



WHAT IS URANIUM AND WHERE DOES IT COME FROM?

Uranium is a radioactive heavy metal that occurs naturally in the earth in the form of minerals, and can be processed into a silver-colored metal. It is found in small amounts in rocks, soil, surface and ground water, air, plants and animals everywhere. We are exposed to uranium in air, water, food, and soil. People may take in more uranium if they live in an area with naturally higher amounts of uranium in the soil or water, or in areas near a uranium-contaminated site. People may also be exposed in certain jobs, such as those involving the mining and processing of uranium ore.

WHERE DOES HIGH URANIUM OCCUR IN SOIL AND GROUND WATER IN NEW MEXICO?

Natural uranium mineral deposits are concentrated in northeastern Santa Fe County, the Grants-Gallup area, and in the Tukumcari-San Jon area. These mineral deposits can leach uranium into ground water. High levels of uranium have been detected in some, but not all, wells in these areas. In northeastern Santa Fe County at least 37 private and 8 public water-supply wells, approximately half of those tested contain uranium at levels of health concern.

HOW CAN URANIUM AFFECT MY HEALTH?

Uranium ingested in drinking water and food is deposited primarily in the bones and kidneys. Low amounts of uranium in food and drinking water will most likely not cause health problems in most people. There is a possibility that an intake of a large amount of uranium might damage your kidneys, or cause an increased lifetime risk of developing cancer. The Environmental Protection Agency (EPA) recently set the Maximum Contaminant Level (MCL) for uranium at 30 micrograms per liter ($\mu\text{g/L}$) in public water systems. The MCL was established to prevent kidney toxicity, and is also protective against radiological hazards. **Public water systems are required to comply with this new MCL, which became effective in December 2003.**

HOW MUCH URANIUM IS IN MY DRINKING WATER?

If you are served by a public water system, your water supply probably has already been tested for uranium. Contact your water system to obtain test results, or the NM Environment Department Drinking Water Bureau at 1-877-654-8720 (toll-free), 827-7536 (Santa Fe). EPA also has a Safe Drinking Water Hotline at 1-800-426-4791 (toll free).

Private well users, who live in northeastern Santa Fe County (Arroyo Seco, Cuyamungue, El Rancho, Jacona, Jaconita, La Mesilla, La Puebla, Nambe, Pojoaque, Quartales, San Ildefonso, San Pedro, Santa Cruz, and Sombrillo), are strongly advised to get their water tested for uranium. Testing also is suggested for private well users in the Grants-Gallup and Tukumcari-San Jon areas. The Scientific Laboratory Division (SLD) of the NM Department of Health will test private well water for uranium at a cost of \$45 per sample. To make arrangements for such testing, well users can call SLD at 841-2574 or 841-2545 (Albuquerque).

WHAT SHOULD I DO IF MY DRINKING WATER CONTAINS URANIUM?

If test results show that your drinking water contains more than 30 µg/L of uranium, an appropriate water-treatment system or use of an alternative source of drinking water is recommended. **Boiling your water will increase, not decrease, the uranium concentration;** special methods are needed to reduce uranium levels in water. Point-of-use (at the kitchen sink) reverse-osmosis (RO) treatment units have been installed by some affected well users to reduce the level of uranium in their drinking water. Properly operated household RO units can remove up to about 90% of the uranium from the raw water. Other treatment technologies, such as distillation and anion exchange, also can reduce uranium concentrations. The owner of a mobile-home park with 58 service connections installed a point-of-entry (at the wellhead) anion-exchange treatment system that reduced uranium from 84 µg/L to about 1 µg/L.

WHAT IS DEPLETED URANIUM, AND SHOULD I BE CONCERNED ABOUT IT?

Depleted uranium (DU) is a uranium enrichment byproduct in which the more radioactive isotopes have been removed for use in nuclear weaponry and power generation. DU is about 40% *less* radioactive than natural uranium. Because of its high density (67% greater than lead), DU has been used in armor-piercing munitions and in protective armor plating. Civilian DU use includes protective X-ray aprons, and ballast in aircraft and in the keels of boats. While DU has been detected in soil in restricted areas of some New Mexico military and weapons research/testing facilities, the DU has not migrated beyond the restricted areas. If you were physically present in combat zones where armor-piercing munitions were used during the Gulf War or the Balkans Conflict, you may have been exposed to DU. The federal Department of Veterans Affairs (1-800-827-1000, toll free) has information and programs that address these potential exposures.

WHAT MEDICAL TESTS ARE AVAILABLE TO DETERMINE URANIUM EXPOSURE?

There are medical tests that can determine whether you have been exposed by measuring the amount of uranium in urine, blood, and hair. Urine testing for uranium is the recommended standard test. Because most uranium leaves the body within a few days of exposure, a urine test will show whether there was exposure to a larger-than-normal amount within the last week or so. A urinary concentration greater than 100 µg/L indicates recent uranium absorption. (Note: Hair analysis is not recommended for determining uranium exposure)

WHAT SHOULD I DO IF I THINK THAT I'VE BEEN EXPOSED TO URANIUM?

We recommend that you see your health care provider and discuss your concerns. If there is reason to believe that uranium exposure may have occurred, your provider may want to obtain a urine test for uranium. If the lab results indicate higher-than-normal levels of uranium in your urine, your provider should take a thorough occupational and environmental history to determine possible sources of exposure. The NM Department of Health Office of Epidemiology (827-0006) can consult with your physician if high levels of uranium are detected through urine analysis.