EML-587

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

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DISCLAIMER

ABSTRACT

This report presents the results from the soil inorganic analysis of the 45th set of environmental quality assessment samples (QAP XLV) that were received on or before December 2, 1996.

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 2 days after the reporting deadline via a modem-telephone connection to the EML computer.

This is the 49th report of this program. Preceding reports in this series are:

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

***Please note this is a corrected report number.**

RESULTS

The results from the analysis of QAP-XLV samples received on or before December 2, 1996 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^{-1}**
Soil	**Bq kg^{-1}**
Tissue	**Bq kg^{-1}**
Vegetation	**Bq kg^{-1}**
Water	**Bq L^{-1}**

The values for elemental uranium are reported in μg filter^{-1}, g, or mL. Some programs require the use of pCi as reporting units, the conversion can be found on page 3.

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 error 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-XLV were developed from percentiles of data distributions for the years 1991-1996.

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 15th and 85th 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 5th and 15th percentile and between the 85th and 95th percentile. In other words, the middle 90% of all reported values are acceptable, while the outer 5th-15th (10%) and 85th-95th percentiles (10%) are in the warning area. The not acceptable criteria, "N", is established at less than the 5th percentile and greater than the 95th 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 & Performance Criteria (p. 4).

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 objectives.

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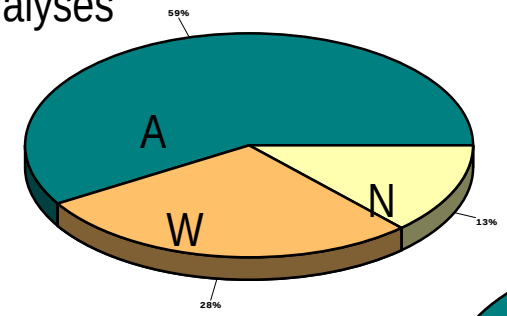
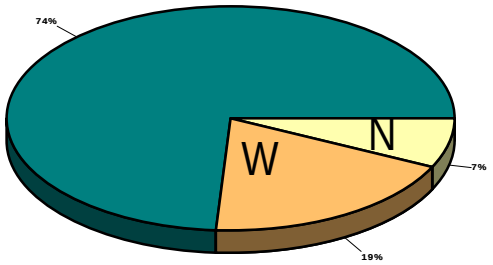
Results Ordered by Matrix/Nuclide

QAP 45 Summary of Evaluations of 2820 Reported Analyses

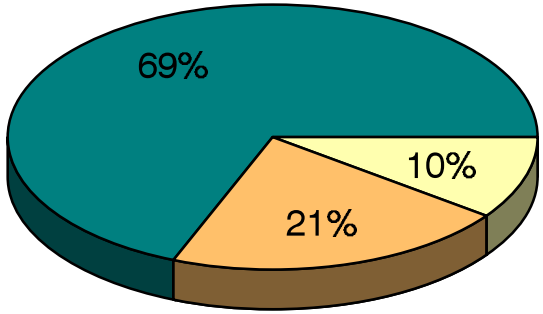
Air Filter:
947 Analyses



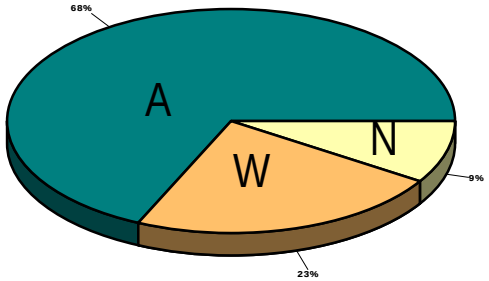
Soil:
612 Analyses



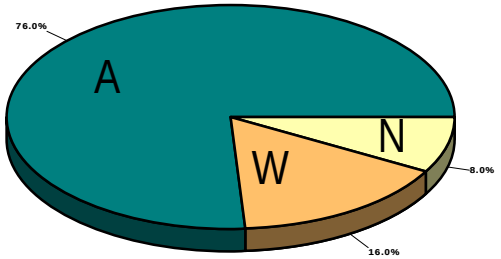
Summary:
All Analyses



Vegetation:
364 Analyses



Water:
897 Analyses



A = Acceptable
W= Acceptable with Warning
N = Not Acceptable

QAP45 Statistical Summary

Nuclide	EML Value	EML Error	Reported Values EML Value Mean	Median	Std. Dev.	No. of Reported Values
Matrix: AI						
AM241	0.222	0.019	1.070	1.030	0.238	49
SR 90	0.526	0.037	1.199	1.130	0.351	33
U 234	0.080	0.006	1.066	1.030	0.152	37
U 238	0.078	0.006	1.033	1.010	0.131	37
U BQ	0.160	0.012	1.091	1.090	0.179	11
U UG	6.398	0.510	1.091	1.040	0.301	27
RU106	10.800	1.140	1.025	1.040	0.143	67
PU238	0.118	0.006	1.032	1.020	0.128	50
SB125	10.800	0.540	1.090	1.080	0.140	71
GB 2	0.500	0.050	1.210	1.180	0.220	57
CO 57	14.800	0.814	1.012	1.010	0.105	65
MN 54	6.350	0.270	1.083	1.090	0.089	66
CS134	10.800	0.392	1.056	1.070	0.103	75
CO 60	8.640	0.431	1.068	1.070	0.860	70
GA 1	1.150	0.110	1.040	1.000	0.171	25
CS137	8.520	0.366	1.054	1.040	0.116	77
Matrix: SO						
U 238	41.600	0.610	0.922	0.960	0.190	46
U BQ	82.200	2.980	0.866	0.890	0.122	13
SR 90	69.900	5.100	0.984	0.995	0.159	42
U UG	3.360	0.300	0.944	0.945	0.137	28
PU239	21.800	1.080	1.045	1.040	0.180	61
U 234	39.200	2.440	0.972	0.980	0.144	41
K 40	300.000	25.000	1.130	1.130	0.159	76
AM241	13.500	0.510	1.063	0.990	0.327	58
CO 60	2.920	0.210	1.086	1.075	0.156	64
CM244	0.312	0.064	0.816	0.785	0.190	12
CS137	1550.000	22.200	1.126	1.140	0.110	79
PU238	1.130	0.240	0.851	0.810	0.204	47
Matrix: VE						
PU239	1.960	0.300	1.039	1.010	0.183	41
SR 90	1390.000	12.000	0.967	0.980	0.168	37
K 40	992.000	29.000	1.137	1.135	0.139	66
CS137	190.000	6.680	1.153	1.160	0.137	72
CO 60	10.900	0.710	1.083	1.050	0.139	63
AM241	1.230	0.410	1.185	1.020	0.470	33
CM244	0.830	0.120	1.112	1.050	0.230	21

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

QAP45 Statistical Summary

Nuclide	EML Value	EML Error	Reported Values EML Value Mean	Median	Std. Dev.	No. of Reported Values
Matrix: WA						
PU239	0.840	0.030	1.066	1.050	0.101	61
SR 90	2.710	0.240	1.085	1.090	0.140	50
U 234	0.480	0.040	1.073	1.060	0.135	45
U 238	0.480	0.370	1.041	1.020	0.102	45
PU238	1.910	0.070	1.015	1.020	0.076	60
MN 54	60.500	0.550	1.108	1.110	0.064	80
AM241	1.080	0.040	1.083	1.060	0.150	66
GB 2	540.000	54.000	0.987	1.025	0.195	62
U BQ	0.970	0.070	1.084	1.090	0.099	17
CO 60	61.100	0.730	1.085	1.080	0.052	82
CS137	89.500	1.360	1.107	1.100	0.062	88
FE 55	230.000	23.000	1.002	1.040	0.259	9
GA 1	1210.000	121.000	0.964	0.960	0.121	62
H 3	587.000	58.000	0.906	0.840	0.205	63
U UG	0.039	0.003	1.006	1.000	0.102	34

Units for matrices: AI=Bq/filter SO=Bq/kg VE=Bq/kg WA=Bq/L. Values for elemental uranium in µg/filter

Conversion from Bq to pCi:

1 Bq = 27 pCi

Example: Convert 3 Bq to pCi

3 Bq x 27 pCi/Bq = 81 pCi

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

QAP45 Control Limits* by Matrix

Nuclide	Lower Limit	Lower Middle Limit	Upper Middle Limit	Upper Limit
Matrix: AI				
AM241	0.68	0.84	1.40	2.01
SR 90	0.66	0.85	1.57	2.65
U 234	0.80	0.90	1.44	2.06
U 238	0.78	0.89	1.49	3.00
U BQ	0.80	0.89	1.69	3.36
U UG	0.53	0.84	1.30	1.88
RU106	0.58	0.71	1.08	1.30
PU238	0.62	0.83	1.14	1.46
SB125	0.60	0.80	1.11	1.39
GB 2	0.73	0.89	1.49	1.84
CO 57	0.62	0.69	1.03	1.22
MN 54	0.75	0.82	1.07	1.27
CS134	0.72	0.81	1.09	1.21
CO 60	0.74	0.81	1.07	1.24
GA 1	0.83	0.93	1.35	1.55
CS137	0.72	0.81	1.09	1.32
Matrix: SO				
U 238	0.35	0.61	1.08	1.55
U BQ	0.27	0.43	1.05	1.36
SR 90	0.46	0.72	1.66	2.84
U UG	0.34	0.53	1.07	1.27
PU239	0.66	0.87	1.26	1.93
U 234	0.38	0.63	1.08	1.26
K 40	0.73	0.89	1.27	1.67
AM241	0.52	0.75	1.52	2.65
CO 60	0.50	0.80	1.20	1.50
CM244	0.50	0.80	1.20	1.50
CS137	0.80	0.95	1.23	1.34
PU238	0.40	0.73	1.16	1.90
Matrix: VE				
PU239	0.65	0.85	1.32	1.95
SR 90	0.48	0.67	1.09	1.29
K 40	0.79	0.93	1.24	1.50
CS137	0.81	0.95	1.25	1.45
CO 60	0.62	0.81	1.20	1.42
AM241	0.68	0.86	1.57	2.78
CM244	0.49	0.83	1.41	1.69
Matrix: WA				
PU239	0.78	0.91	1.17	1.42
SR 90	0.72	0.88	1.32	1.66
U 234	0.77	0.91	1.21	1.53
U 238	0.77	0.90	1.16	1.35
PU238	0.74	0.90	1.12	1.27

***Control limits are reported as: the ratio of Reported Value vs. EML Value**

QAP45 Control Limits* by Matrix

Nuclide	Lower Limit	Lower Middle Limit	Upper Middle Limit	Upper Limit
MN 54	0.87	0.95	1.15	1.22
AM241	0.64	0.87	1.23	1.73
GB 2	0.60	0.73	1.42	1.64
U BQ	0.35	0.84	1.23	1.42
CO 60	0.92	0.99	1.12	1.18
CS137	0.90	0.95	1.18	1.28
FE 55	0.31	0.80	1.29	1.54
GA 1	0.50	0.82	1.16	1.29
H 3	0.65	0.81	1.24	1.91
U UG	0.65	0.89	1.17	1.34

Control limits are established from historical QAP data.

Where historical data are insufficient, limits of ±20% and ±50% are applied.

The following are recommended performance criteria for analysis of environmental levels of analytes:

Acceptable: Lower Middle Limit ≤ A ≤ Upper Middle Limit

Acceptable with Warning: Lower Limit ≤ W < Lower Middle Limit or Upper Middle Limit < W ≤ Upper Limit

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

***Control limits are reported as: the ratio of Reported Value vs. EML Value**

QAP45 Summary of Matrix Evaluations by Laboratory

Matrix	Evaluation Summary A	W	N	Total Analyses	Evaluation Percentages %A	%W	%N
Lab: AA	Environmental Measurements Laboratory						
AI	16	0	0	16	100	0	0
SO	12	0	0	12	100	0	0
VE	7	0	0	7	100	0	0
WA	15	0	0	15	100	0	0
Totals:	**50**	**0**	**0**	**50**	**100%**	**0%**	**0%**
Lab: AC	Analytical Chemistry Laboratory, Argonne National Lab						
SO	2	0	0	2	100	0	0
WA	2	0	0	2	100	0	0
Totals:	**4**	**0**	**0**	**4**	**100%**	**0%**	**0%**
Lab: AE	Analytical Resources, Inc., Seattle						
SO	7	1	0	8	88	13	0
WA	9	0	0	9	100	0	0
Totals:	**16**	**1**	**0**	**17**	**94%**	**6%**	**0%**
Lab: AF	Air Force Analytical Lab, Brooks AFB						
AI	8	3	3	14	57	21	21
SO	4	2	1	7	57	29	14
VE	1	1	3	5	20	20	60
WA	9	1	2	12	75	8	17
Totals:	**22**	**7**	**9**	**38**	**58%**	**18%**	**24%**
Lab: AG	Paragon Analytics, Inc, Fort Collins, CO						
AI	10	4	2	16	63	25	13
SO	9	1	0	10	90	10	0
VE	4	0	0	4	100	0	0
WA	9	2	3	14	64	14	21
Totals:	**32**	**7**	**5**	**44**	**73%**	**16%**	**11%**
Lab: AL	Ames Laboratory, Ames, IA						
AI	1	5	1	7	14	71	14
SO	2	2	0	4	50	50	0
VE	3	0	0	3	100	0	0
WA	0	0	4	4	0	0	100

QAP45 Summary of Matrix Evaluations by Laboratory

Matrix	Evaluation Summary A	W	N	Total Analyses	Evaluation Percentages %A	%W	%N
Lab: AL	Ames Laboratory, Ames, IA						
Totals:	**6**	**7**	**5**	**18**	**33%**	**39%**	**28%**
Lab: AN	Argonne National Laboratory						
AI	10	3	1	14	71	21	7
SO	4	4	2	10	40	40	20
VE	3	4	0	7	43	57	0
WA	12	0	0	12	100	0	0
Totals:	**29**	**11**	**3**	**43**	**67%**	**26%**	**7%**
Lab: AR	Accu-Labs Research Inc., Golden, CO						
AI	9	4	3	16	56	25	19
SO	8	3	1	12	67	25	8
VE	3	3	1	7	43	43	14
WA	9	5	0	14	64	36	0
Totals:	**29**	**15**	**5**	**49**	**59%**	**31%**	**10%**
Lab: AU	ORISE EESD/ESSAP, Oak Ridge						
AI	4	5	4	13	31	38	31
SO	7	1	0	8	88	13	0
VE	5	0	1	6	83	0	17
WA	5	5	1	11	45	45	9
Totals:	**21**	**11**	**6**	**38**	**55%**	**29%**	**16%**
Lab: BA	Bettis Atomic Power Lab, West Mifflin, PA						
AI	1	6	2	9	11	67	22
SO	1	0	1	2	50	0	50
VE	1	0	1	2	50	0	50
WA	4	2	0	6	67	33	0
Totals:	**7**	**8**	**4**	**19**	**37%**	**42%**	**21%**
Lab: BC	Babcock & Wilcox MC #42, Lynchburg, VA						
AI	7	5	0	12	58	42	0
SO	3	3	0	6	50	50	0
VE	3	1	0	4	75	25	0
WA	6	2	0	8	75	25	0

QAP45 Summary of Matrix Evaluations by Laboratory

Matrix	Evaluation Summary A	W	N	Total Analyses	Evaluation Percentages %A	%W	%N
Lab: BC	Babcock & Wilcox MC #42, Lynchburg, VA						
Totals:	**19**	**11**	**0**	**30**	**63%**	**37%**	**0%**
Lab: BE	RUST Geotech, Grand Junction, CO						
AI	9	4	2	15	60	27	13
SO	9	1	0	10	90	10	0
VE	4	1	2	7	57	14	29
WA	13	0	0	13	100	0	0
Totals:	**35**	**6**	**4**	**45**	**78%**	**13%**	**9%**
Lab: BL	Barringer Laboratories Inc., Golden, CO						
AI	12	5	3	20	60	25	15
SO	11	1	0	12	92	8	0
VE	7	0	0	7	100	0	0
WA	15	3	0	18	83	17	0
Totals:	**45**	**9**	**3**	**57**	**79%**	**16%**	**5%**
Lab: BM	Battelle Memorial Institute, Columbus, OH						
AI	6	6	0	12	50	50	0
SO	5	3	0	8	63	38	0
VE	3	3	0	6	50	50	0
WA	5	3	1	9	56	33	11
Totals:	**19**	**15**	**1**	**35**	**54%**	**43%**	**3%**
Lab: BN	Brookhaven National Laboratory, Upton, NY						
AI	2	6	2	10	20	60	20
SO	3	1	0	4	75	25	0
VE	2	1	0	3	67	33	0
WA	6	0	1	7	86	0	14
Totals:	**13**	**8**	**3**	**24**	**54%**	**33%**	**13%**
Lab: BP	Battelle Pacific Northwest Laboratory						
AI	9	3	1	13	69	23	8
SO	5	2	0	7	71	29	0
VE	3	4	0	7	43	57	0
WA	9	0	0	9	100	0	0

QAP45 Summary of Matrix Evaluations by Laboratory

Matrix	Evaluation Summary A	W	N	Total Analyses	Evaluation Percentages %A	%W	%N
Lab: BP	Battelle Pacific Northwest Laboratory						
Totals:	**26**	**9**	**1**	**36**	**72%**	**25%**	**3%**
Lab: BQ	Becquerel Laboratories Inc., Mississauga, Ontario, Canada						
AI	2	4	2	8	25	50	25
SO	3	0	0	3	100	0	0
VE	2	0	0	2	100	0	0
WA	3	1	1	5	60	20	20
Totals:	**10**	**5**	**3**	**18**	**56%**	**28%**	**17%**
Lab: BS	B&W Nuclear Envir. Services, Leechburg, PA						
AI	8	2	0	10	80	20	0
SO	4	0	1	5	80	0	20
VE	1	2	0	3	33	67	0
WA	6	0	0	6	100	0	0
Totals:	**19**	**4**	**1**	**24**	**79%**	**17%**	**4%**
Lab: BU	Autoridad Regulatoria, Buenos Aires, Argentina						
AI	5	3	4	12	42	25	33
SO	3	1	0	4	75	25	0
VE	3	0	0	3	100	0	0
WA	10	0	0	10	100	0	0
Totals:	**21**	**4**	**4**	**29**	**72%**	**14%**	**14%**
Lab: BX	B&W Nuclear Envir. Services, Lynchburg, VA						
AI	10	3	1	14	71	21	7
SO	5	3	0	8	63	38	0
VE	4	2	0	6	67	33	0
WA	9	4	0	13	69	31	0
Totals:	**28**	**12**	**1**	**41**	**68%**	**29%**	**2%**
Lab: CA	Atomic Energy Control Board, Ottawa, Canada						
AI	7	1	1	9	78	11	11
SO	1	0	0	1	100	0	0
WA	5	0	1	6	83	0	17

QAP45 Summary of Matrix Evaluations by Laboratory

Matrix	Evaluation Summary A	W	N	Total Analyses	Evaluation Percentages %A	%W	%N
Lab: CA	Atomic Energy Control Board, Ottawa, Canada						
Totals:	**13**	**1**	**2**	**16**	**81%**	**6%**	**13%**
Lab: CL	Core Laboratories, Casper, WY						
AI	10	2	1	13	77	15	8
SO	7	2	2	11	64	18	18
VE	6	0	1	7	86	0	14
WA	6	5	1	12	50	42	8
Totals:	**29**	**9**	**5**	**43**	**67%**	**21%**	**12%**
Lab: CP	Controls for Environmental Pollution, Santa Fe						
AI	3	3	3	9	33	33	33
SO	1	2	0	3	33	67	0
VE	1	1	1	3	33	33	33
WA	5	0	0	5	100	0	0
Totals:	**10**	**6**	**4**	**20**	**50%**	**30%**	**20%**
Lab: CS	Rockwell International Corp., Canoga Park, CA						
AI	0	2	6	8	0	25	75
SO	5	0	0	5	100	0	0
VE	3	0	0	3	100	0	0
WA	4	0	0	4	100	0	0
Totals:	**12**	**2**	**6**	**20**	**60%**	**10%**	**30%**
Lab: CW	Carlsbad Environmental Monitoring Research Center, NM						
AI	4	0	0	4	100	0	0
SO	6	0	0	6	100	0	0
VE	3	0	0	3	100	0	0
WA	8	0	0	8	100	0	0
Totals:	**21**	**0**	**0**	**21**	**100%**	**0%**	**0%**
Lab: CZ	ACZ Laboratories, Inc., Steamboat Springs, CO						
WA	1	0	0	1	100	0	0

QAP45 Summary of Matrix Evaluations by Laboratory

Matrix	Evaluation Summary A	W	N	Total Analyses	Evaluation Percentages %A	%W	%N
Lab: CZ	ACZ Laboratories, Inc., Steamboat Springs, CO						
Totals:	**1**	**0**	**0**	**1**	**100%**	**0%**	**0%**
Lab: DC	Datachem Laboratories, Salt Lake City						
AI	4	5	5	14	29	36	36
SO	8	1	1	10	80	10	10
VE	5	2	0	7	71	29	0
WA	7	3	3	13	54	23	23
Totals:	**24**	**11**	**9**	**44**	**55%**	**25%**	**20%**
Lab: EG	LITCO/INEL, Scoville						
AI	3	6	0	9	33	67	0
SO	6	0	3	9	67	0	33
VE	7	0	0	7	100	0	0
WA	6	0	2	8	75	0	25
Totals:	**22**	**6**	**5**	**33**	**67%**	**18%**	**15%**
Lab: EI	Eichrom Industries, Inc., Argonne						
AI	3	1	3	7	43	14	43
SO	0	1	1	2	0	50	50
VE	4	2	0	6	67	33	0
WA	5	1	4	10	50	10	40
Totals:	**12**	**5**	**8**	**25**	**48%**	**20%**	**32%**
Lab: EP	US EPA, Las Vegas						
AI	0	2	5	7	0	29	71
VE	0	0	1	1	0	0	100
WA	1	0	3	4	25	0	75
Totals:	**1**	**2**	**9**	**12**	**8%**	**17%**	**75%**
Lab: ES	Environmental Sci. & Engr., Inc., Gainesville, FL						
AI	12	2	0	14	86	14	0
SO	6	4	0	10	60	40	0
VE	2	5	0	7	29	71	0
WA	10	0	2	12	83	0	17

QAP45 Summary of Matrix Evaluations by Laboratory

Matrix	Evaluation Summary A	W	N	Total Analyses	Evaluation Percentages %A	%W	%N
Lab: ES	Environmental Sci. & Engr., Inc., Gainesville, FL						
Totals:	**30**	**11**	**2**	**43**	**70%**	**26%**	**5%**
Lab: FG	FGL Environmental, Santa Paula, CA						
AI	2	5	2	9	22	56	22
SO	4	2	2	8	50	25	25
WA	11	0	1	12	92	0	8
Totals:	**17**	**7**	**5**	**29**	**59%**	**24%**	**17%**
Lab: FL	Florida Dept of Health & Rehab. Serv., Orlando						
AI	3	5	3	11	27	45	27
SO	6	1	0	7	86	14	0
VE	3	1	0	4	75	25	0
WA	3	6	0	9	33	67	0
Totals:	**15**	**13**	**3**	**31**	**48%**	**42%**	**10%**
Lab: FM	Florida Mobile Emergency Radiological Laboratory, Orlando						
AI	5	2	0	7	71	29	0
WA	0	4	0	4	0	100	0
Totals:	**5**	**6**	**0**	**11**	**45%**	**55%**	**0%**
Lab: FN	Fermi Lab, Batavia, IL						
AI	0	7	0	7	0	100	0
SO	4	1	0	5	80	20	0
VE	3	0	0	3	100	0	0
WA	4	0	0	4	100	0	0
Totals:	**11**	**8**	**0**	**19**	**58%**	**42%**	**0%**
Lab: FS	Florida State University, Tallahassee						
SO	7	0	0	7	100	0	0
Totals:	**7**	**0**	**0**	**7**	**100%**	**0%**	**0%**

QAP45 Summary of Matrix Evaluations by Laboratory

Matrix	Evaluation Summary A	W	N	Total Analyses	Evaluation Percentages %A	%W	%N
Lab: GA	Lockheed Martin, Pikton, OH						
AI	12	0	0	12	100	0	0
SO	5	3	0	8	63	38	0
VE	4	1	0	5	80	20	0
WA	8	1	0	9	89	11	0
Totals:	**29**	**5**	**0**	**34**	**85%**	**15%**	**0%**
Lab: GE	Environmental Physics, Inc., Charleston, SC						
AI	12	3	0	15	80	20	0
SO	6	1	4	11	55	9	36
VE	6	1	0	7	86	14	0
WA	2	5	7	14	14	36	50
Totals:	**26**	**10**	**11**	**47**	**55%**	**21%**	**23%**
Lab: GS	USGS/NWQL, Arvada, CO						
WA	2	1	0	3	67	33	0
Totals:	**2**	**1**	**0**	**3**	**67%**	**33%**	**0%**
Lab: HC	Lawrence Livermore Laboratory, California						
AI	1	1	0	2	50	50	0
WA	3	0	0	3	100	0	0
Totals:	**4**	**1**	**0**	**5**	**80%**	**20%**	**0%**
Lab: ID	DPRA - IRD/CNEN, Rio de Janeiro, Brazil						
AI	7	4	1	12	58	33	8
SO	8	2	0	10	80	20	0
VE	5	0	0	5	100	0	0
WA	7	0	1	8	88	0	13
Totals:	**27**	**6**	**2**	**35**	**77%**	**17%**	**6%**
Lab: IE	IEA, Inc., Morrisville, NC						
AI	12	0	0	12	100	0	0
SO	9	0	0	9	100	0	0
VE	6	0	0	6	100	0	0
WA	12	1	0	13	92	8	0

QAP45 Summary of Matrix Evaluations by Laboratory

Matrix	Evaluation Summary A	W	N	Total Analyses	Evaluation Percentages %A	%W	%N
Lab: IE	IEA, Inc., Morrisville, NC						
Totals:	**39**	**1**	**0**	**40**	**98%**	**3%**	**0%**
Lab: IL	ISU Environmental Monitoring Program, Pocatello, ID						
AI	5	3	1	9	56	33	11
SO	1	1	1	3	33	33	33
VE	2	0	1	3	67	0	33
WA	3	0	0	3	100	0	0
Totals:	**11**	**4**	**3**	**18**	**61%**	**22%**	**17%**
Lab: IN	WINCO, Idaho Falls						
AI	7	0	0	7	100	0	0
SO	7	1	0	8	88	13	0
VE	1	2	0	3	33	67	0
WA	6	2	0	8	75	25	0
Totals:	**21**	**5**	**0**	**26**	**81%**	**19%**	**0%**
Lab: IR	Idaho National Engineering Laboratory						
AI	2	0	1	3	67	0	33
WA	3	0	0	3	100	0	0
Totals:	**5**	**0**	**1**	**6**	**83%**	**0%**	**17%**
Lab: IS	Quanterra- St. Louis						
AI	7	3	2	12	58	25	17
SO	5	3	2	10	50	30	20
VE	4	1	0	5	80	20	0
WA	4	7	2	13	31	54	15
Totals:	**20**	**14**	**6**	**40**	**50%**	**35%**	**15%**
Lab: IT	Quanterra- Richland Laboratory						
AI	13	1	1	15	87	7	7
SO	9	2	0	11	82	18	0
VE	3	4	0	7	43	57	0
WA	10	2	0	12	83	17	0

QAP45 Summary of Matrix Evaluations by Laboratory

Matrix	Evaluation Summary A	W	N	Total Analyses	Evaluation Percentages %A	%W	%N
Lab: IT	Quanterra- Richland Laboratory						
Totals:	**35**	**9**	**1**	**45**	**78%**	**20%**	**2%**
Lab: KA	Knolls Atomic Power Lab, Schenectady						
AI	2	0	0	2	100	0	0
WA	2	0	0	2	100	0	0
Totals:	**4**	**0**	**0**	**4**	**100%**	**0%**	**0%**
Lab: LA	Los Alamos National Laboratory, NM						
AI	25	12	0	37	68	32	0
SO	12	5	6	23	52	22	26
VE	10	2	3	15	67	13	20
WA	25	2	3	30	83	7	10
Totals:	**72**	**21**	**12**	**105**	**69%**	**20%**	**11%**
Lab: LH	Lockheed Analytical Laboratory, Las Vegas						
AI	12	1	0	13	92	8	0
SO	9	1	0	10	90	10	0
VE	4	1	2	7	57	14	29
WA	10	3	0	13	77	23	0
Totals:	**35**	**6**	**2**	**43**	**81%**	**14%**	**5%**
Lab: LL	Lawrence Livermore National Lab, CA						
AI	7	7	0	14	50	50	0
SO	8	1	0	9	89	11	0
VE	4	0	0	4	100	0	0
WA	12	0	0	12	100	0	0
Totals:	**31**	**8**	**0**	**39**	**79%**	**21%**	**0%**
Lab: LV	UNLV, Dept of Health Physics						
AI	8	0	2	10	80	0	20
SO	1	3	0	4	25	75	0
VE	0	4	0	4	0	100	0
WA	5	1	0	6	83	17	0

QAP45 Summary of Matrix Evaluations by Laboratory

Matrix	Evaluation Summary A	W	N	Total Analyses	Evaluation Percentages %A	%W	%N
Lab: LV	UNLV, Dept of Health Physics						
Totals:	**14**	**8**	**2**	**24**	**58%**	**33%**	**8%**
Lab: LW	Lawrence Livermore National Lab, CA						
SO	4	0	0	4	100	0	0
VE	3	0	0	3	100	0	0
WA	6	0	0	6	100	0	0
Totals:	**13**	**0**	**0**	**13**	**100%**	**0%**	**0%**
Lab: ME	Radiation Control Program, Jamaica Plain, MA						
AI	3	1	6	10	30	10	60
SO	4	0	0	4	100	0	0
VE	1	2	0	3	33	67	0
Totals:	**8**	**3**	**6**	**17**	**47%**	**18%**	**35%**
Lab: MI	Massachusetts Institute of Technology						
AI	5	0	0	5	100	0	0
WA	4	2	2	8	50	25	25
Totals:	**9**	**2**	**2**	**13**	**69%**	**15%**	**15%**
Lab: ML	EG&G Mound Applied Technologies, Miamisburg, OH						
AI	7	4	0	11	64	36	0
SO	8	0	0	8	100	0	0
VE	5	0	0	5	100	0	0
WA	10	1	0	11	91	9	0
Totals:	**30**	**5**	**0**	**35**	**86%**	**14%**	**0%**
Lab: MS	Manufacturing Sciences Corporation, Oak Ridge						
AI	2	4	1	7	29	57	14
SO	3	0	1	4	75	0	25
WA	4	0	0	4	100	0	0
Totals:	**9**	**4**	**2**	**15**	**60%**	**27%**	**13%**

QAP45 Summary of Matrix Evaluations by Laboratory

Matrix	Evaluation Summary A	W	N	Total Analyses	Evaluation Percentages %A	%W	%N
Lab: NA	US EPA NAREL, Montgomery, AL						
AI	1	1	0	2	50	50	0
SO	7	2	0	9	78	22	0
VE	4	0	2	6	67	0	33
WA	6	2	0	8	75	25	0
Totals:	**18**	**5**	**2**	**25**	**72%**	**20%**	**8%**
Lab: NC	Nuclear Services North Carolina State University, Raleigh						
AI	0	4	2	6	0	67	33
SO	1	0	0	1	100	0	0
VE	1	1	0	2	50	50	0
WA	3	0	0	3	100	0	0
Totals:	**5**	**5**	**2**	**12**	**42%**	**42%**	**17%**
Lab: NL	FERMCO, Cincinnati, OH						
AI	3	5	1	9	33	56	11
SO	2	4	1	7	29	57	14
WA	6	0	0	6	100	0	0
Totals:	**11**	**9**	**2**	**22**	**50%**	**41%**	**9%**
Lab: NM	Environmental Evaluation Group, Carlsbad, NM						
AI	3	1	1	5	60	20	20
SO	4	0	0	4	100	0	0
WA	4	1	1	6	67	17	17
Totals:	**11**	**2**	**2**	**15**	**73%**	**13%**	**13%**
Lab: NP	New York Power Authority, JAF Environmental Lab						
AI	8	0	0	8	100	0	0
SO	0	3	0	3	0	100	0
VE	0	2	1	3	0	67	33
WA	5	0	0	5	100	0	0
Totals:	**13**	**5**	**1**	**19**	**68%**	**26%**	**5%**
Lab: NR	Naval Reactors Facility Chemistry, Scoville, ID						
SO	1	2	0	3	33	67	0
VE	3	0	0	3	100	0	0

QAP45 Summary of Matrix Evaluations by Laboratory

Matrix	Evaluation Summary A	W	N	Total Analyses	Evaluation Percentages %A	%W	%N
Lab: NR	Naval Reactors Facility Chemistry, Scoville, ID						
Totals:	**4**	**2**	**0**	**6**	**67%**	**33%**	**0%**
Lab: NS	NC State Lab of Public Health, Env. Services Sec. Env. Radiochemistry Branch						
AI	6	0	1	7	86	0	14
WA	3	2	2	7	43	29	29
Totals:	**9**	**2**	**3**	**14**	**64%**	**14%**	**21%**
Lab: OB	OBG Laboratories, East Syracuse, NY						
AI	1	0	1	2	50	0	50
WA	0	0	2	2	0	0	100
Totals:	**1**	**0**	**3**	**4**	**25%**	**0%**	**75%**
Lab: OD	ORNL, Radiobioassay Lab						
AI	4	4	1	9	44	44	11
WA	9	1	0	10	90	10	0
Totals:	**13**	**5**	**1**	**19**	**68%**	**26%**	**5%**
Lab: OK	Southwest Laboratory of Oklahoma						
AI	4	4	1	9	44	44	11
SO	0	2	1	3	0	67	33
VE	1	2	0	3	33	67	0
WA	3	4	1	8	38	50	13
Totals:	**8**	**12**	**3**	**23**	**35%**	**52%**	**13%**
Lab: OR	Oak Ridge National Lab						
AI	10	2	1	13	77	15	8
SO	6	3	0	9	67	33	0
VE	6	1	0	7	86	14	0
WA	8	3	0	11	73	27	0
Totals:	**30**	**9**	**1**	**40**	**75%**	**23%**	**3%**

QAP45 Summary of Matrix Evaluations by Laboratory

Matrix	Evaluation Summary A	W	N	Total Analyses	Evaluation Percentages %A	%W	%N
Lab: OS	Oregon Health Division Radiation Controls Section, Portland						
AI	0	5	2	7	0	71	29
SO	1	0	2	3	33	0	67
VE	0	1	2	3	0	33	67
Totals:	**1**	**6**	**6**	**13**	**8%**	**46%**	**46%**
Lab: OT	ORNL Radioactive Material Analysis Lab						
AI	3	4	0	7	43	57	0
SO	5	4	1	10	50	40	10
VE	3	0	0	3	100	0	0
WA	10	2	1	13	77	15	8
Totals:	**21**	**10**	**2**	**33**	**64%**	**30%**	**6%**
Lab: OU	Outreach Laboratory, Broken Arrow, OK						
SO	0	0	2	2	0	0	100
VE	0	1	2	3	0	33	67
WA	4	2	0	6	67	33	0
Totals:	**4**	**3**	**4**	**11**	**36%**	**27%**	**36%**
Lab: PA	Mason & Hanger-Silas Mason Co., Inc., Battelle Pantex, Amarillo, TX						
AI	1	2	1	4	25	50	25
SO	2	1	0	3	67	33	0
VE	1	0	0	1	100	0	0
WA	5	1	0	6	83	17	0
Totals:	**9**	**4**	**1**	**14**	**64%**	**29%**	**7%**
Lab: PB	Mason & Hanger-Silas Mason Co., Inc., Battelle Pantex, Amarillo, TX						
AI	2	0	0	2	100	0	0
SO	3	0	0	3	100	0	0
VE	1	0	0	1	100	0	0
WA	5	2	0	7	71	29	0
Totals:	**11**	**2**	**0**	**13**	**85%**	**15%**	**0%**
Lab: PI	Lockheed Martin Specialty Components, Largo, FL						
AI	1	0	0	1	100	0	0
SO	1	1	0	2	50	50	0

QAP45 Summary of Matrix Evaluations by Laboratory

Matrix	Evaluation Summary A	W	N	Total Analyses	Evaluation Percentages %A	%W	%N
Lab: PI	Lockheed Martin Specialty Components, Largo, FL						
WA	5	0	0	5	100	0	0
Totals:	**7**	**1**	**0**	**8**	**88%**	**13%**	**0%**
Lab: RA	V. G. Khlopin Radium Institute, St. Petersburg, Russia						
SO	1	0	0	1	100	0	0
Totals:	**1**	**0**	**0**	**1**	**100%**	**0%**	**0%**
Lab: RC	U.S. NRC Region I Lab						
AI	3	4	0	7	43	57	0
SO	2	0	0	2	100	0	0
Totals:	**5**	**4**	**0**	**9**	**56%**	**44%**	**0%**
Lab: RD	Radiation Detection Company						
AI	0	0	2	2	0	0	100
Totals:	**0**	**0**	**2**	**2**	**0%**	**0%**	**100%**
Lab: RE	Bechtel Nevada, Mercury, NV						
AI	9	3	2	14	64	21	14
SO	6	2	0	8	75	25	0
VE	5	0	1	6	83	0	17
WA	10	2	0	12	83	17	0
Totals:	**30**	**7**	**3**	**40**	**75%**	**18%**	**8%**
Lab: RF	EG&G Rocky Flats Plant, Golden						
SO	4	0	0	4	100	0	0
VE	1	0	0	1	100	0	0
Totals:	**5**	**0**	**0**	**5**	**100%**	**0%**	**0%**
Lab: RG	EG&G Rocky Flats Plant, Golden						
WA	8	1	0	9	89	11	0

QAP45 Summary of Matrix Evaluations by Laboratory

Matrix	Evaluation Summary A	W	N	Total Analyses	Evaluation Percentages %A	%W	%N
Lab: RG	EG&G Rocky Flats Plant, Golden						
Totals:	**8**	**1**	**0**	**9**	**89%**	**11%**	**0%**
Lab: RI	Westinghouse Hanford Co. Analytical Labs						
AI	10	1	0	11	91	9	0
SO	2	0	0	2	100	0	0
VE	2	1	1	4	50	25	25
WA	7	1	1	9	78	11	11
Totals:	**21**	**3**	**2**	**26**	**81%**	**12%**	**8%**
Lab: RL	Thermo Hanford						
AI	5	2	0	7	71	29	0
SO	0	2	0	2	0	100	0
VE	0	2	1	3	0	67	33
WA	0	0	5	5	0	0	100
Totals:	**5**	**6**	**6**	**17**	**29%**	**35%**	**35%**
Lab: SA	Sandia Labs Radioactive Sample Diag. Prog., NM						
AI	1	0	7	8	13	0	88
SO	2	0	0	2	100	0	0
WA	4	1	0	5	80	20	0
Totals:	**7**	**1**	**7**	**15**	**47%**	**7%**	**47%**
Lab: SC	S-Cubed Division Maxwell Labs, La Jolla, CA						
AI	1	0	1	2	50	0	50
SO	5	1	1	7	71	14	14
WA	8	0	2	10	80	0	20
Totals:	**14**	**1**	**4**	**19**	**74%**	**5%**	**21%**
Lab: SK	Savannah River Plant						
AI	1	4	2	7	14	57	29
SO	3	2	0	5	60	40	0
VE	2	1	1	4	50	25	25
WA	8	2	0	10	80	20	0

QAP45 Summary of Matrix Evaluations by Laboratory

Matrix	Evaluation Summary A	W	N	Total Analyses	Evaluation Percentages %A	%W	%N
Lab: SK	Savannah River Plant						
Totals:	**14**	**9**	**3**	**26**	**54%**	**35%**	**12%**
Lab: SL	Stanford Linear Accelerator Center						
WA	2	1	0	3	67	33	0
Totals:	**2**	**1**	**0**	**3**	**67%**	**33%**	**0%**
Lab: SN	Sanford Cohen Associates, Inc., Montgomery, AL						
AI	2	1	0	3	67	33	0
SO	5	2	0	7	71	29	0
VE	2	2	0	4	50	50	0
WA	7	2	0	9	78	22	0
Totals:	**16**	**7**	**0**	**23**	**70%**	**30%**	**0%**
Lab: SR	Savannah River Plant						
AI	6	5	3	14	43	36	21
SO	6	0	0	6	100	0	0
VE	5	1	0	6	83	17	0
WA	8	3	1	12	67	25	8
Totals:	**25**	**9**	**4**	**38**	**66%**	**24%**	**11%**
Lab: SS	Savannah River Tech Center						
AI	7	1	1	9	78	11	11
SO	3	0	0	3	100	0	0
VE	3	0	0	3	100	0	0
WA	6	1	0	7	86	14	0
Totals:	**19**	**2**	**1**	**22**	**86%**	**9%**	**5%**
Lab: SV	Savannah Lab & Environmental Services, Inc., Tampa, FL						
WA	3	0	0	3	100	0	0
Totals:	**3**	**0**	**0**	**3**	**100%**	**0%**	**0%**

QAP45 Summary of Matrix Evaluations by Laboratory

Matrix	Evaluation Summary A	W	N	Total Analyses	Evaluation Percentages %A	%W	%N
Lab: SW	Southwest Research Institute, San Antonio, TX						
AI	7	3	1	11	64	27	9
SO	3	0	2	5	60	0	40
VE	3	0	0	3	100	0	0
WA	6	2	1	9	67	22	11
Totals:	**19**	**5**	**4**	**28**	**68%**	**18%**	**14%**
Lab: TE	Teledyne Isotopes Midwest Lab, Northbrook, IL						
AI	6	2	1	9	67	22	11
SO	7	2	0	9	78	22	0
VE	4	2	0	6	67	33	0
WA	8	3	1	12	67	25	8
Totals:	**25**	**9**	**2**	**36**	**69%**	**25%**	**6%**
Lab: TI	Teledyne Brown Engineering Environmental Services, Westwood, NJ						
AI	6	6	1	13	46	46	8
SO	8	0	0	8	100	0	0
VE	6	1	0	7	86	14	0
WA	7	5	0	12	58	42	0
Totals:	**27**	**12**	**1**	**40**	**68%**	**30%**	**3%**
Lab: TM	TMA/Eberline-Albuquerque Lab, NM						
AI	7	6	1	14	50	43	7
SO	7	2	0	9	78	22	0
VE	5	3	0	8	63	38	0
WA	11	1	1	13	85	8	8
Totals:	**30**	**12**	**2**	**44**	**68%**	**27%**	**5%**
Lab: TN	TMA/NORCAL, Richmond, CA						
AI	9	1	0	10	90	10	0
SO	10	0	0	10	100	0	0
VE	6	1	0	7	86	14	0
WA	11	3	0	14	79	21	0
Totals:	**36**	**5**	**0**	**41**	**88%**	**12%**	**0%**

QAP45 Summary of Matrix Evaluations by Laboratory

Matrix	Evaluation Summary A	W	N	Total Analyses	Evaluation Percentages %A	%W	%N
Lab: TO	TMA/Eberline Oak Ridge Laboratory						
AI	7	4	3	14	50	29	21
SO	8	1	1	10	80	10	10
VE	2	2	1	5	40	40	20
WA	11	2	0	13	85	15	0
Totals:	**28**	**9**	**5**	**42**	**67%**	**21%**	**12%**
Lab: TP	Taiwan Power Company, Taipei						
AI	6	2	1	9	67	22	11
SO	4	0	0	4	100	0	0
VE	4	0	0	4	100	0	0
WA	6	0	0	6	100	0	0
Totals:	**20**	**2**	**1**	**23**	**87%**	**9%**	**4%**
Lab: TW	Taiwan Radiation Monitoring Center						
AI	11	2	1	14	79	14	7
SO	6	4	0	10	60	40	0
VE	4	3	0	7	57	43	0
WA	5	6	1	12	42	50	8
Totals:	**26**	**15**	**2**	**43**	**60%**	**35%**	**5%**
Lab: TX	Texas Dept. of Health/Laboratories, Austin						
AI	11	1	1	13	85	8	8
SO	8	1	0	9	89	11	0
VE	5	1	0	6	83	17	0
WA	10	2	0	12	83	17	0
Totals:	**34**	**5**	**1**	**40**	**85%**	**13%**	**3%**
Lab: UC	Lockheed Martin, Paducah, KY						
AI	2	1	1	4	50	25	25
SO	3	2	0	5	60	40	0
VE	2	1	1	4	50	25	25
WA	6	1	0	7	86	14	0
Totals:	**13**	**5**	**2**	**20**	**65%**	**25%**	**10%**

QAP45 Summary of Matrix Evaluations by Laboratory

Matrix	Evaluation Summary A	W	N	Total Analyses	Evaluation Percentages %A	%W	%N
Lab: UK	Lockheed Martin Energy Systems, Oak Ridge						
AI	7	2	1	10	70	20	10
SO	5	1	1	7	71	14	14
WA	9	0	0	9	100	0	0
Totals:	**21**	**3**	**2**	**26**	**81%**	**12%**	**8%**
Lab: UP	Lockheed Martin Energy Systems, Y-12 Plant, Oak Ridge						
AI	2	1	2	5	40	20	40
SO	6	3	0	9	67	33	0
WA	12	2	0	14	86	14	0
Totals:	**20**	**6**	**2**	**28**	**71%**	**21%**	**7%**
Lab: UY	Lockheed Martin Energy Systems, Y-12 Plant, Oak Ridge						
AI	6	6	1	13	46	46	8
SO	9	0	1	10	90	0	10
WA	10	4	0	14	71	29	0
Totals:	**25**	**10**	**2**	**37**	**68%**	**27%**	**5%**
Lab: WA	Environmental Radiation Lab, Off. of Public Health Labs. Seattle						
AI	10	4	1	15	67	27	7
SO	9	1	0	10	90	10	0
VE	5	1	0	6	83	17	0
WA	13	0	0	13	100	0	0
Totals:	**37**	**6**	**1**	**44**	**84%**	**14%**	**2%**
Lab: WC	Westinghouse Hanford Co.						
AI	3	8	2	13	23	62	15
SO	4	0	0	4	100	0	0
VE	4	0	0	4	100	0	0
WA	9	2	0	11	82	18	0
Totals:	**20**	**10**	**2**	**32**	**63%**	**31%**	**6%**
Lab: WE	Westinghouse Electric Corp., Madison, PA						
AI	8	2	0	10	80	20	0
SO	3	3	2	8	38	38	25
VE	2	0	1	3	67	0	33

QAP45 Summary of Matrix Evaluations by Laboratory

Matrix	Evaluation Summary A	W	N	Total Analyses	Evaluation Percentages %A	%W	%N
Lab: WE	Westinghouse Electric Corp., Madison, PA						
WA	2	2	4	8	25	25	50
Totals:	**15**	**7**	**7**	**29**	**52%**	**24%**	**24%**
Lab: WI	WIPP Site, Westinghouse Electric Corp.						
AI	3	4	0	7	43	57	0
VE	2	0	0	2	100	0	0
WA	1	2	0	3	33	67	0
Totals:	**6**	**6**	**0**	**12**	**50%**	**50%**	**0%**
Lab: WP	Washington Public Power Supply System, Richland						
AI	8	1	1	10	80	10	10
SO	4	0	0	4	100	0	0
VE	2	2	0	4	50	50	0
WA	7	0	0	7	100	0	0
Totals:	**21**	**3**	**1**	**25**	**84%**	**12%**	**4%**
Lab: WV	West Valley Nuclear Services Co, Inc, NY						
AI	1	1	0	2	50	50	0
WA	7	0	0	7	100	0	0
Totals:	**8**	**1**	**0**	**9**	**89%**	**11%**	**0%**
Lab: YA	Yankee Atomic Electric Company, Westboro, MA						
AI	7	0	1	8	88	0	13
SO	7	0	0	7	100	0	0
WA	11	0	0	11	100	0	0
Totals:	**25**	**0**	**1**	**26**	**96%**	**0%**	**4%**
Lab: YP	US Army Proving Ground, Yuma, AZ						
AI	0	1	0	1	0	100	0
SO	1	0	0	1	100	0	0
WA	1	0	0	1	100	0	0

QAP45 Summary of Matrix Evaluations by Laboratory

Matrix	Evaluation Summary A	W	N	Total Analyses	Evaluation Percentages %A	%W	%N
Lab: YP	US Army Proving Ground, Yuma, AZ						
Totals:	**2**	**1**	**0**	**3**	**67%**	**33%**	**0%**

QAP45 Summary of Laboratory Evaluations by Matrix

Matrix: AI

	Evaluation Summary				Evaluation Percentages		
Labcode	A	W	N	Total Analyses	%A	%W	%N
AA	16	0	0	16	100	0	0
AF	8	3	3	14	57	21	21
AG	10	4	2	16	63	25	13
AL	1	5	1	7	14	71	14
AN	10	3	1	14	71	21	7
AR	9	4	3	16	56	25	19
AU	4	5	4	13	31	38	31
BA	1	6	2	9	11	67	22
BC	7	5	0	12	58	42	0
BE	9	4	2	15	60	27	13
BL	12	5	3	20	60	25	15
BM	6	6	0	12	50	50	0
BN	2	6	2	10	20	60	20
BP	9	3	1	13	69	23	8
BQ	2	4	2	8	25	50	25
BS	8	2	0	10	80	20	0
BU	5	3	4	12	42	25	33
BX	10	3	1	14	71	21	7
CA	7	1	1	9	78	11	11
CL	10	2	1	13	77	15	8
CP	3	3	3	9	33	33	33
CS	0	2	6	8	0	25	75
CW	4	0	0	4	100	0	0
DC	4	5	5	14	29	36	36
EG	3	6	0	9	33	67	0
EI	3	1	3	7	43	14	43
EP	0	2	5	7	0	29	71
ES	12	2	0	14	86	14	0
FG	2	5	2	9	22	56	22
FL	3	5	3	11	27	45	27
FM	5	2	0	7	71	29	0
FN	0	7	0	7	0	100	0
GA	12	0	0	12	100	0	0
GE	12	3	0	15	80	20	0
HC	1	1	0	2	50	50	0
ID	7	4	1	12	58	33	8
IE	12	0	0	12	100	0	0
IL	5	3	1	9	56	33	11
IN	7	0	0	7	100	0	0
IR	2	0	1	3	67	0	33
IS	7	3	2	12	58	25	17
IT	13	1	1	15	87	7	7
KA	2	0	0	2	100	0	0
LA	25	12	0	37	68	32	0
LH	12	1	0	13	92	8	0
LL	7	7	0	14	50	50	0
LV	8	0	2	10	80	0	20
ME	3	1	6	10	30	10	60
MI	5	0	0	5	100	0	0
ML	7	4	0	11	64	36	0
MS	2	4	1	7	29	57	14
NA	1	1	0	2	50	50	0
NC	0	4	2	6	0	67	33
NL	3	5	1	9	33	56	11

QAP45 Summary of Laboratory Evaluations by Matrix

Matrix: AI

	Evaluation Summary				Evaluation Percentages		
Labcode	A	W	N	Total Analyses	%A	%W	%N
NM	3	1	1	5	60	20	20
NP	8	0	0	8	100	0	0
NS	6	0	1	7	86	0	14
OB	1	0	1	2	50	0	50
OD	4	4	1	9	44	44	11
OK	4	4	1	9	44	44	11
OR	10	2	1	13	77	15	8
OS	0	5	2	7	0	71	29
OT	3	4	0	7	43	57	0
PA	1	2	1	4	25	50	25
PB	2	0	0	2	100	0	0
PI	1	0	0	1	100	0	0
RC	3	4	0	7	43	57	0
RD	0	0	2	2	0	0	100
RE	9	3	2	14	64	21	14
RI	10	1	0	11	91	9	0
RL	5	2	0	7	71	29	0
SA	1	0	7	8	13	0	88
SC	1	0	1	2	50	0	50
SK	1	4	2	7	14	57	29
SN	2	1	0	3	67	33	0
SR	6	5	3	14	43	36	21
SS	7	1	1	9	78	11	11
SW	7	3	1	11	64	27	9
TE	6	2	1	9	67	22	11
TI	6	6	1	13	46	46	8
TM	7	6	1	14	50	43	7
TN	9	1	0	10	90	10	0
TO	7	4	3	14	50	29	21
TP	6	2	1	9	67	22	11
TW	11	2	1	14	79	14	7
TX	11	1	1	13	85	8	8
UC	2	1	1	4	50	25	25
UK	7	2	1	10	70	20	10
UP	2	1	2	5	40	20	40
UY	6	6	1	13	46	46	8
WA	10	4	1	15	67	27	7
WC	3	8	2	13	23	62	15
WE	8	2	0	10	80	20	0
WI	3	4	0	7	43	57	0
WP	8	1	1	10	80	10	10
WV	1	1	0	2	50	50	0
YA	7	0	1	8	88	0	13
YP	0	1	0	1	0	100	0
Totals							
98 Labs:	**553**	**269**	**125**	**947**	**58%**	**28%**	**13%**

QAP45 Summary of Laboratory Evaluations by Matrix

Matrix: SO

	Evaluation Summary				Evaluation Percentages		
Labcode	A	W	N	Total Analyses	%A	%W	%N
AA	12	0	0	12	100	0	0
AC	2	0	0	2	100	0	0
AE	7	1	0	8	88	13	0
AF	4	2	1	7	57	29	14
AG	9	1	0	10	90	10	0
AL	2	2	0	4	50	50	0
AN	4	4	2	10	40	40	20
AR	8	3	1	12	67	25	8
AU	7	1	0	8	88	13	0
BA	1	0	1	2	50	0	50
BC	3	3	0	6	50	50	0
BE	9	1	0	10	90	10	0
BL	11	1	0	12	92	8	0
BM	5	3	0	8	63	38	0
BN	3	1	0	4	75	25	0
BP	5	2	0	7	71	29	0
BQ	3	0	0	3	100	0	0
BS	4	0	1	5	80	0	20
BU	3	1	0	4	75	25	0
BX	5	3	0	8	63	38	0
CA	1	0	0	1	100	0	0
CL	7	2	2	11	64	18	18
CP	1	2	0	3	33	67	0
CS	5	0	0	5	100	0	0
CW	6	0	0	6	100	0	0
DC	8	1	1	10	80	10	10
EG	6	0	3	9	67	0	33
EI	0	1	1	2	0	50	50
ES	6	4	0	10	60	40	0
FG	4	2	2	8	50	25	25
FL	6	1	0	7	86	14	0
FN	4	1	0	5	80	20	0
FS	7	0	0	7	100	0	0
GA	5	3	0	8	63	38	0
GE	6	1	4	11	55	9	36
ID	8	2	0	10	80	20	0
IE	9	0	0	9	100	0	0
IL	1	1	1	3	33	33	33
IN	7	1	0	8	88	13	0
IS	5	3	2	10	50	30	20
IT	9	2	0	11	82	18	0
LA	12	5	6	23	52	22	26
LH	9	1	0	10	90	10	0
LL	8	1	0	9	89	11	0
LV	1	3	0	4	25	75	0
LW	4	0	0	4	100	0	0
ME	4	0	0	4	100	0	0
ML	8	0	0	8	100	0	0
MS	3	0	1	4	75	0	25
NA	7	2	0	9	78	22	0
NC	1	0	0	1	100	0	0
NL	2	4	1	7	29	57	14
NM	4	0	0	4	100	0	0
NP	0	3	0	3	0	100	0

QAP45 Summary of Laboratory Evaluations by Matrix

Matrix: SO

	Evaluation Summary				Evaluation Percentages		
Labcode	A	W	N	Total Analyses	%A	%W	%N
NR	1	2	0	3	33	67	0
OK	0	2	1	3	0	67	33
OR	6	3	0	9	67	33	0
OS	1	0	2	3	33	0	67
OT	5	4	1	10	50	40	10
OU	0	0	2	2	0	0	100
PA	2	1	0	3	67	33	0
PB	3	0	0	3	100	0	0
PI	1	1	0	2	50	50	0
RA	1	0	0	1	100	0	0
RC	2	0	0	2	100	0	0
RE	6	2	0	8	75	25	0
RF	4	0	0	4	100	0	0
RI	2	0	0	2	100	0	0
RL	0	2	0	2	0	100	0
SA	2	0	0	2	100	0	0
SC	5	1	1	7	71	14	14
SK	3	2	0	5	60	40	0
SN	5	2	0	7	71	29	0
SR	6	0	0	6	100	0	0
SS	3	0	0	3	100	0	0
SW	3	0	2	5	60	0	40
TE	7	2	0	9	78	22	0
TI	8	0	0	8	100	0	0
TM	7	2	0	9	78	22	0
TN	10	0	0	10	100	0	0
TO	8	1	1	10	80	10	10
TP	4	0	0	4	100	0	0
TW	6	4	0	10	60	40	0
TX	8	1	0	9	89	11	0
UC	3	2	0	5	60	40	0
UK	5	1	1	7	71	14	14
UP	6	3	0	9	67	33	0
UY	9	0	1	10	90	0	10
WA	9	1	0	10	90	10	0
WC	4	0	0	4	100	0	0
WE	3	3	2	8	38	38	25
WP	4	0	0	4	100	0	0
YA	7	0	0	7	100	0	0
YP	1	0	0	1	100	0	0
Totals							
94 Labs:	**451**	**117**	**44**	**612**	**74%**	**19%**	**7%**

QAP45 Summary of Laboratory Evaluations by Matrix

Matrix: VE

	Evaluation Summary				Evaluation Percentages		
Labcode	A	W	N	Total Analyses	%A	%W	%N
AA	7	0	0	7	100	0	0
AF	1	1	3	5	20	20	60
AG	4	0	0	4	100	0	0
AL	3	0	0	3	100	0	0
AN	3	4	0	7	43	57	0
AR	3	3	1	7	43	43	14
AU	5	0	1	6	83	0	17
BA	1	0	1	2	50	0	50
BC	3	1	0	4	75	25	0
BE	4	1	2	7	57	14	29
BL	7	0	0	7	100	0	0
BM	3	3	0	6	50	50	0
BN	2	1	0	3	67	33	0
BP	3	4	0	7	43	57	0
BQ	2	0	0	2	100	0	0
BS	1	2	0	3	33	67	0
BU	3	0	0	3	100	0	0
BX	4	2	0	6	67	33	0
CL	6	0	1	7	86	0	14
CP	1	1	1	3	33	33	33
CS	3	0	0	3	100	0	0
CW	3	0	0	3	100	0	0
DC	5	2	0	7	71	29	0
EG	7	0	0	7	100	0	0
EI	4	2	0	6	67	33	0
EP	0	0	1	1	0	0	100
ES	2	5	0	7	29	71	0
FL	3	1	0	4	75	25	0
FN	3	0	0	3	100	0	0
GA	4	1	0	5	80	20	0
GE	6	1	0	7	86	14	0
ID	5	0	0	5	100	0	0
IE	6	0	0	6	100	0	0
IL	2	0	1	3	67	0	33
IN	1	2	0	3	33	67	0
IS	4	1	0	5	80	20	0
IT	3	4	0	7	43	57	0
LA	10	2	3	15	67	13	20
LH	4	1	2	7	57	14	29
LL	4	0	0	4	100	0	0
LV	0	4	0	4	0	100	0
LW	3	0	0	3	100	0	0
ME	1	2	0	3	33	67	0
ML	5	0	0	5	100	0	0
NA	4	0	2	6	67	0	33
NC	1	1	0	2	50	50	0
NP	0	2	1	3	0	67	33
NR	3	0	0	3	100	0	0
OK	1	2	0	3	33	67	0
OR	6	1	0	7	86	14	0
OS	0	1	2	3	0	33	67
OT	3	0	0	3	100	0	0
OU	0	1	2	3	0	33	67
PA	1	0	0	1	100	0	0

QAP45 Summary of Laboratory Evaluations by Matrix

Matrix: VE

	Evaluation Summary				Evaluation Percentages		
Labcode	A	W	N	Total Analyses	%A	%W	%N
PB	1	0	0	1	100	0	0
RE	5	0	1	6	83	0	17
RF	1	0	0	1	100	0	0
RI	2	1	1	4	50	25	25
RL	0	2	1	3	0	67	33
SK	2	1	1	4	50	25	25
SN	2	2	0	4	50	50	0
SR	5	1	0	6	83	17	0
SS	3	0	0	3	100	0	0
SW	3	0	0	3	100	0	0
TE	4	2	0	6	67	33	0
TI	6	1	0	7	86	14	0
TM	5	3	0	8	63	38	0
TN	6	1	0	7	86	14	0
TO	2	2	1	5	40	40	20
TP	4	0	0	4	100	0	0
TW	4	3	0	7	57	43	0
TX	5	1	0	6	83	17	0
UC	2	1	1	4	50	25	25
WA	5	1	0	6	83	17	0
WC	4	0	0	4	100	0	0
WE	2	0	1	3	67	0	33
WI	2	0	0	2	100	0	0
WP	2	2	0	4	50	50	0
Totals							
78 Labs:	**250**	**83**	**31**	**364**	**69%**	**23%**	**9%**

QAP45 Summary of Laboratory Evaluations by Matrix

Matrix: WA

	Evaluation Summary				Evaluation Percentages		
Labcode	A	W	N	Total Analyses	%A	%W	%N
AA	15	0	0	15	100	0	0
AC	2	0	0	2	100	0	0
AE	9	0	0	9	100	0	0
AF	9	1	2	12	75	8	17
AG	9	2	3	14	64	14	21
AL	0	0	4	4	0	0	100
AN	12	0	0	12	100	0	0
AR	9	5	0	14	64	36	0
AU	5	5	1	11	45	45	9
BA	4	2	0	6	67	33	0
BC	6	2	0	8	75	25	0
BE	13	0	0	13	100	0	0
BL	15	3	0	18	83	17	0
BM	5	3	1	9	56	33	11
BN	6	0	1	7	86	0	14
BP	9	0	0	9	100	0	0
BQ	3	1	1	5	60	20	20
BS	6	0	0	6	100	0	0
BU	10	0	0	10	100	0	0
BX	9	4	0	13	69	31	0
CA	5	0	1	6	83	0	17
CL	6	5	1	12	50	42	8
CP	5	0	0	5	100	0	0
CS	4	0	0	4	100	0	0
CW	8	0	0	8	100	0	0
CZ	1	0	0	1	100	0	0
DC	7	3	3	13	54	23	23
EG	6	0	2	8	75	0	25
EI	5	1	4	10	50	10	40
EP	1	0	3	4	25	0	75
ES	10	0	2	12	83	0	17
FG	11	0	1	12	92	0	8
FL	3	6	0	9	33	67	0
FM	0	4	0	4	0	100	0
FN	4	0	0	4	100	0	0
GA	8	1	0	9	89	11	0
GE	2	5	7	14	14	36	50
GS	2	1	0	3	67	33	0
HC	3	0	0	3	100	0	0
ID	7	0	1	8	88	0	13
IE	12	1	0	13	92	8	0
IL	3	0	0	3	100	0	0
IN	6	2	0	8	75	25	0
IR	3	0	0	3	100	0	0
IS	4	7	2	13	31	54	15
IT	10	2	0	12	83	17	0
KA	2	0	0	2	100	0	0
LA	25	2	3	30	83	7	10
LH	10	3	0	13	77	23	0
LL	12	0	0	12	100	0	0
LV	5	1	0	6	83	17	0
LW	6	0	0	6	100	0	0
MI	4	2	2	8	50	25	25
ML	10	1	0	11	91	9	0

QAP45 Summary of Laboratory Evaluations by Matrix

Matrix: WA

	Evaluation Summary				Evaluation Percentages		
Labcode	A	W	N	Total Analyses	%A	%W	%N
MS	4	0	0	4	100	0	0
NA	6	2	0	8	75	25	0
NC	3	0	0	3	100	0	0
NL	6	0	0	6	100	0	0
NM	4	1	1	6	67	17	17
NP	5	0	0	5	100	0	0
NS	3	2	2	7	43	29	29
OB	0	0	2	2	0	0	100
OD	9	1	0	10	90	10	0
OK	3	4	1	8	38	50	13
OR	8	3	0	11	73	27	0
OT	10	2	1	13	77	15	8
OU	4	2	0	6	67	33	0
PA	5	1	0	6	83	17	0
PB	5	2	0	7	71	29	0
PI	5	0	0	5	100	0	0
RE	10	2	0	12	83	17	0
RG	8	1	0	9	89	11	0
RI	7	1	1	9	78	11	11
RL	0	0	5	5	0	0	100
SA	4	1	0	5	80	20	0
SC	8	0	2	10	80	0	20
SK	8	2	0	10	80	20	0
SL	2	1	0	3	67	33	0
SN	7	2	0	9	78	22	0
SR	8	3	1	12	67	25	8
SS	6	1	0	7	86	14	0
SV	3	0	0	3	100	0	0
SW	6	2	1	9	67	22	11
TE	8	3	1	12	67	25	8
TI	7	5	0	12	58	42	0
TM	11	1	1	13	85	8	8
TN	11	3	0	14	79	21	0
TO	11	2	0	13	85	15	0
TP	6	0	0	6	100	0	0
TW	5	6	1	12	42	50	8
TX	10	2	0	12	83	17	0
UC	6	1	0	7	86	14	0
UK	9	0	0	9	100	0	0
UP	12	2	0	14	86	14	0
UY	10	4	0	14	71	29	0
WA	13	0	0	13	100	0	0
WC	9	2	0	11	82	18	0
WE	2	2	4	8	25	25	50
WI	1	2	0	3	33	67	0
WP	7	0	0	7	100	0	0
WV	7	0	0	7	100	0	0
YA	11	0	0	11	100	0	0
YP	1	0	0	1	100	0	0

QAP45 Summary of Laboratory Evaluations by Matrix

Matrix: WA

	Evaluation Summary				Evaluation Percentages		
Labcode	A	W	N	Total Analyses	%A	%W	%N
Totals							
103 Labs:	**680**	**146**	**69**	**895**	**76%**	**16%**	**8%**

QAP45 Summary of Matrix Evaluations by Radionuclide

Matrix: AI

Radio-Nuclide	Evaluation Summary A	W	N	Total Analyses	Evaluation Percentages %A	%W	%N
AM241	41	8	2	51	80	16	4
CO 57	40	26	15	81	49	32	19
CO 60	36	35	10	81	44	43	12
CS134	46	29	6	81	57	36	7
CS137	53	26	5	84	63	31	6
GA 1	15	11	37	63	24	17	59
GB 2	49	8	4	61	80	13	7
MN 54	28	38	15	81	35	47	19
PU238	42	8	3	53	79	15	6
RU106	43	24	5	72	60	33	7
SB125	42	29	8	79	53	37	10
SR 90	25	8	4	37	68	22	11
U 234	31	6	3	40	78	15	8
U 238	32	5	5	42	76	12	12
U BQ	10	1	0	11	91	9	0
U UG	20	7	3	30	67	23	10
Totals:	**553**	**269**	**125**	**947**	**58%**	**28%**	**13%**

QAP45 Summary of Matrix Evaluations by Radionuclide

Matrix: SO

Radio-Nuclide	Evaluation Summary A	W	N	Total Analyses	Evaluation Percentages %A	%W	%N
AM241	51	7	3	61	84	11	5
CM244	6	6	3	15	40	40	20
CO 60	46	18	6	70	66	26	9
CS137	63	16	7	86	73	19	8
K 40	56	20	5	81	69	25	6
PU238	30	17	7	54	56	31	13
PU239	50	12	1	63	79	19	2
SR 90	40	2	3	45	89	4	7
U 234	31	10	3	44	70	23	7
U 238	39	7	1	47	83	15	2
U BQ	13	0	2	15	87	0	13
U UG	26	2	3	31	84	6	10
Totals:	**451**	**117**	**44**	**612**	**74%**	**19%**	**7%**

QAP45 Summary of Matrix Evaluations by Radionuclide

Matrix: VE

Radio-Nuclide	Evaluation Summary A	W	N	Total Analyses	Evaluation Percentages %A	%W	%N
AM241	26	7	6	39	67	18	15
CM244	16	5	1	22	73	23	5
CO 60	51	12	7	70	73	17	10
CS137	50	22	1	73	68	30	1
K 40	47	19	7	73	64	26	10
PU239	34	7	6	47	72	15	13
SR 90	26	11	3	40	65	28	8
Totals:	**250**	**83**	**31**	**364**	**69%**	**23%**	**9%**

QAP45 Summary of Matrix Evaluations by Radionuclide

Matrix: WA

Radio-Nuclide	Evaluation Summary A	W	N	Total Analyses	Evaluation Percentages %A	%W	%N
AM241	58	8	2	68	85	12	3
CO 60	63	19	9	91	69	21	10
CS137	78	10	4	92	85	11	4
FE 55	7	3	0	10	70	30	0
GA 1	54	8	7	69	78	12	10
GB 2	56	6	7	69	81	9	10
H 3	44	20	6	70	63	29	9
MN 54	59	21	7	87	68	24	8
PU238	52	8	7	67	78	12	10
PU239	50	11	7	68	74	16	10
SR 90	44	6	5	55	80	11	9
U 234	36	9	2	47	77	19	4
U 238	33	12	2	47	70	26	4
U BQ	16	1	1	18	89	6	6
U UG	30	4	5	39	77	10	13
Totals:	**680**	**146**	**71**	**897**	**76%**	**16%**	**8%**

QAP45 Results by Laboratory

Lab: AA Environmental Measurements Laboratory

No. Test	Radio-nuclide	Reported Value	Reported Error	EML Value	EML Error	Reported / EML	Evaluation	QAP 44 Evaluation
Matrix:	**AI**							
1	AM241	0.222	0.019	0.222	0.019	1.000	**A**	**A**
1	CO 57	14.800	0.814	14.800	0.814	1.000	**A**	**A**
1	CO 60	8.640	0.431	8.640	0.431	1.000	**A**	**A**
1	CS134	10.800	0.392	10.800	0.392	1.000	**A**	**A**
1	CS137	8.520	0.366	8.520	0.366	1.000	**A**	**A**
1	GA 1	1.150	0.110	1.150	0.110	1.000	**A**	**A**
1	GB 2	0.500	0.050	0.500	0.050	1.000	**A**	**A**
1	MN 54	6.350	0.270	6.350	0.270	1.000	**A**	**A**
1	PU238	0.118	0.006	0.118	0.006	1.000	**A**	**A**
1	RU106	10.800	1.140	10.800	1.140	1.000	**A**	**A**
1	SB125	10.800	0.540	10.800	0.540	1.000	**A**	**A**
1	SR 90	0.526	0.037	0.526	0.037	1.000	**A**	**A**
1	U 234	0.080	0.006	0.080	0.006	1.000	**A**	**A**
1	U 238	0.078	0.006	0.078	0.006	1.000	**A**	**A**
1	U BQ	0.160	0.012	0.160	0.012	1.000	**A**	**A**
1	U UG	6.398	0.510	6.398	0.510	1.000	**A**	**A**
Matrix:	**SO**							
1	AM241	13.500	0.510	13.500	0.510	1.000	**A**	**A**
1	CM244	0.312	0.064	0.312	0.064	1.000	**A**	
1	CO 60	2.920	0.210	2.920	0.210	1.000	**A**	
1	CS137	1550.000	22.200	1550.000	22.200	1.000	**A**	**A**
1	K 40	300.000	25.000	300.000	25.000	1.000	**A**	**A**
1	PU238	1.130	0.240	1.130	0.240	1.000	**A**	**A**
1	PU239	21.800	1.080	21.800	1.080	1.000	**A**	**A**
1	SR 90	69.900	5.100	69.900	5.100	1.000	**A**	**A**
1	U 234	39.200	2.440	39.200	2.440	1.000	**A**	**A**
1	U 238	41.600	0.610	41.600	0.610	1.000	**A**	**A**
1	U BQ	82.200	2.980	82.200	2.980	1.000	**A**	**A**
1	U UG	3.360	0.300	3.360	0.300	1.000	**A**	**A**
Matrix:	**VE**							
1	AM241	1.230	0.410	1.230	0.410	1.000	**A**	**A**
1	CM244	0.830	0.120	0.830	0.120	1.000	**A**	**A**
1	CO 60	10.900	0.710	10.900	0.710	1.000	**A**	**A**
1	CS137	190.000	6.680	190.000	6.680	1.000	**A**	**A**
1	K 40	992.000	29.000	992.000	29.000	1.000	**A**	**A**
1	PU239	1.960	0.300	1.960	0.300	1.000	**A**	**A**
1	SR 90	1390.000	12.000	1390.000	12.000	1.000	**A**	**A**
Matrix:	**WA**							
1	AM241	1.080	0.040	1.080	0.040	1.000	**A**	**A**
1	CO 60	61.100	0.730	61.100	0.730	1.000	**A**	**A**

Units for matrices: AI=Bq/filter SO=Bq/kg VE=Bq/kg WA=Bq/L. Values for elemental uranium are reported in µg/filter, g

Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable pCi = Bq x 27

QAP45 Results by Laboratory

Lab: AA Environmental Measurements Laboratory

No. Test	Radio-nuclide	Reported Value	Reported Error	EML Value	EML Error	Reported / EML	Evaluation	QAP 44 Evaluation
Matrix:	**WA**							
1	CS137	89.500	1.360	89.500	1.360	1.000	**A**	**A**
1	FE 55	230.000	23.000	230.000	23.000	1.000	**A**	**A**
1	GA 1	1210.000	121.000	1210.000	121.000	1.000	**A**	**A**
1	GB 2	540.000	54.000	540.000	54.000	1.000	**A**	**A**
1	H 3	587.000	58.000	587.000	58.000	1.000	**A**	**A**
1	MN 54	60.500	0.550	60.500	0.550	1.000	**A**	**A**
1	PU238	1.910	0.070	1.910	0.070	1.000	**A**	**A**
1	PU239	0.840	0.030	0.840	0.030	1.000	**A**	**A**
1	SR 90	2.710	0.240	2.710	0.240	1.000	**A**	**A**
1	U 234	0.480	0.040	0.480	0.040	1.000	**A**	**A**
1	U 238	0.480	0.370	0.480	0.370	1.000	**A**	**A**
1	U BQ	0.970	0.070	0.970	0.070	1.000	**A**	**A**
1	U UG	0.039	0.003	0.039	0.003	1.000	**A**	**A**

Units for matrices: AI=Bq/filter SO=Bq/kg VE=Bq/kg WA=Bq/L. Values for elemental uranium are reported in µg/filter, g

Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable pCi = Bq x 27

QAP45 Results by Laboratory

Lab: AC Analytical Chemistry Laboratory, Argonne National Lab

No. Test	Radio-nuclide	Reported Value	Reported Error	EML Value	EML Error	Reported / EML	Evaluation	QAP 44 Evaluation
Matrix:	**SO**							
1	SR 90	73.600	3.300	69.900	5.100	1.050	**A**	
1	U UG	2.910	0.030	3.360	0.300	0.870	**A**	
Matrix:	**WA**							
1	SR 90	3.150	0.120	2.710	0.240	1.160	**A**	
1	U UG	0.038	0.000	0.039	0.003	0.970	**A**	

Units for matrices: AI=Bq/filter SO=Bq/kg VE=Bq/kg WA=Bq/L. Values for elemental uranium are reported in µg/filter, g

Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable pCi = Bq x 27

QAP45 Results by Laboratory

Lab: AE Analytical Resources, Inc., Seattle

No. Test	Radio-nuclide	Reported Value	Reported Error	EML Value	EML Error	Reported / EML	Evaluation	QAP 44 Evaluation
Matrix:	**SO**							
1	AM241	12.400	1.200	13.500	0.510	0.920	**A**	**W**
1	CO 60	3.100	0.600	2.920	0.210	1.060	**A**	
1	CS137	1900.000	97.000	1550.000	22.200	1.230	**A**	**A**
1	K 40	322.000	26.000	300.000	25.000	1.070	**A**	**A**
1	PU238	0.740	0.250	1.130	0.240	0.660	**W**	**A**
1	PU239	22.300	1.200	21.800	1.080	1.020	**A**	**A**
1	U 234	35.600	1.800	39.200	2.440	0.910	**A**	**A**
1	U 238	36.800	1.800	41.600	0.610	0.890	**A**	**A**
Matrix:	**WA**							
1	AM241	0.940	0.080	1.080	0.040	0.870	**A**	**A**
1	CO 60	64.600	3.600	61.100	0.730	1.060	**A**	**W**
1	CS137	97.800	6.600	89.500	1.360	1.090	**A**	**A**
1	H 3	514.000	19.000	587.000	58.000	0.880	**A**	**A**
1	MN 54	65.400	4.800	60.500	0.550	1.080	**A**	**A**
1	PU238	1.920	0.080	1.910	0.070	1.010	**A**	**A**
1	PU239	0.860	0.060	0.840	0.030	1.020	**A**	**A**
1	U 234	0.440	0.040	0.480	0.040	0.920	**A**	**A**
1	U 238	0.460	0.040	0.480	0.370	0.960	**A**	**A**

Units for matrices: AI=Bq/filter SO=Bq/kg VE=Bq/kg WA=Bq/L. Values for elemental uranium are reported in µg/filter, g

Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable pCi = Bq x 27

QAP45 Results by Laboratory

Lab: AF Air Force Analytical Lab, Brooks AFB

No. Test	Radio-nuclide	Reported Value	Reported Error	EML Value	EML Error	Reported / EML	Evaluation	QAP 44 Evaluation
Matrix:	**AI**							
1	CO 57	13.000	1.360	14.800	0.814	0.880	**A**	
1	CO 60	8.600	0.858	8.640	0.431	1.000	**A**	
1	CS134	10.900	1.110	10.800	0.392	1.010	**A**	
1	CS137	7.550	0.777	8.520	0.366	0.890	**A**	
1	GA 1	1.050	0.044	1.150	0.110	0.910	**W**	
1	GB 2	0.370	0.044	0.500	0.050	0.740	**W**	
1	MN 54	6.040	0.688	6.350	0.270	0.950	**A**	
1	PU238	0.034	0.009	0.118	0.006	0.290	**N**	
1	RU106	9.820	1.940	10.800	1.140	0.910	**A**	
1	SB125	9.880	1.120	10.800	0.540	0.920	**A**	
1	U 234	0.084	0.007	0.080	0.006	1.050	**A**	
2		0.021	0.007	0.080	0.006	0.260	**N**	
1	U 238	0.068	0.007	0.078	0.006	0.870	**W**	
2		0.017	0.007	0.078	0.006	0.220	**N**	
Matrix:	**SO**							
1	AM241	6.660	4.440	13.500	0.510	0.490	**N**	
1	CO 60	2.960	0.740	2.920	0.210	1.010	**A**	
1	CS137	1390.000	155.000	1550.000	22.200	0.900	**W**	
1	K 40	300.000	37.000	300.000	25.000	1.000	**A**	
1	PU239	16.300	5.550	21.800	1.080	0.750	**W**	
1	U 234	33.700	12.600	39.200	2.440	0.860	**A**	
1	U 238	32.600	12.200	41.600	0.610	0.780	**A**	
Matrix:	**VE**							
1	AM241	7.770	3.330	1.230	0.410	6.320	**N**	
1	CO 60	22.200	11.100	10.900	0.710	2.040	**N**	
1	CS137	189.000	25.900	190.000	6.680	1.000	**A**	
1	K 40	1430.000	277.000	992.000	29.000	1.440	**W**	
1	PU239	8.140	4.440	1.960	0.300	4.150	**N**	
Matrix:	**WA**							
1	AM241	0.991	0.163	1.080	0.040	0.920	**A**	
1	CO 60	66.600	7.400	61.100	0.730	1.090	**A**	
1	CS137	96.200	11.100	89.500	1.360	1.080	**A**	
1	GA 1	274.000	7.400	1210.000	121.000	0.230	**N**	
1	GB 2	81.400	3.700	540.000	54.000	0.150	**N**	
1	H 3	1060.000	56.600	587.000	58.000	1.810	**W**	
1	MN 54	65.400	7.400	60.500	0.550	1.080	**A**	
1	PU238	1.720	0.240	1.910	0.070	0.900	**A**	
1	PU239	0.781	0.129	0.840	0.030	0.930	**A**	
1	SR 90	2.740	0.318	2.710	0.240	1.010	**A**	
1	U 234	0.533	0.111	0.480	0.040	1.110	**A**	

Units for matrices: AI=Bq/filter SO=Bq/kg VE=Bq/kg WA=Bq/L. Values for elemental uranium are reported in µg/filter, g

Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable pCi = Bq x 27

QAP45 Results by Laboratory

Lab: AF Air Force Analytical Lab, Brooks AFB

No. Test	Radio-nuclide	Reported Value	Reported Error	EML Value	EML Error	Reported / EML	Evaluation	QAP 44 Evaluation
Matrix:	**WA**							
1	U 238	0.470	0.100	0.480	0.370	0.980	**A**	

Units for matrices: AI=Bq/filter SO=Bq/kg VE=Bq/kg WA=Bq/L. Values for elemental uranium are reported in µg/filter, g
Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable pCi = Bq x 27

QAP45 Results by Laboratory

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

No. Test	Radio-nuclide	Reported Value	Reported Error	EML Value	EML Error	Reported / EML	Evaluation	QAP 44 Evaluation
Matrix:	**AI**							
1	AM241	0.224	0.033	0.222	0.019	1.010	**A**	**A**
1	CO 57	18.500	1.200	14.800	0.814	1.250	**N**	**A**
1	CO 60	9.510	0.640	8.640	0.431	1.100	**W**	**A**
1	CS134	11.500	0.990	10.800	0.392	1.070	**A**	**A**
1	CS137	10.100	0.680	8.520	0.366	1.180	**W**	**A**
1	GA 1	0.448	0.008	1.150	0.110	0.390	**N**	**A**
1	GB 2	0.483	0.012	0.500	0.050	0.970	**A**	**A**
1	MN 54	7.910	0.530	6.350	0.270	1.250	**W**	**W**
1	PU238	0.120	0.020	0.118	0.006	1.020	**A**	**A**
1	RU106	11.500	1.300	10.800	1.140	1.070	**A**	**A**
1	SB125	14.100	1.300	10.800	0.540	1.310	**W**	**A**
1	SR 90	0.550	0.100	0.526	0.037	1.050	**A**	**W**
1	U 234	0.077	0.009	0.080	0.006	0.960	**A**	**W**
1	U 238	0.074	0.044	0.078	0.006	0.950	**A**	**A**
1	U BQ	0.155	0.013	0.160	0.012	0.970	**A**	
1	U UG	6.770	0.920	6.398	0.510	1.060	**A**	
Matrix:	**SO**							
1	AM241	14.200	2.100	13.500	0.510	1.050	**A**	**A**
1	CO 60	2.900	1.000	2.920	0.210	0.990	**A**	
1	CS137	1890.000	121.000	1550.000	22.200	1.220	**A**	**W**
1	K 40	373.000	40.000	300.000	25.000	1.240	**A**	**W**
1	PU238	0.840	0.084	1.130	0.240	0.740	**A**	**A**
1	PU239	22.900	0.430	21.800	1.080	1.050	**A**	**A**
1	SR 90	69.000	12.000	69.900	5.100	0.990	**A**	**A**
1	U 234	24.400	4.200	39.200	2.440	0.620	**W**	**A**
1	U 238	25.200	4.200	41.600	0.610	0.610	**A**	**A**
1	U UG	2.820	0.370	3.360	0.300	0.840	**A**	
Matrix:	**VE**							
1	CO 60	11.500	2.400	10.900	0.710	1.050	**A**	**A**
1	CS137	237.000	16.000	190.000	6.680	1.250	**A**	**A**
1	K 40	1180.000	93.000	992.000	29.000	1.190	**A**	**A**
1	SR 90	1260.000	252.000	1390.000	12.000	0.910	**A**	**A**
Matrix:	**WA**							
1	AM241	0.880	0.280	1.080	0.040	0.820	**W**	**A**
1	CO 60	62.300	4.200	61.100	0.730	1.020	**A**	**A**
1	CS137	94.700	6.300	89.500	1.360	1.060	**A**	**A**
1	GA 1	799.000	11.000	1210.000	121.000	0.660	**W**	**A**
1	GB 2	208.000	8.300	540.000	54.000	0.390	**N**	**N**
1	H 3	216.000	33.000	587.000	58.000	0.370	**N**	**W**
1	MN 54	63.500	4.300	60.500	0.550	1.050	**A**	**A**

Units for matrices: AI=Bq/filter SO=Bq/kg VE=Bq/kg WA=Bq/L. Values for elemental uranium are reported in µg/filter, g

Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable pCi = Bq x 27

QAP45 Results by Laboratory

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

No. Test	Radio-nuclide	Reported Value	Reported Error	EML Value	EML Error	Reported / EML	Evaluation	QAP 44 Evaluation
Matrix:	**WA**							
1	PU238	1.800	0.280	1.910	0.070	0.940	**A**	**A**
1	PU239	0.820	0.130	0.840	0.030	0.980	**A**	**A**
1	SR 90	2.980	0.540	2.710	0.240	1.100	**A**	**A**
1	U 234	0.551	0.091	0.480	0.040	1.150	**A**	**A**
1	U 238	0.554	0.091	0.480	0.370	1.150	**A**	**A**
1	U BQ	1.130	0.190	0.970	0.070	1.170	**A**	**N**
1	U UG	41.500	5.600	0.039	0.003	*.***	**N**	

Units for matrices: AI=Bq/filter SO=Bq/kg VE=Bq/kg WA=Bq/L. Values for elemental uranium are reported in µg/filter, g

Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable **pCi = Bq x 27**

QAP45 Results by Laboratory

Lab: AL Ames Laboratory, Ames, IA

No. Test	Radio-nuclide	Reported Value	Reported Error	EML Value	EML Error	Reported / EML	Evaluation	QAP 44 Evaluation
Matrix:	**AI**							
1	CO 57	15.400	0.150	14.800	0.814	1.040	**W**	
1	CO 60	9.290	0.370	8.640	0.431	1.080	**W**	**N**
1	CS134	12.300	0.700	10.800	0.392	1.140	**W**	**A**
1	CS137	8.840	0.170	8.520	0.366	1.040	**A**	**N**
1	MN 54	7.920	0.220	6.350	0.270	1.250	**W**	**A**
1	RU106	41.100	2.830	10.800	1.140	3.810	**N**	
1	SB125	13.300	0.360	10.800	0.540	1.230	**W**	**N**
Matrix:	**SO**							
1	CO 60	2.360	0.350	2.920	0.210	0.810	**A**	
1	CS137	1410.000	37.200	1550.000	22.200	0.910	**W**	**A**
1	K 40	321.000	13.900	300.000	25.000	1.070	**A**	
1	U 238	22.000	2.600	41.600	0.610	0.530	**W**	
Matrix:	**VE**							
1	CO 60	9.320	1.180	10.900	0.710	0.860	**A**	**A**
1	CS137	180.000	3.810	190.000	6.680	0.950	**A**	**A**
1	K 40	1050.000	35.500	992.000	29.000	1.060	**A**	
Matrix:	**WA**							
1	CO 60	45.500	0.500	61.100	0.730	0.750	**N**	**A**
1	CS137	67.000	0.720	89.500	1.360	0.750	**N**	**A**
1	H 3	363.000	33.700	587.000	58.000	0.620	**N**	
1	MN 54	46.600	0.670	60.500	0.550	0.770	**N**	**A**

Units for matrices: AI=Bq/filter SO=Bq/kg VE=Bq/kg WA=Bq/L. Values for elemental uranium are reported in µg/filter, g

Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable pCi = Bq x 27

QAP45 Results by Laboratory

Lab: AN Argonne National Laboratory

No. Test	Radio-nuclide	Reported Value	Reported Error	EML Value	EML Error	Reported / EML	Evaluation	QAP 44 Evaluation
Matrix:	**AI**							
1	AM241	0.224	0.016	0.222	0.019	1.010	**A**	**A**
1	CO 57	15.300	0.080	14.800	0.814	1.030	**A**	**A**
1	CO 60	9.570	0.199	8.640	0.431	1.110	**W**	**A**
1	CS134	11.600	0.570	10.800	0.392	1.070	**A**	**A**
1	CS137	7.960	1.210	8.520	0.366	0.930	**A**	**A**
1	GA 1	0.770	0.080	1.150	0.110	0.670	**N**	**A**
1	GB 2	0.530	0.050	0.500	0.050	1.060	**A**	**A**
1	MN 54	6.740	0.285	6.350	0.270	1.060	**A**	**W**
1	PU238	0.115	0.007	0.118	0.006	0.980	**A**	**A**
1	RU106	11.800	0.690	10.800	1.140	1.090	**W**	**A**
1	SB125	12.100	0.370	10.800	0.540	1.120	**W**	**A**
1	SR 90	0.559	0.020	0.526	0.037	1.060	**A**	**A**
1	U 234	0.079	0.005	0.080	0.006	0.990	**A**	**A**
1	U 238	0.085	0.005	0.078	0.006	1.090	**A**	**A**
Matrix:	**SO**							
1	AM241	13.200	0.430	13.500	0.510	0.980	**A**	**A**
1	CM244	0.018	0.008	0.312	0.064	0.060	**N**	
1	CO 60	3.570	0.720	2.920	0.210	1.220	**W**	
1	CS137	1990.000	7.000	1550.000	22.200	1.280	**W**	**A**
1	K 40	383.000	14.000	300.000	25.000	1.280	**W**	**A**
1	PU238	1.050	0.193	1.130	0.240	0.930	**A**	**A**
1	PU239	23.700	2.450	21.800	1.080	1.090	**A**	**A**
1	SR 90	71.800	1.100	69.900	5.100	1.030	**A**	**A**
1	U 234	56.100	1.980	39.200	2.440	1.430	**N**	**W**
1	U 238	55.500	1.970	41.600	0.610	1.330	**W**	**A**
Matrix:	**VE**							
1	AM241	1.070	0.060	1.230	0.410	0.870	**A**	**A**
1	CM244	0.764	0.045	0.830	0.120	0.920	**A**	**A**
1	CO 60	13.300	1.290	10.900	0.710	1.220	**W**	**A**
1	CS137	241.000	9.900	190.000	6.680	1.270	**W**	**A**
1	K 40	1240.000	70.000	992.000	29.000	1.250	**W**	**A**
1	PU239	1.780	0.092	1.960	0.300	0.910	**A**	**A**
1	SR 90	1540.000	37.000	1390.000	12.000	1.110	**W**	**W**
Matrix:	**WA**							
1	AM241	1.100	0.047	1.080	0.040	1.020	**A**	**A**
1	CO 60	67.200	4.090	61.100	0.730	1.100	**A**	**A**
1	CS137	98.700	5.800	89.500	1.360	1.100	**A**	**A**
1	GA 1	1190.000	120.000	1210.000	121.000	0.980	**A**	**A**
1	GB 2	416.000	45.000	540.000	54.000	0.770	**A**	**W**
1	H 3	482.000	2.000	587.000	58.000	0.820	**A**	**A**

Units for matrices: AI=Bq/filter SO=Bq/kg VE=Bq/kg WA=Bq/L. Values for elemental uranium are reported in µg/filter, g

Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable pCi = Bq x 27

QAP45 Results by Laboratory

Lab: AN Argonne National Laboratory

No. Test	Radio-nuclide	Reported Value	Reported Error	EML Value	EML Error	Reported / EML	Evaluation	QAP 44 Evaluation
Matrix:	**WA**							
1	MN 54	66.100	3.290	60.500	0.550	1.090	**A**	**A**
1	PU238	1.920	0.076	1.910	0.070	1.010	**A**	**A**
1	PU239	0.876	0.037	0.840	0.030	1.040	**A**	**A**
1	SR 90	2.950	0.070	2.710	0.240	1.090	**A**	**A**
1	U 234	0.488	0.042	0.480	0.040	1.020	**A**	**A**
1	U 238	0.499	0.022	0.480	0.370	1.040	**A**	**A**

Units for matrices: AI=Bq/filter SO=Bq/kg VE=Bq/kg WA=Bq/L. Values for elemental uranium are reported in µg/filter, g

Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable pCi = Bq x 27

QAP45 Results by Laboratory

Lab: AR Accu-Labs Research Inc., Golden, CO

No. Test	Radio-nuclide	Reported Value	Reported Error	EML Value	EML Error	Reported / EML	Evaluation	QAP 44 Evaluation
Matrix:	**AI**							
1	AM241	0.136	0.053	0.222	0.019	0.610	**N**	**A**
1	CO 57	15.600	0.700	14.800	0.814	1.050	**W**	**A**
1	CO 60	9.260	0.400	8.640	0.431	1.070	**A**	**A**
1	CS134	11.400	0.500	10.800	0.392	1.060	**A**	**A**
1	CS137	8.610	0.350	8.520	0.366	1.010	**A**	**A**
1	GA 1	1.970	0.090	1.150	0.110	1.710	**N**	**A**
1	GB 2	0.480	0.030	0.500	0.050	0.960	**A**	**W**
1	MN 54	6.640	0.290	6.350	0.270	1.050	**A**	**A**
1	PU238	0.112	0.029	0.118	0.006	0.950	**A**	**A**
1	RU106	6.260	1.360	10.800	1.140	0.580	**W**	**A**
1	SB125	11.700	0.600	10.800	0.540	1.080	**A**	**A**
1	SR 90	0.554	0.252	0.526	0.037	1.050	**A**	**W**
1	U 234	0.076	0.025	0.080	0.006	0.950	**A**	**A**
1	U 238	0.050	0.018	0.078	0.006	0.640	**N**	**A**
1	U BQ	0.128	0.031	0.160	0.012	0.800	**W**	**A**
1	U UG	5.000	0.500	6.398	0.510	0.780	**W**	**A**
Matrix:	**SO**							
1	AM241	7.560	1.640	13.500	0.510	0.560	**W**	**W**
1	CM244	0.222	0.175	0.312	0.064	0.710	**W**	
1	CO 60	5.270	0.910	2.920	0.210	1.810	**N**	
1	CS137	1650.000	50.000	1550.000	22.200	1.070	**A**	**A**
1	K 40	314.000	24.000	300.000	25.000	1.050	**A**	**W**
1	PU238	1.540	0.520	1.130	0.240	1.360	**W**	**A**
1	PU239	21.400	4.800	21.800	1.080	0.980	**A**	**A**
1	SR 90	56.000	4.700	69.900	5.100	0.800	**A**	**A**
1	U 234	41.200	9.900	39.200	2.440	1.050	**A**	**W**
1	U 238	38.100	9.200	41.600	0.610	0.920	**A**	**A**
1	U BQ	82.200	13.600	82.200	2.980	1.000	**A**	**A**
1	U UG	2.050	0.070	3.360	0.300	0.610	**A**	**A**
Matrix:	**VE**							
1	AM241	0.974	0.222	1.230	0.410	0.790	**W**	**A**
1	CM244	0.815	0.188	0.830	0.120	0.980	**A**	**A**
1	CO 60	15.200	2.600	10.900	0.710	1.390	**W**	**W**
1	CS137	240.000	10.000	190.000	6.680	1.260	**W**	**W**
1	K 40	1120.000	60.000	992.000	29.000	1.130	**A**	**W**
1	PU239	1.780	0.440	1.960	0.300	0.910	**A**	**A**
1	SR 90	596.000	48.000	1390.000	12.000	0.430	**N**	**N**
Matrix:	**WA**							
1	AM241	1.060	0.110	1.080	0.040	0.980	**A**	**A**
1	CO 60	70.600	3.100	61.100	0.730	1.160	**W**	**W**

Units for matrices: AI=Bq/filter SO=Bq/kg VE=Bq/kg WA=Bq/L. Values for elemental uranium are reported in µg/filter, g

Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable pCi = Bq x 27

QAP45 Results by Laboratory

Lab: AR Accu-Labs Research Inc., Golden, CO

No. Test	Radio-nuclide	Reported Value	Reported Error	EML Value	EML Error	Reported / EML	Evaluation	QAP 44 Evaluation
Matrix:	**WA**							
1	CS137	107.000	4.000	89.500	1.360	1.200	**W**	**W**
1	GA 1	1190.000	100.000	1210.000	121.000	0.980	**A**	**A**
1	GB 2	435.000	46.000	540.000	54.000	0.810	**A**	**N**
1	H 3	465.000	12.000	587.000	58.000	0.790	**W**	**A**
1	MN 54	70.800	2.900	60.500	0.550	1.170	**W**	**W**
1	PU238	1.850	0.170	1.910	0.070	0.970	**A**	**W**
1	PU239	0.914	0.116	0.840	0.030	1.090	**A**	**A**
1	SR 90	2.920	0.350	2.710	0.240	1.080	**A**	**A**
1	U 234	0.649	0.101	0.480	0.040	1.350	**W**	**W**
1	U 238	0.488	0.090	0.480	0.370	1.020	**A**	**W**
1	U BQ	1.160	0.140	0.970	0.070	1.200	**A**	**A**
1	U UG	0.042	0.003	0.039	0.003	1.080	**A**	**N**

Units for matrices: AI=Bq/filter SO=Bq/kg VE=Bq/kg WA=Bq/L. Values for elemental uranium are reported in µg/filter, g

Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable pCi = Bq x 27

QAP45 Results by Laboratory

Lab: AU ORISE EESD/ESSAP, Oak Ridge

No. Test	Radio-nuclide	Reported Value	Reported Error	EML Value	EML Error	Reported / EML	Evaluation	QAP 44 Evaluation
Matrix:	**AI**							
1	AM241	0.170	0.020	0.222	0.019	0.770	**W**	**A**
1	CO 57	18.600	0.300	14.800	0.814	1.260	**N**	**W**
1	CO 60	11.000	0.700	8.640	0.431	1.270	**N**	**A**
1	CS134	12.800	0.700	10.800	0.392	1.180	**W**	**A**
1	CS137	10.300	0.600	8.520	0.366	1.210	**W**	
1	GA 1	1.130	0.030	1.150	0.110	0.980	**A**	**W**
1	GB 2	0.650	0.020	0.500	0.050	1.300	**A**	**A**
1	MN 54	8.600	0.600	6.350	0.270	1.350	**N**	**W**
1	PU238	0.120	0.020	0.118	0.006	1.020	**A**	**N**
1	RU106	12.100	3.100	10.800	1.140	1.120	**W**	**A**
1	SB125	13.100	1.100	10.800	0.540	1.210	**W**	**A**
1	U 234	0.060	0.010	0.080	0.006	0.750	**N**	**N**
1	U 238	0.070	0.010	0.078	0.006	0.900	**A**	**N**
Matrix:	**SO**							
1	AM241	15.200	4.470	13.500	0.510	1.130	**A**	**A**
1	CO 60	2.600	1.700	2.920	0.210	0.890	**A**	
1	CS137	1890.000	11.400	1550.000	22.200	1.220	**A**	**A**
1	K 40	368.000	27.800	300.000	25.000	1.230	**A**	**W**
1	PU239	28.000	4.500	21.800	1.080	1.280	**W**	**N**
1	SR 90	60.300	4.200	69.900	5.100	0.860	**A**	**A**
1	U 234	40.700	3.870	39.200	2.440	1.040	**A**	**N**
1	U 238	43.500	4.000	41.600	0.610	1.050	**A**	**N**
Matrix:	**VE**							
1	AM241	0.730	0.310	1.230	0.410	0.590	**N**	**A**
1	CO 60	11.200	2.900	10.900	0.710	1.030	**A**	**A**
1	CS137	199.000	4.700	190.000	6.680	1.050	**A**	**W**
1	K 40	1080.000	50.000	992.000	29.000	1.090	**A**	**N**
1	PU239	2.500	0.700	1.960	0.300	1.280	**A**	**N**
1	SR 90	1100.000	15.600	1390.000	12.000	0.790	**A**	**A**
Matrix:	**WA**							
1	AM241	0.110	0.010	1.080	0.040	0.100	**N**	**A**
1	CO 60	72.200	4.600	61.100	0.730	1.180	**W**	**A**
1	CS137	103.000	4.600	89.500	1.360	1.150	**A**	**A**
1	GA 1	938.000	30.000	1210.000	121.000	0.780	**W**	**N**
1	GB 2	571.000	20.000	540.000	54.000	1.060	**A**	**N**
1	MN 54	72.200	4.200	60.500	0.550	1.190	**W**	**A**
1	PU238	2.180	0.320	1.910	0.070	1.140	**W**	**N**
1	PU239	1.180	0.190	0.840	0.030	1.410	**W**	**W**
1	SR 90	2.510	0.310	2.710	0.240	0.930	**A**	**W**
1	U 234	0.500	0.080	0.480	0.040	1.040	**A**	**W**

Units for matrices: AI=Bq/filter SO=Bq/kg VE=Bq/kg WA=Bq/L. Values for elemental uranium are reported in µg/filter, g

Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable pCi = Bq x 27

QAP45 Results by Laboratory

Lab: AU ORISE EESD/ESSAP, Oak Ridge

No. Test	Radio-nuclide	Reported Value	Reported Error	EML Value	EML Error	Reported / EML	Evaluation	QAP 44 Evaluation
Matrix:	**WA**							
1	U 238	0.470	0.070	0.480	0.370	0.980	**A**	**W**

Units for matrices: AI=Bq/filter SO=Bq/kg VE=Bq/kg WA=Bq/L. Values for elemental uranium are reported in µg/filter, g
Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable pCi = Bq x 27

QAP45 Results by Laboratory

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

No. Test	Radio-nuclide	Reported Value	Reported Error	EML Value	EML Error	Reported / EML	Evaluation	QAP 44 Evaluation
Matrix:	**AI**							
1	CO 57	19.200	1.200	14.800	0.814	1.300	**N**	**A**
1	CO 60	10.600	0.420	8.640	0.431	1.230	**W**	**A**
1	CS134	13.100	0.680	10.800	0.392	1.210	**W**	**A**
1	CS137	10.600	0.790	8.520	0.366	1.240	**W**	**A**
1	MN 54	8.600	0.850	6.350	0.270	1.350	**N**	**W**
1	RU106	12.400	2.900	10.800	1.140	1.150	**W**	**W**
1	SB125	13.600	0.940	10.800	0.540	1.260	**W**	**W**
1	U 234	0.071	0.020	0.080	0.006	0.890	**W**	
1	U 238	0.070	0.020	0.078	0.006	0.900	**A**	
Matrix:	**SO**							
1	CS137	1730.000	105.000	1550.000	22.200	1.120	**A**	**A**
1	K 40	560.000	150.000	300.000	25.000	1.870	**N**	
Matrix:	**VE**							
1	CS137	235.000	23.000	190.000	6.680	1.240	**A**	**A**
1	K 40	1510.000	253.000	992.000	29.000	1.520	**N**	
Matrix:	**WA**							
1	CO 60	70.000	4.400	61.100	0.730	1.150	**W**	**A**
1	CS137	99.400	7.800	89.500	1.360	1.110	**A**	**A**
1	MN 54	63.000	7.000	60.500	0.550	1.040	**A**	**A**
1	SR 90	3.220	0.350	2.710	0.240	1.190	**A**	**A**
1	U 234	0.470	0.470	0.480	0.040	0.980	**A**	**W**
1	U 238	0.426	0.430	0.480	0.370	0.890	**W**	**W**

Units for matrices: AI=Bq/filter SO=Bq/kg VE=Bq/kg WA=Bq/L. Values for elemental uranium are reported in µg/filter, g

Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable pCi = Bq x 27

QAP45 Results by Laboratory

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

No. Test	Radio-nuclide	Reported Value	Reported Error	EML Value	EML Error	Reported / EML	Evaluation	QAP 44 Evaluation
Matrix:	**AI**							
1	CO 57	15.600	0.448	14.800	0.814	1.050	**W**	**A**
1	CO 60	9.070	0.144	8.640	0.431	1.050	**A**	**A**
1	CS134	11.700	0.540	10.800	0.392	1.080	**A**	**A**
1	CS137	9.070	0.485	8.520	0.366	1.070	**A**	**A**
1	GA 1	1.040	0.034	1.150	0.110	0.900	**W**	**A**
1	GB 2	0.740	0.021	0.500	0.050	1.480	**A**	**W**
1	MN 54	6.990	0.311	6.350	0.270	1.100	**W**	**A**
1	RU106	12.800	0.907	10.800	1.140	1.180	**W**	**A**
1	SB125	12.200	0.625	10.800	0.540	1.130	**W**	**A**
1	SR 90	0.596	0.188	0.526	0.037	1.130	**A**	**A**
1	U 234	0.092	0.007	0.080	0.006	1.150	**A**	**A**
1	U 238	0.092	0.009	0.078	0.006	1.180	**A**	**A**
Matrix:	**SO**							
1	CO 60	2.870	0.677	2.920	0.210	0.980	**A**	
1	CS137	1940.000	149.000	1550.000	22.200	1.250	**W**	**A**
1	K 40	339.000	20.700	300.000	25.000	1.130	**A**	**A**
1	SR 90	47.700	21.600	69.900	5.100	0.680	**W**	**W**
1	U 234	42.600	2.310	39.200	2.440	1.090	**W**	**W**
1	U 238	43.700	2.690	41.600	0.610	1.050	**A**	**W**
Matrix:	**VE**							
1	CO 60	12.600	1.110	10.900	0.710	1.160	**A**	**A**
1	CS137	252.000	19.500	190.000	6.680	1.330	**W**	
1	K 40	1220.000	65.100	992.000	29.000	1.230	**A**	**A**
1	SR 90	1220.000	104.000	1390.000	12.000	0.880	**A**	**W**
Matrix:	**WA**							
1	CO 60	67.300	3.700	61.100	0.730	1.100	**A**	**A**
1	CS137	100.000	7.070	89.500	1.360	1.120	**A**	**A**
1	GA 1	1220.000	30.600	1210.000	121.000	1.010	**A**	**W**
1	GB 2	603.000	12.400	540.000	54.000	1.120	**A**	**A**
1	MN 54	70.300	3.740	60.500	0.550	1.160	**W**	**A**
1	SR 90	3.340	0.666	2.710	0.240	1.230	**A**	**W**
1	U 234	0.551	0.026	0.480	0.040	1.150	**A**	**W**
1	U 238	0.599	0.033	0.480	0.370	1.250	**W**	**W**

Units for matrices: AI=Bq/filter SO=Bq/kg VE=Bq/kg WA=Bq/L. Values for elemental uranium are reported in µg/filter, g

Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable pCi = Bq x 27

QAP45 Results by Laboratory

Lab: BE RUST Geotech, Grand Junction, CO

No. Test	Radio-nuclide	Reported Value	Reported Error	EML Value	EML Error	Reported / EML	Evaluation	QAP 44 Evaluation
Matrix:	**AI**							
1	AM241	0.216	0.017	0.222	0.019	0.970	**A**	**A**
1	CO 57	16.700	1.240	14.800	0.814	1.130	**W**	**W**
1	CO 60	11.200	0.870	8.640	0.431	1.300	**N**	**W**
1	CS134	12.300	0.940	10.800	0.392	1.140	**W**	**W**
1	CS137	10.300	0.810	8.520	0.366	1.210	**W**	**W**
1	GA 1	1.040	0.074	1.150	0.110	0.900	**W**	**W**
1	GB 2	0.574	0.037	0.500	0.050	1.150	**A**	**A**
1	MN 54	8.160	0.630	6.350	0.270	1.290	**N**	**W**
1	PU238	0.115	0.009	0.118	0.006	0.980	**A**	**A**
1	RU106	11.300	1.490	10.800	1.140	1.050	**A**	**A**
1	SB125	11.700	1.030	10.800	0.540	1.080	**A**	**A**
1	SR 90	0.608	0.062	0.526	0.037	1.160	**A**	**A**
1	U 234	0.079	0.010	0.080	0.006	0.990	**A**	**A**
1	U 238	0.079	0.010	0.078	0.006	1.010	**A**	**A**
1	U UG	6.310	0.000	6.398	0.510	0.990	**A**	**A**
Matrix:	**SO**							
1	AM241	13.400	0.950	13.500	0.510	0.990	**A**	**A**
1	CM244	0.301	0.073	0.312	0.064	0.970	**A**	
1	CS137	1870.000	137.000	1550.000	22.200	1.210	**A**	**A**
1	K 40	394.000	62.100	300.000	25.000	1.310	**W**	**A**
1	PU238	0.920	0.170	1.130	0.240	0.810	**A**	**A**
1	PU239	23.100	1.300	21.800	1.080	1.060	**A**	**A**
1	SR 90	74.500	6.030	69.900	5.100	1.070	**A**	**A**
1	U 234	41.300	4.700	39.200	2.440	1.050	**A**	**W**
1	U 238	42.700	4.900	41.600	0.610	1.030	**A**	**W**
1	U UG	3.410	0.000	3.360	0.300	1.020	**A**	**W**
Matrix:	**VE**							
1	AM241	1.250	0.220	1.230	0.410	1.020	**A**	**A**
1	CM244	0.720	0.140	0.830	0.120	0.870	**A**	**W**
1	CO 60	17.400	3.800	10.900	0.710	1.600	**N**	**A**
1	CS137	184.000	15.800	190.000	6.680	0.970	**A**	**W**
1	K 40	1020.000	114.000	992.000	29.000	1.030	**A**	**A**
1	PU239	14.000	0.990	1.960	0.300	7.140	**N**	**A**
1	SR 90	1650.000	96.000	1390.000	12.000	1.190	**W**	**A**
Matrix:	**WA**							
1	AM241	1.100	0.072	1.080	0.040	1.020	**A**	**A**
1	CO 60	63.600	5.270	61.100	0.730	1.040	**A**	**A**
1	CS137	101.000	8.400	89.500	1.360	1.130	**A**	**W**
1	GA 1	1310.000	85.000	1210.000	121.000	1.080	**A**	**A**
1	GB 2	514.000	35.000	540.000	54.000	0.950	**A**	**W**

Units for matrices: AI=Bq/filter SO=Bq/kg VE=Bq/kg WA=Bq/L. Values for elemental uranium are reported in µg/filter, g

Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable pCi = Bq x 27

QAP45 Results by Laboratory

Lab: BE RUST Geotech, Grand Junction, CO

No. Test	Radio-nuclide	Reported Value	Reported Error	EML Value	EML Error	Reported / EML	Evaluation	QAP 44 Evaluation
Matrix:	**WA**							
1	H 3	513.000	19.400	587.000	58.000	0.870	**A**	**W**
1	MN 54	68.200	5.560	60.500	0.550	1.130	**A**	**N**
1	PU238	1.950	0.130	1.910	0.070	1.020	**A**	**A**
1	PU239	0.879	0.070	0.840	0.030	1.050	**A**	**A**
1	SR 90	3.140	0.349	2.710	0.240	1.160	**A**	**W**
1	U 234	0.490	0.060	0.480	0.040	1.020	**A**	**A**
1	U 238	0.495	0.060	0.480	0.370	1.030	**A**	**A**
1	U UG	0.039	0.000	0.039	0.003	1.000	**A**	**N**

Units for matrices: AI=Bq/filter SO=Bq/kg VE=Bq/kg WA=Bq/L. Values for elemental uranium are reported in µg/filter, g
Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable pCi = Bq x 27

QAP45 Results by Laboratory

Lab: BL Barringer Laboratories Inc., Golden, CO

No. Test	Radio-nuclide	Reported Value	Reported Error	EML Value	EML Error	Reported / EML	Evaluation	QAP 44 Evaluation
Matrix:	**AI**							
1	AM241	0.240	0.020	0.222	0.019	1.080	**A**	**W**
2		0.280	0.020	0.222	0.019	1.260	**A**	**W**
1	CO 57	17.900	1.000	14.800	0.814	1.210	**W**	**A**
1	CO 60	10.300	0.400	8.640	0.431	1.190	**W**	**A**
1	CS134	9.800	0.400	10.800	0.392	0.910	**A**	**A**
1	CS137	12.200	0.500	8.520	0.366	1.430	**N**	**A**
1	GA 1	1.010	0.015	1.150	0.110	0.880	**W**	**A**
1	MN 54	7.780	0.340	6.350	0.270	1.230	**W**	**A**
1	PU238	0.130	0.010	0.118	0.006	1.100	**A**	**A**
2		0.140	0.010	0.118	0.006	1.190	**W**	**A**
1	RU106	11.500	0.700	10.800	1.140	1.070	**A**	**A**
1	SB125	11.600	0.700	10.800	0.540	1.070	**A**	**A**
1	SR 90	1.700	0.830	0.526	0.037	3.230	**N**	**A**
2		2.070	0.760	0.526	0.037	3.940	**N**	**A**
1	U 234	0.079	0.000	0.080	0.006	0.990	**A**	**W**
2		0.084	0.001	0.080	0.006	1.050	**A**	**W**
1	U 238	0.077	0.000	0.078	0.006	0.990	**A**	**A**
2		0.081	0.001	0.078	0.006	1.040	**A**	**A**
1	U UG	6.380	0.000	6.398	0.510	1.000	**A**	**W**
2		6.740	0.130	6.398	0.510	1.050	**A**	**W**
Matrix:	**SO**							
1	AM241	35.600	1.000	13.500	0.510	2.640	**W**	**W**
1	CO 60	2.900	0.500	2.920	0.210	0.990	**A**	
1	CS137	1840.000	40.000	1550.000	22.200	1.190	**A**	**A**
1	K 40	363.000	16.000	300.000	25.000	1.210	**A**	**A**
1	PU238	0.900	0.130	1.130	0.240	0.800	**A**	**A**
2		1.190	0.140	1.130	0.240	1.050	**A**	**A**
1	PU239	25.500	0.600	21.800	1.080	1.170	**A**	**A**
2		22.300	0.600	21.800	1.080	1.020	**A**	**A**
1	SR 90	76.200	9.100	69.900	5.100	1.090	**A**	**W**
1	U 234	33.000	2.200	39.200	2.440	0.840	**A**	**N**
1	U 238	34.600	2.200	41.600	0.610	0.830	**A**	**W**
1	U UG	2.710	0.090	3.360	0.300	0.810	**A**	**W**
Matrix:	**VE**							
1	CO 60	11.500	1.200	10.900	0.710	1.050	**A**	**A**
1	CS137	236.000	6.000	190.000	6.680	1.240	**A**	**A**
1	K 40	1210.000	50.000	992.000	29.000	1.220	**A**	**A**
1	PU239	1.750	0.150	1.960	0.300	0.890	**A**	**A**
2		2.050	0.210	1.960	0.300	1.050	**A**	**A**
1	SR 90	1120.000	28.000	1390.000	12.000	0.810	**A**	**A**
2		1100.000	24.000	1390.000	12.000	0.790	**A**	**A**

Units for matrices: AI=Bq/filter SO=Bq/kg VE=Bq/kg WA=Bq/L. Values for elemental uranium are reported in µg/filter, g

Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable pCi = Bq x 27

QAP45 Results by Laboratory

Lab: BL Barringer Laboratories Inc., Golden, CO

No. Test	Radio-nuclide	Reported Value	Reported Error	EML Value	EML Error	Reported / EML	Evaluation	QAP 44 Evaluation
Matrix:	**WA**							
1	AM241	1.380	0.090	1.080	0.040	1.280	**W**	**W**
2		1.480	0.100	1.080	0.040	1.370	**W**	**W**
1	CO 60	65.600	1.800	61.100	0.730	1.070	**A**	**A**
1	CS137	97.200	2.600	89.500	1.360	1.090	**A**	**A**
1	FE 55	223.000	5.000	230.000	23.000	0.970	**A**	**A**
2		222.000	8.000	230.000	23.000	0.970	**A**	**A**
1	GA 1	1030.000	19.000	1210.000	121.000	0.850	**A**	**A**
1	GB 2	326.000	15.000	540.000	54.000	0.600	**W**	**N**
1	H 3	549.000	26.000	587.000	58.000	0.940	**A**	**A**
1	MN 54	65.100	1.700	60.500	0.550	1.080	**A**	**A**
1	PU238	2.040	0.090	1.910	0.070	1.070	**A**	**W**
2		2.140	0.140	1.910	0.070	1.120	**A**	**W**
1	PU239	0.870	0.060	0.840	0.030	1.040	**A**	**A**
1	SR 90	2.820	0.730	2.710	0.240	1.040	**A**	**A**
2		3.120	0.670	2.710	0.240	1.150	**A**	**A**
1	U 234	0.510	0.000	0.480	0.040	1.060	**A**	**A**
1	U 238	0.500	0.000	0.480	0.370	1.040	**A**	**A**
1	U UG	0.041	0.000	0.039	0.003	1.050	**A**	**A**

Units for matrices: AI=Bq/filter SO=Bq/kg VE=Bq/kg WA=Bq/L. Values for elemental uranium are reported in µg/filter, g

Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable pCi = Bq x 27

QAP45 Results by Laboratory

Lab: BM Battelle Memorial Institute, Columbus, OH

No. Test	Radio-nuclide	Reported Value	Reported Error	EML Value	EML Error	Reported / EML	Evaluation	QAP 44 Evaluation
Matrix:	**AI**							
1	AM241	0.310	0.110	0.222	0.019	1.400	**A**	**W**
1	CO 57	15.600	0.140	14.800	0.814	1.050	**W**	**A**
1	CO 60	9.440	0.230	8.640	0.431	1.090	**W**	**A**
1	CS134	12.400	0.200	10.800	0.392	1.150	**W**	**A**
1	CS137	8.860	0.210	8.520	0.366	1.040	**A**	**A**
1	MN 54	6.940	0.180	6.350	0.270	1.090	**W**	**A**
1	PU238	0.100	0.011	0.118	0.006	0.850	**A**	**W**
1	RU106	12.200	1.200	10.800	1.140	1.130	**W**	**A**
1	SB125	11.300	0.450	10.800	0.540	1.050	**A**	**A**
1	SR 90	0.430	0.020	0.526	0.037	0.820	**W**	**W**
1	U 234	0.100	0.017	0.080	0.006	1.250	**A**	**W**
1	U 238	0.089	0.014	0.078	0.006	1.140	**A**	**A**
Matrix:	**SO**							
1	AM241	17.400	3.540	13.500	0.510	1.290	**A**	**A**
1	CS137	1380.000	10.700	1550.000	22.200	0.890	**W**	**W**
1	K 40	252.000	35.800	300.000	25.000	0.840	**W**	**W**
1	PU238	1.040	0.360	1.130	0.240	0.920	**A**	**A**
1	PU239	18.100	2.060	21.800	1.080	0.830	**W**	**A**
1	SR 90	93.700	9.680	69.900	5.100	1.340	**A**	**N**
1	U 234	35.300	5.760	39.200	2.440	0.900	**A**	**W**
1	U 238	37.000	6.020	41.600	0.610	0.890	**A**	**W**
Matrix:	**VE**							
1	AM241	0.840	0.330	1.230	0.410	0.680	**W**	**W**
1	CO 60	10.700	2.580	10.900	0.710	0.980	**A**	**A**
1	CS137	167.000	5.490	190.000	6.680	0.880	**W**	**W**
1	K 40	852.000	59.600	992.000	29.000	0.860	**W**	**A**
1	PU239	1.680	0.220	1.960	0.300	0.860	**A**	**A**
1	SR 90	1270.000	72.000	1390.000	12.000	0.910	**A**	**N**
Matrix:	**WA**							
1	AM241	0.990	0.160	1.080	0.040	0.920	**A**	**A**
1	CO 60	64.600	3.060	61.100	0.730	1.060	**A**	**A**
1	CS137	96.100	3.460	89.500	1.360	1.070	**A**	**A**
1	MN 54	66.600	2.780	60.500	0.550	1.100	**A**	**A**
1	PU238	1.580	0.170	1.910	0.070	0.830	**W**	**A**
1	PU239	0.750	0.088	0.840	0.030	0.890	**W**	**A**
1	SR 90	1.220	0.180	2.710	0.240	0.450	**N**	**W**
1	U 234	0.660	0.110	0.480	0.040	1.380	**W**	**A**
1	U 238	0.520	0.090	0.480	0.370	1.080	**A**	**W**

Units for matrices: AI=Bq/filter SO=Bq/kg VE=Bq/kg WA=Bq/L. Values for elemental uranium are reported in µg/filter, g

Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable **pCi = Bq x 27**

QAP45 Results by Laboratory

Lab: BN Brookhaven National Laboratory, Upton, NY

No. Test	Radio-nuclide	Reported Value	Reported Error	EML Value	EML Error	Reported / EML	Evaluation	QAP 44 Evaluation
Matrix:	**AI**							
1	AM241	0.440	0.100	0.222	0.019	1.980	**W**	
1	CO 57	20.600	0.740	14.800	0.814	1.390	**N**	**A**
1	CO 60	10.000	0.800	8.640	0.431	1.160	**W**	**A**
1	CS134	11.500	0.340	10.800	0.392	1.070	**A**	**A**
1	CS137	11.100	1.360	8.520	0.366	1.300	**W**	**W**
1	GA 1	1.210	0.040	1.150	0.110	1.050	**A**	**A**
1	GB 2	0.790	0.000	0.500	0.050	1.580	**W**	**A**
1	MN 54	8.560	0.810	6.350	0.270	1.350	**N**	**A**
1	RU106	12.000	1.260	10.800	1.140	1.110	**W**	**A**
1	SB125	14.600	2.340	10.800	0.540	1.350	**W**	**W**
Matrix:	**SO**							
1	AM241	28.000	0.610	13.500	0.510	2.070	**W**	
1	CO 60	2.710	0.350	2.920	0.210	0.930	**A**	
1	CS137	1660.000	41.100	1550.000	22.200	1.070	**A**	**A**
1	K 40	269.000	9.260	300.000	25.000	0.900	**A**	**A**
Matrix:	**VE**							
1	CO 60	9.110	0.330	10.900	0.710	0.840	**A**	**W**
1	CS137	185.000	11.400	190.000	6.680	0.970	**A**	**A**
1	K 40	870.000	16.000	992.000	29.000	0.880	**W**	**A**
Matrix:	**WA**							
1	CO 60	63.500	0.460	61.100	0.730	1.040	**A**	**A**
1	CS137	100.000	1.820	89.500	1.360	1.120	**A**	**A**
1	GA 1	1160.000	68.000	1210.000	121.000	0.960	**A**	**A**
1	GB 2	680.000	23.000	540.000	54.000	1.260	**A**	**A**
1	H 3	44.200	2.950	587.000	58.000	0.080	**N**	**A**
1	MN 54	67.200	2.290	60.500	0.550	1.110	**A**	**A**
1	SR 90	2.400	0.060	2.710	0.240	0.890	**A**	**A**

Units for matrices: AI=Bq/filter SO=Bq/kg VE=Bq/kg WA=Bq/L. Values for elemental uranium are reported in µg/filter, g

Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable pCi = Bq x 27

QAP45 Results by Laboratory

Lab: BP Battelle Pacific Northwest Laboratory

No. Test	Radio-nuclide	Reported Value	Reported Error	EML Value	EML Error	Reported / EML	Evaluation	QAP 44 Evaluation
Matrix:	**AI**							
1	AM241	0.204	0.010	0.222	0.019	0.920	**A**	**A**
1	CO 57	14.300	0.240	14.800	0.814	0.970	**A**	**W**
1	CO 60	8.850	0.200	8.640	0.431	1.020	**A**	**A**
1	CS134	11.900	0.240	10.800	0.392	1.100	**W**	**A**
1	CS137	8.280	0.170	8.520	0.366	0.970	**A**	**A**
1	GA 1	1.030	0.030	1.150	0.110	0.900	**W**	
1	GB 2	0.630	0.030	0.500	0.050	1.260	**A**	**A**
1	MN 54	6.120	0.430	6.350	0.270	0.960	**A**	**A**
1	PU238	0.118	0.005	0.118	0.006	1.000	**A**	**A**
1	RU106	12.400	0.940	10.800	1.140	1.150	**W**	**A**
1	SB125	3.730	0.540	10.800	0.540	0.350	**N**	**A**
1	SR 90	0.584	0.047	0.526	0.037	1.110	**A**	**A**
1	U UG	6.530	0.650	6.398	0.510	1.020	**A**	
Matrix:	**SO**							
1	AM241	13.800	0.500	13.500	0.510	1.020	**A**	**A**
1	CO 60	3.640	0.500	2.920	0.210	1.250	**W**	
1	CS137	1900.000	79.000	1550.000	22.200	1.230	**A**	**A**
1	K 40	371.000	29.000	300.000	25.000	1.240	**A**	**A**
1	PU239	23.500	2.800	21.800	1.080	1.080	**A**	**A**
1	SR 90	82.000	3.900	69.900	5.100	1.170	**A**	**A**
1	U UG	4.150	0.160	3.360	0.300	1.240	**W**	**A**
Matrix:	**VE**							
1	AM241	1.210	0.060	1.230	0.410	0.980	**A**	
1	CM244	0.870	0.080	0.830	0.120	1.050	**A**	
1	CO 60	14.200	0.600	10.900	0.710	1.300	**W**	**A**
1	CS137	253.000	7.600	190.000	6.680	1.330	**W**	**N**
1	K 40	1330.000	30.000	992.000	29.000	1.340	**W**	**W**
1	PU239	2.100	0.220	1.960	0.300	1.070	**A**	
1	SR 90	1730.000	269.000	1390.000	12.000	1.250	**W**	**A**
Matrix:	**WA**							
1	AM241	1.140	0.030	1.080	0.040	1.060	**A**	**A**
1	CO 60	66.300	1.700	61.100	0.730	1.090	**A**	**A**
1	CS137	99.000	1.100	89.500	1.360	1.110	**A**	**W**
1	H 3	481.000	13.000	587.000	58.000	0.820	**A**	**W**
1	MN 54	68.000	1.500	60.500	0.550	1.120	**A**	**W**
1	PU238	2.020	0.120	1.910	0.070	1.060	**A**	**A**
1	PU239	0.908	0.073	0.840	0.030	1.080	**A**	**A**
1	SR 90	3.050	0.120	2.710	0.240	1.130	**A**	**W**
1	U UG	0.039	0.004	0.039	0.003	1.000	**A**	**N**

Units for matrices: AI=Bq/filter SO=Bq/kg VE=Bq/kg WA=Bq/L. Values for elemental uranium are reported in µg/filter, g

Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable pCi = Bq x 27

QAP45 Results by Laboratory

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

No. Test	Radio-nuclide	Reported Value	Reported Error	EML Value	EML Error	Reported / EML	Evaluation	QAP 44 Evaluation
Matrix:	**AI**							
1	CO 57	15.900	0.050	14.800	0.814	1.070	**W**	**A**
1	CO 60	8.820	0.120	8.640	0.431	1.020	**A**	**W**
1	CS134	12.100	0.100	10.800	0.392	1.120	**W**	**A**
1	CS137	47.000	0.500	8.520	0.366	5.520	**N**	**A**
1	MN 54	6.770	0.090	6.350	0.270	1.070	**A**	**W**
1	RU106	13.500	0.500	10.800	1.140	1.250	**W**	**A**
1	SB125	6.600	0.100	10.800	0.540	0.610	**W**	**A**
1	U UG	3.300	0.100	6.398	0.510	0.520	**N**	**A**
Matrix:	**SO**							
1	CS137	1560.000	17.000	1550.000	22.200	1.010	**A**	**A**
1	K 40	300.000	3.000	300.000	25.000	1.000	**A**	**N**
1	U UG	3.560	0.090	3.360	0.300	1.060	**A**	**A**
Matrix:	**VE**							
1	CS137	193.000	8.000	190.000	6.680	1.020	**A**	**A**
1	K 40	1120.000	0.700	992.000	29.000	1.130	**A**	**N**
Matrix:	**WA**							
1	CO 60	73.800	0.900	61.100	0.730	1.210	**N**	**A**
1	CS137	96.500	0.900	89.500	1.360	1.080	**A**	**A**
1	H 3	904.000	41.000	587.000	58.000	1.540	**W**	**A**
1	MN 54	64.500	0.700	60.500	0.550	1.070	**A**	**W**
1	U UG	0.042	0.001	0.039	0.003	1.070	**A**	**A**

Units for matrices: AI=Bq/filter SO=Bq/kg VE=Bq/kg WA=Bq/L. Values for elemental uranium are reported in µg/filter, g

Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable pCi = Bq x 27

QAP45 Results by Laboratory

Lab: BS B&W Nuclear Envir. Services, Leechburg, PA

No. Test	Radio-nuclide	Reported Value	Reported Error	EML Value	EML Error	Reported / EML	Evaluation	QAP 44 Evaluation
Matrix:	**AI**							
1	AM241	0.340	0.040	0.222	0.019	1.530	**W**	**W**
1	CO 57	14.500	0.100	14.800	0.814	0.980	**A**	**A**
1	CO 60	8.780	0.160	8.640	0.431	1.020	**A**	**A**
1	CS134	11.800	0.150	10.800	0.392	1.090	**A**	**A**
1	CS137	8.260	0.130	8.520	0.366	0.970	**A**	**W**
1	GA 1	1.420	0.050	1.150	0.110	1.240	**A**	**W**
1	GB 2	0.560	0.060	0.500	0.050	1.120	**A**	**A**
1	MN 54	7.190	0.160	6.350	0.270	1.130	**W**	**W**
1	RU106	10.400	0.800	10.800	1.140	0.960	**A**	**A**
1	SB125	10.600	0.270	10.800	0.540	0.980	**A**	**A**
Matrix:	**SO**							
1	AM241	13.200	1.000	13.500	0.510	0.980	**A**	**A**
1	CO 60	3.000	0.400	2.920	0.210	1.030	**A**	
1	CS137	1740.000	4.200	1550.000	22.200	1.120	**A**	**A**
1	K 40	339.000	10.000	300.000	25.000	1.130	**A**	**A**
1	U BQ	144.000	29.600	82.200	2.980	1.750	**N**	**N**
Matrix:	**VE**							
1	CO 60	9.800	0.760	10.900	0.710	0.900	**A**	**W**
1	CS137	159.000	1.600	190.000	6.680	0.840	**W**	**N**
1	K 40	870.000	16.000	992.000	29.000	0.880	**W**	**W**
Matrix:	**WA**							
1	AM241	1.200	0.200	1.080	0.040	1.110	**A**	**A**
1	CO 60	64.400	0.500	61.100	0.730	1.050	**A**	**A**
1	CS137	96.300	0.500	89.500	1.360	1.080	**A**	**A**
1	GA 1	1160.000	7.000	1210.000	121.000	0.960	**A**	**A**
1	GB 2	578.000	4.000	540.000	54.000	1.070	**A**	**A**
1	MN 54	68.100	0.500	60.500	0.550	1.130	**A**	**W**

Units for matrices: AI=Bq/filter SO=Bq/kg VE=Bq/kg WA=Bq/L. Values for elemental uranium are reported in µg/filter, g

Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable pCi = Bq x 27

QAP45 Results by Laboratory

Lab: BU Autoridad Regulatoria, Buenos Aires, Argentina

No. Test	Radio-nuclide	Reported Value	Reported Error	EML Value	EML Error	Reported / EML	Evaluation	QAP 44 Evaluation
Matrix:	**AI**							
1	AM241	0.230	0.020	0.222	0.019	1.040	**A**	**N**
1	CO 57	21.000	2.000	14.800	0.814	1.420	**N**	**A**
1	CO 60	11.000	1.000	8.640	0.431	1.270	**N**	**A**
1	CS134	13.000	1.000	10.800	0.392	1.200	**W**	**A**
1	CS137	11.000	1.000	8.520	0.366	1.290	**W**	**A**
1	GA 1	0.490	0.010	1.150	0.110	0.430	**N**	**A**
1	GB 2	0.490	0.050	0.500	0.050	0.980	**A**	
1	MN 54	8.100	0.800	6.350	0.270	1.280	**N**	**A**
1	PU238	0.120	0.020	0.118	0.006	1.020	**A**	**A**
1	RU106	13.000	1.000	10.800	1.140	1.200	**W**	**A**
1	SB125	12.000	1.000	10.800	0.540	1.110	**A**	**A**
1	U BQ	0.190	0.020	0.160	0.012	1.190	**A**	**N**
Matrix:	**SO**							
1	CO 60	3.500	0.300	2.920	0.210	1.200	**A**	
1	CS137	1600.000	150.000	1550.000	22.200	1.030	**A**	**A**
1	K 40	360.000	40.000	300.000	25.000	1.200	**A**	**A**
1	U UG	3.900	0.300	3.360	0.300	1.160	**W**	
Matrix:	**VE**							
1	CO 60	12.000	2.000	10.900	0.710	1.100	**A**	**A**
1	CS137	200.000	15.000	190.000	6.680	1.050	**A**	**A**
1	K 40	1100.000	100.000	992.000	29.000	1.110	**A**	**A**
Matrix:	**WA**							
1	AM241	1.190	0.060	1.080	0.040	1.100	**A**	**A**
1	CO 60	64.000	5.000	61.100	0.730	1.050	**A**	**A**
1	CS137	90.000	8.000	89.500	1.360	1.010	**A**	**A**
1	GA 1	1180.000	30.000	1210.000	121.000	0.980	**A**	**A**
1	GB 2	630.000	60.000	540.000	54.000	1.170	**A**	
1	H 3	500.000	30.000	587.000	58.000	0.850	**A**	**A**
1	MN 54	58.000	5.000	60.500	0.550	0.960	**A**	**A**
1	PU238	2.000	0.200	1.910	0.070	1.050	**A**	**W**
1	PU239	0.900	0.080	0.840	0.030	1.070	**A**	**A**
1	U UG	0.038	0.004	0.039	0.003	0.970	**A**	

Units for matrices: AI=Bq/filter SO=Bq/kg VE=Bq/kg WA=Bq/L. Values for elemental uranium are reported in µg/filter, g

Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable pCi = Bq x 27

QAP45 Results by Laboratory

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

No. Test	Radio-nuclide	Reported Value	Reported Error	EML Value	EML Error	Reported / EML	Evaluation	QAP 44 Evaluation
Matrix:	**AI**							
1	AM241	0.273	0.012	0.222	0.019	1.230	**A**	**A**
1	CO 57	14.200	0.685	14.800	0.814	0.960	**A**	**A**
1	CO 60	9.180	0.485	8.640	0.431	1.060	**A**	**A**
1	CS134	11.800	0.707	10.800	0.392	1.090	**A**	**A**
1	CS137	8.700	0.577	8.520	0.366	1.020	**A**	**A**
1	GA 1	0.492	0.023	1.150	0.110	0.430	**N**	**W**
1	GB 2	0.633	0.020	0.500	0.050	1.270	**A**	**A**
1	MN 54	6.770	0.396	6.350	0.270	1.070	**A**	**A**
1	PU238	0.168	0.012	0.118	0.006	1.420	**W**	**W**
1	RU106	12.000	1.020	10.800	1.140	1.110	**W**	**A**
1	SB125	10.900	0.588	10.800	0.540	1.010	**A**	**A**
1	SR 90	0.355	0.086	0.526	0.037	0.680	**W**	**A**
1	U 234	0.101	0.008	0.080	0.006	1.260	**A**	**A**
1	U 238	0.095	0.010	0.078	0.006	1.220	**A**	**A**
Matrix:	**SO**							
1	AM241	13.400	1.170	13.500	0.510	0.990	**A**	**W**
1	CO 60	2.780	0.755	2.920	0.210	0.950	**A**	
1	CS137	1920.000	148.000	1550.000	22.200	1.240	**W**	**A**
1	K 40	331.000	20.400	300.000	25.000	1.100	**A**	**A**
1	PU239	24.900	2.010	21.800	1.080	1.140	**A**	**W**
1	SR 90	56.200	14.600	69.900	5.100	0.800	**A**	**N**
1	U 234	44.400	2.330	39.200	2.440	1.130	**W**	**W**
1	U 238	46.300	3.600	41.600	0.610	1.110	**W**	**A**
Matrix:	**VE**							
1	AM241	3.320	0.312	1.230	0.410	2.700	**W**	**A**
1	CO 60	12.800	1.390	10.900	0.710	1.170	**A**	**A**
1	CS137	246.000	19.000	190.000	6.680	1.300	**W**	**A**
1	K 40	1200.000	64.400	992.000	29.000	1.210	**A**	**A**
1	PU239	2.130	0.257	1.960	0.300	1.090	**A**	**W**
1	SR 90	1230.000	114.000	1390.000	12.000	0.890	**A**	**W**
Matrix:	**WA**							
1	AM241	1.440	0.044	1.080	0.040	1.330	**W**	**A**
1	CO 60	67.300	3.550	61.100	0.730	1.100	**A**	**A**
1	CS137	99.900	6.220	89.500	1.360	1.120	**A**	**A**
1	FE 55	160.000	13.000	230.000	23.000	0.700	**W**	**W**
1	GA 1	1110.000	28.900	1210.000	121.000	0.920	**A**	**A**
1	GB 2	570.000	12.100	540.000	54.000	1.060	**A**	**A**
1	H 3	466.000	55.100	587.000	58.000	0.790	**W**	**A**
1	MN 54	69.600	3.520	60.500	0.550	1.150	**A**	**A**
1	PU238	1.980	0.066	1.910	0.070	1.040	**A**	**A**

Units for matrices: AI=Bq/filter SO=Bq/kg VE=Bq/kg WA=Bq/L. Values for elemental uranium are reported in µg/filter, g

Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable pCi = Bq x 27

QAP45 Results by Laboratory

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

No. Test	Radio-nuclide	Reported Value	Reported Error	EML Value	EML Error	Reported / EML	Evaluation	QAP 44 Evaluation
Matrix:	**WA**							
1	PU239	0.873	0.035	0.840	0.030	1.040	**A**	**A**
1	SR 90	2.780	0.511	2.710	0.240	1.030	**A**	**W**
1	U 234	0.562	0.026	0.480	0.040	1.170	**A**	**W**
1	U 238	0.592	0.033	0.480	0.370	1.230	**W**	**W**

Units for matrices: AI=Bq/filter SO=Bq/kg VE=Bq/kg WA=Bq/L. Values for elemental uranium are reported in µg/filter, g

Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable pCi = Bq x 27

QAP45 Results by Laboratory

Lab: CA Atomic Energy Control Board, Ottawa, Canada

No. Test	Radio-nuclide	Reported Value	Reported Error	EML Value	EML Error	Reported / EML	Evaluation	QAP 44 Evaluation
Matrix:	**AI**							
1	CO 57	14.400	0.400	14.800	0.814	0.970	**A**	**W**
1	CO 60	8.900	0.600	8.640	0.431	1.030	**A**	**W**
1	CS134	12.100	0.800	10.800	0.392	1.120	**W**	**A**
1	CS137	8.400	0.500	8.520	0.366	0.990	**A**	**W**
1	GA 1	0.750	0.030	1.150	0.110	0.650	**N**	**A**
1	GB 2	0.690	0.160	0.500	0.050	1.380	**A**	**W**
1	MN 54	6.600	0.400	6.350	0.270	1.040	**A**	**W**
1	RU106	9.600	1.400	10.800	1.140	0.890	**A**	
1	SB125	11.000	0.950	10.800	0.540	1.020	**A**	**A**
Matrix:	**SO**							
1	U UG	2.900	0.200	3.360	0.300	0.860	**A**	**A**
Matrix:	**WA**							
1	CO 60	66.200	9.000	61.100	0.730	1.080	**A**	**A**
1	CS137	99.600	10.900	89.500	1.360	1.110	**A**	**A**
1	GA 1	120.000	40.000	1210.000	121.000	0.100	**N**	
1	GB 2	520.000	5.000	540.000	54.000	0.960	**A**	
1	MN 54	65.800	7.800	60.500	0.550	1.090	**A**	**A**
1	U UG	0.043	0.002	0.039	0.003	1.100	**A**	**N**

Units for matrices: AI=Bq/filter SO=Bq/kg VE=Bq/kg WA=Bq/L. Values for elemental uranium are reported in µg/filter, g

Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable pCi = Bq x 27

QAP45 Results by Laboratory

Lab: CL Core Laboratories, Casper, WY

No. Test	Radio-nuclide	Reported Value	Reported Error	EML Value	EML Error	Reported / EML	Evaluation	QAP 44 Evaluation
Matrix:	**AI**							
1	AM241	0.260	0.060	0.222	0.019	1.170	**A**	**A**
1	CO 57	13.500	0.480	14.800	0.814	0.910	**A**	**A**
1	CO 60	8.030	0.400	8.640	0.431	0.930	**A**	**W**
1	CS134	10.300	0.480	10.800	0.392	0.950	**A**	**A**
1	CS137	8.520	0.450	8.520	0.366	1.000	**A**	**A**
1	MN 54	6.510	0.410	6.350	0.270	1.030	**A**	**W**
1	PU238	0.090	0.030	0.118	0.006	0.760	**W**	**A**
1	RU106	12.500	2.580	10.800	1.140	1.160	**W**	**A**
1	SB125	10.500	0.720	10.800	0.540	0.970	**A**	**A**
1	SR 90	0.740	0.200	0.526	0.037	1.410	**A**	**A**
1	U 234	0.080	0.030	0.080	0.006	1.000	**A**	**A**
1	U 238	0.060	0.020	0.078	0.006	0.770	**N**	**A**
1	U BQ	0.150	0.040	0.160	0.012	0.940	**A**	**A**
Matrix:	**SO**							
1	AM241	8.730	1.900	13.500	0.510	0.650	**W**	**W**
1	CM244	0.280	0.040	0.312	0.064	0.900	**A**	
1	CO 60	6.380	1.800	2.920	0.210	2.190	**N**	
1	CS137	1710.000	104.000	1550.000	22.200	1.100	**A**	**A**
1	K 40	351.000	46.100	300.000	25.000	1.170	**A**	**A**
1	PU238	2.500	0.500	1.130	0.240	2.210	**N**	**A**
1	PU239	18.000	2.650	21.800	1.080	0.830	**W**	**W**
1	SR 90	67.800	11.100	69.900	5.100	0.970	**A**	**N**
1	U 234	36.700	7.000	39.200	2.440	0.940	**A**	**W**
1	U 238	38.200	8.000	41.600	0.610	0.920	**A**	**A**
1	U BQ	76.800	16.100	82.200	2.980	0.930	**A**	**W**
Matrix:	**VE**							
1	AM241	1.170	0.400	1.230	0.410	0.950	**A**	**A**
1	CM244	1.170	0.400	0.830	0.120	1.410	**A**	**A**
1	CO 60	16.700	5.600	10.900	0.710	1.530	**N**	**A**
1	CS137	212.000	18.800	190.000	6.680	1.120	**A**	**A**
1	K 40	1020.000	93.000	992.000	29.000	1.030	**A**	**A**
1	PU239	1.870	0.700	1.960	0.300	0.950	**A**	**A**
1	SR 90	1020.000	30.000	1390.000	12.000	0.730	**A**	**N**
Matrix:	**WA**							
1	AM241	1.400	0.300	1.080	0.040	1.300	**W**	**A**
1	CO 60	70.000	2.600	61.100	0.730	1.150	**W**	**A**
1	CS137	111.000	4.000	89.500	1.360	1.240	**W**	**A**
1	FE 55	238.000	8.100	230.000	23.000	1.040	**A**	
1	H 3	462.000	14.400	587.000	58.000	0.790	**W**	**W**
1	MN 54	76.300	3.000	60.500	0.550	1.260	**N**	**A**

Units for matrices: AI=Bq/filter SO=Bq/kg VE=Bq/kg WA=Bq/L. Values for elemental uranium are reported in µg/filter, g

Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable pCi = Bq x 27

QAP45 Results by Laboratory

Lab: CL Core Laboratories, Casper, WY

No. Test	Radio-nuclide	Reported Value	Reported Error	EML Value	EML Error	Reported / EML	Evaluation	QAP 44 Evaluation
Matrix:	**WA**							
1	PU238	1.770	0.200	1.910	0.070	0.930	**A**	**A**
1	PU239	0.950	0.100	0.840	0.030	1.130	**A**	**A**
1	SR 90	3.730	0.800	2.710	0.240	1.380	**W**	**A**
1	U 234	0.490	0.100	0.480	0.040	1.020	**A**	**W**
1	U 238	0.490	0.100	0.480	0.370	1.020	**A**	**W**
1	U BQ	0.920	0.196	0.970	0.070	0.950	**A**	**W**

Units for matrices: AI=Bq/filter SO=Bq/kg VE=Bq/kg WA=Bq/L. Values for elemental uranium are reported in µg/filter, g

Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable pCi = Bq x 27

QAP45 Results by Laboratory

Lab: CP Controls for Environmental Pollution, Santa Fe

No. Test	Radio-nuclide	Reported Value	Reported Error	EML Value	EML Error	Reported / EML	Evaluation	QAP 44 Evaluation
Matrix:	**AI**							
1	CO 57	19.400	2.000	14.800	0.814	1.310	**N**	**A**
1	CO 60	10.700	1.100	8.640	0.431	1.240	**W**	**A**
1	CS134	11.400	1.200	10.800	0.392	1.060	**A**	**A**
1	CS137	10.200	1.000	8.520	0.366	1.200	**W**	**A**
1	GA 1	0.576	0.016	1.150	0.110	0.500	**N**	**A**
1	GB 2	0.658	0.014	0.500	0.050	1.320	**A**	**N**
1	MN 54	8.690	0.940	6.350	0.270	1.370	**N**	**A**
1	RU106	10.500	1.800	10.800	1.140	0.970	**A**	**A**
1	SB125	13.200	1.600	10.800	0.540	1.220	**W**	**A**
Matrix:	**SO**							
1	CO 60	3.660	2.010	2.920	0.210	1.250	**W**	
1	CS137	1840.000	187.000	1550.000	22.200	1.190	**A**	**A**
1	K 40	405.000	99.000	300.000	25.000	1.350	**W**	**A**
Matrix:	**VE**							
1	CO 60	16.100	6.200	10.900	0.710	1.480	**N**	**A**
1	CS137	264.000	27.000	190.000	6.680	1.390	**W**	**A**
1	K 40	1210.000	210.000	992.000	29.000	1.220	**A**	**W**
Matrix:	**WA**							
1	CO 60	63.900	6.800	61.100	0.730	1.050	**A**	**A**
1	CS137	92.500	9.300	89.500	1.360	1.030	**A**	**A**
1	GA 1	1190.000	12.000	1210.000	121.000	0.980	**A**	**A**
1	GB 2	603.000	6.000	540.000	54.000	1.120	**A**	**A**
1	MN 54	65.000	7.300	60.500	0.550	1.070	**A**	**A**

Units for matrices: AI=Bq/filter SO=Bq/kg VE=Bq/kg WA=Bq/L. Values for elemental uranium are reported in µg/filter, g

Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable pCi = Bq x 27

QAP45 Results by Laboratory

Lab: CS Rockwell International Corp., Canoga Park, CA

No. Test	Radio-nuclide	Reported Value	Reported Error	EML Value	EML Error	Reported / EML	Evaluation	QAP 44 Evaluation
Matrix:	**AI**							
1	AM241	0.110	0.020	0.222	0.019	0.500	**N**	**A**
1	CO 57	7.930	0.260	14.800	0.814	0.540	**N**	**N**
1	CO 60	6.080	0.200	8.640	0.431	0.700	**N**	**N**
1	CS134	6.620	0.220	10.800	0.392	0.610	**N**	**N**
1	CS137	5.900	0.270	8.520	0.366	0.690	**N**	**N**
1	MN 54	54.000	2.960	6.350	0.270	8.500	**N**	**N**
1	RU106	6.670	0.490	10.800	1.140	0.620	**W**	**W**
1	SB125	7.850	0.220	10.800	0.540	0.730	**W**	**W**
Matrix:	**SO**							
1	AM241	13.900	1.310	13.500	0.510	1.030	**A**	**A**
1	CO 60	2.970	0.260	2.920	0.210	1.020	**A**	
1	CS137	1700.000	73.800	1550.000	22.200	1.100	**A**	**A**
1	K 40	330.000	21.500	300.000	25.000	1.100	**A**	**A**
1	U 238	25.800	1.330	41.600	0.610	0.620	**A**	**A**
Matrix:	**VE**							
1	CO 60	9.620	1.070	10.900	0.710	0.880	**A**	**A**
1	CS137	186.000	8.500	190.000	6.680	0.980	**A**	**A**
1	K 40	1030.000	59.100	992.000	29.000	1.040	**A**	**A**
Matrix:	**WA**							
1	AM241	1.000	0.100	1.080	0.040	0.930	**A**	**A**
1	CO 60	63.500	1.950	61.100	0.730	1.040	**A**	**A**
1	CS137	94.400	4.090	89.500	1.360	1.050	**A**	**A**
1	MN 54	67.500	3.270	60.500	0.550	1.120	**A**	**W**

Units for matrices: AI=Bq/filter SO=Bq/kg VE=Bq/kg WA=Bq/L. Values for elemental uranium are reported in µg/filter, g

Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable pCi = Bq x 27

QAP45 Results by Laboratory

Lab: CW Carlsbad Environmental Monitoring Research Center, NM

No. Test	Radio-nuclide	Reported Value	Reported Error	EML Value	EML Error	Reported / EML	Evaluation	QAP 44 Evaluation
Matrix:	**AI**							
1	AM241	0.230	0.010	0.222	0.019	1.040	**A**	**A**
1	PU238	0.120	0.010	0.118	0.006	1.020	**A**	**A**
1	U 234	0.080	0.004	0.080	0.006	1.000	**A**	**A**
1	U 238	0.077	0.004	0.078	0.006	0.990	**A**	**A**
Matrix:	**SO**							
1	AM241	12.900	1.800	13.500	0.510	0.960	**A**	**A**
1	CM244	0.293	0.060	0.312	0.064	0.940	**A**	
1	PU238	1.060	0.110	1.130	0.240	0.940	**A**	**A**
1	PU239	23.700	1.400	21.800	1.080	1.090	**A**	**A**
1	U 234	38.000	2.000	39.200	2.440	0.970	**A**	**A**
1	U 238	40.000	2.000	41.600	0.610	0.960	**A**	**A**
Matrix:	**VE**							
1	AM241	1.180	0.100	1.230	0.410	0.960	**A**	**A**
1	CM244	0.850	0.080	0.830	0.120	1.020	**A**	**A**
1	PU239	2.130	0.050	1.960	0.300	1.090	**A**	**A**
Matrix:	**WA**							
1	AM241	1.150	0.090	1.080	0.040	1.070	**A**	**A**
1	CO 60	62.000	1.000	61.100	0.730	1.020	**A**	
1	CS137	89.000	3.000	89.500	1.360	0.990	**A**	
1	MN 54	61.000	2.000	60.500	0.550	1.010	**A**	
1	PU238	1.750	0.220	1.910	0.070	0.920	**A**	**A**
1	PU239	0.830	0.120	0.840	0.030	0.990	**A**	**A**
1	U 234	0.471	0.038	0.480	0.040	0.980	**A**	**A**
1	U 238	0.458	0.037	0.480	0.370	0.950	**A**	**A**

Units for matrices: AI=Bq/filter SO=Bq/kg VE=Bq/kg WA=Bq/L. Values for elemental uranium are reported in µg/filter, g

Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable **pCi = Bq x 27**

QAP45 Results by Laboratory

Lab: CZ ACZ Laboratories, Inc., Steamboat Springs, CO

No. Test	Radio-nuclide	Reported Value	Reported Error	EML Value	EML Error	Reported / EML	Evaluation	QAP 44 Evaluation
Matrix:	**WA**							
1	U UG	0.037	0.000	0.039	0.003	0.940	**A**	**A**

Units for matrices: AI=Bq/filter SO=Bq/kg VE=Bq/kg WA=Bq/L. Values for elemental uranium are reported in µg/filter, g
Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable pCi = Bq x 27

QAP45 Results by Laboratory

Lab: DC Datachem Laboratories, Salt Lake City

No. Test	Radio-nuclide	Reported Value	Reported Error	EML Value	EML Error	Reported / EML	Evaluation	QAP 44 Evaluation
Matrix:	**AI**							
1	AM241	0.152	0.039	0.222	0.019	0.690	**W**	**A**
1	CO 57	13.300	1.570	14.800	0.814	0.900	**A**	**N**
1	CO 60	9.730	1.700	8.640	0.431	1.130	**W**	**A**
1	CS134	13.000	1.600	10.800	0.392	1.200	**W**	**W**
1	CS137	11.000	2.000	8.520	0.366	1.290	**W**	**A**
1	GA 1	130.000	260.000	1.150	0.110	*.***	**N**	**A**
1	GB 2	630.000	130.000	0.500	0.050	*.***	**N**	**A**
1	MN 54	6.170	1.270	6.350	0.270	0.970	**A**	**A**
1	PU238	0.108	0.032	0.118	0.006	0.920	**A**	**A**
1	RU106	0.320	1.100	10.800	1.140	0.030	**N**	**W**
1	SB125	13.700	1.100	10.800	0.540	1.270	**W**	**A**
1	U 234	0.091	0.031	0.080	0.006	1.140	**A**	**W**
1	U 238	0.714	0.027	0.078	0.006	9.150	**N**	**W**
1	U UG	0.630	0.063	6.398	0.510	0.100	**N**	**W**
Matrix:	**SO**							
1	AM241	19.000	3.510	13.500	0.510	1.410	**A**	**W**
1	CO 60	3.300	1.000	2.920	0.210	1.130	**A**	
1	CS137	2030.000	450.000	1550.000	22.200	1.310	**W**	**A**
1	K 40	330.000	107.000	300.000	25.000	1.100	**A**	**A**
1	PU238	2.200	1.020	1.130	0.240	1.950	**N**	**A**
1	PU239	27.300	4.640	21.800	1.080	1.250	**A**	**A**
1	SR 90	72.800	10.500	69.900	5.100	1.040	**A**	**A**
1	U 234	37.100	5.880	39.200	2.440	0.950	**A**	**W**
1	U 238	39.900	6.180	41.600	0.610	0.960	**A**	**A**
1	U UG	3.500	0.350	3.360	0.300	1.040	**A**	**A**
Matrix:	**VE**							
1	AM241	1.280	0.320	1.230	0.410	1.040	**A**	**A**
1	CM244	1.230	0.318	0.830	0.120	1.480	**W**	**A**
1	CO 60	12.000	2.400	10.900	0.710	1.100	**A**	**A**
1	CS137	250.000	55.000	190.000	6.680	1.320	**W**	**A**
1	K 40	1100.000	360.000	992.000	29.000	1.110	**A**	**A**
1	PU239	2.170	0.395	1.960	0.300	1.110	**A**	**A**
1	SR 90	1380.000	168.000	1390.000	12.000	0.990	**A**	**W**
Matrix:	**WA**							
1	AM241	1.190	0.160	1.080	0.040	1.100	**A**	**A**
1	CO 60	68.600	1.000	61.100	0.730	1.120	**A**	**A**
1	CS137	110.000	26.600	89.500	1.360	1.230	**W**	**W**
1	GA 1	1.300	0.250	1210.000	121.000	0.000	**N**	**A**
1	GB 2	0.610	0.120	540.000	54.000	0.000	**N**	**A**
1	H 3	496.000	56.000	587.000	58.000	0.850	**A**	**A**

Units for matrices: AI=Bq/filter SO=Bq/kg VE=Bq/kg WA=Bq/L. Values for elemental uranium are reported in µg/filter, g

Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable pCi = Bq x 27

QAP45 Results by Laboratory

Lab: DC Datachem Laboratories, Salt Lake City

No. Test	Radio-nuclide	Reported Value	Reported Error	EML Value	EML Error	Reported / EML	Evaluation	QAP 44 Evaluation
Matrix:	**WA**							
1	MN 54	73.100	16.700	60.500	0.550	1.210	**W**	**N**
1	PU238	2.030	0.262	1.910	0.070	1.060	**A**	**A**
1	PU239	0.935	0.129	0.840	0.030	1.110	**A**	**A**
1	SR 90	3.070	0.325	2.710	0.240	1.130	**A**	**A**
1	U 234	0.524	0.078	0.480	0.040	1.090	**A**	**N**
1	U 238	0.566	0.084	0.480	0.370	1.180	**W**	**W**
1	U UG	40.700	4.070	0.039	0.003	*.***	**N**	**A**

Units for matrices: AI=Bq/filter SO=Bq/kg VE=Bq/kg WA=Bq/L. Values for elemental uranium are reported in µg/filter, g

Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable pCi = Bq x 27

QAP45 Results by Laboratory

Lab: EG LITCO/INEL, Scoville

No. Test	Radio-nuclide	Reported Value	Reported Error	EML Value	EML Error	Reported / EML	Evaluation	QAP 44 Evaluation
Matrix:	**AI**							
1	CO 57	16.400	1.200	14.800	0.814	1.110	**W**	**A**
1	CO 60	9.500	0.700	8.640	0.431	1.100	**W**	**A**
1	CS134	12.400	0.900	10.800	0.392	1.150	**W**	**A**
1	CS137	8.900	0.700	8.520	0.366	1.040	**A**	**A**
1	GA 1	1.200	0.100	1.150	0.110	1.040	**A**	**W**
1	GB 2	0.700	0.100	0.500	0.050	1.400	**A**	**A**
1	MN 54	6.900	0.500	6.350	0.270	1.090	**W**	**A**
1	RU106	11.900	1.000	10.800	1.140	1.100	**W**	**A**
1	SB125	12.600	0.900	10.800	0.540	1.170	**W**	**A**
Matrix:	**SO**							
1	AM241	1.300	0.200	13.500	0.510	0.100	**N**	**A**
1	CM244	0.700	0.300	0.312	0.064	2.240	**N**	
1	CO 60	3.200	0.600	2.920	0.210	1.100	**A**	
1	CS137	1830.000	140.000	1550.000	22.200	1.180	**A**	**A**
1	K 40	340.000	30.000	300.000	25.000	1.130	**A**	**A**
1	PU238	0.400	0.300	1.130	0.240	0.350	**N**	**A**
1	PU239	20.900	3.400	21.800	1.080	0.960	**A**	**A**
1	SR 90	77.000	6.000	69.900	5.100	1.100	**A**	**N**
1	U BQ	61.400	3.900	82.200	2.980	0.750	**A**	
Matrix:	**VE**							
1	AM241	1.300	0.300	1.230	0.410	1.060	**A**	
1	CM244	0.840	0.200	0.830	0.120	1.010	**A**	
1	CO 60	11.000	2.000	10.900	0.710	1.010	**A**	**A**
1	CS137	203.000	15.000	190.000	6.680	1.070	**A**	**A**
1	K 40	1090.000	115.000	992.000	29.000	1.100	**A**	**A**
1	PU239	1.800	0.800	1.960	0.300	0.920	**A**	
1	SR 90	1470.000	30.000	1390.000	12.000	1.060	**A**	**A**
Matrix:	**WA**							
1	AM241	0.940	0.080	1.080	0.040	0.870	**A**	**A**
1	CO 60	65.000	5.000	61.100	0.730	1.060	**A**	**A**
1	CS137	96.000	7.000	89.500	1.360	1.070	**A**	**A**
1	MN 54	64.000	5.000	60.500	0.550	1.060	**A**	**A**
2	PU238	1.300	0.200	1.910	0.070	0.680	**N**	**W**
1	PU239	0.520	0.090	0.840	0.030	0.620	**N**	**A**
1	SR 90	2.640	0.070	2.710	0.240	0.970	**A**	**W**
1	U BQ	1.090	0.060	0.970	0.070	1.120	**A**	

Units for matrices: AI=Bq/filter SO=Bq/kg VE=Bq/kg WA=Bq/L. Values for elemental uranium are reported in µg/filter, g

Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable pCi = Bq x 27

QAP45 Results by Laboratory

Lab: EI Eichrom Industries, Inc., Argonne

No. Test	Radio-nuclide	Reported Value	Reported Error	EML Value	EML Error	Reported / EML	Evaluation	QAP 44 Evaluation
Matrix:	**AI**							
1	AM241	0.210	0.010	0.222	0.019	0.950	**A**	**A**
1	GA 1	0.640	0.070	1.150	0.110	0.560	**N**	
1	PU238	0.210	0.010	0.118	0.006	1.780	**N**	**A**
1	SR 90	0.970	0.100	0.526	0.037	1.840	**W**	**A**
1	U 234	0.100	0.010	0.080	0.006	1.250	**A**	**A**
1	U 238	0.100	0.010	0.078	0.006	1.280	**A**	**A**
Matrix:	**SO**							
1	AM241	49.500	2.430	13.500	0.510	3.670	**N**	
1	SR 90	38.800	2.320	69.900	5.100	0.560	**W**	**A**
Matrix:	**VE**							
1	AM241	1.170	0.150	1.230	0.410	0.950	**A**	**A**
2		2.340	0.290	1.230	0.410	1.900	**W**	**A**
1	CM244	1.090	0.250	0.830	0.120	1.310	**A**	**A**
1	PU239	1.990	0.140	1.960	0.300	1.020	**A**	**A**
2		1.460	0.110	1.960	0.300	0.750	**W**	**A**
1	SR 90	1000.000	45.400	1390.000	12.000	0.720	**A**	**N**
Matrix:	**WA**							
1	AM241	1.150	0.060	1.080	0.040	1.070	**A**	**W**
2		1.320	0.070	1.080	0.040	1.220	**A**	**W**
1	GA 1	1050.000	106.000	1210.000	121.000	0.870	**A**	
1	PU238	2.990	0.140	1.910	0.070	1.570	**N**	**W**
2		3.060	0.150	1.910	0.070	1.600	**N**	**W**
1	PU239	1.280	0.070	0.840	0.030	1.520	**N**	**A**
2		1.440	0.070	0.840	0.030	1.710	**N**	**A**
1	SR 90	2.840	0.280	2.710	0.240	1.050	**A**	**W**
1	U 234	0.630	0.030	0.480	0.040	1.310	**W**	**A**
1	U 238	0.540	0.030	0.480	0.370	1.130	**A**	**W**

Units for matrices: AI=Bq/filter SO=Bq/kg VE=Bq/kg WA=Bq/L. Values for elemental uranium are reported in µg/filter, g

Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable pCi = Bq x 27

QAP45 Results by Laboratory

Lab: EP US EPA, Las Vegas

No. Test	Radio-nuclide	Reported Value	Reported Error	EML Value	EML Error	Reported / EML	Evaluation	QAP 44 Evaluation
Matrix:	**AI**							
1	CO 57	21.100	1.530	14.800	0.814	1.430	**N**	**A**
1	CO 60	12.200	0.615	8.640	0.431	1.410	**N**	**A**
1	CS134	15.300	1.340	10.800	0.392	1.420	**N**	**A**
1	CS137	11.200	0.799	8.520	0.366	1.320	**W**	**A**
1	MN 54	9.230	0.919	6.350	0.270	1.450	**N**	**A**
1	PU238	0.122	0.012	0.118	0.006	1.030	**A**	**A**
1	RU106	14.800	3.720	10.800	1.140	1.370	**N**	**A**
1	SB125	14.600	2.030	10.800	0.540	1.350	**W**	**A**
Matrix:	**SO**							
1	PU238	0.790	0.085	1.130	0.240	0.700	**W**	**A**
1	PU239	21.100	1.690	21.800	1.080	0.970	**A**	**A**
Matrix:	**VE**							
1	PU239	2.220	0.244	1.960	0.300	1.130	**A**	**A**
1	SR 90	129.000	0.064	1390.000	12.000	0.090	**N**	**N**
Matrix:	**WA**							
1	CO 60	9.280	0.499	61.100	0.730	0.150	**N**	**A**
1	CS137	13.400	0.907	89.500	1.360	0.150	**N**	**W**
1	H 3	492.000	10.800	587.000	58.000	0.840	**A**	**A**
1	MN 54	9.450	0.836	60.500	0.550	0.160	**N**	**W**
1	PU238	1.920	0.135	1.910	0.070	1.000	**A**	**A**
1	PU239	0.851	0.064	0.840	0.030	1.010	**A**	**A**
1	SR 90	3.120	0.692	2.710	0.240	1.150	**A**	**A**
1	U 234	0.489	0.045	0.480	0.040	1.020	**A**	**W**
1	U 238	0.484	0.044	0.480	0.040	1.010	**A**	**A**

Units for matrices: AI=Bq/filter SO=Bq/kg VE=Bq/kg WA=Bq/L. Values for elemental uranium are reported in µg/filter, g

Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable pCi = Bq x 27

QAP45 Results by Laboratory

Lab: ES Environmental Sci. & Engr., Inc., Gainesville, FL

No. Test	Radio-nuclide	Reported Value	Reported Error	EML Value	EML Error	Reported / EML	Evaluation	QAP 44 Evaluation
Matrix:	**AI**							
1	AM241	0.219	0.042	0.222	0.019	0.990	**A**	**A**
1	CO 57	14.600	1.610	14.800	0.814	0.990	**A**	**A**
1	CO 60	8.700	0.980	8.640	0.431	1.010	**A**	**A**
1	CS134	10.400	1.160	10.800	0.392	0.960	**A**	**A**
1	CS137	8.350	0.950	8.520	0.366	0.980	**A**	**W**
1	GA 1	1.190	0.220	1.150	0.110	1.040	**A**	**A**
1	GB 2	0.590	0.110	0.500	0.050	1.180	**A**	**N**
1	MN 54	6.670	0.770	6.350	0.270	1.050	**A**	**N**
1	PU238	0.164	0.033	0.118	0.006	1.390	**W**	**A**
1	RU106	9.400	1.670	10.800	1.140	0.870	**A**	**A**
1	SB125	10.500	1.200	10.800	0.540	0.970	**A**	**A**
1	SR 90	0.920	0.260	0.526	0.037	1.750	**W**	**A**
1	U BQ	0.175	0.036	0.160	0.012	1.090	**A**	**A**
1	U UG	7.130	0.000	6.398	0.510	1.110	**A**	**A**
Matrix:	**SO**							
1	AM241	11.800	1.750	13.500	0.510	0.870	**A**	**A**
1	CM244	0.210	0.091	0.312	0.064	0.670	**W**	
1	CO 60	3.430	1.140	2.920	0.210	1.170	**A**	
1	CS137	1970.000	216.000	1550.000	22.200	1.270	**W**	**A**
1	K 40	386.000	52.800	300.000	25.000	1.290	**W**	**A**
1	PU238	0.728	0.192	1.130	0.240	0.640	**W**	**A**
1	PU239	22.800	4.040	21.800	1.080	1.050	**A**	**A**
1	SR 90	85.800	29.800	69.900	5.100	1.230	**A**	**W**
1	U BQ	73.400	12.800	82.200	2.980	0.890	**A**	**A**
1	U UG	3.160	0.000	3.360	0.300	0.940	**A**	**A**
Matrix:	**VE**							
1	AM241	1.410	0.279	1.230	0.410	1.150	**A**	**A**
1	CM244	0.870	0.157	0.830	0.120	1.050	**A**	**A**
1	CO 60	13.500	3.230	10.900	0.710	1.240	**W**	**A**
1	CS137	255.000	29.600	190.000	6.680	1.340	**W**	**W**
1	K 40	1350.000	175.000	992.000	29.000	1.360	**W**	**A**
1	PU239	2.680	0.482	1.960	0.300	1.370	**W**	**A**
1	SR 90	778.000	175.000	1390.000	12.000	0.560	**W**	**A**
Matrix:	**WA**							
1	AM241	1.030	0.183	1.080	0.040	0.950	**A**	**A**
1	CO 60	66.600	7.480	61.100	0.730	1.090	**A**	**A**
1	CS137	100.000	11.200	89.500	1.360	1.120	**A**	**W**
1	GA 1	993.000	158.000	1210.000	121.000	0.820	**A**	
1	GB 2	608.000	89.600	540.000	54.000	1.130	**A**	
1	H 3	161.000	31.100	587.000	58.000	0.270	**N**	**W**

Units for matrices: AI=Bq/filter SO=Bq/kg VE=Bq/kg WA=Bq/L. Values for elemental uranium are reported in µg/filter, g

Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable pCi = Bq x 27

QAP45 Results by Laboratory

Lab: ES Environmental Sci. & Engr., Inc., Gainesville, FL

No. Test	Radio-nuclide	Reported Value	Reported Error	EML Value	EML Error	Reported / EML	Evaluation	QAP 44 Evaluation
Matrix:	**WA**							
1	MN 54	67.800	7.670	60.500	0.550	1.120	**A**	**W**
1	PU238	1.880	0.334	1.910	0.070	0.980	**A**	**A**
1	PU239	0.857	0.156	0.840	0.030	1.020	**A**	**A**
1	SR 90	6.210	1.790	2.710	0.240	2.290	**N**	**A**
1	U BQ	1.020	0.195	0.970	0.070	1.050	**A**	**A**
1	U UG	0.038	0.000	0.039	0.003	0.970	**A**	**A**

Units for matrices: AI=Bq/filter SO=Bq/kg VE=Bq/kg WA=Bq/L. Values for elemental uranium are reported in µg/filter, g

Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable pCi = Bq x 27

QAP45 Results by Laboratory

Lab: FG FGL Environmental, Santa Paula, CA

No. Test	Radio-nuclide	Reported Value	Reported Error	EML Value	EML Error	Reported / EML	Evaluation	QAP 44 Evaluation
Matrix:	**AI**							
1	CO 57	19.600	0.280	14.800	0.814	1.320	**N**	**A**
1	CO 60	10.200	0.320	8.640	0.431	1.180	**W**	**A**
1	CS134	12.400	0.310	10.800	0.392	1.150	**W**	**A**
1	CS137	9.620	0.230	8.520	0.366	1.130	**W**	**A**
1	GA 1	0.640	0.070	1.150	0.110	0.560	**N**	**A**
1	GB 2	0.500	0.080	0.500	0.050	1.000	**A**	**W**
1	MN 54	7.750	0.200	6.350	0.270	1.220	**W**	**A**
1	RU106	11.100	0.300	10.800	1.140	1.030	**A**	**A**
1	SB125	12.600	0.290	10.800	0.540	1.170	**W**	**W**
Matrix:	**SO**							
1	AM241	16.400	2.020	13.500	0.510	1.220	**A**	**W**
1	CO 60	2.760	0.490	2.920	0.210	0.950	**A**	
1	CS137	1530.000	86.000	1550.000	22.200	0.990	**A**	**A**
1	K 40	242.000	22.000	300.000	25.000	0.810	**W**	**W**
1	PU238	0.690	0.010	1.130	0.240	0.610	**W**	
1	PU239	22.000	0.050	21.800	1.080	1.010	**A**	
1	U 234	62.600	0.300	39.200	2.440	1.600	**N**	
1	U 238	86.300	0.400	41.600	0.610	2.080	**N**	
Matrix:	**WA**							
1	AM241	1.310	0.010	1.080	0.040	1.210	**A**	**A**
1	CO 60	67.500	0.190	61.100	0.730	1.110	**A**	**A**
1	CS137	93.900	0.470	89.500	1.360	1.050	**A**	**A**
1	GA 1	1200.000	21.000	1210.000	121.000	0.990	**A**	**A**
1	GB 2	434.000	35.000	540.000	54.000	0.800	**A**	**N**
1	H 3	659.000	14.000	587.000	58.000	1.120	**A**	**A**
1	MN 54	74.500	0.410	60.500	0.550	1.230	**N**	**N**
1	PU238	1.900	0.010	1.910	0.070	1.000	**A**	**A**
1	PU239	0.860	0.010	0.840	0.030	1.020	**A**	**A**
1	U 234	0.493	0.010	0.480	0.040	1.030	**A**	
1	U 238	0.540	0.010	0.480	0.370	1.130	**A**	
1	U BQ	1.030	0.020	0.970	0.070	1.060	**A**	**W**

Units for matrices: AI=Bq/filter SO=Bq/kg VE=Bq/kg WA=Bq/L. Values for elemental uranium are reported in µg/filter, g

Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable pCi = Bq x 27

QAP45 Results by Laboratory

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

No. Test	Radio-nuclide	Reported Value	Reported Error	EML Value	EML Error	Reported / EML	Evaluation	QAP 44 Evaluation
Matrix:	**AI**							
1	AM241	0.256	0.055	0.222	0.019	1.150	**A**	**A**
1	CO 57	18.800	0.100	14.800	0.814	1.270	**N**	**A**
1	CO 60	10.700	0.300	8.640	0.431	1.240	**W**	**A**
1	CS134	12.900	0.100	10.800	0.392	1.190	**W**	**A**
1	CS137	10.500	0.200	8.520	0.366	1.230	**W**	**A**
1	GA 1	0.450	0.020	1.150	0.110	0.390	**N**	**A**
1	GB 2	0.640	0.020	0.500	0.050	1.280	**A**	**A**
1	MN 54	8.250	0.100	6.350	0.270	1.300	**N**	**A**
1	PU238	0.122	0.004	0.118	0.006	1.030	**A**	**A**
1	RU106	13.800	0.100	10.800	1.140	1.280	**W**	**A**
1	SB125	14.200	0.300	10.800	0.540	1.320	**W**	**A**
Matrix:	**SO**							
1	AM241	11.400	0.400	13.500	0.510	0.840	**A**	**A**
1	CO 60	2.700	0.100	2.920	0.210	0.930	**A**	
1	CS137	1670.000	5.000	1550.000	22.200	1.080	**A**	**A**
1	K 40	314.000	8.000	300.000	25.000	1.050	**A**	**A**
1	PU238	1.320	0.594	1.130	0.240	1.170	**W**	**A**
1	PU239	22.600	1.410	21.800	1.080	1.040	**A**	**A**
1	U BQ	59.200	7.700	82.200	2.980	0.720	**A**	
Matrix:	**VE**							
1	AM241	1.170	0.170	1.230	0.410	0.950	**A**	**A**
1	CO 60	9.200	0.400	10.900	0.710	0.840	**A**	**A**
1	CS137	178.000	1.000	190.000	6.680	0.940	**W**	**A**
1	K 40	928.000	13.000	992.000	29.000	0.940	**A**	**A**
Matrix:	**WA**							
1	AM241	1.280	0.120	1.080	0.040	1.180	**A**	**A**
1	CO 60	69.700	0.600	61.100	0.730	1.140	**W**	**A**
1	CS137	107.000	1.000	89.500	1.360	1.200	**W**	**A**
1	GA 1	1540.000	21.000	1210.000	121.000	1.270	**W**	**W**
1	GB 2	657.000	12.000	540.000	54.000	1.220	**A**	**A**
1	H 3	492.000	3.300	587.000	58.000	0.840	**A**	**W**
1	MN 54	72.000	0.600	60.500	0.550	1.190	**W**	**A**
1	PU238	2.240	0.136	1.910	0.070	1.170	**W**	**W**
1	PU239	1.010	0.064	0.840	0.030	1.200	**W**	**W**

Units for matrices: AI=Bq/filter SO=Bq/kg VE=Bq/kg WA=Bq/L. Values for elemental uranium are reported in µg/filter, g

Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable pCi = Bq x 27

QAP45 Results by Laboratory

Lab: FM Florida Mobile Emergency Radiological Laboratory, Orlando

No. Test	Radio-nuclide	Reported Value	Reported Error	EML Value	EML Error	Reported / EML	Evaluation	QAP 44 Evaluation
Matrix:	**AI**							
1	CO 57	15.000	0.122	14.800	0.814	1.010	**A**	**A**
1	CO 60	9.290	0.043	8.640	0.431	1.080	**W**	**A**
1	CS134	11.400	0.074	10.800	0.392	1.060	**A**	**A**
1	CS137	9.100	0.065	8.520	0.366	1.070	**A**	**A**
1	MN 54	7.210	0.054	6.350	0.270	1.140	**W**	**A**
1	RU106	11.500	0.098	10.800	1.140	1.070	**A**	**A**
1	SB125	11.600	0.084	10.800	0.540	1.070	**A**	**A**
Matrix:	**WA**							
1	AM241	1.800	0.250	1.080	0.040	1.670	**W**	**W**
1	CO 60	71.200	0.500	61.100	0.730	1.170	**W**	**A**
1	CS137	109.000	0.740	89.500	1.360	1.220	**W**	**A**
1	MN 54	73.600	0.660	60.500	0.550	1.220	**W**	**A**

Units for matrices: AI=Bq/filter SO=Bq/kg VE=Bq/kg WA=Bq/L. Values for elemental uranium are reported in µg/filter, g

Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable pCi = Bq x 27

QAP45 Results by Laboratory

Lab: FN Fermi Lab, Batavia, IL

No. Test	Radio-nuclide	Reported Value	Reported Error	EML Value	EML Error	Reported / EML	Evaluation	QAP 44 Evaluation
Matrix:	**AI**							
1	CO 57	16.300	1.700	14.800	0.814	1.100	**W**	**A**
1	CO 60	10.000	0.600	8.640	0.431	1.160	**W**	**A**
1	CS134	12.900	0.600	10.800	0.392	1.190	**W**	**A**
1	CS137	9.390	0.770	8.520	0.366	1.100	**W**	**A**
1	MN 54	7.070	0.580	6.350	0.270	1.110	**W**	**A**
1	RU106	12.600	1.500	10.800	1.140	1.170	**W**	**A**
1	SB125	12.900	0.600	10.800	0.540	1.190	**W**	**A**
Matrix:	**SO**							
1	AM241	18.300	2.400	13.500	0.510	1.360	**A**	
1	CO 60	3.750	0.330	2.920	0.210	1.280	**W**	
1	CS137	1740.000	170.000	1550.000	22.200	1.120	**A**	**A**
1	K 40	320.000	33.000	300.000	25.000	1.070	**A**	**A**
1	U 238	25.300	2.700	41.600	0.610	0.610	**A**	**A**
Matrix:	**VE**							
1	CO 60	10.900	0.800	10.900	0.710	1.000	**A**	**A**
1	CS137	192.000	19.000	190.000	6.680	1.010	**A**	**A**
1	K 40	1130.000	110.000	992.000	29.000	1.140	**A**	**A**
Matrix:	**WA**							
1	CO 60	63.400	4.500	61.100	0.730	1.040	**A**	**A**
1	CS137	93.400	9.300	89.500	1.360	1.040	**A**	**A**
1	H 3	505.000	16.000	587.000	58.000	0.860	**A**	**A**
1	MN 54	65.600	6.600	60.500	0.550	1.080	**A**	**A**

Units for matrices: AI=Bq/filter SO=Bq/kg VE=Bq/kg WA=Bq/L. Values for elemental uranium are reported in µg/filter, g

Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable pCi = Bq x 27

QAP45 Results by Laboratory

Lab: FS Florida State University, Tallahassee

No. Test	Radio-nuclide	Reported Value	Reported Error	EML Value	EML Error	Reported / EML	Evaluation	QAP 44 Evaluation
Matrix:	**SO**							
1	AM241	12.900	0.500	13.500	0.510	0.960	**A**	**A**
1	CS137	1690.000	10.000	1550.000	22.200	1.090	**A**	**A**
1	K 40	329.000	13.000	300.000	25.000	1.100	**A**	**A**
1	PU238	0.820	0.100	1.130	0.240	0.730	**A**	**A**
1	PU239	20.600	0.900	21.800	1.080	0.950	**A**	**A**
1	U 234	40.900	1.700	39.200	2.440	1.040	**A**	**W**
1	U 238	43.300	1.700	41.600	0.610	1.040	**A**	**W**

Units for matrices: AI=Bq/filter SO=Bq/kg VE=Bq/kg WA=Bq/L. Values for elemental uranium are reported in µg/filter, g

Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable **pCi = Bq x 27**

QAP45 Results by Laboratory

Lab: GA Lockheed Martin, Pikton, OH

No. Test	Radio-nuclide	Reported Value	Reported Error	EML Value	EML Error	Reported / EML	Evaluation	QAP 44 Evaluation
Matrix:	**AI**							
1	AM241	0.244	0.018	0.222	0.019	1.100	**A**	**A**
1	CO 57	14.200	0.910	14.800	0.814	0.960	**A**	**W**
1	CO 60	9.020	0.320	8.640	0.431	1.040	**A**	**A**
1	CS134	10.500	0.000	10.800	0.392	0.970	**A**	**A**
1	CS137	8.120	0.000	8.520	0.366	0.950	**A**	**W**
1	MN 54	6.480	1.580	6.350	0.270	1.020	**A**	**A**
1	PU238	0.120	0.006	0.118	0.006	1.020	**A**	**A**
1	RU106	9.810	2.190	10.800	1.140	0.910	**A**	**A**
1	SB125	9.870	3.190	10.800	0.540	0.910	**A**	**A**
1	U 234	0.110	0.003	0.080	0.006	1.380	**A**	**A**
1	U 238	0.088	0.010	0.078	0.006	1.130	**A**	**A**
1	U UG	7.080	0.800	6.398	0.510	1.110	**A**	**A**
Matrix:	**SO**							
1	AM241	13.800	1.200	13.500	0.510	1.020	**A**	**A**
1	CS137	1780.000	83.000	1550.000	22.200	1.150	**A**	**A**
1	K 40	455.000	77.000	300.000	25.000	1.520	**W**	**A**
1	PU238	0.710	0.040	1.130	0.240	0.630	**W**	**A**
1	PU239	25.600	2.300	21.800	1.080	1.170	**A**	**A**
1	U 234	43.500	4.300	39.200	2.440	1.110	**W**	**W**
1	U 238	40.500	3.400	41.600	0.610	0.970	**A**	**A**
1	U UG	3.600	0.000	3.360	0.300	1.070	**A**	**A**
Matrix:	**VE**							
1	AM241	1.330	0.260	1.230	0.410	1.080	**A**	**A**
1	CM244	0.890	0.160	0.830	0.120	1.070	**A**	**W**
1	CS137	218.000	16.000	190.000	6.680	1.150	**A**	**A**
1	K 40	1310.000	164.000	992.000	29.000	1.320	**W**	**A**
1	PU239	1.840	0.210	1.960	0.300	0.940	**A**	**A**
Matrix:	**WA**							
1	AM241	1.210	0.025	1.080	0.040	1.120	**A**	**A**
1	CO 60	65.900	2.980	61.100	0.730	1.080	**A**	**A**
1	CS137	95.200	5.100	89.500	1.360	1.060	**A**	**A**
1	MN 54	66.200	16.100	60.500	0.550	1.090	**A**	**A**
1	PU238	2.200	0.120	1.910	0.070	1.150	**W**	**A**
1	PU239	0.954	0.039	0.840	0.030	1.140	**A**	**A**
1	U 234	0.489	0.012	0.480	0.040	1.020	**A**	**A**
1	U 238	0.475	0.038	0.480	0.370	0.990	**A**	**A**
1	U UG	0.038	0.003	0.039	0.003	0.970	**A**	**A**

Units for matrices: AI=Bq/filter SO=Bq/kg VE=Bq/kg WA=Bq/L. Values for elemental uranium are reported in µg/filter, g

Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable pCi = Bq x 27

QAP45 Results by Laboratory

Lab: GE Environmental Physics, Inc., Charleston, SC

No. Test	Radio-nuclide	Reported Value	Reported Error	EML Value	EML Error	Reported / EML	Evaluation	QAP 44 Evaluation
Matrix:	**AI**							
1	AM241	0.207	0.013	0.222	0.019	0.930	**A**	**A**
1	CO 57	15.900	0.040	14.800	0.814	1.070	**W**	**A**
1	CO 60	9.620	0.074	8.640	0.431	1.110	**W**	**A**
1	CS134	10.300	0.074	10.800	0.392	0.950	**A**	**A**
1	CS137	9.070	0.074	8.520	0.366	1.070	**A**	**A**
1	GA 1	1.220	0.011	1.150	0.110	1.060	**A**	**A**
1	GB 2	0.529	0.007	0.500	0.050	1.060	**A**	**A**
1	MN 54	7.510	0.074	6.350	0.270	1.180	**W**	**A**
1	PU238	0.134	0.009	0.118	0.006	1.140	**A**	**A**
1	RU106	9.950	0.300	10.800	1.140	0.920	**A**	**A**
1	SB125	11.500	0.110	10.800	0.540	1.070	**A**	**A**
1	SR 90	0.599	0.030	0.526	0.037	1.140	**A**	**W**
1	U 234	0.082	0.006	0.080	0.006	1.030	**A**	**A**
1	U 238	0.080	0.005	0.078	0.006	1.030	**A**	**A**
1	U UG	6.680	0.080	6.398	0.510	1.040	**A**	**A**
Matrix:	**SO**							
1	AM241	12.100	1.180	13.500	0.510	0.900	**A**	**A**
1	CM244	0.710	0.490	0.312	0.064	2.280	**N**	
1	CO 60	2.660	0.300	2.920	0.210	0.910	**A**	
1	CS137	1770.000	3.330	1550.000	22.200	1.140	**A**	**A**
1	K 40	393.000	7.770	300.000	25.000	1.310	**W**	**A**
1	PU238	3.740	0.925	1.130	0.240	3.310	**N**	**A**
1	PU239	45.900	2.960	21.800	1.080	2.110	**N**	**A**
1	SR 90	61.400	0.740	69.900	5.100	0.880	**A**	**W**
1	U 234	42.200	0.740	39.200	2.440	1.080	**A**	**A**
1	U 238	36.300	2.110	41.600	0.610	0.870	**A**	**A**
1	U BQ	2.860	0.060	82.200	2.980	0.040	**N**	**W**
Matrix:	**VE**							
1	AM241	1.790	2.640	1.230	0.410	1.460	**A**	**A**
1	CM244	1.120	0.220	0.830	0.120	1.350	**A**	**A**
1	CO 60	11.400	0.810	10.900	0.710	1.050	**A**	**A**
1	CS137	217.000	1.480	190.000	6.680	1.140	**A**	**A**
1	K 40	1330.000	16.600	992.000	29.000	1.340	**W**	**A**
1	PU239	1.970	0.400	1.960	0.300	1.010	**A**	**A**
1	SR 90	1030.000	3.700	1390.000	12.000	0.740	**A**	**A**
Matrix:	**WA**							
1	AM241	0.510	0.028	1.080	0.040	0.470	**N**	**W**
1	CO 60	73.000	1.220	61.100	0.730	1.200	**N**	**A**
1	CS137	112.000	1.330	89.500	1.360	1.250	**W**	**W**
1	FE 55	317.000	29.100	230.000	23.000	1.380	**W**	**W**

Units for matrices: AI=Bq/filter SO=Bq/kg VE=Bq/kg WA=Bq/L. Values for elemental uranium are reported in µg/filter, g

Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable pCi = Bq x 27

QAP45 Results by Laboratory

Lab: GE Environmental Physics, Inc., Charleston, SC

No. Test	Radio-nuclide	Reported Value	Reported Error	EML Value	EML Error	Reported / EML	Evaluation	QAP 44 Evaluation
Matrix:	**WA**							
1	GA 1	1120.000	11.600	1210.000	121.000	0.930	**A**	**A**
1	GB 2	555.000	6.990	540.000	54.000	1.030	**A**	**A**
1	H 3	465.000	11.300	587.000	58.000	0.790	**W**	**W**
1	MN 54	76.500	1.220	60.500	0.550	1.260	**N**	**W**
1	PU238	1.040	0.053	1.910	0.070	0.550	**N**	**A**
1	PU239	0.455	0.028	0.840	0.030	0.540	**N**	**A**
1	SR 90	2.230	0.093	2.710	0.240	0.820	**W**	**W**
1	U 234	0.290	0.020	0.480	0.040	0.600	**N**	**W**
1	U 238	0.250	0.020	0.480	0.370	0.520	**N**	**W**
1	U UG	0.033	0.000	0.039	0.003	0.850	**W**	

Units for matrices: AI=Bq/filter SO=Bq/kg VE=Bq/kg WA=Bq/L. Values for elemental uranium are reported in µg/filter, g

Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable pCi = Bq x 27

QAP45 Results by Laboratory

Lab: GS USGS/NWQL, Arvada, CO

No. Test	Radio-nuclide	Reported Value	Reported Error	EML Value	EML Error	Reported / EML	Evaluation	QAP 44 Evaluation
Matrix:	**WA**							
1	GA 1	1360.000	79.600	1210.000	121.000	1.120	**A**	
1	GB 2	558.000	48.100	540.000	54.000	1.030	**A**	
1	U UG	0.029	0.001	0.039	0.003	0.740	**W**	**W**

Units for matrices: AI=Bq/filter SO=Bq/kg VE=Bq/kg WA=Bq/L. Values for elemental uranium are reported in µg/filter, g

Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable pCi = Bq x 27

QAP45 Results by Laboratory

Lab: HC Lawrence Livermore Laboratory, California

No. Test	Radio-nuclide	Reported Value	Reported Error	EML Value	EML Error	Reported / EML	Evaluation	QAP 44 Evaluation
Matrix:	**AI**							
1	GA 1	0.966	0.090	1.150	0.110	0.840	**W**	**A**
1	GB 2	0.523	0.050	0.500	0.050	1.050	**A**	**A**
Matrix:	**WA**							
1	GA 1	1160.000	82.000	1210.000	121.000	0.960	**A**	**A**
1	GB 2	586.000	47.000	540.000	54.000	1.090	**A**	**A**
1	H 3	485.000	24.000	587.000	58.000	0.830	**A**	**W**

Units for matrices: AI=Bq/filter SO=Bq/kg VE=Bq/kg WA=Bq/L. Values for elemental uranium are reported in µg/filter, g

Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable pCi = Bq x 27

QAP45 Results by Laboratory

Lab: ID DPRA - IRD/CNEN, Rio de Janeiro, Brazil

No. Test	Radio-nuclide	Reported Value	Reported Error	EML Value	EML Error	Reported / EML	Evaluation	QAP 44 Evaluation
Matrix:	**AI**							
1	CO 57	10.700	0.790	14.800	0.814	0.720	**A**	**A**
1	CO 60	9.670	0.760	8.640	0.431	1.120	**W**	**A**
1	CS134	13.000	0.650	10.800	0.392	1.200	**W**	**A**
1	CS137	9.330	0.740	8.520	0.366	1.100	**W**	**A**
1	GA 1	0.430	0.030	1.150	0.110	0.370	**N**	
1	GB 2	0.520	0.040	0.500	0.050	1.040	**A**	
1	MN 54	6.670	0.670	6.350	0.270	1.050	**A**	**A**
1	PU238	0.116	0.010	0.118	0.006	0.980	**A**	**W**
1	RU106	13.300	2.610	10.800	1.140	1.230	**W**	**A**
1	SB125	11.300	0.810	10.800	0.540	1.050	**A**	**W**
1	U 238	0.092	0.005	0.078	0.006	1.180	**A**	
1	U BQ	0.179	0.009	0.160	0.012	1.120	**A**	**A**
Matrix:	**SO**							
1	AM241	14.500	1.200	13.500	0.510	1.070	**A**	**A**
1	CO 60	3.570	0.210	2.920	0.210	1.220	**W**	
1	CS137	1840.000	95.100	1550.000	22.200	1.190	**A**	**A**
1	K 40	331.000	19.000	300.000	25.000	1.100	**A**	**A**
1	PU238	0.980	2.200	1.130	0.240	0.870	**A**	**A**
1	PU239	18.800	0.120	21.800	1.080	0.860	**W**	**A**
1	SR 90	71.400	3.700	69.900	5.100	1.020	**A**	**A**
1	U 234	39.900	2.000	39.200	2.440	1.020	**A**	
1	U 238	41.100	2.200	41.600	0.610	0.990	**A**	
1	U BQ	74.800	4.600	82.200	2.980	0.910	**A**	**A**
Matrix:	**VE**							
1	CO 60	11.500	1.560	10.900	0.710	1.050	**A**	**A**
1	CS137	238.000	13.400	190.000	6.680	1.250	**A**	**A**
1	K 40	1060.000	57.000	992.000	29.000	1.070	**A**	**A**
1	PU239	1.900	0.130	1.960	0.300	0.970	**A**	**W**
1	SR 90	1210.000	123.000	1390.000	12.000	0.870	**A**	**A**
Matrix:	**WA**							
1	CO 60	63.300	3.500	61.100	0.730	1.040	**A**	**N**
1	CS137	103.000	5.360	89.500	1.360	1.150	**A**	**A**
1	H 3	511.000	49.800	587.000	58.000	0.870	**A**	**A**
1	MN 54	67.700	3.400	60.500	0.550	1.120	**A**	**A**
1	PU238	1.950	0.130	1.910	0.070	1.020	**A**	**W**
1	PU239	0.890	0.070	0.840	0.030	1.060	**A**	**A**
1	SR 90	3.200	0.210	2.710	0.240	1.180	**A**	**A**
1	U BQ	2.100	0.160	0.970	0.070	2.170	**N**	**W**

Units for matrices: AI=Bq/filter SO=Bq/kg VE=Bq/kg WA=Bq/L. Values for elemental uranium are reported in µg/filter, g

Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable pCi = Bq x 27

QAP45 Results by Laboratory

Lab: IE IEA, Inc., Morrisville, NC

No. Test	Radio-nuclide	Reported Value	Reported Error	EML Value	EML Error	Reported / EML	Evaluation	QAP 44 Evaluation
Matrix:	**AI**							
1	AM241	0.209	0.016	0.222	0.019	0.940	**A**	**A**
1	CO 57	13.200	0.320	14.800	0.814	0.890	**A**	**A**
1	CO 60	8.060	0.260	8.640	0.431	0.930	**A**	**A**
1	CS134	9.850	0.480	10.800	0.392	0.910	**A**	**A**
1	CS137	7.200	0.910	8.520	0.366	0.850	**A**	**W**
1	MN 54	5.980	1.050	6.350	0.270	0.940	**A**	**W**
1	PU238	0.119	0.013	0.118	0.006	1.010	**A**	**A**
1	SB125	9.840	1.460	10.800	0.540	0.910	**A**	**A**
1	SR 90	0.560	0.080	0.526	0.037	1.070	**A**	**A**
1	U 234	0.083	0.025	0.080	0.006	1.040	**A**	**A**
1	U 238	0.084	0.016	0.078	0.006	1.080	**A**	**A**
1	U UG	6.770	1.260	6.398	0.510	1.060	**A**	**A**
Matrix:	**SO**							
1	AM241	11.900	0.980	13.500	0.510	0.880	**A**	**A**
1	CO 60	3.220	0.550	2.920	0.210	1.100	**A**	
1	CS137	1700.000	45.900	1550.000	22.200	1.100	**A**	**A**
1	K 40	313.000	21.200	300.000	25.000	1.040	**A**	**A**
1	PU239	23.200	3.450	21.800	1.080	1.060	**A**	**A**
1	SR 90	66.100	2.800	69.900	5.100	0.950	**A**	**A**
1	U 234	36.300	1.130	39.200	2.440	0.930	**A**	**A**
1	U 238	37.200	1.330	41.600	0.610	0.890	**A**	**A**
1	U UG	3.020	0.110	3.360	0.300	0.900	**A**	**A**
Matrix:	**VE**							
1	AM241	1.450	0.610	1.230	0.410	1.180	**A**	**A**
1	CO 60	12.100	1.140	10.900	0.710	1.110	**A**	**A**
1	CS137	221.000	4.540	190.000	6.680	1.160	**A**	**A**
1	K 40	1090.000	38.900	992.000	29.000	1.100	**A**	**A**
1	PU239	1.760	0.190	1.960	0.300	0.900	**A**	**A**
1	SR 90	1290.000	61.100	1390.000	12.000	0.930	**A**	**A**
Matrix:	**WA**							
1	AM241	1.030	0.040	1.080	0.040	0.950	**A**	**A**
1	CO 60	64.400	5.230	61.100	0.730	1.050	**A**	**A**
1	CS137	94.600	4.850	89.500	1.360	1.060	**A**	**A**
1	GA 1	1040.000	53.300	1210.000	121.000	0.860	**A**	**A**
1	GB 2	405.000	12.200	540.000	54.000	0.750	**A**	**N**
1	H 3	429.000	56.600	587.000	58.000	0.730	**W**	**W**
1	MN 54	64.500	8.210	60.500	0.550	1.070	**A**	**A**
1	PU238	2.030	0.220	1.910	0.070	1.060	**A**	**A**
1	PU239	0.930	0.130	0.840	0.030	1.110	**A**	**A**
1	SR 90	2.830	0.190	2.710	0.240	1.040	**A**	**A**

Units for matrices: AI=Bq/filter SO=Bq/kg VE=Bq/kg WA=Bq/L. Values for elemental uranium are reported in µg/filter, g

Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable pCi = Bq x 27

QAP45 Results by Laboratory

Lab: IE IEA, Inc., Morrisville, NC

No. Test	Radio-nuclide	Reported Value	Reported Error	EML Value	EML Error	Reported / EML	Evaluation	QAP 44 Evaluation
Matrix:	**WA**							
1	U 234	0.530	0.060	0.480	0.040	1.100	**A**	**A**
1	U 238	0.470	0.070	0.480	0.370	0.980	**A**	**A**
1	U UG	0.038	0.005	0.039	0.003	0.970	**A**	**N**

Units for matrices: AI=Bq/filter SO=Bq/kg VE=Bq/kg WA=Bq/L. Values for elemental uranium are reported in µg/filter, g
Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable pCi = Bq x 27

QAP45 Results by Laboratory

Lab: IL ISU Environmental Monitoring Program, Pocatello, ID

No. Test	Radio-nuclide	Reported Value	Reported Error	EML Value	EML Error	Reported / EML	Evaluation	QAP 44 Evaluation
Matrix:	**AI**							
1	CO 57	15.400	0.500	14.800	0.814	1.040	**W**	
1	CO 60	9.040	0.230	8.640	0.431	1.050	**A**	
1	CS134	12.000	0.300	10.800	0.392	1.110	**W**	
1	CS137	8.550	0.410	8.520	0.366	1.000	**A**	
1	GA 1	0.730	0.020	1.150	0.110	0.640	**N**	**W**
1	GB 2	0.640	0.030	0.500	0.050	1.280	**A**	**A**
1	MN 54	6.660	0.310	6.350	0.270	1.050	**A**	
1	RU106	12.000	1.080	10.800	1.140	1.110	**W**	
1	SB125	11.700	0.390	10.800	0.540	1.080	**A**	
Matrix:	**SO**							
1	CO 60	2.020	0.580	2.920	0.210	0.690	**W**	
1	CS137	1710.000	32.300	1550.000	22.200	1.100	**A**	**N**
1	K 40	520.000	39.700	300.000	25.000	1.730	**N**	**N**
Matrix:	**VE**							
1	CO 60	12.600	1.680	10.900	0.710	1.160	**A**	**N**
1	CS137	230.000	5.560	190.000	6.680	1.210	**A**	**N**
1	K 40	1630.000	122.000	992.000	29.000	1.640	**N**	**N**
Matrix:	**WA**							
1	CO 60	65.800	1.000	61.100	0.730	1.080	**A**	**W**
1	CS137	100.000	1.800	89.500	1.360	1.120	**A**	**W**
1	MN 54	67.000	1.300	60.500	0.550	1.110	**A**	**A**

Units for matrices: AI=Bq/filter SO=Bq/kg VE=Bq/kg WA=Bq/L. Values for elemental uranium are reported in µg/filter, g

Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable pCi = Bq x 27

QAP45 Results by Laboratory

Lab: IN WINCO, Idaho Falls

No. Test	Radio-nuclide	Reported Value	Reported Error	EML Value	EML Error	Reported / EML	Evaluation	QAP 44 Evaluation
Matrix:	**AI**							
1	CO 57	13.800	0.950	14.800	0.814	0.930	**A**	**A**
1	CO 60	8.460	0.215	8.640	0.431	0.980	**A**	**W**
1	CS134	11.400	0.220	10.800	0.392	1.060	**A**	**A**
1	CS137	7.760	0.310	8.520	0.366	0.910	**A**	**W**
1	MN 54	6.110	0.340	6.350	0.270	0.960	**A**	**N**
1	RU106	10.100	0.630	10.800	1.140	0.940	**A**	**A**
1	SB125	11.500	0.340	10.800	0.540	1.070	**A**	**A**
Matrix:	**SO**							
1	AM241	10.300	1.500	13.500	0.510	0.760	**A**	**W**
1	CM244	0.180	0.080	0.312	0.064	0.580	**W**	
1	CS137	1730.000	41.000	1550.000	22.200	1.120	**A**	**A**
1	K 40	380.000	45.600	300.000	25.000	1.270	**A**	**A**
1	PU238	1.050	0.250	1.130	0.240	0.930	**A**	**A**
1	PU239	24.100	2.800	21.800	1.080	1.110	**A**	**A**
1	SR 90	70.600	7.000	69.900	5.100	1.010	**A**	**W**
1	U BQ	50.700	15.000	82.200	2.980	0.620	**A**	
Matrix:	**VE**							
1	CO 60	14.800	6.800	10.900	0.710	1.360	**W**	**A**
1	CS137	219.000	7.500	190.000	6.680	1.150	**A**	**A**
1	K 40	1290.000	159.000	992.000	29.000	1.300	**W**	**W**
Matrix:	**WA**							
1	AM241	1.120	0.110	1.080	0.040	1.040	**A**	**A**
1	CO 60	71.200	1.440	61.100	0.730	1.170	**W**	**A**
1	CS137	102.000	3.500	89.500	1.360	1.140	**A**	**A**
1	MN 54	72.400	1.740	60.500	0.550	1.200	**W**	**W**
1	PU238	2.000	0.250	1.910	0.070	1.050	**A**	**A**
1	PU239	0.846	0.100	0.840	0.030	1.010	**A**	**A**
1	SR 90	2.670	0.230	2.710	0.240	0.990	**A**	**W**
1	U BQ	1.020	0.210	0.970	0.070	1.050	**A**	

Units for matrices: AI=Bq/filter SO=Bq/kg VE=Bq/kg WA=Bq/L. Values for elemental uranium are reported in µg/filter, g

Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable pCi = Bq x 27

QAP45 Results by Laboratory

Lab: IR Idaho National Engineering Laboratory

No. Test	Radio-nuclide	Reported Value	Reported Error	EML Value	EML Error	Reported / EML	Evaluation	QAP 44 Evaluation
Matrix:	**AI**							
1	GA 1	2.330	0.110	1.150	0.110	2.030	**N**	
1	GB 2	0.703	0.016	0.500	0.050	1.410	**A**	
1	U UG	8.240	0.310	6.398	0.510	1.290	**A**	**A**
Matrix:	**WA**							
1	GA 1	1140.000	50.000	1210.000	121.000	0.940	**A**	
1	GB 2	463.000	20.000	540.000	54.000	0.860	**A**	
1	U UG	0.042	0.004	0.039	0.003	1.080	**A**	**N**

Units for matrices: AI=Bq/filter SO=Bq/kg VE=Bq/kg WA=Bq/L. Values for elemental uranium are reported in µg/filter, g

Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable pCi = Bq x 27

QAP45 Results by Laboratory

Lab: IS Quanterra- St. Louis

No. Test	Radio-nuclide	Reported Value	Reported Error	EML Value	EML Error	Reported / EML	Evaluation	QAP 44 Evaluation
Matrix:	**AI**							
1	AM241	0.236	0.096	0.222	0.019	1.060	**A**	**A**
1	CO 57	14.900	1.800	14.800	0.814	1.010	**A**	**W**
1	CO 60	8.770	1.290	8.640	0.431	1.020	**A**	**N**
1	CS134	11.000	1.600	10.800	0.392	1.020	**A**	**A**
1	CS137	8.680	1.800	8.520	0.366	1.020	**A**	**W**
1	MN 54	6.610	2.020	6.350	0.270	1.040	**A**	**N**
1	PU238	0.378	0.123	0.118	0.006	3.200	**N**	**A**
1	SB125	11.200	3.700	10.800	0.540	1.040	**A**	**A**
1	SR 90	1.080	0.160	0.526	0.037	2.050	**W**	**W**
1	U 234	0.066	0.008	0.080	0.006	0.830	**W**	**A**
1	U 238	0.066	0.008	0.078	0.006	0.850	**W**	**A**
1	U UG	0.281	0.033	6.398	0.510	0.040	**N**	
Matrix:	**SO**							
1	AM241	12.400	2.900	13.500	0.510	0.920	**A**	**A**
1	CO 60	3.600	1.370	2.920	0.210	1.230	**W**	
1	CS137	1580.000	190.000	1550.000	22.200	1.020	**A**	**A**
1	K 40	330.000	44.000	300.000	25.000	1.100	**A**	**A**
1	PU238	88.500	23.600	1.130	0.240	*.***	**N**	**A**
1	PU239	34.400	11.700	21.800	1.080	1.580	**W**	**W**
1	SR 90	54.400	6.100	69.900	5.100	0.780	**A**	**N**
1	U 234	45.100	5.200	39.200	2.440	1.150	**W**	**A**
1	U 238	45.100	5.200	41.600	0.610	1.080	**A**	**A**
1	U UG	5.190	0.590	3.360	0.300	1.550	**N**	**A**
Matrix:	**VE**							
1	CO 60	12.500	3.500	10.900	0.710	1.150	**A**	**A**
1	CS137	211.000	27.000	190.000	6.680	1.110	**A**	**A**
1	K 40	1160.000	130.000	992.000	29.000	1.170	**A**	**A**
1	PU239	1.610	0.570	1.960	0.300	0.820	**W**	**A**
1	SR 90	1040.000	104.000	1390.000	12.000	0.750	**A**	**A**
Matrix:	**WA**							
1	AM241	1.320	0.150	1.080	0.040	1.220	**A**	**A**
1	CO 60	70.800	7.800	61.100	0.730	1.160	**W**	**A**
1	CS137	108.000	12.000	89.500	1.360	1.210	**W**	**W**
1	GA 1	1460.000	149.000	1210.000	121.000	1.210	**W**	**A**
1	GB 2	353.000	36.000	540.000	54.000	0.650	**W**	**N**
1	H 3	452.000	89.000	587.000	58.000	0.770	**W**	**W**
1	MN 54	73.200	8.100	60.500	0.550	1.210	**W**	**W**
1	PU238	1.960	0.450	1.910	0.070	1.030	**A**	**A**
1	PU239	1.080	0.280	0.840	0.030	1.290	**W**	**A**
1	SR 90	3.090	0.410	2.710	0.240	1.140	**A**	**A**

Units for matrices: AI=Bq/filter SO=Bq/kg VE=Bq/kg WA=Bq/L. Values for elemental uranium are reported in µg/filter, g

Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable pCi = Bq x 27

QAP45 Results by Laboratory

Lab: IS Quanterra- St. Louis

No. Test	Radio-nuclide	Reported Value	Reported Error	EML Value	EML Error	Reported / EML	Evaluation	QAP 44 Evaluation
Matrix:	**WA**							
1	U 234	0.352	0.042	0.480	0.040	0.730	**N**	**W**
1	U 238	0.352	0.042	0.480	0.370	0.730	**N**	**W**
1	U UG	0.040	0.005	0.039	0.003	1.040	**A**	

Units for matrices: AI=Bq/filter SO=Bq/kg VE=Bq/kg WA=Bq/L. Values for elemental uranium are reported in µg/filter, g

Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable pCi = Bq x 27

QAP45 Results by Laboratory

Lab: IT Quanterra- Richland Laboratory

No. Test	Radio-nuclide	Reported Value	Reported Error	EML Value	EML Error	Reported / EML	Evaluation	QAP 44 Evaluation
Matrix:	**AI**							
1	AM241	0.200	0.020	0.222	0.019	0.900	**A**	**A**
1	CO 57	13.700	0.710	14.800	0.814	0.930	**A**	**W**
1	CO 60	8.380	0.200	8.640	0.431	0.970	**A**	**W**
1	CS134	10.100	0.170	10.800	0.392	0.940	**A**	**W**
1	CS137	7.800	0.300	8.520	0.366	0.920	**A**	**W**
1	GA 1	1.110	0.010	1.150	0.110	0.970	**A**	**A**
1	GB 2	0.940	0.020	0.500	0.050	1.880	**N**	**W**
1	MN 54	6.380	0.220	6.350	0.270	1.010	**A**	**W**
1	PU238	0.120	0.010	0.118	0.006	1.020	**A**	**A**
1	RU106	10.300	1.200	10.800	1.140	0.950	**A**	**A**
1	SB125	11.100	0.400	10.800	0.540	1.030	**A**	**A**
1	SR 90	0.550	0.040	0.526	0.037	1.050	**A**	**A**
1	U 234	0.096	0.012	0.080	0.006	1.200	**A**	
1	U 238	0.068	0.004	0.078	0.006	0.870	**W**	
1	U UG	8.300	0.110	6.398	0.510	1.300	**A**	**A**
Matrix:	**SO**							
1	AM241	14.500	0.900	13.500	0.510	1.070	**A**	**A**
1	CM244	0.260	0.060	0.312	0.064	0.830	**A**	
1	CO 60	4.240	0.270	2.920	0.210	1.450	**W**	
1	CS137	1990.000	70.000	1550.000	22.200	1.280	**W**	**A**
1	K 40	372.000	39.000	300.000	25.000	1.240	**A**	**A**
1	PU238	0.840	0.140	1.130	0.240	0.740	**A**	**A**
1	PU239	21.000	2.700	21.800	1.080	0.960	**A**	**W**
1	SR 90	68.800	3.100	69.900	5.100	0.980	**A**	**A**
1	U 234	39.700	2.700	39.200	2.440	1.010	**A**	
1	U 238	37.300	3.300	41.600	0.610	0.900	**A**	
1	U UG	3.030	0.080	3.360	0.300	0.900	**A**	**A**
Matrix:	**VE**							
1	AM241	1.190	0.130	1.230	0.410	0.970	**A**	**A**
1	CM244	0.780	0.020	0.830	0.120	0.940	**A**	**A**
1	CO 60	13.500	1.800	10.900	0.710	1.240	**W**	**A**
1	CS137	245.000	8.000	190.000	6.680	1.290	**W**	**W**
1	K 40	1190.000	158.000	992.000	29.000	1.200	**A**	**W**
1	PU239	2.710	1.360	1.960	0.300	1.380	**W**	**A**
1	SR 90	1540.000	257.000	1390.000	12.000	1.110	**W**	**W**
Matrix:	**WA**							
1	AM241	1.040	0.120	1.080	0.040	0.960	**A**	**A**
1	CO 60	65.800	2.000	61.100	0.730	1.080	**A**	**W**
1	CS137	95.900	2.200	89.500	1.360	1.070	**A**	**W**
1	FE 55	251.000	6.300	230.000	23.000	1.090	**A**	

Units for matrices: AI=Bq/filter SO=Bq/kg VE=Bq/kg WA=Bq/L. Values for elemental uranium are reported in µg/filter, g

Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable pCi = Bq x 27

QAP45 Results by Laboratory

Lab: IT Quanterra- Richland Laboratory

No. Test	Radio-nuclide	Reported Value	Reported Error	EML Value	EML Error	Reported / EML	Evaluation	QAP 44 Evaluation
Matrix:	**WA**							
1	GA 1	843.000	56.000	1210.000	121.000	0.700	**W**	**A**
1	GB 2	436.000	12.000	540.000	54.000	0.810	**A**	**A**
1	H 3	464.000	18.000	587.000	58.000	0.790	**W**	**W**
1	MN 54	65.200	0.900	60.500	0.550	1.080	**A**	**W**
1	PU238	1.970	0.100	1.910	0.070	1.030	**A**	**A**
1	PU239	0.880	0.040	0.840	0.030	1.050	**A**	**W**
1	SR 90	3.000	0.060	2.710	0.240	1.110	**A**	**A**
1	U UG	0.040	0.001	0.039	0.003	1.040	**A**	**N**

Units for matrices: AI=Bq/filter SO=Bq/kg VE=Bq/kg WA=Bq/L. Values for elemental uranium are reported in µg/filter, g

Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable pCi = Bq x 27

QAP45 Results by Laboratory

Lab: KA Knolls Atomic Power Lab, Schenectady

No. Test	Radio-nuclide	Reported Value	Reported Error	EML Value	EML Error	Reported / EML	Evaluation	QAP 44 Evaluation
Matrix:	**AI**							
1	GA 1	1.190	0.100	1.150	0.110	1.040	**A**	**W**
1	GB 2	0.670	0.050	0.500	0.050	1.340	**A**	**A**
Matrix:	**SO**							
1	CO 60	3.100	0.300	2.920	0.210	1.060	**A**	
1	CS137	1966.000	156.000	1550.000	22.200	1.270	**W**	**A**
1	K 40	350.000	54.000	300.000	25.000	1.160	**A**	**A**
1	PU238	1.391	0.492	1.130	0.240	1.230	**W**	**A**
1	PU239	23.905	0.518	21.800	1.080	1.100	**A**	**A**
1	SR 90	79.440	6.600	69.900	5.100	1.140	**A**	**A**
Matrix:	**WA**							
1	CO 60	65.000	2.000	61.100	0.730	1.060	**A**	**A**
1	CS137	97.000	7.000	89.500	1.360	1.080	**A**	**A**
1	FE 55	224.000	10.000	230.000	23.000	0.970	**A**	**W**
1	GA 1	1130.000	142.000	1210.000	121.000	0.930	**A**	**A**
1	GB 2	622.000	87.700	540.000	54.000	1.150	**A**	**A**
1	H 3	582.300	31.200	587.000	58.000	0.990	**A**	**A**
1	MN 54	65.000	5.000	60.500	0.550	1.070	**A**	**A**
1	PU238	2.039	0.015	1.910	0.070	1.070	**A**	**A**
1	PU239	0.923	0.014	0.840	0.030	1.100	**A**	**A**
1	SR 90	2.870	0.420	2.710	0.240	1.060	**A**	**A**
1	U UG	0.038	0.000	0.039	0.003	0.970	**A**	**A**

Units for matrices: AI=Bq/filter SO=Bq/kg VE=Bq/kg WA=Bq/L. Values for elemental uranium are reported in µg/filter, g

Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable pCi = Bq x 27

QAP45 Results by Laboratory

Lab: LA Los Alamos National Laboratory, NM

No. Test	Radio-nuclide	Reported Value	Reported Error	EML Value	EML Error	Reported / EML	Evaluation	QAP 44 Evaluation
Matrix:	**AI**							
1	AM241	0.228	0.025	0.222	0.019	1.030	**A**	**A**
1	CO 57	13.500	0.900	14.800	0.814	0.910	**A**	**W**
2		13.600	0.900	14.800	0.814	0.920	**A**	**W**
3		13.400	0.900	14.800	0.814	0.910	**A**	**W**
1	CO 60	8.950	0.630	8.640	0.431	1.040	**A**	**W**
2		9.100	0.600	8.640	0.431	1.050	**A**	**W**
3		9.030	0.630	8.640	0.431	1.040	**A**	**W**
1	CS134	11.200	0.800	10.800	0.392	1.040	**A**	**A**
2		11.000	0.800	10.800	0.392	1.020	**A**	**A**
3		11.100	0.800	10.800	0.392	1.030	**A**	**A**
1	CS137	8.950	0.630	8.520	0.366	1.050	**A**	**A**
2		8.920	0.630	8.520	0.366	1.050	**A**	**A**
3		8.950	0.630	8.520	0.366	1.050	**A**	**A**
1	GA 1	0.999	0.222	1.150	0.110	0.870	**W**	**A**
2		1.040	0.222	1.150	0.110	0.900	**W**	**A**
3		1.040	0.222	1.150	0.110	0.900	**W**	**A**
1	GB 2	0.740	0.111	0.500	0.050	1.480	**A**	**A**
2		0.666	0.074	0.500	0.050	1.330	**A**	**A**
3		0.703	0.111	0.500	0.050	1.410	**A**	**A**
1	MN 54	6.990	0.520	6.350	0.270	1.100	**W**	**W**
2		7.100	0.520	6.350	0.270	1.120	**W**	**W**
3		6.850	0.520	6.350	0.270	1.080	**W**	**W**
1	PU238	0.118	0.014	0.118	0.006	1.000	**A**	**A**
2		0.127	0.018	0.118	0.006	1.080	**A**	**A**
3		0.121	0.013	0.118	0.006	1.030	**A**	**A**
1	RU106	10.800	1.000	10.800	1.140	1.000	**A**	**A**
2		11.200	1.000	10.800	1.140	1.040	**A**	**A**
3		11.600	1.100	10.800	1.140	1.070	**A**	**A**
1	SB125	12.200	0.900	10.800	0.540	1.130	**W**	**A**
2		12.000	0.900	10.800	0.540	1.110	**A**	**A**
3		12.100	0.900	10.800	0.540	1.120	**W**	**A**
1	SR 90	0.690	0.540	0.526	0.037	1.310	**A**	**A**
2		0.820	0.530	0.526	0.037	1.560	**A**	**A**
3		1.120	0.560	0.526	0.037	2.130	**W**	**A**
1	U UG	12.000	1.200	6.398	0.510	1.880	**W**	**A**
2		11.300	1.130	6.398	0.510	1.770	**W**	**A**
3		11.000	1.100	6.398	0.510	1.720	**W**	**A**
Matrix:	**SO**							
1	AM241	13.700	0.700	13.500	0.510	1.020	**A**	**A**
3		14.900	0.500	13.500	0.510	1.100	**A**	**A**
1	CO 60	2.300	0.400	2.920	0.210	0.790	**W**	
2		3.100	0.400	2.920	0.210	1.060	**A**	
3		2.900	0.400	2.920	0.210	0.990	**A**	
1	CS137	1040.000	71.000	1550.000	22.200	0.670	**N**	**A**
2		1070.000	73.000	1550.000	22.200	0.690	**N**	**A**

Units for matrices: AI=Bq/filter SO=Bq/kg VE=Bq/kg WA=Bq/L. Values for elemental uranium are reported in µg/filter, g

Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable **pCi = Bq x 27**

QAP45 Results by Laboratory

Lab: LA Los Alamos National Laboratory, NM

No. Test	Radio-nuclide	Reported Value	Reported Error	EML Value	EML Error	Reported / EML	Evaluation	QAP 44 Evaluation
Matrix:	**SO**							
3	CS137	1210.000	83.000	1550.000	22.200	0.780	**N**	**A**
1	K 40	222.000	20.000	300.000	25.000	0.740	**W**	**A**
2		241.000	22.000	300.000	25.000	0.800	**W**	**A**
3		265.000	24.000	300.000	25.000	0.880	**W**	**A**
1	PU238	0.880	0.080	1.130	0.240	0.780	**A**	**A**
2		0.730	0.080	1.130	0.240	0.650	**W**	**A**
3		0.920	0.220	1.130	0.240	0.810	**A**	**A**
1	PU239	25.000	0.800	21.800	1.080	1.150	**A**	**A**
2		23.200	0.700	21.800	1.080	1.060	**A**	**A**
3		22.200	1.500	21.800	1.080	1.020	**A**	**A**
1	SR 90	346.000	51.000	69.900	5.100	4.950	**N**	**A**
2		381.000	57.000	69.900	5.100	5.450	**N**	**A**
3		353.000	52.000	69.900	5.100	5.050	**N**	**A**
1	U UG	2.750	0.280	3.360	0.300	0.820	**A**	**A**
2		3.140	0.310	3.360	0.300	0.940	**A**	**A**
3		3.070	0.310	3.360	0.300	0.910	**A**	**A**
Matrix:	**VE**							
1	AM241	0.451	0.078	1.230	0.410	0.370	**N**	**A**
2		1.220	0.122	1.230	0.410	0.990	**A**	**A**
3		1.090	0.089	1.230	0.410	0.890	**A**	**A**
1	CO 60	9.250	1.480	10.900	0.710	0.850	**A**	**A**
2		10.000	1.000	10.900	0.710	0.920	**A**	**A**
3		11.100	1.480	10.900	0.710	1.020	**A**	**A**
1	CS137	186.000	15.000	190.000	6.680	0.980	**A**	**A**
2		188.000	15.000	190.000	6.680	0.990	**A**	**A**
3		191.000	15.000	190.000	6.680	1.010	**A**	**A**
1	K 40	736.000	67.000	992.000	29.000	0.740	**N**	**A**
2		799.000	70.000	992.000	29.000	0.810	**W**	**A**
3		810.000	74.000	992.000	29.000	0.820	**W**	**A**
1	PU239	0.673	0.018	1.960	0.300	0.340	**N**	**A**
2		1.850	0.100	1.960	0.300	0.940	**A**	**A**
3		1.690	0.089	1.960	0.300	0.860	**A**	**A**
Matrix:	**WA**							
1	AM241	1.210	0.050	1.080	0.040	1.120	**A**	**A**
2		1.130	0.050	1.080	0.040	1.050	**A**	**A**
3		1.140	0.050	1.080	0.040	1.060	**A**	**A**
1	CO 60	68.200	6.300	61.100	0.730	1.120	**A**	**A**
2		68.900	6.500	61.100	0.730	1.130	**W**	**A**
3		67.300	6.200	61.100	0.730	1.100	**A**	**A**
1	CS137	102.000	9.000	89.500	1.360	1.140	**A**	**N**
2		104.000	10.000	89.500	1.360	1.160	**A**	**N**
3		103.000	9.000	89.500	1.360	1.150	**A**	**N**

Units for matrices: AI=Bq/filter SO=Bq/kg VE=Bq/kg WA=Bq/L. Values for elemental uranium are reported in µg/filter, g

Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable pCi = Bq x 27

QAP45 Results by Laboratory

Lab: LA Los Alamos National Laboratory, NM

No. Test	Radio-nuclide	Reported Value	Reported Error	EML Value	EML Error	Reported / EML	Evaluation	QAP 44 Evaluation
Matrix:	**WA**							
1	GA 1	1060.000	133.000	1210.000	121.000	0.880	**A**	**A**
2		1210.000	152.000	1210.000	121.000	1.000	**A**	**A**
3		1160.000	144.000	1210.000	121.000	0.960	**A**	**A**
1	GB 2	403.000	44.000	540.000	54.000	0.750	**A**	**N**
2		444.000	48.000	540.000	54.000	0.820	**A**	**N**
3		459.000	52.000	540.000	54.000	0.850	**A**	**N**
1	H 3	627.000	8.000	587.000	58.000	1.070	**A**	**A**
2		550.000	7.800	587.000	58.000	0.940	**A**	**A**
3		560.000	7.800	587.000	58.000	0.950	**A**	**A**
1	PU238	1.990	0.080	1.910	0.070	1.040	**A**	**A**
2		1.920	0.080	1.910	0.070	1.010	**A**	**A**
3		1.910	0.080	1.910	0.070	1.000	**A**	**A**
1	PU239	0.940	0.040	0.840	0.030	1.120	**A**	**W**
2		0.800	0.030	0.840	0.030	0.950	**A**	**W**
3		0.870	0.040	0.840	0.030	1.040	**A**	**W**
1	SR 90	1.330	1.040	2.710	0.240	0.490	**N**	**A**
2		0.590	0.700	2.710	0.240	0.220	**N**	**A**
3		0.520	0.750	2.710	0.240	0.190	**N**	**A**
1	U UG	0.030	0.003	0.039	0.003	0.770	**W**	**A**
2		0.041	0.004	0.039	0.003	1.040	**A**	**A**
3		0.037	0.004	0.039	0.003	0.950	**A**	**A**

Units for matrices: AI=Bq/filter SO=Bq/kg VE=Bq/kg WA=Bq/L. Values for elemental uranium are reported in µg/filter, g

Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable **pCi = Bq x 27**

QAP45 Results by Laboratory

Lab: LH Lockheed Analytical Laboratory, Las Vegas

No. Test	Radio-nuclide	Reported Value	Reported Error	EML Value	EML Error	Reported / EML	Evaluation	QAP 44 Evaluation
Matrix:	**AI**							
1	AM241	0.187	0.021	0.222	0.019	0.840	**A**	**W**
1	CO 57	15.100	1.500	14.800	0.814	1.020	**A**	**W**
1	CO 60	8.600	0.620	8.640	0.431	1.000	**A**	**W**
1	CS134	9.320	0.680	10.800	0.392	0.860	**A**	**W**
1	CS137	8.620	0.880	8.520	0.366	1.010	**A**	**W**
1	GA 1	1.550	0.090	1.150	0.110	1.350	**A**	**A**
1	GB 2	0.450	0.030	0.500	0.050	0.900	**A**	**A**
1	MN 54	6.890	0.710	6.350	0.270	1.090	**W**	**W**
1	PU238	0.124	0.016	0.118	0.006	1.050	**A**	**A**
1	SB125	11.300	0.900	10.800	0.540	1.050	**A**	**A**
1	SR 90	0.550	0.050	0.526	0.037	1.050	**A**	**A**
1	U 234	0.083	0.018	0.080	0.006	1.040	**A**	**W**
1	U 238	0.088	0.018	0.078	0.006	1.130	**A**	**W**
Matrix:	**SO**							
1	AM241	12.300	1.100	13.500	0.510	0.910	**A**	**A**
1	CM244	0.170	0.060	0.312	0.064	0.550	**W**	
1	CO 60	3.160	1.530	2.920	0.210	1.080	**A**	
1	CS137	1900.000	269.000	1550.000	22.200	1.230	**A**	**A**
1	K 40	356.000	69.000	300.000	25.000	1.190	**A**	**A**
1	PU238	0.880	0.180	1.130	0.240	0.780	**A**	**A**
1	PU239	21.300	1.700	21.800	1.080	0.980	**A**	**A**
1	SR 90	60.900	5.000	69.900	5.100	0.870	**A**	**A**
1	U 234	38.400	3.900	39.200	2.440	0.980	**A**	**A**
1	U 238	39.700	4.000	41.600	0.610	0.950	**A**	**A**
Matrix:	**VE**							
1	AM241	6.120	0.440	1.230	0.410	4.980	**N**	**A**
1	CM244	4.910	0.380	0.830	0.120	5.920	**N**	**W**
1	CO 60	12.100	2.800	10.900	0.710	1.110	**A**	**A**
1	CS137	237.000	35.000	190.000	6.680	1.250	**A**	**A**
1	K 40	1220.000	190.000	992.000	29.000	1.230	**A**	**A**
1	PU239	2.080	0.190	1.960	0.300	1.060	**A**	**A**
1	SR 90	1580.000	120.000	1390.000	12.000	1.140	**W**	**A**
Matrix:	**WA**							
1	AM241	1.030	0.150	1.080	0.040	0.950	**A**	**A**
1	CO 60	63.900	6.800	61.100	0.730	1.050	**A**	**A**
1	CS137	97.700	14.100	89.500	1.360	1.090	**A**	**A**
1	FE 55	250.000	15.000	230.000	23.000	1.090	**A**	**A**
1	GA 1	1180.000	118.000	1210.000	121.000	0.980	**A**	**A**
1	GB 2	550.000	59.000	540.000	54.000	1.020	**A**	**N**
1	H 3	442.000	47.000	587.000	58.000	0.750	**W**	**A**

Units for matrices: AI=Bq/filter SO=Bq/kg VE=Bq/kg WA=Bq/L. Values for elemental uranium are reported in µg/filter, g

Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable pCi = Bq x 27

QAP45 Results by Laboratory

Lab: LH Lockheed Analytical Laboratory, Las Vegas

No. Test	Radio-nuclide	Reported Value	Reported Error	EML Value	EML Error	Reported / EML	Evaluation	QAP 44 Evaluation
Matrix:	**WA**							
1	MN 54	67.500	9.900	60.500	0.550	1.120	**A**	**A**
1	PU238	1.980	0.200	1.910	0.070	1.040	**A**	**A**
1	PU239	0.970	0.150	0.840	0.030	1.160	**A**	**A**
1	SR 90	3.040	0.200	2.710	0.240	1.120	**A**	**A**
1	U 234	0.640	0.170	0.480	0.040	1.330	**W**	**A**
1	U 238	0.610	0.160	0.480	0.370	1.270	**W**	**A**

Units for matrices: AI=Bq/filter SO=Bq/kg VE=Bq/kg WA=Bq/L. Values for elemental uranium are reported in µg/filter, g
Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable pCi = Bq x 27

QAP45 Results by Laboratory

Lab: LL Lawrence Livermore National Lab, CA

No. Test	Radio-nuclide	Reported Value	Reported Error	EML Value	EML Error	Reported / EML	Evaluation	QAP 44 Evaluation
Matrix:	**AI**							
1	AM241	0.251	0.043	0.222	0.019	1.130	**A**	
1	CO 57	16.400	0.164	14.800	0.814	1.110	**W**	**A**
1	CO 60	9.770	0.098	8.640	0.431	1.130	**W**	**A**
1	CS134	12.900	0.116	10.800	0.392	1.190	**W**	**A**
1	CS137	9.230	0.125	8.520	0.366	1.080	**A**	**A**
1	GA 1	1.110	0.008	1.150	0.110	0.970	**A**	**A**
1	GB 2	0.894	0.006	0.500	0.050	1.790	**W**	**A**
1	MN 54	7.060	0.099	6.350	0.270	1.110	**W**	**A**
1	PU238	0.124	0.007	0.118	0.006	1.050	**A**	**A**
1	RU106	13.700	0.055	10.800	1.140	1.270	**W**	**W**
1	SB125	12.900	0.142	10.800	0.540	1.190	**W**	**A**
1	U 234	0.087	0.005	0.080	0.006	1.090	**A**	**N**
1	U 238	0.078	0.004	0.078	0.006	1.000	**A**	**N**
1	U UG	6.330	0.367	6.398	0.510	0.990	**A**	**A**
Matrix:	**SO**							
1	AM241	25.200	8.040	13.500	0.510	1.870	**W**	
1	CO 60	2.730	0.416	2.920	0.210	0.940	**A**	
1	CS137	1800.000	23.400	1550.000	22.200	1.160	**A**	**A**
1	K 40	308.000	17.100	300.000	25.000	1.030	**A**	**A**
1	PU238	1.000	0.169	1.130	0.240	0.890	**A**	**A**
1	PU239	24.500	1.290	21.800	1.080	1.120	**A**	**A**
1	U 234	39.100	0.000	39.200	2.440	1.000	**A**	
1	U 238	41.200	0.000	41.600	0.610	0.990	**A**	
1	U UG	3.330	0.000	3.360	0.300	0.990	**A**	
Matrix:	**VE**							
1	CO 60	10.600	0.869	10.900	0.710	0.970	**A**	**A**
1	CS137	233.000	2.800	190.000	6.680	1.230	**A**	**A**
1	K 40	1100.000	25.300	992.000	29.000	1.110	**A**	**A**
1	PU239	2.250	0.190	1.960	0.300	1.150	**A**	**A**
Matrix:	**WA**							
1	AM241	1.140	0.051	1.080	0.040	1.060	**A**	
1	CO 60	60.200	0.783	61.100	0.730	0.990	**A**	**W**
1	CS137	97.500	1.270	89.500	1.360	1.090	**A**	**A**
1	GA 1	1400.000	10.000	1210.000	121.000	1.160	**A**	**W**
1	GB 2	703.000	5.340	540.000	54.000	1.300	**A**	**A**
1	H 3	485.000	4.850	587.000	58.000	0.830	**A**	**A**
1	MN 54	63.800	1.020	60.500	0.550	1.050	**A**	**N**
1	PU238	2.050	0.101	1.910	0.070	1.070	**A**	**A**
1	PU239	0.922	0.052	0.840	0.030	1.100	**A**	**A**
1	U 234	0.536	0.000	0.480	0.040	1.120	**A**	**N**

Units for matrices: AI=Bq/filter SO=Bq/kg VE=Bq/kg WA=Bq/L. Values for elemental uranium are reported in µg/filter, g

Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable **pCi = Bq x 27**

QAP45 Results by Laboratory

Lab: LL Lawrence Livermore National Lab, CA

No. Test	Radio-nuclide	Reported Value	Reported Error	EML Value	EML Error	Reported / EML	Evaluation	QAP 44 Evaluation
Matrix:	**WA**							
1	U 238	0.532	0.000	0.480	0.370	1.110	**A**	**N**
1	U UG	0.043	0.000	0.039	0.003	1.100	**A**	**A**

Units for matrices: AI=Bq/filter SO=Bq/kg VE=Bq/kg WA=Bq/L. Values for elemental uranium are reported in µg/filter, g

Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable pCi = Bq x 27

QAP45 Results by Laboratory

Lab: LV UNLV, Dept of Health Physics

No. Test	Radio-nuclide	Reported Value	Reported Error	EML Value	EML Error	Reported / EML	Evaluation	QAP 44 Evaluation
Matrix:	**AI**							
1	AM241	0.250	0.030	0.222	0.019	1.130	**A**	**W**
1	CO 57	14.200	0.100	14.800	0.814	0.960	**A**	**A**
1	CO 60	8.990	0.080	8.640	0.431	1.040	**A**	**A**
1	CS134	11.300	0.100	10.800	0.392	1.050	**A**	**A**
1	CS137	8.660	0.090	8.520	0.366	1.020	**A**	**A**
1	GA 1	0.520	0.080	1.150	0.110	0.450	**N**	
1	GB 2	0.950	0.190	0.500	0.050	1.900	**N**	
1	MN 54	6.550	0.080	6.350	0.270	1.030	**A**	**W**
1	RU106	9.950	0.490	10.800	1.140	0.920	**A**	**A**
1	SB125	10.600	0.140	10.800	0.540	0.980	**A**	**A**
Matrix:	**SO**							
1	AM241	17.800	1.300	13.500	0.510	1.320	**A**	**W**
1	CO 60	3.550	0.280	2.920	0.210	1.220	**W**	
1	CS137	2060.000	4.000	1550.000	22.200	1.330	**W**	**A**
1	K 40	393.000	7.000	300.000	25.000	1.310	**W**	**A**
Matrix:	**VE**							
1	AM241	3.300	0.600	1.230	0.410	2.680	**W**	**W**
1	CO 60	14.100	0.600	10.900	0.710	1.290	**W**	**A**
1	CS137	257.000	2.000	190.000	6.680	1.350	**W**	**W**
1	K 40	1380.000	18.000	992.000	29.000	1.390	**W**	**A**
Matrix:	**WA**							
1	AM241	1.080	0.210	1.080	0.040	1.000	**A**	**W**
1	CO 60	67.600	0.200	61.100	0.730	1.110	**A**	**A**
1	CS137	97.300	0.800	89.500	1.360	1.090	**A**	**A**
1	GA 1	1110.000	80.000	1210.000	121.000	0.920	**A**	
1	H 3	471.000	3.000	587.000	58.000	0.800	**W**	
1	MN 54	66.200	0.700	60.500	0.550	1.090	**A**	**W**

Units for matrices: AI=Bq/filter SO=Bq/kg VE=Bq/kg WA=Bq/L. Values for elemental uranium are reported in µg/filter, g

Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable pCi = Bq x 27

QAP45 Results by Laboratory

Lab: LW Lawrence Livermore National Lab, CA

No. Test	Radio-nuclide	Reported Value	Reported Error	EML Value	EML Error	Reported / EML	Evaluation	QAP 44 Evaluation
Matrix:	**SO**							
1	AM241	15.800	3.620	13.500	0.510	1.170	**A**	**A**
1	CO 60	3.180	0.470	2.920	0.210	1.090	**A**	
1	CS137	1760.000	15.800	1550.000	22.200	1.140	**A**	**A**
1	K 40	297.000	19.900	300.000	25.000	0.990	**A**	**A**
Matrix:	**VE**							
1	CO 60	9.850	0.985	10.900	0.710	0.900	**A**	**A**
1	CS137	213.000	2.980	190.000	6.680	1.120	**A**	**A**
1	K 40	1050.000	24.100	992.000	29.000	1.060	**A**	**A**
Matrix:	**WA**							
1	CO 60	59.500	1.010	61.100	0.730	0.970	**A**	**W**
1	CS137	90.000	1.620	89.500	1.360	1.010	**A**	**A**
1	GA 1	1140.000	37.600	1210.000	121.000	0.940	**A**	**A**
1	GB 2	542.000	20.200	540.000	54.000	1.000	**A**	**A**
1	H 3	481.000	6.250	587.000	58.000	0.820	**A**	**A**
1	MN 54	61.400	1.290	60.500	0.550	1.020	**A**	**A**

Units for matrices: AI=Bq/filter SO=Bq/kg VE=Bq/kg WA=Bq/L. Values for elemental uranium are reported in µg/filter, g

Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable pCi = Bq x 27

QAP45 Results by Laboratory

Lab: ME Radiation Control Program, Jamaica Plain, MA

No. Test	Radio-nuclide	Reported Value	Reported Error	EML Value	EML Error	Reported / EML	Evaluation	QAP 44 Evaluation
Matrix:	**AI**							
1	AM241	0.260	0.060	0.222	0.019	1.170	**A**	**N**
1	CO 57	21.200	0.060	14.800	0.814	1.430	**N**	**A**
1	CO 60	12.100	0.160	8.640	0.431	1.400	**N**	**A**
1	CS134	15.300	0.140	10.800	0.392	1.420	**N**	**A**
1	CS137	12.000	0.180	8.520	0.366	1.410	**N**	**A**
1	GA 1	1.550	0.500	1.150	0.110	1.350	**A**	**N**
1	GB 2	0.740	0.040	0.500	0.050	1.480	**A**	**A**
1	MN 54	9.840	0.150	6.350	0.270	1.550	**N**	**A**
1	RU106	13.200	0.800	10.800	1.140	1.220	**W**	**A**
2	SB125	16.000	0.340	10.800	0.540	1.480	**N**	**A**
Matrix:	**SO**							
1	AM241	12.900	1.600	13.500	0.510	0.960	**A**	
1	CO 60	3.260	0.350	2.920	0.210	1.120	**A**	
1	CS137	1890.000	39.500	1550.000	22.200	1.220	**A**	**A**
1	K 40	306.000	12.500	300.000	25.000	1.020	**A**	**W**
Matrix:	**VE**							
1	CO 60	12.500	0.920	10.900	0.710	1.150	**A**	**A**
1	CS137	248.000	8.450	190.000	6.680	1.310	**W**	**A**
1	K 40	1270.000	49.400	992.000	29.000	1.280	**W**	**W**

Units for matrices: AI=Bq/filter SO=Bq/kg VE=Bq/kg WA=Bq/L. Values for elemental uranium are reported in µg/filter, g

Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable pCi = Bq x 27

QAP45 Results by Laboratory

Lab: MI Massachusetts Institute of Technology

No. Test	Radio-nuclide	Reported Value	Reported Error	EML Value	EML Error	Reported / EML	Evaluation	QAP 44 Evaluation
Matrix:	**AI**							
1	CO 57	13.000	0.321	14.800	0.814	0.880	**A**	**W**
1	CO 60	7.890	0.183	8.640	0.431	0.910	**A**	**A**
1	CS134	9.870	0.191	10.800	0.392	0.910	**A**	**W**
1	CS137	7.670	0.266	8.520	0.366	0.900	**A**	**W**
1	MN 54	5.870	0.176	6.350	0.270	0.920	**A**	**A**
Matrix:	**WA**							
1	CO 60	71.100	1.870	61.100	0.730	1.160	**W**	**A**
2		68.300	1.800	61.100	0.730	1.120	**A**	**A**
1	CS137	112.000	4.000	89.500	1.360	1.250	**W**	**N**
2		105.000	3.810	89.500	1.360	1.170	**A**	**N**
1	H 3	490.000	40.000	587.000	58.000	0.840	**A**	**W**
2		****.***	30.000	587.000	58.000	*.***	**N**	**W**
1	MN 54	74.500	2.510	60.500	0.550	1.230	**N**	**W**
2		68.200	2.320	60.500	0.550	1.130	**A**	**W**

Units for matrices: AI=Bq/filter SO=Bq/kg VE=Bq/kg WA=Bq/L. Values for elemental uranium are reported in µg/filter, g

Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable pCi = Bq x 27

QAP45 Results by Laboratory

Lab: ML EG&G Mound Applied Technologies, Miamisburg, OH

No. Test	Radio-nuclide	Reported Value	Reported Error	EML Value	EML Error	Reported / EML	Evaluation	QAP 44 Evaluation
Matrix:	**AI**							
1	AM241	0.240	0.020	0.222	0.019	1.080	**A**	**N**
1	CO 57	16.000	1.600	14.800	0.814	1.080	**W**	**A**
1	CO 60	9.540	0.950	8.640	0.431	1.100	**W**	**A**
1	CS134	11.100	1.110	10.800	0.392	1.030	**A**	**A**
1	CS137	9.110	0.910	8.520	0.366	1.070	**A**	**A**
1	MN 54	7.370	0.740	6.350	0.270	1.160	**W**	**W**
1	PU238	0.140	0.009	0.118	0.006	1.190	**W**	**A**
1	RU106	11.400	1.140	10.800	1.140	1.060	**A**	**A**
1	SB125	11.900	1.180	10.800	0.540	1.100	**A**	**A**
1	U 234	0.080	0.007	0.080	0.006	1.000	**A**	**A**
1	U 238	0.080	0.007	0.078	0.006	1.030	**A**	**A**
Matrix:	**SO**							
1	AM241	13.900	1.390	13.500	0.510	1.030	**A**	**A**
1	CO 60	3.200	0.320	2.920	0.210	1.100	**A**	
1	CS137	1790.000	179.000	1550.000	22.200	1.160	**A**	**A**
1	K 40	357.000	36.000	300.000	25.000	1.190	**A**	**A**
1	PU238	0.910	0.180	1.130	0.240	0.810	**A**	**A**
1	PU239	24.300	1.710	21.800	1.080	1.120	**A**	**A**
1	U 234	38.800	3.870	39.200	2.440	0.990	**A**	**A**
1	U 238	40.100	3.940	41.600	0.610	0.960	**A**	**A**
Matrix:	**VE**							
1	AM241	1.370	0.140	1.230	0.410	1.110	**A**	
1	CO 60	11.400	1.140	10.900	0.710	1.050	**A**	**A**
1	CS137	204.000	20.400	190.000	6.680	1.070	**A**	**A**
1	K 40	1120.000	112.000	992.000	29.000	1.130	**A**	**A**
1	PU239	2.060	0.200	1.960	0.300	1.050	**A**	**A**
Matrix:	**WA**							
1	AM241	1.140	0.110	1.080	0.040	1.060	**A**	**N**
2		1.080	0.060	1.080	0.040	1.000	**A**	**N**
3		1.160	0.070	1.080	0.040	1.070	**A**	**N**
1	CO 60	67.300	6.740	61.100	0.730	1.100	**A**	**A**
1	CS137	99.800	9.980	89.500	1.360	1.120	**A**	**A**
1	H 3	456.000	43.200	587.000	58.000	0.780	**W**	**W**
1	MN 54	68.900	6.890	60.500	0.550	1.140	**A**	**A**
1	PU238	1.900	0.150	1.910	0.070	1.000	**A**	**A**
1	PU239	0.840	0.070	0.840	0.030	1.000	**A**	**A**
1	U 234	0.560	0.040	0.480	0.040	1.170	**A**	**A**
1	U 238	0.550	0.040	0.480	0.370	1.150	**A**	**A**

Units for matrices: AI=Bq/filter SO=Bq/kg VE=Bq/kg WA=Bq/L. Values for elemental uranium are reported in µg/filter, g

Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable pCi = Bq x 27

QAP45 Results by Laboratory

Lab: MS Manufacturing Sciences Corporation, Oak Ridge

No. Test	Radio-nuclide	Reported Value	Reported Error	EML Value	EML Error	Reported / EML	Evaluation	QAP 44 Evaluation
Matrix:	**AI**							
1	AM241	0.400	0.040	0.222	0.019	1.800	**W**	
1	CO 57	18.500	1.850	14.800	0.814	1.250	**N**	**W**
1	CO 60	10.600	1.060	8.640	0.431	1.230	**W**	**A**
1	CS134	11.700	1.170	10.800	0.392	1.080	**A**	**A**
1	CS137	9.810	0.981	8.520	0.366	1.150	**W**	**A**
1	MN 54	7.300	0.730	6.350	0.270	1.150	**W**	**A**
1	SB125	10.700	1.070	10.800	0.540	0.990	**A**	**A**
Matrix:	**SO**							
1	AM241	18.100	1.810	13.500	0.510	1.340	**A**	
1	CO 60	11.100	1.110	2.920	0.210	3.800	**N**	
1	CS137	1650.000	165.000	1550.000	22.200	1.070	**A**	**A**
1	K 40	363.000	36.300	300.000	25.000	1.210	**A**	**A**
Matrix:	**WA**							
1	AM241	1.240	0.120	1.080	0.040	1.150	**A**	**W**
1	CO 60	64.000	6.400	61.100	0.730	1.050	**A**	**A**
1	CS137	98.700	9.900	89.500	1.360	1.100	**A**	**A**
1	MN 54	66.800	6.700	60.500	0.550	1.100	**A**	**A**

Units for matrices: AI=Bq/filter SO=Bq/kg VE=Bq/kg WA=Bq/L. Values for elemental uranium are reported in µg/filter, g

Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable pCi = Bq x 27

QAP45 Results by Laboratory

Lab: NA US EPA NAREL, Montgomery, AL

No. Test	Radio-nuclide	Reported Value	Reported Error	EML Value	EML Error	Reported / EML	Evaluation	QAP 44 Evaluation
Matrix:	**AI**							
1	AM241	0.220	0.030	0.222	0.019	0.990	**A**	**A**
1	SR 90	0.350	0.110	0.526	0.037	0.670	**W**	**A**
Matrix:	**SO**							
1	AM241	13.400	2.330	13.500	0.510	0.990	**A**	**N**
1	CO 60	2.800	0.270	2.920	0.210	0.960	**A**	
1	CS137	1660.000	3.800	1550.000	22.200	1.070	**A**	**A**
1	K 40	320.000	7.650	300.000	25.000	1.070	**A**	**A**
1	PU238	1.590	0.880	1.130	0.240	1.410	**W**	**A**
1	PU239	23.800	2.490	21.800	1.080	1.090	**A**	**A**
1	SR 90	56.300	18.000	69.900	5.100	0.810	**A**	**A**
1	U 234	46.300	4.340	39.200	2.440	1.180	**W**	**A**
1	U 238	39.800	4.010	41.600	0.610	0.960	**A**	**A**
Matrix:	**VE**							
1	AM241	7.310	1.790	1.230	0.410	5.940	**N**	**A**
1	CO 60	10.700	0.610	10.900	0.710	0.980	**A**	**A**
1	CS137	222.000	2.160	190.000	6.680	1.170	**A**	**A**
1	K 40	1160.000	20.300	992.000	29.000	1.170	**A**	**A**
1	PU239	11.400	2.100	1.960	0.300	5.820	**N**	**A**
1	SR 90	1490.000	25.100	1390.000	12.000	1.070	**A**	**A**
Matrix:	**WA**							
1	AM241	1.080	0.120	1.080	0.040	1.000	**A**	**A**
1	CO 60	64.000	0.570	61.100	0.730	1.050	**A**	**A**
1	CS137	95.900	0.850	89.500	1.360	1.070	**A**	**A**
1	H 3	435.000	5.840	587.000	58.000	0.740	**W**	**W**
1	MN 54	64.000	0.740	60.500	0.550	1.060	**A**	**A**
1	PU238	1.830	0.170	1.910	0.070	0.960	**A**	**A**
1	PU239	0.850	0.100	0.840	0.030	1.010	**A**	**A**
1	SR 90	2.040	0.890	2.710	0.240	0.750	**W**	**A**

Units for matrices: AI=Bq/filter SO=Bq/kg VE=Bq/kg WA=Bq/L. Values for elemental uranium are reported in µg/filter, g

Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable **pCi = Bq x 27**

QAP45 Results by Laboratory

Lab: NC Nuclear Services North Carolina State University, Raleigh

No. Test	Radio-nuclide	Reported Value	Reported Error	EML Value	EML Error	Reported / EML	Evaluation	QAP 44 Evaluation
Matrix:	**AI**							
1	CO 57	19.400	0.258	14.800	0.814	1.310	**N**	**A**
1	CO 60	10.500	0.382	8.640	0.431	1.220	**W**	**A**
1	CS134	12.800	0.341	10.800	0.392	1.180	**W**	**A**
1	CS137	10.000	0.291	8.520	0.366	1.170	**W**	**A**
1	MN 54	8.190	0.387	6.350	0.270	1.290	**N**	**A**
1	SB125	12.300	0.524	10.800	0.540	1.140	**W**	**A**
Matrix:	**SO**							
1	CS137	1570.000	3.900	1550.000	22.200	1.010	**A**	**A**
Matrix:	**VE**							
1	CO 60	15.200	1.520	10.900	0.710	1.390	**W**	**A**
1	CS137	226.000	2.590	190.000	6.680	1.190	**A**	**A**
Matrix:	**WA**							
1	CO 60	61.700	1.430	61.100	0.730	1.010	**A**	**A**
1	CS137	92.000	1.470	89.500	1.360	1.030	**A**	**A**
1	MN 54	61.600	1.360	60.500	0.550	1.020	**A**	**A**

Units for matrices: AI=Bq/filter SO=Bq/kg VE=Bq/kg WA=Bq/L. Values for elemental uranium are reported in µg/filter, g

Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable pCi = Bq x 27

QAP45 Results by Laboratory

Lab: NL FERMCO, Cincinnati, OH

No. Test	Radio-nuclide	Reported Value	Reported Error	EML Value	EML Error	Reported / EML	Evaluation	QAP 44 Evaluation
Matrix:	**AI**							
1	CO 57	17.600	2.600	14.800	0.814	1.190	**W**	**A**
1	CO 60	9.490	1.150	8.640	0.431	1.100	**W**	**A**
1	CS134	12.100	0.800	10.800	0.392	1.120	**W**	**A**
1	CS137	9.610	0.370	8.520	0.366	1.130	**W**	**A**
1	MN 54	8.140	0.380	6.350	0.270	1.280	**N**	**A**
1	PU238	0.114	0.006	0.118	0.006	0.970	**A**	**A**
1	RU106	10.500	2.900	10.800	1.140	0.970	**A**	**A**
1	SB125	13.800	0.300	10.800	0.540	1.280	**W**	**A**
1	U UG	7.020	1.700	6.398	0.510	1.100	**A**	**A**
Matrix:	**SO**							
1	CO 60	4.050	1.730	2.920	0.210	1.390	**W**	
1	CS137	1850.000	70.000	1550.000	22.200	1.190	**A**	**A**
1	K 40	383.000	12.000	300.000	25.000	1.280	**W**	**W**
1	PU238	0.797	0.075	1.130	0.240	0.710	**W**	**A**
1	PU239	22.100	0.070	21.800	1.080	1.010	**A**	**A**
1	U 234	60.900	17.000	39.200	2.440	1.550	**N**	**A**
1	U 238	63.200	16.700	41.600	0.610	1.520	**W**	**A**
Matrix:	**WA**							
1	CO 60	67.700	5.400	61.100	0.730	1.110	**A**	**A**
1	CS137	96.100	5.600	89.500	1.360	1.070	**A**	**A**
1	MN 54	69.200	2.500	60.500	0.550	1.140	**A**	**W**
1	PU238	1.990	0.010	1.910	0.070	1.040	**A**	**W**
1	PU239	0.925	0.093	0.840	0.030	1.100	**A**	**A**
1	U UG	0.041	0.005	0.039	0.003	1.060	**A**	**A**

Units for matrices: AI=Bq/filter SO=Bq/kg VE=Bq/kg WA=Bq/L. Values for elemental uranium are reported in µg/filter, g

Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable pCi = Bq x 27

QAP45 Results by Laboratory

Lab: NM Environmental Evaluation Group, Carlsbad, NM

No. Test	Radio-nuclide	Reported Value	Reported Error	EML Value	EML Error	Reported / EML	Evaluation	QAP 44 Evaluation
Matrix:	**AI**							
1	AM241	0.223	0.013	0.222	0.019	1.010	**A**	**A**
1	CS137	9.440	0.200	8.520	0.366	1.110	**W**	**N**
1	GA 1	0.600	0.065	1.150	0.110	0.520	**N**	**A**
1	GB 2	0.451	0.104	0.500	0.050	0.900	**A**	**A**
1	PU238	0.119	0.003	0.118	0.006	1.010	**A**	**A**
Matrix:	**SO**							
1	AM241	13.700	1.690	13.500	0.510	1.020	**A**	**A**
1	CS137	1480.000	32.000	1550.000	22.200	0.960	**A**	
1	PU238	1.160	0.223	1.130	0.240	1.030	**A**	**A**
1	PU239	24.400	2.500	21.800	1.080	1.120	**A**	**N**
Matrix:	**WA**							
1	AM241	1.100	0.031	1.080	0.040	1.020	**A**	**A**
1	CS137	98.400	1.500	89.500	1.360	1.100	**A**	**W**
1	GA 1	1520.000	72.000	1210.000	121.000	1.260	**W**	**A**
1	GB 2	1040.000	123.000	540.000	54.000	1.930	**N**	**A**
1	PU238	2.000	0.018	1.910	0.070	1.050	**A**	**A**
1	PU239	0.886	0.012	0.840	0.030	1.050	**A**	**A**

Units for matrices: AI=Bq/filter SO=Bq/kg VE=Bq/kg WA=Bq/L. Values for elemental uranium are reported in µg/filter, g

Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable pCi = Bq x 27

QAP45 Results by Laboratory

Lab: NP New York Power Authority, JAF Environmental Lab

No. Test	Radio-nuclide	Reported Value	Reported Error	EML Value	EML Error	Reported / EML	Evaluation	QAP 44 Evaluation
Matrix:	**AI**							
1	CO 57	12.800	0.500	14.800	0.814	0.870	**A**	
1	CO 60	7.800	0.300	8.640	0.431	0.900	**A**	
1	CS134	9.200	0.500	10.800	0.392	0.850	**A**	
1	CS137	7.000	0.200	8.520	0.366	0.820	**A**	
1	GB 2	0.550	0.030	0.500	0.050	1.100	**A**	
1	MN 54	5.800	0.300	6.350	0.270	0.910	**A**	
1	RU106	9.800	1.300	10.800	1.140	0.910	**A**	
1	SB125	9.400	0.300	10.800	0.540	0.870	**A**	
Matrix:	**SO**							
1	CO 60	3.750	0.780	2.920	0.210	1.280	**W**	
1	CS137	2020.000	28.000	1550.000	22.200	1.300	**W**	
1	K 40	463.000	65.000	300.000	25.000	1.540	**W**	
Matrix:	**VE**							
1	CO 60	14.600	0.700	10.900	0.710	1.340	**W**	
1	CS137	267.000	4.500	190.000	6.680	1.410	**W**	
1	K 40	1610.000	80.100	992.000	29.000	1.620	**N**	
Matrix:	**WA**							
1	CO 60	65.100	4.100	61.100	0.730	1.070	**A**	
1	CS137	93.400	7.000	89.500	1.360	1.040	**A**	
1	GB 2	495.000	16.000	540.000	54.000	0.920	**A**	
1	H 3	611.000	8.000	587.000	58.000	1.040	**A**	
1	MN 54	65.500	5.100	60.500	0.550	1.080	**A**	

Units for matrices: AI=Bq/filter SO=Bq/kg VE=Bq/kg WA=Bq/L. Values for elemental uranium are reported in µg/filter, g

Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable pCi = Bq x 27

QAP45 Results by Laboratory

Lab: NR Naval Reactors Facility Chemistry, Scoville, ID

No. Test	Radio-nuclide	Reported Value	Reported Error	EML Value	EML Error	Reported / EML	Evaluation	QAP 44 Evaluation
Matrix:	**SO**							
1	CO 60	3.800	0.800	2.920	0.210	1.300	**W**	
1	CS137	1910.000	382.000	1550.000	22.200	1.230	**A**	**W**
1	K 40	389.000	78.000	300.000	25.000	1.300	**W**	**A**
Matrix:	**VE**							
1	CO 60	11.400	2.300	10.900	0.710	1.050	**A**	**W**
1	CS137	194.000	39.000	190.000	6.680	1.020	**A**	**W**
1	K 40	1060.000	212.000	992.000	29.000	1.070	**A**	**A**

Units for matrices: AI=Bq/filter SO=Bq/kg VE=Bq/kg WA=Bq/L. Values for elemental uranium are reported in µg/filter, g

Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable pCi = Bq x 27

QAP45 Results by Laboratory

Lab: NS NC State Lab of Public Health, Env. Services Sec. Env. Radiochemistry Branch

No. Test	Radio-nuclide	Reported Value	Reported Error	EML Value	EML Error	Reported / EML	Evaluation	QAP 44 Evaluation
Matrix:	**AI**							
1	CO 57	13.800	0.048	14.800	0.814	0.930	**A**	
1	CO 60	8.250	0.207	8.640	0.431	0.960	**A**	
1	CS134	8.920	0.078	10.800	0.392	0.830	**A**	
1	CS137	7.580	0.085	8.520	0.366	0.890	**A**	
1	MN 54	6.590	0.096	6.350	0.270	1.040	**A**	
1	RU106	8.730	0.477	10.800	1.140	0.810	**A**	
1	SB125	4.400	0.144	10.800	0.540	0.410	**N**	
Matrix:	**WA**							
1	CO 60	71.800	0.851	61.100	0.730	1.170	**W**	
1	CS137	105.000	0.888	89.500	1.360	1.170	**A**	
1	H 3	519.000	18.000	587.000	58.000	0.880	**A**	
1	MN 54	71.200	0.777	60.500	0.550	1.180	**W**	
1	PU238	9.470	0.551	1.910	0.070	4.960	**N**	
1	PU239	21.300	1.810	0.840	0.030	*.***	**N**	
1	SR 90	2.720	0.702	2.710	0.240	1.000	**A**	

Units for matrices: AI=Bq/filter SO=Bq/kg VE=Bq/kg WA=Bq/L. Values for elemental uranium are reported in µg/filter, g

Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable pCi = Bq x 27

QAP45 Results by Laboratory

Lab: OB OBG Laboratories, East Syracuse, NY

No. Test	Radio-nuclide	Reported Value	Reported Error	EML Value	EML Error	Reported / EML	Evaluation	QAP 44 Evaluation
Matrix:	**AI**							
1	GA 1	0.403	0.096	1.150	0.110	0.350	**N**	**A**
1	GB 2	0.559	0.120	0.500	0.050	1.120	**A**	**A**
Matrix:	**WA**							
1	GA 1	12.700	0.510	1210.000	121.000	0.010	**N**	**A**
1	GB 2	24.900	0.510	540.000	54.000	0.050	**N**	**W**

Units for matrices: AI=Bq/filter SO=Bq/kg VE=Bq/kg WA=Bq/L. Values for elemental uranium are reported in µg/filter, g

Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable pCi = Bq x 27

QAP45 Results by Laboratory

Lab: OD ORNL, Radiobioassay Lab

No. Test	Radio-nuclide	Reported Value	Reported Error	EML Value	EML Error	Reported / EML	Evaluation	QAP 44 Evaluation
Matrix:	**AI**							
1	CO 57	17.200	0.461	14.800	0.814	1.160	**W**	**A**
1	CO 60	9.610	0.108	8.640	0.431	1.110	**W**	**A**
1	CS134	12.600	0.205	10.800	0.392	1.170	**W**	**A**
1	CS137	9.040	0.256	8.520	0.366	1.060	**A**	**A**
1	GA 1	0.300	0.020	1.150	0.110	0.260	**N**	**A**
1	GB 2	0.630	0.030	0.500	0.050	1.260	**A**	**A**
1	MN 54	7.150	0.454	6.350	0.270	1.130	**W**	**A**
1	RU106	11.600	0.300	10.800	1.140	1.070	**A**	**A**
1	SB125	10.800	0.208	10.800	0.540	1.000	**A**	**A**
Matrix:	**WA**							
1	AM241	1.100	0.098	1.080	0.040	1.020	**A**	**A**
1	CO 60	62.800	2.530	61.100	0.730	1.030	**A**	**A**
1	CS137	93.900	5.050	89.500	1.360	1.050	**A**	**A**
1	H 3	515.000	52.500	587.000	58.000	0.880	**A**	**W**
1	MN 54	70.500	4.150	60.500	0.550	1.170	**W**	**A**
1	PU238	1.980	0.172	1.910	0.070	1.040	**A**	**W**
1	PU239	0.873	0.076	0.840	0.030	1.040	**A**	**A**
1	SR 90	2.870	0.380	2.710	0.240	1.060	**A**	
1	U 234	0.442	0.043	0.480	0.040	0.920	**A**	**A**
1	U 238	0.454	0.044	0.480	0.370	0.950	**A**	**A**

Units for matrices: AI=Bq/filter SO=Bq/kg VE=Bq/kg WA=Bq/L. Values for elemental uranium are reported in µg/filter, g

Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable pCi = Bq x 27

QAP45 Results by Laboratory

Lab: OK Southwest Laboratory of Oklahoma

No. Test	Radio-nuclide	Reported Value	Reported Error	EML Value	EML Error	Reported / EML	Evaluation	QAP 44 Evaluation
Matrix:	**AI**							
1	CO 57	16.000	0.630	14.800	0.814	1.080	**W**	
1	CO 60	9.510	0.300	8.640	0.431	1.100	**W**	
1	CS134	11.400	0.370	10.800	0.392	1.060	**A**	
1	CS137	9.180	4.550	8.520	0.366	1.080	**A**	
1	MN 54	6.990	0.370	6.350	0.270	1.100	**W**	
1	RU106	10.000	0.110	10.800	1.140	0.930	**A**	
1	SB125	3.700	0.150	10.800	0.540	0.340	**N**	
1	U 234	0.070	0.010	0.080	0.006	0.880	**W**	
1	U 238	0.080	0.010	0.078	0.006	1.030	**A**	
Matrix:	**SO**							
1	CO 60	4.370	0.520	2.920	0.210	1.500	**W**	
1	CS137	2170.000	111.000	1550.000	22.200	1.400	**N**	
1	K 40	407.000	22.200	300.000	25.000	1.360	**W**	
Matrix:	**VE**							
1	CO 60	12.900	1.110	10.900	0.710	1.180	**A**	
1	CS137	265.000	14.800	190.000	6.680	1.400	**W**	
1	K 40	1250.000	111.000	992.000	29.000	1.260	**W**	
Matrix:	**WA**							
1	CO 60	73.600	2.590	61.100	0.730	1.210	**N**	
1	CS137	107.000	5.810	89.500	1.360	1.200	**W**	
1	GA 1	1110.000	69.900	1210.000	121.000	0.920	**A**	
1	GB 2	551.000	41.400	540.000	54.000	1.020	**A**	
1	H 3	538.000	16.800	587.000	58.000	0.920	**A**	
1	MN 54	72.900	4.000	60.500	0.550	1.210	**W**	
1	U 234	0.400	0.040	0.480	0.040	0.830	**W**	
1	U 238	0.420	0.040	0.480	0.370	0.880	**W**	

Units for matrices: AI=Bq/filter SO=Bq/kg VE=Bq/kg WA=Bq/L. Values for elemental uranium are reported in µg/filter, g

Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable pCi = Bq x 27

QAP45 Results by Laboratory

Lab: OR Oak Ridge National Lab

No. Test	Radio-nuclide	Reported Value	Reported Error	EML Value	EML Error	Reported / EML	Evaluation	QAP 44 Evaluation
Matrix:	**AI**							
1	AM241	0.200	0.030	0.222	0.019	0.900	**A**	**A**
1	CO 57	14.300	0.500	14.800	0.814	0.970	**A**	**A**
1	CO 60	9.140	1.440	8.640	0.431	1.060	**A**	**A**
1	CS134	12.100	0.800	10.800	0.392	1.120	**W**	**A**
1	CS137	8.720	1.140	8.520	0.366	1.020	**A**	**A**
1	GA 1	0.502	0.050	1.150	0.110	0.440	**N**	
1	GB 2	0.504	0.040	0.500	0.050	1.010	**A**	
1	MN 54	6.920	1.110	6.350	0.270	1.090	**W**	**A**
1	PU238	0.135	0.020	0.118	0.006	1.140	**A**	**A**
1	RU106	11.500	1.700	10.800	1.140	1.070	**A**	**A**
1	SB125	11.600	0.900	10.800	0.540	1.070	**A**	**A**
1	SR 90	0.520	0.070	0.526	0.037	0.990	**A**	**W**
1	U BQ	0.195	0.050	0.160	0.012	1.220	**A**	**A**
Matrix:	**SO**							
1	AM241	9.900	2.000	13.500	0.510	0.730	**W**	**N**
1	CM244	0.230	0.150	0.312	0.064	0.740	**W**	
1	CO 60	2.800	1.500	2.920	0.210	0.960	**A**	
1	CS137	1430.000	217.000	1550.000	22.200	0.920	**W**	**A**
1	K 40	292.000	56.000	300.000	25.000	0.970	**A**	**A**
1	PU238	0.960	0.210	1.130	0.240	0.850	**A**	**A**
1	PU239	22.000	3.000	21.800	1.080	1.010	**A**	**A**
1	SR 90	59.000	3.000	69.900	5.100	0.840	**A**	**A**
1	U BQ	72.000	8.000	82.200	2.980	0.880	**A**	**A**
Matrix:	**VE**							
1	AM241	1.310	0.350	1.230	0.410	1.070	**A**	**A**
1	CM244	0.660	0.240	0.830	0.120	0.800	**W**	**W**
1	CO 60	10.600	3.100	10.900	0.710	0.970	**A**	**A**
1	CS137	186.000	28.000	190.000	6.680	0.980	**A**	**A**
1	K 40	959.000	110.000	992.000	29.000	0.970	**A**	**A**
1	PU239	2.260	0.400	1.960	0.300	1.150	**A**	**A**
1	SR 90	1050.000	40.000	1390.000	12.000	0.760	**A**	**A**
Matrix:	**WA**							
1	AM241	1.100	0.100	1.080	0.040	1.020	**A**	**A**
1	CO 60	71.100	3.500	61.100	0.730	1.160	**W**	**A**
1	CS137	106.000	7.000	89.500	1.360	1.180	**A**	**A**
1	GA 1	1100.000	100.000	1210.000	121.000	0.910	**A**	
1	GB 2	630.000	50.000	540.000	54.000	1.170	**A**	
1	H 3	490.000	88.000	587.000	58.000	0.830	**A**	**A**
1	MN 54	71.300	4.000	60.500	0.550	1.180	**W**	**A**
1	PU238	2.030	0.190	1.910	0.070	1.060	**A**	**A**

Units for matrices: AI=Bq/filter SO=Bq/kg VE=Bq/kg WA=Bq/L. Values for elemental uranium are reported in µg/filter, g

Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable pCi = Bq x 27

QAP45 Results by Laboratory

Lab: OR Oak Ridge National Lab

No. Test	Radio-nuclide	Reported Value	Reported Error	EML Value	EML Error	Reported / EML	Evaluation	QAP 44 Evaluation
Matrix:	**WA**							
1	PU239	0.900	0.090	0.840	0.030	1.070	**A**	**A**
1	SR 90	2.470	0.200	2.710	0.240	0.910	**A**	**A**
1	U BQ	1.080	0.150	0.970	0.070	1.110	**A**	**W**

Units for matrices: AI=Bq/filter SO=Bq/kg VE=Bq/kg WA=Bq/L. Values for elemental uranium are reported in µg/filter, g
Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable pCi = Bq x 27

QAP45 Results by Laboratory

Lab: OS Oregon Health Division Radiation Controls Section, Portland

No. Test	Radio-nuclide	Reported Value	Reported Error	EML Value	EML Error	Reported / EML	Evaluation	QAP 44 Evaluation
Matrix:	**AI**							
1	CO 57	16.700	0.150	14.800	0.814	1.130	**W**	
1	CO 60	12.700	0.150	8.640	0.431	1.470	**N**	
1	CS134	12.000	1.100	10.800	0.392	1.110	**W**	
1	CS137	11.000	0.200	8.520	0.366	1.290	**W**	
1	MN 54	9.480	0.220	6.350	0.270	1.490	**N**	
1	RU106	12.900	1.100	10.800	1.140	1.190	**W**	
1	SB125	14.900	0.400	10.800	0.540	1.380	**W**	
Matrix:	**SO**							
1	CO 60	8.850	0.427	2.920	0.210	3.030	**N**	
1	CS137	1770.000	35.000	1550.000	22.200	1.140	**A**	**A**
1	K 40	695.000	37.000	300.000	25.000	2.320	**N**	
Matrix:	**VE**							
1	CO 60	19.700	2.800	10.900	0.710	1.810	**N**	
1	CS137	240.000	6.000	190.000	6.680	1.260	**W**	
1	K 40	1890.000	75.000	992.000	29.000	1.910	**N**	

Units for matrices: AI=Bq/filter SO=Bq/kg VE=Bq/kg WA=Bq/L. Values for elemental uranium are reported in µg/filter, g

Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable pCi = Bq x 27

QAP45 Results by Laboratory

Lab: OT ORNL Radioactive Material Analysis Lab

No. Test	Radio-nuclide	Reported Value	Reported Error	EML Value	EML Error	Reported / EML	Evaluation	QAP 44 Evaluation
Matrix:	**AI**							
1	CO 57	17.000	1.000	14.800	0.814	1.150	**W**	**A**
1	CO 60	9.900	0.200	8.640	0.431	1.150	**W**	**A**
1	CS134	12.000	1.000	10.800	0.392	1.110	**W**	**A**
1	CS137	9.000	0.200	8.520	0.366	1.060	**A**	**A**
1	MN 54	7.500	0.200	6.350	0.270	1.180	**W**	**A**
1	RU106	11.000	1.000	10.800	1.140	1.020	**A**	**A**
1	SB125	12.000	1.000	10.800	0.540	1.110	**A**	**A**
Matrix:	**SO**							
1	AM241	13.000	1.000	13.500	0.510	0.960	**A**	**A**
1	CM244	0.220	0.200	0.312	0.064	0.710	**W**	
1	CO 60	3.700	1.600	2.920	0.210	1.270	**W**	
1	CS137	1700.000	100.000	1550.000	22.200	1.100	**A**	**A**
1	K 40	310.000	30.000	300.000	25.000	1.030	**A**	**A**
1	PU238	0.740	0.350	1.130	0.240	0.660	**W**	**A**
1	PU239	17.000	1.000	21.800	1.080	0.780	**W**	**W**
1	SR 90	67.000	9.000	69.900	5.100	0.960	**A**	**A**
1	U BQ	84.000	12.000	82.200	2.980	1.020	**A**	
Matrix:	**VE**							
1	CO 60	11.000	3.000	10.900	0.710	1.010	**A**	**A**
1	CS137	220.000	10.000	190.000	6.680	1.160	**A**	**A**
1	K 40	1100.000	100.000	992.000	29.000	1.110	**A**	**A**
Matrix:	**WA**							
1	AM241	1.000	0.100	1.080	0.040	0.930	**A**	**W**
2		1.600	0.500	1.080	0.040	1.480	**W**	**W**
1	CO 60	64.000	1.000	61.100	0.730	1.050	**A**	**A**
1	CS137	97.000	2.000	89.500	1.360	1.080	**A**	**A**
1	GA 1	1000.000	100.000	1210.000	121.000	0.830	**A**	**A**
1	GB 2	560.000	50.000	540.000	54.000	1.040	**A**	**A**
1	H 3	560.000	30.000	587.000	58.000	0.950	**A**	**W**
1	MN 54	66.000	1.000	60.500	0.550	1.090	**A**	**W**
1	PU238	1.800	0.300	1.910	0.070	0.940	**A**	**A**
1	PU239	1.000	0.200	0.840	0.030	1.190	**W**	**A**
1	SR 90	3.300	0.500	2.710	0.240	1.220	**A**	**N**
1	U BQ	0.960	0.140	0.970	0.070	0.990	**A**	**W**

Units for matrices: AI=Bq/filter SO=Bq/kg VE=Bq/kg WA=Bq/L. Values for elemental uranium are reported in µg/filter, g

Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable pCi = Bq x 27

QAP45 Results by Laboratory

Lab: OU Outreach Laboratory, Broken Arrow, OK

No. Test	Radio-nuclide	Reported Value	Reported Error	EML Value	EML Error	Reported / EML	Evaluation	QAP 44 Evaluation
Matrix:	**SO**							
1	CS137	2320.000	200.000	1550.000	22.200	1.500	**N**	
1	K 40	87.200	0.000	300.000	25.000	0.290	**N**	
Matrix:	**VE**							
1	CO 60	27.200	3.950	10.900	0.710	2.490	**N**	
1	CS137	260.000	65.200	190.000	6.680	1.370	**W**	
1	K 40	1980.000	0.000	992.000	29.000	2.000	**N**	
Matrix:	**WA**							
1	CO 60	55.200	19.600	61.100	0.730	0.900	**W**	
1	CS137	85.200	30.100	89.500	1.360	0.950	**A**	
1	GA 1	1220.000	305.000	1210.000	121.000	1.010	**A**	
1	GB 2	568.000	149.000	540.000	54.000	1.050	**A**	
1	MN 54	61.700	18.200	60.500	0.550	1.020	**A**	
1	U UG	0.052	0.000	0.039	0.003	1.330	**W**	

Units for matrices: AI=Bq/filter SO=Bq/kg VE=Bq/kg WA=Bq/L. Values for elemental uranium are reported in µg/filter, g

Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable pCi = Bq x 27

QAP45 Results by Laboratory

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

No. Test	Radio-nuclide	Reported Value	Reported Error	EML Value	EML Error	Reported / EML	Evaluation	QAP 44 Evaluation
Matrix:	**AI**							
1	GA 1	0.520	0.020	1.150	0.110	0.450	**N**	**A**
1	GB 2	0.810	0.020	0.500	0.050	1.620	**W**	**A**
1	U 234	0.120	0.070	0.080	0.006	1.500	**W**	**N**
1	U 238	0.110	0.070	0.078	0.006	1.410	**A**	**N**
Matrix:	**SO**							
1	PU239	23.000	3.000	21.800	1.080	1.050	**A**	**A**
1	U 234	42.300	4.700	39.200	2.440	1.080	**A**	**A**
1	U 238	45.400	4.800	41.600	0.610	1.090	**W**	**A**
Matrix:	**VE**							
1	PU239	2.000	0.200	1.960	0.300	1.020	**A**	**W**
Matrix:	**WA**							
1	GA 1	1020.000	20.000	1210.000	121.000	0.840	**A**	**A**
1	GB 2	335.000	15.000	540.000	54.000	0.620	**W**	**N**
1	H 3	530.000	26.000	587.000	58.000	0.900	**A**	**A**
1	PU239	0.760	0.220	0.840	0.030	0.910	**A**	**A**
1	U 234	0.450	0.120	0.480	0.040	0.940	**A**	**A**
1	U 238	0.490	0.130	0.480	0.370	1.020	**A**	**A**

Units for matrices: AI=Bq/filter SO=Bq/kg VE=Bq/kg WA=Bq/L. Values for elemental uranium are reported in µg/filter, g

Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable **pCi = Bq x 27**

QAP45 Results by Laboratory

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

No. Test	Radio-nuclide	Reported Value	Reported Error	EML Value	EML Error	Reported / EML	Evaluation	QAP 44 Evaluation
Matrix:	**AI**							
1	U 234	0.073	0.014	0.080	0.006	0.910	**A**	**W**
1	U 238	0.086	0.015	0.078	0.006	1.100	**A**	**A**
Matrix:	**SO**							
1	PU239	25.200	2.960	21.800	1.080	1.160	**A**	**A**
1	U 234	36.300	2.590	39.200	2.440	0.930	**A**	**A**
1	U 238	38.200	2.590	41.600	0.610	0.920	**A**	**A**
Matrix:	**VE**							
1	PU239	1.850	0.370	1.960	0.300	0.940	**A**	**A**
Matrix:	**WA**							
1	GA 1	1040.000	19.700	1210.000	121.000	0.860	**A**	**A**
1	GB 2	406.000	10.800	540.000	54.000	0.750	**A**	**N**
1	H 3	421.000	14.900	587.000	58.000	0.720	**W**	**A**
2		421.000	14.900	587.000	58.000	0.720	**W**	**A**
1	PU239	0.902	0.094	0.840	0.030	1.070	**A**	**A**
1	U 234	0.541	0.058	0.480	0.040	1.130	**A**	**A**
1	U 238	0.472	0.053	0.480	0.370	0.980	**A**	**A**

Units for matrices: AI=Bq/filter SO=Bq/kg VE=Bq/kg WA=Bq/L. Values for elemental uranium are reported in µg/filter, g

Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable pCi = Bq x 27

QAP45 Results by Laboratory

Lab: PI Lockheed Martin Specialty Components, Largo, FL

No. Test	Radio-nuclide	Reported Value	Reported Error	EML Value	EML Error	Reported / EML	Evaluation	QAP 44 Evaluation
Matrix:	**AI**							
1	PU238	0.124	0.011	0.118	0.006	1.050	**A**	**A**
Matrix:	**SO**							
1	PU238	0.590	0.580	1.130	0.240	0.520	**W**	**A**
1	PU239	22.200	3.200	21.800	1.080	1.020	**A**	**A**
Matrix:	**WA**							
1	H 3	488.000	15.000	587.000	58.000	0.830	**A**	**A**
1	PU238	1.920	0.150	1.910	0.070	1.010	**A**	**A**
1	PU239	0.900	0.090	0.840	0.030	1.070	**A**	**A**
1	U 234	0.505	0.054	0.480	0.040	1.050	**A**	**A**
1	U 238	0.505	0.053	0.480	0.370	1.050	**A**	**A**

Units for matrices: AI=Bq/filter SO=Bq/kg VE=Bq/kg WA=Bq/L. Values for elemental uranium are reported in µg/filter, g
Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable pCi = Bq x 27

QAP45 Results by Laboratory

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

No. Test	Radio-nuclide	Reported Value	Reported Error	EML Value	EML Error	Reported / EML	Evaluation	QAP 44 Evaluation
Matrix:	**AI**							
1	CO 57	18.100	0.900	14.800	0.810	1.230	**N**	**A**
1	CO 60	9.990	0.046	8.640	0.430	1.150	**W**	**W**
1	CS134	13.500	0.600	10.800	0.390	1.250	**N**	**A**
1	CS137	10.300	0.500	8.520	0.370	1.210	**W**	**A**
1	MN 54	7.840	0.380	6.350	0.270	1.230	**W**	**W**
1	PU238	0.130	0.030	0.118	0.006	1.100	**A**	**A**
1	RU106	15.300	2.100	10.800	1.140	1.420	**N**	**A**
1	SB125	14.100	0.500	10.800	0.540	1.310	**W**	**W**
1	SR 90	0.550	0.080	0.526	0.037	1.040	**A**	**N**
1	U UG	6.500	0.500	6.398	0.510	1.020	**A**	
Matrix:	**SO**							
1	AM241	15.500	2.500	13.500	0.510	1.150	**A**	
1	CO 60	1.900	0.800	2.920	0.210	0.650	**W**	
1	CS137	1710.000	70.000	1550.000	22.200	1.100	**A**	**A**
1	K 40	280.000	55.000	300.000	25.000	0.930	**A**	**A**
1	PU238	0.820	0.160	1.130	0.240	0.730	**A**	**A**
2		1.040	0.210	1.130	0.240	0.920	**A**	**A**
1	PU239	25.200	2.500	21.800	1.080	1.160	**A**	**A**
2		24.500	2.500	21.800	1.080	1.120	**A**	**A**
1	SR 90	59.000	8.000	69.900	5.100	0.840	**A**	**N**
2		62.000	8.000	69.900	5.100	0.890	**A**	**N**
1	U UG	3.750	0.380	3.360	0.300	1.120	**W**	**A**
Matrix:	**VE**							
1	CO 60	9.140	0.900	10.900	0.710	0.830	**A**	**A**
1	CS137	210.000	9.000	190.000	6.680	1.110	**A**	**A**
1	K 40	900.000	60.000	992.000	29.000	0.910	**W**	**A**
1	PU239	1.890	0.200	1.960	0.300	0.960	**A**	**A**
1	SR 90	1510.000	170.000	1390.000	12.000	1.090	**A**	**W**
2		1480.000	160.000	1390.000	12.000	1.060	**A**	**N**

Units for matrices: AI=Bq/filter SO=Bq/kg VE=Bq/kg WA=Bq/L. Values for elemental uranium are reported in µg/filter, g

Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable **pCi = Bq x 27**

QAP45 Results by Laboratory

Lab: RC U.S. NRC Region I Lab

No. Test	Radio-nuclide	Reported Value	Reported Error	EML Value	EML Error	Reported / EML	Evaluation	QAP 44 Evaluation
Matrix:	**AI**							
1	CO 57	14.800	0.400	14.800	0.814	1.000	**A**	
1	CO 60	9.550	0.110	8.640	0.431	1.110	**W**	
1	CS134	12.600	0.200	10.800	0.392	1.170	**W**	
1	CS137	8.800	0.200	8.520	0.366	1.030	**A**	
1	MN 54	6.810	0.150	6.350	0.270	1.070	**A**	
1	RU106	14.000	3.000	10.800	1.140	1.300	**W**	
1	SB125	12.200	1.100	10.800	0.540	1.130	**W**	
Matrix:	**SO**							
1	CO 60	3.100	0.300	2.920	0.210	1.060	**A**	
1	CS137	1750.000	3.000	1550.000	22.200	1.130	**A**	

Units for matrices: AI=Bq/filter SO=Bq/kg VE=Bq/kg WA=Bq/L. Values for elemental uranium are reported in µg/filter, g

Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable pCi = Bq x 27

QAP45 Results by Laboratory

Lab: RD Radiation Detection Company

No. Test	Radio-nuclide	Reported Value	Reported Error	EML Value	EML Error	Reported / EML	Evaluation	QAP 44 Evaluation
Matrix:	**AI**							
1	GA 1	0.298	0.018	1.150	0.110	0.260	**N**	
1	GB 2	0.361	0.045	0.500	0.050	0.720	**N**	

Units for matrices: AI=Bq/filter SO=Bq/kg VE=Bq/kg WA=Bq/L. Values for elemental uranium are reported in µg/filter, g

Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable pCi = Bq x 27

QAP45 Results by Laboratory

Lab: RE Bechtel Nevada, Mercury, NV

No. Test	Radio-nuclide	Reported Value	Reported Error	EML Value	EML Error	Reported / EML	Evaluation	QAP 44 Evaluation
Matrix:	**AI**							
1	AM241	0.191	0.016	0.222	0.019	0.860	**A**	**W**
1	CO 57	16.000	1.400	14.800	0.814	1.080	**W**	**A**
1	CO 60	9.370	1.050	8.640	0.431	1.080	**W**	**A**
1	CS134	10.900	1.100	10.800	0.392	1.010	**A**	**W**
1	CS137	8.480	0.940	8.520	0.366	1.000	**A**	**W**
1	GA 1	0.935	0.106	1.150	0.110	0.810	**N**	**N**
1	GB 2	0.520	0.044	0.500	0.050	1.040	**A**	**N**
1	MN 54	7.010	0.820	6.350	0.270	1.100	**W**	**A**
1	PU238	0.118	0.011	0.118	0.006	1.000	**A**	**W**
1	RU106	5.250	2.410	10.800	1.140	0.490	**N**	**N**
1	SB125	11.600	1.600	10.800	0.540	1.070	**A**	**A**
1	SR 90	0.499	0.025	0.526	0.037	0.950	**A**	**A**
1	U 234	0.074	0.008	0.080	0.006	0.920	**A**	**A**
1	U 238	0.078	0.008	0.078	0.006	1.000	**A**	**A**
Matrix:	**SO**							
1	CO 60	3.050	1.230	2.920	0.210	1.040	**A**	
1	CS137	1240.000	97.000	1550.000	22.200	0.800	**W**	**W**
1	K 40	249.000	36.000	300.000	25.000	0.830	**W**	**A**
1	PU238	0.830	0.174	1.130	0.240	0.740	**A**	**A**
1	PU239	19.100	1.800	21.800	1.080	0.880	**A**	**A**
1	SR 90	67.900	3.600	69.900	5.100	0.970	**A**	**A**
1	U 234	38.100	3.900	39.200	2.440	0.970	**A**	**A**
1	U 238	40.400	4.100	41.600	0.610	0.970	**A**	**A**
Matrix:	**VE**							
1	AM241	1.110	0.160	1.230	0.410	0.900	**A**	**A**
1	CO 60	11.700	3.800	10.900	0.710	1.070	**A**	**A**
1	CS137	191.000	19.000	190.000	6.680	1.010	**A**	**A**
1	K 40	1780.000	190.000	992.000	29.000	1.790	**N**	**A**
1	PU239	1.950	0.120	1.960	0.300	1.000	**A**	**A**
1	SR 90	1270.000	93.000	1390.000	12.000	0.910	**A**	**A**
Matrix:	**WA**							
1	AM241	1.160	0.100	1.080	0.040	1.070	**A**	**A**
1	CO 60	70.400	7.400	61.100	0.730	1.150	**W**	**A**
1	CS137	105.000	10.000	89.500	1.360	1.170	**A**	**A**
1	GA 1	1250.000	40.000	1210.000	121.000	1.030	**A**	**A**
1	GB 2	612.000	23.000	540.000	54.000	1.130	**A**	**A**
1	H 3	505.000	27.000	587.000	58.000	0.860	**A**	**W**
1	MN 54	72.500	7.500	60.500	0.550	1.200	**W**	**A**
1	PU238	1.810	0.160	1.910	0.070	0.950	**A**	**W**
1	PU239	0.855	0.083	0.840	0.030	1.020	**A**	**A**

Units for matrices: AI=Bq/filter SO=Bq/kg VE=Bq/kg WA=Bq/L. Values for elemental uranium are reported in µg/filter, g

Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable pCi = Bq x 27

QAP45 Results by Laboratory

Lab: RE Bechtel Nevada, Mercury, NV

No. Test	Radio-nuclide	Reported Value	Reported Error	EML Value	EML Error	Reported / EML	Evaluation	QAP 44 Evaluation
Matrix:	**WA**							
1	SR 90	2.710	0.190	2.710	0.240	1.000	**A**	**A**
1	U 234	0.530	0.059	0.480	0.040	1.100	**A**	**A**
1	U 238	0.519	0.057	0.480	0.370	1.080	**A**	**A**

Units for matrices: AI=Bq/filter SO=Bq/kg VE=Bq/kg WA=Bq/L. Values for elemental uranium are reported in µg/filter, g
Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable pCi = Bq x 27

QAP45 Results by Laboratory

Lab: RF EG&G Rocky Flats Plant, Golden

No. Test	Radio-nuclide	Reported Value	Reported Error	EML Value	EML Error	Reported / EML	Evaluation	QAP 44 Evaluation
Matrix:	**SO**							
1	PU239	22.300	1.010	21.800	1.080	1.020	**A**	**A**
2		22.300	1.010	21.800	1.080	1.020	**A**	**A**
1	U 234	36.600	1.710	39.200	2.440	0.930	**A**	**W**
1	U 238	39.900	1.860	41.600	0.610	0.960	**A**	**A**
Matrix:	**VE**							
1	PU239	1.670	0.110	1.960	0.300	0.850	**A**	**A**

Units for matrices: AI=Bq/filter SO=Bq/kg VE=Bq/kg WA=Bq/L. Values for elemental uranium are reported in µg/filter, g

Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable pCi = Bq x 27

QAP45 Results by Laboratory

Lab: RG EG&G Rocky Flats Plant, Golden

No. Test	Radio-nuclide	Reported Value	Reported Error	EML Value	EML Error	Reported / EML	Evaluation	QAP 44 Evaluation
Matrix:	**WA**							
1	AM241	1.300	0.020	1.080	0.040	1.200	**A**	**A**
1	GA 1	1340.000	68.000	1210.000	121.000	1.110	**A**	**A**
1	GB 2	550.000	30.000	540.000	54.000	1.020	**A**	**W**
1	H 3	491.000	8.900	587.000	58.000	0.840	**A**	**A**
1	PU238	1.940	0.050	1.910	0.070	1.020	**A**	**A**
1	PU239	0.894	0.026	0.840	0.030	1.060	**A**	**A**
1	U 234	0.574	0.026	0.480	0.040	1.200	**A**	**W**
1	U 238	0.562	0.025	0.480	0.370	1.170	**W**	**A**
1	U BQ	1.160	0.030	0.970	0.070	1.200	**A**	**A**

Units for matrices: AI=Bq/filter SO=Bq/kg VE=Bq/kg WA=Bq/L. Values for elemental uranium are reported in µg/filter, g

Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable **pCi = Bq x 27**

QAP45 Results by Laboratory

Lab: RI Westinghouse Hanford Co. Analytical Labs

No. Test	Radio-nuclide	Reported Value	Reported Error	EML Value	EML Error	Reported / EML	Evaluation	QAP 44 Evaluation
Matrix:	**AI**							
1	AM241	0.213	0.016	0.222	0.019	0.960	**A**	**A**
1	CO 57	13.900	0.500	14.800	0.814	0.940	**A**	**N**
1	CO 60	8.470	0.600	8.640	0.431	0.980	**A**	**N**
1	CS134	11.400	0.470	10.800	0.392	1.060	**A**	**W**
1	CS137	8.150	0.740	8.520	0.366	0.960	**A**	**W**
1	MN 54	6.500	0.830	6.350	0.270	1.020	**A**	**N**
1	PU238	0.128	0.013	0.118	0.006	1.090	**A**	**A**
1	RU106	10.400	4.300	10.800	1.140	0.960	**A**	**A**
1	SB125	12.500	1.200	10.800	0.540	1.160	**W**	**A**
1	SR 90	0.700	0.310	0.526	0.037	1.330	**A**	**A**
1	U UG	5.820	0.083	6.398	0.510	0.910	**A**	**A**
Matrix:	**SO**							
1	CS137	1860.000	19.000	1550.000	22.200	1.200	**A**	**N**
1	K 40	371.000	11.000	300.000	25.000	1.240	**A**	**N**
Matrix:	**VE**							
1	AM241	10.500	0.760	1.230	0.410	8.540	**N**	**A**
1	CM244	1.010	0.150	0.830	0.120	1.220	**A**	**A**
1	CS137	251.000	13.000	190.000	6.680	1.320	**W**	**N**
1	K 40	1210.000	190.000	992.000	29.000	1.220	**A**	**W**
Matrix:	**WA**							
1	AM241	0.988	0.074	1.080	0.040	0.920	**A**	**A**
1	CO 60	67.500	3.200	61.100	0.730	1.110	**A**	**N**
1	CS137	94.900	4.800	89.500	1.360	1.060	**A**	**A**
1	H 3	488.000	26.000	587.000	58.000	0.830	**A**	**W**
1	MN 54	66.200	3.500	60.500	0.550	1.090	**A**	**A**
1	PU238	1.950	0.120	1.910	0.070	1.020	**A**	**W**
1	PU239	0.840	0.068	0.840	0.030	1.000	**A**	**A**
1	SR 90	4.050	1.600	2.710	0.240	1.490	**W**	**A**
1	U UG	44.500	0.520	0.039	0.003	*.***	**N**	**N**

Units for matrices: AI=Bq/filter SO=Bq/kg VE=Bq/kg WA=Bq/L. Values for elemental uranium are reported in µg/filter, g

Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable pCi = Bq x 27

QAP45 Results by Laboratory

Lab: RL Thermo Hanford

No. Test	Radio-nuclide	Reported Value	Reported Error	EML Value	EML Error	Reported / EML	Evaluation	QAP 44 Evaluation
Matrix:	**AI**							
1	CO 57	15.100	1.300	14.800	0.814	1.020	**A**	**W**
1	CO 60	9.900	1.500	8.640	0.431	1.150	**W**	**A**
1	CS134	11.800	0.340	10.800	0.392	1.090	**A**	**A**
1	CS137	8.600	1.100	8.520	0.366	1.010	**A**	**W**
1	MN 54	7.210	0.980	6.350	0.270	1.140	**W**	
1	RU106	9.200	2.200	10.800	1.140	0.850	**A**	
1	SB125	12.000	1.000	10.800	0.540	1.110	**A**	**A**
Matrix:	**SO**							
1	CS137	2040.000	163.000	1550.000	22.200	1.320	**W**	**N**
1	K 40	434.000	31.000	300.000	25.000	1.450	**W**	
Matrix:	**VE**							
1	CS137	248.000	16.000	190.000	6.680	1.310	**W**	**W**
1	K 40	1380.000	120.000	992.000	29.000	1.390	**W**	**N**
1	SR 90	2200.000	616.000	1390.000	12.000	1.580	**N**	
Matrix:	**WA**							
1	CO 60	96.000	7.700	61.100	0.730	1.570	**N**	**A**
1	CS137	149.000	11.000	89.500	1.360	1.670	**N**	**A**
1	GA 1	360.000	25.000	1210.000	121.000	0.300	**N**	
1	GB 2	1060.000	102.000	540.000	54.000	1.960	**N**	
1	MN 54	104.000	8.100	60.500	0.550	1.720	**N**	**A**

Units for matrices: AI=Bq/filter SO=Bq/kg VE=Bq/kg WA=Bq/L. Values for elemental uranium are reported in µg/filter, g

Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable pCi = Bq x 27

QAP45 Results by Laboratory

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

No. Test	Radio-nuclide	Reported Value	Reported Error	EML Value	EML Error	Reported / EML	Evaluation	QAP 44 Evaluation
Matrix:	**AI**							
1	CO 57	23.900	2.400	14.800	0.814	1.620	**N**	**W**
1	CO 60	11.700	1.200	8.640	0.431	1.350	**N**	**W**
1	CS134	14.400	1.400	10.800	0.392	1.330	**N**	**W**
1	CS137	12.000	1.000	8.520	0.366	1.410	**N**	**W**
1	GA 1	0.510	0.056	1.150	0.110	0.440	**N**	
1	GB 2	0.500	0.055	0.500	0.050	1.000	**A**	
1	MN 54	9.500	0.950	6.350	0.270	1.500	**N**	**W**
1	SB125	15.800	1.600	10.800	0.540	1.460	**N**	**W**
Matrix:	**SO**							
1	CS137	1640.000	90.000	1550.000	22.200	1.060	**A**	**A**
1	K 40	308.000	15.000	300.000	25.000	1.030	**A**	**A**
Matrix:	**WA**							
1	CO 60	62.000	3.000	61.100	0.730	1.020	**A**	**A**
1	CS137	97.000	5.000	89.500	1.360	1.080	**A**	**A**
1	GA 1	1130.000	112.000	1210.000	121.000	0.930	**A**	**A**
1	GB 2	821.000	90.000	540.000	54.000	1.520	**W**	**A**
1	MN 54	65.000	4.000	60.500	0.550	1.070	**A**	**A**

Units for matrices: AI=Bq/filter SO=Bq/kg VE=Bq/kg WA=Bq/L. Values for elemental uranium are reported in µg/filter, g

Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable pCi = Bq x 27

QAP45 Results by Laboratory

Lab: SC Ceimic Corp., San Diego, CA

No. Test	Radio-nuclide	Reported Value	Reported Error	EML Value	EML Error	Reported / EML	Evaluation	QAP 44 Evaluation
Matrix:	**AI**							
1	GA 1	0.337	0.010	1.150	0.110	0.290	**N**	**A**
1	GB 2	0.584	0.010	0.500	0.050	1.170	**A**	**A**
Matrix:	**SO**							
1	AM241	10.300	0.800	13.500	0.510	0.760	**A**	
1	CO 60	3.230	0.300	2.920	0.210	1.110	**A**	
1	CS137	1520.000	10.000	1550.000	22.200	0.980	**A**	**N**
1	K 40	364.000	4.000	300.000	25.000	1.210	**A**	**W**
1	PU238	1.200	0.200	1.130	0.240	1.060	**A**	**A**
1	PU239	31.900	1.500	21.800	1.080	1.460	**W**	**A**
1	U UG	70.300	2.000	3.360	0.300	*.***	**N**	
Matrix:	**WA**							
1	AM241	1.190	0.050	1.080	0.040	1.100	**A**	**W**
1	CO 60	66.200	2.000	61.100	0.730	1.080	**A**	**A**
1	CS137	94.400	2.000	89.500	1.360	1.050	**A**	**A**
1	GA 1	1340.000	23.000	1210.000	121.000	1.110	**A**	**A**
1	GB 2	396.000	15.000	540.000	54.000	0.730	**A**	**N**
1	H 3	483.000	10.000	587.000	58.000	0.820	**A**	**A**
1	MN 54	65.700	2.000	60.500	0.550	1.090	**A**	**A**
1	PU238	0.910	0.010	1.910	0.070	0.480	**N**	**W**
1	PU239	2.300	0.050	0.840	0.030	2.740	**N**	**A**
1	U BQ	1.070	0.020	0.970	0.070	1.100	**A**	**A**

Units for matrices: AI=Bq/filter SO=Bq/kg VE=Bq/kg WA=Bq/L. Values for elemental uranium are reported in µg/filter, g

Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable pCi = Bq x 27

QAP45 Results by Laboratory

Lab: SK Savannah River Plant

No. Test	Radio-nuclide	Reported Value	Reported Error	EML Value	EML Error	Reported / EML	Evaluation	QAP 44 Evaluation
Matrix:	**AI**							
1	CO 57	17.800	1.500	14.800	0.814	1.200	**W**	**W**
1	CO 60	11.100	1.200	8.640	0.431	1.290	**N**	**A**
1	CS134	14.600	1.500	10.800	0.392	1.350	**N**	**W**
1	CS137	9.620	0.840	8.520	0.366	1.130	**W**	**W**
1	MN 54	7.650	0.660	6.350	0.270	1.210	**W**	**N**
1	RU106	11.600	1.100	10.800	1.140	1.070	**A**	**A**
1	SB125	13.800	1.400	10.800	0.540	1.280	**W**	**A**
Matrix:	**SO**							
1	CO 60	3.580	0.600	2.920	0.210	1.230	**W**	
1	CS137	1910.000	115.000	1550.000	22.200	1.230	**A**	**A**
1	K 40	319.000	25.000	300.000	25.000	1.060	**A**	**A**
1	PU238	0.800	0.070	1.130	0.240	0.710	**W**	
1	PU239	20.000	1.500	21.800	1.080	0.920	**A**	
Matrix:	**VE**							
1	CO 60	13.700	1.500	10.900	0.710	1.260	**W**	**A**
1	CS137	235.000	20.000	190.000	6.680	1.240	**A**	**A**
1	K 40	1140.000	74.000	992.000	29.000	1.150	**A**	**A**
1	PU239	0.760	0.070	1.960	0.300	0.390	**N**	
Matrix:	**WA**							
1	AM241	1.060	0.060	1.080	0.040	0.980	**A**	
1	CO 60	70.200	6.000	61.100	0.730	1.150	**W**	**A**
1	CS137	94.300	5.800	89.500	1.360	1.050	**A**	**A**
1	H 3	471.000	14.000	587.000	58.000	0.800	**W**	**A**
1	MN 54	62.900	3.900	60.500	0.550	1.040	**A**	**A**
1	PU238	1.770	0.090	1.910	0.070	0.930	**A**	
1	PU239	0.780	0.050	0.840	0.030	0.930	**A**	
1	U 234	0.530	0.040	0.480	0.040	1.100	**A**	**A**
1	U 238	0.520	0.040	0.480	0.370	1.080	**A**	**A**
1	U UG	0.042	0.002	0.039	0.003	1.080	**A**	**A**

Units for matrices: AI=Bq/filter SO=Bq/kg VE=Bq/kg WA=Bq/L. Values for elemental uranium are reported in µg/filter, g

Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable pCi = Bq x 27

QAP45 Results by Laboratory

Lab: SL Stanford Linear Accelerator Center

No. Test	Radio-nuclide	Reported Value	Reported Error	EML Value	EML Error	Reported / EML	Evaluation	QAP 44 Evaluation
Matrix:	**WA**							
1	CO 60	69.000	2.000	61.100	0.730	1.130	**W**	
1	CS137	102.000	5.000	89.500	1.360	1.140	**A**	
1	MN 54	68.000	3.000	60.500	0.550	1.120	**A**	

Units for matrices: AI=Bq/filter SO=Bq/kg VE=Bq/kg WA=Bq/L. Values for elemental uranium are reported in µg/filter, g
Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable pCi = Bq x 27

QAP45 Results by Laboratory

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

No. Test	Radio-nuclide	Reported Value	Reported Error	EML Value	EML Error	Reported / EML	Evaluation	QAP 44 Evaluation
Matrix:	**AI**							
1	PU238	0.106	0.012	0.118	0.006	0.900	**A**	**A**
1	U 234	0.071	0.009	0.080	0.006	0.890	**W**	**A**
1	U 238	0.075	0.009	0.078	0.006	0.960	**A**	**A**
Matrix:	**SO**							
1	CO 60	3.180	0.870	2.920	0.210	1.090	**A**	
1	CS137	1820.000	182.000	1550.000	22.200	1.170	**A**	**A**
1	K 40	393.000	38.600	300.000	25.000	1.310	**W**	**A**
1	PU238	0.564	1.080	1.130	0.240	0.500	**W**	**A**
1	PU239	25.500	4.410	21.800	1.080	1.170	**A**	**A**
1	U 234	36.500	5.830	39.200	2.440	0.930	**A**	**N**
1	U 238	35.400	5.700	41.600	0.610	0.850	**A**	**W**
Matrix:	**VE**							
1	CO 60	12.100	1.910	10.900	0.710	1.110	**A**	**A**
1	CS137	229.000	23.100	190.000	6.680	1.210	**A**	**A**
1	K 40	1300.000	122.000	992.000	29.000	1.310	**W**	**W**
1	PU239	3.090	1.590	1.960	0.300	1.580	**W**	**A**
Matrix:	**WA**							
1	CO 60	63.500	5.650	61.100	0.730	1.040	**A**	**A**
1	CS137	89.600	7.900	89.500	1.360	1.000	**A**	**A**
1	GA 1	996.000	36.500	1210.000	121.000	0.820	**A**	
1	GB 2	571.000	27.200	540.000	54.000	1.060	**A**	
1	MN 54	64.300	6.740	60.500	0.550	1.060	**A**	**A**
1	PU238	1.770	0.190	1.910	0.070	0.930	**A**	**W**
1	PU239	0.820	0.094	0.840	0.030	0.980	**A**	**A**
1	U 234	0.426	0.052	0.480	0.040	0.890	**W**	**A**
1	U 238	0.411	0.051	0.480	0.370	0.860	**W**	**A**

Units for matrices: AI=Bq/filter SO=Bq/kg VE=Bq/kg WA=Bq/L. Values for elemental uranium are reported in µg/filter, g

Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable pCi = Bq x 27

QAP45 Results by Laboratory

Lab: SR Savannah River Plant

No. Test	Radio-nuclide	Reported Value	Reported Error	EML Value	EML Error	Reported / EML	Evaluation	QAP 44 Evaluation
Matrix:	**AI**							
1	AM241	0.174	0.023	0.222	0.019	0.780	**W**	**A**
1	CO 57	15.000	1.000	14.800	0.814	1.010	**A**	**A**
1	CO 60	9.300	0.600	8.640	0.431	1.080	**W**	**A**
1	CS134	11.000	2.000	10.800	0.392	1.020	**A**	**A**
1	CS137	9.000	1.000	8.520	0.366	1.060	**A**	**A**
1	GA 1	0.650	0.080	1.150	0.110	0.570	**N**	**A**
1	GB 2	0.490	0.060	0.500	0.050	0.980	**A**	**A**
1	MN 54	7.000	1.000	6.350	0.270	1.100	**W**	**A**
1	PU238	0.098	0.016	0.118	0.006	0.830	**A**	**A**
1	RU106	12.000	6.000	10.800	1.140	1.110	**W**	**W**
1	SB125	12.000	1.000	10.800	0.540	1.110	**A**	**A**
1	SR 90	0.220	0.190	0.526	0.037	0.420	**N**	**N**
1	U 234	0.062	0.011	0.080	0.006	0.780	**N**	**W**
1	U 238	0.064	0.011	0.078	0.006	0.820	**W**	**A**
Matrix:	**SO**							
1	CO 60	3.000	1.000	2.920	0.210	1.030	**A**	
1	CS137	1760.000	233.000	1550.000	22.200	1.140	**A**	**A**
1	K 40	342.000	58.000	300.000	25.000	1.140	**A**	**A**
1	PU238	1.020	0.040	1.130	0.240	0.900	**A**	**A**
1	PU239	25.500	3.700	21.800	1.080	1.170	**A**	**A**
1	SR 90	84.000	9.000	69.900	5.100	1.200	**A**	**N**
Matrix:	**VE**							
1	AM241	2.160	0.590	1.230	0.410	1.760	**W**	
1	CO 60	11.000	2.000	10.900	0.710	1.010	**A**	**A**
1	CS137	223.000	6.000	190.000	6.680	1.170	**A**	**N**
1	K 40	1180.000	52.000	992.000	29.000	1.190	**A**	**N**
1	PU239	2.120	0.520	1.960	0.300	1.080	**A**	**A**
1	SR 90	1360.000	49.000	1390.000	12.000	0.980	**A**	**W**
Matrix:	**WA**							
1	AM241	1.270	0.043	1.080	0.040	1.180	**A**	**A**
1	CO 60	68.000	3.000	61.100	0.730	1.110	**A**	**A**
1	CS137	100.000	5.000	89.500	1.360	1.120	**A**	**A**
1	GA 1	1810.000	56.000	1210.000	121.000	1.500	**N**	**A**
1	GB 2	678.000	27.000	540.000	54.000	1.260	**A**	**W**
1	H 3	462.000	13.000	587.000	58.000	0.790	**W**	**A**
1	MN 54	68.000	2.000	60.500	0.550	1.120	**A**	**W**
1	PU238	2.270	0.250	1.910	0.070	1.190	**W**	**A**
1	PU239	1.000	0.130	0.840	0.030	1.190	**W**	**A**
1	SR 90	2.430	1.200	2.710	0.240	0.900	**A**	**A**
1	U 234	0.509	0.074	0.480	0.040	1.060	**A**	**A**

Units for matrices: AI=Bq/filter SO=Bq/kg VE=Bq/kg WA=Bq/L. Values for elemental uranium are reported in µg/filter, g

Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable pCi = Bq x 27

QAP45 Results by Laboratory

Lab: SR Savannah River Plant

No. Test	Radio-nuclide	Reported Value	Reported Error	EML Value	EML Error	Reported / EML	Evaluation	QAP 44 Evaluation
Matrix:	**WA**							
1	U 238	0.512	0.072	0.480	0.370	1.070	**A**	**A**

Units for matrices: AI=Bq/filter SO=Bq/kg VE=Bq/kg WA=Bq/L. Values for elemental uranium are reported in µg/filter, g
Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable pCi = Bq x 27

QAP45 Results by Laboratory

Lab: SS Savannah River Tech Center

No. Test	Radio-nuclide	Reported Value	Reported Error	EML Value	EML Error	Reported / EML	Evaluation	QAP 44 Evaluation
Matrix:	**AI**							
1	AM241	0.220	0.006	0.222	0.019	0.990	**A**	
1	CO 57	14.900	0.670	14.800	0.814	1.010	**A**	**W**
1	CO 60	9.320	0.190	8.640	0.431	1.080	**W**	**A**
1	CS134	11.300	0.280	10.800	0.392	1.050	**A**	**A**
1	CS137	8.460	0.310	8.520	0.366	0.990	**A**	**W**
1	MN 54	6.040	0.220	6.350	0.270	0.950	**A**	**A**
1	PU238	0.127	0.007	0.118	0.006	1.080	**A**	
1	RU106	14.200	0.580	10.800	1.140	1.320	**N**	**A**
1	SB125	11.500	0.410	10.800	0.540	1.070	**A**	**A**
Matrix:	**SO**							
1	CO 60	2.990	0.610	2.920	0.210	1.020	**A**	
1	CS137	1880.000	95.200	1550.000	22.200	1.210	**A**	**W**
1	K 40	356.000	24.700	300.000	25.000	1.190	**A**	**A**
Matrix:	**VE**							
1	CO 60	11.200	1.280	10.900	0.710	1.030	**A**	**A**
1	CS137	224.000	12.000	190.000	6.680	1.180	**A**	**A**
1	K 40	1140.000	66.000	992.000	29.000	1.150	**A**	**A**
Matrix:	**WA**							
1	CO 60	65.700	1.630	61.100	0.730	1.080	**A**	**A**
1	CS137	98.600	3.620	89.500	1.360	1.100	**A**	**A**
1	MN 54	67.500	2.320	60.500	0.550	1.120	**A**	**A**
1	PU238	1.620	0.120	1.910	0.070	0.850	**W**	
1	PU239	0.947	0.098	0.840	0.030	1.130	**A**	
1	U 234	0.546	0.080	0.480	0.040	1.140	**A**	
1	U 238	0.500	0.076	0.480	0.370	1.040	**A**	

Units for matrices: AI=Bq/filter SO=Bq/kg VE=Bq/kg WA=Bq/L. Values for elemental uranium are reported in µg/filter, g

Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable pCi = Bq x 27

QAP45 Results by Laboratory

Lab: SV Savannah Lab & Environmental Services, Inc., Tampa, FL

No. Test	Radio-nuclide	Reported Value	Reported Error	EML Value	EML Error	Reported / EML	Evaluation	QAP 44 Evaluation
Matrix:	**WA**							
1	GA 1	1130.000	66.300	1210.000	121.000	0.930	**A**	**A**
1	GB 2	679.000	37.800	540.000	54.000	1.260	**A**	**A**
1	H 3	489.000	96.800	587.000	58.000	0.830	**A**	**A**

Units for matrices: AI=Bq/filter SO=Bq/kg VE=Bq/kg WA=Bq/L. Values for elemental uranium are reported in µg/filter, g

Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable pCi = Bq x 27

QAP45 Results by Laboratory

Lab: SW Southwest Research Institute, San Antonio, TX

No. Test	Radio-nuclide	Reported Value	Reported Error	EML Value	EML Error	Reported / EML	Evaluation	QAP 44 Evaluation
Matrix:	**AI**							
1	CO 57	15.400	0.240	14.800	0.814	1.040	**W**	**A**
1	CO 60	9.020	0.240	8.640	0.431	1.040	**A**	**W**
1	CS134	11.500	0.230	10.800	0.392	1.070	**A**	**A**
1	CS137	8.500	0.300	8.520	0.366	1.000	**A**	**W**
1	GA 1	0.410	0.030	1.150	0.110	0.360	**N**	
1	GB 2	0.440	0.040	0.500	0.050	0.880	**W**	
1	MN 54	6.900	0.330	6.350	0.270	1.090	**W**	**N**
1	RU106	9.080	2.180	10.800	1.140	0.840	**A**	**A**
1	SB125	11.100	0.460	10.800	0.540	1.030	**A**	**A**
1	SR 90	0.690	0.170	0.526	0.037	1.310	**A**	**A**
1	U UG	7.230	0.000	6.398	0.510	1.130	**A**	**W**
Matrix:	**SO**							
1	AM241	13.400	0.910	13.500	0.510	0.990	**A**	**W**
1	CO 60	3.110	0.420	2.920	0.210	1.070	**A**	
1	CS137	813.000	5.000	1550.000	22.200	0.520	**N**	**W**
1	K 40	36.700	6.770	300.000	25.000	0.120	**N**	**N**
1	U UG	1.970	0.000	3.360	0.300	0.590	**A**	**A**
Matrix:	**VE**							
1	CO 60	11.400	1.340	10.900	0.710	1.050	**A**	**A**
1	CS137	204.000	4.000	190.000	6.680	1.070	**A**	**A**
1	K 40	1150.000	39.000	992.000	29.000	1.160	**A**	**A**
Matrix:	**WA**							
1	AM241	1.500	0.470	1.080	0.040	1.390	**W**	**N**
1	CO 60	65.000	0.910	61.100	0.730	1.060	**A**	**A**
1	CS137	96.700	1.300	89.500	1.360	1.080	**A**	**A**
1	GA 1	1070.000	42.500	1210.000	121.000	0.880	**A**	
1	GB 2	555.000	34.500	540.000	54.000	1.030	**A**	
1	H 3	922.000	25.500	587.000	58.000	1.570	**W**	**A**
1	MN 54	65.000	1.290	60.500	0.550	1.070	**A**	**A**
1	SR 90	3.300	0.450	2.710	0.240	1.220	**A**	**A**
1	U UG	0.057	0.000	0.039	0.003	1.460	**N**	**N**

Units for matrices: AI=Bq/filter SO=Bq/kg VE=Bq/kg WA=Bq/L. Values for elemental uranium are reported in µg/filter, g

Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable **pCi = Bq x 27**

QAP45 Results by Laboratory

Lab: TE Teledyne Isotopes Midwest Lab, Northbrook, IL

No. Test	Radio-nuclide	Reported Value	Reported Error	EML Value	EML Error	Reported / EML	Evaluation	QAP 44 Evaluation
Matrix:	**AI**							
1	CO 57	11.800	0.296	14.800	0.814	0.800	**A**	**W**
1	CO 60	9.230	0.402	8.640	0.431	1.070	**A**	**A**
1	CS134	9.620	0.376	10.800	0.392	0.890	**A**	**A**
1	CS137	8.720	0.403	8.520	0.366	1.020	**A**	**A**
1	GA 1	0.731	0.037	1.150	0.110	0.640	**N**	**W**
1	GB 2	0.540	0.037	0.500	0.050	1.080	**A**	**A**
1	MN 54	7.060	0.472	6.350	0.270	1.110	**W**	**A**
1	RU106	11.500	3.190	10.800	1.140	1.070	**A**	**A**
1	SB125	12.400	0.965	10.800	0.540	1.150	**W**	**A**
Matrix:	**SO**							
1	AM241	15.600	3.830	13.500	0.510	1.160	**A**	**W**
1	CO 60	4.030	2.500	2.920	0.210	1.380	**W**	
1	CS137	1750.000	24.400	1550.000	22.200	1.130	**A**	**A**
1	K 40	369.000	59.500	300.000	25.000	1.230	**A**	**A**
1	PU238	0.770	0.360	1.130	0.240	0.680	**W**	**A**
1	PU239	24.000	1.940	21.800	1.080	1.100	**A**	**A**
1	SR 90	63.600	3.950	69.900	5.100	0.910	**A**	**A**
1	U 234	37.200	3.750	39.200	2.440	0.950	**A**	
1	U 238	40.800	3.980	41.600	0.610	0.980	**A**	
Matrix:	**VE**							
1	AM241	1.530	0.884	1.230	0.410	1.240	**A**	**A**
1	CM244	0.612	0.495	0.830	0.120	0.740	**W**	**A**
1	CO 60	14.000	4.420	10.900	0.710	1.280	**W**	**A**
1	CS137	219.000	10.100	190.000	6.680	1.150	**A**	**A**
1	K 40	1160.000	99.400	992.000	29.000	1.170	**A**	**A**
1	SR 90	1420.000	35.100	1390.000	12.000	1.020	**A**	**A**
Matrix:	**WA**							
1	AM241	1.300	0.200	1.080	0.040	1.200	**A**	**A**
1	CO 60	65.000	2.210	61.100	0.730	1.060	**A**	**A**
1	CS137	96.100	3.010	89.500	1.360	1.070	**A**	**A**
1	GA 1	993.000	12.200	1210.000	121.000	0.820	**A**	**A**
1	GB 2	579.000	8.070	540.000	54.000	1.070	**A**	**A**
1	H 3	488.000	34.600	587.000	58.000	0.830	**A**	**W**
1	MN 54	65.000	2.960	60.500	0.550	1.070	**A**	**A**
1	PU238	1.320	0.333	1.910	0.070	0.690	**N**	**A**
1	PU239	0.698	0.247	0.840	0.030	0.830	**W**	**A**
1	SR 90	3.600	0.700	2.710	0.240	1.330	**W**	**W**
1	U 234	0.517	0.196	0.480	0.040	1.080	**A**	
1	U 238	0.416	0.118	0.480	0.370	0.870	**W**	

Units for matrices: AI=Bq/filter SO=Bq/kg VE=Bq/kg WA=Bq/L. Values for elemental uranium are reported in µg/filter, g

Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable pCi = Bq x 27

QAP45 Results by Laboratory

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

No. Test	Radio-nuclide	Reported Value	Reported Error	EML Value	EML Error	Reported / EML	Evaluation	QAP 44 Evaluation
Matrix:	**AI**							
1	AM241	0.200	0.030	0.222	0.019	0.900	**A**	**A**
1	CO 57	15.800	1.600	14.800	0.814	1.070	**W**	**A**
1	CO 60	9.620	0.960	8.640	0.431	1.110	**W**	**A**
1	CS134	10.900	1.100	10.800	0.392	1.010	**A**	**A**
1	CS137	9.810	0.980	8.520	0.366	1.150	**W**	**A**
1	GA 1	0.550	0.060	1.150	0.110	0.480	**N**	**W**
1	GB 2	0.580	0.050	0.500	0.050	1.160	**A**	**A**
1	MN 54	7.510	0.750	6.350	0.270	1.180	**W**	**A**
1	PU238	0.089	0.024	0.118	0.006	0.750	**W**	**A**
1	RU106	10.700	1.800	10.800	1.140	0.990	**A**	**A**
1	SB125	11.800	1.200	10.800	0.540	1.090	**A**	**A**
1	SR 90	0.770	0.100	0.526	0.037	1.460	**A**	**A**
1	U UG	4.500	0.700	6.398	0.510	0.700	**W**	**N**
Matrix:	**SO**							
1	AM241	11.000	2.000	13.500	0.510	0.820	**A**	**A**
1	CO 60	3.260	1.340	2.920	0.210	1.120	**A**	
1	CS137	1900.000	190.000	1550.000	22.200	1.230	**A**	**A**
1	K 40	340.000	34.000	300.000	25.000	1.130	**A**	**A**
1	PU238	0.940	0.520	1.130	0.240	0.830	**A**	**A**
1	PU239	20.000	3.000	21.800	1.080	0.920	**A**	**A**
1	SR 90	74.000	7.000	69.900	5.100	1.060	**A**	**A**
1	U UG	3.500	0.500	3.360	0.300	1.040	**A**	**A**
Matrix:	**VE**							
1	AM241	1.200	0.400	1.230	0.410	0.980	**A**	**W**
1	CM244	0.980	0.360	0.830	0.120	1.180	**A**	**A**
1	CO 60	13.000	4.900	10.900	0.710	1.190	**A**	**A**
1	CS137	211.000	21.000	190.000	6.680	1.110	**A**	**W**
1	K 40	907.000	91.000	992.000	29.000	0.910	**W**	**A**
1	PU239	1.900	0.600	1.960	0.300	0.970	**A**	**W**
1	SR 90	1500.000	100.000	1390.000	12.000	1.080	**A**	**A**
Matrix:	**WA**							
1	AM241	1.200	0.200	1.080	0.040	1.110	**A**	**A**
1	CO 60	71.800	7.200	61.100	0.730	1.170	**W**	**A**
1	CS137	106.000	11.000	89.500	1.360	1.180	**A**	**A**
1	FE 55	120.000	20.000	230.000	23.000	0.520	**W**	**W**
1	GA 1	1300.000	100.000	1210.000	121.000	1.070	**A**	**A**
1	GB 2	370.000	40.000	540.000	54.000	0.690	**W**	**N**
1	H 3	520.000	40.000	587.000	58.000	0.890	**A**	**A**
1	MN 54	72.700	7.300	60.500	0.550	1.200	**W**	**A**
1	PU238	2.100	0.300	1.910	0.070	1.100	**A**	**A**

Units for matrices: AI=Bq/filter SO=Bq/kg VE=Bq/kg WA=Bq/L. Values for elemental uranium are reported in µg/filter, g

Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable **pCi = Bq x 27**

QAP45 Results by Laboratory

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

No. Test	Radio-nuclide	Reported Value	Reported Error	EML Value	EML Error	Reported / EML	Evaluation	QAP 44 Evaluation
Matrix:	**WA**							
1	PU239	1.100	0.200	0.840	0.030	1.310	**W**	**A**
1	SR 90	3.100	0.400	2.710	0.240	1.140	**A**	**A**
1	U UG	0.043	0.006	0.039	0.003	1.100	**A**	**N**

Units for matrices: AI=Bq/filter SO=Bq/kg VE=Bq/kg WA=Bq/L. Values for elemental uranium are reported in µg/filter, g

Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable pCi = Bq x 27

QAP45 Results by Laboratory

Lab: TM TMA/Eberline-Albuquerque Lab, NM

No. Test	Radio-nuclide	Reported Value	Reported Error	EML Value	EML Error	Reported / EML	Evaluation	QAP 44 Evaluation
Matrix:	**AI**							
1	AM241	0.220	0.010	0.222	0.019	0.990	**A**	**A**
1	CO 57	17.000	0.514	14.800	0.814	1.150	**W**	**A**
1	CS134	12.500	0.405	10.800	0.392	1.160	**W**	**A**
1	CS137	9.510	0.338	8.520	0.366	1.120	**W**	**A**
1	GA 1	0.999	0.139	1.150	0.110	0.870	**W**	**N**
1	GB 2	0.593	0.088	0.500	0.050	1.190	**A**	**W**
1	MN 54	7.590	0.295	6.350	0.270	1.200	**W**	**W**
1	PU238	0.111	0.005	0.118	0.006	0.940	**A**	**A**
1	RU106	12.400	1.330	10.800	1.140	1.150	**W**	**A**
1	SB125	5.000	0.371	10.800	0.540	0.460	**N**	**A**
1	SR 90	0.497	0.073	0.526	0.037	0.950	**A**	**A**
1	U 234	0.105	0.006	0.080	0.006	1.310	**A**	**A**
1	U 238	0.083	0.005	0.078	0.006	1.070	**A**	**A**
1	U UG	6.280	0.785	6.398	0.510	0.980	**A**	**A**
Matrix:	**SO**							
1	AM241	13.400	0.064	13.500	0.510	0.990	**A**	**A**
1	CS137	1450.000	42.800	1550.000	22.200	0.940	**W**	**A**
1	K 40	302.000	30.900	300.000	25.000	1.010	**A**	**A**
1	PU238	1.170	0.222	1.130	0.240	1.040	**A**	**A**
1	PU239	22.100	9.760	21.800	1.080	1.010	**A**	**A**
1	SR 90	68.000	5.460	69.900	5.100	0.970	**A**	**W**
1	U 234	47.200	2.220	39.200	2.440	1.200	**W**	**A**
1	U 238	42.000	2.070	41.600	0.610	1.010	**A**	**A**
1	U UG	3.450	0.177	3.360	0.300	1.030	**A**	**A**
Matrix:	**VE**							
1	AM241	1.260	0.204	1.230	0.410	1.020	**A**	**A**
1	CM244	1.270	0.302	0.830	0.120	1.530	**W**	**A**
1	CO 60	10.200	5.140	10.900	0.710	0.940	**A**	**A**
2		9.770	0.355	10.900	0.710	0.900	**A**	**A**
1	CS137	175.000	7.450	190.000	6.680	0.920	**W**	**W**
1	K 40	1040.000	80.000	992.000	29.000	1.050	**A**	**A**
1	PU239	2.110	0.352	1.960	0.300	1.080	**A**	**A**
1	SR 90	1580.000	103.000	1390.000	12.000	1.140	**W**	**A**
Matrix:	**WA**							
1	AM241	1.210	0.048	1.080	0.040	1.120	**A**	**A**
1	CO 60	73.200	2.080	61.100	0.730	1.200	**N**	**A**
1	CS137	104.000	3.120	89.500	1.360	1.160	**A**	**W**
1	GA 1	1210.000	138.000	1210.000	121.000	1.000	**A**	**A**
1	GB 2	399.000	33.500	540.000	54.000	0.740	**A**	**A**
1	H 3	722.000	57.900	587.000	58.000	1.230	**A**	**W**

Units for matrices: AI=Bq/filter SO=Bq/kg VE=Bq/kg WA=Bq/L. Values for elemental uranium are reported in µg/filter, g

Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable **pCi = Bq x 27**

QAP45 Results by Laboratory

Lab: TM TMA/Eberline-Albuquerque Lab, NM

No. Test	Radio-nuclide	Reported Value	Reported Error	EML Value	EML Error	Reported / EML	Evaluation	QAP 44 Evaluation
Matrix:	**WA**							
1	MN 54	71.200	2.220	60.500	0.550	1.180	**W**	**W**
1	PU238	1.990	0.067	1.910	0.070	1.040	**A**	**A**
1	PU239	0.899	0.038	0.840	0.030	1.070	**A**	**A**
1	SR 90	3.200	0.272	2.710	0.240	1.180	**A**	**A**
1	U 234	0.444	0.031	0.480	0.040	0.930	**A**	**A**
1	U 238	0.437	0.031	0.480	0.370	0.910	**A**	**A**
1	U UG	0.042	0.002	0.039	0.003	1.060	**A**	**A**

Units for matrices: AI=Bq/filter SO=Bq/kg VE=Bq/kg WA=Bq/L. Values for elemental uranium are reported in µg/filter, g

Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable pCi = Bq x 27

QAP45 Results by Laboratory

Lab: TN TMA/NORCAL, Richmond, CA

No. Test	Radio-nuclide	Reported Value	Reported Error	EML Value	EML Error	Reported / EML	Evaluation	QAP 44 Evaluation
Matrix:	**AI**							
1	AM241	0.217	0.015	0.222	0.019	0.970	**A**	**A**
1	CO 57	15.100	0.247	14.800	0.814	1.020	**A**	**A**
1	CO 60	8.930	0.365	8.640	0.431	1.030	**A**	**A**
1	CS134	12.700	0.632	10.800	0.392	1.180	**W**	**A**
1	CS137	8.280	0.330	8.520	0.366	0.970	**A**	**W**
1	MN 54	6.790	0.343	6.350	0.270	1.070	**A**	**A**
1	PU238	0.123	0.005	0.118	0.006	1.040	**A**	**A**
1	RU106	10.700	2.420	10.800	1.140	0.990	**A**	**A**
1	SB125	10.900	0.716	10.800	0.540	1.010	**A**	**A**
1	SR 90	0.592	0.053	0.526	0.037	1.130	**A**	**A**
1	U UG	7.910	1.290	6.398	0.510	1.240	**A**	**A**
Matrix:	**SO**							
1	AM241	13.800	3.300	13.500	0.510	1.020	**A**	**A**
1	CO 60	3.050	0.801	2.920	0.210	1.040	**A**	
1	CS137	1760.000	10.100	1550.000	22.200	1.140	**A**	**A**
1	K 40	348.000	12.600	300.000	25.000	1.160	**A**	**A**
1	PU238	0.964	0.122	1.130	0.240	0.850	**A**	**A**
1	PU239	23.500	0.692	21.800	1.080	1.080	**A**	**A**
1	SR 90	86.700	0.526	69.900	5.100	1.240	**A**	**A**
1	U 234	37.800	1.780	39.200	2.440	0.960	**A**	**W**
1	U 238	37.800	1.780	41.600	0.610	0.910	**A**	**A**
1	U UG	3.230	0.528	3.360	0.300	0.960	**A**	**A**
Matrix:	**VE**							
1	AM241	1.090	0.243	1.230	0.410	0.890	**A**	**A**
1	CM244	0.816	0.240	0.830	0.120	0.980	**A**	**A**
1	CO 60	10.600	3.870	10.900	0.710	0.970	**A**	**A**
1	CS137	224.000	6.970	190.000	6.680	1.180	**A**	**W**
1	K 40	1050.000	62.300	992.000	29.000	1.060	**A**	**A**
1	PU239	1.840	0.127	1.960	0.300	0.940	**A**	**A**
1	SR 90	1610.000	212.000	1390.000	12.000	1.160	**W**	**A**
Matrix:	**WA**							
1	AM241	1.130	0.066	1.080	0.040	1.050	**A**	**A**
1	CO 60	69.400	1.480	61.100	0.730	1.140	**W**	**A**
1	CS137	102.000	1.500	89.500	1.360	1.140	**A**	**W**
1	FE 55	283.000	8.690	230.000	23.000	1.230	**A**	**A**
1	GA 1	1520.000	47.700	1210.000	121.000	1.260	**W**	**A**
1	GB 2	478.000	16.600	540.000	54.000	0.890	**A**	**W**
1	H 3	502.000	40.100	587.000	58.000	0.860	**A**	**A**
1	MN 54	70.400	1.530	60.500	0.550	1.160	**W**	**W**
1	PU238	1.950	0.051	1.910	0.070	1.020	**A**	**A**

Units for matrices: AI=Bq/filter SO=Bq/kg VE=Bq/kg WA=Bq/L. Values for elemental uranium are reported in µg/filter, g

Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable **pCi = Bq x 27**

QAP45 Results by Laboratory

Lab: TN TMA/NORCAL, Richmond, CA

No. Test	Radio-nuclide	Reported Value	Reported Error	EML Value	EML Error	Reported / EML	Evaluation	QAP 44 Evaluation
Matrix:	**WA**							
1	PU239	0.900	0.026	0.840	0.030	1.070	**A**	**A**
1	SR 90	3.210	0.240	2.710	0.240	1.180	**A**	**A**
1	U 234	0.481	0.027	0.480	0.040	1.000	**A**	**A**
1	U 238	0.486	0.027	0.480	0.370	1.010	**A**	**A**
1	U UG	0.035	0.006	0.039	0.003	0.890	**A**	**N**

Units for matrices: AI=Bq/filter SO=Bq/kg VE=Bq/kg WA=Bq/L. Values for elemental uranium are reported in µg/filter, g

Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable pCi = Bq x 27

QAP45 Results by Laboratory

Lab: TO TMA/Eberline Oak Ridge Laboratory

No. Test	Radio-nuclide	Reported Value	Reported Error	EML Value	EML Error	Reported / EML	Evaluation	QAP 44 Evaluation
Matrix:	**AI**							
1	AM241	0.230	0.110	0.222	0.019	1.040	**A**	**A**
1	CO 57	21.000	0.740	14.800	0.814	1.420	**N**	**A**
1	CO 60	10.900	1.760	8.640	0.431	1.260	**N**	**A**
1	CS134	13.400	2.430	10.800	0.392	1.240	**N**	**A**
1	CS137	9.600	0.940	8.520	0.366	1.130	**W**	**A**
1	GA 1	1.240	0.070	1.150	0.110	1.080	**A**	**A**
1	GB 2	0.780	0.050	0.500	0.050	1.560	**W**	**W**
1	MN 54	7.790	0.950	6.350	0.270	1.230	**W**	**A**
1	RU106	11.200	6.070	10.800	1.140	1.040	**A**	**A**
1	SB125	13.600	1.420	10.800	0.540	1.260	**W**	**A**
1	SR 90	0.460	0.210	0.526	0.037	0.880	**A**	**A**
1	U 234	0.080	0.000	0.080	0.006	1.000	**A**	**A**
1	U 238	0.070	0.000	0.078	0.006	0.900	**A**	**A**
1	U UG	5.800	0.330	6.398	0.510	0.910	**A**	**A**
Matrix:	**SO**							
1	AM241	12.300	4.000	13.500	0.510	0.910	**A**	**A**
1	CO 60	2.250	1.880	2.920	0.210	0.770	**W**	
1	CS137	1170.000	16.500	1550.000	22.200	0.760	**N**	**A**
1	K 40	275.000	59.000	300.000	25.000	0.920	**A**	**A**
1	PU238	1.170	0.520	1.130	0.240	1.040	**A**	**A**
1	PU239	20.700	8.900	21.800	1.080	0.950	**A**	**A**
1	SR 90	82.300	5.100	69.900	5.100	1.180	**A**	**W**
1	U 234	41.000	1.080	39.200	2.440	1.050	**A**	**W**
1	U 238	43.100	1.140	41.600	0.610	1.040	**A**	**A**
1	U UG	3.480	0.092	3.360	0.300	1.040	**A**	**A**
Matrix:	**VE**							
1	CO 60	10.200	3.600	10.900	0.710	0.940	**A**	**A**
1	CS137	145.000	10.000	190.000	6.680	0.760	**N**	**A**
1	K 40	916.000	87.600	992.000	29.000	0.920	**W**	**A**
1	PU239	1.560	0.730	1.960	0.300	0.800	**W**	**A**
1	SR 90	1520.000	34.100	1390.000	12.000	1.090	**A**	**A**
Matrix:	**WA**							
1	AM241	0.960	0.430	1.080	0.040	0.890	**A**	**N**
1	CO 60	68.400	1.110	61.100	0.730	1.120	**A**	**W**
1	CS137	97.800	1.930	89.500	1.360	1.090	**A**	**A**
1	GA 1	1190.000	52.800	1210.000	121.000	0.980	**A**	**A**
1	GB 2	555.000	32.900	540.000	54.000	1.030	**A**	**A**
1	H 3	529.000	46.600	587.000	58.000	0.900	**A**	**A**
1	MN 54	72.200	1.800	60.500	0.550	1.190	**W**	**A**
1	PU238	2.010	0.640	1.910	0.070	1.050	**A**	**A**

Units for matrices: AI=Bq/filter SO=Bq/kg VE=Bq/kg WA=Bq/L. Values for elemental uranium are reported in µg/filter, g

Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable pCi = Bq x 27

QAP45 Results by Laboratory

Lab: TO TMA/Eberline Oak Ridge Laboratory

No. Test	Radio-nuclide	Reported Value	Reported Error	EML Value	EML Error	Reported / EML	Evaluation	QAP 44 Evaluation
Matrix:	**WA**							
1	PU239	1.000	0.340	0.840	0.030	1.190	**W**	**A**
1	SR 90	2.900	0.380	2.710	0.240	1.070	**A**	**A**
1	U 234	0.489	0.030	0.480	0.040	1.020	**A**	**A**
1	U 238	0.491	0.030	0.480	0.370	1.020	**A**	**A**
1	U UG	0.040	0.002	0.039	0.003	1.030	**A**	**A**

Units for matrices: AI=Bq/filter SO=Bq/kg VE=Bq/kg WA=Bq/L. Values for elemental uranium are reported in µg/filter, g

Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable pCi = Bq x 27

QAP45 Results by Laboratory

Lab: TP Taiwan Power Company, Taipei

No. Test	Radio-nuclide	Reported Value	Reported Error	EML Value	EML Error	Reported / EML	Evaluation	QAP 44 Evaluation
Matrix:	**AI**							
1	CO 57	15.000	0.296	14.800	0.814	1.010	**A**	
1	CO 60	9.300	0.348	8.640	0.431	1.080	**W**	
1	CS134	9.980	0.319	10.800	0.392	0.920	**A**	
1	CS137	8.360	0.276	8.520	0.366	0.980	**A**	
1	GB 2	0.580	0.020	0.500	0.050	1.160	**A**	
1	MN 54	7.650	0.399	6.350	0.270	1.210	**W**	
1	RU106	9.590	1.620	10.800	1.140	0.890	**A**	
1	SB125	5.930	0.569	10.800	0.540	0.550	**N**	
1	SR 90	0.700	0.040	0.526	0.037	1.330	**A**	
Matrix:	**SO**							
1	CO 60	3.410	0.108	2.920	0.210	1.170	**A**	
1	CS137	1650.000	1.890	1550.000	22.200	1.070	**A**	
1	K 40	344.000	6.780	300.000	25.000	1.150	**A**	
1	SR 90	73.600	1.570	69.900	5.100	1.050	**A**	
Matrix:	**VE**							
1	CO 60	11.900	0.242	10.900	0.710	1.090	**A**	
1	CS137	214.000	0.887	190.000	6.680	1.130	**A**	
1	K 40	1180.000	17.000	992.000	29.000	1.190	**A**	
1	SR 90	1420.000	13.400	1390.000	12.000	1.020	**A**	
Matrix:	**WA**							
1	CO 60	64.800	7.620	61.100	0.730	1.060	**A**	
1	CS137	95.700	6.060	89.500	1.360	1.070	**A**	
1	GB 2	560.000	17.800	540.000	54.000	1.040	**A**	
1	H 3	559.000	6.290	587.000	58.000	0.950	**A**	
1	MN 54	63.800	7.070	60.500	0.550	1.050	**A**	
1	SR 90	2.700	0.170	2.710	0.240	1.000	**A**	

Units for matrices: AI=Bq/filter SO=Bq/kg VE=Bq/kg WA=Bq/L. Values for elemental uranium are reported in µg/filter, g

Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable pCi = Bq x 27

QAP45 Results by Laboratory

Lab: TW Taiwan Radiation Monitoring Center

No. Test	Radio-nuclide	Reported Value	Reported Error	EML Value	EML Error	Reported / EML	Evaluation	QAP 44 Evaluation
Matrix:	**AI**							
1	AM241	0.230	0.010	0.222	0.019	1.040	**A**	**A**
1	CO 57	15.000	0.300	14.800	0.814	1.010	**A**	**A**
1	CO 60	8.690	0.060	8.640	0.431	1.010	**A**	**A**
1	CS134	9.500	0.100	10.800	0.392	0.880	**A**	**A**
1	CS137	8.120	0.070	8.520	0.366	0.950	**A**	**A**
1	GA 1	0.600	0.020	1.150	0.110	0.520	**N**	**W**
1	GB 2	0.590	0.020	0.500	0.050	1.180	**A**	**A**
1	MN 54	6.690	0.070	6.350	0.270	1.050	**A**	**A**
1	PU238	0.121	0.005	0.118	0.006	1.030	**A**	**A**
1	RU106	9.300	0.600	10.800	1.140	0.860	**A**	**A**
1	SB125	10.000	0.200	10.800	0.540	0.930	**A**	**A**
1	SR 90	0.600	0.050	0.526	0.037	1.140	**A**	**A**
1	U 234	0.070	0.004	0.080	0.006	0.880	**W**	
1	U 238	0.064	0.003	0.078	0.006	0.820	**W**	
Matrix:	**SO**							
1	AM241	19.700	0.400	13.500	0.510	1.460	**A**	**A**
1	CM244	0.370	0.050	0.312	0.064	1.190	**A**	
1	CO 60	3.200	0.400	2.920	0.210	1.100	**A**	
1	CS137	1690.000	135.000	1550.000	22.200	1.090	**A**	**A**
1	K 40	335.000	27.000	300.000	25.000	1.120	**A**	**A**
1	PU238	1.400	0.100	1.130	0.240	1.240	**W**	**A**
1	PU239	38.400	0.500	21.800	1.080	1.760	**W**	**A**
1	SR 90	65.000	3.000	69.900	5.100	0.930	**A**	**W**
1	U 234	24.000	0.900	39.200	2.440	0.610	**W**	
1	U 238	24.400	0.900	41.600	0.610	0.590	**W**	
Matrix:	**VE**							
1	AM241	2.100	0.100	1.230	0.410	1.710	**W**	**A**
1	CM244	1.200	0.100	0.830	0.120	1.450	**W**	**A**
1	CO 60	13.000	0.700	10.900	0.710	1.190	**A**	**A**
1	CS137	228.000	7.000	190.000	6.680	1.200	**A**	**A**
1	K 40	1180.000	47.000	992.000	29.000	1.190	**A**	**A**
1	PU239	3.000	0.100	1.960	0.300	1.530	**W**	**A**
1	SR 90	1340.000	13.000	1390.000	12.000	0.960	**A**	**A**
Matrix:	**WA**							
1	AM241	1.190	0.050	1.080	0.040	1.100	**A**	**A**
1	CO 60	74.000	0.600	61.100	0.730	1.210	**N**	**A**
1	CS137	110.000	1.000	89.500	1.360	1.230	**W**	**A**
1	GA 1	980.000	50.000	1210.000	121.000	0.810	**W**	**W**
1	GB 2	738.000	33.000	540.000	54.000	1.370	**A**	**W**
1	H 3	510.000	5.000	587.000	58.000	0.870	**A**	**W**

Units for matrices: AI=Bq/filter SO=Bq/kg VE=Bq/kg WA=Bq/L. Values for elemental uranium are reported in µg/filter, g

Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable pCi = Bq x 27

QAP45 Results by Laboratory

Lab: TW Taiwan Radiation Monitoring Center

No. Test	Radio-nuclide	Reported Value	Reported Error	EML Value	EML Error	Reported / EML	Evaluation	QAP 44 Evaluation
Matrix:	**WA**							
1	MN 54	74.000	0.800	60.500	0.550	1.220	**W**	**A**
1	PU238	1.900	0.040	1.910	0.070	1.000	**A**	**A**
1	PU239	0.880	0.020	0.840	0.030	1.050	**A**	**W**
1	SR 90	3.600	0.300	2.710	0.240	1.330	**W**	**A**
1	U 234	0.380	0.030	0.480	0.040	0.790	**W**	
1	U 238	0.420	0.030	0.480	0.370	0.880	**W**	

Units for matrices: AI=Bq/filter SO=Bq/kg VE=Bq/kg WA=Bq/L. Values for elemental uranium are reported in µg/filter, g

Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable pCi = Bq x 27

QAP45 Results by Laboratory

Lab: TX Texas Dept. of Health/Laboratories, Austin

No. Test	Radio-nuclide	Reported Value	Reported Error	EML Value	EML Error	Reported / EML	Evaluation	QAP 44 Evaluation
Matrix:	**AI**							
1	AM241	0.231	0.012	0.222	0.019	1.040	**A**	**A**
1	CO 57	14.300	0.040	14.800	0.814	0.970	**A**	**W**
1	CO 60	8.830	0.100	8.640	0.431	1.020	**A**	**W**
1	CS134	10.900	0.070	10.800	0.392	1.010	**A**	**A**
1	CS137	8.140	0.080	8.520	0.366	0.960	**A**	**W**
1	GA 1	0.907	0.073	1.150	0.110	0.790	**N**	
1	GB 2	0.552	0.065	0.500	0.050	1.100	**A**	
1	MN 54	7.280	0.090	6.350	0.270	1.150	**W**	**A**
1	PU238	0.108	0.005	0.118	0.006	0.920	**A**	**A**
1	RU106	9.170	0.430	10.800	1.140	0.850	**A**	**A**
1	SB125	10.100	0.200	10.800	0.540	0.940	**A**	**A**
1	U 234	0.094	0.007	0.080	0.006	1.170	**A**	**W**
1	U 238	0.091	0.006	0.078	0.006	1.170	**A**	**A**
Matrix:	**SO**							
1	AM241	11.100	0.600	13.500	0.510	0.820	**A**	**W**
1	CO 60	3.330	0.370	2.920	0.210	1.140	**A**	
1	CS137	1770.000	4.000	1550.000	22.200	1.140	**A**	**A**
1	K 40	359.000	7.400	300.000	25.000	1.200	**A**	**A**
1	PU238	1.110	0.190	1.130	0.240	0.980	**A**	**A**
1	PU239	19.200	1.100	21.800	1.080	0.880	**A**	**A**
1	SR 90	81.400	18.500	69.900	5.100	1.170	**A**	**A**
1	U 234	44.400	1.900	39.200	2.440	1.130	**W**	**W**
1	U 238	44.400	1.900	41.600	0.610	1.070	**A**	**W**
Matrix:	**VE**							
1	AM241	1.480	0.190	1.230	0.410	1.200	**A**	**A**
1	CO 60	12.400	0.900	10.900	0.710	1.140	**A**	**A**
1	CS137	231.000	1.700	190.000	6.680	1.220	**A**	**W**
1	K 40	1210.000	16.000	992.000	29.000	1.220	**A**	**W**
1	PU239	2.410	0.370	1.960	0.300	1.230	**A**	**A**
1	SR 90	1540.000	93.000	1390.000	12.000	1.110	**W**	**A**
Matrix:	**WA**							
1	AM241	1.180	0.050	1.080	0.040	1.090	**A**	**W**
1	CO 60	67.500	0.600	61.100	0.730	1.110	**A**	**W**
1	CS137	98.800	0.600	89.500	1.360	1.100	**A**	**W**
1	GA 1	1260.000	40.000	1210.000	121.000	1.040	**A**	
1	GB 2	454.000	30.900	540.000	54.000	0.840	**A**	
1	H 3	508.000	20.400	587.000	58.000	0.870	**A**	**W**
1	MN 54	69.000	0.500	60.500	0.550	1.140	**A**	**N**
1	PU238	1.990	0.100	1.910	0.070	1.040	**A**	**A**
1	PU239	1.050	0.070	0.840	0.030	1.250	**W**	**A**

Units for matrices: AI=Bq/filter SO=Bq/kg VE=Bq/kg WA=Bq/L. Values for elemental uranium are reported in µg/filter, g

Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable **pCi = Bq x 27**

QAP45 Results by Laboratory

Lab: TX Texas Dept. of Health/Laboratories, Austin

No. Test	Radio-nuclide	Reported Value	Reported Error	EML Value	EML Error	Reported / EML	Evaluation	QAP 44 Evaluation
Matrix:	**WA**							
1	SR 90	2.960	0.580	2.710	0.240	1.090	**A**	**W**
1	U 234	0.540	0.050	0.480	0.040	1.130	**A**	**N**
1	U 238	0.560	0.050	0.480	0.370	1.170	**W**	**N**

Units for matrices: AI=Bq/filter SO=Bq/kg VE=Bq/kg WA=Bq/L. Values for elemental uranium are reported in µg/filter, g
Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable pCi = Bq x 27

QAP45 Results by Laboratory

Lab: UC Lockheed Martin, Paducah, KY

No. Test	Radio-nuclide	Reported Value	Reported Error	EML Value	EML Error	Reported / EML	Evaluation	QAP 44 Evaluation
Matrix:	**AI**							
1	CO 60	8.700	0.700	8.640	0.431	1.010	**A**	**A**
1	CS137	10.500	0.180	8.520	0.366	1.230	**W**	**A**
1	GA 1	0.820	0.060	1.150	0.110	0.710	**N**	**A**
1	PU238	0.109	0.014	0.118	0.006	0.920	**A**	
Matrix:	**SO**							
1	CO 60	3.010	0.630	2.920	0.210	1.030	**A**	
1	CS137	1820.000	139.000	1550.000	22.200	1.170	**A**	**A**
1	K 40	356.000	20.500	300.000	25.000	1.190	**A**	**A**
1	PU238	0.611	0.309	1.130	0.240	0.540	**W**	
1	PU239	16.000	1.880	21.800	1.080	0.730	**W**	
Matrix:	**VE**							
1	CO 60	12.100	1.200	10.900	0.710	1.110	**A**	**A**
1	CS137	240.000	18.700	190.000	6.680	1.260	**W**	**A**
1	K 40	1230.000	52.800	992.000	29.000	1.240	**A**	**A**
1	PU239	1.230	0.385	1.960	0.300	0.630	**N**	
Matrix:	**WA**							
1	CO 60	65.800	1.360	61.100	0.730	1.080	**A**	**A**
1	CS137	99.600	8.190	89.500	1.360	1.110	**A**	**A**
1	GA 1	1200.000	75.200	1210.000	121.000	0.990	**A**	**A**
1	GB 2	351.000	20.800	540.000	54.000	0.650	**W**	**W**
1	PU238	2.070	0.243	1.910	0.070	1.080	**A**	
1	PU239	0.868	0.117	0.840	0.030	1.030	**A**	**A**
1	U UG	0.038	0.000	0.039	0.003	0.970	**A**	**A**

Units for matrices: AI=Bq/filter SO=Bq/kg VE=Bq/kg WA=Bq/L. Values for elemental uranium are reported in µg/filter, g

Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable pCi = Bq x 27

QAP45 Results by Laboratory

Lab: UK Lockheed Martin Energy Systems, Oak Ridge

No. Test	Radio-nuclide	Reported Value	Reported Error	EML Value	EML Error	Reported / EML	Evaluation	QAP 44 Evaluation
Matrix:	**AI**							
1	AM241	0.242	0.090	0.222	0.019	1.090	**A**	**A**
1	CO 57	15.100	0.360	14.800	0.814	1.020	**A**	**A**
1	CO 60	9.280	0.440	8.640	0.431	1.070	**A**	**A**
1	CS134	12.400	0.440	10.800	0.392	1.150	**W**	**A**
1	CS137	8.740	0.570	8.520	0.366	1.030	**A**	**W**
1	GA 1	0.780	0.033	1.150	0.110	0.680	**N**	
1	GB 2	0.598	0.220	0.500	0.050	1.200	**A**	
1	MN 54	6.910	0.620	6.350	0.270	1.090	**W**	**W**
1	PU238	0.118	0.050	0.118	0.006	1.000	**A**	**A**
1	U BQ	0.195	0.060	0.160	0.012	1.220	**A**	**W**
Matrix:	**SO**							
1	AM241	10.000	4.700	13.500	0.510	0.740	**W**	**N**
1	CO 60	2.930	1.100	2.920	0.210	1.000	**A**	
1	CS137	1750.000	12.300	1550.000	22.200	1.130	**A**	**A**
1	K 40	330.000	32.100	300.000	25.000	1.100	**A**	**A**
1	PU238	7.350	3.200	1.130	0.240	6.500	**N**	**A**
1	PU239	19.600	5.200	21.800	1.080	0.900	**A**	**W**
1	U BQ	69.000	10.300	82.200	2.980	0.840	**A**	**A**
Matrix:	**WA**							
1	AM241	1.300	0.160	1.080	0.040	1.200	**A**	**A**
1	CO 60	66.800	1.600	61.100	0.730	1.090	**A**	**A**
1	CS137	101.000	2.300	89.500	1.360	1.130	**A**	**A**
1	GA 1	1070.000	56.000	1210.000	121.000	0.880	**A**	
1	GB 2	498.000	28.000	540.000	54.000	0.920	**A**	
1	MN 54	68.000	2.200	60.500	0.550	1.120	**A**	**N**
1	PU238	2.020	0.220	1.910	0.070	1.060	**A**	**A**
1	PU239	0.861	0.150	0.840	0.030	1.030	**A**	**A**
1	U BQ	0.991	0.140	0.970	0.070	1.020	**A**	**A**

Units for matrices: AI=Bq/filter SO=Bq/kg VE=Bq/kg WA=Bq/L. Values for elemental uranium are reported in µg/filter, g

Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable pCi = Bq x 27

QAP45 Results by Laboratory

Lab: UP Lockheed Martin Energy Systems, Y-12 Plant, Oak Ridge

No. Test	Radio-nuclide	Reported Value	Reported Error	EML Value	EML Error	Reported / EML	Evaluation	QAP 44 Evaluation
Matrix:	**AI**							
1	AM241	0.183	0.037	0.222	0.019	0.820	**W**	**W**
1	GA 1	0.327	0.036	1.150	0.110	0.280	**N**	**A**
1	GB 2	0.553	0.036	0.500	0.050	1.110	**A**	**A**
1	PU238	0.127	0.041	0.118	0.006	1.080	**A**	**W**
1	U 238	0.056	0.026	0.078	0.006	0.720	**N**	**W**
Matrix:	**SO**							
1	AM241	12.900	2.360	13.500	0.510	0.960	**A**	
1	CS137	1420.000	121.000	1550.000	22.200	0.920	**W**	**A**
1	PU238	0.802	0.362	1.130	0.240	0.710	**W**	**A**
1	PU239	15.500	2.610	21.800	1.080	0.710	**W**	**A**
1	SR 90	51.300	15.700	69.900	5.100	0.730	**A**	**A**
1	U 234	31.100	6.900	39.200	2.440	0.790	**A**	**W**
1	U 238	29.700	6.570	41.600	0.610	0.710	**A**	**A**
1	U BQ	62.100	9.570	82.200	2.980	0.760	**A**	
1	U UG	3.200	0.000	3.360	0.300	0.950	**A**	**A**
Matrix:	**WA**							
1	AM241	1.130	0.209	1.080	0.040	1.050	**A**	**A**
1	CO 60	68.600	1.800	61.100	0.730	1.120	**A**	**A**
1	CS137	101.000	6.100	89.500	1.360	1.130	**A**	**A**
1	GA 1	1180.000	91.500	1210.000	121.000	0.980	**A**	**A**
1	GB 2	566.000	46.000	540.000	54.000	1.050	**A**	**A**
1	H 3	463.000	26.000	587.000	58.000	0.790	**W**	**A**
1	MN 54	68.900	5.000	60.500	0.550	1.140	**A**	**A**
1	PU238	1.590	0.300	1.910	0.070	0.830	**W**	**A**
1	PU239	0.932	0.199	0.840	0.030	1.110	**A**	**A**
1	SR 90	3.070	0.750	2.710	0.240	1.130	**A**	**W**
1	U 234	0.554	0.147	0.480	0.040	1.150	**A**	**W**
1	U 238	0.476	0.133	0.480	0.370	0.990	**A**	**A**
1	U BQ	1.060	0.201	0.970	0.070	1.090	**A**	
1	U UG	0.039	0.000	0.039	0.003	1.000	**A**	**A**

Units for matrices: AI=Bq/filter SO=Bq/kg VE=Bq/kg WA=Bq/L. Values for elemental uranium are reported in µg/filter, g

Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable pCi = Bq x 27

QAP45 Results by Laboratory

Lab: UY Lockheed Martin Energy Systems, Y-12 Plant, Oak Ridge

No. Test	Radio-nuclide	Reported Value	Reported Error	EML Value	EML Error	Reported / EML	Evaluation	QAP 44 Evaluation
Matrix:	**AI**							
1	AM241	0.240	0.050	0.222	0.019	1.080	**A**	**W**
1	CO 57	16.500	0.500	14.800	0.814	1.120	**W**	**A**
1	CO 60	9.800	1.000	8.640	0.431	1.130	**W**	**A**
1	CS134	12.700	0.800	10.800	0.392	1.180	**W**	**A**
1	CS137	9.020	0.800	8.520	0.366	1.060	**A**	**A**
1	GA 1	0.560	0.100	1.150	0.110	0.490	**N**	**A**
1	GB 2	0.670	0.100	0.500	0.050	1.340	**A**	**A**
1	MN 54	7.100	0.800	6.350	0.270	1.120	**W**	**A**
1	PU238	0.130	0.030	0.118	0.006	1.100	**A**	**A**
1	SB125	13.000	0.800	10.800	0.540	1.200	**W**	**A**
1	U 234	0.100	0.020	0.080	0.006	1.250	**A**	**W**
1	U 238	0.089	0.020	0.078	0.006	1.140	**A**	**W**
1	U UG	3.660	0.000	6.398	0.510	0.570	**W**	**W**
Matrix:	**SO**							
1	AM241	12.000	3.000	13.500	0.510	0.890	**A**	**W**
1	CO 60	4.600	1.100	2.920	0.210	1.580	**N**	
1	CS137	1600.000	200.000	1550.000	22.200	1.030	**A**	**A**
1	K 40	320.000	40.000	300.000	25.000	1.070	**A**	**A**
1	PU238	1.250	1.100	1.130	0.240	1.110	**A**	**A**
1	PU239	25.000	5.000	21.800	1.080	1.150	**A**	**A**
1	SR 90	71.800	25.000	69.900	5.100	1.030	**A**	**A**
1	U 234	41.000	5.000	39.200	2.440	1.050	**A**	**W**
1	U 238	34.000	5.000	41.600	0.610	0.820	**A**	**A**
1	U UG	3.170	0.000	3.360	0.300	0.940	**A**	**A**
Matrix:	**WA**							
1	AM241	1.300	0.200	1.080	0.040	1.200	**A**	**N**
1	CO 60	62.000	4.000	61.100	0.730	1.020	**A**	**A**
1	CS137	93.700	7.000	89.500	1.360	1.050	**A**	**A**
1	GA 1	1250.000	151.000	1210.000	121.000	1.030	**A**	**A**
1	GB 2	644.000	82.000	540.000	54.000	1.190	**A**	**A**
1	H 3	490.000	20.000	587.000	58.000	0.840	**A**	**N**
1	MN 54	63.600	5.000	60.500	0.550	1.050	**A**	**A**
1	PU238	2.200	0.300	1.910	0.070	1.150	**W**	**A**
1	PU239	0.930	0.180	0.840	0.030	1.110	**A**	**A**
1	SR 90	2.410	1.100	2.710	0.240	0.890	**A**	**A**
1	U 234	0.620	0.100	0.480	0.040	1.290	**W**	**A**
1	U 238	0.570	0.040	0.480	0.370	1.190	**W**	**A**
1	U BQ	1.220	0.200	0.970	0.070	1.260	**W**	
1	U UG	0.039	0.000	0.039	0.003	1.000	**A**	**A**

Units for matrices: AI=Bq/filter SO=Bq/kg VE=Bq/kg WA=Bq/L. Values for elemental uranium are reported in µg/filter, g

Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable pCi = Bq x 27

QAP45 Results by Laboratory

Lab: WA Environmental Radiation Lab, Off. of Public Health Labs. Seattle

No. Test	Radio-nuclide	Reported Value	Reported Error	EML Value	EML Error	Reported / EML	Evaluation	QAP 44 Evaluation
Matrix:	**AI**							
1	AM241	0.260	0.032	0.222	0.019	1.170	**A**	**A**
1	CO 57	17.100	0.300	14.800	0.814	1.160	**W**	**A**
1	CO 60	10.100	0.300	8.640	0.431	1.170	**W**	**A**
1	CS134	11.200	0.300	10.800	0.392	1.040	**A**	**W**
1	CS137	9.500	0.300	8.520	0.366	1.120	**W**	**A**
1	GA 1	1.390	0.200	1.150	0.110	1.210	**A**	**W**
1	GB 2	0.690	0.040	0.500	0.050	1.380	**A**	**A**
1	MN 54	8.100	0.300	6.350	0.270	1.280	**N**	**A**
1	PU238	0.120	0.027	0.118	0.006	1.020	**A**	**A**
1	RU106	11.000	1.400	10.800	1.140	1.020	**A**	**A**
1	SB125	13.800	0.500	10.800	0.540	1.280	**W**	**A**
1	SR 90	0.640	0.230	0.526	0.037	1.220	**A**	**A**
1	U 234	0.083	0.012	0.080	0.006	1.040	**A**	**W**
1	U 238	0.074	0.012	0.078	0.006	0.950	**A**	**A**
1	U BQ	0.158	0.017	0.160	0.012	0.990	**A**	**A**
Matrix:	**SO**							
1	AM241	13.200	1.000	13.500	0.510	0.980	**A**	**A**
1	CO 60	3.300	1.100	2.920	0.210	1.130	**A**	
1	CS137	1840.000	80.000	1550.000	22.200	1.190	**A**	**A**
1	K 40	400.000	26.000	300.000	25.000	1.330	**W**	**A**
1	PU238	0.850	0.230	1.130	0.240	0.750	**A**	**A**
1	PU239	21.700	0.900	21.800	1.080	1.000	**A**	**A**
1	SR 90	78.100	4.400	69.900	5.100	1.120	**A**	**A**
1	U 234	37.700	3.700	39.200	2.440	0.960	**A**	**N**
1	U 238	36.500	3.400	41.600	0.610	0.880	**A**	**W**
1	U BQ	77.300	5.200	82.200	2.980	0.940	**A**	**W**
Matrix:	**VE**							
1	AM241	1.190	0.180	1.230	0.410	0.970	**A**	**A**
1	CO 60	12.200	1.800	10.900	0.710	1.120	**A**	**A**
1	CS137	211.000	14.000	190.000	6.680	1.110	**A**	**N**
1	K 40	1190.000	60.000	992.000	29.000	1.200	**A**	**A**
1	PU239	2.110	0.270	1.960	0.300	1.080	**A**	**A**
1	SR 90	1760.000	26.000	1390.000	12.000	1.270	**W**	**W**
Matrix:	**WA**							
1	AM241	1.080	0.090	1.080	0.040	1.000	**A**	**A**
1	CO 60	65.100	1.900	61.100	0.730	1.070	**A**	**A**
1	CS137	96.600	4.800	89.500	1.360	1.080	**A**	**A**
1	GA 1	1270.000	60.000	1210.000	121.000	1.050	**A**	**N**
1	GB 2	608.000	33.000	540.000	54.000	1.130	**A**	**N**
1	H 3	476.000	10.000	587.000	58.000	0.810	**A**	**A**

Units for matrices: AI=Bq/filter SO=Bq/kg VE=Bq/kg WA=Bq/L. Values for elemental uranium are reported in µg/filter, g

Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable **pCi = Bq x 27**

QAP45 Results by Laboratory

Lab: WA Environmental Radiation Lab, Off. of Public Health Labs. Seattle

No. Test	Radio-nuclide	Reported Value	Reported Error	EML Value	EML Error	Reported / EML	Evaluation	QAP 44 Evaluation
Matrix:	**WA**							
1	MN 54	67.000	5.200	60.500	0.550	1.110	**A**	**A**
1	PU238	1.950	0.140	1.910	0.070	1.020	**A**	**W**
1	PU239	0.910	0.090	0.840	0.030	1.080	**A**	**A**
1	SR 90	2.900	0.300	2.710	0.240	1.070	**A**	**A**
1	U 234	0.580	0.150	0.480	0.040	1.210	**A**	**A**
1	U 238	0.480	0.130	0.480	0.370	1.000	**A**	**A**
1	U BQ	1.150	0.210	0.970	0.070	1.190	**A**	**A**

Units for matrices: AI=Bq/filter SO=Bq/kg VE=Bq/kg WA=Bq/L. Values for elemental uranium are reported in µg/filter, g

Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable pCi = Bq x 27

QAP45 Results by Laboratory

Lab: WC Westinghouse Hanford Co.

No. Test	Radio-nuclide	Reported Value	Reported Error	EML Value	EML Error	Reported / EML	Evaluation	QAP 44 Evaluation
Matrix:	**AI**							
1	AM241	0.337	0.060	0.222	0.019	1.520	**W**	**A**
1	CO 57	10.600	0.900	14.800	0.814	0.720	**A**	**W**
1	CO 60	6.460	0.490	8.640	0.431	0.750	**W**	**W**
1	CS134	8.100	0.570	10.800	0.392	0.750	**W**	**W**
1	CS137	6.160	0.720	8.520	0.366	0.720	**W**	**W**
1	GA 1	1.690	0.170	1.150	0.110	1.470	**W**	**A**
1	GB 2	0.829	0.087	0.500	0.050	1.660	**W**	**A**
1	MN 54	4.940	0.620	6.350	0.270	0.780	**W**	**W**
1	PU238	0.157	0.030	0.118	0.006	1.330	**W**	**A**
1	RU106	8.220	1.600	10.800	1.140	0.760	**A**	**A**
1	SB125	5.810	0.530	10.800	0.540	0.540	**N**	**A**
1	SR 90	0.306	0.081	0.526	0.037	0.580	**N**	**W**
1	U BQ	0.233	0.020	0.160	0.012	1.460	**A**	**A**
Matrix:	**SO**							
1	CO 60	3.310	0.628	2.920	0.210	1.130	**A**	
1	CS137	1740.000	188.000	1550.000	22.200	1.120	**A**	**A**
1	K 40	336.000	48.300	300.000	25.000	1.120	**A**	**A**
1	SR 90	62.200	12.400	69.900	5.100	0.890	**A**	
Matrix:	**VE**							
1	CO 60	11.500	1.430	10.900	0.710	1.050	**A**	**A**
1	CS137	208.000	22.700	190.000	6.680	1.100	**A**	**A**
1	K 40	1100.000	155.000	992.000	29.000	1.110	**A**	**A**
1	SR 90	1290.000	233.000	1390.000	12.000	0.930	**A**	
Matrix:	**WA**							
1	AM241	1.060	0.200	1.080	0.040	0.980	**A**	**W**
1	CO 60	68.000	4.900	61.100	0.730	1.110	**A**	**A**
1	CS137	105.000	12.000	89.500	1.360	1.170	**A**	**W**
1	GA 1	1190.000	120.000	1210.000	121.000	0.980	**A**	**W**
1	GB 2	531.000	53.000	540.000	54.000	0.980	**A**	**W**
1	H 3	473.000	28.000	587.000	58.000	0.810	**A**	**W**
1	MN 54	71.200	8.400	60.500	0.550	1.180	**W**	**W**
1	PU238	1.710	0.300	1.910	0.070	0.900	**A**	**A**
1	PU239	0.751	0.100	0.840	0.030	0.890	**W**	**A**
1	SR 90	2.370	0.450	2.710	0.240	0.880	**A**	**N**
1	U BQ	0.903	0.070	0.970	0.070	0.930	**A**	**A**

Units for matrices: AI=Bq/filter SO=Bq/kg VE=Bq/kg WA=Bq/L. Values for elemental uranium are reported in µg/filter, g

Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable pCi = Bq x 27

QAP45 Results by Laboratory

Lab: WE Westinghouse Electric Corp., Madison, PA

No. Test	Radio-nuclide	Reported Value	Reported Error	EML Value	EML Error	Reported / EML	Evaluation	QAP 44 Evaluation
Matrix:	**AI**							
1	CO 57	14.600	0.210	14.800	0.810	0.990	**A**	**N**
1	CO 60	8.790	0.410	8.640	0.431	1.020	**A**	**N**
1	CS134	9.860	0.370	10.800	0.392	0.910	**A**	**W**
1	CS137	8.250	0.320	8.520	0.366	0.970	**A**	**N**
1	MN 54	6.970	0.400	6.350	0.270	1.100	**W**	**W**
1	PU238	0.138	0.014	0.118	0.006	1.170	**W**	**W**
1	RU106	10.600	2.200	10.800	1.140	0.980	**A**	**A**
1	SB125	9.660	0.740	10.800	0.540	0.890	**A**	**A**
1	U 234	0.092	0.009	0.080	0.006	1.150	**A**	**A**
1	U 238	0.078	0.009	0.078	0.006	0.990	**A**	**N**
Matrix:	**SO**							
1	AM241	14.800	4.500	13.500	0.510	1.100	**A**	
1	CO 60	5.850	2.200	2.920	0.210	2.000	**N**	
1	CS137	1730.000	7.800	1550.000	22.200	1.120	**A**	**A**
1	K 40	268.000	24.900	300.000	25.000	0.890	**A**	**A**
1	PU238	7.900	0.600	1.130	0.240	6.990	**N**	**W**
1	PU239	16.600	0.820	21.800	1.080	0.760	**W**	**N**
1	U 234	19.400	2.450	39.200	2.440	0.500	**W**	**A**
1	U 238	18.400	2.360	41.600	0.610	0.440	**W**	**A**
Matrix:	**VE**							
1	CO 60	15.900	5.100	10.900	0.710	1.460	**N**	**A**
1	CS137	232.000	7.000	190.000	6.680	1.220	**A**	**A**
1	K 40	1100.000	70.000	992.000	29.000	1.110	**A**	**A**
Matrix:	**WA**							
1	CO 60	51.300	0.900	61.100	0.730	0.840	**N**	**W**
1	CS137	70.600	0.900	89.500	1.360	0.790	**N**	**A**
1	H 3	346.000	14.000	587.000	58.000	0.590	**N**	
1	MN 54	52.900	0.900	60.500	0.550	0.870	**W**	**A**
1	PU238	1.740	0.250	1.910	0.070	0.910	**A**	**W**
1	PU239	0.594	0.130	0.840	0.030	0.710	**N**	**W**
1	U 234	0.390	0.140	0.480	0.040	0.810	**W**	**A**
1	U 238	0.480	0.140	0.480	0.370	1.000	**A**	**W**

Units for matrices: AI=Bq/filter SO=Bq/kg VE=Bq/kg WA=Bq/L. Values for elemental uranium are reported in µg/filter, g

Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable pCi = Bq x 27

QAP45 Results by Laboratory

Lab: WI WIPP Site, Westinghouse Electric Corp.

No. Test	Radio-nuclide	Reported Value	Reported Error	EML Value	EML Error	Reported / EML	Evaluation	QAP 44 Evaluation
Matrix:	**AI**							
1	CO 57	17.900	1.520	14.800	0.814	1.210	**W**	**A**
1	CO 60	9.600	0.790	8.640	0.431	1.110	**W**	**A**
1	CS134	11.500	0.930	10.800	0.392	1.070	**A**	**A**
1	CS137	9.380	1.330	8.520	0.366	1.100	**W**	**A**
1	MN 54	7.260	1.300	6.350	0.270	1.140	**W**	**A**
1	RU106	11.700	1.160	10.800	1.140	1.080	**A**	
1	SB125	12.000	0.670	10.800	0.540	1.110	**A**	**A**
Matrix:	**VE**							
1	CO 60	11.900	2.710	10.900	0.710	1.090	**A**	
1	K 40	1060.000	129.000	992.000	29.000	1.070	**A**	
Matrix:	**WA**							
1	CO 60	69.800	5.570	61.100	0.730	1.140	**W**	**A**
1	CS137	104.000	10.500	89.500	1.360	1.160	**A**	**W**
1	MN 54	71.900	6.840	60.500	0.550	1.190	**W**	**W**

Units for matrices: AI=Bq/filter SO=Bq/kg VE=Bq/kg WA=Bq/L. Values for elemental uranium are reported in µg/filter, g

Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable pCi = Bq x 27

QAP45 Results by Laboratory

Lab: WP Washington Public Power Supply System, Richland

No. Test	Radio-nuclide	Reported Value	Reported Error	EML Value	EML Error	Reported / EML	Evaluation	QAP 44 Evaluation
Matrix:	**AI**							
1	CO 57	13.700	0.170	14.800	0.814	0.930	**A**	**A**
1	CO 60	8.840	0.390	8.640	0.431	1.020	**A**	**A**
1	CS134	10.200	0.370	10.800	0.392	0.940	**A**	**A**
1	CS137	8.310	0.320	8.520	0.366	0.980	**A**	**A**
1	GA 1	0.560	0.074	1.150	0.110	0.490	**N**	
1	GB 2	0.590	0.037	0.500	0.050	1.180	**A**	
1	MN 54	6.760	0.310	6.350	0.270	1.070	**A**	**A**
1	RU106	10.400	1.600	10.800	1.140	0.960	**A**	**A**
1	SB125	9.630	0.540	10.800	0.540	0.890	**A**	**A**
1	SR 90	0.410	0.037	0.526	0.037	0.780	**W**	**A**
Matrix:	**SO**							
1	CO 60	3.000	1.400	2.920	0.210	1.030	**A**	
1	CS137	1890.000	18.000	1550.000	22.200	1.220	**A**	**A**
1	K 40	349.000	31.000	300.000	25.000	1.160	**A**	**A**
1	SR 90	70.000	3.700	69.900	5.100	1.000	**A**	**A**
Matrix:	**VE**							
1	CO 60	13.700	3.300	10.900	0.710	1.260	**W**	**A**
1	CS137	206.000	6.300	190.000	6.680	1.080	**A**	**W**
1	K 40	1100.000	57.000	992.000	29.000	1.110	**A**	**W**
1	SR 90	1600.000	37.000	1390.000	12.000	1.150	**W**	**A**
Matrix:	**WA**							
1	CO 60	64.500	1.900	61.100	0.730	1.060	**A**	**A**
1	CS137	95.700	2.000	89.500	1.360	1.070	**A**	**A**
1	GA 1	1200.000	74.000	1210.000	121.000	0.990	**A**	
1	GB 2	410.000	37.000	540.000	54.000	0.760	**A**	
1	H 3	480.000	37.000	587.000	58.000	0.820	**A**	**A**
1	MN 54	63.800	1.700	60.500	0.550	1.050	**A**	**A**
1	SR 90	2.800	0.150	2.710	0.240	1.030	**A**	**A**

Units for matrices: AI=Bq/filter SO=Bq/kg VE=Bq/kg WA=Bq/L. Values for elemental uranium are reported in µg/filter, g

Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable pCi = Bq x 27

QAP45 Results by Laboratory

Lab: WV West Valley Nuclear Services Co, Inc, NY

No. Test	Radio-nuclide	Reported Value	Reported Error	EML Value	EML Error	Reported / EML	Evaluation	QAP 44 Evaluation
Matrix:	**AI**							
1	GA 1	1.360	0.029	1.150	0.110	1.180	**A**	**A**
1	GB 2	0.771	0.022	0.500	0.050	1.540	**W**	**A**
Matrix:	**WA**							
1	CO 60	67.300	1.180	61.100	0.730	1.100	**A**	**A**
1	CS137	98.000	1.180	89.500	1.360	1.100	**A**	**A**
1	GA 1	1070.000	68.400	1210.000	121.000	0.880	**A**	**A**
1	GB 2	603.000	44.800	540.000	54.000	1.120	**A**	**A**
1	H 3	482.000	16.100	587.000	58.000	0.820	**A**	**A**
1	MN 54	67.900	1.180	60.500	0.550	1.120	**A**	**A**
1	SR 90	2.970	0.250	2.710	0.240	1.100	**A**	**W**

Units for matrices: AI=Bq/filter SO=Bq/kg VE=Bq/kg WA=Bq/L. Values for elemental uranium are reported in µg/filter, g

Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable pCi = Bq x 27

QAP45 Results by Laboratory

Lab: YA Yankee Atomic Electric Company, Westboro, MA

No. Test	Radio-nuclide	Reported Value	Reported Error	EML Value	EML Error	Reported / EML	Evaluation	QAP 44 Evaluation
Matrix:	**AI**							
1	AM241	0.210	0.005	0.222	0.019	0.950	**A**	**A**
1	CS137	8.510	0.444	8.520	0.366	1.000	**A**	
1	GA 1	0.653	0.013	1.150	0.110	0.570	**N**	**A**
1	GB 2	0.525	0.012	0.500	0.050	1.050	**A**	**A**
1	PU238	0.118	0.005	0.118	0.006	1.000	**A**	**A**
1	U 234	0.083	0.004	0.080	0.006	1.030	**A**	**A**
1	U 238	0.078	0.004	0.078	0.006	1.000	**A**	**A**
1	U UG	6.310	0.320	6.398	0.510	0.990	**A**	
Matrix:	**SO**							
1	AM241	12.900	0.725	13.500	0.510	0.960	**A**	**A**
1	CS137	1760.000	88.800	1550.000	22.200	1.140	**A**	**A**
1	PU238	0.994	0.231	1.130	0.240	0.880	**A**	**A**
1	PU239	23.700	0.888	21.800	1.080	1.090	**A**	**A**
1	U 234	38.300	1.410	39.200	2.440	0.980	**A**	
1	U 238	39.900	1.460	41.600	0.610	0.960	**A**	
1	U UG	3.240	0.160	3.360	0.300	0.960	**A**	
Matrix:	**WA**							
1	AM241	1.070	0.027	1.080	0.040	0.990	**A**	**A**
1	CO 60	64.800	2.920	61.100	0.730	1.060	**A**	**A**
1	CS137	95.800	4.930	89.500	1.360	1.070	**A**	**A**
1	GA 1	1160.000	22.000	1210.000	121.000	0.960	**A**	**A**
1	GB 2	499.000	13.300	540.000	54.000	0.920	**A**	**W**
1	MN 54	66.000	3.540	60.500	0.550	1.090	**A**	**A**
1	PU238	1.930	0.036	1.910	0.070	1.010	**A**	**A**
1	PU239	0.861	0.018	0.840	0.030	1.030	**A**	**A**
1	U 234	0.486	0.019	0.480	0.040	1.010	**A**	**A**
1	U 238	0.504	0.019	0.480	0.370	1.050	**A**	**W**
1	U UG	0.040	0.000	0.039	0.003	1.030	**A**	

Units for matrices: AI=Bq/filter SO=Bq/kg VE=Bq/kg WA=Bq/L. Values for elemental uranium are reported in µg/filter, g

Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable pCi = Bq x 27

QAP45 Results by Laboratory

Lab: YP US Army Proving Ground, Yuma, AZ

No. Test	Radio-nuclide	Reported Value	Reported Error	EML Value	EML Error	Reported / EML	Evaluation	QAP 44 Evaluation
Matrix:	**AI**							
1	U UG	4.850	1.790	6.398	0.510	0.760	**W**	**A**
Matrix:	**SO**							
1	U UG	3.120	0.320	3.360	0.300	0.930	**A**	**W**
Matrix:	**WA**							
1	U UG	0.038	0.001	0.039	0.003	0.970	**A**	**A**

Units for matrices: AI=Bq/filter SO=Bq/kg VE=Bq/kg WA=Bq/L. Values for elemental uranium are reported in µg/filter, g
Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable pCi = Bq x 27

QAP45 Results by Nuclide

Matrix: AI
Radionuclide: AM241

EML Value: 0.222
EML Error: 0.019

Labcode	Test #	Reported Value	Reported Error	Reported EML	Ratio Error	Evaluation
AA	1	0.222	0.019	**1.00**	0.12	**A**
AG	1	0.224	0.033	**1.01**	0.17	**A**
AN	1	0.224	0.016	**1.01**	0.11	**A**
AR	1	0.136	0.053	**0.61**	0.24	**N**
AU	1	0.170	0.020	**0.77**	0.11	**W**
BE	1	0.216	0.017	**0.97**	0.11	**A**
BL	1	0.240	0.020	**1.08**	0.13	**A**
BL	2	0.280	0.020	**1.26**	0.14	**A**
BM	1	0.310	0.110	**1.40**	0.51	**A**
BN	1	0.440	0.100	**1.98**	0.48	**W**
BP	1	0.204	0.010	**0.92**	0.09	**A**
BS	1	0.340	0.040	**1.53**	0.22	**W**
BU	1	0.230	0.020	**1.04**	0.13	**A**
BX	1	0.273	0.012	**1.23**	0.12	**A**
CL	1	0.260	0.060	**1.17**	0.29	**A**
CS	1	0.110	0.020	**0.50**	0.10	**N**
CW	1	0.230	0.010	**1.04**	0.10	**A**
DC	1	0.152	0.039	**0.69**	0.18	**W**
EI	1	0.210	0.010	**0.95**	0.09	**A**
ES	1	0.219	0.042	**0.99**	0.21	**A**
FL	1	0.256	0.055	**1.15**	0.27	**A**
GA	1	0.244	0.018	**1.10**	0.12	**A**
GE	1	0.207	0.013	**0.93**	0.10	**A**
IE	1	0.209	0.016	**0.94**	0.11	**A**
IS	1	0.236	0.096	**1.06**	0.44	**A**
IT	1	0.200	0.020	**0.90**	0.12	**A**
LA	1	0.228	0.025	**1.03**	0.14	**A**
LH	1	0.187	0.021	**0.84**	0.12	**A**
LL	1	0.251	0.043	**1.13**	0.22	**A**
LV	1	0.250	0.030	**1.13**	0.17	**A**
ME	1	0.260	0.060	**1.17**	0.29	**A**
ML	1	0.240	0.020	**1.08**	0.13	**A**
MS	1	0.400	0.040	**1.80**	0.24	**W**
NA	1	0.220	0.030	**0.99**	0.16	**A**
NM	1	0.223	0.013	**1.01**	0.10	**A**
OR	1	0.200	0.030	**0.90**	0.16	**A**
RE	1	0.191	0.016	**0.86**	0.10	**A**
RI	1	0.213	0.016	**0.96**	0.11	**A**
SR	1	0.174	0.023	**0.78**	0.12	**W**
SS	1	0.220	0.006	**0.99**	0.09	**A**
TI	1	0.200	0.030	**0.90**	0.16	**A**
TM	1	0.220	0.010	**0.99**	0.09	**A**
TN	1	0.217	0.015	**0.97**	0.06	**A**
TO	1	0.230	0.110	**1.04**	0.50	**A**
TW	1	0.230	0.010	**1.04**	0.10	**A**
TX	1	0.231	0.012	**1.04**	0.10	**A**

Units for matrices: AI=Bq/filter SO=Bq/kg VE=Bq/kg WA=Bq/L. Values for elemental uranium are reported in µg/filter, g
Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable. pCi = Bq x 27

QAP45 Results by Nuclide

Matrix: AI
Radionuclide: AM241

EML Value: 0.222
EML Error: 0.019

Labcode	Test #	Reported Value	Reported Error	Reported EML	Ratio Error	Evaluation
UK	1	0.242	0.090	**1.09**	0.42	**A**
UP	1	0.183	0.037	**0.82**	0.18	**W**
UY	1	0.240	0.050	**1.08**	0.24	**A**
WA	1	0.260	0.032	**1.17**	0.18	**A**
WC	1	0.337	0.060	**1.52**	0.30	**W**
YA	1	0.210	0.005	**0.95**	0.08	**A**

Total Number Reported: 52

Units for matrices: AI=Bq/filter SO=Bq/kg VE=Bq/kg WA=Bq/L. Values for elemental uranium are reported in µg/filter, g
Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable. pCi = Bq x 27

QAP45 Results by Nuclide

Matrix: AI
Radionuclide: CO 57

EML Value: 14.800
EML Error: 0.814

Labcode	Test #	Reported Value	Reported Error	Reported EML	Ratio Error	Evaluation
AA	1	14.800	0.814	**1.00**	0.08	**A**
AF	1	13.000	1.360	**0.88**	0.10	**A**
AG	1	18.500	1.200	**1.25**	0.11	**N**
AL	1	15.400	0.150	**1.04**	0.06	**W**
AN	1	15.300	0.080	**1.03**	0.06	**A**
AR	1	15.600	0.700	**1.05**	0.07	**W**
AU	1	18.600	0.300	**1.26**	0.07	**N**
BA	1	19.200	1.200	**1.30**	0.11	**N**
BC	1	15.600	0.448	**1.05**	0.07	**W**
BE	1	16.700	1.240	**1.13**	0.10	**W**
BL	1	17.900	1.000	**1.21**	0.09	**W**
BM	1	15.600	0.140	**1.05**	0.06	**W**
BN	1	20.600	0.740	**1.39**	0.09	**N**
BP	1	14.300	0.240	**0.97**	0.06	**A**
BQ	1	15.900	0.050	**1.07**	0.06	**W**
BS	1	14.500	0.100	**0.98**	0.05	**A**
BU	1	21.000	2.000	**1.42**	0.16	**N**
BX	1	14.200	0.685	**0.96**	0.07	**A**
CA	1	14.400	0.400	**0.97**	0.06	**A**
CL	1	13.500	0.480	**0.91**	0.06	**A**
CP	1	19.400	2.000	**1.31**	0.15	**N**
CS	1	7.930	0.260	**0.54**	0.03	**N**
DC	1	13.300	1.570	**0.90**	0.12	**A**
EG	1	16.400	1.200	**1.11**	0.10	**W**
EP	1	21.100	1.530	**1.43**	0.13	**N**
ES	1	14.600	1.610	**0.99**	0.12	**A**
FG	1	19.600	0.280	**1.32**	0.08	**N**
FL	1	18.800	0.100	**1.27**	0.07	**N**
FM	1	15.000	0.122	**1.01**	0.06	**A**
FN	1	16.300	1.700	**1.10**	0.13	**W**
GA	1	14.200	0.910	**0.96**	0.08	**A**
GE	1	15.900	0.040	**1.07**	0.06	**W**
ID	1	10.700	0.790	**0.72**	0.07	**A**
IE	1	13.200	0.320	**0.89**	0.05	**A**
IL	1	15.400	0.500	**1.04**	0.07	**W**
IN	1	13.800	0.950	**0.93**	0.08	**A**
IS	1	14.900	1.800	**1.01**	0.13	**A**
IT	1	13.700	0.710	**0.93**	0.07	**A**
LA	1	13.500	0.900	**0.91**	0.08	**A**
LA	2	13.600	0.900	**0.92**	0.08	**A**
LA	3	13.400	0.900	**0.91**	0.08	**A**
LH	1	15.100	1.500	**1.02**	0.12	**A**
LL	1	16.400	0.164	**1.11**	0.06	**W**
LV	1	14.200	0.100	**0.96**	0.05	**A**
ME	1	21.200	0.060	**1.43**	0.08	**N**

Units for matrices: AI=Bq/filter SO=Bq/kg VE=Bq/kg WA=Bq/L. Values for elemental uranium are reported in µg/filter, g
Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable. pCi = Bq x 27

QAP45 Results by Nuclide

Matrix: AI
Radionuclide: CO 57

EML Value: 14.800
EML Error: 0.814

Labcode	Test #	Reported Value	Reported Error	Reported EML	Ratio Error	Evaluation
MI	1	13.000	0.321	**0.88**	0.05	**A**
ML	1	16.000	1.600	**1.08**	0.12	**W**
MS	1	18.500	1.850	**1.25**	0.14	**N**
NC	1	19.400	0.258	**1.31**	0.07	**N**
NL	1	17.600	2.600	**1.19**	0.19	**W**
NP	1	12.800	0.500	**0.87**	0.06	**A**
NS	1	13.800	0.048	**0.93**	0.05	**A**
OD	1	17.200	0.461	**1.16**	0.07	**W**
OK	1	16.000	0.630	**1.08**	0.07	**W**
OR	1	14.300	0.500	**0.97**	0.06	**A**
OS	1	16.700	0.150	**1.13**	0.06	**W**
OT	1	17.000	1.000	**1.15**	0.09	**W**
RA	1	18.100	0.900	**1.23**	0.10	**N**
RC	1	14.800	0.400	**1.00**	0.06	**A**
RE	1	16.000	1.400	**1.08**	0.11	**W**
RI	1	13.900	0.500	**0.94**	0.06	**A**
RL	1	15.100	1.300	**1.02**	0.10	**A**
SA	1	23.900	2.400	**1.62**	0.19	**N**
SK	1	17.800	1.500	**1.20**	0.12	**W**
SR	1	15.000	1.000	**1.01**	0.09	**A**
SS	1	14.900	0.670	**1.01**	0.07	**A**
SW	1	15.400	0.240	**1.04**	0.06	**W**
TE	1	11.800	0.296	**0.80**	0.05	**A**
TI	1	15.800	1.600	**1.07**	0.12	**W**
TM	1	17.000	0.514	**1.15**	0.07	**W**
TN	1	15.100	0.247	**1.02**	0.06	**A**
TO	1	21.000	0.740	**1.42**	0.09	**N**
TP	1	15.000	0.296	**1.01**	0.06	**A**
TW	1	15.000	0.300	**1.01**	0.06	**A**
TX	1	14.300	0.040	**0.97**	0.05	**A**
UK	1	15.100	0.360	**1.02**	0.06	**A**
UY	1	16.500	0.500	**1.12**	0.07	**W**
WA	1	17.100	0.300	**1.16**	0.07	**W**
WC	1	10.600	0.900	**0.72**	0.07	**A**
WE	1	14.600	0.210	**0.99**	0.11	**A**
WI	1	17.900	1.520	**1.21**	0.12	**W**
WP	1	13.700	0.170	**0.93**	0.05	**A**

Total Number Reported: 82

Units for matrices: AI=Bq/filter SO=Bq/kg VE=Bq/kg WA=Bq/L. Values for elemental uranium are reported in µg/filter, g
Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable. pCi = Bq x 27

QAP45 Results by Nuclide

Matrix: AI
Radionuclide: CO 60

EML Value: 8.640
EML Error: 0.431

Labcode	Test #	Reported Value	Reported Error	Reported EML	Ratio Error	Evaluation
AA	1	8.640	0.431	**1.00**	0.07	**A**
AF	1	8.600	0.858	**1.00**	0.11	**A**
AG	1	9.510	0.640	**1.10**	0.09	**W**
AL	1	9.290	0.370	**1.08**	0.07	**W**
AN	1	9.570	0.199	**1.11**	0.06	**W**
AR	1	9.260	0.400	**1.07**	0.07	**A**
AU	1	11.000	0.700	**1.27**	0.10	**N**
BA	1	10.600	0.420	**1.23**	0.08	**W**
BC	1	9.070	0.144	**1.05**	0.06	**A**
BE	1	11.200	0.870	**1.30**	0.12	**N**
BL	1	10.300	0.400	**1.19**	0.08	**W**
BM	1	9.440	0.230	**1.09**	0.06	**W**
BN	1	10.000	0.800	**1.16**	0.11	**W**
BP	1	8.850	0.200	**1.02**	0.06	**A**
BQ	1	8.820	0.120	**1.02**	0.05	**A**
BS	1	8.780	0.160	**1.02**	0.05	**A**
BU	1	11.000	1.000	**1.27**	0.13	**N**
BX	1	9.180	0.485	**1.06**	0.08	**A**
CA	1	8.900	0.600	**1.03**	0.09	**A**
CL	1	8.030	0.400	**0.93**	0.07	**A**
CP	1	10.700	1.100	**1.24**	0.14	**W**
CS	1	6.080	0.200	**0.70**	0.04	**N**
DC	1	9.730	1.700	**1.13**	0.21	**W**
EG	1	9.500	0.700	**1.10**	0.10	**W**
EP	1	12.200	0.615	**1.41**	0.10	**N**
ES	1	8.700	0.980	**1.01**	0.12	**A**
FG	1	10.200	0.320	**1.18**	0.07	**W**
FL	1	10.700	0.300	**1.24**	0.07	**W**
FM	1	9.290	0.043	**1.08**	0.05	**W**
FN	1	10.000	0.600	**1.16**	0.09	**W**
GA	1	9.020	0.320	**1.04**	0.06	**A**
GE	1	9.620	0.074	**1.11**	0.06	**W**
ID	1	9.670	0.760	**1.12**	0.10	**W**
IE	1	8.060	0.260	**0.93**	0.06	**A**
IL	1	9.040	0.230	**1.05**	0.06	**A**
IN	1	8.460	0.215	**0.98**	0.05	**A**
IS	1	8.770	1.290	**1.02**	0.16	**A**
IT	1	8.380	0.200	**0.97**	0.05	**A**
LA	1	8.950	0.630	**1.04**	0.09	**A**
LA	2	9.100	0.600	**1.05**	0.09	**A**
LA	3	9.030	0.630	**1.04**	0.09	**A**
LH	1	8.600	0.620	**1.00**	0.09	**A**
LL	1	9.770	0.098	**1.13**	0.06	**W**
LV	1	8.990	0.080	**1.04**	0.05	**A**
ME	1	12.100	0.160	**1.40**	0.07	**N**

Units for matrices: AI=Bq/filter SO=Bq/kg VE=Bq/kg WA=Bq/L. Values for elemental uranium are reported in µg/filter, g
Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable. pCi = Bq x 27

QAP45 Results by Nuclide

Matrix: AI
Radionuclide: CO 60

EML Value: 8.640
EML Error: 0.431

Labcode	Test #	Reported Value	Reported Error	Reported EML	Ratio Error	Evaluation
MI	1	7.890	0.183	**0.91**	0.05	**A**
ML	1	9.540	0.950	**1.10**	0.12	**W**
MS	1	10.600	1.060	**1.23**	0.14	**W**
NC	1	10.500	0.382	**1.22**	0.08	**W**
NL	1	9.490	1.150	**1.10**	0.14	**W**
NP	1	7.800	0.300	**0.90**	0.06	**A**
NS	1	8.250	0.207	**0.96**	0.05	**A**
OD	1	9.610	0.108	**1.11**	0.06	**W**
OK	1	9.510	0.300	**1.10**	0.07	**W**
OR	1	9.140	1.440	**1.06**	0.18	**A**
OS	1	12.700	0.150	**1.47**	0.08	**N**
OT	1	9.900	0.200	**1.15**	0.06	**W**
RA	1	9.990	0.046	**1.15**	0.10	**W**
RC	1	9.550	0.110	**1.11**	0.06	**W**
RE	1	9.370	1.050	**1.08**	0.13	**W**
RI	1	8.470	0.600	**0.98**	0.08	**A**
RL	1	9.900	1.500	**1.15**	0.18	**W**
SA	1	11.700	1.200	**1.35**	0.15	**N**
SK	1	11.100	1.200	**1.29**	0.15	**N**
SR	1	9.300	0.600	**1.08**	0.09	**W**
SS	1	9.320	0.190	**1.08**	0.06	**W**
SW	1	9.020	0.240	**1.04**	0.06	**A**
TE	1	9.230	0.402	**1.07**	0.07	**A**
TI	1	9.620	0.960	**1.11**	0.12	**W**
TN	1	8.930	0.365	**1.03**	0.07	**A**
TO	1	10.900	1.760	**1.26**	0.21	**N**
TP	1	9.300	0.348	**1.08**	0.07	**W**
TW	1	8.690	0.060	**1.01**	0.05	**A**
TX	1	8.830	0.100	**1.02**	0.05	**A**
UC	1	8.700	0.700	**1.01**	0.10	**A**
UK	1	9.280	0.440	**1.07**	0.07	**A**
UY	1	9.800	1.000	**1.13**	0.13	**W**
WA	1	10.100	0.300	**1.17**	0.07	**W**
WC	1	6.460	0.490	**0.75**	0.07	**W**
WE	1	8.790	0.410	**1.02**	0.07	**A**
WI	1	9.600	0.790	**1.11**	0.11	**W**
WP	1	8.840	0.390	**1.02**	0.07	**A**

Total Number Reported: 82

Units for matrices: AI=Bq/filter SO=Bq/kg VE=Bq/kg WA=Bq/L. Values for elemental uranium are reported in µg/filter, g
Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable. pCi = Bq x 27

QAP45 Results by Nuclide

Matrix: AI
Radionuclide: CS134

EML Value: 10.800
EML Error: 0.392

Labcode	Test #	Reported Value	Reported Error	Reported EML	Ratio Error	Evaluation
AA	1	10.800	0.392	**1.00**	0.05	**A**
AF	1	10.900	1.110	**1.01**	0.11	**A**
AG	1	11.500	0.990	**1.07**	0.10	**A**
AL	1	12.300	0.700	**1.14**	0.08	**W**
AN	1	11.600	0.570	**1.07**	0.07	**A**
AR	1	11.400	0.500	**1.06**	0.06	**A**
AU	1	12.800	0.700	**1.18**	0.08	**W**
BA	1	13.100	0.680	**1.21**	0.08	**W**
BC	1	11.700	0.540	**1.08**	0.06	**A**
BE	1	12.300	0.940	**1.14**	0.10	**W**
BL	1	9.800	0.400	**0.91**	0.05	**A**
BM	1	12.400	0.200	**1.15**	0.05	**W**
BN	1	11.500	0.340	**1.07**	0.05	**A**
BP	1	11.900	0.240	**1.10**	0.05	**W**
BQ	1	12.100	0.100	**1.12**	0.04	**W**
BS	1	11.800	0.150	**1.09**	0.04	**A**
BU	1	13.000	1.000	**1.20**	0.10	**W**
BX	1	11.800	0.707	**1.09**	0.08	**A**
CA	1	12.100	0.800	**1.12**	0.08	**W**
CL	1	10.300	0.480	**0.95**	0.06	**A**
CP	1	11.400	1.200	**1.06**	0.12	**A**
CS	1	6.620	0.220	**0.61**	0.03	**N**
DC	1	13.000	1.600	**1.20**	0.15	**W**
EG	1	12.400	0.900	**1.15**	0.09	**W**
EP	1	15.300	1.340	**1.42**	0.13	**N**
ES	1	10.400	1.160	**0.96**	0.11	**A**
FG	1	12.400	0.310	**1.15**	0.05	**W**
FL	1	12.900	0.100	**1.19**	0.04	**W**
FM	1	11.400	0.074	**1.06**	0.04	**A**
FN	1	12.900	0.600	**1.19**	0.07	**W**
GA	1	10.500	0.000	**0.97**	0.04	**A**
GE	1	10.300	0.074	**0.95**	0.04	**A**
ID	1	13.000	0.650	**1.20**	0.07	**W**
IE	1	9.850	0.480	**0.91**	0.06	**A**
IL	1	12.000	0.300	**1.11**	0.05	**W**
IN	1	11.400	0.220	**1.06**	0.04	**A**
IS	1	11.000	1.600	**1.02**	0.15	**A**
IT	1	10.100	0.170	**0.94**	0.04	**A**
LA	1	11.200	0.800	**1.04**	0.08	**A**
LA	2	11.000	0.800	**1.02**	0.08	**A**
LA	3	11.100	0.800	**1.03**	0.08	**A**
LH	1	9.320	0.680	**0.86**	0.07	**A**
LL	1	12.900	0.116	**1.19**	0.04	**W**
LV	1	11.300	0.100	**1.05**	0.04	**A**
ME	1	15.300	0.140	**1.42**	0.05	**N**

Units for matrices: AI=Bq/filter SO=Bq/kg VE=Bq/kg WA=Bq/L. Values for elemental uranium are reported in µg/filter, g
Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable. pCi = Bq x 27

QAP45 Results by Nuclide

Matrix: AI
Radionuclide: CS134

EML Value: 10.800
EML Error: 0.392

Labcode	Test #	Reported Value	Reported Error	Reported EML	Ratio Error	Evaluation
MI	1	9.870	0.191	**0.91**	0.04	**A**
ML	1	11.100	1.110	**1.03**	0.11	**A**
MS	1	11.700	1.170	**1.08**	0.12	**A**
NC	1	12.800	0.341	**1.18**	0.05	**W**
NL	1	12.100	0.800	**1.12**	0.08	**W**
NP	1	9.200	0.500	**0.85**	0.06	**A**
NS	1	8.920	0.078	**0.83**	0.03	**A**
OD	1	12.600	0.205	**1.17**	0.05	**W**
OK	1	11.400	0.370	**1.06**	0.05	**A**
OR	1	12.100	0.800	**1.12**	0.08	**W**
OS	1	12.000	1.100	**1.11**	0.11	**W**
OT	1	12.000	1.000	**1.11**	0.10	**W**
RA	1	13.500	0.600	**1.25**	0.10	**N**
RC	1	12.600	0.200	**1.17**	0.05	**W**
RE	1	10.900	1.100	**1.01**	0.11	**A**
RI	1	11.400	0.470	**1.06**	0.06	**A**
RL	1	11.800	0.340	**1.09**	0.05	**A**
SA	1	14.400	1.400	**1.33**	0.14	**N**
SK	1	14.600	1.500	**1.35**	0.15	**N**
SR	1	11.000	2.000	**1.02**	0.19	**A**
SS	1	11.300	0.280	**1.05**	0.05	**A**
SW	1	11.500	0.230	**1.07**	0.04	**A**
TE	1	9.620	0.376	**0.89**	0.05	**A**
TI	1	10.900	1.100	**1.01**	0.11	**A**
TM	1	12.500	0.405	**1.16**	0.06	**W**
TN	1	12.700	0.632	**1.18**	0.07	**W**
TO	1	13.400	2.430	**1.24**	0.23	**N**
TP	1	9.980	0.319	**0.92**	0.04	**A**
TW	1	9.500	0.100	**0.88**	0.03	**A**
TX	1	10.900	0.070	**1.01**	0.04	**A**
UK	1	12.400	0.440	**1.15**	0.06	**W**
UY	1	12.700	0.800	**1.18**	0.09	**W**
WA	1	11.200	0.300	**1.04**	0.05	**A**
WC	1	8.100	0.570	**0.75**	0.06	**W**
WE	1	9.860	0.370	**0.91**	0.05	**A**
WI	1	11.500	0.930	**1.07**	0.09	**A**
WP	1	10.200	0.370	**0.94**	0.05	**A**

Total Number Reported: 82

Units for matrices: AI=Bq/filter SO=Bq/kg VE=Bq/kg WA=Bq/L. Values for elemental uranium are reported in µg/filter, g
Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable. pCi = Bq x 27

QAP45 Results by Nuclide

Matrix: AI
Radionuclide: CS137

EML Value: 8.520
EML Error: 0.366

Labcode	Test #	Reported Value	Reported Error	Reported EML	Ratio Error	Evaluation
AA	1	8.520	0.366	**1.00**	0.06	**A**
AF	1	7.550	0.777	**0.89**	0.10	**A**
AG	1	10.100	0.680	**1.18**	0.09	**W**
AL	1	8.840	0.170	**1.04**	0.05	**A**
AN	1	7.960	1.210	**0.93**	0.15	**A**
AR	1	8.610	0.350	**1.01**	0.06	**A**
AU	1	10.300	0.600	**1.21**	0.09	**W**
BA	1	10.600	0.790	**1.24**	0.11	**W**
BC	1	9.070	0.485	**1.07**	0.07	**A**
BE	1	10.300	0.810	**1.21**	0.11	**W**
BL	1	12.200	0.500	**1.43**	0.09	**N**
BM	1	8.860	0.210	**1.04**	0.05	**A**
BN	1	11.100	1.360	**1.30**	0.17	**W**
BP	1	8.280	0.170	**0.97**	0.05	**A**
BQ	1	47.000	0.500	**5.52**	0.24	**N**
BS	1	8.260	0.130	**0.97**	0.04	**A**
BU	1	11.000	1.000	**1.29**	0.13	**W**
BX	1	8.700	0.577	**1.02**	0.08	**A**
CA	1	8.400	0.500	**0.99**	0.07	**A**
CL	1	8.520	0.450	**1.00**	0.07	**A**
CP	1	10.200	1.000	**1.20**	0.13	**W**
CS	1	5.900	0.270	**0.69**	0.04	**N**
DC	1	11.000	2.000	**1.29**	0.24	**W**
EG	1	8.900	0.700	**1.04**	0.09	**A**
EP	1	11.200	0.799	**1.32**	0.11	**W**
ES	1	8.350	0.950	**0.98**	0.12	**A**
FG	1	9.620	0.230	**1.13**	0.06	**W**
FL	1	10.500	0.200	**1.23**	0.06	**W**
FM	1	9.100	0.065	**1.07**	0.05	**A**
FN	1	9.390	0.770	**1.10**	0.10	**W**
GA	1	8.120	0.000	**0.95**	0.04	**A**
GE	1	9.070	0.074	**1.07**	0.05	**A**
ID	1	9.330	0.740	**1.10**	0.10	**W**
IE	1	7.200	0.910	**0.85**	0.11	**A**
IL	1	8.550	0.410	**1.00**	0.06	**A**
IN	1	7.760	0.310	**0.91**	0.05	**A**
IS	1	8.680	1.800	**1.02**	0.22	**A**
IT	1	7.800	0.300	**0.92**	0.05	**A**
LA	1	8.950	0.630	**1.05**	0.09	**A**
LA	2	8.920	0.630	**1.05**	0.09	**A**
LA	3	8.950	0.630	**1.05**	0.09	**A**
LH	1	8.620	0.880	**1.01**	0.11	**A**
LL	1	9.230	0.125	**1.08**	0.05	**A**
LV	1	8.660	0.090	**1.02**	0.04	**A**
ME	1	12.000	0.180	**1.41**	0.06	**N**

Units for matrices: AI=Bq/filter SO=Bq/kg VE=Bq/kg WA=Bq/L. Values for elemental uranium are reported in µg/filter, g
Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable. pCi = Bq x 27

QAP45 Results by Nuclide

Matrix: AI
Radionuclide: CS137

EML Value: 8.520
EML Error: 0.366

Labcode	Test #	Reported Value	Reported Error	Reported EML	Ratio Error	Evaluation
MI	1	7.670	0.266	**0.90**	0.05	**A**
ML	1	9.110	0.910	**1.07**	0.12	**A**
MS	1	9.810	0.981	**1.15**	0.13	**W**
NC	1	10.000	0.291	**1.17**	0.06	**W**
NL	1	9.610	0.370	**1.13**	0.07	**W**
NM	1	9.440	0.200	**1.11**	0.05	**W**
NP	1	7.000	0.200	**0.82**	0.04	**A**
NS	1	7.580	0.085	**0.89**	0.04	**A**
OD	1	9.040	0.256	**1.06**	0.05	**A**
OK	1	9.180	4.550	**1.08**	0.54	**A**
OR	1	8.720	1.140	**1.02**	0.14	**A**
OS	1	11.000	0.200	**1.29**	0.06	**W**
OT	1	9.000	0.200	**1.06**	0.05	**A**
RA	1	10.300	0.500	**1.21**	0.10	**W**
RC	1	8.800	0.200	**1.03**	0.05	**A**
RE	1	8.480	0.940	**1.00**	0.12	**A**
RI	1	8.150	0.740	**0.96**	0.10	**A**
RL	1	8.600	1.100	**1.01**	0.14	**A**
SA	1	12.000	1.000	**1.41**	0.13	**N**
SK	1	9.620	0.840	**1.13**	0.11	**W**
SR	1	9.000	1.000	**1.06**	0.13	**A**
SS	1	8.460	0.310	**0.99**	0.06	**A**
SW	1	8.500	0.300	**1.00**	0.06	**A**
TE	1	8.720	0.403	**1.02**	0.06	**A**
TI	1	9.810	0.980	**1.15**	0.13	**W**
TM	1	9.510	0.338	**1.12**	0.06	**W**
TN	1	8.280	0.330	**0.97**	0.06	**A**
TO	1	9.600	0.940	**1.13**	0.12	**W**
TP	1	8.360	0.276	**0.98**	0.05	**A**
TW	1	8.120	0.070	**0.95**	0.04	**A**
TX	1	8.140	0.080	**0.96**	0.04	**A**
UC	1	10.500	0.180	**1.23**	0.06	**W**
UK	1	8.740	0.570	**1.03**	0.08	**A**
UY	1	9.020	0.800	**1.06**	0.10	**A**
WA	1	9.500	0.300	**1.12**	0.06	**W**
WC	1	6.160	0.720	**0.72**	0.09	**W**
WE	1	8.250	0.320	**0.97**	0.06	**A**
WI	1	9.380	1.330	**1.10**	0.16	**W**
WP	1	8.310	0.320	**0.98**	0.06	**A**
YA	1	8.510	0.444	**1.00**	0.07	**A**

Total Number Reported: 85

Units for matrices: AI=Bq/filter SO=Bq/kg VE=Bq/kg WA=Bq/L. Values for elemental uranium are reported in µg/filter, g
Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable. pCi = Bq x 27

QAP45 Results by Nuclide

Matrix: AI
Radionuclide: GA 1

EML Value: 1.150
EML Error: 0.110

Labcode	Test #	Reported Value	Reported Error	Reported EML	Ratio Error	Evaluation
AA	1	1.150	0.110	**1.00**	0.14	**A**
AF	1	1.050	0.044	**0.91**	0.10	**W**
AG	1	0.448	0.008	**0.39**	0.04	**N**
AN	1	0.770	0.080	**0.67**	0.09	**N**
AR	1	1.970	0.090	**1.71**	0.18	**N**
AU	1	1.130	0.030	**0.98**	0.10	**A**
BC	1	1.040	0.034	**0.90**	0.09	**W**
BE	1	1.040	0.074	**0.90**	0.11	**W**
BL	1	1.010	0.015	**0.88**	0.09	**W**
BN	1	1.210	0.040	**1.05**	0.11	**A**
BP	1	1.030	0.030	**0.90**	0.09	**W**
BS	1	1.420	0.050	**1.24**	0.13	**A**
BU	1	0.490	0.010	**0.43**	0.04	**N**
BX	1	0.492	0.023	**0.43**	0.05	**N**
CA	1	0.750	0.030	**0.65**	0.07	**N**
CP	1	0.576	0.016	**0.50**	0.05	**N**
DC	1	130.000	260.000	****.****	**.**	**N**
EG	1	1.200	0.100	**1.04**	0.13	**A**
EI	1	0.640	0.070	**0.56**	0.08	**N**
ES	1	1.190	0.220	**1.04**	0.22	**A**
FG	1	0.640	0.070	**0.56**	0.08	**N**
FL	1	0.450	0.020	**0.39**	0.04	**N**
GE	1	1.220	0.011	**1.06**	0.10	**A**
HC	1	0.966	0.090	**0.84**	0.11	**W**
ID	1	0.430	0.030	**0.37**	0.04	**N**
IL	1	0.730	0.020	**0.64**	0.06	**N**
IR	1	2.330	0.110	**2.03**	0.22	**N**
IT	1	1.110	0.010	**0.97**	0.09	**A**
KA	1	1.190	0.100	**1.04**	0.13	**A**
LA	1	0.999	0.222	**0.87**	0.21	**W**
LA	2	1.040	0.222	**0.90**	0.21	**W**
LA	3	1.040	0.222	**0.90**	0.21	**W**
LH	1	1.550	0.090	**1.35**	0.15	**A**
LL	1	1.110	0.008	**0.97**	0.09	**A**
LV	1	0.520	0.080	**0.45**	0.08	**N**
ME	1	1.550	0.500	**1.35**	0.45	**A**
NM	1	0.600	0.065	**0.52**	0.08	**N**
OB	1	0.403	0.096	**0.35**	0.09	**N**
OD	1	0.300	0.020	**0.26**	0.03	**N**
OR	1	0.502	0.050	**0.44**	0.06	**N**
PA	1	0.520	0.020	**0.45**	0.05	**N**
RD	1	0.298	0.018	**0.26**	0.03	**N**
RE	1	0.935	0.106	**0.81**	0.12	**N**
SA	1	0.510	0.056	**0.44**	0.06	**N**
SC	1	0.337	0.010	**0.29**	0.03	**N**

Units for matrices: AI=Bq/filter SO=Bq/kg VE=Bq/kg WA=Bq/L. Values for elemental uranium are reported in µg/filter, g
Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable. pCi = Bq x 27

QAP45 Results by Nuclide

Matrix: AI
Radionuclide: GA 1

EML Value: 1.150
EML Error: 0.110

Labcode	Test #	Reported Value	Reported Error	Reported EML	Ratio Error	Evaluation
SR	1	0.650	0.080	**0.57**	0.09	**N**
SW	1	0.410	0.030	**0.36**	0.04	**N**
TE	1	0.731	0.037	**0.64**	0.07	**N**
TI	1	0.550	0.060	**0.48**	0.07	**N**
TM	1	0.999	0.139	**0.87**	0.15	**W**
TO	1	1.240	0.070	**1.08**	0.12	**A**
TW	1	0.600	0.020	**0.52**	0.05	**N**
TX	1	0.907	0.073	**0.79**	0.10	**N**
UC	1	0.820	0.060	**0.71**	0.09	**N**
UK	1	0.780	0.033	**0.68**	0.07	**N**
UP	1	0.327	0.036	**0.28**	0.04	**N**
UY	1	0.560	0.100	**0.49**	0.10	**N**
WA	1	1.390	0.200	**1.21**	0.21	**A**
WC	1	1.690	0.170	**1.47**	0.20	**W**
WP	1	0.560	0.074	**0.49**	0.08	**N**
WV	1	1.360	0.029	**1.18**	0.12	**A**
YA	1	0.653	0.013	**0.57**	0.06	**N**

Total Number Reported: 62

Units for matrices: AI=Bq/filter SO=Bq/kg VE=Bq/kg WA=Bq/L. Values for elemental uranium are reported in µg/filter, g
Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable. pCi = Bq x 27

QAP45 Results by Nuclide

Matrix: AI
Radionuclide: GB 2

EML Value: 0.500
EML Error: 0.050

Labcode	Test #	Reported Value	Reported Error	Reported EML	Ratio Error	Evaluation
AA	1	0.500	0.050	**1.00**	0.14	**A**
AF	1	0.370	0.044	**0.74**	0.12	**W**
AG	1	0.483	0.012	**0.97**	0.10	**A**
AN	1	0.530	0.050	**1.06**	0.15	**A**
AR	1	0.480	0.030	**0.96**	0.11	**A**
AU	1	0.650	0.020	**1.30**	0.14	**A**
BC	1	0.740	0.021	**1.48**	0.15	**A**
BE	1	0.574	0.037	**1.15**	0.14	**A**
BN	1	0.790	0.000	**1.58**	0.16	**W**
BP	1	0.630	0.030	**1.26**	0.14	**A**
BS	1	0.560	0.060	**1.12**	0.16	**A**
BU	1	0.490	0.050	**0.98**	0.14	**A**
BX	1	0.633	0.020	**1.27**	0.13	**A**
CA	1	0.690	0.160	**1.38**	0.35	**A**
CP	1	0.658	0.014	**1.32**	0.14	**A**
DC	1	630.000	130.000	****.****	**.**	**N**
EG	1	0.700	0.100	**1.40**	0.24	**A**
ES	1	0.590	0.110	**1.18**	0.25	**A**
FG	1	0.500	0.080	**1.00**	0.19	**A**
FL	1	0.640	0.020	**1.28**	0.13	**A**
GE	1	0.529	0.007	**1.06**	0.11	**A**
HC	1	0.523	0.050	**1.05**	0.15	**A**
ID	1	0.520	0.040	**1.04**	0.13	**A**
IL	1	0.640	0.030	**1.28**	0.14	**A**
IR	1	0.703	0.016	**1.41**	0.14	**A**
IT	1	0.940	0.020	**1.88**	0.19	**N**
KA	1	0.670	0.050	**1.34**	0.17	**A**
LA	1	0.740	0.111	**1.48**	0.27	**A**
LA	2	0.666	0.074	**1.33**	0.20	**A**
LA	3	0.703	0.111	**1.41**	0.26	**A**
LH	1	0.450	0.030	**0.90**	0.11	**A**
LL	1	0.894	0.006	**1.79**	0.18	**W**
LV	1	0.950	0.190	**1.90**	0.43	**N**
ME	1	0.740	0.040	**1.48**	0.17	**A**
NM	1	0.451	0.104	**0.90**	0.23	**A**
NP	1	0.550	0.030	**1.10**	0.13	**A**
OB	1	0.559	0.120	**1.12**	0.27	**A**
OD	1	0.630	0.030	**1.26**	0.14	**A**
OR	1	0.504	0.040	**1.01**	0.13	**A**
PA	1	0.810	0.020	**1.62**	0.17	**W**
RD	1	0.361	0.045	**0.72**	0.12	**N**
RE	1	0.520	0.044	**1.04**	0.14	**A**
SA	1	0.500	0.055	**1.00**	0.15	**A**
SC	1	0.584	0.010	**1.17**	0.12	**A**
SR	1	0.490	0.060	**0.98**	0.16	**A**

Units for matrices: AI=Bq/filter SO=Bq/kg VE=Bq/kg WA=Bq/L. Values for elemental uranium are reported in µg/filter, g
Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable. pCi = Bq x 27

QAP45 Results by Nuclide

Matrix: AI
Radionuclide: GB 2

EML Value: 0.500
EML Error: 0.050

Labcode	Test #	Reported Value	Reported Error	Reported EML	Ratio Error	Evaluation
SW	1	0.440	0.040	**0.88**	0.12	**W**
TE	1	0.540	0.037	**1.08**	0.13	**A**
TI	1	0.580	0.050	**1.16**	0.15	**A**
TM	1	0.593	0.088	**1.19**	0.21	**A**
TO	1	0.780	0.050	**1.56**	0.19	**W**
TP	1	0.580	0.020	**1.16**	0.12	**A**
TW	1	0.590	0.020	**1.18**	0.13	**A**
TX	1	0.552	0.065	**1.10**	0.17	**A**
UK	1	0.598	0.220	**1.20**	0.46	**A**
UP	1	0.553	0.036	**1.11**	0.13	**A**
UY	1	0.670	0.100	**1.34**	0.24	**A**
WA	1	0.690	0.040	**1.38**	0.16	**A**
WC	1	0.829	0.087	**1.66**	0.24	**W**
WP	1	0.590	0.037	**1.18**	0.14	**A**
WV	1	0.771	0.022	**1.54**	0.16	**W**
YA	1	0.525	0.012	**1.05**	0.11	**A**

Total Number Reported: 61

Units for matrices: AI=Bq/filter SO=Bq/kg VE=Bq/kg WA=Bq/L. Values for elemental uranium are reported in µg/filter, g
Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable. pCi = Bq x 27

QAP45 Results by Nuclide

Matrix: AI
Radionuclide: MN 54

EML Value: 6.350
EML Error: 0.270

Labcode	Test #	Reported Value	Reported Error	Reported EML	Ratio Error	Evaluation
AA	1	6.350	0.270	**1.00**	0.06	**A**
AF	1	6.040	0.688	**0.95**	0.12	**A**
AG	1	7.910	0.530	**1.25**	0.10	**W**
AL	1	7.920	0.220	**1.25**	0.06	**W**
AN	1	6.740	0.285	**1.06**	0.06	**A**
AR	1	6.640	0.290	**1.05**	0.06	**A**
AU	1	8.600	0.600	**1.35**	0.11	**N**
BA	1	8.600	0.850	**1.35**	0.15	**N**
BC	1	6.990	0.311	**1.10**	0.07	**W**
BE	1	8.160	0.630	**1.29**	0.11	**N**
BL	1	7.780	0.340	**1.23**	0.07	**W**
BM	1	6.940	0.180	**1.09**	0.05	**W**
BN	1	8.560	0.810	**1.35**	0.14	**N**
BP	1	6.120	0.430	**0.96**	0.08	**A**
BQ	1	6.770	0.090	**1.07**	0.05	**A**
BS	1	7.190	0.160	**1.13**	0.05	**W**
BU	1	8.100	0.800	**1.28**	0.14	**N**
BX	1	6.770	0.396	**1.07**	0.08	**A**
CA	1	6.600	0.400	**1.04**	0.08	**A**
CL	1	6.510	0.410	**1.03**	0.08	**A**
CP	1	8.690	0.940	**1.37**	0.16	**N**
CS	1	54.000	2.960	**8.50**	0.59	**N**
DC	1	6.170	1.270	**0.97**	0.20	**A**
EG	1	6.900	0.500	**1.09**	0.09	**W**
EP	1	9.230	0.919	**1.45**	0.16	**N**
ES	1	6.670	0.770	**1.05**	0.13	**A**
FG	1	7.750	0.200	**1.22**	0.06	**W**
FL	1	8.250	0.100	**1.30**	0.06	**N**
FM	1	7.210	0.054	**1.14**	0.05	**W**
FN	1	7.070	0.580	**1.11**	0.10	**W**
GA	1	6.480	1.580	**1.02**	0.25	**A**
GE	1	7.510	0.074	**1.18**	0.05	**W**
ID	1	6.670	0.670	**1.05**	0.12	**A**
IE	1	5.980	1.050	**0.94**	0.17	**A**
IL	1	6.660	0.310	**1.05**	0.07	**A**
IN	1	6.110	0.340	**0.96**	0.07	**A**
IS	1	6.610	2.020	**1.04**	0.32	**A**
IT	1	6.380	0.220	**1.01**	0.06	**A**
LA	1	6.990	0.520	**1.10**	0.09	**W**
LA	2	7.100	0.520	**1.12**	0.09	**W**
LA	3	6.850	0.520	**1.08**	0.09	**W**
LH	1	6.890	0.710	**1.09**	0.12	**W**
LL	1	7.060	0.099	**1.11**	0.05	**W**
LV	1	6.550	0.080	**1.03**	0.05	**A**
ME	1	9.840	0.150	**1.55**	0.07	**N**

Units for matrices: AI=Bq/filter SO=Bq/kg VE=Bq/kg WA=Bq/L. Values for elemental uranium are reported in µg/filter, g
Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable. pCi = Bq x 27

QAP45 Results by Nuclide

Matrix: AI
Radionuclide: MN 54

EML Value: 6.350
EML Error: 0.270

Labcode	Test #	Reported Value	Reported Error	Reported EML	Ratio Error	Evaluation
MI	1	5.870	0.176	**0.92**	0.05	**A**
ML	1	7.370	0.740	**1.16**	0.13	**W**
MS	1	7.300	0.730	**1.15**	0.13	**W**
NC	1	8.190	0.387	**1.29**	0.08	**N**
NL	1	8.140	0.380	**1.28**	0.08	**N**
NP	1	5.800	0.300	**0.91**	0.06	**A**
NS	1	6.590	0.096	**1.04**	0.05	**A**
OD	1	7.150	0.454	**1.13**	0.09	**W**
OK	1	6.990	0.370	**1.10**	0.07	**W**
OR	1	6.920	1.110	**1.09**	0.18	**W**
OS	1	9.480	0.220	**1.49**	0.07	**N**
OT	1	7.500	0.200	**1.18**	0.06	**W**
RA	1	7.840	0.380	**1.23**	0.10	**W**
RC	1	6.810	0.150	**1.07**	0.05	**A**
RE	1	7.010	0.820	**1.10**	0.14	**W**
RI	1	6.500	0.830	**1.02**	0.14	**A**
RL	1	7.210	0.980	**1.14**	0.16	**W**
SA	1	9.500	0.950	**1.50**	0.16	**N**
SK	1	7.650	0.660	**1.21**	0.12	**W**
SR	1	7.000	1.000	**1.10**	0.16	**W**
SS	1	6.040	0.220	**0.95**	0.05	**A**
SW	1	6.900	0.330	**1.09**	0.07	**W**
TE	1	7.060	0.472	**1.11**	0.09	**W**
TI	1	7.510	0.750	**1.18**	0.13	**W**
TM	1	7.590	0.295	**1.20**	0.07	**W**
TN	1	6.790	0.343	**1.07**	0.07	**A**
TO	1	7.790	0.950	**1.23**	0.16	**W**
TP	1	7.650	0.399	**1.21**	0.08	**W**
TW	1	6.690	0.070	**1.05**	0.05	**A**
TX	1	7.280	0.090	**1.15**	0.05	**W**
UK	1	6.910	0.620	**1.09**	0.11	**W**
UY	1	7.100	0.800	**1.12**	0.14	**W**
WA	1	8.100	0.300	**1.28**	0.07	**N**
WC	1	4.940	0.620	**0.78**	0.10	**W**
WE	1	6.970	0.400	**1.10**	0.08	**W**
WI	1	7.260	1.300	**1.14**	0.21	**W**
WP	1	6.760	0.310	**1.07**	0.07	**A**

Total Number Reported: 82

Units for matrices: AI=Bq/filter SO=Bq/kg VE=Bq/kg WA=Bq/L. Values for elemental uranium are reported in µg/filter, g
Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable. pCi = Bq x 27

QAP45 Results by Nuclide

Matrix: AI
Radionuclide: PU238

EML Value: 0.118
EML Error: 0.006

Labcode	Test #	Reported Value	Reported Error	Reported EML	Ratio Error	Evaluation
AA	1	0.118	0.006	**1.00**	0.07	**A**
AF	1	0.034	0.009	**0.29**	0.08	**N**
AG	1	0.120	0.020	**1.02**	0.18	**A**
AN	1	0.115	0.007	**0.98**	0.07	**A**
AR	1	0.112	0.029	**0.95**	0.25	**A**
AU	1	0.120	0.020	**1.02**	0.18	**A**
BE	1	0.115	0.009	**0.98**	0.09	**A**
BL	1	0.130	0.010	**1.10**	0.10	**A**
BL	2	0.140	0.010	**1.19**	0.10	**W**
BM	1	0.100	0.011	**0.85**	0.10	**A**
BP	1	0.118	0.005	**1.00**	0.06	**A**
BU	1	0.120	0.020	**1.02**	0.18	**A**
BX	1	0.168	0.012	**1.42**	0.13	**W**
CL	1	0.090	0.030	**0.76**	0.26	**W**
CW	1	0.120	0.010	**1.02**	0.10	**A**
DC	1	0.108	0.032	**0.92**	0.28	**A**
EI	1	0.210	0.010	**1.78**	0.12	**N**
EP	1	0.122	0.012	**1.03**		**A**
ES	1	0.164	0.033	**1.39**	0.29	**W**
FL	1	0.122	0.004	**1.03**	0.06	**A**
GA	1	0.120	0.006	**1.02**	0.07	**A**
GE	1	0.134	0.009	**1.14**	0.09	**A**
ID	1	0.116	0.010	**0.98**	0.10	**A**
IE	1	0.119	0.013	**1.01**	0.12	**A**
IS	1	0.378	0.123	**3.20**	1.05	**N**
IT	1	0.120	0.010	**1.02**	0.10	**A**
LA	1	0.118	0.014	**1.00**	0.13	**A**
LA	2	0.127	0.018	**1.08**	0.16	**A**
LA	3	0.121	0.013	**1.03**	0.12	**A**
LH	1	0.124	0.016	**1.05**	0.15	**A**
LL	1	0.124	0.007	**1.05**	0.08	**A**
ML	1	0.140	0.009	**1.19**	0.10	**W**
NL	1	0.114	0.006	**0.97**	0.07	**A**
NM	1	0.119	0.003	**1.01**	0.06	**A**
OR	1	0.135	0.020	**1.14**	0.18	**A**
PI	1	0.124	0.011	**1.05**	0.11	**A**
RA	1	0.130	0.030	**1.10**	0.10	**A**
RE	1	0.118	0.011	**1.00**	0.11	**A**
RI	1	0.128	0.013	**1.09**	0.12	**A**
SN	1	0.106	0.012	**0.90**	0.11	**A**
SR	1	0.098	0.016	**0.83**	0.14	**A**
SS	1	0.127	0.007	**1.08**	0.08	**A**
TI	1	0.089	0.024	**0.75**	0.21	**W**
TM	1	0.111	0.005	**0.94**	0.06	**A**
TN	1	0.123	0.005	**1.04**	0.07	**A**

Units for matrices: AI=Bq/filter SO=Bq/kg VE=Bq/kg WA=Bq/L. Values for elemental uranium are reported in µg/filter, g
Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable. pCi = Bq x 27

QAP45 Results by Nuclide

Matrix: AI
Radionuclide: PU238

EML Value: 0.118
EML Error: 0.006

Labcode	Test #	Reported Value	Reported Error	Reported EML	Ratio Error	Evaluation
TW	1	0.121	0.005	**1.03**	0.07	**A**
TX	1	0.108	0.005	**0.92**	0.06	**A**
UC	1	0.109	0.014	**0.92**	0.13	**A**
UK	1	0.118	0.050	**1.00**	0.43	**A**
UP	1	0.127	0.041	**1.08**	0.35	**A**
UY	1	0.130	0.030	**1.10**	0.26	**A**
WA	1	0.120	0.027	**1.02**	0.23	**A**
WC	1	0.157	0.030	**1.33**	0.26	**W**
WE	1	0.138	0.014	**1.17**	0.13	**W**
YA	1	0.118	0.005	**1.00**	0.06	**A**

Total Number Reported: 55

Units for matrices: AI=Bq/filter SO=Bq/kg VE=Bq/kg WA=Bq/L. Values for elemental uranium are reported in µg/filter, g
Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable. pCi = Bq x 27

QAP45 Results by Nuclide

Matrix: AI
Radionuclide: RU106

EML Value: 10.800
EML Error: 1.140

Labcode	Test #	Reported Value	Reported Error	Reported EML	Ratio Error	Evaluation
AA	1	10.800	1.140	**1.00**	0.15	**A**
AF	1	9.820	1.940	**0.91**	0.20	**A**
AG	1	11.500	1.300	**1.07**	0.17	**A**
AL	1	41.100	2.830	**3.81**	0.48	**N**
AN	1	11.800	0.690	**1.09**	0.13	**W**
AR	1	6.260	1.360	**0.58**	0.14	**W**
AU	1	12.100	3.100	**1.12**	0.31	**W**
BA	1	12.400	2.900	**1.15**	0.30	**W**
BC	1	12.800	0.907	**1.18**	0.15	**W**
BE	1	11.300	1.490	**1.05**	0.18	**A**
BL	1	11.500	0.700	**1.07**	0.13	**A**
BM	1	12.200	1.200	**1.13**	0.16	**W**
BN	1	12.000	1.260	**1.11**	0.17	**W**
BP	1	12.400	0.940	**1.15**	0.15	**W**
BQ	1	13.500	0.500	**1.25**	0.14	**W**
BS	1	10.400	0.800	**0.96**	0.13	**A**
BU	1	13.000	1.000	**1.20**	0.16	**W**
BX	1	12.000	1.020	**1.11**	0.15	**W**
CA	1	9.600	1.400	**0.89**	0.16	**A**
CL	1	12.500	2.580	**1.16**	0.27	**W**
CP	1	10.500	1.800	**0.97**	0.20	**A**
CS	1	6.670	0.490	**0.62**	0.08	**W**
DC	1	0.320	1.100	**0.03**	0.10	**N**
EG	1	11.900	1.000	**1.10**	0.15	**W**
EP	1	14.800	3.720	**1.37**	0.37	**N**
ES	1	9.400	1.670	**0.87**	0.18	**A**
FG	1	11.100	0.300	**1.03**	0.11	**A**
FL	1	13.800	0.100	**1.28**	0.14	**W**
FM	1	11.500	0.098	**1.07**	0.11	**A**
FN	1	12.600	1.500	**1.17**	0.19	**W**
GA	1	9.810	2.190	**0.91**	0.22	**A**
GE	1	9.950	0.300	**0.92**	0.10	**A**
ID	1	13.300	2.610	**1.23**	0.27	**W**
IL	1	12.000	1.080	**1.11**	0.15	**W**
IN	1	10.100	0.630	**0.94**	0.12	**A**
IT	1	10.300	1.200	**0.95**	0.15	**A**
LA	1	10.800	1.000	**1.00**	0.14	**A**
LA	2	11.200	1.000	**1.04**	0.14	**A**
LA	3	11.600	1.100	**1.07**	0.15	**A**
LL	1	13.700	0.055	**1.27**	0.13	**W**
LV	1	9.950	0.490	**0.92**	0.11	**A**
ME	1	13.200	0.800	**1.22**	0.15	**W**
ML	1	11.400	1.140	**1.06**	0.15	**A**
NL	1	10.500	2.900	**0.97**	0.29	**A**
NP	1	9.800	1.300	**0.91**	0.15	**A**

Units for matrices: AI=Bq/filter SO=Bq/kg VE=Bq/kg WA=Bq/L. Values for elemental uranium are reported in µg/filter, g
Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable. pCi = Bq x 27

QAP45 Results by Nuclide

Matrix: AI
Radionuclide: RU106

EML Value: 10.800
EML Error: 1.140

Labcode	Test #	Reported Value	Reported Error	Reported EML	Ratio Error	Evaluation
NS	1	8.730	0.477	**0.81**	0.10	**A**
OD	1	11.600	0.300	**1.07**	0.12	**A**
OK	1	10.000	0.110	**0.93**	0.10	**A**
OR	1	11.500	1.700	**1.07**	0.19	**A**
OS	1	12.900	1.100	**1.19**	0.16	**W**
OT	1	11.000	1.000	**1.02**	0.14	**A**
RA	1	15.300	2.100	**1.42**	0.10	**N**
RC	1	14.000	3.000	**1.30**	0.31	**W**
RE	1	5.250	2.410	**0.49**	0.23	**N**
RI	1	10.400	4.300	**0.96**	0.41	**A**
RL	1	9.200	2.200	**0.85**	0.22	**A**
SK	1	11.600	1.100	**1.07**	0.15	**A**
SR	1	12.000	6.000	**1.11**	0.57	**W**
SS	1	14.200	0.580	**1.32**	0.15	**N**
SW	1	9.080	2.180	**0.84**	0.22	**A**
TE	1	11.500	3.190	**1.07**	0.32	**A**
TI	1	10.700	1.800	**0.99**	0.20	**A**
TM	1	12.400	1.330	**1.15**	0.17	**W**
TN	1	10.700	2.420	**0.99**	0.25	**A**
TO	1	11.200	6.070	**1.04**	0.57	**A**
TP	1	9.590	1.620	**0.89**	0.18	**A**
TW	1	9.300	0.600	**0.86**	0.11	**A**
TX	1	9.170	0.430	**0.85**	0.10	**A**
WA	1	11.000	1.400	**1.02**	0.17	**A**
WC	1	8.220	1.600	**0.76**	0.17	**A**
WE	1	10.600	2.200	**0.98**	0.23	**A**
WI	1	11.700	1.160	**1.08**	0.16	**A**
WP	1	10.400	1.600	**0.96**	0.18	**A**

Total Number Reported: 73

Units for matrices: AI=Bq/filter SO=Bq/kg VE=Bq/kg WA=Bq/L. Values for elemental uranium are reported in µg/filter, g
Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable. pCi = Bq x 27

QAP45 Results by Nuclide

Matrix: AI
Radionuclide: SB125

EML Value: 10.800
EML Error: 0.540

Labcode	Test #	Reported Value	Reported Error	Reported EML	Ratio Error	Evaluation
AA	1	10.800	0.540	**1.00**	0.07	**A**
AF	1	9.880	1.120	**0.92**	0.11	**A**
AG	1	14.100	1.300	**1.31**	0.14	**W**
AL	1	13.300	0.360	**1.23**	0.07	**W**
AN	1	12.100	0.370	**1.12**	0.07	**W**
AR	1	11.700	0.600	**1.08**	0.08	**A**
AU	1	13.100	1.100	**1.21**	0.12	**W**
BA	1	13.600	0.940	**1.26**	0.11	**W**
BC	1	12.200	0.625	**1.13**	0.08	**W**
BE	1	11.700	1.030	**1.08**	0.11	**A**
BL	1	11.600	0.700	**1.07**	0.08	**A**
BM	1	11.300	0.450	**1.05**	0.07	**A**
BN	1	14.600	2.340	**1.35**	0.23	**W**
BP	1	3.730	0.540	**0.35**	0.05	**N**
BQ	1	6.600	0.100	**0.61**	0.03	**W**
BS	1	10.600	0.270	**0.98**	0.06	**A**
BU	1	12.000	1.000	**1.11**	0.11	**A**
BX	1	10.900	0.588	**1.01**	0.07	**A**
CA	1	11.000	0.950	**1.02**	0.10	**A**
CL	1	10.500	0.720	**0.97**	0.08	**A**
CP	1	13.200	1.600	**1.22**	0.16	**W**
CS	1	7.850	0.220	**0.73**	0.04	**W**
DC	1	13.700	1.100	**1.27**	0.12	**W**
EG	1	12.600	0.900	**1.17**	0.10	**W**
EP	1	14.600	2.030	**1.35**	0.20	**W**
ES	1	10.500	1.200	**0.97**	0.12	**A**
FG	1	12.600	0.290	**1.17**	0.06	**W**
FL	1	14.200	0.300	**1.32**	0.07	**W**
FM	1	11.600	0.084	**1.07**	0.05	**A**
FN	1	12.900	0.600	**1.19**	0.08	**W**
GA	1	9.870	3.190	**0.91**	0.30	**A**
GE	1	11.500	0.110	**1.07**	0.05	**A**
ID	1	11.300	0.810	**1.05**	0.09	**A**
IE	1	9.840	1.460	**0.91**	0.14	**A**
IL	1	11.700	0.390	**1.08**	0.07	**A**
IN	1	11.500	0.340	**1.07**	0.06	**A**
IS	1	11.200	3.700	**1.04**	0.35	**A**
IT	1	11.100	0.400	**1.03**	0.06	**A**
LA	1	12.200	0.900	**1.13**	0.10	**W**
LA	2	12.000	0.900	**1.11**	0.10	**A**
LA	3	12.100	0.900	**1.12**	0.10	**W**
LH	1	11.300	0.900	**1.05**	0.10	**A**
LL	1	12.900	0.142	**1.19**	0.06	**W**
LV	1	10.600	0.140	**0.98**	0.05	**A**
ME	2	16.000	0.340	**1.48**	0.08	**N**

Units for matrices: AI=Bq/filter SO=Bq/kg VE=Bq/kg WA=Bq/L. Values for elemental uranium are reported in µg/filter, g
Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable. pCi = Bq x 27

QAP45 Results by Nuclide

Matrix: AI
Radionuclide: SB125

EML Value: 10.800
EML Error: 0.540

Labcode	Test #	Reported Value	Reported Error	Reported EML	Ratio Error	Evaluation
ML	1	11.900	1.180	**1.10**	0.12	**A**
MS	1	10.700	1.070	**0.99**	0.11	**A**
NC	1	12.300	0.524	**1.14**	0.07	**W**
NL	1	13.800	0.300	**1.28**	0.07	**W**
NP	1	9.400	0.300	**0.87**	0.05	**A**
NS	1	4.400	0.144	**0.41**	0.02	**N**
OD	1	10.800	0.208	**1.00**	0.05	**A**
OK	1	3.700	0.150	**0.34**	0.02	**N**
OR	1	11.600	0.900	**1.07**	0.10	**A**
OS	1	14.900	0.400	**1.38**	0.08	**W**
OT	1	12.000	1.000	**1.11**	0.11	**A**
RA	1	14.100	0.500	**1.31**	0.10	**W**
RC	1	12.200	1.100	**1.13**	0.12	**W**
RE	1	11.600	1.600	**1.07**	0.16	**A**
RI	1	12.500	1.200	**1.16**	0.13	**W**
RL	1	12.000	1.000	**1.11**	0.11	**A**
SA	1	15.800	1.600	**1.46**	0.17	**N**
SK	1	13.800	1.400	**1.28**	0.15	**W**
SR	1	12.000	1.000	**1.11**	0.11	**A**
SS	1	11.500	0.410	**1.07**	0.07	**A**
SW	1	11.100	0.460	**1.03**	0.07	**A**
TE	1	12.400	0.965	**1.15**	0.11	**W**
TI	1	11.800	1.200	**1.09**	0.12	**A**
TM	1	5.000	0.371	**0.46**	0.04	**N**
TN	1	10.900	0.716	**1.01**	0.08	**A**
TO	1	13.600	1.420	**1.26**	0.15	**W**
TP	1	5.930	0.569	**0.55**	0.06	**N**
TW	1	10.000	0.200	**0.93**	0.05	**A**
TX	1	10.100	0.200	**0.94**	0.05	**A**
UY	1	13.000	0.800	**1.20**	0.10	**W**
WA	1	13.800	0.500	**1.28**	0.08	**W**
WC	1	5.810	0.530	**0.54**	0.06	**N**
WE	1	9.660	0.740	**0.89**	0.08	**A**
WI	1	12.000	0.670	**1.11**	0.08	**A**
WP	1	9.630	0.540	**0.89**	0.07	**A**

Total Number Reported: 80

Units for matrices: AI=Bq/filter SO=Bq/kg VE=Bq/kg WA=Bq/L. Values for elemental uranium are reported in µg/filter, g
Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable. pCi = Bq x 27

QAP45 Results by Nuclide

Matrix: AI
Radionuclide: SR 90

EML Value: 0.526
EML Error: 0.037

Labcode	Test #	Reported Value	Reported Error	Reported EML	Ratio Error	Evaluation
AA	1	0.526	0.037	**1.00**	0.10	**A**
AG	1	0.550	0.100	**1.05**	0.20	**A**
AN	1	0.559	0.020	**1.06**	0.08	**A**
AR	1	0.554	0.252	**1.05**	0.49	**A**
BC	1	0.596	0.188	**1.13**	0.37	**A**
BE	1	0.608	0.062	**1.16**	0.14	**A**
BL	1	1.700	0.830	**3.23**	1.59	**N**
BL	2	2.070	0.760	**3.94**	1.47	**N**
BM	1	0.430	0.020	**0.82**	0.07	**W**
BP	1	0.584	0.047	**1.11**	0.12	**A**
BX	1	0.355	0.086	**0.68**	0.17	**W**
CL	1	0.740	0.200	**1.41**	0.39	**A**
EI	1	0.970	0.100	**1.84**	0.23	**W**
ES	1	0.920	0.260	**1.75**	0.51	**W**
GE	1	0.599	0.030	**1.14**	0.10	**A**
IE	1	0.560	0.080	**1.07**	0.17	**A**
IS	1	1.080	0.160	**2.05**	0.34	**W**
IT	1	0.550	0.040	**1.05**	0.11	**A**
LA	1	0.690	0.540	**1.31**	1.03	**A**
LA	2	0.820	0.530	**1.56**	1.01	**A**
LA	3	1.120	0.560	**2.13**	1.08	**W**
LH	1	0.550	0.050	**1.05**	0.12	**A**
NA	1	0.350	0.110	**0.67**	0.21	**W**
OR	1	0.520	0.070	**0.99**	0.15	**A**
RA	1	0.550	0.080	**1.04**	0.10	**A**
RE	1	0.499	0.025	**0.95**	0.08	**A**
RI	1	0.700	0.310	**1.33**	0.60	**A**
SR	1	0.220	0.190	**0.42**	0.36	**N**
SW	1	0.690	0.170	**1.31**	0.34	**A**
TI	1	0.770	0.100	**1.46**	0.22	**A**
TM	1	0.497	0.073	**0.95**	0.15	**A**
TN	1	0.592	0.053	**1.13**	0.13	**A**
TO	1	0.460	0.210	**0.88**	0.40	**A**
TP	1	0.700	0.040	**1.33**	0.12	**A**
TW	1	0.600	0.050	**1.14**	0.12	**A**
WA	1	0.640	0.230	**1.22**	0.45	**A**
WC	1	0.306	0.081	**0.58**	0.16	**N**
WP	1	0.410	0.037	**0.78**	0.09	**W**

Total Number Reported: 38

Units for matrices: AI=Bq/filter SO=Bq/kg VE=Bq/kg WA=Bq/L. Values for elemental uranium are reported in µg/filter, g
Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable. pCi = Bq x 27

QAP45 Results by Nuclide

Matrix: AI
Radionuclide: U UG

EML Value: 6.398
EML Error: 0.510

Labcode	Test #	Reported Value	Reported Error	Reported EML	Ratio Error	Evaluation
RA	1	6.500	0.500	**1.02**	0.10	**A**

Total Number Reported: 1

Units for matrices: AI=Bq/filter SO=Bq/kg VE=Bq/kg WA=Bq/L. Values for elemental uranium are reported in µg/filter, g
Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable. pCi = Bq x 27

QAP45 Results by Nuclide

Matrix: AI
Radionuclide: U 234

EML Value: 0.080
EML Error: 0.006

Labcode	Test #	Reported Value	Reported Error	Reported EML	Ratio Error	Evaluation
AA	1	0.080	0.006	**1.00**	0.11	**A**
AF	1	0.084	0.007	**1.05**	0.12	**A**
AF	2	0.021	0.007	**0.26**	0.09	**N**
AG	1	0.077	0.009	**0.96**	0.13	**A**
AN	1	0.079	0.005	**0.99**	0.09	**A**
AR	1	0.076	0.025	**0.95**	0.32	**A**
AU	1	0.060	0.010	**0.75**	0.14	**N**
BA	1	0.071	0.020	**0.89**	0.26	**W**
BC	1	0.092	0.007	**1.15**	0.12	**A**
BE	1	0.079	0.010	**0.99**	0.15	**A**
BL	1	0.079	0.000	**0.99**	0.07	**A**
BL	2	0.084	0.001	**1.05**	0.08	**A**
BM	1	0.100	0.017	**1.25**	0.23	**A**
BX	1	0.101	0.008	**1.26**	0.13	**A**
CL	1	0.080	0.030	**1.00**	0.38	**A**
CW	1	0.080	0.004	**1.00**	0.09	**A**
DC	1	0.091	0.031	**1.14**	0.40	**A**
EI	1	0.100	0.010	**1.25**	0.16	**A**
GA	1	0.110	0.003	**1.38**	0.11	**A**
GE	1	0.082	0.006	**1.03**	0.11	**A**
IE	1	0.083	0.025	**1.04**	0.32	**A**
IS	1	0.066	0.008	**0.83**	0.12	**W**
IT	1	0.096	0.012	**1.20**	0.18	**A**
LH	1	0.083	0.018	**1.04**	0.24	**A**
LL	1	0.087	0.005	**1.09**	0.10	**A**
ML	1	0.080	0.007	**1.00**	0.12	**A**
OK	1	0.070	0.010	**0.88**	0.14	**W**
PA	1	0.120	0.070	**1.50**	0.88	**W**
PB	1	0.073	0.014	**0.91**	0.19	**A**
RE	1	0.074	0.008	**0.92**	0.12	**A**
SN	1	0.071	0.009	**0.89**	0.13	**W**
SR	1	0.062	0.011	**0.78**	0.15	**N**
TM	1	0.105	0.006	**1.31**	0.12	**A**
TO	1	0.080	0.000	**1.00**	0.08	**A**
TW	1	0.070	0.004	**0.88**	0.08	**W**
TX	1	0.094	0.007	**1.17**	0.12	**A**
UY	1	0.100	0.020	**1.25**	0.27	**A**
WA	1	0.083	0.012	**1.04**	0.17	**A**
WE	1	0.092	0.009	**1.15**	0.14	**A**
YA	1	0.083	0.004	**1.03**	0.09	**A**

Total Number Reported: 40

Units for matrices: AI=Bq/filter SO=Bq/kg VE=Bq/kg WA=Bq/L. Values for elemental uranium are reported in µg/filter, g
Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable. pCi = Bq x 27

QAP45 Results by Nuclide

Matrix: AI
Radionuclide: U 238

EML Value: 0.078
EML Error: 0.006

Labcode	Test #	Reported Value	Reported Error	Reported EML	Ratio Error	Evaluation
AA	1	0.078	0.006	**1.00**	0.11	**A**
AF	1	0.068	0.007	**0.87**	0.11	**W**
AF	2	0.017	0.007	**0.22**	0.09	**N**
AG	1	0.074	0.044	**0.95**	0.57	**A**
AN	1	0.085	0.005	**1.09**	0.10	**A**
AR	1	0.050	0.018	**0.64**	0.24	**N**
AU	1	0.070	0.010	**0.90**	0.15	**A**
BA	1	0.070	0.020	**0.90**	0.27	**A**
BC	1	0.092	0.009	**1.18**	0.15	**A**
BE	1	0.079	0.010	**1.01**	0.15	**A**
BL	1	0.077	0.000	**0.99**	0.07	**A**
BL	2	0.081	0.001	**1.04**	0.08	**A**
BM	1	0.089	0.014	**1.14**	0.20	**A**
BX	1	0.095	0.010	**1.22**	0.15	**A**
CL	1	0.060	0.020	**0.77**	0.26	**N**
CW	1	0.077	0.004	**0.99**	0.09	**A**
DC	1	0.714	0.027	**9.15**	0.78	**N**
EI	1	0.100	0.010	**1.28**	0.16	**A**
GA	1	0.088	0.010	**1.13**	0.15	**A**
GE	1	0.080	0.005	**1.03**	0.10	**A**
ID	1	0.092	0.005	**1.18**	0.11	**A**
IE	1	0.084	0.016	**1.08**	0.22	**A**
IS	1	0.066	0.008	**0.85**	0.12	**W**
IT	1	0.068	0.004	**0.87**	0.08	**W**
LH	1	0.088	0.018	**1.13**	0.25	**A**
LL	1	0.078	0.004	**1.00**	0.09	**A**
ML	1	0.080	0.007	**1.03**	0.12	**A**
OK	1	0.080	0.010	**1.03**	0.15	**A**
PA	1	0.110	0.070	**1.41**	0.90	**A**
PB	1	0.086	0.015	**1.10**	0.21	**A**
RE	1	0.078	0.008	**1.00**	0.13	**A**
SN	1	0.075	0.009	**0.96**	0.14	**A**
SR	1	0.064	0.011	**0.82**	0.15	**W**
TM	1	0.083	0.005	**1.07**	0.10	**A**
TO	1	0.070	0.000	**0.90**	0.07	**A**
TW	1	0.064	0.003	**0.82**	0.07	**W**
TX	1	0.091	0.006	**1.17**	0.12	**A**
UP	1	0.056	0.026	**0.72**	0.33	**N**
UY	1	0.089	0.020	**1.14**	0.27	**A**
WA	1	0.074	0.012	**0.95**	0.17	**A**
WE	1	0.078	0.009	**0.99**	0.14	**A**
YA	1	0.078	0.004	**1.00**	0.09	**A**

Total Number Reported: 42

Units for matrices: AI=Bq/filter SO=Bq/kg VE=Bq/kg WA=Bq/L. Values for elemental uranium are reported in µg/filter, g
Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable. pCi = Bq x 27

QAP45 Results by Nuclide

Matrix: AI
Radionuclide: U BQ

EML Value: 0.160
EML Error: 0.012

Labcode	Test #	Reported Value	Reported Error	Reported EML	Ratio Error	Evaluation
AA	1	0.160	0.012	**1.00**	0.11	**A**
AG	1	0.155	0.013	**0.97**	0.11	**A**
AR	1	0.128	0.031	**0.80**	0.20	**W**
BU	1	0.190	0.020	**1.19**	0.15	**A**
CL	1	0.150	0.040	**0.94**	0.26	**A**
ES	1	0.175	0.036	**1.09**	0.24	**A**
ID	1	0.179	0.009	**1.12**	0.10	**A**
OR	1	0.195	0.050	**1.22**	0.33	**A**
UK	1	0.195	0.060	**1.22**	0.39	**A**
WA	1	0.158	0.017	**0.99**	0.13	**A**
WC	1	0.233	0.020	**1.46**	0.17	**A**

Total Number Reported: 11

Units for matrices: AI=Bq/filter SO=Bq/kg VE=Bq/kg WA=Bq/L. Values for elemental uranium are reported in µg/filter, g
Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable. pCi = Bq x 27

QAP45 Results by Nuclide

Matrix: AI
Radionuclide: U UG

EML Value: 6.398
EML Error: 0.510

Labcode	Test #	Reported Value	Reported Error	Reported EML	Ratio Error	Evaluation
AA	1	6.398	0.510	**1.00**	0.11	**A**
AG	1	6.770	0.920	**1.06**	0.17	**A**
AR	1	5.000	0.500	**0.78**	0.10	**W**
BE	1	6.310	0.000	**0.99**	0.08	**A**
BL	1	6.380	0.000	**1.00**	0.08	**A**
BL	2	6.740	0.130	**1.05**	0.09	**A**
BP	1	6.530	0.650	**1.02**	0.13	**A**
BQ	1	3.300	0.100	**0.52**	0.04	**N**
DC	1	0.630	0.063	**0.10**	0.01	**N**
ES	1	7.130	0.000	**1.11**	0.09	**A**
GA	1	7.080	0.800	**1.11**	0.15	**A**
GE	1	6.680	0.080	**1.04**	0.08	**A**
IE	1	6.770	1.260	**1.06**	0.21	**A**
IR	1	8.240	0.310	**1.29**	0.11	**A**
IS	1	0.281	0.033	**0.04**	0.01	**N**
IT	1	8.300	0.110	**1.30**	0.11	**A**
LA	1	12.000	1.200	**1.88**	0.24	**W**
LA	2	11.300	1.130	**1.77**	0.23	**W**
LA	3	11.000	1.100	**1.72**	0.22	**W**
LL	1	6.330	0.367	**0.99**	0.10	**A**
NL	1	7.020	1.700	**1.10**	0.28	**A**
RI	1	5.820	0.083	**0.91**	0.07	**A**
SW	1	7.230	0.000	**1.13**	0.09	**A**
TI	1	4.500	0.700	**0.70**	0.12	**W**
TM	1	6.280	0.785	**0.98**	0.15	**A**
TN	1	7.910	1.290	**1.24**	0.22	**A**
TO	1	5.800	0.330	**0.91**	0.09	**A**
UY	1	3.660	0.000	**0.57**	0.05	**W**
YA	1	6.310	0.320	**0.99**	0.09	**A**
YP	1	4.850	1.790	**0.76**	0.29	**W**

Total Number Reported: 30

Units for matrices: AI=Bq/filter SO=Bq/kg VE=Bq/kg WA=Bq/L. Values for elemental uranium are reported in µg/filter, g
Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable. pCi = Bq x 27

QAP45 Results by Nuclide

Matrix: SO
Radionuclide: AM241

EML Value: 13.500
EML Error: 0.510

Labcode	Test #	Reported Value	Reported Error	Reported EML	Ratio Error	Evaluation
AA	1	13.500	0.510	**1.00**	0.05	**A**
AE	1	12.400	1.200	**0.92**	0.10	**A**
AF	1	6.660	4.440	**0.49**	0.33	**N**
AG	1	14.200	2.100	**1.05**	0.16	**A**
AN	1	13.200	0.430	**0.98**	0.05	**A**
AR	1	7.560	1.640	**0.56**	0.12	**W**
AU	1	15.200	4.470	**1.13**	0.33	**A**
BE	1	13.400	0.950	**0.99**	0.08	**A**
BL	1	35.600	1.000	**2.64**	0.12	**W**
BM	1	17.400	3.540	**1.29**	0.27	**A**
BN	1	28.000	0.610	**2.07**	0.09	**W**
BP	1	13.800	0.500	**1.02**	0.05	**A**
BS	1	13.200	1.000	**0.98**	0.08	**A**
BX	1	13.400	1.170	**0.99**	0.09	**A**
CL	1	8.730	1.900	**0.65**	0.14	**W**
CS	1	13.900	1.310	**1.03**	0.11	**A**
CW	1	12.900	1.800	**0.96**	0.14	**A**
DC	1	19.000	3.510	**1.41**	0.27	**A**
EG	1	1.300	0.200	**0.10**	0.02	**N**
EI	1	49.500	2.430	**3.67**	0.23	**N**
ES	1	11.800	1.750	**0.87**	0.13	**A**
FG	1	16.400	2.020	**1.22**	0.16	**A**
FL	1	11.400	0.400	**0.84**	0.04	**A**
FN	1	18.300	2.400	**1.36**	0.19	**A**
FS	1	12.900	0.500	**0.96**	0.05	**A**
GA	1	13.800	1.200	**1.02**	0.10	**A**
GE	1	12.100	1.180	**0.90**	0.09	**A**
ID	1	14.500	1.200	**1.07**	0.10	**A**
IE	1	11.900	0.980	**0.88**	0.08	**A**
IN	1	10.300	1.500	**0.76**	0.12	**A**
IS	1	12.400	2.900	**0.92**	0.22	**A**
IT	1	14.500	0.900	**1.07**	0.08	**A**
LA	1	13.700	0.700	**1.02**	0.06	**A**
LA	3	14.900	0.500	**1.10**	0.06	**A**
LH	1	12.300	1.100	**0.91**	0.09	**A**
LL	1	25.200	8.040	**1.87**	0.60	**W**
LV	1	17.800	1.300	**1.32**	0.11	**A**
LW	1	15.800	3.620	**1.17**	0.27	**A**
ME	1	12.900	1.600	**0.96**	0.12	**A**
ML	1	13.900	1.390	**1.03**	0.11	**A**
MS	1	18.100	1.810	**1.34**	0.14	**A**
NA	1	13.400	2.330	**0.99**	0.18	**A**
NM	1	13.700	1.690	**1.02**	0.13	**A**
OR	1	9.900	2.000	**0.73**	0.15	**W**
OT	1	13.000	1.000	**0.96**	0.08	**A**

Units for matrices: AI=Bq/filter SO=Bq/kg VE=Bq/kg WA=Bq/L. Values for elemental uranium are reported in µg/filter, g
Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable. pCi = Bq x 27

QAP45 Results by Nuclide

Matrix: SO
Radionuclide: AM241

EML Value: 13.500
EML Error: 0.510

Labcode	Test #	Reported Value	Reported Error	Reported EML	Ratio Error	Evaluation
RA	1	15.500	2.500	**1.15**	0.19	**A**
SC	1	10.300	0.800	**0.76**	0.07	**A**
SW	1	13.400	0.910	**0.99**	0.08	**A**
TE	1	15.600	3.830	**1.16**	0.29	**A**
TI	1	11.000	2.000	**0.82**	0.15	**A**
TM	1	13.400	0.064	**0.99**	0.04	**A**
TN	1	13.800	3.300	**1.02**	0.25	**A**
TO	1	12.300	4.000	**0.91**	0.30	**A**
TW	1	19.700	0.400	**1.46**	0.06	**A**
TX	1	11.100	0.600	**0.82**	0.05	**A**
UK	1	10.000	4.700	**0.74**	0.35	**W**
UP	1	12.900	2.360	**0.96**	0.18	**A**
UY	1	12.000	3.000	**0.89**	0.23	**A**
WA	1	13.200	1.000	**0.98**	0.08	**A**
WE	1	14.800	4.500	**1.10**	0.34	**A**
YA	1	12.900	0.725	**0.96**	0.06	**A**

Total Number Reported: 61

Units for matrices: AI=Bq/filter SO=Bq/kg VE=Bq/kg WA=Bq/L. Values for elemental uranium are reported in µg/filter, g
Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable. pCi = Bq x 27

QAP45 Results by Nuclide

Matrix: SO
Radionuclide: CM244

EML Value: 0.312
EML Error: 0.064

Labcode	Test #	Reported Value	Reported Error	Reported EML	Ratio Error	Evaluation
AA	1	0.312	0.064	**1.00**	0.29	**A**
AN	1	0.018	0.008	**0.06**	0.03	**N**
AR	1	0.222	0.175	**0.71**	0.58	**W**
BE	1	0.301	0.073	**0.97**	0.31	**A**
CL	1	0.280	0.040	**0.90**	0.22	**A**
CW	1	0.293	0.060	**0.94**	0.27	**A**
EG	1	0.700	0.300	**2.24**	1.07	**N**
ES	1	0.210	0.091	**0.67**	0.32	**W**
GE	1	0.710	0.490	**2.28**	1.64	**N**
IN	1	0.180	0.080	**0.58**	0.28	**W**
IT	1	0.260	0.060	**0.83**	0.26	**A**
LH	1	0.170	0.060	**0.55**	0.22	**W**
OR	1	0.230	0.150	**0.74**	0.50	**W**
OT	1	0.220	0.200	**0.71**	0.66	**W**
TW	1	0.370	0.050	**1.19**	0.29	**A**

Total Number Reported: 15

Units for matrices: AI=Bq/filter SO=Bq/kg VE=Bq/kg WA=Bq/L. Values for elemental uranium are reported in µg/filter, g
Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable. pCi = Bq x 27

QAP45 Results by Nuclide

Matrix: SO
Radionuclide: CO 60

EML Value: 2.920
EML Error: 0.210

Labcode	Test #	Reported Value	Reported Error	Reported EML	Ratio Error	Evaluation
AA	1	2.920	0.210	**1.00**	0.10	**A**
AE	1	3.100	0.600	**1.06**	0.22	**A**
AF	1	2.960	0.740	**1.01**	0.26	**A**
AG	1	2.900	1.000	**0.99**	0.35	**A**
AL	1	2.360	0.350	**0.81**	0.13	**A**
AN	1	3.570	0.720	**1.22**	0.26	**W**
AR	1	5.270	0.910	**1.81**	0.34	**N**
AU	1	2.600	1.700	**0.89**	0.59	**A**
BC	1	2.870	0.677	**0.98**	0.24	**A**
BL	1	2.900	0.500	**0.99**	0.19	**A**
BN	1	2.710	0.350	**0.93**	0.14	**A**
BP	1	3.640	0.500	**1.25**	0.19	**W**
BS	1	3.000	0.400	**1.03**	0.16	**A**
BU	1	3.500	0.300	**1.20**	0.13	**A**
BX	1	2.780	0.755	**0.95**	0.27	**A**
CL	1	6.380	1.800	**2.19**	0.64	**N**
CP	1	3.660	2.010	**1.25**	0.69	**W**
CS	1	2.970	0.260	**1.02**	0.12	**A**
DC	1	3.300	1.000	**1.13**	0.35	**A**
EG	1	3.200	0.600	**1.10**	0.22	**A**
ES	1	3.430	1.140	**1.17**	0.40	**A**
FG	1	2.760	0.490	**0.95**	0.18	**A**
FL	1	2.700	0.100	**0.93**	0.07	**A**
FN	1	3.750	0.330	**1.28**	0.15	**W**
GE	1	2.660	0.300	**0.91**	0.12	**A**
ID	1	3.570	0.210	**1.22**	0.11	**W**
IE	1	3.220	0.550	**1.10**	0.20	**A**
IL	1	2.020	0.580	**0.69**	0.21	**W**
IS	1	3.600	1.370	**1.23**	0.48	**W**
IT	1	4.240	0.270	**1.45**	0.14	**W**
KA	1	3.100	0.300	**1.06**		**A**
LA	1	2.300	0.400	**0.79**	0.15	**W**
LA	2	3.100	0.400	**1.06**	0.16	**A**
LA	3	2.900	0.400	**0.99**	0.15	**A**
LH	1	3.160	1.530	**1.08**	0.53	**A**
LL	1	2.730	0.416	**0.94**	0.16	**A**
LV	1	3.550	0.280	**1.22**	0.13	**W**
LW	1	3.180	0.470	**1.09**	0.18	**A**
ME	1	3.260	0.350	**1.12**	0.14	**A**
ML	1	3.200	0.320	**1.10**	0.14	**A**
MS	1	11.100	1.110	**3.80**	0.47	**N**
NA	1	2.800	0.270	**0.96**	0.12	**A**
NL	1	4.050	1.730	**1.39**	0.60	**W**
NP	1	3.750	0.780	**1.28**	0.28	**W**
NR	1	3.800	0.800	**1.30**	0.29	**W**

Units for matrices: AI=Bq/filter SO=Bq/kg VE=Bq/kg WA=Bq/L. Values for elemental uranium are reported in µg/filter, g
Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable. pCi = Bq x 27

QAP45 Results by Nuclide

Matrix: SO
Radionuclide: CO 60

EML Value: 2.920
EML Error: 0.210

Labcode	Test #	Reported Value	Reported Error	Reported EML	Ratio Error	Evaluation
OK	1	4.370	0.520	**1.50**	0.21	**W**
OR	1	2.800	1.500	**0.96**	0.52	**A**
OS	1	8.850	0.427	**3.03**	0.26	**N**
OT	1	3.700	1.600	**1.27**	0.56	**W**
RA	1	1.900	0.800	**0.65**	0.10	**W**
RC	1	3.100	0.300	**1.06**	0.13	**A**
RE	1	3.050	1.230	**1.04**	0.43	**A**
SC	1	3.230	0.300	**1.11**	0.13	**A**
SK	1	3.580	0.600	**1.23**	0.22	**W**
SN	1	3.180	0.870	**1.09**	0.31	**A**
SR	1	3.000	1.000	**1.03**	0.35	**A**
SS	1	2.990	0.610	**1.02**	0.22	**A**
SW	1	3.110	0.420	**1.07**	0.16	**A**
TE	1	4.030	2.500	**1.38**	0.86	**W**
TI	1	3.260	1.340	**1.12**	0.47	**A**
TN	1	3.050	0.801	**1.04**	0.28	**A**
TO	1	2.250	1.880	**0.77**	0.65	**W**
TP	1	3.410	0.108	**1.17**	0.09	**A**
TW	1	3.200	0.400	**1.10**	0.16	**A**
TX	1	3.330	0.370	**1.14**	0.15	**A**
UC	1	3.010	0.630	**1.03**	0.23	**A**
UK	1	2.930	1.100	**1.00**	0.38	**A**
UY	1	4.600	1.100	**1.58**	0.39	**N**
WA	1	3.300	1.100	**1.13**	0.39	**A**
WC	1	3.310	0.628	**1.13**	0.23	**A**
WE	1	5.850	2.200	**2.00**	0.77	**N**
WP	1	3.000	1.400	**1.03**	0.49	**A**

Total Number Reported: 72

Units for matrices: AI=Bq/filter SO=Bq/kg VE=Bq/kg WA=Bq/L. Values for elemental uranium are reported in µg/filter, g
Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable. pCi = Bq x 27

QAP45 Results by Nuclide

Matrix: SO
Radionuclide: CS137

EML Value: 1550.000
EML Error: 22.200

Labcode	Test #	Reported Value	Reported Error	Reported EML	Ratio Error	Evaluation
AA	1	1550.000	22.200	**1.00**	0.02	**A**
AE	1	1900.000	97.000	**1.23**	0.07	**A**
AF	1	1390.000	155.000	**0.90**	0.10	**W**
AG	1	1890.000	121.000	**1.22**	0.08	**A**
AL	1	1410.000	37.200	**0.91**	0.03	**W**
AN	1	1990.000	7.000	**1.28**	0.02	**W**
AR	1	1650.000	50.000	**1.07**	0.04	**A**
AU	1	1890.000	11.400	**1.22**	0.02	**A**
BA	1	1730.000	105.000	**1.12**	0.07	**A**
BC	1	1940.000	149.000	**1.25**	0.10	**W**
BE	1	1870.000	137.000	**1.21**	0.09	**A**
BL	1	1840.000	40.000	**1.19**	0.03	**A**
BM	1	1380.000	10.700	**0.89**	0.01	**W**
BN	1	1660.000	41.100	**1.07**	0.03	**A**
BP	1	1900.000	79.000	**1.23**	0.05	**A**
BQ	1	1560.000	17.000	**1.01**	0.02	**A**
BS	1	1740.000	4.200	**1.12**	0.02	**A**
BU	1	1600.000	150.000	**1.03**	0.10	**A**
BX	1	1920.000	148.000	**1.24**	0.10	**W**
CL	1	1710.000	104.000	**1.10**	0.07	**A**
CP	1	1840.000	187.000	**1.19**	0.12	**A**
CS	1	1700.000	73.800	**1.10**	0.05	**A**
DC	1	2030.000	450.000	**1.31**	0.29	**W**
EG	1	1830.000	140.000	**1.18**	0.09	**A**
ES	1	1970.000	216.000	**1.27**	0.14	**W**
FG	1	1530.000	86.000	**0.99**	0.06	**A**
FL	1	1670.000	5.000	**1.08**	0.02	**A**
FN	1	1740.000	170.000	**1.12**	0.11	**A**
FS	1	1690.000	10.000	**1.09**	0.02	**A**
GA	1	1780.000	83.000	**1.15**	0.06	**A**
GE	1	1770.000	3.330	**1.14**	0.02	**A**
ID	1	1840.000	95.100	**1.19**	0.06	**A**
IE	1	1700.000	45.900	**1.10**	0.03	**A**
IL	1	1710.000	32.300	**1.10**	0.03	**A**
IN	1	1730.000	41.000	**1.12**	0.03	**A**
IS	1	1580.000	190.000	**1.02**	0.12	**A**
IT	1	1990.000	70.000	**1.28**	0.05	**W**
KA	1	1966.000	156.000	**1.27**		**W**
LA	1	1040.000	71.000	**0.67**	0.05	**N**
LA	2	1070.000	73.000	**0.69**	0.05	**N**
LA	3	1210.000	83.000	**0.78**	0.05	**N**
LH	1	1900.000	269.000	**1.23**	0.17	**A**
LL	1	1800.000	23.400	**1.16**	0.02	**A**
LV	1	2060.000	4.000	**1.33**	0.02	**W**
LW	1	1760.000	15.800	**1.14**	0.02	**A**

Units for matrices: AI=Bq/filter SO=Bq/kg VE=Bq/kg WA=Bq/L. Values for elemental uranium are reported in µg/filter, g
Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable. pCi = Bq x 27

QAP45 Results by Nuclide

Matrix: SO
Radionuclide: CS137

EML Value: 1550.000
EML Error: 22.200

Labcode	Test #	Reported Value	Reported Error	Reported EML	Ratio Error	Evaluation
ME	1	1890.000	39.500	**1.22**	0.03	**A**
ML	1	1790.000	179.000	**1.16**	0.12	**A**
MS	1	1650.000	165.000	**1.07**	0.11	**A**
NA	1	1660.000	3.800	**1.07**	0.02	**A**
NC	1	1570.000	3.900	**1.01**	0.01	**A**
NL	1	1850.000	70.000	**1.19**	0.05	**A**
NM	1	1480.000	32.000	**0.96**	0.02	**A**
NP	1	2020.000	28.000	**1.30**	0.03	**W**
NR	1	1910.000	382.000	**1.23**	0.25	**A**
OK	1	2170.000	111.000	**1.40**	0.07	**N**
OR	1	1430.000	217.000	**0.92**	0.14	**W**
OS	1	1770.000	35.000	**1.14**	0.03	**A**
OT	1	1700.000	100.000	**1.10**	0.07	**A**
OU	1	2320.000	200.000	**1.50**	0.13	**N**
RA	1	1710.000	70.000	**1.10**	0.10	**A**
RC	1	1750.000	3.000	**1.13**	0.02	**A**
RE	1	1240.000	97.000	**0.80**	0.06	**W**
RI	1	1860.000	19.000	**1.20**	0.02	**A**
RL	1	2040.000	163.000	**1.32**	0.11	**W**
SA	1	1640.000	90.000	**1.06**	0.06	**A**
SC	1	1520.000	10.000	**0.98**	0.02	**A**
SK	1	1910.000	115.000	**1.23**	0.08	**A**
SN	1	1820.000	182.000	**1.17**	0.12	**A**
SR	1	1760.000	233.000	**1.14**	0.15	**A**
SS	1	1880.000	95.200	**1.21**	0.06	**A**
SW	1	813.000	5.000	**0.52**	0.01	**N**
TE	1	1750.000	24.400	**1.13**	0.02	**A**
TI	1	1900.000	190.000	**1.23**	0.12	**A**
TM	1	1450.000	42.800	**0.94**	0.03	**W**
TN	1	1760.000	10.100	**1.14**	0.02	**A**
TO	1	1170.000	16.500	**0.76**	0.02	**N**
TP	1	1650.000	1.890	**1.07**	0.02	**A**
TW	1	1690.000	135.000	**1.09**	0.09	**A**
TX	1	1770.000	4.000	**1.14**	0.02	**A**
UC	1	1820.000	139.000	**1.17**	0.09	**A**
UK	1	1750.000	12.300	**1.13**	0.02	**A**
UP	1	1420.000	121.000	**0.92**	0.08	**W**
UY	1	1600.000	200.000	**1.03**	0.13	**A**
WA	1	1840.000	80.000	**1.19**	0.05	**A**
WC	1	1740.000	188.000	**1.12**	0.12	**A**
WE	1	1730.000	7.800	**1.12**	0.02	**A**
WP	1	1890.000	18.000	**1.22**	0.02	**A**
YA	1	1760.000	88.800	**1.14**	0.06	**A**

Total Number Reported: 88

Units for matrices: AI=Bq/filter SO=Bq/kg VE=Bq/kg WA=Bq/L. Values for elemental uranium are reported in µg/filter, g
Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable. pCi = Bq x 27

QAP45 Results by Nuclide

Matrix: SO
Radionuclide: K 40

EML Value: 300.000
EML Error: 25.000

Labcode	Test #	Reported Value	Reported Error	Reported EML	Ratio Error	Evaluation
AA	1	300.000	25.000	**1.00**	0.12	**A**
AE	1	322.000	26.000	**1.07**	0.13	**A**
AF	1	300.000	37.000	**1.00**	0.15	**A**
AG	1	373.000	40.000	**1.24**	0.17	**A**
AL	1	321.000	13.900	**1.07**	0.10	**A**
AN	1	383.000	14.000	**1.28**	0.12	**W**
AR	1	314.000	24.000	**1.05**	0.12	**A**
AU	1	368.000	27.800	**1.23**	0.14	**A**
BA	1	560.000	150.000	**1.87**	0.52	**N**
BC	1	339.000	20.700	**1.13**	0.12	**A**
BE	1	394.000	62.100	**1.31**	0.23	**W**
BL	1	363.000	16.000	**1.21**	0.11	**A**
BM	1	252.000	35.800	**0.84**	0.14	**W**
BN	1	269.000	9.260	**0.90**	0.08	**A**
BP	1	371.000	29.000	**1.24**	0.14	**A**
BQ	1	300.000	3.000	**1.00**	0.08	**A**
BS	1	339.000	10.000	**1.13**	0.10	**A**
BU	1	360.000	40.000	**1.20**	0.17	**A**
BX	1	331.000	20.400	**1.10**	0.11	**A**
CL	1	351.000	46.100	**1.17**	0.18	**A**
CP	1	405.000	99.000	**1.35**	0.35	**W**
CS	1	330.000	21.500	**1.10**	0.12	**A**
DC	1	330.000	107.000	**1.10**	0.37	**A**
EG	1	340.000	30.000	**1.13**	0.14	**A**
ES	1	386.000	52.800	**1.29**	0.21	**W**
FG	1	242.000	22.000	**0.81**	0.10	**W**
FL	1	314.000	8.000	**1.05**	0.09	**A**
FN	1	320.000	33.000	**1.07**	0.14	**A**
FS	1	329.000	13.000	**1.10**	0.10	**A**
GA	1	455.000	77.000	**1.52**	0.29	**W**
GE	1	393.000	7.770	**1.31**	0.11	**W**
ID	1	331.000	19.000	**1.10**	0.11	**A**
IE	1	313.000	21.200	**1.04**	0.11	**A**
IL	1	520.000	39.700	**1.73**	0.20	**N**
IN	1	380.000	45.600	**1.27**	0.19	**A**
IS	1	330.000	44.000	**1.10**	0.17	**A**
IT	1	372.000	39.000	**1.24**	0.17	**A**
KA	1	350.000	54.000	**1.16**		**A**
LA	1	222.000	20.000	**0.74**	0.09	**W**
LA	2	241.000	22.000	**0.80**	0.10	**W**
LA	3	265.000	24.000	**0.88**	0.11	**W**
LH	1	356.000	69.000	**1.19**	0.25	**A**
LL	1	308.000	17.100	**1.03**	0.10	**A**
LV	1	393.000	7.000	**1.31**	0.11	**W**
LW	1	297.000	19.900	**0.99**	0.11	**A**

Units for matrices: AI=Bq/filter SO=Bq/kg VE=Bq/kg WA=Bq/L. Values for elemental uranium are reported in µg/filter, g
Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable. pCi = Bq x 27

QAP45 Results by Nuclide

Matrix: SO
Radionuclide: K 40

EML Value: 300.000
EML Error: 25.000

Labcode	Test #	Reported Value	Reported Error	Reported EML	Ratio Error	Evaluation
ME	1	306.000	12.500	**1.02**	0.09	**A**
ML	1	357.000	36.000	**1.19**	0.16	**A**
MS	1	363.000	36.300	**1.21**	0.16	**A**
NA	1	320.000	7.650	**1.07**	0.09	**A**
NL	1	383.000	12.000	**1.28**	0.11	**W**
NP	1	463.000	65.000	**1.54**	0.25	**W**
NR	1	389.000	78.000	**1.30**	0.28	**W**
OK	1	407.000	22.200	**1.36**	0.14	**W**
OR	1	292.000	56.000	**0.97**	0.20	**A**
OS	1	695.000	37.000	**2.32**	0.23	**N**
OT	1	310.000	30.000	**1.03**	0.13	**A**
OU	1	87.200	0.000	**0.29**	0.02	**N**
RA	1	280.000	55.000	**0.93**	0.10	**A**
RE	1	249.000	36.000	**0.83**	0.14	**W**
RI	1	371.000	11.000	**1.24**	0.11	**A**
RL	1	434.000	31.000	**1.45**	0.16	**W**
SA	1	308.000	15.000	**1.03**	0.10	**A**
SC	1	364.000	4.000	**1.21**	0.10	**A**
SK	1	319.000	25.000	**1.06**	0.12	**A**
SN	1	393.000	38.600	**1.31**	0.17	**W**
SR	1	342.000	58.000	**1.14**	0.22	**A**
SS	1	356.000	24.700	**1.19**	0.13	**A**
SW	1	36.700	6.770	**0.12**	0.02	**N**
TE	1	369.000	59.500	**1.23**	0.22	**A**
TI	1	340.000	34.000	**1.13**	0.15	**A**
TM	1	302.000	30.900	**1.01**	0.13	**A**
TN	1	348.000	12.600	**1.16**	0.11	**A**
TO	1	275.000	59.000	**0.92**	0.21	**A**
TP	1	344.000	6.780	**1.15**	0.10	**A**
TW	1	335.000	27.000	**1.12**	0.13	**A**
TX	1	359.000	7.400	**1.20**	0.10	**A**
UC	1	356.000	20.500	**1.19**	0.12	**A**
UK	1	330.000	32.100	**1.10**	0.14	**A**
UY	1	320.000	40.000	**1.07**	0.16	**A**
WA	1	400.000	26.000	**1.33**	0.14	**W**
WC	1	336.000	48.300	**1.12**	0.19	**A**
WE	1	268.000	24.900	**0.89**	0.11	**A**
WP	1	349.000	31.000	**1.16**	0.14	**A**

Total Number Reported: 83

Units for matrices: AI=Bq/filter SO=Bq/kg VE=Bq/kg WA=Bq/L. Values for elemental uranium are reported in µg/filter, g
Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable. pCi = Bq x 27

QAP45 Results by Nuclide

Matrix: SO
Radionuclide: PU238

EML Value: 1.130
EML Error: 0.240

Labcode	Test #	Reported Value	Reported Error	Reported EML	Ratio Error	Evaluation
AA	1	1.130	0.240	**1.00**	0.30	**A**
AE	1	0.740	0.250	**0.66**	0.26	**W**
AG	1	0.840	0.084	**0.74**	0.18	**A**
AN	1	1.050	0.193	**0.93**	0.26	**A**
AR	1	1.540	0.520	**1.36**	0.54	**W**
BE	1	0.920	0.170	**0.81**	0.23	**A**
BL	1	0.900	0.130	**0.80**	0.21	**A**
BL	2	1.190	0.140	**1.05**	0.26	**A**
BM	1	1.040	0.360	**0.92**	0.37	**A**
CL	1	2.500	0.500	**2.21**	0.65	**N**
CW	1	1.060	0.110	**0.94**	0.22	**A**
DC	1	2.200	1.020	**1.95**	0.99	**N**
EG	1	0.400	0.300	**0.35**	0.28	**N**
EP	1	0.790	0.085	**0.70**		**W**
ES	1	0.728	0.192	**0.64**	0.22	**W**
FG	1	0.690	0.010	**0.61**	0.13	**W**
FL	1	1.320	0.594	**1.17**	0.58	**W**
FS	1	0.820	0.100	**0.73**	0.18	**A**
GA	1	0.710	0.040	**0.63**	0.14	**W**
GE	1	3.740	0.925	**3.31**	1.08	**N**
ID	1	0.980	2.200	**0.87**	1.96	**A**
IN	1	1.050	0.250	**0.93**	0.30	**A**
IS	1	88.500	23.600	**78.30**	26.70	**N**
IT	1	0.840	0.140	**0.74**	0.20	**A**
KA	1	1.391	0.492	**1.23**		**W**
LA	1	0.880	0.080	**0.78**	0.18	**A**
LA	2	0.730	0.080	**0.65**	0.15	**W**
LA	3	0.920	0.220	**0.81**	0.26	**A**
LH	1	0.880	0.180	**0.78**	0.23	**A**
LL	1	1.000	0.169	**0.89**	0.24	**A**
ML	1	0.910	0.180	**0.81**	0.23	**A**
NA	1	1.590	0.880	**1.41**	0.83	**W**
NL	1	0.797	0.075	**0.71**	0.16	**W**
NM	1	1.160	0.223	**1.03**	0.29	**A**
OR	1	0.960	0.210	**0.85**	0.26	**A**
OT	1	0.740	0.350	**0.66**	0.34	**W**
PI	1	0.590	0.580	**0.52**	0.53	**W**
RA	1	0.820	0.160	**0.73**	0.10	**A**
RA	2	1.040	0.210	**0.92**	0.10	**A**
RE	1	0.830	0.174	**0.74**	0.22	**A**
SC	1	1.200	0.200	**1.06**	0.29	**A**
SK	1	0.800	0.070	**0.71**	0.16	**W**
SN	1	0.564	1.080	**0.50**	0.96	**W**
SR	1	1.020	0.040	**0.90**	0.20	**A**
TE	1	0.770	0.360	**0.68**	0.35	**W**

Units for matrices: AI=Bq/filter SO=Bq/kg VE=Bq/kg WA=Bq/L. Values for elemental uranium are reported in µg/filter, g
Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable. pCi = Bq x 27

QAP45 Results by Nuclide

Matrix: SO
Radionuclide: PU238

EML Value: 1.130
EML Error: 0.240

Labcode	Test #	Reported Value	Reported Error	Reported EML	Ratio Error	Evaluation
TI	1	0.940	0.520	**0.83**	0.49	**A**
TM	1	1.170	0.222	**1.04**	0.30	**A**
TN	1	0.964	0.122	**0.85**	0.21	**A**
TO	1	1.170	0.520	**1.04**	0.51	**A**
TW	1	1.400	0.100	**1.24**	0.28	**W**
TX	1	1.110	0.190	**0.98**	0.27	**A**
UC	1	0.611	0.309	**0.54**	0.30	**W**
UK	1	7.350	3.200	**6.50**	3.15	**N**
UP	1	0.802	0.362	**0.71**	0.35	**W**
UY	1	1.250	1.100	**1.11**	1.00	**A**
WA	1	0.850	0.230	**0.75**	0.26	**A**
WE	1	7.900	0.600	**6.99**	1.58	**N**
YA	1	0.994	0.231	**0.88**	0.28	**A**

Total Number Reported: 58

Units for matrices: AI=Bq/filter SO=Bq/kg VE=Bq/kg WA=Bq/L. Values for elemental uranium are reported in µg/filter, g
Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable. pCi = Bq x 27

QAP45 Results by Nuclide

Matrix: SO
Radionuclide: PU239

EML Value: 21.800
EML Error: 1.080

Labcode	Test #	Reported Value	Reported Error	Reported EML	Ratio Error	Evaluation
AA	1	21.800	1.080	**1.00**	0.07	**A**
AE	1	22.300	1.200	**1.02**	0.07	**A**
AF	1	16.300	5.550	**0.75**	0.26	**W**
AG	1	22.900	0.430	**1.05**	0.06	**A**
AN	1	23.700	2.450	**1.09**	0.13	**A**
AR	1	21.400	4.800	**0.98**	0.23	**A**
AU	1	28.000	4.500	**1.28**	0.22	**W**
BE	1	23.100	1.300	**1.06**	0.08	**A**
BL	1	25.500	0.600	**1.17**	0.06	**A**
BL	2	22.300	0.600	**1.02**	0.06	**A**
BM	1	18.100	2.060	**0.83**	0.10	**W**
BP	1	23.500	2.800	**1.08**	0.14	**A**
BX	1	24.900	2.010	**1.14**	0.11	**A**
CL	1	18.000	2.650	**0.83**	0.13	**W**
CW	1	23.700	1.400	**1.09**	0.08	**A**
DC	1	27.300	4.640	**1.25**	0.22	**A**
EG	1	20.900	3.400	**0.96**	0.16	**A**
EP	1	21.100	1.690	**0.97**		**A**
ES	1	22.800	4.040	**1.05**	0.19	**A**
FG	1	22.000	0.050	**1.01**	0.05	**A**
FL	1	22.600	1.410	**1.04**	0.08	**A**
FS	1	20.600	0.900	**0.95**	0.06	**A**
GA	1	25.600	2.300	**1.17**	0.12	**A**
GE	1	45.900	2.960	**2.11**	0.17	**N**
ID	1	18.800	0.120	**0.86**	0.04	**W**
IE	1	23.200	3.450	**1.06**	0.17	**A**
IN	1	24.100	2.800	**1.11**	0.14	**A**
IS	1	34.400	11.700	**1.58**	0.54	**W**
IT	1	21.000	2.700	**0.96**	0.13	**A**
KA	1	23.905	0.518	**1.10**		**A**
LA	1	25.000	0.800	**1.15**	0.07	**A**
LA	2	23.200	0.700	**1.06**	0.06	**A**
LA	3	22.200	1.500	**1.02**	0.09	**A**
LH	1	21.300	1.700	**0.98**	0.09	**A**
LL	1	24.500	1.290	**1.12**	0.08	**A**
ML	1	24.300	1.710	**1.12**	0.10	**A**
NA	1	23.800	2.490	**1.09**	0.13	**A**
NL	1	22.100	0.070	**1.01**	0.05	**A**
NM	1	24.400	2.500	**1.12**	0.13	**A**
OR	1	22.000	3.000	**1.01**	0.15	**A**
OT	1	17.000	1.000	**0.78**	0.06	**W**
PA	1	23.000	3.000	**1.05**	0.15	**A**
PB	1	25.200	2.960	**1.16**	0.15	**A**
PI	1	22.200	3.200	**1.02**	0.16	**A**
RA	1	25.200	2.500	**1.16**	0.10	**A**

Units for matrices: AI=Bq/filter SO=Bq/kg VE=Bq/kg WA=Bq/L. Values for elemental uranium are reported in µg/filter, g
Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable. pCi = Bq x 27

QAP45 Results by Nuclide

Matrix: SO
Radionuclide: PU239

EML Value: 21.800
EML Error: 1.080

Labcode	Test #	Reported Value	Reported Error	Reported EML	Ratio Error	Evaluation
RA	2	24.500	2.500	**1.12**	0.10	**A**
RE	1	19.100	1.800	**0.88**	0.09	**A**
RF	1	22.300	1.010	**1.02**	0.07	**A**
RF	2	22.300	1.010	**1.02**	0.07	**A**
SC	1	31.900	1.500	**1.46**	0.10	**W**
SK	1	20.000	1.500	**0.92**	0.08	**A**
SN	1	25.500	4.410	**1.17**	0.21	**A**
SR	1	25.500	3.700	**1.17**	0.18	**A**
TE	1	24.000	1.940	**1.10**	0.10	**A**
TI	1	20.000	3.000	**0.92**	0.15	**A**
TM	1	22.100	9.760	**1.01**	0.45	**A**
TN	1	23.500	0.692	**1.08**	0.06	**A**
TO	1	20.700	8.900	**0.95**	0.41	**A**
TW	1	38.400	0.500	**1.76**	0.09	**W**
TX	1	19.200	1.100	**0.88**	0.07	**A**
UC	1	16.000	1.880	**0.73**	0.09	**W**
UK	1	19.600	5.200	**0.90**	0.24	**A**
UP	1	15.500	2.610	**0.71**	0.13	**W**
UY	1	25.000	5.000	**1.15**	0.24	**A**
WA	1	21.700	0.900	**1.00**	0.06	**A**
WE	1	16.600	0.820	**0.76**	0.05	**W**
YA	1	23.700	0.888	**1.09**	0.07	**A**

Total Number Reported: 67

Units for matrices: AI=Bq/filter SO=Bq/kg VE=Bq/kg WA=Bq/L. Values for elemental uranium are reported in µg/filter, g
Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable. pCi = Bq x 27

QAP45 Results by Nuclide

Matrix: SO
Radionuclide: SR 90

EML Value: 69.900
EML Error: 5.100

Labcode	Test #	Reported Value	Reported Error	Reported EML	Ratio Error	Evaluation
AA	1	69.900	5.100	**1.00**	0.10	**A**
AC	1	73.600	3.300	**1.05**	0.09	**A**
AG	1	69.000	12.000	**0.99**	0.19	**A**
AN	1	71.800	1.100	**1.03**	0.08	**A**
AR	1	56.000	4.700	**0.80**	0.09	**A**
AU	1	60.300	4.200	**0.86**	0.09	**A**
BC	1	47.700	21.600	**0.68**	0.31	**W**
BE	1	74.500	6.030	**1.07**	0.12	**A**
BL	1	76.200	9.100	**1.09**	0.15	**A**
BM	1	93.700	9.680	**1.34**	0.17	**A**
BP	1	82.000	3.900	**1.17**	0.10	**A**
BX	1	56.200	14.600	**0.80**	0.22	**A**
CL	1	67.800	11.100	**0.97**	0.17	**A**
DC	1	72.800	10.500	**1.04**	0.17	**A**
EG	1	77.000	6.000	**1.10**	0.12	**A**
EI	1	38.800	2.320	**0.56**	0.05	**W**
ES	1	85.800	29.800	**1.23**	0.44	**A**
GE	1	61.400	0.740	**0.88**	0.07	**A**
ID	1	71.400	3.700	**1.02**	0.09	**A**
IE	1	66.100	2.800	**0.95**	0.08	**A**
IN	1	70.600	7.000	**1.01**	0.12	**A**
IS	1	54.400	6.100	**0.78**	0.10	**A**
IT	1	68.800	3.100	**0.98**	0.08	**A**
KA	1	79.440	6.600	**1.14**		**A**
LA	1	346.000	51.000	**4.95**	0.81	**N**
LA	2	381.000	57.000	**5.45**	0.91	**N**
LA	3	353.000	52.000	**5.05**	0.83	**N**
LH	1	60.900	5.000	**0.87**	0.10	**A**
NA	1	56.300	18.000	**0.81**	0.26	**A**
OR	1	59.000	3.000	**0.84**	0.08	**A**
OT	1	67.000	9.000	**0.96**	0.15	**A**
RA	1	59.000	8.000	**0.84**	0.10	**A**
RA	2	62.000	8.000	**0.89**	0.10	**A**
RE	1	67.900	3.600	**0.97**	0.09	**A**
SR	1	84.000	9.000	**1.20**	0.16	**A**
TE	1	63.600	3.950	**0.91**	0.09	**A**
TI	1	74.000	7.000	**1.06**	0.13	**A**
TM	1	68.000	5.460	**0.97**	0.11	**A**
TN	1	86.700	0.526	**1.24**	0.09	**A**
TO	1	82.300	5.100	**1.18**	0.11	**A**
TP	1	73.600	1.570	**1.05**	0.08	**A**
TW	1	65.000	3.000	**0.93**	0.08	**A**
TX	1	81.400	18.500	**1.17**	0.28	**A**
UP	1	51.300	15.700	**0.73**	0.23	**A**
UY	1	71.800	25.000	**1.03**	0.37	**A**

Units for matrices: AI=Bq/filter SO=Bq/kg VE=Bq/kg WA=Bq/L. Values for elemental uranium are reported in µg/filter, g
Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable. pCi = Bq x 27

QAP45 Results by Nuclide

Matrix: SO
Radionuclide: SR 90

EML Value: 69.900
EML Error: 5.100

Labcode	Test #	Reported Value	Reported Error	Reported EML	Ratio Error	Evaluation
WA	1	78.100	4.400	**1.12**	0.10	**A**
WC	1	62.200	12.400	**0.89**	0.19	**A**
WP	1	70.000	3.700	**1.00**	0.09	**A**

Total Number Reported: 48

Units for matrices: AI=Bq/filter SO=Bq/kg VE=Bq/kg WA=Bq/L. Values for elemental uranium are reported in µg/filter, g
Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable. pCi = Bq x 27

QAP45 Results by Nuclide

Matrix: SO
Radionuclide: U UG

EML Value: 3.360
EML Error: 0.300

Labcode	Test #	Reported Value	Reported Error	Reported EML	Ratio Error	Evaluation
RA	1	3.750	0.380	**1.12**	0.10	**W**

Total Number Reported: 1

Units for matrices: AI=Bq/filter SO=Bq/kg VE=Bq/kg WA=Bq/L. Values for elemental uranium are reported in µg/filter, g
Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable. pCi = Bq x 27

QAP45 Results by Nuclide

Matrix: SO
Radionuclide: U 234

EML Value: 39.200
EML Error: 2.440

Labcode	Test #	Reported Value	Reported Error	Reported EML	Ratio Error	Evaluation
AA	1	39.200	2.440	**1.00**	0.09	**A**
AE	1	35.600	1.800	**0.91**	0.07	**A**
AF	1	33.700	12.600	**0.86**	0.33	**A**
AG	1	24.400	4.200	**0.62**	0.11	**W**
AN	1	56.100	1.980	**1.43**	0.10	**N**
AR	1	41.200	9.900	**1.05**	0.26	**A**
AU	1	40.700	3.870	**1.04**	0.12	**A**
BC	1	42.600	2.310	**1.09**	0.09	**W**
BE	1	41.300	4.700	**1.05**	0.14	**A**
BL	1	33.000	2.200	**0.84**	0.08	**A**
BM	1	35.300	5.760	**0.90**	0.16	**A**
BX	1	44.400	2.330	**1.13**	0.09	**W**
CL	1	36.700	7.000	**0.94**	0.19	**A**
CW	1	38.000	2.000	**0.97**	0.08	**A**
DC	1	37.100	5.880	**0.95**	0.16	**A**
FG	1	62.600	0.300	**1.60**	0.10	**N**
FS	1	40.900	1.700	**1.04**	0.08	**A**
GA	1	43.500	4.300	**1.11**	0.13	**W**
GE	1	42.200	0.740	**1.08**	0.07	**A**
ID	1	39.900	2.000	**1.02**	0.08	**A**
IE	1	36.300	1.130	**0.93**	0.06	**A**
IS	1	45.100	5.200	**1.15**	0.15	**W**
IT	1	39.700	2.700	**1.01**	0.09	**A**
LH	1	38.400	3.900	**0.98**	0.12	**A**
LL	1	39.100	0.000	**1.00**	0.06	**A**
ML	1	38.800	3.870	**0.99**	0.12	**A**
NA	1	46.300	4.340	**1.18**	0.13	**W**
NL	1	60.900	17.000	**1.55**	0.44	**N**
PA	1	42.300	4.700	**1.08**	0.14	**A**
PB	1	36.300	2.590	**0.93**	0.09	**A**
RE	1	38.100	3.900	**0.97**	0.12	**A**
RF	1	36.600	1.710	**0.93**	0.07	**A**
SN	1	36.500	5.830	**0.93**	0.16	**A**
TE	1	37.200	3.750	**0.95**	0.11	**A**
TM	1	47.200	2.220	**1.20**	0.09	**W**
TN	1	37.800	1.780	**0.96**	0.08	**A**
TO	1	41.000	1.080	**1.05**	0.07	**A**
TW	1	24.000	0.900	**0.61**	0.04	**W**
TX	1	44.400	1.900	**1.13**	0.09	**W**
UP	1	31.100	6.900	**0.79**	0.18	**A**
UY	1	41.000	5.000	**1.05**	0.14	**A**
WA	1	37.700	3.700	**0.96**	0.11	**A**
WE	1	19.400	2.450	**0.50**	0.07	**W**
YA	1	38.300	1.410	**0.98**	0.07	**A**

Units for matrices: AI=Bq/filter SO=Bq/kg VE=Bq/kg WA=Bq/L. Values for elemental uranium are reported in µg/filter, g
Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable. pCi = Bq x 27

QAP45 Results by Nuclide

Matrix: SO
Radionuclide: U 234

EML Value: 39.200
EML Error: 2.440

Labcode	Test #	Reported Value	Reported Error	Reported EML	Ratio Error	Evaluation

Total Number Reported: 44

Units for matrices: AI=Bq/filter SO=Bq/kg VE=Bq/kg WA=Bq/L. Values for elemental uranium are reported in µg/filter, g
Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable. pCi = Bq x 27

QAP45 Results by Nuclide

Matrix: SO
Radionuclide: U 238

EML Value: 41.600
EML Error: 0.610

Labcode	Test #	Reported Value	Reported Error	Reported EML	Ratio Error	Evaluation
AA	1	41.600	0.610	**1.00**	0.02	**A**
AE	1	36.800	1.800	**0.89**	0.05	**A**
AF	1	32.600	12.200	**0.78**	0.29	**A**
AG	1	25.200	4.200	**0.61**	0.10	**A**
AL	1	22.000	2.600	**0.53**	0.06	**W**
AN	1	55.500	1.970	**1.33**	0.05	**W**
AR	1	38.100	9.200	**0.92**	0.22	**A**
AU	1	43.500	4.000	**1.05**	0.10	**A**
BC	1	43.700	2.690	**1.05**	0.07	**A**
BE	1	42.700	4.900	**1.03**	0.12	**A**
BL	1	34.600	2.200	**0.83**	0.05	**A**
BM	1	37.000	6.020	**0.89**	0.15	**A**
BX	1	46.300	3.600	**1.11**	0.09	**W**
CL	1	38.200	8.000	**0.92**	0.19	**A**
CS	1	25.800	1.330	**0.62**	0.03	**A**
CW	1	40.000	2.000	**0.96**	0.05	**A**
DC	1	39.900	6.180	**0.96**	0.15	**A**
FG	1	86.300	0.400	**2.08**	0.03	**N**
FN	1	25.300	2.700	**0.61**	0.07	**A**
FS	1	43.300	1.700	**1.04**	0.04	**A**
GA	1	40.500	3.400	**0.97**	0.08	**A**
GE	1	36.300	2.110	**0.87**	0.05	**A**
ID	1	41.100	2.200	**0.99**	0.05	**A**
IE	1	37.200	1.330	**0.89**	0.03	**A**
IS	1	45.100	5.200	**1.08**	0.13	**A**
IT	1	37.300	3.300	**0.90**	0.08	**A**
LH	1	39.700	4.000	**0.95**	0.10	**A**
LL	1	41.200	0.000	**0.99**	0.01	**A**
ML	1	40.100	3.940	**0.96**	0.10	**A**
NA	1	39.800	4.010	**0.96**	0.10	**A**
NL	1	63.200	16.700	**1.52**	0.40	**W**
PA	1	45.400	4.800	**1.09**	0.12	**W**
PB	1	38.200	2.590	**0.92**	0.06	**A**
RE	1	40.400	4.100	**0.97**	0.10	**A**
RF	1	39.900	1.860	**0.96**	0.05	**A**
SN	1	35.400	5.700	**0.85**	0.14	**A**
TE	1	40.800	3.980	**0.98**	0.10	**A**
TM	1	42.000	2.070	**1.01**	0.05	**A**
TN	1	37.800	1.780	**0.91**	0.04	**A**
TO	1	43.100	1.140	**1.04**	0.03	**A**
TW	1	24.400	0.900	**0.59**	0.02	**W**
TX	1	44.400	1.900	**1.07**	0.05	**A**
UP	1	29.700	6.570	**0.71**	0.16	**A**
UY	1	34.000	5.000	**0.82**	0.12	**A**
WA	1	36.500	3.400	**0.88**	0.08	**A**

Units for matrices: AI=Bq/filter SO=Bq/kg VE=Bq/kg WA=Bq/L. Values for elemental uranium are reported in µg/filter, g
Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable. pCi = Bq x 27

QAP45 Results by Nuclide

Matrix: SO
Radionuclide: U 238

EML Value: 41.600
EML Error: 0.610

Labcode	Test #	Reported Value	Reported Error	Reported EML	Ratio Error	Evaluation
WE	1	18.400	2.360	**0.44**	0.06	**W**
YA	1	39.900	1.460	**0.96**	0.04	**A**

Total Number Reported: 47

Units for matrices: AI=Bq/filter SO=Bq/kg VE=Bq/kg WA=Bq/L. Values for elemental uranium are reported in µg/filter, g
Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable. pCi = Bq x 27

QAP45 Results by Nuclide

Matrix: SO
Radionuclide: U BQ

EML Value: 82.200
EML Error: 2.980

Labcode	Test #	Reported Value	Reported Error	Reported EML	Ratio Error	Evaluation
AA	1	82.200	2.980	**1.00**	0.05	**A**
AR	1	82.200	13.600	**1.00**	0.17	**A**
BS	1	144.000	29.600	**1.75**	0.37	**N**
CL	1	76.800	16.100	**0.93**	0.20	**A**
EG	1	61.400	3.900	**0.75**	0.05	**A**
ES	1	73.400	12.800	**0.89**	0.16	**A**
FL	1	59.200	7.700	**0.72**	0.10	**A**
GE	1	2.860	0.060	**0.04**	0.00	**N**
ID	1	74.800	4.600	**0.91**	0.07	**A**
IN	1	50.700	15.000	**0.62**	0.18	**A**
OR	1	72.000	8.000	**0.88**	0.10	**A**
OT	1	84.000	12.000	**1.02**	0.15	**A**
UK	1	69.000	10.300	**0.84**	0.13	**A**
UP	1	62.100	9.570	**0.76**	0.12	**A**
WA	1	77.300	5.200	**0.94**	0.07	**A**

Total Number Reported: 15

Units for matrices: AI=Bq/filter SO=Bq/kg VE=Bq/kg WA=Bq/L. Values for elemental uranium are reported in µg/filter, g
Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable. pCi = Bq x 27

QAP45 Results by Nuclide

Matrix: SO
Radionuclide: U UG

EML Value: 3.360
EML Error: 0.300

Labcode	Test #	Reported Value	Reported Error	Reported EML	Ratio Error	Evaluation
AA	1	3.360	0.300	**1.00**	0.13	**A**
AC	1	2.910	0.030	**0.87**	0.08	**A**
AG	1	2.820	0.370	**0.84**	0.13	**A**
AR	1	2.050	0.070	**0.61**	0.06	**A**
BE	1	3.410	0.000	**1.02**	0.09	**A**
BL	1	2.710	0.090	**0.81**	0.08	**A**
BP	1	4.150	0.160	**1.24**	0.12	**W**
BQ	1	3.560	0.090	**1.06**	0.10	**A**
BU	1	3.900	0.300	**1.16**	0.14	**W**
CA	1	2.900	0.200	**0.86**	0.10	**A**
DC	1	3.500	0.350	**1.04**	0.14	**A**
ES	1	3.160	0.000	**0.94**	0.08	**A**
GA	1	3.600	0.000	**1.07**	0.10	**A**
IE	1	3.020	0.110	**0.90**	0.09	**A**
IS	1	5.190	0.590	**1.55**	0.22	**N**
IT	1	3.030	0.080	**0.90**	0.08	**A**
LA	1	2.750	0.280	**0.82**	0.11	**A**
LA	2	3.140	0.310	**0.94**	0.12	**A**
LA	3	3.070	0.310	**0.91**	0.12	**A**
LL	1	3.330	0.000	**0.99**	0.09	**A**
SC	1	70.300	2.000	**20.90**	1.96	**N**
SW	1	1.970	0.000	**0.59**	0.05	**A**
TI	1	3.500	0.500	**1.04**	0.18	**A**
TM	1	3.450	0.177	**1.03**	0.11	**A**
TN	1	3.230	0.528	**0.96**	0.18	**A**
TO	1	3.480	0.092	**1.04**	0.10	**A**
UP	1	3.200	0.000	**0.95**	0.09	**A**
UY	1	3.170	0.000	**0.94**	0.08	**A**
YA	1	3.240	0.160	**0.96**	0.10	**A**
YP	1	3.120	0.320	**0.93**	0.13	**A**

Total Number Reported: 30

Units for matrices: AI=Bq/filter SO=Bq/kg VE=Bq/kg WA=Bq/L. Values for elemental uranium are reported in µg/filter, g
Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable. pCi = Bq x 27

QAP45 Results by Nuclide

Matrix: VE
Radionuclide: AM241

EML Value: 1.230
EML Error: 0.410

Labcode	Test #	Reported Value	Reported Error	Reported EML	Ratio Error	Evaluation
AA	1	1.230	0.410	**1.00**	0.47	**A**
AF	1	7.770	3.330	**6.32**	3.43	**N**
AN	1	1.070	0.060	**0.87**	0.29	**A**
AR	1	0.974	0.222	**0.79**	0.32	**W**
AU	1	0.730	0.310	**0.59**	0.32	**N**
BE	1	1.250	0.220	**1.02**	0.38	**A**
BM	1	0.840	0.330	**0.68**	0.35	**W**
BP	1	1.210	0.060	**0.98**	0.33	**A**
BX	1	3.320	0.312	**2.70**	0.94	**W**
CL	1	1.170	0.400	**0.95**	0.45	**A**
CW	1	1.180	0.100	**0.96**	0.33	**A**
DC	1	1.280	0.320	**1.04**	0.43	**A**
EG	1	1.300	0.300	**1.06**	0.43	**A**
EI	1	1.170	0.150	**0.95**	0.34	**A**
EI	2	2.340	0.290	**1.90**	0.68	**W**
ES	1	1.410	0.279	**1.15**	0.44	**A**
FL	1	1.170	0.170	**0.95**	0.35	**A**
GA	1	1.330	0.260	**1.08**	0.42	**A**
GE	1	1.790	2.640	**1.46**	2.20	**A**
IE	1	1.450	0.610	**1.18**	0.63	**A**
IT	1	1.190	0.130	**0.97**	0.34	**A**
LA	1	0.451	0.078	**0.37**	0.14	**N**
LA	2	1.220	0.122	**0.99**	0.35	**A**
LA	3	1.090	0.089	**0.89**	0.30	**A**
LH	1	6.120	0.440	**4.98**	1.70	**N**
LV	1	3.300	0.600	**2.68**	1.02	**W**
ML	1	1.370	0.140	**1.11**	0.39	**A**
NA	1	7.310	1.790	**5.94**	2.46	**N**
OR	1	1.310	0.350	**1.07**	0.46	**A**
RE	1	1.110	0.160	**0.90**	0.33	**A**
RI	1	10.500	0.760	**8.54**	2.91	**N**
SR	1	2.160	0.590	**1.76**	0.76	**W**
TE	1	1.530	0.884	**1.24**	0.83	**A**
TI	1	1.200	0.400	**0.98**	0.46	**A**
TM	1	1.260	0.204	**1.02**	0.38	**A**
TN	1	1.090	0.243	**0.89**	0.36	**A**
TW	1	2.100	0.100	**1.71**	0.58	**W**
TX	1	1.480	0.190	**1.20**	0.43	**A**
WA	1	1.190	0.180	**0.97**	0.35	**A**

Total Number Reported: 39

Units for matrices: AI=Bq/filter SO=Bq/kg VE=Bq/kg WA=Bq/L. Values for elemental uranium are reported in µg/filter, g
Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable. pCi = Bq x 27

QAP45 Results by Nuclide

Matrix: VE
Radionuclide: CM244

EML Value: 0.830
EML Error: 0.120

Labcode	Test #	Reported Value	Reported Error	Reported EML	Ratio Error	Evaluation
AA	1	0.830	0.120	**1.00**	0.20	**A**
AN	1	0.764	0.045	**0.92**	0.14	**A**
AR	1	0.815	0.188	**0.98**	0.27	**A**
BE	1	0.720	0.140	**0.87**	0.21	**A**
BP	1	0.870	0.080	**1.05**	0.18	**A**
CL	1	1.170	0.400	**1.41**	0.52	**A**
CW	1	0.850	0.080	**1.02**	0.18	**A**
DC	1	1.230	0.318	**1.48**	0.44	**W**
EG	1	0.840	0.200	**1.01**	0.28	**A**
EI	1	1.090	0.250	**1.31**	0.36	**A**
ES	1	0.870	0.157	**1.05**	0.24	**A**
GA	1	0.890	0.160	**1.07**	0.25	**A**
GE	1	1.120	0.220	**1.35**	0.33	**A**
IT	1	0.780	0.020	**0.94**	0.14	**A**
LH	1	4.910	0.380	**5.92**	0.97	**N**
OR	1	0.660	0.240	**0.80**	0.31	**W**
RI	1	1.010	0.150	**1.22**	0.25	**A**
TE	1	0.612	0.495	**0.74**	0.61	**W**
TI	1	0.980	0.360	**1.18**	0.47	**A**
TM	1	1.270	0.302	**1.53**	0.43	**W**
TN	1	0.816	0.240	**0.98**	0.32	**A**
TW	1	1.200	0.100	**1.45**	0.24	**W**

Total Number Reported: 22

Units for matrices: AI=Bq/filter SO=Bq/kg VE=Bq/kg WA=Bq/L. Values for elemental uranium are reported in µg/filter, g
Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable. pCi = Bq x 27

QAP45 Results by Nuclide

Matrix: VE
Radionuclide: CO 60

EML Value: 10.900
EML Error: 0.710

Labcode	Test #	Reported Value	Reported Error	Reported EML	Ratio Error	Evaluation
AA	1	10.900	0.710	**1.00**	0.09	**A**
AF	1	22.200	11.100	**2.04**	1.03	**N**
AG	1	11.500	2.400	**1.05**	0.23	**A**
AL	1	9.320	1.180	**0.86**	0.12	**A**
AN	1	13.300	1.290	**1.22**	0.14	**W**
AR	1	15.200	2.600	**1.39**	0.26	**W**
AU	1	11.200	2.900	**1.03**	0.27	**A**
BC	1	12.600	1.110	**1.16**	0.13	**A**
BE	1	17.400	3.800	**1.60**	0.36	**N**
BL	1	11.500	1.200	**1.05**	0.13	**A**
BM	1	10.700	2.580	**0.98**	0.25	**A**
BN	1	9.110	0.330	**0.84**	0.06	**A**
BP	1	14.200	0.600	**1.30**	0.10	**W**
BS	1	9.800	0.760	**0.90**	0.09	**A**
BU	1	12.000	2.000	**1.10**	0.20	**A**
BX	1	12.800	1.390	**1.17**	0.15	**A**
CL	1	16.700	5.600	**1.53**	0.52	**N**
CP	1	16.100	6.200	**1.48**	0.58	**N**
CS	1	9.620	1.070	**0.88**	0.11	**A**
DC	1	12.000	2.400	**1.10**	0.23	**A**
EG	1	11.000	2.000	**1.01**	0.20	**A**
ES	1	13.500	3.230	**1.24**	0.31	**W**
FL	1	9.200	0.400	**0.84**	0.07	**A**
FN	1	10.900	0.800	**1.00**	0.10	**A**
GE	1	11.400	0.810	**1.05**	0.10	**A**
ID	1	11.500	1.560	**1.05**	0.16	**A**
IE	1	12.100	1.140	**1.11**	0.13	**A**
IL	1	12.600	1.680	**1.16**	0.17	**A**
IN	1	14.800	6.800	**1.36**	0.63	**W**
IS	1	12.500	3.500	**1.15**	0.33	**A**
IT	1	13.500	1.800	**1.24**	0.18	**W**
LA	1	9.250	1.480	**0.85**	0.15	**A**
LA	2	10.000	1.000	**0.92**	0.11	**A**
LA	3	11.100	1.480	**1.02**	0.15	**A**
LH	1	12.100	2.800	**1.11**	0.27	**A**
LL	1	10.600	0.869	**0.97**	0.10	**A**
LV	1	14.100	0.600	**1.29**	0.10	**W**
LW	1	9.850	0.985	**0.90**	0.11	**A**
ME	1	12.500	0.920	**1.15**	0.11	**A**
ML	1	11.400	1.140	**1.05**	0.13	**A**
NA	1	10.700	0.610	**0.98**	0.09	**A**
NC	1	15.200	1.520	**1.39**	0.17	**W**
NP	1	14.600	0.700	**1.34**	0.11	**W**
NR	1	11.400	2.300	**1.05**	0.22	**A**
OK	1	12.900	1.110	**1.18**	0.13	**A**

Units for matrices: AI=Bq/filter SO=Bq/kg VE=Bq/kg WA=Bq/L. Values for elemental uranium are reported in µg/filter, g
Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable. pCi = Bq x 27

QAP45 Results by Nuclide

Matrix: VE
Radionuclide: CO 60

EML Value: 10.900
EML Error: 0.710

Labcode	Test #	Reported Value	Reported Error	Reported EML	Ratio Error	Evaluation
OR	1	10.600	3.100	**0.97**	0.29	**A**
OS	1	19.700	2.800	**1.81**	0.28	**N**
OT	1	11.000	3.000	**1.01**	0.28	**A**
OU	1	27.200	3.950	**2.49**	0.40	**N**
RA	1	9.140	0.900	**0.83**	0.10	**A**
RE	1	11.700	3.800	**1.07**	0.36	**A**
SK	1	13.700	1.500	**1.26**	0.16	**W**
SN	1	12.100	1.910	**1.11**	0.19	**A**
SR	1	11.000	2.000	**1.01**	0.20	**A**
SS	1	11.200	1.280	**1.03**	0.14	**A**
SW	1	11.400	1.340	**1.05**	0.14	**A**
TE	1	14.000	4.420	**1.28**	0.41	**W**
TI	1	13.000	4.900	**1.19**	0.46	**A**
TM	1	10.200	5.140	**0.94**	0.48	**A**
TM	2	9.770	0.355	**0.90**	0.07	**A**
TN	1	10.600	3.870	**0.97**	0.36	**A**
TO	1	10.200	3.600	**0.94**	0.34	**A**
TP	1	11.900	0.242	**1.09**	0.07	**A**
TW	1	13.000	0.700	**1.19**	0.10	**A**
TX	1	12.400	0.900	**1.14**	0.11	**A**
UC	1	12.100	1.200	**1.11**	0.13	**A**
WA	1	12.200	1.800	**1.12**	0.18	**A**
WC	1	11.500	1.430	**1.05**	0.15	**A**
WE	1	15.900	5.100	**1.46**	0.48	**N**
WI	1	11.900	2.710	**1.09**	0.26	**A**
WP	1	13.700	3.300	**1.26**	0.31	**W**

Total Number Reported: 71

Units for matrices: AI=Bq/filter SO=Bq/kg VE=Bq/kg WA=Bq/L. Values for elemental uranium are reported in µg/filter, g
Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable. pCi = Bq x 27

QAP45 Results by Nuclide

Matrix: VE
Radionuclide: CS137

EML Value: 190.000
EML Error: 6.680

Labcode	Test #	Reported Value	Reported Error	Reported EML	Ratio Error	Evaluation
AA	1	190.000	6.680	**1.00**	0.05	**A**
AF	1	189.000	25.900	**1.00**	0.14	**A**
AG	1	237.000	16.000	**1.25**	0.09	**A**
AL	1	180.000	3.810	**0.95**	0.04	**A**
AN	1	241.000	9.900	**1.27**	0.07	**W**
AR	1	240.000	10.000	**1.26**	0.07	**W**
AU	1	199.000	4.700	**1.05**	0.04	**A**
BA	1	235.000	23.000	**1.24**	0.13	**A**
BC	1	252.000	19.500	**1.33**	0.11	**W**
BE	1	184.000	15.800	**0.97**	0.09	**A**
BL	1	236.000	6.000	**1.24**	0.05	**A**
BM	1	167.000	5.490	**0.88**	0.04	**W**
BN	1	185.000	11.400	**0.97**	0.07	**A**
BP	1	253.000	7.600	**1.33**	0.06	**W**
BQ	1	193.000	8.000	**1.02**	0.06	**A**
BS	1	159.000	1.600	**0.84**	0.03	**W**
BU	1	200.000	15.000	**1.05**	0.09	**A**
BX	1	246.000	19.000	**1.30**	0.11	**W**
CL	1	212.000	18.800	**1.12**	0.11	**A**
CP	1	264.000	27.000	**1.39**	0.15	**W**
CS	1	186.000	8.500	**0.98**	0.06	**A**
DC	1	250.000	55.000	**1.32**	0.29	**W**
EG	1	203.000	15.000	**1.07**	0.09	**A**
ES	1	255.000	29.600	**1.34**	0.16	**W**
FL	1	178.000	1.000	**0.94**	0.03	**W**
FN	1	192.000	19.000	**1.01**	0.11	**A**
GA	1	218.000	16.000	**1.15**	0.09	**A**
GE	1	217.000	1.480	**1.14**	0.04	**A**
ID	1	238.000	13.400	**1.25**	0.08	**A**
IE	1	221.000	4.540	**1.16**	0.05	**A**
IL	1	230.000	5.560	**1.21**	0.05	**A**
IN	1	219.000	7.500	**1.15**	0.06	**A**
IS	1	211.000	27.000	**1.11**	0.15	**A**
IT	1	245.000	8.000	**1.29**	0.06	**W**
LA	1	186.000	15.000	**0.98**	0.09	**A**
LA	2	188.000	15.000	**0.99**	0.09	**A**
LA	3	191.000	15.000	**1.01**	0.09	**A**
LH	1	237.000	35.000	**1.25**	0.19	**A**
LL	1	233.000	2.800	**1.23**	0.05	**A**
LV	1	257.000	2.000	**1.35**	0.05	**W**
LW	1	213.000	2.980	**1.12**	0.04	**A**
ME	1	248.000	8.450	**1.31**	0.06	**W**
ML	1	204.000	20.400	**1.07**	0.11	**A**
NA	1	222.000	2.160	**1.17**	0.04	**A**
NC	1	226.000	2.590	**1.19**	0.04	**A**

Units for matrices: AI=Bq/filter SO=Bq/kg VE=Bq/kg WA=Bq/L. Values for elemental uranium are reported in µg/filter, g
Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable. **pCi = Bq x 27**

QAP45 Results by Nuclide

Matrix: VE
Radionuclide: CS137

EML Value: 190.000
EML Error: 6.680

Labcode	Test #	Reported Value	Reported Error	Reported EML	Ratio Error	Evaluation
NP	1	267.000	4.500	**1.41**	0.05	**W**
NR	1	194.000	39.000	**1.02**	0.21	**A**
OK	1	265.000	14.800	**1.40**	0.09	**W**
OR	1	186.000	28.000	**0.98**	0.15	**A**
OS	1	240.000	6.000	**1.26**	0.05	**W**
OT	1	220.000	10.000	**1.16**	0.07	**A**
OU	1	260.000	65.200	**1.37**	0.35	**W**
RA	1	210.000	9.000	**1.11**	0.10	**A**
RE	1	191.000	19.000	**1.01**	0.11	**A**
RI	1	251.000	13.000	**1.32**	0.08	**W**
RL	1	248.000	16.000	**1.31**	0.10	**W**
SK	1	235.000	20.000	**1.24**	0.11	**A**
SN	1	229.000	23.100	**1.21**	0.13	**A**
SR	1	223.000	6.000	**1.17**	0.05	**A**
SS	1	224.000	12.000	**1.18**	0.08	**A**
SW	1	204.000	4.000	**1.07**	0.04	**A**
TE	1	219.000	10.100	**1.15**	0.07	**A**
TI	1	211.000	21.000	**1.11**	0.12	**A**
TM	1	175.000	7.450	**0.92**	0.05	**W**
TN	1	224.000	6.970	**1.18**	0.06	**A**
TO	1	145.000	10.000	**0.76**	0.06	**N**
TP	1	214.000	0.887	**1.13**	0.04	**A**
TW	1	228.000	7.000	**1.20**	0.06	**A**
TX	1	231.000	1.700	**1.22**	0.04	**A**
UC	1	240.000	18.700	**1.26**	0.11	**W**
WA	1	211.000	14.000	**1.11**	0.08	**A**
WC	1	208.000	22.700	**1.10**	0.13	**A**
WE	1	232.000	7.000	**1.22**	0.06	**A**
WP	1	206.000	6.300	**1.08**	0.05	**A**

Total Number Reported: 74

Units for matrices: AI=Bq/filter SO=Bq/kg VE=Bq/kg WA=Bq/L. Values for elemental uranium are reported in µg/filter, g
Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable. pCi = Bq x 27

QAP45 Results by Nuclide

Matrix: VE
Radionuclide: K 40

EML Value: 992.000
EML Error: 29.000

Labcode	Test #	Reported Value	Reported Error	Reported EML	Ratio Error	Evaluation
AA	1	992.000	29.000	**1.00**	0.04	**A**
AF	1	1430.000	277.000	**1.44**	0.28	**W**
AG	1	1180.000	93.000	**1.19**	0.10	**A**
AL	1	1050.000	35.500	**1.06**	0.05	**A**
AN	1	1240.000	70.000	**1.25**	0.08	**W**
AR	1	1120.000	60.000	**1.13**	0.07	**A**
AU	1	1080.000	50.000	**1.09**	0.06	**A**
BA	1	1510.000	253.000	**1.52**	0.26	**N**
BC	1	1220.000	65.100	**1.23**	0.07	**A**
BE	1	1020.000	114.000	**1.03**	0.12	**A**
BL	1	1210.000	50.000	**1.22**	0.06	**A**
BM	1	852.000	59.600	**0.86**	0.07	**W**
BN	1	870.000	16.000	**0.88**	0.03	**W**
BP	1	1330.000	30.000	**1.34**	0.05	**W**
BQ	1	1120.000	0.700	**1.13**	0.03	**A**
BS	1	870.000	16.000	**0.88**	0.03	**W**
BU	1	1100.000	100.000	**1.11**	0.11	**A**
BX	1	1200.000	64.400	**1.21**	0.07	**A**
CL	1	1020.000	93.000	**1.03**	0.10	**A**
CP	1	1210.000	210.000	**1.22**	0.22	**A**
CS	1	1030.000	59.100	**1.04**	0.07	**A**
DC	1	1100.000	360.000	**1.11**	0.36	**A**
EG	1	1090.000	115.000	**1.10**	0.12	**A**
ES	1	1350.000	175.000	**1.36**	0.18	**W**
FL	1	928.000	13.000	**0.94**	0.03	**A**
FN	1	1130.000	110.000	**1.14**	0.12	**A**
GA	1	1310.000	164.000	**1.32**	0.17	**W**
GE	1	1330.000	16.600	**1.34**	0.04	**W**
ID	1	1060.000	57.000	**1.07**	0.07	**A**
IE	1	1090.000	38.900	**1.10**	0.05	**A**
IL	1	1630.000	122.000	**1.64**	0.13	**N**
IN	1	1290.000	159.000	**1.30**	0.17	**W**
IS	1	1160.000	130.000	**1.17**	0.14	**A**
IT	1	1190.000	158.000	**1.20**	0.16	**A**
LA	1	736.000	67.000	**0.74**	0.07	**N**
LA	2	799.000	70.000	**0.81**	0.07	**W**
LA	3	810.000	74.000	**0.82**	0.08	**W**
LH	1	1220.000	190.000	**1.23**	0.20	**A**
LL	1	1100.000	25.300	**1.11**	0.04	**A**
LV	1	1380.000	18.000	**1.39**	0.04	**W**
LW	1	1050.000	24.100	**1.06**	0.04	**A**
ME	1	1270.000	49.400	**1.28**	0.06	**W**
ML	1	1120.000	112.000	**1.13**	0.12	**A**
NA	1	1160.000	20.300	**1.17**	0.04	**A**
NP	1	1610.000	80.100	**1.62**	0.09	**N**

Units for matrices: AI=Bq/filter SO=Bq/kg VE=Bq/kg WA=Bq/L. Values for elemental uranium are reported in µg/filter, g
Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable. pCi = Bq x 27

QAP45 Results by Nuclide

Matrix: VE
Radionuclide: K 40

EML Value: 992.000
EML Error: 29.000

Labcode	Test #	Reported Value	Reported Error	Reported EML	Ratio Error	Evaluation
NR	1	1060.000	212.000	**1.07**	0.22	**A**
OK	1	1250.000	111.000	**1.26**	0.12	**W**
OR	1	959.000	110.000	**0.97**	0.11	**A**
OS	1	1890.000	75.000	**1.91**	0.09	**N**
OT	1	1100.000	100.000	**1.11**	0.11	**A**
OU	1	1980.000	0.000	**2.00**	0.06	**N**
RA	1	900.000	60.000	**0.91**	0.10	**W**
RE	1	1780.000	190.000	**1.79**	0.20	**N**
RI	1	1210.000	190.000	**1.22**	0.20	**A**
RL	1	1380.000	120.000	**1.39**	0.13	**W**
SK	1	1140.000	74.000	**1.15**	0.08	**A**
SN	1	1300.000	122.000	**1.31**	0.13	**W**
SR	1	1180.000	52.000	**1.19**	0.06	**A**
SS	1	1140.000	66.000	**1.15**	0.07	**A**
SW	1	1150.000	39.000	**1.16**	0.05	**A**
TE	1	1160.000	99.400	**1.17**	0.11	**A**
TI	1	907.000	91.000	**0.91**	0.10	**W**
TM	1	1040.000	80.000	**1.05**	0.09	**A**
TN	1	1050.000	62.300	**1.06**	0.07	**A**
TO	1	916.000	87.600	**0.92**	0.09	**W**
TP	1	1180.000	17.000	**1.19**	0.04	**A**
TW	1	1180.000	47.000	**1.19**	0.06	**A**
TX	1	1210.000	16.000	**1.22**	0.04	**A**
UC	1	1230.000	52.800	**1.24**	0.06	**A**
WA	1	1190.000	60.000	**1.20**	0.07	**A**
WC	1	1100.000	155.000	**1.11**	0.16	**A**
WE	1	1100.000	70.000	**1.11**	0.08	**A**
WI	1	1060.000	129.000	**1.07**	0.13	**A**
WP	1	1100.000	57.000	**1.11**	0.07	**A**

Total Number Reported: 74

Units for matrices: AI=Bq/filter SO=Bq/kg VE=Bq/kg WA=Bq/L. Values for elemental uranium are reported in µg/filter, g
Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable. pCi = Bq x 27

QAP45 Results by Nuclide

Matrix: VE
Radionuclide: PU239

EML Value: 1.960
EML Error: 0.300

Labcode	Test #	Reported Value	Reported Error	Reported EML	Ratio Error	Evaluation
AA	1	1.960	0.300	**1.00**	0.22	**A**
AF	1	8.140	4.440	**4.15**	2.35	**N**
AN	1	1.780	0.092	**0.91**	0.15	**A**
AR	1	1.780	0.440	**0.91**	0.26	**A**
AU	1	2.500	0.700	**1.28**	0.41	**A**
BE	1	14.000	0.990	**7.14**	1.20	**N**
BL	1	1.750	0.150	**0.89**	0.16	**A**
BL	2	2.050	0.210	**1.05**	0.19	**A**
BM	1	1.680	0.220	**0.86**	0.17	**A**
BP	1	2.100	0.220	**1.07**	0.20	**A**
BX	1	2.130	0.257	**1.09**	0.21	**A**
CL	1	1.870	0.700	**0.95**	0.39	**A**
CW	1	2.130	0.050	**1.09**	0.17	**A**
DC	1	2.170	0.395	**1.11**	0.26	**A**
EG	1	1.800	0.800	**0.92**	0.43	**A**
EI	1	1.990	0.140	**1.02**	0.17	**A**
EI	2	1.460	0.110	**0.75**	0.13	**W**
EP	1	2.220	0.244	**1.13**		**A**
ES	1	2.680	0.482	**1.37**	0.32	**W**
GA	1	1.840	0.210	**0.94**	0.18	**A**
GE	1	1.970	0.400	**1.01**	0.26	**A**
ID	1	1.900	0.130	**0.97**	0.16	**A**
IE	1	1.760	0.190	**0.90**	0.17	**A**
IS	1	1.610	0.570	**0.82**	0.32	**W**
IT	1	2.710	1.360	**1.38**	0.73	**W**
LA	1	0.673	0.018	**0.34**	0.05	**N**
LA	2	1.850	0.100	**0.94**	0.15	**A**
LA	3	1.690	0.089	**0.86**	0.14	**A**
LH	1	2.080	0.190	**1.06**	0.19	**A**
LL	1	2.250	0.190	**1.15**	0.20	**A**
ML	1	2.060	0.200	**1.05**	0.19	**A**
NA	1	11.400	2.100	**5.82**	1.39	**N**
OR	1	2.260	0.400	**1.15**	0.27	**A**
PA	1	2.000	0.200	**1.02**	0.19	**A**
PB	1	1.850	0.370	**0.94**	0.24	**A**
RA	1	1.890	0.200	**0.96**	0.10	**A**
RE	1	1.950	0.120	**1.00**	0.16	**A**
RF	1	1.670	0.110	**0.85**	0.14	**A**
SK	1	0.760	0.070	**0.39**	0.07	**N**
SN	1	3.090	1.590	**1.58**	0.85	**W**
SR	1	2.120	0.520	**1.08**	0.31	**A**
TI	1	1.900	0.600	**0.97**	0.34	**A**
TM	1	2.110	0.352	**1.08**	0.24	**A**
TN	1	1.840	0.127	**0.94**	0.16	**A**
TO	1	1.560	0.730	**0.80**	0.39	**W**

Units for matrices: AI=Bq/filter SO=Bq/kg VE=Bq/kg WA=Bq/L. Values for elemental uranium are reported in µg/filter, g
Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable. pCi = Bq x 27

QAP45 Results by Nuclide

Matrix: VE
Radionuclide: PU239

EML Value: 1.960
EML Error: 0.300

Labcode	Test #	Reported Value	Reported Error	Reported EML	Ratio Error	Evaluation
TW	1	3.000	0.100	**1.53**	0.24	**W**
TX	1	2.410	0.370	**1.23**	0.27	**A**
UC	1	1.230	0.385	**0.63**	0.22	**N**
WA	1	2.110	0.270	**1.08**	0.22	**A**

Total Number Reported: 49

Units for matrices: AI=Bq/filter SO=Bq/kg VE=Bq/kg WA=Bq/L. Values for elemental uranium are reported in µg/filter, g
Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable. pCi = Bq x 27

QAP45 Results by Nuclide

Matrix: VE
Radionuclide: SR 90

EML Value: 1390.000
EML Error: 12.000

Labcode	Test #	Reported Value	Reported Error	Reported EML	Ratio Error	Evaluation
AA	1	1390.000	12.000	**1.00**	0.01	**A**
AG	1	1260.000	252.000	**0.91**	0.18	**A**
AN	1	1540.000	37.000	**1.11**	0.03	**W**
AR	1	596.000	48.000	**0.43**	0.03	**N**
AU	1	1100.000	15.600	**0.79**	0.01	**A**
BC	1	1220.000	104.000	**0.88**	0.08	**A**
BE	1	1650.000	96.000	**1.19**	0.07	**W**
BL	1	1120.000	28.000	**0.81**	0.02	**A**
BL	2	1100.000	24.000	**0.79**	0.02	**A**
BM	1	1270.000	72.000	**0.91**	0.05	**A**
BP	1	1730.000	269.000	**1.25**	0.19	**W**
BX	1	1230.000	114.000	**0.89**	0.08	**A**
CL	1	1020.000	30.000	**0.73**	0.02	**A**
DC	1	1380.000	168.000	**0.99**	0.12	**A**
EG	1	1470.000	30.000	**1.06**	0.02	**A**
EI	1	1000.000	45.400	**0.72**	0.03	**A**
EP	1	129.000	0.064	**0.09**	0.00	**N**
ES	1	778.000	175.000	**0.56**	0.13	**W**
GE	1	1030.000	3.700	**0.74**	0.01	**A**
ID	1	1210.000	123.000	**0.87**	0.09	**A**
IE	1	1290.000	61.100	**0.93**	0.04	**A**
IS	1	1040.000	104.000	**0.75**	0.08	**A**
IT	1	1540.000	257.000	**1.11**	0.19	**W**
LH	1	1580.000	120.000	**1.14**	0.09	**W**
NA	1	1490.000	25.100	**1.07**	0.02	**A**
OR	1	1050.000	40.000	**0.76**	0.03	**A**
RA	1	1510.000	170.000	**1.09**	0.10	**A**
RA	2	1480.000	160.000	**1.06**	0.10	**A**
RE	1	1270.000	93.000	**0.91**	0.07	**A**
RL	1	2200.000	616.000	**1.58**	0.44	**N**
SR	1	1360.000	49.000	**0.98**	0.04	**A**
TE	1	1420.000	35.100	**1.02**	0.03	**A**
TI	1	1500.000	100.000	**1.08**	0.07	**A**
TM	1	1580.000	103.000	**1.14**	0.07	**W**
TN	1	1610.000	212.000	**1.16**	0.15	**W**
TO	1	1520.000	34.100	**1.09**	0.03	**A**
TP	1	1420.000	13.400	**1.02**	0.01	**A**
TW	1	1340.000	13.000	**0.96**	0.01	**A**
TX	1	1540.000	93.000	**1.11**	0.07	**W**
WA	1	1760.000	26.000	**1.27**	0.02	**W**
WC	1	1290.000	233.000	**0.93**	0.17	**A**
WP	1	1600.000	37.000	**1.15**	0.03	**W**

Total Number Reported: 42

Units for matrices: AI=Bq/filter SO=Bq/kg VE=Bq/kg WA=Bq/L. Values for elemental uranium are reported in µg/filter, g
Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable. pCi = Bq x 27

QAP45 Results by Nuclide

Matrix: WA
Radionuclide: AM241

EML Value: 1.080
EML Error: 0.040

Labcode	Test #	Reported Value	Reported Error	Reported EML	Ratio Error	Evaluation
AA	1	1.080	0.040	**1.00**	0.05	**A**
AE	1	0.940	0.080	**0.87**	0.08	**A**
AF	1	0.991	0.163	**0.92**	0.16	**A**
AG	1	0.880	0.280	**0.82**	0.26	**W**
AN	1	1.100	0.047	**1.02**	0.06	**A**
AR	1	1.060	0.110	**0.98**	0.11	**A**
AU	1	0.110	0.010	**0.10**	0.01	**N**
BE	1	1.100	0.072	**1.02**	0.08	**A**
BL	1	1.380	0.090	**1.28**	0.10	**W**
BL	2	1.480	0.100	**1.37**	0.11	**W**
BM	1	0.990	0.160	**0.92**	0.15	**A**
BP	1	1.140	0.030	**1.06**	0.05	**A**
BS	1	1.200	0.200	**1.11**	0.19	**A**
BU	1	1.190	0.060	**1.10**	0.07	**A**
BX	1	1.440	0.044	**1.33**	0.06	**W**
CL	1	1.400	0.300	**1.30**	0.28	**W**
CS	1	1.000	0.100	**0.93**	0.10	**A**
CW	1	1.150	0.090	**1.07**	0.09	**A**
DC	1	1.190	0.160	**1.10**	0.15	**A**
EG	1	0.940	0.080	**0.87**	0.08	**A**
EI	1	1.150	0.060	**1.07**	0.07	**A**
EI	2	1.320	0.070	**1.22**	0.08	**A**
ES	1	1.030	0.183	**0.95**	0.17	**A**
FG	1	1.310	0.010	**1.21**	0.05	**A**
FL	1	1.280	0.120	**1.18**	0.12	**A**
FM	1	1.800	0.250	**1.67**	0.24	**W**
GA	1	1.210	0.025	**1.12**	0.05	**A**
GE	1	0.510	0.028	**0.47**	0.03	**N**
IE	1	1.030	0.040	**0.95**	0.05	**A**
IN	1	1.120	0.110	**1.04**	0.11	**A**
IS	1	1.320	0.150	**1.22**	0.15	**A**
IT	1	1.040	0.120	**0.96**	0.12	**A**
LA	1	1.210	0.050	**1.12**	0.06	**A**
LA	2	1.130	0.050	**1.05**	0.06	**A**
LA	3	1.140	0.050	**1.06**	0.06	**A**
LH	1	1.030	0.150	**0.95**	0.14	**A**
LL	1	1.140	0.051	**1.06**	0.06	**A**
LV	1	1.080	0.210	**1.00**	0.20	**A**
ML	1	1.140	0.110	**1.06**	0.11	**A**
ML	2	1.080	0.060	**1.00**	0.07	**A**
ML	3	1.160	0.070	**1.07**	0.08	**A**
MS	1	1.240	0.120	**1.15**	0.12	**A**
NA	1	1.080	0.120	**1.00**	0.12	**A**
NM	1	1.100	0.031	**1.02**	0.05	**A**
OD	1	1.100	0.098	**1.02**	0.10	**A**

Units for matrices: AI=Bq/filter SO=Bq/kg VE=Bq/kg WA=Bq/L. Values for elemental uranium are reported in µg/filter, g
Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable. pCi = Bq x 27

QAP45 Results by Nuclide

Matrix: WA
Radionuclide: AM241

EML Value: 1.080
EML Error: 0.040

Labcode	Test #	Reported Value	Reported Error	Reported EML	Ratio Error	Evaluation
OR	1	1.100	0.100	**1.02**	0.10	**A**
OT	1	1.000	0.100	**0.93**	0.10	**A**
OT	2	1.600	0.500	**1.48**	0.47	**W**
RE	1	1.160	0.100	**1.07**	0.10	**A**
RG	1	1.300	0.020	**1.20**	0.05	**A**
RI	1	0.988	0.074	**0.92**	0.08	**A**
SC	1	1.190	0.050	**1.10**	0.06	**A**
SK	1	1.060	0.060	**0.98**	0.07	**A**
SR	1	1.270	0.043	**1.18**	0.06	**A**
SW	1	1.500	0.470	**1.39**	0.44	**W**
TE	1	1.300	0.200	**1.20**	0.19	**A**
TI	1	1.200	0.200	**1.11**	0.19	**A**
TM	1	1.210	0.048	**1.12**	0.06	**A**
TN	1	1.130	0.066	**1.05**	0.07	**A**
TO	1	0.960	0.430	**0.89**	0.40	**A**
TW	1	1.190	0.050	**1.10**	0.06	**A**
TX	1	1.180	0.050	**1.09**	0.06	**A**
UK	1	1.300	0.160	**1.20**	0.16	**A**
UP	1	1.130	0.209	**1.05**	0.20	**A**
UY	1	1.300	0.200	**1.20**	0.19	**A**
WA	1	1.080	0.090	**1.00**	0.09	**A**
WC	1	1.060	0.200	**0.98**	0.19	**A**
YA	1	1.070	0.027	**0.99**	0.04	**A**

Total Number Reported: 68

Units for matrices: AI=Bq/filter SO=Bq/kg VE=Bq/kg WA=Bq/L. Values for elemental uranium are reported in µg/filter, g
Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable. pCi = Bq x 27

QAP45 Results by Nuclide

Matrix: WA
Radionuclide: CO 60

EML Value: 61.100
EML Error: 0.730

Labcode	Test #	Reported Value	Reported Error	Reported EML	Ratio Error	Evaluation
AA	1	61.100	0.730	**1.00**	0.02	**A**
AE	1	64.600	3.600	**1.06**	0.06	**A**
AF	1	66.600	7.400	**1.09**	0.12	**A**
AG	1	62.300	4.200	**1.02**	0.07	**A**
AL	1	45.500	0.500	**0.75**	0.01	**N**
AN	1	67.200	4.090	**1.10**	0.07	**A**
AR	1	70.600	3.100	**1.16**	0.05	**W**
AU	1	72.200	4.600	**1.18**	0.08	**W**
BA	1	70.000	4.400	**1.15**	0.07	**W**
BC	1	67.300	3.700	**1.10**	0.06	**A**
BE	1	63.600	5.270	**1.04**	0.09	**A**
BL	1	65.600	1.800	**1.07**	0.03	**A**
BM	1	64.600	3.060	**1.06**	0.05	**A**
BN	1	63.500	0.460	**1.04**	0.01	**A**
BP	1	66.300	1.700	**1.09**	0.03	**A**
BQ	1	73.800	0.900	**1.21**	0.02	**N**
BS	1	64.400	0.500	**1.05**	0.02	**A**
BU	1	64.000	5.000	**1.05**	0.08	**A**
BX	1	67.300	3.550	**1.10**	0.06	**A**
CA	1	66.200	9.000	**1.08**	0.15	**A**
CL	1	70.000	2.600	**1.15**	0.04	**W**
CP	1	63.900	6.800	**1.05**	0.11	**A**
CS	1	63.500	1.950	**1.04**	0.03	**A**
CW	1	62.000	1.000	**1.02**	0.02	**A**
DC	1	68.600	1.000	**1.12**	0.02	**A**
EG	1	65.000	5.000	**1.06**	0.08	**A**
EP	1	9.280	0.499	**0.15**	0.01	**N**
ES	1	66.600	7.480	**1.09**	0.12	**A**
FG	1	67.500	0.190	**1.11**	0.01	**A**
FL	1	69.700	0.600	**1.14**	0.02	**W**
FM	1	71.200	0.500	**1.17**	0.02	**W**
FN	1	63.400	4.500	**1.04**	0.07	**A**
GA	1	65.900	2.980	**1.08**	0.05	**A**
GE	1	73.000	1.220	**1.20**	0.02	**N**
ID	1	63.300	3.500	**1.04**	0.06	**A**
IE	1	64.400	5.230	**1.05**	0.09	**A**
IL	1	65.800	1.000	**1.08**	0.02	**A**
IN	1	71.200	1.440	**1.17**	0.03	**W**
IS	1	70.800	7.800	**1.16**	0.13	**W**
IT	1	65.800	2.000	**1.08**	0.04	**A**
KA	1	65.000	2.000	**1.06**		**A**
LA	1	68.200	6.300	**1.12**	0.10	**A**
LA	2	68.900	6.500	**1.13**	0.11	**W**
LA	3	67.300	6.200	**1.10**	0.10	**A**
LH	1	63.900	6.800	**1.05**	0.11	**A**

Units for matrices: AI=Bq/filter SO=Bq/kg VE=Bq/kg WA=Bq/L. Values for elemental uranium are reported in µg/filter, g
Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable. pCi = Bq x 27

QAP45 Results by Nuclide

Matrix: WA
Radionuclide: CO 60

EML Value: 61.100
EML Error: 0.730

Labcode	Test #	Reported Value	Reported Error	Reported EML	Ratio Error	Evaluation
LL	1	60.200	0.783	**0.99**	0.02	**A**
LV	1	67.600	0.200	**1.11**	0.01	**A**
LW	1	59.500	1.010	**0.97**	0.02	**A**
MI	1	71.100	1.870	**1.16**	0.03	**W**
MI	2	68.300	1.800	**1.12**	0.03	**A**
ML	1	67.300	6.740	**1.10**	0.11	**A**
MS	1	64.000	6.400	**1.05**	0.11	**A**
NA	1	64.000	0.570	**1.05**	0.02	**A**
NC	1	61.700	1.430	**1.01**	0.03	**A**
NL	1	67.700	5.400	**1.11**	0.09	**A**
NP	1	65.100	4.100	**1.07**	0.07	**A**
NS	1	71.800	0.851	**1.17**	0.02	**W**
OD	1	62.800	2.530	**1.03**	0.04	**A**
OK	1	73.600	2.590	**1.21**	0.04	**N**
OR	1	71.100	3.500	**1.16**	0.06	**W**
OT	1	64.000	1.000	**1.05**	0.02	**A**
OU	1	55.200	19.600	**0.90**	0.32	**W**
RE	1	70.400	7.400	**1.15**	0.12	**W**
RI	1	67.500	3.200	**1.11**	0.05	**A**
RL	1	96.000	7.700	**1.57**	0.13	**N**
SA	1	62.000	3.000	**1.02**	0.05	**A**
SC	1	66.200	2.000	**1.08**	0.04	**A**
SK	1	70.200	6.000	**1.15**	0.10	**W**
SL	1	69.000	2.000	**1.13**	0.04	**W**
SN	1	63.500	5.650	**1.04**	0.09	**A**
SR	1	68.000	3.000	**1.11**	0.05	**A**
SS	1	65.700	1.630	**1.08**	0.03	**A**
SW	1	65.000	0.910	**1.06**	0.02	**A**
TE	1	65.000	2.210	**1.06**	0.04	**A**
TI	1	71.800	7.200	**1.17**	0.12	**W**
TM	1	73.200	2.080	**1.20**	0.04	**N**
TN	1	69.400	1.480	**1.14**	0.03	**W**
TO	1	68.400	1.110	**1.12**	0.02	**A**
TP	1	64.800	7.620	**1.06**	0.13	**A**
TW	1	74.000	0.600	**1.21**	0.02	**N**
TX	1	67.500	0.600	**1.11**	0.02	**A**
UC	1	65.800	1.360	**1.08**	0.03	**A**
UK	1	66.800	1.600	**1.09**	0.03	**A**
UP	1	68.600	1.800	**1.12**	0.03	**A**
UY	1	62.000	4.000	**1.02**	0.07	**A**
WA	1	65.100	1.900	**1.07**	0.03	**A**
WC	1	68.000	4.900	**1.11**	0.08	**A**
WE	1	51.300	0.900	**0.84**	0.02	**N**
WI	1	69.800	5.570	**1.14**	0.09	**W**
WP	1	64.500	1.900	**1.06**	0.03	**A**
WV	1	67.300	1.180	**1.10**	0.02	**A**

Units for matrices: AI=Bq/filter SO=Bq/kg VE=Bq/kg WA=Bq/L. Values for elemental uranium are reported in µg/filter, g
Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable. pCi = Bq x 27

QAP45 Results by Nuclide

Matrix: WA
Radionuclide: CO 60

EML Value: 61.100
EML Error: 0.730

Labcode	Test #	Reported Value	Reported Error	Reported EML	Ratio Error	Evaluation
YA	1	64.800	2.920	**1.06**	0.05	**A**

Total Number Reported: 92

Units for matrices: AI=Bq/filter SO=Bq/kg VE=Bq/kg WA=Bq/L. Values for elemental uranium are reported in µg/filter, g
Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable. pCi = Bq x 27

QAP45 Results by Nuclide

Matrix: WA
Radionuclide: CS137

EML Value: 89.500
EML Error: 1.360

Labcode	Test #	Reported Value	Reported Error	Reported EML	Ratio Error	Evaluation
AA	1	89.500	1.360	**1.00**	0.02	**A**
AE	1	97.800	6.600	**1.09**	0.08	**A**
AF	1	96.200	11.100	**1.08**	0.13	**A**
AG	1	94.700	6.300	**1.06**	0.07	**A**
AL	1	67.000	0.720	**0.75**	0.01	**N**
AN	1	98.700	5.800	**1.10**	0.07	**A**
AR	1	107.000	4.000	**1.20**	0.05	**W**
AU	1	103.000	4.600	**1.15**	0.05	**A**
BA	1	99.400	7.800	**1.11**	0.09	**A**
BC	1	100.000	7.070	**1.12**	0.08	**A**
BE	1	101.000	8.400	**1.13**	0.10	**A**
BL	1	97.200	2.600	**1.09**	0.03	**A**
BM	1	96.100	3.460	**1.07**	0.04	**A**
BN	1	100.000	1.820	**1.12**	0.03	**A**
BP	1	99.000	1.100	**1.11**	0.02	**A**
BQ	1	96.500	0.900	**1.08**	0.02	**A**
BS	1	96.300	0.500	**1.08**	0.02	**A**
BU	1	90.000	8.000	**1.01**	0.09	**A**
BX	1	99.900	6.220	**1.12**	0.07	**A**
CA	1	99.600	10.900	**1.11**	0.12	**A**
CL	1	111.000	4.000	**1.24**	0.05	**W**
CP	1	92.500	9.300	**1.03**	0.11	**A**
CS	1	94.400	4.090	**1.05**	0.05	**A**
CW	1	89.000	3.000	**0.99**	0.04	**A**
DC	1	110.000	26.600	**1.23**	0.30	**W**
EG	1	96.000	7.000	**1.07**	0.08	**A**
EP	1	13.400	0.907	**0.15**	0.01	**N**
ES	1	100.000	11.200	**1.12**	0.13	**A**
FG	1	93.900	0.470	**1.05**	0.02	**A**
FL	1	107.000	1.000	**1.20**	0.02	**W**
FM	1	109.000	0.740	**1.22**	0.02	**W**
FN	1	93.400	9.300	**1.04**	0.11	**A**
GA	1	95.200	5.100	**1.06**	0.06	**A**
GE	1	112.000	1.330	**1.25**	0.02	**W**
ID	1	103.000	5.360	**1.15**	0.06	**A**
IE	1	94.600	4.850	**1.06**	0.06	**A**
IL	1	100.000	1.800	**1.12**	0.03	**A**
IN	1	102.000	3.500	**1.14**	0.04	**A**
IS	1	108.000	12.000	**1.21**	0.14	**W**
IT	1	95.900	2.200	**1.07**	0.03	**A**
KA	1	97.000	7.000	**1.08**		**A**
LA	1	102.000	9.000	**1.14**	0.10	**A**
LA	2	104.000	10.000	**1.16**	0.11	**A**
LA	3	103.000	9.000	**1.15**	0.10	**A**
LH	1	97.700	14.100	**1.09**	0.16	**A**

Units for matrices: AI=Bq/filter SO=Bq/kg VE=Bq/kg WA=Bq/L. Values for elemental uranium are reported in µg/filter, g
Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable. pCi = Bq x 27

QAP45 Results by Nuclide

Matrix: WA
Radionuclide: CS137

EML Value: 89.500
EML Error: 1.360

Labcode	Test #	Reported Value	Reported Error	Reported EML	Ratio Error	Evaluation
LL	1	97.500	1.270	**1.09**	0.02	**A**
LV	1	97.300	0.800	**1.09**	0.02	**A**
LW	1	90.000	1.620	**1.01**	0.02	**A**
MI	1	112.000	4.000	**1.25**	0.05	**W**
MI	2	105.000	3.810	**1.17**	0.05	**A**
ML	1	99.800	9.980	**1.12**	0.11	**A**
MS	1	98.700	9.900	**1.10**	0.11	**A**
NA	1	95.900	0.850	**1.07**	0.02	**A**
NC	1	92.000	1.470	**1.03**	0.02	**A**
NL	1	96.100	5.600	**1.07**	0.06	**A**
NM	1	98.400	1.500	**1.10**	0.02	**A**
NP	1	93.400	7.000	**1.04**	0.08	**A**
NS	1	105.000	0.888	**1.17**	0.02	**A**
OD	1	93.900	5.050	**1.05**	0.06	**A**
OK	1	107.000	5.810	**1.20**	0.07	**W**
OR	1	106.000	7.000	**1.18**	0.08	**A**
OT	1	97.000	2.000	**1.08**	0.03	**A**
OU	1	85.200	30.100	**0.95**	0.34	**A**
RE	1	105.000	10.000	**1.17**	0.11	**A**
RI	1	94.900	4.800	**1.06**	0.06	**A**
RL	1	149.000	11.000	**1.67**	0.13	**N**
SA	1	97.000	5.000	**1.08**	0.06	**A**
SC	1	94.400	2.000	**1.05**	0.03	**A**
SK	1	94.300	5.800	**1.05**	0.07	**A**
SL	1	102.000	5.000	**1.14**	0.06	**A**
SN	1	89.600	7.900	**1.00**	0.09	**A**
SR	1	100.000	5.000	**1.12**	0.06	**A**
SS	1	98.600	3.620	**1.10**	0.04	**A**
SW	1	96.700	1.300	**1.08**	0.02	**A**
TE	1	96.100	3.010	**1.07**	0.04	**A**
TI	1	106.000	11.000	**1.18**	0.12	**A**
TM	1	104.000	3.120	**1.16**	0.04	**A**
TN	1	102.000	1.500	**1.14**	0.02	**A**
TO	1	97.800	1.930	**1.09**	0.03	**A**
TP	1	95.700	6.060	**1.07**	0.07	**A**
TW	1	110.000	1.000	**1.23**	0.02	**W**
TX	1	98.800	0.600	**1.10**	0.02	**A**
UC	1	99.600	8.190	**1.11**	0.09	**A**
UK	1	101.000	2.300	**1.13**	0.03	**A**
UP	1	101.000	6.100	**1.13**	0.07	**A**
UY	1	93.700	7.000	**1.05**	0.08	**A**
WA	1	96.600	4.800	**1.08**	0.06	**A**
WC	1	105.000	12.000	**1.17**	0.14	**A**
WE	1	70.600	0.900	**0.79**	0.02	**N**
WI	1	104.000	10.500	**1.16**	0.12	**A**
WP	1	95.700	2.000	**1.07**	0.03	**A**

Units for matrices: AI=Bq/filter SO=Bq/kg VE=Bq/kg WA=Bq/L. Values for elemental uranium are reported in µg/filter, g
Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable. pCi = Bq x 27

QAP45 Results by Nuclide

Matrix: WA
Radionuclide: CS137

EML Value: 89.500
EML Error: 1.360

Labcode	Test #	Reported Value	Reported Error	Reported EML	Ratio Error	Evaluation
WV	1	98.000	1.180	**1.10**	0.02	**A**
YA	1	95.800	4.930	**1.07**	0.06	**A**

Total Number Reported: 93

Units for matrices: AI=Bq/filter SO=Bq/kg VE=Bq/kg WA=Bq/L. Values for elemental uranium are reported in µg/filter, g
Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable. pCi = Bq x 27

QAP45 Results by Nuclide

Matrix: WA
Radionuclide: FE 55

EML Value: 230.000
EML Error: 23.000

Labcode	Test #	Reported Value	Reported Error	Reported EML	Ratio Error	Evaluation
AA	1	230.000	23.000	**1.00**	0.14	**A**
BL	1	223.000	5.000	**0.97**	0.10	**A**
BL	2	222.000	8.000	**0.97**	0.10	**A**
BX	1	160.000	13.000	**0.70**	0.09	**W**
CL	1	238.000	8.100	**1.04**	0.11	**A**
GE	1	317.000	29.100	**1.38**	0.19	**W**
IT	1	251.000	6.300	**1.09**	0.11	**A**
KA	1	224.000	10.000	**0.97**		**A**
LH	1	250.000	15.000	**1.09**	0.13	**A**
TI	1	120.000	20.000	**0.52**	0.10	**W**
TN	1	283.000	8.690	**1.23**	0.13	**A**

Total Number Reported: 11

Units for matrices: AI=Bq/filter SO=Bq/kg VE=Bq/kg WA=Bq/L. Values for elemental uranium are reported in µg/filter, g
Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable. pCi = Bq x 27

QAP45 Results by Nuclide

Matrix: WA
Radionuclide: GA 1

EML Value: 1210.000
EML Error: 121.000

Labcode	Test #	Reported Value	Reported Error	Reported EML	Ratio Error	Evaluation
AA	1	1210.000	121.000	**1.00**	0.14	**A**
AF	1	274.000	7.400	**0.23**	0.02	**N**
AG	1	799.000	11.000	**0.66**	0.07	**W**
AN	1	1190.000	120.000	**0.98**	0.14	**A**
AR	1	1190.000	100.000	**0.98**	0.13	**A**
AU	1	938.000	30.000	**0.78**	0.08	**W**
BC	1	1220.000	30.600	**1.01**	0.10	**A**
BE	1	1310.000	85.000	**1.08**	0.13	**A**
BL	1	1030.000	19.000	**0.85**	0.09	**A**
BN	1	1160.000	68.000	**0.96**	0.11	**A**
BS	1	1160.000	7.000	**0.96**	0.10	**A**
BU	1	1180.000	30.000	**0.98**	0.10	**A**
BX	1	1110.000	28.900	**0.92**	0.09	**A**
CA	1	120.000	40.000	**0.10**	0.03	**N**
CP	1	1190.000	12.000	**0.98**	0.10	**A**
DC	1	1.300	0.250	**0.00**	0.00	**N**
EI	1	1050.000	106.000	**0.87**	0.12	**A**
ES	1	993.000	158.000	**0.82**	0.15	**A**
FG	1	1200.000	21.000	**0.99**	0.10	**A**
FL	1	1540.000	21.000	**1.27**	0.13	**W**
GE	1	1120.000	11.600	**0.93**	0.09	**A**
GS	1	1360.000	79.600	**1.12**	0.13	**A**
HC	1	1160.000	82.000	**0.96**	0.12	**A**
IE	1	1040.000	53.300	**0.86**	0.10	**A**
IR	1	1140.000	50.000	**0.94**	0.10	**A**
IS	1	1460.000	149.000	**1.21**	0.17	**W**
IT	1	843.000	56.000	**0.70**	0.08	**W**
KA	1	1130.000	142.000	**0.93**	0.15	**A**
LA	1	1060.000	133.000	**0.88**	0.14	**A**
LA	2	1210.000	152.000	**1.00**	0.16	**A**
LA	3	1160.000	144.000	**0.96**	0.15	**A**
LH	1	1180.000	118.000	**0.98**	0.14	**A**
LL	1	1400.000	10.000	**1.16**	0.12	**A**
LV	1	1110.000	80.000	**0.92**	0.11	**A**
LW	1	1140.000	37.600	**0.94**	0.10	**A**
NM	1	1520.000	72.000	**1.26**	0.14	**W**
OB	1	12.700	0.510	**0.01**	0.00	**N**
OK	1	1110.000	69.900	**0.92**	0.11	**A**
OR	1	1100.000	100.000	**0.91**	0.12	**A**
OT	1	1000.000	100.000	**0.83**	0.12	**A**
OU	1	1220.000	305.000	**1.01**	0.27	**A**
PA	1	1020.000	20.000	**0.84**	0.09	**A**
PB	1	1040.000	19.700	**0.86**	0.09	**A**
RE	1	1250.000	40.000	**1.03**	0.11	**A**
RG	1	1340.000	68.000	**1.11**	0.12	**A**

Units for matrices: AI=Bq/filter SO=Bq/kg VE=Bq/kg WA=Bq/L. Values for elemental uranium are reported in µg/filter, g
Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable. pCi = Bq x 27

QAP45 Results by Nuclide

Matrix: WA
Radionuclide: GA 1

EML Value: 1210.000
EML Error: 121.000

Labcode	Test #	Reported Value	Reported Error	Reported EML	Ratio Error	Evaluation
RL	1	360.000	25.000	**0.30**	0.04	**N**
SA	1	1130.000	112.000	**0.93**	0.13	**A**
SC	1	1340.000	23.000	**1.11**	0.11	**A**
SN	1	996.000	36.500	**0.82**	0.09	**A**
SR	1	1810.000	56.000	**1.50**	0.16	**N**
SV	1	1130.000	66.300	**0.93**	0.11	**A**
SW	1	1070.000	42.500	**0.88**	0.10	**A**
TE	1	993.000	12.200	**0.82**	0.08	**A**
TI	1	1300.000	100.000	**1.07**	0.14	**A**
TM	1	1210.000	138.000	**1.00**	0.15	**A**
TN	1	1520.000	47.700	**1.26**	0.13	**W**
TO	1	1190.000	52.800	**0.98**	0.11	**A**
TW	1	980.000	50.000	**0.81**	0.09	**W**
TX	1	1260.000	40.000	**1.04**	0.11	**A**
UC	1	1200.000	75.200	**0.99**	0.12	**A**
UK	1	1070.000	56.000	**0.88**	0.10	**A**
UP	1	1180.000	91.500	**0.98**	0.12	**A**
UY	1	1250.000	151.000	**1.03**	0.16	**A**
WA	1	1270.000	60.000	**1.05**	0.12	**A**
WC	1	1190.000	120.000	**0.98**	0.14	**A**
WP	1	1200.000	74.000	**0.99**	0.12	**A**
WV	1	1070.000	68.400	**0.88**	0.11	**A**
YA	1	1160.000	22.000	**0.96**	0.10	**A**

Total Number Reported: 68

Units for matrices: AI=Bq/filter SO=Bq/kg VE=Bq/kg WA=Bq/L. Values for elemental uranium are reported in µg/filter, g
Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable. pCi = Bq x 27

QAP45 Results by Nuclide

Matrix: WA
Radionuclide: GB 2

EML Value: 540.000
EML Error: 54.000

Labcode	Test #	Reported Value	Reported Error	Reported EML	Ratio Error	Evaluation
AA	1	540.000	54.000	**1.00**	0.14	**A**
AF	1	81.400	3.700	**0.15**	0.02	**N**
AG	1	208.000	8.300	**0.39**	0.04	**N**
AN	1	416.000	45.000	**0.77**	0.11	**A**
AR	1	435.000	46.000	**0.81**	0.12	**A**
AU	1	571.000	20.000	**1.06**	0.11	**A**
BC	1	603.000	12.400	**1.12**	0.11	**A**
BE	1	514.000	35.000	**0.95**	0.12	**A**
BL	1	326.000	15.000	**0.60**	0.07	**W**
BN	1	680.000	23.000	**1.26**	0.13	**A**
BS	1	578.000	4.000	**1.07**	0.11	**A**
BU	1	630.000	60.000	**1.17**	0.16	**A**
BX	1	570.000	12.100	**1.06**	0.11	**A**
CA	1	520.000	5.000	**0.96**	0.10	**A**
CP	1	603.000	6.000	**1.12**	0.11	**A**
DC	1	0.610	0.120	**0.00**	0.00	**N**
ES	1	608.000	89.600	**1.13**	0.20	**A**
FG	1	434.000	35.000	**0.80**	0.10	**A**
FL	1	657.000	12.000	**1.22**	0.12	**A**
GE	1	555.000	6.990	**1.03**	0.10	**A**
GS	1	558.000	48.100	**1.03**	0.14	**A**
HC	1	586.000	47.000	**1.09**	0.14	**A**
IE	1	405.000	12.200	**0.75**	0.08	**A**
IR	1	463.000	20.000	**0.86**	0.09	**A**
IS	1	353.000	36.000	**0.65**	0.09	**W**
IT	1	436.000	12.000	**0.81**	0.08	**A**
KA	1	622.000	87.700	**1.15**	0.20	**A**
LA	1	403.000	44.000	**0.75**	0.11	**A**
LA	2	444.000	48.000	**0.82**	0.12	**A**
LA	3	459.000	52.000	**0.85**	0.13	**A**
LH	1	550.000	59.000	**1.02**	0.15	**A**
LL	1	703.000	5.340	**1.30**	0.13	**A**
LW	1	542.000	20.200	**1.00**	0.11	**A**
NM	1	1040.000	123.000	**1.93**	0.30	**N**
NP	1	495.000	16.000	**0.92**	0.10	**A**
OB	1	24.900	0.510	**0.05**	0.00	**N**
OK	1	551.000	41.400	**1.02**	0.13	**A**
OR	1	630.000	50.000	**1.17**	0.15	**A**
OT	1	560.000	50.000	**1.04**	0.14	**A**
OU	1	568.000	149.000	**1.05**	0.30	**A**
PA	1	335.000	15.000	**0.62**	0.07	**W**
PB	1	406.000	10.800	**0.75**	0.08	**A**
RE	1	612.000	23.000	**1.13**	0.12	**A**
RG	1	550.000	30.000	**1.02**	0.12	**A**
RL	1	1060.000	102.000	**1.96**	0.27	**N**

Units for matrices: AI=Bq/filter SO=Bq/kg VE=Bq/kg WA=Bq/L. Values for elemental uranium are reported in µg/filter, g
Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable. pCi = Bq x 27

QAP45 Results by Nuclide

Matrix: WA
Radionuclide: GB 2

EML Value: 540.000
EML Error: 54.000

Labcode	Test #	Reported Value	Reported Error	Reported EML	Ratio Error	Evaluation
SA	1	821.000	90.000	**1.52**	0.23	**W**
SC	1	396.000	15.000	**0.73**	0.08	**A**
SN	1	571.000	27.200	**1.06**	0.12	**A**
SR	1	678.000	27.000	**1.26**	0.14	**A**
SV	1	679.000	37.800	**1.26**	0.14	**A**
SW	1	555.000	34.500	**1.03**	0.12	**A**
TE	1	579.000	8.070	**1.07**	0.11	**A**
TI	1	370.000	40.000	**0.69**	0.10	**W**
TM	1	399.000	33.500	**0.74**	0.10	**A**
TN	1	478.000	16.600	**0.89**	0.09	**A**
TO	1	555.000	32.900	**1.03**	0.12	**A**
TP	1	560.000	17.800	**1.04**	0.11	**A**
TW	1	738.000	33.000	**1.37**	0.15	**A**
TX	1	454.000	30.900	**0.84**	0.10	**A**
UC	1	351.000	20.800	**0.65**	0.08	**W**
UK	1	498.000	28.000	**0.92**	0.11	**A**
UP	1	566.000	46.000	**1.05**	0.14	**A**
UY	1	644.000	82.000	**1.19**	0.19	**A**
WA	1	608.000	33.000	**1.13**	0.13	**A**
WC	1	531.000	53.000	**0.98**	0.14	**A**
WP	1	410.000	37.000	**0.76**	0.10	**A**
WV	1	603.000	44.800	**1.12**	0.14	**A**
YA	1	499.000	13.300	**0.92**	0.10	**A**

Total Number Reported: 68

Units for matrices: AI=Bq/filter SO=Bq/kg VE=Bq/kg WA=Bq/L. Values for elemental uranium are reported in µg/filter, g
Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable. pCi = Bq x 27

QAP45 Results by Nuclide

Matrix: WA
Radionuclide: H 3

EML Value: 587.000
EML Error: 58.000

Labcode	Test #	Reported Value	Reported Error	Reported EML	Ratio Error	Evaluation
AA	1	587.000	58.000	**1.00**	0.14	**A**
AE	1	514.000	19.000	**0.88**	0.09	**A**
AF	1	1060.000	56.600	**1.81**	0.20	**W**
AG	1	216.000	33.000	**0.37**	0.07	**N**
AL	1	363.000	33.700	**0.62**	0.08	**N**
AN	1	482.000	2.000	**0.82**	0.08	**A**
AR	1	465.000	12.000	**0.79**	0.08	**W**
BE	1	513.000	19.400	**0.87**	0.09	**A**
BL	1	549.000	26.000	**0.94**	0.10	**A**
BN	1	44.200	2.950	**0.08**	0.01	**N**
BP	1	481.000	13.000	**0.82**	0.08	**A**
BQ	1	904.000	41.000	**1.54**	0.17	**W**
BU	1	500.000	30.000	**0.85**	0.10	**A**
BX	1	466.000	55.100	**0.79**	0.12	**W**
CL	1	462.000	14.400	**0.79**	0.08	**W**
DC	1	496.000	56.000	**0.85**	0.13	**A**
EP	1	492.000	10.800	**0.84**		**A**
ES	1	161.000	31.100	**0.27**	0.06	**N**
FG	1	659.000	14.000	**1.12**	0.11	**A**
FL	1	492.000	3.300	**0.84**	0.08	**A**
FN	1	505.000	16.000	**0.86**	0.09	**A**
GE	1	465.000	11.300	**0.79**	0.08	**W**
HC	1	485.000	24.000	**0.83**	0.09	**A**
ID	1	511.000	49.800	**0.87**	0.12	**A**
IE	1	429.000	56.600	**0.73**	0.12	**W**
IS	1	452.000	89.000	**0.77**	0.17	**W**
IT	1	464.000	18.000	**0.79**	0.08	**W**
KA	1	582.300	31.200	**0.99**		**A**
LA	1	627.000	8.000	**1.07**	0.11	**A**
LA	2	550.000	7.800	**0.94**	0.09	**A**
LA	3	560.000	7.800	**0.95**	0.10	**A**
LH	1	442.000	47.000	**0.75**	0.11	**W**
LL	1	485.000	4.850	**0.83**	0.08	**A**
LV	1	471.000	3.000	**0.80**	0.08	**W**
LW	1	481.000	6.250	**0.82**	0.08	**A**
MI	1	490.000	40.000	**0.84**	0.11	**A**
MI	2	****.***	30.000	****.****	84.20	**N**
ML	1	456.000	43.200	**0.78**	0.11	**W**
NA	1	435.000	5.840	**0.74**	0.07	**W**
NP	1	611.000	8.000	**1.04**	0.10	**A**
NS	1	519.000	18.000	**0.88**	0.09	**A**
OD	1	515.000	52.500	**0.88**	0.13	**A**
OK	1	538.000	16.800	**0.92**	0.10	**A**
OR	1	490.000	88.000	**0.83**	0.21	**A**
OT	1	560.000	30.000	**0.95**	0.11	**A**

Units for matrices: AI=Bq/filter SO=Bq/kg VE=Bq/kg WA=Bq/L. Values for elemental uranium are reported in µg/filter, g
Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable. pCi = Bq x 27

QAP45 Results by Nuclide

Matrix: WA
Radionuclide: H 3

EML Value: 587.000
EML Error: 58.000

Labcode	Test #	Reported Value	Reported Error	Reported EML	Ratio Error	Evaluation
PA	1	530.000	26.000	**0.90**	0.10	**A**
PB	1	421.000	14.900	**0.72**	0.08	**W**
PB	2	421.000	14.900	**0.72**	0.08	**W**
PI	1	488.000	15.000	**0.83**	0.09	**A**
RE	1	505.000	27.000	**0.86**	0.10	**A**
RG	1	491.000	8.900	**0.84**	0.08	**A**
RI	1	488.000	26.000	**0.83**	0.09	**A**
SC	1	483.000	10.000	**0.82**	0.08	**A**
SK	1	471.000	14.000	**0.80**	0.08	**W**
SR	1	462.000	13.000	**0.79**	0.08	**W**
SV	1	489.000	96.800	**0.83**	0.18	**A**
SW	1	922.000	25.500	**1.57**	0.16	**W**
TE	1	488.000	34.600	**0.83**	0.10	**A**
TI	1	520.000	40.000	**0.89**	0.11	**A**
TM	1	722.000	57.900	**1.23**	0.16	**A**
TN	1	502.000	40.100	**0.86**	0.11	**A**
TO	1	529.000	46.600	**0.90**	0.12	**A**
TP	1	559.000	6.290	**0.95**	0.09	**A**
TW	1	510.000	5.000	**0.87**	0.09	**A**
TX	1	508.000	20.400	**0.87**	0.09	**A**
UP	1	463.000	26.000	**0.79**	0.09	**W**
UY	1	490.000	20.000	**0.84**	0.09	**A**
WA	1	476.000	10.000	**0.81**	0.08	**A**
WC	1	473.000	28.000	**0.81**	0.09	**A**
WE	1	346.000	14.000	**0.59**	0.06	**N**
WP	1	480.000	37.000	**0.82**	0.10	**A**
WV	1	482.000	16.100	**0.82**	0.09	**A**

Total Number Reported: 72

Units for matrices: AI=Bq/filter SO=Bq/kg VE=Bq/kg WA=Bq/L. Values for elemental uranium are reported in µg/filter, g
Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable. pCi = Bq x 27

QAP45 Results by Nuclide

Matrix: WA
Radionuclide: MN 54

EML Value: 60.500
EML Error: 0.550

Labcode	Test #	Reported Value	Reported Error	Reported EML	Ratio Error	Evaluation
AA	1	60.500	0.550	**1.00**	0.01	**A**
AE	1	65.400	4.800	**1.08**	0.08	**A**
AF	1	65.400	7.400	**1.08**	0.12	**A**
AG	1	63.500	4.300	**1.05**	0.07	**A**
AL	1	46.600	0.670	**0.77**	0.01	**N**
AN	1	66.100	3.290	**1.09**	0.06	**A**
AR	1	70.800	2.900	**1.17**	0.05	**W**
AU	1	72.200	4.200	**1.19**	0.07	**W**
BA	1	63.000	7.000	**1.04**	0.12	**A**
BC	1	70.300	3.740	**1.16**	0.06	**W**
BE	1	68.200	5.560	**1.13**	0.09	**A**
BL	1	65.100	1.700	**1.08**	0.03	**A**
BM	1	66.600	2.780	**1.10**	0.05	**A**
BN	1	67.200	2.290	**1.11**	0.04	**A**
BP	1	68.000	1.500	**1.12**	0.03	**A**
BQ	1	64.500	0.700	**1.07**	0.02	**A**
BS	1	68.100	0.500	**1.13**	0.01	**A**
BU	1	58.000	5.000	**0.96**	0.08	**A**
BX	1	69.600	3.520	**1.15**	0.06	**A**
CA	1	65.800	7.800	**1.09**	0.13	**A**
CL	1	76.300	3.000	**1.26**	0.05	**N**
CP	1	65.000	7.300	**1.07**	0.12	**A**
CS	1	67.500	3.270	**1.12**	0.06	**A**
CW	1	61.000	2.000	**1.01**	0.03	**A**
DC	1	73.100	16.700	**1.21**	0.28	**W**
EG	1	64.000	5.000	**1.06**	0.08	**A**
EP	1	9.450	0.836	**0.16**	0.01	**N**
ES	1	67.800	7.670	**1.12**	0.13	**A**
FG	1	74.500	0.410	**1.23**	0.01	**N**
FL	1	72.000	0.600	**1.19**	0.01	**W**
FM	1	73.600	0.660	**1.22**	0.02	**W**
FN	1	65.600	6.600	**1.08**	0.11	**A**
GA	1	66.200	16.100	**1.09**	0.27	**A**
GE	1	76.500	1.220	**1.26**	0.02	**N**
ID	1	67.700	3.400	**1.12**	0.06	**A**
IE	1	64.500	8.210	**1.07**	0.14	**A**
IL	1	67.000	1.300	**1.11**	0.02	**A**
IN	1	72.400	1.740	**1.20**	0.03	**W**
IS	1	73.200	8.100	**1.21**	0.13	**W**
IT	1	65.200	0.900	**1.08**	0.02	**A**
KA	1	65.000	5.000	**1.07**		**A**
LH	1	67.500	9.900	**1.12**	0.16	**A**
LL	1	63.800	1.020	**1.05**	0.02	**A**
LV	1	66.200	0.700	**1.09**	0.02	**A**
LW	1	61.400	1.290	**1.02**	0.02	**A**

Units for matrices: AI=Bq/filter SO=Bq/kg VE=Bq/kg WA=Bq/L. Values for elemental uranium are reported in µg/filter, g
Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable. pCi = Bq x 27

QAP45 Results by Nuclide

Matrix: WA
Radionuclide: MN 54

EML Value: 60.500
EML Error: 0.550

Labcode	Test #	Reported Value	Reported Error	Reported EML	Ratio Error	Evaluation
MI	1	74.500	2.510	**1.23**	0.04	**N**
MI	2	68.200	2.320	**1.13**	0.04	**A**
ML	1	68.900	6.890	**1.14**	0.11	**A**
MS	1	66.800	6.700	**1.10**	0.11	**A**
NA	1	64.000	0.740	**1.06**	0.02	**A**
NC	1	61.600	1.360	**1.02**	0.02	**A**
NL	1	69.200	2.500	**1.14**	0.04	**A**
NP	1	65.500	5.100	**1.08**	0.08	**A**
NS	1	71.200	0.777	**1.18**	0.02	**W**
OD	1	70.500	4.150	**1.17**	0.07	**W**
OK	1	72.900	4.000	**1.21**	0.07	**W**
OR	1	71.300	4.000	**1.18**	0.07	**W**
OT	1	66.000	1.000	**1.09**	0.02	**A**
OU	1	61.700	18.200	**1.02**	0.30	**A**
RE	1	72.500	7.500	**1.20**	0.12	**W**
RI	1	66.200	3.500	**1.09**	0.06	**A**
RL	1	104.000	8.100	**1.72**	0.14	**N**
SA	1	65.000	4.000	**1.07**	0.07	**A**
SC	1	65.700	2.000	**1.09**	0.03	**A**
SK	1	62.900	3.900	**1.04**	0.07	**A**
SL	1	68.000	3.000	**1.12**	0.05	**A**
SN	1	64.300	6.740	**1.06**	0.11	**A**
SR	1	68.000	2.000	**1.12**	0.03	**A**
SS	1	67.500	2.320	**1.12**	0.04	**A**
SW	1	65.000	1.290	**1.07**	0.02	**A**
TE	1	65.000	2.960	**1.07**	0.05	**A**
TI	1	72.700	7.300	**1.20**	0.12	**W**
TM	1	71.200	2.220	**1.18**	0.04	**W**
TN	1	70.400	1.530	**1.16**	0.03	**W**
TO	1	72.200	1.800	**1.19**	0.03	**W**
TP	1	63.800	7.070	**1.05**	0.12	**A**
TW	1	74.000	0.800	**1.22**	0.02	**W**
TX	1	69.000	0.500	**1.14**	0.01	**A**
UK	1	68.000	2.200	**1.12**	0.04	**A**
UP	1	68.900	5.000	**1.14**	0.08	**A**
UY	1	63.600	5.000	**1.05**	0.08	**A**
WA	1	67.000	5.200	**1.11**	0.09	**A**
WC	1	71.200	8.400	**1.18**	0.14	**W**
WE	1	52.900	0.900	**0.87**	0.02	**W**
WI	1	71.900	6.840	**1.19**	0.11	**W**
WP	1	63.800	1.700	**1.05**	0.03	**A**
WV	1	67.900	1.180	**1.12**	0.02	**A**
YA	1	66.000	3.540	**1.09**	0.06	**A**

Total Number Reported: 88

Units for matrices: AI=Bq/filter SO=Bq/kg VE=Bq/kg WA=Bq/L. Values for elemental uranium are reported in µg/filter, g
Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable. pCi = Bq x 27

QAP45 Results by Nuclide

Matrix: WA
Radionuclide: PU238

EML Value: 1.910
EML Error: 0.070

Labcode	Test #	Reported Value	Reported Error	Reported EML	Ratio Error	Evaluation
AA	1	1.910	0.070	**1.00**	0.05	**A**
AE	1	1.920	0.080	**1.01**	0.06	**A**
AF	1	1.720	0.240	**0.90**	0.13	**A**
AG	1	1.800	0.280	**0.94**	0.15	**A**
AN	1	1.920	0.076	**1.01**	0.05	**A**
AR	1	1.850	0.170	**0.97**	0.10	**A**
AU	1	2.180	0.320	**1.14**	0.17	**W**
BE	1	1.950	0.130	**1.02**	0.08	**A**
BL	1	2.040	0.090	**1.07**	0.06	**A**
BL	2	2.140	0.140	**1.12**	0.08	**A**
BM	1	1.580	0.170	**0.83**	0.09	**W**
BP	1	2.020	0.120	**1.06**	0.07	**A**
BU	1	2.000	0.200	**1.05**	0.11	**A**
BX	1	1.980	0.066	**1.04**	0.05	**A**
CL	1	1.770	0.200	**0.93**	0.11	**A**
CW	1	1.750	0.220	**0.92**	0.12	**A**
DC	1	2.030	0.262	**1.06**	0.14	**A**
EG	2	1.300	0.200	**0.68**	0.11	**N**
EI	1	2.990	0.140	**1.57**	0.09	**N**
EI	2	3.060	0.150	**1.60**	0.10	**N**
EP	1	1.920	0.135	**1.00**		**A**
ES	1	1.880	0.334	**0.98**	0.18	**A**
FG	1	1.900	0.010	**1.00**	0.04	**A**
FL	1	2.240	0.136	**1.17**	0.08	**W**
GA	1	2.200	0.120	**1.15**	0.08	**W**
GE	1	1.040	0.053	**0.55**	0.03	**N**
ID	1	1.950	0.130	**1.02**	0.08	**A**
IE	1	2.030	0.220	**1.06**	0.12	**A**
IN	1	2.000	0.250	**1.05**	0.14	**A**
IS	1	1.960	0.450	**1.03**	0.24	**A**
IT	1	1.970	0.100	**1.03**	0.06	**A**
KA	1	2.039	0.015	**1.07**		**A**
LA	1	1.990	0.080	**1.04**	0.06	**A**
LA	2	1.920	0.080	**1.01**	0.06	**A**
LA	3	1.910	0.080	**1.00**	0.06	**A**
LH	1	1.980	0.200	**1.04**	0.11	**A**
LL	1	2.050	0.101	**1.07**	0.07	**A**
ML	1	1.900	0.150	**1.00**	0.09	**A**
NA	1	1.830	0.170	**0.96**	0.10	**A**
NL	1	1.990	0.010	**1.04**	0.04	**A**
NM	1	2.000	0.018	**1.05**	0.04	**A**
NS	1	9.470	0.551	**4.96**	0.34	**N**
OD	1	1.980	0.172	**1.04**	0.10	**A**
OR	1	2.030	0.190	**1.06**	0.11	**A**
OT	1	1.800	0.300	**0.94**	0.16	**A**

Units for matrices: AI=Bq/filter SO=Bq/kg VE=Bq/kg WA=Bq/L. Values for elemental uranium are reported in µg/filter, g
Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable. pCi = Bq x 27

QAP45 Results by Nuclide

Matrix: WA
Radionuclide: PU238

EML Value: 1.910
EML Error: 0.070

Labcode	Test #	Reported Value	Reported Error	Reported EML	Ratio Error	Evaluation
PI	1	1.920	0.150	**1.01**	0.09	**A**
RE	1	1.810	0.160	**0.95**	0.09	**A**
RG	1	1.940	0.050	**1.02**	0.05	**A**
RI	1	1.950	0.120	**1.02**	0.07	**A**
SC	1	0.910	0.010	**0.48**	0.02	**N**
SK	1	1.770	0.090	**0.93**	0.06	**A**
SN	1	1.770	0.190	**0.93**	0.11	**A**
SR	1	2.270	0.250	**1.19**	0.14	**W**
SS	1	1.620	0.120	**0.85**	0.07	**W**
TE	1	1.320	0.333	**0.69**	0.18	**N**
TI	1	2.100	0.300	**1.10**	0.16	**A**
TM	1	1.990	0.067	**1.04**	0.05	**A**
TN	1	1.950	0.051	**1.02**	0.05	**A**
TO	1	2.010	0.640	**1.05**	0.34	**A**
TW	1	1.900	0.040	**1.00**	0.04	**A**
TX	1	1.990	0.100	**1.04**	0.06	**A**
UC	1	2.070	0.243	**1.08**	0.13	**A**
UK	1	2.020	0.220	**1.06**	0.12	**A**
UP	1	1.590	0.300	**0.83**	0.16	**W**
UY	1	2.200	0.300	**1.15**	0.16	**W**
WA	1	1.950	0.140	**1.02**	0.08	**A**
WC	1	1.710	0.300	**0.90**	0.16	**A**
WE	1	1.740	0.250	**0.91**	0.14	**A**
YA	1	1.930	0.036	**1.01**	0.04	**A**

Total Number Reported: 69

Units for matrices: AI=Bq/filter SO=Bq/kg VE=Bq/kg WA=Bq/L. Values for elemental uranium are reported in µg/filter, g
Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable. pCi = Bq x 27

QAP45 Results by Nuclide

Matrix: WA
Radionuclide: PU239

EML Value: 0.840
EML Error: 0.030

Labcode	Test #	Reported Value	Reported Error	Reported EML	Ratio Error	Evaluation
AA	1	0.840	0.030	**1.00**	0.05	**A**
AE	1	0.860	0.060	**1.02**	0.08	**A**
AF	1	0.781	0.129	**0.93**	0.16	**A**
AG	1	0.820	0.130	**0.98**	0.16	**A**
AN	1	0.876	0.037	**1.04**	0.06	**A**
AR	1	0.914	0.116	**1.09**	0.14	**A**
AU	1	1.180	0.190	**1.41**	0.23	**W**
BE	1	0.879	0.070	**1.05**	0.09	**A**
BL	1	0.870	0.060	**1.04**	0.08	**A**
BM	1	0.750	0.088	**0.89**	0.11	**W**
BP	1	0.908	0.073	**1.08**	0.10	**A**
BU	1	0.900	0.080	**1.07**	0.10	**A**
BX	1	0.873	0.035	**1.04**	0.06	**A**
CL	1	0.950	0.100	**1.13**	0.13	**A**
CW	1	0.830	0.120	**0.99**	0.15	**A**
DC	1	0.935	0.129	**1.11**	0.16	**A**
EG	1	0.520	0.090	**0.62**	0.11	**N**
EI	1	1.280	0.070	**1.52**	0.10	**N**
EI	2	1.440	0.070	**1.71**	0.10	**N**
EP	1	0.851	0.064	**1.01**		**A**
ES	1	0.857	0.156	**1.02**	0.19	**A**
FG	1	0.860	0.010	**1.02**	0.04	**A**
FL	1	1.010	0.064	**1.20**	0.09	**W**
GA	1	0.954	0.039	**1.14**	0.06	**A**
GE	1	0.455	0.028	**0.54**	0.04	**N**
ID	1	0.890	0.070	**1.06**	0.09	**A**
IE	1	0.930	0.130	**1.11**	0.16	**A**
IN	1	0.846	0.100	**1.01**	0.12	**A**
IS	1	1.080	0.280	**1.29**	0.34	**W**
IT	1	0.880	0.040	**1.05**	0.06	**A**
KA	1	0.923	0.014	**1.10**		**A**
LA	1	0.940	0.040	**1.12**	0.06	**A**
LA	2	0.800	0.030	**0.95**	0.05	**A**
LA	3	0.870	0.040	**1.04**	0.06	**A**
LH	1	0.970	0.150	**1.16**	0.18	**A**
LL	1	0.922	0.052	**1.10**	0.07	**A**
ML	1	0.840	0.070	**1.00**	0.09	**A**
NA	1	0.850	0.100	**1.01**	0.12	**A**
NL	1	0.925	0.093	**1.10**	0.12	**A**
NM	1	0.886	0.012	**1.05**	0.04	**A**
NS	1	21.300	1.810	**25.40**	2.34	**N**
OD	1	0.873	0.076	**1.04**	0.10	**A**
OR	1	0.900	0.090	**1.07**	0.11	**A**
OT	1	1.000	0.200	**1.19**	0.24	**W**
PA	1	0.760	0.220	**0.91**	0.26	**A**

Units for matrices: AI=Bq/filter SO=Bq/kg VE=Bq/kg WA=Bq/L. Values for elemental uranium are reported in µg/filter, g
Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable. pCi = Bq x 27

QAP45 Results by Nuclide

Matrix: WA
Radionuclide: PU239

EML Value: 0.840
EML Error: 0.030

Labcode	Test #	Reported Value	Reported Error	Reported EML	Ratio Error	Evaluation
PB	1	0.902	0.094	**1.07**	0.12	**A**
PI	1	0.900	0.090	**1.07**	0.11	**A**
RE	1	0.855	0.083	**1.02**	0.11	**A**
RG	1	0.894	0.026	**1.06**	0.05	**A**
RI	1	0.840	0.068	**1.00**	0.09	**A**
SC	1	2.300	0.050	**2.74**	0.11	**N**
SK	1	0.780	0.050	**0.93**	0.07	**A**
SN	1	0.820	0.094	**0.98**	0.12	**A**
SR	1	1.000	0.130	**1.19**	0.16	**W**
SS	1	0.947	0.098	**1.13**	0.12	**A**
TE	1	0.698	0.247	**0.83**	0.30	**W**
TI	1	1.100	0.200	**1.31**	0.24	**W**
TM	1	0.899	0.038	**1.07**	0.06	**A**
TN	1	0.900	0.026	**1.07**	0.05	**A**
TO	1	1.000	0.340	**1.19**	0.41	**W**
TW	1	0.880	0.020	**1.05**	0.04	**A**
TX	1	1.050	0.070	**1.25**	0.09	**W**
UC	1	0.868	0.117	**1.03**	0.14	**A**
UK	1	0.861	0.150	**1.03**	0.18	**A**
UP	1	0.932	0.199	**1.11**	0.24	**A**
UY	1	0.930	0.180	**1.11**	0.22	**A**
WA	1	0.910	0.090	**1.08**	0.11	**A**
WC	1	0.751	0.100	**0.89**	0.12	**W**
WE	1	0.594	0.130	**0.71**	0.16	**N**
YA	1	0.861	0.018	**1.03**	0.04	**A**

Total Number Reported: 70

Units for matrices: AI=Bq/filter SO=Bq/kg VE=Bq/kg WA=Bq/L. Values for elemental uranium are reported in µg/filter, g
Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable. pCi = Bq x 27

QAP45 Results by Nuclide

Matrix: WA
Radionuclide: SR 90

EML Value: 2.710
EML Error: 0.240

Labcode	Test #	Reported Value	Reported Error	Reported EML	Ratio Error	Evaluation
AA	1	2.710	0.240	**1.00**	0.13	**A**
AC	1	3.150	0.120	**1.16**	0.11	**A**
AF	1	2.740	0.318	**1.01**	0.15	**A**
AG	1	2.980	0.540	**1.10**	0.22	**A**
AN	1	2.950	0.070	**1.09**	0.10	**A**
AR	1	2.920	0.350	**1.08**	0.16	**A**
AU	1	2.510	0.310	**0.93**	0.14	**A**
BA	1	3.220	0.350	**1.19**	0.17	**A**
BC	1	3.340	0.666	**1.23**	0.27	**A**
BE	1	3.140	0.349	**1.16**	0.17	**A**
BL	1	2.820	0.730	**1.04**	0.29	**A**
BL	2	3.120	0.670	**1.15**	0.27	**A**
BM	1	1.220	0.180	**0.45**	0.08	**N**
BN	1	2.400	0.060	**0.89**	0.08	**A**
BP	1	3.050	0.120	**1.13**	0.11	**A**
BX	1	2.780	0.511	**1.03**	0.21	**A**
CL	1	3.730	0.800	**1.38**	0.32	**W**
DC	1	3.070	0.325	**1.13**	0.16	**A**
EG	1	2.640	0.070	**0.97**	0.09	**A**
EI	1	2.840	0.280	**1.05**	0.14	**A**
EP	1	3.120	0.692	**1.15**	0.28	**A**
ES	1	6.210	1.790	**2.29**	0.69	**N**
GE	1	2.230	0.093	**0.82**	0.08	**W**
ID	1	3.200	0.210	**1.18**	0.13	**A**
IE	1	2.830	0.190	**1.04**	0.12	**A**
IN	1	2.670	0.230	**0.99**	0.12	**A**
IS	1	3.090	0.410	**1.14**	0.18	**A**
IT	1	3.000	0.060	**1.11**	0.10	**A**
KA	1	2.870	0.420	**1.06**		**A**
LA	1	1.330	1.040	**0.49**	0.39	**N**
LA	2	0.590	0.700	**0.22**	0.26	**N**
LA	3	0.520	0.750	**0.19**	0.28	**N**
LH	1	3.040	0.200	**1.12**	0.12	**A**
NA	1	2.040	0.890	**0.75**	0.34	**W**
NS	1	2.720	0.702	**1.00**	0.27	**A**
OD	1	2.870	0.380	**1.06**	0.17	**A**
OR	1	2.470	0.200	**0.91**	0.11	**A**
OT	1	3.300	0.500	**1.22**	0.21	**A**
RE	1	2.710	0.190	**1.00**	0.11	**A**
RI	1	4.050	1.600	**1.49**	0.61	**W**
SR	1	2.430	1.200	**0.90**	0.45	**A**
SW	1	3.300	0.450	**1.22**	0.20	**A**
TE	1	3.600	0.700	**1.33**	0.28	**W**
TI	1	3.100	0.400	**1.14**	0.18	**A**
TM	1	3.200	0.272	**1.18**	0.15	**A**

Units for matrices: AI=Bq/filter SO=Bq/kg VE=Bq/kg WA=Bq/L. Values for elemental uranium are reported in µg/filter, g
Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable. pCi = Bq x 27

QAP45 Results by Nuclide

Matrix: WA
Radionuclide: SR 90

EML Value: 2.710
EML Error: 0.240

Labcode	Test #	Reported Value	Reported Error	Reported EML	Ratio Error	Evaluation
TN	1	3.210	0.240	**1.18**	0.14	**A**
TO	1	2.900	0.380	**1.07**	0.17	**A**
TP	1	2.700	0.170	**1.00**	0.11	**A**
TW	1	3.600	0.300	**1.33**	0.16	**W**
TX	1	2.960	0.580	**1.09**	0.24	**A**
UP	1	3.070	0.750	**1.13**	0.29	**A**
UY	1	2.410	1.100	**0.89**	0.41	**A**
WA	1	2.900	0.300	**1.07**	0.15	**A**
WC	1	2.370	0.450	**0.88**	0.18	**A**
WP	1	2.800	0.150	**1.03**	0.11	**A**
WV	1	2.970	0.250	**1.10**	0.13	**A**

Total Number Reported: 56

Units for matrices: AI=Bq/filter SO=Bq/kg VE=Bq/kg WA=Bq/L. Values for elemental uranium are reported in µg/filter, g
Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable. pCi = Bq x 27

QAP45 Results by Nuclide

Matrix: WA
Radionuclide: U 234

EML Value: 0.480
EML Error: 0.040

Labcode	Test #	Reported Value	Reported Error	Reported EML	Ratio Error	Evaluation
AA	1	0.480	0.040	**1.00**	0.12	**A**
AE	1	0.440	0.040	**0.92**	0.11	**A**
AF	1	0.533	0.111	**1.11**	0.25	**A**
AG	1	0.551	0.091	**1.15**	0.21	**A**
AN	1	0.488	0.042	**1.02**	0.12	**A**
AR	1	0.649	0.101	**1.35**	0.24	**W**
AU	1	0.500	0.080	**1.04**	0.19	**A**
BA	1	0.470	0.470	**0.98**	0.98	**A**
BC	1	0.551	0.026	**1.15**	0.11	**A**
BE	1	0.490	0.060	**1.02**	0.15	**A**
BL	1	0.510	0.000	**1.06**	0.09	**A**
BM	1	0.660	0.110	**1.38**	0.26	**W**
BX	1	0.562	0.026	**1.17**	0.11	**A**
CL	1	0.490	0.100	**1.02**	0.23	**A**
CW	1	0.471	0.038	**0.98**	0.11	**A**
DC	1	0.524	0.078	**1.09**	0.19	**A**
EI	1	0.630	0.030	**1.31**	0.13	**W**
EP	1	0.489	0.045	**1.02**		**A**
FG	1	0.493	0.010	**1.03**	0.09	**A**
GA	1	0.489	0.012	**1.02**	0.09	**A**
GE	1	0.290	0.020	**0.60**	0.07	**N**
IE	1	0.530	0.060	**1.10**	0.16	**A**
IS	1	0.352	0.042	**0.73**	0.11	**N**
LH	1	0.640	0.170	**1.33**	0.37	**W**
LL	1	0.536	0.000	**1.12**	0.09	**A**
ML	1	0.560	0.040	**1.17**	0.13	**A**
OD	1	0.442	0.043	**0.92**	0.12	**A**
OK	1	0.400	0.040	**0.83**	0.11	**W**
PA	1	0.450	0.120	**0.94**	0.26	**A**
PB	1	0.541	0.058	**1.13**	0.15	**A**
PI	1	0.505	0.054	**1.05**	0.14	**A**
RE	1	0.530	0.059	**1.10**	0.15	**A**
RG	1	0.574	0.026	**1.20**	0.11	**A**
SK	1	0.530	0.040	**1.10**	0.12	**A**
SN	1	0.426	0.052	**0.89**	0.13	**W**
SR	1	0.509	0.074	**1.06**	0.18	**A**
SS	1	0.546	0.080	**1.14**	0.19	**A**
TE	1	0.517	0.196	**1.08**	0.42	**A**
TM	1	0.444	0.031	**0.93**	0.10	**A**
TN	1	0.481	0.027	**1.00**	0.10	**A**
TO	1	0.489	0.030	**1.02**	0.11	**A**
TW	1	0.380	0.030	**0.79**	0.09	**W**
TX	1	0.540	0.050	**1.13**	0.14	**A**
UP	1	0.554	0.147	**1.15**	0.32	**A**
UY	1	0.620	0.100	**1.29**	0.23	**W**

Units for matrices: AI=Bq/filter SO=Bq/kg VE=Bq/kg WA=Bq/L. Values for elemental uranium are reported in µg/filter, g
Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable. pCi = Bq x 27

QAP45 Results by Nuclide

Matrix: WA
Radionuclide: U 234

EML Value: 0.480
EML Error: 0.040

Labcode	Test #	Reported Value	Reported Error	Reported EML	Ratio Error	Evaluation
WA	1	0.580	0.150	**1.21**	0.33	**A**
WE	1	0.390	0.140	**0.81**	0.30	**W**
YA	1	0.486	0.019	**1.01**	0.09	**A**

Total Number Reported: 48

Units for matrices: AI=Bq/filter SO=Bq/kg VE=Bq/kg WA=Bq/L. Values for elemental uranium are reported in µg/filter, g
Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable. pCi = Bq x 27

QAP45 Results by Nuclide

Matrix: WA
Radionuclide: U 238

EML Value: 0.480
EML Error: 0.370

Labcode	Test #	Reported Value	Reported Error	Reported EML	Ratio Error	Evaluation
AA	1	0.480	0.370	**1.00**	1.09	**A**
AE	1	0.460	0.040	**0.96**	0.74	**A**
AF	1	0.470	0.100	**0.98**	0.78	**A**
AG	1	0.554	0.091	**1.15**	0.91	**A**
AN	1	0.499	0.022	**1.04**	0.80	**A**
AR	1	0.488	0.090	**1.02**	0.81	**A**
AU	1	0.470	0.070	**0.98**	0.77	**A**
BA	1	0.426	0.430	**0.89**	1.13	**W**
BC	1	0.599	0.033	**1.25**	0.96	**W**
BE	1	0.495	0.060	**1.03**	0.81	**A**
BL	1	0.500	0.000	**1.04**	0.80	**A**
BM	1	0.520	0.090	**1.08**	0.86	**A**
BX	1	0.592	0.033	**1.23**	0.95	**W**
CL	1	0.490	0.100	**1.02**	0.81	**A**
CW	1	0.458	0.037	**0.95**	0.74	**A**
DC	1	0.566	0.084	**1.18**	0.93	**W**
EI	1	0.540	0.030	**1.13**	0.87	**A**
EP	1	0.484	0.044	**1.01**		**A**
FG	1	0.540	0.010	**1.13**	0.87	**A**
GA	1	0.475	0.038	**0.99**	0.77	**A**
GE	1	0.250	0.020	**0.52**	0.40	**N**
IE	1	0.470	0.070	**0.98**	0.77	**A**
IS	1	0.352	0.042	**0.73**	0.57	**N**
LH	1	0.610	0.160	**1.27**	1.03	**W**
LL	1	0.532	0.000	**1.11**	0.85	**A**
ML	1	0.550	0.040	**1.15**	0.89	**A**
OD	1	0.454	0.044	**0.95**	0.74	**A**
OK	1	0.420	0.040	**0.88**	0.68	**W**
PA	1	0.490	0.130	**1.02**	0.83	**A**
PB	1	0.472	0.053	**0.98**	0.77	**A**
PI	1	0.505	0.053	**1.05**	0.82	**A**
RE	1	0.519	0.057	**1.08**	0.84	**A**
RG	1	0.562	0.025	**1.17**	0.90	**W**
SK	1	0.520	0.040	**1.08**	0.84	**A**
SN	1	0.411	0.051	**0.86**	0.67	**W**
SR	1	0.512	0.072	**1.07**	0.84	**A**
SS	1	0.500	0.076	**1.04**	0.82	**A**
TE	1	0.416	0.118	**0.87**	0.71	**W**
TM	1	0.437	0.031	**0.91**	0.71	**A**
TN	1	0.486	0.027	**1.01**	0.78	**A**
TO	1	0.491	0.030	**1.02**	0.79	**A**
TW	1	0.420	0.030	**0.88**	0.68	**W**
TX	1	0.560	0.050	**1.17**	0.91	**W**
UP	1	0.476	0.133	**0.99**	0.81	**A**
UY	1	0.570	0.040	**1.19**	0.92	**W**

Units for matrices: AI=Bq/filter SO=Bq/kg VE=Bq/kg WA=Bq/L. Values for elemental uranium are reported in µg/filter, g
Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable. pCi = Bq x 27

QAP45 Results by Nuclide

Matrix: WA
Radionuclide: U 238

EML Value: 0.480
EML Error: 0.370

Labcode	Test #	Reported Value	Reported Error	Reported EML	Ratio Error	Evaluation
WA	1	0.480	0.130	**1.00**	0.82	**A**
WE	1	0.480	0.140	**1.00**	0.82	**A**
YA	1	0.504	0.019	**1.05**	0.81	**A**

Total Number Reported: 48

Units for matrices: AI=Bq/filter SO=Bq/kg VE=Bq/kg WA=Bq/L. Values for elemental uranium are reported in µg/filter, g
Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable. pCi = Bq x 27

QAP45 Results by Nuclide

Matrix: WA
Radionuclide: U BQ

EML Value: 0.970
EML Error: 0.070

Labcode	Test #	Reported Value	Reported Error	Reported EML	Ratio Error	Evaluation
AA	1	0.970	0.070	**1.00**	0.10	**A**
AG	1	1.130	0.190	**1.17**	0.21	**A**
AR	1	1.160	0.140	**1.20**	0.17	**A**
CL	1	0.920	0.196	**0.95**	0.21	**A**
EG	1	1.090	0.060	**1.12**	0.10	**A**
ES	1	1.020	0.195	**1.05**	0.22	**A**
FG	1	1.030	0.020	**1.06**	0.08	**A**
ID	1	2.100	0.160	**2.17**	0.23	**N**
IN	1	1.020	0.210	**1.05**	0.23	**A**
OR	1	1.080	0.150	**1.11**	0.17	**A**
OT	1	0.960	0.140	**0.99**	0.12	**A**
RG	1	1.160	0.030	**1.20**	0.09	**A**
SC	1	1.070	0.020	**1.10**	0.08	**A**
UK	1	0.991	0.140	**1.02**	0.16	**A**
UP	1	1.060	0.201	**1.09**	0.22	**A**
UY	1	1.220	0.200	**1.26**	0.23	**W**
WA	1	1.150	0.210	**1.19**	0.23	**A**
WC	1	0.903	0.070	**0.93**	0.10	**A**

Total Number Reported: 18

Units for matrices: AI=Bq/filter SO=Bq/kg VE=Bq/kg WA=Bq/L. Values for elemental uranium are reported in µg/filter, g
Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable. pCi = Bq x 27

QAP45 Results by Nuclide

Matrix: WA
Radionuclide: U UG

EML Value: 0.039
EML Error: 0.003

Labcode	Test #	Reported Value	Reported Error	Reported EML	Ratio Error	Evaluation
AA	1	0.039	0.003	**1.00**	0.10	**A**
AC	1	0.038	0.000	**0.97**	0.07	**A**
AG	1	41.500	5.600	****.****	**.**	**N**
AR	1	0.042	0.003	**1.08**	0.11	**A**
BE	1	0.039	0.000	**1.00**	0.07	**A**
BL	1	0.041	0.000	**1.05**	0.08	**A**
BP	1	0.039	0.004	**1.00**	0.12	**A**
BQ	1	0.042	0.001	**1.07**	0.08	**A**
BU	1	0.038	0.004	**0.97**	0.12	**A**
CA	1	0.043	0.002	**1.10**	0.09	**A**
CZ	1	0.037	0.000	**0.94**	0.07	**A**
DC	1	40.700	4.070	****.****	**.**	**N**
ES	1	0.038	0.000	**0.97**	0.07	**A**
GA	1	0.038	0.003	**0.97**	0.10	**A**
GE	1	0.033	0.000	**0.85**	0.06	**W**
GS	1	0.029	0.001	**0.74**	0.06	**W**
IE	1	0.038	0.005	**0.97**	0.15	**A**
IR	1	0.042	0.004	**1.08**	0.13	**A**
IS	1	0.040	0.005	**1.04**	0.15	**A**
IT	1	0.040	0.001	**1.04**	0.08	**A**
KA	1	0.038	0.000	**0.97**		**A**
LA	1	0.030	0.003	**0.77**	0.09	**W**
LA	2	0.041	0.004	**1.04**	0.13	**A**
LA	3	0.037	0.004	**0.95**	0.12	**A**
LL	1	0.043	0.000	**1.10**	0.08	**A**
NL	1	0.041	0.005	**1.06**	0.15	**A**
OU	1	0.052	0.000	**1.33**	0.10	**W**
RI	1	44.500	0.520	****.****	83.00	**N**
SK	1	0.042	0.002	**1.08**	0.09	**A**
SW	1	0.057	0.000	**1.46**	0.11	**N**
TI	1	0.043	0.006	**1.10**	0.17	**A**
TM	1	0.042	0.002	**1.06**	0.09	**A**
TN	1	0.035	0.006	**0.89**	0.17	**A**
TO	1	0.040	0.002	**1.03**	0.09	**A**
UC	1	0.038	0.000	**0.97**	0.07	**A**
UP	1	0.039	0.000	**1.00**	0.07	**A**
UY	1	0.039	0.000	**1.00**	0.07	**A**
YA	1	0.040	0.000	**1.03**	0.07	**A**
YP	1	0.038	0.001	**0.97**	0.08	**A**

Total Number Reported: 39

Units for matrices: AI=Bq/filter SO=Bq/kg VE=Bq/kg WA=Bq/L. Values for elemental uranium are reported in µg/filter, g
Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable. pCi = Bq x 27

Participating Laboratories in EML QAP45

Laboratories Reporting Data

Code	Laboratory Name
AA	Environmental Measurements Laboratory , ,
AC	Analytical Chemistry Laboratory Chemical Technology Div., Argonne, IL
AE	Analytical Resources, Inc. , Seattle, WA
AF	Air Force Analytical Laboratory , Brooks AFB, TX
AG	Paragon Analytics, Inc. , Fort Collins, CO
AL	Ames Laboratory Safety, Health & Env. G40TASF, Ames, IA
AN	Argonne Nat'l Laboratory ESH, Bldg 200, Rm. F109, Argonne, IL
AR	Accu-Labs Research Inc. , Golden, CO
AU	ORISE EESD/ESSAP PO Box 117, Oak Ridge, TN
BA	Westinghouse Electric Corp. Bettis Atomic Power Lab, West Mifflin, PA
BC	Babcock & Wilcox MC #42 Naval Nuclear Fuel Division, Lynchburg, VA
BE	RUST Geotech , Grand Junction, CO
BL	Barringer Laboratories Inc. , Golden, CO
BM	Battelle Memorial Institute , Columbus, OH
BN	Brookhaven Nat'l Laboratory Bldg. #535 A, Upton, NY
BP	Battelle PNL, Bldg. 325 BRM 8547 c/o Westinghouse Hanford CO., Richland, WA
BQ	Becquerel Laboratories Inc. , Mississauga, Ontario, Canada
BS	B&W Nuclear Envir. Services , Vandergraft, PA
BU	Autoridad Regulatoria , Buenos Aires, Argentina
BX	B&W Nuclear Envir. Services Nuclear Envir. Lab, Lynchburg, VA
CA	Atomic Energy Control Board , Ottawa, Canada
CL	Core Laboratories , Casper, WY
CP	Controls for Envir. Pollution , Santa Fe, NM
CS	Rockwell Internat'l Corp. Rad. Protection T100, Canoga Park, CA
CW	Carlsbad Environmental Monitoring Res , Carlsbad, NM
CZ	ACZ Laboratories, Inc. , Steamboat Springs, CO
DC	Datachem Laboratories , Salt Lake City, UT
EG	TRA-MTR604 LAB 124 ATTN: Jodie Doherty 208-533-41, Scoville, ID
EI	Argonne National Laboratory Building 211, Argonne, IL
EP	US EPA-LV Mail Stop/ RSD , Las Vegas, NV
ES	Environmental Sci. & Engr., Inc. Inorganic Analyt.Chem., Gainesville, FL
FG	FGL Environmental , Santa Paula, CA
FL	Dept of Health & Rehab. Serv. Office of Rad. Control, Orlando, FL
FM	Office of Radiation Control Mobile Emergency Radiological, Orlando, FL
FN	Shipping and Receiving Department ATTN: Steve Benesch, 21 S Shab, Batavia, IL
FS	Florida State University Department of Oceanography, Tallahassee, FL
GA	Lockheed Martin Rm. 333 Bldg X710, Pikton, OH
GE	General Engineering Labs Environmental Physics, Inc., Charleston, SC
GS	USGS/NWQL , Arvada, CO
HC	Lawrence Livermore Laboratory Hazards Control, L383, Livermore, CA
ID	DPRA - IRD/CNEN Av. Salvador Allende S/N, Jaca, Rio De Janeiro, RJBrasil
IE	IEA, Inc. , Morrisville, NC
IL	ISU Environmental Monitoring Program Physical Science 103, Pocatello, ID
IN	WINCO MS 5202 , Idaho Falls, ID
IR	Idaho National Engineering Laboratory , Scoville, ID
IS	Quanterra- St. Louis , Earth City, MO
IT	Quanterra- Richland Laboratory , Richland, WA
KA	Knolls Atomic Power Lab, Bldg A-3 Rm 2401 River Road, Schenectady, NY
LA	Analytical Services, CST-3 MS K484, Los Alamos, NM
LH	Lockheed Analytical Laboratory , Las Vegas, NV
LL	Lawrence Livermore Nat'l Lab Nuclear Chem. Div., Livermore, CA

Participating Laboratories in EML QAP45

Laboratories Reporting Data

Code	Laboratory Name
LV	UNLV, Dept of Health Physics Bigelow H. S. BLDG, RM 350, Las Vegas, NV
LW	Lawrence Livermore Nat'l Lab Nuclear Chem. Div., Livermore, CA
ME	Radiation Control Program , Jamaica Plain, MA
MI	Massachusetts Inst. of Tech. , Middleton, MA
ML	EG&G Mound Applied Technologies , Miamisburg, OH
MS	Manufacturing Sciences Corporation , Oak Ridge, TN
NA	USEPA NAREL , Montgomery, AL
NC	Head, Nuclear Services North Carolina State Universit, Raleigh, NC
NL	FERMCO BLDG 15, room C-11, Cincinnati, OH
NM	Environmental Evaluation Group 505 North Main Street, Carlsbad, NM
NP	New York Power Authority, JAF Environ , Fulton, NY
NR	NRF Chemistry, S1W2 , Scoville, ID
NS	State Lab of Public Health, Environme Environmental Radiochemistry B, Raleigh, NC
OB	OBG Laboratories , East Syracuse, NY
OD	ORNL, Radiobioassay Lab Bldg 4500-S Rm H-249 MS 6105, Oak Ridge, TN
OK	Southwest Laboratory of Oklahoma, Inc , Broken Arrow, OK
OR	Oak Ridge National Lab Bldg 4500-N Rm G-5, Oak Ridge, TN
OS	Oregon Health Division Radiation Controls Section, Portland, OR
OT	ORNLRadioactive Material Analysis Lab BLDG 2026, Room 129, Oak Ridge, TN
OU	Outreach Laboratory , Broken Arrow, OK
PA	Mason & Hanger-Silas Mason Co., Inc. , Amarillo, TX
PB	Mason & Hanger-Silas Mason Co., Inc. , Amarillo, TX
PI	Lockheed Martin Specialty Components , Largo, FL
RA	V. G. Khlopin Radium Institute , St. Petersburg, Russia
RC	U.S. NRC Region I Laboratory , King of Prussia, PA
RD	Radiation Detection Company , Sunnyvale, CA
RE	Bechtel Nevada Building 650, Warehouse 160, Mercury, NV
RF	EG&G Rocky Flats Plant Bldg 123, Golden, CO
RG	EG&G Rocky Flats Plant , Golden, CO
RI	Westinghouse Hanford Co. Analytical Labs, Dept. T6-16, Richland, WA
RL	Thermo Hanford 2440 Stevens Center MSIN: H6-0, Richland, WA
SA	Sandia Labs - Organization 7715 Radioactive Sample Diag. Prog., Albuquerque, NM
SC	Ceimic Corp. , San Diego, CA
SK	Savannah River Plant Bldg 735-7A Rm 110, Aiken, SC
SL	Stanford Linear Accelerator Center Off. of Hlth Physics, MS 84, Menlow Park, CA
SN	Sanford Cohen Associates, Inc. , Montgomery, AL
SR	Savannah River Plant , Aiken, SC
SS	Savannah River Tech Center , Aiken, SC
SV	Savannah Lab & Envt Serv., Inc. , Tampa, FL
SW	Southwest Research Institute, Div. 01 P.O. Drawer 28510, San Antonio, TX
TE	Teledyne Isotopes Midwest Lab , Northbrook, IL
TI	Teledyne Brown Engineering Environmental Services, Westwood, NJ
TM	TMA/Eberline-Albuquerque Lab , Albuquerque, NM
TN	TMA/NORCAL , Richmond, CA
TO	TMA/Eberline Oak Ridge Laboratory, Oak Ridge, TN
TP	Taiwan Power Company , Taipei, Taiwan, ROC
TW	Taiwan Radiation Monitoring Center Atomic Energy Council, Executi, Kaohsiung, Taiwan, ROC
TX	TDH/Laboratories , Austin, TX
UC	Lockheed Martin RM 60 BLDG C-710, Paducah, KY
UK	K-25 Plant Lockheed Martin Energy Systems, Oak Ridge, TN
UP	Y-12 Plant, ASO, QC Laboratory 113C Union Valley Road, Oak Ridge, TN

Participating Laboratories in EML QAP45

Laboratories Reporting Data

Code	Laboratory Name
UY	Y-12 Plant, ASO, QC Laboratory 113C Union Valley Road, Oak Ridge, TN
WA	Environmental Radiation Lab Off. of Public Health Labs., Seattle, WA
WC	Westinghouse Hanford Co. MSIN S3-28, Richland, WA
WE	Westinghouse Electric Corp. Chemical & Materials Tech., Madison, PA
WI	Westinghouse Electric Corp. WIPP Site, Carlsbad, NM
WP	Washington Public Power Supply System , Richland, WA
WV	West Valley Nuclear Services Co, Inc MS 307, West Valley, NY
YA	Yankee Atomic Electric Company , Westboro, MA
YP	US Army Proving Ground ATTN: STEYP-RS-LS-MP, Yuma, AZ

Total Reporting Labs: 111

Participating Laboratories in EML QAP45

Laboratories Not Reporting Data

Code	Laboratory Name
AI	Nuclear Technology Services, Inc. Radiochemistry Lab, Roswell, GA
AM	American Radiation Services, Inc. , Baton Rouge, LA
AW	Argonne National Laboratory , Idaho Falls, ID
BK	Brookhaven Nat'l Laboratory Dept of Adv Tech., Upton, NY
BR	US Army Research Laboratory Attn: AMSRL-OP-AP-RK(Richard M, Aberdeen Proving Ground, MD
CH	California State Dept. Health Serv. Sanitation & Radiation Laborat, Berkeley, CA
EL	Energy Laboratories, Inc. Radiochemistry Department, Casper, WY
EM	3M Center , St. Paul, MN
HI	Heritage Laboratories, Inc. , Indianapolis, IN
HS	RESL - USDOE , Idaho Falls, ID
JP	Japan Chemical Analysis Center 295-3 Sanno-Cho, Chiba 263, Japan
LB	Lawrence Berkeley Lab UCB Bldg 75, Room 124, Berkeley, CA
LM	Los Alamos Nat'l Lab , Mercury, NV
MA	ORNL Health Sciences Research Div. BLDG 7710 MS 6379, Oak Ridge, TN
OL	Oak Ridge National Laboratory Environmental Sciences Div., Oak Ridge, TN
PR	Princeton Plasma Physics Lab , Princeton, NJ
RB	U.S. NRC Region III Laboratory , Lisle, IL
SE	Shealy Environmental Services Inc. Overlook Business Center, Cayce, SC
TU	Texas A&M University, Dept of Nuclear , College Station, TX
TY	Scientific Production Association 82, Lenin Street, Kaluga Region, RUSSIA
WS	Weldon Springs Site , St. Charles, MO

Total Non-Reporting Labs: 21