



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 4
ATLANTA FEDERAL CENTER
61 FORSYTH STREET
ATLANTA, GEORGIA 30303-8960

APR 4 2002

4WD-ERRB

APR - 8 2002

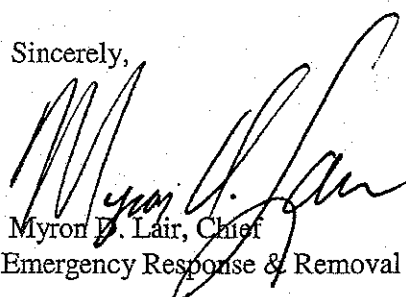
Mr. Jack Butler, Chief
Superfund Section
North Carolina Division of
Solid Waste Management
401 Oberline Road, Suite 150
Raleigh, North Carolina 27605

Dear Mr. Butler:

We are pleased to provide a copy of the Action Memorandum for the Mills Gap Road Groundwater Site located in Asheville, Buncombe County, North Carolina. If you have any questions or comments concerning this document, please contact the On-Scene Coordinator at the following address:

James W. Webster, Ph.D, On-Scene Coordinator
U.S. Environmental Protection Agency
4WD-ERRB
61 Forsyth Street, 11th Floor
Atlanta, Georgia 30303
(404) 562-8769

Sincerely,


Myron D. Lair, Chief
Emergency Response & Removal Branch

Enclosure



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ACTION MEMORANDUM/ENFORCEMENT

SUBJECT: Request for a Removal Action at Mills Gap Road (also known as CTS) Site in Asheville (Skyland), Buncombe County, North Carolina

FROM: James W. Webster, Ph.D., On-Scene Coordinator
Emergency Response and Removal Branch (ERRB)

TO: Richard D. Green, Director
Waste Management Division

Site ID #: A4P5

I. PURPOSE

The purpose of this Action Memorandum is to request and document approval of the proposed removal action described herein for the Mills Gap Road (the site), located in Asheville (Skyland), Buncombe County, North Carolina. The site poses a threat to public health and the environment that meets the National Oil and Hazardous Substances Pollution Contingency Plan (NCP) section 300.415(b) criteria for removal actions. This removal action is anticipated to be enforcement lead pending execution of an Administrative Order on Consent with a potentially responsible party and/or parties (PRPs).

II. SITE CONDITIONS AND BACKGROUND

II.A. Site Description

The Cerclis ID# for this time critical removal action is NCSFN0406988.

The Site is located in Asheville (Skyland), Buncombe County, North Carolina. The site occupies an area of approximately 57 acres and contains a large, one-story structure situated on about 10 acres of maintained grounds. CTS Corporation purchased the property in about 1964 and carried out electroplating operations there from 1964 to 1986. The site was sold to Mills

Gap Road and Associates in the late 1990's. The area around the site is composed of mixed commercial and residential landuses.

II.A.1. Removal Site Evaluation

During follow-up on a citizen complaint in July 1999, the North Carolina Department of Environment and Natural Resources (NCDENR), identified high levels of chlorinated solvents in two springs and one domestic well, located topographically down-gradient from the site (Ref. 1). Because the well and springs were used as potable water sources, the NCDENR was concerned for public health. In August 1999, the NCDENR referred the Site to the U.S. EPA's Emergency Response and Removal Branch (ERRB) for removal eligibility consideration (Ref. 1).

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. The principal CERCLA hazardous substance identified was trichloroethylene (a.k.a. trichloroethene or TCE). The OSC further concluded that the site met the criteria for initiating a removal action under §300.415 of the NCP. Consequently, bottled water was provided to the four households. Subsequently the affected residences were connected to the Asheville-Buncombe municipal water supply. A copy of the Action Memorandum documentation for the removal action is attached (Attachment 2).

In November 1999, personnel from ERRB, EPA Region 4 Science and Ecosystem Support Division (SESD) and Region 4's Superfund Technical Assessment and Response Team (START) conducted soil sampling at the site and found elevated concentrations of volatile and semi-volatile organic compounds (VOCs and SVOCs) at some locations (Ref. 3). In August 2000, Response Engineering and Analytical Contract (REAC) personnel employed geophysical methods to search for buried sources of contamination at the site (Ref. 4). Two springs ("upper" and "lower") previously sampled by NCDENR and ERRB were also re-sampled. In September 2000, several potential target areas identified through the previous geophysical surveys and through visual observation of surface debris were excavated. A large below grade sump located in the southwesterly corner of the former plant building, which, at the time, was nearly filled with water, was also sampled and then pumped out.

The geophysical survey was followed in May 2001 by utilizing a truck-mounted Geoprobe™ to conduct soil sampling beneath the former plant building (Ref. 5). Analytical results derived from the samples revealed elevated concentrations of VOCs (e.g. 830,000 µg/kg 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. TCLP analysis of a selected sample collected from 32-34 feet below ground surface, near the watertable, resulted in a TCE result of 7.00 milligrams/liter (mg/L) compared to the regulatory level of 0.5 mg/L for the substance (Ref. 6). The chemical

2-methylnaphthalene generally exhibited the highest concentrations (e.g. 270,000 $\mu\text{g}/\text{kg}$) among BNA compounds detected in the core samples. Other BNAs detected at significant concentrations included naphthalene (up to 120,000 $\mu\text{g}/\text{kg}$) and phenanthrene (up to 44,000 $\mu\text{g}/\text{kg}$).

II.A.2. Physical Location

The site is located off Mills Gap Road, approximately 1 mile east of Skyland, Buncombe County, North Carolina. Geocoordinates of the site are 82°29'45"N Latitude and 35°29'26"W Longitude. The nearest residence is within approximately 500 feet of the Site.

II.A.3. Site Characteristics

The principal feature of the site is a 75,000 ft² building that formerly housed the electroplating operation. This building is situated on about 10 acres of level ground and surrounded by a chain-link fence (Ref 3). No drums, tanks or vats were observed inside the building during the November 1999 site inspection; however, a large, in-ground sump located in the southwestern portion of the building was noted. In addition, an empty 5,000 gallon horizontal tank was identified adjacent to the south side of the building, and a storage tank cradle was discovered in a wooden area uphill from the building.

As the concrete floor of the building eliminates or minimizes infiltration of precipitation into contaminated soils beneath it (Ref. 7), the principal mechanism of contaminant movement is believed to be vertical percolation of contaminants to the saturated zone followed by downgradient movement to the two springs located approximately 350 feet southeast of the former plant building. This hypothesis is supported by the fact that similar contaminants (i.e. solvents and petroleum compounds) were found in the soil borings and in the downgradient upper and lower springs. The scope and extent of groundwater contamination within the bedrock aquifer has not been fully evaluated. Contaminated water wells have been discovered several hundred feet southeast of the site (Ref. 7).

II.B. Release or Threat of Release into the Environment of a Hazardous Substance, or Pollutant or Contaminant

CERCLA hazardous substances detected in soil samples collected at the site include but are not limited to:

- Trichloroethene or "TCE" (CAS #79-01-6)
- 2-Methylnaphthalene (CAS #91-57-6)
- Xylene (CAS #1330-20-7)
- Naphthalene (CAS #91-40-3)
- Phenanthrene (CAS #85-01-8)
- Fluorene (CAS #86-73-7)

CERCLA hazardous substances detected in ground water and surface water samples collected at the site include but are not limited to:

- Trichloroethene or "TCE" (CAS #79-01-6)
- Benzene (CAS #71-43-2)
- Xylene (CAS #1330-20-7)

EPA's site characterization efforts indicate that VOCs and other hazardous substances found in the soil beneath the building are migrating through the subsurface to groundwater (Ref. 7). In turn, contaminated groundwater is adversely impacting springs and water wells downgradient of the site. Although the springs nearest to the site are no longer used as potable supplies, they remain potential points of human and ecological exposure. Moreover, other springs and wells may be threatened by the groundwater contamination unless steps are taken to mitigate the contamination source.

II.C. NPL Status

The site is not currently on the National Priority List (NPL), nor is it a likely NPL candidate.

II.D. Maps, pictures and other graphic representation

Maps, pictures and other graphic representation can be made available upon request.

II.E. Other Actions to Date

II.E.1. Previous actions

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 and determined that there was a threat to public health or welfare or the environment posed by the presence of chlorinated solvents in drinking water supplies in the Mills Gap Road area (Ref. 2). The OSC further determined that the site met criteria for initiating a Removal Action under 40 CFR §300.415. Consequently, bottled water was immediately provided to the four affected households. Later, the residences were connected to a public water supply system.

II.E.2. Current Actions

No other government or private activities are currently being performed.

II.F. State and Local Authorities' Roles

II.F.1. State and local actions to date

The NCDENR Division of Waste Management referred the Site to the EPA's ERRB to be evaluated for possible removal eligibility (Ref. 1).

II.F.2. Potential for continued State/local response

Currently the NCDENR does not have access to resources sufficient to perform the required removal activities (Ref. 1). The NCDENR is willing to cooperate and assist the EPA throughout the duration of the removal.

III. THREATS TO THE PUBLIC HEALTH OR WELFARE OR THE ENVIRONMENT, AND STATUTORY AND REGULATORY AUTHORITIES

III.A. Threats to the Public Health or Welfare

The OSC has determined that the site meets the criteria for a removal action as defined under the NCP §300.415(b)(2) (Ref. 8):

(i) Actual or threatened exposure to nearby human populations, animals, or the food chain from hazardous substances or pollutants or contaminants - There is an immediate threat to the health and safety of nearby residents. Human exposure to site-related contaminants may occur via skin contact, inhalation, and/or ingestion of contaminated water or soil. Although the contaminated springs are not currently employed as potable water sources, they remain potential points of human and/or environmental exposure as they are entirely uncontrolled with regard to access.

Although there is some controversy concerning the principal site contaminant TCE as a human carcinogen (Ref. 9), the U.S. Department of Health and Human Services has determined that TCE may reasonably be anticipated to be a human carcinogen (Ref. 10). Additionally, ATSDR indicates that exposure by inhalation of small amounts of TCE may cause headaches and lung irritation, and that ingestion of small amounts of TCE over a long period may cause dizziness, liver and kidney damage, impaired immune system function, and impaired fetal development in pregnant women (Ref. 11).

Hazardous substances found in the soil beneath the former electroplating plant are migrating through the subsurface, contaminating groundwater, and being released to surface water at nearby springs. Although the springs closest to the site are no longer used as potable

supplies, other springs and wells may be threatened unless actions are taken to mitigate the source of contamination.

(ii) Actual or potential contamination of drinking water supplies - The drinking water supplies of four families have already been impacted by hazardous substances released from the site (Refs. 1, 2). Resultantly, these families were switched to bottled water as an immediate measure and later were provided access to a municipal water supply. Additional contaminated water wells have been discovered several hundred feet southeast of the site (Ref. 7).

(iii) High levels of hazardous substances or pollutants or contaminants in soils largely at or near the surface, that may migrate - Both field and laboratory data collected during site characterization confirm that hazardous substances remain in the unsaturated zone at the site (Ref. 5). As the principal known area of soil contamination is located on a relative topographic high, contaminants are likely to migrate away from the site once they reach the saturated zone.

III.B. Threats to the Environment

Although this removal action is warranted on the basis of potential threat to human health alone, the site may also pose a threat to the environment. Specifically, VOCs are present in the surface water at nearby springs and may adversely impact aquatic life in streams fed by these springs.

IV. ENDANGERMENT DETERMINATION

Actual or threatened releases of hazardous substance from this site, if not addressed by implementing the response action selected in the Action Memorandum, may present an imminent and substantial endangerment to public health, or welfare, or the environment.

V. PROPOSED ACTIONS AND ESTIMATED COSTS

V.A. Proposed actions

Proposed actions to complete the removal activities at the site include additional sampling and analysis and planning for removal and treatment.

V.A1. Proposed action description

The objective of this proposed removal action is contaminant source control, namely removal or substantial reduction of the mass of hazardous substances in the unsaturated zone beneath the former plant building. These substances are a continuing source of groundwater contamination. Several options exist for accomplishing this objective including: 1) removal and offsite disposal of contaminated soil; 2) removal and onsite treatment of contaminated soil; and 3) *insitu* treatment of contaminated soil.

V.A.2. Contribution to remedial performance

Proposed removal activities will abate the immediate threats identified in Section III of this document. Although treatment of groundwater is generally beyond the scope of the removal program, eliminating or minimizing sources of contamination in the unsaturated zone will contribute toward long term cleanup goals if further remedial actions are necessary.

V.A.3. Description of alternative technologies

A complete evaluation of alternative technologies will be made prior to the disposal/treatment phase of this removal.

V.A.4. Engineering Evaluation/Cost Analysis (EE/CA)

The proposed action is time-critical. It does not require an EE/CA.

V.A.5. Applicable or Relevant and Appropriate Requirements (ARARS)

ARARs identified for this site include RCRA for determination of Land Disposal Restrictions (LDRs) for treatment, storage and disposal of hazardous waste. All ARARS will be attained for off-site transportation and disposal of hazardous materials or pollutants or contaminants. The requirements of the Off-Site Rule will also be met. The NCDENR will be contacted in a timely fashion to identify any State ARARs prior to initiation of onsite activities.

V.A.6. Project Schedule

Response actions will resume at the site shortly after signing of the administrative order on consent (AOC). The OSC envisions the project as being completed in two phases:

Phase I - Site characterization, including additional sampling to define of extent of contamination. This phase should be completed in four (4) to six (6) months.

Phase II - Removal and/or treatment. The duration of this phase is dependent on the findings of Phase I and the mitigative technology that is selected.

V.B. Estimated Costs

Costs not included as this is an enforcement lead removal action

ATTACHMENT I

REFERENCES

1. August 16, 1999. Immediate Removal Evaluation Request. Pat Derosa, Head, Site Evaluation and Removal Branch, Superfund Section, North Carolina Department of Environment and Natural Resources to Myron D. Lair, Chief, Emergency Response and Removal Branch, U.S. EPA Region IV.
2. August 23, 1999. Special Pollution Report (POLREP) Notification of \$200,000 Activation, Mills Gap Road Groundwater Site, Asheville, Buncombe County, North Carolina. Fred Stroud, OSC, U.S. EPA Region 4.
3. February 17, 2000. Trip Report, Mills Gap Skyland, Buncombe County, North Carolina. Marsh Duncan, START Project Manager to Barbara Caprita, OSC, U.S. EPA Task Monitor.
4. December 20, 2000. Trip Report, Mills Gap road. Lockheed Martin Technology Services Group (REAC). W.A. #0-141.
5. July 12, 2001. Geoprobe Coring Results - Mills Gap Road. Steven A. Clapp, REAC Program Manager to Greg Powell, U.S. EPA Work Assignment Manger.
6. 40 CFR §261.24. Identification and Listing of Hazardous Wastes: Toxicity Characteristic
7. August 06, 2001. Memorandum: Mills Gap Road Site - Soil Remediation Recommendations and Ground Water Contamination Issues. Greg Powell, CPG, U.S. EPA-ERT to Don Rigger, U.S. EPA-ERRB, Region 4.
8. National Oil and Hazardous Substances Pollution Contingency Plan. 40 CFR §300.415(b)(2).
9. July 23, 2001. ATSDR Record of Activity Routing. Joseph d. Little, MSPH, Emergency Response Coordinator, Division of Toxicology, ATSDR.
10. January 2001. 9th Report to Congress. U.S. Department of Health and Human Services, Public Health Service, National Toxicology. Program.
<http://ehp.niehs.nih.gov/roc/toc9.html>
11. September 1997. ToxFAQ™ for Trichloroethylene. ATSDR.
<http://www.atsdr.cdc.gov/tfacts19.html>.