



**Environmental, Inc.**  
**Midwest Laboratory**  
an Allegheny Technologies Co.

700 Landwehr Road • Northbrook, IL 60062-2310  
ph. (847) 564-0700 • fax (847) 564-4517

FINAL PROGRESS REPORT

RADIOLOGICAL ENVIRONMENTAL MONITORING PROGRAM

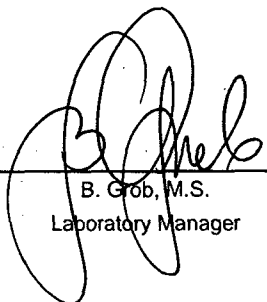
DAVIS-BESSE NUCLEAR POWER STATION  
OAK HARBOR, OHIO

Reporting Period: January - December, 2008

Prepared and Submitted by  
ENVIRONMENTAL, INC.,  
MIDWEST LABORATORY

Project Number: 8003

Reviewed and  
Approved



---

B. Grob, M.S.  
Laboratory Manager

Date 02-18-2009

Distribution: A. Percival, Davis-Besse (2 copies and Original Raw Data)

## TABLE OF CONTENTS

<u>Section</u>		<u>Page</u>
	List of Tables .....	iii
1.0	INTRODUCTION .....	vi
2.0	LISTING OF MISSED SAMPLES.....	vii
3.0	DATA TABULATIONS.....	viii

### Appendices

A	Interlaboratory Comparison Program Results .....	A-1
B	Data Reporting Conventions .....	B-1
C	Supplemental Analyses .....	C-1

**Environmental, Inc.**  
**Midwest Laboratory**  
an Allegheny Technologies Co.

700 Landwehr Road • Northbrook, IL 60062-2310  
ph. (847) 564-0700 • fax (847) 564-4517

FINAL PROGRESS REPORT

RADIOLOGICAL ENVIRONMENTAL MONITORING PROGRAM

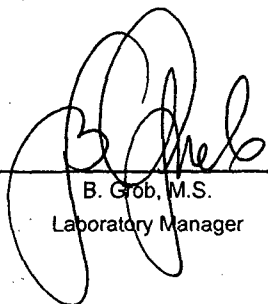
DAVIS-BESSE NUCLEAR POWER STATION  
OAK HARBOR, OHIO

Reporting Period: January - December, 2008

Prepared and Submitted by  
ENVIRONMENTAL, INC.,  
MIDWEST LABORATORY

Project Number: 8003

Reviewed and  
Approved



\_\_\_\_\_  
B. Grob, M.S.  
Laboratory Manager

Date 02-18-2009

Distribution: A. Percival, Davis-Besse (2 copies and Original Raw Data)

## TABLE OF CONTENTS

<u>Section</u>		<u>Page</u>
	List of Tables .....	iii
1.0	INTRODUCTION .....	vi
2.0	LISTING OF MISSED SAMPLES .....	vii
3.0	DATA TABULATIONS .....	viii
 <u>Appendices</u>		
A	Interlaboratory Comparison Program Results .....	A-1
B	Data Reporting Conventions .....	B-1
C	Supplemental Analyses .....	C-1

## LIST OF TABLES

<u>No.</u>	<u>Title</u>	<u>Page</u>
1	Airborne particulates and iodine collected at Location T-1, analyses for gross beta and iodine-131 .....	1-1
2	Airborne particulates and iodine collected at Location T-2, analyses for gross beta and iodine-131 .....	2-1
3	Airborne particulates and iodine collected at Location T-3, analyses for gross beta and iodine-131 .....	3-1
4	Airborne particulates and iodine collected at Location T-4, analyses for gross beta and iodine-131 .....	4-1
5	Airborne particulates and iodine collected at Location T-7, analyses for gross beta and iodine-131 .....	5-1
6	Airborne particulates and iodine collected at Location T-8, analyses for gross beta and iodine-131 .....	6-1
7	Airborne particulates and iodine collected at Location T-9, analyses for gross beta and iodine-131 .....	7-1
8	Airborne particulates and iodine collected at Location T-11, analyses for gross beta and iodine-131 .....	8-1
9	Airborne particulates and iodine collected at Location T-12, analyses for gross beta and iodine-131 .....	9-1
10	Airborne particulates and iodine collected at Location T-27, analyses for gross beta and iodine-131 .....	10-1
11	Airborne particulate data, gross beta analysis, monthly averages, minima and maxima .....	11-1
12	Airborne particulate samples, quarterly composites by location, analyses for strontium-89, strontium-90 and gamma-emitting isotopes .....	12-1
13	Area monitors (TLD), quarterly .....	13-1
14	Area monitors (TLD), annual .....	14-1
15	Milk, analyses for strontium-89, strontium-90, iodine-131, gamma-emitting isotopes, calcium, stable potassium, and ratios of strontium-90 (pCi) per gram of calcium and cesium-137 (pCi) per gram of potassium .....	15-1

LIST OF TABLES (continued)

The following tables are in the Appendices:

Appendix A

	Attachment A: Acceptance criteria for spiked samples .....	A-2
A-1	Interlaboratory Comparison Program Results .....	A1-1
A-2	Interlaboratory Comparison Program Results, thermoluminescent dosimeters (TLDs).....	A2-1
A-3	Results of the analyses on in-house spiked samples.....	A3-1
A-4	Results of the analyses on in-house "blank" samples .....	A4-1
A-5	Results of the analyses on in-house "duplicate" samples.....	A5-1
A-6	Mixed Analyte Performance Evaluation Program (MAPEP).....	A6-1

Appendix B

B-1	Data Reporting Conventions .....	B-2
-----	----------------------------------	-----

Appendix C

C-1	Air Particulates, duplicate analyses for gross beta.....	C-2
C-2	Duplicate Analyses .....	C-3
C-3	Program Deviations.....	C-4

## 1.0 INTRODUCTION

The following constitutes the current 2008 Monthly Progress Report for the Radiological Environmental Monitoring Program conducted at the Davis-Besse Nuclear Power Station in Oak Harbor, Ohio. Results of completed analyses are presented in the attached tables. Missing entries indicate analyses that are not yet completed.

All activities, except gross alpha and gross beta, are decay corrected to the time of collection.

All samples were collected within the scheduled period unless noted otherwise in the Listing of Missed Samples.

2.0 LISTING OF MISSED SAMPLES

---

Sample Type	Location	Expected Collection Date	Reason
AP/AI	T-07	04-29-08	Sampler pump failure after 5 hours run-time. Pump was replaced.

---



### 3.0 DATA TABULATIONS

Table 1. Airborne particulates and charcoal canisters, analyses for gross beta and iodine-131<sup>a</sup>.

Location: T-1

Units: pCi/m<sup>3</sup>

Collection: Continuous, weekly exchange.

Date Collected	Volume (m <sup>3</sup> )	Gross Beta	Date Collected	Volume (m <sup>3</sup> )	Gross Beta
<u>Required LLD</u>		<u>0.010</u>			<u>0.010</u>
01-08-08	240	0.022 ± 0.004	07-08-08	279	0.019 ± 0.004
01-15-08	281	0.042 ± 0.005	07-15-08	278	0.019 ± 0.004
01-22-08	282	0.036 ± 0.004	07-22-08	287	0.041 ± 0.004
01-29-08	280	0.039 ± 0.004	07-29-08	291	0.028 ± 0.004
02-05-08	280	0.036 ± 0.004	08-05-08	291	0.030 ± 0.004
02-12-08	281	0.030 ± 0.004	08-12-08	291	0.021 ± 0.003
02-19-08	280	0.031 ± 0.004	08-19-08	292	0.026 ± 0.003
02-26-08	280	0.026 ± 0.004	08-26-08	291	0.024 ± 0.004
			09-02-08	291	0.033 ± 0.004
03-04-08	280	0.028 ± 0.004			
03-11-08	265	0.027 ± 0.004	09-09-08	293	0.034 ± 0.004
03-18-08	280	0.023 ± 0.004	09-16-08	291	0.016 ± 0.003
03-25-08	281	0.025 ± 0.004	09-23-08	292	0.029 ± 0.004
04-01-08	281	0.024 ± 0.004	09-30-08	291	0.033 ± 0.004
<hr/>			<hr/>		
1st Quarter Mean ± s.d.		0.030 ± 0.006	3rd Quarter Mean ± s.d.		0.027 ± 0.007
04-08-08	280	0.029 ± 0.004	10-07-08	295	0.020 ± 0.003
04-15-08	284	0.009 ± 0.003	10-14-08	289	0.034 ± 0.004
04-22-08	277	0.027 ± 0.004	10-21-08	292	0.022 ± 0.003
04-29-08	280	0.025 ± 0.004	10-28-08	292	0.017 ± 0.003
05-06-08	280	0.022 ± 0.004	11-04-08	291	0.041 ± 0.004
05-13-08	278	0.014 ± 0.004	11-11-08	292	0.045 ± 0.004
05-20-08	279	0.013 ± 0.003	11-18-08	300	0.027 ± 0.003
05-27-08	281	0.006 ± 0.003	11-25-08	287	0.024 ± 0.003
06-03-08	279	0.016 ± 0.003	12-02-08	291	0.029 ± 0.004
06-10-08	279	0.030 ± 0.004	12-09-08	291	0.031 ± 0.004
06-17-08	279	0.019 ± 0.004	12-16-08	292	0.030 ± 0.004
06-24-08	279	0.012 ± 0.003	12-22-08	244	0.031 ± 0.004
07-01-08	279	0.016 ± 0.003	12-30-08	324	0.035 ± 0.004
<hr/>			<hr/>		
2nd Quarter Mean ± s.d.		0.018 ± 0.008	4th Quarter Mean ± s.d.		0.030 ± 0.008
			Cumulative Average		0.026

<sup>a</sup> Iodine-131 concentrations are < 0.07 pCi/m<sup>3</sup> unless noted otherwise in Appendix C.

Table 2. Airborne particulates and charcoal canisters, analyses for gross beta and iodine-131<sup>a</sup>.

Location: T-2

Units: pCi/m<sup>3</sup>

Collection: Continuous, weekly exchange.

Date Collected	Volume (m <sup>3</sup> )	Gross Beta	Date Collected	Volume (m <sup>3</sup> )	Gross Beta
<u>Required LLD</u>		<u>0.010</u>			<u>0.010</u>
01-08-08	241	0.029 ± 0.004	07-08-08	288	0.019 ± 0.004
01-15-08	286	0.032 ± 0.004	07-15-08	286	0.019 ± 0.004
01-22-08	281	0.032 ± 0.004	07-22-08	287	0.043 ± 0.004
01-29-08	285	0.037 ± 0.004	07-29-08	288	0.026 ± 0.003
02-05-08	286	0.028 ± 0.004	08-05-08	286	0.025 ± 0.003
02-12-08	287	0.026 ± 0.003	08-12-08	287	0.020 ± 0.003
02-19-08	286	0.030 ± 0.004	08-19-08	288	0.026 ± 0.003
02-26-08	285	0.023 ± 0.004	08-26-08	286	0.024 ± 0.004
			09-02-08	286	0.035 ± 0.004
03-04-08	286	0.027 ± 0.004			
03-11-08	270	0.026 ± 0.004	09-09-08	288	0.032 ± 0.004
03-18-08	282	0.020 ± 0.004	09-16-08	287	0.019 ± 0.003
03-25-08	286	0.022 ± 0.004	09-23-08	287	0.027 ± 0.004
04-01-08	286	0.021 ± 0.004	09-30-08	287	0.037 ± 0.004
<u>1st Quarter Mean ± s.d.</u>		<u>0.027 ± 0.005</u>	<u>3rd Quarter Mean ± s.d.</u>		<u>0.027 ± 0.008</u>
04-08-08	281	0.029 ± 0.004	10-07-08	285	0.019 ± 0.003
04-15-08	289	0.011 ± 0.003	10-14-08	286	0.036 ± 0.004
04-22-08	283	0.022 ± 0.004	10-21-08	287	0.018 ± 0.003
04-29-08	286	0.026 ± 0.004	10-28-08	287	0.018 ± 0.003
05-06-08	286	0.027 ± 0.004	11-04-08	286	0.042 ± 0.004
05-13-08	285	0.016 ± 0.004	11-11-08	287	0.036 ± 0.004
05-20-08	286	0.014 ± 0.003	11-18-08	290	0.025 ± 0.003
05-27-08	285	0.013 ± 0.003	11-25-08	288	0.019 ± 0.003
06-03-08	299	0.018 ± 0.003	12-02-08	288	0.032 ± 0.004
06-10-08	287	0.016 ± 0.003	12-09-08	288	0.027 ± 0.003
06-17-08	287	0.017 ± 0.003	12-16-08	288	0.031 ± 0.004
06-24-08	286	0.016 ± 0.004	12-22-08	244	0.033 ± 0.004
07-01-08	286	0.018 ± 0.004	12-30-08	333	0.036 ± 0.004
<u>2nd Quarter Mean ± s.d.</u>		<u>0.019 ± 0.006</u>	<u>4th Quarter Mean ± s.d.</u>		<u>0.029 ± 0.008</u>
				<u>Cumulative Average</u>	<u>0.026</u>

<sup>a</sup> Iodine-131 concentrations are < 0.07 pCi/m<sup>3</sup> unless noted otherwise in Appendix C.

Table 3. Airborne particulates and charcoal canisters, analyses for gross beta and iodine-131<sup>a</sup>.

Location: T-3

Units: pCi/m<sup>3</sup>

Collection: Continuous, weekly exchange.

Date Collected	Volume (m <sup>3</sup> )	Gross Beta	Date Collected	Volume (m <sup>3</sup> )	Gross Beta
<u>Required LLD</u>		<u>0.010</u>			<u>0.010</u>
01-08-08	245	0.028 ± 0.004	07-08-08	288	0.021 ± 0.004
01-15-08	288	0.029 ± 0.004	07-15-08	286	0.018 ± 0.004
01-22-08	290	0.031 ± 0.004	07-22-08	287	0.038 ± 0.004
01-29-08	290	0.037 ± 0.004	07-29-08	288	0.029 ± 0.004
02-05-08	294	0.032 ± 0.004	08-05-08	286	0.028 ± 0.004
02-12-08	291	0.033 ± 0.004	08-12-08	287	0.017 ± 0.003
02-19-08	284	0.027 ± 0.004	08-19-08	288	0.026 ± 0.003
02-26-08	284	0.026 ± 0.004	08-26-08	286	0.022 ± 0.004
03-04-08	284	0.024 ± 0.003	09-02-08	286	0.029 ± 0.004
03-11-08	269	0.021 ± 0.004	09-09-08	288	0.033 ± 0.004
03-18-08	283	0.020 ± 0.004	09-16-08	287	0.017 ± 0.003
03-25-08	284	0.024 ± 0.004	09-23-08	287	0.028 ± 0.004
04-01-08	284	0.019 ± 0.004	09-30-08	282	0.030 ± 0.004
<u>1st Quarter Mean ± s.d.</u>		<u>0.027 ± 0.005</u>	<u>3rd Quarter Mean ± s.d.</u>		<u>0.026 ± 0.006</u>
04-08-08	282	0.026 ± 0.004	10-07-08	278	0.019 ± 0.003
04-15-08	287	0.009 ± 0.003	10-14-08	281	0.031 ± 0.004
04-22-08	281	0.025 ± 0.004	10-21-08	282	0.023 ± 0.004
04-29-08	285	0.030 ± 0.004	10-28-08	282	0.015 ± 0.003
05-06-08	284	0.024 ± 0.004	11-04-08	281	0.055 ± 0.005
05-13-08	284	0.017 ± 0.004	11-11-08	282	0.036 ± 0.004
05-20-08	284	0.013 ± 0.003	11-18-08	282	0.026 ± 0.003
05-27-08	284	0.010 ± 0.003	11-25-08	282	0.018 ± 0.003
06-03-08	283	0.017 ± 0.003	12-02-08	281	0.030 ± 0.004
06-10-08	283	0.018 ± 0.004	12-09-08	282	0.032 ± 0.004
06-17-08	283	0.012 ± 0.003	12-16-08	282	0.031 ± 0.004
06-24-08	286	0.012 ± 0.003	12-22-08	238	0.031 ± 0.004
07-01-08	286	0.017 ± 0.003	12-30-08	339	0.036 ± 0.004
<u>2nd Quarter Mean ± s.d.</u>		<u>0.018 ± 0.007</u>	<u>4th Quarter Mean ± s.d.</u>		<u>0.029 ± 0.010</u>
<u>Cumulative Average</u>					<u>0.025</u>

<sup>a</sup> Iodine-131 concentrations are < 0.07 pCi/m<sup>3</sup> unless noted otherwise in Appendix C.

Table 4. Airborne particulates and charcoal canisters, analyses for gross beta and iodine-131<sup>a</sup>.

Location: T-4

Units: pCi/m<sup>3</sup>

Collection: Continuous, weekly exchange.

Date Collected	Volume (m <sup>3</sup> )	Gross Beta	Date Collected	Volume (m <sup>3</sup> )	Gross Beta
<u>Required LLD</u>		<u>0.010</u>			<u>0.010</u>
01-08-08	243	0.030 ± 0.004	07-08-08	291	0.019 ± 0.004
01-15-08	278	0.035 ± 0.004	07-15-08	286	0.015 ± 0.003
01-22-08	271	0.039 ± 0.004	07-22-08	289	0.045 ± 0.004
01-29-08	271	0.045 ± 0.004	07-29-08	289	0.027 ± 0.003
02-05-08	283	0.042 ± 0.004	08-05-08	288	0.028 ± 0.004
02-12-08	285	0.031 ± 0.004	08-12-08	290	0.016 ± 0.003
02-19-08	282	0.039 ± 0.005	08-19-08	288	0.026 ± 0.003
02-26-08	283	0.027 ± 0.004	08-26-08	285	0.019 ± 0.004
03-04-08	283	0.029 ± 0.004	09-02-08	282	0.030 ± 0.004
03-11-08	284	0.028 ± 0.004	09-09-08	282	0.030 ± 0.004
03-18-08	282	0.022 ± 0.004	09-16-08	281	0.020 ± 0.003
03-25-08	284	0.023 ± 0.004	09-23-08	281	0.030 ± 0.004
04-01-08	275	0.024 ± 0.004	09-30-08	280	0.033 ± 0.004
1st Quarter Mean ± s.d.		0.032 ± 0.008	3rd Quarter Mean ± s.d.		0.026 ± 0.008
04-08-08	276	0.029 ± 0.004	10-07-08	279	0.022 ± 0.003
04-15-08	278	0.012 ± 0.003	10-14-08	281	0.033 ± 0.004
04-22-08	272	0.027 ± 0.004	10-21-08	280	0.019 ± 0.003
04-29-08	284	0.027 ± 0.004	10-28-08	281	0.017 ± 0.003
05-06-08	284	0.028 ± 0.004	11-04-08	280	0.044 ± 0.004
05-13-08	283	0.017 ± 0.004	11-11-08	281	0.041 ± 0.004
05-20-08	289	0.014 ± 0.003	11-18-08	273	0.024 ± 0.003
05-27-08	288	0.009 ± 0.003	11-25-08	280	0.019 ± 0.003
06-03-08	284	0.016 ± 0.003	12-02-08	280	0.032 ± 0.004
06-10-08	289	0.013 ± 0.003	12-09-08	281	0.028 ± 0.004
06-17-08	289	0.019 ± 0.004	12-16-08	281	0.030 ± 0.004
06-24-08	288	0.011 ± 0.003	12-22-08	242	0.035 ± 0.004
07-01-08	288	0.019 ± 0.004	12-30-08	327	0.044 ± 0.004
2nd Quarter Mean ± s.d.		0.019 ± 0.007	4th Quarter Mean ± s.d.		0.030 ± 0.009
				Cumulative Average	0.027

<sup>a</sup> Iodine-131 concentrations are < 0.07 pCi/m<sup>3</sup> unless noted otherwise in Appendix C.

Table 5. Airborne particulates and charcoal canisters, analyses for gross beta and iodine-131<sup>a</sup>.

Location: T-7

Units: pCi/m<sup>3</sup>

Collection: Continuous, weekly exchange.

Date Collected	Volume (m <sup>3</sup> )	Gross Beta	Date Collected	Volume (m <sup>3</sup> )	Gross Beta
<u>Required LLD</u>		<u>0.010</u>			<u>0.010</u>
01-08-08	204	0.030 ± 0.005	07-08-08	275	0.016 ± 0.004
01-15-08	280	0.031 ± 0.004	07-15-08	278	0.017 ± 0.004
01-22-08	283	0.037 ± 0.004	07-22-08	281	0.039 ± 0.004
01-29-08	279	0.039 ± 0.004	07-29-08	290	0.026 ± 0.003
02-05-08	279	0.030 ± 0.004	08-05-08	278	0.026 ± 0.004
02-12-08	279	0.026 ± 0.004	08-12-08	283	0.018 ± 0.003
02-19-08	283	0.027 ± 0.004	08-19-08	284	0.026 ± 0.003
02-26-08	281	0.024 ± 0.004	08-26-08	286	0.021 ± 0.004
			09-02-08	286	0.033 ± 0.004
03-04-08	283	0.025 ± 0.003			
03-11-08	289	0.027 ± 0.004	09-09-08	277	0.037 ± 0.004
03-18-08	283	0.022 ± 0.004	09-16-08	293	0.015 ± 0.003
03-25-08	285	0.024 ± 0.004	09-23-08	294	0.029 ± 0.004
04-01-08	283	0.017 ± 0.004	09-30-08	294	0.028 ± 0.003
<u>1st Quarter Mean ± s.d.</u>		<u>0.028 ± 0.006</u>	<u>3rd Quarter Mean ± s.d.</u>		<u>0.025 ± 0.008</u>
04-08-08	283	0.023 ± 0.004	10-07-08	293	0.020 ± 0.003
04-15-08	283	0.009 ± 0.003	10-14-08	293	0.031 ± 0.004
04-22-08	283	0.023 ± 0.004	10-21-08	293	0.019 ± 0.003
04-29-08		NS <sup>b</sup>	10-28-08	293	0.018 ± 0.003
05-06-08	284	0.021 ± 0.004	11-04-08	293	0.036 ± 0.004
05-13-08	283	0.016 ± 0.004	11-11-08	296	0.042 ± 0.004
05-20-08	279	0.012 ± 0.003	11-18-08	290	0.024 ± 0.003
05-27-08	277	0.012 ± 0.003	11-25-08	294	0.019 ± 0.003
06-03-08	278	0.017 ± 0.003	12-02-08	294	0.025 ± 0.003
06-10-08	279	0.019 ± 0.004	12-09-08	294	0.029 ± 0.004
06-17-08	279	0.021 ± 0.004	12-16-08	294	0.030 ± 0.004
06-24-08	279	0.013 ± 0.003	12-22-08	257	0.030 ± 0.004
07-01-08	284	0.021 ± 0.004	12-30-08	335	0.035 ± 0.004
<u>2nd Quarter Mean ± s.d.</u>		<u>0.017 ± 0.005</u>	<u>4th Quarter Mean ± s.d.</u>		<u>0.028 ± 0.008</u>
					<u>Cumulative Average</u>
					<u>0.025</u>

<sup>a</sup> Iodine-131 concentrations are < 0.07 pCi/m<sup>3</sup> unless noted otherwise in Appendix C.

<sup>b</sup> NS = No Sample, sampler pump failed after 5 hours run-time. Pump replaced.

Table 6. Airborne particulates and charcoal canisters, analyses for gross beta and iodine-131<sup>a</sup>.

Location: T-8

Units: pCi/m<sup>3</sup>

Collection: Continuous, weekly exchange.

Date Collected	Volume (m <sup>3</sup> )	Gross Beta	Date Collected	Volume (m <sup>3</sup> )	Gross Beta
<u>Required LLD</u>		<u>0.010</u>			<u>0.010</u>
01-08-08	244	0.026 ± 0.004	07-08-08	284	0.020 ± 0.004
01-15-08	291	0.029 ± 0.004	07-15-08	282	0.019 ± 0.004
01-22-08	287	0.033 ± 0.004	07-22-08	284	0.040 ± 0.004
01-29-08	289	0.036 ± 0.004	07-29-08	286	0.029 ± 0.004
02-05-08	283	0.033 ± 0.004	08-05-08	283	0.027 ± 0.004
02-12-08	286	0.029 ± 0.004	08-12-08	283	0.017 ± 0.003
02-19-08	284	0.034 ± 0.004	08-19-08	283	0.027 ± 0.004
02-26-08	304	0.023 ± 0.004	08-26-08	283	0.023 ± 0.004
			09-02-08	283	0.037 ± 0.004
03-04-08	274	0.029 ± 0.004			
03-11-08	294	0.031 ± 0.004	09-09-08	285	0.034 ± 0.004
03-18-08	273	0.021 ± 0.004	09-16-08	283	0.018 ± 0.003
03-25-08	286	0.026 ± 0.004	09-23-08	284	0.029 ± 0.004
04-01-08	277	0.012 ± 0.003	09-30-08	284	0.031 ± 0.004
<u>1st Quarter Mean ± s.d.</u>		<u>0.028 ± 0.006</u>	<u>3rd Quarter Mean ± s.d.</u>		<u>0.027 ± 0.007</u>
04-08-08	369	0.021 ± 0.003	10-07-08	281	0.022 ± 0.003
04-15-08	282	0.009 ± 0.003	10-14-08	283	0.035 ± 0.004
04-22-08	282	0.019 ± 0.004	10-21-08	283	0.021 ± 0.003
04-29-08	292	0.029 ± 0.004	10-28-08	284	0.017 ± 0.003
05-06-08	283	0.029 ± 0.004	11-04-08	283	0.042 ± 0.004
05-13-08	277	0.018 ± 0.004	11-11-08	285	0.038 ± 0.004
05-20-08	278	0.014 ± 0.003	11-18-08	283	0.027 ± 0.003
05-27-08	276	0.010 ± 0.003	11-25-08	284	0.022 ± 0.003
06-03-08	276	0.018 ± 0.003	12-02-08	283	0.029 ± 0.004
06-10-08	281	0.016 ± 0.003	12-09-08	283	0.027 ± 0.004
06-17-08	284	0.010 ± 0.003	12-16-08	284	0.025 ± 0.003
06-24-08	283	0.014 ± 0.004	12-22-08	245	0.030 ± 0.004
07-01-08	283	0.021 ± 0.004	12-30-08	324	0.037 ± 0.004
<u>2nd Quarter Mean ± s.d.</u>		<u>0.018 ± 0.006</u>	<u>4th Quarter Mean ± s.d.</u>		<u>0.029 ± 0.008</u>
<u>Cumulative Average</u>					<u>0.025</u>

<sup>a</sup> Iodine-131 concentrations are < 0.07 pCi/m<sup>3</sup> unless noted otherwise in Appendix C.

Table 7. Airborne particulates and charcoal canisters, analyses for gross beta and iodine-131<sup>a</sup>.

Location: T-9 (C)

Units: pCi/m<sup>3</sup>

Collection: Continuous, weekly exchange.

Date Collected	Volume (m <sup>3</sup> )	Gross Beta	Date Collected	Volume (m <sup>3</sup> )	Gross Beta
<u>Required LLD</u>		<u>0.010</u>			<u>0.010</u>
01-08-08	246	0.024 ± 0.004	07-08-08	289	0.020 ± 0.004
01-15-08	289	0.028 ± 0.004	07-15-08	286	0.017 ± 0.003
01-22-08	285	0.030 ± 0.004	07-22-08	275	0.037 ± 0.004
01-29-08	287	0.036 ± 0.004	07-29-08	282	0.031 ± 0.004
02-05-08	285	0.029 ± 0.004	08-05-08	281	0.027 ± 0.004
02-12-08	288	0.027 ± 0.003	08-12-08	293	0.019 ± 0.003
02-19-08	286	0.032 ± 0.004	08-19-08	288	0.027 ± 0.003
02-26-08	287	0.024 ± 0.004	08-26-08	293	0.024 ± 0.004
			09-02-08	294	0.036 ± 0.004
03-04-08	286	0.027 ± 0.004			
03-11-08	287	0.025 ± 0.004	09-09-08	282	0.036 ± 0.004
03-18-08	286	0.019 ± 0.004	09-16-08	280	0.019 ± 0.003
03-25-08	288	0.020 ± 0.004	09-23-08	281	0.032 ± 0.004
04-01-08	289	0.018 ± 0.004	09-30-08	281	0.037 ± 0.004
<u>1st Quarter Mean ± s.d.</u>		<u>0.026 ± 0.005</u>	<u>3rd Quarter Mean ± s.d.</u>		<u>0.028 ± 0.008</u>
04-08-08	290	0.020 ± 0.003	10-07-08	278	0.023 ± 0.003
04-15-08	289	0.006 ± 0.003	10-14-08	280	0.036 ± 0.004
04-22-08	286	0.022 ± 0.004	10-21-08	280	0.038 ± 0.004
04-29-08	288	0.028 ± 0.004	10-28-08	281	0.015 ± 0.003
05-06-08	289	0.025 ± 0.004	11-04-08	280	0.039 ± 0.004
05-13-08	288	0.013 ± 0.003	11-11-08	284	0.036 ± 0.004
05-20-08	289	0.016 ± 0.003	11-18-08	283	0.023 ± 0.003
05-27-08	287	0.010 ± 0.003	11-25-08	284	0.020 ± 0.003
06-03-08	288	0.007 ± 0.003	12-02-08	283	0.028 ± 0.004
06-10-08	287	0.013 ± 0.003	12-09-08	283	0.026 ± 0.003
06-17-08	290	0.019 ± 0.004	12-16-08	283	0.030 ± 0.004
06-24-08	288	0.016 ± 0.004	12-22-08	245	0.034 ± 0.004
07-01-08	288	0.020 ± 0.004	12-30-08	323	0.036 ± 0.004
<u>2nd Quarter Mean ± s.d.</u>		<u>0.017 ± 0.007</u>	<u>4th Quarter Mean ± s.d.</u>		<u>0.030 ± 0.008</u>
<u>Cumulative Average</u>					<u>0.025</u>

<sup>a</sup> Iodine-131 concentrations are < 0.07 pCi/m<sup>3</sup> unless noted otherwise in Appendix C.



Table 8. Airborne particulates and charcoal canisters, analyses for gross beta and iodine-131<sup>a</sup>.

Location: T-11 (C)

Units: pCi/m<sup>3</sup>

Collection: Continuous, weekly exchange.

Date Collected	Volume (m <sup>3</sup> )	Gross Beta	Date Collected	Volume (m <sup>3</sup> )	Gross Beta
<u>Required LLD</u>		<u>0.010</u>			<u>0.010</u>
01-08-08	241	0.031 ± 0.004	07-08-08	284	0.021 ± 0.004
01-15-08	284	0.031 ± 0.004	07-15-08	284	0.020 ± 0.004
01-22-08	287	0.036 ± 0.004	07-22-08	284	0.044 ± 0.004
01-29-08	283	0.045 ± 0.004	07-29-08	284	0.030 ± 0.004
02-05-08	284	0.029 ± 0.004	08-05-08	284	0.029 ± 0.004
02-12-08	285	0.025 ± 0.003	08-12-08	284	0.022 ± 0.003
02-19-08	284	0.032 ± 0.004	08-19-08	284	0.024 ± 0.003
02-26-08	284	0.025 ± 0.004	08-26-08	284	0.023 ± 0.004
03-04-08	284	0.028 ± 0.004	09-02-08	284	0.039 ± 0.004
03-11-08	283	0.031 ± 0.004	09-09-08	284	0.022 ± 0.003
03-18-08	281	0.022 ± 0.004	09-16-08	283	0.019 ± 0.003
03-25-08	284	0.021 ± 0.004	09-23-08	277	0.030 ± 0.004
04-01-08	284	0.020 ± 0.004	09-30-08	284	0.035 ± 0.004
<u>1st Quarter Mean ± s.d.</u>		<u>0.029 ± 0.007</u>	<u>3rd Quarter Mean ± s.d.</u>		<u>0.028 ± 0.008</u>
04-08-08	284	0.024 ± 0.004	10-07-08	284	0.022 ± 0.003
04-15-08	284	0.009 ± 0.003	10-14-08	284	0.036 ± 0.004
04-22-08	284	0.026 ± 0.004	10-21-08	291	0.024 ± 0.003
04-29-08	284	0.026 ± 0.004	10-28-08	284	0.017 ± 0.003
05-06-08	284	0.024 ± 0.004	11-04-08	284	0.044 ± 0.004
05-13-08	284	0.018 ± 0.004	11-11-08	284	0.039 ± 0.004
05-20-08	284	0.013 ± 0.003	11-18-08	228	0.026 ± 0.004
05-27-08	284	0.009 ± 0.003	11-25-08	286	0.020 ± 0.003
06-03-08	284	0.015 ± 0.003	12-02-08	286	0.031 ± 0.004
06-10-08	282	0.018 ± 0.004	12-09-08	286	0.029 ± 0.004
06-17-08	284	0.022 ± 0.004	12-16-08	286	0.031 ± 0.004
06-24-08	284	0.017 ± 0.004	12-22-08	245	0.036 ± 0.004
07-01-08	284	0.018 ± 0.004	12-30-08	326	0.047 ± 0.004
<u>2nd Quarter Mean ± s.d.</u>		<u>0.018 ± 0.006</u>	<u>4th Quarter Mean ± s.d.</u>		<u>0.031 ± 0.009</u>
<u>Cumulative Average</u>					<u>0.027</u>

<sup>a</sup> Iodine-131 concentrations are < 0.07 pCi/m<sup>3</sup> unless noted otherwise in Appendix C.

Table 9. Airborne particulates and charcoal canisters, analyses for gross beta and iodine-131<sup>a</sup>.

Location: T-12 (C)

Units: pCi/m<sup>3</sup>

Collection: Continuous, weekly exchange.

Date Collected	Volume (m <sup>3</sup> )	Gross Beta	Date Collected	Volume (m <sup>3</sup> )	Gross Beta
<u>Required LLD</u>		<u>0.010</u>			<u>0.010</u>
01-08-08	249	0.025 ± 0.004	07-08-08	286	0.020 ± 0.004
01-15-08	291	0.028 ± 0.004	07-15-08	283	0.018 ± 0.004
01-22-08	290	0.032 ± 0.004	07-22-08	287	0.039 ± 0.004
01-29-08	291	0.039 ± 0.004	07-29-08	287	0.029 ± 0.004
02-05-08	289	0.041 ± 0.004	08-05-08	284	0.026 ± 0.003
02-12-08	293	0.024 ± 0.003	08-12-08	287	0.018 ± 0.003
02-19-08	289	0.029 ± 0.004	08-19-08	285	0.028 ± 0.004
02-26-08	290	0.016 ± 0.003	08-26-08	286	0.023 ± 0.004
			09-02-08	286	0.031 ± 0.004
03-04-08	290	0.026 ± 0.003			
03-11-08	292	0.026 ± 0.004	09-09-08	287	0.033 ± 0.004
03-18-08	288	0.023 ± 0.004	09-16-08	285	0.015 ± 0.003
03-25-08	291	0.020 ± 0.004	09-23-08	286	0.027 ± 0.004
04-01-08	292	0.020 ± 0.004	09-30-08	287	0.034 ± 0.004
<hr/>			<hr/>		
1st Quarter Mean ± s.d.		0.027 ± 0.007	3rd Quarter Mean ± s.d.		0.026 ± 0.007
04-08-08	292	0.024 ± 0.004	10-07-08	278	0.019 ± 0.003
04-15-08	292	0.011 ± 0.003	10-14-08	285	0.032 ± 0.004
04-22-08	288	0.028 ± 0.004	10-21-08	287	0.022 ± 0.003
04-29-08	290	0.027 ± 0.004	10-28-08	313	0.017 ± 0.003
05-06-08	291	0.027 ± 0.004	11-04-08	285	0.044 ± 0.004
05-13-08	290	0.017 ± 0.004	11-11-08	285	0.037 ± 0.004
05-20-08	291	0.014 ± 0.003	11-18-08	287	0.028 ± 0.003
05-27-08	290	0.009 ± 0.003	11-25-08	286	0.017 ± 0.003
06-03-08	288	0.018 ± 0.003	12-02-08	283	0.029 ± 0.004
06-10-08	285	0.015 ± 0.003	12-09-08	284	0.029 ± 0.004
06-17-08	288	0.019 ± 0.004	12-16-08	284	0.034 ± 0.004
06-24-08	285	0.013 ± 0.003	12-22-08	245	0.032 ± 0.004
07-01-08	286	0.021 ± 0.004	12-30-08	325	0.043 ± 0.004
<hr/>			<hr/>		
2nd Quarter Mean ± s.d.		0.019 ± 0.006	4th Quarter Mean ± s.d.		0.029 ± 0.009
			Cumulative Average		0.025

<sup>a</sup> Iodine-131 concentrations are < 0.07 pCi/m<sup>3</sup> unless noted otherwise in Appendix C.

Table 10. Airborne particulates and charcoal canisters, analyses for gross beta and iodine-131<sup>a</sup>.

Location: T-27 (C)

Units: pCi/m<sup>3</sup>

Collection: Continuous, weekly exchange.

Date Collected	Volume (m <sup>3</sup> )	Gross Beta	Date Collected	Volume (m <sup>3</sup> )	Gross Beta
<u>Required LLD</u>		<u>0.010</u>			<u>0.010</u>
01-08-08	241	0.032 ± 0.005	07-08-08	286	0.018 ± 0.004
01-15-08	287	0.034 ± 0.004	07-15-08	282	0.021 ± 0.004
01-22-08	285	0.039 ± 0.004	07-22-08	285	0.040 ± 0.004
01-29-08	287	0.039 ± 0.004	07-29-08	285	0.025 ± 0.003
02-05-08	282	0.027 ± 0.004	08-05-08	278	0.026 ± 0.004
02-12-08	287	0.030 ± 0.004	08-12-08	284	0.018 ± 0.003
02-19-08	281	0.034 ± 0.004	08-19-08	287	0.023 ± 0.003
02-26-08	291	0.024 ± 0.004	08-26-08	288	0.026 ± 0.004
			09-02-08	288	0.031 ± 0.004
03-04-08	280	0.031 ± 0.004			
03-11-08	285	0.029 ± 0.004	09-09-08	287	0.040 ± 0.004
03-18-08	285	0.023 ± 0.004	09-16-08	284	0.020 ± 0.003
03-25-08	286	0.019 ± 0.004	09-23-08	284	0.029 ± 0.004
04-01-08	286	0.019 ± 0.004	09-30-08	284	0.031 ± 0.004
<hr/>			<hr/>		
1st Quarter Mean ± s.d.		0.029 ± 0.007	3rd Quarter Mean ± s.d.		0.027 ± 0.007
04-08-08	294	0.026 ± 0.004	10-07-08	297	0.021 ± 0.003
04-15-08	287	0.013 ± 0.003	10-14-08	287	0.032 ± 0.004
04-22-08	284	0.025 ± 0.004	10-21-08	288	0.022 ± 0.003
04-29-08	285	0.028 ± 0.004	10-28-08	287	0.016 ± 0.003
05-06-08	278	0.027 ± 0.004	11-04-08	287	0.041 ± 0.004
05-13-08	284	0.019 ± 0.004	11-11-08	282	0.037 ± 0.004
05-20-08	291	0.012 ± 0.003	11-18-08	289	0.027 ± 0.003
05-27-08	283	0.012 ± 0.003	11-25-08	286	0.019 ± 0.003
06-03-08	279	0.018 ± 0.003	12-02-08	281	0.031 ± 0.004
06-10-08	299	0.015 ± 0.003	12-09-08	287	0.028 ± 0.004
06-17-08	284	0.019 ± 0.004	12-16-08	287	0.032 ± 0.004
06-24-08	279	0.015 ± 0.004	12-22-08	253	0.034 ± 0.004
07-01-08	289	0.018 ± 0.004	12-30-08	327	0.044 ± 0.004
<hr/>			<hr/>		
2nd Quarter Mean ± s.d.		0.019 ± 0.006	4th Quarter Mean ± s.d.		0.030 ± 0.008
					Cumulative Average
					0.026

<sup>a</sup> Iodine-131 concentrations are < 0.07 pCi/m<sup>3</sup> unless noted otherwise in Appendix C.

Table 11-1. Airborne particulate data, gross beta analyses, monthly averages, minima and maxima.

January			
Location	Average	Minima	Maxima
T-9	0.030	0.024	0.036
T-11	0.036	0.031	0.045
T-12	0.031	0.025	0.039
T-27	0.036	0.032	0.039
Controls	0.033	0.024	0.045
T-1	0.035	0.022	0.042
T-2	0.033	0.029	0.037
T-3	0.031	0.028	0.037
T-4	0.037	0.030	0.045
T-7	0.034	0.030	0.039
T-8	0.031	0.026	0.036
Indicators	0.034	0.022	0.045

April			
Location	Average	Minima	Maxima
T-9	0.019	0.006	0.028
T-11	0.021	0.009	0.026
T-12	0.023	0.011	0.028
T-27	0.023	0.013	0.028
Controls	0.022	0.006	0.028
T-1	0.023	0.009	0.029
T-2	0.022	0.011	0.029
T-3	0.023	0.009	0.030
T-4	0.024	0.012	0.029
T-7	0.018	0.009	0.023
T-8	0.020	0.009	0.029
Indicators	0.022	0.009	0.030

February			
Location	Average	Minima	Maxima
T-9	0.028	0.024	0.032
T-11	0.028	0.025	0.032
T-12	0.028	0.016	0.041
T-27	0.029	0.024	0.034
Controls	0.028	0.016	0.041
T-1	0.031	0.026	0.036
T-2	0.027	0.023	0.030
T-3	0.030	0.026	0.033
T-4	0.035	0.027	0.042
T-7	0.027	0.024	0.030
T-8	0.030	0.023	0.034
Indicators	0.030	0.023	0.042

May			
Location	Average	Minima	Maxima
T-9	0.014	0.007	0.025
T-11	0.016	0.009	0.024
T-12	0.017	0.009	0.027
T-27	0.018	0.012	0.027
Controls	0.016	0.007	0.027
T-1	0.014	0.006	0.022
T-2	0.018	0.013	0.027
T-3	0.016	0.010	0.024
T-4	0.017	0.009	0.028
T-7	0.016	0.012	0.021
T-8	0.018	0.010	0.029
Indicators	0.017	0.006	0.029

March			
Location	Average	Minima	Maxima
T-9	0.022	0.018	0.027
T-11	0.024	0.020	0.031
T-12	0.023	0.020	0.026
T-27	0.024	0.019	0.031
Controls	0.023	0.018	0.031
T-1	0.025	0.023	0.028
T-2	0.023	0.020	0.027
T-3	0.022	0.019	0.024
T-4	0.025	0.022	0.029
T-7	0.023	0.017	0.027
T-8	0.024	0.012	0.031
Indicators	0.024	0.012	0.031

June			
Location	Average	Minima	Maxima
T-9	0.017	0.013	0.020
T-11	0.019	0.017	0.022
T-12	0.017	0.013	0.021
T-27	0.017	0.015	0.019
Controls	0.018	0.013	0.022
T-1	0.019	0.012	0.030
T-2	0.017	0.016	0.018
T-3	0.015	0.012	0.018
T-4	0.016	0.011	0.019
T-7	0.019	0.013	0.021
T-8	0.015	0.010	0.021
Indicators	0.017	0.010	0.030

Note: Unless otherwise specified, samples collected on the first, second or third day of the month are grouped with data of the previous month.

Table 11-1. Airborne particulate data, gross beta analyses, monthly averages, minima and maxima.

July				October			
Location	Average	Minima	Maxima	Location	Average	Minima	Maxima
T-9	0.026	0.017	0.037	T-9	0.028	0.015	0.038
T-11	0.029	0.020	0.044	T-11	0.025	0.017	0.036
T-12	0.027	0.018	0.039	T-12	0.023	0.017	0.032
T-27	0.026	0.018	0.040	T-27	0.023	0.016	0.032
Controls	0.027	0.017	0.044	Controls	0.025	0.015	0.038
T-1	0.027	0.019	0.041	T-1	0.023	0.017	0.034
T-2	0.027	0.019	0.043	T-2	0.023	0.018	0.036
T-3	0.027	0.018	0.038	T-3	0.022	0.015	0.031
T-4	0.027	0.015	0.045	T-4	0.023	0.017	0.033
T-7	0.025	0.016	0.039	T-7	0.022	0.018	0.031
T-8	0.027	0.019	0.040	T-8	0.024	0.017	0.035
Indicators	0.027	0.015	0.045	Indicators	0.023	0.015	0.036

August				November			
Location	Average	Minima	Maxima	Location	Average	Minima	Maxima
T-9	0.027	0.019	0.036	T-9	0.029	0.020	0.039
T-11	0.027	0.022	0.039	T-11	0.032	0.020	0.044
T-12	0.025	0.018	0.031	T-12	0.031	0.017	0.044
T-27	0.025	0.018	0.031	T-27	0.031	0.019	0.041
Controls	0.026	0.018	0.039	Controls	0.031	0.017	0.044
T-1	0.027	0.021	0.033	T-1	0.033	0.024	0.045
T-2	0.026	0.020	0.035	T-2	0.031	0.019	0.042
T-3	0.024	0.017	0.029	T-3	0.033	0.018	0.055
T-4	0.024	0.016	0.030	T-4	0.032	0.019	0.044
T-7	0.025	0.018	0.033	T-7	0.029	0.019	0.042
T-8	0.026	0.017	0.037	T-8	0.032	0.022	0.042
Indicators	0.025	0.016	0.037	Indicators	0.032	0.018	0.055

September				December			
Location	Average	Minima	Maxima	Location	Average	Minima	Maxima
T-9	0.031	0.019	0.037	T-9	0.032	0.026	0.036
T-11	0.027	0.019	0.035	T-11	0.036	0.029	0.047
T-12	0.027	0.015	0.034	T-12	0.035	0.029	0.043
T-27	0.030	0.020	0.040	T-27	0.035	0.028	0.044
Controls	0.029	0.015	0.040	Controls	0.035	0.026	0.047
T-1	0.028	0.016	0.034	T-1	0.032	0.030	0.035
T-2	0.029	0.019	0.037	T-2	0.032	0.027	0.036
T-3	0.027	0.017	0.033	T-3	0.033	0.031	0.036
T-4	0.028	0.020	0.033	T-4	0.034	0.028	0.044
T-7	0.027	0.015	0.037	T-7	0.031	0.029	0.035
T-8	0.028	0.018	0.034	T-8	0.030	0.025	0.037
Indicators	0.028	0.015	0.037	Indicators	0.032	0.025	0.044

Note: Unless otherwise specified, samples collected on the first, second or third day of the month are grouped with data of the previous month.

Table 12. Airborne particulates, analyses for strontium-89, strontium-90 and gamma-emitting isotopes.  
 Collection: Quarterly Composite  
 Units: pCi/m<sup>3</sup>

Location		T-1			
Quarter	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter	
Lab Code	TAP- 1509	TAP- 3520	TAP- 5816	TAP- 7379	
Volume (m <sup>3</sup> )	3591	3634	3758	3780	
Sr-89	< 0.0006	< 0.0006	< 0.0008	< 0.0006	
Sr-90	< 0.0004	< 0.0004	< 0.0004	< 0.0005	
Be-7	0.077 ± 0.016	0.097 ± 0.017	0.092 ± 0.017	0.069 ± 0.013	
K-40	< 0.021	< 0.025	< 0.022	< 0.023	
Nb-95	< 0.0010	< 0.0005	< 0.0009	< 0.0005	
Zr-95	< 0.0020	< 0.0008	< 0.0013	< 0.0009	
Ru-103	< 0.0006	< 0.0003	< 0.0011	< 0.0005	
Ru-106	< 0.0070	< 0.0048	< 0.0075	< 0.0067	
Cs-134	< 0.0009	< 0.0006	< 0.0005	< 0.0006	
Cs-137	< 0.0007	< 0.0007	< 0.0009	< 0.0007	
Ce-141	< 0.0015	< 0.0011	< 0.0018	< 0.0012	
Ce-144	< 0.0037	< 0.0048	< 0.0034	< 0.0042	

Location		T-2			
Quarter	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter	
Lab Code	TAP- 1510	TAP- 3521	TAP- 5817	TAP- 7380	
Volume (m <sup>3</sup> )	3647	3726	3731	3737	
Sr-89	< 0.0006	< 0.0007	< 0.0009	< 0.0006	
Sr-90	< 0.0004	< 0.0004	< 0.0004	< 0.0004	
Be-7	0.088 ± 0.018	0.088 ± 0.014	0.095 ± 0.016	0.068 ± 0.015	
K-40	< 0.019	< 0.024	< 0.022	< 0.023	
Nb-95	< 0.0010	< 0.0004	< 0.0013	< 0.0006	
Zr-95	< 0.0007	< 0.0013	< 0.0019	< 0.0006	
Ru-103	< 0.0009	< 0.0005	< 0.0010	< 0.0008	
Ru-106	< 0.0075	< 0.0055	< 0.0064	< 0.0075	
Cs-134	< 0.0006	< 0.0004	< 0.0007	< 0.0005	
Cs-137	< 0.0007	< 0.0006	< 0.0010	< 0.0006	
Ce-141	< 0.0010	< 0.0007	< 0.0017	< 0.0012	
Ce-144	< 0.0034	< 0.0041	< 0.0058	< 0.0035	

Table 12. Airborne particulates, analyses for strontium-89, strontium-90 and gamma-emitting isotopes.  
 Collection: Quarterly Composite  
 Units: pCi/m<sup>3</sup>

Location		T-3			
Quarter	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter	
Lab Code	TAP- 1511	TAP- 3522	TAP- 5818	TAP- 7381	
Volume (m <sup>3</sup> )	3670	3692	3726	3672	
Sr-89	< 0.0007	< 0.0007	< 0.0008	< 0.0005	
Sr-90	< 0.0005	< 0.0005	< 0.0004	< 0.0004	
Be-7	0.067 ± 0.015	0.084 ± 0.013	0.090 ± 0.019	0.065 ± 0.012	
K-40	< 0.031	< 0.025	< 0.018	< 0.023	
Nb-95	< 0.0005	< 0.0006	< 0.0012	< 0.0004	
Zr-95	< 0.0013	< 0.0011	< 0.0009	< 0.0011	
Ru-103	< 0.0008	< 0.0007	< 0.0012	< 0.0010	
Ru-106	< 0.0043	< 0.0047	< 0.0057	< 0.0064	
Cs-134	< 0.0006	< 0.0006	< 0.0004	< 0.0003	
Cs-137	< 0.0009	< 0.0003	< 0.0005	< 0.0007	
Ce-141	< 0.0007	< 0.0011	< 0.0020	< 0.0011	
Ce-144	< 0.0046	< 0.0043	< 0.0046	< 0.0035	

Location		T-4			
Quarter	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter	
Lab Code	TAP- 1512	TAP- 3523	TAP- 5819	TAP- 7382	
Volume (m <sup>3</sup> )	3604	3692	3712	3646	
Sr-89	< 0.0006	< 0.0007	< 0.0007	< 0.0005	
Sr-90	< 0.0004	< 0.0004	< 0.0003	< 0.0003	
Be-7	0.075 ± 0.014	0.080 ± 0.014	0.095 ± 0.018	0.056 ± 0.014	
K-40	< 0.029	< 0.026	< 0.024	< 0.024	
Nb-95	< 0.0004	< 0.0009	< 0.0009	< 0.0007	
Zr-95	< 0.0006	< 0.0018	< 0.0013	< 0.0007	
Ru-103	< 0.0010	< 0.0007	< 0.0011	< 0.0007	
Ru-106	< 0.0059	< 0.0048	< 0.0043	< 0.0087	
Cs-134	< 0.0007	< 0.0004	< 0.0004	< 0.0007	
Cs-137	< 0.0006	< 0.0005	< 0.0006	< 0.0008	
Ce-141	< 0.0011	< 0.0013	< 0.0014	< 0.0013	
Ce-144	< 0.0052	< 0.0035	< 0.0036	< 0.0044	

Table 12. Airborne particulates, analyses for strontium-89, strontium-90 and gamma-emitting isotopes.  
 Collection: Quarterly Composite  
 Units: pCi/m<sup>3</sup>

Location		T-7			
Quarter	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter	
Lab Code	TAP- 1513	TAP- 3524	TAP- 5820	TAP- 7383	
Volume (m <sup>3</sup> )	3591	3371	3699	3819	
Sr-89	< 0.0006	< 0.0006	< 0.0007	< 0.0006	
Sr-90	< 0.0004	< 0.0004	< 0.0004	< 0.0005	
Be-7	0.079 ± 0.014	0.092 ± 0.015	0.094 ± 0.014	0.074 ± 0.014	
K-40	< 0.021	< 0.027	< 0.022	< 0.023	
Nb-95	< 0.0012	< 0.0006	< 0.0010	< 0.0006	
Zr-95	< 0.0012	< 0.0015	< 0.0011	< 0.0018	
Ru-103	< 0.0007	< 0.0010	< 0.0009	< 0.0006	
Ru-106	< 0.0076	< 0.0054	< 0.0065	< 0.0059	
Cs-134	< 0.0008	< 0.0007	< 0.0006	< 0.0006	
Cs-137	< 0.0007	< 0.0005	< 0.0008	< 0.0008	
Ce-141	< 0.0015	< 0.0013	< 0.0013	< 0.0014	
Ce-144	< 0.0052	< 0.0043	< 0.0045	< 0.0049	

Location		T-8			
Quarter	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter	
Lab Code	TAP- 1514	TAP- 3525	TAP- 5821	TAP- 7384	
Volume (m <sup>3</sup> )	3672	3746	3687	3685	
Sr-89	< 0.0005	< 0.0005	< 0.0008	< 0.0005	
Sr-90	< 0.0004	< 0.0004	< 0.0003	< 0.0004	
Be-7	0.099 ± 0.018	0.094 ± 0.018	0.101 ± 0.016	0.059 ± 0.013	
K-40	< 0.019	< 0.024	< 0.022	< 0.023	
Nb-95	< 0.0011	< 0.0003	< 0.0012	< 0.0005	
Zr-95	< 0.0009	< 0.0008	< 0.0016	< 0.0006	
Ru-103	< 0.0005	< 0.0006	< 0.0009	< 0.0008	
Ru-106	< 0.0087	< 0.0055	< 0.0082	< 0.0056	
Cs-134	< 0.0011	< 0.0008	< 0.0008	< 0.0006	
Cs-137	< 0.0005	< 0.0004	< 0.0011	< 0.0007	
Ce-141	< 0.0014	< 0.0016	< 0.0020	< 0.0011	
Ce-144	< 0.0041	< 0.0045	< 0.0058	< 0.0029	



Table 12. Airborne particulates, analyses for strontium-89, strontium-90 and gamma-emitting isotopes.  
 Collection: Quarterly Composite  
 Units: pCi/m<sup>3</sup>

Location		T-9 (C)			
Quarter	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter	
Lab Code	TAP- 1515	TAP- 3526	TAP- 5822	TAP- 7385	
Volume (m <sup>3</sup> )	3689	3747	3705	3667	
Sr-89	< 0.0006	< 0.0007	< 0.0009	< 0.0006	
Sr-90	< 0.0005	< 0.0005	< 0.0003	< 0.0004	
Be-7	0.083 ± 0.015	0.082 ± 0.017	0.090 ± 0.020	0.059 ± 0.015	
K-40	< 0.024	< 0.030	0.020 ± 0.011	< 0.024	
Nb-95	< 0.0009	< 0.0005	< 0.0008	< 0.0006	
Zr-95	< 0.0017	< 0.0016	< 0.0014	< 0.0010	
Ru-103	< 0.0008	< 0.0006	< 0.0012	< 0.0005	
Ru-106	< 0.0074	< 0.0044	< 0.0069	< 0.0065	
Cs-134	< 0.0007	< 0.0009	< 0.0007	< 0.0004	
Cs-137	< 0.0010	< 0.0005	< 0.0010	< 0.0010	
Ce-141	< 0.0014	< 0.0007	< 0.0018	< 0.0010	
Ce-144	< 0.0042	< 0.0027	< 0.0039	< 0.0034	

Location		T-11 (C)			
Quarter	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter	
Lab Code	TAP- 1516	TAP- 3527	TAP- 5823	TAP- 7386	
Volume (m <sup>3</sup> )	3648	3690	3684	3654	
Sr-89	< 0.0006	< 0.0006	< 0.0008	< 0.0005	
Sr-90	< 0.0004	< 0.0004	< 0.0003	< 0.0004	
Be-7	0.100 ± 0.017	0.095 ± 0.015	0.102 ± 0.016	0.067 ± 0.016	
K-40	< 0.018	< 0.024	< 0.020	< 0.024	
Nb-95	< 0.0013	< 0.0006	< 0.0009	< 0.0012	
Zr-95	< 0.0009	< 0.0009	< 0.0018	< 0.0008	
Ru-103	< 0.0011	< 0.0003	< 0.0014	< 0.0006	
Ru-106	< 0.0053	< 0.0073	< 0.0052	< 0.0061	
Cs-134	< 0.0009	< 0.0010	< 0.0010	< 0.0008	
Cs-137	< 0.0006	< 0.0007	< 0.0008	< 0.0006	
Ce-141	< 0.0011	< 0.0008	< 0.0018	< 0.0008	
Ce-144	< 0.0046	< 0.0044	< 0.0058	< 0.0038	

Table 12. Airborne particulates, analyses for strontium-89, strontium-90 and gamma-emitting isotopes.  
 Collection: Quarterly Composite  
 Units: pCi/m<sup>3</sup>

Location		T-12 (C)			
Quarter	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter	
Lab Code	TAP- 1517	TAP- 3528	TAP- 5824	TAP- 7387	
Volume (m <sup>3</sup> )	3735	3756	3716	3727	
Sr-89	< 0.0005	< 0.0005	< 0.0007	< 0.0005	
Sr-90	< 0.0004	< 0.0004	< 0.0003	< 0.0004	
Be-7	0.080 ± 0.013	0.092 ± 0.015	0.102 ± 0.016	0.059 ± 0.012	
K-40	< 0.020	< 0.024	< 0.022	< 0.023	
Nb-95	< 0.0007	< 0.0007	< 0.0009	< 0.0005	
Zr-95	< 0.0010	< 0.0010	< 0.0015	< 0.0017	
Ru-103	< 0.0010	< 0.0004	< 0.0011	< 0.0006	
Ru-106	< 0.0067	< 0.0050	< 0.0061	< 0.0056	
Cs-134	< 0.0008	< 0.0006	< 0.0007	< 0.0004	
Cs-137	< 0.0007	< 0.0005	< 0.0007	< 0.0006	
Ce-141	< 0.0010	< 0.0015	< 0.0017	< 0.0008	
Ce-144	< 0.0032	< 0.0037	< 0.0047	< 0.0037	

Location		T-27 (C)			
Quarter	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter	
Lab Code	TAP- 1518	TAP- 3529	TAP- 5825	TAP- 7388	
Volume (m <sup>3</sup> )	3663	3716	3702	3738	
Sr-89	< 0.0006	< 0.0005	< 0.0007	< 0.0005	
Sr-90	< 0.0004	< 0.0004	< 0.0003	< 0.0004	
Be-7	0.086 ± 0.013	0.102 ± 0.017	0.096 ± 0.018	0.064 ± 0.012	
K-40	< 0.024	< 0.024	< 0.020	< 0.023	
Nb-95	< 0.0004	< 0.0006	< 0.0011	< 0.0006	
Zr-95	< 0.0009	< 0.0012	< 0.0006	< 0.0006	
Ru-103	< 0.0009	< 0.0005	< 0.0013	< 0.0008	
Ru-106	< 0.0033	< 0.0049	< 0.0077	< 0.0054	
Cs-134	< 0.0007	< 0.0008	< 0.0007	< 0.0007	
Cs-137	< 0.0005	< 0.0006	< 0.0007	< 0.0005	
Ce-141	< 0.0012	< 0.0010	< 0.0011	< 0.0010	
Ce-144	< 0.0036	< 0.0040	< 0.0041	< 0.0046	

Table 13. Area monitors (TLD), Quarterly.  
Units: mR/91 days

<u>Indicator</u>	<u>1st Qtr.</u>	<u>2nd Qtr.</u>	<u>3rd Qtr.</u>	<u>4th Qtr.</u>
T-1	12.0 ± 0.7	11.8 ± 1.2	12.3 ± 0.8	13.0 ± 0.7
T-2	13.8 ± 0.8	13.8 ± 0.6	14.5 ± 0.7	16.2 ± 0.8
T-3	14.4 ± 0.8	13.2 ± 0.9	15.1 ± 0.7	15.9 ± 1.1
T-4	13.5 ± 0.5	12.6 ± 0.9	14.1 ± 0.6	14.9 ± 0.8
T-5	15.4 ± 0.6	14.8 ± 0.5	16.0 ± 0.8	17.5 ± 0.7
T-6	13.3 ± 0.7	12.4 ± 0.4	13.7 ± 0.9	14.2 ± 0.7
T-7	19.2 ± 0.4	19.0 ± 0.7	20.5 ± 0.6	21.8 ± 0.9
T-8	23.5 ± 1.4	23.8 ± 0.6	26.0 ± 1.2	27.5 ± 1.0
T-10	16.5 ± 0.7	16.6 ± 0.7	17.4 ± 0.5	18.7 ± 0.9
T-38	12.7 ± 0.7	12.7 ± 1.1	13.0 ± 0.4	14.4 ± 1.4
T-39	13.4 ± 0.7	12.7 ± 0.5	14.3 ± 0.8	14.3 ± 0.7
T-40	16.0 ± 0.4	15.6 ± 0.5	17.2 ± 0.4	17.6 ± 0.8
T-41	11.0 ± 0.8	13.4 ± 0.5	12.3 ± 0.8	15.9 ± 0.7
T-42	13.8 ± 0.9	13.0 ± 0.7	14.3 ± 0.9	14.6 ± 1.1
T-43	17.6 ± 0.7	16.6 ± 0.7	19.8 ± 0.8	19.3 ± 0.8
T-44	19.6 ± 0.9	20.3 ± 1.7	21.7 ± 1.1	22.3 ± 1.0
T-45	23.6 ± 0.7	23.2 ± 0.6	24.8 ± 0.7	26.9 ± 0.8
T-46	15.2 ± 0.9	14.3 ± 1.0	15.7 ± 1.2	16.4 ± 1.7
T-47	13.5 ± 1.3	9.9 ± 0.7	13.6 ± 1.3	11.7 ± 0.9
T-48	13.8 ± 0.4	12.6 ± 0.5	14.4 ± 0.4	14.4 ± 0.7
T-49	12.4 ± 0.4	10.5 ± 0.8	12.4 ± 0.6	12.2 ± 1.5
T-50	15.0 ± 0.6	17.6 ± 1.5	15.6 ± 0.6	19.6 ± 1.8
T-51	19.9 ± 1.7	21.7 ± 1.6	20.8 ± 1.8	23.0 ± 2.3
T-52	19.4 ± 1.2	19.0 ± 0.7	21.0 ± 1.3	21.2 ± 0.8
T-53	17.6 ± 0.5	15.6 ± 1.3	19.5 ± 0.5	17.8 ± 1.8
T-54	17.9 ± 0.7	19.1 ± 0.7	20.7 ± 0.7	21.9 ± 1.0
T-55	14.6 ± 0.8	16.0 ± 0.7	16.5 ± 1.2	18.8 ± 0.9
T-60	10.5 ± 0.9	12.4 ± 1.3	11.3 ± 0.8	14.7 ± 1.6
T-62	11.4 ± 0.8	12.4 ± 1.4	11.4 ± 0.4	13.5 ± 1.0
T-65	17.6 ± 0.8	19.5 ± 0.7	18.0 ± 0.6	22.0 ± 1.1
T-66	19.4 ± 0.7	22.3 ± 1.1	20.1 ± 0.5	24.0 ± 1.0
T-67	19.6 ± 0.7	21.3 ± 0.9	21.3 ± 0.5	24.5 ± 1.1
T-68	16.1 ± 0.6	18.1 ± 1.2	16.8 ± 0.5	20.8 ± 1.3
T-69	18.4 ± 0.6	20.0 ± 0.7	19.2 ± 0.6	21.7 ± 0.9
T-71	14.4 ± 0.5	17.2 ± 1.0	16.1 ± 0.4	19.6 ± 1.2
T-73	14.7 ± 1.5	15.0 ± 0.9	14.4 ± 1.2	16.4 ± 1.1
T-74	15.6 ± 0.7	17.8 ± 1.1	15.8 ± 0.5	19.7 ± 1.5
T-75	14.9 ± 0.6	16.7 ± 0.7	16.5 ± 0.6	19.2 ± 0.9
T-76	11.8 ± 0.6	12.5 ± 0.8	12.1 ± 0.6	13.5 ± 0.9
T-91	17.0 ± 0.9	19.3 ± 1.2	17.9 ± 0.8	20.9 ± 1.4
T-92	10.9 ± 0.6	15.8 ± 0.7	12.2 ± 0.3	17.2 ± 0.8

Table 13. Area monitors (TLD), Quarterly.  
Units: mR/91 days

<u>Indicator</u>	<u>1st Qtr.</u>	<u>2nd Qtr.</u>	<u>3rd Qtr.</u>	<u>4th Qtr.</u>
T-93	14.9 ± 0.6	16.0 ± 1.0	15.6 ± 0.5	17.6 ± 1.0
T-94	14.5 ± 0.8	17.8 ± 1.3	17.3 ± 0.9	21.4 ± 1.5
T-112	14.4 ± 1.6	11.2 ± 0.7	14.8 ± 0.4	12.4 ± 0.9
T-121	19.1 ± 1.1	20.6 ± 0.9	21.3 ± 1.2	23.7 ± 1.6
T-122	16.1 ± 1.5	16.4 ± 0.8	17.9 ± 1.2	19.5 ± 1.0
T-123	18.6 ± 1.5	19.6 ± 1.3	20.0 ± 1.4	22.8 ± 1.4
T-125	16.8 ± 0.9	17.2 ± 0.7	17.8 ± 0.8	20.0 ± 0.9
T-126	18.6 ± 0.7	17.1 ± 1.0	18.7 ± 0.6	20.4 ± 1.2
T-127	19.3 ± 0.6	20.4 ± 1.2	20.6 ± 0.5	23.5 ± 1.3
T-128	19.6 ± 1.6	20.1 ± 0.7	20.6 ± 1.7	22.9 ± 0.9
T-142	12.9 ± 0.6	11.9 ± 0.7	12.8 ± 0.4	14.2 ± 0.9
T-150	13.3 ± 0.8	14.2 ± 1.3	14.0 ± 0.7	16.6 ± 2.0
T-151	17.6 ± 0.8	19.4 ± 0.8	19.4 ± 0.8	22.1 ± 1.0
T-153	17.8 ± 0.6	17.2 ± 0.7	19.5 ± 0.4	19.2 ± 1.0
T-154	15.2 ± 0.9	15.3 ± 0.8	16.1 ± 0.9	17.4 ± 1.1
T-201	13.1 ± 1.0	13.1 ± 0.6	13.1 ± 0.9	14.2 ± 0.6
T-202	14.4 ± 1.2	14.8 ± 0.9	14.4 ± 1.1	15.7 ± 0.7
T-203	14.5 ± 1.1	15.6 ± 1.1	14.4 ± 1.0	16.5 ± 1.2
T-204	12.6 ± 1.1	13.1 ± 1.0	12.3 ± 1.0	14.2 ± 1.1
T-205	10.8 ± 1.1	10.7 ± 0.6	10.7 ± 0.9	11.7 ± 0.5
T-206	10.0 ± 1.0	10.9 ± 0.6	10.0 ± 0.9	12.0 ± 0.5
T-207	9.4 ± 1.2	7.4 ± 0.6	9.4 ± 1.1	8.4 ± 0.5
T-208	10.9 ± 2.0	10.4 ± 0.6	10.8 ± 1.7	11.5 ± 0.5
T-211	12.7 ± 0.8	10.4 ± 0.5	12.1 ± 0.7	11.6 ± 0.6
T-212	12.1 ± 0.5	11.7 ± 0.9	11.7 ± 0.5	13.3 ± 0.8
T-213	18.6 ± 0.7	18.3 ± 0.5	19.2 ± 0.7	21.2 ± 0.6
T-214	19.6 ± 0.6	20.1 ± 0.6	20.5 ± 0.6	21.9 ± 0.8
T-215	19.4 ± 0.9	18.4 ± 0.8	20.2 ± 0.9	20.6 ± 0.8
T-216	18.2 ± 0.8	17.7 ± 1.1	18.0 ± 0.6	19.0 ± 1.3
T-217	19.5 ± 0.6	21.0 ± 1.8	21.5 ± 0.8	22.7 ± 1.7
T-218	20.4 ± 1.0	21.3 ± 0.7	22.0 ± 1.0	23.7 ± 1.2
T-219	16.2 ± 0.9	18.0 ± 1.6	17.0 ± 0.9	19.5 ± 1.6
T-220	19.1 ± 0.9	20.9 ± 1.9	20.4 ± 1.0	22.4 ± 2.1
T-222	12.4 ± 0.7	12.7 ± 0.5	12.9 ± 0.7	14.5 ± 0.6
T-223	13.5 ± 0.7	15.4 ± 0.4	13.9 ± 0.6	16.5 ± 0.7
T-224	16.3 ± 0.4	15.0 ± 0.5	16.8 ± 0.5	16.3 ± 0.6
Mean ± s.d.	15.6 ± 3.2	16.0 ± 3.6	16.5 ± 3.7	18.1 ± 4.1

Table 13. Area monitors (TLD), Quarterly.  
Units: mR/91 days

	<u>1st Qtr.</u>	<u>2nd Qtr.</u>	<u>3rd Qtr.</u>	<u>4th Qtr.</u>
<u>Control</u>				
T-9	14.7 ± 0.5	14.8 ± 0.5	15.7 ± 0.7	16.8 ± 0.9
T-11	14.4 ± 0.4	13.2 ± 0.6	14.6 ± 0.5	15.0 ± 1.0
T-12	20.3 ± 0.8	20.5 ± 1.2	21.4 ± 0.8	25.1 ± 0.8
T-24	18.1 ± 0.7	19.0 ± 0.5	20.6 ± 0.7	21.1 ± 0.7
T-27	18.6 ± 0.9	19.7 ± 0.8	22.2 ± 0.8	21.9 ± 0.7
Mean ± s.d.	17.2 ± 2.6	17.4 ± 3.2	18.9 ± 3.5	20.0 ± 4.1
T-95	15.5 ± 0.8	17.6 ± 0.8	17.1 ± 0.9	19.2 ± 1.0
T-100	14.0 ± 1.6	16.3 ± 1.2	15.6 ± 1.5	17.9 ± 1.1
T-111	16.5 ± 1.6	18.9 ± 0.8	19.9 ± 2.0	19.6 ± 1.1
T-124	16.9 ± 1.0	16.1 ± 1.8	17.3 ± 0.7	18.8 ± 2.1
T-155	12.8 ± 0.7	13.9 ± 0.7	13.5 ± 0.7	15.4 ± 1.2
T-221	15.9 ± 0.9	18.5 ± 1.5	16.0 ± 0.6	19.9 ± 1.7
Mean ± s.d.	15.3 ± 1.6	16.9 ± 1.8	16.6 ± 2.1	18.5 ± 1.7
<u>QC</u>				
T-80	8.8 ± 0.6	10.1 ± 0.6	9.6 ± 0.5	11.3 ± 0.8
T-81	16.3 ± 0.8	18.1 ± 0.6	16.5 ± 0.5	20.9 ± 1.9
T-82	9.2 ± 0.6	10.8 ± 1.1	9.6 ± 0.4	11.7 ± 0.9
T-83	8.6 ± 0.6	11.6 ± 1.1	9.5 ± 0.6	13.5 ± 1.4
T-84	10.3 ± 0.8	11.6 ± 0.8	10.8 ± 0.6	12.8 ± 0.9
T-85	13.1 ± 0.9	14.5 ± 1.1	12.8 ± 0.6	15.8 ± 1.2
T-86	19.6 ± 1.0	23.0 ± 1.1	20.8 ± 0.9	25.1 ± 1.3
T-88	13.8 ± 1.2	18.9 ± 1.0	14.8 ± 1.1	20.1 ± 1.0
T-89	15.9 ± 0.8	19.2 ± 1.1	17.6 ± 0.8	21.6 ± 1.2
T-113	16.8 ± 1.0	16.3 ± 0.7	17.0 ± 0.5	17.9 ± 1.1
T-114	14.1 ± 0.8	13.9 ± 0.9	14.4 ± 0.6	15.1 ± 1.0
T-115	12.2 ± 1.1	15.9 ± 0.7	13.3 ± 1.1	17.1 ± 0.9
T-116	14.8 ± 0.5	17.4 ± 1.0	16.8 ± 0.6	18.2 ± 1.2
T-117	13.7 ± 1.4	13.7 ± 1.3	15.6 ± 1.5	15.4 ± 1.5
T-118	15.2 ± 0.8	16.1 ± 1.1	17.3 ± 0.6	17.6 ± 1.2
T-119	14.3 ± 0.8	13.4 ± 0.6	14.5 ± 0.6	15.0 ± 0.8
T-120	12.5 ± 0.7	11.4 ± 0.8	12.8 ± 0.6	13.1 ± 1.1
T-200	12.7 ± 1.1	13.5 ± 1.0	12.7 ± 1.0	14.7 ± 0.9
Mean ± s.d.	13.4 ± 2.9	15.0 ± 3.4	14.2 ± 3.2	16.5 ± 3.7
<u>Shield</u>				
T-87	7.2 ± 0.8	8.5 ± 0.8	7.7 ± 0.6	9.4 ± 1.1

Table 14. Area monitors (TLD), Annual.  
 Units: mR/365 days

---

<u>Indicator</u>	<u>2008</u>
T-1	42.0 ± 2.0
T-2	46.6 ± 1.7
T-3	51.6 ± 3.0
T-4	48.0 ± 1.3
T-5	55.6 ± 1.3
T-6	45.2 ± 1.2
T-7	75.0 ± 2.5
T-8	95.0 ± 7.6
T-10	66.3 ± 5.1
T-38	50.5 ± 1.3
T-39	52.3 ± 1.3
T-40	64.8 ± 2.5
T-41	52.2 ± 2.1
T-42	51.5 ± 2.6
T-43	64.1 ± 2.5
T-44	73.2 ± 4.6
T-45	81.8 ± 1.2
T-46	48.6 ± 1.6
T-47	42.6 ± 1.5
T-48	51.1 ± 1.7
T-49	42.7 ± 1.5
T-50	54.7 ± 2.0
T-51	71.4 ± 1.7
T-52	68.0 ± 1.7
T-53	64.4 ± 2.7
T-54	67.9 ± 1.9
T-55	56.3 ± 2.7
T-60	42.8 ± 1.9
T-62	40.8 ± 1.4
T-65	69.6 ± 5.2
T-66	73.2 ± 1.6
T-67	72.6 ± 1.9
T-68	59.7 ± 1.7
T-69	65.7 ± 1.6
T-71	57.6 ± 1.2
T-73	53.1 ± 1.4
T-74	57.9 ± 2.4
T-75	57.7 ± 1.3
T-76	44.6 ± 1.5
T-91	60.8 ± 3.7
T-92	45.3 ± 1.6

---

Table 14. Area monitors (TLD), Annual.  
Units: mR/365 days

Indicator	2008
T-93	52.5 ± 1.1
T-94	60.6 ± 1.3
T-112	57.3 ± 2.9
T-121	82.0 ± 3.5
T-122	64.1 ± 1.6
T-123	77.8 ± 2.9
T-125	72.2 ± 2.8
T-126	60.7 ± 2.8
T-127	82.2 ± 3.1
T-128	79.0 ± 2.2
T-142	47.1 ± 1.2
T-150	56.6 ± 2.6
T-151	76.2 ± 4.5
T-153	74.3 ± 3.6
T-154	56.7 ± 1.6
T-201	46.7 ± 3.8
T-202	49.8 ± 3.0
T-203	51.1 ± 4.6
T-204	47.8 ± 4.9
T-205	38.1 ± 3.1
T-206	38.8 ± 3.3
T-207	35.2 ± 3.1
T-208	41.0 ± 3.2
T-211	44.8 ± 2.5
T-212	43.9 ± 1.8
T-213	76.1 ± 3.1
T-214	75.5 ± 1.5
T-215	76.0 ± 2.2
T-216	65.6 ± 3.0
T-217	75.8 ± 1.7
T-218	71.6 ± 4.9
T-219	64.9 ± 3.1
T-220	75.0 ± 3.3
T-222	53.5 ± 1.9
T-223	50.8 ± 1.7
T-224	66.3 ± 2.4
Mean ± s.d.	59.4 ± 13.2

Table 14. Area monitors (TLD), Annual.

Units: mR/365 days

<u>Control</u>	<u>2008</u>
T-9	55.2 ± 1.8
T-11	55.1 ± 4.5
T-12	81.9 ± 1.3
T-24	78.2 ± 1.7
T-27	83.1 ± 1.5
Mean ± s.d.	70.7 ± 14.3
T-95	59.6 ± 1.3
T-100	57.9 ± 1.5
T-111	75.2 ± 2.9
T-124	57.9 ± 1.9
T-155	56.3 ± 1.9
T-221	63.7 ± 2.3
Mean ± s.d.	61.8 ± 7.1
<u>QC</u>	
T-80	41.2 ± 2.2
T-81	66.5 ± 1.7
T-82	40.1 ± 1.9
T-83	42.2 ± 2.6
T-84	43.5 ± 2.6
T-85	50.5 ± 1.4
T-86	77.4 ± 3.6
T-88	53.5 ± 1.8
T-89	59.7 ± 1.3
T-113	66.6 ± 1.5
T-114	58.5 ± 1.6
T-115	62.9 ± 3.2
T-116	71.7 ± 2.2
T-117	57.9 ± 1.4
T-118	65.6 ± 2.8
T-119	59.4 ± 2.8
T-120	48.0 ± 1.6
T-200	47.3 ± 4.2
Mean ± s.d.	56.3 ± 11.1
<u>Shield</u>	
T-87	29.1 ± 1.5



Table 15. Milk, analyses for strontium-89, strontium-90, iodine-131, gamma emitting isotopes, calcium and stable potassium.  
Monthly collections, location T-24

Units: pCi/L

Date Collected	01-30-08	02-27-08	04-02-08	04-30-08
Lab Code	TMI- 306	TMI- 767	TMI- 1336	TMI- 2053
I-131	< 0.3	< 0.4	< 0.2	< 0.3
Sr-89	< 0.6	< 0.5	< 0.6	< 0.5
Sr-90	0.6 ± 0.3	0.7 ± 0.3	0.5 ± 0.3	0.9 ± 0.4
K-40	1354 ± 118	1431 ± 116	1340 ± 169	1361 ± 111
Cs-134	< 3.4	< 3.0	< 5.7	< 3.0
Cs-137	< 4.5	< 2.7	< 4.2	< 4.8
Ba-La-140	< 3.1	< 2.4	< 5.9	< 3.2
Ca (g/L)	1.35	1.28	1.11	1.17
Sr-90/g Ca	0.44	0.55	0.45	0.77
K (g/L)	1.57 ± 0.14	1.65 ± 0.13	1.55 ± 0.20	1.57 ± 0.13
Cs-137/g K	< 2.87	< 1.64	< 2.71	< 3.06
Date Collected	05-29-08	06-25-08	07-30-08	08-28-08
Lab Code	TMI- 2552	TMI- 3147	TMI- 3920	TMI- 4645
I-131	< 0.3	< 0.3	< 0.4	< 0.5
Sr-89	< 0.7	< 0.8	< 1.0	< 0.8
Sr-90	0.7 ± 0.3	0.7 ± 0.3	< 0.6	< 0.7
K-40	1375 ± 110	1388 ± 118	1405 ± 142	1365 ± 119
Cs-134	< 3.1	< 2.8	< 3.8	< 3.6
Cs-137	< 3.1	< 3.6	< 4.5	< 4.8
Ba-La-140	< 2.0	< 3.8	< 4.7	< 4.3
Ca (g/L)	1.23	1.17	1.21	1.24
Sr-90/g Ca	0.57	0.60	< 0.50	< 0.56
K (g/L)	1.59 ± 0.13	1.60 ± 0.14	1.62 ± 0.16	1.58 ± 0.14
Cs-137/g K	< 1.95	< 2.25	< 2.78	< 3.04
Date Collected	10-01-08	10-29-08	11-26-08	12-31-08
Lab Code	TMI- 5354	TMI- 6077	TMI- 6828	TMI- 7244
I-131	< 0.2	< 0.3	< 0.5	< 0.3
Sr-89	< 0.7	< 0.6	< 0.9	< 0.6
Sr-90	0.8 ± 0.4	1.3 ± 0.4	< 0.8	0.6 ± 0.3
K-40	1466 ± 119	1339 ± 104	1403 ± 108	1455 ± 121
Cs-134	< 4.4	< 3.0	< 3.0	< 2.9
Cs-137	< 3.5	< 3.7	< 1.9	< 5.0
Ba-La-140	< 3.5	< 4.5	< 2.2	< 3.1
Ca (g/L)	1.12	1.51	1.29	1.37
Sr-90/g Ca	0.71	0.86	< 0.62	0.44
K (g/L)	1.69 ± 0.14	1.55 ± 0.12	1.62 ± 0.12	1.68 ± 0.14
Cs-137/g K	< 2.07	< 2.39	< 1.17	< 2.98

Table 16. Ground water samples, analyses for gross beta, tritium, strontium-89, strontium-90 and gamma-emitting isotopes.

Collection: Quarterly

Units: pCi/L

Period	1st Qtr.	2nd Qtr.	3rd Qtr.	4th Qtr.	
Location	T-27 (C)				
Lab Code	ND	TWW- 3162	TWW- 4168	TWW- 6218	Req. LLD
Date Collected	-	06-06-08	07-25-08	10-17-08	
Gross beta	-	3.2 ± 1.4	3.0 ± 1.3	2.0 ± 1.2	4.0
H-3	-	< 330	< 330	< 330	330
Sr-89	-	< 1.2	< 0.8	< 1.1	
Sr-90	-	< 0.5	< 0.4	< 0.5	
Mn-54	-	< 1.2	< 1.5	< 2.5	15
Fe-59	-	< 3.2	< 2.9	< 4.5	30
Co-58	-	< 1.9	< 2.5	< 1.4	15
Co-60	-	< 1.5	< 2.8	< 1.1	15
Zn-65	-	< 4.0	< 4.1	< 3.6	30
Zr-Nb-95	-	< 2.9	< 3.4	< 2.7	15
Cs-134	-	< 1.7	< 2.3	< 2.2	15
Cs-137	-	< 2.0	< 1.8	< 1.9	18
Ba-La-140	-	< 8.2	< 3.6	< 3.1	15
Location	T-225 (I)				
Lab Code	ND	TWW- 3164	TWW- 4170	TWW- 6220	Req. LLD
Date Collected	-	06-06-08	07-25-08	10-17-08	
Gross beta	-	1.7 ± 0.5	2.7 ± 0.7	< 0.9	4.0
H-3	-	< 330	< 330	< 330	330
Sr-89	-	< 1.2	< 1.0	< 1.2	
Sr-90	-	< 0.5	< 0.6	< 0.5	
Mn-54	-	< 1.9	< 2.4	< 1.5	15
Fe-59	-	< 7.3	< 3.1	< 3.2	30
Co-58	-	< 1.6	< 2.8	< 1.8	15
Co-60	-	< 2.1	< 2.2	< 1.6	15
Zn-65	-	< 3.3	< 4.5	< 2.0	30
Zr-Nb-95	-	< 3.9	< 3.6	< 1.7	15
Cs-134	-	< 2.2	< 2.1	< 1.6	15
Cs-137	-	< 2.5	< 3.4	< 1.4	18
Ba-La-140	-	< 12.6	< 5.0	< 4.6	15

ND = No Data, Sample not received.

Table 16. Ground water samples, analyses for gross beta, tritium, strontium-89, strontium-90 and gamma-emitting isotopes.

Collection: Quarterly

Units: pCi/L

Period	1st Qtr.	2nd Qtr.	3rd Qtr.	4th Qtr.	
<hr/>					
Location	T-226 (I)				
Lab Code	ND	TWW- 3165	TWW- 4171	TWW- 6221	Req. LLD
Date Collected	-	06-06-08	07-25-08	10-17-08	
Gross beta	-	2.3 ± 0.7	2.3 ± 0.7	1.6 ± 0.6	4.0
H-3	-	< 330	< 330	< 330	330
Sr-89	-	< 1.3	< 1.3	< 1.4	
Sr-90	-	< 0.5	< 0.7	< 0.6	
Mn-54	-	< 1.2	< 2.0	< 1.7	15
Fe-59	-	< 2.4	< 5.8	< 5.6	30
Co-58	-	< 1.6	< 2.8	< 1.8	15
Co-60	-	< 1.0	< 1.4	< 1.8	15
Zn-65	-	< 2.1	< 4.1	< 2.6	30
Zr-Nb-95	-	< 2.6	< 3.1	< 2.9	15
Cs-134	-	< 1.2	< 2.0	< 1.6	15
Cs-137	-	< 1.5	< 3.2	< 1.9	18
Ba-La-140	-	< 6.8	< 6.0	< 6.1	15
<hr/>					
Location	T-141 (QC)				
Lab Code	ND	TWW- 3163	TWW- 4169	TWW- 6219	Req. LLD
Date Collected	-	06-06-08	07-25-08	10-17-08	
Gross beta	-	1.5 ± 0.6	1.5 ± 0.6	2.8 ± 0.8	4.0
H-3	-	< 330	< 330	< 330	330
Sr-89	-	< 1.5	< 0.8	< 1.2	
Sr-90	-	< 0.5	< 0.5	< 0.4	
Mn-54	-	< 1.1	< 1.5	< 1.6	15
Fe-59	-	< 3.4	< 3.0	< 4.7	30
Co-58	-	< 1.8	< 2.9	< 2.7	15
Co-60	-	< 1.4	< 2.4	< 2.2	15
Zn-65	-	< 3.2	< 3.2	< 2.4	30
Zr-Nb-95	-	< 2.8	< 4.1	< 3.2	15
Cs-134	-	< 1.4	< 2.6	< 1.7	15
Cs-137	-	< 1.4	< 2.3	< 2.0	18
Ba-La-140	-	< 6.5	< 4.4	< 3.3	15

ND = No Data, Sample not received.

Table 18. Wild meat, analyses for gamma-emitting isotopes.  
 Collection: Annually  
 Units: pCi/g wet

Location	T-31(I)	T-210 (C)
Lab Code	TWL- 6826	TWL- 6827
Date Collected	11-26-08	11-12-08
Sample Type	Muskrat	Muskrat
Be-7	< 0.122	< 0.097
K-40	2.90 ± 0.37	2.34 ± 0.26
Nb-95	< 0.008	< 0.011
Zr-95	< 0.017	< 0.020
Ru-103	< 0.014	< 0.011
Ru-106	< 0.117	< 0.055
Cs-134	< 0.011	< 0.008
Cs-137	< 0.004	< 0.009
Ce-141	< 0.022	< 0.024
Ce-144	< 0.106	< 0.064

Table 19. Green leafy vegetables, analyses for strontium-89, strontium-90, iodine-131 and other gamma-emitting isotopes.

Collection: Monthly, in season

Units: pCi/g wet

Location		T-227 (I)		
Lab Code	TVE- 3923	TVE- 4649	TVE- 5360	
Date Collected	07-29-08	08-28-08	10-01-08	
Sample Type	Cabbage	Cabbage	Cabbage	
Sr-89	< 0.003	< 0.002	< 0.003	
Sr-90	< 0.001	< 0.001	< 0.001	
I-131	< 0.011	< 0.009	< 0.015	
K-40	2.14 ± 0.22	2.60 ± 0.24	2.52 ± 0.38	
Nb-95	< 0.004	< 0.010	< 0.009	
Zr-95	< 0.012	< 0.009	< 0.019	
Cs-134	< 0.008	< 0.007	< 0.008	
Cs-137	< 0.007	< 0.005	< 0.013	
Ce-141	< 0.010	< 0.016	< 0.027	
Ce-144	< 0.042	< 0.057	< 0.102	

Location		T-19 (I)		
Lab Code	TVE- 3921	TVE- 4646	TVE- 5358	
Date Collected	07-25-08	08-28-08	10-01-08	
Sample Type	Cabbage	Cabbage	Cabbage	
Sr-89	< 0.003	< 0.002	< 0.003	
Sr-90	< 0.001	< 0.001	< 0.001	
I-131	< 0.010	< 0.012	< 0.019	
K-40	1.83 ± 0.15	2.37 ± 0.22	2.01 ± 0.30	
Nb-95	< 0.004	< 0.006	< 0.011	
Zr-95	< 0.009	< 0.014	< 0.025	
Cs-134	< 0.005	< 0.004	< 0.005	
Cs-137	< 0.006	< 0.009	< 0.017	
Ce-141	< 0.014	< 0.011	< 0.022	
Ce-144	< 0.056	< 0.066	< 0.071	

Location		T-37 (C)		
Lab Code	TVE- 3922	TVE- 4647	TVE- 5359	
Date Collected	07-29-08	08-27-08	10-01-08	
Sample Type	Cabbage	Cabbage	Cabbage	
Sr-89	< 0.003	< 0.004	< 0.002	
Sr-90	< 0.001	< 0.002	< 0.001	
I-131	< 0.013	< 0.013	< 0.022	
K-40	2.23 ± 0.21	1.97 ± 0.17	2.25 ± 0.32	
Nb-95	< 0.005	< 0.006	< 0.007	
Zr-95	< 0.017	< 0.006	< 0.020	
Cs-134	< 0.009	< 0.005	< 0.009	
Cs-137	< 0.008	< 0.007	< 0.012	
Ce-141	< 0.012	< 0.008	< 0.027	
Ce-144	< 0.073	< 0.054	< 0.064	

Table 20. Fruit, analyses for strontium-89, strontium-90, iodine-131 and other gamma-emitting isotopes.  
 Collection: Monthly, in season  
 Units: pCi/g wet

Location	T-8 (I)	T-25 (I)
Lab Code	TVE- 5021	TVE- 5022
Date Collected	09-10-08	09-10-08
Sample Type	Apples	Apples
Sr-89	< 0.005	< 0.007
Sr-90	< 0.002	< 0.003
I-131	< 0.032	< 0.017
K-40	1.07 ± 0.21	1.27 ± 0.14
Nb-95	< 0.012	< 0.005
Zr-95	< 0.018	< 0.008
Cs-134	< 0.010	< 0.005
Cs-137	< 0.012	< 0.004
Ce-141	< 0.015	< 0.013
Ce-144	< 0.081	< 0.038

Location	T-209 (C)
Lab Code	TVE- 5024
Date Collected	09-10-08
Sample Type	Apples
Sr-89	< 0.004
Sr-90	< 0.002
I-131	< 0.032
K-40	1.67 ± 0.34
Nb-95	< 0.013
Zr-95	< 0.027
Cs-134	< 0.009
Cs-137	< 0.013
Ce-141	< 0.012
Ce-144	< 0.070

Table 21. Animal - wildlife feed, analyses for gamma-emitting isotopes.  
 Collection: Monthly, in season  
 Units: pCi/g wet

Indicators		
Location	T-31	T-198
Lab Code	TCF- 5154	TCF- 5156
Date Collected	09-18-08	09-18-08
Sample Type	Cattails	Cattails
Be-7	0.72 ± 0.19	< 0.19
K-40	3.76 ± 0.38	2.40 ± 0.33
Nb-95	< 0.016	< 0.017
Zr-95	< 0.023	< 0.021
Ru-103	< 0.013	< 0.019
Ru-106	< 0.117	< 0.139
Cs-134	< 0.011	< 0.015
Cs-137	< 0.015	< 0.016
Ce-141	< 0.039	< 0.033
Ce-144	< 0.097	< 0.119
Control		
Location	T-32	
Lab Code	TCF- 5155	
Date Collected	09-18-08	
Sample Type	Cattails	
Be-7	0.27 ± 0.15	
K-40	2.13 ± 0.32	
Nb-95	< 0.018	
Zr-95	< 0.018	
Ru-103	< 0.019	
Ru-106	< 0.124	
Cs-134	< 0.011	
Cs-137	< 0.013	
Ce-141	< 0.026	
Ce-144	< 0.061	

Table 22. Soil samples, analyses for gamma-emitting isotopes.

Collection: Annual

Units: pCi/g dry

Location	T-1	T-2	T-3	T-4
Lab Code	TSO- 1906	TSO- 1907	TSO- 1908	TSO- 1909
Date Collected	04-16-08	04-16-08	04-16-08	04-16-08
Be-7	0.73 ± 0.29	< 0.24	< 0.26	0.56 ± 0.29
K-40	10.81 ± 0.62	5.33 ± 0.55	8.77 ± 0.64	19.82 ± 0.98
Mn-54	< 0.011	< 0.014	< 0.024	< 0.035
Nb-95	< 0.016	< 0.017	< 0.009	< 0.027
Zr-95	< 0.029	< 0.030	< 0.033	< 0.041
Ru-103	< 0.019	< 0.015	< 0.023	< 0.021
Ru-106	< 0.060	< 0.202	< 0.154	< 0.098
Cs-134	< 0.016	< 0.019	< 0.015	< 0.022
Cs-137	0.10 ± 0.027	0.086 ± 0.025	0.048 ± 0.027	0.14 ± 0.039
Ce-141	< 0.040	< 0.046	< 0.049	< 0.067
Ce-144	< 0.088	< 0.139	< 0.120	< 0.093

Location	T-7	T-8
Lab Code	TSO- 1910	TSO- 1911
Date Collected	04-16-08	04-15-08
Be-7	0.57 ± 0.27	2.28 ± 0.44
K-40	12.25 ± 0.64	19.92 ± 0.96
Mn-54	< 0.021	< 0.033
Nb-95	< 0.020	< 0.019
Zr-95	< 0.042	< 0.027
Ru-103	< 0.026	< 0.016
Ru-106	< 0.093	< 0.221
Cs-134	< 0.019	< 0.025
Cs-137	< 0.020	0.27 ± 0.042
Ce-141	< 0.056	< 0.061
Ce-144	< 0.140	< 0.094

Location	T-9	T-11	T-12	T-27
Lab Code	TSO- 1912	TSO- 1913	TSO- 1915	TSO- 1916
Date Collected	04-15-08	04-15-08	04-15-08	04-15-08
Be-7	0.52 ± 0.31	< 0.22	< 0.36	< 0.39
K-40	22.55 ± 0.94	12.79 ± 0.73	9.32 ± 0.68	21.49 ± 0.97
Mn-54	< 0.029	< 0.022	< 0.020	< 0.029
Nb-95	< 0.033	< 0.015	< 0.046	< 0.030
Zr-95	< 0.022	< 0.024	< 0.048	< 0.061
Ru-103	< 0.026	< 0.035	< 0.022	< 0.047
Ru-106	< 0.129	< 0.084	< 0.130	< 0.188
Cs-134	< 0.021	< 0.015	< 0.022	< 0.026
Cs-137	0.070 ± 0.034	< 0.022	0.153 ± 0.036	0.151 ± 0.046
Ce-141	< 0.062	< 0.064	< 0.084	< 0.074
Ce-144	< 0.101	< 0.093	< 0.158	< 0.167



Table 23. Treated surface water samples, analyses for gross beta.  
 Collection: Monthly composites of weekly grab samples  
 Units: pCi/L

T-11 (C)			T-12 (C)		
Lab Code	Date Collected	Gross Beta	Lab Code	Date Collected	Gross Beta
TSWT- 473	01-29-08	2.7 ± 1.1	TSWT- 474	01-29-08	2.1 ± 0.9
TSWT- 768	02-26-08	2.8 ± 0.6 <sup>a</sup>	TSWT- 769	02-26-08	3.1 ± 1.0
TSWT- 1385	03-25-08	< 0.9	TSWT- 1386	03-25-08	1.5 ± 0.6
TSWT- 2076	04-29-08	1.3 ± 0.4	TSWT- 2077	04-29-08	1.5 ± 0.4
TSWT- 2573	05-27-08	1.8 ± 0.6	TSWT- 2574	05-27-08	1.5 ± 0.6
TSWT- 3148	06-24-08	3.0 ± 1.1	TSWT- 3149	06-24-08	2.2 ± 0.9
TSWT- 4154	07-29-08	1.5 ± 0.4	TSWT- 4155	07-29-08	1.4 ± 0.4
TSWT- 4655	08-26-08	1.6 ± 0.6	TSWT- 4656	08-26-08	< 0.9
TSWT- 5427	09-30-08	2.8 ± 1.1	TSWT- 5428	09-30-08	2.0 ± 0.9
TSWT- 6182	10-28-08	< 0.9	TSWT- 6183	10-28-08	1.0 ± 0.5
TSWT- 6852	11-25-08	1.1 ± 0.6	TSWT- 6853	11-25-08	1.3 ± 0.5 <sup>b</sup>
TSWT- 7251	12-30-08	1.2 ± 0.6	TSWT- 7252	12-30-08	< 0.8

T-22			T-50		
Lab Code	Date Collected	Gross Beta	Lab Code	Date Collected	Gross Beta
TSWT- 475	01-29-08	3.1 ± 1.1	TSWT- 476	01-29-08	3.5 ± 1.1
TSWT- 770	02-26-08	3.0 ± 1.1	TSWT- 771	02-26-08	2.5 ± 1.0
TSWT- 1387	03-25-08	1.5 ± 0.6	TSWT- 1388	03-25-08	1.5 ± 0.6
TSWT- 2078	04-29-08	1.6 ± 0.4	TSWT- 2079	04-29-08	1.7 ± 0.5
TSWT- 2575	05-27-08	1.4 ± 0.6	TSWT- 2576	05-27-08	1.3 ± 0.6
TSWT- 3150	06-24-08	3.2 ± 1.1	TSWT- 3151	06-24-08	3.6 ± 1.1
TSWT- 4156	07-29-08	2.0 ± 0.5	TSWT- 4157	07-29-08	1.6 ± 0.4
TSWT- 4657	08-26-08	2.1 ± 0.6	TSWT- 4658	08-26-08	1.2 ± 0.6
TSWT- 5429	09-30-08	2.5 ± 1.1	TSWT- 5430	09-30-08	2.5 ± 1.1
TSWT- 6184	10-28-08	1.0 ± 0.5	TSWT- 6185	10-28-08	0.9 ± 0.5
TSWT- 6855	11-25-08	0.9 ± 0.5	TSWT- 6856	11-25-08	< 0.9
TSWT- 7253	12-30-08	4.5 ± 0.8	TSWT- 7254	12-30-08	1.7 ± 0.6

T-143 (QC)		
Lab Code	Date Collected	Gross Beta
TSWT- 477	01-29-08	2.6 ± 1.1
TSWT- 772	02-26-08	2.9 ± 1.0
TSWT- 1389	03-25-08	1.7 ± 0.6
TSWT- 2080	04-29-08	2.1 ± 0.5
TSWT- 2577	05-27-08	2.0 ± 0.6 <sup>a</sup>
TSWT- 3152	06-24-08	2.2 ± 1.1
TSWT- 4158	07-29-08	1.6 ± 0.4 <sup>a</sup>
TSWT- 4659	08-26-08	< 0.9
TSWT- 5431	09-30-08	1.9 ± 1.0
TSWT- 6186	10-28-08	1.4 ± 0.6
TSWT- 6857	11-25-08	1.0 ± 0.6
TSWT- 7255	12-30-08	< 0.9

<sup>a</sup> Result of longer sample count.

<sup>b</sup> Duplicate analysis, refer to Appendix C.

Table 24. Treated surface water samples, analyses for tritium, strontium-89, strontium-90 and gamma-emitting isotopes.  
 Collection: Quarterly composites of weekly grab samples  
 Units: pCi/L

Location T-11 (C)					
Period Lab Code	1st Qtr. TSWT- 1372	2nd Qtr. TSWT- 3198	3rd Qtr. TSWT- 5451	4th Qtr. TSWT- 7285	Req. LLD
H-3	< 330	< 330	< 330	< 330	330
Sr-89	< 0.8	< 0.7	< 1.0	< 0.9	
Sr-90	< 0.6	< 0.5	< 0.6	< 0.6	
Mn-54	< 1.7	< 2.7	< 2.8	< 1.9	15
Fe-59	< 6.5	< 5.5	< 4.6	< 4.8	30
Co-58	< 2.3	< 1.7	< 2.2	< 2.1	15
Co-60	< 1.3	< 3.0	< 2.3	< 2.4	15
Zn-65	< 4.4	< 3.5	< 4.4	< 2.4	30
Zr-Nb-95	< 2.7	< 3.4	< 2.5	< 3.0	15
Cs-134	< 2.2	< 2.8	< 3.3	< 2.5	15
Cs-137	< 2.8	< 2.7	< 3.3	< 3.1	18
Ba-La-140	< 2.7	< 6.7	< 5.4	< 3.3	15

Location T-12 (C)					
Period Lab Code	1st Qtr. TSWT- 1373 <sup>a</sup>	2nd Qtr. TSWT- 3199	3rd Qtr. TSWT- 5452	4th Qtr. TSWT- 7286	Req. LLD
H-3	< 330	< 330	< 330	< 330	330
Sr-89	< 0.9	< 0.8	< 1.1	< 1.0	
Sr-90	< 0.6	< 0.5	< 0.6	< 0.6	
Mn-54	< 2.0	< 2.0	< 1.8	< 1.6	15
Fe-59	< 1.3	< 2.6	< 3.6	< 5.5	30
Co-58	< 2.7	< 2.2	< 2.0	< 1.5	15
Co-60	< 2.3	< 2.4	< 2.7	< 2.4	15
Zn-65	< 2.8	< 4.0	< 3.2	< 2.0	30
Zr-Nb-95	< 3.2	< 2.2	< 2.3	< 2.1	15
Cs-134	< 2.5	< 2.2	< 2.8	< 2.3	15
Cs-137	< 2.9	< 1.8	< 2.8	< 3.0	18
Ba-La-140	< 3.5	< 5.8	< 1.8	< 6.6	15

<sup>a</sup> Duplicate analysis, refer to Appendix C.

Table 24. Treated surface water samples, analyses for tritium, strontium-89, strontium-90 and gamma-emitting isotopes.  
 Collection: Quarterly composites of weekly grab samples.  
 Units: pCi/L

Location T-22					
Period	1st Qtr.	2nd Qtr.	3rd Qtr.	4th Qtr.	Reg. LLD
Lab Code	TSWT- 1375	TSWT- 3200	TSWT- 5453	TSWT- 7287	
H-3	< 330	< 330	< 330	< 330	330
Sr-89	< 0.9	< 0.8	< 0.9	< 0.8	
Sr-90	< 0.6	< 0.5	< 0.6	< 0.5	
Mn-54	< 2.7	< 2.4	< 3.1	< 2.5	15
Fe-59	< 3.7	< 4.4	< 6.1	< 5.9	30
Co-58	< 1.6	< 2.1	< 2.2	< 2.8	15
Co-60	< 2.2	< 2.0	< 2.2	< 2.6	15
Zn-65	< 2.4	< 3.3	< 5.0	< 4.3	30
Zr-Nb-95	< 3.4	< 2.5	< 3.4	< 3.2	15
Cs-134	< 2.3	< 1.6	< 3.1	< 2.4	15
Cs-137	< 3.6	< 1.7	< 2.9	< 2.8	18
Ba-La-140	< 4.5	< 5.5	< 3.2	< 6.9	15

Location T-50					
Period	1st Qtr.	2nd Qtr.	3rd Qtr.	4th Qtr.	Reg. LLD
Lab Code	TSWT- 1376	TSWT- 3201	TSWT- 5454	TSWT- 7288	
H-3	< 330	< 330	< 330	< 330	330
Sr-89	< 0.7	< 0.7	< 0.9	< 0.8	
Sr-90	< 0.5	< 0.5	< 0.5	0.5 ± 0.3	
Mn-54	< 2.5	< 1.7	< 3.3	< 3.1	15
Fe-59	< 6.9	< 3.1	< 4.7	< 5.4	30
Co-58	< 3.3	< 1.3	< 2.4	< 2.7	15
Co-60	< 1.9	< 1.7	< 2.9	< 2.2	15
Zn-65	< 5.6	< 2.7	< 5.3	< 2.9	30
Zr-Nb-95	< 3.9	< 2.1	< 3.0	< 3.7	15
Cs-134	< 3.2	< 1.4	< 2.7	< 2.0	15
Cs-137	< 2.5	< 1.6	< 3.1	< 1.8	18
Ba-La-140	< 4.6	< 5.8	< 5.3	< 4.0	15

Table 25. Untreated surface water, analyses for gross beta, tritium and gamma emitting isotopes.

Location: T-3

Collection: Monthly composites of weekly grab samples

Units: pCi/L

Lab Code	TSWU- 478	TSWU- 773	TSWU- 1360	TSWU- 2082	
Date Collected	01-29-08	02-26-08	03-25-08	04-29-08	Req. LLD
Gross beta	4.5 ± 1.2	2.9 ± 0.7	3.4 ± 1.1	2.5 ± 0.4	4.0
H-3	< 330	< 330	< 330	< 330	330
Mn-54	< 2.0	< 2.1	< 2.3	< 2.5	15
Fe-59	< 4.4	< 5.2	< 3.8	< 3.2	30
Co-58	< 3.3	< 2.2	< 1.8	< 2.5	15
Co-60	< 2.9	< 2.8	< 2.1	< 1.4	15
Zn-65	< 1.7	< 6.8	< 1.9	< 3.0	30
Zr-Nb-95	< 3.5	< 4.9	< 3.3	< 2.7	15
Cs-134	< 2.5	< 2.8	< 3.0	< 2.5	15
Cs-137	< 3.8	< 3.9	< 3.3	< 2.4	18
Ba-La-140	< 2.1	< 2.0	< 2.7	< 2.6	15
Lab Code	TSWU- 2579	TSWU- 3153	TSWU- 4160	TSWU- 4660	
Date Collected	05-27-08	06-24-08	07-29-08	08-26-08	
Gross beta	3.8 ± 1.1	3.7 ± 1.1	1.7 ± 0.6	1.8 ± 0.6	4.0
H-3	< 330	< 330	< 330	< 330	330
Mn-54	< 2.4	< 4.9	< 3.2	< 1.6	15
Fe-59	< 3.8	< 9.3	< 7.4	< 6.4	30
Co-58	< 2.3	< 6.2	< 3.6	< 2.3	15
Co-60	< 2.0	< 4.9	< 2.3	< 3.0	15
Zn-65	< 2.6	< 5.5	< 4.2	< 6.3	30
Zr-Nb-95	< 3.0	< 4.1	< 5.5	< 4.1	15
Cs-134	< 1.7	< 4.6	< 3.1	< 3.4	15
Cs-137	< 3.2	< 6.1	< 4.6	< 3.2	18
Ba-La-140	< 1.7	< 6.1	< 3.3	< 5.1	15
Lab Code	TSWU- 5433	TSWU- 6208	TSWU- 6862	TSWU- 7276	
Date Collected	09-30-08	10-28-08	11-25-08	12-30-08	
Gross beta	4.1 ± 1.1	2.7 ± 1.1	1.5 ± 0.6	3.3 ± 0.7	4.0
H-3	< 330	< 330	< 330	< 330	330
Mn-54	< 2.6	< 1.3	< 1.7	< 5.7	15
Fe-59	< 5.7	< 3.9	< 4.3	< 5.8	30
Co-58	< 2.9	< 2.7	< 2.5	< 5.8	15
Co-60	< 2.4	< 3.2	< 2.1	< 4.1	15
Zn-65	< 3.8	< 3.0	< 4.4	< 7.0	30
Zr-Nb-95	< 2.2	< 3.2	< 2.9	< 4.8	15
Cs-134	< 2.6	< 2.5	< 2.4	< 4.8	15
Cs-137	< 2.4	< 3.0	< 1.2	< 4.9	18
Ba-La-140	< 4.2	< 2.5	< 6.8	< 3.9	15

Table 25. Untreated surface water, analyses for gross beta, tritium and gamma emitting isotopes.

Location: T-11 (C)

Collection: Monthly composites of weekly grab samples

Units: pCi/L

Lab Code	TSWU- 481	TSWU- 775	TSWU- 1362	TSWU- 2084	Req. LLD
Date Collected	01-29-08	02-26-08	03-25-08	04-29-08	
Gross beta	2.0 ± 1.0	1.4 ± 0.6	2.9 ± 1.1	1.5 ± 0.5	4.0
H-3	< 330	< 330	< 330	< 330	330
Mn-54	< 3.5	< 2.9	< 2.8	< 2.9	15
Fe-59	< 6.9	< 4.2	< 7.5	< 5.2	30
Co-58	< 1.9	< 1.5	< 3.5	< 1.8	15
Co-60	< 3.2	< 3.0	< 2.5	< 1.8	15
Zn-65	< 3.5	< 3.0	< 6.7	< 3.1	30
Zr-Nb-95	< 2.6	< 4.4	< 2.2	< 3.2	15
Cs-134	< 3.9	< 3.4	< 3.9	< 3.5	15
Cs-137	< 3.5	< 3.0	< 3.5	< 2.5	18
Ba-La-140	< 3.3	< 2.6	< 4.9	< 3.3	15
Lab Code	TSWU- 2581	TSWU- 3155	TSWU- 4162	TSWU- 4662	
Date Collected	05-27-08	06-24-08	07-29-08	08-26-08	
Gross beta	3.5 ± 1.1	2.2 ± 1.0	1.8 ± 0.6	1.5 ± 0.6	4.0
H-3	< 330	< 330	< 330	< 330	330
Mn-54	< 2.5	< 2.5	< 3.7	< 2.7	15
Fe-59	< 3.0	< 6.5	< 5.6	< 6.0	30
Co-58	< 1.0	< 3.2	< 2.7	< 2.7	15
Co-60	< 1.6	< 3.6	< 3.0	< 2.6	15
Zn-65	< 1.9	< 4.3	< 3.9	< 6.0	30
Zr-Nb-95	< 2.4	< 4.1	< 4.2	< 2.6	15
Cs-134	< 2.5	< 2.8	< 3.3	< 3.2	15
Cs-137	< 3.1	< 2.8	< 4.3	< 2.6	18
Ba-La-140	< 1.5	< 4.2	< 4.5	< 6.3	15
Lab Code	TSWU- 5435	TSWU- 6210	TSWU- 6864	TSWU- 7278	
Date Collected	09-30-08	10-28-08	11-25-08	12-30-08	
Gross beta	2.6 ± 1.0	2.2 ± 1.0	< 0.9	1.3 ± 0.6	4.0
H-3	< 330	< 330	< 330	< 330	330
Mn-54	< 2.5	< 4.9	< 2.2	< 2.5	15
Fe-59	< 5.7	< 7.9	< 5.3	< 5.5	30
Co-58	< 2.2	< 5.1	< 2.4	< 3.1	15
Co-60	< 2.8	< 5.8	< 3.3	< 2.5	15
Zn-65	< 5.1	< 8.6	< 4.4	< 5.4	30
Zr-Nb-95	< 2.3	< 3.5	< 3.4	< 2.3	15
Cs-134	< 3.5	< 5.4	< 2.7	< 3.1	15
Cs-137	< 2.1	< 5.6	< 2.6	< 2.5	18
Ba-La-140	< 2.4	< 3.7	< 3.3	< 2.9	15

Table 25. Untreated surface water, analyses for gross beta, tritium and gamma emitting isotopes.

Location: T-12 (C)

Collection: Monthly composites of weekly grab samples

Units: pCi/L

Lab Code	TSWU- 482	TSWU- 776	TSWU- 1363	TSWU- 2085	Req. LLD
Date Collected	01-29-08	02-26-08	03-25-08	04-29-08	
Gross beta	1.0 ± 0.5	1.7 ± 0.6	1.1 ± 0.5	2.8 ± 0.6	4.0
H-3	< 330	< 330	< 330	< 330	330
Mn-54	< 2.8	< 4.0	< 1.6	< 1.7	15
Fe-59	< 6.0	< 3.9	< 6.1	< 4.0	30
Co-58	< 1.6	< 2.8	< 1.4	< 3.1	15
Co-60	< 2.2	< 3.9	< 1.5	< 2.8	15
Zn-65	< 5.0	< 9.9	< 4.1	< 3.5	30
Zr-Nb-95	< 2.6	< 3.1	< 3.1	< 2.6	15
Cs-134	< 2.2	< 5.3	< 2.0	< 2.2	15
Cs-137	< 2.8	< 4.3	< 2.4	< 2.8	18
Ba-La-140	< 3.0	< 4.2	< 4.1	< 2.9	15
Lab Code	TSWU- 2582	TSWU- 3157	TSWU- 4163	TSWU- 4663	
Date Collected	05-27-08	06-24-08	07-29-08	08-26-08	
Gross beta	3.1 ± 1.0	2.1 ± 1.0	1.5 ± 0.6	1.1 ± 0.5	4.0
H-3	< 330	< 330	< 330	< 330	330
Mn-54	< 2.3	< 1.7	< 1.6	< 2.5	15
Fe-59	< 4.7	< 5.1	< 6.2	< 3.6	30
Co-58	< 2.2	< 1.5	< 2.9	< 2.1	15
Co-60	< 2.1	< 2.5	< 3.3	< 2.7	15
Zn-65	< 6.5	< 4.9	< 2.9	< 3.2	30
Zr-Nb-95	< 2.4	< 3.5	< 2.5	< 3.6	15
Cs-134	< 2.6	< 2.5	< 2.9	< 2.7	15
Cs-137	< 2.2	< 3.1	< 2.5	< 2.8	18
Ba-La-140	< 4.0	< 3.5	< 6.7	< 4.3	15
Lab Code	TSWU- 5436	TSWU- 6211	TSWU- 6865	TSWU- 7279	
Date Collected	09-30-08	10-28-08	11-25-08	12-30-08	
Gross beta	2.6 ± 1.1	1.9 ± 0.4	0.9 ± 0.5	0.9 ± 0.5	4.0
H-3	< 330	< 330	< 330	< 330	330
Mn-54	< 2.1	< 4.4	< 4.1	< 2.0	15
Fe-59	< 4.4	< 6.7	< 9.8	< 4.9	30
Co-58	< 2.0	< 5.3	< 5.0	< 2.0	15
Co-60	< 2.6	< 4.2	< 4.5	< 1.5	15
Zn-65	< 3.5	< 3.7	< 5.2	< 4.6	30
Zr-Nb-95	< 2.0	< 6.0	< 2.8	< 2.4	15
Cs-134	< 2.3	< 4.0	< 4.0	< 2.3	15
Cs-137	< 2.1	< 4.8	< 4.8	< 2.8	18
Ba-La-140	< 2.7	< 3.9	< 8.3	< 2.7	15

Table 25. Untreated surface water, analyses for gross beta, tritium and gamma emitting isotopes.

Location: T-22

Collection: Monthly composites of weekly grab samples

Units: pCi/L

Lab Code	TSWU- 484	TSWU- 778	TSWU- 1365	TSWU- 2087 <sup>a</sup>	Req. LLD
Date Collected	01-29-08	02-26-08	03-25-08	04-29-08	
Gross beta	1.5 ± 0.6	2.2 ± 0.6	2.6 ± 1.1	2.2 ± 0.6	4.0
H-3	< 330	< 330	< 330	< 330	330
Mn-54	< 3.1	< 2.5	< 2.9	< 5.8	15
Fe-59	< 5.3	< 5.9	< 5.0	< 5.0	30
Co-58	< 2.4	< 1.7	< 2.0	< 4.0	15
Co-60	< 2.4	< 2.5	< 3.1	< 3.5	15
Zn-65	< 3.6	< 5.7	< 5.5	< 6.1	30
Zr-Nb-95	< 4.4	< 2.1	< 4.5	< 3.6	15
Cs-134	< 3.4	< 2.4	< 3.5	< 3.9	15
Cs-137	< 2.2	< 2.2	< 3.8	< 5.7	18
Ba-La-140	< 5.5	< 2.9	< 4.6	< 7.0	15
Lab Code	TSWU- 2584	TSWU- 3159	TSWU- 4165	TSWU- 4665	
Date Collected	05-27-08	06-24-08	07-29-08	08-26-08	
Gross beta	3.2 ± 1.1	1.5 ± 0.6	2.4 ± 0.7	< 0.9	4.0
H-3	< 330	< 330	< 330	< 330	330
Mn-54	< 2.1	< 2.6	< 2.7	< 2.7	15
Fe-59	< 5.3	< 6.8	< 4.8	< 5.3	30
Co-58	< 1.8	< 2.1	< 1.2	< 2.1	15
Co-60	< 1.4	< 3.5	< 2.1	< 2.3	15
Zn-65	< 3.6	< 5.9	< 2.8	< 3.6	30
Zr-Nb-95	< 3.1	< 2.8	< 2.7	< 3.9	15
Cs-134	< 2.3	< 3.0	< 2.3	< 2.2	15
Cs-137	< 2.9	< 4.8	< 3.1	< 3.2	18
Ba-La-140	< 2.3	< 2.9	< 3.5	< 6.6	15
Lab Code	TSWU- 5438	TSWU- 6213	TSWU- 6867	TSWU- 7281 <sup>a</sup>	
Date Collected	09-30-08	10-28-08	11-25-08	12-30-08	
Gross beta	1.4 ± 0.6	1.6 ± 0.6	< 0.9	0.9 ± 0.5	4.0
H-3	< 330	< 330	< 330	< 330	330
Mn-54	< 2.3	< 2.7	< 2.4	< 3.8	15
Fe-59	< 5.2	< 5.3	< 4.7	< 8.7	30
Co-58	< 2.2	< 2.6	< 2.6	< 3.8	15
Co-60	< 2.3	< 2.6	< 2.0	< 2.6	15
Zn-65	< 2.7	< 2.3	< 4.1	< 5.3	30
Zr-Nb-95	< 3.7	< 3.8	< 3.1	< 2.5	15
Cs-134	< 2.6	< 2.7	< 2.4	< 3.5	15
Cs-137	< 2.1	< 3.7	< 2.6	< 3.7	18
Ba-La-140	< 2.3	< 2.7	< 3.1	< 5.1	15

<sup>a</sup> Duplicate analysis, refer to Appendix C.

Table 25. Untreated surface water, analyses for gross beta, tritium and gamma emitting isotopes.  
 Location: T-50  
 Collection: Monthly composites of weekly grab samples  
 Units: pCi/L

Lab Code	TSWU- 485	TSWU- 779	TSWU- 1366	TSWU- 2089	Req. LLD
Date Collected	01-29-08	02-26-08	03-25-08	04-29-08	
Gross beta	2.1 ± 0.6 <sup>a</sup>	1.9 ± 0.6	2.7 ± 1.1	1.4 ± 0.4	4.0
H-3	< 330	< 330	< 330	< 330	330
Mn-54	< 2.9	< 4.2	< 2.3	< 1.8	15
Fe-59	< 3.5	< 3.5	< 3.1	< 2.7	30
Co-58	< 1.9	< 2.1	< 2.4	< 2.3	15
Co-60	< 2.1	< 2.8	< 1.7	< 1.6	15
Zn-65	< 5.4	< 2.4	< 2.4	< 2.6	30
Zr-Nb-95	< 2.3	< 4.2	< 4.3	< 3.1	15
Cs-134	< 2.6	< 2.9	< 2.8	< 2.6	15
Cs-137	< 1.9	< 2.1	< 3.7	< 3.3	18
Ba-La-140	< 4.4	< 3.2	< 4.0	< 2.7	15
Lab Code	TSWU- 2585	TSWU- 3160	TSWU- 4166	TSWU- 4666	
Date Collected	05-27-08	06-24-08	07-29-08	08-26-08	
Gross beta	2.1 ± 0.6	1.4 ± 0.6	1.1 ± 0.6	1.5 ± 0.6	4.0
H-3	< 330	< 330	< 330	< 330	330
Mn-54	< 3.2	< 4.3	< 2.2	< 1.7	15
Fe-59	< 4.9	< 4.7	< 3.1	< 6.4	30
Co-58	< 2.4	< 3.5	< 2.7	< 2.7	15
Co-60	< 2.4	< 3.9	< 2.7	< 2.5	15
Zn-65	< 3.5	< 9.5	< 4.7	< 2.1	30
Zr-Nb-95	< 3.7	< 3.6	< 3.3	< 3.7	15
Cs-134	< 3.6	< 4.4	< 2.1	< 3.3	15
Cs-137	< 3.8	< 4.0	< 2.2	< 2.0	18
Ba-La-140	< 1.8	< 3.7	< 3.7	< 6.2	15
Lab Code	TSWU- 5439	TSWU- 6214	TSWU- 6868	TSWU- 7283	
Date Collected	09-30-08	10-28-08	11-25-08	12-30-08	
Gross beta	1.1 ± 0.5	< 0.9	1.4 ± 0.8	1.4 ± 0.6	4.0
H-3	< 330	< 330	< 330	< 330	330
Mn-54	< 2.3	< 2.3	< 1.5	< 1.7	15
Fe-59	< 4.3	< 3.9	< 4.4	< 4.5	30
Co-58	< 1.9	< 3.2	< 1.8	< 2.0	15
Co-60	< 1.9	< 1.7	< 2.7	< 2.1	15
Zn-65	< 4.3	< 5.1	< 2.4	< 2.8	30
Zr-Nb-95	< 2.5	< 3.5	< 3.2	< 3.7	15
Cs-134	< 2.2	< 2.6	< 2.0	< 2.3	15
Cs-137	< 2.6	< 3.4	< 2.1	< 2.3	18
Ba-La-140	< 3.8	< 3.7	< 2.8	< 2.3	15

<sup>a</sup> Result of longer sample count.



Table 25. Untreated surface water, analyses for gross beta, tritium and gamma emitting isotopes.  
 Location: T-145 (QC)  
 Collection: Monthly composites of weekly grab samples  
 Units: pCi/L

Lab Code	TSWU- 486	TSWU- 780	TSWU- 1367	TSWU- 2090	Req. LLD
Date Collected	01-29-08	02-26-08	03-25-08	04-29-08	
Gross beta	2.8 ± 0.6 <sup>a</sup>	1.4 ± 0.5	3.2 ± 0.7	1.5 ± 0.5	4.0
H-3	< 330	< 330	< 330	< 330	330
Mn-54	< 3.3	< 2.6	< 3.7	< 3.3	15
Fe-59	< 7.2	< 4.7	< 6.7	< 6.6	30
Co-58	< 2.6	< 2.0	< 2.4	< 1.6	15
Co-60	< 2.8	< 3.0	< 1.9	< 2.1	15
Zn-65	< 6.1	< 2.4	< 6.7	< 4.7	30
Zr-Nb-95	< 4.0	< 2.6	< 4.5	< 2.5	15
Cs-134	< 2.4	< 3.2	< 2.9	< 3.4	15
Cs-137	< 2.2	< 3.6	< 2.9	< 1.9	18
Ba-La-140	< 3.8	< 4.1	< 5.8	< 2.0	15
Lab Code	TSWU- 2586	TSWU- 3161	TSWU- 4167	TSWU- 4667	
Date Collected	05-27-08	06-24-08	07-29-08	08-26-08	
Gross beta	2.3 ± 0.6	1.3 ± 0.5	1.0 ± 0.5	1.8 ± 0.8	4.0
H-3	< 330	< 330	< 330	< 330	330
Mn-54	< 2.1	< 2.9	< 2.5	< 2.1	15
Fe-59	< 4.4	< 5.2	< 5.0	< 3.6	30
Co-58	< 1.2	< 3.7	< 3.9	< 2.3	15
Co-60	< 2.5	< 2.6	< 2.8	< 2.6	15
Zn-65	< 3.0	< 5.5	< 5.3	< 3.5	30
Zr-Nb-95	< 3.1	< 3.0	< 3.7	< 1.9	15
Cs-134	< 2.5	< 2.9	< 3.0	< 2.3	15
Cs-137	< 2.9	< 4.3	< 3.6	< 3.2	18
Ba-La-140	< 2.9	< 5.2	< 5.6	< 3.3	15
Lab Code	TSWU- 5440	TSWU- 6215	TSWU- 6869	TSWU- 7284	
Date Collected	09-30-08	10-28-08	11-25-08	12-30-08	
Gross beta	1.9 ± 0.6	< 0.9	2.0 ± 0.8	1.2 ± 0.6	4.0
H-3	< 330	< 330	< 330	< 330	330
Mn-54	< 3.1	< 1.3	< 2.2	< 3.6	15
Fe-59	< 6.5	< 4.5	< 4.4	< 6.7	30
Co-58	< 2.2	< 2.7	< 3.1	< 1.7	15
Co-60	< 3.1	< 3.0	< 3.4	< 2.8	15
Zn-65	< 4.3	< 3.4	< 2.6	< 5.6	30
Zr-Nb-95	< 2.6	< 3.2	< 3.5	< 3.8	15
Cs-134	< 2.2	< 2.7	< 2.9	< 3.7	15
Cs-137	< 3.4	< 2.6	< 2.5	< 3.1	18
Ba-La-140	< 6.2	< 2.4	< 6.7	< 3.6	15

<sup>a</sup> Result of longer sample count.

Table 26. Untreated surface water samples, analyses for strontium-89 and strontium-90.  
 Collection: Quarterly composites of weekly grab samples  
 Units: pCi/L

Location T-3				
Period	1st Qtr.	2nd Qtr.	3rd Qtr.	4th Qtr.
Lab Code	TSWU-1474	TSWU-3338	TSWU-5632	TSWU-7469
Sr-89	< 0.8	< 1.0	< 0.8	< 0.8
Sr-90	< 0.7	< 0.5	< 0.5	< 0.5

Location T-11 (C)				
Period	1st Qtr.	2nd Qtr.	3rd Qtr.	4th Qtr.
Lab Code	TSWU-1475	TSWU-3339 <sup>b</sup>	TSWU-5633	TSWU-7470
Sr-89	< 1.0	< 1.3	< 0.9	< 0.8
Sr-90	< 0.7	< 0.6	< 0.5	< 0.6

Location T-12 (C)				
Period	1st Qtr.	2nd Qtr.	3rd Qtr.	4th Qtr.
Lab Code	TSWU-1476 <sup>a</sup>	TSWU-3341	TSWU-5634	TSWU-7471
Sr-89	< 0.8	< 1.0	< 1.0	< 1.0
Sr-90	0.7 ± 0.4	< 0.5	< 0.5	< 0.6

Location T-22				
Period	1st Qtr.	2nd Qtr.	3rd Qtr.	4th Qtr.
Lab Code	TSWU-1478	TSWU-3342	TSWU-5635	TSWU-7472
Sr-89	< 0.7	< 1.6	< 0.8	< 0.7
Sr-90	< 0.5	< 0.9	< 0.5	< 0.6

Location T-50				
Period	1st Qtr.	2nd Qtr.	3rd Qtr.	4th Qtr.
Lab Code	TSWU-1479	TSWU-3343	TSWU-5636	TSWU-7473
Sr-89	< 0.7	< 1.1	< 0.8	< 0.8
Sr-90	< 0.6	< 0.6	< 0.4	< 0.6

Table 28. Fish samples, analyses for gross beta and gamma-emitting isotopes.  
 Collection: Annually  
 Units: pCi/g wet

Location		T-33 (Lake Erie, 1.5 mi. NE of Station)		
Lab Code	TF- 1902	TF- 2847	TF- 2848	
Date Collected	04-17-08	05-07-08	05-30-08	
Sample Type	Walleye	Carp	White Perch	
Gross Beta	4.76 ± 0.12	4.06 ± 0.29	3.53 ± 0.21	
K-40	3.07 ± 0.36	3.12 ± 0.49	3.05 ± 0.44	
Mn-54	< 0.011	< 0.024	< 0.020	
Fe-59	< 0.017	< 0.082	< 0.058	
Co-58	< 0.009	< 0.016	< 0.017	
Co-60	< 0.010	< 0.023	< 0.022	
Zn-65	< 0.022	< 0.013	< 0.043	
Cs-134	< 0.009	< 0.024	< 0.016	
Cs-137	< 0.014	< 0.017	< 0.017	

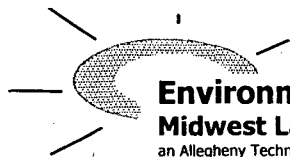
Location		T-35		
Lab Code	TF- 1903	TF- 2849	TF- 2850 <sup>a</sup>	
Date Collected	02-20-08	05-06-08	05-07-08	
Sample Type	Walleye	Carp	White Perch/ White Bass	
Gross Beta	5.32 ± 0.12	3.60 ± 0.26	3.37 ± 0.21	
K-40	2.85 ± 0.36	3.22 ± 0.40	2.56 ± 0.40	
Mn-54	< 0.013	< 0.012	< 0.012	
Fe-59	< 0.046	< 0.043	< 0.051	
Co-58	< 0.021	< 0.019	< 0.016	
Co-60	< 0.011	< 0.015	< 0.008	
Zn-65	< 0.023	< 0.018	< 0.037	
Cs-134	< 0.015	< 0.008	< 0.020	
Cs-137	< 0.011	< 0.012	< 0.016	

<sup>a</sup> Duplicate analysis, refer to Appendix C.

Table 29. Shoreline sediment samples, analyses for gamma-emitting isotopes.  
 Collection: Semiannually  
 Units: pCi/g dry

Location	T-3	T-4	T-4P	T-27B	T-132
Lab Code	TSS- 2587	TSS- 2588	TSS- 2589	TSS- 2590	TSS- 2591
Date Collected	05-28-08	05-28-08	05-28-08	05-28-08	05-28-08
K-40	12.35 ± 0.72	10.52 ± 0.54	15.41 ± 1.26	9.89 ± 0.74	10.12 ± 0.50
Mn-54	< 0.020	< 0.018	< 0.025	< 0.019	< 0.012
Co-58	< 0.019	< 0.017	< 0.019	< 0.016	< 0.011
Co-60	< 0.020	< 0.009	< 0.015	< 0.020	< 0.009
Cs-134	< 0.014	< 0.010	< 0.019	< 0.018	< 0.011
Cs-137	< 0.012	< 0.015	< 0.020	< 0.018	< 0.013
Lab Code	TSS- 6593 <sup>a</sup>	TSS- 6595	TSS- 6596	TSS- 6597	TSS- 6598
Date Collected	11-19-08	11-19-08	11-19-08	11-19-08	11-19-08
K-40	12.35 ± 0.57	19.69 ± 0.84	20.74 ± 1.08	11.85 ± 0.74	12.04 ± 0.55
Mn-54	< 0.014	< 0.027	< 0.038	< 0.021	< 0.016
Co-58	< 0.016	< 0.029	< 0.039	< 0.035	< 0.020
Co-60	< 0.010	< 0.009	< 0.018	< 0.019	< 0.009
Cs-134	< 0.008	< 0.013	< 0.023	< 0.019	< 0.012
Cs-137	< 0.011	< 0.025	0.072 ± 0.034	< 0.019	< 0.014

<sup>a</sup> Duplicate analysis, refer to Appendix C.



**Environmental, Inc.**  
**Midwest Laboratory**  
an Allegheny Technologies Co.

700 Landwehr Road • Northbrook, IL 60062-2310  
ph. (847) 564-0700 • fax (847) 564-4517

## APPENDIX A

### INTERLABORATORY COMPARISON PROGRAM RESULTS

**NOTE:** Environmental Inc., Midwest Laboratory participates in intercomparison studies administered by Environmental Resources Associates, and serves as a replacement for studies conducted previously by the U.S. EPA Environmental Monitoring Systems Laboratory, Las Vegas, Nevada. Results are reported in Appendix A. TLD Intercomparison results, in-house spikes, blanks, duplicates and mixed analyte performance evaluation program results are also reported. Appendix A is updated four times a year; the complete Appendix is included in March, June, September and December monthly progress reports only.

January, 2008 through December, 2008

## Appendix A

### Interlaboratory Comparison Program Results

Environmental, Inc., Midwest Laboratory has participated in interlaboratory comparison (crosscheck) programs since the formulation of its quality control program in December 1971. These programs are operated by agencies which supply environmental type samples containing concentrations of radionuclides known to the issuing agency but not to participant laboratories. The purpose of such a program is to provide an independent check on a laboratory's analytical procedures and to alert it of any possible problems.

Participant laboratories measure the concentration of specified radionuclides and report them to the issuing agency. Several months later, the agency reports the known values to the participant laboratories and specifies control limits. Results consistently higher or lower than the known values or outside the control limits indicate a need to check the instruments or procedures used.

Results in Table A-1 were obtained through participation in the environmental sample crosscheck program administered by Environmental Resources Associates, serving as a replacement for studies conducted previously by the U.S. EPA Environmental Monitoring Systems Laboratory, Las Vegas, Nevada.

The results in Table A-2 list results for thermoluminescent dosimeters (TLDs), via International Intercomparison of Environmental Dosimeters, when available, and internal laboratory testing.

Table A-3 lists results of the analyses on in-house "spiked" samples for the past twelve months. All samples are prepared using NIST traceable sources. Data for previous years available upon request.

Table A-4 lists results of the analyses on in-house "blank" samples for the past twelve months. Data for previous years available upon request.

Table A-5 lists REMP specific analytical results from the in-house "duplicate" program for the past twelve months. Acceptance is based on the difference of the results being less than the sum of the errors. Complete analytical data for duplicate analyses is available upon request.

The results in Table A-6 were obtained through participation in the Mixed Analyte Performance Evaluation Program.

Results in Table A-7 were obtained through participation in the environmental sample crosscheck program administered by Environmental Resources Associates, serving as a replacement for studies conducted previously by the Environmental Measurement Laboratory Quality Assessment Program (EML).

Attachment A lists the laboratory precision at the 1 sigma level for various analyses. The acceptance criteria in Table A-3 is set at  $\pm 2$  sigma.

Out-of-limit results are explained directly below the result.

Attachment A

ACCEPTANCE CRITERIA FOR "SPIKED" SAMPLES

LABORATORY PRECISION: ONE STANDARD DEVIATION VALUES FOR VARIOUS ANALYSES<sup>a</sup>

Analysis	Level	One standard deviation for single determination
Gamma Emitters	5 to 100 pCi/liter or kg > 100 pCi/liter or kg	5.0 pCi/liter 5% of known value
Strontium-89 <sup>b</sup>	5 to 50 pCi/liter or kg > 50 pCi/liter or kg	5.0 pCi/liter 10% of known value
Strontium-90 <sup>b</sup>	2 to 30 pCi/liter or kg > 30 pCi/liter or kg	5.0 pCi/liter 10% of known value
Potassium-40	≥ 0.1 g/liter or kg	5% of known value
Gross alpha	≤ 20 pCi/liter > 20 pCi/liter	5.0 pCi/liter 25% of known value
Gross beta	≤ 100 pCi/liter > 100 pCi/liter	5.0 pCi/liter 5% of known value
Tritium	≤ 4,000 pCi/liter > 4,000 pCi/liter	± 1σ = 169.85 x (known) <sup>0.0933</sup> 10% of known value
Radium-226,-228	≥ 0.1 pCi/liter	15% of known value
Plutonium	≥ 0.1 pCi/liter, gram, or sample	10% of known value
Iodine-131, Iodine-129 <sup>b</sup>	≤ 55 pCi/liter > 55 pCi/liter	6 pCi/liter 10% of known value
Uranium-238, Nickel-63 <sup>b</sup> Technetium-99 <sup>b</sup>	≤ 35 pCi/liter > 35 pCi/liter	6 pCi/liter 15% of known value
Iron-55 <sup>b</sup>	50 to 100 pCi/liter > 100 pCi/liter	10 pCi/liter 10% of known value
Others <sup>b</sup>	---	20% of known value

<sup>a</sup> From EPA publication, "Environmental Radioactivity Laboratory Intercomparison Studies Program, Fiscal Year, 1981-1982, EPA-600/4-81-004.

<sup>b</sup> Laboratory limit.

TABLE A-1. Interlaboratory Comparison Crosscheck program, Environmental Resource Associates (ERA)<sup>a</sup>.

Lab Code	Date	Analysis	Concentration (pCi/L)			Acceptance
			Laboratory Result <sup>b</sup>	ERA Result <sup>c</sup>	Control Limits	
STW-1148	03/24/08	Sr-89	50.6 ± 2.4	60.4	48.6 - 68.2	Pass
STW-1148	03/24/08	Sr-90	42.4 ± 1.4	39.2	28.8 - 45.1	Pass
STW-1149	03/24/08	Ba-133	56.9 ± 5.4	58.3	48.3 - 64.3	Pass
STW-1149	03/24/08	Co-60	73.9 ± 1.6	76.6	68.9 - 86.7	Pass
STW-1149	03/24/08	Cs-134	50.2 ± 1.9	46.6	37.4 - 51.3	Pass
STW-1149	03/24/08	Cs-137	97.7 ± 2.2	102.0	91.8 - 115.0	Pass
STW-1149	03/24/08	Zn-65	109.9 ± 5.8	106.0	95.4 - 126.0	Pass
STW-1150	03/24/08	Gr. Alpha	43.7 ± 7.5	50.8	26.5 - 63.7	Pass
STW-1150	03/24/08	Gr. Beta	36.4 ± 1.8	51.4	35.0 - 58.4	Pass
STW-1151	03/24/08	I-131	29.3 ± 1.4	28.7	23.9 - 33.6	Pass
STW-1152	03/24/08	Ra-226	15.0 ± 1.1	15.3	11.4 - 17.6	Pass
STW-1152	03/24/08	Ra-228	18.4 ± 1.8	17.0	11.4 - 20.4	Pass
STW-1152	03/24/08	Uranium	23.4 ± 1.3	24.6	19.8 - 27.6	Pass
STW-1153	03/24/08	H-3	12551.0 ± 207.0	12000.0	10400.0 - 13200.0	Pass
STW-1154	07/07/08	Sr-89	24.9 ± 3.5	28.7	20.4 - 35.3	Pass
STW-1154	07/07/08	Sr-90	39.7 ± 0.5	40.0	29.4 - 46.0	Pass
STW-1155	07/07/08	Ba-133	45.0 ± 1.2	46.6	38.1 - 51.8	Pass
STW-1155	07/07/08	Co-60	24.9 ± 3.0	25.7	22.3 - 31.0	Pass
STW-1155	07/07/08	Cs-134	90.4 ± 5.3	93.2	76.6 - 102.0	Pass
STW-1155	07/07/08	Cs-137	57.1 ± 2.8	54.6	49.1 - 62.9	Pass
STW-1155	07/07/08	Zn-65	102.9 ± 7.3	98.8	88.9 - 118.0	Pass
STW-1156	07/07/08	Gr. Alpha	24.8 ± 1.6	30.7	15.7 - 40.0	Pass
STW-1156	07/07/08	Gr. Beta	23.9 ± 0.9	25.8	16.1 - 33.7	Pass
STW-1157	07/07/08	Ra-226	8.0 ± 0.6	8.1	6.1 - 9.5	Pass
STW-1157	07/07/08	Ra-228	7.7 ± 0.8	7.4	4.7 - 9.5	Pass
STW-1157	07/07/08	Uranium	11.2 ± 0.3	11.3	8.9 - 13.0	Pass
STW-1164	10/06/08	Sr-89	42.2 ± 3.2	48.7	38.2 - 56.1	Pass
STW-1164	10/06/08	Sr-90	35.4 ± 1.2	33.6	24.6 - 38.8	Pass
STW-1165	10/06/08	Ba-133	56.9 ± 1.0	63.5	52.8 - 69.9	Pass
STW-1165	10/06/08	Co-60	47.6 ± 1.3	49.1	44.2 - 56.6	Pass
STW-1165	10/06/08	Cs-134	26.4 ± 4.0	25.6	19.7 - 28.4	Pass
STW-1165	10/06/08	Cs-137	24.3 ± 0.7	25.6	21.6 - 31.2	Pass
STW-1165	10/06/08	Zn-65	72.0 ± 2.9	68.6	61.2 - 83.0	Pass
STW-1166	10/06/08	Gr. Alpha	24.2 ± 4.8	26.9	13.6 - 35.5	Pass
STW-1166	10/06/08	Gr. Beta	32.6 ± 1.0	38.0	25.1 - 45.5	Pass
STW-1167	10/06/08	I-131	29.0 ± 0.3	28.1	23.4 - 33.0	Pass
STW-1168	10/06/08	Ra-226	15.0 ± 1.0	16.1	12.0 - 18.4	Pass
STW-1168	10/06/08	Ra-228	16.0 ± 1.0	14.1	9.4 - 17.1	Pass
STW-1168	10/06/08	Uranium	47.8 ± 2.0	50.3	40.8 - 55.9	Pass
STW-1169	10/06/08	H-3	2357.0 ± 66.0	2220.0	1830.0 - 2460.0	Pass

<sup>a</sup> Results obtained by Environmental, Inc., Midwest Laboratory as a participant in the crosscheck program for proficiency testing in drinking water conducted by Environmental Resources Associates (ERA).

<sup>b</sup> Unless otherwise indicated, the laboratory result is given as the mean ± standard deviation for three determinations.

<sup>c</sup> Results are presented as the known values, expected laboratory precision (1 sigma, 1 determination) and control limits as provided by ERA.



TABLE A-2. Crosscheck program results; Thermoluminescent Dosimetry, (TLD, CaSO<sub>4</sub>: Dy Cards).

Lab Code	Date	Description	Known Value	mR		Control Limits	Acceptance
				Lab Result	$\pm 2$ sigma		
<u>Environmental, Inc.</u>							
2008-1	6/16/2008	40 cm.	30.23	33.87 $\pm$ 1.17		21.16 - 39.30	Pass
2008-1	6/16/2008	50 cm.	19.35	23.13 $\pm$ 0.57		13.55 - 25.16	Pass
2008-1	6/16/2008	60 cm.	13.44	16.25 $\pm$ 1.10		9.41 - 17.47	Pass
2008-1	6/16/2008	70 cm.	9.87	10.39 $\pm$ 0.52		6.91 - 12.83	Pass
2008-1	6/16/2008	80 cm.	7.56	7.44 $\pm$ 0.51		5.29 - 9.83	Pass
2008-1	6/16/2008	90 cm.	5.97	5.80 $\pm$ 1.04		4.18 - 7.76	Pass
2008-1	6/16/2008	100 cm.	4.84	4.32 $\pm$ 0.43		3.39 - 6.29	Pass
2008-1	6/16/2008	120 cm.	3.36	2.69 $\pm$ 0.15		2.35 - 4.37	Pass
2008-1	6/16/2008	150 cm.	2.15	2.05 $\pm$ 0.69		1.51 - 2.80	Pass
2008-1	6/16/2008	180 cm.	1.49	1.23 $\pm$ 0.80		1.04 - 1.94	Pass
<u>Environmental, Inc.</u>							
2008-2	11/17/2008	30 cm.	63.05	73.10 $\pm$ 1.84		44.14 - 81.97	Pass
2008-2	11/17/2008	40 cm.	35.46	40.80 $\pm$ 2.30		24.82 - 46.10	Pass
2008-2	11/17/2008	50 cm.	22.7	24.10 $\pm$ 0.58		15.89 - 29.51	Pass
2008-2	11/17/2008	60 cm.	15.76	15.98 $\pm$ 0.55		11.03 - 20.49	Pass
2008-2	11/17/2008	60 cm.	15.76	19.49 $\pm$ 0.93		11.03 - 20.49	Pass
2008-2	11/17/2008	70 cm.	11.58	11.97 $\pm$ 0.54		8.11 - 15.05	Pass
2008-2	11/17/2008	75 cm.	10.09	9.45 $\pm$ 0.28		7.06 - 13.12	Pass
2008-2	11/17/2008	80 cm.	8.87	9.30 $\pm$ 0.18		6.21 - 11.53	Pass
2008-2	11/17/2008	90 cm.	7.01	7.19 $\pm$ 0.43		4.91 - 9.11	Pass
2008-2	11/17/2008	90 cm.	7.01	6.84 $\pm$ 0.42		4.91 - 9.11	Pass
2008-2	11/17/2008	100 cm.	5.67	5.47 $\pm$ 0.19		3.97 - 7.37	Pass
2008-2	11/17/2008	110 cm.	4.69	3.98 $\pm$ 0.27		3.28 - 6.10	Pass
2008-2	11/17/2008	120 cm.	3.94	3.09 $\pm$ 0.21		2.76 - 5.12	Pass
2008-2	11/17/2008	120 cm.	3.94	3.12 $\pm$ 0.34		2.76 - 5.12	Pass
2008-2	11/17/2008	150 cm.	2.52	2.55 $\pm$ 0.12		1.76 - 3.28	Pass
2008-2	11/17/2008	150 cm.	2.52	2.24 $\pm$ 0.08		1.76 - 3.28	Pass
2008-2	11/17/2008	180 cm.	1.75	1.36 $\pm$ 0.08		1.23 - 2.28	Pass

TABLE A-3. In-House "Spike" Samples

Lab Code <sup>b</sup>	Date	Analysis	Concentration (pCi/L) <sup>a</sup>			Acceptance
			Laboratory results 2s, n=1 <sup>c</sup>	Known Activity	Control Limits <sup>d</sup>	
SPW-111	1/14/2008	Tc-99	32.20 ± 0.85	32.34	20.34 - 44.34	Pass
SPW-298	1/31/2008	Ni-63	213.55 ± 3.07	212.58	148.81 - 276.35	Pass
W-11708	1/17/2008	Ra-226	11.34 ± 0.43	12.69	8.88 - 16.50	Pass
SPW-711	2/25/2008	U-238	33.56 ± 1.74	41.70	29.19 - 54.21	Pass
SPAP-881	3/11/2008	Cs-134	19.29 ± 1.53	20.09	10.09 - 30.09	Pass
SPAP-881	3/11/2008	Cs-137	114.04 ± 3.03	113.90	102.51 - 125.29	Pass
SPAP-883	3/11/2008	Gr. Beta	54.56 ± 0.12	51.64	41.31 - 72.30	Pass
SPMI-885	3/11/2008	Sr-90	45.93 ± 1.60	45.13	36.10 - 54.16	Pass
SPW-887	3/11/2008	Sr-90	38.82 ± 1.60	45.13	36.10 - 54.16	Pass
SPW-889	3/11/2008	H-3	67325.00 ± 725.00	67384.00	53907.20 - 80860.80	Pass
SPAP-2674	3/11/2008	Gr. Beta	53.57 ± 0.13	51.40	41.12 - 71.96	Pass
W-31808	3/18/2008	Gr. Alpha	19.51 ± 0.40	20.08	10.04 - 30.12	Pass
W-31808	3/18/2008	Gr. Beta	47.20 ± 0.42	45.67	35.67 - 55.67	Pass
SPMI-885	3/24/2008	Cs-134	40.93 ± 1.55	39.69	29.69 - 49.69	Pass
SPMI-885	3/24/2008	Cs-137	61.36 ± 2.82	56.91	46.91 - 66.91	Pass
SPW-887	3/24/2008	Cs-134	40.68 ± 1.44	39.69	29.69 - 49.69	Pass
SPW-887	3/24/2008	Cs-137	58.52 ± 2.93	56.91	46.91 - 66.91	Pass
SPW-1282	4/2/2008	U-238	41.30 ± 1.78	41.70	29.19 - 54.21	Pass
W-40308	4/3/2008	Ra-226	15.17 ± 0.50	12.69	8.88 - 16.50	Pass
SPW-5580	4/7/2008	H-3	211.02 ± 7.71	240.00	0.00 - 806.46	Pass
SPW-1562	4/8/2008	Ra-228	28.93 ± 2.09	30.51	21.36 - 39.66	Pass
SPW-1560	4/10/2008	Tc-99	29.74 ± 0.84	32.34	20.34 - 44.34	Pass
SPW-1621	4/16/2008	Fe-55	27205.80 ± 982.90	28370.00	22696.00 - 34044.00	Pass
W-51508	5/15/2008	Gr. Alpha	24.01 ± 0.41	20.08	10.04 - 30.12	Pass
W-51508	5/15/2008	Gr. Beta	47.97 ± 0.41	45.68	35.68 - 55.68	Pass
SPAP-2673	6/2/2008	Cs-134	17.39 ± 1.32	18.60	8.60 - 28.60	Pass
SPAP-2673	6/2/2008	Cs-137	106.82 ± 3.42	113.30	101.97 - 124.63	Pass
SPF-2745	6/2/2008	Cs-134	0.34 ± 0.02	0.37	0.22 - 0.52	Pass
SPF-2745	6/2/2008	Cs-137	2.06 ± 0.04	2.27	1.36 - 3.18	Pass
SPMI-2677	6/3/2008	Cs-137	53.99 ± 6.15	56.66	46.66 - 66.66	Pass
SPMI-2677A	6/3/2008	I-131	26.64 ± 0.59	28.58	16.58 - 40.58	Pass
SPW-2677	6/3/2008	Cs-134	40.30 ± 3.35	37.21	27.21 - 47.21	Pass
SPW-2677	6/3/2008	I-131(G)	25.92 ± 4.48	28.58	18.58 - 38.58	Pass
SPMI-2679	6/3/2008	Cs-134	35.02 ± 2.93	37.21	27.21 - 47.21	Pass
SPMI-2679	6/3/2008	Cs-137	58.49 ± 6.05	56.66	46.66 - 66.66	Pass
SPMI-2679	6/3/2008	I-131(G)	25.30 ± 4.97	28.58	18.58 - 38.58	Pass
SPMI-2679A	6/3/2008	I-131	30.37 ± 0.50	28.58	16.58 - 40.58	Pass
SPVE-2681	6/3/2008	I-131(G)	1.11 ± 0.06	0.95	0.57 - 1.33	Pass
SPW-2683	6/2/2008	Ni-63	2151.70 ± 10.22	2119.30	1483.51 - 2755.09	Pass
SPW-2685	6/2/2008	H-3	64927.20 ± 704.80	66540.80	53232.64 - 79848.96	Pass
SPW-2689	6/2/2008	C-14	4405.40 ± 15.21	4742.00	2845.20 - 6638.80	Pass

TABLE A-3. In-House "Spike" Samples

Lab Code	Date	Analysis	Concentration (pCi/L) <sup>a</sup>			Acceptance
			Laboratory results 2s, n=1 <sup>b</sup>	Known Activity	Control Limits <sup>c</sup>	
W-81408	8/14/2008	Ra-226	12.98 ± 0.35	12.69	8.88 - 16.50	Pass
SPW-1562	8/14/2008	Ra-228	29.09 ± 2.46	30.51	21.36 - 39.66	Pass
SPW-81808	8/18/2008	U-238	42.59 ± 1.96	41.70	29.19 - 54.21	Pass
W-81808	8/18/2008	Gr. Alpha	21.36 ± 0.42	20.08	10.04 - 30.12	Pass
W-81808	8/18/2008	Gr. Beta	49.33 ± 1.01	45.68	35.68 - 55.68	Pass
W-112008	11/20/2008	Gr. Alpha	20.13 ± 0.40	20.08	10.04 - 30.12	Pass
W-112008	11/20/2008	Gr. Beta	48.28 ± 0.42	45.60	35.60 - 55.60	Pass
SPAP-6839	12/5/2008	Cs-134	15.39 ± 2.72	15.68	5.68 - 25.68	Pass
SPAP-6839	12/5/2008	Cs-137	111.45 ± 9.85	112.00	100.80 - 123.20	Pass
SPAP-6841	12/5/2008	Gr. Beta	49.26 ± 0.12	50.72	40.58 - 71.01	Pass
SPW-6843	12/5/2008	C-14	19377.50 ± 55.27	23708.00	14224.80 - 33191.20	Pass
SPW-6845	12/5/2008	Fe-55	7068.30 ± 692.30	6028.00	4822.40 - 7233.60	Pass
SPW-6847	12/5/2008	Tc-99	37.71 ± 1.33	32.34	20.34 - 44.34	Pass
SPW-6849	12/5/2008	Ni-63	232.56 ± 3.26	211.34	147.94 - 274.74	Pass
SPW-6851	12/5/2008	H-3	63664.00 ± 8745.00	64674.00	51739.20 - 77608.80	Pass
SPF-6859	12/5/2008	Cs-134	0.63 ± 0.02	0.63	0.38 - 0.88	Pass
SPF-6859	12/5/2008	Cs-137	2.35 ± 0.01	2.24	1.34 - 3.14	Pass
SPW-7059	12/19/2008	Sr-90	49.19 ± 2.62	44.33	35.46 - 53.20	Pass
SPMI-7061	12/19/2008	Sr-90	39.39 ± 2.19	44.33	35.46 - 53.20	Pass

<sup>a</sup> Liquid sample results are reported in pCi/Liter, air filters( pCi/filter), charcoal (pCi/m<sup>3</sup>), and solid samples (pCi/g).

<sup>b</sup> Laboratory codes as follows: W (water), MI (milk), AP (air filter), SO (soil), VE (vegetation), CH (charcoal canister), F (fish).

<sup>c</sup> Results are based on single determinations.

<sup>d</sup> Control limits are established from the precision values listed in Attachment A of this report, adjusted to ± 2σ.

NOTE: For fish, Jello is used for the Spike matrix. For Vegetation, cabbage is used for the Spike matrix.

TABLE A-4. In-House "Blank" Samples

Lab Code	Sample Type	Date	Analysis <sup>b</sup>	Concentration (pCi/L) <sup>a</sup>		
				Laboratory results (4.66σ)		Acceptance Criteria (4.66 σ)
				LLD	Activity <sup>c</sup>	
SPW-17	Water	1/3/2008	U-238	0.09	0.01 ± 0.07	1
SPW-112	Water	1/14/2008	Tc-99	4.70	-0.06 ± 2.85	10
W-11408	Water	1/14/2008	Ra-226	0.05	0.05 ± 0.04	1
SPAP-880	Air Filter	3/11/2008	Cs-134	0.91	-	100
SPAP-880	Air Filter	3/11/2008	Cs-137	1.13	-	100
SPW-888	Water	3/11/2008	H-3	159.99	-78.90 ± 80.40	200
W-31808	Water	3/18/2008	Gr. Alpha	0.42	-0.05 ± 0.29	1
W-31808	Water	3/18/2008	Gr. Beta	0.72	0.09 ± 0.51	3.2
SPMI-884	Milk	3/24/2008	Cs-134	2.79	-	10
SPMI-884	Milk	3/24/2008	Cs-137	3.36	-	10
W-40308	Water	4/3/2008	Ra-226	0.04	0.05 ± 0.03	1
SPW-1563	Water	4/8/2008	Ra-228	0.57	0.31 ± 0.30	2
SPW-1561	Water	4/10/2008	Tc-99	4.77	-3.42 ± 2.85	10
SPW-1621	Water	4/16/2008	Fe-55	668.50	-170.70 ± 397.20	1000
SPW-2451	Water	5/22/2008	U-238	0.21	0.35 ± 0.24	1
SPW-2676	Water	6/2/2008	Cs-134	2.03	-	10
SPW-2676	Water	6/2/2008	Cs-134	3.60	-	10
SPW-2676	Water	6/2/2008	Cs-137	2.38	-	10
SPW-2677	Water	6/2/2008	Cs-134	2.78	-	10
SPW-2677	Water	6/2/2008	I-131(G)	3.49	-	20
SPW-2677	Water	6/2/2008	I-131(G)	5.25	-	20
SPF-2744	Fish	6/2/2008	Cs-134	5.48	-	100
SPF-2744	Fish	6/2/2008	Cs-137	4.83	-	100
SPW-2676	Water	6/3/2008	I-131	0.18	0.01 ± 0.11	0.5
SPMI-2678	Milk	6/3/2008	I-131	0.22	0.12 ± 0.15	0.5
SPVE-2680	Vegetation	6/3/2008	I-131(G)	0.01	-	20
SPW-3581	Water	7/14/2008	U-238	0.10	0.13 ± 0.12	1
W-80708	Water	8/7/2008	Gr. Alpha	0.63	-0.02 ± 0.44	1
W-80708	Water	8/7/2008	Gr. Beta	1.43	-0.47 ± 0.99	3.2
W-81408	Water	8/14/2008	Ra-226	0.06	0.14 ± 0.04	1
SPW-1563	Water	8/14/2008	Ra-228	0.79	0.89 ± 0.47	2
SPW-81808	Water	8/18/2008	U-238	0.18	0.04 ± 0.13	1

TABLE A-4. In-House "Blank" Samples

Lab Code	Sample Type	Date	Analysis <sup>b</sup>	Concentration (pCi/L) <sup>a</sup>		
				Laboratory results (4.66σ)		Acceptance Criteria (4.66 σ)
				LLD	Activity <sup>c</sup>	
W-112008	Water	11/20/2008	Gr. Alpha	0.40	0.02 ± 0.28	1
W-112008	Water	11/20/2008	Gr. Beta	0.75	-0.16 ± 0.52	3.2
SPAP-6838	Air Filter	12/5/2008	Cs-134	1.01	-	100
SPAP-6838	Air Filter	12/5/2008	Cs-137	0.95	-	100
SPAP-6840	Air Filter	12/5/2008	Gr. Beta	0.96	2.69 ± 0.64	3.2
SPW-6842	Water	12/5/2008	C-14	7.79	-3.04 ± 4.05	200
SPW-6844	Water	12/5/2008	Fe-55	715.10	21.70 ± 435.10	1000
SPW-6846	Water	12/5/2008	Tc-99	1.36	-0.47 ± 0.82	10
SPW-6848	Water	12/5/2008	Ni-63	1.94	3.08 ± 1.23	20
SPF-6858	Fish	12/5/2008	Cs-134	1.53	-	100
SPF-6858	Fish	12/5/2008	Cs-137	3.92	-	100
SPW-7058	Water	12/19/2008	Cs-134	2.62	-	10
SPW-7058	Water	12/19/2008	Cs-137	2.39	-	10
SPW-7058	Water	12/19/2008	Sr-90	0.65	-0.28 ± 0.26	1
SPMI-7060	Milk	12/19/2008	Cs-134	2.18	-	10
SPMI-7060	Milk	12/19/2008	Cs-137	3.87	-	10
SPMI-7060	Milk	12/19/2008	I-131(G)	2.80	-	20
SPMI-7060	Milk	12/19/2008	Sr-90	0.53	0.76 ± 0.34	1

<sup>a</sup> Liquid sample results are reported in pCi/Liter, air filters( pCi/filter), charcoal (pCi/charcoal canister), and solid samples (pCi/kg).

<sup>b</sup> I-131(G); iodine-131 as analyzed by gamma spectroscopy.

<sup>c</sup> Activity reported is a net activity result. For gamma spectroscopic analysis, activity detected below the LLD value is not reported.

<sup>d</sup> Low levels of Sr-90 are still detected in the environment. A concentration of (1-5 pCi/L) in milk is not unusual.

TABLE A-5. In-House "Duplicate" Samples

Lab Code	Date	Analysis	Concentration (pCi/L) <sup>a</sup>			Acceptance
			First Result	Second Result	Averaged Result	
AP-8809, 8810	1/2/2008	Be-7	0.06 ± 0.02	0.06 ± 0.01	0.06 ± 0.01	Pass
CF-42, 43	1/2/2008	Gr. Beta	8.88 ± 0.19	8.99 ± 0.19	8.94 ± 0.13	Pass
CF-42, 43	1/2/2008	K-40	5.08 ± 0.29	5.19 ± 0.30	5.14 ± 0.21	Pass
DW-80020, 80021	1/7/2008	Gr. Alpha	2.28 ± 0.84	1.98 ± 0.86	2.13 ± 0.60	Pass
U-169, 170	1/10/2008	Beta-K40	7.50 ± 5.50	11.70 ± 5.10	9.60 ± 3.75	Pass
SO-8836, 8837	1/14/2008	Cs-137	0.80 ± 0.05	0.75 ± 0.05	0.77 ± 0.03	Pass
SO-8836, 8837	1/14/2008	Gr. Alpha	13.30 ± 4.31	15.58 ± 4.10	14.44 ± 2.98	Pass
SO-8836, 8837	1/14/2008	Gr. Alpha	33.68 ± 3.73	29.21 ± 3.10	31.45 ± 2.43	Pass
SO-8836, 8837	1/14/2008	K-40	12.31 ± 0.74	12.96 ± 0.73	12.64 ± 0.52	Pass
DW-80045, 80046	1/15/2008	Gr. Alpha	2.94 ± 1.13	3.41 ± 1.04	3.17 ± 0.77	Pass
DW-80045, 80046	1/15/2008	Gr. Beta	1.86 ± 0.66	1.36 ± 0.63	1.61 ± 0.45	Pass
MI-138, 139	1/15/2008	K-40	1262.40 ± 81.70	1396.20 ± 154.20	1329.30 ± 87.25	Pass
LW-190, 191	1/16/2008	Gr. Beta	2.85 ± 1.07	1.64 ± 1.02	2.24 ± 0.74	Pass
DW-8008, 8009	1/16/2008	Ra-226	2.77 ± 0.20	3.11 ± 0.22	2.94 ± 0.15	Pass
DW-8008, 8009	1/16/2008	Ra-228	3.95 ± 0.74	3.96 ± 0.77	3.96 ± 0.53	Pass
DW-80057, 80058	1/21/2008	Gr. Alpha	6.77 ± 0.66	7.91 ± 1.73	7.34 ± 0.92	Pass
DW-80057, 80058	1/21/2008	Gr. Beta	13.83 ± 0.97	14.78 ± 1.01	14.31 ± 0.70	Pass
SWU-479, 480	1/29/2008	Gr. Beta	4.49 ± 1.13	3.13 ± 1.14	3.81 ± 0.80	Pass
W-920, 921	2/4/2008	Gr. Beta	4.20 ± 1.30	3.30 ± 1.30	3.75 ± 0.92	Pass
SW-540, 541	2/12/2008	Gr. Alpha	2.75 ± 1.16	4.01 ± 1.18	3.38 ± 0.83	Pass
SW-540, 541	2/12/2008	Gr. Beta	6.46 ± 1.11	6.71 ± 1.03	6.59 ± 0.76	Pass
DW-80155, 80156	2/12/2008	Ra-226	2.55 ± 0.22	2.01 ± 0.16	2.28 ± 0.14	Fail
DW-80155, 80156	2/12/2008	Ra-228	1.86 ± 0.70	1.53 ± 0.67	1.70 ± 0.48	Pass
DW-80165, 80166	2/20/2008	Gr. Alpha	1.51 ± 0.90	0.80 ± 1.05	1.16 ± 0.69	Pass
DW-80166, 80167	2/20/2008	Ra-226	0.40 ± 0.09	0.46 ± 0.09	0.43 ± 0.06	Pass
DW-80166, 80167	2/20/2008	Ra-228	1.44 ± 0.52	1.42 ± 0.57	1.43 ± 0.39	Pass
DW-80166, 80167	2/20/2008	Uranium	0.69 ± 0.25	0.69 ± 0.26	0.69 ± 0.18	Pass
W-1413, 1414	3/3/2008	Gr. Beta	7.50 ± 3.00	3.70 ± 2.60	5.60 ± 1.98	Pass
DW-80189, 80190	3/11/2008	Ra-226	4.41 ± 0.30	4.09 ± 0.25	4.25 ± 0.20	Pass
DW-80189, 80190	3/11/2008	Ra-228	1.99 ± 0.65	2.17 ± 0.66	2.08 ± 0.46	Pass
MI-1006, 1007	3/12/2008	K-40	1451.90 ± 112.80	1409.50 ± 111.40	1430.70 ± 79.27	Pass
MI-1006, 1007	3/12/2008	Sr-90	0.48 ± 0.31	0.97 ± 0.38	0.72 ± 0.24	Pass
DW-80205, 80206	3/14/2008	Gr. Alpha	3.64 ± 0.80	3.39 ± 0.82	3.52 ± 0.57	Pass
DW-80202, 80203	3/14/2008	Ra-226	3.16 ± 0.21	3.00 ± 0.19	3.08 ± 0.14	Pass
DW-80202, 80203	3/14/2008	Ra-228	2.40 ± 1.00	2.07 ± 0.69	2.24 ± 0.61	Pass
DW-80208, 80209	3/14/2008	U-233/4	1.32 ± 0.25	1.29 ± 0.36	1.31 ± 0.22	Pass
SG-1080, 1081	3/18/2008	Pb-214	3.99 ± 0.30	4.15 ± 0.29	4.07 ± 0.21	Pass
SO-1195, 1196	3/18/2008	U-233/4	0.14 ± 0.02	0.14 ± 0.02	0.14 ± 0.01	Pass
SO-1195, 1196	3/18/2008	U-238	0.13 ± 0.02	0.13 ± 0.02	0.13 ± 0.01	Pass
WW-1242, 1243	3/24/2008	Gr. Beta	10.36 ± 1.63	9.06 ± 1.55	9.71 ± 1.13	Pass
AP-1519, 1520	4/2/2008	Be-7	0.07 ± 0.01	0.08 ± 0.01	0.08 ± 0.01	Pass
W-1565, 1566	4/2/2008	Gr. Alpha	0.82 ± 0.64	1.58 ± 0.72	1.20 ± 0.48	Pass
W-1565, 1566	4/2/2008	Gr. Beta	3.73 ± 0.86	5.51 ± 1.09	4.62 ± 0.69	Pass

TABLE A-5. In-House "Duplicate" Samples

Lab Code	Date	Analysis	Concentration (pCi/L) <sup>a</sup>			Acceptance
			First Result	Second Result	Averaged Result	
DW-80255, 80256	4/8/2008	Ra-226	0.19 ± 0.08	0.28 ± 0.11	0.24 ± 0.07	Pass
DW-80255, 80256	4/8/2008	Ra-228	1.79 ± 0.57	1.32 ± 0.55	1.56 ± 0.40	Pass
DW-80259, 80260	4/8/2008	Gr. Alpha	3.39 ± 0.82	3.62 ± 0.82	3.51 ± 0.58	Pass
DW-80301, 80302	4/11/2008	Ra-226	0.47 ± 0.09	0.47 ± 0.09	0.47 ± 0.06	Pass
DW-80301, 80302	4/11/2008	Ra-228	1.02 ± 0.42	0.82 ± 0.45	0.92 ± 0.31	Pass
SO-1913, 1914	4/15/2008	K-40	12.79 ± 0.73	13.88 ± 0.85	13.34 ± 0.56	Pass
DW-80313, 80314	4/16/2008	Ra-226	3.39 ± 0.22	3.28 ± 0.21	3.34 ± 0.15	Pass
DW-80313, 80314	4/16/2008	Ra-228	4.27 ± 0.72	5.14 ± 0.77	4.71 ± 0.53	Pass
SWU-2087, 2088	4/29/2008	Gr. Beta	2.20 ± 0.60	3.50 ± 0.90	2.85 ± 0.54	Pass
LW-2297, 2298	4/30/2008	Gr. Beta	1.41 ± 0.43	1.02 ± 0.40	1.22 ± 0.30	Pass
LW-2321, 2322	4/30/2008	Gr. Beta	1.33 ± 0.54	1.23 ± 0.54	1.28 ± 0.38	Pass
BS-2063, 2064	5/1/2008	Gr. Beta	13.71 ± 2.06	17.60 ± 2.49	15.66 ± 1.62	Pass
SG-2229, 2230	5/5/2008	Ac-228	26.25 ± 2.70	24.90 ± 2.55	25.58 ± 1.86	Pass
W-2792, 2793	5/5/2008	Gr. Beta	7.20 ± 2.30	7.00 ± 2.50	7.10 ± 1.70	Pass
SG-2229, 2230	5/5/2008	Pb-214	23.28 ± 0.30	23.54 ± 0.33	23.41 ± 0.22	Pass
F-2850, 2851	5/7/2008	Cs-137	3.37 ± 0.21	3.16 ± 0.19	3.27 ± 0.14	Pass
DW-80376, 80377	5/9/2008	Ra-226	0.94 ± 0.13	1.07 ± 0.13	1.01 ± 0.09	Pass
DW-80376, 80377	5/9/2008	Ra-228	2.05 ± 0.57	1.40 ± 0.51	1.73 ± 0.38	Pass
MI-2363, 2364	5/14/2008	K-40	1335.40 ± 111.20	1510.70 ± 124.30	1423.05 ± 83.39	Pass
SG-2752, 2753	5/14/2008	Be-7	264.60 ± 83.90	222.80 ± 93.10	243.70 ± 62.66	Pass
SG-2752, 2753	5/14/2008	Cs-137	64.80 ± 6.00	68.90 ± 5.80	66.85 ± 4.17	Pass
SG-2752, 2753	5/14/2008	Gr. Alpha	19.35 ± 3.48	22.88 ± 4.04	21.12 ± 2.67	Pass
SG-2752, 2753	5/14/2008	Gr. Beta	30.53 ± 2.40	33.31 ± 2.71	31.92 ± 1.81	Pass
SG-2752, 2753	5/14/2008	K-40	9121.90 ± 191.80	9183.70 ± 194.20	9152.80 ± 136.47	Pass
DW-80389, 80390	5/14/2008	Ra-226	2.99 ± 0.36	2.58 ± 0.31	2.79 ± 0.24	Pass
DW-80389, 80390	5/14/2008	Ra-228	2.87 ± 0.68	1.73 ± 0.57	2.30 ± 0.44	Pass
DW-80392, 80393	5/14/2008	Gr. Alpha	19.94 ± 1.30	17.89 ± 1.26	18.92 ± 0.91	Pass
DW-80394, 80395	5/14/2008	U-233/4	2.03 ± 0.27	2.54 ± 0.39	2.29 ± 0.24	Pass
BS-2490, 2491	5/16/2008	Cs-137	6.81 ± 1.20	6.76 ± 1.23	6.78 ± 0.86	Pass
WW-2462, 2463	5/19/2008	H-3	158.61 ± 80.90	205.63 ± 83.06	182.12 ± 57.97	Pass
W-2826, 2827	5/27/2008	Gr. Alpha	3.47 ± 2.23	4.22 ± 2.20	3.84 ± 1.57	Pass
W-2826, 2827	5/27/2008	Gr. Beta	10.67 ± 1.92	9.43 ± 1.76	10.05 ± 1.30	Pass
SG-3378, 3379	6/2/2008	Gr. Alpha	6.51 ± 1.15	7.83 ± 1.32	7.17 ± 0.88	Pass
SG-3378, 3379	6/2/2008	Gr. Beta	16.23 ± 0.95	15.76 ± 1.06	16.00 ± 0.71	Pass
SG-3393, 3394	6/4/2008	Be-7	0.82 ± 0.23	0.66 ± 0.33	0.74 ± 0.20	Pass
SG-3393, 3394	6/4/2008	Cs-137	0.07 ± 0.01	0.07 ± 0.01	0.07 ± 0.01	Pass
SG-3393, 3394	6/4/2008	Gr. Alpha	18.96 ± 3.49	16.96 ± 3.34	17.96 ± 2.42	Pass
SG-3393, 3394	6/4/2008	Gr. Beta	30.01 ± 2.49	30.17 ± 2.56	30.09 ± 1.79	Pass
SG-3393, 3394	6/4/2008	K-40	9.78 ± 0.30	10.00 ± 0.28	9.89 ± 0.21	Pass
LW-2939, 2940	6/12/2008	Gr. Beta	1.46 ± 0.59	1.74 ± 0.59	1.60 ± 0.42	Pass
WW-3053, 3054	6/17/2008	Gr. Beta	4.28 ± 0.83	5.27 ± 0.91	4.77 ± 0.61	Pass
SW-3154, 3155	6/24/2008	Gr. Beta	2.15 ± 1.01	2.79 ± 0.97	2.47 ± 0.70	Pass

TABLE A-5. In-House "Duplicate" Samples

Lab Code	Date	Analysis	Concentration (pCi/L) <sup>a</sup>			Acceptance
			First Result	Second Result	Averaged Result	
BS-3245, 3246	6/27/2008	Co-60	108.84 ± 44.14	91.10 ± 22.32	99.97 ± 24.73	Pass
BS-3245, 3246	6/27/2008	Cs-137	952.18 ± 52.78	941.56 ± 13.61	946.87 ± 27.25	Pass
XW-1080, 1081	6/30/2008	Fe-55	2.96 ± 0.32	2.71 ± 0.30	2.84 ± 0.22	Pass
XW-3786, 3787	6/30/2008	Fe-55	2.96 ± 0.32	2.71 ± 0.30	2.84 ± 0.22	Pass
G-3274, 3275	7/1/2008	Gr. Beta	7.65 ± 0.24	7.44 ± 0.24	7.55 ± 0.17	Pass
SL-3295, 3296	7/1/2008	Gr. Beta	3.76 ± 0.24	3.64 ± 0.24	3.70 ± 0.17	Pass
AP-3531, 3532	7/1/2008	Be-7	0.10 ± 0.01	0.08 ± 0.01	0.09 ± 0.01	Pass
AP-3663, 3664	7/2/2008	Be-7	0.08 ± 0.01	0.08 ± 0.02	0.08 ± 0.01	Pass
AP-3690, 3691	7/2/2008	Be-7	0.07 ± 0.01	0.07 ± 0.01	0.07 ± 0.01	Pass
W-4333, 4334	7/7/2008	Gr. Beta	7.20 ± 1.90	7.70 ± 1.70	7.45 ± 1.27	Pass
W-4840, 4841	7/7/2008	Gr. Beta	6.70 ± 1.60	6.70 ± 1.80	6.70 ± 1.20	Pass
DW-80415, 80416	7/7/2008	Ra-226	2.81 ± 0.47	2.00 ± 0.34	2.41 ± 0.29	Pass
SG-3964, 3965	7/9/2008	Be-7	1.35 ± 0.23	1.51 ± 0.22	1.43 ± 0.16	Pass
SG-3964, 3965	7/9/2008	Cs-137	0.04 ± 0.01	0.04 ± 0.01	0.04 ± 0.00	Pass
SG-3964, 3965	7/9/2008	Gr. Alpha	23.17 ± 3.39	18.76 ± 3.24	20.97 ± 2.34	Pass
SG-3964, 3965	7/9/2008	Gr. Beta	28.99 ± 2.12	29.25 ± 2.31	29.12 ± 1.57	Pass
SG-3964, 3965	7/9/2008	K-40	6.86 ± 0.19	6.84 ± 0.17	6.85 ± 0.13	Pass
DW-80427, 80428	7/9/2008	Ra-226	3.25 ± 0.24	3.27 ± 0.20	3.26 ± 0.16	Pass
DW-80427, 80428	7/9/2008	Ra-228	2.65 ± 0.67	3.25 ± 0.72	2.95 ± 0.49	Pass
DW-80451, 80452	7/15/2008	Ra-226	1.02 ± 0.10	0.96 ± 0.12	0.99 ± 0.08	Pass
DW-80451, 80452	7/15/2008	Ra-228	1.09 ± 0.62	1.14 ± 0.60	1.12 ± 0.43	Pass
DW-80481, 80482	7/16/2008	Ra-226	1.20 ± 0.13	1.40 ± 0.14	1.30 ± 0.10	Pass
DW-80481, 80482	7/16/2008	Ra-228	1.69 ± 0.68	1.65 ± 0.77	1.67 ± 0.51	Pass
MI-3842, 3843	7/21/2008	K-40	1282.60 ± 108.30	1379.00 ± 111.40	1330.80 ± 77.68	Pass
MI-3892, 3893	7/28/2008	K-40	1371.50 ± 102.90	1501.20 ± 111.80	1436.35 ± 75.97	Pass
DW-4067, 4068	7/29/2008	Gr. Beta	10.46 ± 2.37	14.25 ± 2.78	12.36 ± 1.83	Pass
SWT-4158, 4159	7/29/2008	Gr. Beta	1.58 ± 0.45	1.80 ± 0.47	1.69 ± 0.33	Pass
LW-4221, 4222	7/31/2008	Gr. Beta	1.35 ± 0.56	0.91 ± 0.52	1.13 ± 0.38	Pass
LW-4242, 4243	7/31/2008	Gr. Beta	1.36 ± 0.56	1.18 ± 0.53	1.27 ± 0.38	Pass
VE-4046, 4047	8/4/2008	Be-7	0.77 ± 0.13	0.82 ± 0.19	0.80 ± 0.12	Pass
VE-4046, 4047	8/4/2008	Gr. Beta	8.81 ± 0.36	8.34 ± 0.31	8.58 ± 0.24	Pass
VE-4046, 4047	8/4/2008	K-40	5.17 ± 0.34	5.33 ± 0.42	5.25 ± 0.27	Pass
W-4821, 4822	8/4/2008	Gr. Alpha	1.70 ± 0.80	1.70 ± 0.90	1.70 ± 0.60	Pass
W-4821, 4822	8/4/2008	Gr. Beta	3.90 ± 0.80	3.70 ± 0.90	3.80 ± 0.60	Pass
W-4801, 4802	8/5/2008	Gr. Alpha	4.40 ± 2.40	4.80 ± 2.30	4.60 ± 1.66	Pass
W-4801, 4802	8/5/2008	Gr. Beta	13.20 ± 1.30	14.50 ± 1.40	13.85 ± 0.96	Pass
DW-80522, 80523	8/5/2008	Ra-226	0.50 ± 0.12	0.28 ± 0.12	0.39 ± 0.08	Pass
DW-80522, 80523	8/5/2008	Ra-228	1.23 ± 0.60	1.09 ± 0.57	1.16 ± 0.41	Pass



TABLE A-5. In-House "Duplicate" Samples

Lab Code	Date	Analysis	Concentration (pCi/L) <sup>a</sup>			Acceptance
			First Result	Second Result	Averaged Result	
DW-80531, 80532	8/5/2008	Gr. Alpha	18.90 ± 1.86	17.80 ± 1.96	18.35 ± 1.35	Pass
DW-80534, 80535	8/5/2008	Ra-226	3.01 ± 0.18	3.33 ± 0.18	3.17 ± 0.13	Pass
DW-80534, 80535	8/5/2008	Ra-228	2.24 ± 0.59	2.12 ± 0.59	2.18 ± 0.42	Pass
SG-4584, 4585	8/6/2008	Be-7	7.11 ± 0.20	7.44 ± 0.37	7.27 ± 0.21	Pass
SG-4584, 4585	8/6/2008	Cs-137	0.05 ± 0.01	0.04 ± 0.01	0.04 ± 0.00	Pass
SG-4584, 4585	8/6/2008	K-40	7.88 ± 10.18	8.02 ± 0.21	7.95 ± 5.09	Pass
SG-4584, 4585	8/6/2008	Ra-226	3.94 ± 0.18	3.74 ± 0.22	3.84 ± 0.14	Pass
SG-4573, 4574	8/13/2008	Gr. Alpha	240.72 ± 8.74	251.53 ± 9.56	246.13 ± 6.48	Pass
SG-4573, 4574	8/13/2008	Gr. Beta	201.60 ± 4.28	206.88 ± 4.71	204.24 ± 3.18	Pass
SG-4584, 4585	8/13/2008	Gr. Alpha	14.07 ± 3.10	12.97 ± 3.04	13.52 ± 2.17	Pass
SG-4584, 4585	8/13/2008	Gr. Beta	22.08 ± 2.36	23.02 ± 2.34	22.55 ± 1.66	Pass
DW-80547, 80548	8/13/2008	Gr. Alpha	3.33 ± 1.11	3.88 ± 1.07	3.61 ± 0.77	Pass
DW-80551, 80552	8/13/2008	U-233/4	2.57 ± 0.48	2.13 ± 0.46	2.35 ± 0.33	Pass
DW-80553, 80554	8/13/2008	Ra-226	0.92 ± 0.14	1.21 ± 0.17	1.07 ± 0.11	Pass
DW-80553, 80554	8/13/2008	Ra-228	2.20 ± 0.61	1.64 ± 0.56	1.92 ± 0.41	Pass
DW-80566, 80567	8/20/2008	Ra-226	1.10 ± 0.11	1.10 ± 0.10	1.10 ± 0.07	Pass
DW-80566, 80567	8/20/2008	Ra-228	2.01 ± 0.58	1.74 ± 0.58	1.88 ± 0.41	Pass
VE-4647, 4648	8/27/2008	K-40	1.97 ± 0.17	2.00 ± 0.21	1.99 ± 0.14	Pass
SL-4690, 4691	9/2/2008	Gr. Beta	2.28 ± 0.25	2.35 ± 0.24	2.32 ± 0.17	Pass
ME-4732, 4733	9/2/2008	Gr. Beta	2.86 ± 0.09	2.70 ± 0.09	2.78 ± 0.06	Pass
ME-4732, 4733	9/2/2008	K-40	2.44 ± 0.37	2.82 ± 0.51	2.63 ± 0.32	Pass
SG-5180, 5181	9/3/2008	Be-7	15.50 ± 0.43	15.54 ± 0.38	15.52 ± 0.29	Pass
SG-5180, 5181	9/3/2008	Cs-137	0.07 ± 0.01	0.07 ± 0.01	0.07 ± 0.01	Pass
SG-5180, 5181	9/3/2008	Gr. Alpha	18.74 ± 3.33	17.61 ± 3.15	18.18 ± 2.29	Pass
SG-5180, 5181	9/3/2008	Gr. Beta	29.19 ± 2.10	28.49 ± 2.15	28.84 ± 1.50	Pass
SG-5180, 5181	9/3/2008	K-40	8.55 ± 0.32	8.11 ± 0.27	8.33 ± 0.21	Pass
SG-5187, 5188	9/3/2008	Be-7	6.18 ± 0.54	5.90 ± 0.77	6.04 ± 0.47	Pass
SG-5187, 5188	9/3/2008	K-40	7.16 ± 0.60	7.29 ± 0.60	7.23 ± 0.42	Pass
SG-5193, 5194	9/3/2008	Gr. Alpha	5.80 ± 1.30	7.00 ± 1.50	6.40 ± 0.99	Pass
SG-5193, 5194	9/3/2008	Gr. Beta	15.60 ± 1.10	15.60 ± 1.10	15.60 ± 0.78	Pass
DW-4871, 4872	9/5/2008	I-131	1.15 ± 0.27	1.16 ± 0.31	1.16 ± 0.21	Pass
VE-5022, 5023	9/10/2008	K-40	1.27 ± 0.14	1.11 ± 0.06	1.19 ± 0.08	Pass
DW-5337, 5338	9/10/2008	Gr. Beta	3.00 ± 1.07	2.19 ± 1.05	2.60 ± 0.75	Pass
WW-4977, 4978	9/17/2008	Gr. Beta	3.71 ± 1.10	2.32 ± 1.11	3.01 ± 0.78	Pass
BS-5088, 5089	9/19/2008	K-40	10493 ± 607	10299 ± 470	10396 ± 384	Pass
DW-80584, 80585	9/19/2008	U-233/4	3.01 ± 0.52	2.44 ± 0.47	2.73 ± 0.35	Pass
DW-80584, 80585	9/19/2008	U-238	0.70 ± 0.25	0.27 ± 0.18	0.49 ± 0.15	Pass
DW-80579, 80580	9/25/2008	Gr. Alpha	10.69 ± 1.31	12.84 ± 1.51	11.77 ± 1.00	Pass
DW-80579, 80580	9/25/2008	Ra-226	3.13 ± 0.22	2.89 ± 0.21	3.01 ± 0.15	Pass
DW-80579, 80580	9/25/2008	Ra-228	3.03 ± 0.73	1.98 ± 0.69	2.51 ± 0.50	Pass
G-5389, 5390	10/1/2008	Be-7	1.49 ± 0.32	1.36 ± 0.28	1.43 ± 0.21	Pass
G-5389, 5390	10/1/2008	Gr. Beta	10.86 ± 0.24	11.18 ± 0.25	11.02 ± 0.17	Pass
G-5389, 5390	10/1/2008	K-40	7.42 ± 0.67	8.06 ± 0.63	7.74 ± 0.46	Pass

TABLE A-5. In-House "Duplicate" Samples

Lab Code	Date	Analysis	Concentration (pCi/L) <sup>a</sup>			Acceptance
			First Result	Second Result	Averaged Result	
AP-5814, 5815	10/1/2008	Be-7	0.08 ± 0.01	0.08 ± 0.01	0.08 ± 0.01	Pass
SG-6111, 6112	10/6/2008	Gr. Alpha	9.34 ± 1.82	8.95 ± 1.67	9.15 ± 1.24	Pass
SG-6111, 6112	10/6/2008	Gr. Beta	17.46 ± 1.46	18.86 ± 1.35	18.16 ± 0.99	Pass
DW-80592, 80593	10/7/2008	Gr. Alpha	2.30 ± 1.14	1.57 ± 0.88	1.94 ± 0.72	Pass
DW-80594, 80595	10/7/2008	Ra-228	1.41 ± 0.55	1.22 ± 0.50	1.32 ± 0.37	Pass
DW-80650, 80651	10/8/2008	Gr. Alpha	1.30 ± 0.86	0.12 ± 0.79	0.71 ± 0.58	Pass
DW-80650, 80651	10/8/2008	Gr. Beta	2.92 ± 0.69	3.03 ± 0.64	2.98 ± 0.47	Pass
DW-80629, 80630	10/13/2008	Ra-226	3.12 ± 0.18	2.87 ± 0.17	3.00 ± 0.12	Pass
DW-80629, 80630	10/13/2008	Ra-228	2.71 ± 0.80	3.28 ± 0.81	3.00 ± 0.57	Pass
DW-80663, 80664	10/13/2008	Gr. Alpha	5.91 ± 1.70	3.14 ± 1.44	4.53 ± 1.11	Pass
MI-5572, 5573	10/14/2008	K-40	1391.00 ± 97.39	1443.90 ± 110.60	1417.45 ± 73.68	Pass
MI-5603, 5604	10/14/2008	K-40	1412.80 ± 109.30	1413.80 ± 110.50	1413.30 ± 77.71	Pass
DW-80676, 80677	10/20/2008	Gr. Alpha	12.20 ± 1.48	11.87 ± 1.54	12.04 ± 1.07	Pass
DW-80676, 80677	10/20/2008	Ra-226	5.04 ± 0.25	5.10 ± 0.25	5.07 ± 0.18	Pass
DW-80676, 80677	10/20/2008	Ra-228	5.87 ± 0.86	6.98 ± 0.95	6.43 ± 0.64	Pass
SW-80687, 80688	10/22/2008	Gr. Alpha	3.42 ± 1.03	2.98 ± 1.01	3.20 ± 0.72	Pass
DW-80729, 80730	10/30/2008	Gr. Alpha	8.40 ± 1.45	7.76 ± 2.00	8.08 ± 1.24	Pass
DW-80729, 80730	10/30/2008	Gr. Beta	16.94 ± 1.45	15.41 ± 1.37	16.18 ± 1.00	Pass
DW-80738, 80739	10/31/2008	U-233/4	2.94 ± 0.50	3.06 ± 0.63	3.00 ± 0.40	Pass
DW-80747, 80748	10/31/2008	Ra-226	0.60 ± 0.09	0.50 ± 0.08	0.55 ± 0.06	Pass
DW-80747, 80748	10/31/2008	Ra-228	1.33 ± 0.59	1.38 ± 0.60	1.36 ± 0.42	Pass
BS-6271, 6272	11/3/2008	Gr. Beta	12.26 ± 1.69	13.78 ± 1.84	13.02 ± 1.25	Pass
SS-6593, 6594	11/19/2008	K-40	12.35 ± 0.57	13.10 ± 0.76	12.73 ± 0.48	Pass
MI-7046, 7047	12/16/2008	K-40	1380.10 ± 109.80	1477.30 ± 98.32	1428.70 ± 73.69	Pass
DW-80698, 80699	12/23/2008	Ra-226	3.13 ± 0.22	3.21 ± 0.23	3.17 ± 0.16	Pass
DW-80698, 80699	12/23/2008	Ra-228	5.48 ± 0.91	5.86 ± 0.93	5.67 ± 0.65	Pass
SW-7281, 7282	12/30/2008	Gr. Beta	0.87 ± 0.54	1.35 ± 0.54	1.11 ± 0.38	Pass

Note: Duplicate analyses are performed on every twentieth sample received in-house. Results are not listed for those analyses with activities that measure below the LLD.

<sup>a</sup> Results are reported in units of pCi/L, except for air filters (pCi/Filter), food products, vegetation, soil, sediment (pCi/g).

TABLE A-6. Department of Energy's Mixed Analyte Performance Evaluation Program (MAPEP)<sup>a</sup>.

Lab Code <sup>c</sup>	Date	Analysis	Concentration <sup>b</sup>			Acceptance
			Laboratory result	Known Activity	Control Limits <sup>d</sup>	
STW-1137	01/01/08	Am-241	1.27 ± 0.06	1.23	0.86 - 1.60	Pass
STW-1137	01/01/08	Co-57	23.80 ± 0.60	22.80	16.00 - 29.60	Pass
STW-1137	01/01/08	Co-60	8.60 ± 0.50	8.40	5.88 - 10.92	Pass
STW-1137 <sup>e</sup>	01/01/08	Cs-134	-0.021 ± 0.10	0.00	-1.00 - 1.00	Pass
STW-1137 <sup>e</sup>	01/01/08	Cs-137	0.00 ± 0.10	0.00	-1.00 - 1.00	Pass
STW-1137	01/01/08	Fe-55	32.60 ± 11.60	36.50	25.60 - 47.50	Pass
STW-1137	01/01/08	H-3	515.10 ± 12.70	472.00	330.00 - 614.00	Pass
STW-1137	01/01/08	Mn-54	12.90 ± 0.80	12.10	8.50 - 15.70	Pass
STW-1137	01/01/08	Ni-63	29.50 ± 2.30	30.70	21.50 - 39.90	Pass
STW-1137	01/01/08	Pu-238	0.60 ± 0.06	0.73	0.51 - 0.95	Pass
STW-1137	01/01/08	Pu-239/40	0.019 ± 0.015	0.01	0.00 - 1.00	Pass
STW-1137	01/01/08	Sr-90	12.00 ± 1.50	11.40	7.98 - 14.82	Pass
STW-1137	01/01/08	Tc-99	9.40 ± 1.70	11.20	7.80 - 14.60	Pass
STW-1137	01/01/08	U-233/4	3.37 ± 0.20	3.63	2.54 - 4.72	Pass
STW-1137	01/01/08	U-238	3.63 ± 0.21	3.74	2.62 - 4.86	Pass
STW-1137	01/01/08	Zn-65	16.90 ± 1.40	16.30	11.40 - 21.20	Pass
STW-1138	01/01/08	Gr. Alpha	0.96 ± 0.14	1.40	0.00 - 2.80	Pass
STW-1138	01/01/08	Gr. Beta	2.30 ± 0.15	2.43	1.22 - 3.65	Pass
STAP-1139	01/01/08	Co-57	3.90 ± 0.07	3.55	2.49 - 4.62	Pass
STAP-1139	01/01/08	Co-60	1.43 ± 0.07	1.31	0.92 - 1.70	Pass
STAP-1139	01/01/08	Cs-134	2.59 ± 0.16	2.52	1.76 - 3.28	Pass
STAP-1139	01/01/08	Cs-137	3.05 ± 0.12	2.70	1.89 - 3.51	Pass
STAP-1139	01/01/08	Mn-54	0.43 ± 0.58	0.00	0.00 - 1.00	Pass
STAP-1139	01/01/08	Pu-238	0.080 ± 0.016	0.11	0.07 - 0.14	Pass
STAP-1139	01/01/08	Pu-239/40	0.12 ± 0.02	0.11	0.08 - 0.15	Pass
STAP-1139	01/01/08	Sr-90	1.30 ± 0.27	1.55	1.08 - 2.01	Pass
STAP-1139 <sup>e</sup>	01/01/08	U-233/4	0.43 ± 0.03	0.22	0.15 - 0.28	Fail
STAP-1139 <sup>e</sup>	01/01/08	U-238	0.44 ± 0.03	0.23	0.16 - 0.29	Fail
STAP-1139	01/01/08	Zn-65	2.36 ± 0.18	2.04	1.43 - 2.65	Pass
STAP-1140	01/01/08	Gr. Alpha	0.11 ± 0.03	0.35	0.00 - 0.70	Pass
STAP-1140	01/01/08	Gr. Beta	0.34 ± 0.04	0.29	0.14 - 0.43	Pass
STVE-1141	01/01/08	Co-57	8.30 ± 0.18	6.89	4.82 - 8.96	Pass
STVE-1141	01/01/08	Co-60	3.03 ± 0.13	2.77	1.94 - 3.60	Pass
STVE-1141	01/01/08	Cs-134	6.53 ± 0.29	6.28	4.40 - 8.16	Pass
STVE-1141	01/01/08	Cs-137	3.90 ± 0.19	3.41	2.39 - 4.43	Pass
STVE-1141	01/01/08	Mn-54	5.43 ± 0.21	4.74	3.32 - 6.16	Pass
STVE-1141	01/01/08	Zn-65	0.033 ± 0.10	0.00	0.00 - 1.00	Pass

TABLE A-6. Department of Energy's Mixed Analyte Performance Evaluation Program (MAPEP)<sup>a</sup>.

Lab Code <sup>c</sup>	Date	Analysis	Concentration <sup>b</sup>		Control Limits <sup>d</sup>	Acceptance
			Laboratory result	Known Activity		
STSO-1142	01/01/08	Co-57	483.00 ± 3.00	421.00	295.00 - 547.00	Pass
STSO-1142	01/01/08	Co-60	3.00 ± 0.80	2.90	0.00 - 5.00	Pass
STSO-1142	01/01/08	Cs-134	896.50 ± 7.40	854.00	598.00 - 1110.00	Pass
STSO-1142	01/01/08	Cs-137	624.40 ± 4.10	545.00	382.00 - 709.00	Pass
STSO-1142	01/01/08	Mn-54	667.20 ± 3.80	570.00	399.00 - 741.00	Pass
STSO-1142	01/01/08	Ni-63	536.00 ± 15.50	640.00	448.00 - 832.00	Pass
STSO-1142	01/01/08	Pu-238	78.60 ± 4.80	72.80	51.00 - 94.60	Pass
STSO-1142	01/01/08	Pu-239/40	89.10 ± 4.50	90.10	63.10 - 117.10	Pass
STSO-1142	01/01/08	U-233/4	134.41 ± 5.40	142.00	99.00 - 185.00	Pass
STSO-1142	01/01/08	U-238	139.00 ± 5.50	148.00	104.00 - 192.00	Pass
STSO-1142	01/01/08	Zn-65	0.093 ± 0.91	0.00	0.00 - 1.00	Pass
STSO-1158	08/01/08	Am-241	57.73 ± 4.78	69.10	48.40 - 89.80	Pass
STSO-1158	08/01/08	Co-57	353.02 ± 2.01	333.00	233.00 - 433.00	Pass
STSO-1158	08/01/08	Co-60	151.99 ± 1.58	145.00	102.00 - 189.00	Pass
STSO-1158	08/01/08	Cs-134	499.72 ± 2.65	581.00	407.00 - 755.00	Pass
STSO-1158	08/01/08	Cs-137	2.54 ± 0.25	2.80	0.00 - 5.00	Pass
STSO-1158	08/01/08	K-40	643.94 ± 15.50	570.00	399.00 - 741.00	Pass
STSO-1158	08/01/08	Mn-54	452.14 ± 2.96	415.00	291.00 - 540.00	Pass
STSO-1158	08/01/08	Ni-63	803.09 ± 17.01	760.00	532.00 - 988.00	Pass
STSO-1158	08/01/08	Pu-238	0.12 ± 0.54	0.00	0.00 - 5.00	Pass
STSO-1158	08/01/08	Pu-239/40	60.88 ± 5.89	55.60	38.90 - 72.30	Pass
STSO-1158	08/01/08	Sr-90	1.95 ± 2.04	0.00	0.00 - 5.00	Pass
STSO-1158	08/01/08	Tc-99	337.00 ± 17.30	335.00	235.00 - 436.00	Pass
STSO-1158	08/01/08	U-238	315.67 ± 11.29	303.00	212.00 - 394.00	Pass
STSO-1158	08/01/08	Zn-65	0.10 ± 2.04	0.00	0.00 - 5.00	Pass
STVE-1159	08/01/08	Co-57	8.52 ± 0.23	7.10	5.00 - 9.20	Pass
STVE-1159	08/01/08	Co-60	5.08 ± 0.19	4.70	3.30 - 6.10	Pass
STVE-1159	08/01/08	Cs-134	5.26 ± 0.18	5.50	3.90 - 7.20	Pass
STVE-1159	08/01/08	Cs-137	0.01 ± 0.14	0.00	0.00 - 1.00	Pass
STVE-1159	08/01/08	Mn-54	6.39 ± 0.28	5.80	4.10 - 7.50	Pass
STVE-1159	08/01/08	Zn-65	7.73 ± 0.45	6.90	4.80 - 9.00	Pass

TABLE A-6. Department of Energy's Mixed Analyte Performance Evaluation Program (MAPEP)<sup>a</sup>.

Lab Code <sup>c</sup>	Date	Analysis	Concentration <sup>b</sup>		Control Limits <sup>d</sup>	Acceptance
			Laboratory result	Known Activity		
STW-1162 <sup>g</sup>	08/01/08	Am-241	0.20 ± 0.06	0.00	0.00 - 0.10	Fail
STW-1162	08/01/08	Co-57	0.03 ± 0.16	0.00	0.00 - 5.00	Pass
STW-1162	08/01/08	Co-60	11.27 ± 0.23	11.60	8.10 - 15.10	Pass
STW-1162	08/01/08	Cs-134	17.93 ± 0.52	19.50	13.70 - 25.40	Pass
STW-1162	08/01/08	Cs-137	23.72 ± 0.43	23.60	16.50 - 30.70	Pass
STW-1162	08/01/08	Fe-55	43.36 ± 16.81	46.20	32.30 - 60.10	Pass
STW-1162	08/01/08	H-3	385.15 ± 8.93	341.00	239.00 - 443.00	Pass
STW-1162	08/01/08	Mn-54	13.87 ± 0.37	13.70	9.60 - 17.80	Pass
STW-1162 <sup>h</sup>	08/01/08	Ni-63	10.77 ± 2.01	0.00	0.00 - 5.00	Fail
STW-1162 <sup>i</sup>	08/01/08	Pu-238	0.33 ± 0.06	0.50	0.40 - 0.70	Fail
STW-1162	08/01/08	Pu-239/40	0.14 ± 0.15	0.00	0.00 - 0.20	Pass
STW-1162	08/01/08	Sr-90	6.49 ± 1.12	6.45	4.52 - 8.39	Pass
STW-1162 <sup>j</sup>	08/01/08	Tc-99	1.80 ± 0.62	3.76	2.63 - 4.89	Fail
STW-1162	08/01/08	U-233/4	3.33 ± 0.18	3.44	2.41 - 4.47	Pass
STW-1162	08/01/08	U-238	3.38 ± 0.18	3.55	2.49 - 4.62	Pass
STW-1162	08/01/08	Zn-65	17.64 ± 0.61	17.10	12.00 - 22.20	Pass
STW-1163	08/01/08	Gr. Alpha	0.08 ± 0.04	0.00	0.00 - 0.56	Pass
STW-1163	08/01/08	Gr. Beta	0.12 ± 0.05	0.00	0.00 - 1.85	Pass

<sup>a</sup> Results obtained by Environmental, Inc., Midwest Laboratory as a participant in the Department of Energy's Mixed Analyte Performance Evaluation Program, Idaho Operations office, Idaho Falls, Idaho

<sup>b</sup> Results are reported in units of Bq/kg (soil), Bq/L (water) or Bq/total sample (filters, vegetation).

<sup>c</sup> Laboratory codes as follows: STW (water), STAP (air filter), STSO (soil), STVE (vegetation).

<sup>d</sup> MAPEP results are presented as the known values and expected laboratory precision (1 sigma, 1 determination) and control limits as defined by the MAPEP.

<sup>e</sup> The results of a repeat analysis were still unacceptable. A spiked air filter was prepared (known activity 4.17 pCi/filter) to verify the methodology; results of the spike analysis were acceptable, 4.64 pCi/filter.

<sup>f</sup> Corrected result. An error in calculation was found.

<sup>g</sup> Included in the testing series as a "false positive". Result of reanalysis, 0.04 ± 0.01 Bq/L.

<sup>h</sup> Included in the testing series as a "false positive". Result of reanalysis, 3.78 ± 2.03 Bq/L.

<sup>i</sup> The reason for the deviation is unknown. Result of the original sample recount: 0.47 ± 0.07 Bq/L. The analysis was then repeated from the beginning. Result of reanalysis: 0.51 ± 0.07 Bq/L.

<sup>j</sup> The lower result was due to a higher than average background count used in the calculation. Average background result, 4.11 ± 0.6

TABLE A-7. Interlaboratory Comparison Crosscheck program, Environmental Resource Associates (ERA)<sup>a</sup>.

Lab Code <sup>b</sup>	Date	Analysis	Concentration (pCi/L)			Acceptance
			Laboratory Result <sup>c</sup>	ERA Result <sup>d</sup>	Control Limits	
STAP-1143	03/24/08	Am-241	60.48 ± 3.52	50.1	29.3 - 69	Pass
STAP-1143	03/24/08	Co-60	650.72 ± 3.00	730.0	565.0 - 912	Pass
STAP-1143	03/24/08	Cs-134	467.50 ± 5.53	523.0	341.0 - 647	Pass
STAP-1143	03/24/08	Cs-137	1375.90 ± 25.41	1450.0	1090.0 - 1900	Pass
STAP-1143	03/24/08	Fe-55	145.60 ± 28.94	241.0	106.0 - 375	Pass
STAP-1143 <sup>e</sup>	03/24/08	Mn-54	0.00 ± 0.00	0.0	0.0 - 10	Pass
STAP-1143	03/24/08	Pu-238	53.65 ± 1.54	46.8	32.1 - 62	Pass
STAP-1143	03/24/08	Pu-239/40	70.44 ± 3.11	64.1	46.5 - 83	Pass
STAP-1143	03/24/08	Sr-90	157.60 ± 7.70	152.0	66.9 - 236	Pass
STAP-1143	03/24/08	U-233/4	62.15 ± 3.41	66.7	42.0 - 99	Pass
STAP-1143	03/24/08	U-238	64.11 ± 3.29	66.2	42.4 - 94	Pass
STAP-1143	03/24/08	Uranium	128.40 ± 3.29	136.0	69.5 - 216	Pass
STAP-1143	03/24/08	Zn-65	889.90 ± 15.90	872.0	604.0 - 1210	Pass
STAP-1144	03/24/08	Gr. Alpha	13.08 ± 1.09	8.8	4.6 - 13	Pass
STAP-1144	03/24/08	Gr. Beta	99.90 ± 3.09	92.2	56.8 - 135	Pass
STSO-1145	03/24/08	Ac-228	1269.02 ± 36.81	1180.0	757.0 - 1660	Pass
STSO-1145	03/24/08	Am-241	1268.50 ± 85.80	1230.0	735.0 - 1580	Pass
STSO-1145	03/24/08	Bi-212	1407.10 ± 56.64	1360.0	357.0 - 2030	Pass
STSO-1145	03/24/08	Bi-214	2145.50 ± 305.63	1790.0	1100.0 - 2570	Pass
STSO-1145	03/24/08	Co-60	5219.70 ± 90.30	5130.0	3730.0 - 6890	Pass
STSO-1145	03/24/08	Cs-134	5427.30 ± 102.94	5640.0	3630.0 - 6790	Pass
STSO-1145	03/24/08	Cs-137	6346.60 ± 201.80	6010.0	4600.0 - 7810	Pass
STSO-1145	03/24/08	K-40	11052.70 ± 181.80	11000.0	7980.0 - 14900	Pass
STSO-1145 <sup>e</sup>	03/24/08	Mn-54	0.00 ± 0.00	0.0	0.0 - 10	Pass
STSO-1145	03/24/08	Pb-212	1198.20 ± 96.58	1080.0	697.0 - 1520	Pass
STSO-1145	03/24/08	Pb-214	2253.30 ± 291.60	2020.0	1210.0 - 3010	Pass
STSO-1145	03/24/08	Sr-90	6407.00 ± 277.00	5360.0	1940.0 - 8750	Pass
STSO-1145	03/24/08	Th-234	2421.80 ± 321.00	2030.0	644.0 - 3870	Pass
STSO-1145 <sup>f</sup>	03/24/08	U-233/4	1227.93 ± 91.52	2050.0	1240.0 - 2580	Fail
STSO-1145	03/24/08	U-238	1319.90 ± 48.81	2030.0	1240.0 - 2580	Pass
STSO-1145	03/24/08	Uranium	2592.00 ± 140.50	4180.0	2380.0 - 5640	Pass
STSO-1145	03/24/08	Zn-65	2936.20 ± 73.50	2660.0	2110.0 - 3570	Pass

TABLE A-7. Interlaboratory Comparison Crosscheck program, Environmental Resource Associates (ERA)<sup>a</sup>.

Lab Code <sup>b</sup>	Date	Analysis	Concentration (pCi/L)			Acceptance
			Laboratory Result <sup>c</sup>	ERA Result <sup>d</sup>	Control Limits	
STVE-1146	03/24/08	Am-241	1261.50 ± 73.90	1260.0	718.0 - 1730	Pass
STVE-1146	03/24/08	Cm-244	1152.50 ± 57.44	1200.0	591.0 - 1870	Pass
STVE-1146	03/24/08	Co-60	912.41 ± 13.59	888.0	600.0 - 1280	Pass
STVE-1146	03/24/08	Cs-134	1547.70 ± 38.81	1540.0	882.0 - 2130	Pass
STVE-1146	03/24/08	Cs-137	1163.80 ± 20.62	1100.0	807.0 - 1530	Pass
STVE-1146	03/24/08	K-40	22186.00 ± 339.40	24600.0	17700.0 - 34800	Pass
STVE-1146 <sup>e</sup>	03/24/08	Mn-54	0.00 ± 0.00	0.0	0.0 - 10	Pass
STVE-1146	03/24/08	Sr-90	3825.90 ± 140.66	4130.0	2310.0 - 5480	Pass
STVE-1146	03/24/08	U-233/4	2753.30 ± 227.90	3070.0	2110.0 - 4070	Pass
STVE-1146	03/24/08	U-238	2697.10 ± 143.20	3050.0	2140.0 - 3850	Pass
STVE-1146	03/24/08	Uranium	5586.10 ± 455.20	6260.0	4300.0 - 8080	Pass
STVE-1146	03/24/08	Zn-65	1676.80 ± 43.00	1430.0	1030.0 - 1960	Pass
STW-1147	03/24/08	Am-241	97.56 ± 1.02	90.9	62.0 - 124	Pass
STW-1147	03/24/08	Co-60	1430.00 ± 33.33	1420.0	1240.0 - 1680	Pass
STW-1147	03/24/08	Cs-134	730.18 ± 33.39	751.0	555.0 - 862	Pass
STW-1147	03/24/08	Cs-137	1947.80 ± 13.80	1990.0	1690.0 - 2380	Pass
STW-1147	03/24/08	Fe-55	1422.70 ± 172.16	2080.0	1210.0 - 2780	Pass
STW-1147 <sup>e</sup>	03/24/08	Mn-54	0.00 ± 0.00	0.0	0.0 - 10	Pass
STW-1147	03/24/08	Pu-238	144.16 ± 4.54	135.0	102.0 - 168	Pass
STW-1147	03/24/08	Pu-239/40	82.16 ± 2.50	80.7	62.4 - 100	Pass
STW-1147	03/24/08	Sr-90	512.03 ± 43.37	512.0	325.0 - 684	Pass
STW-1147	03/24/08	U-233/4	74.40 ± 1.20	81.0	61.0 - 104	Pass
STW-1147	03/24/08	U-238	75.10 ± 1.35	80.3	61.3 - 100	Pass
STW-1147	03/24/08	Uranium	152.10 ± 2.55	165.0	119.0 - 220	Pass
STW-1147	03/24/08	Zn-65	708.90 ± 29.00	694.0	588.0 - 865	Pass
STW-1120	03/19/07	Uranium	339.60 ± 10.66	391.0	282.0 - 521	Pass
STW-1120	03/19/07	Zn-65	2009.00 ± 36.40	1910.0	1600.0 - 2410	Pass

<sup>a</sup> Results obtained by Environmental, Inc., Midwest Laboratory as a participant in the crosscheck program for proficiency testing administered by Environmental Resources Associates, serving as a replacement for studies conducted previously by the Environmental Measurements Laboratory Quality Assessment Program (EML).

<sup>b</sup> Laboratory codes as follows: STW (water), STAP (air filter), STSO (soil), STVE (vegetation).

<sup>c</sup> Unless otherwise indicated, the laboratory result is given as the mean ± standard deviation for three determinations.

<sup>d</sup> Results are presented as the known values, expected laboratory precision (1 sigma, 1 determination) and control limits as provided by ERA.

<sup>e</sup> Included in the testing series as a "false positive". No activity expected.

<sup>f</sup> The analysis was repeated by leaching and total dissolution methods. Total dissolution yielded results within expected range. Results of the reanalysis: U-233,4 1655 ± 95 pCi/kg. U-238 1805 ± 97 pCi/kg.

APPENDIX B

DATA REPORTING CONVENTIONS



## Data Reporting Conventions

1.0. All activities, except gross alpha and gross beta, are decay corrected to collection time or the end of the collection period.

### 2.0. Single Measurements

Each single measurement is reported as follows:  $x \pm s$

where:  $x$  = value of the measurement;

$s = 2\sigma$  counting uncertainty (corresponding to the 95% confidence level).

In cases where the activity is less than the lower limit of detection  $L$ , it is reported as:  $< L$ ,

where  $L$  = the lower limit of detection based on  $4.66\sigma$  uncertainty for a background sample.

### 3.0. Duplicate analyses

3.1 Individual results: For two analysis results;  $x_1 \pm s_1$  and  $x_2 \pm s_2$

Reported result:  $x \pm s$ ; where  $x = (1/2)(x_1 + x_2)$  and  $s = (1/2) \sqrt{s_1^2 + s_2^2}$

3.2. Individual results:  $< L_1, < L_2$       Reported result:  $< L$ , where  $L$  = lower of  $L_1$  and  $L_2$

3.3. Individual results:  $x \pm s, < L$       Reported result:  $x \pm s$  if  $x \geq L$ ;  $< L$  otherwise.

### 4.0. Computation of Averages and Standard Deviations

4.1 Averages and standard deviations listed in the tables are computed from all of the individual measurements over the period averaged; for example, an annual standard deviation would not be the average of quarterly standard deviations. The average  $\bar{x}$  and standard deviation  $s$  of a set of  $n$  numbers  $x_1, x_2, \dots, x_n$  are defined as follows:

$$\bar{x} = \frac{1}{n} \sum x \qquad s = \sqrt{\frac{\sum (x - \bar{x})^2}{n-1}}$$

4.2 Values below the highest lower limit of detection are not included in the average.

4.3 If all values in the averaging group are less than the highest LLD, the highest LLD is reported.

4.4 If all but one of the values are less than the highest LLD, the single value  $x$  and associated two sigma error is reported.

4.5 In rounding off, the following rules are followed:

4.5.1. If the number following those to be retained is less than 5, the number is dropped, and the retained number  $s$  are kept unchanged. As an example, 11.443 is rounded off to 11.44.

4.5.2. If the number following those to be retained is equal to or greater than 5, the number is dropped and the last retained number is raised by 1. As an example, 11.445 is rounded off to 11.45.

APPENDIX C

SUPPLEMENTAL ANALYSES

C-1. Airborne particulate filters, duplicate analyses for gross beta.

Units: pCi/m<sup>3</sup>

Required LLD: 0.010

Collection: Continuous, weekly exchange.

Location	Date Collected	Volume (m <sup>3</sup> )	Gross Beta
T-2	01-08-08	241	0.025 ± 0.004
T-3	01-15-08	288	0.029 ± 0.004
T-27	01-22-08	285	0.039 ± 0.004
T-27	01-29-08	287	0.042 ± 0.004
T-3	02-05-08	294	0.031 ± 0.004
T-12	02-12-08	293	0.027 ± 0.003
T-12	02-26-08	281	0.027 ± 0.004
T-4	03-04-08	283	0.031 ± 0.004
T-9	03-11-08	287	0.029 ± 0.004
T-9	03-25-08	296	0.018 ± 0.004
T-8	04-01-08	277	0.014 ± 0.004
T-7	04-22-08	283	0.020 ± 0.004
T-2	04-29-08	286	0.026 ± 0.004
T-1	05-06-08	280	0.022 ± 0.004
T-7	05-13-08	283	0.015 ± 0.004
T-8	05-20-08	278	0.015 ± 0.003
T-8	06-10-08	281	0.014 ± 0.003
T-9	06-17-08	290	0.022 ± 0.004
T-9	06-24-08	288	0.015 ± 0.004
T-7	07-01-08	284	0.019 ± 0.004
T-3	07-08-08	288	0.022 ± 0.004
T-2	07-15-08	286	0.019 ± 0.004
T-11	07-29-08	284	0.028 ± 0.004
T-4	08-05-08	288	0.026 ± 0.003
T-11	08-12-08	284	0.028 ± 0.004
T-4	08-19-08	288	0.025 ± 0.003
T-2	08-26-08	286	0.024 ± 0.004
T-12	09-02-08	286	0.033 ± 0.004
T-27	09-09-08	287	0.037 ± 0.004
T-1	09-16-08	291	0.017 ± 0.003
T-27	09-23-08	284	0.027 ± 0.004
T-27	09-30-08	284	0.034 ± 0.004
T-27	10-14-08	287	0.034 ± 0.004
T-27	10-21-08	288	0.020 ± 0.003
T-27	10-28-08	287	0.016 ± 0.003
T-2	11-04-08	286	0.043 ± 0.004
T-12	11-11-08	285	0.040 ± 0.004
T-1	11-25-08	287	0.020 ± 0.003
T-27	12-02-08	281	0.031 ± 0.004
T-27	12-09-08	287	0.032 ± 0.004
T-27	12-16-08	287	0.028 ± 0.004
T-1	12-22-08	244	0.032 ± 0.004

C-2. Duplicate Analyses

Surface Water

Location	T-12	T-22	T-11
Lab Code	TSWT- 1374	TSWU- 2088	TSWT- 3156
Date Collected	03-25-08	04-29-08	06-24-08
Gross beta	NA	3.5 ± 0.9	2.8 ± 1.0
H-3	< 330	< 330	< 330
Sr-89	< 0.8	-	-
Sr-90	< 0.5	-	-
Mn-54	< 2.7	< 2.5	< 4.5
Fe-59	< 6.5	< 4.9	< 6.2
Co-58	< 1.9	< 1.8	< 3.9
Co-60	< 1.9	< 1.6	< 3.9
Zn-65	< 6.0	< 3.8	< 4.9
Zr-Nb-95	< 2.6	< 2.6	< 4.6
Cs-134	< 2.1	< 2.3	< 5.3
Cs-137	< 2.7	< 2.5	< 6.3
Ba-La-140	< 4.5	< 3.0	< 4.7

Location	T-22
Lab Code	TSWT- 7282
Date Collected	12-30-08
Gross beta	1.3 ± 0.5
H-3	< 330
Sr-89	-
Sr-90	-
Mn-54	< 2.9
Fe-59	< 10.3
Co-58	< 4.9
Co-60	< 4.8
Zn-65	< 6.6
Zr-Nb-95	< 5.0
Cs-134	< 4.6
Cs-137	< 3.3
Ba-La-140	< 4.7

Treated Surface Water for gross beta analysis.

Location	Lab Code	Date Collected	Gross Beta (pCi/L)
T-143	TSWT-2578	05-27-08	1.8 ± 0.7
T-143	TSWT-4159	07-29-08	2.0 ± 0.5
T-12	TSWT-6854	11-25-08	< 0.9

NA = Not analyzed, analysis not required.

C-2. Duplicate Analyses

---

Location	T-35	T-37	T-25
Lab Code	TF- 2851	TVE- 4648	TVE- 5023
Gross beta	3.16 ± 0.19	-	-
H-3	-	-	-
Sr-89	-	< 0.003	< 0.005
Sr-90	-	< 0.001	< 0.002
K-40	2.52 ± 0.37	2.00 ± 0.21	1.106 ± 0.059
Mn-54	< 0.015	< 0.0100	< 0.0027
Fe-59	< 0.036	< 0.0128	< 0.0090
Co-58	< 0.023	< 0.0085	< 0.0026
Co-60	< 0.01	< 0.0057	< 0.0022
Zn-65	< 0.030	< 0.0122	< 0.0067
Cs-134	< 0.013	< 0.0070	< 0.0028
Cs-137	< 0.014	< 0.0081	< 0.0028

Location	T-11	T-3
Lab Code	TSO- 1914	TSS- 6594
Sr-89	-	-
Sr-90	-	-
Be-7	< 0.34	< 0.25
K-40	13.88 ± 0.85	13.10 ± 0.76
Mn-54	< 0.028	< 0.022
Nb-95	< 0.070	< 0.051
Zr-95	< 0.045	< 0.042
Ru-103	< 0.035	< 0.034
Ru-106	< 0.23	< 0.18
Cs-134	< 0.029	< 0.017
Cs-137	< 0.029	< 0.024
Ce-141	< 0.074	< 0.078
Ce-144	< 0.134	< 0.12

---