# ENVIRONMENTAL

# RADIATION

# DATA

REPORT 159

July–September 2014

United States Environmental Protection Agency

Office of Radiation and Indoor Air

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# Preface

*Environmental Radiation Data* (ERD) contains data from the RadNet monitoring system (formerly ERAMS), which is operated by the Office of Radiation and Indoor Air's National Analytical Radiation Environmental Laboratory (NAREL) in Montgomery, Alabama. ERD is published in electronic format, which is available online at http://www.epa.gov/narel. RadNet data are also available online in a searchable database at:

http://www.epa.gov/enviro/facts/radnet

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, and drinking water samples.

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

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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 Analytical 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 | 0.0006 |
| | Water | pCi/L | 2 |
| Tritium | Water | pCi/L | 150 |
| * Plutonium-238,239/240 | Air | aCi/m³ | 6 |
| | Water | pCi/L | 0.3 |
| † Uranium-234,238 | Air | aCi/m³ | 7.5 |
| | Water | pCi/L | 0.35 |
| † Uranium-235 | Air | aCi/m³ | 9 |
| | Water | pCi/L | 0.4 |
| Radium-226 | Water | pCi/L | 0.02 |
| Strontium-90 | Water | pCi/L | 1 |
| ‡ Iodine-131 | Water (gamma) | pCi/L | 4 |
| | Water | pCi/L | 0.3 |
| Cesium-137 | Water | pCi/L | 5 |
| ‡ Barium-140 | Water | pCi/L | 15 |
| Potassium-40 | Water | pCi/L | 50 |

* The MDC for air is based on an assumed total sample volume of 10,000 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 MDCs for air are based on an assumed total sample volume of 10,000 $m^3$.

‡ 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. Continuous air samplers collect airborne particulates at field stations representing wide geographic coverage throughout the United States.

Filters (10 cm diameter synthetic fiber) from air samplers are changed routinely, and the exposed filters are sent to NAREL for analysis in a gas proportional counter. Gamma scans are performed on all filters showing gross beta activity greater than 1 $pCi/m^3$.

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 gamma-emitting radionuclides.

# Table 2
# Gross Beta in Airborne Particulates
## July 2014

| Location | Number of Samples | NAREL Lab Measurement (pCi/m³) Max | Min | Avg |
|---|---|---|---|---|
| AK: Anchorage | 3 | 0.002 | 0.001 | 0.001 |
| AK: Fairbanks | 9 | 0.005 | 0.002 | 0.003 |
| AK: Juneau | 7 | 0.003 | 0.001 | 0.002 |
| AL: Birmingham | 8 | 0.021 | 0.006 | 0.011 |
| AL: Montgomery/408 | 9 | 0.016 | 0.006 | 0.009 |
| AR: Little Rock | 6 | 0.018 | 0.007 | 0.011 |
| AZ: Phoenix/956 | 5 | 0.010 | 0.005 | 0.007 |
| AZ: Tucson | 6 | 0.012 | 0.007 | 0.009 |
| CA: Anaheim | 9 | 0.005 | 0.003 | 0.004 |
| CA: Eureka | 2 | 0.001 | 0.001 | 0.001 |
| CA: Fresno | 1 | 0.010 | 0.010 | 0.010 |
| CA: Los Angeles | 8 | 0.011 | 0.004 | 0.007 |
| CA: Richmond | 5 | 0.002 | 0.001 | 0.002 |
| CA: Riverside | 8 | 0.009 | 0.006 | 0.008 |
| CA: San Bernardino Cty. | 6 | 0.011 | 0.007 | 0.009 |
| CA: San Diego | 1 | 0.007 | 0.007 | 0.007 |
| CA: San Francisco | 8 | 0.003 | 0.001 | 0.002 |
| CA: San Jose | 8 | 0.007 | 0.001 | 0.003 |
| CO: Colorado Springs | 3 | 0.012 | 0.012 | 0.012 |
| CO: Denver | 6 | 0.020 | 0.012 | 0.016 |
| CO: Grand Junction | 1 | 0.013 | 0.013 | 0.013 |
| CT: Hartford | 9 | 0.009 | 0.006 | 0.007 |
| DC: Washington | 9 | 0.012 | 0.006 | 0.008 |
| DE: Dover | 1 | 0.008 | 0.008 | 0.008 |
| FL: Jacksonville | 7 | 0.010 | 0.004 | 0.008 |
| FL: Orlando | 7 | 0.009 | 0.003 | 0.005 |
| FL: Tallahassee | 4 | 0.011 | 0.006 | 0.008 |
| FL: Tampa | 6 | 0.008 | 0.003 | 0.006 |
| GA: Atlanta | 4 | 0.011 | 0.006 | 0.008 |
| GA: Augusta | 4 | 0.007 | 0.005 | 0.006 |
| HI: Honolulu | 6 | 0.002 | 0.001 | 0.002 |
| IA: Des Moines | 9 | 0.010 | 0.004 | 0.007 |
| IA: Mason City | 4 | 0.008 | 0.005 | 0.007 |
| ID: Idaho Falls | 7 | 0.012 | 0.006 | 0.010 |
| IL: Aurora | 5 | 0.013 | 0.006 | 0.008 |
| IL: Champaign | 8 | 0.009 | 0.002 | 0.006 |
| IL: Chicago | 10 | 0.012 | 0.003 | 0.007 |
| IN: Fort Wayne | 3 | 0.010 | 0.007 | 0.008 |

# Table 2 (continued)
# Gross Beta in Airborne Particulates
## July 2014

| Location | Number of Samples | NAREL Lab Measurement Max (pCi/m³) | Min (pCi/m³) | Avg (pCi/m³) |
|---|---|---|---|---|
| IN: Indianapolis | 8 | 0.013 | 0.004 | 0.008 |
| KS: Kansas City | 7 | 0.013 | 0.009 | 0.011 |
| KS: Wichita | 9 | 0.016 | 0.006 | 0.010 |
| KY: Lexington | 8 | 0.017 | 0.005 | 0.010 |
| KY: Louisville | 8 | 0.013 | 0.006 | 0.009 |
| KY: Paducah | 8 | 0.016 | 0.006 | 0.011 |
| LA: Baton Rouge | 8 | 0.012 | 0.007 | 0.009 |
| LA: Shreveport | 2 | 0.012 | 0.010 | 0.011 |
| MA: Boston | 8 | 0.008 | 0.004 | 0.006 |
| MA: Worcester | 8 | 0.010 | 0.005 | 0.008 |
| ME: Orono | 4 | 0.004 | 0.003 | 0.004 |
| ME: Portland | 8 | 0.009 | 0.005 | 0.007 |
| MI: Bay City 48708 | 7 | 0.006 | 0.003 | 0.004 |
| MI: Detroit | 9 | 0.013 | 0.005 | 0.009 |
| MI: Grand Rapids | 3 | 0.009 | 0.005 | 0.007 |
| MN: Duluth | 2 | 0.007 | 0.004 | 0.005 |
| MN: St. Paul | 2 | 0.009 | 0.008 | 0.009 |
| MO: Jefferson City | 6 | 0.016 | 0.006 | 0.010 |
| MO: Springfield | 10 | 0.016 | 0.005 | 0.011 |
| MO: St. Louis | 5 | 0.011 | 0.006 | 0.008 |
| MS: Jackson/Deq | 3 | 0.014 | 0.007 | 0.011 |
| MT: Billings | 3 | 0.009 | 0.006 | 0.007 |
| NC: Charlotte | 9 | 0.016 | 0.007 | 0.011 |
| NC: Greensboro | 2 | 0.021 | 0.009 | 0.015 |
| NC: Raleigh | 1 | 0.005 | 0.005 | 0.005 |
| NC: Wilmington | 4 | 0.005 | 0.003 | 0.004 |
| ND: Bismarck | 7 | 0.010 | 0.004 | 0.007 |
| NE: Kearney | 8 | 0.012 | 0.006 | 0.009 |
| NE: Lincoln | 7 | 0.010 | 0.005 | 0.008 |
| NE: Omaha | 4 | 0.013 | 0.008 | 0.010 |
| NH: Concord | 6 | 0.008 | 0.003 | 0.006 |
| NJ: Edison | 6 | 0.007 | 0.005 | 0.006 |
| NM: Carlsbad | 5 | 0.014 | 0.009 | 0.011 |
| NV: Las Vegas/913 | 2 | 0.016 | 0.008 | 0.012 |
| NV: Reno | 1 | 0.008 | 0.008 | 0.008 |
| NY: Albany | 6 | 0.010 | 0.004 | 0.008 |
| NY: Lockport | 8 | 0.010 | 0.005 | 0.008 |
| NY: New York City | 4 | 0.008 | 0.006 | 0.007 |

# Table 2 (continued)
# Gross Beta in Airborne Particulates
## July 2014

| Location | Number of Samples | NAREL Lab Measurement Max (pCi/m³) | Min (pCi/m³) | Avg (pCi/m³) |
|---|---|---|---|---|
| NY: Rochester | 8 | 0.011 | 0.003 | 0.008 |
| NY: Syracuse | 2 | 0.009 | 0.006 | 0.007 |
| NY: Yaphank | 5 | 0.005 | 0.002 | 0.004 |
| OH: Cincinnati | 8 | 0.011 | 0.004 | 0.008 |
| OH: Cleveland | 5 | 0.013 | 0.007 | 0.010 |
| OH: Toledo | 9 | 0.012 | 0.004 | 0.006 |
| OK: Oklahoma City | 8 | 0.021 | 0.005 | 0.013 |
| OK: Tulsa | 9 | 0.029 | 0.000 | 0.011 |
| OR: Corvallis | 9 | 0.004 | 0.002 | 0.002 |
| OR: Portland | 7 | 0.002 | 0.001 | 0.002 |
| PA: Bloomsburg | 7 | 0.008 | 0.005 | 0.006 |
| PA: Philadelphia | 4 | 0.009 | 0.006 | 0.007 |
| PA: Pittsburgh | 4 | 0.012 | 0.008 | 0.010 |
| PR: San Juan | 7 | 0.012 | 0.003 | 0.006 |
| RI: Providence | 6 | 0.009 | 0.006 | 0.007 |
| SC: Columbia | 2 | 0.010 | 0.009 | 0.009 |
| SD: Pierre | 7 | 0.014 | 0.006 | 0.009 |
| SD: Rapid City | 8 | 0.013 | 0.005 | 0.009 |
| TN: Knoxville | 4 | 0.015 | 0.012 | 0.013 |
| TN: Memphis | 4 | 0.017 | 0.007 | 0.012 |
| TN: Nashville | 8 | 0.014 | 0.005 | 0.008 |
| TN: Oak Ridge/Bethel | 8 | 0.012 | 0.006 | 0.008 |
| TN: Oak Ridge/K25 | 8 | 0.015 | 0.006 | 0.010 |
| TN: Oak Ridge/Y12 E | 8 | 0.012 | 0.007 | 0.009 |
| TN: Oak Ridge/Y12 W | 8 | 0.014 | 0.007 | 0.009 |
| TX: Amarillo | 7 | 0.021 | 0.010 | 0.013 |
| TX: Austin | 4 | 0.014 | 0.010 | 0.012 |
| TX: Dallas | 4 | 0.018 | 0.014 | 0.015 |
| TX: El Paso | 1 | 0.016 | 0.016 | 0.016 |
| TX: Ft. Worth | 5 | 0.011 | 0.007 | 0.009 |
| TX: Harlingen | 4 | 0.011 | 0.010 | 0.010 |
| TX: Houston | 9 | 0.015 | 0.008 | 0.011 |
| TX: Lubbock | 7 | 0.014 | 0.006 | 0.009 |
| TX: San Angelo | 2 | 0.012 | 0.009 | 0.010 |
| TX: San Antonio | 8 | 0.015 | 0.007 | 0.011 |
| UT: Salt Lake City | 10 | 0.014 | 0.005 | 0.009 |
| UT: St. George | 4 | 0.008 | 0.006 | 0.006 |
| VA: Harrisonburg | 9 | 0.014 | 0.007 | 0.010 |

# Table 2 (continued)
# Gross Beta in Airborne Particulates
## July 2014

| Location | Number of Samples | NAREL Lab Measurement Max (pCi/m³) | Min (pCi/m³) | Avg (pCi/m³) |
|---|---|---|---|---|
| VA: Lynchburg | 5 | 0.006 | 0.004 | 0.005 |
| VA: Richmond | 7 | 0.011 | 0.007 | 0.009 |
| VA: Virginia Beach | 9 | 0.011 | 0.005 | 0.007 |
| VT: Burlington | 8 | 0.007 | 0.005 | 0.006 |
| WA: Olympia | 7 | 0.003 | 0.001 | 0.002 |
| WA: Richland | 7 | 0.010 | 0.001 | 0.006 |
| WA: Seattle | 3 | 0.002 | 0.001 | 0.002 |
| WA: Spokane | 7 | 0.012 | 0.003 | 0.007 |
| WI: Lacrosse | 4 | 0.007 | 0.004 | 0.005 |
| WI: Madison | 9 | 0.019 | 0.003 | 0.010 |
| WI: Milwaukee | 5 | 0.011 | 0.007 | 0.009 |
| WI: Shawano | 8 | 0.009 | 0.003 | 0.006 |
| WV: Charleston | 3 | 0.009 | 0.003 | 0.006 |
| WY: Casper | 2 | 0.010 | 0.009 | 0.010 |

# Table 3
# Gross Beta in Airborne Particulates
## August 2014

| Location | Number of Samples | NAREL Lab Measurement Max (pCi/m³) | Min (pCi/m³) | Avg (pCi/m³) |
|---|---|---|---|---|
| AK: Anchorage | 4 | 0.003 | 0.001 | 0.001 |
| AK: Fairbanks | 7 | 0.006 | 0.002 | 0.004 |
| AK: Juneau | 4 | 0.003 | 0.001 | 0.002 |
| AL: Birmingham | 8 | 0.022 | 0.010 | 0.013 |
| AL: Montgomery/408 | 8 | 0.016 | 0.005 | 0.010 |
| AR: Little Rock | 6 | 0.022 | 0.011 | 0.014 |
| AZ: Phoenix/956 | 8 | 0.011 | 0.005 | 0.007 |
| AZ: Tucson | 9 | 0.011 | 0.005 | 0.009 |
| CA: Anaheim | 9 | 0.007 | 0.004 | 0.005 |
| CA: Eureka | 2 | 0.002 | 0.002 | 0.002 |
| CA: Fresno | 1 | 0.012 | 0.012 | 0.012 |
| CA: Los Angeles | 8 | 0.011 | 0.007 | 0.008 |
| CA: Richmond | 4 | 0.003 | 0.003 | 0.003 |
| CA: Riverside | 7 | 0.013 | 0.008 | 0.010 |
| CA: Sacramento | 7 | 0.008 | 0.003 | 0.005 |
| CA: San Bernardino Cty. | 8 | 0.013 | 0.009 | 0.011 |
| CA: San Diego | 3 | 0.009 | 0.006 | 0.008 |
| CA: San Francisco | 9 | 0.004 | 0.002 | 0.003 |
| CA: San Jose | 8 | 0.008 | 0.003 | 0.005 |
| CO: Colorado Springs | 3 | 0.013 | 0.009 | 0.011 |
| CO: Denver | 7 | 0.021 | 0.011 | 0.015 |
| CO: Grand Junction | 1 | 0.010 | 0.010 | 0.010 |
| CT: Hartford | 9 | 0.008 | 0.003 | 0.006 |
| DC: Washington | 9 | 0.014 | 0.007 | 0.008 |
| DE: Dover | 3 | 0.006 | 0.004 | 0.005 |
| FL: Jacksonville | 8 | 0.012 | 0.004 | 0.009 |
| FL: Orlando | 7 | 0.009 | 0.003 | 0.006 |
| FL: Tallahassee | 4 | 0.011 | 0.008 | 0.009 |
| FL: Tampa | 5 | 0.013 | 0.003 | 0.007 |
| GA: Atlanta | 2 | 0.011 | 0.009 | 0.010 |
| GA: Augusta | 5 | 0.012 | 0.005 | 0.009 |
| HI: Honolulu | 3 | 0.003 | 0.002 | 0.003 |
| IA: Des Moines | 7 | 0.017 | 0.004 | 0.011 |
| IA: Mason City | 5 | 0.011 | 0.009 | 0.011 |
| ID: Boise | 2 | 0.008 | 0.007 | 0.007 |
| ID: Idaho Falls | 7 | 0.013 | 0.006 | 0.011 |
| IL: Aurora | 4 | 0.013 | 0.009 | 0.011 |
| IL: Champaign | 8 | 0.014 | 0.005 | 0.009 |

# Table 3 (continued)
# Gross Beta in Airborne Particulates
## August 2014

| Location | Number of Samples | NAREL Lab Measurement Max (pCi/m³) | Min (pCi/m³) | Avg (pCi/m³) |
|---|---|---|---|---|
| IL: Chicago | 7 | 0.016 | 0.004 | 0.009 |
| IN: Fort Wayne | 4 | 0.016 | 0.010 | 0.013 |
| IN: Indianapolis | 8 | 0.018 | 0.006 | 0.012 |
| KS: Kansas City | 5 | 0.018 | 0.009 | 0.014 |
| KS: Wichita | 8 | 0.018 | 0.009 | 0.013 |
| KY: Lexington | 7 | 0.027 | 0.012 | 0.016 |
| KY: Louisville | 4 | 0.015 | 0.010 | 0.012 |
| KY: Paducah | 9 | 0.023 | 0.011 | 0.016 |
| LA: Baton Rouge | 7 | 0.016 | 0.005 | 0.010 |
| LA: Shreveport | 5 | 0.016 | 0.009 | 0.011 |
| MA: Boston | 9 | 0.008 | 0.003 | 0.005 |
| MA: Worcester | 9 | 0.010 | 0.004 | 0.006 |
| MD: Baltimore | 1 | 0.009 | 0.009 | 0.009 |
| ME: Orono | 4 | 0.005 | 0.002 | 0.004 |
| ME: Portland | 9 | 0.010 | 0.003 | 0.006 |
| MI: Bay City 48708 | 7 | 0.008 | 0.004 | 0.006 |
| MI: Detroit | 8 | 0.017 | 0.007 | 0.011 |
| MI: Grand Rapids | 4 | 0.019 | 0.010 | 0.014 |
| MN: Duluth | 8 | 0.008 | 0.002 | 0.005 |
| MO: Jefferson City | 9 | 0.017 | 0.007 | 0.013 |
| MO: Springfield | 8 | 0.021 | 0.008 | 0.014 |
| MO: St. Louis | 3 | 0.016 | 0.009 | 0.013 |
| MS: Jackson/Deq | 3 | 0.015 | 0.009 | 0.013 |
| MT: Billings | 4 | 0.015 | 0.007 | 0.011 |
| NC: Charlotte | 8 | 0.022 | 0.009 | 0.013 |
| NC: Greensboro | 2 | 0.010 | 0.007 | 0.009 |
| NC: Raleigh | 3 | 0.011 | 0.005 | 0.008 |
| NC: Wilmington | 4 | 0.008 | 0.003 | 0.006 |
| ND: Bismarck | 7 | 0.016 | 0.006 | 0.011 |
| NE: Kearney | 8 | 0.022 | 0.006 | 0.012 |
| NE: Lincoln | 8 | 0.018 | 0.006 | 0.010 |
| NE: Omaha | 4 | 0.016 | 0.011 | 0.013 |
| NH: Concord | 6 | 0.004 | 0.003 | 0.004 |
| NJ: Edison | 6 | 0.007 | 0.004 | 0.006 |
| NM: Albuquerque | 2 | 0.012 | 0.011 | 0.012 |
| NV: Las Vegas/913 | 8 | 0.013 | 0.007 | 0.009 |
| NV: Reno | 6 | 0.012 | 0.008 | 0.009 |
| NY: Albany | 7 | 0.011 | 0.004 | 0.007 |

# Table 3 (continued)
# Gross Beta in Airborne Particulates
## August 2014

| Location | Number of Samples | NAREL Lab Measurement Max (pCi/m³) | Min (pCi/m³) | Avg (pCi/m³) |
|---|---|---|---|---|
| NY: Lockport | 9 | 0.013 | 0.004 | 0.008 |
| NY: New York City | 3 | 0.006 | 0.005 | 0.006 |
| NY: Rochester | 8 | 0.016 | 0.005 | 0.009 |
| NY: Syracuse | 1 | 0.006 | 0.006 | 0.006 |
| NY: Yaphank | 3 | 0.005 | 0.004 | 0.004 |
| OH: Cincinnati | 8 | 0.016 | 0.006 | 0.012 |
| OH: Cleveland | 9 | 0.016 | 0.007 | 0.011 |
| OH: Columbus | 1 | 0.016 | 0.016 | 0.016 |
| OH: Toledo | 7 | 0.010 | 0.005 | 0.008 |
| OK: Oklahoma City | 9 | 0.021 | 0.008 | 0.014 |
| OK: Tulsa | 8 | 0.021 | 0.008 | 0.013 |
| OR: Corvallis | 8 | 0.006 | 0.003 | 0.004 |
| OR: Portland | 9 | 0.003 | 0.002 | 0.003 |
| PA: Bloomsburg | 7 | 0.007 | 0.004 | 0.005 |
| PA: Philadelphia | 4 | 0.008 | 0.006 | 0.007 |
| PA: Pittsburgh | 4 | 0.012 | 0.008 | 0.010 |
| PR: San Juan | 7 | 0.007 | 0.004 | 0.005 |
| RI: Providence | 4 | 0.007 | 0.006 | 0.006 |
| SC: Columbia | 5 | 0.013 | 0.006 | 0.011 |
| SD: Pierre | 8 | 0.015 | 0.005 | 0.010 |
| SD: Rapid City | 7 | 0.016 | 0.007 | 0.013 |
| TN: Knoxville | 3 | 0.022 | 0.013 | 0.016 |
| TN: Memphis | 8 | 0.024 | 0.007 | 0.015 |
| TN: Nashville | 9 | 0.019 | 0.008 | 0.012 |
| TN: Oak Ridge/Bethel | 8 | 0.017 | 0.007 | 0.011 |
| TN: Oak Ridge/K25 | 8 | 0.018 | 0.008 | 0.012 |
| TN: Oak Ridge/Melton | 6 | 0.012 | 0.006 | 0.008 |
| TN: Oak Ridge/Y12 E | 8 | 0.019 | 0.008 | 0.013 |
| TN: Oak Ridge/Y12 W | 8 | 0.020 | 0.008 | 0.012 |
| TX: Amarillo | 9 | 0.022 | 0.010 | 0.014 |
| TX: Austin | 4 | 0.012 | 0.007 | 0.010 |
| TX: Dallas | 7 | 0.017 | 0.011 | 0.013 |
| TX: El Paso | 7 | 0.010 | 0.005 | 0.008 |
| TX: Ft. Worth | 4 | 0.011 | 0.007 | 0.009 |
| TX: Harlingen | 2 | 0.010 | 0.008 | 0.009 |
| TX: Houston | 8 | 0.013 | 0.008 | 0.010 |
| TX: Laredo | 6 | 0.013 | 0.007 | 0.010 |
| TX: Lubbock | 9 | 0.012 | 0.007 | 0.009 |

## Table 3 (continued)
## Gross Beta in Airborne Particulates
### August 2014

| Location | Number of Samples | NAREL Lab Measurement Max (pCi/m³) | Min (pCi/m³) | Avg (pCi/m³) |
|---|---|---|---|---|
| TX: San Angelo | 2 | 0.011 | 0.011 | 0.011 |
| TX: San Antonio | 8 | 0.013 | 0.007 | 0.010 |
| UT: Salt Lake City | 8 | 0.011 | 0.006 | 0.008 |
| UT: St. George | 4 | 0.007 | 0.006 | 0.007 |
| VA: Harrisonburg | 8 | 0.014 | 0.007 | 0.012 |
| VA: Richmond | 9 | 0.017 | 0.007 | 0.010 |
| VA: Virginia Beach | 7 | 0.011 | 0.006 | 0.009 |
| VT: Burlington | 8 | 0.009 | 0.003 | 0.005 |
| WA: Olympia | 3 | 0.005 | 0.003 | 0.004 |
| WA: Richland | 7 | 0.009 | 0.005 | 0.007 |
| WA: Seattle | 5 | 0.004 | 0.002 | 0.003 |
| WA: Spokane | 8 | 0.014 | 0.005 | 0.010 |
| WI: Lacrosse | 2 | 0.011 | 0.006 | 0.009 |
| WI: Madison | 8 | 0.024 | 0.006 | 0.015 |
| WI: Milwaukee | 1 | 0.014 | 0.014 | 0.014 |
| WI: Shawano | 8 | 0.015 | 0.004 | 0.008 |
| WV: Charleston | 6 | 0.021 | 0.008 | 0.012 |
| WY: Casper | 4 | 0.012 | 0.007 | 0.010 |

# Table 4
# Gross Beta in Airborne Particulates
## September 2014

| Location | Number of Samples | NAREL Lab Measurement Max (pCi/m³) | Min (pCi/m³) | Avg (pCi/m³) |
|---|---|---|---|---|
| AK: Anchorage | 5 | 0.007 | 0.001 | 0.003 |
| AK: Fairbanks | 7 | 0.004 | 0.001 | 0.003 |
| AK: Juneau | 5 | 0.002 | 0.001 | 0.002 |
| AL: Birmingham | 7 | 0.014 | 0.006 | 0.009 |
| AL: Montgomery/408 | 9 | 0.010 | 0.005 | 0.007 |
| AR: Fort Smith | 5 | 0.013 | 0.006 | 0.009 |
| AR: Little Rock | 8 | 0.017 | 0.006 | 0.010 |
| AZ: Phoenix/956 | 6 | 0.011 | 0.005 | 0.007 |
| AZ: Tucson | 7 | 0.011 | 0.005 | 0.008 |
| CA: Anaheim | 9 | 0.009 | 0.003 | 0.006 |
| CA: Eureka | 4 | 0.009 | 0.003 | 0.006 |
| CA: Los Angeles | 6 | 0.015 | 0.005 | 0.009 |
| CA: Richmond | 5 | 0.008 | 0.003 | 0.006 |
| CA: Riverside | 6 | 0.015 | 0.008 | 0.010 |
| CA: Sacramento | 9 | 0.011 | 0.004 | 0.007 |
| CA: San Bernardino Cty. | 8 | 0.015 | 0.009 | 0.012 |
| CA: San Diego | 4 | 0.013 | 0.007 | 0.010 |
| CA: San Francisco | 9 | 0.011 | 0.003 | 0.006 |
| CA: San Jose | 8 | 0.013 | 0.004 | 0.007 |
| CO: Colorado Springs | 3 | 0.017 | 0.010 | 0.013 |
| CO: Denver | 6 | 0.023 | 0.009 | 0.016 |
| CO: Grand Junction | 3 | 0.014 | 0.012 | 0.013 |
| CT: Hartford | 9 | 0.010 | 0.004 | 0.006 |
| DC: Washington | 8 | 0.011 | 0.004 | 0.007 |
| DE: Dover | 3 | 0.007 | 0.002 | 0.005 |
| FL: Jacksonville | 3 | 0.008 | 0.003 | 0.005 |
| FL: Orlando | 8 | 0.007 | 0.002 | 0.004 |
| FL: Tallahassee | 5 | 0.009 | 0.003 | 0.005 |
| FL: Tampa | 9 | 0.009 | 0.003 | 0.006 |
| GA: Atlanta | 3 | 0.014 | 0.006 | 0.009 |
| GA: Augusta | 6 | 0.011 | 0.003 | 0.006 |
| HI: Honolulu | 7 | 0.003 | 0.002 | 0.003 |
| IA: Des Moines | 7 | 0.018 | 0.005 | 0.010 |
| IA: Mason City | 6 | 0.012 | 0.005 | 0.007 |
| ID: Boise | 1 | 0.005 | 0.005 | 0.005 |
| ID: Idaho Falls | 8 | 0.019 | 0.007 | 0.011 |
| IL: Aurora | 4 | 0.012 | 0.010 | 0.011 |
| IL: Champaign | 7 | 0.009 | 0.003 | 0.006 |

# Table 4 (continued)
# Gross Beta in Airborne Particulates
## September 2014

| Location | Number of Samples | NAREL Lab Measurement Max (pCi/m³) | Min (pCi/m³) | Avg (pCi/m³) |
|---|---|---|---|---|
| IL: Chicago | 6 | 0.012 | 0.007 | 0.009 |
| IN: Fort Wayne | 4 | 0.014 | 0.006 | 0.010 |
| IN: Indianapolis | 9 | 0.012 | 0.002 | 0.009 |
| KS: Kansas City | 2 | 0.009 | 0.006 | 0.007 |
| KS: Wichita | 7 | 0.014 | 0.006 | 0.008 |
| KY: Lexington | 8 | 0.015 | 0.008 | 0.010 |
| KY: Louisville | 2 | 0.011 | 0.009 | 0.010 |
| KY: Paducah | 9 | 0.017 | 0.005 | 0.011 |
| LA: Baton Rouge | 7 | 0.011 | 0.005 | 0.008 |
| LA: Shreveport | 5 | 0.011 | 0.006 | 0.009 |
| MA: Boston | 9 | 0.009 | 0.002 | 0.005 |
| MA: Worcester | 9 | 0.010 | 0.003 | 0.007 |
| ME: Orono | 2 | 0.004 | 0.003 | 0.003 |
| ME: Portland | 9 | 0.013 | 0.003 | 0.006 |
| MI: Bay City 48708 | 8 | 0.009 | 0.004 | 0.007 |
| MI: Detroit | 9 | 0.013 | 0.002 | 0.010 |
| MI: Grand Rapids | 4 | 0.015 | 0.007 | 0.011 |
| MN: Duluth | 8 | 0.012 | 0.003 | 0.007 |
| MN: St. Paul | 2 | 0.011 | 0.010 | 0.011 |
| MO: Jefferson City | 9 | 0.014 | 0.004 | 0.008 |
| MO: Springfield | 9 | 0.016 | 0.004 | 0.010 |
| MO: St. Louis | 4 | 0.010 | 0.006 | 0.008 |
| MS: Jackson/Deq | 4 | 0.019 | 0.010 | 0.012 |
| MT: Billings | 4 | 0.012 | 0.006 | 0.009 |
| NC: Charlotte | 9 | 0.019 | 0.005 | 0.010 |
| NC: Greensboro | 1 | 0.009 | 0.009 | 0.009 |
| NC: Raleigh | 4 | 0.008 | 0.003 | 0.006 |
| NC: Wilmington | 3 | 0.006 | 0.002 | 0.004 |
| ND: Bismarck | 7 | 0.023 | 0.005 | 0.010 |
| NE: Kearney | 9 | 0.014 | 0.005 | 0.009 |
| NE: Lincoln | 9 | 0.016 | 0.005 | 0.008 |
| NE: Omaha | 4 | 0.018 | 0.005 | 0.010 |
| NH: Concord | 7 | 0.008 | 0.002 | 0.006 |
| NJ: Edison | 6 | 0.009 | 0.004 | 0.007 |
| NM: Albuquerque | 2 | 0.010 | 0.007 | 0.008 |
| NM: Carlsbad | 1 | 0.008 | 0.008 | 0.008 |
| NM: Navajo Lake St Park | 3 | 0.006 | 0.005 | 0.006 |
| NV: Las Vegas/913 | 8 | 0.018 | 0.006 | 0.009 |

# Table 4 (continued)
# Gross Beta in Airborne Particulates
## September 2014

| Location | Number of Samples | NAREL Lab Measurement Max (pCi/m³) | Min (pCi/m³) | Avg (pCi/m³) |
|---|---|---|---|---|
| NV: Reno | 5 | 0.011 | 0.006 | 0.009 |
| NY: Albany | 7 | 0.011 | 0.007 | 0.009 |
| NY: Lockport | 9 | 0.016 | 0.003 | 0.009 |
| NY: New York City | 4 | 0.009 | 0.005 | 0.007 |
| NY: Rochester | 7 | 0.016 | 0.006 | 0.010 |
| NY: Syracuse | 1 | 0.003 | 0.003 | 0.003 |
| NY: Yaphank | 5 | 0.007 | 0.003 | 0.005 |
| OH: Cincinnati | 3 | 0.008 | 0.006 | 0.007 |
| OH: Cleveland | 9 | 0.013 | 0.004 | 0.009 |
| OH: Columbus | 2 | 0.013 | 0.009 | 0.011 |
| OH: Toledo | 8 | 0.009 | 0.002 | 0.006 |
| OK: Oklahoma City | 9 | 0.016 | 0.005 | 0.010 |
| OK: Tulsa | 8 | 0.016 | 0.006 | 0.009 |
| OR: Corvallis | 9 | 0.015 | 0.002 | 0.006 |
| OR: Portland | 9 | 0.008 | 0.002 | 0.004 |
| PA: Bloomsburg | 9 | 0.008 | 0.002 | 0.005 |
| PA: Philadelphia | 5 | 0.009 | 0.004 | 0.008 |
| PA: Pittsburgh | 5 | 0.013 | 0.003 | 0.008 |
| PR: San Juan | 9 | 0.008 | 0.003 | 0.005 |
| RI: Providence | 6 | 0.010 | 0.003 | 0.007 |
| SC: Columbia | 9 | 0.015 | 0.004 | 0.008 |
| SD: Pierre | 9 | 0.013 | 0.005 | 0.009 |
| SD: Rapid City | 6 | 0.016 | 0.003 | 0.011 |
| TN: Knoxville | 4 | 0.013 | 0.011 | 0.012 |
| TN: Memphis | 8 | 0.018 | 0.005 | 0.010 |
| TN: Nashville | 8 | 0.013 | 0.004 | 0.008 |
| TN: Oak Ridge/Bethel | 8 | 0.017 | 0.006 | 0.010 |
| TN: Oak Ridge/K25 | 8 | 0.018 | 0.007 | 0.011 |
| TN: Oak Ridge/Melton | 8 | 0.015 | 0.004 | 0.008 |
| TN: Oak Ridge/Y12 E | 8 | 0.020 | 0.006 | 0.011 |
| TN: Oak Ridge/Y12 W | 8 | 0.017 | 0.008 | 0.011 |
| TX: Amarillo | 6 | 0.015 | 0.007 | 0.011 |
| TX: Austin | 5 | 0.011 | 0.004 | 0.007 |
| TX: Dallas | 7 | 0.015 | 0.006 | 0.011 |
| TX: El Paso | 2 | 0.006 | 0.004 | 0.005 |
| TX: Ft. Worth | 4 | 0.009 | 0.005 | 0.007 |
| TX: Harlingen | 3 | 0.007 | 0.005 | 0.006 |
| TX: Houston | 5 | 0.010 | 0.004 | 0.006 |

# Table 4 (continued)
# Gross Beta in Airborne Particulates
## September 2014

| Location | Number of Samples | NAREL Lab Measurement Max (pCi/m³) | Min (pCi/m³) | Avg (pCi/m³) |
|---|---|---|---|---|
| TX: Laredo | 6 | 0.009 | 0.003 | 0.006 |
| TX: Lubbock | 9 | 0.014 | 0.004 | 0.007 |
| TX: San Angelo | 4 | 0.010 | 0.005 | 0.008 |
| TX: San Antonio | 7 | 0.006 | 0.004 | 0.005 |
| UT: Salt Lake City | 6 | 0.009 | 0.003 | 0.007 |
| UT: St. George | 3 | 0.011 | 0.006 | 0.009 |
| VA: Harrisonburg | 8 | 0.017 | 0.005 | 0.009 |
| VA: Richmond | 6 | 0.010 | 0.004 | 0.007 |
| VA: Virginia Beach | 9 | 0.012 | 0.003 | 0.008 |
| VT: Burlington | 7 | 0.012 | 0.004 | 0.007 |
| WA: Olympia | 8 | 0.011 | 0.002 | 0.004 |
| WA: Richland | 9 | 0.013 | 0.003 | 0.007 |
| WA: Seattle | 4 | 0.008 | 0.003 | 0.005 |
| WA: Spokane | 9 | 0.020 | 0.004 | 0.008 |
| WI: Lacrosse | 1 | 0.006 | 0.006 | 0.006 |
| WI: Madison | 9 | 0.022 | 0.006 | 0.013 |
| WI: Milwaukee | 3 | 0.013 | 0.006 | 0.010 |
| WI: Shawano | 7 | 0.013 | 0.005 | 0.008 |
| WV: Charleston | 5 | 0.019 | 0.008 | 0.012 |
| WY: Casper | 5 | 0.014 | 0.007 | 0.010 |

# Table 5
## Gamma-Emitters in Precipitation
### July 2014

| Location | Nuclide | pCi/L ± 2*u* | |
|---|---|---|---|
| AL: Montgomery/408 | Be-7 | 27 | 16 |
| AR: Little Rock | Be-7 | 52 | 20 |
| | K-40 | 22 | 10 |
| CT: Hartford | Be-7 | 64 | 18 |
| FL: Jacksonville | Be-7 | 29 | 17 |
| GA: Atlanta | Be-7 | 55 | 20 |
| HI: Honolulu | | ND | |
| KS: Kansas City | | ND | |
| MA: Boston | Be-7 | 51 | 12 |
| MI: Lansing | Be-7 | 36 | 18 |
| MN: St. Paul | | ND | |
| MN: Welch/510 | Be-7 | 30 | 15 |
| NC: Charlotte | Be-7 | 38 | 12 |
| NC: Wilmington | | ND | |
| NY: Albany | Be-7 | 57 | 20 |
| NY: Yaphank | | ND | |
| OR: Portland | | ND | |
| PA: Harrisburg | Be-7 | 33 | 15 |
| TN: Nashville | Be-7 | 17 | 16 |
| TN: Oak Ridge/K25 | Be-7 | 80 | 24 |
| TN: Oak Ridge/Melton | Be-7 | 55 | 18 |
| TN: Oak Ridge/Y12 E | Be-7 | 46 | 19 |
| TX: Austin | | ND | |
| UT: Salt Lake City | Be-7 | 92 | 32 |
| VA: Lynchburg | | ND | |
| WA: Olympia | Be-7 | 52 | 29 |
| | K-40 | 11.3 | 9.9 |

# Table 6
## Gamma-Emitters in Precipitation
### August 2014

| Location | Nuclide | pCi/L ± 2*u* | |
|---|---|---|---|
| AL: Montgomery/408 | | ND | |
| AR: Little Rock | | ND | |
| CT: Hartford | | ND | |
| FL: Jacksonville | Be-7 | 56 | 27 |
| HI: Honolulu | Be-7 | 24 | 21 |
| | K-40 | 15 | 13 |
| ID: Idaho Falls | Be-7 | 49 | 26 |
| KS: Kansas City | | ND | |
| MA: Boston | Be-7 | 102 | 26 |
| MI: Lansing | Be-7 | 25 | 21 |
| | K-40 | 19 | 10 |
| MN: St. Paul | | ND | |
| MN: Welch/510 | | ND | |
| NC: Charlotte | | ND | |
| NC: Wilmington | | ND | |
| NH: Concord | | ND | |
| NY: Albany | Be-7 | 79 | 29 |
| | K-40 | 18 | 13 |
| NY: Yaphank | | ND | |
| PA: Harrisburg | | ND | |
| TN: Nashville | Be-7 | 30 | 20 |
| TN: Oak Ridge/K25 | Be-7 | 63 | 23 |
| | K-40 | 12 | 11 |
| TN: Oak Ridge/Melton | Be-7 | 67 | 23 |
| TN: Oak Ridge/Y12 E | Be-7 | 38 | 20 |
| UT: Salt Lake City | Be-7 | 65 | 29 |
| VA: Lynchburg | K-40 | 13 | 10 |
| WA: Olympia | Be-7 | 33 | 23 |

# Table 7
## Gamma-Emitters in Precipitation
### September 2014

| Location | Nuclide | pCi/L ± 2*u* | |
|---|---|---|---|
| AL: Montgomery/408 | | ND | |
| AR: Little Rock | Be-7 | 41 | 26 |
| CA: Richmond | Ra-228 | 0.39 | 0.35 |
| CT: Hartford | Be-7 | 53 | 19 |
| FL: Jacksonville | | ND | |
| GA: Atlanta | Be-7 | 46 | 17 |
| HI: Honolulu | Be-7 | 44 | 25 |
| ID: Idaho Falls | | ND | |
| KS: Kansas City | | ND | |
| MA: Boston | Be-7 | 99 | 24 |
| MI: Lansing | | ND | |
| MN: St. Paul | | ND | |
| MN: Welch/510 | | ND | |
| NC: Charlotte | Be-7 | 24 | 10 |
| NC: Wilmington | | ND | |
| NY: Albany | Be-7 | 30 | 15 |
| NY: Yaphank | | ND | |
| OR: Portland | | ND | |
| PA: Harrisburg | Be-7 | 25 | 14 |
| TN: Nashville | Be-7 | 47 | 19 |
| TN: Oak Ridge/K25 | Be-7 | 66 | 28 |
| TN: Oak Ridge/Melton | Be-7 | 71 | 24 |
| TN: Oak Ridge/Y12 E | Be-7 | 40 | 22 |
| TX: Austin | | ND | |
| UT: Salt Lake City | | ND | |
| VA: Lynchburg | | ND | |
| WA: Olympia | | ND | |

## 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 airborne particulate samplers. Plutonium and uranium results are published in the ERD for the third quarter of the following year.

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 total volume of air represented by all the samples received from one sampling location during a year typically ranges from 120,000 $m^3$ to 500,000 $m^3$. The aliquot analyzed is a fraction of the total volume and is typically between 5,000 $m^3$ and 30,000 $m^3$.

# Table 8
## Plutonium and Uranium in Airborne Particulates
### January–December 2013 Composites

| Location | $^{238}$Pu | | $^{239–240}$Pu | | $^{234}$U | | $^{235}$U | | $^{238}$U | |
|---|---|---|---|---|---|---|---|---|---|---|
| | aCi/m³ | ± 2*u* | aCi/m³ | ± 2*u* | aCi/m³ | ± 2*u* | aCi/m³ | ± 2*u* | aCi/m³ | ± 2*u* |
| AK: Anchorage | 0.4 | 1.0 | 0.7 | 1.2 | 6.0 | 3.1 | 0.00 | 0.83 | 4.8 | 2.8 |
| AK: Fairbanks | −0.36 | 0.56 | 0.29 | 0.79 | 5.6 | 2.5 | 0.00 | 0.61 | 9.0 | 3.3 |
| AK: Juneau | 0.25 | 0.93 | −0.06 | 0.75 | 2.8 | 1.4 | 0.00 | 0.36 | 2.4 | 1.3 |
| AL: Birmingham | −0.15 | 0.72 | 0.15 | 0.66 | 13.1 | 3.6 | 0.38 | 0.81 | 16.0 | 4.1 |
| AL: Montgomery/408 | 0.53 | 0.64 | 0.18 | 0.46 | 6.5 | 1.9 | 0.13 | 0.38 | 5.8 | 1.8 |
| AZ: Phoenix | −0.2 | 1.1 | 0.3 | 1.5 | 28.1 | 8.1 | 3.1 | 2.9 | 33.6 | 9.0 |
| AZ: Phoenix/956 | −1.0 | 1.3 | 0.5 | 1.4 | 36 | 11 | 0.2 | 2.3 | 35 | 11 |
| AZ: Tucson | −0.3 | 2.4 | −1.0 | 2.6 | 40 | 11 | 1.2 | 2.6 | 27.2 | 9.1 |
| AZ: Yuma | −2.5 | 5.1 | −0.5 | 4.7 | 88 | 23 | 2.9 | 5.2 | 64 | 19 |
| CA: Anaheim | 0.0 | 3.9 | −0.4 | 1.5 | 23.0 | 7.8 | 0.0 | 1.4 | 32.1 | 9.4 |
| CA: Bakersfield | −1.7 | 2.0 | −0.9 | 1.8 | 82 | 20 | 2.7 | 4.2 | 58 | 16 |
| CA: Eureka | 0.6 | 1.2 | −0.37 | 0.69 | 3.1 | 2.0 | 0.33 | 0.96 | 2.2 | 1.8 |
| CA: Fresno | 0.0 | 3.0 | 1.5 | 3.3 | 41 | 11 | 1.1 | 2.5 | 41 | 11 |
| CA: Los Angeles | 0.0 | 1.9 | 0.2 | 1.8 | 27.1 | 8.4 | 0.4 | 1.9 | 24.5 | 8.0 |
| CA: Richmond | −0.4 | 1.0 | 0.10 | 0.94 | 4.5 | 2.6 | 0.2 | 1.1 | 7.2 | 3.2 |
| CA: Riverside | 1.1 | 2.4 | 0.0 | 1.2 | 37 | 11 | −0.2 | 1.6 | 31.6 | 9.9 |
| CA: Sacramento | −0.1 | 1.5 | −0.1 | 1.2 | 12.3 | 5.3 | 1.2 | 2.1 | 12.9 | 5.6 |
| CA: San Bernardino Cty. | 0.7 | 6.1 | 0.0 | 4.2 | 36 | 14 | 2.5 | 4.5 | 48 | 16 |
| CA: San Diego | 0.7 | 1.3 | 0.36 | 0.99 | 17.7 | 5.4 | 0.4 | 1.5 | 18.7 | 5.6 |
| CA: San Francisco | 0.08 | 0.69 | 0.38 | 0.97 | 7.0 | 3.2 | 1.1 | 1.5 | 8.2 | 3.5 |
| CA: San Jose | −0.26 | 0.87 | −0.26 | 0.63 | 15.9 | 5.4 | 0.5 | 1.3 | 11.9 | 4.7 |
| CO: Colorado Springs | −0.4 | 1.4 | −0.14 | 0.91 | 31.0 | 8.5 | 1.0 | 2.1 | 29.2 | 8.1 |
| CO: Denver | 0.43 | 0.77 | 0.22 | 0.63 | 25.3 | 5.6 | 1.4 | 1.3 | 18.1 | 4.5 |
| CO: Grand Junction | −0.28 | 0.67 | 0.8 | 1.1 | 26.4 | 6.5 | 0.32 | 0.94 | 21.3 | 5.6 |
| CT: Hartford | 0.28 | 0.58 | −0.24 | 0.33 | 7.5 | 2.6 | 0.8 | 1.1 | 6.1 | 2.3 |
| DC: Washington | −0.07 | 0.41 | 0.07 | 0.31 | 6.1 | 1.9 | 0.98 | 0.86 | 6.5 | 2.0 |
| DE: Dover | 0.15 | 0.56 | 0.00 | 0.36 | 3.0 | 1.0 | 0.26 | 0.41 | 4.0 | 1.2 |
| FL: Jacksonville | 0.05 | 0.45 | 0.30 | 0.52 | 8.6 | 2.6 | 0.75 | 0.85 | 9.9 | 2.9 |
| FL: Miami | 0.68 | 0.95 | 0.56 | 0.78 | 9.2 | 2.7 | 1.2 | 1.1 | 11.1 | 3.0 |
| FL: Orlando | 0.20 | 0.44 | 0.57 | 0.62 | 8.9 | 2.6 | 0.74 | 0.87 | 8.0 | 2.4 |
| FL: Tallahassee | −0.04 | 0.27 | 0.24 | 0.43 | 7.2 | 1.9 | 0.71 | 0.63 | 7.1 | 1.9 |
| FL: Tampa | 0.42 | 0.89 | 0.00 | 0.45 | 34.9 | 7.1 | 3.2 | 2.0 | 33.8 | 7.0 |
| GA: Atlanta | −0.15 | 0.29 | −0.04 | 0.26 | 11.3 | 2.6 | 0.66 | 0.64 | 9.3 | 2.3 |
| GA: Augusta | 0.36 | 0.75 | −0.07 | 0.25 | 7.9 | 2.2 | 0.56 | 0.64 | 7.0 | 2.1 |
| HI: Hilo | −0.20 | 0.69 | −0.10 | 0.66 | 4.5 | 2.6 | 0.1 | 1.1 | 2.2 | 1.8 |
| HI: Honolulu | −0.51 | 0.69 | −0.09 | 0.57 | 3.0 | 2.0 | 0.00 | 0.83 | 2.5 | 1.7 |
| IA: Des Moines | −0.59 | 0.92 | 0.1 | 1.1 | 18.9 | 6.1 | 1.0 | 1.7 | 18.5 | 6.0 |
| IA: Mason City | −0.73 | 0.98 | 0.7 | 1.3 | 18.9 | 6.2 | −0.5 | 2.6 | 14.5 | 5.3 |
| ID: Boise | −0.10 | 0.98 | 0.5 | 1.1 | 15.4 | 4.7 | 0.9 | 1.4 | 13.4 | 4.4 |
| ID: Idaho Falls | 0.2 | 2.0 | −0.9 | 1.6 | 25.6 | 9.5 | 2.6 | 3.6 | 30 | 10 |

Note: NA = No Analysis

# Table 8 (continued)
## Plutonium and Uranium in Airborne Particulates
### January–December 2013 Composites

| Location | $^{238}$Pu aCi/m³ | ± 2*u* | $^{239–240}$Pu aCi/m³ | ± 2*u* | $^{234}$U aCi/m³ | ± 2*u* | $^{235}$U aCi/m³ | ± 2*u* | $^{238}$U aCi/m³ | ± 2*u* |
|---|---|---|---|---|---|---|---|---|---|---|
| IL: Aurora | 0.1 | 1.5 | 0.9 | 1.7 | 18.6 | 5.7 | 0.8 | 1.5 | 13.5 | 4.9 |
| IL: Champaign | −0.16 | 0.57 | 0.08 | 0.75 | 5.6 | 2.1 | −0.07 | 0.44 | 6.6 | 2.3 |
| IL: Chicago | −0.18 | 0.90 | −0.18 | 0.64 | 10.3 | 3.5 | 2.1 | 1.9 | 11.8 | 3.8 |
| IN: Fort Wayne | 0.5 | 1.1 | −0.43 | 0.68 | 15.0 | 5.5 | 1.0 | 1.7 | 13.6 | 5.1 |
| IN: Indianapolis | 0.00 | 0.54 | 0.00 | 0.54 | 9.6 | 3.1 | 0.64 | 0.99 | 8.0 | 2.8 |
| KS: Topeka | 0.6 | 2.1 | 0.5 | 1.4 | 15.9 | 5.6 | 0.7 | 1.8 | 15.9 | 5.6 |
| KY: Lexington | −0.08 | 0.76 | 0.40 | 0.86 | 7.7 | 2.4 | 0.86 | 0.86 | 7.6 | 2.3 |
| KY: Louisville | 0.12 | 0.45 | 0.08 | 0.36 | 7.4 | 1.9 | 0.17 | 0.36 | 7.6 | 1.9 |
| LA: Baton Rouge | −0.3 | 2.3 | 0.2 | 1.5 | 22.4 | 6.4 | 1.1 | 1.9 | 26.0 | 6.9 |
| LA: Shreveport | −0.15 | 0.37 | −0.10 | 0.35 | 8.0 | 2.7 | −0.07 | 0.72 | 7.7 | 2.6 |
| MA: Boston | 0.13 | 0.54 | 0.20 | 0.42 | 5.3 | 1.8 | 0.32 | 0.56 | 3.8 | 1.5 |
| MA: Worcester | 2.6 | 2.2 | 0.5 | 1.1 | 22.1 | 6.4 | 1.2 | 1.7 | 26.5 | 7.1 |
| MD: Baltimore | 0.70 | 0.74 | 0.14 | 0.38 | 6.3 | 2.1 | 0.00 | 0.51 | 6.7 | 2.1 |
| ME: Orono | −0.15 | 0.51 | 0.00 | 0.46 | 8.8 | 3.2 | 0.7 | 1.2 | 7.2 | 2.8 |
| ME: Portland | 0.0 | 1.2 | 0.8 | 1.1 | 36.0 | 8.8 | 1.4 | 2.0 | 36.2 | 8.7 |
| MI: Bay City 48708 | 0.4 | 1.5 | 0.29 | 0.80 | 9.4 | 3.4 | 0.20 | 0.90 | 7.6 | 3.0 |
| MI: Detroit | 0.00 | 0.84 | 0.18 | 0.81 | 11.8 | 4.4 | 0.4 | 1.8 | 9.1 | 3.9 |
| MI: Grand Rapids | 0.3 | 1.6 | −0.35 | 0.66 | 6.3 | 2.3 | 0.44 | 0.78 | 5.3 | 2.1 |
| MI: Lansing | −0.08 | 0.56 | −0.08 | 0.56 | 10.2 | 3.3 | 1.2 | 1.2 | 7.0 | 2.6 |
| MN: Duluth | 0.00 | 0.35 | 0.05 | 0.50 | 4.1 | 1.5 | 0.00 | 0.30 | 4.6 | 1.6 |
| MN: St. Paul | −0.7 | 1.1 | 0.23 | 0.86 | 10.5 | 3.4 | 0.35 | 0.96 | 12.9 | 3.8 |
| MO: Jefferson City | 0.5 | 1.3 | 0.0 | 1.2 | 7.9 | 2.9 | 0.8 | 1.1 | 6.7 | 2.7 |
| MO: Springfield | 0.7 | 1.5 | 0.00 | 0.98 | 11.2 | 3.5 | 1.2 | 1.3 | 6.4 | 2.6 |
| MS: Jackson/Deq | 0.8 | 1.2 | 0.18 | 0.79 | 8.0 | 2.8 | 0.25 | 0.73 | 9.6 | 3.2 |
| MT: Billings | −0.10 | 0.94 | 0.5 | 1.3 | 19.9 | 5.7 | 0.8 | 1.3 | 20.8 | 5.9 |
| NC: Charlotte | 0.63 | 0.87 | 0.14 | 0.59 | 9.6 | 2.7 | 1.7 | 1.2 | 7.3 | 2.3 |
| NC: Greensboro | −0.22 | 0.38 | −0.07 | 0.35 | 4.8 | 1.5 | 0.28 | 0.44 | 5.0 | 1.5 |
| NC: Raleigh | −0.27 | 0.43 | −0.17 | 0.26 | 9.8 | 2.2 | 0.32 | 0.45 | 8.1 | 2.0 |
| NC: Wilmington | 0.51 | 0.39 | 0.08 | 0.26 | 5.5 | 1.7 | 0.66 | 0.63 | 4.3 | 1.4 |
| ND: Bismarck | 0.0 | 1.4 | 0.00 | 0.97 | 24.3 | 7.8 | 1.8 | 2.4 | 21.6 | 7.4 |
| NE: Kearney | −0.40 | 0.95 | −0.26 | 0.91 | 21.8 | 5.9 | −0.1 | 1.1 | 22.9 | 6.0 |
| NE: Lincoln | −0.5 | 1.8 | 0.8 | 2.3 | 18.2 | 7.0 | 0.8 | 2.9 | 24.7 | 8.2 |
| NH: Concord | 0.38 | 0.49 | −0.03 | 0.26 | 7.5 | 2.0 | 0.67 | 0.65 | 7.2 | 2.0 |
| NJ: Edison | 0.21 | 0.44 | 0.16 | 0.45 | 6.6 | 2.2 | 0.76 | 0.91 | 4.9 | 1.8 |
| NM: Albuquerque | −0.8 | 1.6 | 0.6 | 1.8 | 19.1 | 6.7 | 1.1 | 2.0 | 27.0 | 8.1 |
| NV: Las Vegas/913 | 0.6 | 1.7 | −0.11 | 0.76 | 35.6 | 9.6 | 1.1 | 2.0 | 28.2 | 8.2 |
| NV: Reno | 2.8 | 3.6 | 0.9 | 2.6 | 30 | 10 | 3.2 | 4.0 | 22.9 | 8.9 |
| NY: Albany | −0.13 | 0.46 | 0.33 | 0.71 | 10.1 | 3.5 | 1.9 | 1.7 | 9.1 | 3.3 |
| NY: Lockport | −0.10 | 0.25 | 0.03 | 0.32 | 5.3 | 1.5 | 0.31 | 0.43 | 5.8 | 1.6 |
| NY: New York City | −0.05 | 0.46 | −0.10 | 0.34 | 7.6 | 2.2 | 0.15 | 0.43 | 7.7 | 2.2 |

Note: NA = No Analysis

# Table 8 (continued)
## Plutonium and Uranium in Airborne Particulates
### January–December 2013 Composites

| Location | $^{238}$Pu | | $^{239–240}$Pu | | $^{234}$U | | $^{235}$U | | $^{238}$U | |
|---|---|---|---|---|---|---|---|---|---|---|
| | aCi/m³ | ± 2*u* | aCi/m³ | ± 2*u* | aCi/m³ | ± 2*u* | aCi/m³ | ± 2*u* | aCi/m³ | ± 2*u* |
| NY: Rochester | −0.15 | 0.45 | 0.33 | 0.45 | 5.8 | 1.8 | 0.55 | 0.63 | 4.2 | 1.5 |
| NY: Syracuse | 0.32 | 0.49 | 0.06 | 0.28 | 4.4 | 1.4 | 0.24 | 0.43 | 4.9 | 1.5 |
| NY: Yaphank | −0.09 | 0.43 | 0.35 | 0.62 | 4.7 | 1.7 | 0.20 | 0.55 | 6.1 | 2.0 |
| OH: Cincinnati | −0.2 | 1.0 | −0.15 | 0.52 | 8.9 | 2.8 | 0.20 | 0.75 | 6.4 | 2.3 |
| OH: Cleveland | −0.7 | 1.3 | 0.5 | 2.0 | 16.0 | 6.0 | −0.2 | 1.8 | 11.9 | 5.1 |
| OH: Columbus | −0.09 | 0.62 | 0.8 | 1.1 | 14.3 | 3.8 | 0.29 | 0.81 | 15.1 | 3.9 |
| OH: Painesville | 0.06 | 0.54 | −0.12 | 0.58 | 5.3 | 1.7 | 0.41 | 0.56 | 4.0 | 1.5 |
| OH: Toledo | −0.27 | 0.66 | 0.09 | 0.83 | 8.7 | 2.7 | 0.76 | 0.87 | 10.0 | 2.9 |
| OK: Oklahoma City | 0.00 | 0.85 | 0.8 | 1.1 | 16.6 | 5.2 | 1.2 | 1.6 | 13.4 | 4.6 |
| OK: Tulsa | −0.3 | 1.1 | −0.2 | 1.0 | 1.78 | 0.59 | 0.08 | 0.17 | 1.75 | 0.59 |
| OR: Corvallis | 0.06 | 0.63 | −0.06 | 0.37 | 2.4 | 1.3 | 0.11 | 0.49 | 3.0 | 1.4 |
| OR: Portland | 0.31 | 0.80 | 0.00 | 0.58 | 6.9 | 2.5 | 0.23 | 0.66 | 8.8 | 2.9 |
| PA: Bloomsburg | 0.00 | 0.39 | 0.04 | 0.38 | 7.6 | 2.3 | 0.10 | 0.78 | 7.4 | 2.2 |
| PA: Philadelphia | 0.45 | 0.68 | 0.08 | 0.36 | 9.7 | 2.7 | 0.48 | 0.65 | 6.9 | 2.2 |
| PA: Pittsburgh | 0.27 | 0.57 | −0.09 | 0.31 | 10.4 | 2.7 | 1.8 | 1.2 | 7.9 | 2.3 |
| PR: San Juan | 0.6 | 1.0 | 0.50 | 0.90 | 8.6 | 3.5 | 0.1 | 1.0 | 8.6 | 3.4 |
| RI: Providence | 0.22 | 0.43 | 0.19 | 0.34 | 6.5 | 2.1 | 1.5 | 1.1 | 8.7 | 2.5 |
| SC: Barnwell | −0.10 | 0.57 | 0.10 | 0.54 | 7.6 | 5.0 | 1.4 | 2.9 | 9.5 | 5.1 |
| SC: Columbia | 0.23 | 0.58 | −0.14 | 0.33 | 15.5 | 3.7 | 1.19 | 0.99 | 12.5 | 3.2 |
| SD: Pierre | 0.2 | 2.2 | 0.7 | 2.1 | 15.0 | 6.1 | 2.1 | 2.9 | 19.3 | 7.0 |
| SD: Rapid City | −0.4 | 1.2 | −0.4 | 1.2 | 27.4 | 8.6 | 0.4 | 1.9 | 30.1 | 9.1 |
| TN: Knoxville | 0.40 | 0.62 | 0.33 | 0.52 | 6.1 | 1.7 | 0.38 | 0.53 | 6.3 | 1.7 |
| TN: Memphis | 0.32 | 0.69 | 0.06 | 0.59 | 12.0 | 3.4 | 0.07 | 0.65 | 10.8 | 3.2 |
| TN: Nashville | 0.04 | 0.51 | 0.00 | 0.52 | 9.4 | 2.7 | 0.62 | 0.78 | 8.6 | 2.5 |
| TN: Oak Ridge/Bethel | −0.21 | 0.37 | 0.21 | 0.44 | 13.4 | 3.1 | 1.35 | 0.94 | 6.5 | 2.0 |
| TN: Oak Ridge/K25 | −0.03 | 0.31 | −0.08 | 0.19 | 43.2 | 6.9 | 2.9 | 1.1 | 10.4 | 2.3 |
| TN: Oak Ridge/Melton | 0.26 | 0.33 | 0.00 | 0.22 | 5.1 | 1.5 | 0.81 | 0.61 | 4.0 | 1.3 |
| TN: Oak Ridge/Y12 E | −0.07 | 0.45 | 0.37 | 0.52 | 20.3 | 3.8 | 1.86 | 0.98 | 8.2 | 2.0 |
| TN: Oak Ridge/Y12 W | −0.26 | 0.41 | 0.26 | 0.56 | 46.3 | 8.5 | 2.0 | 1.4 | 23.6 | 5.1 |
| TX: Austin | 0.5 | 1.1 | −0.08 | 0.51 | 13.1 | 4.2 | 1.2 | 1.5 | 10.4 | 3.7 |
| TX: Dallas | −0.21 | 0.71 | −0.10 | 0.68 | 19.7 | 5.8 | 1.2 | 1.7 | 17.5 | 5.5 |
| TX: El Paso | −1.4 | 2.9 | −1.7 | 2.3 | 51 | 16 | 5.7 | 6.1 | 58 | 18 |
| TX: Ft. Worth | 0.35 | 0.96 | 1.3 | 1.6 | 24.8 | 6.7 | 0.8 | 1.7 | 23.0 | 6.5 |
| TX: Harlingen | 0.2 | 1.1 | 0.2 | 1.1 | 16.8 | 5.1 | 0.7 | 1.3 | 16.7 | 5.1 |
| TX: San Antonio | 0.1 | 1.0 | −0.2 | 1.1 | 14.9 | 4.5 | 0.32 | 0.93 | 19.4 | 5.3 |
| UT: Salt Lake City | 0.2 | 1.5 | 0.5 | 1.4 | 25.4 | 7.7 | 0.9 | 2.0 | 23.3 | 7.3 |
| UT: St. George | 0.4 | 1.6 | 1.1 | 1.5 | 34.3 | 8.7 | 4.9 | 3.5 | 27.0 | 7.4 |
| VA: Harrisonburg | 0.23 | 0.63 | −0.11 | 0.40 | 4.4 | 1.6 | 0.28 | 0.49 | 4.7 | 1.6 |
| VA: Lynchburg | 0.05 | 0.60 | 0.09 | 0.40 | 24.0 | 4.8 | 1.19 | 0.97 | 6.8 | 2.1 |
| VA: Richmond | −0.03 | 0.39 | 0.29 | 0.46 | 7.4 | 2.0 | 0.61 | 0.62 | 9.0 | 2.3 |

Note: NA = No Analysis

## Table 8 (continued)
## Plutonium and Uranium in Airborne Particulates
### January–December 2013 Composites

| Location | $^{238}$Pu aCi/m³ | ± 2*u* | $^{239–240}$Pu aCi/m³ | ± 2*u* | $^{234}$U aCi/m³ | ± 2*u* | $^{235}$U aCi/m³ | ± 2*u* | $^{238}$U aCi/m³ | ± 2*u* |
|---|---|---|---|---|---|---|---|---|---|---|
| VA: Virginia Beach | 0.32 | 0.40 | −0.14 | 0.22 | 7.4 | 2.1 | 0.27 | 0.48 | 7.5 | 2.1 |
| VT: Burlington | 0.28 | 0.82 | −0.05 | 0.56 | 5.2 | 2.1 | 0.37 | 0.80 | 5.7 | 2.3 |
| WA: Olympia | 0.12 | 0.80 | −0.06 | 0.40 | 1.46 | 0.96 | 0.00 | 0.32 | 2.1 | 1.1 |
| WA: Richland | 0.2 | 1.9 | 0.2 | 1.9 | 13.3 | 5.2 | 0.8 | 1.8 | 16.3 | 5.8 |
| WA: Seattle | 0.12 | 0.51 | 0.12 | 0.43 | 2.6 | 1.1 | 0.18 | 0.44 | 1.25 | 0.72 |
| WA: Spokane | −0.5 | 2.3 | 0.2 | 2.7 | 9.7 | 4.8 | 1.6 | 2.5 | 6.1 | 4.0 |
| WI: Lacrosse | 0.08 | 0.46 | −0.08 | 0.28 | 5.3 | 1.9 | 0.43 | 0.76 | 5.2 | 1.8 |
| WI: Madison | −0.21 | 0.74 | 0.00 | 0.68 | 9.4 | 4.8 | 1.0 | 2.2 | 12.8 | 5.6 |
| WI: Milwaukee | 0.1 | 1.1 | 0.3 | 1.0 | 5.9 | 2.5 | 0.7 | 1.1 | 4.6 | 2.2 |
| WI: Shawano | 0.3 | 1.1 | 0.09 | 0.87 | 7.5 | 2.6 | 0.22 | 0.64 | 7.5 | 2.6 |
| WV: Charleston | 0.14 | 0.41 | 0.14 | 0.41 | 9.7 | 2.5 | 1.6 | 1.0 | 10.4 | 2.6 |
| WY: Casper | 0.18 | 0.99 | 0.0 | 1.0 | 11.3 | 3.8 | 0.8 | 1.9 | 13.5 | 4.1 |

Note: NA = No Analysis

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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. Sampling sites are either major population centers or selected nuclear facility environs.

Drinking water data are used to assess trends and anomalies in concentrations. The analysis scheme for RadNet samples is similar to that of EPA's "National Interim Primary Drinking Water Regulations." The analyses include (a) tritium on a quarterly basis; (b) gross alpha, gross beta, 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 on annual composites; (d) iodine-131 on one quarterly sample per year for each station; (e) 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 on annual composites; and (f) strontium-90 on one-fourth of the annual composites on a four year rotating schedule. Composite results are published in the ERD for the third quarter of the following year.

RadNet drinking water data should not be used to monitor compliance with drinking water regulations or for comparisons to those data since different procedures for collection and analysis may be used.

# Table 9
# Tritium in Drinking Water
## July–September 2014

| Location | Date Collected | $^3$H pCi/L | ± 2*u* |
|---|---|---|---|
| AK: Fairbanks | 07/21/14 | 6 | 86 |
| AL: Dothan | 07/01/14 | 42 | 80 |
| AL: Montgomery | 09/11/14 | −25 | 82 |
| AL: Muscle Shoals | 07/09/14 | 268 | 97 |
| AL: Scottsboro | 07/08/14 | 12 | 86 |
| AR: Little Rock | 07/08/14 | 39 | 88 |
| CT: Hartford | 07/02/14 | 2 | 77 |
| DE: Dover | 07/28/14 | −61 | 83 |
| FL: Miami | 09/23/14 | 19 | 85 |
| HI: Honolulu | 08/12/14 | 29 | 86 |
| ID: Idaho Falls | 07/28/14 | −18 | 83 |
| KS: Topeka | 07/29/14 | −2 | 85 |
| LA: New Orleans | 09/23/14 | 55 | 87 |
| MD: Baltimore | 07/07/14 | 59 | 79 |
| MD: Conowingo | 07/01/14 | 40 | 79 |
| MI: Detroit | 07/22/14 | 116 | 91 |
| MN: St. Paul | 07/08/14 | 37 | 87 |
| MN: St. Paul | 09/30/14 | 21 | 84 |
| MN: Welch | 07/08/14 | −39 | 84 |
| MN: Welch | 09/30/14 | 39 | 86 |
| MS: Jackson | 07/28/14 | −43 | 83 |
| MS: Port Gibson | 07/28/14 | 2 | 86 |
| NE: Lincoln | 07/08/14 | 24 | 79 |
| NH: Concord | 07/16/14 | −49 | 83 |
| NJ: Trenton | 07/21/14 | −31 | 84 |
| NJ: Waretown | 07/22/14 | −21 | 84 |
| NY: New York City | 09/19/14 | −35 | 81 |
| NY: Niagara Falls | 09/30/14 | 330 | 110 |
| OH: E. Liverpool | 09/03/14 | 35 | 85 |
| OH: Painesville | 08/12/14 | 159 | 91 |
| OH: Toledo | 07/03/14 | 127 | 83 |
| OK: Oklahoma City | 07/09/14 | −37 | 83 |
| PA: Columbia | 07/01/14 | 55 | 81 |
| PA: Harrisburg | 07/01/14 | 44 | 80 |
| PA: Pittsburgh | 09/02/14 | −14 | 83 |
| RI: Providence | 09/06/14 | 10 | 84 |
| SC: Barnwell | 09/04/14 | 6 | 84 |
| SC: Columbia | 07/22/14 | −51 | 84 |
| TN: Oak Ridge/#360 | 07/01/14 | 88 | 83 |
| TN: Oak Ridge/#371 | 07/01/14 | −4 | 78 |

## Table 9 (continued)
## Tritium in Drinking Water
### July–September 2014

| Location | Date Collected | $^{3}$H pCi/L | ± 2*u* |
|---|---|---|---|
| TN: Oak Ridge/#4442 | 07/01/14 | −37 | 84 |
| TN: Oak Ridge/#768 | 07/01/14 | 117 | 82 |
| TN: Oak Ridge/#772 | 07/01/14 | 15 | 81 |
| TX: Austin | 07/21/14 | −45 | 83 |
| TX: Austin | 09/08/14 | 16 | 84 |
| WA: Richland | 08/06/14 | 6 | 84 |
| WI: Madison | 07/07/14 | 20 | 78 |

# Table 10
## Plutonium and Uranium Analyses
## Selected Drinking Water Composite Samples
### January–December 2013

| Location | $^{238}$Pu pCi/L ± 2*u* | $^{239–240}$Pu pCi/L ± 2*u* | $^{234}$U pCi/L ± 2*u* | $^{235}$U pCi/L ± 2*u* | $^{238}$U pCi/L ± 2*u* |
|---|---|---|---|---|---|
| GA: Baxley | −0.016 0.052 | 0.021 0.057 | 0.031 0.054 | 0.018 0.053 | 0.046 0.071 |
| HI: Honolulu | −0.010 0.036 | 0.005 0.047 | 0.113 0.098 | 0.007 0.062 | 0.085 0.084 |
| MD: Conowingo | −0.010 0.036 | 0.005 0.047 | 3.11 0.52 | 0.12 0.10 | 1.84 0.38 |
| MS: Port Gibson | −0.011 0.037 | −0.016 0.039 | 0.024 0.066 | 0.022 0.063 | 0.030 0.065 |
| NE: Lincoln | −0.022 0.055 | 0.011 0.049 | 3.87 0.60 | 0.052 0.080 | 1.93 0.39 |
| NJ: Waretown | 0.030 0.063 | −0.005 0.033 | 0.017 0.064 | 0.000 0.065 | 0.046 0.071 |
| NM: Santa Fe | 0.016 0.060 | 0.004 0.038 | 5.00 0.71 | 0.082 0.096 | 2.27 0.43 |
| OH: Toledo | 0.025 0.060 | −0.017 0.031 | 0.16 0.10 | 0.019 0.054 | 0.062 0.071 |
| SC: Jenkinsville | −0.015 0.036 | 0.000 0.031 | 2.37 0.44 | 0.052 0.080 | 1.05 0.28 |
| WI: Madison | 0.021 0.053 | 0.000 0.026 | 1.10 0.28 | −0.006 0.041 | 0.26 0.13 |

Note: NA = No Analysis

# Table 11

| Location | Gross Beta pCi/L ± 2*u* | Gross Alpha pCi/L ± 2*u* | $^{90}$Sr pCi/L ± 2*u* |
|---|---|---|---|
| AK: Fairbanks | 5.7 3.3 | 0.9 4.1 | |
| AL: Dothan | 2.1 1.6 | 0.8 2.6 | 0.15 0.39 |
| AL: Montgomery | 2.4 2.8 | 0.0 2.8 | −0.14 0.36 |
| AL: Muscle Shoals | −0.5 2.5 | 1.0 3.3 | 0.04 0.32 |
| AL: Scottsboro | 1.9 1.3 | 1.3 2.2 | |
| AR: Little Rock | 0.7 1.3 | 0.2 1.5 | |
| CA: Richmond | 2.5 1.6 | 1.0 2.1 | |
| CO: Denver | 2.5 3.0 | 1.2 3.5 | |
| CT: Hartford | 1.5 2.6 | −0.1 2.6 | |
| DE: Dover | 4.0 3.1 | 0.0 3.8 | |
| FL: Tampa | 1.2 2.9 | 1.7 4.8 | |
| GA: Baxley | 0.8 2.9 | 5.1 5.0 | |
| GA: Savannah | 1.1 1.3 | 0.1 2.5 | |
| HI: Honolulu | −0.7 2.9 | 2.0 4.7 | |
| IA: Cedar Rapids | 5.3 3.2 | −0.2 3.2 | |
| ID: Boise | 3.2 3.1 | 0.9 3.0 | |
| ID: Idaho Falls | 2.9 3.0 | 0.8 4.9 | |
| IL: W. Chicago | 8.0 3.3 | 0.7 3.9 | |
| KS: Topeka | 7.4 3.5 | 1.4 6.5 | |
| LA: New Orleans | 2.7 3.0 | 0.4 3.9 | |
| MD: Baltimore | 1.0 2.6 | −0.7 3.0 | |
| MD: Conowingo | 4.2 3.1 | 7.0 4.4 | |
| MI: Detroit | 4.2 5.6 | −0.9 5.1 | |
| MN: St. Paul | 2.0 2.7 | −0.3 3.1 | |
| MN: Welch | 4.8 3.3 | 1.7 6.1 | |
| MO: Jefferson City | 5.1 3.2 | 1.5 4.1 | |
| MS: Jackson | 2.0 1.2 | 0.3 1.5 | |
| MS: Port Gibson | 4.8 3.3 | 3.1 5.3 | |
| MT: Helena | 0.0 2.6 | −0.1 3.1 | |
| ND: Bismarck | 5.1 3.2 | 0.5 4.5 | |
| NE: Lincoln | 8.4 3.6 | 9.6 6.5 | |
| NH: Concord | 1.3 1.4 | −0.2 1.8 | |
| NJ: Trenton | 2.7 2.9 | −0.3 3.2 | |
| NJ: Waretown | 3.3 2.9 | 2.0 3.7 | |
| NM: Santa Fe | 8.0 3.6 | 9.8 6.4 | |
| NY: Albany | 2.9 5.5 | −0.1 5.1 | |
| NY: New York City | 1.6 1.5 | 0.3 1.6 | |

## Table 11 (continued)

| Location | Gross Beta pCi/L ± 2*u* | Gross Alpha pCi/L ± 2*u* | $^{90}$Sr pCi/L ± 2*u* |
|---|---|---|---|
| NY: Niagara Falls | 1.1 1.4 | −0.6 2.5 | |
| NY: Syracuse | 1.7 2.9 | 1.7 3.6 | |
| OH: Cincinnati | 4.1 3.0 | −0.2 3.5 | |
| OH: Columbus | 4.6 3.2 | 0.4 4.0 | |
| OH: E. Liverpool | 1.6 2.7 | −0.1 3.4 | |
| OH: Painesville | 3.4 3.0 | 1.3 3.6 | |
| OH: Toledo | 1.9 2.8 | 2.4 3.6 | |
| OK: Oklahoma City | 2.0 2.9 | 0.3 2.9 | |
| OR: Portland | 1.2 1.2 | 0.4 1.2 | |
| PA: Columbia | 1.1 1.5 | 0.8 2.4 | |
| PA: Harrisburg | 2.1 1.5 | −0.6 1.9 | |
| PA: Pittsburgh | 1.5 1.6 | 0.4 2.6 | −0.30 0.79 |
| RI: Providence | 1.5 1.5 | 0.3 1.7 | |
| SC: Barnwell | 1.6 1.2 | 0.6 1.6 | |
| SC: Columbia | 2.5 1.3 | 0.5 1.5 | |
| SC: Jenkinsville | 5.6 3.1 | 4.1 4.0 | |
| SC: Seneca | 0.7 1.1 | −0.2 1.1 | |
| TN: Chattanooga | 2.4 2.9 | 0.0 3.2 | |
| TN: Knoxville | 2.0 1.3 | −0.1 2.0 | |
| TN: Oak Ridge/#360 | 0.6 2.6 | −0.5 3.0 | 0.11 0.31 |
| TN: Oak Ridge/#371 | −0.3 2.7 | −0.3 3.3 | 0.33 0.36 |
| TN: Oak Ridge/#4442 | 2.9 2.9 | −0.9 3.3 | 0.12 0.41 |
| TN: Oak Ridge/#768 | 1.3 2.8 | 0.1 3.4 | −0.15 0.38 |
| TN: Oak Ridge/#772 | 1.5 2.8 | −0.3 3.5 | −0.11 0.39 |
| TX: Austin | 4.6 3.0 | −0.4 3.3 | |
| VA: Ashland | 4.2 1.7 | 0.2 2.0 | 0.13 0.55 |
| VA: Lynchburg | 1.0 1.3 | −0.6 1.4 | 0.25 0.64 |
| WA: Richland | 0.7 1.5 | 1.2 2.0 | |
| WI: Madison | 3.0 5.9 | 4.8 7.5 | |

# Table 12
# Drinking Water
# Radium and Gamma-Emitting Radionuclides
# Composites
### January–December 2013

| Location | $^{226}$Ra pCi/L ± 2*u* | $^{228}$Ra pCi/L ± 2*u* | Gamma-Emitting Radionuclides Nuclide | pCi/L ± 2*u* |
|---|---|---|---|---|
| AK: Fairbanks | NA | NA | Co-60 | 0.33 0.80 |
| | | | Cs-137 | 0.14 0.95 |
| | | | K-40 | −10 15 |
| | | | Ra-226 | −12 63 |
| | | | Ra-228 | −1.6 5.7 |
| AL: Dothan | NA | NA | Co-60 | 0.22 0.63 |
| | | | Cs-137 | −0.5 4.6 |
| | | | K-40 | −0.5 9.5 |
| | | | Ra-228 | −3.5 4.6 |
| AL: Montgomery | NA | NA | Co-60 | −0.6 1.6 |
| | | | Cs-137 | 0.53 0.86 |
| | | | K-40 | 4 16 |
| | | | Ra-228 | −4.7 9.9 |
| AL: Muscle Shoals | NA | NA | Co-60 | 0.11 0.60 |
| | | | Cs-137 | −0.2 7.9 |
| | | | K-40 | 3 12 |
| | | | Ra-228 | −0.8 4.1 |
| AL: Scottsboro | NA | NA | Co-60 | 0.65 0.80 |
| | | | Cs-137 | 0.01 0.87 |
| | | | K-40 | −17 22 |
| | | | Ra-228 | −2.8 7.9 |
| AR: Little Rock | NA | NA | Co-60 | −0.09 0.81 |
| | | | Cs-137 | 0.01 0.94 |
| | | | K-40 | 8 12 |
| | | | Ra-228 | −1.4 4.3 |
| CA: Richmond | NA | NA | | ND |
| CO: Denver | NA | NA | Co-60 | 0.45 0.83 |
| | | | Cs-137 | −0.1 4.2 |
| | | | K-40 | −6 15 |
| | | | Ra-228 | −0.3 3.6 |
| CT: Hartford | NA | NA | Co-60 | 0.38 0.80 |
| | | | Cs-137 | −0.8 1.7 |
| | | | K-40 | −16 22 |
| | | | Ra-228 | −2.4 6.4 |
| DE: Dover | NA | NA | Co-60 | 0.00 0.17 |

Note: ND = Not Detected
NA = No Analysis

# Table 12 (continued)
# Drinking Water
# Radium and Gamma-Emitting Radionuclides
# Composites
### January–December 2013

| Location | $^{226}$Ra pCi/L ± 2*u* | $^{228}$Ra pCi/L ± 2*u* | Gamma-Emitting Radionuclides Nuclide | pCi/L ± 2*u* |
|---|---|---|---|---|
| DE: Dover (continued) | | | Cs-137 | −0.6 2.0 |
| | | | K-40 | −4 11 |
| | | | Ra-228 | −1.1 4.8 |
| FL: Tampa | NA | NA | Co-60 | 0.9 1.8 |
| | | | Cs-137 | −1 71 |
| | | | K-40 | −4 28 |
| | | | Ra-228 | 1 11 |
| GA: Baxley | 2.85 0.48 | NA | Co-60 | −0.36 0.87 |
| | | | Cs-137 | 0.62 0.82 |
| | | | K-40 | −6 20 |
| | | | Ra-228 | −3.1 7.8 |
| GA: Savannah | NA | NA | Co-60 | 0.0 1.2 |
| | | | Cs-137 | 0.52 0.89 |
| | | | K-40 | 6 10 |
| | | | Ra-228 | 0.3 3.8 |
| HI: Honolulu | 0.064 0.081 | NA | Co-60 | −0.12 0.74 |
| | | | Cs-137 | 0.00 0.88 |
| | | | K-40 | −5 15 |
| | | | Ra-226 | −8 50 |
| | | | Ra-228 | −0.2 3.9 |
| IA: Cedar Rapids | NA | NA | Co-60 | 0.62 0.79 |
| | | | Cs-137 | 0.25 0.90 |
| | | | K-40 | 2 12 |
| | | | Ra-228 | 0.1 3.4 |
| ID: Boise | NA | NA | Co-60 | −0.06 0.69 |
| | | | Cs-137 | −0.13 0.89 |
| | | | K-40 | −3 14 |
| | | | Ra-226 | −17 93 |
| | | | Ra-228 | 3.0 4.4 |
| ID: Idaho Falls | NA | NA | Co-60 | −0.32 0.85 |
| | | | Cs-137 | 0.61 0.81 |
| | | | K-40 | −12 17 |
| | | | Ra-226 | −10 58 |
| | | | Ra-228 | −1.7 5.7 |
| IL: Morris | NA | NA | | ND |

Note: ND = Not Detected
NA = No Analysis

# Table 12 (continued)
# Drinking Water
# Radium and Gamma-Emitting Radionuclides
# Composites
## January–December 2013

| Location | $^{226}$Ra pCi/L ± 2*u* | $^{228}$Ra pCi/L ± 2*u* | Gamma-Emitting Radionuclides Nuclide | pCi/L ± 2*u* |
|---|---|---|---|---|
| IL: W. Chicago | NA | NA | Co-60 | −0.41 0.90 |
| | | | Cs-137 | 0.0 1.7 |
| | | | K-40 | −6 12 |
| | | | Ra-228 | 3.8 4.3 |
| KS: Topeka | NA | NA | Co-60 | 0.26 0.76 |
| | | | Cs-137 | 0.06 0.65 |
| | | | K-40 | 5 12 |
| | | | Ra-228 | −1.4 4.7 |
| LA: New Orleans | NA | NA | Co-60 | −0.10 0.93 |
| | | | Cs-137 | −0.89 0.98 |
| | | | K-40 | −1 12 |
| | | | Ra-228 | −2.2 6.5 |
| MD: Baltimore | NA | NA | Co-60 | 0.0 1.1 |
| | | | Cs-137 | 0 15 |
| | | | K-40 | 4 13 |
| | | | Ra-228 | −1.3 4.3 |
| MD: Conowingo | 0.40 0.18 | NA | Co-60 | 0.05 0.80 |
| | | | Cs-137 | −0.3 3.5 |
| | | | K-40 | −14 21 |
| | | | Ra-228 | −1.5 4.7 |
| MI: Detroit | NA | NA | Co-60 | 0.38 0.78 |
| | | | Cs-137 | 0.34 0.96 |
| | | | K-40 | −12 17 |
| | | | Ra-228 | 0.2 3.4 |
| MN: St. Paul | NA | NA | Co-60 | 0.04 0.79 |
| | | | Cs-137 | 0.20 0.91 |
| | | | K-40 | −7 14 |
| | | | Ra-228 | −0.8 3.7 |
| MN: Welch | NA | NA | Co-60 | 0.49 0.73 |
| | | | Cs-137 | −0.1 3.5 |
| | | | K-40 | −9 14 |
| | | | Ra-228 | 0.9 3.1 |
| MO: Jefferson City | NA | NA | Co-60 | 0.45 0.75 |
| | | | Cs-137 | 0.25 0.95 |
| | | | K-40 | 6 11 |

Note: ND = Not Detected
NA = No Analysis

# Table 12 (continued)
# Drinking Water
# Radium and Gamma-Emitting Radionuclides
# Composites
## January–December 2013

| Location | $^{226}$Ra pCi/L ± 2*u* | $^{228}$Ra pCi/L ± 2*u* | Gamma-Emitting Radionuclides Nuclide | pCi/L ± 2*u* |
|---|---|---|---|---|
| MO: Jefferson City (continued) | | | Ra-228 | −0.2 4.4 |
| MS: Jackson | NA | NA | Co-60 | 0.21 0.64 |
| | | | Cs-137 | −0.5 1.3 |
| | | | K-40 | −7 14 |
| | | | Ra-228 | 0.7 3.3 |
| MS: Port Gibson | 0.19 0.12 | NA | Co-60 | −0.01 0.26 |
| | | | Cs-137 | 0.72 0.88 |
| | | | K-40 | 13 12 |
| | | | Ra-228 | 0.5 3.5 |
| MT: Helena | NA | NA | Co-60 | −0.17 0.86 |
| | | | Cs-137 | 0.0 1.7 |
| | | | K-40 | −13 19 |
| | | | Ra-228 | 0.9 4.3 |
| ND: Bismarck | NA | NA | Co-60 | 0.03 0.86 |
| | | | Cs-137 | −0.1 2.7 |
| | | | K-40 | 6 14 |
| | | | Ra-228 | −0.6 4.8 |
| NE: Lincoln | 0.30 0.15 | NA | Co-60 | 0.14 0.73 |
| | | | Cs-137 | 0.41 0.93 |
| | | | K-40 | −5 11 |
| | | | Ra-228 | 4.1 4.2 |
| NH: Concord | NA | NA | Co-60 | −0.22 0.80 |
| | | | Cs-137 | 0.01 0.85 |
| | | | K-40 | −3 15 |
| | | | Ra-228 | 0.7 3.9 |
| NJ: Trenton | NA | NA | Co-60 | −0.05 0.91 |
| | | | Cs-137 | 0.0 1.1 |
| | | | K-40 | 3 11 |
| | | | Ra-228 | 1.3 4.3 |
| NJ: Waretown | 0.42 0.16 | NA | Co-60 | 0.11 0.65 |
| | | | Cs-137 | −0.5 7.7 |
| | | | K-40 | 8.4 8.7 |
| | | | Ra-228 | −1.2 3.0 |
| NM: Santa Fe | 0.085 0.036 | NA | Co-60 | −0.9 8.9 |
| | | | Cs-137 | −0.1 2.5 |

Note: ND = Not Detected
NA = No Analysis

# Table 12 (continued)
# Drinking Water
# Radium and Gamma-Emitting Radionuclides
# Composites
## January–December 2013

| Location | $^{226}$Ra pCi/L ± 2*u* | $^{228}$Ra pCi/L ± 2*u* | Gamma-Emitting Radionuclides Nuclide | pCi/L ± 2*u* |
|---|---|---|---|---|
| NM: Santa Fe (continued) | | | K-40 | 6 38 |
| | | | Ra-228 | −9 16 |
| NY: Albany | NA | NA | Co-60 | 0 23 |
| | | | Cs-137 | 0.6 2.3 |
| | | | K-40 | −1 28 |
| | | | Ra-228 | −2.5 9.7 |
| NY: New York City | NA | NA | Co-60 | 0.20 0.80 |
| | | | Cs-137 | 0.21 0.87 |
| | | | K-40 | −17 23 |
| | | | Ra-228 | −1.5 4.6 |
| NY: Niagara Falls | NA | NA | Co-60 | 0 14 |
| | | | Cs-137 | 0.72 0.85 |
| | | | K-40 | −5 16 |
| | | | Ra-228 | −3.1 6.6 |
| NY: Syracuse | NA | NA | Co-60 | 0.20 0.78 |
| | | | Cs-137 | −0.2 9.3 |
| | | | K-40 | −6 13 |
| | | | Ra-228 | −2.8 7.5 |
| OH: Cincinnati | NA | NA | Co-60 | −0.57 0.89 |
| | | | Cs-137 | 0.01 0.64 |
| | | | K-40 | −3 12 |
| | | | Ra-228 | 2.5 4.8 |
| OH: Columbus | NA | NA | Co-60 | 0.18 0.84 |
| | | | Cs-137 | 0.07 0.92 |
| | | | K-40 | 0 11 |
| | | | Ra-228 | 0.2 3.3 |
| OH: E. Liverpool | NA | NA | Co-60 | −0.06 0.59 |
| | | | Cs-137 | 0 13 |
| | | | K-40 | −5 12 |
| | | | Ra-228 | 0.0 3.6 |
| OH: Painesville | NA | NA | Co-60 | 0.12 0.70 |
| | | | Cs-137 | −0.4 1.1 |
| | | | K-40 | −17 23 |
| | | | Ra-228 | −2.2 6.6 |
| OH: Toledo | 0.13 0.12 | NA | Co-60 | 0.24 0.76 |

Note: ND = Not Detected
NA = No Analysis

# Table 12 (continued)
# Drinking Water
# Radium and Gamma-Emitting Radionuclides
# Composites
## January–December 2013

| Location | $^{226}$Ra pCi/L ± 2*u* | $^{228}$Ra pCi/L ± 2*u* | Gamma-Emitting Radionuclides Nuclide | pCi/L ± 2*u* |
|---|---|---|---|---|
| OH: Toledo (continued) | | | Cs-137 | −0.3 1.3 |
| | | | K-40 | 8 11 |
| | | | Ra-228 | −5 17 |
| OK: Oklahoma City | NA | NA | Co-60 | 0 120 |
| | | | Cs-137 | 0 100 |
| | | | K-40 | 3 34 |
| | | | Ra-228 | 12 13 |
| OR: Portland | NA | NA | Co-60 | 0.31 0.83 |
| | | | Cs-137 | −0.01 0.95 |
| | | | K-40 | −15 19 |
| | | | Ra-226 | −14 72 |
| | | | Ra-228 | −2.4 7.8 |
| PA: Columbia | NA | NA | Co-60 | 0.12 0.81 |
| | | | Cs-137 | 0 61 |
| | | | K-40 | −3 16 |
| | | | Ra-228 | −0.7 3.5 |
| PA: Harrisburg | NA | NA | Co-60 | 0.25 0.80 |
| | | | Cs-137 | −0.1 3.7 |
| | | | K-40 | 0 12 |
| | | | Ra-228 | −0.9 3.7 |
| PA: Pittsburgh | NA | NA | Co-60 | 0 16 |
| | | | Cs-137 | −0.4 2.2 |
| | | | K-40 | 10 12 |
| | | | Ra-228 | −2.0 5.2 |
| RI: Providence | NA | NA | Co-60 | 0.09 0.78 |
| | | | Cs-137 | 0.08 0.88 |
| | | | K-40 | 1 13 |
| | | | Ra-228 | −3.4 8.6 |
| SC: Barnwell | NA | NA | Co-60 | −0.29 0.83 |
| | | | Cs-137 | −0.4 1.2 |
| | | | K-40 | −1 13 |
| | | | Ra-228 | −1.2 4.4 |
| SC: Columbia | NA | NA | Co-60 | 0.02 0.84 |
| | | | Cs-137 | 0.45 0.78 |
| | | | K-40 | −17 24 |

Note: ND = Not Detected
NA = No Analysis

# Table 12 (continued)
# Drinking Water
# Radium and Gamma-Emitting Radionuclides
# Composites
## January–December 2013

| Location | $^{226}$Ra pCi/L ± 2*u* | $^{228}$Ra pCi/L ± 2*u* | Gamma-Emitting Radionuclides Nuclide | pCi/L ± 2*u* |
|---|---|---|---|---|
| SC: Columbia (continued) | | | Ra-228 | 0.6 3.2 |
| SC: Jenkinsville | 0.064 0.090 | NA | Co-60 | 0.02 0.82 |
| | | | Cs-137 | −0.4 1.2 |
| | | | K-40 | −14 21 |
| | | | Ra-228 | −3.3 8.8 |
| SC: Seneca | NA | NA | Co-60 | 0.41 0.64 |
| | | | Cs-137 | 0.17 0.64 |
| | | | K-40 | −12 13 |
| | | | Ra-228 | −1.5 3.6 |
| TN: Chattanooga | NA | NA | Co-60 | −1 25 |
| | | | Cs-137 | 0.1 2.4 |
| | | | K-40 | 14 32 |
| | | | Ra-228 | 3 11 |
| TN: Knoxville | NA | NA | Co-60 | 0.57 0.77 |
| | | | Cs-137 | 0 12 |
| | | | K-40 | 2 11 |
| | | | Ra-228 | −2.4 6.2 |
| TN: Oak Ridge/#360 | NA | NA | Co-60 | 0.44 0.80 |
| | | | Cs-137 | −0.5 1.1 |
| | | | K-40 | −14 19 |
| | | | Ra-228 | 1.1 3.9 |
| TN: Oak Ridge/#371 | NA | NA | Co-60 | 0.01 0.72 |
| | | | Cs-137 | −0.4 1.1 |
| | | | K-40 | −16 21 |
| | | | Ra-228 | 0.0 3.8 |
| TN: Oak Ridge/#4442 | NA | NA | Co-60 | −0.21 0.87 |
| | | | Cs-137 | −0.1 2.9 |
| | | | K-40 | 8 12 |
| | | | Ra-228 | 1.5 3.7 |
| TN: Oak Ridge/#768 | NA | NA | Co-60 | 0.24 0.78 |
| | | | Cs-137 | −0.2 1.5 |
| | | | K-40 | −1 13 |
| | | | Ra-228 | −2.6 7.2 |
| TN: Oak Ridge/#772 | NA | NA | Co-60 | 0.23 0.78 |
| | | | Cs-137 | 0.08 0.94 |

Note: ND = Not Detected
NA = No Analysis

# Table 12 (continued)
# Drinking Water
# Radium and Gamma-Emitting Radionuclides
# Composites
## January–December 2013

| Location | $^{226}$Ra pCi/L ± 2*u* | $^{228}$Ra pCi/L ± 2*u* | Gamma-Emitting Radionuclides Nuclide | pCi/L ± 2*u* |
|---|---|---|---|---|
| TN: Oak Ridge/#772 (continued) | | | K-40 | −4 17 |
| | | | Ra-228 | −2.7 6.8 |
| TX: Austin | NA | NA | Co-60 | 0.30 0.82 |
| | | | Cs-137 | 0.10 0.80 |
| | | | K-40 | 6 11 |
| | | | Ra-228 | −4 10 |
| VA: Ashland | NA | NA | Co-60 | 0.11 0.69 |
| | | | Cs-137 | 0.44 0.87 |
| | | | K-40 | 1 11 |
| | | | Ra-228 | −2.5 6.9 |
| VA: Lynchburg | NA | NA | Co-60 | 0.00 0.17 |
| | | | Cs-137 | −0.4 2.6 |
| | | | K-40 | 4 12 |
| | | | Ra-228 | −3.8 9.7 |
| WA: Richland | NA | NA | Co-60 | 0.16 0.81 |
| | | | Cs-137 | 0.38 0.90 |
| | | | K-40 | −9 18 |
| | | | Ra-226 | 0 1000 |
| | | | Ra-228 | 1.4 4.4 |
| WI: Madison | 1.05 0.27 | NA | Co-60 | 0.37 0.80 |
| | | | Cs-137 | 0.0 1.7 |
| | | | K-40 | −4 12 |

Note: ND = Not Detected
NA = No Analysis

# 3. Milk Program

## Pasteurized Milk

The U.S. Environmental Protection Agency is no longer sampling milk as part of the radiological monitoring network, RadNet. EPA completed its final quarterly milk sample collection in April 2014 and the results from analyzing those samples, along with historical milk sampling results, will continue to be available on Envirofacts (http://www.epa.gov/enviro/).

EPA stopped milk sampling because it is redundant of U.S. Food and Drug Administration programs, and FDA has the authority and responsibility for food safety, including monitoring radiation in milk.

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## 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:

Requests for information concerning the operation of RadNet, the data that are generated, or publication and distribution of ERD should be directed to:

Charles M. Petko
Office of the Director
National Analytical Radiation Environmental Laboratory
540 South Morris Avenue
Montgomery, Alabama 36115-2601
email: 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
email: edwards.jonathan@epa.gov

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