

## Former Grain Storage Facility near Savannah, Missouri

### Former U.S. Department of Agriculture Grain Storage and Contaminant Release

From approximately 1949 to 1970, the Commodity Credit Corporation, an agency of the U.S. Department of Agriculture (CCC/USDA), operated a grain storage facility roughly 0.25 mi northwest of Savannah, Missouri. During this time, commercial grain fumigants containing carbon tetrachloride were commonly used by the CCC/USDA and private industry to preserve grain in storage.

Decades later, in November 1998, carbon tetrachloride was detected in a private well 50 ft south of the former CCC/USDA facility. Investigations by the Missouri Department of Natural Resources (MoDNR) and the U.S. Environmental Protection Agency (EPA) later confirmed the presence of carbon tetrachloride in this well and in a second well approximately 400 ft east of the former CCC/USDA facility. The concentrations in the wells were above the EPA maximum contaminant level (MCL) of 5 µg/L (micrograms per liter) for carbon tetrachloride in drinking water supplies.

The initial discovery of the contamination near Savannah resulted from statewide screening of private wells near former CCC/USDA facilities conducted by the EPA.

### No Current Risk to Area Residents

Residents within or outside the Savannah city limits are not directly affected by the carbon tetrachloride contamination, because they are served by public water supply systems that receive potable water from wells several miles to the south. However, the MoDNR has determined that the identified contamination could pose a risk to human health if the affected groundwater is used as a source of drinking water in the future.

Although MoDNR studies have found no wells in the immediate vicinity of the site in current use as drinking water sources, some of the wells are still operable. MoDNR has concluded that the plume of contamination could present a future threat if the existing wells begin to be used or if new wells are constructed.



Location of the former CCC/USDA grain storage facility northwest of Savannah, along Business Highway 71.

### The Planned Investigation

Because the contamination northwest of Savannah might be linked to past use of grain fumigants containing carbon tetrachloride at its former grain storage facility, the CCC/USDA will conduct investigations in the area. The purposes are to (1) characterize the source(s) of, extent of, and factors controlling the subsurface distribution and movement of carbon tetrachloride and (2) evaluate the potential health and environmental threats that this contamination might pose in the future.

The CCC/USDA work will be performed under an agreement with the MoDNR to address carbon tetrachloride contamination potentially associated with a number of former CCC/USDA grain storage facilities in Missouri.

The site investigation near Savannah will be conducted on behalf of the CCC/USDA by Argonne National Laboratory. Argonne is a nonprofit, multidisciplinary research center operated by UChicago Argonne, LLC, for the U.S. Department of Energy (DOE). Under an agreement between DOE and the CCC/USDA, Argonne provides technical assistance with environmental site characterization and remediation at former CCC/USDA grain storage facilities.

A work plan that describes the initial activities anticipated for the site is available for viewing at the Savannah City Hall. The work will affect the former CCC/USDA property and immediately adjacent properties, subject to the approval of the owners. The former CCC/USDA property is now owned by the Savannah R-3 School District.



Argonne uses the direct-push capabilities of this cone penetrometer vehicle to explore the subsurface environment.

The initial phase of the site investigation will have the following objectives:

- Identify and determine the use of private wells near the former CCC/USDA grain storage facility; sample the identified wells.
- Investigate for possible evidence of a soil source of carbon tetrachloride beneath the former CCC/USDA facility.
- Gather information on the subsurface conditions (groundwater, geology, etc.) beneath the former grain storage location.
- Establish preliminary groundwater monitoring points to define groundwater movement affecting possible contaminant migration near the former USDA facility.

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