

Cheyenne Environmental Investigation

Site Update

Updated June 28, 2011

Background

A group of chemicals known as volatile organic compounds (VOCs) are commonly used in industrial settings, manufacturing and dry cleaning operations, and are often found in household cleaning products. These compounds can enter the environment through leaks, spills or improper disposal. The compounds can accumulate in soil, surface or groundwater or vaporize into the air. When compounds are suspected to have entered the environment, sampling and testing is often conducted to determine the presence, type, and concentration (quantity) of the compound that may be present.

The Orphan Site Remediation law (Article 17) passed in 2000 required the Wyoming Department of Environmental Quality (DEQ) to inventory and to determine cost estimates and proposed funding sources to investigate and cleanup orphan sites. Orphan sites include areas where there may be environmental impacts, but the source is unknown and/or there are no viable responsible parties or such parties cannot be identified.

Environmental testing by the U.S. Environmental Protection Agency (EPA) in 2003-2004 revealed the presence of VOCs in the groundwater in an area approximately 20 acres in size within a roughly 5 block by 3 block area located west of the Capitol Building in Cheyenne. Groundwater in this area is located approximately 10 to 20 feet below the ground. One compound detected, perchloroethylene, is a chemical commonly used to clean tools and in dry-cleaning processes.

Environmental Activities

The initial investigation began in the fall of 2009 (November 2, 2009 through December 2009) and took place south of Randall Avenue and 29th Street, west of the Herschler Building and the Capitol Building, east of O'Neil Avenue and north of West 22nd Street in downtown Cheyenne to assess conditions in the groundwater and soil. A second phase investigation was conducted in July 2010 through August 2010.

The testing was done to determine if contamination exists and if so to identify the location and extent of contamination. The investigation focused on two VOCs in particular: perchloroethylene (PCE), a chemical commonly used to clean tools and in dry-cleaning processes, and trichloroethylene (TCE), a commonly used industrial solvent and ingredient in household products including paint removers and cleaning solutions for rugs. More detailed information on these compounds can be found at www.atsdr.cdc.gov.

DEQ collected groundwater and soil gas vapor samples through the test area. The groundwater samples were collected from 13 new groundwater monitoring wells and several existing wells in the study area. Soil vapor in shallow soils were collected through probes installed five (5) feet below the ground surface. A total of 63 soil vapor probes have been installed to date. **Drinking**

water is not impacted by the VOCS as it is supplied by the Cheyenne Board of Public Utilities.

Preliminary Study Results

Levels of both TCE and PCE were detected in the soil gas and groundwater at concentrations that exceed acceptable levels. As a result, the DEQ advised homeowners and business owners in close proximity to the affected groundwater or soil vapor on the appropriate course of action for their property which included either installation of a ventilation system or indoor air testing to determine if the chemicals have impacted indoor air quality. Both TCE and PCE have the ability to travel from groundwater as a vapor through soil and possibly enter buildings through the foundation.

DEQ continues to work directly with property owners within the study area to discuss further actions which may include additional testing and/or the installation of a ventilation system, depending on the type of building and location or the property. DEQ will obtain permission from property owners to perform any work deemed necessary in buildings. If DEQ determines further action is needed at a particular building or house, the property owner will be contacted directly. For property owners who do not receive notice from DEQ, no action is required at this time at their property. To date, 70 homes and business have been tested for indoor air.

In buildings where indoor air is anticipated to exceed acceptable levels or tests indicate indoor air is above acceptable levels, a ventilation system will be installed at no expense to the property owner. Ventilation systems commonly used to stop vapors from entering a building are known as “sub-slab” systems. The systems are the same ones used to address naturally occurring radon; therefore they will also protect a building from radon. Sub-slab systems are quiet to operate and can be installed to be visually unobtrusive. To date, 22 homes and business have had mitigation systems installed.

Though the presence of low levels of TCE and PCE are not believed to pose an immediate health risk, this is a common approach used at sites with similar conditions and is considered the best course of action to protect public health. DEQ will continue to evaluate test results and conduct additional environmental testing, as necessary, to determine if additional action is necessary.

For More Information, please contact:

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