

**United States Environmental Protection Agency**  
**Region IV**  
**POLLUTION REPORT**

**Date:** Tuesday, October 28, 2008

**From:** David Dorian

**Subject:** Follow Vapor Study

CTS of Asheville Superfund Site  
235 Mills Gap Road, Asheville, NC  
Latitude: 35.4933000  
Longitude: -82.5063000

|                          |                 |                            |                |
|--------------------------|-----------------|----------------------------|----------------|
| <b>POLREP No.:</b>       | 6               | <b>Site #:</b>             | A4P5           |
| <b>Reporting Period:</b> | 8/4/08-10/28/08 | <b>D.O. #:</b>             |                |
| <b>Start Date:</b>       |                 | <b>Response Authority:</b> | CERCLA         |
| <b>Mob Date:</b>         |                 | <b>Response Type:</b>      | Time-Critical  |
| <b>Demob Date:</b>       |                 | <b>NPL Status:</b>         | Non NPL        |
| <b>Completion Date:</b>  |                 | <b>Incident Category:</b>  | Removal Action |
| <b>CERCLIS ID #:</b>     |                 | <b>Contract #</b>          |                |
| <b>RCRIS ID #:</b>       |                 |                            |                |

#### **Site Description**

The Site is located off Mills Gap Road, approximately 1 mile east of Skyland, Buncombe County, North Carolina and consists of approximately 9 acres of maintained grounds containing a large single-story building. In 1952, IRC, Inc. (IRC) bought the land for the Site and constructed the building which it then used for its electroplating operations. In 1959, IRC sold the Site to CTS, Inc. From 1959 until 1986, CTS operated an electroplating facility at the Site. The chemical compound trichloroethylene (a.k.a. trichloroethene or "TCE") was employed by IRC and CTS to clean and/or degrease metal objects prior to electroplating. In 1987, Mills Gap Road Associates (MGRA) purchased the Site and is the current owner.

In 1999, chlorinated solvents were identified in two springs and one domestic well, located topographically down-gradient from the site. In August 1999, the NCDENR referred the Site to the U.S. EPA's Emergency Response and Removal Branch (ERRB) for removal eligibility consideration.

On August 20, 1999, the ERRB conducted a removal site evaluation in accordance with the National Oil and Hazardous Substances Pollution Contingency Plan (NCP), 40 CFR §300.410 (Ref. 2). Conditions at the site, specifically contamination of potable drinking water supplies with chlorinated solvents, were found to pose a threat to public health or welfare or the environment. Consequently, bottled water was provided to the four households that had used the contaminated sources for potable water. Subsequently the affected residences were connected to the Asheville-Buncombe municipal water supply.

Analytical results derived from the samples collected from beneath the former CTS plant revealed elevated concentrations of VOCs (e.g. 830,000 ppb TCE), base neutral and acid extractable compounds (BNAs), and petroleum hydrocarbons, most likely #2 fuel oil. TCE was detected in all samples and was typically present at the highest concentrations relative to other chemical compounds identified. Sampling by EPA has indicated TCE, 1,1 TCA, and petroleum contamination in surface water emanating from the site.

Following mitigation of the immediate threat posed by the contaminated springs and waterwell, EPA entered into negotiations with the identified Potentially Responsible Parties and executed an Administrative Order on Consent (AOC) with CTS Corporation and Mills Gap Road Associates in January 2004. On-Site removal activities began in June 2004. Operation of a Soil Vapor Extraction system commenced in July 2007 and is currently on line.

#### **Current Activities**

From August 4 to 7, 2008, EPA Environmental Response Team (ERT) collected ambient and residential passive air samples (Summa canisters) to further assess the impact of TCE contamination associated with the former CTS plant. Air was collected in all samples for 24 hours and sent for laboratory analysis of

VOCs in accordance with REAC SOP#1814. The sampling event was a follow study to a vapor migrations pathway study conducted in December 2007.

The study focused on three areas: 1. potential exposure at six residences either in close proximity to the site or where TCE detections from the December 2007 study warranted further sampling; 2. ambient air values at a representative point on South Side Village and at the intersection of Surrey Run and Mills Gap road, the latter a point where the TAGA bus had measured the maximum real time measurement in ambient air; and, 3. ambient samples directly adjacent to contaminated surface water, which is a potential source of ambient air contamination.

At four of the six residences tested, Summa canisters were placed in their crawl space and in their yard. For these samples, values (crawl space and ambient) ranged from non-detect to 0.214 parts per billion by volume (ppbv), all below EPA's interim risk range (based on the CalEPA potency factor) for TCE and below the EPA Region 4 Removal Action Level (23 ppbv). Trace levels of other VOCs were also detected. For one resident living near the spring, TCE was not detected in either a breathing zone sample placed in the home or in a canister placed in the front yard. For a resident living in close proximity to the spring, TCE was measured in four places: 1. in the breathing zone of the home; 2. in crawl space of the home; 3. in the soil gas in the dirt of crawl space; and 4. at the fence line of the spring. The soil gas measurement was non-detect for TCE. TCE was detected in the other three samples with a maximum value of 1.38 ppbv, which is below the Removal Action Level (RAL).

Ambient air measurements taken at the Gazebo on South Side Village measured non-detect for TCE. Two samples, one a field duplicated for QA/QC were taken near the intersection of Surrey Run and Mills Gap Road. Both samples measured non-detect for TCE.

One canister was placed directly adjacent to one of the historically contaminated (surface water TCE values ranging from 11.63 to 19.7 ppm in recent sampling) inside the fence line. That value measured 277 ppbv, which is above the RAL. The locked fence and warning signs limit access and potential exposure at that point. The elevated TCE suggests that vapor emanating from the contaminated springs is a source of ambient air contamination. Two ambient air samples were taken adjacent to surface water to the west of the plant. One of these samples was taken at a spring on Mills Gap Road Associate property. Previous sampling by NCDENR measured surface water contamination of 408 ppb TCE there. A second ambient air sample was taken further downstream (west) in the ravine of the stream that travels along Mills Gap Road. TCE was measured in the canisters at 0.975 ppbv and 0.594 ppbv, both below the RAL.

The SVE system continues to operate. As of August 2008, an estimated 3,831 pounds of VOCs have been removed from the subsurface by the SVE system.

#### **Planned Removal Actions**

In September 2008, EPA approved a plan submitted by CTS to construct and test an ozonation system, which would inject ozone into the subsurface at the interface of the groundwater and the contaminated springs east of the plant. Ozone oxidizes TCE to inert compounds. The approval follows a technology evaluation to mitigate surface water contamination at the spring. Technology evaluation is required under the 2004 AOC between EPA and Mills Gap Associates. EPA excluded technologies (e.g., aeration) which had the potential to elevate increase local vapor concentrations. Construction and system testing was memorialized in an amendment to the Removal Action Plan, which is required in the AOC Statement of Work. Currently field investigations to support the design of the system are underway. Construction complete and initial operations are scheduled for the spring.

At one residence adjacent to the spring, the presence of TCE in the crawl space and outside combined with the absence of TCE in the soil gas from the dirt in crawl space strongly suggests that exchange of air emanating from surface water is the source of elevated TCE values in ambient air. It is plausible that ambient air concentrations will diminish with diminishing surface water contamination should the planned ozonation system be effective in treating contamination at the springs.

#### **Estimated Costs \***

|                         | Budgeted | Total To Date | Remaining | % Remaining |
|-------------------------|----------|---------------|-----------|-------------|
| <b>Extramural Costs</b> |          |               |           |             |
| <b>Intramural Costs</b> |          |               |           |             |
|                         |          |               |           |             |
| <b>Total Site Costs</b> | \$0.00   | \$0.00        | \$0.00    | 0.00%       |

\* The above accounting of expenditures is an estimate based on figures known to the OSC at the time this report was written. The OSC does not necessarily receive specific figures on final payments made to any contractor(s). Other financial data which the OSC must rely upon may not be entirely up-to-date. The cost accounting provided in this report does not necessarily represent an exact monetary figure which the government may include in any claim for cost recovery.

[response.epa.gov/CTSoFAsheville](https://response.epa.gov/CTSoFAsheville)

POLREP #6 Last Updated 6/17/2009