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ENVIRONMENTAL RADIATION DATA

REPORT 138

April - June 2009

United States Environmental Protection Agency

Office of Radiation and Indoor Air

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Contents

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List of Tables

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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).

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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.

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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.

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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.

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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
April 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	3				0.010	0.005	0.007
AL: Birmingham	7	0.1	0.0	0.0	0.014	0.007	0.009
AL: Montgomery/408	8	0.1	0.0	0.0	0.017	0.005	0.012
AR: Fort Smith	6				0.014	0.009	0.011
AR: Little Rock	9	0.1	0.0	0.0	0.013	0.006	0.009
AZ: Phoenix	5	0.4	0.1	0.3	0.013	0.009	0.012
AZ: Phoenix/956	8	0.9	0.4	0.7	0.019	0.010	0.015
AZ: Tucson	7	0.4	0.0	0.1	0.009	0.005	0.007
CA: Anaheim	5	0.0	0.0	0.0	0.040	0.005	0.018
CA: Bakersfield	9	0.8	0.0	0.3	0.012	0.005	0.008
CA: Los Angeles	1	0.1	0.1	0.1	0.008	0.008	0.008
CA: Richmond	4	0.1	0.0	0.0	0.007	0.004	0.005
CA: Riverside	8	0.0	0.0	0.0	0.011	0.003	0.007
CA: San Bernardino Cty.	5	0.0	0.0	0.0	0.019	0.009	0.012
CA: San Diego	5	0.1	0.0	0.1	0.017	0.006	0.010
CA: San Francisco	5	0.0	0.0	0.0	0.006	0.003	0.004
CA: San Jose	9	0.3	0.0	0.1	0.007	0.003	0.005
CO: Colorado Springs	4				0.009	0.007	0.008
CT: Hartford	9	0.1	0.0	0.0	0.014	0.004	0.009
DC: Washington	7	0.1	0.0	0.0	0.012	0.004	0.007
DE: Dover	6	0.1	0.0	0.0	0.007	0.003	0.005
DE: Wilmington	8	0.1	0.0	0.1	0.012	0.006	0.009
FL: Jacksonville	7	0.0	0.0	0.0	0.010	0.004	0.007
FL: Miami	8	0.0	0.0	0.0	0.010	0.005	0.007
FL: Orlando	7	0.1	0.0	0.0	0.011	0.005	0.008
FL: Tampa	8	0.0	-0.0	0.0	0.009	0.005	0.008
GA: Augusta	4	0.2	0.0	0.1	0.012	0.007	0.009
HI: Honolulu	8	0.0	0.0	0.0	0.004	0.002	0.003
IA: Des Moines	7	0.2	0.1	0.1	0.011	0.005	0.008
IA: Iowa City	9	1.7	0.3	0.8	0.018	0.004	0.010
IL: Chicago	9	0.1	0.0	0.1	0.010	0.004	0.007
IN: Indianapolis	9	0.1	0.0	0.0	0.011	0.006	0.008
KS: Kansas City	5	0.2	0.0	0.1	0.013	0.008	0.010
KS: Topeka	4	0.2	0.1	0.1	0.009	0.004	0.007
KS: Wichita	9	0.3	0.0	0.1	0.014	0.004	0.009
KY: Louisville	7	3.3	0.1	0.9	0.085	0.005	0.019
LA: Baton Rouge	6	0.1	0.0	0.1	0.009	0.004	0.007
MA: Boston	7	0.0	0.0	0.0	0.015	0.001	0.005

Table 2 (continued)
Gross Beta in Airborne Particulates
April 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	8	0.1	0.0	0.0	0.012	0.007	0.010
ME: Portland	8	0.0	-0.0	0.0	0.009	0.002	0.006
MI: Detroit	9	0.2	0.0	0.1	0.013	0.004	0.008
MI: Lansing	9	0.1	0.0	0.1	0.016	0.006	0.011
MN: Duluth	6	0.2	0.0	0.1	0.008	0.004	0.006
MN: St. Paul	4	0.1	0.0	0.1	0.055	0.004	0.018
MO: Jefferson City	4	0.2	0.0	0.1	0.010	0.006	0.008
MS: Jackson	4	0.1	0.0	0.1	0.014	0.008	0.012
MS: Jackson/Deq	7	0.1	-0.0	0.0	0.010	0.006	0.009
NC: Charlotte	6	0.2	0.0	0.1	0.022	0.005	0.012
NC: Raleigh	6	0.4	0.0	0.2	0.035	0.005	0.012
NC: Wilmington	3				0.011	0.007	0.009
ND: Bismarck	7	0.2	0.0	0.1	0.012	0.003	0.007
NE: Lincoln	8	0.6	0.2	0.4	0.012	0.005	0.008
NJ: Edison	7	0.0	-0.0	0.0	0.009	0.004	0.007
NJ: Trenton	8	0.3	0.1	0.1	0.012	0.005	0.009
NM: Carlsbad	7				0.010	0.007	0.008
NV: Las Vegas/913	8	0.1	0.0	0.0	0.011	0.004	0.006
NV: Washoe County	7	0.1	0.1	0.1	0.015	0.004	0.011
NY: Albany	9	0.1	0.0	0.0	0.014	0.003	0.008
NY: Hauppauge	8	0.1	0.0	0.0	0.011	0.005	0.008
NY: Lockport	8	0.0	0.0	0.0	0.009	0.003	0.006
NY: Rochester	8	0.1	0.0	0.1	0.009	0.004	0.007
NY: Yaphank	8	0.0	0.0	0.0	0.009	0.003	0.006
OH: Cincinnati	8	0.1	0.0	0.0	0.008	0.005	0.007
OH: Cleveland	9	0.1	0.0	0.0	0.029	0.007	0.013
OH: Columbus	2	0.0	0.0	0.0	0.007	0.006	0.006
OH: Painesville	7	0.1	0.0	0.0	0.013	0.007	0.010
OK: Oklahoma City	4	0.0	0.0	0.0	0.007	0.005	0.006
OK: Tulsa	7	0.0	0.0	0.0	0.011	0.008	0.009
OR: Portland	6	0.1	0.0	0.0	0.015	0.004	0.009
PA: Harrisburg	7	0.4	0.1	0.2	0.017	0.006	0.011
PA: Pittsburgh	5	0.2	0.0	0.1	0.010	0.007	0.009
SC: Columbia	3	0.1	0.0	0.0	0.011	0.008	0.010
SD: Pierre	7	0.4	0.0	0.3	0.014	0.004	0.010
TN: Knoxville	7	0.3	0.0	0.1	0.010	0.005	0.006
TN: Memphis	5	0.0	0.0	0.0	0.011	0.007	0.008
TN: Nashville	6	0.1	0.0	0.0	0.008	0.004	0.006

Table 2 (continued)
Gross Beta in Airborne Particulates
April 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	9	0.4	0.1	0.2	0.012	0.008	0.010
TN: Oak Ridge/K25	7	0.4	0.1	0.2	0.012	0.007	0.009
TN: Oak Ridge/Melton	9	0.5	0.1	0.2	0.014	0.007	0.011
TN: Oak Ridge/Y12 E	7	0.2	0.1	0.2	0.014	0.007	0.010
TN: Oak Ridge/Y12 W	9	0.2	0.1	0.1	0.013	0.007	0.010
TX: Corpus Christi	5				0.035	0.005	0.013
TX: Dallas	8	0.4	0.1	0.2	0.009	0.003	0.006
TX: Ft. Worth	5	0.2	0.0	0.1	0.015	0.005	0.008
TX: Houston	7	0.2	0.0	0.1	0.040	0.005	0.012
TX: San Antonio	9	0.8	0.2	0.5	0.014	0.004	0.009
UT: Salt Lake City	5	0.1	0.0	0.1	0.009	0.004	0.007
VA: Harrisonburg	6	0.2	0.1	0.2	0.009	0.004	0.006
VA: Lynchburg	9	0.4	0.1	0.2	0.014	0.005	0.009
VA: Richmond	8	0.0	-0.0	0.0	0.010	0.004	0.006
WA: Olympia	8	0.1	0.0	0.0	0.007	0.002	0.004
WA: Seattle	8	0.0	-0.0	0.0	0.006	0.002	0.004
WA: Spokane	8	0.4	0.0	0.1	0.010	0.003	0.007
WI: Madison	8	0.5	0.0	0.2	0.012	0.004	0.007

Table 3
Gross Beta in Airborne Particulates
May 2009

Location	Number of Samples	5-hour Field Estimate (pCi/m³) Max	Min	Avg	NAREL Lab Measurement (pCi/m³) Max	Min	Avg
AK: Anchorage	3				0.007	0.006	0.007
AL: Birmingham	4	0.0	0.0	0.0	0.020	0.006	0.011
AL: Montgomery/408	8	0.0	0.0	0.0	0.014	0.005	0.009
AR: Little Rock	6	0.0	0.0	0.0	0.010	0.005	0.007
AZ: Phoenix	6	2.8	0.2	1.4	0.017	0.014	0.016
AZ: Phoenix/956	8	1.0	0.4	0.6	0.023	0.016	0.019
AZ: Tucson	9	0.5	0.0	0.1	0.009	0.006	0.008
CA: Anaheim	4	0.0	0.0	0.0	0.022	0.012	0.017
CA: Bakersfield	8	0.9	0.0	0.2	0.016	0.004	0.010
CA: Los Angeles	7	0.1	0.0	0.1	0.015	0.005	0.010
CA: Richmond	4	0.1	0.0	0.0	0.004	0.003	0.004
CA: Riverside	9	0.0	0.0	0.0	0.015	0.005	0.009
CA: San Bernardino Cty.	5	0.0	0.0	0.0	0.015	0.009	0.013
CA: San Diego	3	0.1	0.0	0.1	0.009	0.005	0.007
CA: San Francisco	4	0.0	0.0	0.0	0.003	0.002	0.002
CA: San Jose	8	0.1	0.0	0.1	0.007	0.001	0.004
CO: Colorado Springs	4				0.013	0.008	0.010
CO: Denver	8	0.6	0.0	0.4	0.013	0.005	0.009
CT: Hartford	8	0.1	0.0	0.1	0.013	0.005	0.010
DC: Washington	9	0.1	0.0	0.0	0.007	0.003	0.005
DE: Dover	6	0.1	0.0	0.0	0.008	0.004	0.006
DE: Wilmington	7	0.1	0.0	0.0	0.010	0.006	0.008
FL: Jacksonville	9	0.0	0.0	0.0	0.010	0.003	0.006
FL: Miami	7	0.0	0.0	0.0	0.006	0.002	0.005
FL: Orlando	8	0.1	0.0	0.0	0.010	0.003	0.007
FL: Tallahassee	2				0.004	0.004	0.004
FL: Tampa	3	0.0	0.0	0.0	0.019	0.005	0.010
GA: Augusta	4	0.1	0.0	0.0	0.011	0.007	0.008
HI: Honolulu	9	0.1	0.0	0.1	0.008	0.002	0.004
IA: Des Moines	6	0.3	0.1	0.1	0.010	0.004	0.007
IA: Iowa City	8	1.4	0.5	0.8	0.014	0.005	0.010
IL: Chicago	4	0.3	0.0	0.1	0.012	0.007	0.009
IN: Indianapolis	8	0.1	0.0	0.0	0.009	0.005	0.007
KS: Kansas City	8	0.3	0.1	0.1	0.015	0.004	0.009
KS: Topeka	7	0.7	0.1	0.3	0.010	0.005	0.008
KS: Wichita	8	0.6	0.0	0.2	0.010	0.005	0.007
KY: Louisville	8	0.6	0.1	0.3	0.014	0.006	0.009
LA: Baton Rouge	7	0.2	0.0	0.1	0.010	0.006	0.007

Table 3 (continued)
Gross Beta in Airborne Particulates
May 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)
MA: Boston	3	0.0	0.0	0.0	0.007	0.003	0.005
MD: Baltimore	1	0.0	0.0	0.0	0.012	0.012	0.012
ME: Portland	8	0.0	-0.0	0.0	0.009	0.002	0.006
MI: Detroit	7	0.4	0.0	0.2	0.013	0.005	0.009
MI: Lansing	8	0.2	0.0	0.1	0.015	0.007	0.011
MN: Duluth	8	0.3	0.0	0.1	0.010	0.004	0.006
MN: St. Paul	3	0.1	0.1	0.1	0.008	0.005	0.006
MN: Welch/510	6	0.3	0.0	0.1	0.008	0.005	0.007
MO: Jefferson City	8	0.1	0.0	0.1	0.010	0.003	0.007
MO: St. Louis	1	0.0	0.0	0.0	0.007	0.007	0.007
MS: Jackson/Deq	9	0.1	0.0	0.1	0.010	0.004	0.007
NC: Charlotte	7	0.1	0.0	0.0	0.010	0.004	0.007
NC: Raleigh	6	0.1	0.0	0.0	0.021	0.004	0.009
NC: Wilmington	3				0.009	0.004	0.006
ND: Bismarck	7	0.2	0.1	0.1	0.007	0.004	0.006
NE: Lincoln	7	0.7	0.2	0.4	0.014	0.004	0.008
NJ: Edison	6	0.0	0.0	0.0	0.007	0.004	0.006
NJ: Trenton	8	0.2	0.1	0.1	0.012	0.004	0.008
NM: Carlsbad	3				0.011	0.011	0.011
NV: Las Vegas/913	8	0.0	0.0	0.0	0.019	0.008	0.012
NV: Washoe County	8	0.4	0.0	0.2	0.014	0.005	0.011
NY: Albany	7	0.3	0.0	0.1	0.015	0.005	0.010
NY: Hauppauge	7	0.0	0.0	0.0	0.009	0.005	0.007
NY: Lockport	9	0.0	0.0	0.0	0.009	0.002	0.006
NY: Rochester	9	0.2	0.0	0.1	0.009	0.004	0.007
NY: Yaphank	7	0.0	0.0	0.0	0.007	0.002	0.004
OH: Cincinnati	9	0.1	0.0	0.0	0.009	0.005	0.007
OH: Cleveland	8	0.3	0.0	0.1	0.034	0.008	0.016
OH: Columbus	6	0.0	-0.0	0.0	0.012	0.005	0.007
OH: Painesville	9	0.2	0.0	0.1	0.014	0.005	0.010
OK: Oklahoma City	6	0.0	0.0	0.0	0.006	0.003	0.005
OK: Tulsa	8	0.0	0.0	0.0	0.009	0.004	0.007
OR: Portland	8	0.1	0.0	0.0	0.010	0.004	0.007
PA: Harrisburg	9	0.3	0.0	0.1	0.013	0.006	0.010
PA: Pittsburgh	6	0.1	0.0	0.1	0.016	0.004	0.009
SC: Barnwell	2	0.0	0.0	0.0	0.009	0.005	0.007
SC: Columbia	1	0.0	0.0	0.0	0.008	0.008	0.008
SD: Pierre	8	1.4	0.1	0.6	0.011	0.007	0.009

Table 3 (continued)
Gross Beta in Airborne Particulates
May 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)
SD: Rapid City	4	0.3	0.2	0.3	0.011	0.005	0.008
TN: Knoxville	8	0.3	0.0	0.1	0.007	0.003	0.005
TN: Nashville	5	0.1	0.0	0.0	0.006	0.004	0.005
TN: Oak Ridge/Bethel	7	0.3	0.0	0.1	0.011	0.004	0.007
TN: Oak Ridge/K25	4	0.4	0.1	0.3	0.012	0.008	0.010
TN: Oak Ridge/Melton	7	0.3	0.1	0.1	0.011	0.005	0.008
TN: Oak Ridge/Y12 W	7	0.2	0.0	0.1	0.011	0.004	0.007
TX: Corpus Christi	5				0.010	0.006	0.008
TX: Dallas	9	0.2	0.0	0.1	0.010	0.003	0.005
TX: Ft. Worth	8	0.1	0.0	0.1	0.008	0.004	0.005
TX: Houston	9	0.3	0.0	0.1	0.009	0.005	0.007
TX: San Antonio	8	0.7	0.2	0.4	0.011	0.005	0.009
UT: Salt Lake City	5	0.2	0.0	0.1	0.011	0.006	0.009
VA: Harrisonburg	7	0.2	0.1	0.1	0.008	0.004	0.006
VA: Lynchburg	7	0.4	0.1	0.2	0.012	0.003	0.007
VA: Richmond	9	0.0	0.0	0.0	0.009	0.004	0.005
WA: Olympia	9	0.0	0.0	0.0	0.004	0.001	0.003
WA: Seattle	9	0.0	-0.0	0.0	0.005	0.001	0.003
WA: Spokane	8	0.4	0.0	0.2	0.012	0.003	0.007
WI: Madison	9	0.3	0.1	0.1	0.009	0.003	0.006

Table 4
Gross Beta in Airborne Particulates
June 2009

Location	Number of Samples	5-hour Field Estimate (pCi/m³) Max	Min	Avg	NAREL Lab Measurement (pCi/m³) Max	Min	Avg
AK: Anchorage	8	0.0	0.0	0.0	0.009	0.001	0.003
AL: Birmingham	8	0.1	0.0	0.1	0.023	0.014	0.018
AL: Montgomery/408	9	0.1	0.1	0.1	0.025	0.010	0.016
AR: Little Rock	8	0.2	0.0	0.1	0.019	0.010	0.013
AZ: Phoenix	9	0.8	0.3	0.4	0.013	0.010	0.011
AZ: Phoenix/956	9	1.0	0.1	0.4	0.022	0.011	0.015
AZ: Tucson	9	0.5	0.0	0.2	0.008	0.006	0.007
CA: Anaheim	4	0.0	0.0	0.0	0.010	0.008	0.009
CA: Bakersfield	7	0.3	0.0	0.1	0.013	0.003	0.008
CA: Eureka	3	0.0	0.0	0.0	0.006	0.002	0.004
CA: Los Angeles	8	0.1	0.0	0.0	0.008	0.004	0.007
CA: Richmond	5	0.1	0.0	0.1	0.005	0.003	0.004
CA: Riverside	9	0.0	0.0	0.0	0.011	0.003	0.007
CA: San Bernardino Cty.	6	0.0	0.0	0.0	0.017	0.009	0.011
CA: San Diego	4	0.0	0.0	0.0	0.012	0.006	0.008
CA: San Francisco	4	0.0	0.0	0.0	0.005	0.003	0.004
CA: San Jose	8	0.1	0.0	0.0	0.006	0.003	0.004
CO: Colorado Springs	3				0.011	0.007	0.009
CO: Denver	8	0.5	0.2	0.3	0.011	0.006	0.008
CT: Hartford	8	0.1	0.0	0.0	0.014	0.002	0.007
DC: Washington	9	0.1	0.0	0.0	0.008	0.002	0.005
DE: Dover	7	0.0	0.0	0.0	0.010	0.003	0.005
FL: Jacksonville	8	0.0	0.0	0.0	0.014	0.006	0.009
FL: Miami	5	0.0	0.0	0.0	0.010	0.005	0.007
FL: Orlando	8	0.1	0.0	0.0	0.015	0.007	0.011
FL: Tallahassee	7				0.024	0.007	0.012
GA: Augusta	5	0.3	0.1	0.2	0.015	0.008	0.011
HI: Hilo	4	0.0	0.0	0.0	0.005	0.003	0.004
HI: Honolulu	9	0.1	0.0	0.0	0.005	0.002	0.003
IA: Des Moines	6	0.2	0.0	0.1	0.009	0.005	0.007
IA: Iowa City	1	0.6	0.6	0.6	0.011	0.011	0.011
IL: Chicago	9	0.2	0.0	0.1	0.035	0.003	0.011
IN: Indianapolis	9	0.1	0.0	0.0	0.011	0.005	0.008
KS: Kansas City	7	0.3	0.0	0.1	0.014	0.006	0.010
KS: Topeka	7	0.2	0.1	0.2	0.010	0.005	0.008
KS: Wichita	7	0.6	0.1	0.3	0.015	0.005	0.009
KY: Louisville	9	1.0	0.2	0.5	0.019	0.009	0.013
LA: Baton Rouge	9	0.3	0.1	0.2	0.015	0.009	0.012

Table 4 (continued)
Gross Beta in Airborne Particulates
June 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)
MA: Boston	3				0.004	0.002	0.003
MD: Baltimore	6	0.1	0.0	0.1	0.018	0.005	0.009
ME: Portland	9	0.0	-0.0	0.0	0.006	0.002	0.004
MI: Detroit	8	0.2	0.0	0.1	0.013	0.005	0.008
MI: Lansing	9	0.3	0.0	0.1	0.012	0.005	0.009
MN: Duluth	7	0.1	0.0	0.1	0.007	0.001	0.004
MN: St. Paul	5	0.2	0.0	0.1	0.012	0.004	0.007
MN: Welch/510	8	0.3	0.0	0.1	0.008	0.003	0.006
MO: Jefferson City	9	0.2	0.1	0.1	0.016	0.007	0.009
MO: St. Louis	5	0.1	-0.1	0.0	0.013	0.007	0.009
MS: Jackson/Deq	9	0.5	0.1	0.3	0.018	0.008	0.012
NC: Charlotte	8	0.1	0.0	0.0	0.011	0.004	0.008
NC: Raleigh	7	0.1	-0.0	0.0	0.011	0.004	0.008
NC: Wilmington	5				0.010	0.006	0.008
ND: Bismarck	8	0.3	0.0	0.1	0.007	0.003	0.006
NE: Kearney	5	1.3	0.2	0.5	0.027	0.007	0.014
NJ: Edison	8	0.0	-0.0	0.0	0.007	0.003	0.004
NJ: Trenton	9	0.1	0.0	0.1	0.009	0.004	0.006
NM: Carlsbad	6				0.011	0.005	0.008
NM: Santa Fe	6	0.8	0.0	0.2	0.012	0.006	0.011
NV: Las Vegas/913	8	0.0	0.0	0.0	0.013	0.004	0.008
NV: Washoe County	9	0.3	0.0	0.2	0.013	0.007	0.010
NY: Albany	8	0.2	0.0	0.1	0.011	0.003	0.007
NY: Hauppauge	9	0.1	0.0	0.0	0.007	0.003	0.005
NY: Lockport	9	0.0	-0.0	0.0	0.008	0.003	0.005
NY: Rochester	9	0.1	0.0	0.1	0.012	0.003	0.006
NY: Yaphank	8	0.0	-0.0	0.0	0.005	0.002	0.003
OH: Cincinnati	8	0.1	0.0	0.1	0.009	0.007	0.008
OH: Cleveland	9	0.1	0.0	0.1	0.013	0.008	0.011
OH: Columbus	2	0.0	0.0	0.0	0.010	0.006	0.008
OH: Painesville	8	0.2	0.0	0.1	0.013	0.006	0.009
OK: Oklahoma City	9	0.1	0.0	0.0	0.010	0.005	0.007
OK: Tulsa	9	0.1	0.0	0.0	0.018	0.006	0.011
OR: Corvallis	7	0.1	0.0	0.1	0.009	0.001	0.003
OR: Portland	9	0.1	0.0	0.1	0.016	0.003	0.010
PA: Harrisburg	9	0.3	0.0	0.1	0.012	0.004	0.009
PA: Pittsburgh	5	0.1	0.0	0.1	0.009	0.006	0.008
SC: Barnwell	4	0.1	0.0	0.0	0.012	0.008	0.010

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

Location	Number of Samples	5-hour Field Estimate (pCi/m³) Max	Min	Avg	NAREL Lab Measurement (pCi/m³) Max	Min	Avg
SC: Columbia	5	0.1	0.0	0.1	0.012	0.007	0.010
SD: Pierre	8	0.9	0.0	0.4	0.012	0.005	0.009
SD: Rapid City	8	0.3	0.0	0.1	0.016	0.003	0.008
TN: Knoxville	8	0.2	0.0	0.1	0.014	0.005	0.007
TN: Memphis	4	0.0	0.0	0.0	0.015	0.007	0.012
TN: Nashville	1	0.0	0.0	0.0	0.006	0.006	0.006
TN: Oak Ridge/Bethel	9	0.6	0.2	0.4	0.020	0.009	0.013
TN: Oak Ridge/K25	9	0.9	0.1	0.5	0.019	0.010	0.014
TN: Oak Ridge/Melton	9	0.7	0.3	0.5	0.019	0.010	0.013
TN: Oak Ridge/Y12 E	4	0.8	0.2	0.5	0.024	0.009	0.014
TN: Oak Ridge/Y12 W	9	0.5	0.1	0.2	0.018	0.007	0.011
TX: Corpus Christi	4				0.012	0.004	0.009
TX: Dallas	8	0.4	0.1	0.2	0.011	0.005	0.007
TX: Houston	9	0.1	0.0	0.1	0.011	0.007	0.009
TX: San Antonio	9	1.4	0.1	0.4	0.013	0.007	0.009
VA: Harrisonburg	9	0.9	0.0	0.2	0.012	0.004	0.008
VA: Lynchburg	9	0.7	0.1	0.5	0.014	0.006	0.010
VA: Richmond	8	0.0	0.0	0.0	0.009	0.003	0.006
WA: Olympia	9	0.1	0.0	0.0	0.007	0.002	0.005
WA: Seattle	8	0.0	-0.0	0.0	0.007	0.002	0.004
WA: Spokane	8	0.4	0.0	0.1	0.010	0.003	0.007
WI: Madison	9	0.3	0.1	0.2	0.010	0.004	0.006

Table 5
Gross Beta and Specific Gamma in Precipitation
April 2009

Location	Gross Beta Activity pCi/L	± 2*u*	Gamma-Emitting Radionuclides Nuclide	pCi/L	± 2*u*
AL: Montgomery/408	1.55	0.41	Be7	31	17
AR: Little Rock	0.63	0.34	Be7	16	12
CA: Richmond	0.87	0.37		ND	
CT: Hartford	2.29	0.49	Be7	56	18
DE: Wilmington	1.30	0.40	Be7	52	18
FL: Jacksonville	1.21	0.39	Be7	18.3	8.1
IA: Iowa City	2.44	0.53	Be7	23	18
ID: Idaho Falls	2.17	0.53	Be7	53	37
KS: Kansas City	0.95	0.39	Be7	39	11
MA: Boston	2.79	0.53	Be7	60	17
MI: Lansing	0.60	0.36		ND	
MN: St. Paul	1.72	0.47	Be7	17	16
NC: Charlotte	1.84	0.45	K40	9.8	7.0
NC: Wilmington	0.87	0.36	Pb212	5.8	6.0
NY: Albany	2.41	0.52	Be7	30	17
NY: Yaphank	1.03	0.37	Pb212	2.6	4.5
OH: Painesville	1.77	0.46	Be7	32	31
			Pb212	6.3	6.6
OR: Portland	0.43	0.33		ND	
PA: Harrisburg	1.15	0.37		ND	
TN: Knoxville	0.89	0.62		ND	
TN: Nashville	1.17	0.38	Be7	62	19
TN: Oak Ridge/K25	1.44	0.44	Be7	46	20
TN: Oak Ridge/Melton	1.91	0.45	Be7	52	17
			Tl208	1.0	1.2
TN: Oak Ridge/Y12 E	1.55	0.45	Be7	44	16
TX: Austin	1.48	0.45		ND	
UT: Salt Lake City	1.10	0.39		ND	
VA: Lynchburg	2.22	0.49	Pb212	6.0	7.0
WA: Olympia	0.67	0.35		ND	

Note: ND = Not Detected

Table 6
Gross Beta and Specific Gamma in Precipitation
May 2009

Location	Gross Beta Activity pCi/L	± 2*u*	Gamma-Emitting Radionuclides Nuclide	pCi/L	± 2*u*
AL: Montgomery/408	1.94	0.45	Be7	28	18
AR: Little Rock	1.66	0.44	Be7	18	19
			K40	9	12
CA: Richmond	0.63	0.34		ND	
CO: Denver	2.87	0.57	Be7	29	19
CT: Hartford	1.84	0.45	Be7	74	17
DE: Wilmington	1.64	0.45		ND	
FL: Jacksonville	1.97	0.47		ND	
IA: Iowa City	2.00	0.48	Be7	29	18
ID: Idaho Falls	1.34	0.42		ND	
KS: Kansas City	1.35	0.40	Be7	30	19
MA: Boston	2.06	0.46	Be7	72	14
MI: Lansing	1.29	0.41		ND	
MN: St. Paul	2.93	0.83	Be7	39	33
MN: Welch/510	1.61	0.45		ND	
NC: Charlotte	0.92	0.35	Be7	35	19
NC: Wilmington	0.81	0.36		ND	
NY: Albany	3.34	0.63	Be7	31	16
NY: Yaphank	0.90	0.35		ND	
OH: Painesville	1.45	0.41	Be7	63	37
OR: Portland	0.42	0.32		ND	
PA: Harrisburg	1.09	0.37		ND	
TN: Knoxville	2.45	0.52	Be7	16	15
			Tl208	1.3	1.3
TN: Nashville	1.00	0.36	Be7	56	13
			Be7	52	19
			Pb212	1.7	1.1
TN: Oak Ridge/K25	0.85	0.36	Be7	37	19
TN: Oak Ridge/Melton	1.36	0.41	Be7	39	16
TN: Oak Ridge/Y12 E	0.76	0.35	Be7	45	21
UT: Salt Lake City	1.46	0.42		ND	
VA: Lynchburg	2.75	0.55		ND	
WA: Olympia	0.52	0.32	Be7	23	17

Note: ND = Not Detected

Table 7
Gross Beta and Specific Gamma in Precipitation
June 2009

Location	Gross Beta Activity pCi/L	± 2*u*	Gamma-Emitting Radionuclides Nuclide	pCi/L	± 2*u*
AL: Montgomery/408	1.13	0.50	Be7	40	19
AR: Little Rock	0.89	0.63	Be7	44	32
CA: Richmond	1.2	1.2		ND	
CO: Denver	1.51	0.69	Be7	59	18
			K40	12	12
CT: Hartford	2.53	0.58	Be7	54	14
			K40	7	11
FL: Jacksonville	1.48	0.49	Be7	41	19
IA: Iowa City	3.1	1.4		ND	
ID: Idaho Falls	1.08	0.68	Be7	157	42
			Bi212	35	39
			Pb212	5.2	6.7
			Tl208	2.6	3.7
KS: Kansas City	1.4	1.2	Be7	33	17
MA: Boston	2.06	0.54	Be7	57	15
MI: Lansing	1.99	0.56	Be7	27	11
MN: St. Paul	1.27	0.67	Be7	21	16
MN: Welch/510	4.7	1.6		ND	
NC: Charlotte	0.45	0.45	Be7	24.1	8.9
NC: Wilmington	1.67	0.52	Be7	48	15
NM: Santa Fe	4.0	1.5		ND	
NY: Albany	1.62	0.54	Be7	25	17
NY: Yaphank	1.51	0.50	Be7	24	15
OH: Painesville	1.00	0.49	Be7	34	18
OR: Portland	1.04	0.64	Be7	31	41
			Ra228	13	13
PA: Harrisburg	2.59	0.58	Be7	49	26
TN: Knoxville	0.52	0.41		ND	
TN: Nashville	0.88	0.46		ND	
TN: Oak Ridge/K25	1.51	0.69	Be7	67	13
TN: Oak Ridge/Melton	1.64	0.50	Be7	66	18
			K40	10.1	7.5
TN: Oak Ridge/Y12 E	0.60	0.61	Be7	53	12
TX: Austin	1.23	0.69	Be7	56	40
UT: Salt Lake City	1.21	0.68	Be7	12.5	8.1
			Pb212	1.06	0.98
VA: Lynchburg	7.2	1.3		ND	

Note: ND = Not Detected

Table 8
Tritium in Precipitation
April - June 2009

Location	April 2009 pCi/L	± 2*u*	May 2009 pCi/L	± 2*u*	June 2009 pCi/L	± 2*u*
AL: Montgomery/408	24	86	49	82	41	82
AR: Little Rock	35	85	132	84	20	77
CA: Richmond	-24	80	69	88	26	78
CO: Denver	NS		64	88	56	80
CT: Hartford	75	89	114	85	140	86
DE: Wilmington	36	88	62	82	NS	
FL: Jacksonville	-32	84	119	85	79	84
IA: Iowa City	107	90	68	82	54	83
ID: Idaho Falls	0	80	-9	85	18	77
KS: Kansas City	47	89	-15	85	112	82
MA: Boston	82	89	128	85	84	84
MI: Lansing	47	88	98	84	96	85
MN: St. Paul	114	90	192	87	126	85
MN: Welch/510	NS		84	82	43	82
NC: Charlotte	101	90	72	83	43	82
NC: Wilmington	34	87	65	81	77	84
NM: Santa Fe	NS		NS		79	80
NY: Albany	51	88	60	82	112	86
NY: Yaphank	75	89	116	85	109	85
OH: Painesville	49	88	102	84	115	85
OR: Portland	43	82	2	86	18	77
PA: Harrisburg	105	90	102	84	110	86
TN: Knoxville	105	90	101	83	70	84
TN: Nashville	9	85	72	82	67	83
TN: Oak Ridge/K25	14	80	76	89	93	81
TN: Oak Ridge/Melton	114	90	151	85	122	86
TN: Oak Ridge/Y12 E	76	84	-17	85	81	81
TX: Austin	44	84	NS		49	82
UT: Salt Lake City	31	81	-13	85	74	81
VA: Lynchburg	45	88	28	80	6	81
WA: Olympia	-20	79	21	86	NS	

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.

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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
April - June 2009

Location	Date Collected	^{3}H pCi/L	± 2*u*
AK: Fairbanks	04/28/09	92	87
AL: Dothan	04/03/09	-22	82
AL: Montgomery	04/06/09	-8	83
AL: Muscle Shoals	04/15/09	119	84
AL: Scottsboro	04/14/09	41	80
AR: Little Rock	04/17/09	51	81
CA: Los Angeles	04/06/09	-14	83
CA: Richmond	04/08/09	39	85
CO: Denver	04/13/09	-65	80
CT: Hartford	04/03/09	-6	81
DE: Dover	04/03/09	-55	80
FL: Miami	04/20/09	27	80
FL: Tampa	04/03/09	-31	81
GA: Baxley	04/07/09	-64	79
GA: Savannah	06/03/09	11	83
HI: Honolulu	06/12/09	44	77
IA: Cedar Rapids	04/06/09	-46	79
ID: Boise	05/12/09	45	85
ID: Idaho Falls	04/09/09	24	80
IL: W. Chicago	04/06/09	-36	79
LA: New Orleans	06/26/09	60	78
MD: Baltimore	04/06/09	-20	83
MD: Conowingo	04/28/09	80	85
MI: Detroit	05/11/09	130	88
MI: Grand Rapids	06/30/09	57	88
MN: St. Paul	04/07/09	-25	81
MN: Welch	04/07/09	-28	82
MO: Jefferson City	04/07/09	-16	82
MS: Jackson	04/07/09	-73	78
MS: Port Gibson	04/07/09	-68	79
MT: Helena	04/03/09	21	83
NC: Raleigh	04/15/09	22	80
ND: Bismarck	04/03/09	-24	82
NE: Lincoln	04/15/09	16	80
NJ: Trenton	04/08/09	-31	77
NJ: Waretown	04/15/09	22	80
NM: Santa Fe	05/07/09	96	90
NV: Las Vegas	04/13/09	14	80
NY: Albany	04/14/09	10	79
NY: New York	04/06/09	4	82

Table 9 (continued)
Tritium in Drinking Water
April - June 2009

Location	Date Collected	^{3}H pCi/L	± 2*u*
NY: Niagara Falls	04/20/09	68	81
NY: Syracuse	05/12/09	80	80
OH: Cincinnati	04/27/09	195	92
OH: Columbus	06/29/09	-24	81
OH: E. Liverpool	04/22/09	256	94
OH: Painesville	04/23/09	132	89
OH: Toledo	04/03/09	246	94
OK: Oklahoma City	04/06/09	12	78
OR: Portland	06/26/09	79	79
PA: Columbia	04/29/09	53	86
PA: Harrisburg	04/30/09	95	84
PA: Philadelphia/Baxter	04/27/09	62	86
PA: Philadelphia/Belmont	04/27/09	60	86
PA: Philadelphia/Queen	04/27/09	52	85
PA: Pittsburgh	04/22/09	178	91
SC: Barnwell	04/23/09	58	85
SC: Columbia	04/23/09	17	84
SC: Jenkinsville	04/06/09	11	84
SC: Seneca	04/13/09	58	86
TN: Chattanooga	04/04/09	41	84
TN: Knoxville	05/12/09	11	87
TN: Oak Ridge/#360	04/08/09	-31	81
TN: Oak Ridge/#371	04/08/09	14	83
TN: Oak Ridge/#4442	04/08/09	27	83
TN: Oak Ridge/#768	04/08/09	-49	81
TN: Oak Ridge/#772	04/08/09	24	84
TX: Austin	04/03/09	-15	80
VA: Ashland	04/30/09	530	100
VA: Lynchburg	04/02/09	-26	81
WA: Richland	04/09/09	49	85
WA: Seattle	06/08/09	-26	82

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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

April - June 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*
AZ: Phoenix	04/03/09	1.61 0.20	ND	ND	ND
CA: Los Angeles	04/07/09	1.64 0.20	ND	ND	ND
CA: San Francisco	04/21/09	1.58 0.20	ND	ND	ND
CT: Hartford	04/21/09	1.56 0.21	ND	ND	ND
DE: Wilmington	04/07/09	1.62 0.23	ND	ND	ND
FL: Tampa	04/13/09	1.61 0.20	ND	ND	ND
HI: Hilo	06/17/09	1.55 0.20	ND	ND	ND
IA: Des Moines	06/08/09	1.51 0.19	ND	ND	ND
KS: Wichita	04/06/09	1.64 0.21	ND	ND	ND
KY: Louisville	04/07/09	1.56 0.20	ND	ND	ND
MA: Boston	05/06/09	1.61 0.20	ND	ND	ND
MD: Baltimore	04/06/09	1.56 0.20	ND	ND	ND
MI: Detroit	05/18/09	1.58 0.20	ND	ND	ND
MO: Jefferson City	04/17/09	1.54 0.19	ND	ND	ND
NJ: Trenton	04/27/09	1.55 0.19	ND	ND	ND
NV: Las Vegas	04/14/09	1.58 0.20	ND	ND	ND
NY: Buffalo	06/08/09	1.63 0.20	ND	ND	ND
NY: Syracuse	04/06/09	1.48 0.19	ND	ND	ND
OH: Cincinnati	04/07/09	1.67 0.21	ND	ND	ND
OR: Portland	04/22/09	1.78 0.22	ND	ND	ND
PA: Pittsburgh	04/08/09	1.68 0.23	ND	ND	ND
TN: Chattanooga	05/21/09	1.53 0.20	ND	ND	ND
TN: Knoxville	04/22/09	1.45 0.19	ND	ND	ND
TN: Memphis	04/13/09	1.66 0.20	ND	ND	ND
TX: San Antonio	04/20/09	1.35 0.18	ND	ND	ND
VT: Montpelier	06/30/09	1.62 0.20	ND	ND	ND
WA: Spokane	04/21/09	1.51 0.19	ND	ND	ND
WA: Tacoma	06/23/09	1.49 0.19	ND	ND	ND
WV: Charleston	04/07/09	1.63 0.21	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:

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

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