

## **EPA's Response to the February 2014 Release of Radioactive Material from the Waste Isolation Pilot Plant (WIPP)**

### **EPA's WIPP Air Sampling Data from April 2014**

**June 3, 2014**

#### **Background**

In 1999 the U.S. Department of Energy (DOE) began waste disposal operations at the Waste Isolation Pilot Plant (WIPP) in New Mexico. WIPP is a deep geologic repository for permanent disposal of a specific type of waste—transuranic waste—that is the byproduct of the nation's nuclear defense program. Transuranic waste consists of clothing, tools, rags, residues, debris, soil and other items contaminated with small amounts of plutonium and other man-made radioactive elements.

On February 14, 2014, an underground continuous air monitor at WIPP measured airborne radioactivity close to the operating location where waste was being placed. The air exhaust switched to a filtered mode of operation. The next day an aboveground exhaust air monitor on the WIPP site detected very low levels of airborne americium and plutonium. It is believed that a small amount of radioactivity leaked through the air exhaust-duct dampers, bypassing the filtration system. DOE sealed the dampers with high-density expanding foam insulation and no aboveground radioactivity has been detected since.

Members of a U.S. Environmental Protection Agency (EPA) environmental monitoring and assessment team spent several weeks at the WIPP site in early April 2014. While at the WIPP facility, EPA reviewed DOE's air sampling plan for monitoring the area in and around the facility, visited DOE's air samplers to review their operations and placed air samplers on-site near existing DOE samplers to independently corroborate DOE's reported results (see EPA results on page 2). EPA's review of the data collected indicates that the radiation releases did not pose a public health concern.

#### **Results Summary**

From April 7, 2014, to April 29, 2014, EPA's WIPP assessment and monitoring team operated air samplers near three existing DOE WIPP air sampling sites. After a complete analysis of the air filters EPA collected from the WIPP site, all the results were considered "non-detect" for americium-241, plutonium-238 and plutonium-239/240; these are the radionuclides of concern with a release at the WIPP site.

"Non-detect" means that no radioactivity was detected or measurable beyond the analytical uncertainty range.

EPA will post the EPA/DOE data comparison to EPA's WIPP website when the analysis is complete.

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| Location Number* | Location Name | Collection Dates      | Sample Type | Units | Americium-241 | Plutonium-238 | Plutonium-239/240 |
|------------------|---------------|-----------------------|-------------|-------|---------------|---------------|-------------------|
| 1                | Far Field     | 4/7/2014 - 4/15/2014  | Air Filter  | Bq/m3 | Non-Detect**  | Non-Detect    | Non-Detect        |
| 1 (duplicate)    | Far Field     | 4/7/2014 - 4/15/2014  | Air Filter  | Bq/m3 | Non-Detect    | Non-Detect    | Non-Detect        |
| 1                | Far Field     | 4/15/2014 – 4/22/2014 | Air Filter  | Bq/m3 | Non-Detect    | Non-Detect    | Non-Detect        |
| 1 (duplicate)    | Far Field     | 4/15/2014 – 4/22/2014 | Air Filter  | Bq/m3 | Non-Detect    | Non-Detect    | Non-Detect        |
| 1                | Far Field     | 4/22/2014 – 4/29/2014 | Air Filter  | Bq/m3 | Non-Detect    | Non-Detect    | Non-Detect        |
| 1 (duplicate)    | Far Field     | 4/22/2014 – 4/29/2014 | Air Filter  | Bq/m3 | Non-Detect    | Non-Detect    | Non-Detect        |
| 2                | WIPP East     | 4/7/2014 - 4/15/2014  | Air Filter  | Bq/m3 | Non-Detect    | Non-Detect    | Non-Detect        |
| 2                | WIPP East     | 4/15/2014 – 4/22/2014 | Air Filter  | Bq/m3 | Non-Detect    | Non-Detect    | Non-Detect        |
| 2                | WIPP East     | 4/22/2014 – 4/29/2014 | Air Filter  | Bq/m3 | Non-Detect    | Non-Detect    | Non-Detect        |
| 3                | WIPP South    | 4/7/2014 - 4/15/2014  | Air Filter  | Bq/m3 | Non-Detect    | Non-Detect    | Non-Detect        |
| 3                | WIPP South    | 4/15/2014 – 4/22/2014 | Air Filter  | Bq/m3 | Non-Detect    | Non-Detect    | Non-Detect        |
| 3                | WIPP South    | 4/22/2014 – 4/29/2014 | Air Filter  | Bq/m3 | Non-Detect    | Non-Detect    | Non-Detect        |

\* See page 3 for DOE air sampling station map

\*\* "Non-detect" means that no radioactivity was detected or measurable beyond the analytical uncertainty range.

## DOE Active Air Sampling Sites

