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## MONTHLY PROGRESS REPORT

### RADIOLOGICAL ENVIRONMENTAL MONITORING PROGRAM

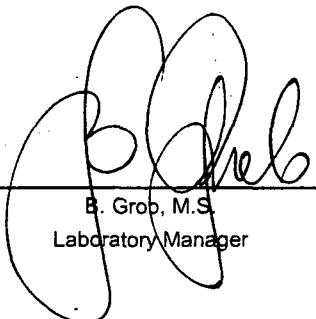
#### DAVIS-BESSE NUCLEAR POWER STATION OAK HARBOR, OHIO

Reporting Period: January - December, 2007

Prepared and Submitted by  
ENVIRONMENTAL, INC.,  
MIDWEST LABORATORY

Project Number: 8003

Reviewed and  
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Date 02-13-2008

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

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## **1.0 INTRODUCTION**

The following constitutes the current 2007 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**

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Sample Type	Location	Expected Collection Date	Reason
TLD	T-53	2nd Qtr. 2007	TLD lost in the field.
TLD	T-49	4th Qtr. 2007	TLD lost in the field.
TLD	T-49	Annual 2007	TLD lost in the field.
TLD	T-53	Annual 2007	TLD lost in the field.

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### 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>		
01-09-07	281	0.016 ± 0.004	07-10-07	285	0.029 ± 0.004
01-16-07	280	0.016 ± 0.003	07-17-07	281	0.018 ± 0.004
01-23-07	280	0.023 ± 0.004	07-24-07	280	0.018 ± 0.004
01-30-07	281	0.031 ± 0.004	07-31-07	280	0.029 ± 0.004
02-06-07	281	0.032 ± 0.004	08-07-07	281	0.040 ± 0.005
02-13-07	281	0.024 ± 0.004	08-14-07	276	0.023 ± 0.004
02-20-07	279	0.022 ± 0.004	08-21-07	284	0.021 ± 0.004
02-27-07	281	0.022 ± 0.004	08-28-07	284	0.021 ± 0.003
03-06-07	289	0.041 ± 0.005	09-04-07	284	0.033 ± 0.004
03-13-07	277	0.024 ± 0.004	09-11-07	284	0.044 ± 0.005
03-20-07	281	0.025 ± 0.004	09-18-07	284	0.018 ± 0.003
03-27-07	280	0.022 ± 0.004	09-25-07	285	0.047 ± 0.005
04-03-07	280	0.021 ± 0.004	10-02-07	285	0.027 ± 0.004
<u>1st Quarter Mean ± s.d.</u>			<u>3rd Quarter Mean ± s.d.</u>		
04-10-07	281	0.010 ± 0.004	10-09-07	283	0.036 ± 0.004
04-17-07	280	0.021 ± 0.004	10-16-07	286	0.020 ± 0.003
04-24-07	280	0.016 ± 0.004	10-23-07	283	0.036 ± 0.004
05-01-07	280	0.010 ± 0.003	10-30-07	285	0.019 ± 0.004
05-08-07	281	0.016 ± 0.004	11-06-07	285	0.025 ± 0.004
05-15-07	280	0.024 ± 0.004	11-13-07	284	0.031 ± 0.004
05-22-07	281	0.018 ± 0.004	11-20-07	284	0.023 ± 0.004
05-29-07	280	0.035 ± 0.004	11-27-07	280	0.033 ± 0.004
06-05-07	281	0.031 ± 0.004	12-04-07	280	0.030 ± 0.004
06-12-07	280	0.020 ± 0.004	12-11-07	281	0.031 ± 0.004
06-19-07	281	0.030 ± 0.004	12-18-07	280	0.034 ± 0.004
06-26-07	280	0.024 ± 0.004	12-26-07	320	0.048 ± 0.004
07-03-07	278	0.017 ± 0.004	01-02-08	283	0.040 ± 0.004
<u>2nd Quarter Mean ± s.d.</u>			<u>4th Quarter Mean ± s.d.</u>		
<u>0.021 ± 0.008</u>			<u>0.031 ± 0.008</u>		
			<u>Cumulative Average</u>		
			0.026		
			<u>Previous Annual Average</u>		
			0.024		

<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>		
01-09-07	281	0.017 ± 0.004	07-10-07	290	0.033 ± 0.004
01-16-07	281	0.015 ± 0.003	07-17-07	286	0.019 ± 0.004
01-23-07	280	0.030 ± 0.004	07-24-07	285	0.021 ± 0.004
01-30-07	281	0.034 ± 0.004	07-31-07	285	0.032 ± 0.004
02-06-07	283	0.031 ± 0.004	08-07-07	286	0.041 ± 0.005
02-13-07	280	0.025 ± 0.004	08-14-07	286	0.025 ± 0.004
02-20-07	280	0.026 ± 0.004	08-21-07	286	0.027 ± 0.004
02-27-07	281	0.018 ± 0.003	08-28-07	291	0.021 ± 0.003
03-06-07	285	0.018 ± 0.004	09-04-07	289	0.030 ± 0.004
03-13-07	278	0.022 ± 0.004	09-11-07	291	0.039 ± 0.004
03-20-07	281	0.025 ± 0.004	09-18-07	290	0.019 ± 0.004
03-27-07	272	0.023 ± 0.004	09-25-07	292	0.044 ± 0.005
04-03-07	280	0.020 ± 0.004	10-02-07	290	0.025 ± 0.003
1st Quarter Mean ± s.d.	0.023 ± 0.006		3rd Quarter Mean ± s.d.	0.029 ± 0.008	
04-10-07	281	0.015 ± 0.004	10-09-07	290	0.033 ± 0.004
04-17-07	280	0.017 ± 0.003	10-16-07	290	0.023 ± 0.003
04-24-07	281	0.017 ± 0.004	10-23-07	290	0.033 ± 0.004
05-01-07	281	0.014 ± 0.004	10-30-07	311	0.020 ± 0.003
05-08-07	286	0.016 ± 0.004	11-06-07	291	0.029 ± 0.004
05-15-07	285	0.026 ± 0.004	11-13-07	291	0.035 ± 0.004
05-22-07	277	0.015 ± 0.004	11-20-07	291	0.024 ± 0.004
05-29-07	285	0.034 ± 0.004	11-27-07	290	0.029 ± 0.004
06-05-07	286	0.027 ± 0.004	12-04-07	291	0.030 ± 0.004
06-12-07	285	0.018 ± 0.003	12-11-07	292	0.025 ± 0.004
06-19-07	286	0.030 ± 0.004	12-18-07	290	0.030 ± 0.004
06-26-07	285	0.024 ± 0.004	12-26-07	333	0.049 ± 0.004
07-03-07	284	0.013 ± 0.003	01-02-08	286	0.037 ± 0.004
2nd Quarter Mean ± s.d.	0.020 ± 0.007		4th Quarter Mean ± s.d.	0.031 ± 0.007	
			Cumulative Average	0.026	
			Previous Annual Average	0.023	

<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>		
01-09-07	287	0.017 ± 0.004	07-10-07	288	0.034 ± 0.004
01-16-07	287	0.016 ± 0.003	07-17-07	285	0.020 ± 0.004
01-23-07	286	0.020 ± 0.004	07-24-07	283	0.020 ± 0.004
01-30-07	287	0.028 ± 0.004	07-31-07	284	0.029 ± 0.004
02-06-07	289	0.031 ± 0.004	08-07-07	284	0.041 ± 0.005
02-13-07	286	0.024 ± 0.004	08-14-07	284	0.023 ± 0.004
02-20-07	286	0.027 ± 0.004	08-21-07	284	0.026 ± 0.004
02-27-07	287	0.015 ± 0.003	08-28-07	285	0.018 ± 0.003
03-06-07	287	0.016 ± 0.004	09-04-07	283	0.033 ± 0.004
03-13-07	284	0.029 ± 0.004	09-11-07	287	0.045 ± 0.005
03-20-07	287	0.022 ± 0.004	09-18-07	289	0.019 ± 0.004
03-27-07	287	0.016 ± 0.003	09-25-07	287	0.041 ± 0.005
04-03-07	287	0.020 ± 0.004	10-02-07	285	0.028 ± 0.004
1st Quarter Mean ± s.d.			3rd Quarter Mean ± s.d.		
04-10-07	317	0.011 ± 0.003	10-09-07	286	0.032 ± 0.004
04-17-07	286	0.021 ± 0.004	10-16-07	285	0.019 ± 0.003
04-24-07	287	0.016 ± 0.004	10-23-07	285	0.032 ± 0.004
05-01-07	287	0.014 ± 0.004	10-30-07	287	0.016 ± 0.003
05-08-07	287	0.017 ± 0.004	11-06-07	286	0.027 ± 0.004
05-15-07	286	0.028 ± 0.004	11-13-07	286	0.030 ± 0.004
05-22-07	287	0.016 ± 0.004	11-20-07	286	0.025 ± 0.004
05-29-07	286	0.034 ± 0.004	11-27-07	285	0.026 ± 0.004
06-05-07	225	0.029 ± 0.005	12-04-07	286	0.029 ± 0.004
06-12-07	283	0.018 ± 0.004	12-11-07	287	0.027 ± 0.004
06-19-07	284	0.031 ± 0.004	12-18-07	286	0.035 ± 0.004
06-26-07	283	0.021 ± 0.004	12-26-07	325	0.049 ± 0.004
07-03-07	282	0.015 ± 0.004	01-02-08	286	0.039 ± 0.004
2nd Quarter Mean ± s.d.			4th Quarter Mean ± s.d.		
Cumulative Average			0.030 ± 0.008		
Previous Annual Average			0.025		
<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>
01-09-07	281	0.019 ± 0.004	07-10-07	291	0.028 ± 0.004
01-16-07	280	0.016 ± 0.003	07-17-07	287	0.019 ± 0.004
01-23-07	279	0.022 ± 0.004	07-24-07	286	0.021 ± 0.004
01-30-07	281	0.033 ± 0.004	07-31-07	288	0.026 ± 0.004
02-06-07	288	0.028 ± 0.004	08-07-07	282	0.042 ± 0.005
02-13-07	286	0.029 ± 0.004	08-14-07	277	0.028 ± 0.004
02-20-07	286	0.027 ± 0.004	08-21-07	276	0.023 ± 0.004
02-27-07	286	0.018 ± 0.003	08-28-07	278	0.023 ± 0.004
03-06-07	287	0.018 ± 0.004	09-04-07	276	0.044 ± 0.005
03-13-07	284	0.026 ± 0.004	09-11-07	277	0.045 ± 0.005
03-20-07	287	0.020 ± 0.004	09-18-07	282	0.021 ± 0.004
03-27-07	283	0.017 ± 0.004	09-25-07	283	0.049 ± 0.005
04-03-07	286	0.021 ± 0.004	10-02-07	283	0.031 ± 0.004
1st Quarter Mean ± s.d.	0.023 ± 0.005		3rd Quarter Mean ± s.d.	0.031 ± 0.011	
04-10-07	288	0.014 ± 0.004	10-09-07	286	0.033 ± 0.004
04-17-07	286	0.020 ± 0.004	10-16-07	285	0.017 ± 0.003
04-24-07	287	0.015 ± 0.004	10-23-07	285	0.035 ± 0.004
05-01-07	287	0.010 ± 0.003	10-30-07	287	0.022 ± 0.004
05-08-07	287	0.016 ± 0.004	11-06-07	287	0.029 ± 0.004
05-15-07	286	0.024 ± 0.004	11-13-07	285	0.037 ± 0.004
05-22-07	283	0.017 ± 0.004	11-20-07	286	0.025 ± 0.004
05-29-07	287	0.035 ± 0.004	11-27-07	286	0.025 ± 0.004
06-05-07	287	0.031 ± 0.004	12-04-07	307	0.027 ± 0.004
06-12-07	286	0.018 ± 0.004	12-11-07	284	0.029 ± 0.004
06-19-07	287	0.032 ± 0.004	12-18-07	285	0.037 ± 0.004
06-26-07	285	0.024 ± 0.004	12-26-07	321	0.050 ± 0.005
07-03-07	285	0.014 ± 0.003	01-02-08	284	0.043 ± 0.005
2nd Quarter Mean ± s.d.	0.021 ± 0.008		4th Quarter Mean ± s.d.	0.031 ± 0.009	
Cumulative Average				0.026	
Previous Annual Average				0.023	

<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
<b>Required LLD</b>					<b>0.010</b>
01-09-07	284	0.013 ± 0.003	07-10-07	283	0.034 ± 0.004
01-16-07	284	0.015 ± 0.003	07-17-07	282	0.018 ± 0.004
01-23-07	283	0.023 ± 0.004	07-24-07	278	0.021 ± 0.004
01-30-07	285	0.033 ± 0.004	07-31-07	278	0.033 ± 0.004
02-06-07	296	0.031 ± 0.004	08-07-07	282	0.041 ± 0.005
02-13-07	284	0.024 ± 0.004	08-14-07	285	0.026 ± 0.004
02-20-07	283	0.026 ± 0.004	08-21-07	276	0.024 ± 0.004
02-27-07	284	0.017 ± 0.003	08-28-07	282	0.018 ± 0.003
03-06-07	284	0.014 ± 0.004	09-04-07	287	0.036 ± 0.004
03-13-07	275	0.024 ± 0.004	09-11-07	278	0.044 ± 0.005
03-20-07	276	0.023 ± 0.004	09-18-07	282	0.015 ± 0.003
03-27-07	272	0.020 ± 0.004	09-25-07	279	0.045 ± 0.005
04-03-07	277	0.021 ± 0.004	10-02-07	282	0.028 ± 0.004
<b>1st Quarter Mean ± s.d.</b>			<b>3rd Quarter Mean ± s.d.</b>		
04-10-07	277	0.011 ± 0.004	10-09-07	275	0.037 ± 0.005
04-17-07	276	0.018 ± 0.004	10-16-07	279	0.016 ± 0.003
04-24-07	281	0.015 ± 0.004	10-23-07	279	0.038 ± 0.005
05-01-07	272	0.013 ± 0.004	10-30-07	279	0.018 ± 0.004
05-08-07	279	0.014 ± 0.004	11-06-07	280	0.032 ± 0.004
05-15-07	282	0.024 ± 0.004	11-13-07	280	0.037 ± 0.005
05-22-07	282	0.015 ± 0.004	11-20-07	278	0.029 ± 0.004
05-29-07	282	0.034 ± 0.004	11-27-07	278	0.022 ± 0.004
06-05-07	282	0.031 ± 0.004	12-04-07	279	0.030 ± 0.004
06-12-07	282	0.020 ± 0.004	12-11-07	280	0.031 ± 0.004
06-19-07	282	0.030 ± 0.004	12-18-07	278	0.025 ± 0.004
06-26-07	282	0.022 ± 0.004	12-26-07	318	0.042 ± 0.004
07-03-07	283	0.015 ± 0.004	01-02-08	279	0.041 ± 0.004
<b>2nd Quarter Mean ± s.d.</b>			<b>4th Quarter Mean ± s.d.</b>		
					<b>0.020 ± 0.008</b>
					<b>0.031 ± 0.008</b>
					<b>Cumulative Average</b>
					<b>0.025</b>
					<b>Previous Annual Average</b>
					<b>0.023</b>

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

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>		
01-09-07	261	0.017 ± 0.004	07-10-07	289	0.030 ± 0.004
01-16-07	261	0.017 ± 0.004	07-17-07	284	0.019 ± 0.004
01-23-07	261	0.026 ± 0.004	07-24-07	284	0.021 ± 0.004
01-30-07	285	0.035 ± 0.004	07-31-07	283	0.030 ± 0.004
02-06-07	285	0.028 ± 0.004	08-07-07	284	0.040 ± 0.005
02-13-07	283	0.022 ± 0.004	08-14-07	284	0.024 ± 0.004
02-20-07	282	0.027 ± 0.004	08-21-07	283	0.019 ± 0.004
02-27-07	284	0.020 ± 0.004	08-28-07	284	0.021 ± 0.003
03-06-07	284	0.017 ± 0.004	09-04-07	282	0.038 ± 0.004
03-13-07	273	0.027 ± 0.004	09-11-07	285	0.040 ± 0.005
03-20-07	285	0.021 ± 0.004	09-18-07	284	0.020 ± 0.004
03-27-07	279	0.020 ± 0.004	09-25-07	282	0.049 ± 0.005
04-03-07	283	0.022 ± 0.004	10-02-07	285	0.030 ± 0.004
1st Quarter Mean ± s.d.			3rd Quarter Mean ± s.d.		
04-10-07	286	0.012 ± 0.004	10-09-07	282	0.040 ± 0.005
04-17-07	282	0.019 ± 0.004	10-16-07	283	0.018 ± 0.003
04-24-07	286	0.015 ± 0.004	10-23-07	285	0.041 ± 0.005
05-01-07	284	0.009 ± 0.003	10-30-07	286	0.018 ± 0.004
05-08-07	284	0.016 ± 0.004	11-06-07	284	0.027 ± 0.004
05-15-07	284	0.027 ± 0.004	11-13-07	284	0.035 ± 0.004
05-22-07	284	0.016 ± 0.004	11-20-07	283	0.025 ± 0.004
05-29-07	284	0.037 ± 0.004	11-27-07	275	0.031 ± 0.004
06-05-07	233	0.033 ± 0.005	12-04-07	284	0.027 ± 0.004
06-12-07	284	0.018 ± 0.004	12-11-07	292	0.027 ± 0.004
06-19-07	283	0.032 ± 0.004	12-18-07	279	0.033 ± 0.004
06-26-07	282	0.020 ± 0.004	12-26-07	309	0.046 ± 0.004
07-03-07	282	0.014 ± 0.003	01-02-08	298	0.039 ± 0.004
2nd Quarter Mean ± s.d.			4th Quarter Mean ± s.d.		
Cumulative Average			0.026		
Previous Annual Average			0.023		

<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>		
01-09-07	276	0.020 ± 0.004	07-10-07	285	0.037 ± 0.004
01-16-07	280	0.018 ± 0.004	07-17-07	283	0.020 ± 0.004
01-23-07	276	0.026 ± 0.004	07-24-07	284	0.020 ± 0.004
01-30-07	278	0.026 ± 0.004	07-31-07	283	0.033 ± 0.004
02-06-07	277	0.032 ± 0.004	08-07-07	284	0.044 ± 0.005
02-13-07	279	0.023 ± 0.004	08-14-07	284	0.030 ± 0.004
02-20-07	279	0.030 ± 0.004	08-21-07	283	0.024 ± 0.004
02-27-07	281	0.018 ± 0.003	08-28-07	284	0.020 ± 0.003
03-06-07	281	0.016 ± 0.004	09-04-07	281	0.038 ± 0.004
03-13-07	278	0.029 ± 0.004	09-11-07	284	0.043 ± 0.005
03-20-07	295	0.025 ± 0.004	09-18-07	283	0.018 ± 0.004
03-27-07	275	0.025 ± 0.004	09-25-07	284	0.044 ± 0.005
04-03-07	280	0.023 ± 0.004	10-02-07	284	0.032 ± 0.004
1st Quarter Mean ± s.d.			3rd Quarter Mean ± s.d.		
04-10-07	282	0.014 ± 0.004	10-09-07	281	0.029 ± 0.004
04-17-07	279	0.021 ± 0.004	10-16-07	282	0.021 ± 0.003
04-24-07	282	0.015 ± 0.004	10-23-07	284	0.038 ± 0.005
05-01-07	280	0.013 ± 0.004	10-30-07	285	0.020 ± 0.004
05-08-07	260	0.016 ± 0.004	11-06-07	287	0.028 ± 0.004
05-15-07	280	0.030 ± 0.004	11-13-07	287	0.034 ± 0.004
05-22-07	276	0.017 ± 0.004	11-20-07	286	0.022 ± 0.004
05-29-07	281	0.035 ± 0.004	11-27-07	287	0.030 ± 0.004
06-05-07	312	0.030 ± 0.004	12-04-07	287	0.028 ± 0.004
06-12-07	266	0.022 ± 0.004	12-11-07	289	0.027 ± 0.004
06-19-07	294	0.033 ± 0.004	12-18-07	286	0.034 ± 0.004
06-26-07	270	0.024 ± 0.004	12-26-07	322	0.044 ± 0.004
07-03-07	279	0.019 ± 0.004	01-02-08	206	0.034 ± 0.005
2nd Quarter Mean ± s.d.			4th Quarter Mean ± s.d.		
Cumulative Average			0.027		
Previous Annual Average			0.024		

<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>		
01-09-07	288	0.018 ± 0.004	07-10-07	280	0.039 ± 0.004
01-16-07	287	0.016 ± 0.003	07-17-07	287	0.020 ± 0.004
01-23-07	287	0.027 ± 0.004	07-24-07	287	0.023 ± 0.004
01-30-07	285	0.027 ± 0.004	07-31-07	287	0.032 ± 0.004
02-06-07	285	0.029 ± 0.004	08-07-07	293	0.038 ± 0.004
02-13-07	284	0.024 ± 0.004	08-14-07	280	0.025 ± 0.004
02-20-07	283	0.045 ± 0.005	08-21-07	292	0.021 ± 0.004
02-27-07	285	0.017 ± 0.003	08-28-07	290	0.021 ± 0.003
03-06-07	291	0.016 ± 0.004	09-04-07	289	0.034 ± 0.004
03-13-07	282	0.026 ± 0.004	09-11-07	291	0.041 ± 0.005
03-20-07	284	0.022 ± 0.004	09-18-07	291	0.022 ± 0.004
03-27-07	277	0.021 ± 0.004	09-25-07	291	0.049 ± 0.005
04-03-07	284	0.018 ± 0.004	10-02-07	291	0.027 ± 0.004
1st Quarter Mean ± s.d.			3rd Quarter Mean ± s.d.		
04-10-07	284	0.012 ± 0.004	10-09-07	290	0.037 ± 0.004
04-17-07	284	0.017 ± 0.003	10-16-07	290	0.021 ± 0.003
04-24-07	284	0.016 ± 0.004	10-23-07	291	0.037 ± 0.004
05-01-07	284	0.013 ± 0.004	10-30-07	290	0.019 ± 0.004
05-08-07	284	0.015 ± 0.003	11-06-07	292	0.025 ± 0.004
05-15-07	284	0.027 ± 0.004	11-13-07	291	0.031 ± 0.004
05-22-07	284	0.015 ± 0.004	11-20-07	291	0.025 ± 0.004
05-29-07	284	0.042 ± 0.005	11-27-07	290	0.026 ± 0.004
06-05-07	243	0.034 ± 0.005	12-04-07	291	0.029 ± 0.004
06-12-07	288	0.019 ± 0.004	12-11-07	285	0.029 ± 0.004
06-19-07	287	0.031 ± 0.004	12-18-07	284	0.040 ± 0.005
06-26-07	299	0.024 ± 0.004	12-26-07	323	0.046 ± 0.004
07-03-07	284	0.013 ± 0.003	01-02-08	279	0.039 ± 0.004
2nd Quarter Mean ± s.d.			4th Quarter Mean ± s.d.		
Cumulative Average			0.026		
Previous Annual Average			0.023		

<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>
01-09-07	281	0.015 ± 0.004	07-10-07	283	0.035 ± 0.004
01-16-07	281	0.015 ± 0.003	07-17-07	280	0.021 ± 0.004
01-23-07	280	0.024 ± 0.004	07-24-07	277	0.019 ± 0.004
01-30-07	283	0.034 ± 0.004	07-31-07	280	0.034 ± 0.004
02-06-07	281	0.033 ± 0.004	08-07-07	280	0.040 ± 0.005
02-13-07	280	0.022 ± 0.004	08-14-07	279	0.027 ± 0.004
02-20-07	280	0.022 ± 0.004	08-21-07	287	0.023 ± 0.004
02-27-07	281	0.017 ± 0.003	08-28-07	287	0.019 ± 0.003
03-06-07	281	0.014 ± 0.004	09-04-07	285	0.036 ± 0.004
03-13-07	272	0.026 ± 0.004	09-11-07	288	0.036 ± 0.004
03-20-07	283	0.023 ± 0.004	09-18-07	288	0.018 ± 0.003
03-27-07	270	0.019 ± 0.004	09-25-07	289	0.042 ± 0.005
04-03-07	284	0.019 ± 0.004	10-02-07	289	0.030 ± 0.004
1st Quarter Mean ± s.d.	0.022 ± 0.006		3rd Quarter Mean ± s.d.	0.029 ± 0.009	
04-10-07	286	0.011 ± 0.004	10-09-07	285	0.034 ± 0.004
04-17-07	283	0.019 ± 0.004	10-16-07	287	0.017 ± 0.003
04-24-07	281	0.018 ± 0.004	10-23-07	288	0.035 ± 0.004
05-01-07	279	0.017 ± 0.004	10-30-07	288	0.018 ± 0.004
05-08-07	279	0.016 ± 0.004	11-06-07	289	0.023 ± 0.004
05-15-07	279	0.024 ± 0.004	11-13-07	288	0.032 ± 0.004
05-22-07	278	0.017 ± 0.004	11-20-07	287	0.024 ± 0.004
05-29-07	280	0.035 ± 0.004	11-27-07	288	0.028 ± 0.004
06-05-07	290	0.034 ± 0.004	12-04-07	289	0.027 ± 0.004
06-12-07	278	0.019 ± 0.004	12-11-07	291	0.023 ± 0.004
06-19-07	279	0.026 ± 0.004	12-18-07	282	0.039 ± 0.005
06-26-07	278	0.017 ± 0.004	12-26-07	320	0.046 ± 0.004
07-03-07	277	0.012 ± 0.003	01-02-08	291	0.038 ± 0.004
2nd Quarter Mean ± s.d.	0.020 ± 0.007		4th Quarter Mean ± s.d.	0.030 ± 0.009	
			Cumulative Average	0.025	
			Previous Annual Average	0.023	

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

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>		
01-09-07	284	0.017 ± 0.004	07-10-07	285	0.034 ± 0.004
01-16-07	284	0.020 ± 0.004	07-17-07	285	0.016 ± 0.003
01-23-07	283	0.022 ± 0.004	07-24-07	284	0.019 ± 0.004
01-30-07	285	0.030 ± 0.004	07-31-07	285	0.031 ± 0.004
02-06-07	285	0.030 ± 0.004	08-07-07	283	0.042 ± 0.005
02-13-07	291	0.026 ± 0.004	08-14-07	285	0.028 ± 0.004
02-20-07	279	0.025 ± 0.004	08-21-07	278	0.023 ± 0.004
02-27-07	272	0.016 ± 0.003	08-28-07	284	0.020 ± 0.003
03-06-07	280	0.017 ± 0.004	09-04-07	289	0.033 ± 0.004
03-13-07	270	0.026 ± 0.004	09-11-07	284	0.040 ± 0.005
03-20-07	281	0.022 ± 0.004	09-18-07	285	0.018 ± 0.004
03-27-07	277	0.021 ± 0.004	09-25-07	279	0.045 ± 0.005
04-03-07	282	0.019 ± 0.004	10-02-07	292	0.026 ± 0.004
1st Quarter Mean ± s.d.	0.022 ± 0.005		3rd Quarter Mean ± s.d.	0.029 ± 0.010	
04-10-07	282	0.011 ± 0.004	10-09-07	275	0.034 ± 0.004
04-17-07	281	0.018 ± 0.004	10-16-07	284	0.015 ± 0.003
04-24-07	283	0.013 ± 0.004	10-23-07	289	0.035 ± 0.004
05-01-07	281	0.013 ± 0.004	10-30-07	285	0.020 ± 0.004
05-08-07	282	0.024 ± 0.004	11-06-07	285	0.029 ± 0.004
05-15-07	280	0.028 ± 0.004	11-13-07	284	0.032 ± 0.004
05-22-07	283	0.004 ± 0.003 <sup>b</sup>	11-20-07	279	0.022 ± 0.004
05-29-07	282	0.030 ± 0.004	11-27-07	281	0.029 ± 0.004
06-05-07	290	0.030 ± 0.004	12-04-07	287	0.034 ± 0.004
06-12-07	281	0.016 ± 0.003	12-11-07	293	0.027 ± 0.004
06-19-07	282	0.031 ± 0.004	12-18-07	280	0.034 ± 0.004
06-26-07	280	0.022 ± 0.004	12-26-07	327	0.049 ± 0.004
07-03-07	281	0.017 ± 0.004	01-02-08	292	0.041 ± 0.004
2nd Quarter Mean ± s.d.	0.020 ± 0.009		4th Quarter Mean ± s.d.	0.031 ± 0.009	
			Cumulative Average	0.025	
			Previous Annual Average	0.023	

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

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

January				April			
Location	Average	Minima	Maxima	Location	Average	Minima	Maxima
T-9	0.023	0.018	0.026	T-9	0.016	0.013	0.021
T-11	0.022	0.016	0.027	T-11	0.015	0.012	0.017
T-12	0.022	0.015	0.034	T-12	0.016	0.011	0.019
T-27	0.022	0.017	0.030	T-27	0.014	0.011	0.018
Controls	0.022	0.015	0.034	Controls	0.015	0.011	0.021
T-1	0.022	0.016	0.031	T-1	0.014	0.010	0.021
T-2	0.024	0.015	0.034	T-2	0.016	0.014	0.017
T-3	0.020	0.016	0.028	T-3	0.016	0.011	0.021
T-4	0.023	0.016	0.033	T-4	0.015	0.010	0.020
T-7	0.021	0.013	0.033	T-7	0.014	0.011	0.018
T-8	0.024	0.017	0.035	T-8	0.014	0.009	0.019
Indicators	0.022	0.013	0.035	Indicators	0.015	0.009	0.021

February				May			
Location	Average	Minima	Maxima	Location	Average	Minima	Maxima
T-9	0.026	0.018	0.032	T-9	0.025	0.016	0.035
T-11	0.029	0.017	0.045	T-11	0.025	0.015	0.042
T-12	0.024	0.017	0.033	T-12	0.023	0.016	0.035
T-27	0.024	0.016	0.030	T-27	0.022	0.004	0.030
Controls	0.026	0.016	0.045	Controls	0.024	0.004	0.042
T-1	0.025	0.022	0.032	T-1	0.023	0.016	0.035
T-2	0.025	0.018	0.031	T-2	0.023	0.015	0.034
T-3	0.024	0.015	0.031	T-3	0.024	0.016	0.034
T-4	0.026	0.018	0.029	T-4	0.023	0.016	0.035
T-7	0.025	0.017	0.031	T-7	0.022	0.014	0.034
T-8	0.024	0.020	0.028	T-8	0.024	0.016	0.037
Indicators	0.025	0.015	0.032	Indicators	0.023	0.014	0.037

March				June			
Location	Average	Minima	Maxima	Location	Average	Minima	Maxima
T-9	0.024	0.016	0.029	T-9	0.026	0.019	0.033
T-11	0.021	0.016	0.026	T-11	0.024	0.013	0.034
T-12	0.020	0.014	0.026	T-12	0.022	0.012	0.034
T-27	0.021	0.017	0.026	T-27	0.023	0.016	0.031
Controls	0.022	0.014	0.029	Controls	0.024	0.012	0.034
T-1	0.027	0.021	0.041	T-1	0.024	0.017	0.031
T-2	0.022	0.018	0.025	T-2	0.022	0.013	0.030
T-3	0.021	0.016	0.029	T-3	0.023	0.015	0.031
T-4	0.020	0.017	0.026	T-4	0.024	0.014	0.032
T-7	0.020	0.014	0.024	T-7	0.024	0.015	0.031
T-8	0.021	0.017	0.027	T-8	0.023	0.014	0.033
Indicators	0.022	0.014	0.041	Indicators	0.023	0.013	0.033

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	0.028	0.020	0.037	T-9	0.027	0.020	0.038
T-11	0.029	0.020	0.039	T-11	0.029	0.019	0.037
T-12	0.027	0.019	0.035	T-12	0.026	0.017	0.035
T-27	0.025	0.016	0.034	T-27	0.026	0.015	0.035
Controls	0.027	0.016	0.039	Controls	0.027	0.015	0.038
T-1	0.024	0.018	0.029	T-1	0.028	0.019	0.036
T-2	0.026	0.019	0.033	T-2	0.027	0.020	0.033
T-3	0.026	0.020	0.034	T-3	0.025	0.016	0.032
T-4	0.024	0.019	0.028	T-4	0.027	0.017	0.035
T-7	0.027	0.018	0.034	T-7	0.027	0.016	0.038
T-8	0.025	0.019	0.030	T-8	0.029	0.018	0.041
Indicators	0.025	0.018	0.034	Indicators	0.027	0.016	0.041
August				November			
Location	Average	Minima	Maxima	Location	Average	Minima	Maxima
T-9	0.030	0.020	0.044	T-9	0.029	0.022	0.034
T-11	0.026	0.021	0.038	T-11	0.027	0.025	0.031
T-12	0.027	0.019	0.040	T-12	0.027	0.023	0.032
T-27	0.028	0.020	0.042	T-27	0.028	0.022	0.032
Controls	0.028	0.019	0.044	Controls	0.028	0.022	0.034
T-1	0.026	0.021	0.040	T-1	0.028	0.023	0.033
T-2	0.029	0.021	0.041	T-2	0.029	0.024	0.035
T-3	0.027	0.018	0.041	T-3	0.027	0.025	0.030
T-4	0.029	0.023	0.042	T-4	0.029	0.025	0.037
T-7	0.027	0.018	0.041	T-7	0.030	0.022	0.037
T-8	0.026	0.019	0.040	T-8	0.030	0.025	0.035
Indicators	0.027	0.018	0.042	Indicators	0.029	0.022	0.037
September				December			
Location	Average	Minima	Maxima	Location	Average	Minima	Maxima
T-9	0.035	0.018	0.044	T-9	0.033	0.027	0.044
T-11	0.035	0.022	0.049	T-11	0.037	0.029	0.046
T-12	0.032	0.018	0.042	T-12	0.035	0.023	0.046
T-27	0.032	0.018	0.045	T-27	0.037	0.027	0.049
Controls	0.034	0.018	0.049	Controls	0.036	0.023	0.049
T-1	0.034	0.018	0.047	T-1	0.037	0.030	0.048
T-2	0.031	0.019	0.044	T-2	0.034	0.025	0.049
T-3	0.033	0.019	0.045	T-3	0.036	0.027	0.049
T-4	0.038	0.021	0.049	T-4	0.037	0.027	0.050
T-7	0.034	0.015	0.045	T-7	0.034	0.025	0.042
T-8	0.035	0.020	0.049	T-8	0.034	0.027	0.046
Indicators	0.034	0.015	0.049	Indicators	0.035	0.025	0.050

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

TOLEDO

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- 2190	TAP- 4422	TAP- 6971	TAP- 8808
Volume (m <sup>3</sup> )	3651	3643	3673	3714
Sr-89	< 0.0007	< 0.0005	< 0.0007	< 0.0005
Sr-90	< 0.0004	< 0.0003	< 0.0004	< 0.0004
Be-7	0.063 ± 0.011	0.107 ± 0.020	0.090 ± 0.014	0.069 ± 0.013
K-40	< 0.021	< 0.027	< 0.023	< 0.024
Nb-95	< 0.0007	< 0.0011	< 0.0008	< 0.0006
Zr-95	< 0.0013	< 0.0010	< 0.0015	< 0.0013
Ru-103	< 0.0007	< 0.0009	< 0.0007	< 0.0007
Ru-106	< 0.0057	< 0.0056	< 0.0068	< 0.0030
Cs-134	< 0.0010	< 0.0005	< 0.0008	< 0.0007
Cs-137	< 0.0006	< 0.0004	< 0.0005	< 0.0004
Ce-141	< 0.0015	< 0.0018	< 0.0016	< 0.0016
Ce-144	< 0.0035	< 0.0030	< 0.0036	< 0.0035

Location	T-2			
Quarter	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter <sup>a</sup>
Lab Code	TAP- 2191	TAP- 4423	TAP- 6972	TAP- 8809
Volume (m <sup>3</sup> )	3643	3682	3747	3836
Sr-89	< 0.0007	< 0.0006	< 0.0006	< 0.0011
Sr-90	< 0.0004	< 0.0003	< 0.0003	< 0.0009
Be-7	0.084 ± 0.016	0.114 ± 0.021	0.089 ± 0.014	0.062 ± 0.016
K-40	< 0.023	< 0.027	< 0.025	< 0.023
Nb-95	< 0.0007	< 0.0011	< 0.0011	< 0.0008
Zr-95	< 0.0008	< 0.0016	< 0.0016	< 0.0010
Ru-103	< 0.0006	< 0.0009	< 0.0004	< 0.0006
Ru-106	< 0.0074	< 0.0074	< 0.0035	< 0.0026
Cs-134	< 0.0008	< 0.0008	< 0.0006	< 0.0007
Cs-137	< 0.0009	< 0.0006	< 0.0004	< 0.0004
Ce-141	< 0.0015	< 0.0011	< 0.0012	< 0.0010
Ce-144	< 0.0043	< 0.0054	< 0.0035	< 0.0028

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

TOLEDO

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- 2192	TAP- 4424	TAP- 6973	TAP- 8811
Volume (m <sup>3</sup> )	3727	3680	3708	3756
Sr-89	< 0.0005	< 0.0005	< 0.0007	< 0.0005
Sr-90	< 0.0003	< 0.0003	< 0.0004	< 0.0004
Be-7	0.087 ± 0.013	0.107 ± 0.018	0.084 ± 0.013	0.062 ± 0.014
K-40	< 0.021	< 0.027	< 0.022	< 0.024
Nb-95	< 0.0007	< 0.0010	< 0.0008	< 0.0009
Zr-95	< 0.0009	< 0.0016	< 0.0019	< 0.0014
Ru-103	< 0.0009	< 0.0008	< 0.0007	< 0.0008
Ru-106	< 0.0059	< 0.0087	< 0.0050	< 0.0021
Cs-134	< 0.0008	< 0.0005	< 0.0005	< 0.0005
Cs-137	< 0.0007	< 0.0006	< 0.0004	< 0.0005
Ce-141	< 0.0009	< 0.0016	< 0.0010	< 0.0016
Ce-144	< 0.0026	< 0.0041	< 0.0048	< 0.0028

Location	T-4			
Quarter	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter
Lab Code	TAP- 2193	TAP- 4425	TAP- 6974	TAP- 8812
Volume (m <sup>3</sup> )	3694	3721	3666	3768
Sr-89	< 0.0006	< 0.0005	< 0.0007	< 0.0006
Sr-90	< 0.0003	< 0.0002	< 0.0003	< 0.0004
Be-7	0.082 ± 0.014	0.105 ± 0.016	0.086 ± 0.014	0.052 ± 0.013
K-40	< 0.021	< 0.026	< 0.022	< 0.024
Nb-95	< 0.0006	< 0.0009	< 0.0008	< 0.0012
Zr-95	< 0.0013	< 0.0010	< 0.0013	< 0.0007
Ru-103	< 0.0008	< 0.0004	< 0.0006	< 0.0010
Ru-106	< 0.0066	< 0.0056	< 0.0053	< 0.0054
Cs-134	< 0.0009	< 0.0006	< 0.0005	< 0.0004
Cs-137	< 0.0007	< 0.0007	< 0.0006	< 0.0004
Ce-141	< 0.0013	< 0.0013	< 0.0013	< 0.0010
Ce-144	< 0.0037	< 0.0052	< 0.0047	< 0.0036

TOLEDO

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 <sup>a</sup>	4th Quarter	
Lab Code	TAP- 2194	TAP- 4426	TAP- 6975	TAP- 8813	
Volume (m <sup>3</sup> )	3667	3642	3654	3662	
Sr-89	< 0.0006	< 0.0005	< 0.0013	< 0.0007	
Sr-90	< 0.0003	< 0.0003	< 0.0007	< 0.0006	
Be-7	0.077 ± 0.014	0.108 ± 0.018	0.086 ± 0.015	0.060 ± 0.014	
K-40	< 0.023	< 0.034	< 0.023	< 0.025	
Nb-95	< 0.0008	< 0.0008	< 0.0007	< 0.0009	
Zr-95	< 0.0009	< 0.0016	< 0.0011	< 0.0015	
Ru-103	< 0.0009	< 0.0006	< 0.0006	< 0.0006	
Ru-106	< 0.0064	< 0.0075	< 0.0047	< 0.0030	
Cs-134	< 0.0009	< 0.0008	< 0.0007	< 0.0006	
Cs-137	< 0.0007	< 0.0006	< 0.0008	< 0.0003	
Ce-141	< 0.0011	< 0.0017	< 0.0013	< 0.0011	
Ce-144	< 0.0047	< 0.0036	< 0.0042	< 0.0044	

Location		T-8			
Quarter	1st Quarter	2nd Quarter <sup>a</sup>	3rd Quarter	4th Quarter	
Lab Code	TAP- 2195	TAP- 4427	TAP- 6977	TAP- 8814	
Volume (m <sup>3</sup> )	3606	3638	3693	3724	
Sr-89	< 0.0006	< 0.0010	< 0.0006	< 0.0005	
Sr-90	< 0.0004	< 0.0006	< 0.0004	< 0.0005	
Be-7	0.077 ± 0.013	0.127 ± 0.020	0.094 ± 0.015	0.057 ± 0.015	
K-40	< 0.022	< 0.027	< 0.023	< 0.028	
Nb-95	< 0.0007	< 0.0009	< 0.0005	< 0.0011	
Zr-95	< 0.0013	< 0.0022	< 0.0009	< 0.0007	
Ru-103	< 0.0006	< 0.0005	< 0.0007	< 0.0003	
Ru-106	< 0.0076	< 0.0075	< 0.0045	< 0.0060	
Cs-134	< 0.0009	< 0.0004	< 0.0006	< 0.0006	
Cs-137	< 0.0008	< 0.0006	< 0.0004	< 0.0005	
Ce-141	< 0.0017	< 0.0017	< 0.0013	< 0.0016	
Ce-144	< 0.0043	< 0.0031	< 0.0045	< 0.0037	

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

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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- 2196	TAP- 4429	TAP- 6978	TAP- 8815
Volume (m <sup>3</sup> )	3635	3641	3686	3669
Sr-89	< 0.0003	< 0.0005	< 0.0007	< 0.0005
Sr-90	< 0.0002	< 0.0003	< 0.0003	< 0.0004
Be-7	0.080 ± 0.015	0.110 ± 0.020	0.081 ± 0.014	0.069 ± 0.012
K-40	0.022 ± 0.012	< 0.027	< 0.022	< 0.024
Nb-95	< 0.0007	< 0.0008	< 0.0004	< 0.0008
Zr-95	< 0.0010	< 0.0010	< 0.0006	< 0.0007
Ru-103	< 0.0008	< 0.0008	< 0.0004	< 0.0006
Ru-106	< 0.0071	< 0.0057	< 0.0043	< 0.0076
Cs-134	< 0.0009	< 0.0006	< 0.0004	< 0.0008
Cs-137	< 0.0006	< 0.0004	< 0.0005	< 0.0006
Ce-141	< 0.0008	< 0.0015	< 0.0011	< 0.0015
Ce-144	< 0.0042	< 0.0046	< 0.0032	< 0.0051

Location	T-11 (C)			
Quarter	1st Quarter <sup>a</sup>	2nd Quarter	3rd Quarter	4th Quarter
Lab Code	TAP- 2197	TAP- 4430	TAP- 6979	TAP- 8816
Volume (m <sup>3</sup> )	3702	3673	3749	3787
Sr-89	< 0.0010	< 0.0005	< 0.0006	< 0.0005
Sr-90	< 0.0007	< 0.0003	< 0.0003	< 0.0005
Be-7	0.075 ± 0.015	0.119 ± 0.019	0.093 ± 0.013	0.053 ± 0.012
K-40	< 0.021	< 0.030	< 0.024	< 0.024
Nb-95	< 0.0007	< 0.0010	< 0.0008	< 0.0012
Zr-95	< 0.0014	< 0.0018	< 0.0012	< 0.0011
Ru-103	< 0.0010	< 0.0009	< 0.0007	< 0.0009
Ru-106	< 0.0051	< 0.0068	< 0.0039	< 0.0025
Cs-134	< 0.0008	< 0.0003	< 0.0006	< 0.0006
Cs-137	< 0.0006	< 0.0006	< 0.0006	< 0.0006
Ce-141	< 0.0009	< 0.0019	< 0.0007	< 0.0014
Ce-144	< 0.0023	< 0.0033	< 0.0044	< 0.0023

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

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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- 2199	TAP- 4431	TAP- 6980	TAP- 8817	
Volume (m <sup>3</sup> )	3637	3647	3692	3773	
Sr-89	< 0.0006	< 0.0005	< 0.0009	< 0.0005	
Sr-90	< 0.0003	< 0.0003	< 0.0004	< 0.0004	
Be-7	0.077 ± 0.014	0.119 ± 0.018	0.084 ± 0.015	0.067 ± 0.014	
K-40	< 0.022	< 0.030	< 0.022	< 0.024	
Nb-95	< 0.0010	< 0.0007	< 0.0005	< 0.0007	
Zr-95	< 0.0011	< 0.0015	< 0.0011	< 0.0020	
Ru-103	< 0.0007	< 0.0007	< 0.0005	< 0.0008	
Ru-106	< 0.0060	< 0.0069	< 0.0043	< 0.0046	
Cs-134	< 0.0009	< 0.0005	< 0.0007	< 0.0007	
Cs-137	< 0.0005	< 0.0008	< 0.0003	< 0.0009	
Ce-141	< 0.0015	< 0.0018	< 0.0014	< 0.0015	
Ce-144	< 0.0046	< 0.0055	< 0.0034	< 0.0029	

Location		T-27 (C)			
Quarter	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter	
Lab Code	TAP- 2200	TAP- 4432	TAP- 6981	TAP- 8818	
Volume (m <sup>3</sup> )	3653	3668	3698	3741	
Sr-89	< 0.0006	< 0.0005	< 0.0007	< 0.0005	
Sr-90	< 0.0004	< 0.0003	< 0.0004	< 0.0004	
Be-7	0.087 ± 0.017	0.113 ± 0.017	0.074 ± 0.016	0.065 ± 0.014	
K-40	< 0.026	< 0.027	< 0.025	< 0.024	
Nb-95	< 0.0009	< 0.0009	< 0.0005	< 0.0005	
Zr-95	< 0.0007	< 0.0022	< 0.0011	< 0.0010	
Ru-103	< 0.0007	< 0.0006	< 0.0008	< 0.0010	
Ru-106	< 0.0056	< 0.0086	< 0.0018	< 0.0042	
Cs-134	< 0.0009	< 0.0005	< 0.0009	< 0.0005	
Cs-137	< 0.0007	< 0.0006	< 0.0004	< 0.0006	
Ce-141	< 0.0014	< 0.0013	< 0.0010	< 0.0014	
Ce-144	< 0.0034	< 0.004	< 0.0020	< 0.0022	

TOLEDO

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	11.1 ± 0.6	8.7 ± 1.9	11.6 ± 1.0	12.5 ± 1.2
T-2	13.2 ± 0.5	10.8 ± 1.9	13.5 ± 0.9	14.3 ± 0.5
T-3	13.6 ± 0.9	10.6 ± 2.0	14.5 ± 1.0	14.4 ± 1.0
T-4	12.9 ± 0.6	10.3 ± 1.9	13.5 ± 0.6	13.5 ± 0.5
T-5	14.6 ± 0.7	12.3 ± 1.9	15.4 ± 0.8	16.0 ± 0.5
T-6	12.6 ± 0.6	10.4 ± 2.0	13.7 ± 1.0	13.5 ± 0.5
T-7	18.4 ± 0.5	15.4 ± 2.0	20.6 ± 1.0	19.9 ± 0.7
T-8	23.3 ± 1.2	19.2 ± 1.9	26.1 ± 1.4	24.5 ± 0.6
T-10	15.7 ± 0.6	13.4 ± 1.9	16.8 ± 0.8	17.5 ± 0.8
T-38	11.5 ± 0.5	10.6 ± 2.1	12.5 ± 0.8	14.2 ± 1.0
T-39	12.7 ± 0.8	10.5 ± 1.9	13.7 ± 1.0	13.1 ± 0.5
T-40	15.2 ± 0.5	13.5 ± 2.1	16.6 ± 0.6	16.6 ± 0.5
T-41	9.6 ± 0.6	10.9 ± 1.9	11.3 ± 1.0	14.3 ± 0.5
T-42	13.2 ± 0.9	10.7 ± 2.0	14.5 ± 1.2	13.7 ± 0.9
T-43	17.0 ± 0.9	14.1 ± 2.0	18.7 ± 1.0	17.6 ± 0.6
T-44	19.1 ± 0.9	16.4 ± 2.0	21.0 ± 1.2	20.1 ± 0.8
T-45	21.7 ± 0.6	19.6 ± 2.0	24.7 ± 0.7	24.0 ± 0.6
T-46	13.9 ± 0.8	11.7 ± 2.0	15.1 ± 1.0	14.8 ± 0.8
T-47	11.4 ± 0.9	7.7 ± 1.9	14.4 ± 1.4	10.8 ± 0.6
T-48	12.5 ± 0.4	11.5 ± 2.9	14.1 ± 0.6	13.5 ± 0.4
T-49	13.0 ± 0.6	10.8 ± 1.9	14.8 ± 0.8	ND <sup>a</sup>
T-50	13.5 ± 0.6	14.8 ± 2.2	15.4 ± 0.8	18.3 ± 1.3
T-51	17.8 ± 1.6	17.3 ± 2.5	20.6 ± 2.1	22.3 ± 1.1
T-52	18.1 ± 1.1	16.1 ± 2.0	21.2 ± 1.3	19.8 ± 0.7
T-53	16.2 ± 0.4	ND <sup>a</sup>	19.2 ± 0.7	16.5 ± 1.3
T-54	17.4 ± 0.6	16.2 ± 2.1	20.4 ± 0.7	20.2 ± 0.7
T-55	14.1 ± 1.0	13.7 ± 2.0	16.2 ± 1.4	17.0 ± 0.5
T-60	11.0 ± 0.6	10.7 ± 1.5	14.1 ± 1.8	12.7 ± 1.1
T-62	12.2 ± 0.6	11.1 ± 0.9	12.8 ± 0.6	11.9 ± 0.7
T-65	18.6 ± 0.4	17.1 ± 0.7	19.6 ± 0.9	18.1 ± 0.7
T-66	20.6 ± 0.6	19.3 ± 1.0	21.9 ± 0.7	21.4 ± 1.0
T-67	22.1 ± 0.7	18.0 ± 0.8	23.1 ± 0.6	20.5 ± 0.8
T-68	18.7 ± 0.5	17.7 ± 2.0	18.4 ± 0.8	17.4 ± 0.9
T-69	18.7 ± 0.5	17.0 ± 0.5	19.9 ± 0.7	18.7 ± 0.6
T-71	19.4 ± 0.4	17.4 ± 1.3	19.6 ± 0.4	15.8 ± 0.9
T-73	15.7 ± 1.3	13.0 ± 0.7	15.8 ± 1.4	14.3 ± 0.8
T-74	17.4 ± 0.5	15.9 ± 0.9	17.7 ± 0.7	17.4 ± 1.1
T-75	16.3 ± 0.4	14.3 ± 0.6	17.7 ± 0.5	16.3 ± 0.6
T-76	13.1 ± 0.5	10.8 ± 0.6	13.0 ± 0.5	12.0 ± 0.7
T-91	19.6 ± 1.3	18.0 ± 1.0	21.0 ± 1.1	18.2 ± 1.1
T-92	11.5 ± 0.3	13.8 ± 0.6	12.1 ± 0.5	15.6 ± 0.8

<sup>a</sup> ND = No Data, TLD lost in the field.

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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	16.0 ± 0.4	14.3 ± 0.7	16.6 ± 0.7	15.8 ± 0.8
T-94	17.4 ± 0.8	16.0 ± 1.1	19.2 ± 1.2	18.4 ± 1.2
T-112	13.9 ± 0.9	15.2 ± 0.6	15.9 ± 0.6	12.0 ± 0.7
T-121	19.0 ± 1.2	19.7 ± 0.9	21.1 ± 1.6	20.6 ± 0.9
T-122	15.4 ± 1.6	15.4 ± 0.6	16.9 ± 1.6	16.4 ± 0.6
T-123	17.5 ± 1.2	17.7 ± 0.7	19.7 ± 1.4	19.1 ± 0.8
T-125	15.9 ± 0.9	16.5 ± 0.6	18.4 ± 0.9	17.7 ± 0.6
T-126	16.6 ± 0.4	15.7 ± 0.9	18.7 ± 0.9	17.2 ± 1.0
T-127	17.9 ± 0.4	19.0 ± 1.0	20.6 ± 0.5	20.2 ± 1.0
T-128	18.9 ± 1.6	18.7 ± 0.7	20.8 ± 2.0	19.9 ± 0.6
T-142	12.1 ± 0.5	11.3 ± 0.6	13.1 ± 0.6	12.6 ± 0.6
T-150	13.2 ± 0.9	13.0 ± 1.0	14.6 ± 0.9	14.6 ± 0.9
T-151	16.5 ± 0.6	17.4 ± 0.7	19.0 ± 0.7	19.7 ± 1.2
T-153	17.6 ± 0.4	15.5 ± 0.6	19.5 ± 0.5	16.8 ± 0.7
T-154	15.2 ± 0.8	17.6 ± 0.6	15.7 ± 0.8	15.5 ± 0.8
T-201	12.6 ± 0.9	11.8 ± 0.3	13.2 ± 1.1	13.2 ± 0.5
T-202	15.0 ± 1.2	13.2 ± 0.5	14.4 ± 1.3	14.7 ± 1.0
T-203	14.9 ± 1.1	13.8 ± 0.9	14.5 ± 1.1	15.7 ± 1.0
T-204	12.8 ± 1.1	11.4 ± 0.7	12.9 ± 1.1	13.2 ± 1.0
T-205	11.4 ± 1.1	9.7 ± 0.3	10.8 ± 1.1	11.2 ± 0.6
T-206	10.5 ± 1.0	9.9 ± 0.3	10.4 ± 1.1	11.5 ± 0.6
T-207	9.7 ± 1.2	6.9 ± 0.4	9.6 ± 1.4	8.1 ± 0.6
T-208	11.0 ± 1.8	9.8 ± 0.4	11.4 ± 2.0	11.2 ± 0.7
T-211	12.8 ± 0.7	10.5 ± 2.7	12.2 ± 0.7	11.0 ± 0.3
T-212	11.8 ± 0.4	10.6 ± 0.7	11.6 ± 0.5	12.5 ± 0.7
T-213	18.7 ± 0.6	18.0 ± 3.3	20.1 ± 0.7	19.3 ± 0.5
T-214	18.7 ± 0.8	10.1 ± 0.7	20.9 ± 0.6	20.5 ± 0.6
T-215	20.3 ± 0.8	15.9 ± 0.7	20.5 ± 0.9	18.5 ± 0.7
T-216	19.1 ± 0.7	16.1 ± 1.1	20.3 ± 1.2	18.0 ± 1.2
T-217	20.5 ± 0.6	18.4 ± 1.5	22.5 ± 0.8	20.9 ± 1.3
T-218	20.8 ± 1.1	18.4 ± 0.7	22.8 ± 1.0	21.0 ± 0.8
T-219	17.0 ± 1.2	15.4 ± 1.4	18.4 ± 1.2	18.6 ± 0.8
T-220	19.8 ± 1.1	18.4 ± 1.4	21.8 ± 1.2	20.7 ± 1.8
T-222	12.7 ± 0.9	11.1 ± 0.6	13.5 ± 0.9	12.8 ± 0.7
T-223	13.6 ± 0.7	13.4 ± 0.4	14.0 ± 0.7	15.4 ± 0.5
T-224	16.2 ± 0.6	13.1 ± 0.4	17.2 ± 0.7	15.2 ± 0.6
Mean ± s.d.	15.6 ± 3.3	14.1 ± 3.3	16.9 ± 3.8	16.4 ± 3.4

<sup>a</sup> A duplicate sample was received from this location; second dosimeter reading, 15.5 ± 0.6.

TOLEDO

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	13.5 ± 0.5	11.7 ± 1.9	15.1 ± 0.9	15.5 ± 0.8
T-11	13.4 ± 0.5	10.5 ± 1.9	13.9 ± 0.6	13.9 ± 0.7
T-12	19.6 ± 0.6	16.7 ± 2.0	22.2 ± 1.5	20.8 ± 0.7
T-24	17.7 ± 0.8	15.4 ± 1.9	19.8 ± 0.9	19.5 ± 0.4
T-27	18.9 ± 0.7	16.4 ± 1.9	20.5 ± 0.9	20.5 ± 0.6
Mean ± s.d.	16.6 ± 3.0	14.1 ± 2.8	18.3 ± 3.6	18.0 ± 3.1
T-95	17.2 ± 0.5	15.7 ± 0.7	18.6 ± 0.8	17.2 ± 0.8
T-100	16.8 ± 1.5	15.5 ± 0.9	18.0 ± 1.7	16.1 ± 1.1
T-111	17.5 ± 2.0	17.5 ± 0.6	19.3 ± 2.1	18.9 ± 0.8
T-124	16.0 ± 0.9	15.1 ± 1.6	17.3 ± 0.8	16.1 ± 1.6
T-155	12.4 ± 0.7	12.4 ± 0.7	13.2 ± 0.8	13.7 ± 0.8
T-221	16.6 ± 0.9	16.5 ± 1.1	18.0 ± 1.0	18.8 ± 1.2
Mean ± s.d.	16.1 ± 1.9	15.5 ± 1.7	17.4 ± 2.2	16.8 ± 2.0
<u>QC</u>				
T-80	10.2 ± 0.5	9.2 ± 0.5	10.4 ± 0.7	10.2 ± 0.6
T-81	17.7 ± 0.5	16.0 ± 0.6	18.4 ± 0.8	17.7 ± 0.7
T-82	10.6 ± 0.4	9.4 ± 0.6	10.2 ± 0.5	10.4 ± 0.7
T-83	9.4 ± 0.5	10.0 ± 0.9	10.0 ± 0.6	11.4 ± 1.0
T-84	12.2 ± 0.9	10.3 ± 0.6	11.9 ± 1.0	11.6 ± 0.7
T-85	14.6 ± 0.5	12.9 ± 0.9	14.4 ± 0.6	14.1 ± 0.9
T-86	21.4 ± 1.0	19.4 ± 0.8	22.4 ± 1.0	21.6 ± 1.0
T-88	14.8 ± 0.9	18.5 ± 0.8	15.8 ± 1.2	18.4 ± 0.9
T-89	17.9 ± 0.6	16.3 ± 0.8	19.9 ± 0.5	18.7 ± 0.9
T-113	15.0 ± 0.5	15.3 ± 0.8	16.6 ± 1.0	15.7 ± 0.8
T-114	13.5 ± 0.6	13.4 ± 0.9	14.5 ± 0.6	13.8 ± 0.8
T-115	12.5 ± 0.8	9.6 ± 0.5	13.2 ± 0.9	16.1 ± 0.6
T-116	15.8 ± 0.6	16.6 ± 1.1	16.8 ± 0.7	17.5 ± 0.9
T-117	13.4 ± 1.2	16.0 ± 3.6	14.5 ± 1.0	14.6 ± 1.8
T-118	14.7 ± 0.8	15.1 ± 1.0	16.1 ± 1.1	15.7 ± 1.1
T-119	13.3 ± 0.6	13.0 ± 0.7	15.0 ± 0.7	13.7 ± 0.6
T-120	11.7 ± 0.5	10.8 ± 0.6	12.7 ± 0.7	11.8 ± 0.8
T-200	12.1 ± 1.0	11.2 ± 2.3	13.7 ± 1.1	13.7 ± 0.9
Mean ± s.d.	13.9 ± 3.0	13.5 ± 3.3	14.8 ± 3.3	14.8 ± 3.2
<u>Shield</u>				
T-87	7.9 ± 0.7	7.2 ± 0.8	7.5 ± 0.7	7.6 ± 0.8

TOLEDO

Table 14. Area monitors (TLD), Annual.

Units: mR/365 days

<u>Indicator</u>	<u>2007</u>
T-1	42.0 ± 1.0
T-2	52.7 ± 1.4
T-3	51.6 ± 1.8
T-4	45.1 ± 1.5
T-5	56.8 ± 1.4
T-6	48.1 ± 1.1
T-7	68.3 ± 4.8
T-8	89.9 ± 2.1
T-10	63.1 ± 2.8
T-38	47.6 ± 1.3
T-39	46.6 ± 1.6
T-40	61.7 ± 1.7
T-41	42.8 ± 1.3
T-42	49.4 ± 2.0
T-43	64.5 ± 1.7
T-44	75.2 ± 3.2
T-45	87.2 ± 3.9
T-46	54.7 ± 2.7
T-47	36.5 ± 1.2
T-48	45.5 ± 1.4
T-49	ND <sup>a</sup>
T-50	65.8 ± 2.1
T-51	78.9 ± 1.4
T-52	72.8 ± 2.7
T-53	ND <sup>a</sup>
T-54	78.4 ± 2.2
T-55	62.7 ± 4.8
T-60	53.8 ± 3.8
T-62	47.4 ± 3.0
T-65	75.3 ± 5.1
T-66	79.5 ± 2.4
T-67	79.8 ± 2.2
T-68	66.2 ± 1.4
T-69	71.7 ± 2.0
T-71	68.0 ± 2.1
T-73	55.6 ± 1.3
T-74	65.7 ± 2.2
T-75	64.6 ± 3.7
T-76	49.9 ± 2.0
T-91	75.6 ± 1.5
T-92	50.5 ± 1.9

<sup>a</sup>"ND" = No data; TLD missing in field.

TOLEDO

Table 14. Area monitors (TLD), Annual.

Units: mR/365 days

<u>Indicator</u>	<u>2007</u>
T-93	62.3 ± 1.6
T-94	72.0 ± 2.0
T-112	54.4 ± 1.7
T-121	78.0 ± 1.9
T-122	60.2 ± 2.2
T-123	69.8 ± 2.2
T-125	64.0 ± 1.7
T-126	61.9 ± 1.7
T-127	73.7 ± 1.8
T-128	75.2 ± 6.2
T-142	42.2 ± 1.6
T-150	53.8 ± 1.8
T-151	71.5 ± 1.6
T-153	73.4 ± 1.8
T-154	61.7 ± 1.7
T-201	53.6 ± 2.6
T-202	54.7 ± 2.9
T-203	56.2 ± 2.7
T-204	44.7 ± 2.8
T-205	42.4 ± 2.9
T-206	41.6 ± 2.6
T-207	39.6 ± 2.5
T-208	43.3 ± 2.6
T-211	38.4 ± 2.6
T-212	37.7 ± 1.2
T-213	61.6 ± 2.6
T-214	40.3 ± 1.8
T-215	65.0 ± 2.3
T-216	59.3 ± 2.8
T-217	68.4 ± 1.5
T-218	72.6 ± 2.1
T-219	54.5 ± 2.2
T-220	66.2 ± 2.6
T-222	45.1 ± 1.6
T-223	47.8 ± 1.6
T-224	50.7 ± 2.7
Mean ± s.d.	59.3 ± 13.1

TOLEDO

Table 14. Area monitors (TLD), Annual.

Units: mR/365 days

<u>Control</u>	<u>2007</u>
T-9	54.8 ± 1.0
T-11	46.6 ± 0.9
T-12	78.7 ± 2.1
T-24	75.5 ± 2.1
T-27	81.9 ± 1.8
Mean ± s.d.	67.5 ± 15.8
T-95	68.9 ± 3.2
T-100	62.1 ± 2.1
T-111	64.7 ± 2.7
T-124	59.1 ± 4.6
T-155	52.1 ± 2.2
T-221	60.2 ± 2.1
Mean ± s.d.	61.2 ± 5.7
<u>QC</u>	
T-80	44.9 ± 1.6
T-81	69.8 ± 1.4
T-82	44.3 ± 1.2
T-83	41.7 ± 1.6
T-84	49.2 ± 1.8
T-85	53.8 ± 2.9
T-86	82.1 ± 4.3
T-88	66.7 ± 2.2
T-89	50.2 ± 4.3
T-113	59.8 ± 2.4
T-114	54.6 ± 2.0
T-115	40.8 ± 1.6
T-116	67.4 ± 1.3
T-117	56.8 ± 1.3
T-118	63.0 ± 1.3
T-119	54.5 ± 2.2
T-120	46.0 ± 1.3
T-200	49.8 ± 2.6
Mean ± s.d.	55.3 ± 11.1
<u>Shield</u>	
T-87	27.1 ± 1.2

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	01-31-07	02-28-07	03-28-07	04-25-07
Lab Code	TMI- 642	TMI- 1116	TMI- 1719	TMI- 2321
I-131	< 0.3	< 0.2	< 0.3	< 0.2
Sr-89	< 0.5	< 0.5	< 0.6	< 0.7
Sr-90	0.7 ± 0.3	0.9 ± 0.3	0.7 ± 0.4	0.9 ± 0.4
K-40	1315 ± 105	1341 ± 112	1415 ± 108	1397 ± 126
Cs-134	< 3.0	< 2.3	< 2.6	< 3.6
Cs-137	< 4.3	< 3.4	< 3.0	< 4.2
Ba-La-140	< 3.1	< 2.2	< 1.9	< 3.5
Ca (g/L)	1.42	1.04	1.27	1.26
Sr-90/g Ca	0.49	0.87	0.55	0.71
K (g/L)	1.52 ± 0.12	1.55 ± 0.13	1.64 ± 0.12	1.62 ± 0.15
Cs-137/g K	< 2.83	< 2.19	< 1.83	< 2.59
Date Collected	05-30-07	06-27-07	08-01-07	08-29-07
Lab Code	TMI- 3225	TMI- 3966	TMI- 5016	TMI- 5774
I-131	< 0.4	< 0.4	< 0.3	< 0.3
Sr-89	< 0.6	< 0.7	< 0.5	< 0.6
Sr-90	0.7 ± 0.3	< 0.7	1.0 ± 0.4	0.9 ± 0.4
K-40	1342 ± 113	1401 ± 128	1449 ± 113	1461 ± 110
Cs-134	< 3.3	< 4.2	< 2.7	< 2.8
Cs-137	< 4.3	< 3.9	< 3.1	< 2.5
Ba-La-140	< 2.5	< 2.3	< 3.3	< 4.7
Ca (g/L)	1.25	1.21	1.32	1.30
Sr-90/g Ca	0.56	< 0.58	0.76	0.69
K (g/L)	1.55 ± 0.13	1.62 ± 0.15	1.68 ± 0.13	1.69 ± 0.13
Cs-137/g K	< 2.77	< 2.41	< 1.85	< 1.48
Date Collected	09-26-07	10-31-07	11-28-07	12-27-07
Lab Code	TMI- 6541	TMI- 7621	TMI- 8112	TMI- 8623
I-131	< 0.2	< 0.3	< 0.4	< 0.4
Sr-89	< 0.7	< 1.0	< 0.8	< 0.7
Sr-90	0.9 ± 0.4	0.8 ± 0.4	< 0.5	0.9 ± 0.4
K-40	1394 ± 120	1338 ± 111	1314 ± 104	1331 ± 119
Cs-134	< 2.6	< 2.9	< 3.5	< 2.3
Cs-137	< 2.9	< 2.7	< 4.3	< 4.5
Ba-La-140	< 5.5	< 4.8	< 4.6	< 1.8
Ca (g/L)	1.54	1.16	1.62	1.40
Sr-90/g Ca	0.58	0.69	< 0.31	0.64
K (g/L)	1.61 ± 0.14	1.55 ± 0.13	1.52 ± 0.12	1.54 ± 0.14
Cs-137/g K	< 1.80	< 1.74	< 2.83	< 2.92

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- 3345	TWW- 5118	TWW- 6835	Req. LLD
Date Collected	-	05-31-07	07-13-07	10-05-07	
Gross beta	-	< 1.8	< 1.8	3.6 ± 1.2	4.0
H-3	-	< 330	< 330	< 330	330
Sr-89	-	< 0.7	< 1.1	< 0.8	
Sr-90	-	< 0.6	< 0.5	< 0.5	
Mn-54	-	< 4.5	< 2.8	< 3.4	15
Fe-59	-	< 9.1	< 5.6	< 3.2	30
Co-58	-	< 4.1	< 2.2	< 4.4	15
Co-60	-	< 3.0	< 2.1	< 2.1	15
Zn-65	-	< 7.3	< 3.9	< 6.9	30
Zr-Nb-95	-	< 4.4	< 3.7	< 6.2	15
Cs-134	-	< 3.4	< 2.8	< 4.6	15
Cs-137	-	< 4.1	< 1.7	< 6.1	18
Ba-La-140	-	< 6.3	< 8.9	< 8.5	15
Location	T-226 (I)				
Lab Code	TWW- 1749	TWW- 3347	TWW- 5120	TWW- 6837	Req. LLD
Date Collected	03-28-07	05-31-07	07-13-07	10-05-07	
Gross beta	3.3 ± 1.2	< 1.9	< 1.7	3.0 ± 1.2	4.0
H-3	< 330	< 330	< 330	< 330	330
Sr-89	< 0.5	< 0.9	< 1.4	< 0.8	
Sr-90	< 0.6	< 0.5	< 0.6	< 0.5	
Mn-54	< 2.2	< 2.2	< 2.4	< 3.2	15
Fe-59	< 2.8	< 7.2	< 4.8	< 5.2	30
Co-58	< 2.2	< 3.3	< 2.9	< 2.0	15
Co-60	< 2.6	< 2.6	< 2.2	< 1.6	15
Zn-65	< 5.8	< 6.1	< 2.0	< 5.0	30
Zr-Nb-95	< 2.8	< 4.3	< 3.2	< 2.8	15
Cs-134	< 3.9	< 3.1	< 2.2	< 2.9	15
Cs-137	< 3.0	< 3.6	< 3.9	< 3.9	18
Ba-La-140	< 3.9	< 2.7	< 6.1	< 2.8	15

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-141 (QC)				
Lab Code	TWW- 1748	TWW- 3346	TWW- 5119	TWW- 6836	Req. LLD
Date Collected	03-28-07	05-31-07	07-13-07	10-05-07	
Gross beta	< 1.7	< 2.1	< 1.6	2.2 ± 1.0	4.0
H-3	< 330	< 330	< 330	< 330	330
Sr-89	< 0.6	< 0.5	< 1.1	< 0.9	
Sr-90	1.1 ± 0.4	< 0.5	< 0.4	< 0.5	
Mn-54	< 3.7	< 2.0	< 2.5	< 3.6	15
Fe-59	< 2.6	< 5.3	< 5.2	< 4.2	30
Co-58	< 3.1	< 1.6	< 2.3	< 2.2	15
Co-60	< 0.9	< 2.9	< 2.6	< 5.8	15
Zn-65	< 3.7	< 4.0	< 4.9	< 4.8	30
Zr-Nb-95	< 3.0	< 3.1	< 3.8	< 4.0	15
Cs-134	< 1.7	< 3.5	< 2.7	< 2.9	15
Cs-137	< 3.0	< 3.6	< 3.2	< 4.4	18
Ba-La-140	< 2.3	< 3.1	< 4.6	< 7.6	15

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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- 8720	TWL- 7922
Date Collected	12-30-07	11-14-07
Sample Type	Muskrat	Muskrat
Be-7	< 0.14	< 0.048
K-40	2.35 ± 0.28	2.25 ± 0.15
Nb-95	< 0.012	< 0.004
Zr-95	< 0.015	< 0.009
Ru-103	< 0.026	< 0.005
Ru-106	< 0.062	< 0.049
Cs-134	< 0.008	< 0.005
Cs-137	< 0.010	< 0.005
Ce-141	< 0.034	< 0.013
Ce-144	< 0.079	< 0.047

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- 5021	TVE- 5773		
Date Collected	07-25-07	08-28-07		
Sample Type	Cabbage	Cabbage		
Sr-89	< 0.003	< 0.002		
Sr-90	< 0.002	< 0.001		
I-131	< 0.026	< 0.016		
K-40	2.42 ± 0.26	1.67 ± 0.24		
Nb-95	< 0.008	< 0.011		
Zr-95	< 0.016	< 0.012		
Cs-134	< 0.004	< 0.005		
Cs-137	< 0.006	< 0.010		
Ce-141	< 0.031	< 0.016		
Ce-144	< 0.091	< 0.046		

Location	T-19 (I)			
Lab Code	TVE- 5019	TVE- 5771	TVE- 6542	TVE- 7622
Date Collected	07-25-07	08-28-07	09-25-07	10-30-07
Sample Type	Cabbage	Cabbage	Vegetation	Cabbage
Sr-89	< 0.003	< 0.002	< 0.002	< 0.003
Sr-90	< 0.002	< 0.001	0.004 ± 0.001	0.008 ± 0.001
I-131	< 0.026	< 0.024	< 0.016	< 0.017
K-40	2.16 ± 0.24	1.90 ± 0.24	2.10 ± 0.21	2.71 ± 0.24
Nb-95	< 0.011	< 0.006	< 0.009	< 0.009
Zr-95	< 0.010	< 0.014	< 0.018	< 0.010
Cs-134	< 0.006	< 0.008	< 0.008	< 0.009
Cs-137	< 0.008	< 0.006	< 0.008	< 0.009
Ce-141	< 0.012	< 0.020	< 0.017	< 0.016
Ce-144	< 0.061	< 0.071	< 0.036	< 0.069

Location	T-37 (C)			
Lab Code	TVE- 5020	TVE- 5772	TVE- 6543	TVE- 7623
Date Collected	07-24-07	08-28-07	09-25-07	10-30-07
Sample Type	Cabbage	Cabbage	Vegetation	Cabbage
Sr-89	< 0.002	< 0.002	< 0.002	< 0.002
Sr-90	< 0.001	< 0.001	0.001 ± 0.001	< 0.001
I-131	< 0.028	< 0.023	< 0.022	< 0.010
K-40	2.43 ± 0.26	1.44 ± 0.32	1.59 ± 0.26	1.68 ± 0.20
Nb-95	< 0.011	< 0.006	< 0.008	< 0.006
Zr-95	< 0.027	< 0.021	< 0.018	< 0.009
Cs-134	< 0.008	< 0.011	< 0.013	< 0.006
Cs-137	< 0.011	< 0.013	< 0.011	< 0.005
Ce-141	< 0.019	< 0.029	< 0.024	< 0.015
Ce-144	< 0.073	< 0.054	< 0.079	< 0.060

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- 6174	TVE- 6175
Date Collected	09-12-07	09-12-07
Sample Type	Apples	Apples
Sr-89	< 0.004	< 0.003
Sr-90	< 0.002	0.002 ± 0.001
I-131	< 0.057	< 0.044
K-40	1.38 ± 0.18	1.22 ± 0.17
Nb-95	< 0.010	< 0.009
Zr-95	< 0.012	< 0.011
Cs-134	< 0.009	< 0.006
Cs-137	< 0.008	< 0.007
Ce-141	< 0.022	< 0.018
Ce-144	< 0.067	< 0.036

Location	T-209 (C)
Lab Code	TVE- 6176
Date Collected	09-12-07
Sample Type	Apples
Sr-89	< 0.004
Sr-90	< 0.002
I-131	< 0.031
K-40	1.24 ± 0.17
Nb-95	< 0.010
Zr-95	< 0.008
Cs-134	< 0.007
Cs-137	< 0.008
Ce-141	< 0.013
Ce-144	< 0.045

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- 5928	TCF- 5930
Date Collected	09-05-07	09-05-07
Sample Type	Cattails	Cattails
Be-7	1.13 ± 0.09	0.30 ± 0.09
K-40	4.14 ± 0.16	4.05 ± 0.17
Nb-95	< 0.010	< 0.006
Zr-95	< 0.012	< 0.015
Ru-103	< 0.006	< 0.005
Ru-106	< 0.034	< 0.058
Cs-134	< 0.005	< 0.005
Cs-137	< 0.007	< 0.005
Ce-141	< 0.022	< 0.015
Ce-144	< 0.057	< 0.049
Control		
Location	T-32	
Lab Code	TCF- 5929	
Date Collected	09-05-07	
Sample Type	Cattails	
Be-7	0.41 ± 0.17	
K-40	2.90 ± 0.36	
Nb-95	< 0.015	
Zr-95	< 0.020	
Ru-103	< 0.014	
Ru-106	< 0.125	
Cs-134	< 0.011	
Cs-137	< 0.014	
Ce-141	< 0.028	
Ce-144	< 0.074	

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- 2588	TSO- 2589	TSO- 2590	TSO- 2591
Date Collected	04-24-07	04-24-07	04-24-07	04-24-07
Be-7	< 0.27	< 0.55	< 0.34	< 0.37
K-40	10.87 ± 0.63	4.88 ± 0.62	6.61 ± 0.54	16.35 ± 1.06
Mn-54	< 0.026	< 0.030	< 0.022	< 0.037
Nb-95	< 0.033	< 0.085	< 0.050	< 0.099
Zr-95	< 0.042	< 0.074	< 0.030	< 0.099
Ru-103	< 0.026	< 0.065	< 0.045	< 0.077
Ru-106	< 0.124	< 0.225	< 0.105	< 0.279
Cs-134	< 0.017	< 0.030	< 0.017	< 0.043
Cs-137	0.10 ± 0.030	0.055 ± 0.030	< 0.020	< 0.022
Ce-141	< 0.055	< 0.173	< 0.101	< 0.161
Ce-144	< 0.126	< 0.211	< 0.127	< 0.199

Location	T-7	T-8
Lab Code	TSO- 2592	TSO- 2593
Date Collected	04-24-07	04-24-07
Be-7	< 0.46	< 0.60
K-40	6.12 ± 0.61	23.36 ± 1.03
Mn-54	< 0.022	< 0.036
Nb-95	< 0.063	< 0.141
Zr-95	< 0.054	< 0.085
Ru-103	< 0.076	< 0.081
Ru-106	< 0.171	< 0.369
Cs-134	< 0.030	< 0.046
Cs-137	< 0.023	0.206 ± 0.057
Ce-141	< 0.128	< 0.212
Ce-144	< 0.156	< 0.255

Location	T-9	T-11	T-12	T-27
Lab Code	TSO- 2594	TSO- 2595	TSO- 2596	TSO- 2597
Date Collected	04-24-07	04-24-07	04-24-07	04-24-07
Be-7	1.09 ± 0.63	< 0.37	< 0.33	< 0.68
K-40	20.18 ± 1.04	17.29 ± 0.82	18.16 ± 0.85	20.42 ± 1.21
Mn-54	< 0.029	< 0.029	< 0.032	< 0.052
Nb-95	< 0.053	< 0.055	< 0.081	< 0.151
Zr-95	< 0.045	< 0.058	< 0.066	< 0.110
Ru-103	< 0.057	< 0.023	< 0.052	< 0.069
Ru-106	< 0.176	< 0.155	< 0.126	< 0.303
Cs-134	< 0.018	< 0.019	< 0.041	< 0.053
Cs-137	0.26 ± 0.042	0.096 ± 0.029	0.198 ± 0.036	0.185 ± 0.068
Ce-141	< 0.135	< 0.128	< 0.134	< 0.179
Ce-144	< 0.162	< 0.182	< 0.163	< 0.235

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
T SWT- 664	01-30-07	2.2 ± 0.6	T SWT- 665	01-30-07	3.6 ± 0.6
T SWT- 1152	02-27-07	2.5 ± 0.4	T SWT- 1153	02-27-07	2.0 ± 0.4
T SWT- 1727	03-27-07	1.8 ± 0.4	T SWT- 1728	03-27-07	1.9 ± 0.4
T SWT- 2464	04-24-07	2.2 ± 0.4	T SWT- 2465	04-24-07	1.3 ± 0.3
T SWT- 3253	05-29-07	1.5 ± 0.4	T SWT- 3254	05-29-07	1.6 ± 0.3
T SWT- 4260	06-26-07	1.3 ± 0.2	T SWT- 4261	06-26-07	0.9 ± 0.2
T SWT- 5113	07-31-07	1.4 ± 0.5	T SWT- 5114	07-31-07	1.2 ± 0.6
T SWT- 5788	08-28-07	2.3 ± 1.0	T SWT- 5789	08-28-07	1.8 ± 1.1
T SWT- 6546	09-25-07	2.7 ± 1.1	T SWT- 6547	09-25-07	2.1 ± 0.9
T SWT- 7705	10-30-07	3.3 ± 1.1	T SWT- 7706	10-30-07	1.4 ± 0.9
T SWT- 8113	11-27-07	1.5 ± 0.4	T SWT- 8114	11-27-07	1.0 ± 0.4
T SWT- 8651	12-26-07	1.5 ± 0.6	T SWT- 8652	12-26-07	1.6 ± 0.6

T-22			T-50		
Lab Code	Date Collected	Gross Beta	Lab Code	Date Collected	Gross Beta
T SWT- 666	01-30-07	3.4 ± 0.7	T SWT- 667	01-30-07	2.3 ± 0.6
T SWT- 1154	02-27-07	2.6 ± 0.4	T SWT- 1155	02-27-07	2.0 ± 0.4
T SWT- 1729	03-27-07	2.4 ± 0.4	T SWT- 1730	03-27-07	2.3 ± 0.4
T SWT- 2466	04-24-07	1.9 ± 0.4	T SWT- 2467	04-24-07	2.3 ± 0.4
T SWT- 3255	05-29-07	1.3 ± 0.3	T SWT- 3256	05-29-07	1.4 ± 0.4
T SWT- 4262	06-26-07	1.5 ± 0.3	T SWT- 4263	06-26-07	1.4 ± 0.3
T SWT- 5115	07-31-07	1.2 ± 0.6	T SWT- 5116	07-31-07	2.6 ± 1.1
T SWT- 5790	08-28-07	1.7 ± 1.0	T SWT- 5791	08-28-07	2.8 ± 1.0 <sup>a</sup>
T SWT- 6549	09-25-07	4.5 ± 1.1	T SWT- 6550	09-25-07	2.3 ± 1.0
T SWT- 7707	10-30-07	2.1 ± 1.0	T SWT- 7708	10-30-07	2.4 ± 0.6
T SWT- 8115	11-27-07	1.4 ± 0.4	T SWT- 8116	11-27-07	1.4 ± 0.4
T SWT- 8653	12-26-07	2.4 ± 1.1	T SWT- 8654	12-26-07	1.4 ± 0.6

T-143 (QC)		
Lab Code	Date Collected	Gross Beta
T SWT- 668	01-30-07	2.1 ± 0.6
T SWT- 1156	02-27-07	1.8 ± 0.4
T SWT- 1731	03-27-07	1.7 ± 0.4
T SWT- 2468	04-24-07	2.3 ± 0.6
T SWT- 3257	05-29-07	1.2 ± 0.3
T SWT- 4264	06-26-07	1.3 ± 0.2
T SWT- 5117	07-31-07	1.9 ± 0.6
T SWT- 5792	08-28-07	2.2 ± 1.0
T SWT- 6551	09-25-07	2.6 ± 0.6
T SWT- 7709	10-30-07	1.4 ± 1.1
T SWT- 8117	11-27-07	1.1 ± 0.4
T SWT- 8655	12-26-07	2.9 ± 1.0

<sup>a</sup> Result of reanalysis.<sup>b</sup> Analysis was run in duplicate (T SWT-8656). Result, 3.3 ± 1.1 pCi/L.

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	1st Qtr.	2nd Qtr.	3rd Qtr.	4th Qtr.	Req. LLD
Lab Code	TSWT- 2217	TSWT- 4530	TSWT- 7141	TSWT- 8676	
H-3	< 330	< 330	< 330	< 330	330
Sr-89	< 0.9	< 0.9	< 1.4	< 0.8	
Sr-90	< 0.5	< 0.6	< 0.5	< 0.7	
Mn-54	< 2.8	< 1.9	< 2.8	< 3.0	15
Fe-59	< 9.5	< 9.1	< 5.1	< 4.9	30
Co-58	< 4.0	< 2.5	< 2.8	< 1.9	15
Co-60	< 2.0	< 2.1	< 1.3	< 2.3	15
Zn-65	< 2.5	< 5.3	< 2.9	< 3.7	30
Zr-Nb-95	< 5.2	< 4.5	< 2.2	< 3.4	15
Cs-134	< 2.3	< 2.5	< 2.5	< 2.2	15
Cs-137	< 2.8	< 3.5	< 3.0	< 2.7	18
Ba-La-140	< 12.9	< 8.0	< 5.5	< 4.5	15

Location	T-12 (C)				
Period	1st Qtr.	2nd Qtr.	3rd Qtr.	4th Qtr.	Req. LLD
Lab Code	TSWT- 2218 <sup>a</sup>	TSWT- 4531	TSWT- 7142	TSWT- 8677	
H-3	< 330	< 330	< 330	< 330	330
Sr-89	< 1.0	< 1.5	< 1.1	< 0.6	
Sr-90	< 0.4	< 1.0	< 0.6	< 0.6	
Mn-54	< 2.8	< 3.2	< 2.2	< 1.7	15
Fe-59	< 7.1	< 5.6	< 4.1	< 5.0	30
Co-58	< 2.1	< 3.2	< 2.2	< 2.5	15
Co-60	< 1.3	< 2.3	< 2.2	< 2.1	15
Zn-65	< 3.5	< 4.2	< 3.8	< 4.3	30
Zr-Nb-95	< 4.7	< 3.3	< 2.8	< 4.6	15
Cs-134	< 2.9	< 2.8	< 2.0	< 3.0	15
Cs-137	< 3.4	< 2.4	< 2.7	< 2.9	18
Ba-La-140	< 10.7	< 7.6	< 5.4	< 5.5	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 Lab Code	1st Qtr. TSWT- 2220	2nd Qtr. TSWT- 4532	3rd Qtr. TSWT- 7143	4th Qtr. TSWT- 8678	<u>Req. LLD</u>
H-3	< 330	< 330	< 330	< 330	330
Sr-89	< 0.9	< 0.9	< 1.2	< 0.7	
Sr-90	< 0.4	< 0.5	0.6 ± 0.3	< 0.6	
Mn-54	< 2.1	< 1.9	< 2.3	< 4.2	15
Fe-59	< 6.0	< 7.3	< 3.2	< 6.8	30
Co-58	< 2.9	< 2.2	< 2.9	< 6.5	15
Co-60	< 2.1	< 3.3	< 2.4	< 3.7	15
Zn-65	< 4.9	< 3.0	< 2.6	< 7.8	30
Zr-Nb-95	< 3.6	< 3.6	< 4.4	< 4.0	15
Cs-134	< 3.2	< 3.1	< 1.8	< 5.0	15
Cs-137	< 2.3	< 2.4	< 2.4	< 7.8	18
Ba-La-140	< 6.1	< 6.7	< 6.6	< 9.5	15

Location	T-50				
Period Lab Code	1st Qtr. TSWT- 2221	2nd Qtr. TSWT- 4533	3rd Qtr. TSWT- 7144	4th Qtr. TSWT- 8679	<u>Req. LLD</u>
H-3	< 330	< 330	< 330	< 330	330
Sr-89	< 0.9	< 1.0	< 1.0	< 0.6	
Sr-90	0.4 ± 0.2	< 0.6	< 0.6	1.0 ± 0.4	
Mn-54	< 3.2	< 2.6	< 1.7	< 4.1	15
Fe-59	< 6.7	< 7.0	< 3.0	< 4.1	30
Co-58	< 2.7	< 1.8	< 2.4	< 3.7	15
Co-60	< 2.3	< 1.9	< 2.2	< 4.7	15
Zn-65	< 4.8	< 4.6	< 3.0	< 4.6	30
Zr-Nb-95	< 5.2	< 4.0	< 4.0	< 4.9	15
Cs-134	< 2.2	< 2.4	< 1.9	< 4.7	15
Cs-137	< 2.7	< 3.2	< 1.8	< 5.9	18
Ba-La-140	< 7.8	< 10.2	< 9.2	< 10.6	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- 669	TSWU- 1157	TSWU- 1736	TSWU- 2469	
Date Collected	01-30-07	02-27-07	03-27-07	04-24-07	Req. LLD
Gross beta	5.6 ± 0.8	3.6 ± 0.7	3.1 ± 0.5	3.6 ± 0.5	4.0
H-3	< 330	< 330	< 330	< 330	330
Mn-54	< 3.5	< 2.1	< 4.8	< 2.2	15
Fe-59	< 8.6	< 4.9	< 6.2	< 3.8	30
Co-58	< 3.9	< 1.7	< 3.7	< 2.4	15
Co-60	< 3.6	< 2.5	< 3.2	< 1.0	15
Zn-65	< 6.3	< 3.1	< 5.2	< 4.4	30
Zr-Nb-95	< 5.9	< 2.6	< 4.7	< 2.9	15
Cs-134	< 5.2	< 2.7	< 4.8	< 2.3	15
Cs-137	< 5.8	< 3.0	< 5.7	< 3.6	18
Ba-La-140	< 4.1	< 2.3	< 5.8	< 4.1	15
Lab Code	TSWU- 3258	TSWU- 4265	TSWU- 5125	TSWU- 5793	
Date Collected	05-29-07	06-26-07	07-31-07	08-28-07	Req. LLD
Gross beta	2.5 ± 0.4	1.8 ± 0.3	2.0 ± 1.0	2.9 ± 1.2	4.0
H-3	< 330	< 330	< 330	< 330	330
Mn-54	< 4.5	< 3.3	< 6.1	< 3.9	15
Fe-59	< 5.7	< 3.5	< 7.5	< 6.4	30
Co-58	< 6.0	< 2.3	< 3.1	< 4.3	15
Co-60	< 3.8	< 3.0	< 3.5	< 3.3	15
Zn-65	< 9.4	< 4.7	< 4.7	< 6.7	30
Zr-Nb-95	< 6.0	< 4.0	< 3.5	< 3.5	15
Cs-134	< 4.6	< 2.9	< 4.2	< 5.9	15
Cs-137	< 4.9	< 2.2	< 5.8	< 5.4	18
Ba-La-140	< 3.9	< 5.9	< 6.6	< 7.9	15
Lab Code	TSWU- 6552	TSWU- 7732	TSWU- 8118	TSWU- 8657	
Date Collected	09-25-07	10-30-07	11-27-07	12-26-07	Req. LLD
Gross beta	1.8 ± 0.3	2.4 ± 0.6	3.4 ± 0.5	3.3 ± 0.7	4.0
H-3	< 330	< 330	< 330	< 330	330
Mn-54	< 3.5	< 2.3	< 2.6	< 2.8	15
Fe-59	< 7.2	< 5.7	< 9.2	< 5.9	30
Co-58	< 3.9	< 2.4	< 3.5	< 5.3	15
Co-60	< 3.4	< 2.4	< 3.6	< 3.0	15
Zn-65	< 2.6	< 2.0	< 5.4	< 4.7	30
Zr-Nb-95	< 3.3	< 3.0	< 4.6	< 3.9	15
Cs-134	< 4.5	< 2.0	< 4.2	< 3.7	15
Cs-137	< 5.0	< 2.4	< 4.1	< 5.3	18
Ba-La-140	< 6.9	< 2.8	< 8.8	< 7.5	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- 671	TSWU- 1159	TSWU- 1738	TSWU- 2471	
Date Collected	01-30-07	02-27-07	03-27-07	04-24-07	Req. LLD
Gross beta	5.5 ± 1.2	3.8 ± 0.6	2.0 ± 0.4	1.8 ± 0.4	4.0
H-3	< 330	< 330	< 330	< 330	330
Mn-54	< 2.5	< 3.0	< 2.9	< 3.2	15
Fe-59	< 5.6	< 2.4	< 2.4	< 7.8	30
Co-58	< 2.7	< 2.2	< 2.5	< 5.4	15
Co-60	< 3.2	< 2.2	< 2.3	< 4.1	15
Zn-65	< 3.3	< 3.7	< 3.2	< 3.4	30
Zr-Nb-95	< 4.1	< 3.7	< 3.8	< 5.1	15
Cs-134	< 2.8	< 3.0	< 2.7	< 4.3	15
Cs-137	< 2.5	< 2.9	< 3.4	< 3.8	18
Ba-La-140	< 6.2	< 2.2	< 1.7	< 3.7	15
Lab Code	TSWU- 3260	TSWU- 4267	TSWU- 5127 <sup>a</sup>	TSWU- 5795	
Date Collected	05-29-07	06-26-07	07-31-07	08-28-07	Req. LLD
Gross beta	1.4 ± 0.3	1.6 ± 0.3	1.7 ± 0.6	1.7 ± 1.1	4.0
H-3	< 330	< 330	< 330	< 330	330
Mn-54	< 3.5	< 1.7	< 2.6	< 2.9	15
Fe-59	< 8.6	< 5.0	< 8.7	< 6.5	30
Co-58	< 3.9	< 2.0	< 4.3	< 2.4	15
Co-60	< 2.5	< 2.6	< 3.0	< 1.7	15
Zn-65	< 3.1	< 3.5	< 3.8	< 2.7	30
Zr-Nb-95	< 2.3	< 4.0	< 6.0	< 3.3	15
Cs-134	< 3.5	< 3.1	< 2.8	< 3.2	15
Cs-137	< 3.7	< 2.9	< 5.3	< 2.7	18
Ba-La-140	< 2.2	< 3.8	< 7.7	< 3.6	15
Lab Code	TSWU- 6554	TSWU- 7735	TSWU- 8121	TSWU- 8659	
Date Collected	09-25-07	10-30-07	11-27-07	12-26-07	Req. LLD
Gross beta	1.5 ± 0.3	1.2 ± 0.6	1.7 ± 0.7	2.8 ± 0.7	4.0
H-3	< 330	< 330	< 330	555 ± 103 <sup>b</sup>	330
Mn-54	< 5.2	< 2.0	< 1.9	< 3.9	15
Fe-59	< 6.7	< 2.2	< 5.4	< 9.6	30
Co-58	< 2.9	< 1.7	< 2.2	< 4.1	15
Co-60	< 3.5	< 1.8	< 1.9	< 2.4	15
Zn-65	< 10.1	< 4.5	< 6.9	< 5.8	30
Zr-Nb-95	< 2.3	< 1.8	< 1.9	< 4.5	15
Cs-134	< 3.7	< 2.0	< 3.2	< 4.0	15
Cs-137	< 6.3	< 2.3	< 2.6	< 5.6	18
Ba-La-140	< 7.5	< 5.1	< 3.1	< 7.8	15

<sup>a</sup> Duplicate analysis, refer to Appendix C.<sup>b</sup> Analysis was repeated; result of reanalysis, 416 ± 105 pCi/L.

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- 672	TSWU- 1160	TSWU- 1739	TSWU- 2472	
Date Collected	01-30-07	02-27-07	03-27-07	04-24-07	Req. LLD
Gross beta	4.5 ± 0.7	3.7 ± 0.7	1.9 ± 0.4	2.1 ± 0.4	4.0
H-3	< 330	< 330	< 330	< 330	330
Mn-54	< 4.0	< 1.9	< 2.2	< 5.3	15
Fe-59	< 9.2	< 3.5	< 2.1	< 6.8	30
Co-58	< 2.9	< 2.6	< 1.6	< 3.7	15
Co-60	< 1.7	< 1.4	< 0.8	< 5.0	15
Zn-65	< 5.0	< 3.2	< 2.1	< 5.7	30
Zr-Nb-95	< 3.6	< 1.9	< 2.4	< 4.3	15
Cs-134	< 3.7	< 2.5	< 2.2	< 1.5	15
Cs-137	< 3.9	< 3.2	< 2.9	< 4.5	18
Ba-La-140	< 4.2	< 2.8	< 2.3	< 5.3	15
Lab Code	TSWU- 3261	TSWU- 4268	TSWU- 5129	TSWU- 5796	
Date Collected	05-29-07	06-26-07	07-31-07	08-28-07	Req. LLD
Gross beta	2.4 ± 0.6	2.8 ± 0.6	2.5 ± 1.1	3.2 ± 1.2	4.0
H-3	< 330	< 330	< 330	< 330	330
Mn-54	< 3.7	< 2.1	< 5.3	< 3.0	15
Fe-59	< 8.4	< 5.0	< 10.4	< 4.2	30
Co-58	< 3.1	< 2.2	< 4.4	< 2.8	15
Co-60	< 2.9	< 2.7	< 4.9	< 4.2	15
Zn-65	< 4.8	< 1.9	< 7.8	< 4.0	30
Zr-Nb-95	< 5.9	< 5.5	< 4.8	< 5.8	15
Cs-134	< 5.9	< 3.8	< 5.3	< 3.8	15
Cs-137	< 4.3	< 3.1	< 5.0	< 3.9	18
Ba-La-140	< 7.8	< 4.0	< 7.8	< 7.9	15
Lab Code	TSWU- 6555	TSWU- 7736	TSWU- 8122	TSWU- 8660	
Date Collected	09-25-07	10-30-07	11-27-07	12-26-07	Req. LLD
Gross beta	1.5 ± 0.3	2.2 ± 0.6	2.9 ± 0.6	2.8 ± 1.1	4.0
H-3	< 330	< 330	< 330	< 330	330
Mn-54	< 1.6	< 2.2	< 4.4	< 1.7	15
Fe-59	< 5.1	< 2.3	< 4.3	< 4.4	30
Co-58	< 1.8	< 2.6	< 4.6	< 2.3	15
Co-60	< 1.5	< 1.9	< 3.3	< 2.8	15
Zn-65	< 3.6	< 6.1	< 4.9	< 6.5	30
Zr-Nb-95	< 2.4	< 2.3	< 5.3	< 3.6	15
Cs-134	< 2.8	< 2.2	< 4.9	< 2.5	15
Cs-137	< 1.7	< 2.2	< 4.9	< 2.3	18
Ba-La-140	< 1.4	< 3.1	< 9.1	< 5.2	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- 674	TSWU- 1162 <sup>a</sup>	TSWU- 1741	TSWU- 2474	Req. LLD
Date Collected	01-30-07	02-27-07	03-27-07	04-24-07	
Gross beta	2.6 ± 0.4	3.6 ± 0.7	1.9 ± 0.4	3.3 ± 0.7	4.0
H-3	< 330	< 330	< 330	< 330	330
Mn-54	< 1.0	< 1.9	< 3.1	< 1.2	15
Fe-59	< 3.4	< 2.0	< 4.8	< 3.1	30
Co-58	< 1.9	< 2.6	< 4.2	< 2.9	15
Co-60	< 0.9	< 2.9	< 5.4	< 1.4	15
Zn-65	< 2.4	< 3.8	< 5.1	< 2.4	30
Zr-Nb-95	< 3.1	< 2.7	< 4.2	< 2.4	15
Cs-134	< 2.8	< 1.7	< 5.7	< 2.1	15
Cs-137	< 3.4	< 2.7	< 4.5	< 2.5	18
Ba-La-140	< 3.2	< 2.6	< 4.6	< 3.7	15
Lab Code	TSWU- 3263 <sup>a</sup>	TSWU- 4270	TSWU- 5131	TSWU- 5798	Req. LLD
Date Collected	05-29-07	06-26-07	07-31-07	08-28-07	
Gross beta	2.6 ± 0.6	2.6 ± 0.6	1.5 ± 1.0	3.2 ± 1.1	4.0
H-3	435 ± 92	< 330	< 330	< 330	330
Mn-54	< 4.3	< 1.7	< 2.4	< 5.1	15
Fe-59	< 6.7	< 6.3	< 4.7	< 5.2	30
Co-58	< 5.6	< 2.9	< 2.9	< 2.5	15
Co-60	< 2.9	< 2.5	< 2.2	< 4.0	15
Zn-65	< 8.5	< 5.5	< 2.0	< 3.7	30
Zr-Nb-95	< 6.5	< 3.7	< 2.7	< 5.7	15
Cs-134	< 4.7	< 2.6	< 2.9	< 4.9	15
Cs-137	< 6.1	< 3.0	< 2.2	< 2.7	18
Ba-La-140	< 7.5	< 4.0	< 2.1	< 8.4	15
Lab Code	TSWU- 6557	TSWU- 7738	TSWU- 8124	TSWU- 8662	Req. LLD
Date Collected	09-25-07	10-30-07	11-27-07	12-26-07	
Gross beta	1.6 ± 0.3	2.0 ± 0.6	2.6 ± 0.6	3.1 ± 0.7	4.0
H-3	< 330	< 330	736 ± 122 <sup>b</sup>	578 ± 119 <sup>c</sup>	330
Mn-54	< 2.9	< 3.1	< 4.1	< 3.7	15
Fe-59	< 4.9	< 4.7	< 6.6	< 6.1	30
Co-58	< 3.1	< 1.1	< 3.2	< 4.4	15
Co-60	< 3.0	< 3.0	< 3.0	< 2.6	15
Zn-65	< 5.0	< 5.4	< 6.5	< 5.2	30
Zr-Nb-95	< 4.6	< 4.3	< 6.2	< 2.6	15
Cs-134	< 2.2	< 2.6	< 4.8	< 4.4	15
Cs-137	< 1.8	< 2.9	< 3.7	< 5.4	18
Ba-La-140	< 6.0	< 3.4	< 7.6	< 7.7	15

<sup>a</sup> Duplicate analysis, refer to Appendix C.<sup>b</sup> Analysis was repeated; result of reanalysis, 835 ± 125 pCi/L.<sup>c</sup> Analysis was repeated; result of reanalysis, 658 ± 114 pCi/L.

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- 675	TSWU- 1164	TSWU- 1742	TSWU- 2475	Req. LLD
Date Collected	01-30-07	02-27-07	03-27-07	04-24-07	
Gross beta	2.1 ± 0.4	2.2 ± 0.4	2.3 ± 0.4	3.0 ± 0.6	4.0
H-3	< 330	< 330	< 330	< 330	330
Mn-54	< 4.5	< 2.2	< 2.5	< 2.8	15
Fe-59	< 7.1	< 4.2	< 9.1	< 5.4	30
Co-58	< 4.0	< 2.8	< 2.9	< 2.3	15
Co-60	< 4.4	< 2.6	< 4.5	< 1.8	15
Zn-65	< 8.4	< 5.5	< 2.6	< 4.5	30
Zr-Nb-95	< 3.4	< 2.0	< 3.5	< 3.7	15
Cs-134	< 3.9	< 3.4	< 3.9	< 3.7	15
Cs-137	< 4.2	< 2.9	< 5.7	< 3.5	18
Ba-La-140	< 6.2	< 2.5	< 6.1	< 3.1	15
Lab Code	TSWU- 3265	TSWU- 4271	TSWU- 5132	TSWU- 5799 <sup>a</sup>	Req. LLD
Date Collected	05-29-07	06-26-07	07-31-07	08-28-07	
Gross beta	2.0 ± 0.6	2.6 ± 0.6	1.8 ± 1.1	2.6 ± 1.2	4.0
H-3	< 330	< 330	< 330	< 330	330
Mn-54	< 6.3	< 1.6	< 6.3	< 4.2	15
Fe-59	< 6.7	< 8.4	< 7.6	< 5.0	30
Co-58	< 4.4	< 2.8	< 4.2	< 3.0	15
Co-60	< 3.4	< 2.1	< 2.1	< 4.1	15
Zn-65	< 6.9	< 3.8	< 6.9	< 3.6	30
Zr-Nb-95	< 6.8	< 3.5	< 3.9	< 4.0	15
Cs-134	< 5.1	< 4.1	< 5.1	< 4.1	15
Cs-137	< 4.6	< 2.1	< 4.3	< 4.1	18
Ba-La-140	< 5.4	< 4.7	< 6.8	< 7.5	15
Lab Code	TSWU- 6558	TSWU- 7739	TSWU- 8125	TSWU- 8663	Req. LLD
Date Collected	09-25-07	10-30-07	11-27-07	12-26-07	
Gross beta	1.3 ± 0.3	1.2 ± 0.6	2.3 ± 0.5	3.1 ± 0.7	4.0
H-3	< 330	< 330	< 330	< 330	330
Mn-54	< 2.7	< 2.3	< 5.1	< 2.5	15
Fe-59	< 4.7	< 3.0	< 8.2	< 6.3	30
Co-58	< 1.8	< 2.1	< 6.5	< 3.1	15
Co-60	< 2.1	< 2.3	< 3.1	< 2.5	15
Zn-65	< 5.3	< 3.8	< 9.5	< 5.5	30
Zr-Nb-95	< 2.9	< 3.3	< 3.8	< 3.0	15
Cs-134	< 4.0	< 2.7	< 3.9	< 3.1	15
Cs-137	< 2.8	< 3.3	< 4.7	< 3.4	18
Ba-La-140	< 3.8	< 4.2	< 8.3	< 5.4	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-145 (QC)  
 Collection: Monthly composites of weekly grab samples  
 Units: pCi/L

Lab Code	TSWU- 676	<sup>a</sup>	TSWU- 1165	TSWU- 1743	TSWU- 2476	
Date Collected	01-30-07		02-27-07	03-27-07	04-24-07	Req. LLD
Gross beta	1.9 ± 0.3		2.0 ± 0.4	3.0 ± 0.5	2.9 ± 0.7	4.0
H-3	< 330		< 330	< 330	< 330	330
Mn-54	< 4.9		< 1.6	< 3.1	< 2.8	15
Fe-59	< 8.0		< 5.0	< 2.6	< 9.2	30
Co-58	< 3.3		< 2.7	< 2.4	< 2.7	15
Co-60	< 4.3		< 2.0	< 3.0	< 3.8	15
Zn-65	< 4.6		< 3.9	< 3.2	< 4.9	30
Zr-Nb-95	< 5.7		< 2.2	< 3.6	< 4.7	15
Cs-134	< 4.1		< 3.3	< 3.2	< 5.0	15
Cs-137	< 5.3		< 3.2	< 2.9	< 3.7	18
Ba-La-140	< 2.9		< 2.3	< 2.4	< 5.3	15
Lab Code	TSWU- 3266		TSWU- 4272	TSWU- 5133	TSWU- 5801	
Date Collected	05-29-07		06-26-07	07-31-07	08-28-07	Req. LLD
Gross beta	3.6 ± 0.7		1.8 ± 0.3	1.9 ± 1.0	1.6 ± 1.2	4.0
H-3	< 330		< 330	< 330	< 330	330
Mn-54	< 2.9		< 1.9	< 2.8	< 6.0	15
Fe-59	< 5.8		< 4.7	< 12.7	< 11.4	30
Co-58	< 2.1		< 1.8	< 4.9	< 5.7	15
Co-60	< 2.3		< 3.3	< 3.0	< 4.0	15
Zn-65	< 6.7		< 5.1	< 4.9	< 9.9	30
Zr-Nb-95	< 1.9		< 3.6	< 5.5	< 5.6	15
Cs-134	< 2.7		< 3.5	< 5.4	< 6.0	15
Cs-137	< 3.2		< 2.3	< 4.8	< 4.9	18
Ba-La-140	< 2.8		< 5.4	< 8.0	< 9.5	15
Lab Code	TSWU- 6559		TSWU- 7740	TSWU- 8126	TSWU- 8664	
Date Collected	09-25-07		10-30-07	11-27-07	12-26-07	Req. LLD
Gross beta	3.0 ± 0.6		2.7 ± 1.9	3.9 ± 0.5	3.7 ± 1.0	4.0
H-3	< 330		< 330	< 330	< 330	330
Mn-54	< 5.1		< 2.3	< 1.7	< 2.5	15
Fe-59	< 4.9		< 4.7	< 4.4	< 5.4	30
Co-58	< 3.0		< 2.2	< 1.3	< 2.7	15
Co-60	< 4.0		< 2.3	< 2.3	< 2.7	15
Zn-65	< 2.8		< 4.2	< 2.6	< 3.4	30
Zr-Nb-95	< 5.0		< 3.9	< 3.2	< 1.9	15
Cs-134	< 3.2		< 2.3	< 3.1	< 3.3	15
Cs-137	< 2.9		< 2.6	< 2.6	< 3.7	18
Ba-La-140	< 6.4		< 1.9	< 4.3	< 2.2	15

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

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-2212	TSWU-4618	TSWU-7145	TSWU-8705
Sr-89		< 0.9	< 0.9	< 1.4	< 0.8
Sr-90		< 0.5	< 0.6	< 0.7	< 0.8

Location		T-11 (C)			
Period		1st Qtr.	2nd Qtr.	3rd Qtr.	4th Qtr.
Lab Code		TSWU-2213	TSWU-4619	TSWU-7146	TSWU-8706
Sr-89		< 1.0	< 1.0	< 1.1	< 0.7
Sr-90		< 0.5	< 0.6	< 0.6	< 0.6

Location		T-12 (C)			
Period		1st Qtr.	2nd Qtr.	3rd Qtr.	4th Qtr.
Lab Code		TSWU-2214	TSWU-4620	TSWU-7147	TSWU-8707
Sr-89		< 0.8	< 0.9	< 1.1	< 0.6
Sr-90		< 0.5	< 0.6	< 0.5	< 0.6

Location		T-22			
Period		1st Qtr.	2nd Qtr.	3rd Qtr.	4th Qtr.
Lab Code		TSWU-2215	TSWU-4621	TSWU-7148	TSWU-8708 <sup>a</sup>
Sr-89		< 0.8	< 1.0	< 1.2	< 0.6
Sr-90		< 0.5	< 0.6	< 0.6	< 0.5

Location		T-50			
Period		1st Qtr.	2nd Qtr.	3rd Qtr.	4th Qtr.
Lab Code		TSWU-2216	TSWU-4622	TSWU-7149	TSWU-8710
Sr-89		< 0.9	< 0.9	< 1.3	< 0.6
Sr-90		< 0.5	< 0.5	< 0.7	< 0.6

<sup>a</sup> Analysis performed in duplicate ; result of duplicate analysis (TSWU-8709): Sr-89, < 0.6 / Sr-90, < 0.6 pCi/L.

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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- 3358	TF- 3359	TF- 3360	TF- 3361
Date Collected	05-08-07	05-08-07	05-08-07	05-23-07
Sample Type	Walleye	Perch	Carp	White Bass
Gross Beta	4.74 ± 0.13	3.62 ± 0.21	4.73 ± 0.13	3.51 ± 0.11
K-40	3.12 ± 0.51	2.66 ± 0.47	3.18 ± 0.53	2.48 ± 0.47
Mn-54	< 0.017	< 0.021	< 0.017	< 0.012
Fe-59	< 0.084	< 0.046	< 0.078	< 0.060
Co-58	< 0.030	< 0.021	< 0.034	< 0.025
Co-60	< 0.019	< 0.022	< 0.016	< 0.020
Zn-65	< 0.036	< 0.018	< 0.019	< 0.037
Cs-134	< 0.013	< 0.012	< 0.015	< 0.018
Cs-137	< 0.023	< 0.014	< 0.019	< 0.021

Location	T-35	
Lab Code	TF- 3362	TF- 3363
Date Collected	03-05-07	04-04-07
Sample Type	Walleye	Perch / Bass
Gross Beta	4.64 ± 0.13	3.24 ± 0.12
K-40	3.19 ± 0.47	2.88 ± 0.39
Mn-54	< 0.019	< 0.011
Fe-59	< 0.177	< 0.081
Co-58	< 0.041	< 0.020
Co-60	< 0.022	< 0.014
Zn-65	< 0.041	< 0.010
Cs-134	< 0.020	< 0.011
Cs-137	< 0.015	< 0.012

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- 3348	TSS- 3349	TSS- 3350	TSS- 3351	TSS- 3352
Date Collected	05-31-07	05-31-07	05-31-07	05-31-07	05-31-07
K-40	8.71 ± 0.68	11.78 ± 0.87	18.32 ± 0.96	10.61 ± 0.75	9.74 ± 0.72
Mn-54	< 0.018	< 0.031	< 0.023	< 0.021	< 0.019
Co-58	< 0.026	< 0.027	< 0.027	< 0.024	< 0.024
Co-60	< 0.019	< 0.024	< 0.018	< 0.022	< 0.019
Cs-134	< 0.030	< 0.038	< 0.045	< 0.027	< 0.025
Cs-137	< 0.019	< 0.026	< 0.029	< 0.012	< 0.017
Lab Code	TSS- 7931	TSS- 7932	TSS- 7933	TSS- 7934	TSS- 7935
Date Collected	11-07-07	11-07-07	11-07-07	11-07-07	11-07-07
K-40	11.95 ± 0.55	11.07 ± 0.55	17.55 ± 0.93	9.61 ± 0.60	9.95 ± 0.51
Mn-54	< 0.012	< 0.014	< 0.034	< 0.018	< 0.007
Co-58	< 0.020	< 0.013	< 0.026	< 0.018	< 0.019
Co-60	< 0.010	< 0.009	< 0.017	< 0.011	< 0.008
Cs-134	< 0.010	< 0.011	< 0.021	< 0.013	< 0.012
Cs-137	< 0.007	< 0.012	< 0.027	< 0.018	< 0.015



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## 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 through December, 2007

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 acceptance criteria for "spiked" samples.

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	$\geq 0.1$ g/liter or kg	5% of known value
Gross alpha	$\leq 20$ pCi/liter > 20 pCi/liter	5.0 pCi/liter 25% of known value
Gross beta	$\leq 100$ pCi/liter > 100 pCi/liter	5.0 pCi/liter 5% of known value
Tritium	$\leq 4,000$ pCi/liter  > 4,000 pCi/liter	$\pm 1\sigma =$ $169.85 \times (\text{known})^{0.0933}$ 10% of known value
Radium-226,-228	$\geq 0.1$ pCi/liter	15% of known value
Plutonium	$\geq 0.1$ pCi/liter, gram, or sample	10% of known value
Iodine-131, Iodine-129 <sup>b</sup>	$\leq 55$ pCi/liter > 55 pCi/liter	6.0 pCi/liter 10% of known value
Uranium-238, Nickel-63 <sup>b</sup>	$\leq 35$ pCi/liter > 35 pCi/liter	6.0 pCi/liter 15% of known value
Technetium-99 <sup>b</sup>		
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)			
			Laboratory Result <sup>b</sup>	ERA Result <sup>c</sup>	Control Limits	Acceptance
STW-1121	04/09/07	Sr-89	30.7 ± 4.3	35.4	26.7 - 44.1	Pass
STW-1121	04/09/07	Sr-90	39.3 ± 1.8	42.1	33.4 - 50.8	Pass
STW-1122	04/09/07	Ba-133	30.0 ± 2.4	29.3	20.6 - 38.0	Pass
STW-1122	04/09/07	Co-60	118.5 ± 3.9	119.0	109.0 - 129.0	Pass
STW-1122	04/09/07	Cs-134	52.6 ± 2.3	54.3	45.6 - 63.0	Pass
STW-1122	04/09/07	Cs-137	49.5 ± 3.8	50.3	41.6 - 59.0	Pass
STW-1122	04/09/07	Zn-65	91.7 ± 6.3	88.6	73.3 - 104.0	Pass
STW-1123	04/09/07	Gr. Alpha	33.8 ± 3.5	56.5	32.0 - 81.0	Pass
STW-1123	04/09/07	Gr. Beta	24.2 ± 2.3	25.3	16.6 - 34.0	Pass
STW-1124	04/09/07	I-131	19.2 ± 1.2	18.9	13.7 - 24.1	Pass
STW-1125	04/09/07	H-3	7540.0 ± 255.0	8060.0	6660.0 - 9450.0	Pass
STW-1125	04/09/07	Ra-226	13.0 ± 0.6	13.4	9.9 - 16.9	Pass
STW-1125	04/09/07	Ra-228	19.9 ± 2.7	18.2	10.3 - 26.1	Pass
STW-1125	04/09/07	Uranium	4.5 ± 0.2	4.6	0.0 - 9.8	Pass
STW-1127	07/09/07	Sr-89	51.7 ± 5.0	58.2	49.5 - 66.9	Pass
STW-1127	07/09/07	Sr-90	21.4 ± 2.3	19.0	10.3 - 27.7	Pass
STW-1128	07/09/07	Ba-133	19.4 ± 2.2	19.4	10.7 - 28.1	Pass
STW-1128	07/09/07	Co-60	32.8 ± 2.0	33.5	24.8 - 42.2	Pass
STW-1128	07/09/07	Cs-134	67.0 ± 2.9	68.9	60.2 - 77.6	Pass
STW-1128	07/09/07	Cs-137	61.6 ± 3.8	61.3	52.6 - 70.0	Pass
STW-1128	07/09/07	Zn-65	55.6 ± 7.5	54.6	45.2 - 64.0	Pass
STW-1129	07/09/07	Gr. Alpha	19.2 ± 1.6	27.1	15.4 - 38.8	Pass
STW-1129	07/09/07	Gr. Beta	9.1 ± 0.9	11.5	2.8 - 20.2	Pass
STW-1130	07/09/07	Ra-226	7.0 ± 0.5	7.7	5.7 - 9.7	Pass
STW-1130	07/09/07	Ra-228	9.2 ± 2.3	9.1	5.2 - 13.1	Pass
STW-1130	07/09/07	Uranium	23.9 ± 1.1	25.1	19.9 - 30.3	Pass
STW-1131	10/05/07	Sr-89	27.3 ± 3.3	27.4	19.3 - 33.9	Pass
STW-1131	10/05/07	Sr-90	17.7 ± 1.2	18.2	12.9 - 21.6	Pass
STW-1132	10/05/07	Ba-133	12.2 ± 3.3	12.6	8.6 - 15.5	Pass
STW-1132	10/05/07	Co-60	23.8 ± 1.4	23.2	19.9 - 28.3	Pass
STW-1132	10/05/07	Cs-134	70.5 ± 4.2	71.1	58.0 - 78.2	Pass
STW-1132	10/05/07	Cs-137	178.2 ± 3.3	180.0	162.0 - 200.0	Pass
STW-1132	10/05/07	Zn-65	263.9 ± 6.9	251.0	226.0 - 294.0	Pass
STW-1133	10/05/07	Gr. Alpha	54.7 ± 2.1	58.6	30.6 - 72.9	Pass
STW-1133	10/05/07	Gr. Beta	11.9 ± 0.9	9.7	4.3 - 18.2	Pass
STW-1134	10/05/07	I-131	33.0 ± 1.5	28.9	24.0 - 33.8	Pass
STW-1135	10/05/07	H-3	9965.0 ± 250.0	9700.0	8430.0 - 10700.0	Pass
STW-1135	10/05/07	Ra-226	12.7 ± 0.2	12.9	9.6 - 14.9	Pass
STW-1135	10/05/07	Ra-228	19.6 ± 2.4	17.9	12.0 - 21.5	Pass
STW-1135	10/05/07	Uranium	27.3 ± 1.1	27.5	22.1 - 30.8	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-1. Interlaboratory Comparison Crosscheck program, Environmental Resource Associates (ERA)<sup>a</sup>.

Lab Code	Date	Analysis	Concentration (pCi/L)			Control Limits	Acceptance
			Laboratory Result <sup>b</sup>	ERA Result <sup>c</sup>			

<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  $\pm$  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.

<sup>d</sup> The reported result was an average of three analyses, results ranged from 25.36 to 29.23 pCi/L.

A fourth analysis was performed, result of analysis, 24.89 pCi/L.

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 ± 2 sigma		

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2007-1	7/13/2007	30 cm.	54.25	60.56 ± 5.54	37.98 - 70.53	Pass
2007-1	7/13/2007	40 cm.	30.51	34.23 ± 0.96	21.36 - 39.66	Pass
2007-1	7/13/2007	50 cm.	19.53	17.95 ± 1.86	13.67 - 25.39	Pass
2007-1	7/13/2007	60 cm.	13.56	16.61 ± 0.60	9.49 - 17.63	Pass
2007-1	7/13/2007	70 cm.	9.96	9.72 ± 0.90	6.97 - 12.95	Pass
2007-1	7/13/2007	80 cm.	7.63	7.79 ± 0.33	5.34 - 9.92	Pass
2007-1	7/13/2007	90 cm.	6.03	5.53 ± 0.72	4.22 - 7.84	Pass
2007-1	7/13/2007	100 cm.	4.88	5.32 ± 0.17	3.42 - 6.34	Pass
2007-1	7/13/2007	110 cm.	4.03	3.49 ± 0.14	2.82 - 5.24	Pass
2007-1	7/13/2007	120 cm.	3.39	2.64 ± 0.14	2.37 - 4.41	Pass
2007-1	7/13/2007	150 cm.	2.17	2.13 ± 0.87	1.52 - 2.82	Pass

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2007-2	11/12/2007	30 cm.	54.37	65.47 ± 5.25	38.06 - 70.68	Pass
2007-2	11/12/2007	40 cm.	30.59	37.43 ± 2.18	21.41 - 39.77	Pass
2007-2	11/12/2007	60 cm.	13.59	15.18 ± 0.50	9.51 - 17.67	Pass
2007-2	11/12/2007	70 cm.	9.99	12.18 ± 0.46	6.99 - 12.99	Pass
2007-2	11/12/2007	80 cm.	7.65	8.74 ± 0.39	5.36 - 9.95	Pass
2007-2	11/12/2007	90 cm.	6.04	5.89 ± 0.25	4.23 - 7.85	Pass
2007-2	11/12/2007	110 cm.	4.04	4.13 ± 0.41	2.83 - 5.25	Pass
2007-2	11/12/2007	120 cm.	3.4	2.92 ± 0.13	2.38 - 4.42	Pass
2007-2	11/12/2007	120 cm.	3.4	2.91 ± 0.31	2.38 - 4.42	Pass
2007-2	11/12/2007	150 cm.	2.17	1.95 ± 0.72	1.52 - 2.82	Pass
2007-2	11/12/2007	180 cm.	1.51	1.38 ± 0.05	1.06 - 1.96	Pass

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

Lab Code <sup>b</sup>	Date	Analysis	Concentration (pCi/L) <sup>a</sup>			
			Laboratory results 2s, n=1 <sup>c</sup>	Known Activity	Control Limits <sup>d</sup>	Acceptance
W-30707	3/7/2007	Gr. Alpha	19.51 ± 0.40	20.08	10.04 - 30.12	Pass
W-30707	3/7/2007	Gr. Beta	67.45 ± 0.49	65.73	55.73 - 75.73	Pass
SPAP-1566	3/23/2007	Cs-134	25.35 ± 1.31	27.82	17.82 - 37.82	Pass
SPAP-1566	3/23/2007	Cs-137	107.52 ± 3.02	116.48	104.83 - 128.13	Pass
SPW-1568	3/23/2007	H-3	65595.00 ± 672.00	71118.00	56894.40 - 85341.60	Pass
SPW-1678	3/28/2007	Tc-99	28.44 ± 1.12	32.35	20.35 - 44.35	Pass
SPW-1595	4/5/2007	Cs-134	54.48 ± 2.12	54.99	44.99 - 64.99	Pass
SPW-1595	4/5/2007	Cs-137	59.03 ± 2.94	58.19	48.19 - 68.19	Pass
SPW-1595	4/5/2007	I-131(G)	83.11 ± 3.51	82.07	72.07 - 92.07	Pass
SPW-1595A	4/5/2007	I-131	78.40 ± 1.10	82.07	65.66 - 98.48	Pass
SPW-1595B	4/5/2007	I-131	78.97 ± 1.10	82.07	65.66 - 98.48	Pass
SPMI-1597	4/5/2007	Cs-134	54.03 ± 2.15	54.99	44.99 - 64.99	Pass
SPMI-1597	4/5/2007	Cs-137	59.81 ± 4.75	58.19	48.19 - 68.19	Pass
SPMI-1597	4/5/2007	I-131(G)	83.97 ± 4.07	82.07	72.07 - 92.07	Pass
SPMI-1597A	4/5/2007	I-131	79.53 ± 1.03	82.07	65.66 - 98.48	Pass
SPMI-1597B	4/5/2007	I-131	83.51 ± 1.05	82.07	65.66 - 98.48	Pass
SPCH-2839	5/17/2007	I-131(G)	78.70 ± 7.36	70.40	60.40 - 80.40	Pass
SPW-2847	5/17/2007	Cs-134	55.43 ± 1.68	52.85	42.85 - 62.85	Pass
SPW-2847	5/17/2007	Cs-137	59.86 ± 2.71	58.03	48.03 - 68.03	Pass
SPW-2847	5/17/2007	I-131(G)	63.95 ± 2.69	70.87	60.87 - 80.87	Pass
SPMI-2849	5/17/2007	Cs-134	51.37 ± 1.65	52.85	42.85 - 62.85	Pass
SPMI-2849	5/17/2007	Cs-137	60.42 ± 4.31	58.03	48.03 - 68.03	Pass
SPMI-2849	5/17/2007	I-131(G)	62.44 ± 3.14	70.87	60.87 - 80.87	Pass
SPCH-2922	5/17/2007	I-131(G)	80.00 ± 6.40	70.40	41.60 - 99.20	Pass
SPW-2847	5/18/2007	I-131	60.14 ± 0.89	70.87	56.70 - 85.04	Pass
SPW-2847	5/18/2007	Sr-89	104.93 ± 6.64	121.90	97.52 - 146.28	Pass
SPW-2847	5/18/2007	Sr-89	46.72 ± 1.97	46.08	36.08 - 56.08	Pass
SPMI-2849	5/18/2007	I-131	67.97 ± 0.88	70.87	56.70 - 85.04	Pass
SPW-2909 <sup>e</sup>	5/22/2007	Fe-55	11137.00 ± 316.00	14271.50	11417.20 - 17125.80	Fail
SPW-2911	5/22/2007	H-3	65023.00 ± 679.00	70485.00	56388.00 - 84582.00	Pass
SPAP-2913	5/22/2007	Gr. Beta	55.27 ± 8.51	52.65	42.12 - 73.71	Pass
SPAP-2915	5/22/2007	Cs-134	22.53 ± 1.12	26.42	16.42 - 36.42	Pass
SPAP-2915	5/22/2007	Cs-137	111.14 ± 3.57	116.06	104.45 - 127.67	Pass
SPF-2922	5/22/2007	Cs-134	0.52 ± 0.03	0.53	0.32 - 0.74	Pass
SPF-2922	5/22/2007	Cs-137	2.58 ± 0.07	2.32	1.39 - 3.25	Pass
SPW-3223	5/24/2007	Ni-63	2233.10 ± 10.32	2135.90	1281.54 - 2990.26	Pass
W-60507	6/5/2007	Gr. Alpha	20.93 ± 0.42	20.08	10.04 - 30.12	Pass
W-60507	6/5/2007	Gr. Beta	60.50 ± 0.46	65.73	55.73 - 75.73	Pass
SPW-4327	7/18/2007	Tc-99	25.58 ± 1.11	32.35	20.35 - 44.35	Pass
SPW-5476	8/17/2007	Ni-63	1925.18 ± 9.62	2135.90	1281.54 - 2990.26	Pass
W-92107	9/21/2007	Gr. Alpha	23.02 ± 0.44	20.08	10.04 - 30.12	Pass
W-92107	9/21/2007	Gr. Beta	61.48 ± 0.47	65.73	55.73 - 75.73	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>	
SPW-6880	10/10/2007	Tc-99	30.97 ± 1.21	32.35	20.35 - 44.35	Pass
w-111007	11/10/2007	Gr. Alpha	22.43 ± 0.42	20.08	10.04 - 30.12	Pass
w-111007	11/10/2007	Gr. Beta	64.49 ± 0.48	65.73	55.73 - 75.73	Pass
SPAP-7742	11/13/2007	Cs-134	21.18 ± 1.29	22.41	12.41 - 32.41	Pass
SPAP-7742	11/13/2007	Cs-137	113.61 ± 3.16	114.76	103.28 - 126.24	Pass
SPAP-7744	11/13/2007	Gr. Beta	53.41 ± 0.13	52.03	41.62 - 72.84	Pass
SPMI-7746	11/13/2007	Cs-134	42.20 ± 1.48	44.83	34.83 - 54.83	Pass
SPMI-7746	11/13/2007	Cs-137	56.05 ± 2.83	57.40	47.40 - 67.40	Pass
SPMI-7746	11/13/2007	Sr-90	41.02 ± 1.61	45.54	36.43 - 54.65	Pass
SPW-7748	11/13/2007	Cs-134	43.11 ± 1.52	44.80	34.80 - 54.80	Pass
SPW-7748	11/13/2007	Cs-137	59.28 ± 3.50	57.40	47.40 - 67.40	Pass
SPW-7748	11/13/2007	Sr-90	37.23 ± 1.51	45.54	36.43 - 54.65	Pass
SPW-7752	11/13/2007	Fe-55	12935.10 ± 357.00	12640.50	10112.40 - 15168.60	Pass
SPW-7758	11/13/2007	H-3	65405.00 ± 712.50	68618.00	54894.40 - 82341.60	Pass
SPF-7760	11/13/2007	Cs-134	0.45 ± 0.02	0.45	0.27 - 0.63	Pass
SPF-7760	11/13/2007	Cs-137	2.45 ± 0.07	2.29	1.37 - 3.21	Pass
SPW-8034	11/13/2007	Ni-63	2194.06 ± 10.77	2129.03	1277.42 - 2980.64	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 based on Attachment A, Page A2 of this report.<sup>e</sup> Sample recount: 12557 ± 335.

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>		
				LLD	Laboratory results (4.66 $\sigma$ )	Acceptance Criteria (4.66 $\sigma$ )
W-30707	water	3/7/2007	Gr. Alpha	0.40	0.01 ± 0.28	2
W-30707	water	3/7/2007	Gr. Beta	0.75	0.06 ± 0.53	4
SPAP-1567	Air Filter	3/23/2007	Cs-134	0.79		100
SPW-1567	Air Filter	3/23/2007	Cs-137	1.01		100
SPW-1568	water	3/23/2007	H-3	176.10	-26.16 ± 91.62	200
SPW-1596	water	4/5/2007	Cs-134	3.28		10
SPW-1596	water	4/5/2007	Cs-137	3.45		10
SPW-1596	water	4/5/2007	I-131	0.27	0.02 ± 0.18	0.5
SPW-1596	water	4/5/2007	I-131(G)	2.91		20
SPMI-1598	Milk	4/5/2007	Cs-134	3.30		10
SPMI-1598	Milk	4/5/2007	Cs-137	5.08		10
SPMI-1598	Milk	4/5/2007	I-131	0.26	-0.10 ± 0.17	0.5
SPMI-1598	Milk	4/5/2007	I-131(G)	4.10		20
SPCH-2839	Charcoal Canister	5/17/2007	I-131(G)	2.24		9.6
SPW-2848	water	5/17/2007	Cs-134	3.14		10
SPW-2848	water	5/17/2007	Cs-137	1.37		10
SPW-2848	water	5/17/2007	I-131(G)	5.34		20
SPMI-2850	Milk	5/17/2007	Cs-134	3.32		10
SPMI-2850	Milk	5/17/2007	Cs-137	2.60		10
SPMI-2850	Milk	5/17/2007	I-131(G)	4.77		20
SPW-2848	water	5/18/2007	I-131	0.34	-0.06 ± 0.19	0.5
SPW-2848	water	5/18/2007	Sr-89	0.81	-0.02 ± 0.65	5
SPW-2848	water	5/18/2007	Sr-90	0.53	0.01 ± 0.25	1
SPMI-2850	Milk	5/18/2007	I-131	0.45	0.20 ± 0.26	0.5
SPMI-2850	Milk	5/18/2007	Sr-89	0.96	-0.73 ± 1.02	5
SPMI-2850	Milk	5/18/2007	Sr-90	0.58	0.96 ± 0.38	1
SPAP-2914	Air Filter	5/22/2007	Gr. Beta	0.004	-0.002 ± 0.002	0.01
SPAP-2916	Air Filter	5/22/2007	Cs-134	2.84		100
SPAP-2916	Air Filter	5/22/2007	Cs-137	2.24		100
SPF-2923	Fish	5/22/2007	Cs-134	8.71		100
SPF-2923	Fish	5/22/2007	Cs-137	8.35		100
SPW-3224	water	5/24/2007	Ni-63	1.61	-0.30 ± 0.84	20
W-60507	water	6/5/2007	Gr. Alpha	0.43	-0.01 ± 0.30	2
W-60507	water	6/5/2007	Gr. Beta	0.77	0.01 ± 0.54	4
SPW-4328	water	7/18/2007	Tc-99	6.41	-3.12 ± 3.84	10
SPW-5477	water	8/17/2007	Ni-63	1.48	4.38 ± 1.01	20
W-92107	water	9/21/2007	Gr. Alpha	0.41	0.09 ± 0.29	2
W-92107	water	9/21/2007	Gr. Beta	0.75	-0.26 ± 0.51	4

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

Lab Code	Sample Type	Date	Analysis <sup>b</sup>	Concentration (pCi/L) <sup>a</sup>		
				LLD	Laboratory results (4.66 $\sigma$ )	Acceptance Criteria (4.66 $\sigma$ )
SPW-6881	water	10/10/2007	Tc-99	6.82	-6.58 ± 4.04	10
SPAP-7743	Air Filter	11/13/2007	Gr. Beta	0.003	-0.002 ± 0.002	0.01
SPMI-7745	Milk	11/13/2007	Cs-134	2.16		10
SPMI-7745	Milk	11/13/2007	Cs-137	3.46		10
SPMI-7745	Milk	11/13/2007	I-131(G)	5.89		20
SPMI-7745	Milk	11/13/2007	Sr-90	0.59	0.73 ± 0.35	1
SPW-7747	water	11/13/2007	Cs-134	2.39		10
SPW-7747	water	11/13/2007	Cs-137	3.53		10
SPW-7747	water	11/13/2007	I-131(G)	12.51		20
SPW-7747	water	11/13/2007	Sr-90	0.71	-0.04 ± 0.32	1
SPW-7751	water	11/13/2007	Fe-55	15.50	-4.18 ± 9.20	1000
SPW-7757	water	11/13/2007	H-3	151.35	-14.98 ± 78.85	200
SPF-7759	Fish	11/13/2007	Cs-134	5.50		100
SPF-7759	Fish	11/13/2007	Cs-137	5.10		100
SPW-8033	water	11/13/2007	Ni-63	1.45	-0.19 ± 0.87	20
W-120607	water	12/6/2007	Gr. Alpha	0.40	0.02 ± 0.28	2
W-120607	water	12/6/2007	Gr. Beta	0.77	-0.70 ± 0.51	4

<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>			Averaged Result	Acceptance
			First Result	Second Result			
E-20, 21	1/2/2007	Gr. Beta	1.76 ± 0.07	1.70 ± 0.06		1.73 ± 0.05	Pass
E-20, 21	1/2/2007	K-40	1.49 ± 0.24	1.57 ± 0.27		1.53 ± 0.18	Pass
CF-41, 42	1/2/2007	Gr. Beta	18.02 ± 0.41	18.81 ± 0.42		18.42 ± 0.29	Pass
CF-41, 42	1/2/2007	K-40	11.68 ± 1.12	12.67 ± 0.97		12.18 ± 0.74	Pass
CF-41, 42	1/2/2007	Sr-90	0.039 ± 0.011	0.026 ± 0.010		0.033 ± 0.007	Pass
P-9516, 9517	1/3/2007	H-3	270.78 ± 91.74	301.18 ± 92.99		285.98 ± 65.31	Pass
LW-9579, 9580	1/4/2007	Gr. Beta	0.91 ± 0.31	0.93 ± 0.30		0.92 ± 0.22	Pass
DW-70085, 70086	1/9/2007	Gr. Alpha	7.95 ± 1.20	7.92 ± 1.42		7.94 ± 0.93	Pass
DW-70037, 70038	1/11/2007	Gr. Alpha	55.47 ± 3.99	52.87 ± 4.02		54.17 ± 2.83	Pass
DW-70054, 70055	1/18/2007	Gr. Alpha	2.68 ± 0.88	1.88 ± 0.78		2.28 ± 0.59	Pass
DW-70122, 70123	1/18/2007	Gr. Alpha	4.30 ± 1.14	6.25 ± 1.16		5.28 ± 0.81	Pass
DW-70122, 70123	1/18/2007	Gr. Beta	4.22 ± 0.70	5.33 ± 0.75		4.78 ± 0.51	Pass
DW-70098, 70099	1/25/2007	Gr. Alpha	3.27 ± 0.90	1.97 ± 0.92		2.62 ± 0.64	Pass
DW-70110, 70111	1/25/2007	Gr. Alpha	2.19 ± 0.92	1.69 ± 0.79		1.94 ± 0.61	Pass
SWU-676, 677	1/30/2007	Gr. Beta	1.77 ± 0.39	2.11 ± 0.39		1.94 ± 0.28	Pass
DW-70148, 70149	1/30/2007	Gr. Alpha	4.65 ± 1.37	5.20 ± 1.81		4.93 ± 1.14	Pass
SW-600, 601	2/1/2007	K-40	1.24 ± 0.12	1.20 ± 0.12		1.22 ± 0.08	Pass
SW-601, 602	2/1/2007	Gr. Beta	0.89 ± 0.37	1.02 ± 0.25		0.96 ± 0.22	Pass
DW-1138, 1139	2/9/2007	H-3	2707.00 ± 161.00	2700.00 ± 161.00		2703.50 ± 113.84	Pass
MI-721, 722	2/13/2007	K-40	1330.40 ± 117.60	1316.40 ± 116.50		1323.40 ± 82.77	Pass
SW-847, 848	2/13/2007	Gr. Alpha	3.82 ± 1.67	2.61 ± 1.24		3.22 ± 1.04	Pass
SW-847, 848	2/13/2007	Gr. Beta	7.33 ± 1.37	5.89 ± 0.90		6.61 ± 0.82	Pass
DW-70175, 70176	2/14/2007	Gr. Alpha	11.72 ± 1.68	8.84 ± 1.32		10.28 ± 1.07	Pass
DW-70187, 70188	2/14/2007	Gr. Alpha	6.79 ± 1.18	6.47 ± 1.08		6.63 ± 0.80	Pass
SWU-1162, 1163	2/27/2007	Gr. Beta	3.63 ± 0.69	2.61 ± 0.44		3.12 ± 0.41	Pass
DW-70205, 70206	2/28/2007	Gr. Alpha	0.88 ± 0.80	1.31 ± 0.79		1.10 ± 0.56	Pass
PW-1117, 1118	3/1/2007	Gr. Alpha	3.79 ± 1.91	3.62 ± 2.09		3.71 ± 1.42	Pass
PW-1117, 1118	3/1/2007	Gr. Beta	7.12 ± 1.40	7.20 ± 1.39		7.16 ± 0.99	Pass
W-2122, 2123	3/5/2007	Gr. Alpha	6.10 ± 4.16	3.80 ± 4.30		4.95 ± 2.99	Pass
W-2122, 2123	3/5/2007	Gr. Beta	10.65 ± 2.15	13.11 ± 2.42		11.88 ± 1.62	Pass
W-2085, 2086	3/6/2007	Gr. Alpha	2.51 ± 2.29	1.10 ± 2.78		1.81 ± 1.80	Pass
W-2085, 2086	3/6/2007	Gr. Beta	11.02 ± 1.85	9.50 ± 2.01		10.26 ± 1.37	Pass
DW-70232, 70233	3/8/2007	Gr. Alpha	4.75 ± 1.28	5.98 ± 1.31		5.37 ± 0.92	Pass
WW-1477, 1478	3/12/2007	Gr. Beta	6.41 ± 1.48	4.10 ± 1.25		5.26 ± 0.97	Pass
WW-1498, 1499	3/15/2007	Gr. Beta	0.83 ± 0.31	0.97 ± 0.33		0.90 ± 0.22	Pass
W-2140, 2141	3/19/2007	Gr. Alpha	2.31 ± 1.57	1.33 ± 1.64		1.82 ± 1.14	Pass
W-2140, 2141	3/19/2007	Gr. Beta	4.26 ± 1.00	5.58 ± 1.02		4.92 ± 0.71	Pass
DW-1626, 1627	3/21/2007	H-3	4973.00 ± 209.00	5190.00 ± 213.00		5081.50 ± 149.21	Pass
MI-1647, 1648	3/21/2007	K-40	1448.80 ± 120.20	1439.30 ± 126.00		1444.05 ± 87.07	Pass
DW-70248, 70249	3/21/2007	Gr. Alpha	11.10 ± 1.18	9.90 ± 1.16		10.50 ± 0.83	Pass
W-2150, 2151	3/26/2007	Gr. Alpha	3.56 ± 2.20	3.30 ± 1.81		3.43 ± 1.42	Pass
W-2150, 2151	3/26/2007	Gr. Beta	9.26 ± 1.00	10.17 ± 1.90		9.72 ± 1.07	Pass
LW-1941, 1942	3/31/2007	Gr. Beta	1.35 ± 0.43	1.36 ± 0.41		1.36 ± 0.30	Pass

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

Lab Code	Date	Analysis	Concentration (pCi/L) <sup>a</sup>			Averaged Result	Acceptance
			First Result	Second Result			
MI-1824, 1825	4/2/2007	K-40	1316.10 ± 110.60	1229.80 ± 110.50	1272.95 ± 78.17	Pass	
MI-1824, 1825	4/2/2007	Sr-90	1.20 ± 0.50	1.10 ± 0.36	1.15 ± 0.31	Pass	
AP-2170, 2171	4/2/2007	Be-7	0.08 ± 0.01	0.08 ± 0.01	0.08 ± 0.01	Pass	
WW-1850, 1851	4/3/2007	H-3	-5.83 ± 102.29	150.05 ± 80.14	72.11 ± 64.97	Pass	
AP-2198, 2199	4/3/2007	Be-7	0.08 ± 0.01	0.08 ± 0.01	0.08 ± 0.01	Pass	
AP-2370, 2371	4/3/2007	Be-7	0.07 ± 0.01	0.07 ± 0.01	0.07 ± 0.01	Pass	
DW-70300, 70301	4/4/2007	Gr. Alpha	3.78 ± 0.89	3.66 ± 0.96	3.72 ± 0.65	Pass	
DW-70300, 70301	4/4/2007	Gr. Beta	2.93 ± 0.61	2.91 ± 0.64	2.92 ± 0.44	Pass	
DW-70335, 70336	4/5/2007	Gr. Alpha	24.37 ± 2.89	22.72 ± 2.91	23.55 ± 2.05	Pass	
DW-70335, 70336	4/5/2007	Gr. Beta	20.26 ± 1.37	18.33 ± 1.34	19.30 ± 0.96	Pass	
SW-1898, 1899	4/10/2007	Gr. Alpha	3.86 ± 1.40	4.78 ± 1.51	4.32 ± 1.03	Pass	
SW-1898, 1899	4/10/2007	Gr. Beta	6.31 ± 1.36	7.03 ± 1.42	6.67 ± 0.98	Pass	
SW-1898, 1899	4/10/2007	H-3	241.99 ± 93.35	318.10 ± 96.48	280.04 ± 67.12	Pass	
DW-70346, 70347	4/11/2007	Gr. Alpha	1.83 ± 1.08	2.54 ± 1.04	2.19 ± 0.75	Pass	
DW-70346, 70347	4/11/2007	Gr. Beta	4.62 ± 0.72	4.01 ± 0.71	4.32 ± 0.51	Pass	
DW-70376, 70377	4/11/2007	Gr. Alpha	1.81 ± 0.80	1.66 ± 0.86	1.74 ± 0.59	Pass	
DW-70376, 70377	4/11/2007	Gr. Beta	1.84 ± 0.62	2.24 ± 0.61	2.04 ± 0.44	Pass	
DW-70311, 70312	4/12/2007	Gr. Alpha	10.82 ± 1.50	13.20 ± 1.56	12.01 ± 1.08	Pass	
WW-2349, 2350	4/17/2007	Gr. Alpha	0.71 ± 0.56	0.62 ± 0.52	0.66 ± 0.38	Pass	
WW-2461, 2462	4/25/2007	H-3	190.30 ± 100.31	115.95 ± 97.65	153.13 ± 70.00	Pass	
LW-2437, 2438	4/26/2007	Gr. Beta	2.71 ± 0.50	2.15 ± 0.45	2.43 ± 0.34	Pass	
LW-2917, 2918	4/30/2007	Gr. Beta	1.97 ± 0.79	2.78 ± 0.81	2.38 ± 0.57	Pass	
SO-2583, 2584	5/1/2007	Be-7	544.99 ± 247.70	601.13 ± 192.20	573.06 ± 156.76	Pass	
SO-2583, 2584	5/1/2007	Cs-137	119.22 ± 36.61	87.46 ± 23.97	103.34 ± 21.88	Pass	
SO-2583, 2584	5/1/2007	K-40	17825.00 ± 749.90	17672.00 ± 724.30	17748.50 ± 521.29	Pass	
SO-2583, 2584	5/1/2007	Gr. Alpha	11.49 ± 3.96	8.04 ± 3.88	9.77 ± 2.77	Pass	
SO-2583, 2584	5/1/2007	Gr. Beta	31.02 ± 3.74	26.10 ± 3.40	28.56 ± 2.53	Pass	
SO-2583, 2584	5/1/2007	Sr-90	0.086 ± 0.024	0.068 ± 0.025	0.077 ± 0.017	Pass	
S-2620, 2621	5/2/2007	H-3	277.90 ± 126.70	304.40 ± 101.00	291.15 ± 81.02	Pass	
MI-2610, 2611	5/3/2007	K-40	1549.20 ± 184.20	1388.80 ± 128.20	1469.00 ± 112.21	Pass	
W-4469, 4470	5/7/2007	Gr. Beta	10.60 ± 1.90	11.10 ± 1.80	10.85 ± 1.31	Pass	
SS-2697, 2698	5/8/2007	Cs-137	0.06 ± 0.02	0.05 ± 0.03	0.05 ± 0.02	Pass	
SS-2697, 2698	5/8/2007	K-40	8.03 ± 0.57	7.36 ± 0.68	7.70 ± 0.44	Pass	
MI-2790, 2791	5/14/2007	K-40	1694.30 ± 126.20	1627.60 ± 128.80	1660.95 ± 90.16	Pass	
W-4505, 4506	5/14/2007	Gr. Beta	3.30 ± 1.70	3.90 ± 1.50	3.60 ± 1.13	Pass	
DW-3219, 3220	5/26/2007	I-131	0.62 ± 0.32	0.69 ± 0.31	0.66 ± 0.22	Pass	
SO-3416, 3417	5/31/2007	Cs-137	0.15 ± 0.03	0.15 ± 0.03	0.15 ± 0.02	Pass	
SO-3416, 3417	5/31/2007	Gr. Beta	22.88 ± 2.33	22.46 ± 2.37	22.67 ± 1.66	Pass	
SO-3416, 3417	5/31/2007	K-40	12.26 ± 0.80	12.36 ± 0.65	12.31 ± 0.52	Pass	
F-3561, 3562	5/31/2007	K-40	3.06 ± 0.39	3.37 ± 0.45	3.21 ± 0.30	Pass	
SL-3311, 3312	6/4/2007	Be-7	0.61 ± 0.29	0.55 ± 0.25	0.58 ± 0.19	Pass	
SL-3311, 3312	6/4/2007	K-40	5.78 ± 0.67	4.87 ± 0.25	5.33 ± 0.36	Pass	

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

Lab Code	Date	Analysis	Concentration (pCi/L) <sup>b</sup>			Averaged Result	Acceptance
			First Result	Second Result			
SL-3992, 3993	6/4/2007	Be-7	0.75 ± 0.19	0.74 ± 0.32		0.75 ± 0.19	Pass
SL-3992, 3993	6/4/2007	Gr. Beta	13.61 ± 1.12	14.06 ± 1.08		13.84 ± 0.78	Pass
SL-3992, 3993	6/4/2007	K-40	2.43 ± 0.36	2.29 ± 0.40		2.36 ± 0.27	Pass
W-5087, 5088	6/11/2007	Gr. Beta	8.70 ± 1.90	7.70 ± 1.90		8.20 ± 1.34	Pass
SW-3710, 3711	6/14/2007	H-3	9571.51 ± 287.22	9879.21 ± 291.42		9725.36 ± 204.59	Pass
W-4062, 4063	6/28/2007	Gr. Alpha	0.76 ± 0.63	0.32 ± 0.66		0.54 ± 0.45	Pass
W-4062, 4063	6/28/2007	Gr. Beta	0.97 ± 0.53	0.58 ± 0.57		0.78 ± 0.39	Pass
AP-4448, 4449	6/28/2007	Be-7	0.10 ± 0.02	0.09 ± 0.02		0.10 ± 0.01	Pass
SG-3735, 3736	6/30/2007	Be-7	0.84 ± 0.12	0.82 ± 0.18		0.83 ± 0.11	Pass
SG-3735, 3736	6/30/2007	Cs-137	0.07 ± 0.01	0.07 ± 0.01		0.07 ± 0.01	Pass
SG-3735, 3736	6/30/2007	Gr. Beta	29.51 ± 2.22	30.81 ± 2.22		30.16 ± 1.57	Pass
SG-3735, 3736	6/30/2007	K-40	9.41 ± 0.31	8.90 ± 0.48		9.16 ± 0.29	Pass
LW-4175, 4176	6/30/2007	Gr. Beta	2.18 ± 0.60	1.93 ± 0.68		2.06 ± 0.45	Pass
SG-5422, 5423	7/2/2007	Gr. Alpha	10.31 ± 1.98	10.57 ± 1.99		10.44 ± 1.40	Pass
SG-5422, 5423	7/2/2007	Gr. Beta	18.59 ± 1.46	20.97 ± 1.49		19.78 ± 1.04	Pass
AP-4656, 4657	7/3/2007	Be-7	0.09 ± 0.02	0.10 ± 0.02		0.10 ± 0.01	Pass
AP-4763, 4764	7/3/2007	Be-7	0.11 ± 0.02	0.10 ± 0.02		0.11 ± 0.01	Pass
SG-5430, 5431	7/11/2007	Be-7	10.17 ± 0.48	10.06 ± 0.51		10.12 ± 0.35	Pass
SG-5430, 5431	7/11/2007	Cs-137	0.050 ± 0.010	0.059 ± 0.011		0.055 ± 0.007	Pass
SG-5430, 5431	7/11/2007	Gr. Alpha	17.86 ± 2.78	15.74 ± 2.70		16.80 ± 1.94	Pass
SG-5430, 5431	7/11/2007	Gr. Beta	26.19 ± 1.74	25.04 ± 1.86		25.62 ± 1.27	Pass
SG-5430, 5431	7/11/2007	K-40	7.69 ± 0.30	7.65 ± 0.28		7.67 ± 0.21	Pass
WW-4298, 4299	7/12/2007	Gr. Beta	1.74 ± 0.74	2.22 ± 0.80		1.98 ± 0.55	Pass
DW-70612, 70613	7/23/2007	Gr. Alpha	4.54 ± 1.11	4.19 ± 0.97		4.37 ± 0.74	Pass
WW-4918, 4919	7/25/2007	H-3	240.43 ± 111.12	216.68 ± 110.27		228.56 ± 78.27	Pass
MI-4742, 4743	7/26/2007	K-40	1820.30 ± 134.10	1802.90 ± 199.50		1811.60 ± 120.19	Pass
VE-4939, 4940	8/1/2007	Be-7	0.39 ± 0.21	0.45 ± 0.20		0.42 ± 0.15	Pass
VE-4939, 4940	8/1/2007	Gr. Beta	5.50 ± 0.14	5.76 ± 0.13		5.63 ± 0.10	Pass
VE-4939, 4940	8/1/2007	K-40	3.36 ± 0.45	3.36 ± 0.21		3.36 ± 0.25	Pass
SG-6274, 6275	8/6/2007	Gr. Alpha	16.68 ± 3.29	19.26 ± 3.39		17.97 ± 2.36	Pass
SG-6274, 6275	8/6/2007	Gr. Beta	40.93 ± 2.74	42.42 ± 2.66		41.68 ± 1.91	Pass
SW-5218, 5219	8/7/2007	I-131	1.31 ± 0.24	1.42 ± 0.24		1.37 ± 0.17	Pass
SG-6284, 6285	8/8/2007	Cs-137	0.043 ± 0.006	0.051 ± 0.007		0.047 ± 0.005	Pass
SG-6284, 6285	8/8/2007	Gr. Alpha	9.38 ± 2.93	13.61 ± 3.38		11.50 ± 2.24	Pass
SG-6284, 6285	8/8/2007	Gr. Beta	33.46 ± 2.84	32.87 ± 2.93		33.17 ± 2.04	Pass
SG-6284, 6285	8/8/2007	K-40	16.15 ± 0.24	16.23 ± 0.25		16.19 ± 0.17	Pass
WW-5310, 5311	8/9/2007	H-3	644.00 ± 106.00	831.00 ± 113.00		737.50 ± 77.47	Pass
SW-5393, 5394	8/14/2007	Gr. Beta	2.32 ± 1.31	1.71 ± 1.27		2.02 ± 0.92	Pass
SW-5393, 5394	8/14/2007	H-3	190.06 ± 86.80	69.05 ± 80.88		129.55 ± 59.32	Pass
W-5468, 5469	8/15/2007	H-3	262.58 ± 108.43	346.53 ± 111.42		304.55 ± 77.74	Pass

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

Lab Code	Date	Analysis	Concentration (pCi/L) <sup>a</sup>			Averaged Result	Acceptance
			First Result	Second Result			
VE-5553, 5554	8/22/2007	K-40	1.89 ± 0.33	1.89 ± 0.22	1.89 ± 0.20	Pass	
WW-5643, 5644	8/22/2007	H-3	259.00 ± 110.00	266.00 ± 110.00	262.50 ± 77.78	Pass	
SWU-5799, 5800	8/28/2007	Gr. Beta	2.64 ± 1.18	3.62 ± 1.06	3.13 ± 0.79	Pass	
DW-70752, 70753	8/31/2007	Gr. Alpha	14.41 ± 1.48	12.90 ± 1.50	13.66 ± 1.05	Pass	
VE-5917, 5918	9/4/2007	Be-7	0.94 ± 0.17	0.83 ± 0.20	0.89 ± 0.13	Pass	
VE-5917, 5918	9/4/2007	K-40	3.73 ± 0.37	3.58 ± 0.36	3.66 ± 0.26	Pass	
VE-5917, 5918	9/4/2007	Gr. Beta	2.71 ± 0.10	2.69 ± 0.10	2.70 ± 0.07	Pass	
MI-6009, 6010	9/11/2007	K-40	1348.90 ± 113.40	1388.10 ± 116.40	1368.50 ± 81.25	Pass	
MI-6030, 6031	9/12/2007	K-40	1242.70 ± 118.00	1475.60 ± 119.60	1359.15 ± 84.01	Pass	
MI-6030, 6031	9/12/2007	Sr-90	1.00 ± 0.38	0.90 ± 0.34	0.95 ± 0.26	Pass	
DW-70718, 70719	9/12/2007	Gr. Alpha	23.04 ± 3.71	23.22 ± 3.61	23.13 ± 2.59	Pass	
DW-70718, 70719	9/12/2007	Gr. Beta	16.13 ± 1.59	17.36 ± 1.69	16.75 ± 1.16	Pass	
SO-6156, 6157	9/14/2007	H-3	181.99 ± 90.67	232.19 ± 92.95	207.09 ± 64.92	Pass	
SO-6484, 6485	9/17/2007	Cs-137	0.01 ± 0.00	0.01 ± 0.00	0.01 ± 0.00	Pass	
SO-6484, 6485	9/17/2007	Gr. Beta	24.20 ± 2.60	23.30 ± 2.30	23.75 ± 1.74	Pass	
SO-6484, 6485	9/17/2007	K-40	11.52 ± 1.16	10.89 ± 1.10	11.20 ± 0.80	Pass	
WW-6469, 6470	9/21/2007	Gr. Beta	27.19 ± 2.51	24.23 ± 2.29	25.71 ± 1.70	Pass	
E-6647, 6648	10/1/2007	Gr. Beta	1.82 ± 0.10	1.93 ± 0.11	1.88 ± 0.07	Pass	
E-6647, 6648	10/1/2007	K-40	1.48 ± 0.24	1.31 ± 0.23	1.40 ± 0.17	Pass	
WW-6656, 6657	10/1/2007	Gr. Beta	2.80 ± 0.97	1.95 ± 0.87	2.38 ± 0.65	Pass	
TD-7080, 7081	10/2/2007	H-3	332.00 ± 229.00	383.00 ± 191.00	357.50 ± 149.10	Pass	
SG-6891, 6892	10/3/2007	Gr. Alpha	12.93 ± 2.12	13.52 ± 2.07	13.23 ± 1.48	Pass	
SG-6891, 6892	10/3/2007	Gr. Beta	18.08 ± 1.41	18.27 ± 1.36	18.18 ± 0.98	Pass	
AP-7191, 7192	10/3/2007	Be-7	0.09 ± 0.01	0.09 ± 0.01	0.09 ± 0.01	Pass	
WW-6786, 6787	10/8/2007	H-3	13333 ± 322	13532 ± 324	13433 ± 228	Pass	
WW-6786, 6787	10/8/2007	H-3	13188 ± 322	13556 ± 326	13372 ± 229	Pass	
VE-6828, 6829	10/8/2007	Gr. Alpha	0.06 ± 0.04	0.06 ± 0.05	0.06 ± 0.03	Pass	
VE-6828, 6829	10/8/2007	Gr. Beta	5.55 ± 0.21	5.20 ± 0.22	5.38 ± 0.10	Pass	
VE-6828, 6829	10/8/2007	K-40	5.45 ± 0.43	5.20 ± 0.49	5.32 ± 0.33	Pass	
SS-6870, 6871	10/9/2007	Gr. Beta	18.10 ± 2.08	21.71 ± 2.19	19.90 ± 1.51	Pass	
SS-6870, 6871	10/9/2007	K-40	10.19 ± 0.66	9.72 ± 0.68	9.95 ± 0.47	Pass	
LW-7507, 7508	10/11/2007	Gr. Beta	1.40 ± 0.56	1.44 ± 0.54	1.42 ± 0.39	Pass	
MI-6933, 6934	10/16/2007	K-40	1386.60 ± 104.70	1331.20 ± 106.70	1358.90 ± 74.74	Pass	
MI-6933, 6934	10/16/2007	Sr-90	1.73 ± 0.52	2.17 ± 0.57	1.95 ± 0.39	Pass	
MI-7059, 7060	10/17/2007	K-40	1424.80 ± 106.60	1448.60 ± 115.30	1436.70 ± 78.51	Pass	
F-7213, 7214	10/24/2007	H-3	6.83 ± 0.22	7.24 ± 0.22	7.03 ± 0.16	Pass	
F-7213, 7214	10/24/2007	K-40	3.13 ± 0.51	3.16 ± 0.48	3.15 ± 0.35	Pass	
WW-7408, 7409	10/24/2007	H-3	340.71 ± 90.45	346.22 ± 90.67	343.46 ± 64.03	Pass	
DW-70856, 70857	10/24/2007	Gr. Alpha	11.03 ± 1.66	10.71 ± 1.34	10.87 ± 1.07	Pass	
SO-7508, 7509	10/26/2007	Cs-137	0.30 ± 0.04	0.29 ± 0.05	0.29 ± 0.03	Pass	
SO-7508, 7509	10/26/2007	Gr. Beta	34.43 ± 2.72	37.25 ± 3.07	35.84 ± 2.05	Pass	
SO-7508, 7509	10/26/2007	K-40	16.84 ± 0.84	17.43 ± 1.05	17.14 ± 0.67	Pass	

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

Lab Code	Date	Analysis	Concentration (pCi/L) <sup>a</sup>			Averaged Result	Acceptance
			First Result	Second Result			
SS-7529, 7530	10/29/2007	Cs-137	0.12 ± 0.03	0.12 ± 0.02		0.12 ± 0.02	Pass
SS-7529, 7530	10/29/2007	K-40	11.85 ± 0.68	11.75 ± 0.58		11.80 ± 0.45	Pass
SW-7589, 7590	10/30/2007	Gr. Beta	1.75 ± 0.29	1.24 ± 0.26		1.50 ± 0.19	Pass
SWU-7733, 7734	10/30/2007	Gr. Beta	1.66 ± 1.01	2.43 ± 1.13		2.05 ± 0.76	Pass
MI-7618, 7619	10/31/2007	K-40	1376.80 ± 114.30	1426.70 ± 128.80		1401.75 ± 86.10	Pass
VE-7666, 7667	11/5/2007	Gr. Alpha	0.07 ± 0.04	0.16 ± 0.05		0.11 ± 0.03	Pass
VE-7666, 7667	11/5/2007	Gr. Beta	6.03 ± 0.15	6.13 ± 0.15		6.08 ± 0.10	Pass
VE-7666, 7667	11/5/2007	K-40	5.82 ± 0.36	5.74 ± 0.36		5.78 ± 0.25	Pass
DW-7853, 7854	11/9/2007	I-131	1.61 ± 0.40	1.08 ± 0.39		1.35 ± 0.28	Pass
MI-7874, 7875	11/14/2007	K-40	1407.70 ± 101.30	1362.60 ± 114.50		1385.15 ± 76.44	Pass
WW-8142, 8143	11/28/2007	Gr. Beta	9.51 ± 2.21	7.86 ± 2.01		8.68 ± 1.49	Pass
DW-8094, 8095	11/29/2007	Gr. Beta	1.60 ± 0.58	1.25 ± 0.54		1.43 ± 0.40	Pass
F-8328, 8329	12/11/2007	Gr. Beta	3.97 ± 0.08	4.00 ± 0.08		3.99 ± 0.05	Pass
WW-8378, 8379	12/11/2007	H-3	296.00 ± 103.00	407.00 ± 107.00		351.50 ± 74.26	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-1110	01/01/07	Gr. Alpha	0.45 ± 0.08	0.33	0.00 - 0.65	Pass
STW-1110	01/01/07	Gr. Beta	0.90 ± 0.14	0.85	0.43 - 1.28	Pass
STW-1111 <sup>e</sup>	01/01/07	Am-241	2.80 ± 0.21	1.71	1.20 - 2.22	Fail
STW-1111	01/01/07	Co-57	151.60 ± 10.00	143.70	100.60 - 186.80	Pass
STW-1111	01/01/07	Cs-134	79.20 ± 8.00	83.50	58.50 - 108.60	Pass
STW-1111	01/01/07	Cs-137	168.70 ± 12.10	163.00	114.10 - 211.90	Pass
STW-1111	01/01/07	Fe-55	130.30 ± 19.90	129.30	90.50 - 168.10	Pass
STW-1111	01/01/07	H-3	262.20 ± 9.10	283.00	198.10 - 367.90	Pass
STW-1111	01/01/07	Mn-54	130.60 ± 11.50	123.80	86.70 - 160.90	Pass
STW-1111	01/01/07	Ni-63	127.80 ± 3.60	130.40	91.30 - 169.50	Pass
STW-1111	01/01/07	Ni-63	127.80 ± 3.60	130.40	91.30 - 169.50	Pass
STW-1111	01/01/07	Pu-238	2.03 ± 0.17	2.25	1.58 - 2.93	Pass
STW-1111	01/01/07	Pu-239/40	2.27 ± 0.17	2.22	1.55 - 2.89	Pass
STW-1111	01/01/07	Sr-90	9.60 ± 1.40	8.87	6.21 - 11.53	Pass
STW-1111	01/01/07	Tc-99	8.80 ± 1.50	88.00	7.40 - 13.70	Pass
STW-1111	01/01/07	U-233/4	2.44 ± 0.21	2.49	1.74 - 3.24	Pass
STW-1111	01/01/07	U-238	2.44 ± 0.21	2.48	1.74 - 3.22	Pass
STW-1111	01/01/07	Zn-65	123.70 ± 17.00	114.80	80.40 - 149.20	Pass
STSO-1112 <sup>f</sup>	01/01/07	Am-241	46.40 ± 9.00	34.80	24.40 - 45.20	Fail
STSO-1112	01/01/07	Co-57	501.20 ± 2.90	471.20	329.80 - 612.60	Pass
STSO-1112	01/01/07	Co-60	285.90 ± 2.10	274.70	192.30 - 357.10	Pass
STSO-1112	01/01/07	Cs-134	325.90 ± 7.40	327.40	229.20 - 425.60	Pass
STSO-1112	01/01/07	Cs-137	855.70 ± 4.60	799.70	559.80 - 1039.60	Pass
STSO-1112	01/01/07	Mn-54	750.90 ± 4.70	685.20	479.60 - 890.80	Pass
STAP-1113	01/01/07	Gr. Alpha	0.27 ± 0.04	0.60	0.00 - 1.20	Pass
STAP-1113	01/01/07	Gr. Beta	0.57 ± 0.05	0.44	0.22 - 0.66	Pass
STAP-1114	01/01/07	Am-241	0.10 ± 0.03	0.10	0.07 - 0.13	Pass
STAP-1114	01/01/07	Co-57	3.51 ± 0.07	2.89	2.02 - 3.75	Pass
STAP-1114	01/01/07	Co-60	2.98 ± 0.10	2.91	2.03 - 3.78	Pass
STAP-1114	01/01/07	Cs-134	4.02 ± 0.16	4.20	2.94 - 5.45	Pass
STAP-1114	01/01/07	Cs-137	2.75 ± 0.12	2.57	1.80 - 3.34	Pass
STAP-1114	01/01/07	Mn-54	3.94 ± 0.12	3.52	2.46 - 4.57	Pass
STAP-1114	01/01/07	Pu-238	0.07 ± 0.01	0.07	0.05 - 0.09	Pass
STAP-1114	01/01/07	Pu-239/40	0.08 ± 0.01	0.08	0.06 - 0.11	Pass
STAP-1114	01/01/07	Sr-90	0.58 ± 0.18	0.61	0.43 - 0.79	Pass
STAP-1114	01/01/07	U-233/4	0.09 ± 0.01	0.10	0.07 - 0.13	Pass
STAP-1114	01/01/07	U-238	0.09 ± 0.01	0.10	0.07 - 0.13	Pass
STAP-1114	01/01/07	Zn-65	2.70 ± 0.10	2.68	1.88 - 3.49	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		
STVE-1115	01/01/07	Co-57	8.90 ± 0.20	8.19	5.73 - 10.64	Pass
STVE-1115	01/01/07	Co-60	6.50 ± 0.20	5.82	4.08 - 7.57	Pass
STVE-1115	01/01/07	Cs-134	6.90 ± 0.30	6.21	4.35 - 8.07	Pass
STVE-1115	01/01/07	Cs-137	8.20 ± 0.30	6.99	4.90 - 9.09	Pass
STVE-1115	01/01/07	Mn-54	10.10 ± 0.30	8.46	5.91 - 10.98	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> Result of reanalysis, 2.08 ± 0.13 pCi/L.

<sup>f</sup> The test samples were recounted on lower background detectors. Result of the recounts: 41.4 ± 6.3 Bq/kg.

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

Lab Code <sup>b</sup>	Date	Analysis	Concentration (pCi/L)			
			Laboratory Result <sup>c</sup>	ERA Result <sup>d</sup>	Control Limits	Acceptance
STAP-1116	03/19/07	Gr. Alpha	34.64 ± 2.56	25.8	12.4 - 39	Pass
STAP-1116	03/19/07	Gr. Beta	93.41 ± 3.20	79.5	48.8 - 116	Pass
STAP-1117	03/19/07	Am-241	56.04 ± 3.90	57.5	33.1 - 80	Pass
STAP-1117	03/19/07	Co-60	1610.00 ± 8.40	1300.0	1010.0 - 1620	Pass
STAP-1117	03/19/07	Cs-134	1340.40 ± 48.84	1120.0	732.0 - 1380	Pass
STAP-1117 <sup>e</sup>	03/19/07	Cs-137	345.30 ± 8.20	255.0	192.0 - 336	Fail
STAP-1117 <sup>f</sup>	03/19/07	Fe-55	< 134.0	0.0		Pass
STAP-1117 <sup>f</sup>	03/19/07	Mn-54	< 5.0	0.0		Pass
STAP-1117	03/19/07	Pu-238	43.32 ± 2.28	37.4	25.7 - 49	Pass
STAP-1117	03/19/07	Pu-239/40	35.23 ± 2.24	31.6	22.9 - 41	Pass
STAP-1117	03/19/07	Sr-90	156.10 ± 6.60	156.0	66.6 - 246	Pass
STAP-1117	03/19/07	U-233/4	42.22 ± 1.84	47.8	30.1 - 71	Pass
STAP-1117	03/19/07	U-238	42.00 ± 1.84	47.4	30.2 - 68	Pass
STAP-1117	03/19/07	Uranium	85.79 ± 3.60	97.3	49.5 - 155	Pass
STAP-1117	03/19/07	Zn-65	363.80 ± 11.90	245.0	208.0 - 412	Pass
STSO-1118	03/19/07	Ac-228	3097.77 ± 94.96	2790.0	1790.0 - 3930	Pass
STSO-1118	03/19/07	Am-241	1000.70 ± 156.10	927.0	548.0 - 1200	Pass
STSO-1118	03/19/07	Bi-212	2467.87 ± 114.33	2500.0	658.0 - 3730	Pass
STSO-1118	03/19/07	Co-60	7847.40 ± 86.60	7330.0	5340.0 - 9820	Pass
STSO-1118	03/19/07	Cs-134	7910.60 ± 356.88	7560.0	4850.0 - 9070	Pass
STSO-1118	03/19/07	Cs-137	4635.00 ± 99.10	4300.0	3290.0 - 5580	Pass
STSO-1118	03/19/07	K-40	12201.60 ± 423.20	11100.0	8050.0 - 15000	Pass
STSO-1118 <sup>f</sup>	03/19/07	Mn-54	< 34.0	0.0		Pass
STSO-1118	03/19/07	Pb-212	2046.80 ± 127.20	1730.0	1120.0 - 2430	Pass
STSO-1118	03/19/07	Pb-214	4142.80 ± 110.40	3330.0	1980.0 - 4980	Pass
STSO-1118	03/19/07	Pu-238	1099.20 ± 73.10	857.0	490.0 - 1200	Pass
STSO-1118	03/19/07	Pu-239/40	1586.10 ± 82.00	1360.0	928.0 - 1810	Pass
STSO-1118	03/19/07	Sr-90	6163.30 ± 791.60	7500.0	2610.0 - 12400	Pass
STSO-1118	03/19/07	Th-234	4329.40 ± 569.10	3590.0	2190.0 - 4560	Pass
STSO-1118	03/19/07	U-233/4	3236.70 ± 106.00	3620.0	2280.0 - 4520	Pass
STSO-1118	03/19/07	U-238	3425.20 ± 134.00	3590.0	2190.0 - 4560	Pass
STSO-1118	03/19/07	Uranium	6787.80 ± 240.00	7380.0	4210.0 - 9930	Pass
STSO-1118	03/19/07	Uranium	6787.80 ± 240.00	7380.0	4210.0 - 9930	Pass
STSO-1118 <sup>f</sup>	03/19/07	Zn-65	0.00 ± 0.00	0.0	0.0 - 0	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)			
			Laboratory Result <sup>c</sup>	ERA Result <sup>d</sup>	Control Limits	Acceptance
STVE-1119	03/19/07	Am-241	3249.60 ± 150.30	3550.0	2020.0 - 4890	Pass
STVE-1119	03/19/07	Cm-244	1860.70 ± 91.50	1840.0	905.0 - 2870	Pass
STVE-1119	03/19/07	Co-60	2827.90 ± 62.40	2600.0	1760.0 - 3720	Pass
STVE-1119	03/19/07	Cs-134	654.80 ± 48.40	579.0	308.0 - 822	Pass
STVE-1119	03/19/07	Cs-137	3307.30 ± 58.80	2920.0	2150.0 - 4060	Pass
STVE-1119	03/19/07	K-40	40814.20 ± 618.80	37900.0	27200.0 - 53600	Pass
STVE-1119 <sup>f</sup>	03/19/07	Mn-54	< 27.6	0.0		Pass
STVE-1119	03/19/07	Pu-238	2762.00 ± 251.10	2430.0	1250.0 - 3600	Pass
STVE-1119	03/19/07	Pu-239/40	2156.60 ± 83.40	1900.0	1180.0 - 2600	Pass
STVE-1119	03/19/07	Sr-90	8999.70 ± 580.90	8890.0	4900.0 - 11800	Pass
STVE-1119	03/19/07	U-233/4	2821.90 ± 73.50	2940.0	1930.0 - 3920	Pass
STVE-1119	03/19/07	U-238	2896.10 ± 50.70	2910.0	2090.0 - 3610	Pass
STVE-1119	03/19/07	Uranium	5718.00 ± 124.15	5980.0	4110.0 - 7770	Pass
STVE-1119	03/19/07	Zn-65	474.30 ± 45.70	366.0	267.0 - 500	Pass
STW-1120	03/19/07	Am-241	133.50 ± 10.60	179.0	123.0 - 243	Pass
STW-1120	03/19/07	Co-60	541.40 ± 9.00	536.0	467.0 - 631	Pass
STW-1120	03/19/07	Cs-134	1623.80 ± 66.10	1750.0	1290.0 - 2020	Pass
STW-1120	03/19/07	Cs-137	1839.10 ± 17.90	1850.0	1570.0 - 2220	Pass
STW-1120	03/19/07	Fe-55	829.50 ± 226.80	671.0	392.0 - 896	Pass
STW-1120 <sup>f</sup>	03/19/07	Mn-54	< 8.1	0.0		Pass
STW-1120	03/19/07	Pu-238	123.30 ± 4.30	116.0	87.6 - 144	Pass
STW-1120	03/19/07	Pu-239/40	95.10 ± 3.80	90.9	70.3 - 113	Pass
STW-1120	03/19/07	Sr-90	949.40 ± 16.70	989.0	630.0 - 1320	Pass
STW-1120	03/19/07	U-233/4	164.20 ± 6.58	192.0	145.0 - 247	Pass
STW-1120	03/19/07	U-238	169.20 ± 8.22	190.0	145.0 - 236	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> A high bias (~ 20%) was observed in gamma results for air filters. A composite filter geometry was used in the calculations vs. a single filter geometry. Result of recalculation. Cs-137, 305.8 ± 6.0 pCi/filter.

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

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:

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

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	Volume	
	Collected	(m <sup>3</sup> )	Gross Beta
T-12	01-09-07	281	0.015 ± 0.004
T-11	01-16-07	287	0.015 ± 0.003
T-07	01-23-07	283	0.020 ± 0.004
T-27	02-06-07	285	0.026 ± 0.004
T-09	02-13-07	279	0.028 ± 0.004
T-11	02-20-07	283	0.043 ± 0.005
T-08	02-27-07	284	0.018 ± 0.003
T-04	03-06-07	287	0.016 ± 0.004
T-09	04-03-07	280	0.020 ± 0.004
T-01	04-17-07	280	0.022 ± 0.004
T-27	05-01-07	281	0.012 ± 0.004
T-27	05-15-07	280	0.029 ± 0.004
T-07	05-29-07	282	0.031 ± 0.004
T-27	06-12-07	281	0.020 ± 0.004
T-11	07-03-07	284	0.013 ± 0.003
T-02	07-10-07	290	0.031 ± 0.004
T-04	07-17-07	287	0.021 ± 0.004
T-03	08-07-07	280	0.044 ± 0.005
T-27	08-28-07	280	0.020 ± 0.003
T-27	09-11-07	284	0.042 ± 0.005
T-04	09-18-07	282	0.022 ± 0.004
T-09	09-25-07	284	0.046 ± 0.005
T-01	10-02-07	285	0.029 ± 0.004
T-08	11-27-07	275	0.031 ± 0.004
T-03	12-04-07	286	0.030 ± 0.004
T-02	12-26-07	333	0.045 ± 0.004

**C-2. Duplicate Analyses**

Surface Water			
Location	T-145 (QC)	T-22	T-12
Lab Code	TSWU- 677	TSWU- 1163	TSWT- 2219
Date Collected	01-30-07	02-27-07	03-27-07
Gross beta	1.9 ± 0.3	3.6 ± 0.7	NA
H-3	< 330	< 330	< 330
Sr-89	NA	NA	< 0.9
Sr-90	NA	NA	< 0.4
Mn-54	< 1.7	< 2.3	< 2.0
Fe-59	< 5.8	< 4.7	< 7.8
Co-58	< 2.1	< 2.8	< 1.8
Co-60	< 2.6	< 2.0	< 1.7
Zn-65	< 3.0	< 4.6	< 5.0
Zr-Nb-95	< 3.0	< 3.5	< 6.4
Cs-134	< 2.7	< 2.5	< 2.9
Cs-137	< 3.0	< 3.8	< 3.5
Ba-La-140	< 5.5	< 4.6	< 12.1
Location	T-22	T-11	T-50
Lab Code	TSWU- 3264	TSWU- 5128	TSWU- 5800
Date Collected	05-29-07	07-31-07	08-28-07
Gross beta	441 ± 92	< 1.7	3.6 ± 1.1
H-3	< 330	< 330	< 330
Mn-54	< 2.3	< 3.7	< 3.8
Fe-59	< 4.0	< 11.5	< 7.1
Co-58	< 3.2	< 3.1	< 4.7
Co-60	< 2.3	< 2.6	< 2.1
Zn-65	< 2.4	< 7.5	< 5.3
Zr-Nb-95	< 3.4	< 4.7	< 2.7
Cs-134	< 4.1	< 4.3	< 4.4
Cs-137	< 3.2	< 6.8	< 3.2
Ba-La-140	< 5.0	< 6.9	< 8.5
Location	T-3		
Lab Code	TSWU- 8119		
Date Collected	11-27-07		
Gross beta	3.3 ± 0.5		
H-3	< 330		
Mn-54	< 3.8		
Fe-59	< 5.6		
Co-58	< 3.7		
Co-60	< 3.4		
Zn-65	< 8.8		
Zr-Nb-95	< 5.5		
Cs-134	< 2.0		
Cs-137	< 3.0		
Ba-La-140	< 7.9		

NA = Not analyzed, analysis not required.

C-2. Duplicate Analyses

Air Particulates (Quarterly composites)			
Location	T-11	T-8	T-7
Lab Code	TAP- 2198	TAP- 4428	TAP- 6976
Sr-89	< 0.0010	< 0.0011	< 0.0013
Sr-90	< 0.0006	< 0.0007	< 0.0008
Be-7	0.078 ± 0.013	0.109 ± 0.020	0.081 ± 0.013
K-40	< 0.018	< 0.027	< 0.019
Nb-95	< 0.0007	< 0.0014	< 0.0010
Zr-95	< 0.0011	< 0.0010	< 0.0021
Ru-103	< 0.0009	< 0.0008	< 0.0010
Ru-106	< 0.0038	< 0.0075	< 0.0063
Cs-134	< 0.0006	< 0.0004	< 0.0008
Cs-137	< 0.0006	< 0.0007	< 0.0006
Ce-141	< 0.0010	< 0.0013	< 0.0011
Ce-144	< 0.0033	< 0.0034	< 0.0045
Location	T-2		
Lab Code	TAP- 8810		
Sr-89	< 0.0010		
Sr-90	< 0.0009		
Be-7	0.057 ± 0.013		
K-40	< 0.033		
Nb-95	< 0.0005		
Zr-95	< 0.0009		
Ru-103	< 0.0004		
Ru-106	< 0.0055		
Cs-134	< 0.0006		
Cs-137	< 0.0005		
Ce-141	< 0.0009		
Ce-144	< 0.0028		

Table 4.5 Radiological Environmental Monitoring Program Summary

Name of Facility Location of Facility	Davis-Besse Nuclear Power Station Ottawa, Ohio ( County, State )	Docket No. Reporting Period	50-346 January-December, 2007
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Sample Type (Units)	Type and Number of Analyses <sup>a</sup>	LLD <sup>b</sup>	Indicator Locations Mean (F) <sup>c</sup> Range <sup>c</sup>	Location with Highest Annual Mean		Control Locations Mean (F) <sup>c</sup> Range <sup>c</sup>	Number Non-Routine Results <sup>d</sup>
				Location <sup>d</sup>	Mean (F) <sup>c</sup> Range <sup>c</sup>		
Treated Surface Water (pCi/L)	GB (TR) 48	1.0	2.2 (24/24) (1.2-4.5)	T-22, Carroll Twp. WTP, 3.0 mi. NW	2.2 (12/12) (1.2-4.5)	1.9 (24/24) (0.9-3.6)	0
	H-3 16	330	< LLD	-	-	< LLD	0
	Sr-89 16	1.5	< LLD	-	-	< LLD	0
	Sr-90 16	1.0	< LLD	T-50, Erie Indus. Pk. WTP, 4.5 mi. SE	1.0 (1/4)	< LLD	0
	GS 16	.15	< LLD	-	-	< LLD	0
	Mn-54	30	< LLD	-	-	< LLD	0
	Fe-59	15	< LLD	-	-	< LLD	0
	Co-58	15	< LLD	-	-	< LLD	0
	Co-60	15	< LLD	-	-	< LLD	0
	Zn-65	30	< LLD	-	-	< LLD	0
	Zr-Nb-95	15	< LLD	-	-	< LLD	0
	Cs-134	10	< LLD	-	-	< LLD	0
	Cs-137	10	< LLD	-	-	< LLD	0
	Ba-La-140	15	< LLD	-	-	< LLD	0
Untreated Surface Water (pCi/L)	GB (TR) 60	1.0	2.6 (36/36) (1.2-5.6)	T-3, Site Boundary 1.4 mi. ESE	3.0 (12/12) (1.8-5.6)	2.5 (24/24) (1.2-5.5)	0
	H-3 60	330	583 (3/36) (435-736)	T-22, Carroll Twp. WTP, 3.0 mi. NW	583 (3/12) (435-736)	555 (1/24)	0
	Sr-89 20	1.4	< LLD	-	-	< LLD	0
	Sr-90 20	0.8	< LLD	-	-	< LLD	0
	GS 60	15	< LLD	-	-	< LLD	0
	Mn-54	30	< LLD	-	-	< LLD	0
	Fe-59	15	< LLD	-	-	< LLD	0
	Co-58	15	< LLD	-	-	< LLD	0
	Co-60	15	< LLD	-	-	< LLD	0
	Zn-65	30	< LLD	-	-	< LLD	0
	Zr-Nb-95	15	< LLD	-	-	< LLD	0
	Cs-134	10	< LLD	-	-	< LLD	0
	Cs-137	10	< LLD	-	-	< LLD	0
	Ba-La-140	15	< LLD	-	-	< LLD	0

Table 4.5 Radiological Environmental Monitoring Program Summary

Name of Facility	Davis-Besse Nuclear Power Station			Docket No.	50-346
Location of Facility	Ottawa, Ohio ( County, State )			Reporting Period	January-December, 2007

Sample Type (Units)	Type and Number of Analyses <sup>a</sup>	LLD <sup>b</sup>	Indicator Locations Mean (F) <sup>c</sup> Range <sup>c</sup>	Location with Highest Annual Mean		Control Locations Mean (F) <sup>c</sup> Range <sup>c</sup>	Number Non-Routine Results <sup>e</sup>
				Location <sup>d</sup>	Mean (F) <sup>c</sup> Range <sup>c</sup>		
Fish (pCi/g wet)	GB 6	0.10	4.15 (4/4) (3.51-4.74)	T-33, Lake Erie 1.5 mi. NE	4.15 (4/4) (3.51-4.74)	3.94 (2/2) (3.24-4.64)	0
	GS 6	0.10	2.86 (4/4) (2.48-3.18)	T-35, Lake Erie > 10 mi.	3.04 (2/2) (2.88-3.19)	3.04 (2/2) (2.88-3.19)	0
	Mn-54	0.021	< LLD	-	-	< LLD	0
	Fe-59	0.177	< LLD	-	-	< LLD	0
	Co-58	0.041	< LLD	-	-	< LLD	0
	Co-60	0.022	< LLD	-	-	< LLD	0
	Zn-65	0.041	< LLD	-	-	< LLD	0
	Cs-134	0.020	< LLD	-	-	< LLD	0
Shoreline Sediments (pCi/g dry)	GS 8	0.10	10.54 (6/6) (8.71-11.95)	T-4, Site Boundary 0.8 mi. S	11.43 (2/2) (11.07-11.78)	10.11 (2/2) (9.61-10.61)	0
	K-40	0.10	< LLD	-	-	< LLD	0
	Mn-54	0.034	< LLD	-	-	< LLD	0
	Co-58	0.027	< LLD	-	-	< LLD	0
	Co-60	0.024	< LLD	-	-	< LLD	0
	Cs-134	0.045	< LLD	-	-	< LLD	0
	Cs-137	0.029	< LLD	-	-	< LLD	0

<sup>a</sup> GB = gross beta, GS = gamma scan.<sup>b</sup> LLD = nominal lower limit of detection based on a 4.66 sigma counting error for background sample.<sup>c</sup> Mean and range are based on detectable measurements only (i.e., >LLD) Fraction of detectable measurements at specified locations is indicated in parentheses (F).<sup>d</sup> Locations are specified by station code (Table 4.1) and distance (miles) and direction relative to reactor site..<sup>e</sup> Non-routine results are those which exceed ten times the control station value.

Table 4.5 Radiological Environmental Monitoring Program Summary

Name of Facility Davis-Besse Nuclear Power Station	Docket No. 50-346
Location of Facility Ottawa, Ohio	Reporting Period January-December, 2007
( County, State )	

Sample Type (Units)	Type and Number of Analyses <sup>a</sup>	LLD <sup>b</sup>	Indicator Locations Mean (F) <sup>c</sup> Range <sup>c</sup>	Location with Highest Annual Mean		Control Locations Mean (F) <sup>c</sup> Range <sup>c</sup>	Number Non-Routine Results <sup>d</sup>
				Location <sup>d</sup>	Mean (F) <sup>c</sup> Range <sup>c</sup>		
Airborne Particulates (pCi/m <sup>3</sup> )	GB 520	0.005	0.026 (312/312) (0.009-0.050)	T-9, Oak Harbor 6.8 mi. SW	0.027 (52/52) (0.013-0.044)	0.026 (208/208) (0.004-0.049)	0
	Sr-89	0.0013	< LLD	-	-	< LLD	0
	Sr-90	0.0009	< LLD	-	-	< LLD	0
	GS 40	Be-7	0.015	T-8, Farm 2.7 mi. WSW	0.089 (4/4) (0.057-0.127)	0.086 (16/16) (0.053-0.119)	0
		K-40	0.034	< LLD	-	< LLD	0
		Nb-95	0.0012	< LLD	-	< LLD	0
		Zr-95	0.0022	< LLD	-	< LLD	0
		Ru-103	0.0010	< LLD	-	< LLD	0
		Ru-106	0.0087	< LLD	-	< LLD	0
		Cs-134	0.0010	< LLD	-	< LLD	0
		Cs-137	0.0009	< LLD	-	< LLD	0
		Ce-141	0.0019	< LLD	-	< LLD	0
		Ce-144	0.0054	< LLD	-	< LLD	0
Airborne Iodine (pCi/m <sup>3</sup> )	I-131 520	0.07	< LLD	-	-	< LLD	0
TLD (Quarterly) (mR/91 days)	Gamma 350	1.0	15.7 (306/306) ( 6.9-26.1)	T-8, Farm 2.7 mi. WSW	23.3 (4/4) (19.2-26.1)	16.6 (44/44) ( 10.5-22.2)	0
TLD (Quarterly) (mR/91 days) (Shield)	Gamma 4	1.0	7.6 (4/4) ( 7.2-7.9)	-	-	None	0
TLD (Annual) (mR/365 days)	Gamma 86	1.0	59.3 (75/75) ( 36.5-89.9)	T-8, Farm 2.7 mi. WSW	89.9 (1/1)	64.1 (11/11) ( 46.6-81.9)	0
TLD (Annual) (mR/365 days) (Shield)	Gamma 1	1.0	27.1 (1/1)	-	-	None	0

Table 4.5 Radiological Environmental Monitoring Program Summary

Name of Facility	Davis-Besse Nuclear Power Station			Docket No.	50-346
Location of Facility	Ottawa, Ohio			Reporting Period	January-December, 2007
	( County, State )				

Sample Type (Units)	Type and Number of Analyses <sup>a</sup>	LLD <sup>b</sup>	Indicator Locations Mean (F) <sup>c</sup> Range <sup>c</sup>	Location with Highest Annual Mean		Control Locations Mean (F) <sup>c</sup> Range <sup>c</sup>	Number Non-Routine Results <sup>e</sup>	
				Location <sup>d</sup>	Mean (F) <sup>c</sup> Range <sup>c</sup>			
Milk (pCi/L)	I-131	12	0.4	none	-	-	< LLD	0
	Sr-89	12	1.0	none	-	-	< LLD	0
	Sr-90	12	0.7	none	T-24, Sandusky 21.0 mi. SE	0.8 (10/12) (0.7-1.0)	0.8 (10/12) (0.7-1.0)	0
	GS	12	-	-	-	-	-	-
	K-40	100	none	T-24, Sandusky 21.0 mi. SE	1375 (12/12) (1314-1461)	1375 (12/12) (1314-1461)	0	0
	Cs-134	4.2	-	-	-	-	-	-
	Cs-137	4.5	none	-	-	-	< LLD	0
	Ba-La-140	5.5	none	-	-	-	< LLD	0
	Ca	12	0.50	none	T-24, Sandusky 21.0 mi. SE	1.32 (12/12) (1.04-1.62)	1.32 (12/12) (1.04-1.62)	0
	(g/L)	-	-	-	-	-	-	-
(g/L)	K (stable)	12	-	none	T-24, Sandusky 21.0 mi. SE	1.59 (12/12) (1.52-1.69)	1.59 (12/12) (1.52-1.69)	0
	(pCi/g)	Sr-90/Ca	12	-	none	T-24, Sandusky 21.0 mi. SE	0.65 (10/12) (0.49-0.87)	0.65 (10/12) (0.49-0.87)
(pCi/g)	Cs-137/K	12	-	none	-	-	< LLD	0
Ground Water (pCi/L)	GB (TR)	7	1.9	3.2 (2/4) (3.0-3.3)	T-27, Crane Creek 5.3 mi. WNW	3.6 (1/3)	3.6 (1/3)	-
	H-3	7	330	< LLD	-	-	< LLD	0
	Sr-89	7	1.4	< LLD	-	-	< LLD	0
	Sr-90	7	0.6	< LLD	-	-	< LLD	0
	GS	-	-	-	-	-	-	-
	Mn-54	15	< LLD	-	-	-	< LLD	0
	Fe-59	30	< LLD	-	-	-	< LLD	0
	Co-58	15	< LLD	-	-	-	< LLD	0
	Co-60	15	< LLD	-	-	-	< LLD	0
	Zn-65	30	< LLD	-	-	-	< LLD	0
	Zr-95	15	< LLD	-	-	-	< LLD	0
	Cs-134	10	< LLD	-	-	-	< LLD	0
	Cs-137	10	< LLD	-	-	-	< LLD	0
	Ba-La-140	15	< LLD	-	-	-	< LLD	0

Table 4.5 Radiological Environmental Monitoring Program Summary

Name of Facility	Davis-Besse Nuclear Power Station			Docket No.	50-346
Location of Facility	Ottawa, Ohio			Reporting Period	January-December, 2007
( County, State )					

Sample Type (Units)	Type and Number of Analyses <sup>a</sup>	LLD <sup>b</sup>	Indicator Locations Mean (F) <sup>c</sup> Range <sup>c</sup>	Location with Highest Annual Mean		Control Locations Mean (F) <sup>c</sup> Range <sup>c</sup>	Number Non-Routine Results <sup>d</sup>	
				Location <sup>d</sup>	Mean (F) <sup>c</sup> Range <sup>c</sup>			
Wild Meat (pCi/g wet)	GS K-40	2	0.10	2.35 (1/1)	T-31, On-site Roving location	2.35 (1/1)	2.25 (1/1)	0
	Nb-95	0.012	< LLD	-	-	< LLD	0	
	Zr-95	0.015	< LLD	-	-	< LLD	0	
	Ru-103	0.026	< LLD	-	-	< LLD	0	
	Ru-106	0.062	< LLD	-	-	< LLD	0	
	Cs-134	0.008	< LLD	-	-	< LLD	0	
	Cs-137	0.010	< LLD	-	-	< LLD	0	
	Ce-141	0.034	< LLD	-	-	< LLD	0	
	Ce-144	0.079	< LLD	-	-	< LLD	0	
Fruits and Vegetables (pCi/g wet)	Sr-89	3	0.004	< LLD	-	-	< LLD	0
	Sr-90	3	0.002	0.002 (1/2)	T-25, Farm, 1.6 mi. S	0.002 (1/2)	< LLD	0
	I-131	3	0.057	< LLD	-	-	< LLD	0
	GS K-40	3	0.50	1.30 (2/2) (1.22-1.38)	T-8, Farm 2.7 mi. WSW	1.38 (1/1)	1.24 (1/1)	0
	Nb-95	0.010	< LLD	-	-	< LLD	0	
	Zr-95	0.012	< LLD	-	-	< LLD	0	
	Cs-134	0.009	< LLD	-	-	< LLD	0	
	Cs-137	0.008	< LLD	-	-	< LLD	0	
	Ce-141	0.022	< LLD	-	-	< LLD	0	
	Ce-144	0.067	< LLD	-	-	< LLD	0	
	Sr-89	10	0.003	< LLD	-	-	< LLD	0
	Sr-90	10	0.002	0.006 (2/6) (0.004-0.008)	T-19, Farm 0.68 mi. W	0.006 (2/4) (0.004-0.008)	< LLD	0
Broad Leaf Vegetation (pCi/g wet)	I-131	10	0.028	< LLD	-	-	< LLD	0
	GS K-40	10	0.50	2.16 (6/6) (1.67-2.71)	T-19, Farm 0.68 mi. W	2.22 (4/4) (1.90-2.71)	1.79 (4/4) (1.44-2.43)	0
	Nb-95	0.011	< LLD	-	-	< LLD	0	
	Zr-95	0.027	< LLD	-	-	< LLD	0	
	Cs-134	0.013	< LLD	-	-	< LLD	0	
	Cs-137	0.013	< LLD	-	-	< LLD	0	
	Ce-141	0.031	< LLD	-	-	< LLD	0	
	Ce-144	0.091	< LLD	-	-	< LLD	0	

Table 4.5 Radiological Environmental Monitoring Program Summary

Name of Facility Location of Facility	Docket No. Reporting Period
Davis-Besse Nuclear Power Station Ottawa, Ohio ( County, State )	50-346 January-December, 2007

Sample Type (Units)	Type and Number of Analyses <sup>a</sup>	LLD <sup>b</sup>	Indicator Locations Mean (F) <sup>c</sup> Range <sup>c</sup>	Location with Highest Annual Mean		Control Locations Mean (F) <sup>c</sup> Range <sup>c</sup>	Number Non-Routine Results <sup>e</sup>	
				Location <sup>d</sup>	Mean (F) <sup>c</sup> Range <sup>c</sup>			
Animal / Wildlife Feed (pCi/g wet)	GS Be-7	3	0.10	0.72 (2/2) (0.30-1.13)	T-31, On-site Roving location	1.13 (1/1)	0.41 (1/1)	0
	K-40	0.10	4.10 (2/2) (4.05-4.14)	T-31, On-site Roving location	4.14 (1/1)	2.90 (1/1)	0	
	Nb-95	0.015	< LLD	-	-	< LLD	0	
	Zr-95	0.020	< LLD	-	-	< LLD	0	
	Ru-103	0.014	< LLD	-	-	< LLD	0	
	Ru-106	0.13	< LLD	-	-	< LLD	0	
	Cs-134	0.011	< LLD	-	-	< LLD	0	
	Cs-137	0.014	< LLD	-	-	< LLD	0	
	Ce-141	0.028	< LLD	-	-	< LLD	0	
Soil (pCi/g dry)	GS Be-7	10	0.68	< LLD	T-9, Oak Harbor 6.8 mi. SW	1.09 (1/1)	1.09 (1/4)	0
	K-40	0.10	11.37 (6/6) (4.88-23.36)	T-8, Farm 2.7 mi. WSW	23.36 (1/1)	19.01 (4/4) (17.29-20.42)	0	
	Nb-95	0.15	< LLD	-	-	< LLD	0	
	Zr-95	0.11	< LLD	-	-	< LLD	0	
	Ru-103	0.081	< LLD	-	-	< LLD	0	
	Ru-106	0.37	< LLD	-	-	< LLD	0	
	Cs-134	0.053	< LLD	-	-	< LLD	0	
	Cs-137	0.023	0.12 (3/6) (0.055-0.21)	T-9, Oak Harbor 6.8 mi. SW	0.26 (1/1)	0.19 (4/4) (0.10-0.26)	0	
	Ce-141	0.21	< LLD	-	-	< LLD	0	
	Ce-144	0.26	< LLD	-	-	< LLD	0	