24.2000	0.6500	1.077	A	A
RA	2	23.3000	0.8700	1.037	A	A
RC	1	22.5000	1.2000	1.001	A	A
RE	1	21.3000	1.9000	0.948	A	A
RI	1	18.3000	1.4800	0.814	A	W
SA	1	23.0000	2.9000	1.024	A	A
SB	1	24.8000	3.6000	1.104		A
SK	1	21.0000	2.0000	0.935	A	A
SR	1	21.0000	0.4180	0.935	A	A
SW	1	22.7400	0.2900	1.012	A	A
TE	1	22.4000	0.5000	0.997	A	A
TI	1	22.6000	2.3000	1.006	A	A
TM	1	19.2000	0.6750	0.854	W	A
TN	1	20.6000	4.0000	0.917	A	A
TP	1	23.2000	0.2200	1.032	A	A
TW	1	22.2000	0.6000	0.988	A	A
TX	1	21.9000	0.1000	0.975	A	A
UC	1	31.3380	10.8100	1.395	W	N
UP	1	23.8000	1.4200	1.059	W	A
UY	1	23.1000	1.8000	1.028	A	A
WA	1	21.4000	0.6000	0.952	A	A
WC	1	22.0000	3.4000	0.979	A	A
WE	1	26.9000	4.9000	1.197		W
YA	1	22.2925	0.3700	0.992	A	A
YU	1	19.3000	0.7000	0.859	W	A

Total Number Reported: 108

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Values for elemental uranium are reported in µg/filter, g or mL. pCi/g or mL = Bq x 0.027

Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable

If the evaluation system is not appropriate for the types of analyses performed in your lab, apply site specific evaluation.

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### QAP 49 Results by Nuclide

Matrix: AI Air Filter Bq / filter  
Radionuclide: GROSS ALPHA

EML Value: 1.650  
EML Error: 0.160

Labcode	Test #	Reported Value	Reported Error	Reported EML	QAP 48 Evaluation	Evaluation
AI	1	1.2800	0.0509	0.776		W
AL	1	1.6830	0.4000	1.020	A	A
AM	1	2.4700	0.0200	1.497	W	W
AP	1	2.0600	0.2400	1.248		A
AU	1	1.8900	0.0400	1.145	A	A
BC	1	2.4000	0.0500	1.455	A	W
BE	1	1.5800	0.0900	0.958	A	A
BL	1	1.5600	0.0300	0.945	A	A
BN	1	1.4600	0.0200	0.885	W	A
BN	2	1.4900	0.0200	0.903	W	A
BN	3	1.4500	0.0200	0.879	W	A
BP	1	1.6500	0.1100	1.000	A	A
BQ	1	3.0900	0.0800	1.873		N
BU	1	1.5000	0.1000	0.909	A	A
BX	1	2.3600	0.0500	1.430	A	W
CA	1	1.8000	0.2000	1.091	A	A
CD	1	1.5000	0.1000	0.909	W	A
CH	1	1.8000	0.0460	1.091	A	A
CS	1	1.7800	0.0800	1.079	A	A
DH	1	1.5000	0.2200	0.909	A	A
FG	1	1.6020	0.1180	0.971	A	A
FL	1	1.4600	0.0700	0.885	W	A
GC	1	1.5500	0.0030	0.939	W	A
GE	1	1.6317	0.0074	0.989	A	A
GP	1	1.7000	0.2000	1.030	A	A
GT	1	1.8000	0.1000	1.091	A	A
HC	1	1.4970	0.1500	0.907	W	A
ID	1	1.3970	0.1030	0.847	W	A
IL	1	1.9900	0.0300	1.206		A
IS	1	2.0100	0.2000	1.218	A	A
IT	1	1.9600	0.0300	1.188	A	A
JE	1	1.8110	0.2000	1.098	A	A
JL	1	3.0100	0.0700	1.824		N
KA	1	1.7000	0.0600	1.030	A	A
KR	1	1.6000	0.0300	0.970	A	A
LL	2	1.5200	0.0101	0.921	A	A
LN	1	1.7000	0.2000	1.030	A	A
LV	1	1.6000	0.2000	0.970	W	A
ME	1	2.2200	0.0800	1.345	W	W
MH	1	1.6500	0.0600	1.000		A
MS	1	1.9800	0.2000	1.200		A

Values for elemental uranium are reported in µg/filter, g or mL. pCi/g or mL = Bq x 0.027

Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable

If the evaluation system is not appropriate for the types of analyses performed in your lab, apply site specific evaluation.

### QAP 49 Results by Nuclide

Matrix: AI Air Filter Bq / filter  
Radionuclide: GROSS ALPHA

EML Value: 1.650  
EML Error: 0.160

Labcode	Test #	Reported Value	Reported Error	Reported EML	QAP 48 Evaluation	Evaluation
ND	1	1.6200	0.1330	0.982		A
NQ	1	1.4400	0.2200	0.873		A
NS	1	3.0660	0.1620	1.858	W	N
NZ	1	1.4000	0.1000	0.848		A
NZ	2	1.5000	0.1000	0.909		A
OB	1	1.8300	0.1830	1.109	A	A
OC	1	1.4000	0.2000	0.848		A
OC	2	1.4000	0.2000	0.848		A
OC	3	1.4000	0.2000	0.848		A
OD	1	1.6000	0.0600	0.970	A	A
OD	1	1.6000	0.0600	0.970	A	A
OT	1	1.6000	0.1000	0.970	A	A
OU	1	2.1900	0.1670	1.327	N	W
PA	1	1.5400	0.1100	0.933	A	A
RC	1	1.8100	0.1300	1.097	A	A
RK	1	1.3000	0.1500	0.788	W	W
SA	1	1.8400	0.2400	1.115	A	A
SR	1	1.5900	0.1300	0.964	W	A
SW	1	1.5100	0.0600	0.915	W	A
TE	1	2.2000	0.1000	1.333		W
TI	1	2.1000	0.1000	1.273	A	A
TM	1	1.8700	0.2400	1.133	N	A
TN	1	1.4000	0.3500	0.848	A	A
TO	1	2.4300	0.5000	1.473	W	W
TP	1	1.6000	0.0800	0.970	W	A
TW	1	1.7300	0.0500	1.048	A	A
TX	1	1.7700	0.0500	1.073	A	A
UC	1	1.6200	0.0800	0.982	A	A
UP	1	1.6400	0.0810	0.994	A	A
UY	1	1.3200	0.1200	0.800	A	W
WA	1	1.9100	0.0700	1.158	A	A
WC	1	1.5000	0.2000	0.909	A	A
WS	1	1.6950	0.0400	1.027	A	A
WV	1	1.5300	0.0310	0.927	W	A
YA	1	1.5552	0.0170	0.943	A	A

Total Number Reported: 76

Values for elemental uranium are reported in µg/filter, g or mL. pCi/g or mL = Bq x 0.027

Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable

If the evaluation system is not appropriate for the types of analyses performed in your lab, apply site specific evaluation.

### QAP 49 Results by Nuclide

Matrix: AI Air Filter Bq / filter  
Radionuclide: GROSS BETA

EML Value: 2.160  
EML Error: 0.070

Labcode	Test #	Reported Value	Reported Error	Reported EML	QAP 48 Evaluation	Evaluation
AI	1	1.7000	0.0496	0.787		W
AL	1	1.8660	0.3000	0.864	W	W
AM	1	2.9800	0.0300	1.380	W	A
AP	1	2.9300	0.2600	1.356		A
AU	1	2.0400	0.0400	0.944	A	A
BC	1	2.0800	0.0400	0.963	A	A
BE	1	1.7500	0.0700	0.810	A	W
BL	1	1.7000	0.0300	0.787	A	W
BN	1	1.6900	0.0400	0.782	A	W
BN	2	1.7700	0.0400	0.819	A	W
BN	3	1.7600	0.0400	0.815	A	W
BP	1	1.9500	0.0600	0.903	A	A
BQ	1	2.1600	0.0400	1.000		A
BU	1	1.8000	0.1000	0.833	A	W
BX	1	2.1800	0.0400	1.009	A	A
CA	1	1.7000	0.2000	0.787	A	W
CD	1	3.0000	0.2000	1.389	N	A
CH	1	2.0600	0.0390	0.954	A	A
CS	1	2.9400	0.2300	1.361	W	A
DH	1	1.7500	0.2000	0.810	A	W
FG	1	1.6240	0.1220	0.752	A	W
FL	1	2.0800	0.0700	0.963	A	A
GC	1	1.6900	0.0200	0.782	A	W
GE	1	1.7797	0.0037	0.824	A	W
GP	1	2.0000	0.2000	0.926	A	A
GT	1	2.0000	0.1000	0.926	A	A
HC	1	1.6030	0.1600	0.742	W	W
ID	1	2.2570	0.1160	1.045	A	A
IL	1	2.2200	0.0200	1.028		A
IS	1	2.0100	0.2000	0.931	A	A
IT	1	2.2000	0.0700	1.019	A	A
JE	1	2.2500	0.2000	1.042	A	A
JL	1	0.4800	0.0400	0.222		N
KA	1	2.0600	0.0500	0.954	A	A
KR	1	1.9300	0.0300	0.894	A	A
LL	2	2.3300	0.0110	1.079	A	A
LN	1	1.6500	0.1600	0.764	A	W
LV	1	1.7800	0.1000	0.824	N	W
ME	1	2.4000	0.0700	1.111	A	A
MH	1	1.8500	0.0200	0.856		W
MS	1	2.0800	0.2100	0.963		A

Values for elemental uranium are reported in µg/filter, g or mL. pCi/g or mL = Bq x 0.027

Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable

If the evaluation system is not appropriate for the types of analyses performed in your lab, apply site specific evaluation.

### QAP 49 Results by Nuclide

Matrix: AI Air Filter Bq / filter  
Radionuclide: GROSS BETA

EML Value: 2.160  
EML Error: 0.070

Labcode	Test #	Reported Value	Reported Error	Reported EML	QAP 48 Evaluation	Evaluation
ND	1	2.1330	0.1260	0.987		A
NP	1	1.9900	0.0200	0.921	A	A
NQ	1	1.8600	0.2800	0.861		W
NS	1	2.2370	0.0850	1.036	A	A
NZ	1	1.9000	0.1000	0.880		W
NZ	2	1.9000	0.1000	0.880		W
OB	1	1.9100	0.1900	0.884	A	W
OC	1	1.9000	0.2000	0.880		W
OC	2	1.9000	0.2000	0.880		W
OC	3	1.9000	0.2000	0.880		W
OD	1	2.5200	0.0800	1.167	A	A
OD	1	2.5200	0.0800	1.167	A	A
OT	1	2.0000	0.1000	0.926	A	A
OU	1	2.5900	0.1990	1.199	A	A
PA	1	2.0900	0.1000	0.968	A	A
RC	1	1.9600	0.1400	0.907	A	A
RK	1	2.1900	0.1400	1.014	A	A
SA	1	2.0400	0.2500	0.944	A	A
SR	1	2.1700	0.1500	1.005	A	A
SW	1	1.6200	0.0600	0.750	A	W
TE	1	2.8000	0.1000	1.296		A
TI	1	1.7000	0.1000	0.787	A	W
TM	1	1.9700	0.1780	0.912	N	A
TN	1	1.7000	0.4000	0.787	A	W
TO	1	2.5300	0.4000	1.171	A	A
TP	1	2.0900	0.1000	0.968	A	A
TW	1	1.8600	0.0400	0.861	A	W
TX	1	2.0900	0.0700	0.968	A	A
UC	1	2.3800	0.0800	1.102	A	A
UP	1	1.9000	0.0660	0.880	A	W
UY	1	1.8100	0.0850	0.838	A	W
WA	1	2.2300	0.0600	1.032	A	A
WC	1	2.3000	0.2000	1.065	A	A
WV	1	2.1700	0.0360	1.005	A	A
YA	1	1.9060	0.0207	0.882	A	W

Total Number Reported: 76

Values for elemental uranium are reported in µg/filter, g or mL. pCi/g or mL = Bq x 0.027

Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable

If the evaluation system is not appropriate for the types of analyses performed in your lab, apply site specific evaluation.



### QAP 49 Results by Nuclide

Matrix: AI Air Filter Bq / filter  
Radionuclide: MN54

EML Value: 4.920  
EML Error: 0.400

Labcode	Test #	Reported Value	Reported Error	Reported EML	QAP 48 Evaluation	Evaluation
AF	1	4.5000	0.6000	0.915	A	A
AG	1	5.0000	1.3000	1.016	A	A
AL	1	5.0532	0.5000	1.027	W	A
AM	1	4.1500	0.1100	0.843	A	A
AN	1	5.3000	0.3500	1.077	A	A
AU	1	5.5700	0.4000	1.132	W	A
BA	1	5.6300	0.4400	1.144	W	A
BC	1	9.0700	0.5400	1.843	N	N
BE	1	5.6000	0.7000	1.138	A	A
BL	1	5.9800	0.2200	1.215	A	W
BN	1	8.3600	0.6600	1.699	W	N
BN	2	7.2900	0.6600	1.482	W	N
BN	3	8.8800	0.6600	1.805	W	N
BP	1	5.2000	0.1000	1.057	A	A
BQ	1	4.6000	0.1000	0.935	A	A
BU	1	4.7000	0.8000	0.955	A	A
BX	1	10.3000	0.0100	2.093	N	N
CA	1	4.5000	0.3000	0.915	A	A
CB	1	5.1000	0.1400	1.037		A
CB	2	5.2000	0.1300	1.057		A
CB	3	5.2000	0.1300	1.057		A
CD	1	5.2000	0.1000	1.057	A	A
CH	1	4.8000	0.1300	0.976	A	A
CL	1	5.3000	0.6000	1.077	A	A
CN	1	5.0300	0.2900	1.022	A	A
CO	1	5.3000	0.2000	1.077	A	A
CR	1	8.3000	0.4000	1.687	A	N
CS	1	4.4420	0.2220	0.903	N	A
EG	1	5.0000	0.1000	1.016	A	A
EP	1	5.1300	0.7900	1.043	A	A
FG	1	5.0780	0.1400	1.032	A	A
FJ	1	7.5900	0.4900	1.543	N	N
FL	1	5.2500	0.0500	1.067	A	A
FM	1	5.6000	0.1600	1.138	A	A
FN	1	4.6400	0.5100	0.943	A	A
GA	1	5.2200	0.6400	1.061	A	A
GE	1	5.3003	1.0216	1.077	A	A
GP	1	5.0000	0.9000	1.016	A	A
GT	1	4.8000	1.0000	0.976	A	A
HU	1	5.7600	0.2000	1.171	A	A
IA	1	4.4000	0.0600	0.894	W	A

Values for elemental uranium are reported in µg/filter, g or mL. pCi/g or mL = Bq x 0.027

Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable

If the evaluation system is not appropriate for the types of analyses performed in your lab, apply site specific evaluation.

### QAP 49 Results by Nuclide

Matrix: AI Air Filter Bq / filter  
Radionuclide: MN54

EML Value: 4.920  
EML Error: 0.400

Labcode	Test #	Reported Value	Reported Error	Reported EML	QAP 48 Evaluation	Evaluation
IA	2	4.4800	0.0600	0.911	W	A
IA	3	4.3200	0.0600	0.878	W	A
ID	1	5.2500	0.3150	1.067	W	A
IL	1	4.9000	0.1000	0.996	A	A
IN	1	4.8900	0.5000	0.994	A	A
IS	1	5.3400	0.6900	1.085	A	A
IT	1	5.2200	0.1700	1.061	A	A
KR	1	4.6000	0.5000	0.935		A
LA	1	5.1600	0.4300	1.049	A	A
LA	2	5.0600	0.4200	1.028	A	A
LA	3	5.1500	0.4300	1.047	A	A
LB	1	5.9000	0.8000	1.199		W
LL	1	5.1600	0.2690	1.049	A	A
LN	1	4.3000	0.2200	0.874	A	A
LV	1	4.2800	0.2000	0.870	A	A
MA	1	4440.0000	1443.0000	902.439		N
ME	1	6.1000	0.3500	1.240	W	W
MH	1	5.8400	0.2300	1.187	W	W
MS	1	4.6200	0.4600	0.939	A	A
NA	1	5.0100	0.0800	1.018	A	A
ND	1	4.8660	0.2470	0.989		A
NL	1	5.0600	1.6100	1.028	A	A
NP	1	5.3700	0.0700	1.091	W	A
NS	1	5.4440	0.0670	1.107	A	A
NZ	1	5.7000	0.3000	1.159		A
NZ	2	5.6000	0.3000	1.138		A
OB	1	9.4000	1.9000	1.911		N
OC	1	6.0000	2.0000	1.220		W
OC	2	6.0000	2.0000	1.220		W
OC	3	6.0000	2.0000	1.220		W
OD	1	5.0840	0.3270	1.033	A	A
OD	1	5.0800	0.3300	1.033	A	A
OD	2	5.0300	0.3210	1.022	A	A
OD	2	5.0300	0.3200	1.022	A	A
OL	1	5.8200	0.3600	1.183	A	W
OT	1	5.4000	0.2000	1.098	W	A
OU	1	4.5900	1.2000	0.933	A	A
PK	1	4.9900	0.5200	1.014		A
PO	1	6.1000	0.3000	1.240	A	W
PR	1	4.7166	0.1613	0.959		A
RA	1	5.0700	0.0700	1.030	A	A
RA	2	5.1800	0.1300	1.053	A	A

Values for elemental uranium are reported in µg/filter, g or mL. pCi/g or mL = Bq x 0.027

Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable

If the evaluation system is not appropriate for the types of analyses performed in your lab, apply site specific evaluation.

### QAP 49 Results by Nuclide

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Matrix: AI Air Filter Bq / filter  
Radionuclide: MN54

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EML Value: 4.920  
EML Error: 0.400

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Labcode	Test #	Reported Value	Reported Error	Reported EML	QAP 48 Evaluation	Evaluation
RC	1	5.2000	0.4600	1.057	A	A
RE	1	5.1800	0.5700	1.053	A	A
RI	1	4.7700	0.7170	0.970	A	A
SA	1	5.5000	0.7000	1.118	A	A
SK	1	4.7000	0.4000	0.955	A	A
SR	1	4.8700	0.1440	0.990	A	A
SW	1	5.3000	0.1000	1.077	A	A
TE	1	5.3000	0.3000	1.077	A	A
TI	1	5.2000	0.5000	1.057	A	A
TM	1	4.5400	0.3390	0.923	A	A
TN	1	4.8700	0.5000	0.990	A	A
TP	1	4.9000	0.1000	0.996	A	A
TW	1	5.0000	0.2000	1.016	A	A
TX	1	5.0600	0.0700	1.028	A	A
UP	1	5.4100	0.5280	1.100	W	A
UY	1	5.0800	0.7000	1.033	A	A
WA	1	5.2000	0.3000	1.057	W	A
WC	1	5.0000	0.7000	1.016	A	A
WE	1	6.1300	0.6300	1.246		W
YA	1	5.2226	0.2572	1.062	A	A
YU	1	4.3000	0.4000	0.874	W	A

**Total Number Reported: 104**

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Values for elemental uranium are reported in µg/filter, g or mL. pCi/g or mL = Bq x 0.027

Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable

If the evaluation system is not appropriate for the types of analyses performed in your lab, apply site specific evaluation.

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### QAP 49 Results by Nuclide

Matrix: AI Air Filter Bq / filter  
Radionuclide: PU238

EML Value: 0.460  
EML Error: 0.005

Labcode	Test #	Reported Value	Reported Error	Reported EML	QAP 48 Evaluation	Evaluation
AF	1	0.1073	0.0200	0.233		N
AG	1	0.3100	0.0400	0.674	W	N
AM	1	0.2700	0.0100	0.587		N
AN	1	0.5200	0.0200	1.130	A	A
AU	1	0.8190	0.0730	1.780	N	N
BE	1	0.5000	0.0400	1.087	A	A
BL	1	0.5220	0.0390	1.135	A	A
BL	2	0.5180	0.0410	1.126	A	A
BM	1	0.4970	0.0700	1.080	A	A
BP	1	0.5190	0.0100	1.128	A	A
BU	1	0.5100	0.0200	1.109	A	A
BX	1	0.5000	0.0200	1.087	W	A
CH	1	0.4840	0.0260	1.052	A	A
CL	1	0.0300	0.0100	0.065	W	N
EG	1	0.5020	0.0350	1.091	A	A
EM	1	0.0750	0.0030	0.163		N
EP	1	0.4760	0.0359	1.035	A	A
GA	1	0.5500	0.0210	1.196	A	W
GE	1	0.5088	0.1169	1.106	A	A
GP	1	0.4800	0.0500	1.043	W	A
GT	1	0.5200	0.1000	1.130	A	A
ID	1	0.4970	0.0710	1.080	N	A
IS	1	0.3916	0.1120	0.851		W
IT	1	0.5000	0.0300	1.087	A	A
LA	1	0.4670	0.0170	1.015	A	A
LA	2	0.4900	0.0170	1.065	A	A
LA	3	0.4460	0.0150	0.970	A	A
LL	1	0.4790	0.0453	1.041	A	A
LV	1	0.2510	0.0260	0.546		N
NA	1	0.4800	0.0280	1.043		A
NL	1	0.4720	0.1080	1.026	W	A
NM	1	0.4820	0.0100	1.048	A	A
NQ	1	0.4050	0.0240	0.880		W
NZ	1	0.6100	0.0200	1.326		W
NZ	2	0.5900	0.0200	1.283		W
OT	1	0.4800	0.0300	1.043	A	A
RE	1	0.4030	0.0330	0.876	A	W
RI	1	0.5220	0.0381	1.135	A	A
SN	1	0.4920	0.0640	1.070		A
SR	1	0.4690	0.0230	1.020	A	A
SW	1	0.7600	0.0500	1.652	N	N

Values for elemental uranium are reported in µg/filter, g or mL. pCi/g or mL = Bq x 0.027

Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable

If the evaluation system is not appropriate for the types of analyses performed in your lab, apply site specific evaluation.

### QAP 49 Results by Nuclide

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Matrix: AI Air Filter Bq / filter  
Radionuclide: PU238

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EML Value: 0.460  
EML Error: 0.005

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Labcode	Test #	Reported Value	Reported Error	Reported EML	QAP 48 Evaluation	Evaluation
TI	1	0.4300	0.0500	0.935	N	A
TM	1	0.4820	0.0250	1.048	A	A
TN	1	0.4700	0.0500	1.022	W	A
TO	1	0.4100	0.0900	0.891		A
TX	1	0.5250	0.0160	1.141	A	A
UC	1	0.1070	0.0099	0.233		N
UP	1	0.4880	0.0661	1.061		A
UY	1	0.4650	0.0510	1.011	A	A
WA	1	0.5100	0.0500	1.109	A	A
WC	1	0.5000	0.0800	1.087	W	A
YA	1	0.4989	0.0083	1.085	A	A

Total Number Reported: 52

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Values for elemental uranium are reported in µg/filter, g or mL. pCi/g or mL = Bq x 0.027

Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable

If the evaluation system is not appropriate for the types of analyses performed in your lab, apply site specific evaluation.

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## QAP 49 Results by Nuclide

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Matrix: AI Air Filter Bq / filter  
Radionuclide: PU239

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EML Value: 0.420  
EML Error: 0.006

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Labcode	Test #	Reported Value	Reported Error	Reported EML	QAP 48 Evaluation	Evaluation
AF	1	0.1200	0.0200	0.286	W	N
AG	1	0.3030	0.0400	0.721	A	N
AM	1	0.3400	0.0100	0.810		W
AN	1	0.4700	0.0200	1.119	A	A
AU	1	0.7350	0.0660	1.750	N	N
BE	1	0.4500	0.0400	1.071	A	A
BL	1	0.4760	0.0370	1.133	A	A
BL	2	0.4440	0.0370	1.057	A	A
BM	1	0.4720	0.0640	1.124	A	A
BP	1	0.4890	0.0100	1.164	A	A
BU	1	0.4600	0.0200	1.095	A	A
BX	1	0.4200	0.0200	1.000	A	A
CH	1	0.4410	0.0240	1.050	A	A
CL	1	0.4800	0.1000	1.143	A	A
EG	1	0.4620	0.0330	1.100	A	A
EM	1	0.0720	0.0030	0.171		N
EP	1	0.4460	0.0336	1.062	A	A
GA	1	0.4800	0.0200	1.143	W	A
GE	1	0.4606	0.1073	1.097	A	A
GP	1	0.4400	0.0400	1.048	A	A
GT	1	0.4900	0.1000	1.167	A	A
ID	1	0.4630	0.0390	1.102	N	A
IS	1	0.3777	0.1080	0.899		W
IT	1	0.4800	0.0200	1.143	A	A
LA	1	0.4710	0.0170	1.121	A	A
LA	2	0.4660	0.0160	1.110	A	A
LA	3	0.4370	0.0150	1.040	A	A
LL	1	0.4630	0.0439	1.102	A	A
LV	1	0.2480	0.0070	0.590		N
NA	1	0.4390	0.0260	1.045		A
NL	1	0.4470	0.1010	1.064	A	A
NM	1	0.4330	0.0090	1.031	A	A
NQ	1	0.3800	0.0220	0.905		A
NZ	1	0.5700	0.0200	1.357		W
NZ	2	0.5500	0.0200	1.310		W
OT	1	0.4500	0.0300	1.071	A	A
RE	1	0.3820	0.0320	0.910	A	A
RI	1	0.6480	0.0447	1.543	W	N
SN	1	0.4580	0.0600	1.090	A	A
SR	1	0.4340	0.0240	1.033	A	A
SW	1	0.3100	0.0300	0.738	W	N

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Values for elemental uranium are reported in µg/filter, g or mL. pCi/g or mL = Bq x 0.027

Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable

If the evaluation system is not appropriate for the types of analyses performed in your lab, apply site specific evaluation.

## QAP 49 Results by Nuclide

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Matrix: AI Air Filter Bq / filter  
Radionuclide: PU239

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EML Value: 0.420  
EML Error: 0.006

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Labcode	Test #	Reported Value	Reported Error	Reported EML	QAP 48 Evaluation	Evaluation
TI	1	0.4000	0.0500	0.952	N	A
TM	1	0.4730	0.0246	1.126	W	A
TN	1	0.4500	0.0500	1.071	W	A
TO	1	0.4300	0.0800	1.024		A
TX	1	0.4600	0.0140	1.095	A	A
UC	1	0.1000	0.0093	0.238		N
UP	1	0.4710	0.0645	1.121		A
UY	1	0.4410	0.0500	1.050	A	A
WA	1	0.5000	0.0400	1.190	W	W
WC	1	0.4700	0.0800	1.119	A	A
YA	1	0.4616	0.0078	1.099	A	A

Total Number Reported: 52

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Values for elemental uranium are reported in µg/filter, g or mL. pCi/g or mL = Bq x 0.027

Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable

If the evaluation system is not appropriate for the types of analyses performed in your lab, apply site specific evaluation.

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### QAP 49 Results by Nuclide

Matrix: AI Air Filter Bq / filter  
Radionuclide: SB125

EML Value: 8.890  
EML Error: 0.550

Labcode	Test #	Reported Value	Reported Error	Reported EML	QAP 48 Evaluation	Evaluation
AF	1	8.1200	1.2200	0.913	A	A
AG	1	9.6000	2.2000	1.080	A	A
AL	1	6.1847	0.6000	0.696	N	W
AM	1	5.7200	0.2800	0.643	W	W
AN	1	10.5900	0.9300	1.191	A	A
AU	1	8.3200	0.7300	0.936	W	A
BA	1	6.8500	0.3200	0.771	A	W
BC	1	18.6000	0.9700	2.092	N	N
BE	1	8.3000	0.5000	0.934	A	A
BL	1	10.2000	0.5000	1.147	A	A
BN	1	14.2100	0.3600	1.598	W	N
BN	2	13.9900	0.3600	1.574	W	N
BN	3	14.8400	0.3600	1.669	W	N
BP	1	7.9000	0.2000	0.889	A	A
BQ	1	9.0000	0.3000	1.012	N	A
BU	1	8.5000	0.8000	0.956	A	A
BX	1	19.6000	1.0800	2.205	N	N
CA	1	8.2000	0.3000	0.922	A	A
CB	1	9.7000	0.1900	1.091		A
CB	2	9.4000	0.1700	1.057		A
CB	3	9.0000	0.1600	1.012		A
CD	1	8.6000	0.2000	0.967	A	A
CH	1	9.6100	0.3100	1.081	A	A
CL	1	8.5000	0.6000	0.956	A	A
CN	1	9.3500	0.5200	1.052	A	A
CO	1	8.8000	0.6000	0.990	A	A
CR	1	16.4000	0.2000	1.845	W	N
CS	1	8.5860	0.3170	0.966	N	A
EG	1	8.8300	0.1300	0.993	A	A
EP	1	8.7700	1.5300	0.987	A	A
FG	1	10.7700	0.6000	1.211	A	W
FJ	1	9.5100	0.2100	1.070	W	A
FL	1	7.3000	0.2000	0.821	A	W
FM	1	9.7800	0.0900	1.100	A	A
FN	1	10.0000	0.6000	1.125	A	A
GA	1	9.2300	1.4300	1.038	A	A
GE	1	2.7217	1.0818	0.306	A	N
GP	1	13.0000	2.0000	1.462	W	N
GT	1	9.6000	1.0000	1.080	W	A
HU	1	10.2300	0.2000	1.151	A	A
IA	1	8.3300	0.2300	0.937	A	A

Values for elemental uranium are reported in µg/filter, g or mL. pCi/g or mL = Bq x 0.027

Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable

If the evaluation system is not appropriate for the types of analyses performed in your lab, apply site specific evaluation.



### QAP 49 Results by Nuclide

Matrix: AI Air Filter Bq / filter  
Radionuclide: SB125

EML Value: 8.890  
EML Error: 0.550

Labcode	Test #	Reported Value	Reported Error	Reported EML	QAP 48 Evaluation	Evaluation
IA	2	8.6400	0.2400	0.972	A	A
IA	3	7.9400	0.2300	0.893	A	A
ID	1	9.6000	0.6570	1.080	W	A
IL	1	9.2000	0.1000	1.035	A	A
IN	1	8.9000	0.9000	1.001	A	A
IS	1	9.7100	1.2800	1.092	A	A
IT	1	9.1000	0.5000	1.024	A	A
KR	1	7.7000	0.9000	0.866		A
LA	1	8.9100	0.7500	1.002	A	A
LA	2	9.1100	0.7700	1.025	A	A
LA	3	9.1500	0.7700	1.029	A	A
LB	1	9.6000	0.7000	1.080		A
LL	1	9.6700	0.7740	1.088	W	A
LN	1	5.7000	0.3500	0.641	A	W
LV	1	4.4200	0.2500	0.497	A	N
MA	1	8695.0000	3293.0000	978.065		N
ME	1	9.7000	0.3900	1.091	A	A
MH	1	6.1700	0.2200	0.694	W	W
MS	1	9.0500	0.4500	1.018	A	A
NA	1	1.4000	0.1100	0.157	A	N
ND	1	7.2390	0.2900	0.814		W
NL	1	10.6000	1.4000	1.192	A	W
NP	1	9.3000	0.1000	1.046	A	A
NS	1	8.9630	0.1260	1.008	A	A
NZ	1	10.3000	0.5000	1.159		A
NZ	2	10.2000	0.5000	1.147		A
OB	1	15.8000	3.1100	1.777		N
OC	1	10.0000	3.0000	1.125		A
OC	2	11.0000	3.0000	1.237		W
OC	3	11.0000	3.0000	1.237		W
OD	1	8.4490	0.1810	0.950	A	A
OD	1	8.4500	0.1800	0.951	A	A
OD	2	8.3290	0.1740	0.937	A	A
OD	2	8.3300	0.1700	0.937	A	A
OL	1	10.2200	0.4700	1.150	W	A
OT	1	8.9000	0.5000	1.001	A	A
OU	1	8.4300	1.8000	0.948	W	A
PK	1	8.0810	0.3000	0.909		A
PO	1	9.9000	0.5000	1.114	A	A
PR	1	9.2890	0.6909	1.045		A
RA	1	9.7500	0.3300	1.097	A	A
RA	2	9.9200	0.3800	1.116	A	A

Values for elemental uranium are reported in µg/filter, g or mL. pCi/g or mL = Bq x 0.027

Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable

If the evaluation system is not appropriate for the types of analyses performed in your lab, apply site specific evaluation.

### QAP 49 Results by Nuclide

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Matrix: AI Air Filter Bq / filter  
Radionuclide: SB125

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EML Value: 8.890  
EML Error: 0.550

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Labcode	Test #	Reported Value	Reported Error	Reported EML	QAP 48 Evaluation	Evaluation
RC	1	9.0600	0.8800	1.019	A	A
RE	1	8.3900	1.0100	0.944	A	A
RI	1	10.3000	1.6700	1.159	A	A
SA	1	8.1000	1.1000	0.911	A	A
SK	1	5.7000	0.6000	0.641	A	W
SR	1	5.2400	0.1790	0.589	A	N
SW	1	9.1500	0.3000	1.029	A	A
TE	1	10.0000	0.8000	1.125	A	A
TI	1	9.0000	0.9000	1.012	A	A
TM	1	7.5200	0.7160	0.846	W	A
TN	1	5.0000	1.0000	0.562	A	N
TP	1	8.6200	0.0800	0.970	A	A
TW	1	9.7000	0.2000	1.091	A	A
TX	1	8.8100	0.1100	0.991	W	A
UP	1	3.4100	0.8130	0.384	N	N
UY	1	8.4700	0.8000	0.953	A	A
WA	1	9.3000	0.5000	1.046	W	A
WC	1	9.8000	0.8000	1.102	N	A
WE	1	10.9000	0.5900	1.226		W
YU	1	7.0000	0.2000	0.787	W	W

**Total Number Reported: 103**

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Values for elemental uranium are reported in µg/filter, g or mL. pCi/g or mL = Bq x 0.027

Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable

If the evaluation system is not appropriate for the types of analyses performed in your lab, apply site specific evaluation.

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## QAP 49 Results by Nuclide

---

Matrix: AI Air Filter Bq / filter  
Radionuclide: SR90

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EML Value: 1.120  
EML Error: 0.050

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Labcode	Test #	Reported Value	Reported Error	Reported EML	QAP 48 Evaluation	Evaluation
AF	1	1.1600	0.1600	1.036	W	A
AG	1	1.0000	0.1800	0.893	A	A
AM	1	0.8300	0.0800	0.741		W
AN	1	1.2200	0.0200	1.089	A	A
BC	1	1.1500	0.1000	1.027	W	A
BE	1	1.1100	0.0800	0.991	A	A
BL	1	1.2200	0.2400	1.089	A	A
BL	2	1.0900	0.3100	0.973	A	A
BM	1	1.1400	0.0400	1.018	A	A
BP	1	1.1600	0.0900	1.036	W	A
CH	1	1.1400	0.0770	1.018	A	A
CL	1	1.2000	0.3000	1.071	N	A
EG	1	1.2300	0.0500	1.098	A	A
GA	1	0.7800	0.0520	0.696		W
GE	1	1.1842	0.0972	1.057	N	A
GP	1	1.0000	0.3000	0.893	A	A
GT	1	0.9600	0.1000	0.857	A	A
ID	1	1.0800	0.0880	0.964		A
IS	1	0.2557	0.0740	0.228	A	N
IT	1	1.0900	0.1200	0.973	A	A
KR	1	0.8600	0.0500	0.768		W
NA	1	0.8400	0.1700	0.750	A	W
NM	1	1.0040	0.1400	0.896		A
NZ	1	0.4000	0.0300	0.357		N
NZ	2	0.5000	0.0400	0.446		N
OT	1	1.1000	0.1000	0.982	N	A
RE	1	1.3200	0.0600	1.179	A	A
RI	1	1.0700	0.0759	0.955	A	A
SR	1	1.2400	0.1500	1.107	W	A
SW	1	0.3900	0.1000	0.348	W	N
TE	1	1.1000	0.1000	0.982	A	A
TI	1	0.9100	0.1200	0.813	A	W
TN	1	1.0500	0.1000	0.937	A	A
TP	1	3.2700	0.0600	2.920	A	N
UP	1	1.0400	0.2230	0.929		A
UY	1	1.1500	0.1100	1.027	W	A
WA	1	1.3400	0.2300	1.196	A	A
WC	1	1.3000	0.2000	1.161	A	A
WE	1	9.2100	0.8300	8.223		N
YA	1	1.2210	0.0814	1.090	A	A

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Values for elemental uranium are reported in µg/filter, g or mL. pCi/g or mL = Bq x 0.027

Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable

If the evaluation system is not appropriate for the types of analyses performed in your lab, apply site specific evaluation.

## QAP 49 Results by Nuclide

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Matrix: AI Air Filter Bq / filter  
Radionuclide: SR90

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EML Value: 1.120  
EML Error: 0.050

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Labcode	Test #	Reported Value	Reported Error	<u>Reported EML</u>	QAP 48 Evaluation	Evaluation
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Total Number Reported: 40

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Values for elemental uranium are reported in  $\mu\text{g}/\text{filter}$ , g or mL.  $\text{pCi/g or mL} = \text{Bq} \times 0.027$

Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable

If the evaluation system is not appropriate for the types of analyses performed in your lab, apply site specific evaluation.

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## QAP 49 Results by Nuclide

---

Matrix: AI Air Filter Bq / filter  
Radionuclide: U234

---

EML Value: 0.260  
EML Error: 0.010

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Labcode	Test #	Reported Value	Reported Error	Reported EML	QAP 48 Evaluation	Evaluation
AG	1	0.2500	0.0320	0.962	W	A
AM	1	0.4800	0.0200	1.846	N	W
AN	1	0.2900	0.0100	1.115	A	A
AU	1	0.2010	0.0240	0.773	W	N
BC	1	0.3000	0.0200	1.154	W	A
BE	1	0.2500	0.0200	0.962	A	A
BL	1	0.2610	0.0040	1.004	A	A
BM	1	0.2600	0.0400	1.000	A	A
BP	1	0.2640	0.0100	1.015		A
BU	1	0.2400	0.0100	0.923	A	A
BX	1	0.2500	0.0200	0.962	W	A
CH	1	0.2390	0.0110	0.919	A	A
CL	1	0.2800	0.0500	1.077	A	A
EG	1	0.2710	0.0330	1.042	A	A
EM	1	0.1010	0.0040	0.388		N
GA	1	0.3400	0.0510	1.308	W	A
GE	1	0.2423	0.0735	0.932	A	A
GP	1	0.2000	0.0200	0.769	A	N
IT	1	0.2400	0.0100	0.923	A	A
LL	1	0.2510	0.0232	0.965	N	A
NL	1	0.2660	0.0630	1.023	A	A
NQ	1	0.2610	0.0150	1.004		A
NZ	1	0.2800	0.0500	1.077		A
NZ	2	0.2600	0.0200	1.000		A
RA	1	285.0000	28.0000	1096.154	A	N
RE	1	0.2540	0.0230	0.977	A	A
SR	1	0.2620	0.0180	1.008	A	A
TM	1	0.2600	0.0153	1.000	A	A
TN	1	0.2600	0.0100	1.000	A	A
TO	1	0.2500	0.0900	0.962		A
TX	1	0.2540	0.0100	0.977		A
WA	1	0.2400	0.0400	0.923	A	A
WC	1	0.2800	0.0500	1.077	A	A

**Total Number Reported: 33**

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Values for elemental uranium are reported in µg/filter, g or mL. pCi/g or mL = Bq x 0.027

Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable

If the evaluation system is not appropriate for the types of analyses performed in your lab, apply site specific evaluation.

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## QAP 49 Results by Nuclide

---

Matrix: AI Air Filter Bq / filter  
Radionuclide: U238

---

EML Value: 0.260  
EML Error: 0.010

---

Labcode	Test #	Reported Value	Reported Error	Reported EML	QAP 48 Evaluation	Evaluation
AG	1	0.2620	0.0330	1.008	A	A
AM	1	0.4700	0.0200	1.808	N	W
AN	1	0.2800	0.0100	1.077	A	A
AU	1	0.1940	0.0240	0.746	W	N
BC	1	0.3100	0.0300	1.192	W	A
BE	1	0.2500	0.0200	0.962	A	A
BL	1	0.2540	0.0040	0.977	A	A
BM	1	0.2700	0.0400	1.038	A	A
BP	1	0.2670	0.0100	1.027	A	A
BU	1	0.2400	0.0100	0.923	A	A
BX	1	0.3200	0.0400	1.231	A	A
CH	1	0.2490	0.1100	0.958	A	A
CL	1	0.2800	0.0500	1.077	A	A
EG	1	0.2830	0.0390	1.088	A	A
EM	1	0.0950	0.0040	0.365		N
GA	1	0.3400	0.0500	1.308	A	A
GE	1	0.2457	0.0729	0.945	A	A
GP	1	0.2100	0.0300	0.808	A	N
GT	1	0.2500	0.0500	0.962	A	A
IT	1	0.2300	0.0100	0.885	A	W
LL	1	0.2520	0.0233	0.969	N	A
NL	1	0.2720	0.0640	1.046	W	A
NQ	1	0.2590	0.0150	0.996		A
NZ	1	0.3300	0.0500	1.269		A
NZ	2	0.2800	0.0200	1.077		A
RA	1	280.0000	28.0000	1076.923	A	N
RE	1	0.2670	0.0240	1.027	A	A
SR	1	0.2640	0.0178	1.015	A	A
SW	1	21.7000		83.462		N
TM	1	0.2680	0.0157	1.031	A	A
TN	1	0.2500	0.0100	0.962	A	A
TO	1	0.2700	0.1000	1.038		A
TX	1	0.2680	0.0110	1.031		A
WA	1	0.2300	0.0400	0.885	A	W
WC	1	0.2700	0.0500	1.038	A	A

**Total Number Reported: 35**

---

Values for elemental uranium are reported in µg/filter, g or mL. pCi/g or mL = Bq x 0.027

Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable

If the evaluation system is not appropriate for the types of analyses performed in your lab, apply site specific evaluation.

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### QAP 49 Results by Nuclide

---

Matrix: AI Air Filter Bq / filter  
Radionuclide: ug U

---

EML Value: 20.960  
EML Error: 0.100

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Labcode	Test #	Reported Value	Reported Error	Reported EML	QAP 48 Evaluation	Evaluation
AG	1	20.6000	3.4000	0.983	A	A
BE	1	20.6000		0.983	A	A
BL	1	21.0700	0.3300	1.005		A
BQ	1	26.0000	1.0000	1.240	A	A
BU	1	18.0000	1.3000	0.859	A	W
CH	1	20.7000	2.1000	0.988	A	A
GA	1	27.0000	3.8000	1.288		A
GE	1	16.9400	0.6619	0.808	A	W
IS	1	14.9000	2.0000	0.711	W	N
IT	1	20.4000	0.5000	0.973	A	A
RA	1	22.4000	1.7000	1.069	A	A
SA	1	23.3000	1.2000	1.112	A	A
TI	1	25.0000	4.0000	1.193	A	A
TM	1	19.5000	1.2500	0.930	A	A
TN	1	20.0000	4.0000	0.954	A	A
UP	1	21.3900	2.0000	1.021	A	A
YP	1	20.9000	0.9400	0.997	A	A

Total Number Reported: 17

---

Values for elemental uranium are reported in µg/filter, g or mL. pCi/g or mL = Bq x 0.027

Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable

If the evaluation system is not appropriate for the types of analyses performed in your lab, apply site specific evaluation.

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## QAP 49 Results by Nuclide

---

Matrix: SO Soil Bq/kg  
Radionuclide: AC228

---

EML Value: 52.600  
EML Error: 2.900

---

Labcode	Test #	Reported Value	Reported Error	Reported EML	QAP 48 Evaluation	Evaluation
AF	1	46.6200	8.5100	0.886		A
AG	1	58.0000	11.0000	1.103		A
AI	1	51.5000	3.4500	0.979		A
AM	1	51.0500	5.1800	0.971		A
BL	1	58.0000	5.2000	1.103		A
BN	1	45.0300	0.7500	0.856		A
BN	2	43.3600	0.7500	0.824		A
BN	3	43.5100	0.7500	0.827		A
BP	1	44.0000	3.0000	0.837		A
BQ	1	87.0000	30.0000	1.654		A
CD	1	55.0000	2.0000	1.046		A
CH	1	57.8000	2.0000	1.099		A
CL	1	65.3000	11.7000	1.241		A
CR	1	70.0000	13.0000	1.331		A
CS	1	46.7800	1.0900	0.889		A
FG	1	60.1100	1.2000	1.143		A
FS	1	47.5000	3.6000	0.903		A
GC	1	54.7000	9.0000	1.040		A
GE	1	53.5945	14.6050	1.019		A
HU	1	49.1000	1.2000	0.933		A
ID	1	60.0600	3.6900	1.142		A
IE	1	50.4100	7.3400	0.958		A
IL	1	78.7000	7.4000	1.496		A
IS	1	48.5000	14.5000	0.922		A
IT	1	62.0000	1.8000	1.179		A
JE	1	53.2800	6.5900	1.013		A
LV	1	68.7000	3.1000	1.306		A
MH	1	51.2400	3.7800	0.974		A
NL	1	56.4000	10.5000	1.072		A
NQ	1	63.3000	6.7000	1.203		A
OB	1	75.4000	22.0000	1.433		A
OC	1	41.0000	18.0000	0.779		A
OC	2	39.0000	18.0000	0.741		A
OC	3	48.0000	18.0000	0.913		A
OT	1	42.0000	10.0000	0.798		A
RA	1	51.4000	6.0000	0.977		A
RA	2	52.5000	3.8000	0.998		A
SK	1	57.0000	3.0000	1.084		A
SR	1	61.4000	1.6000	1.167		A
SW	1	83.1400	13.2000	1.581		A
TE	1	54.1000	3.3000	1.029		A

---

Values for elemental uranium are reported in µg/filter, g or mL. pCi/g or mL = Bq x 0.027

Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable

If the evaluation system is not appropriate for the types of analyses performed in your lab, apply site specific evaluation.



### QAP 49 Results by Nuclide

---

Matrix: SO Soil Bq / kg  
Radionuclide: AC228

---

EML Value: 52.600  
EML Error: 2.900

---

Labcode	Test #	Reported Value	Reported Error	Reported EML	QAP 48 Evaluation	Evaluation
TM	1	72.5000	7.3000	1.378		A
TO	1	35.9000	7.3000	0.683		A
TW	1	54.0000	1.0000	1.027		A
TX	1	52.2000	1.5000	0.992		A
UY	1	71.0000	32.0000	1.350		A
WA	1	54.7000	2.6000	1.040		A
WE	1	37.5000	13.0000	0.713		A

**Total Number Reported: 48**

---

Values for elemental uranium are reported in µg/filter, g or mL. pCi/g or mL = Bq x 0.027

Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable

If the evaluation system is not appropriate for the types of analyses performed in your lab, apply site specific evaluation.

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### QAP 49 Results by Nuclide

---

Matrix: SO Soil Bq / kg  
Radionuclide: AM241

---

EML Value: 7.470  
EML Error: 0.410

---

Labcode	Test #	Reported Value	Reported Error	Reported EML	QAP 48 Evaluation	Evaluation
AF	1	7.4000	1.4800	0.991	N	A
AG	1	8.6000	2.0000	1.151	A	A
AI	1	11.0000	2.0000	1.473	N	A
AM	1	10.3200	1.8500	1.382	W	A
AN	1	7.4000	0.4500	0.991	A	A
AT	1	7.8180	1.4410	1.047	W	A
AU	1	8.3000	1.4000	1.111	A	A
BE	1	7.8500	0.7700	1.051	A	A
BL	1	3.6800	1.2700	0.493		N
BM	1	7.7000	1.1800	1.031	A	A
BU	1	7.6000	0.4000	1.017	A	A
BX	1	6.5000	1.4000	0.870	A	A
CH	1	8.3800	0.5100	1.122		A
CL	1	5.8000	1.5000	0.776	A	W
CN	1	8.3400	1.1000	1.116		A
CS	1	7.6840	0.5463	1.029	A	A
DH	1	5.9000	1.8000	0.790		W
EG	1	7.4200	0.7500	0.993	A	A
EP	1	7.6200	0.8030	1.020	A	A
FL	1	6.6000	0.6000	0.884	A	A
FS	1	4.3700	0.2400	0.585	A	N
GA	1	6.9000	1.2000	0.924	A	A
GE	1	6.9560	1.5415	0.931		A
GT	1	7.4000	3.0000	0.991	A	A
HT	1	41.0000	5.0000	5.489		N
HU	1	8.3000	3.8000	1.111		A
ID	1	7.9000	0.7500	1.058	A	A
IN	1	8.3000	1.2500	1.111	A	A
IS	1	10.3400	5.8100	1.384	A	A
IT	1	4.8800	0.7600	0.653	A	W
LA	1	8.4700	0.7400	1.134	A	A
LA	2	7.6600	0.7400	1.025	A	A
LA	3	7.9200	0.7400	1.060	A	A
LL	1	7.6200	1.8600	1.020	A	A
LV	1	13.1000	0.7000	1.754	W	W
LW	1	9.6300	2.5300	1.289		A
MA	1	8.9000	3.0000	1.191	A	A
ME	1	6.6100	0.7000	0.885	A	A
MH	1	6.3900	0.6400	0.855		A
MS	1	8.7000	1.0000	1.165		A
NM	1	7.0100	0.3500	0.938	A	A

---

Values for elemental uranium are reported in µg/filter, g or mL. pCi/g or mL = Bq x 0.027

Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable

If the evaluation system is not appropriate for the types of analyses performed in your lab, apply site specific evaluation.

## QAP 49 Results by Nuclide

---

Matrix: SO Soil Bq / kg  
Radionuclide: AM241

---

EML Value: 7.470  
EML Error: 0.410

---

Labcode	Test #	Reported Value	Reported Error	Reported EML	QAP 48 Evaluation	Evaluation
NM	2	7.8400	0.3800	1.050	A	A
NM	3	9.1200	0.4100	1.221	A	A
NQ	1	8.4000	1.5000	1.124		A
OT	1	6.5000	1.0000	0.870	A	A
PO	1	9.0000	0.6000	1.205		A
RE	1	6.7000	0.8700	0.897	A	A
SK	1	10.2000	0.8000	1.365	A	A
SN	1	7.7360	3.2690	1.036	A	A
SW	1	9.4100	1.0400	1.260	W	A
TI	1	4.3000	1.2000	0.576	A	N
TM	1	7.9300	2.9800	1.062	A	A
TN	1	10.0000	1.0000	1.339	A	A
TO	1	9.6000	3.8000	1.285	N	A
TX	1	9.8500	0.8900	1.319	A	A
UP	1	9.3900	2.0200	1.257	A	A
UY	1	7.5300	1.8000	1.008	A	A
WA	1	7.1600	0.6400	0.959	A	A
WC	1	8.4000	1.0000	1.124	W	A
WS	1	13.1000	2.4100	1.754	A	W
YA	1	6.7365	0.2405	0.902	A	A

**Total Number Reported: 61**

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Values for elemental uranium are reported in µg/filter, g or mL. pCi/g or mL = Bq x 0.027

Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable

If the evaluation system is not appropriate for the types of analyses performed in your lab, apply site specific evaluation.

---

### QAP 49 Results by Nuclide

---

Matrix: SO Soil Bq/kg  
Radionuclide: BI212

---

EML Value: 58.300  
EML Error: 5.900

---

Labcode	Test #	Reported Value	Reported Error	Reported EML	QAP 48 Evaluation	Evaluation
AF	1	37.3700	17.7600	0.641		A
AG	1	57.0000	28.0000	0.978		A
AM	1	30.3300	7.0300	0.520		A
BL	1	58.0000	2.1000	0.995		A
BN	1	31.5700	1.5200	0.542		A
BN	2	33.1500	1.5200	0.569		A
BN	3	35.2800	1.5200	0.605		A
BP	1	64.0000	10.0000	1.098		A
CD	1	55.0000	1.0000	0.943		A
CH	1	69.2000	5.0000	1.187		A
CR	1	69.0000	31.0000	1.184		A
FG	1	66.2800	6.6900	1.137		A
GA	1	65.7000	16.6000	1.127		A
GE	1	31.7580	14.9050	0.545		A
ID	1	30.1100	2.3400	0.516		A
IE	1	39.2200	8.5500	0.673		A
IL	1	63.9000	3.9000	1.096		A
IN	1	47.5000	3.0000	0.815		A
IS	1	62.3000	29.0000	1.069		A
IT	1	61.0000	3.0000	1.046		A
LV	1	37.9000	2.9000	0.650		A
MH	1	27.2300	3.6500	0.467		A
NA	1	45.0000	8.0000	0.772		A
NL	1	55.2000	9.5000	0.947		A
NQ	1	68.5000	9.6000	1.175		A
OB	1	63.3000	43.3000	1.086		A
OC	1	23.0000	15.0000	0.395		A
OC	2	25.0000	15.0000	0.429		A
OC	3	24.0000	15.0000	0.412		A
OT	1	47.0000	11.0000	0.806		A
OU	1	52.1000	3.2000	0.894		A
SK	1	59.0000	1.0000	1.012		A
SN	1	37.2590	7.7670	0.639		A
SR	1	40.8000	3.6000	0.700		A
SW	1	85.4700	5.3000	1.466		A
TE	1	55.4000	10.3000	0.950		A
TM	1	75.5000	20.7000	1.295		A
TO	1	26.5000	16.6000	0.455		A
TX	1	46.7000	1.6000	0.801		A
UY	1	60.0000	30.0000	1.029		A
WA	1	61.4000	8.3000	1.053		A

---

Values for elemental uranium are reported in µg/filter, g or mL. pCi/g or mL = Bq x 0.027

Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable

If the evaluation system is not appropriate for the types of analyses performed in your lab, apply site specific evaluation.

### QAP 49 Results by Nuclide

---

Matrix: SO Soil Bq / kg  
Radionuclide: BI212

---

EML Value: 58.300  
EML Error: 5.900

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Labcode	Test #	Reported Value	Reported Error	<u>Reported EML</u>	QAP 48 Evaluation	Evaluation
WE	1	37.2000	22.0000	0.638		A

**Total Number Reported: 42**

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Values for elemental uranium are reported in µg/filter, g or mL. pCi/g or mL = Bq x 0.027

Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable

If the evaluation system is not appropriate for the types of analyses performed in your lab, apply site specific evaluation.

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## QAP 49 Results by Nuclide

---

Matrix: SO Soil Bq / kg  
Radionuclide: BI214

---

EML Value: 28.800  
EML Error: 0.500

---

Labcode	Test #	Reported Value	Reported Error	Reported EML	QAP 48 Evaluation	Evaluation
AF	1	22.2000	9.6200	0.771		A
AG	1	32.6000	7.8000	1.132		A
AI	1	38.9000	2.1900	1.351		A
AM	1	40.3200	2.5900	1.400		A
BL	1	31.0000	2.1000	1.076		A
BN	1	25.8100	0.5800	0.896		A
BN	2	27.2000	0.5800	0.944		A
BN	3	26.2600	0.5800	0.912		A
BP	1	27.0000	3.0000	0.938		A
CD	1	32.0000	2.0000	1.111		A
CH	1	25.9000	1.3000	0.899		A
CL	1	41.0000	7.4000	1.424		A
CR	1	40.0000	6.0000	1.389		A
CS	1	27.9500	0.7267	0.970		A
FG	1	47.8000	8.0000	1.660		A
FS	1	29.4000	2.0000	1.021		A
GA	1	31.3000	7.7000	1.087		A
GC	1	34.0000	1.8000	1.181		A
HU	1	25.6000	1.0000	0.889		A
ID	1	29.8500	1.6500	1.036		A
IL	1	49.1000	6.5000	1.705		A
IN	1	34.0000	8.0000	1.181		A
IS	1	21.9000	5.8000	0.760		A
IT	1	32.0000	3.0000	1.111		A
JE	1	39.8000	5.1200	1.382		A
LV	1	36.3000	1.8000	1.260		A
MH	1	29.1200	2.1600	1.011		A
NA	1	24.0000	1.5000	0.833		A
NL	1	31.1000	7.1000	1.080		A
NQ	1	33.0000	3.7000	1.146		A
OB	1	34.3000	13.7000	1.191		A
OC	1	25.0000	10.0000	0.868		A
OC	2	28.0000	10.0000	0.972		A
OC	3	21.0000	10.0000	0.729		A
OT	1	37.0000	14.0000	1.285		A
OU	1	33.2000	2.3000	1.153		A
RA	1	27.5000	3.6000	0.955		A
RA	2	30.6000	6.8000	1.063		A
SK	1	38.0000	1.0000	1.319		A
SN	1	31.9880	4.3300	1.111		A
SR	1	31.4000	1.2000	1.090		A

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Values for elemental uranium are reported in µg/filter, g or mL. pCi/g or mL = Bq x 0.027

Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable

If the evaluation system is not appropriate for the types of analyses performed in your lab, apply site specific evaluation.

## QAP 49 Results by Nuclide

---

Matrix: SO Soil Bq / kg  
Radionuclide: BI214

---

EML Value: 28.800  
EML Error: 0.500

---

Labcode	Test #	Reported Value	Reported Error	Reported EML	QAP 48 Evaluation	Evaluation
SW	1	44.5500	2.2900	1.547		A
TE	1	28.5000	6.5000	0.990		A
TM	1	41.0000	3.8900	1.424		A
TO	1	22.8000	5.4000	0.792		A
TO	1	27.4022	6.9850	0.951		A
TW	1	25.3000	0.8000	0.878		A
TX	1	25.1000	1.2000	0.872		A
UY	1	33.0000	15.0000	1.146		A
WA	1	28.7000	1.9000	0.997		A
WE	1	33.9000	17.0000	1.177		A

**Total Number Reported: 51**

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Values for elemental uranium are reported in µg/filter, g or mL. pCi/g or mL = Bq x 0.027

Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable

If the evaluation system is not appropriate for the types of analyses performed in your lab, apply site specific evaluation.

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### QAP 49 Results by Nuclide

---

Matrix: SO Soil Bq / kg  
Radionuclide: Bq U

---

EML Value: 237.000  
EML Error: 16.000

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Labcode	Test #	Reported Value	Reported Error	Reported EML	QAP 48 Evaluation	Evaluation
AF	1	121.7300	11.8700	0.514		W
AG	1	212.0000	18.0000	0.895	A	A
AM	1	146.0100	13.3100	0.616	W	A
BL	1	223.0000		0.941	A	A
BL	2	213.0000	3.0000	0.899	A	A
BP	1	226.0000	6.0000	0.954		A
BU	1	218.0000	10.0000	0.920	A	A
CH	1	224.0000	11.0000	0.945		A
CL	1	186.0000	36.0000	0.785	A	A
HT	1	470.5000	45.0000	1.985		N
HU	1	9.4000	0.7000	0.040		N
ID	1	217.7700	12.4700	0.919	A	A
IT	1	193.0000	13.0000	0.814		A
OT	1	160.0000	20.0000	0.675	A	A
OU	1	237.0000	16.0000	1.000		A
UP	1	234.0000	18.8000	0.987		A
UY	1	216.0000	22.0000	0.911	A	A
WA	1	247.0000	9.0000	1.042	A	A
YA	1	225.8048	6.4183	0.953		A

**Total Number Reported: 19**

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Values for elemental uranium are reported in µg/filter, g or mL. pCi/g or mL = Bq x 0.027

Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable

If the evaluation system is not appropriate for the types of analyses performed in your lab, apply site specific evaluation.

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## QAP 49 Results by Nuclide

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Matrix: SO Soil Bq / kg  
Radionuclide: CO60

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EML Value: 1.240  
EML Error: 0.110

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Labcode	Test #	Reported Value	Reported Error	Reported EML	QAP 48 Evaluation	Evaluation
CO	1	1106.0000	36.0000	891.935		N
DH	1	1.3700	0.6300	1.105		A
GT	1	1.9000	1.0000	1.532		A
HU	1	0.7600	0.2200	0.613		N
IA	1	1.5800	0.2000	1.274		A
IA	2	1.2100	0.2000	0.976		A
IA	3	0.8500	0.2000	0.685		W
ME	1	1.0100	0.2000	0.815		W
OL	1	1.3200	0.3200	1.065		A
PO	1	1.1000	0.4000	0.887		A
RC	1	1.9200	0.4100	1.548		A
SK	1	1.7400	0.2700	1.403		A
TI	1	1.8500	0.6000	1.492		A
TY	1	2.0000	1.0000	1.613		A

Total Number Reported: 14

---

Values for elemental uranium are reported in µg/filter, g or mL. pCi/g or mL = Bq x 0.027

Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable

If the evaluation system is not appropriate for the types of analyses performed in your lab, apply site specific evaluation.

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### QAP 49 Results by Nuclide

---

Matrix: SO Soil Bq / kg  
Radionuclide: CS137

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EML Value: 954.000  
EML Error: 38.000

---

Labcode	Test #	Reported Value	Reported Error	Reported EML	QAP 48 Evaluation	Evaluation
AF	1	723.3500	83.9900	0.758	W	N
AG	1	1173.0000	200.0000	1.230	A	W
AI	1	1010.0000	6.1600	1.059	N	A
AL	1	1788.3000	0.0700	1.875	N	N
AM	1	1049.9399	9.9900	1.101	A	A
AN	1	1092.0000	4.0000	1.145	A	A
AT	1	970.5000	81.0000	1.017	W	A
AU	1	1113.0000	58.0000	1.167	A	A
BA	1	1041.0000	45.0000	1.091	A	A
BC	1	1099.0000	76.0000	1.152	A	A
BE	1	1069.0000	150.0000	1.121	A	A
BL	1	1097.0000	40.0000	1.150	A	A
BM	1	1041.0000	7.0000	1.091	A	A
BN	1	959.4100	2.1900	1.006	A	A
BN	2	954.9700	2.1900	1.001	A	A
BN	3	959.7800	2.1900	1.006	A	A
BP	1	902.0000	18.0000	0.945	A	A
BQ	1	1070.0000	30.0000	1.122	N	A
BU	1	860.0000	90.0000	0.901	W	A
BX	1	1094.0000	84.0000	1.147	A	A
CD	1	1051.0000	4.0000	1.102	A	A
CH	1	1088.0000	2.8000	1.140		A
CL	1	950.0000	28.5000	0.996	A	A
CM	1	987.0000	47.0000	1.035		A
CM	2	1010.0000	48.0000	1.059		A
CM	3	1050.0000	50.0000	1.101		A
CN	1	1046.7000	63.7700	1.097	A	A
CO	1	1118.0000	33.0000	1.172	A	A
CO	1	566.0000	16.0000	0.593	A	N
CR	1	1180.0000	47.0000	1.237	W	W
CS	1	950.9000	40.9800	0.997	A	A
DH	1	969.0000	8.0000	1.016	A	A
EG	1	1110.0000	20.0000	1.164	A	A
FG	1	888.3000	1.0000	0.931	A	A
FL	1	945.0000	2.0000	0.991	A	A
FN	1	954.0000	96.0000	1.000	A	A
FS	1	954.0000	36.0000	1.000	A	A
GA	1	1023.0000	30.0000	1.072	A	A
GC	1	933.1000	35.1000	0.978	A	A
GE	1	980.6850	140.3387	1.028	A	A
GP	1	1000.0000	100.0000	1.048	A	A

---

Values for elemental uranium are reported in µg/filter, g or mL. pCi/g or mL = Bq x 0.027

Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable

If the evaluation system is not appropriate for the types of analyses performed in your lab, apply site specific evaluation.

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### QAP 49 Results by Nuclide

---

Matrix: SO Soil Bq / kg  
Radionuclide: CS137

---

EML Value: 954.000  
EML Error: 38.000

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Labcode	Test #	Reported Value	Reported Error	Reported EML	QAP 48 Evaluation	Evaluation
GT	1	1200.0000	100.0000	1.258	A	W
HU	1	896.0000	23.0000	0.939	W	A
IA	1	685.0000	2.0000	0.718	N	N
IA	2	687.0000	2.0000	0.720	N	N
IA	3	683.0000	2.0000	0.716	N	N
ID	1	1056.3300	52.9100	1.107	A	A
IE	1	1125.0000	7.0000	1.179	A	A
IL	1	994.9000	17.5000	1.043	N	A
IN	1	1136.0000	175.0000	1.191	A	A
IS	1	923.0000	116.0000	0.968	A	A
IT	1	1129.0000	46.0000	1.183	A	A
JE	1	1124.9600	27.6300	1.179	A	A
KA	1	967.5000	108.5000	1.014	A	A
KR	1	1043.1000	44.2000	1.093	A	A
LA	1	628.0000	45.0000	0.658	W	N
LA	2	629.0000	45.0000	0.659	W	N
LA	3	785.0000	56.0000	0.823	W	N
LB	1	1131.0000	124.0000	1.186		A
LL	1	716.0000	21.5000	0.751	A	N
LV	1	1140.0000	4.0000	1.195	W	A
MA	1	1114.0000	74.0000	1.168	W	A
ME	1	703.0000	33.0000	0.737	A	N
MH	1	969.5000	46.8500	1.016	A	A
MS	1	1025.0000	103.0000	1.074		A
NA	1	923.2000	4.4000	0.968	A	A
NL	1	1010.0000	181.0000	1.059	A	A
NM	1	903.0000	46.0000	0.947	A	A
NP	1	653.0000	1.0000	0.684	W	N
NQ	1	1190.0000	140.0000	1.247		W
NR	1	1003.0000	201.0000	1.051	A	A
NZ	1	1046.0000	54.0000	1.096		A
NZ	2	1024.0000	53.0000	1.073		A
OB	1	1370.0000	259.0000	1.436		N
OC	1	850.0000	300.0000	0.891		W
OC	2	840.0000	300.0000	0.881		W
OC	3	830.0000	300.0000	0.870		W
OL	1	1059.2000	26.8000	1.110	A	A
OT	1	920.0000	10.0000	0.964	A	A
OU	1	1110.0000	52.1000	1.164	W	A
PK	1	946.2600	39.3500	0.992	A	A
PO	1	1045.0000	50.0000	1.095	A	A
RA	1	1020.0000	40.0000	1.069	W	A

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Values for elemental uranium are reported in µg/filter, g or mL. pCi/g or mL = Bq x 0.027

Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable

If the evaluation system is not appropriate for the types of analyses performed in your lab, apply site specific evaluation.

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### QAP 49 Results by Nuclide

---

Matrix: SO Soil Bq / kg  
Radionuclide: CS137

---

EML Value: 954.000  
EML Error: 38.000

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Labcode	Test #	Reported Value	Reported Error	Reported EML	QAP 48 Evaluation	Evaluation
RA	2	1030.0000	40.0000	1.080	W	A
RC	1	980.0000	67.0000	1.027	A	A
RE	1	967.0000	72.0000	1.014	A	A
RI	1	1080.0000	30.3000	1.132	A	A
SA	1	990.0000	29.0000	1.038	A	A
SB	1	1031.0000	128.0000	1.081		A
SK	1	1080.0000	66.0000	1.132	W	A
SN	1	1113.9470	111.3210	1.168	A	A
SR	1	1090.0000	20.0000	1.143	A	A
SW	1	1228.0000	5.0000	1.287	N	W
TE	1	915.7000	8.2000	0.960	A	A
TI	1	1188.0000	119.0000	1.245	A	W
TM	1	1030.0000	30.8000	1.080	A	A
TN	1	88.3000	9.0000	0.093		N
TO	1	693.9000	70.9000	0.727	A	N
TP	1	918.5300	5.1800	0.963	A	A
TT	1	750.0000	9.2300	0.786	N	N
TW	1	1040.0000	8.0000	1.090	A	A
TX	1	914.0000	4.0000	0.958	A	A
TY	1	864.0000	1.0000	0.906		A
UC	1	1160.3199	98.4200	1.216	W	W
UP	1	1101.0000	88.0000	1.154	A	A
UY	1	1100.0000	100.0000	1.153	A	A
WA	1	1080.0000	30.0000	1.132	A	A
WC	1	1081.0000	150.0000	1.133	A	A
WE	1	1130.0000	290.0000	1.184		A
WS	1	1077.1000	36.0000	1.129	A	A
YA	1	1176.4150	3.3300	1.233	A	W
YU	1	951.0000	20.0000	0.997	A	A

**Total Number Reported: 112**

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Values for elemental uranium are reported in µg/filter, g or mL. pCi/g or mL = Bq x 0.027

Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable

If the evaluation system is not appropriate for the types of analyses performed in your lab, apply site specific evaluation.

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### QAP 49 Results by Nuclide

---

Matrix: SO Soil Bq/kg  
Radionuclide: K40

---

EML Value: 314.000  
EML Error: 13.000

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Labcode	Test #	Reported Value	Reported Error	Reported EML	QAP 48 Evaluation	Evaluation
AF	1	231.9900	44.7700	0.739	A	N
AG	1	396.0000	74.0000	1.261	A	W
AI	1	389.0000	17.7000	1.239	W	A
AL	1	616.2400	0.5000	1.963	N	N
AM	1	372.1800	38.8500	1.185	A	A
AN	1	363.0000	11.0000	1.156	A	A
AT	1	380.8000	41.1000	1.213	W	A
AU	1	388.0000	24.0000	1.236	A	A
BC	1	403.0000	25.2000	1.283	W	W
BE	1	390.0000	80.0000	1.242	A	A
BL	1	355.0000	16.0000	1.131	A	A
BN	1	291.6700	3.9500	0.929	A	A
BN	2	282.5000	3.9500	0.900	A	A
BN	3	284.4600	3.9500	0.906	A	A
BP	1	305.0000	7.0000	0.971	A	A
BQ	1	490.0000	5.0000	1.561	A	N
BU	1	290.0000	30.0000	0.924	W	A
BX	1	418.0000	23.7000	1.331	W	W
CD	1	338.0000	10.0000	1.076	W	A
CH	1	369.0000	8.0000	1.175		A
CL	1	400.0000	36.0000	1.274	A	W
CM	1	379.0000	23.0000	1.207		A
CM	2	379.0000	23.0000	1.207		A
CM	3	391.0000	24.0000	1.245		A
CN	1	331.6000	31.6400	1.056	A	A
CR	1	328.0000	58.0000	1.045	W	A
CS	1	322.6000	15.1000	1.027	A	A
DH	1	331.0000	27.0000	1.054	A	A
EG	1	350.0000	60.0000	1.115	A	A
FG	1	302.0000	6.4100	0.962	A	A
FL	1	332.0000	6.0000	1.057	A	A
FN	1	321.0000	34.0000	1.022	A	A
FS	1	325.0000	20.0000	1.035	A	A
GA	1	351.0000	59.0000	1.118	A	A
GC	1	369.5000	21.2300	1.177	A	A
GE	1	350.3160	63.8674	1.116	A	A
GP	1	350.0000	30.0000	1.115	A	A
GT	1	400.0000	80.0000	1.274	A	W
HU	1	342.0000	24.0000	1.089	A	A
IA	1	254.0000	6.0000	0.809	N	W
IA	2	250.0000	6.0000	0.796	N	W

---

Values for elemental uranium are reported in µg/filter, g or mL. pCi/g or mL = Bq x 0.027

Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable

If the evaluation system is not appropriate for the types of analyses performed in your lab, apply site specific evaluation.

---

## QAP 49 Results by Nuclide

---

Matrix: SO Soil Bq/kg  
Radionuclide: K40

---

EML Value: 314.000  
EML Error: 13.000

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Labcode	Test #	Reported Value	Reported Error	Reported EML	QAP 48 Evaluation	Evaluation
IA	3	246.0000	6.0000	0.783	N	W
ID	1	303.7000	27.1600	0.967	A	A
IE	1	424.6000	19.2000	1.352	A	W
IL	1	609.5000	90.3000	1.941	N	N
IN	1	356.0000	101.0000	1.134	A	A
IS	1	326.0000	46.9000	1.038	W	A
IT	1	373.0000	22.0000	1.188	A	A
JE	1	363.1100	58.2900	1.156	A	A
KA	1	328.1000	51.3000	1.045	A	A
KR	1	381.1000	49.6000	1.214	A	A
LA	1	253.0000	29.0000	0.806	A	W
LA	2	317.0000	34.0000	1.010	A	A
LA	3	333.0000	35.0000	1.061	A	A
LB	1	383.0000	66.0000	1.220		A
LL	1	242.0000	68.3000	0.771	A	N
LV	1	391.0000	10.0000	1.245	A	A
MA	1	370.0000	44.0000	1.178	A	A
ME	1	280.0000	15.6000	0.892	A	W
MH	1	328.4000	17.6600	1.046	A	A
MS	1	355.0000	35.0000	1.130		A
NA	1	304.0000	12.0000	0.968	A	A
NL	1	332.0000	52.0000	1.057	A	A
NP	1	259.0000	4.0000	0.825		W
NQ	1	410.0000	47.0000	1.306		W
NR	1	317.0000	63.0000	1.010	A	A
OB	1	492.0000	113.0000	1.567		N
OC	1	400.0000	200.0000	1.274		W
OC	2	380.0000	200.0000	1.210		A
OC	3	400.0000	200.0000	1.274		W
OL	1	362.9000	26.1000	1.156	A	A
OT	1	320.0000	40.0000	1.019	A	A
OU	1	326.0000	15.2000	1.038	W	A
PO	1	329.0000	20.0000	1.048	A	A
RA	1	404.0000	42.0000	1.287	W	W
RA	2	425.0000	40.0000	1.354	W	W
RC	1	352.0000	19.0000	1.121	A	A
RE	1	343.0000	32.0000	1.092	A	A
SA	1	353.0000	16.0000	1.124	A	A
SB	1	372.0000	57.0000	1.185		A
SK	1	328.0000	20.0000	1.045	A	A
SN	1	406.4620	40.5850	1.294	W	W
SR	1	394.0000	12.0000	1.255	A	W

---

Values for elemental uranium are reported in µg/filter, g or mL. pCi/g or mL = Bq x 0.027

Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable

If the evaluation system is not appropriate for the types of analyses performed in your lab, apply site specific evaluation.

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## QAP 49 Results by Nuclide

---

Matrix: SO Soil Bq / kg  
Radionuclide: K40

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EML Value: 314.000  
EML Error: 13.000

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Labcode	Test #	Reported Value	Reported Error	Reported EML	QAP 48 Evaluation	Evaluation
SW	1	427.4000	57.8000	1.361	W	W
TE	1	296.2000	39.9000	0.943	A	A
TI	1	381.0000	38.2000	1.213	A	A
TM	1	345.0000	32.9000	1.099	A	A
TN	1	2.9200	0.3000	0.009	A	N
TO	1	224.0000	43.1000	0.713	A	N
TP	1	327.7400	5.2200	1.044	A	A
TT	1	266.0000	5.5700	0.847	W	W
TW	1	371.0000	7.0000	1.182	A	A
TX	1	315.0000	12.0000	1.003	A	A
TY	1	336.0000	15.0000	1.070		A
UC	1	380.2400	16.2900	1.211	A	A
UY	1	415.0000	120.0000	1.322	A	W
WA	1	399.0000	15.0000	1.271	A	W
WC	1	413.0000	54.0000	1.315	W	W
WE	1	366.0000	27.0000	1.166		A
WS	1	363.7100	18.9000	1.158	A	A
YA	1	384.0600	8.0105	1.223	A	A
YU	1	315.0000	10.0000	1.003	A	A

**Total Number Reported: 102**

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Values for elemental uranium are reported in µg/filter, g or mL. pCi/g or mL = Bq x 0.027

Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable

If the evaluation system is not appropriate for the types of analyses performed in your lab, apply site specific evaluation.

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## QAP 49 Results by Nuclide

---

Matrix: SO Soil Bq / kg  
Radionuclide: PB210

---

EML Value: 32.000  
EML Error: 3.300

---

Labcode	Test #	Reported Value	Reported Error	Reported EML	QAP 48 Evaluation	Evaluation
AF	1	35.1500	6.2300	1.098		A
AM	1	72.8800	31.4400	2.277		A
BL	1	27.7000	5.8000	0.866		A
BQ	1	33.0000	10.0000	1.031		A
CS	1	21.9700	4.6220	0.687		A
FG	1	130.0000	58.7000	4.063		A
FS	1	29.6000	8.4000	0.925		A
IS	1	31.8000	32.0000	0.994		A
IT	1	41.0000	5.5000	1.281		A
OB	1	26.5000	139.0000	0.828		A
SW	1	35.8800	15.7700	1.121		A
TO	1	20.4000	2.4000	0.637		A
TX	1	27.7000	9.3000	0.866		A

Total Number Reported: 13

---

Values for elemental uranium are reported in µg/filter, g or mL. pCi/g or mL = Bq x 0.027

Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable

If the evaluation system is not appropriate for the types of analyses performed in your lab, apply site specific evaluation.

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### QAP 49 Results by Nuclide

---

Matrix: SO Soil Bq / kg  
Radionuclide: PB212

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EML Value: 52.800  
EML Error: 3.700

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Labcode	Test #	Reported Value	Reported Error	Reported EML	QAP 48 Evaluation	Evaluation
AF	1	39.5900	7.4000	0.750		A
AG	1	60.0000	11.0000	1.136		A
AI	1	12.6000	2.2600	0.239		A
AM	1	60.3000	1.4700	1.142		A
BL	1	62.1000	3.7000	1.176		A
BN	1	51.2800	0.6900	0.971		A
BN	2	49.9500	0.6900	0.946		A
BN	3	49.7300	0.6900	0.942		A
BP	1	50.0000	8.0000	0.947		A
BQ	1	52.0000	7.0000	0.985		A
CD	1	58.0000	1.0000	1.098		A
CH	1	55.5000	0.9400	1.051		A
CL	1	61.5000	3.1000	1.165		A
CR	1	63.0000	6.0000	1.193		A
CS	1	54.1700	2.7840	1.026		A
FG	1	69.0400	1.2000	1.308		A
GA	1	53.7000	7.4000	1.017		A
GC	1	48.1000	2.4000	0.911		A
GE	1	56.5340	9.2900	1.071		A
HU	1	52.6000	1.5000	0.996		A
ID	1	57.2800	3.0700	1.085		A
IE	1	46.7500	1.6500	0.885		A
IL	1	64.0000	3.9000	1.212		A
IN	1	56.9000	6.0000	1.078		A
IS	1	50.1000	10.0000	0.949		A
IT	1	61.0000	3.0000	1.155		A
JE	1	42.6100	3.3700	0.807		A
LV	1	70.3000	4.6000	1.331		A
MH	1	50.6800	3.7000	0.960		A
NA	1	49.8000	1.5000	0.943		A
NL	1	55.2000	9.5000	1.045		A
NQ	1	68.1000	7.8000	1.290		A
OB	1	107.0000	23.4000	2.027		A
OC	1	58.0000	10.0000	1.098		A
OC	2	63.0000	10.0000	1.193		A
OC	3	54.0000	10.0000	1.023		A
OT	1	47.0000	11.0000	0.890		A
OU	1	49.1000	6.2000	0.930		A
RA	1	53.0000	2.3000	1.004		A
RA	2	53.1000	1.9000	1.006		A
SK	1	61.0000	4.0000	1.155		A

---

Values for elemental uranium are reported in µg/filter, g or mL. pCi/g or mL = Bq x 0.027

Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable

If the evaluation system is not appropriate for the types of analyses performed in your lab, apply site specific evaluation.

### QAP 49 Results by Nuclide

---

Matrix: SO Soil Bq / kg  
Radionuclide: PB212

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EML Value: 52.800  
EML Error: 3.700

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Labcode	Test #	Reported Value	Reported Error	Reported EML	QAP 48 Evaluation	Evaluation
SN	1	63.8550	6.6280	1.209		A
SR	1	51.3000	1.4000	0.972		A
SW	1	78.0400	2.1000	1.478		A
TE	1	53.6000	1.5000	1.015		A
TM	1	62.4000	3.8300	1.182		A
TO	1	39.0000	6.8000	0.739		A
TW	1	52.6000	0.9000	0.996		A
UY	1	58.0000	30.0000	1.098		A
WA	1	57.5000	2.6000	1.089		A
WE	1	53.4000	7.9000	1.011		A

**Total Number Reported: 51**

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Values for elemental uranium are reported in µg/filter, g or mL. pCi/g or mL = Bq x 0.027

Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable

If the evaluation system is not appropriate for the types of analyses performed in your lab, apply site specific evaluation.

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## QAP 49 Results by Nuclide

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Matrix: SO Soil Bq / kg  
Radionuclide: PB214

---

EML Value: 29.100  
EML Error: 1.200

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Labcode	Test #	Reported Value	Reported Error	Reported EML	QAP 48 Evaluation	Evaluation
AF	1	29.6000	6.2900	1.017		A
AG	1	35.0000	7.4000	1.203		A
AI	1	37.0000	2.6300	1.271		A
AM	1	36.2600	3.7000	1.246		A
BL	1	35.5000	2.3000	1.220		A
BN	1	26.8500	1.7900	0.923		A
BN	2	27.3800	1.7900	0.941		A
BN	3	30.9000	1.7900	1.062		A
BP	1	29.0000	3.0000	0.997		A
CD	1	30.0000	2.0000	1.031		A
CH	1	28.8000	1.6000	0.990		A
CL	1	42.9000	7.3000	1.474		A
CR	1	41.0000	7.0000	1.409		A
CS	1	28.9500	1.0310	0.995		A
FG	1	41.4100	2.0500	1.423		A
FS	1	25.0000	4.8000	0.859		A
GA	1	36.8000	10.3000	1.265		A
GE	1	32.5600	8.9840	1.119		A
HU	1	31.2000	1.0000	1.072		A
ID	1	35.4700	2.5100	1.219		A
IE	1	33.2000	2.4300	1.141		A
IL	1	49.1000	6.5000	1.687		A
IN	1	33.4000	9.8000	1.148		A
IS	1	28.5000	7.4000	0.979		A
IT	1	35.0000	1.5000	1.203		A
JE	1	28.3900	5.5000	0.976		A
LV	1	43.7000	2.5000	1.502		A
ME	1	13.7000	1.0800	0.471		A
MH	1	29.0400	2.1700	0.998		A
NA	1	27.4000	1.7000	0.942		A
NL	1	31.5000	7.2000	1.082		A
NQ	1	37.8000	4.8000	1.299		A
OB	1	6.7500	19.0000	0.232		A
OC	1	28.0000	10.0000	0.962		A
OC	2	31.0000	10.0000	1.065		A
OC	3	27.0000	10.0000	0.928		A
OT	1	37.0000	14.0000	1.271		A
OU	1	31.3000	1.7000	1.076		A
RA	1	28.7000	2.9000	0.986		A
RA	2	25.9000	6.0000	0.890		A
SK	1	38.0000	1.0000	1.306		A

---

Values for elemental uranium are reported in µg/filter, g or mL. pCi/g or mL = Bq x 0.027

Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable

If the evaluation system is not appropriate for the types of analyses performed in your lab, apply site specific evaluation.

## QAP 49 Results by Nuclide

---

Matrix: SO Soil Bq / kg  
Radionuclide: PB214

---

EML Value: 29.100  
EML Error: 1.200

---

Labcode	Test #	Reported Value	Reported Error	Reported EML	QAP 48 Evaluation	Evaluation
SN	1	35.5780	5.6380	1.223		A
SR	1	31.3000	1.4000	1.076		A
SW	1	42.1300	8.5100	1.448		A
TE	1	31.0000	5.9000	1.065		A
TM	1	35.7000	5.0600	1.227		A
TO	1	24.7000	11.8000	0.849		A
TW	1	29.0000	1.0000	0.997		A
TX	1	29.3000	2.1000	1.007		A
UY	1	34.0000	15.0000	1.168		A
WA	1	30.2000	2.2000	1.038		A
WE	1	39.4000	10.0000	1.354		A

**Total Number Reported: 52**

---

Values for elemental uranium are reported in µg/filter, g or mL. pCi/g or mL = Bq x 0.027

Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable

If the evaluation system is not appropriate for the types of analyses performed in your lab, apply site specific evaluation.

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### QAP 49 Results by Nuclide

---

Matrix: SO Soil Bq / kg  
Radionuclide: PU238

---

EML Value: 0.530  
EML Error: 0.270

---

Labcode	Test #	Reported Value	Reported Error	Reported EML	QAP 48 Evaluation	Evaluation
EG	1	0.4500	0.0800	0.849		A
IT	1	0.7700	0.0800	1.453		W
WA	1	0.5500	0.3500	1.038		A

**Total Number Reported: 3**

---

Values for elemental uranium are reported in µg/filter, g or mL. pCi/g or mL = Bq x 0.027

Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable

If the evaluation system is not appropriate for the types of analyses performed in your lab, apply site specific evaluation.

---

### QAP 49 Results by Nuclide

---

Matrix: SO Soil Bq/kg  
Radionuclide: PU239

---

EML Value: 13.090  
EML Error: 0.570

---

Labcode	Test #	Reported Value	Reported Error	Reported EML	QAP 48 Evaluation	Evaluation
AF	1	9.9900	2.5900	0.763	A	W
AG	1	13.4000	2.1000	1.024	A	A
AI	1	16.4000	1.8600	1.253	A	W
AM	1	12.5700	2.2200	0.960		A
AN	1	13.6400	0.6000	1.042	A	A
AU	1	12.4000	1.9000	0.947	A	A
BE	1	13.3000	1.3000	1.016	A	A
BL	1	15.5000	0.5000	1.184	A	A
BL	2	13.1000	0.6000	1.001	A	A
BM	1	12.6000	2.5000	0.963	W	A
BP	1	14.0000	0.3000	1.070	A	A
BU	1	11.0000	0.8000	0.840	A	W
BX	1	13.2000	0.8000	1.008	A	A
CH	1	13.6000	0.6600	1.039		A
CL	1	13.1000	2.7000	1.001	A	A
EG	1	13.7000	1.1000	1.047	A	A
EM	1	0.0090	0.0010	0.001		N
EP	1	13.0000	1.0300	0.993	A	A
FG	1	9.4500	1.3000	0.722		W
GA	1	11.0000	0.7900	0.840	A	W
GE	1	12.1730	2.5536	0.930	A	A
GT	1	13.3000	5.0000	1.016	A	A
HT	1	5.0000	0.6000	0.382		N
ID	1	12.5300	0.6500	0.957	W	A
IN	1	12.9800	2.7000	0.992	A	A
IS	1	17.0750	5.2260	1.304		W
IT	1	14.5000	1.2000	1.108	A	A
KA	1	13.7600	0.0800	1.051	A	A
KR	1	11.7000	0.2000	0.894		A
LA	1	12.6000	0.5000	0.963	A	A
LA	2	13.1000	0.5000	1.001	A	A
LA	3	13.0000	0.5000	0.993	A	A
LL	1	13.2000	1.5700	1.008	A	A
LV	1	9.8700	0.7400	0.754	N	W
LW	1	12.8000	1.5400	0.978		A
ML	1	13.5400	1.0300	1.034	A	A
NA	1	12.2000	2.2000	0.932	A	A
NL	1	13.5600	3.1600	1.036	W	A
NM	1	10.3000	0.3000	0.787	A	W
NM	2	13.3000	0.4000	1.016	A	A
NM	3	12.9000	0.4000	0.985	A	A

---

Values for elemental uranium are reported in µg/filter, g or mL. pCi/g or mL = Bq x 0.027

Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable

If the evaluation system is not appropriate for the types of analyses performed in your lab, apply site specific evaluation.

## QAP 49 Results by Nuclide

---

Matrix: SO Soil Bq / kg  
Radionuclide: PU239

---

EML Value: 13.090  
EML Error: 0.570

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Labcode	Test #	Reported Value	Reported Error	Reported EML	QAP 48 Evaluation	Evaluation
NQ	1	11.3000	1.3000	0.863		W
NZ	1	14.4000	1.4000	1.100		A
NZ	2	12.7000	1.1000	0.970		A
OT	1	14.0000	2.0000	1.070	A	A
RA	1	16.7000	2.5000	1.276	W	W
RE	1	14.1000	1.7000	1.077	A	A
SN	1	13.4380	4.2930	1.027	A	A
SW	1	2.8100	0.5200	0.215	N	N
TI	1	12.0000	2.0000	0.917	A	A
TM	1	14.4000	1.4200	1.100	A	A
TN	1	12.6000	1.3000	0.963	W	A
TO	1	13.9000	4.2000	1.062	N	A
TX	1	12.3000	0.5000	0.940	A	A
UP	1	13.9000	4.0300	1.062	A	A
UY	1	12.7000	1.4000	0.970	A	A
WA	1	13.5000	1.0000	1.031	A	A
WC	1	13.0000	2.3000	0.993	A	A
YA	1	13.8577	0.4329	1.059	A	A

Total Number Reported: **59**

---

Values for elemental uranium are reported in µg/filter, g or mL. pCi/g or mL = Bq x 0.027

Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable

If the evaluation system is not appropriate for the types of analyses performed in your lab, apply site specific evaluation.

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## QAP 49 Results by Nuclide

---

Matrix: SO Soil Bq / kg  
Radionuclide: RA226

---

EML Value: 29.000  
EML Error: 1.000

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Labcode	Test #	Reported Value	Reported Error	Reported EML	QAP 48 Evaluation	Evaluation
AF	1	113.2200	96.2000	3.904		A
AI	1	174.0000	33.6000	6.000		A
AL	1	308.3400	3.4000	10.632		A
AM	1	54.7500	12.2100	1.888		A
BL	1	44.4000	3.3000	1.531		A
BQ	1	39.0000	2.0000	1.345		A
BU	1	34.0000	2.0000	1.172		A
BX	1	222.0000	27.0000	7.655		A
CH	1	25.9000	1.3000	0.893		A
CL	1	331.0000	66.3000	11.414		A
CM	1	155.0000	13.5000	5.345		A
CM	2	156.0000	13.7000	5.379		A
CM	3	154.0000	13.6000	5.310		A
CR	1	152.0000	37.0000	5.241		A
CS	1	69.8500	4.4770	2.409		A
FG	1	204.1000	15.3000	7.038		A
GC	1	212.6000	56.1000	7.331		A
GE	1	29.9811	11.3800	1.034		A
IA	1	21.5000	1.6000	0.741		A
IA	2	23.7000	1.5000	0.817		A
IA	3	21.3000	1.5000	0.734		A
IL	1	62.7000	8.3000	2.162		A
IS	1	103.6000	50.4000	3.572		A
IT	1	32.0000	3.0000	1.103		A
LL	1	26.3000	20.5000	0.907		A
NA	1	35.0000	1.5000	1.207		A
NQ	1	33.9000	1.4000	1.169		A
OB	1	41.8000	12.4000	1.441		A
OC	1	25.0000	10.0000	0.862		A
OC	2	28.0000	10.0000	0.966		A
OC	3	21.0000	10.0000	0.724		A
OT	1	37.0000	14.0000	1.276		A
RA	1	27.3000	3.9000	0.941		A
RA	2	29.0000	4.2000	1.000		A
RE	1	28.4000	3.4000	0.979		A
SK	1	38.0000	4.0000	1.310		A
SW	1	43.9600	2.5000	1.516		A
TE	1	115.3000	2.2000	3.976		A
TM	1	31.0000	4.1100	1.069		A
TN	1	0.2000	0.0400	0.007		A
TO	1	23.8000	8.6000	0.821		A

---

Values for elemental uranium are reported in µg/filter, g or mL. pCi/g or mL = Bq x 0.027

Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable

If the evaluation system is not appropriate for the types of analyses performed in your lab, apply site specific evaluation.



### QAP 49 Results by Nuclide

---

Matrix: SO Soil Bq / kg  
Radionuclide: RA226

---

EML Value: 29.000  
EML Error: 1.000

---

Labcode	Test #	Reported Value	Reported Error	Reported EML	QAP 48 Evaluation	Evaluation
TX	1	44.3000	3.5000	1.528		A
WA	1	135.0000	17.0000	4.655		A
WE	1	34.4000	17.0000	1.186		A

**Total Number Reported: 44**

---

Values for elemental uranium are reported in µg/filter, g or mL. pCi/g or mL = Bq x 0.027

Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable

If the evaluation system is not appropriate for the types of analyses performed in your lab, apply site specific evaluation.

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### QAP 49 Results by Nuclide

---

Matrix: SO Soil Bq/kg  
Radionuclide: SR90

---

EML Value: 39.630  
EML Error: 0.003

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Labcode	Test #	Reported Value	Reported Error	Reported EML	QAP 48 Evaluation	Evaluation
AC	1	39.6000	2.6000	0.999		A
AF	1	48.1000	18.5000	1.214	N	A
AG	1	45.3000	9.3000	1.143	A	A
AM	1	54.7500	8.5100	1.382		A
AN	1	44.8000	0.9000	1.130	A	A
AU	1	49.0000	7.0000	1.236	A	A
BA	1	24.4000	2.3300	0.616		W
BC	1	27.2000	2.5000	0.686		W
BE	1	41.8000	4.5000	1.055	A	A
BL	1	34.0000	4.4000	0.858	A	A
BL	2	39.7000	4.9000	1.002	A	A
BM	1	40.6000	2.7000	1.024	A	A
BP	1	88.0000	16.0000	2.221	W	W
BX	1	26.5000	2.5000	0.669		W
CH	1	46.2000	4.0000	1.166		A
CL	1	26.3000	12.5000	0.664	W	W
EG	1	48.6000	2.1000	1.226	A	A
GE	1	32.9300	4.1861	0.831	A	A
GP	1	19.0000	7.0000	0.479		N
GT	1	44.0000	20.0000	1.110		A
ID	1	48.6300	4.1100	1.227	A	A
IS	1	51.0600	17.3900	1.288	A	A
IT	1	43.0000	2.4000	1.085	A	A
KA	1	43.3000	1.9000	1.093	A	A
KR	1	35.7000	0.7000	0.901	A	A
NZ	1	41.5000	3.6000	1.047		A
NZ	2	40.9000	3.5000	1.032		A
OT	1	31.0000	5.0000	0.782	A	A
OU	1	37.6000	9.2000	0.949		A
RA	1	45.0000	10.0000	1.136	A	A
RE	1	47.3000	3.5000	1.194	A	A
SR	1	50.4000	19.2000	1.272		A
SW	1	20.1900	14.1000	0.509	N	N
TE	1	37.4000	1.9000	0.944	A	A
TI	1	38.0000	4.0000	0.959	A	A
TM	1	42.9000	10.2000	1.083	W	A
TN	1	41.0000	4.0000	1.035	N	A
TO	1	37.8000	3.0000	0.954	A	A
TP	1	68.4000	2.3400	1.726	A	W
TX	1	47.1000	9.7000	1.188	A	A
UP	1	38.8500	10.7300	0.980		A

---

Values for elemental uranium are reported in µg/filter, g or mL. pCi/g or mL = Bq x 0.027

Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable

If the evaluation system is not appropriate for the types of analyses performed in your lab, apply site specific evaluation.

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### QAP 49 Results by Nuclide

---

Matrix: SO Soil Bq / kg  
Radionuclide: SR90

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EML Value: 39.630  
EML Error: 0.003

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Labcode	Test #	Reported Value	Reported Error	Reported EML	QAP 48 Evaluation	Evaluation
UY	1	43.6000	3.5000	1.100	A	A
WA	1	46.1000	3.9000	1.163	A	A
WC	1	61.0000	10.0000	1.539	N	A
WE	1	40.2000	30.0000	1.014		A
YA	1	51.6027	3.0833	1.302	W	A

Total Number Reported: 46

---

Values for elemental uranium are reported in µg/filter, g or mL. pCi/g or mL = Bq x 0.027

Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable

If the evaluation system is not appropriate for the types of analyses performed in your lab, apply site specific evaluation.

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## QAP 49 Results by Nuclide

---

Matrix: SO Soil Bq / kg  
Radionuclide: TH228

---

EML Value: 52.700  
EML Error: 4.000

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Labcode	Test #	Reported Value	Reported Error	Reported EML	QAP 48 Evaluation	Evaluation
AF	1	103.2300	49.5800	1.959		A
AG	1	59.0000	32.0000	1.120		A
AI	1	49.7000	1.8300	0.943		A
AM	1	29.5100	2.6000	0.560		A
AN	1	55.8000	4.0000	1.059		A
BL	1	60.3000	2.2000	1.144		A
BQ	1	53.0000	3.0000	1.006		A
CH	1	54.2000	3.4000	1.028		A
CL	1	58.2000	5.8000	1.104		A
FG	1	32.6400	5.6000	0.619		A
GE	1	53.6000	14.6000	1.017		A
IS	1	57.8000	20.2000	1.097		A
IS	2	65.4000	23.4000	1.241		A
IS	3	66.3000	22.3000	1.258		A
IT	1	57.0000	7.0000	1.082		A
LL	1	39.9000	6.5400	0.757		A
ME	1	115.0000	18.4000	2.182		A
NA	1	55.0000	8.0000	1.044		A
NL	1	55.2000	9.5000	1.047		A
OC	1	40.0000	15.0000	0.759		A
OC	2	37.0000	15.0000	0.702		A
OC	3	42.0000	15.0000	0.797		A
OT	1	21.0000	1.0000	0.398		A
OU	1	121.0000	4.0000	2.296		A
RA	1	47.0000	7.1000	0.892		A
RA	2	50.3000	6.2000	0.954		A
RE	1	54.2000	5.3000	1.028		A
SW	1	83.1400	13.2000	1.578		A
TM	1	65.3000	7.2600	1.239		A
TN	1	0.4900	0.0500	0.009		A
TX	1	53.7000	2.2000	1.019		A
UY	1	50.0000	6.0000	0.949		A
WA	1	190.0000	33.0000	3.605		A
WE	1	37.2000	22.0000	0.706		A

**Total Number Reported: 34**

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Values for elemental uranium are reported in µg/filter, g or mL. pCi/g or mL = Bq x 0.027

Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable

If the evaluation system is not appropriate for the types of analyses performed in your lab, apply site specific evaluation.

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## QAP 49 Results by Nuclide

---

Matrix: SO Soil Bq / kg  
Radionuclide: TH234

---

EML Value: 114.000  
EML Error: 6.000

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Labcode	Test #	Reported Value	Reported Error	Reported EML	QAP 48 Evaluation	Evaluation
AF	1	67.3400	54.0200	0.591		A
AG	1	110.0000	31.0000	0.965		A
AI	1	103.0000	17.7000	0.904		A
AM	1	139.1100	31.4500	1.220		A
BL	1	141.0000	10.0000	1.237		A
BQ	1	120.0000	40.0000	1.053		A
CS	1	97.6600	6.6900	0.857		A
FG	1	66.3000	6.1000	0.582		A
FS	1	96.2000	17.8000	0.844		A
GA	1	108.0000	22.0000	0.947		A
GE	1	109.2795	84.1470	0.959		A
IE	1	226.7000	17.7000	1.989		A
IN	1	114.5000	5.0000	1.004		A
IS	1	110.0000	31.0000	0.965		A
IT	1	236.0000	13.0000	2.070		A
LV	1	90.1000	5.1000	0.790		A
ME	1	209.0000	9.8700	1.833		A
NA	1	98.0000	10.0000	0.860		A
NL	1	95.6000	37.2000	0.839		A
NQ	1	125.0000	16.0000	1.096		A
OC	1	170.0000	40.0000	1.491		A
OC	2	140.0000	40.0000	1.228		A
OC	3	120.0000	40.0000	1.053		A
OT	1	78.0000	6.0000	0.684		A
OU	1	115.0000	2.4000	1.009		A
RA	1	160.0000	50.0000	1.404		A
RA	2	140.0000	40.0000	1.228		A
SK	1	180.0000	17.0000	1.579		A
SW	1	143.2000	9.9000	1.256		A
TM	1	92.5000	23.7000	0.811		A
TO	1	98.7000	45.3000	0.866		A
TX	1	128.0000	15.0000	1.123		A
UY	1	108.0000	11.0000	0.947		A
WA	1	101.0000	11.0000	0.886		A
WE	1	52.8000	40.0000	0.463		A

Total Number Reported: 35

---

Values for elemental uranium are reported in µg/filter, g or mL. pCi/g or mL = Bq x 0.027

Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable

If the evaluation system is not appropriate for the types of analyses performed in your lab, apply site specific evaluation.

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## QAP 49 Results by Nuclide

---

Matrix: SO Soil Bq / kg  
Radionuclide: TL208

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EML Value: 18.300  
EML Error: 1.100

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Labcode	Test #	Reported Value	Reported Error	Reported EML	QAP 48 Evaluation	Evaluation
AF	1	16.6500	3.3300	0.910		A
AG	1	21.5000	4.4000	1.175		A
AI	1	19.5000	1.2600	1.066		A
AM	1	16.2700	0.7300	0.889		A
BL	1	19.1000	1.4000	1.044		A
BN	1	16.4200	0.9900	0.897		A
BN	2	18.7100	0.9900	1.022		A
BN	3	16.9200	0.9900	0.925		A
BP	1	41.0000	7.0000	2.240		A
BQ	1	30.0000	9.0000	1.639		A
CD	1	61.0000	3.0000	3.333		A
CH	1	51.5000	2.0000	2.814		A
CL	1	21.7000	4.6000	1.186		A
CR	1	48.0000	9.0000	2.623		A
CS	1	17.2300	0.6496	0.942		A
FG	1	29.1100	1.0000	1.591		A
FS	1	54.5000	5.2000	2.978		A
GA	1	21.4000	4.1000	1.169		A
HU	1	16.6000	0.6000	0.907		A
IE	1	21.0500	1.5000	1.150		A
IL	1	23.0000	1.4000	1.257		A
IN	1	19.4000	2.2000	1.060		A
IS	1	19.9000	4.1000	1.087		A
IT	1	20.3000	2.2000	1.109		A
LV	1	21.0000	0.7000	1.148		A
MH	1	16.0800	1.0500	0.879		A
NA	1	17.0000	0.9000	0.929		A
NL	1	53.6000	10.8000	2.929		A
NQ	1	20.7000	2.6000	1.131		A
OB	1	25.9000	8.0200	1.415		A
OC	1	40.0000	15.0000	2.186		A
OC	2	37.0000	15.0000	2.022		A
OC	3	42.0000	15.0000	2.295		A
OT	1	47.0000	11.0000	2.568		A
RA	1	16.5000	3.3000	0.902		A
RA	2	16.7000	2.3000	0.913		A
SK	1	21.1000	0.3000	1.153		A
SN	1	19.6920	2.3940	1.076		A
SR	1	19.3000	0.9000	1.055		A
SW	1	28.8100	2.3000	1.574		A
TE	1	20.1000	3.1000	1.098		A

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Values for elemental uranium are reported in µg/filter, g or mL. pCi/g or mL = Bq x 0.027

Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable

If the evaluation system is not appropriate for the types of analyses performed in your lab, apply site specific evaluation.

### QAP 49 Results by Nuclide

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Matrix: SO Soil Bq / kg  
Radionuclide: TL208

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EML Value: 18.300  
EML Error: 1.100

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Labcode	Test #	Reported Value	Reported Error	Reported EML	QAP 48 Evaluation	Evaluation
TM	1	60.5000	6.7300	3.306		A
TO	1	15.8560	3.8620	0.866		A
TO	1	31.5000	6.6000	1.721		A
TW	1	16.5000	0.5000	0.902		A
TX	1	16.8000	0.7000	0.918		A
UY	1	21.0000	12.0000	1.148		A
WA	1	18.6000	1.0000	1.016		A
WE	1	17.4000	10.0000	0.951		A

**Total Number Reported: 49**

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Values for elemental uranium are reported in µg/filter, g or mL. pCi/g or mL = Bq x 0.027

Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable

If the evaluation system is not appropriate for the types of analyses performed in your lab, apply site specific evaluation.

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### QAP 49 Results by Nuclide

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Matrix: SO Soil Bq/kg  
Radionuclide: U234

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EML Value: 113.000  
EML Error: 6.000

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Labcode	Test #	Reported Value	Reported Error	Reported EML	QAP 48 Evaluation	Evaluation
AG	1	102.0000	13.0000	0.903	A	A
AM	1	68.4700	18.2000	0.606	W	W
AN	1	174.0000	19.0000	1.540	A	N
AU	1	102.0000	12.0000	0.903	A	A
BC	1	165.0000	8.9000	1.460	A	N
BE	1	105.1000	7.9000	0.930	A	A
BL	1	110.0000		0.973	A	A
BL	2	105.0000	2.0000	0.929	A	A
BM	1	110.0000	14.6000	0.973	A	A
BP	1	109.0000	4.0000	0.965		A
BU	1	105.0000	8.0000	0.929	A	A
BX	1	146.2000	7.4000	1.294	A	W
CH	1	109.0000	5.1000	0.965		A
CL	1	101.0000	15.7000	0.894	A	A
EG	1	106.0000	11.0000	0.938	A	A
EM	1	0.1180	0.0070	0.001		N
FG	1	110.4000	8.9900	0.977		A
GA	1	110.0000	9.4000	0.973	W	A
GE	1	103.0450	21.0090	0.912	A	A
HT	1	220.0000	25.0000	1.947		N
IN	1	116.0000	17.0000	1.027	W	A
IT	1	92.0000	4.0000	0.814	A	A
LL	1	98.9000	8.5400	0.875	A	A
LW	1	88.9000	20.7000	0.787		A
ML	1	99.0900	7.5600	0.877	A	A
NA	1	96.0000	12.0000	0.850	A	A
NL	1	113.0000	27.0000	1.000	A	A
NQ	1	110.7000	6.4000	0.980		A
NZ	1	106.0000	4.0000	0.938		A
NZ	2	108.0000	3.0000	0.956		A
OU	1	115.0000	2.3400	1.018		A
RA	1	108.0000	11.0000	0.956	A	A
RE	1	107.0000	15.0000	0.947	A	A
TM	1	115.0000	6.4400	1.018	A	A
TN	1	103.0000	10.0000	0.912	A	A
TO	1	110.4000	26.9000	0.977	A	A
TX	1	105.0000	2.0000	0.929	A	A
TY	1	28.0000	3.0000	0.248		N
WA	1	116.0000	7.0000	1.027	A	A
YA	1	107.2383	2.9847	0.949	A	A

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Values for elemental uranium are reported in µg/filter, g or mL. pCi/g or mL = Bq x 0.027

Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable

If the evaluation system is not appropriate for the types of analyses performed in your lab, apply site specific evaluation.

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## QAP 49 Results by Nuclide

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Matrix: SO Soil Bq / kg  
Radionuclide: U234

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EML Value: 113.000  
EML Error: 6.000

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Labcode	Test #	Reported Value	Reported Error	<u>Reported EML</u>	QAP 48 Evaluation	Evaluation
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Total Number Reported: 40

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Values for elemental uranium are reported in  $\mu\text{g}/\text{filter}$ , g or mL.  $\text{pCi/g or mL} = \text{Bq} \times 0.027$

Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable

If the evaluation system is not appropriate for the types of analyses performed in your lab, apply site specific evaluation.

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## QAP 49 Results by Nuclide

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Matrix: SO Soil Bq/kg  
Radionuclide: U238

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EML Value: 120.000  
EML Error: 9.000

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Labcode	Test #	Reported Value	Reported Error	Reported EML	QAP 48 Evaluation	Evaluation
AG	1	105.0000	13.0000	0.875	A	A
AM	1	72.5400	18.6000	0.604	W	W
AN	1	186.0000	22.0000	1.550	A	N
AU	1	105.0000	14.0000	0.875	A	A
BC	1	95.8000	6.3000	0.798	A	A
BE	1	108.3000	8.0000	0.903	A	A
BL	1	108.0000		0.900	A	A
BL	2	103.0000	2.0000	0.858	A	A
BM	1	114.4000	15.2000	0.953	A	A
BP	1	112.0000	4.0000	0.933		A
BU	1	108.0000	6.0000	0.900	A	A
BX	1	105.5000	5.9000	0.879	A	A
CH	1	110.0000	5.2000	0.917		A
CL	1	86.1000	14.9000	0.717	A	A
CS	1	100.5000	21.9400	0.837	N	A
EG	1	111.0000	13.0000	0.925	A	A
EM	1	0.1080	0.0060	0.001		N
FG	1	97.3700	4.6600	0.811		A
FL	1	82.0000	4.0000	0.683	A	W
GA	1	113.0000	4.2000	0.942	W	A
GE	1	117.2900	23.7846	0.977	A	A
GT	1	102.0000	20.0000	0.850	A	A
HT	1	223.5000	25.0000	1.862		N
ID	1	112.1700	6.4100	0.935		A
IE	1	226.7000	17.7000	1.889	A	N
IN	1	115.0000	17.0000	0.958	W	A
IT	1	98.0000	7.0000	0.817	A	A
LL	1	105.0000	9.0100	0.875	N	A
LW	1	94.0000	21.5000	0.783		A
ML	1	109.8000	8.2800	0.915	A	A
NA	1	100.0000	11.0000	0.833	A	A
NL	1	117.0000	28.0000	0.975	A	A
NQ	1	111.9000	6.4000	0.933		A
NZ	1	115.0000	4.0000	0.958		A
NZ	2	115.0000	3.0000	0.958		A
OU	1	93.3000	2.1600	0.778		A
RA	1	107.0000	11.0000	0.892	A	A
RE	1	116.0000	16.0000	0.967	A	A
TM	1	123.0000	6.8100	1.025	A	A
TN	1	108.0000	11.0000	0.900	A	A
TO	1	108.1000	30.1000	0.901	A	A

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Values for elemental uranium are reported in µg/filter, g or mL. pCi/g or mL = Bq x 0.027

Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable

If the evaluation system is not appropriate for the types of analyses performed in your lab, apply site specific evaluation.

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## QAP 49 Results by Nuclide

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**Matrix:** SO Soil Bq / kg  
**Radionuclide:** U238

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**EML Value:** 120.000  
**EML Error:** 9.000

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Labcode	Test #	Reported Value	Reported Error	Reported EML	QAP 48 Evaluation	Evaluation
TX	1	112.0000	3.0000	0.933	A	A
WA	1	123.0000	7.0000	1.025	A	A
WS	1	122.8000	15.7000	1.023	A	A
YA	1	113.7997	3.1573	0.948	A	A

**Total Number Reported:** 45

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Values for elemental uranium are reported in µg/filter, g or mL. pCi/g or mL = Bq x 0.027

**Evaluation:** A=Acceptable, W=Acceptable with Warning, N=Not Acceptable

If the evaluation system is not appropriate for the types of analyses performed in your lab, apply site specific evaluation.

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### QAP 49 Results by Nuclide

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Matrix:	SO Soil Bq / kg
Radionuclide:	ug U

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EML Value:	9.700
EML Error:	0.700

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Labcode	Test #	Reported Value	Reported Error	Reported EML	QAP 48 Evaluation	Evaluation
AC	1	8.7800	0.8800	0.905		A
AG	1	8.9000	1.5000	0.918	A	A
BE	1	8.9000		0.918	A	A
BL	1	8.9100		0.919		A
BL	2	8.5100	0.1400	0.877		A
BQ	1	11.3000	0.3000	1.165	A	W
BU	1	8.4000	0.6000	0.866	A	A
CA	1	9.4000	0.9000	0.969	A	A
CH	1	9.9900	1.0000	1.030		A
GA	1	8.5600		0.882	A	A
HT	1	18.1000	1.5000	1.866		N
IS	1	2.7000	0.3900	0.278	N	N
IS	2	2.6300	0.3800	0.271	N	N
IS	3	2.5600	0.3700	0.264	N	N
IT	1	10.2000	0.5000	1.052	A	A
NL	1	9.3700	2.2200	0.966		A
OU	1	9.3000	0.4000	0.959	A	A
RA	1	8.6000	0.5000	0.887	A	A
SW	1	9.0100		0.929	A	A
TI	1	10.0000	2.0000	1.031	A	A
TM	1	8.5100	0.4380	0.877	A	A
TN	1	8.8400	0.9000	0.911	W	A
UP	1	9.1800	0.5000	0.946	A	A
YP	1	8.2400	1.5100	0.849	A	A

Total Number Reported: 24

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Values for elemental uranium are reported in µg/filter, g or mL. pCi/g or mL = Bq x 0.027

Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable

If the evaluation system is not appropriate for the types of analyses performed in your lab, apply site specific evaluation.

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## QAP 49 Results by Nuclide

Matrix: VE Vegetation Bq / kg  
Radionuclide: AM241

EML Value: 2.330  
EML Error: 0.060

Labcode	Test #	Reported Value	Reported Error	Reported EML	QAP 48 Evaluation	Evaluation
AF	1	6.2900	1.1100	2.700	W	W
AG	1	2.2300	0.4600	0.957	A	A
AI	1	2.0100	0.4400	0.863	A	W
AM	1	3.8400	1.8500	1.648	A	W
AT	1	2.7680	0.9630	1.188		A
AU	1	2.1600	0.3000	0.927	A	A
BE	1	2.5400	0.3600	1.090	A	A
BL	1	2.9300	0.5100	1.258	N	A
BM	1	2.3600	0.6000	1.013	A	A
BP	1	2.6700	0.1700	1.146	A	A
BU	1	2.9000	0.2000	1.245	A	A
BX	1	3.0000	0.9000	1.288	W	A
CH	1	2.5300	0.1300	1.086	A	A
CL	1	3.8000	1.5000	1.631	N	W
CN	1	3.7000	0.2300	1.588		A
CS	1	2.4760	0.6348	1.063	N	A
CS	1	2.4760	0.6348	1.063	N	A
EG	1	2.5100	0.2300	1.077	A	A
EP	1	2.6300	0.3050	1.129	A	A
FL	1	2.6000	0.5000	1.116	W	A
GA	1	2.9000	0.2000	1.245	A	A
GE	1	2.6899	0.8245	1.154	A	A
GP	1	2.8000	0.8000	1.202		A
GT	1	1.9000	0.5000	0.815	A	W
HU	1	2.7000	1.2000	1.159		A
IS	1	3.3540	1.6750	1.439	N	A
IT	1	2.2000	0.2400	0.944	A	A
LL	1	2.8100	0.6380	1.206	A	A
LV	1	3.7900	1.4400	1.627		W
MA	1	0.3700	0.3700	0.159	W	N
ME	1	2.0700	0.4700	0.888		W
MH	1	1.9700	0.4100	0.845		W
OT	1	2.9000	0.5000	1.245	A	A
PO	1	2.0000	0.3000	0.858		W
RE	1	2.5600	0.2800	1.099	A	A
SN	1	2.5050	1.0930	1.075	W	A
SR	1	3.1420	0.5250	1.348	A	A
SW	1	9.4800	0.9600	4.069	W	N
TI	1	2.5000	0.5000	1.073	A	A
TM	1	2.9600	0.5000	1.270	A	A
TN	1	2.5500	0.2500	1.094	A	A

Values for elemental uranium are reported in µg/filter, g or mL. pCi/g or mL = Bq x 0.027

Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable

If the evaluation system is not appropriate for the types of analyses performed in your lab, apply site specific evaluation.

### QAP 49 Results by Nuclide

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**Matrix:** VE Vegetation Bq / kg  
**Radionuclide:** AM241

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**EML Value:** 2.330  
**EML Error:** 0.060

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Labcode	Test #	Reported Value	Reported Error	Reported EML	QAP 48 Evaluation	Evaluation
TO	1	2.6200	1.7800	1.124	A	A
TX	1	3.3300	0.3900	1.429	A	A
WA	1	1.7200	0.2500	0.738	W	W
WC	1	4.8000	1.3000	2.060	A	W
YA	1	2.5333	0.1221	1.087	A	A

**Total Number Reported:** 46

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Values for elemental uranium are reported in µg/filter, g or mL. pCi/g or mL = Bq x 0.027

**Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable**

If the evaluation system is not appropriate for the types of analyses performed in your lab, apply site specific evaluation.

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### QAP 49 Results by Nuclide

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Matrix: VE Vegetation Bq / kg  
Radionuclide: CM244

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EML Value: 1.760  
EML Error: 0.070

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Labcode	Test #	Reported Value	Reported Error	Reported EML	QAP 48 Evaluation	Evaluation
AG	1	2.0900	0.4400	1.188	A	A
AI	1	2.6200	0.7300	1.489	A	W
BE	1	2.0700	0.2900	1.176	A	A
BL	1	1.3300	0.2500	0.756	N	W
BP	1	1.6200	0.1600	0.920	A	A
BU	1	1.8000	0.1000	1.023	A	A
BX	1	1.6000	0.6000	0.909	W	A
CH	1	1.8100	0.1200	1.028	A	A
CL	1	1.2000	1.1000	0.682	N	W
EG	1	1.8900	0.1800	1.074	A	A
EP	1	1.8800	0.1900	1.068	A	A
GA	1	1.9000	0.1600	1.080	A	A
GE	1	2.0350	0.6725	1.156	A	A
GP	1	1.5000	0.6000	0.852		A
IT	1	1.9400	0.1100	1.102	W	A
LL	1	3.5800	0.8060	2.034	A	N
OT	1	2.0000	0.4000	1.136	W	A
RE	1	1.8300	0.2100	1.040		A
SN	1	1.5900	0.8620	0.903	A	A
SR	1	2.2000	0.4400	1.250	A	A
SW	1	1.0400	0.5200	0.591		W
TI	1	1.9000	0.4000	1.080	A	A
TM	1	2.6300	0.4810	1.494	A	W
TN	1	1.8800	0.5000	1.068	A	A
WA	1	2.6400	0.3000	1.500		W
WC	1	1.7000	0.7000	0.966	A	A
YA	1	1.3764	0.0876	0.782	A	W

**Total Number Reported: 27**

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Values for elemental uranium are reported in µg/filter, g or mL. pCi/g or mL = Bq x 0.027

Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable

If the evaluation system is not appropriate for the types of analyses performed in your lab, apply site specific evaluation.

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### QAP 49 Results by Nuclide

Matrix: VE Vegetation Bq / kg  
Radionuclide: CO60

EML Value: 20.000  
EML Error: 1.000

Labcode	Test #	Reported Value	Reported Error	Reported EML	QAP 48 Evaluation	Evaluation
AF	1	31.4500	27.0100	1.572	A	N
AG	1	21.6000	4.1000	1.080	A	A
AI	1	21.3000	1.4700	1.065	A	A
AL	1	36.3730	0.8000	1.819	N	N
AM	1	23.3100	2.9600	1.165	A	A
AT	1	19.5500	2.6800	0.977		A
AU	1	23.0000	3.0000	1.150	A	A
BA	1	24.7000	3.9000	1.235		A
BC	1	21.1000	1.5000	1.055	A	A
BE	1	22.0000	3.0000	1.100	A	A
BL	1	20.0000	1.4000	1.000	A	A
BM	1	20.5000	1.6000	1.025	A	A
BN	1	18.6300	0.3800	0.931	A	A
BN	2	18.1600	0.3800	0.908	A	A
BN	3	17.7000	0.3800	0.885	A	A
BP	1	18.0000	0.4000	0.900	A	A
BQ	1	68.0000	20.0000	3.400		N
BU	1	21.0000	3.0000	1.050	A	A
BX	1	24.6000	1.9000	1.230	A	A
CD	1	21.0000	1.0000	1.050	A	A
CH	1	23.2000	0.9000	1.160	A	A
CL	1	23.3000	2.6000	1.165	W	A
CN	1	19.9400	1.2000	0.997	A	A
CO	1	23.0000	3.0000	1.150	A	A
CR	1	25.0000	3.0000	1.250	W	W
CS	1	18.2400	0.6676	0.912	A	A
EG	1	18.9000	2.3000	0.945	A	A
FL	1	20.2000	0.5000	1.010	A	A
FN	1	20.7000	1.7000	1.035	W	A
GA	1	26.6000	4.3000	1.330	A	W
GC	1	21.2000	2.5000	1.060	A	A
GE	1	19.3491	4.4226	0.967	A	A
GP	1	21.0000	3.0000	1.050	A	A
GT	1	25.0000	5.0000	1.250	A	W
HU	1	21.5000	0.5000	1.075	A	A
IA	1	15.7000	0.7000	0.785	W	W
IA	2	16.7000	0.7000	0.835	W	W
IA	3	16.6000	0.7000	0.830	W	W
ID	1	17.9600	0.9400	0.898	A	A
IE	1	27.2000	1.6700	1.360	A	W
IL	1	18.8000	2.5000	0.940	W	A

Values for elemental uranium are reported in µg/filter, g or mL. pCi/g or mL = Bq x 0.027

Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable

If the evaluation system is not appropriate for the types of analyses performed in your lab, apply site specific evaluation.



### QAP 49 Results by Nuclide

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Matrix: VE Vegetation Bq / kg  
Radionuclide: CO60

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EML Value: 20.000  
EML Error: 1.000

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Labcode	Test #	Reported Value	Reported Error	Reported EML	QAP 48 Evaluation	Evaluation
IN	1	21.2000	4.0000	1.060	A	A
IS	1	23.2000	5.5000	1.160	W	A
IT	1	24.7000	2.4000	1.235	W	A
KR	1	20.4000	1.4000	1.020	A	A
LA	1	25.8000	3.1000	1.290	A	W
LA	2	26.8000	3.2000	1.340	A	W
LA	3	25.0000	2.7000	1.250	A	W
LB	1	34.0000	4.0000	1.700		N
LL	1	22.3000	3.5200	1.115	A	A
LV	1	20.0000	0.7000	1.000	A	A
MA	1	24.0000	3.3000	1.200	W	A
ME	1	21.5000	0.7900	1.075	W	A
MH	1	20.7100	0.8100	1.035	A	A
NA	1	22.2000	0.7000	1.110	W	A
NP	1	17.5000	0.6000	0.875	A	A
NR	1	19.8000	4.0000	0.990	A	A
NZ	1	20.8000	1.2000	1.040		A
OB	1	38.9000	9.1400	1.945		N
OC	1	17.0000	5.0000	0.850		W
OC	2	16.0000	5.0000	0.800		W
OC	3	16.0000	5.0000	0.800		W
OL	1	20.5900	1.0900	1.030	A	A
OT	1	19.0000	3.0000	0.950	A	A
OU	1	20.1000	1.4900	1.005	W	A
PO	1	19.8000	1.2000	0.990	A	A
RA	1	19.4000	1.2000	0.970	A	A
RA	2	19.9000	1.2000	0.995	A	A
RE	1	19.3000	2.7000	0.965	A	A
RI	1	35.0000	6.7400	1.750	N	N
SB	1	21.2000	2.8100	1.060		A
SN	1	23.5890	2.7420	1.179	A	A
SR	1	23.9000	0.7000	1.195	A	A
SW	1	27.5000	1.4000	1.375	N	W
TE	1	18.1000	1.5000	0.905	A	A
TI	1	21.9000	2.2000	1.095	A	A
TM	1	21.5000	3.7500	1.075	N	A
TN	1	0.2200	0.0300	0.011	W	N
TO	1	13.6000	2.4000	0.680	A	N
TP	1	18.0700	0.0500	0.903	A	A
TW	1	21.0000	0.6000	1.050	A	A
TX	1	23.2000	1.1000	1.160	A	A
UC	1	2.2300	0.1900	0.112	A	N

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Values for elemental uranium are reported in µg/filter, g or mL. pCi/g or mL = Bq x 0.027

Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable

If the evaluation system is not appropriate for the types of analyses performed in your lab, apply site specific evaluation.

### QAP 49 Results by Nuclide

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Matrix: VE Vegetation Bq / kg  
Radionuclide: CO60

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EML Value: 20.000  
EML Error: 1.000

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Labcode	Test #	Reported Value	Reported Error	Reported EML	QAP 48 Evaluation	Evaluation
WA	1	21.0000	1.5000	1.050	A	A
WC	1	23.0000	0.2000	1.150	A	A
WE	1	21.9000	2.7000	1.095	A	A
YA	1	20.5905	0.6475	1.030	A	A
YU	1	17.8000	1.2000	0.890	W	A

Total Number Reported: 88

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Values for elemental uranium are reported in µg/filter, g or mL. pCi/g or mL = Bq x 0.027

Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable

If the evaluation system is not appropriate for the types of analyses performed in your lab, apply site specific evaluation.

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### QAP 49 Results by Nuclide

Matrix: VE Vegetation Bq / kg  
Radionuclide: CS137

EML Value: 390.000  
EML Error: 20.000

Labcode	Test #	Reported Value	Reported Error	Reported EML	QAP 48 Evaluation	Evaluation
AF	1	444.0000	58.8300	1.138	W	A
AG	1	480.0000	81.0000	1.231	A	A
AI	1	459.0000	5.2900	1.177	N	A
AL	1	763.8000	0.1000	1.958	N	N
AM	1	432.8500	6.2800	1.110	A	A
AT	1	396.6000	33.2000	1.017		A
AU	1	446.0000	25.0000	1.144	A	A
BA	1	420.0000	20.0000	1.077	A	A
BC	1	447.0000	29.6000	1.146	A	A
BE	1	447.0000	50.0000	1.146	A	A
BL	1	438.0000	16.0000	1.123	A	A
BM	1	431.0000	4.0000	1.105	A	A
BN	1	432.5300	1.4900	1.109	A	A
BN	2	435.8600	1.4900	1.118	A	A
BN	3	432.9000	1.4900	1.110	A	A
BP	1	374.0000	8.0000	0.959	A	A
BQ	1	434.0000	17.0000	1.113	A	A
BU	1	430.0000	25.0000	1.103	W	A
BX	1	480.0000	33.3000	1.231	A	A
CD	1	419.0000	3.0000	1.074	A	A
CH	1	457.0000	2.3000	1.172	A	A
CL	1	366.0000	14.6000	0.938	W	A
CN	1	437.5000	27.8500	1.122	A	A
CO	1	434.0000	8.0000	1.113	A	A
CR	1	464.0000	19.0000	1.190	A	A
CS	1	355.8000	15.4100	0.912	A	A
EG	1	397.0000	9.0000	1.018	A	A
FL	1	402.0000	2.0000	1.031	A	A
FN	1	388.0000	39.0000	0.995	W	A
GA	1	432.0000	15.0000	1.108	A	A
GC	1	399.2000	5.3000	1.024	A	A
GE	1	377.9550	54.5604	0.969	A	A
GP	1	410.0000	40.0000	1.051	A	A
GT	1	490.0000	100.0000	1.256	A	W
HU	1	430.0000	11.0000	1.103	A	A
IA	1	370.0000	2.0000	0.949	N	A
IA	2	359.0000	2.0000	0.921	N	A
IA	3	361.0000	2.0000	0.926	N	A
ID	1	367.2700	18.5400	0.942	A	A
IE	1	565.7000	6.4000	1.451	A	N
IL	1	437.8000	10.3000	1.123	W	A

Values for elemental uranium are reported in µg/filter, g or mL. pCi/g or mL = Bq x 0.027

Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable

If the evaluation system is not appropriate for the types of analyses performed in your lab, apply site specific evaluation.

## QAP 49 Results by Nuclide

Matrix: VE Vegetation Bq / kg  
Radionuclide: CS137

EML Value: 390.000  
EML Error: 20.000

Labcode	Test #	Reported Value	Reported Error	Reported EML	QAP 48 Evaluation	Evaluation
IN	1	455.8000	18.4000	1.169	A	A
IS	1	459.2000	54.2000	1.177	A	A
IT	1	486.0000	20.0000	1.246	A	A
KR	1	397.4000	10.2000	1.019	A	A
LA	1	443.0000	36.0000	1.136	A	A
LA	2	462.0000	37.0000	1.185	A	A
LA	3	456.0000	37.0000	1.169	A	A
LB	1	648.0000	52.0000	1.662		N
LL	1	454.0000	14.5000	1.164	A	A
LV	1	415.0000	6.0000	1.064	A	A
MA	1	477.0000	33.0000	1.223	W	A
ME	1	437.0000	20.0000	1.121	N	A
MH	1	421.6900	20.4400	1.081	A	A
NA	1	486.6000	3.5000	1.248	A	A
NP	1	334.0000	2.0000	0.856	W	W
NR	1	414.0000	83.0000	1.062	A	A
NZ	1	426.0000	22.0000	1.092		A
OB	1	632.0000	120.0000	1.621		N
OC	1	390.0000	20.0000	1.000		A
OC	2	380.0000	20.0000	0.974		A
OC	3	380.0000	20.0000	0.974		A
OL	1	439.6000	6.6000	1.127	A	A
OT	1	380.0000	10.0000	0.974	W	A
OU	1	385.0000	62.0000	0.987	N	A
PK	1	430.2400	12.2300	1.103	A	A
PO	1	412.0000	25.0000	1.056	A	A
RA	1	408.0000	18.0000	1.046	A	A
RA	2	407.0000	20.0000	1.044	A	A
RE	1	389.0000	32.0000	0.997	A	A
RI	1	459.0000	23.6000	1.177	A	A
SB	1	429.0000	53.6000	1.100		A
SN	1	485.7570	48.6870	1.246	A	A
SR	1	460.0000	8.8000	1.179	A	A
SW	1	489.9500	3.3000	1.256	N	W
TE	1	340.4000	4.8000	0.873	A	W
TI	1	496.0000	49.6000	1.272	A	W
TM	1	437.0000	14.4000	1.121	A	A
TN	1	3.9200	0.4000	0.010	W	N
TO	1	291.6000	30.6000	0.748		N
TP	1	373.1700	11.7100	0.957	A	A
TW	1	455.0000	4.0000	1.167	A	A
TX	1	435.0000	2.0000	1.115	A	A

Values for elemental uranium are reported in µg/filter, g or mL. pCi/g or mL = Bq x 0.027

Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable

If the evaluation system is not appropriate for the types of analyses performed in your lab, apply site specific evaluation.

### QAP 49 Results by Nuclide

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**Matrix:** VE Vegetation Bq / kg  
**Radionuclide:** CS137

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**EML Value:** 390.000  
**EML Error:** 20.000

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Labcode	Test #	Reported Value	Reported Error	Reported EML	QAP 48 Evaluation	Evaluation
UC	1	44.9000	4.6200	0.115	A	N
WA	1	409.0000	30.0000	1.049	A	A
WC	1	460.0000	69.0000	1.179	A	A
WE	1	469.0000	120.0000	1.203	A	A
YA	1	415.8800	2.7195	1.066	A	A
YU	1	367.0000	20.0000	0.941	W	A

**Total Number Reported: 89**

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Values for elemental uranium are reported in µg/filter, g or mL. pCi/g or mL = Bq x 0.027

Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable

If the evaluation system is not appropriate for the types of analyses performed in your lab, apply site specific evaluation.

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### QAP 49 Results by Nuclide

Matrix: VE Vegetation Bq / kg  
Radionuclide: K40

EML Value: 460.000  
EML Error: 20.000

Labcode	Test #	Reported Value	Reported Error	Reported EML	QAP 48 Evaluation	Evaluation
AF	1	1400.4500	407.3700	3.044	W	N
AG	1	516.0000	93.0000	1.122	A	A
AI	1	646.0000	28.3000	1.404	A	W
AL	1	870.1400	0.7000	1.892	N	N
AM	1	547.5400	35.5200	1.190	A	A
AT	1	514.5000	56.3000	1.118		A
AU	1	559.0000	48.0000	1.215	A	A
BC	1	559.0000	31.5000	1.215	A	A
BE	1	601.0000	140.0000	1.307	W	W
BL	1	483.0000	25.0000	1.050	A	A
BN	1	451.0300	8.9700	0.980	A	A
BN	2	429.5700	8.9700	0.934	A	A
BN	3	444.3700	8.9700	0.966	A	A
BP	1	451.0000	9.0000	0.980	A	A
BQ	1	721.0000	7.0000	1.567	W	N
BU	1	530.0000	60.0000	1.152	A	A
BX	1	596.0000	34.0000	1.296	W	W
CD	1	481.0000	1.0000	1.046	A	A
CH	1	594.0000	13.0000	1.291	A	W
CL	1	500.0000	45.0000	1.087	W	A
CN	1	469.9000	40.1200	1.022	A	A
CR	1	546.0000	74.0000	1.187	W	A
CS	1	433.8000	20.4300	0.943	A	A
EG	1	483.0000	68.0000	1.050	A	A
FL	1	499.0000	9.0000	1.085	A	A
FN	1	452.0000	47.0000	0.983	A	A
GA	1	581.0000	79.0000	1.263	A	W
GC	1	494.0000	47.4000	1.074	A	A
GE	1	468.4200	81.0729	1.018	A	A
GP	1	520.0000	50.0000	1.130	A	A
GT	1	580.0000	50.0000	1.261	A	W
HU	1	588.0000	40.0000	1.278	A	W
IA	1	397.0000	11.0000	0.863	W	W
IA	2	424.0000	11.0000	0.922	W	A
IA	3	437.0000	11.0000	0.950	W	A
ID	1	403.5300	23.8800	0.877	A	W
ID	1	403.5300	23.8800	0.877	A	W
IE	1	672.4000	28.3000	1.462	A	N
IL	1	580.1000	99.5000	1.261	N	W
IN	1	513.6000	48.3000	1.117	A	A
IS	1	563.5000	78.8000	1.225	W	A

Values for elemental uranium are reported in µg/filter, g or mL. pCi/g or mL = Bq x 0.027

Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable

If the evaluation system is not appropriate for the types of analyses performed in your lab, apply site specific evaluation.

### QAP 49 Results by Nuclide

Matrix: VE Vegetation Bq / kg  
Radionuclide: K40

EML Value: 460.000  
EML Error: 20.000

Labcode	Test #	Reported Value	Reported Error	Reported EML	QAP 48 Evaluation	Evaluation
IT	1	567.0000	8.0000	1.233	A	A
KR	1	486.8000	42.4000	1.058	A	A
LA	1	382.0000	43.0000	0.830	W	W
LA	2	436.0000	48.0000	0.948	W	A
LA	3	470.0000	51.0000	1.022	W	A
LB	1	753.0000	90.0000	1.637		N
LL	1	519.0000	76.8000	1.128	A	A
LV	1	475.0000	27.0000	1.033	N	A
MA	1	562.0000	64.0000	1.222	A	A
ME	1	491.0000	27.3000	1.067	N	A
MH	1	505.9900	26.5400	1.100	A	A
NA	1	544.0000	17.0000	1.183	A	A
NP	1	462.0000	12.0000	1.004		A
NR	1	448.0000	90.0000	0.974	A	A
OB	1	856.0000	188.0000	1.861		N
OC	1	640.0000	100.0000	1.391		W
OC	2	640.0000	100.0000	1.391		W
OC	3	610.0000	100.0000	1.326		W
OL	1	527.2000	20.1000	1.146	A	A
OT	1	480.0000	60.0000	1.043	A	A
OU	1	416.0000	21.8000	0.904	N	A
PK	1	449.9800	50.1500	0.978	A	A
PO	1	496.0000	22.0000	1.078	A	A
RA	1	532.0000	69.0000	1.157	A	A
RA	2	555.0000	60.0000	1.207	A	A
RE	1	599.0000	65.0000	1.302	A	W
SB	1	538.0000	72.8000	1.170		A
SN	1	611.2960	60.0940	1.329	N	W
SR	1	563.0000	16.6000	1.224	A	A
SW	1	592.5000	26.8000	1.288	N	W
TE	1	417.5000	28.2000	0.908	A	A
TI	1	523.0000	52.3000	1.137	A	A
TM	1	574.0000	85.7000	1.248	A	W
TN	1	4.8500	1.0000	0.011	W	N
TO	1	358.9000	52.9000	0.780	A	N
TP	1	458.7800	4.0900	0.997	A	A
TW	1	540.0000	20.0000	1.174	A	A
TX	1	518.0000	20.0000	1.126	A	A
UC	1	53.1100	4.8200	0.115	A	N
WA	1	470.0000	31.0000	1.022	A	A
WC	1	589.0000	73.0000	1.280	A	W
WE	1	522.0000	39.0000	1.135		A

Values for elemental uranium are reported in µg/filter, g or mL. pCi/g or mL = Bq x 0.027

Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable

If the evaluation system is not appropriate for the types of analyses performed in your lab, apply site specific evaluation.

### QAP 49 Results by Nuclide

---

**Matrix:** VE Vegetation Bq / kg  
**Radionuclide:** K40

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**EML Value:** 460.000  
**EML Error:** 20.000

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Labcode	Test #	Reported Value	Reported Error	Reported EML	QAP 48 Evaluation	Evaluation
YA	1	511.3400	13.5050	1.112	A	A
YU	1	535.0000	20.0000	1.163	W	A

**Total Number Reported:** 85

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Values for elemental uranium are reported in µg/filter, g or mL. pCi/g or mL = Bq x 0.027

Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable

If the evaluation system is not appropriate for the types of analyses performed in your lab, apply site specific evaluation.

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### QAP 49 Results by Nuclide

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Matrix: VE Vegetation Bq / kg  
Radionuclide: PU238

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EML Value: 0.310  
EML Error: 0.070

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Labcode	Test #	Reported Value	Reported Error	Reported EML	QAP 48 Evaluation	Evaluation
EG	1	0.3000	0.0400	0.968	A	A
GP	1	0.2600	0.1500	0.839		A
NA	1	0.5100	0.1000	1.645		A
RA	1	0.3000	0.1000	0.968	A	A

Total Number Reported: 4

---

Values for elemental uranium are reported in µg/filter, g or mL. pCi/g or mL = Bq x 0.027

Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable

If the evaluation system is not appropriate for the types of analyses performed in your lab, apply site specific evaluation.

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## QAP 49 Results by Nuclide

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**Matrix:** VE Vegetation Bq / kg  
**Radionuclide:** PU239

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**EML Value:** 3.720  
**EML Error:** 0.270

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Labcode	Test #	Reported Value	Reported Error	Reported EML	QAP 48 Evaluation	Evaluation
AF	1	4.0700	0.7400	1.094	N	A
AG	1	3.9300	0.5600	1.056	A	A
AI	1	3.4500	0.2700	0.927	A	A
AM	1	2.1800	0.6300	0.586		N
AU	1	3.7200	0.4600	1.000	A	A
BE	1	4.5000	0.4600	1.210	A	A
BL	1	4.3700	0.2400	1.175	A	A
BL	2	3.9500	0.3700	1.062	A	A
BM	1	3.6700	0.7300	0.987	A	A
BP	1	4.1000	0.4000	1.102	A	A
BU	1	4.3000	0.2500	1.156	A	A
BX	1	0.5000	0.0100	0.134	W	N
CH	1	3.8700	0.1900	1.040	A	A
CL	1	4.1000	1.9000	1.102	W	A
EG	1	4.3400	0.4200	1.167	A	A
EP	1	4.0800	0.3550	1.097	A	A
GA	1	3.8000	0.3500	1.022	A	A
GE	1	5.0320	1.0910	1.353	W	W
GP	1	3.4000	0.6000	0.914		A
GT	1	4.3000	0.5000	1.156	A	A
ID	1	3.5700	0.5050	0.960	A	A
IS	1	6.2195	1.6190	1.672	W	N
IT	1	3.9300	0.1700	1.056	A	A
LL	1	3.4200	0.6200	0.919	A	A
ML	1	4.3500	0.4000	1.169	A	A
NA	1	4.6100	0.3300	1.239	A	W
NZ	1	3.9000	0.3000	1.048		A
NZ	2	4.3000	0.3000	1.156		A
OT	1	4.4000	0.7000	1.183	A	A
RA	1	4.4000	0.7000	1.183	W	A
RE	1	3.8400	0.4300	1.032	A	A
SN	1	3.2840	1.1830	0.883	A	A
SR	1	3.9860	0.6550	1.072	A	A
SW	1	2.6700	0.3700	0.718	N	W
TI	1	3.3000	0.7000	0.887	N	A
TM	1	4.1300	0.3610	1.110	A	A
TN	1	3.5000	0.7000	0.941	A	A
TX	1	3.8800	0.2300	1.043	A	A
WA	1	4.3700	0.4000	1.175	A	A
WC	1	4.0000	0.4000	1.075	A	A
YA	1	3.8813	0.0987	1.043	A	A

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Values for elemental uranium are reported in µg/filter, g or mL. pCi/g or mL = Bq x 0.027

Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable

If the evaluation system is not appropriate for the types of analyses performed in your lab, apply site specific evaluation.

## QAP 49 Results by Nuclide

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Matrix: VE Vegetation Bq / kg  
Radionuclide: PU239

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EML Value: 3.720  
EML Error: 0.270

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Labcode	Test #	Reported Value	Reported Error	<u>Reported EML</u>	QAP 48 Evaluation	Evaluation
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Total Number Reported: 41

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Values for elemental uranium are reported in  $\mu\text{g}/\text{filter}$ , g or mL.  $\text{pCi/g or mL} = \text{Bq} \times 0.027$

Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable

If the evaluation system is not appropriate for the types of analyses performed in your lab, apply site specific evaluation.

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### QAP 49 Results by Nuclide

Matrix: VE Vegetation Bq / kg  
Radionuclide: SR90

EML Value: 606.000  
EML Error: 40.000

Labcode	Test #	Reported Value	Reported Error	Reported EML	QAP 48 Evaluation	Evaluation
AF	1	551.3000	22.2000	0.910	N	A
AG	1	644.0000	115.0000	1.063	A	A
AI	1	4.6100	0.0341	0.008		N
AM	1	406.2100	73.9900	0.670		W
AU	1	624.0000	16.0000	1.030	A	A
BC	1	337.8000	22.7000	0.557	W	W
BE	1	635.0000	39.0000	1.048	A	A
BL	1	417.0000	18.0000	0.688	A	W
BM	1	663.0000	12.0000	1.094	A	A
BP	1	651.0000	88.0000	1.074	A	A
BU	1	678.0000	34.0000	1.119	A	A
BX	1	370.0000	27.7000	0.611	W	W
CH	1	613.0000	7.9000	1.012	A	A
CL	1	610.0000	30.0000	1.007	N	A
EG	1	718.0000	21.0000	1.185	A	W
GE	1	588.2390	7.9497	0.971	A	A
GP	1	580.0000	50.0000	0.957	A	A
GT	1	440.0000	10.0000	0.726	A	W
ID	1	586.3300	29.5300	0.968	A	A
IS	1	416.2500	83.2500	0.687	W	W
KR	1	714.4000	7.5000	1.179	A	W
LA	1	620.0000	39.4000	1.023		A
LA	2	671.0000	41.7000	1.107		A
LA	3	622.4000	39.2000	1.027		A
NA	1	627.0000	12.0000	1.035	A	A
NZ	1	577.0000	30.0000	0.952		A
NZ	2	487.0000	24.0000	0.804		A
OC	1	510.0000	25.0000	0.842		A
OC	2	440.0000	22.0000	0.726		W
OC	3	500.0000	25.0000	0.825		A
OT	1	580.0000	20.0000	0.957	A	A
RA	1	590.0000	100.0000	0.974	A	A
RE	1	587.0000	8.0000	0.969	A	A
RI	1	292.0000	16.9000	0.482	A	N
SR	1	754.8000	51.8000	1.246	N	W
SW	1	157.9600	25.0000	0.261	N	N
TE	1	672.5000	32.5000	1.110	A	A
TI	1	520.0000	10.0000	0.858	N	A
TM	1	33.8000	2.3500	0.056	A	N
TN	1	678.0000	68.0000	1.119	A	A
TO	1	519.0000	13.6000	0.856	N	A

Values for elemental uranium are reported in µg/filter, g or mL. pCi/g or mL = Bq x 0.027

Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable

If the evaluation system is not appropriate for the types of analyses performed in your lab, apply site specific evaluation.

### QAP 49 Results by Nuclide

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**Matrix:** VE Vegetation Bq / kg  
**Radionuclide:** SR90

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**EML Value:** 606.000  
**EML Error:** 40.000

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Labcode	Test #	Reported Value	Reported Error	Reported EML	QAP 48 Evaluation	Evaluation
TP	1	644.1600	25.7900	1.063	A	A
TX	1	643.0000	33.0000	1.061	A	A
WA	1	709.0000	22.0000	1.170	A	W
WC	1	667.0000	86.0000	1.101	A	A
WE	1	316.0000	32.0000	0.521		W
YA	1	615.8033	31.9433	1.016	A	A

**Total Number Reported:** 47

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Values for elemental uranium are reported in µg/filter, g or mL. pCi/g or mL = Bq x 0.027

**Evaluation:** A=Acceptable, W=Acceptable with Warning, N=Not Acceptable

If the evaluation system is not appropriate for the types of analyses performed in your lab, apply site specific evaluation.

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### QAP 49 Results by Nuclide

Matrix: WA Water Bq/L  
Radionuclide: AM241

EML Value: 1.250  
EML Error: 0.080

Labcode	Test #	Reported Value	Reported Error	Reported EML	QAP 48 Evaluation	Evaluation
AF	1	1.0500	0.1700	0.840	A	W
AG	1	1.2800	0.1600	1.024	A	A
AI	1	0.9600	0.0130	0.768		W
AM	1	2.1800	0.5300	1.744	A	N
AN	1	1.2500	0.0300	1.000	A	A
AT	1	1.3000	0.2210	1.040	A	A
AU	1	1.3500	0.1200	1.080	W	A
BE	1	1.4000	0.1400	1.120	A	A
BL	1	1.5100	0.2300	1.208	A	A
BL	2	1.2700	0.2200	1.016	A	A
BM	1	1.2200	0.1800	0.976	A	A
BP	1	1.4300	0.0400	1.144	A	A
BU	1	1.3900	0.0900	1.112	A	A
BX	1	1.2700	0.1400	1.016	A	A
CH	1	1.3100	0.0250	1.048		A
CL	1	1.3000	0.2000	1.040	W	A
CS	1	1.2750	0.1082	1.020	A	A
EG	1	1.2400	0.1000	0.992	A	A
EP	1	1.3200	0.1200	1.056	A	A
FG	1	1.6380	0.0630	1.310	N	W
FL	1	1.6000	0.4000	1.280	W	W
FM	1	1.3000	0.1100	1.040		A
GA	1	1.4000	0.2100	1.120	A	A
GE	1	1.2303	0.2394	0.984	A	A
GP	1	1.4000	0.3000	1.120	A	A
GT	1	1.2000	0.4000	0.960	A	A
HT	1	2.6000	0.2000	2.080		N
IE	1	1.9100	1.3800	1.528	A	N
IN	1	1.2600	0.1200	1.008	A	A
IS	1	1.0320	0.2490	0.826	W	W
IT	1	1.4100	0.0800	1.128	A	A
JL	1	0.7500	0.3600	0.600	W	N
LA	1	1.3000	0.0400	1.040	A	A
LA	2	1.1800	0.0400	0.944	A	A
LA	3	1.3400	0.0400	1.072	A	A
LL	1	1.3500	0.1190	1.080	A	A
LV	1	1.4700	0.2400	1.176	W	A
ME	1	1.2500	0.3200	1.000	A	A
MS	1	1.5900	0.2000	1.272	A	A
NM	1	1.2500	0.0330	1.000	A	A
NQ	1	1.1000	0.0900	0.880		W

Values for elemental uranium are reported in µg/filter, g or mL. pCi/g or mL = Bq x 0.027

Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable

If the evaluation system is not appropriate for the types of analyses performed in your lab, apply site specific evaluation.

## QAP 49 Results by Nuclide

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**Matrix:** WA Water Bq / L  
**Radionuclide:** AM241

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**EML Value:** 1.250  
**EML Error:** 0.080

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Labcode	Test #	Reported Value	Reported Error	Reported EML	QAP 48 Evaluation	Evaluation
OD	1	1.3160	0.1330	1.053	A	A
OD	1	1.3200	0.1300	1.056	A	A
OT	1	1.2000	0.1000	0.960	W	A
OU	1	1.2700	0.1900	1.016		A
PR	1	1.5365	0.0038	1.229		A
RE	1	1.3200	0.1200	1.056	A	A
RI	1	1.3000	0.1040	1.040	A	A
SB	1	1.3900	0.7800	1.112		A
SK	1	1.1700	0.2200	0.936	A	A
SN	1	1.2950	0.2020	1.036	A	A
SR	1	1.6900	0.0830	1.352		W
SW	1	1.6300	0.0800	1.304	A	W
TI	1	1.3000	0.2000	1.040	A	A
TN	1	1.2400	0.1200	0.992	A	A
TO	1	1.4000	0.3000	1.120	A	A
TX	1	1.3200	0.0600	1.056	W	A
UP	1	1.4000	0.1920	1.120	N	A
UY	1	1.2600	0.1500	1.008	A	A
WA	1	1.0900	0.1100	0.872	A	W
WC	1	1.4000	0.2300	1.120	A	A
YA	1	1.2395	0.0395	0.992	A	A

**Total Number Reported: 62**

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Values for elemental uranium are reported in µg/filter, g or mL. pCi/g or mL = Bq x 0.027

Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable

If the evaluation system is not appropriate for the types of analyses performed in your lab, apply site specific evaluation.

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### QAP 49 Results by Nuclide

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Matrix: WA Water Bq / L  
Radionuclide: Bq U

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EML Value: 1.050  
EML Error: 0.080

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Labcode	Test #	Reported Value	Reported Error	Reported EML	QAP 48 Evaluation	Evaluation
AF	1	1.1700	0.1100	1.114		A
AG	1	1.0800	0.1000	1.029	A	A
AI	1	0.8600	0.0430	0.819	A	W
AM	1	1.0600	0.2200	1.010	A	A
BP	1	1.1300	0.0300	1.076		A
BU	1	1.1600	0.0600	1.105	A	A
CH	1	1.0900	0.0390	1.038		A
CL	1	1.0000	0.2000	0.952	W	A
FG	1	1.0580	0.3700	1.008	W	A
GP	1	0.9700		0.924	A	A
HT	1	1.6700	0.1670	1.590		N
ID	1	1.1300	0.0680	1.076	A	A
IT	1	1.0500	0.1000	1.000		A
LA	1	1.0250	0.2500	0.976		A
LA	2	1.0250	0.2500	0.976		A
LA	3	1.0500	0.2500	1.000		A
NL	1	1.2100	0.1200	1.152		A
NS	1	0.7670	0.2270	0.730		W
OT	1	0.8300	0.0800	0.790	A	W
UP	1	1.4500	0.2120	1.381		W
UY	1	1.1200	0.1500	1.067	A	A
WA	1	1.1300	0.1000	1.076	A	A

Total Number Reported: 22

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Values for elemental uranium are reported in µg/filter, g or mL. pCi/g or mL = Bq x 0.027

Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable

If the evaluation system is not appropriate for the types of analyses performed in your lab, apply site specific evaluation.

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## QAP 49 Results by Nuclide

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**Matrix:** WA Water Bq / L  
**Radionuclide:** CO60

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**EML Value:** 49.400  
**EML Error:** 1.200

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Labcode	Test #	Reported Value	Reported Error	Reported EML	QAP 48 Evaluation	Evaluation
AF	1	0.2100	0.0200	0.004	N	N
AG	1	53.4000	8.5000	1.081	A	A
AI	1	54.5000	0.4430	1.103	A	A
AL	1	71.4700	0.2000	1.447	W	N
AM	1	49.5700	0.6300	1.003	W	A
AN	1	50.6000	2.1000	1.024	A	A
AT	1	48.9800	4.4600	0.991	W	A
AU	1	52.0000	1.5000	1.053	W	A
BA	1	50.3000	3.3000	1.018	A	A
BC	1	51.5000	2.6000	1.043	A	A
BE	1	52.2000	4.0000	1.057	N	A
BL	1	51.0000	2.1000	1.032	A	A
BM	1	46.5000	3.5000	0.941	A	A
BN	1	51.5000	1.0900	1.043	A	A
BN	2	52.8400	1.0900	1.070	A	A
BN	3	54.1700	1.0900	1.097	A	A
BP	1	50.3000	0.1000	1.018	A	A
BQ	1	49.0000	1.0000	0.992	A	A
BU	1	57.0000	3.0000	1.154	A	W
BX	1	50.5000	2.8000	1.022	W	A
CA	1	50.8000	5.1000	1.028	A	A
CD	1	51.0000	0.5000	1.032	A	A
CH	1	52.7000	0.7400	1.067		A
CL	1	49.7000	2.0000	1.006	A	A
CM	1	47.9000	1.5000	0.970		A
CM	2	48.8000	1.6000	0.988		A
CM	3	48.5000	1.6000	0.982		A
CS	1	50.6600	1.6060	1.026	A	A
CS	1	50.6600	1.6060	1.026	A	A
DH	1	49.1000	2.1000	0.994	N	A
EG	1	50.5000	1.1000	1.022	A	A
EP	1	50.5700	6.6000	1.024	W	A
FG	1	50.7600	0.4000	1.028	A	A
FL	1	51.3000	0.4000	1.038	A	A
FM	1	49.7000	0.3200	1.006	A	A
FN	1	47.5000	3.5000	0.962	A	A
GA	1	46.8000	4.6000	0.947	W	A
GC	1	51.2000	2.5300	1.036	A	A
GE	1	53.5020	7.4932	1.083	A	A
GP	1	51.0000	5.0000	1.032	N	A
GT	1	50.0000	6.0000	1.012	A	A

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Values for elemental uranium are reported in µg/filter, g or mL. pCi/g or mL = Bq x 0.027

Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable

If the evaluation system is not appropriate for the types of analyses performed in your lab, apply site specific evaluation.

### QAP 49 Results by Nuclide

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Matrix: WA Water Bq / L  
Radionuclide: CO60

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EML Value: 49.400  
EML Error: 1.200

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Labcode	Test #	Reported Value	Reported Error	Reported EML	QAP 48 Evaluation	Evaluation
ID	1	51.5400	2.7500	1.043	A	A
IE	1	51.9800	1.2000	1.052	A	A
IL	1	52.2000	0.6000	1.057	A	A
IN	1	51.2000	3.4000	1.036	W	A
IS	1	55.1000	5.4000	1.115	W	A
IT	1	53.4000	3.0000	1.081	W	A
JE	1	91.6700	2.7100	1.856	N	N
JL	1	50.9000	2.5000	1.030	N	A
KA	1	47.9900	1.6900	0.971	A	A
LA	1	56.9000	6.1000	1.152	W	W
LA	2	54.3000	5.8000	1.099	W	A
LA	3	52.1000	5.7000	1.055	W	A
LB	1	51.0000	9.0000	1.032		A
LL	1	49.1000	3.2400	0.994	A	A
LN	1	50.3000	2.8900	1.018	N	A
LV	1	50.1000	1.1000	1.014	W	A
ME	1	53.0000	1.5000	1.073	A	A
MH	1	50.0300	1.5400	1.013	W	A
MS	1	52.5000	5.3000	1.063	A	A
NA	1	49.8000	0.6000	1.008	A	A
ND	1	49.5860	1.7750	1.004		A
NL	1	50.1000	6.1000	1.014	W	A
NP	1	52.2000	1.0000	1.057	W	A
NQ	1	60.4000	6.6000	1.223		N
NS	1	53.4690	0.5930	1.082	W	A
NZ	1	50.0000	3.0000	1.012		A
NZ	2	48.0000	3.0000	0.972		A
OB	1	51.4000	8.8800	1.040		A
OC	1	54.0000	5.0000	1.093		A
OC	2	53.0000	5.0000	1.073		A
OC	3	50.0000	5.0000	1.012		A
OD	1	50.6600	2.1700	1.026	A	A
OD	1	50.6600	2.1700	1.026	A	A
OD	2	51.7500	2.5100	1.048	A	A
OD	2	51.7500	2.5100	1.048	A	A
OL	1	50.4600	1.5800	1.021	A	A
OT	1	52.0000	2.0000	1.053	A	A
OU	1	51.8000	1.6000	1.049	N	A
PR	1	53.1893	0.3080	1.077		A
RC	1	48.5000	2.5000	0.982	A	A
RE	1	51.6000	5.2000	1.045	A	A
RI	1	52.1000	3.5900	1.055	N	A

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Values for elemental uranium are reported in µg/filter, g or mL. pCi/g or mL = Bq x 0.027

Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable

If the evaluation system is not appropriate for the types of analyses performed in your lab, apply site specific evaluation.

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### QAP 49 Results by Nuclide

---

Matrix: WA Water Bq / L  
Radionuclide: CO60

---

EML Value: 49.400  
EML Error: 1.200

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Labcode	Test #	Reported Value	Reported Error	Reported EML	QAP 48 Evaluation	Evaluation
SA	1	53.0000	2.4000	1.073	A	A
SB	1	59.1000	5.4100	1.196		W
SK	1	49.5000	4.2000	1.002	A	A
SL	1	49.0000	3.0000	0.992	A	A
SN	1	49.9820	4.4770	1.012	A	A
SR	1	50.6000	0.9000	1.024	A	A
SW	1	52.3400	0.0300	1.060	A	A
TE	1	49.3000	2.8000	0.998	A	A
TI	1	49.0000	4.9000	0.992	A	A
TM	1	53.4000	1.7200	1.081	W	A
TN	1	0.0980	0.0100	0.002	A	N
TO	1	50.1000	3.7000	1.014	A	A
TP	1	44.8700	0.4000	0.908	A	A
TT	1	54.0000	3.2000	1.093	W	A
TW	1	49.2000	0.7000	0.996	A	A
TX	1	51.9000	0.4000	1.051	A	A
UC	1	52.2500	5.2800	1.058	A	A
UP	1	54.1000	1.5900	1.095	A	A
UY	1	50.2000	4.0000	1.016	A	A
WA	1	50.1000	1.5000	1.014	A	A
WC	1	59.0000	4.6000	1.194	A	W
WE	1	53.4000	2.6000	1.081		A
WI	1	55.9800	4.2430	1.133	W	A
WI	2	55.8500	4.2290	1.131	W	A
WI	3	55.7200	4.2230	1.128	W	A
WV	1	52.0600	0.5400	1.054	A	A
YA	1	49.0127	0.7523	0.992	A	A
YU	1	48.3000	1.5000	0.978	A	A

**Total Number Reported: 111**

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Values for elemental uranium are reported in µg/filter, g or mL. pCi/g or mL = Bq x 0.027

Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable

If the evaluation system is not appropriate for the types of analyses performed in your lab, apply site specific evaluation.

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### QAP 49 Results by Nuclide

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Matrix: WA Water Bq/L  
Radionuclide: CS137

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EML Value: 50.000  
EML Error: 1.700

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Labcode	Test #	Reported Value	Reported Error	Reported EML	QAP 48 Evaluation	Evaluation
AF	1	0.2000	0.0300	0.004	A	N
AG	1	51.6000	8.5000	1.032	A	A
AI	1	50.2000	4.7400	1.004	A	A
AL	1	79.0250	0.2000	1.581	W	N
AM	1	53.3900	0.7500	1.068	W	A
AN	1	50.8000	0.8000	1.016	A	A
AT	1	47.8200	4.2200	0.956	A	A
AU	1	52.0000	2.6000	1.040	A	A
BA	1	53.3000	7.0000	1.066	A	A
BC	1	55.3000	4.2000	1.106	A	A
BE	1	53.1000	4.0000	1.062	A	A
BL	1	52.0000	2.1000	1.040	A	A
BM	1	49.3000	3.3000	0.986	A	A
BN	1	61.2400	0.1900	1.225	N	W
BN	2	61.6800	0.1900	1.234	N	W
BN	3	61.3100	0.1900	1.226	N	W
BP	1	52.1000	1.0000	1.042	A	A
BQ	1	45.0000	1.0000	0.900	A	A
BU	1	47.0000	3.0000	0.940	A	A
BX	1	54.2000	3.9000	1.084	A	A
CA	1	51.0000	5.1000	1.020	A	A
CD	1	51.0000	0.5000	1.020	A	A
CH	1	53.4000	0.6400	1.068		A
CL	1	50.7000	1.5000	1.014	A	A
CM	1	48.3000	1.7000	0.966		A
CM	2	49.4000	1.7000	0.988		A
CM	3	49.6000	1.6000	0.992		A
CS	1	50.7500	2.1970	1.015	A	A
DH	1	49.3000	1.9000	0.986	A	A
EG	1	51.3000	1.1000	1.026	A	A
EP	1	50.1900	6.5000	1.004	A	A
FG	1	46.1600	0.8500	0.923	A	A
FL	1	52.7000	0.6000	1.054	A	A
FM	1	51.2000	0.3600	1.024	A	A
FN	1	49.6000	5.1000	0.992	A	A
GA	1	51.0000	4.0000	1.020	A	A
GC	1	54.0000	3.1400	1.080	A	A
GE	1	52.5585	7.2378	1.051	A	A
GP	1	52.0000	5.0000	1.040	A	A
GT	1	52.0000	8.0000	1.040	A	A
ID	1	51.3900	2.6300	1.028	A	A

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Values for elemental uranium are reported in µg/filter, g or mL. pCi/g or mL = Bq x 0.027

Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable

If the evaluation system is not appropriate for the types of analyses performed in your lab, apply site specific evaluation.

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### QAP 49 Results by Nuclide

Matrix: WA Water Bq / L  
Radionuclide: CS137

EML Value: 50.000  
EML Error: 1.700

Labcode	Test #	Reported Value	Reported Error	Reported EML	QAP 48 Evaluation	Evaluation
IE	1	54.7700	1.5300	1.095	A	A
IL	1	52.3000	0.8000	1.046	A	A
IN	1	52.0000	3.2000	1.040	A	A
IS	1	55.9000	5.7000	1.118	W	A
IT	1	51.8000	2.5000	1.036	A	A
JE	1	92.4500	3.5100	1.849	A	N
JL	1	50.6000	3.5000	1.012	A	A
KA	1	48.4200	3.3100	0.968	A	A
LA	1	60.1000	6.3000	1.202	W	W
LA	2	58.8000	6.2000	1.176	W	A
LA	3	58.8000	6.2000	1.176	W	A
LB	1	52.0000	7.0000	1.040		A
LL	1	49.4000	3.5600	0.988	A	A
LN	1	61.6000	8.9300	1.232	N	W
LV	1	51.3000	1.2000	1.026	A	A
ME	1	55.2000	2.5300	1.104	A	A
MH	1	50.7300	2.5300	1.015	A	A
MS	1	52.1000	5.2000	1.042	A	A
NA	1	52.6000	0.8000	1.052	A	A
ND	1	47.6300	2.4890	0.953		A
NL	1	50.6000	8.5000	1.012	W	A
NM	1	54.4600	2.8000	1.089	W	A
NP	1	48.8000	1.1000	0.976	A	A
NQ	1	61.0000	6.9000	1.220		W
NS	1	53.3330	0.5180	1.067	A	A
NZ	1	53.0000	3.0000	1.060		A
NZ	2	50.0000	3.0000	1.000		A
OB	1	58.0000	11.2000	1.160		A
OC	1	50.0000	5.0000	1.000		A
OC	2	50.0000	5.0000	1.000		A
OC	3	50.0000	5.0000	1.000		A
OD	1	51.0200	3.3700	1.020	A	A
OD	1	51.0200	3.3700	1.020	A	A
OD	2	58.5300	4.0000	1.171	A	A
OD	2	58.5300	4.0000	1.171	A	A
OL	1	50.1200	1.2900	1.002	A	A
OT	1	53.0000	2.0000	1.060	A	A
OU	1	44.5000	1.1000	0.890	A	W
PR	1	52.0870	0.2837	1.042		A
RC	1	48.7000	2.5000	0.974	A	A
RE	1	51.8000	5.1000	1.036	A	A
RI	1	62.8000	4.8600	1.256	A	W

Values for elemental uranium are reported in µg/filter, g or mL. pCi/g or mL = Bq x 0.027

Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable

If the evaluation system is not appropriate for the types of analyses performed in your lab, apply site specific evaluation.

### QAP 49 Results by Nuclide

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Matrix: WA Water Bq / L  
Radionuclide: CS137

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EML Value: 50.000  
EML Error: 1.700

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Labcode	Test #	Reported Value	Reported Error	Reported EML	QAP 48 Evaluation	Evaluation
SA	1	53.0000	2.8000	1.060	A	A
SB	1	61.6000	8.8900	1.232		W
SK	1	49.3000	3.0000	0.986	A	A
SL	1	50.0000	3.0000	1.000	A	A
SN	1	47.8850	4.2800	0.958	A	A
SR	1	51.0000	1.3500	1.020	A	A
SW	1	54.7600	0.0400	1.095	A	A
TE	1	50.1000	3.2000	1.002	A	A
TI	1	51.1000	5.1000	1.022	A	A
TM	1	55.8000	1.7400	1.116	W	A
TN	1	0.0980	0.0100	0.002	A	N
TO	1	49.7000	4.9000	0.994	A	A
TP	1	47.7500	1.1000	0.955	A	A
TT	1	55.0000	6.8200	1.100	A	A
TW	1	51.0000	1.0000	1.020	A	A
TX	1	52.0000	0.5000	1.040	A	A
UC	1	53.2900	6.2000	1.066	A	A
UP	1	54.6000	3.2200	1.092	A	A
UY	1	52.7000	7.0000	1.054	A	A
WA	1	50.0000	2.2000	1.000	A	A
WC	1	62.0000	8.6000	1.240	A	W
WE	1	58.2000	6.8000	1.164		A
WI	1	56.2600	6.9830	1.125	A	A
WI	2	55.9600	6.9450	1.119	A	A
WI	3	56.6200	7.0270	1.132	A	A
WV	1	50.6200	0.4400	1.012	A	A
YA	1	48.9017	0.9127	0.978	A	A
YU	1	48.2000	1.5000	0.964	A	A

**Total Number Reported: 111**

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Values for elemental uranium are reported in µg/filter, g or mL. pCi/g or mL = Bq x 0.027

Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable

If the evaluation system is not appropriate for the types of analyses performed in your lab, apply site specific evaluation.

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### QAP 49 Results by Nuclide

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Matrix: WA Water Bq / L  
Radionuclide: FE55

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EML Value: 139.000  
EML Error: 2.000

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Labcode	Test #	Reported Value	Reported Error	Reported EML	QAP 48 Evaluation	Evaluation
BE	1	142.2000	6.8000	1.023		A
BL	1	148.0000	5.0000	1.065	W	A
BP	1	145.0000	10.0000	1.043	A	A
BX	1	116.2000	9.7700	0.836	A	A
CH	1	142.0000	1.9000	1.022		A
CL	1	136.0000	8.0000	0.978	A	A
EG	1	114.0000	48.0000	0.820	A	A
GC	1	141.0000	3.7000	1.014	A	A
GE	1	116.9709	21.3281	0.842	A	A
GP	1	160.0000	20.0000	1.151	N	A
KA	1	149.0000	6.0000	1.072	W	A
TE	1	140.6000	9.2000	1.012	A	A
TI	1	140.0000	20.0000	1.007	W	A
TN	1	148.0000	15.0000	1.065	W	A
TO	1	118.2000	43.8000	0.850	W	A
YA	1	136.5433	11.3467	0.982	W	A

**Total Number Reported: 16**

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Values for elemental uranium are reported in µg/filter, g or mL. pCi/g or mL = Bq x 0.027

Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable

If the evaluation system is not appropriate for the types of analyses performed in your lab, apply site specific evaluation.

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### QAP 49 Results by Nuclide

Matrix: WA Water Bq/L  
Radionuclide: GROSS ALPHA

EML Value: 1080.000  
EML Error: 60.000

Labcode	Test #	Reported Value	Reported Error	Reported EML	QAP 48 Evaluation	Evaluation
AF	1	1110.0000	59.2000	1.028	A	A
AI	1	915.0000	70.1000	0.847		A
AM	1	1139.3700	7.7400	1.055	W	A
AU	1	991.0000	40.0000	0.918	A	A
BC	1	1113.7000	25.6000	1.031	W	A
BE	1	1045.0000	71.0000	0.968	A	A
BL	1	956.0000	14.0000	0.885	W	A
BN	1	8.4100	0.6000	0.008	A	N
BN	2	8.7200	0.6000	0.008	A	N
BN	3	9.8200	0.6000	0.009	A	N
BP	1	1066.0000	26.0000	0.987	A	A
BQ	1	1140.0000	40.0000	1.056		A
BU	1	1140.0000	75.0000	1.056	W	A
BX	1	980.5000	23.8300	0.908	W	A
CA	1	180.0000	20.0000	0.167		N
CD	1	770.0000	40.0000	0.713	W	W
CH	1	885.0000	117.0000	0.819		W
CM	1	977.0000	26.0000	0.905		A
CM	2	1121.0000	42.0000	1.038		A
CM	3	1069.0000	40.0000	0.990		A
CM	4	1073.0000	40.0000	0.994		A
DH	1	867.0000	120.0000	0.803	N	W
EG	1	1160.0000	70.0000	1.074	W	A
FG	1	1153.0000	53.0000	1.068	W	A
FL	1	1207.3800	19.5100	1.118	N	A
GC	1	504.0000	53.2000	0.467	A	N
GE	1	1124.8000	46.9900	1.041	W	A
GP	1	980.0000	100.0000	0.907	A	A
GS	1	1208.7000	81.0000	1.119	N	A
GT	1	1000.0000	50.0000	0.926	A	A
HC	1	1012.0000	58.0000	0.937	A	A
IE	1	932.6000	19.9000	0.864	A	A
IL	1	1034.9000	29.2000	0.958		A
IS	1	1188.0000	122.0000	1.100	A	A
IT	1	933.0000	4.0000	0.864	A	A
JE	1	967.7500	97.8000	0.896	A	A
KA	1	1052.0000	61.0000	0.974	A	A
LA	1	884.3000	156.8800	0.819	A	W
LA	3	1110.0000	193.5100	1.028	A	A
LE	1	545.0000		0.505		N
LL	1	819.0000	13.4000	0.758	A	W

Values for elemental uranium are reported in µg/filter, g or mL. pCi/g or mL = Bq x 0.027

Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable

If the evaluation system is not appropriate for the types of analyses performed in your lab, apply site specific evaluation.



### QAP 49 Results by Nuclide

Matrix: WA Water Bq / L  
Radionuclide: GROSS ALPHA

EML Value: 1080.000  
EML Error: 60.000

Labcode	Test #	Reported Value	Reported Error	Reported EML	QAP 48 Evaluation	Evaluation
LV	1	1240.0000	25.0000	1.148	N	A
LW	1	1048.6000	6.9000	0.971		A
MH	1	1229.9301	6.2100	1.139	W	A
MS	1	1025.0000	100.0000	0.949		A
NQ	1	1273.0000	116.0000	1.179		W
NS	1	1081.3170	57.2790	1.001		A
NZ	1	684.0000	39.0000	0.633		W
NZ	2	693.0000	39.0000	0.642		W
OB	1	1110.0000	7.2900	1.028	W	A
OC	1	1100.0000	60.0000	1.019		A
OC	2	1100.0000	60.0000	1.019		A
OT	1	1200.0000	100.0000	1.111	A	A
OU	1	833.0000	104.0000	0.771	A	W
RE	1	1070.0000	36.0000	0.991	A	A
RG	1	1027.2000	62.3000	0.951	A	A
SR	1	809.0000	118.0000	0.749	A	W
SW	1	796.8500	13.7100	0.738	A	W
TE	1	1178.3000	47.2000	1.091	A	A
TI	1	1100.0000	100.0000	1.019	A	A
TM	1	1480.0000	167.0000	1.370	A	N
TN	1	820.0000	120.0000	0.759	W	W
TO	1	936.0000	26.0000	0.867	W	A
TP	1	996.7000	98.0000	0.923		A
TW	1	820.0000	30.0000	0.759	N	W
TX	1	1103.0000	30.0000	1.021	W	A
UC	1	993.2300	66.7100	0.920	A	A
UP	1	1052.0000	105.0000	0.974	A	A
UY	1	942.0000	49.0000	0.872	A	A
WA	1	949.0000	83.0000	0.879	A	A
WC	1	1056.0000	106.0000	0.978	A	A
WV	1	848.4100	59.8300	0.786	A	W
YA	1	720.0200	16.7733	0.667	A	W

Total Number Reported: 73

Values for elemental uranium are reported in µg/filter, g or mL. pCi/g or mL = Bq x 0.027

Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable

If the evaluation system is not appropriate for the types of analyses performed in your lab, apply site specific evaluation.

### QAP 49 Results by Nuclide

Matrix: WA Water Bq/L  
Radionuclide: GROSS BETA

EML Value: 1420.000  
EML Error: 60.000

Labcode	Test #	Reported Value	Reported Error	Reported EML	QAP 48 Evaluation	Evaluation
AF	1	1235.8000	44.4000	0.870	A	A
AI	1	1230.0000	56.9000	0.866		A
AM	1	1801.1500	8.1700	1.268	A	A
AU	1	1303.0000	37.0000	0.918	A	A
BC	1	1198.0000	20.0000	0.844	A	A
BE	1	1122.0000	53.0000	0.790	A	A
BL	1	1055.0000	14.0000	0.743	A	A
BN	1	12.4300	0.2700	0.009	A	N
BN	2	12.0900	0.2700	0.009	A	N
BN	3	12.7700	0.2700	0.009	A	N
BP	1	1376.0000	30.0000	0.969	A	A
BQ	1	1130.0000	20.0000	0.796		A
BU	1	1090.0000	50.0000	0.768		A
BX	1	1206.0000	20.0000	0.849	A	A
CA	1	950.0000	90.0000	0.669		W
CD	1	1170.0000	60.0000	0.824	A	A
CH	1	1176.0000	86.0000	0.828		A
CM	1	1413.0000	33.0000	0.995		A
CM	2	1439.0000	33.0000	1.013		A
CM	3	1439.0000	33.0000	1.013		A
CM	4	1398.0000	32.0000	0.985		A
DH	1	1388.0000	103.0000	0.977	N	A
EG	1	1630.0000	50.0000	1.148		A
FG	1	1231.0000	63.0000	0.867	A	A
FL	1	1405.5000	13.9400	0.990	A	A
GC	1	1218.0000	25.2000	0.858	W	A
GE	1	1228.4000	39.2200	0.865	A	A
GP	1	1300.0000	100.0000	0.915	A	A
GS	1	1363.5000	65.5000	0.960	A	A
GT	1	1300.0000	50.0000	0.915	A	A
HC	1	1347.0000	57.0000	0.949	A	A
IE	1	962.1000	15.5000	0.678	A	W
IL	1	1060.0000	25.5000	0.746		A
IS	1	1243.0000	124.0000	0.875	A	A
IT	1	1182.0000	2.0000	0.832	A	A
JE	1	1477.5000	95.6000	1.040	A	A
KA	1	1389.0000	55.0000	0.978	A	A
LA	1	1102.6000	62.1600	0.776	A	A
LA	3	1158.1000	65.1200	0.816	A	A
LE	1	1630.0000		1.148		A
LL	1	1330.0000	14.4000	0.937	A	A

Values for elemental uranium are reported in µg/filter, g or mL. pCi/g or mL = Bq x 0.027

Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable

If the evaluation system is not appropriate for the types of analyses performed in your lab, apply site specific evaluation.

## QAP 49 Results by Nuclide

**Matrix:** WA Water Bq / L  
**Radionuclide:** GROSS BETA

**EML Value:** 1420.000  
**EML Error:** 60.000

Labcode	Test #	Reported Value	Reported Error	Reported EML	QAP 48 Evaluation	Evaluation
LV	1	1030.0000	120.0000	0.725	N	A
LW	1	1292.4000	4.8000	0.910		A
MH	1	1551.5699	10.1700	1.093	A	A
MS	1	1300.0000	130.0000	0.915		A
NP	1	1225.0000	5.0000	0.863	A	A
NQ	1	1357.0000	115.0000	0.956		A
NS	1	1330.6000	45.8630	0.937		A
NZ	1	1029.0000	40.0000	0.725		A
NZ	2	1050.0000	41.0000	0.739		A
OB	1	1320.0000	8.7300	0.930	A	A
OC	1	1200.0000	20.0000	0.845		A
OC	2	1200.0000	20.0000	0.845		A
OT	1	1400.0000	100.0000	0.986	A	A
OU	1	1250.0000	144.0000	0.880	A	A
RE	1	1250.0000	29.0000	0.880	A	A
RG	1	1271.2000	56.0000	0.895	A	A
SR	1	1816.0000	409.0000	1.279	A	A
SW	1	1183.0601	13.2400	0.833	A	A
TE	1	1613.6000	171.8000	1.136	A	A
TI	1	1100.0000	100.0000	0.775	A	A
TM	1	1470.0000	110.0000	1.035	A	A
TN	1	1240.0000	200.0000	0.873	A	A
TO	1	1248.0000	20.0000	0.879	A	A
TP	1	1371.0000	105.0000	0.965	A	A
TW	1	1192.0000	50.0000	0.839	A	A
TX	1	1208.0000	35.0000	0.851	A	A
UC	1	1224.5699	50.4900	0.862		A
UP	1	1488.0000	97.0000	1.048	A	A
UY	1	1220.0000	45.0000	0.859	A	A
WA	1	1370.0000	80.0000	0.965	A	A
WC	1	1341.0000	134.0000	0.944	A	A
WV	1	1279.4600	59.7600	0.901	A	A
YA	1	1194.9767	16.4033	0.842	A	A

**Total Number Reported: 74**

Values for elemental uranium are reported in µg/filter, g or mL. pCi/g or mL = Bq x 0.027

Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable

If the evaluation system is not appropriate for the types of analyses performed in your lab, apply site specific evaluation.

### QAP 49 Results by Nuclide

Matrix: WA Water Bq / L  
Radionuclide: H3

EML Value: 76.200  
EML Error: 2.900

Labcode	Test #	Reported Value	Reported Error	Reported EML	QAP 48 Evaluation	Evaluation
AF	1	1498.5000	3.7000	19.665	N	N
AG	1	79.0000	21.0000	1.037	A	A
AI	1	634.0000	86.0000	8.320	N	N
AM	1	323.1000	15.0000	4.240		N
AN	1	79.4000	3.0000	1.042	A	A
AU	1	61.0000	15.0000	0.801	A	W
BE	1	93.0000	7.4000	1.220	A	A
BL	1	81.8000	4.1000	1.073	W	A
BN	1	50.4100	3.0200	0.662	A	N
BN	2	56.1800	3.0200	0.737	A	W
BN	3	57.3100	3.0200	0.752	A	W
BP	1	80.8000	4.3000	1.060	A	A
BU	1	76.9000	1.5000	1.009	A	A
BX	1	116.5000	10.7000	1.529	A	W
CH	1	80.4000	4.4000	1.055		A
CL	1	108.0000	7.6000	1.417	A	W
CM	1	83.9000	2.3000	1.101		A
CM	2	79.7000	2.3000	1.046		A
CM	3	80.8000	2.3000	1.060		A
EG	1	75.0000	6.0000	0.984		A
EP	1	74.6600	5.8900	0.980	A	A
FG	1	3220.0000	340.0000	42.257	A	N
FL	1	84.0800	3.1000	1.103	A	A
FN	1	79.8000	8.7000	1.047	A	A
GC	1	79.0000	1.3100	1.037	A	A
GE	1	91.8654	17.1094	1.206	A	A
GT	1	82.0000	10.0000	1.076	A	A
HC	1	78.1000	14.4000	1.025	A	A
ID	1	118.3300	11.0400	1.553	A	W
IE	1	65.5500	8.0100	0.860	A	A
IN	1	53.0000	14.0000	0.696		N
IS	1	118.4000	12.1000	1.554	A	W
IT	1	79.0000	5.0000	1.037	A	A
KA	1	99.0000	9.0000	1.299	A	W
LA	1	115.0000	31.0000	1.509	A	W
LA	2	104.0000	30.0000	1.365	A	W
LA	3	106.0000	30.0000	1.391	A	W
LL	1	91.5000	4.0300	1.201	A	A
LN	1	370.0000	13.6900	4.856	W	N
LV	1	89.0000	7.1000	1.168	A	A
LW	1	78.4400	20.0000	1.029	A	A

Values for elemental uranium are reported in µg/filter, g or mL. pCi/g or mL = Bq x 0.027

Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable

If the evaluation system is not appropriate for the types of analyses performed in your lab, apply site specific evaluation.

### QAP 49 Results by Nuclide

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Matrix: WA Water Bq / L  
Radionuclide: H3

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EML Value: 76.200  
EML Error: 2.900

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Labcode	Test #	Reported Value	Reported Error	Reported EML	QAP 48 Evaluation	Evaluation
ME	1	109.0000	4.5000	1.430	W	W
MH	1	78.3600	5.2200	1.028	A	A
ML	1	81.0300	17.3900	1.063	A	A
MS	1	74.0000	3.7000	1.015	N	A
NA	1	79.2000	3.0000	1.039	W	A
NP	1	444.0000	37.0000	5.827	W	N
NS	1	80.9180	6.4120	1.062	A	A
OC	1	247.0000	10.0000	3.241		N
OC	2	252.0000	10.0000	3.307		N
OC	3	251.0000	10.0000	3.294		N
OD	1	80.1700	4.6700	1.052	A	A
OD	1	80.1700	4.6700	1.052	A	A
OT	1	43.0000	4.0000	0.564	W	N
OU	1	201.0000	12.9000	2.638	W	N
PR	1	81.9500	0.8500	1.075	A	A
RC	1	72.0000	5.0000	0.945	A	A
RE	1	83.7000	20.1000	1.098	A	A
SB	1	81.5000	6.7000	1.070		A
SR	1	77.3000	3.6000	1.014	A	A
ST	1	85.3200	6.8100	1.120	A	A
SW	1	1098.0000	60.0000	14.409	N	N
TE	1	102.2000	4.5000	1.341	N	W
TI	1	450.0000	50.0000	5.906	A	N
TN	1	78.0000	8.0000	1.024	W	A
TO	1	85.5000	26.0000	1.122	W	A
TP	1	115.6400	9.9900	1.518	A	W
TT	1	69.0000	7.0900	0.906	A	A
TX	1	80.9000	5.6000	1.062	A	A
UP	1	84.0000	23.6000	1.102	A	A
UY	1	74.8000	18.0000	0.982	A	A
WA	1	93.0000	4.0000	1.220	A	A
WC	1	80.0000	9.3000	1.050	A	A
WV	1	80.9200	4.6300	1.062	A	A
YA	1	81.0793	2.5037	1.064	A	A

Total Number Reported: 75

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Values for elemental uranium are reported in µg/filter, g or mL. pCi/g or mL = Bq x 0.027

Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable

If the evaluation system is not appropriate for the types of analyses performed in your lab, apply site specific evaluation.

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## QAP 49 Results by Nuclide

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**Matrix:** WA Water Bq/L  
**Radionuclide:** MN54

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**EML Value:** 32.400  
**EML Error:** 1.400

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Labcode	Test #	Reported Value	Reported Error	Reported EML	QAP 48 Evaluation	Evaluation
AF	1	0.1400	0.0200	0.004	A	N
AG	1	35.2000	5.9000	1.086	A	A
AI	1	35.0000	0.4730	1.080	A	A
AL	1	45.5360	0.3000	1.405	A	N
AM	1	30.2400	3.0300	0.933	A	A
AN	1	34.8000	0.7000	1.074	A	A
AT	1	32.4800	3.6000	1.002	A	A
AU	1	36.8000	2.3000	1.136	A	A
BA	1	38.4000	5.3000	1.185	A	W
BC	1	37.2000	2.4000	1.148	A	A
BE	1	38.5000	3.0000	1.188	W	W
BL	1	35.1000	1.5000	1.083	A	A
BN	1	39.4100	1.3600	1.216	A	W
BN	2	39.1800	1.3600	1.209	A	W
BN	3	42.1800	1.3600	1.302	A	N
BP	1	35.1000	0.7000	1.083	A	A
BQ	1	30.6000	0.9000	0.944	A	A
BX	1	35.7000	2.1000	1.102	A	A
CA	1	34.4000	3.4000	1.062	A	A
CD	1	35.0000	0.5000	1.080	A	A
CH	1	35.9000	0.5800	1.108		A
CL	1	35.3000	1.4000	1.090	A	A
CM	1	32.6000	1.1000	1.006		A
CM	2	33.1000	1.1000	1.022		A
CM	3	33.1000	1.1000	1.022		A
CS	1	38.8200	1.8980	1.198	A	W
CS	1	38.8200	1.8980	1.198	A	W
DH	1	33.6000	1.7000	1.037	A	A
EG	1	34.7000	1.0000	1.071	A	A
EP	1	34.9400	4.7700	1.078	A	A
FG	1	32.6000	0.9000	1.006	N	A
FL	1	36.4000	0.5000	1.123	A	A
FM	1	34.4000	0.3200	1.062	A	A
FN	1	34.3000	3.5000	1.059	A	A
GA	1	38.9000	5.3000	1.201	A	W
GC	1	36.0000	2.1800	1.111	A	A
GE	1	36.4191	5.7875	1.124	A	A
GP	1	34.0000	3.0000	1.049	A	A
GT	1	35.0000	6.0000	1.080	A	A
ID	1	34.9700	1.9200	1.079	A	A
IE	1	32.2700	1.2800	0.996	A	A

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Values for elemental uranium are reported in µg/filter, g or mL. pCi/g or mL = Bq x 0.027

Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable

If the evaluation system is not appropriate for the types of analyses performed in your lab, apply site specific evaluation.

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### QAP 49 Results by Nuclide

Matrix: WA Water Bq / L  
Radionuclide: MN54

EML Value: 32.400  
EML Error: 1.400

Labcode	Test #	Reported Value	Reported Error	Reported EML	QAP 48 Evaluation	Evaluation
IL	1	36.0000	0.5000	1.111	A	A
IN	1	35.8000	2.1000	1.105	W	A
IS	1	39.0000	3.9000	1.204	W	W
IT	1	35.8000	1.5000	1.105	A	A
JE	1	68.3100	3.2500	2.108	W	N
JL	1	35.2000	2.7000	1.086	A	A
KA	1	31.0100	2.2700	0.957	A	A
LA	1	40.6000	4.6000	1.253	W	N
LA	2	37.1000	4.2000	1.145	W	A
LA	3	37.2000	4.3000	1.148	W	A
LB	1	34.0000	5.0000	1.049		A
LL	1	33.6000	3.4300	1.037	A	A
LN	1	48.7000	8.9700	1.503	A	N
LV	1	37.4000	3.0000	1.154	W	A
ME	1	34.2000	1.2800	1.056	A	A
MH	1	34.2700	1.4200	1.058	A	A
MS	1	35.6000	3.6000	1.099	A	A
NA	1	35.3000	0.7000	1.090	A	A
ND	1	34.7010	2.0830	1.071		A
NL	1	36.0000	5.3000	1.111	W	A
NP	1	32.9000	1.0000	1.015	A	A
NQ	1	41.9000	4.9000	1.293		N
NS	1	37.7410	0.4810	**** *	A	N
NZ	1	36.0000	2.0000	1.111		A
NZ	2	35.0000	2.0000	1.080		A
OB	1	43.5000	8.1000	1.343		N
OC	1	42.0000	5.0000	1.296		N
OC	2	30.0000	5.0000	0.926		A
OC	3	35.0000	5.0000	1.080		A
OD	1	38.7900	3.1200	1.197	A	W
OD	1	38.7900	3.1200	1.197	A	W
OD	2	34.1000	3.1900	1.052	A	A
OD	2	34.1000	3.1900	1.052	A	A
OL	1	34.2700	0.9500	1.058	A	A
OT	1	36.0000	2.0000	1.111	A	A
OU	1	38.8000	1.1000	1.198	A	W
PR	1	36.3599	0.4595	1.122		A
RC	1	32.8000	1.7000	1.012	A	A
RE	1	37.3000	3.9000	1.151	A	A
RI	1	33.7000	4.2500	1.040	A	A
SA	1	38.0000	1.8000	1.173	A	W
SB	1	42.1000	4.8700	1.299		N

Values for elemental uranium are reported in µg/filter, g or mL. pCi/g or mL = Bq x 0.027

Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable

If the evaluation system is not appropriate for the types of analyses performed in your lab, apply site specific evaluation.

### QAP 49 Results by Nuclide

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Matrix: WA Water Bq / L  
Radionuclide: MN54

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EML Value: 32.400  
EML Error: 1.400

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Labcode	Test #	Reported Value	Reported Error	Reported EML	QAP 48 Evaluation	Evaluation
SK	1	31.5000	1.9000	0.972	A	A
SL	1	34.0000	2.0000	1.049	A	A
SN	1	34.6200	3.6810	1.069	A	A
SR	1	35.5000	1.0000	1.096	A	A
SW	1	37.0700	0.0400	1.144	A	A
TE	1	35.9000	3.4000	1.108	A	A
TI	1	33.5000	3.4000	1.034	A	A
TM	1	38.3000	1.2800	1.182	W	W
TN	1	0.0670	0.0070	0.002	A	N
TO	1	34.6000	16.9000	1.068	A	A
TP	1	31.4700	0.7500	0.971	A	A
TT	1	38.0000	7.0900	1.173	A	W
TW	1	36.2000	0.8000	1.117	A	A
TX	1	36.3000	0.4000	1.120	A	A
UP	1	36.5000	3.0200	1.127	A	A
UY	1	35.6000	4.0000	1.099	A	A
WA	1	35.4000	2.3000	1.093	A	A
WC	1	42.0000	6.0000	1.296	A	N
WE	1	40.5000	2.7000	1.250		N
WI	1	38.3400	3.8780	1.183	A	W
WI	2	39.4900	3.9900	1.219	A	W
WI	3	39.0100	3.9460	1.204	A	W
WV	1	36.3200	0.4800	1.121	A	A
YA	1	33.7810	0.8017	1.043	A	A
YU	1	33.0000	1.1000	1.019	A	A

Total Number Reported: 108

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Values for elemental uranium are reported in µg/filter, g or mL. pCi/g or mL = Bq x 0.027

Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable

If the evaluation system is not appropriate for the types of analyses performed in your lab, apply site specific evaluation.

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### QAP 49 Results by Nuclide

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Matrix: WA Water Bq / L  
Radionuclide: NI63

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EML Value: 95.700  
EML Error: 0.900

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Labcode	Test #	Reported Value	Reported Error	Reported EML	QAP 48 Evaluation	Evaluation
BE	1	122.2000	1.9000	1.277		A
BL	1	103.0000	3.0000	1.076		A
BP	1	86.0000	10.0000	0.899		A
BX	1	93.6000	7.8000	0.978		A
CL	1	136.0000	5.0000	1.421		A
EG	1	78.0000	7.0000	0.815		A
FL	1	95.2300	0.6700	0.995		A
GE	1	55.4450	6.6600	0.579		A
OU	1	103.0000	15.2000	1.076		A
TI	1	110.0000	10.0000	1.149		A
TN	1	122.0000	12.0000	1.275		A
TO	1	117.7000	1.0000	1.230		A
WA	1	119.0000	4.0000	1.243		A
YA	1	124.0733	9.9900	1.296		A

Total Number Reported: 14

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Values for elemental uranium are reported in µg/filter, g or mL. pCi/g or mL = Bq x 0.027

Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable

If the evaluation system is not appropriate for the types of analyses performed in your lab, apply site specific evaluation.

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### QAP 49 Results by Nuclide

Matrix: WA Water Bq/L  
Radionuclide: PU238

EML Value: 1.100  
EML Error: 0.010

Labcode	Test #	Reported Value	Reported Error	Reported EML	QAP 48 Evaluation	Evaluation
AF	1	0.8900	0.1400	0.809	W	W
AG	1	1.1800	0.1500	1.073	W	A
AI	1	0.9200	0.0230	0.836	N	W
AM	1	0.5800	0.0200	0.527		N
AN	1	1.1700	0.0600	1.064	A	A
AU	1	1.2000	0.1100	1.091	A	A
BA	1	1.2600	0.2900	1.145	A	W
BE	1	1.1700	0.1100	1.064	A	A
BL	1	1.4700	0.1200	1.336	W	N
BL	2	1.3400	0.1300	1.218	W	W
BM	1	1.2000	0.1900	1.091	A	A
BP	1	1.2300	0.0400	1.118	A	W
BU	1	1.2300	0.0500	1.118	A	W
BX	1	1.2300	0.0600	1.118	A	W
CH	1	1.2000	0.0820	1.091		A
CL	1	0.1000	0.0500	0.091	N	N
EG	1	1.1800	0.1000	1.073	A	A
EM	1	0.8620	0.0270	0.784		W
EP	1	1.1200	0.0913	1.018	A	A
FG	1	1.1180	0.0620	1.016	A	A
GA	1	1.1000	0.0400	1.000	W	A
GE	1	1.1359	0.2462	1.033	A	A
GP	1	1.1000	0.1000	1.000	A	A
GT	1	1.3000	0.4000	1.182	W	W
HT	1	1.2500	0.2000	1.136		W
IN	1	1.2000	0.0900	1.091	A	A
IS	1	1.3030	0.3620	1.185	A	W
IT	1	1.2700	0.0300	1.155	A	W
LA	1	1.0600	0.0400	0.964	A	A
LA	2	1.1100	0.0400	1.009	A	A
LA	3	1.1100	0.0400	1.009	A	A
LL	1	1.2400	0.1380	1.127	A	W
LV	1	0.2590	0.2490	0.235	N	N
ML	1	1.2100	0.0900	1.100	A	A
NL	1	1.1600	0.2600	1.055	W	A
NM	1	1.1110	0.0260	1.010	A	A
NQ	1	1.1200	0.0700	1.018		A
NZ	1	1.8900	0.0800	1.718		N
NZ	2	1.1100	0.0400	1.009		A
OD	1	1.1780	0.1210	1.071	A	A
OD	1	1.1800	0.1200	1.073	A	A

Values for elemental uranium are reported in µg/filter, g or mL. pCi/g or mL = Bq x 0.027

Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable

If the evaluation system is not appropriate for the types of analyses performed in your lab, apply site specific evaluation.

### QAP 49 Results by Nuclide

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Matrix: WA Water Bq / L  
Radionuclide: PU238

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EML Value: 1.100  
EML Error: 0.010

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Labcode	Test #	Reported Value	Reported Error	Reported EML	QAP 48 Evaluation	Evaluation
OT	1	0.9400	0.0700	0.855	W	W
OU	1	1.0700	0.1400	0.973		A
RE	1	1.0100	0.1100	0.918	N	A
RI	1	1.3900	0.1160	1.264	A	N
SK	1	0.2450	0.0110	0.223	A	N
SN	1	1.1910	0.1890	1.083	A	A
SR	1	1.3100	0.0730	1.191	A	W
SW	1	1.6400	0.0800	1.491	A	N
TI	1	1.1000	0.2000	1.000	A	A
TM	1	1.2000	0.0772	1.091	A	A
TN	1	1.1500	0.1100	1.045	N	A
TO	1	1.2400	0.2800	1.127	A	W
TX	1	1.1620	0.0470	1.056	A	A
UP	1	1.1000	0.1660	1.000	W	A
UY	1	1.1300	0.1300	1.027	A	A
WA	1	1.1800	0.0900	1.073	A	A
WC	1	1.1000	0.1800	1.000	A	A
YA	1	1.1951	0.0382	1.086	A	A

Total Number Reported: **59**

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Values for elemental uranium are reported in µg/filter, g or mL. pCi/g or mL = Bq x 0.027

Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable

If the evaluation system is not appropriate for the types of analyses performed in your lab, apply site specific evaluation.

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## QAP 49 Results by Nuclide

Matrix: WA Water Bq/L  
Radionuclide: PU239

EML Value: 1.410  
EML Error: 0.040

Labcode	Test #	Reported Value	Reported Error	Reported EML	QAP 48 Evaluation	Evaluation
AF	1	1.4400	0.2000	1.021	A	A
AG	1	1.4300	0.1800	1.014	A	A
AI	1	1.2100	0.0290	0.858	N	W
AM	1	0.8200	0.0200	0.582		N
AN	1	1.5700	0.0800	1.113	A	A
AU	1	1.5000	0.1300	1.064	W	A
BA	1	1.7000	0.3700	1.206	A	W
BE	1	1.5900	0.1500	1.128	A	A
BL	1	1.6800	0.1300	1.191	A	W
BL	2	1.7900	0.1400	1.270	A	W
BM	1	1.5800	0.2400	1.121	A	A
BP	1	1.6400	0.0300	1.163	A	W
BU	1	1.4500	0.0600	1.028	A	A
BX	1	1.5300	0.0800	1.085	A	A
CH	1	1.5300	0.0950	1.085		A
CL	1	1.4000	0.2000	0.993	N	A
EG	1	1.5400	0.1300	1.092	A	A
EM	1	1.1490	0.0320	0.815		W
EP	1	1.4700	0.1160	1.043	A	A
FG	1	1.4140	0.0708	1.003	A	A
GA	1	1.6000	0.0500	1.135	A	A
GE	1	1.4615	0.3080	1.037	A	A
GP	1	1.5000	0.2000	1.064	A	A
GT	1	1.8000	0.4000	1.277	W	W
HT	1	1.1000	0.1500	0.780		N
ID	1	1.1000	0.3500	0.780	A	N
IN	1	1.4400	0.1000	1.021	A	A
IS	1	1.7330	0.4700	1.229	W	W
IT	1	1.5800	0.1200	1.121	A	A
KA	1	1.6820	0.0080	1.193	A	W
LA	1	1.4600	0.0500	1.035	A	A
LA	2	1.4800	0.0500	1.050	A	A
LA	3	1.4500	0.0500	1.028	A	A
LL	1	1.5300	0.1650	1.085	A	A
LV	1	0.3940	0.0120	0.279	N	N
ML	1	1.6000	0.1200	1.135	A	A
NL	1	1.5400	0.3500	1.092	A	A
NM	1	1.4580	0.0330	1.034	A	A
NQ	1	1.4300	0.0900	1.014		A
NZ	1	2.5300	0.1000	1.794		N
NZ	2	1.5100	0.0500	1.071		A

Values for elemental uranium are reported in µg/filter, g or mL. pCi/g or mL = Bq x 0.027

Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable

If the evaluation system is not appropriate for the types of analyses performed in your lab, apply site specific evaluation.

### QAP 49 Results by Nuclide

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Matrix: WA Water Bq / L  
Radionuclide: PU239

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EML Value: 1.410  
EML Error: 0.040

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Labcode	Test #	Reported Value	Reported Error	Reported EML	QAP 48 Evaluation	Evaluation
OD	1	1.5420	0.1570	1.094	A	A
OD	1	1.5400	0.1600	1.092	A	A
OT	1	1.4000	0.1000	0.993	A	A
OU	1	1.5400	0.0900	1.092		A
RE	1	1.4100	0.1400	1.000	N	A
RI	1	1.6300	0.1290	1.156	A	W
SK	1	0.3240	0.0100	0.230	A	N
SN	1	1.5250	0.2320	1.082	A	A
SR	1	1.8800	0.0940	1.333	A	W
SW	1	1.1800	0.0600	0.837	N	W
TI	1	1.6000	0.2000	1.135	W	A
TM	1	1.5200	0.0925	1.078	A	A
TN	1	1.4800	0.1500	1.050	N	A
TO	1	1.6400	0.3400	1.163	A	W
TX	1	1.5670	0.0550	1.111	A	A
UP	1	1.5100	0.2040	1.071	W	A
UY	1	1.5200	0.1700	1.078	A	A
WA	1	1.6500	0.1000	1.170	A	W
WC	1	1.6000	0.2300	1.135	A	A
YA	1	1.5343	0.0456	1.088	A	A

**Total Number Reported: 61**

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Values for elemental uranium are reported in µg/filter, g or mL. pCi/g or mL = Bq x 0.027

Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable

If the evaluation system is not appropriate for the types of analyses performed in your lab, apply site specific evaluation.

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### QAP 49 Results by Nuclide

Matrix: WA Water Bq/L  
Radionuclide: SR90

EML Value: 2.110  
EML Error: 0.180

Labcode	Test #	Reported Value	Reported Error	Reported EML	QAP 48 Evaluation	Evaluation
AC	1	2.1400	0.0900	1.014		A
AF	1	2.2500	0.2100	1.066	A	A
AG	1	1.8900	0.3400	0.896	A	A
AI	1	1.4300	0.3220	0.678		N
AM	1	1.8600	0.0200	0.882		W
AN	1	2.1600	0.0500	1.024	A	A
AU	1	2.0700	0.4000	0.981	A	A
BA	1	2.4100	0.2700	1.142	A	A
BC	1	4.8100	0.3700	2.280	W	N
BE	1	2.2000	0.2000	1.043	A	A
BL	1	2.1700	0.5000	1.028	A	A
BL	2	2.2800	0.6300	1.081	A	A
BM	1	2.2300	0.2600	1.057	A	A
BN	1	7.0700	0.3000	3.351	A	N
BN	2	7.6600	0.3000	3.630	A	N
BX	1	2.2600	0.5000	1.071	W	A
CB	1	2.4600	0.2500	1.166	A	A
CB	2	2.2700	0.2500	1.076	A	A
CH	1	2.7500	0.2200	1.303		W
CL	1	2.7000	0.3000	1.280	A	W
EG	1	2.2000	0.2000	1.043	A	A
EP	1	2.3200	0.4020	1.100	A	A
GA	1	2.6000	0.0300	1.232		W
GC	1	2.6200	0.1600	1.242	A	W
GE	1	0.2011	0.0351	0.095	A	N
GP	1	1.5000	0.6000	0.711	A	N
GT	1	1.9000	0.5000	0.900	A	A
ID	1	2.4800	0.1320	1.175	W	A
IN	1	2.6900	0.3400	1.275	A	W
IS	1	1.6990	0.3830	0.805	A	W
IT	1	2.2400	0.3000	1.062	A	A
KA	1	2.3960	0.3080	1.136	A	A
LA	1	2.8510	0.3362	1.351		W
LA	2	2.7560	0.3327	1.306		W
LA	3	2.8190	0.3348	1.336		W
NA	1	1.2000	0.6000	0.569	A	N
NM	1	1.7590	0.2540	0.834		W
NZ	1	3.4000	0.1000	1.611		N
NZ	2	4.0000	0.1000	1.896		N
OC	1	2.4000	0.2000	1.137		A
OC	2	2.3000	0.2000	1.090		A

Values for elemental uranium are reported in µg/filter, g or mL. pCi/g or mL = Bq x 0.027

Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable

If the evaluation system is not appropriate for the types of analyses performed in your lab, apply site specific evaluation.

### QAP 49 Results by Nuclide

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Matrix: WA Water Bq / L  
Radionuclide: SR90

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EML Value: 2.110  
EML Error: 0.180

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Labcode	Test #	Reported Value	Reported Error	Reported EML	QAP 48 Evaluation	Evaluation
OC	3	2.3000	0.2000	1.090		A
OD	1	2.3900	0.2800	1.133	A	A
OD	1	2.3900	0.2800	1.133	A	A
OT	1	2.1000	0.3000	0.995	A	A
OU	1	2.0100	0.2700	0.953		A
RE	1	2.2600	0.2100	1.071	A	A
RI	1	2.4100	0.2450	1.142	A	A
SR	1	2.3860	0.7210	1.131	A	A
SW	1	0.7400	0.1900	0.351	N	N
TE	1	3.0000	0.9000	1.422	N	W
TI	1	2.2000	0.3000	1.043	A	A
TM	1	2.2300	0.2350	1.057	W	A
TN	1	2.1600	0.2100	1.024	A	A
TO	1	2.3000	0.1000	1.090	W	A
TP	1	2.5000	0.2300	1.185	A	A
TX	1	2.7200	0.7100	1.289	A	W
UP	1	2.5130	0.6060	1.191	A	A
UY	1	2.0000	0.3000	0.948	A	A
WA	1	2.1300	0.4400	1.009	A	A
WC	1	2.3000	0.3200	1.090	A	A
WE	1	12.9000	0.8800	6.114		N
WV	1	2.4300	0.2400	1.152	A	A
YA	1	1.4492	0.3145	0.687	A	N

Total Number Reported: 64

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Values for elemental uranium are reported in µg/filter, g or mL. pCi/g or mL = Bq x 0.027

Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable

If the evaluation system is not appropriate for the types of analyses performed in your lab, apply site specific evaluation.

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### QAP 49 Results by Nuclide

Matrix: WA Water Bq/L  
Radionuclide: U234

EML Value: 0.510  
EML Error: 0.030

Labcode	Test #	Reported Value	Reported Error	Reported EML	QAP 48 Evaluation	Evaluation
AG	1	0.5310	0.0730	1.041	A	A
AM	1	0.5900	0.2200	1.157	W	A
AN	1	0.5200	0.0100	1.020	A	A
AU	1	0.5090	0.0890	0.998	W	A
BA	1	0.5700	0.1000	1.118		A
BC	1	0.6400	0.0600	1.255	W	W
BE	1	0.5300	0.0600	1.039	A	A
BL	1	0.5100	0.0100	1.000	A	A
BM	1	0.5400	0.0800	1.059	A	A
BP	1	0.5600	0.0300	1.098		A
BU	1	0.6200	0.0300	1.216	A	A
BX	1	0.6700	0.0700	1.314	A	W
CH	1	0.5180	0.0270	1.016		A
CL	1	0.5000	0.1000	0.980	W	A
EG	1	0.5100	0.0700	1.000	A	A
EM	1	0.4600	0.0220	0.902		A
FG	1	0.2457	0.1090	0.482		N
GA	1	0.7400	0.0800	1.451	A	N
GE	1	0.5402	0.1724	1.059	A	A
GP	1	0.4700	0.1100	0.922	A	A
HT	1	0.7850	0.0900	1.539		N
IN	1	0.5020	0.0750	0.984	A	A
IT	1	0.5000	0.0100	0.980	A	A
LL	1	0.5030	0.0469	0.986	A	A
MH	1	0.5140	0.0510	1.008	A	A
ML	1	0.4900	0.0400	0.961	A	A
NA	1	0.0740	0.0100	0.145		N
NL	1	0.5020	0.1200	0.984	A	A
NQ	1	0.5520	0.0360	1.082		A
NZ	1	0.5700	0.0500	1.118		A
NZ	2	0.4600	0.0400	0.902		A
OD	1	0.5030	0.0520	0.986	A	A
OD	1	0.5030	0.0520	0.986	A	A
OU	1	0.3990	0.0500	0.782	A	N
RE	1	0.4870	0.0580	0.955	A	A
SR	1	0.5470	0.0300	1.073	A	A
TM	1	0.5760	0.0433	1.129	A	A
TN	1	0.5300	0.0500	1.039	A	A
TO	1	0.5900	0.2200	1.157	A	A
TX	1	0.5330	0.0320	1.045	A	A
WA	1	0.5000	0.0700	0.980	A	A

Values for elemental uranium are reported in µg/filter, g or mL. pCi/g or mL = Bq x 0.027

Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable

If the evaluation system is not appropriate for the types of analyses performed in your lab, apply site specific evaluation.



### QAP 49 Results by Nuclide

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Matrix: WA Water Bq / L  
Radionuclide: U234

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EML Value: 0.510  
EML Error: 0.030

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Labcode	Test #	Reported Value	Reported Error	Reported EML	QAP 48 Evaluation	Evaluation
WC	1	0.5700	0.1000	1.118	A	A

Total Number Reported: 42

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Values for elemental uranium are reported in µg/filter, g or mL. pCi/g or mL = Bq x 0.027

Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable

If the evaluation system is not appropriate for the types of analyses performed in your lab, apply site specific evaluation.

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### QAP 49 Results by Nuclide

Matrix: WA Water Bq/L  
Radionuclide: U238

EML Value: 0.520  
EML Error: 0.050

Labcode	Test #	Reported Value	Reported Error	Reported EML	QAP 48 Evaluation	Evaluation
AG	1	0.5230	0.0720	1.006	A	A
AM	1	0.4900	0.2200	0.942	A	A
AN	1	0.5100	0.0100	0.981	A	A
AU	1	0.5140	0.0890	0.988	N	A
BA	1	0.5400	0.1000	1.038		A
BC	1	0.5500	0.0700	1.058	W	A
BE	1	0.5300	0.0600	1.019	A	A
BL	1	0.4950	0.0100	0.952	W	A
BM	1	0.5400	0.0800	1.038	A	A
BP	1	0.5500	0.0100	1.058	A	A
BU	1	0.5500	0.0300	1.058	A	A
BX	1	0.6800	0.0900	1.308	A	N
CH	1	0.5510	0.0280	1.060		A
CL	1	0.6000	0.2000	1.154	A	A
EG	1	0.4900	0.0800	0.942	A	A
EM	1	0.4890	0.0230	0.940		A
FG	1	0.1902	0.0600	0.366		N
GA	1	0.7400	0.0800	1.423	A	N
GE	1	0.5180	0.1660	0.996	A	A
GP	1	0.5000	0.1200	0.962	A	A
GT	1	0.6900	0.1500	1.327	A	N
HT	1	0.8000	0.0900	1.538		N
ID	1	0.5770	0.0360	1.110	A	A
IN	1	0.5000	0.0800	0.962	A	A
IT	1	0.5300	0.0800	1.019	A	A
LL	1	0.5190	0.0481	0.998	A	A
MH	1	0.5290	0.0510	1.017	A	A
ML	1	0.5000	0.0400	0.962	A	A
NA	1	0.0600	0.0090	0.115		N
NL	1	0.5210	0.1200	1.002	A	A
NQ	1	0.5390	0.0350	1.037		A
NZ	1	0.5600	0.0500	1.077		A
NZ	2	0.5200	0.0400	1.000		A
OD	1	0.5320	0.0550	1.023	A	A
OD	1	0.5320	0.0550	1.023	A	A
OU	1	0.4020	0.0500	0.773	A	N
RE	1	0.5080	0.0610	0.977	A	A
SR	1	0.6090	0.0370	1.171	A	W
SW	1	0.0445		0.086		N
TM	1	0.5710	0.0429	1.098	A	A
TN	1	0.5200	0.0500	1.000	A	A

Values for elemental uranium are reported in µg/filter, g or mL. pCi/g or mL = Bq x 0.027

Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable

If the evaluation system is not appropriate for the types of analyses performed in your lab, apply site specific evaluation.

### QAP 49 Results by Nuclide

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Matrix: WA Water Bq / L  
Radionuclide: U238

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EML Value: 0.520  
EML Error: 0.050

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Labcode	Test #	Reported Value	Reported Error	Reported EML	QAP 48 Evaluation	Evaluation
TO	1	0.5800	0.2300	1.115	A	A
TX	1	0.5270	0.0310	1.013	W	A
WA	1	0.5600	0.0700	1.077	A	A
WC	1	0.5600	0.1000	1.077	A	A

Total Number Reported: 45

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Values for elemental uranium are reported in µg/filter, g or mL. pCi/g or mL = Bq x 0.027

Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable

If the evaluation system is not appropriate for the types of analyses performed in your lab, apply site specific evaluation.

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### QAP 49 Results by Nuclide

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Matrix: WA Water Bq / L  
Radionuclide: ug U

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EML Value: 0.040  
EML Error: 0.003

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Labcode	Test #	Reported Value	Reported Error	Reported EML	QAP 48 Evaluation	Evaluation
AC	1	0.0440	0.0044	1.100		A
AG	1	0.0431	0.0071	1.077	A	A
BE	1	0.0424		1.060	A	A
BL	1	1.0300	0.0200	25.750		N
BL	2	0.0410	0.0007	1.025		A
BQ	1	0.0480	0.0020	1.200	A	W
BU	1	0.0430	0.0030	1.075	A	A
CA	1	0.0405	0.0041	1.013	W	A
CH	1	0.0406	0.0041	1.015		A
GA	1	0.0590	0.0070	1.475		N
GE	1	0.0405	0.0007	1.013	A	A
GS	1	0.0400	0.0020	1.000	A	A
HT	1	0.0650	0.0070	1.625		N
IS	1	0.0403	0.0055	1.008		A
IT	1	0.0399	0.0004	0.998	A	A
KA	1	0.0420	0.0004	1.050	A	A
OU	1	0.0329	0.0003	0.823	A	W
TI	1	0.0460	0.0070	1.150	A	A
TM	1	0.0406	0.0026	1.015	W	A
TN	1	0.0430	0.0040	1.075	A	A
UC	1	0.0420		1.050	A	A
UP	1	0.0430	0.0040	1.075	A	A
YA	1	0.0396	0.0005	0.990	W	A
YP	1	0.0400	0.0016	1.000	A	A

Total Number Reported: 24

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Values for elemental uranium are reported in µg/filter, g or mL. pCi/g or mL = Bq x 0.027

Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable

If the evaluation system is not appropriate for the types of analyses performed in your lab, apply site specific evaluation.

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## Participating Laboratories in EML QAP49

### Laboratories Reporting Data

<b>Code</b>	<b>Laboratory Name</b>
<b>AC</b>	Analytical Chemistry Laboratory, Argonne National Lab
<b>AF</b>	Air Force Analytical Lab, Brooks AFB
<b>AG</b>	Paragon Analytics, Inc, Fort Collins, CO
<b>AI</b>	Nuclear Technology Services, Inc., Roswell, GA
<b>AL</b>	Ames Laboratory, Ames, IA
<b>AM</b>	American Radiation Services, Inc., Baton Rouge
<b>AN</b>	Argonne National Laboratory
<b>AP</b>	Aberdeen Proving Ground, Aberdeen, MD
<b>AT</b>	ATL International inc., Germantown, MD
<b>AU</b>	ORISE EESD/ESSAP, Oak Ridge
<b>BA</b>	Bettis Atomic Power Lab, West Mifflin, PA
<b>BC</b>	Babcock & Wilcox MC #42, Lynchburg, VA
<b>BE</b>	RUST Geotech, Grand Junction, CO
<b>BL</b>	Barringer Laboratories Inc., Golden, CO
<b>BM</b>	Battelle Memorial Institute, Columbus, OH
<b>BN</b>	Brookhaven National Laboratory, Upton, NY
<b>BP</b>	Battelle Pacific Northwest National Laboratory
<b>BQ</b>	Becquerel Laboratories Inc., Mississauga, Ontario, Canada
<b>BU</b>	Autoridad Regulatoria, Buenos Aires, Argentina
<b>BX</b>	B&W Nuclear Envir. Services, Lynchburg, VA
<b>CA</b>	Atomic Energy Control Board, Ottawa, Canada
<b>CB</b>	Radiation Protection Bureau, Ontario, Canada
<b>CD</b>	Gentilly-2 Nuclear Power Plant, Quebec Canada
<b>CH</b>	California State Dept. Health Serv., Sanitation & Radiation Laboratory
<b>CL</b>	Core Laboratories, Casper, WY
<b>CM</b>	Metropolitan Water Reclamation District of Greater Chicago, IL
<b>CN</b>	China Institute for Radiation Protection
<b>CO</b>	Bedford Institute of Oceanography, Dartmouth. Nova Scotia, Canada
<b>CR</b>	Laboratorio de Fisica Nuclear Aplicada, Costa Rica
<b>CS</b>	Boeing North American, Canoga Park, CA
<b>DH</b>	Duke Engineering Services Hanford
<b>EG</b>	LMITCO/INEL, Scoville
<b>EM</b>	3M, Empore Disks, St. Paul, MN
<b>EP</b>	US EPA, Las Vegas
<b>FG</b>	FGL Environmental, Santa Paula, CA
<b>FJ</b>	The University of the South Pacific, Fiji Islands
<b>FL</b>	Florida Dept of Health & Rehab. Serv., Orlando
<b>FM</b>	Florida Mobile Emergency Radiological Laboratory, Orlando
<b>FN</b>	Fermi Lab, Batavia, IL
<b>FS</b>	Florida State University, Tallahassee
<b>GA</b>	Lockheed Martin, Pikton, OH
<b>GC</b>	Georgia Power Company Environmental Lab
<b>GE</b>	General Engineering Labs, Charleston, SC
<b>GP</b>	GPU Nuclear, Inc., Harrisburg, PA
<b>GS</b>	USGS/NWQL, Arvada, CO
<b>GT</b>	Georgia Institute of Technology
<b>HC</b>	Lawrence Livermore Laboratory, California
<b>HT</b>	Technical University, Budapest, Hungary
<b>HU</b>	Water Resources Research Centre (VITUKI), Hungary
<b>IA</b>	Bhabha Atomic Research Centre, India
<b>ID</b>	Institute of Radiation Protection and Dosimetry, Rio de Janeiro, Brazil

## Participating Laboratories in EML QAP49

### Laboratories Reporting Data

Code	Laboratory Name
IE	IEA, Inc., Morrisville, NC
IL	ISU Environmental Monitoring Program, Pocatello, ID
IN	Lockheed Martin Idaho Technical Corp., Analytical Laboratory
IS	Quanterra- St. Louis
IT	Quanterra- Richland Laboratory
JE	Jacobs Engineering, Oak Ridge, TN
JL	Jefferson Lab, Newport News, VA
KA	Knolls Atomic Power Lab, Schenectady
KR	Korea Atomic Energy Research Institute
LA	Los Alamos National Laboratory, NM
LB	Lawrence Berkeley Lab UCB
LE	Lyle Environmental Management, Columbus, Ohio
LL	LLNL Chemistry and Material Science/Environmental
LN	Los Alamos National Lab, ES&H
LV	UNLV, Dept of Health Physics
LW	Lawrence Livermore National Lab, Waste
MA	ORNL Health Sciences Research Div.
ME	Radiation Control Program, Jamaica Plain, MA
MH	Maine Health & Environmental Testing Laboratory
ML	Babcock & Wilcox of Ohio, Mound, Miamisburg, OH
NA	US EPA NAREL, Montgomery, AL
ND	Dept. of Environmental Health and Safety, NC State University
NL	Fluor Daniel Fernald, Inc., Ohio
NM	Environmental Evaluation Group, Carlsbad, NM
NP	JAF Environmental Laboratory, New York Power Authority
NQ	New Mexico Department of Health, Albuquerque
NR	Naval Reactors Facility Chemistry, Scoville, ID
NS	State Lab of Public Health, North Carolina
NZ	National Radiation Laboratory, New Zealand
OB	OBG Laboratories, East Syracuse, NY
OC	Radiation Protection Service Laboratory, Ontario, Canada
OD	ORNL, Radiobioassay Lab
OL	ORNL Environmental Sciences Div.
OT	ORNL Radioactive Material Analysis Lab
OU	Outreach Laboratory, Broken Arrow, OK
PA	Mason & Hanger-Silas Mason Co., Inc., Battelle Pantex, Amarillo, TX
PK	Pakistan Institute of Nuclear Science & Technology
PO	Institute of Oceanology PAN, Poland
PR	Princeton Plasma Physics Lab
RA	V. G. Khlopin Radium Institute, St. Petersburg, Russia
RC	US NRC Region I Laboratory, PA
RE	Bechtel Nevada, Mercury, NV
RG	Thermo Nutech Rocky Flats Plant, Golden
RI	Waste Management Services of Hanford, Inc., 222S Lab
RK	Rock Island Arsenal, Illinois
SA	Sandia Labs Radioactive Sample Diag. Prog., NM
SB	SC Dept. of Health and Environment Control Radiological Lab
SK	Savannah River Plant
SL	Stanford Linear Accelerator Center
SN	Sanford Cohen Associates, Inc., Montgomery, AL
SR	Savannah River Environmental Laboratory

## Participating Laboratories in EML QAP49

### Laboratories Reporting Data

<b>Code</b>	<b>Laboratory Name</b>
<b>ST</b>	SC DHEC, Aiken, South Carolina
<b>SW</b>	Southwest Research Institute, San Antonio, TX
<b>TE</b>	Teledyne Isotopes Midwest Lab, Northbrook, IL
<b>TI</b>	Teledyne Brown Engineering Environmental Services, Westwood, NJ
<b>TM</b>	Thermo NUtech Albuquerque Lab, NM
<b>TN</b>	Thermo NUtech, Richmond, CA
<b>TO</b>	Thermo NUtech Oak Ridge Laboratory
<b>TP</b>	Taiwan Power Company, Taipei, Taiwan
<b>TT</b>	Tracer Technologies International, Inc., Cleveland
<b>TW</b>	Taiwan Radiation Monitoring Center
<b>TX</b>	Texas Dept. of Health/Laboratories, Austin
<b>TY</b>	Scientific Production Association, Russia
<b>UC</b>	Lockheed Martin, Paducah, KY
<b>UP</b>	Lockheed Martin Energy Systems, Y-12 Plant, Oak Ridge
<b>UY</b>	Lockheed Martin Energy Systems, Y-12 Plant, Oak Ridge
<b>WA</b>	Environmental Radiation Lab, Off. of Public Health Labs. Seattle
<b>WC</b>	Waste Management Federal Services of Hanford
<b>WE</b>	Westinghouse Electric Corp., Madison, PA
<b>WI</b>	WIPP Site, Westinghouse Electric Corp.
<b>WS</b>	Weldon Springs Site, St Charles, MO
<b>WV</b>	West Valley Nuclear Services Co, Inc, NY
<b>YA</b>	Duke Engineering Environmental Lab, Westboro, MA
<b>YP</b>	US Army Proving Ground, Yuma, AZ
<b>YU</b>	Institute of Occupational and Radiological Health, Yugoslavia
<b>MS</b>	Manufacturing Sciences Corporation, Oak Ridge

**Total Reporting Labs: 127**

## Participating Laboratories in EML QAP49

### Laboratories NOT Reporting Data

<b>Code</b>	<b>Laboratory Name</b>
<b>AR</b>	Accu-Labs Research Inc., Golden, CO
<b>AW</b>	Argonne National Laboratory, Idaho Falls
<b>AY</b>	Analytics, Inc. Atlanta, GA
<b>BR</b>	US Army Research Laboratory, Aberdeen Proving Ground
<b>BS</b>	B&W Nuclear Envir. Services, Leechburg, PA
<b>CW</b>	Carlsbad Environmental Monitoring Research Center, NM
<b>DC</b>	Datachem Laboratories, Salt Lake City
<b>DP</b>	Duke Power Company, Huntersville, NC
<b>EL</b>	Energy Laboratories, Inc., Casper, WY
<b>FR</b>	CEA/DAM - SPR/B3
<b>FT</b>	USACECOM-DSRM, Fort Monmouth, NJ
<b>KO</b>	Korea Institute of Nuclear Safety
<b>LM</b>	Los Alamos National Lab, Mercury, NV
<b>MI</b>	Massachusetts Institute of Technology
<b>NF</b>	Nuclear Fuel Services, Erwin, TN
<b>NW</b>	Naval Research Lab, Washington, DC
<b>OK</b>	Southwest Laboratory of Oklahoma
<b>OS</b>	Oregon Health Division Radiation Controls Section, Portland
<b>RL</b>	Thermo Hanford
<b>SE</b>	Shealy Environmental Services Inc., Cayce, SC
<b>SH</b>	Savannah River Ecology Lab
<b>TR</b>	University of Istanbul, Turkey
<b>TU</b>	Texas A&M University, Dept of Nuclear Engineering
<b>UK</b>	Lockheed Martin Energy Systems, Oak Ridge
<b>WP</b>	Washington Public Power Supply System, Richland

**Total Non-Reporting Labs: 25**