402-R-09-016

ENVIRONMENTAL RADIATION DATA

REPORT 137

January - March 2009

United States Environmental Protection Agency

Office of Radiation and Indoor Air

This page intentionally left blank

Contents

This page intentionally left blank

List of Tables

This page intentionally left blank

Preface

Environmental Radiation Data(ERD) is compiled and published quarterly by the Office of Radiation and Indoor Air's National Air and Radiation Environmental Laboratory (NAREL) in Montgomery, Alabama, and contains data from the RadNet monitoring system (formerly ERAMS). ERD is published in both hard-copy and electronic formats. Electronic reports are available online at www.epa.gov/narel.

The United States Environmental Protection Agency established RadNet in 1973 with an emphasis on identifying trends in the accumulation of long-lived radionuclides in the environment. RadNet is comprised of a nationwide network of sampling stations that provide air particulate, precipitation, drinking water, and milk samples.

Sampling locations are selected to provide population and geographic coverage for the United States. The radiation analyses performed on these samples include gross alpha and gross beta analysis, gamma analyses, and radionuclide-specific analyses for uranium, plutonium, strontium, iodine, radium, and tritium. This monitoring effort also provides ancillary information on natural background levels and on routine and accidental releases into the environment from stationary sources.

The radiochemical procedures used by NAREL to analyze the RadNet samples are contained in the *NAREL Radiochemistry Procedures Manual*. Station operation and sample collection are in accordance with procedures contained in the *ERAMS Manual*(EPA 520/5-84-007, 008, 009).

This page intentionally left blank

Acknowledgments

All sampling for the RadNet monitoring system (formerly ERAMS) is performed by volunteer collectors who are frequently members of health departments or related environmental agencies of their respective states. The National Air and Radiation Environmental Laboratory (NAREL), on behalf of the U.S. Environmental Protection Agency, would like to acknowledge the time and effort of these volunteer collectors, who are so essential to the successful operation of RadNet. The efforts of the sample collectors are especially appreciated during times of emergency operation when sampling frequencies are increased and schedules are sometimes demanding.

This page intentionally left blank

Data Reporting Conventions

Every laboratory measurement involves uncertainty. When there is little or no radioactivity in a sample, one consequence of measurement uncertainty is the possibility of obtaining a measured value that is less than zero. Such a negative result occurs when random effects in the measurement process cause the measured value for the sample to be less than that of the blank or background, which is subtracted from it. From April 1991 to December 1995, negative results were reported as "not detected" or "ND," and gamma analysis results that were less than their estimated measurement uncertainties were also reported as "ND." In January 1996, both of these practices were discontinued. Although negative activities are physically impossible, the inclusion of negative results in the report allows better statistical analysis of the data.

Results of gamma analyses are still reported as "ND" when gamma-emitting radionuclides are not detected.

Measurement Uncertainty

Each measured value $y$is reported with an expanded uncertainty $U = k\,u_c(y)$, which is determined from the combined standard uncertainty $u_c(y)$ and the coverage factor $k = 2$. The interval from $y - U$to $y + U$is estimated to have a level of confidence of approximately 95 %.

Significant Figures

Expanded uncertainties are reported to two significant figures. Measurement results are rounded to the corresponding number of decimal places.

Detection Capability

The minimum detectable concentrations (MDCs) for each radionuclide are shown in Table 1. The MDC is defined as the minimum concentration that gives a 95 % probability of detection when the detection criteria are chosen to give only a 5 % probability of false detection in a sample that is analyte-free.

This page intentionally left blank

Table 1

Reporting Units and Minimum Detectable Concentrations for Radionuclide Analyses

Radionuclide	Media	Reporting Unit	Minimum Detectable Concentration
Gross Alpha	Water	pCi/L	2
Gross Beta	Air	pCi/m³	0.0015
	Water	pCi/L	2
	Precipitation	pCi/L	2
Tritium	Water	pCi/L	150
	Milk	pCi/L	150
* Plutonium-238,239/240	Air	aCi/m³	0.75
	Water	pCi/L	0.1
† Uranium-234,235,238	Air	aCi/m³	0.75
	Water	pCi/L	0.1
Radium-226	Water	pCi/L	0.02
Strontium-90	Milk	pCi/L	2
	Water	pCi/L	1
‡ Iodine-131	Milk (gamma)	pCi/L	4
	Water (gamma)	pCi/L	4
	Water	pCi/L	0.3
Cesium-137	Milk	pCi/L	5
	Water	pCi/L	5
‡ Barium-140	Milk	pCi/L	15
	Water	pCi/L	15
Potassium	Milk	g/L	0.06
	Water	g/L	0.06
Potassium-40	Water	pCi/L	50

* The MDC for air is based on an assumed total sample volume of 120,000 m³. Measurement by alpha spectrometry includes combined activities of ^{239}Pu and ^{240}Pu, since the relative contributions of these two isotopes cannot be determined.

† The MDC for air is based on an assumed total sample volume of 120,000 m^3.

‡ Activity as of the day of counting.

This page intentionally left blank

1. Air Program

Airborne Particulates and Precipitation

Gross beta radioactivity measurements and certain specific analyses are performed on air particulates and precipitation samples as indicator measurements in assessing the general (national) impact of all contributing sources on environmental levels of radiation. Airborne particulates are collected continuously at field stations representing wide geographic coverage throughout the United States.

Filters (10-cm diameter synthetic fiber) from air samplers are changed twice weekly and field measurements are made with a G-M survey meter 5 hours after collection to allow natural radon isotopes and their progeny to decay. Field estimates are reported to appropriate EPA officials by telephone or mail depending on the activity levels found.

The filters are sent to NAREL for more sensitive analysis in a low background beta counter. Gamma scans are performed on all filters showing gross beta activity greater than 1 pCi/m^3. The laboratory obtained values are usually lower than the field estimates because of the decay of naturally occurring radionuclides during the time between the two measurements.

Precipitation samples are collected at most field stations that collect air filters. These samples are also sent to NAREL where they are composited monthly for gamma scans, tritium, and gross beta activity measurements.

A compilation of individual measurements is available from the National Air and Radiation Environmental Laboratory, 540 South Morris Avenue, Montgomery, AL 36115-2601.

Table 2
Gross Beta in Airborne Particulates
January 2009

Location	Number of Samples	5-hour Field Estimate Max (pCi/m³)	5-hour Field Estimate Min (pCi/m³)	5-hour Field Estimate Avg (pCi/m³)	NAREL Lab Measurement Max (pCi/m³)	NAREL Lab Measurement Min (pCi/m³)	NAREL Lab Measurement Avg (pCi/m³)
AK: Anchorage	5				0.009	0.001	0.006
AL: Birmingham	5	0.1	0.0	0.0	0.016	0.005	0.012
AL: Montgomery/408	1	0.0	0.0	0.0	0.015	0.015	0.015
AR: Little Rock	5	0.1	0.0	0.0	0.016	0.009	0.012
AZ: Phoenix	4	0.7	0.2	0.5	0.022	0.016	0.019
AZ: Phoenix/956	9	2.2	0.3	1.0	0.025	0.013	0.017
AZ: Tucson	8	1.3	0.1	0.4	0.012	0.005	0.007
CA: Anaheim	8	0.0	0.0	0.0	0.021	0.010	0.015
CA: Los Angeles	5	0.2	0.0	0.1	0.018	0.007	0.013
CA: Richmond	4	0.1	0.0	0.1	0.023	0.008	0.013
CA: Riverside	8	0.0	0.0	0.0	0.013	0.004	0.007
CA: San Bernardino Cty.	7	0.1	0.0	0.0	0.017	0.005	0.010
CA: San Diego	4	0.1	0.0	0.0	0.014	0.008	0.011
CA: San Francisco	5	0.1	0.0	0.0	0.016	0.004	0.008
CA: San Jose	7	0.5	0.0	0.1	0.020	0.005	0.012
CO: Colorado Springs	2				0.017	0.007	0.012
CO: Denver	9	0.4	0.0	0.1	0.011	-0.003	0.004
DC: Washington	7	0.1	0.0	0.0	0.028	0.006	0.012
DE: Dover	7	0.1	0.0	0.0	0.108	0.005	0.023
DE: Wilmington	9	0.1	0.0	0.0	0.019	0.007	0.014
FL: Jacksonville	9	0.0	0.0	0.0	0.010	0.004	0.006
FL: Miami	7	0.0	0.0	0.0	0.012	0.005	0.007
FL: Orlando	5	0.1	0.0	0.0	0.011	0.006	0.009
FL: Tampa	4	0.0	0.0	0.0	0.010	0.004	0.007
GA: Augusta	3	0.1	0.1	0.1	0.011	0.008	0.009
HI: Honolulu	7	0.1	0.0	0.0	0.003	0.002	0.002
IA: Des Moines	2	0.1	0.0	0.0	0.015	0.014	0.014
IA: Iowa City	9	1.3	0.1	0.4	0.030	0.009	0.023
IL: Chicago	7	0.1	0.0	0.0	0.014	0.011	0.013
IN: Indianapolis	9	0.1	0.0	0.0	0.015	0.011	0.012
KS: Kansas City	8	0.2	0.0	0.1	0.019	0.006	0.013
KS: Topeka	8	0.7	0.1	0.2	0.021	0.008	0.014
KS: Wichita	8	0.8	0.1	0.4	0.020	0.008	0.013
KY: Lexington	6	0.0	0.0	0.0	0.013	0.008	0.011
KY: Louisville	8	0.7	0.0	0.2	0.017	0.010	0.013
LA: Baton Rouge	8	0.1	0.0	0.1	0.014	0.006	0.009
MD: Baltimore	7	0.1	0.0	0.0	0.023	0.012	0.016
ME: Portland	1				0.010	0.010	0.010

Table 2 (continued)
Gross Beta in Airborne Particulates
January 2009

Location	Number of Samples	5-hour Field Estimate Max (pCi/m³)	5-hour Field Estimate Min (pCi/m³)	5-hour Field Estimate Avg (pCi/m³)	NAREL Lab Measurement Max (pCi/m³)	NAREL Lab Measurement Min (pCi/m³)	NAREL Lab Measurement Avg (pCi/m³)
MI: Detroit	7	0.0	0.0	0.0	0.017	0.009	0.012
MI: Lansing	9	0.1	0.0	0.0	0.022	0.012	0.017
MN: Duluth	7	0.1	0.0	0.0	0.022	0.009	0.014
MN: St. Paul	4	0.0	0.0	0.0	0.014	0.011	0.013
MO: Jefferson City	9	0.3	0.1	0.1	0.044	0.011	0.018
MS: Jackson	7	0.2	0.0	0.1	0.017	0.006	0.013
MS: Jackson/Deq	8	0.1	0.0	0.1	0.011	0.005	0.009
NC: Charlotte	9	0.1	0.0	0.0	0.016	0.007	0.010
NC: Wilmington	3				0.014	0.009	0.011
ND: Bismarck	5	0.0	0.0	0.0	0.015	0.006	0.012
NE: Lincoln	8	0.5	0.1	0.2	0.014	0.007	0.010
NE: Omaha	4	0.2	0.0	0.1	0.019	0.009	0.013
NJ: Edison	5	0.5	0.0	0.1	0.013	0.005	0.009
NJ: Trenton	8	0.1	0.0	0.1	0.021	0.008	0.014
NM: Santa Fe	4	0.1	0.0	0.0	0.014	0.011	0.013
NV: Las Vegas/913	5	0.0	0.0	0.0	0.011	0.004	0.007
NY: Albany	5	0.0	0.0	0.0	0.019	0.007	0.013
NY: Hauppauge	9	0.0	0.0	0.0	0.014	0.005	0.010
NY: Lockport	9	0.0	0.0	0.0	0.013	0.005	0.009
NY: Rochester	8	0.0	0.0	0.0	0.013	0.005	0.009
NY: Yaphank	8	0.0	0.0	0.0	0.009	0.003	0.006
OH: Cincinnati	9	0.1	0.0	0.0	0.014	0.007	0.011
OH: Cleveland	8	0.0	0.0	0.0	0.020	0.012	0.016
OH: Painesville	8	0.1	0.0	0.0	0.020	0.014	0.016
OK: Oklahoma City	6	0.2	0.0	0.0	0.010	0.004	0.007
OK: Tulsa	7	0.0	0.0	0.0	0.020	0.008	0.013
OR: Corvallis	1	0.0	0.0	0.0	0.001	0.001	0.001
OR: Portland	9	0.1	0.0	0.1	0.037	0.002	0.012
PA: Harrisburg	9	0.1	0.0	0.1	0.020	0.010	0.016
PA: Pittsburgh	6	0.0	0.0	0.0	0.013	0.007	0.010
RI: Providence	3	0.0	0.0	0.0	0.012	0.008	0.010
SC: Barnwell	1	0.0	0.0	0.0	0.011	0.011	0.011
SC: Columbia	3	0.0	0.0	0.0	0.017	0.012	0.014
SD: Pierre	8	0.2	0.0	0.1	0.021	0.007	0.015
TN: Knoxville	9	0.2	0.0	0.1	0.013	0.004	0.008
TN: Memphis	6	0.0	0.0	0.0	0.011	0.007	0.009
TN: Nashville	4	0.1	0.0	0.0	0.011	0.006	0.009
TN: Oak Ridge/Bethel	7	0.3	0.1	0.2	0.021	0.007	0.016

Table 2 (continued)
Gross Beta in Airborne Particulates
January 2009

Location	Number of Samples	5-hour Field Estimate (pCi/m³) Max	Min	Avg	NAREL Lab Measurement (pCi/m³) Max	Min	Avg
TN: Oak Ridge/K25	7	0.3	0.1	0.2	0.018	0.007	0.015
TN: Oak Ridge/Melton	7	0.2	0.1	0.1	0.023	0.007	0.017
TN: Oak Ridge/Y12 E	7	0.2	0.1	0.1	0.023	0.007	0.017
TN: Oak Ridge/Y12 W	7	0.2	0.0	0.1	0.020	0.005	0.015
TX: Dallas	7	0.2	0.0	0.1	0.010	0.005	0.008
TX: El Paso	5	2.1	0.7	1.3	0.020	0.009	0.013
TX: Ft. Worth	8	0.2	0.1	0.1	0.011	0.004	0.008
TX: Houston	7	0.2	0.0	0.1	0.025	0.000	0.008
TX: San Antonio	7	1.2	0.2	0.7	0.023	0.006	0.014
VA: Harrisonburg	7	0.4	0.0	0.1	0.021	0.007	0.012
VA: Lynchburg	9	1.0	0.1	0.3	0.019	0.008	0.013
VA: Richmond	7	0.0	0.0	0.0	0.010	0.003	0.007
VA: Virginia Beach	8	0.0	0.0	0.0	0.031	0.007	0.012
WA: Olympia	9	0.1	0.0	0.0	0.016	0.001	0.005
WA: Seattle	9	0.0	0.0	0.0	0.014	0.001	0.005
WA: Spokane	9	0.1	0.0	0.0	0.052	0.002	0.016
WI: Madison	8	0.1	0.0	0.0	0.079	0.010	0.022
WI: Milwaukee	8	0.0	-0.0	0.0	0.053	0.016	0.027
WV: Charleston	5	0.0	0.0	0.0	0.016	0.011	0.014

Table 3
Gross Beta in Airborne Particulates
February 2009

Location	Number of Samples	5-hour Field Estimate Max (pCi/m³)	5-hour Field Estimate Min (pCi/m³)	5-hour Field Estimate Avg (pCi/m³)	NAREL Lab Measurement Max (pCi/m³)	NAREL Lab Measurement Min (pCi/m³)	NAREL Lab Measurement Avg (pCi/m³)
AK: Anchorage	2				0.008	0.002	0.005
AL: Birmingham	8	0.1	0.0	0.0	0.019	0.008	0.012
AL: Montgomery/408	8	0.1	0.0	0.1	0.035	0.011	0.018
AR: Little Rock	7	0.1	0.0	0.0	0.016	0.007	0.011
AZ: Phoenix	4	0.7	0.2	0.5	0.017	0.008	0.012
AZ: Phoenix/956	8	2.0	0.1	1.0	0.028	0.005	0.014
AZ: Tucson	7	0.7	0.1	0.4	0.008	0.002	0.006
CA: Anaheim	8	0.0	0.0	0.0	0.025	0.003	0.009
CA: Bakersfield	3	1.4	0.0	0.7	0.014	0.004	0.008
CA: Los Angeles	2	0.2	0.1	0.2	0.010	0.006	0.008
CA: Richmond	4	0.1	0.0	0.0	0.012	0.002	0.006
CA: Riverside	8	0.0	0.0	0.0	0.007	0.002	0.004
CA: San Bernardino Cty.	4	0.0	0.0	0.0	0.009	0.004	0.007
CA: San Diego	4	0.1	0.0	0.0	0.008	0.003	0.006
CA: San Francisco	4	0.0	0.0	0.0	0.012	0.002	0.004
CA: San Jose	8	0.1	0.0	0.0	0.015	0.001	0.005
CO: Colorado Springs	7				0.013	0.007	0.009
CO: Denver	5	0.5	0.1	0.3	0.009	0.005	0.007
DC: Washington	8	0.1	0.0	0.0	0.014	0.005	0.008
DE: Dover	7	0.1	0.0	0.0	0.010	0.004	0.007
DE: Wilmington	8	0.1	0.0	0.0	0.015	0.008	0.012
FL: Jacksonville	8	0.0	0.0	0.0	0.011	0.005	0.007
FL: Miami	7	0.0	0.0	0.0	0.010	0.005	0.006
FL: Orlando	7	0.1	-0.0	0.0	0.014	0.006	0.009
FL: Tampa	1	0.1	0.1	0.1	0.026	0.026	0.026
GA: Augusta	4	0.1	0.1	0.1	0.012	0.009	0.010
HI: Honolulu	8	0.1	0.0	0.0	0.004	0.001	0.003
IA: Des Moines	2	0.1	0.1	0.1	0.016	0.015	0.015
IA: Iowa City	8	0.4	0.1	0.3	0.029	0.011	0.019
ID: Idaho Falls	4	0.0	0.0	0.0	0.012	0.005	0.007
IL: Chicago	8	0.0	0.0	0.0	0.014	0.008	0.011
IN: Indianapolis	8	0.1	0.0	0.0	0.015	0.007	0.011
KS: Kansas City	8	0.3	0.1	0.2	0.021	0.006	0.014
KS: Topeka	8	0.5	0.1	0.3	0.020	0.004	0.013
KS: Wichita	6	0.7	0.0	0.3	0.013	0.006	0.009
KY: Lexington	6	0.1	0.0	0.0	0.012	0.005	0.009
KY: Louisville	8	1.5	0.0	0.3	0.026	0.008	0.014
LA: Baton Rouge	8	0.1	0.0	0.1	0.010	0.005	0.007

Table 3 (continued)
Gross Beta in Airborne Particulates
February 2009

Location	Number of Samples	5-hour Field Estimate Max (pCi/m³)	5-hour Field Estimate Min (pCi/m³)	5-hour Field Estimate Avg (pCi/m³)	NAREL Lab Measurement Max (pCi/m³)	NAREL Lab Measurement Min (pCi/m³)	NAREL Lab Measurement Avg (pCi/m³)
MD: Baltimore	7	0.1	0.0	0.0	0.016	0.009	0.012
ME: Portland	8	0.0	0.0	0.0	0.011	0.003	0.007
MI: Detroit	7	0.1	0.0	0.0	0.020	0.007	0.012
MI: Lansing	8	0.1	0.0	0.0	0.019	0.012	0.015
MN: Duluth	7	0.1	0.0	0.0	0.013	0.007	0.010
MN: St. Paul	4	0.0	0.0	0.0	0.010	0.009	0.009
MO: Jefferson City	8	0.2	0.0	0.1	0.018	0.007	0.011
MS: Jackson	7	0.3	0.0	0.1	0.016	0.007	0.011
MS: Jackson/Deq	8	0.1	0.0	0.1	0.011	0.004	0.008
NC: Charlotte	7	0.1	0.0	0.0	0.013	0.007	0.010
NC: Raleigh	2	0.4	0.1	0.2	0.011	0.007	0.009
NC: Wilmington	3				0.013	0.011	0.012
ND: Bismarck	7	0.1	0.0	0.0	0.016	0.007	0.011
NE: Lincoln	8	0.5	0.1	0.3	0.019	0.005	0.011
NE: Omaha	7	0.1	-0.0	0.0	0.016	0.006	0.011
NJ: Edison	7	0.4	0.0	0.1	0.011	0.003	0.007
NJ: Trenton	8	0.2	0.0	0.1	0.018	0.006	0.011
NV: Las Vegas/913	6	0.2	0.0	0.1	0.007	0.002	0.005
NY: Albany	7	0.1	0.0	0.0	0.020	0.006	0.012
NY: Hauppauge	8	0.0	0.0	0.0	0.012	0.006	0.009
NY: Lockport	8	0.0	-0.0	0.0	0.010	0.005	0.008
NY: Rochester	7	0.0	0.0	0.0	0.012	0.006	0.008
NY: Yaphank	8	0.0	-0.0	0.0	0.007	0.002	0.004
OH: Cincinnati	8	0.1	0.0	0.0	0.014	0.004	0.009
OH: Cleveland	7	0.0	0.0	0.0	0.018	0.010	0.015
OH: Painesville	8	0.1	0.0	0.0	0.017	0.010	0.014
OK: Oklahoma City	4	0.1	0.0	0.0	0.010	0.004	0.007
OK: Tulsa	8	0.0	0.0	0.0	0.014	0.004	0.010
OR: Portland	7	0.1	0.0	0.0	0.031	0.004	0.013
PA: Harrisburg	8	0.1	0.0	0.0	0.018	0.005	0.012
PA: Pittsburgh	5	0.1	0.0	0.0	0.010	0.004	0.008
RI: Providence	1	0.1	0.1	0.1	0.012	0.012	0.012
SC: Barnwell	2	0.0	0.0	0.0	0.010	0.010	0.010
SC: Columbia	3	0.1	0.0	0.0	0.015	0.012	0.013
SD: Pierre	6	0.2	0.0	0.1	0.018	0.004	0.011
TN: Knoxville	8	0.2	0.0	0.1	0.009	0.004	0.007
TN: Memphis	6	0.0	0.0	0.0	0.012	0.007	0.009
TN: Nashville	4	0.1	0.0	0.0	0.011	0.008	0.010

Table 3 (continued)
Gross Beta in Airborne Particulates
February 2009

Location	Number of Samples	5-hour Field Estimate (pCi/m³) Max	Min	Avg	NAREL Lab Measurement (pCi/m³) Max	Min	Avg
TN: Oak Ridge/Bethel	7	0.4	0.1	0.2	0.020	0.010	0.015
TN: Oak Ridge/K25	7	0.4	0.1	0.2	0.018	0.009	0.013
TN: Oak Ridge/Melton	7	0.3	0.1	0.2	0.021	0.010	0.015
TN: Oak Ridge/Y12 E	7	0.4	0.1	0.2	0.022	0.010	0.015
TN: Oak Ridge/Y12 W	7	0.2	0.1	0.1	0.021	0.010	0.014
TX: Dallas	8	0.3	0.1	0.2	0.008	0.004	0.006
TX: El Paso	7	1.4	0.3	0.8	0.020	0.005	0.011
TX: Ft. Worth	8	0.2	-0.0	0.1	0.008	0.004	0.006
TX: Houston	7	0.1	-0.1	0.0	0.022	0.002	0.010
TX: San Antonio	8	1.1	0.1	0.6	0.014	0.006	0.009
VA: Harrisonburg	7	0.3	0.0	0.1	0.011	0.006	0.008
VA: Lynchburg	8	0.7	0.1	0.2	0.014	0.008	0.011
VA: Richmond	9	0.0	-0.0	0.0	0.007	0.004	0.005
VA: Virginia Beach	6	0.0	0.0	0.0	0.011	0.005	0.008
WA: Olympia	8	0.1	0.0	0.0	0.009	0.001	0.005
WA: Seattle	8	0.0	-0.0	0.0	0.015	0.002	0.006
WA: Spokane	8	0.1	0.0	0.1	0.016	0.005	0.012
WI: Madison	5	0.0	0.0	0.0	0.016	0.009	0.011
WV: Charleston	2	0.0	0.0	0.0	0.014	0.011	0.012

Table 4
Gross Beta in Airborne Particulates
March 2009

Location	Number of Samples	5-hour Field Estimate Max (pCi/m³)	5-hour Field Estimate Min (pCi/m³)	5-hour Field Estimate Avg (pCi/m³)	NAREL Lab Measurement Max (pCi/m³)	NAREL Lab Measurement Min (pCi/m³)	NAREL Lab Measurement Avg (pCi/m³)
AK: Anchorage	4				0.016	0.009	0.011
AK: Fairbanks	1				0.015	0.015	0.015
AL: Birmingham	8	0.0	0.0	0.0	0.014	0.005	0.009
AL: Montgomery/408	9	0.1	0.0	0.0	0.021	0.005	0.014
AR: Fort Smith	2				0.015	0.014	0.015
AR: Little Rock	8	0.1	0.0	0.0	0.015	0.007	0.011
AZ: Phoenix	4	0.9	0.2	0.5	0.021	0.015	0.016
AZ: Phoenix/956	9	1.5	0.0	0.7	0.020	0.010	0.015
AZ: Tucson	9	0.8	0.0	0.2	0.010	0.006	0.008
CA: Anaheim	8	0.0	0.0	0.0	0.018	0.004	0.011
CA: Bakersfield	7	2.3	0.0	0.6	0.018	0.004	0.010
CA: Fresno	1	0.0	0.0	0.0	0.009	0.009	0.009
CA: Richmond	4	0.0	0.0	0.0	0.005	0.002	0.003
CA: Riverside	9	0.0	0.0	0.0	0.012	0.003	0.007
CA: San Bernardino Cty.	4	0.0	0.0	0.0	0.017	0.005	0.012
CA: San Diego	5	0.2	0.0	0.1	0.012	0.004	0.007
CA: San Francisco	3	0.0	0.0	0.0	0.004	0.002	0.003
CA: San Jose	9	0.0	0.0	0.0	0.006	0.002	0.003
CO: Colorado Springs	4				0.014	0.007	0.011
CT: Hartford	2	0.1	0.0	0.0	0.007	0.004	0.005
DC: Washington	9	0.0	0.0	0.0	0.010	0.004	0.008
DE: Dover	7	0.0	0.0	0.0	0.013	0.003	0.008
DE: Wilmington	7	0.1	0.0	0.1	0.014	0.005	0.011
FL: Jacksonville	9	0.0	0.0	0.0	0.011	0.004	0.008
FL: Miami	9	0.0	0.0	0.0	0.015	0.006	0.009
FL: Orlando	7	0.1	0.0	0.0	0.013	0.007	0.009
FL: Tampa	3	0.0	0.0	0.0	0.008	0.007	0.007
GA: Augusta	5	0.4	0.0	0.1	0.013	0.007	0.010
HI: Honolulu	9	0.1	0.0	0.0	0.004	0.002	0.003
IA: Des Moines	7	0.1	0.0	0.1	0.012	0.007	0.010
IA: Iowa City	8	0.9	0.0	0.4	0.021	0.010	0.015
ID: Idaho Falls	5	0.1	-0.0	0.1	0.120	0.004	0.033
IL: Chicago	7	0.1	0.0	0.0	0.014	0.008	0.011
IN: Indianapolis	9	0.1	0.0	0.0	0.014	0.006	0.009
KS: Kansas City	8	0.2	0.0	0.1	0.015	0.010	0.012
KS: Topeka	8	0.3	0.1	0.2	0.017	0.007	0.012
KS: Wichita	8	0.5	0.1	0.2	0.016	0.009	0.012
KY: Lexington	3	0.0	0.0	0.0	0.011	0.007	0.009

Table 4 (continued)
Gross Beta in Airborne Particulates
March 2009

Location	Number of Samples	5-hour Field Estimate (pCi/m³) Max	Min	Avg	NAREL Lab Measurement (pCi/m³) Max	Min	Avg
KY: Louisville	9	1.0	0.1	0.5	0.015	0.006	0.011
LA: Baton Rouge	7	0.1	0.0	0.1	0.010	0.005	0.008
MA: Boston	6	0.2	0.0	0.1	0.029	0.004	0.011
MD: Baltimore	9	0.1	0.0	0.1	0.019	0.005	0.014
ME: Portland	9	0.0	-0.0	0.0	0.015	0.001	0.009
MI: Detroit	9	0.1	0.0	0.0	0.013	0.007	0.010
MI: Lansing	9	0.1	0.0	0.1	0.018	0.009	0.014
MN: Duluth	7	0.0	0.0	0.0	0.015	0.005	0.010
MN: St. Paul	5	0.0	0.0	0.0	0.014	0.005	0.010
MO: Jefferson City	9	0.5	0.0	0.2	0.025	0.006	0.012
MS: Jackson	5	0.3	0.0	0.1	0.013	0.007	0.009
MS: Jackson/Deq	8	0.2	0.0	0.1	0.012	0.004	0.008
NC: Charlotte	9	0.1	0.0	0.0	0.012	0.003	0.008
NC: Raleigh	9	0.2	0.0	0.0	0.013	0.003	0.008
NC: Wilmington	3				0.013	0.008	0.011
ND: Bismarck	6	0.0	0.0	0.0	0.020	0.008	0.013
NE: Lincoln	9	0.6	0.0	0.3	0.013	0.007	0.010
NE: Omaha	4	0.1	0.0	0.0	0.011	0.009	0.011
NJ: Edison	7	0.0	-0.0	0.0	0.012	0.005	0.008
NJ: Trenton	9	0.2	0.1	0.1	0.019	0.005	0.012
NV: Las Vegas/913	8	1.2	0.0	0.4	0.170	0.004	0.027
NV: Washoe County	3				0.008	0.007	0.007
NY: Albany	8	0.1	0.0	0.0	0.020	0.009	0.014
NY: Hauppauge	9	0.1	0.0	0.0	0.016	0.004	0.010
NY: Lockport	9	0.0	-0.0	0.0	0.012	0.006	0.009
NY: Rochester	9	0.1	0.0	0.0	0.013	0.006	0.009
NY: Yaphank	8	0.0	-0.0	0.0	0.010	0.003	0.007
OH: Cincinnati	9	0.2	0.0	0.1	0.010	0.005	0.008
OH: Cleveland	9	0.1	0.0	0.0	0.019	0.010	0.015
OH: Painesville	6	0.1	0.0	0.0	0.017	0.011	0.015
OK: Oklahoma City	2	0.0	0.0	0.0	0.007	0.006	0.007
OK: Tulsa	6	0.0	0.0	0.0	0.013	0.008	0.010
OR: Portland	9	0.1	0.0	0.0	0.020	0.003	0.009
PA: Harrisburg	7	0.2	0.0	0.1	0.025	0.008	0.019
PA: Pittsburgh	6	0.1	0.0	0.1	0.012	0.004	0.009
SC: Barnwell	1	0.0	0.0	0.0	0.011	0.011	0.011
SC: Columbia	4	0.0	0.0	0.0	0.012	0.010	0.011
SD: Pierre	3	0.1	0.0	0.1	0.016	0.012	0.014

Table 4 (continued)
Gross Beta in Airborne Particulates
March 2009

Location	Number of Samples	5-hour Field Estimate (pCi/m³) Max	Min	Avg	NAREL Lab Measurement (pCi/m³) Max	Min	Avg
TN: Knoxville	9	0.4	0.0	0.1	0.010	0.003	0.006
TN: Memphis	6	0.0	0.0	0.0	0.010	0.007	0.009
TN: Nashville	6	0.0	0.0	0.0	0.008	0.004	0.007
TN: Oak Ridge/Bethel	9	0.6	0.1	0.3	0.019	0.005	0.013
TN: Oak Ridge/K25	9	0.7	0.1	0.3	0.019	0.004	0.012
TN: Oak Ridge/Melton	9	0.4	0.1	0.2	0.018	0.004	0.011
TN: Oak Ridge/Y12 E	9	0.6	0.1	0.3	0.021	0.004	0.013
TN: Oak Ridge/Y12 W	9	0.3	0.0	0.1	0.019	0.004	0.012
TX: Corpus Christi	3				0.011	0.008	0.009
TX: Dallas	8	0.3	0.0	0.1	0.009	0.004	0.007
TX: El Paso	1	0.3	0.3	0.3	0.011	0.011	0.011
TX: Ft. Worth	7	0.1	0.0	0.1	0.010	0.004	0.007
TX: Houston	9	0.2	-0.0	0.1	0.013	0.005	0.009
TX: San Antonio	9	0.7	0.0	0.4	0.012	0.006	0.009
VA: Harrisonburg	8	0.5	0.0	0.2	0.010	0.005	0.008
VA: Lynchburg	8	0.4	0.1	0.2	0.014	0.004	0.009
VA: Richmond	9	0.0	-0.0	0.0	0.011	0.003	0.007
WA: Olympia	9	0.0	0.0	0.0	0.009	0.001	0.004
WA: Seattle	9	0.0	-0.0	0.0	0.009	0.002	0.004
WA: Spokane	9	0.0	0.0	0.0	0.011	0.003	0.007
WI: Madison	6	0.1	0.0	0.1	0.023	0.005	0.011

Table 5
Gross Beta and Specific Gamma in Precipitation
January 2009

Location	Gross Beta Activity pCi/L	± 2*u*	Gamma-Emitting Radionuclides Nuclide	pCi/L	± 2*u*
AL: Montgomery/408	0.97	0.36	Be7	36	26
AR: Little Rock	1.70	0.44	Pb212	4.1	5.2
			Tl208	1.7	2.9
CA: Richmond	0.81	0.35	Pb212	1.1	1.0
CO: Denver	6.1	1.2	K40	33	29
			Tl208	2.4	2.7
CT: Hartford	2.15	0.49	Be7	80	28
DE: Wilmington	2.07	0.47	Be7	89	72
FL: Jacksonville	1.26	0.41		ND	
IA: Iowa City	5.19	0.81	Pb212	4.7	7.1
ID: Idaho Falls	0.73	0.34		ND	
MN: St. Paul	3.29	0.64		ND	
NC: Charlotte	0.70	0.33		ND	
NC: Wilmington	1.18	0.38		ND	
NM: Santa Fe	21.8	4.9	Be7	327	88
NY: Albany	4.07	0.69	Be7	41	23
NY: Yaphank	0.30	0.30		ND	
PA: Harrisburg	1.24	0.40		ND	
TN: Nashville	0.62	0.32	Be7	49	40
			Tl208	3.7	4.1
TN: Oak Ridge/K25	2.31	0.49	Be7	58	21
TN: Oak Ridge/Melton	1.98	0.45	Be7	69	27
TN: Oak Ridge/Y12 E	2.44	0.51	Be7	69	25
TX: Austin	2.28	0.50		ND	
UT: Salt Lake City	1.24	0.40		ND	
VA: Lynchburg	1.61	0.42		ND	
WA: Olympia	1.00	0.37	Be7	26	24

Note: ND = Not Detected

Table 6
Gross Beta and Specific Gamma in Precipitation
February 2009

Location	Gross Beta Activity pCi/L	± 2*u*	Gamma-Emitting Radionuclides Nuclide	pCi/L	± 2*u*
AL: Montgomery/408	1.60	0.43	Be7	43	17
AR: Little Rock	1.45	0.47	Be7	33	19
			K40	12	12
AZ: Phoenix	0.97	0.46	Tl208	2.4	3.5
CA: Richmond	0.53	0.40		ND	
CT: Hartford	2.47	0.52	Be7	29	10
DE: Wilmington	18.5	2.7	Be7	57	28
FL: Jacksonville	0.91	0.39		ND	
IA: Iowa City	16.1	2.0	Be7	22.9	9.9
ID: Idaho Falls	1.00	0.44		ND	
MN: St. Paul	1.74	0.56		ND	
NC: Charlotte	2.16	0.50	Be7	76	33
			Tl208	2.6	3.2
NC: Wilmington	1.33	0.40		ND	
NY: Albany	4.93	0.82	Tl208	1.0	1.3
NY: Yaphank	3.11	0.95		ND	
OH: Painesville	1.05	0.46		ND	
OR: Portland	0.99	0.45		ND	
PA: Harrisburg	7.0	1.0		ND	
TN: Knoxville	0.91	0.36	Be7	36	29
			Pb212	2.7	5.2
TN: Nashville	1.50	0.42	Be7	44	46
TN: Oak Ridge/K25	1.34	0.46	Be7	35	18
TN: Oak Ridge/Melton	1.63	0.43	Be7	49	15
TN: Oak Ridge/Y12 E	1.08	0.45	Be7	44	20
TX: Austin	1.10	0.47		ND	
UT: Salt Lake City	1.09	0.47	Pb212	5.2	6.1
VA: Lynchburg	1.58	0.43	Be7	15	14
WA: Olympia	1.17	0.47	Be7	52	37

Note: ND = Not Detected

Table 7
Gross Beta and Specific Gamma in Precipitation
March 2009

Location	Gross Beta Activity pCi/L	± 2*u*	Gamma-Emitting Radionuclides Nuclide	pCi/L	± 2*u*
AL: Montgomery/408	1.20	0.37	Be7	19	13
AR: Little Rock	1.37	0.40	Be7	23	26
CA: Richmond	0.88	0.35		ND	
CT: Hartford	2.76	0.54	Be7	55	17
			Pb212	2.2	2.4
DE: Wilmington	1.65	0.47	Be7	20	13
FL: Jacksonville	2.04	0.49		ND	
IA: Iowa City	1.95	0.47	Be7	18	15
			K40	9	12
ID: Idaho Falls	1.18	0.38		ND	
KS: Kansas City	1.13	0.38	Be7	19	13
MA: Boston	2.21	0.47	Be7	63	16
MN: St. Paul	1.81	0.45	Be7	23	13
NC: Charlotte	1.55	0.41	Be7	60	12
			Tl208	0.60	0.63
NC: Wilmington	0.89	0.36	Be7	31	28
NY: Albany	5.23	0.82	Be7	30	14
NY: Yaphank	0.90	0.37	Be7	23	12
			Tl208	0.9	1.3
OH: Painesville	1.72	0.44	Be7	44	15
OR: Portland	1.35	0.40	Be7	38	30
PA: Harrisburg	1.99	0.49		ND	
TN: Knoxville	1.71	0.45		ND	
TN: Nashville	1.31	0.40	Be7	62	18
TN: Oak Ridge/K25	1.50	0.40	Be7	59	17
			K40	10	13
TN: Oak Ridge/Melton	1.61	0.42	Be7	73	12
			Pb212	1.1	1.1
TN: Oak Ridge/Y12 E	2.05	0.46	Be7	75	18
			K40	12	13
TX: Austin	0.92	0.36	Tl208	1.9	3.3
UT: Salt Lake City	2.07	0.50		ND	
VA: Lynchburg	2.94	0.57	Bi212	36	26
WA: Olympia	1.27	0.40	Be7	36	16

Note: ND = Not Detected

Table 8
Tritium in Precipitation
January - March 2009

Location	January 2009 pCi/L	± 2*u*	February 2009 pCi/L	± 2*u*	March 2009 pCi/L	± 2*u*
AL: Montgomery/408	-36	85	-2	85	53	87
AR: Little Rock	44	83	-10	85	-28	84
AZ: Phoenix	NS		52	86	NS	
CA: Richmond	10	80	83	87	-4	79
CO: Denver	33	82	NS		NS	
CT: Hartford	-47	84	31	86	-13	85
DE: Wilmington	11	86	31	86	28	86
FL: Jacksonville	30	87	16	86	-26	83
IA: Iowa City	-12	79	-8	85	35	86
ID: Idaho Falls	-2	80	-2	83	43	81
KS: Kansas City	NS		NS		13	86
MA: Boston	NS		NS		74	88
MN: St. Paul	20	81	25	86	-7	85
NC: Charlotte	6	86	14	85	-30	84
NC: Wilmington	6	86	-86	80	33	86
NM: Santa Fe	99	85	NS		NS	
NY: Albany	24	84	-39	83	46	87
NY: Yaphank	-6	86	-17	83	74	88
OH: Painesville	NS		-43	82	-19	84
OR: Portland	NS		20	84	14	79
PA: Harrisburg	7	85	-56	82	-15	84
TN: Knoxville	NS		-2	84	-15	84
TN: Nashville	43	88	10	85	15	86
TN: Oak Ridge/K25	33	82	4	84	250	90
TN: Oak Ridge/Melton	99	90	-8	84	251	96
TN: Oak Ridge/Y12 E	22	81	-34	82	118	84
TX: Austin	16	81	-74	81	-45	83
UT: Salt Lake City	37	82	47	85	-18	78
VA: Lynchburg	-23	85	-39	83	15	85
WA: Olympia	61	83	37	85	-10	78

Note: NS = No Sample

Plutonium and Uranium in Airborne Particulates

Environmental radiation levels of plutonium and uranium are determined by the analysis of annually composited samples (air filters) collected from the continuously operating airborne particulate samplers.

Concentrations of plutonium-238, combined plutonium-239 and 240, and uranium-234, 235, and 238 are determined by alpha-particle spectrometry following chemical separation. The volume of air represented by the annual composite typically ranges from 120,000 to 500,000 cubic meters.

Plutonium and uranium results are published when they become available.

Beta Activity in Precipitation

All stations routinely submit precipitation samples as rainfall, snow, or sleet occurs. The precipitation samples are composited at NAREL into single monthly samples for each station. Each month that precipitation occurs, an aliquant of the composited sample is analyzed for gross beta, tritium, and gamma-emitting radionuclides.

This page intentionally left blank

2. Drinking Water Program

The RadNet drinking water program provides data on radionuclide concentrations in the nation's drinking water supplies. Samples are taken at 78 sites which are either major population centers or selected nuclear facility environs.

Drinking water data are used to assess trends and anomalies in concentrations, and to compare with standards set forth in the EPA "National Interim Primary Drinking Water Regulations." These regulations provide for approval of supplies when the combined radium-226 and radium-228 levels do not exceed 5 pCi/L, when the gross alpha (excluding radon and uranium) levels do not exceed 15 pCi/L, when tritium levels do not exceed 20,000 pCi/L, when the strontium-90 levels do not exceed 8 pCi/L, and when the gross beta levels do not exceed 50 pCi/L.

The analyses include (a) tritium on a quarterly basis; (b) gross alpha, gross beta, strontium-90, and gamma on annual composites; (c) radium-226 if the gross alpha exceeds 2 pCi/L and radium-228 if the radium-226 falls between 3 and 5 pCi/L; (d) iodine-131 on one quarterly sample per year for each station; and (e) an annual composite for plutonium-238, combined plutonium-239 and 240, and uranium-234, 235, and 238 for stations that demonstrate gross alpha levels greater than 2 pCi/L.

Table 9
Tritium in Drinking Water
January - March 2009

Location	Date Collected	^{3}H pCi/L	± 2*u*
AK: Fairbanks	01/26/09	7	85
AL: Dothan	01/22/09	71	73
AL: Montgomery	01/12/09	12	76
AL: Muscle Shoals	01/15/09	119	76
AL: Scottsboro	01/14/09	84	75
AR: Little Rock	01/08/09	15	85
CA: Los Angeles	01/26/09	23	87
CA: Richmond	01/09/09	31	85
CO: Denver	01/13/09	82	79
CT: Hartford	01/08/09	69	79
DE: Dover	01/07/09	2	85
FL: Miami	01/27/09	22	85
FL: Tampa	01/14/09	40	72
GA: Baxley	02/10/09	-30	84
GA: Savannah	03/25/09	-63	80
HI: Honolulu	03/10/09	-37	83
IA: Cedar Rapids	01/15/09	118	76
ID: Boise	03/13/09	-72	81
ID: Idaho Falls	01/30/09	9	85
IL: W. Chicago	01/13/09	67	79
KS: Topeka	01/09/09	13	84
LA: New Orleans	03/26/09	20	84
MD: Baltimore	01/09/09	21	77
MD: Conowingo	02/03/09	39	86
MI: Detroit	02/25/09	131	91
MI: Grand Rapids	01/30/09	52	87
MN: St. Paul	01/12/09	50	78
MN: Welch	01/13/09	94	74
MO: Jefferson City	01/09/09	65	78
MS: Jackson	01/12/09	-12	75
MS: Port Gibson	01/13/09	48	78
MT: Helena	01/22/09	96	75
NC: Raleigh	01/26/09	47	87
ND: Bismarck	01/08/09	-20	84
NE: Lincoln	01/13/09	31	77
NJ: Trenton	01/12/09	74	79
NJ: Waretown	01/13/09	46	78
NM: Santa Fe	01/27/09	4	85
NY: Albany	01/30/09	68	88
NY: New York City	01/29/09	22	86

Table 9 (continued)
Tritium in Drinking Water
January - March 2009

Location	Date Collected	^{3}H pCi/L	± 2*u*
NY: Niagara Falls	03/03/09	64	82
NY: Syracuse	02/19/09	48	87
OH: Cincinnati	02/26/09	56	87
OH: E. Liverpool	02/19/09	65	88
OH: Painesville	02/17/09	69	88
OH: Toledo	01/07/09	69	89
OK: Oklahoma City	01/12/09	56	79
OR: Portland	03/27/09	-39	81
PA: Columbia	02/04/09	41	87
PA: Harrisburg	02/04/09	30	86
PA: Philadelphia/Baxter	01/26/09	92	74
PA: Philadelphia/Belmont	01/26/09	66	74
PA: Philadelphia/Queen	01/26/09	74	74
PA: Pittsburgh	02/18/09	-9	85
SC: Barnwell	01/28/09	4	85
SC: Columbia	01/29/09	-37	83
SC: Jenkinsville	01/05/09	19	86
SC: Seneca	01/12/09	105	90
TN: Chattanooga	01/08/09	0	85
TN: Knoxville	01/08/09	20	85
TN: Oak Ridge/#360	01/13/09	52	78
TN: Oak Ridge/#371	01/13/09	40	77
TN: Oak Ridge/#4442	01/13/09	61	78
TN: Oak Ridge/#768	01/13/09	27	77
TN: Oak Ridge/#772	01/13/09	4	76
TX: Austin	01/12/09	63	79
VA: Ashland	02/20/09	63	88
WA: Richland	01/19/09	63	73
WA: Seattle	01/09/09	115	81

This page intentionally left blank

3. Milk Program

Pasteurized Milk

Milk is a reliable indicator of the general population's intake of certain radionuclides since it is consumed fresh by a large segment of the population and can contain several of the biologically significant radionuclides that result from environmental releases from nuclear activities. A primary function of this program is to obtain reliable monitoring data relative to current radionuclide concentrations and determine any long-term trends.

Quarterly samples are collected at approximately 55 sampling sites. The samples are composited, according to production, from the major milk suppliers representing more than 80 percent of the milk consumed in a given population center.

The samples are analyzed for gamma-emitting nuclides, including iodine-131, barium-140, cesium-137, and potassium-40. Total potassium concentrations in g/L are determined from potassium-40 activities assuming natural isotopic abundances. During the third quarter collection, one-fourth of the samples are also analyzed for strontium-90 on a four year rotating schedule.

Table 10

Radionuclides in Pasteurized Milk

January - March 2009

Location	Date Collected	K g/L ± 2*u*	^{137}Cs pCi/L ± 2*u*	^{140}Ba pCi/L ± 2*u*	^{131}I pCi/L ± 2*u*
AR: Little Rock	03/31/09	1.56 0.20	ND	ND	ND
AZ: Phoenix	03/30/09	1.61 0.21	ND	ND	ND
CA: Los Angeles	01/08/09	1.62 0.20	ND	ND	ND
CA: San Francisco	01/12/09	1.56 0.20	ND	ND	ND
CT: Hartford	01/16/09	1.56 0.20	ND	ND	ND
DE: Wilmington	03/18/09	1.55 0.20	ND	ND	ND
FL: Tampa	01/12/09	1.58 0.20	ND	ND	ND
IA: Des Moines	02/17/09	1.54 0.19	ND	ND	ND
KS: Wichita	01/20/09	1.67 0.21	ND	ND	ND
KY: Louisville	01/14/09	1.63 0.21	ND	ND	ND
MA: Boston	03/05/09	1.48 0.19	ND	ND	ND
MD: Baltimore	01/09/09	1.54 0.19	ND	ND	ND
MO: Jefferson City	01/09/09	1.57 0.21	ND	ND	ND
NJ: Trenton	01/20/09	1.57 0.21	ND	ND	ND
NM: Albuquerque	01/14/09	1.60 0.23	ND	ND	ND
NY: Buffalo	03/05/09	1.51 0.23	ND	ND	ND
NY: Syracuse	01/23/09	1.64 0.24	ND	ND	ND
OH: Cincinnati	01/26/09	1.58 0.20	ND	ND	ND
OH: Cleveland	02/02/09	1.56 0.20	ND	ND	ND
OR: Portland	01/26/09	1.57 0.20	ND	ND	ND
PA: Pittsburgh	01/08/09	1.58 0.23	ND	ND	ND
TN: Chattanooga	03/16/09	1.58 0.20	ND	ND	ND
TN: Knoxville	03/24/09	1.56 0.20	ND	ND	ND
TN: Memphis	01/12/09	1.58 0.20	ND	ND	ND
TX: Austin	01/20/09	1.53 0.22	ND	ND	ND
TX: Dallas	01/12/09	1.53 0.20	ND	ND	ND
VA: Norfolk	03/30/09	1.50 0.19	ND	ND	ND
VT: Montpelier	03/27/09	1.60 0.20	ND	ND	ND
WA: Spokane	01/20/09	1.55 0.19	ND	ND	ND
WA: Tacoma	03/31/09	1.30 0.17	ND	ND	ND
WV: Charleston	01/12/09	1.58 0.20	ND	ND	ND

Note: ND = Not Detected

For More Information

Environmental Radiation Data(ERD) is published quarterly by the U.S. Environmental Protection Agency's Office of Radiation and Indoor Air.

Requests for information concerning the operation of RadNet and the data that are generated should be directed as follows:

For System Operations

Rhonda Sears
National Air and Radiation Environmental Laboratory
540 South Morris Avenue
Montgomery, Alabama 36115-2601
e-mail: sears.rhonda@epa.gov

For Analytical Information and Data

John Griggs
National Air and Radiation Environmental Laboratory
540 South Morris Avenue
Montgomery, Alabama 36115-2601
e-mail: griggs.john@epa.gov

Requests for information concerning publication and distribution of ERD should be directed to:

Charles M. Petko
Office of the Director
National Air and Radiation Environmental Laboratory
540 South Morris Avenue
Montgomery, Alabama 36115-2601
e-mail: petko.charles@epa.gov

Requests for information concerning policies of the Office of Radiation and Indoor Air should be directed to:

Jonathan Edwards
USEPA - ORIA
Radiation Protection Division (MC6608J)
1200 Pennsylvania Ave. N.W.
Washington, DC 20460
e-mail: edwards.jonathan@epa.gov

***

This page intentionally left blank