

Health Consultation

WRIGLEY CHARCOAL PLANT

WRIGLEY, HICKMAN COUNTY, TENNESSEE

EPA FACILITY ID: TND980844781

DECEMBER 22, 2003

U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES
Public Health Service
Agency for Toxic Substances and Disease Registry
Division of Health Assessment and Consultation
Atlanta, Georgia 30333

Health Consultation: A Note of Explanation

An ATSDR health consultation is a verbal or written response from ATSDR to a specific request for information about health risks related to a specific site, a chemical release, or the presence of hazardous material. In order to prevent or mitigate exposures, a consultation may lead to specific actions, such as restricting use of or replacing water supplies; intensifying environmental sampling; restricting site access; or removing the contaminated material.

In addition, consultations may recommend additional public health actions, such as conducting health surveillance activities to evaluate exposure or trends in adverse health outcomes; conducting biological indicators of exposure studies to assess exposure; and providing health education for health care providers and community members. This concludes the health consultation process for this site, unless additional information is obtained by ATSDR which, in the Agency's opinion, indicates a need to revise or append the conclusions previously issued.

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HEALTH CONSULTATION

WRIGLEY CHARCOAL PLANT

WRIGLEY, HICKMAN COUNTY, TENNESSEE

EPA FACILITY ID: TND980844781

Prepared by
Tennessee Department of Health
Communicable and Environmental Disease Services
Under a Cooperative Agreement with the
Agency for Toxic Substances and Disease Registry

Background and Statement of Issues

The Wrigley Charcoal Superfund Site is located in Wrigley, Hickman County, Tennessee, approximately 45 miles southwest of Nashville. The owner of a 35 acre property adjacent to the site purchased the land as an investment. He plans to rent mobile homes on the land and to live in one of the homes. The mobile homes are unoccupied and have remained so due to lack of a potable water source. A former roadway to the site passed through the property, possibly spreading contamination to the property. Oak Hill Spring is on the private property, easily accessible to trespassers. The property owner has complained to various environmental agencies regarding possible contamination on the property and along the road and creek banks between the property and the Wrigley Site. Andy Binford, Assistant Director of the Tennessee Division of Superfund (DSF), requested a health consultation from the Tennessee Department of Health (TDH), Environmental Epidemiology (EEP), to address any possible health effects to future renters and to the owner of the property.

The Wrigley Site has a long history of use for several different industrial processes and comprises four physically distinct areas where industrial operations occurred: the Primary Site, the Storage Basin, the Irrigation Field, and the Athletic Field. In 1988, the U.S. Environmental Protection Agency (EPA) declared the site to be an imminent and substantial danger and conducted a response action. In 1989, EPA listed the Wrigley Site on the National Priorities List.

EPA and DSF conducted interim cleanup action in two phases between September 1993 and July 1995. These cleanup actions focused on removal of contaminated soil at the Primary Site, along with disposal of transformers and waste containing hazardous substances. The major soil contaminants were tar and tar-like substances. The 2.5 acre Storage Basin has been remediated, re-graded, and is now primarily vegetated with tall grasses. At this time, the EPA has determined that the chemicals of concern are PCB-1260 in surface soil (including the private property along the former roadway) and tar products, lindane, and arsenic in groundwater. Tar and tar-like slag are a likely source of the groundwater contamination under the Primary Site and the Storage Basin (Black and Veatch 2003).

Ms. Carol Pope and Ms. Susan Miller of TDH, EEP, visited twelve households bordering the site to obtain information about the health concerns of the households. Two issues arose during the visits. One family, and possibly others, obtains drinking water from an unnamed spring near the site (not Oak Hill Spring), even though they have been provided public water several years ago. The community also indicated a lack of knowledge and understanding of the EPA's clean up activities undertaken to protect their health. Several residents stated they were unaware of the Public Meeting held by EPA on May 29, 2003, and some said they had spoken with EPA representatives but "did not really understand what was being said".

Discussion

The private property borders the Storage Basin, which has had surface remediation. The groundwater under the Storage Basin is contaminated with chemicals thought to be from tar and tar-like substances. Tar is visible on the surface of the former roadway. Multiple sampling episodes on the private property did not reveal the presence of site-related contaminants in sediment in Oak Hill Spring, in spring water, or in groundwater. No site-related contaminants were detected. Therefore, no completed exposure pathways currently exist. However, it is possible that, without remediation of the groundwater, the spring could become contaminated in the future.

EPA plans further remediation for the Wrigley site to remove wood tar chemicals and tar deposits on the site and regrade with clean fill. Groundwater will be remediated. In cases in which remediation will not remove all risks to human health, institutional controls will be used. The tar and tar-like deposits on the former roadway on the private property will be removed.

Because surface contamination is to be removed from the private property, exposure to contamination through contact with soil will be eliminated. Persons living near the site have already been provided with potable water from a public water supply; therefore, exposure to groundwater should have been eliminated. However, at least one household uses an unnamed spring near the site for their drinking water. The mobile homes on the private property will be provided with potable water from a public water system, eliminating future exposure to groundwater to persons living on the private property. Providing public water will also eliminate the need to use Oak Hill Spring as a source of potable water.

Children's Health Considerations

In communities faced with air, water, or food contamination, the many physical differences between children and adults demand special emphasis. Children could be at greater risk than adults from certain kinds of exposure to hazardous substances. Children play outdoors and sometimes engage in hand-to-mouth behaviors that increase their exposure potential. Children are shorter than adults; this means they breathe dust, soil, and vapors close to the ground. A child's lower body weight and higher intake rate results in a greater dose of hazardous substance per unit of body weight. If toxic exposure levels are high enough during critical growth stages, the developing body systems of children can sustain permanent damage. Finally, children are dependent on adults for access to housing, for access to medical care, and for risk identification. Thus, adults need as much information as possible to make informed decisions regarding their children's health.

Exposure of children living in the community near the Wrigley Charcoal Site was carefully considered in the preparation of this document. Parents living near the Wrigley Charcoal Site have clearly expressed their concerns and have requested more information about the remediation processes at the site and possible hazards to their families' health.

Conclusions

1. No health hazard will exist from exposure to soil on the private property, if the visible tar and PCB-1260 contamination is removed; however, the community does not understand the EPA's actions to cleanup the site and to protect their health.
2. No health hazard exists from the groundwater under the private property from site-related contaminants at the present time because the private wells are not currently being used.
3. No health hazard exists from site-related contaminants in Oak Hill Spring at the present time.
4. Some households are using an unnamed spring near the site for drinking water and may be exposed to contamination in ground water. An indeterminate health hazard exists from using this spring as a potable water source.

Recommendations

1. Assure that the private property is connected to a public water supply. EPA and TDEC, DSF are responsible for this.
2. Assure that tar and PCB-1260 are removed from the former roadway. EPA and TDEC, DSF are responsible for this.
3. Prevent use of Oak Hill Spring as a source of drinking water. In addition, discourage the use of the unnamed spring near the site as a drinking water source. This is the responsibility of EPA or TDEC.

Public Health Action Plan

1. TDH EEP, in conjunction with TDEC, DSF, will hold an open house for the public to explain the actions taken at the Wrigley site. Educational materials will be distributed, along with a copy of this health consultation. Staff from TDH and TDEC will be available to answer any questions from the public.
2. THD EEP will determine the health impact of drinking water from the spring near the site.
3. TDH EEP is available to review additional data and conduct site visits, as needed.
4. TDH EEP will provide copies of the health consultation to the environmental regulatory agencies and concerned local residents. TDH will also provide information to the community about EPA's actions to cleanup the site and to protect their health.
5. TDH EEP will maintain dialogue with TDEC, EPA, and ATSDR until remediation of the Wrigley site, Hickman County, is complete.

Wrigley Charcoal Health Consultation, Private Property, Hickman County, TN

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References

Black and Veatch. 2003. Final Focused Feasibility Study Report, Wrigley Charcoal Site, Wrigley, Hickman County, Tennessee. Atlanta: U.S. Environmental Protection Agency, Region 4, Project No. 48136.112.

Agency for Toxic Substances and Disease Registry (ATSDR). 1997. Healthy children—toxic environments. Report of the Child Health Workgroup presented to the ATSDR Board of Scientific Counselors. Atlanta: US Department of Health and Human Services.

Agency for Toxic Substances and Disease Registry (ATSDR). 1998. Promoting children's health—progress report of the Child Health Workgroup, ATSDR Board of Scientific Counselors. Atlanta: US Department of Health and Human Services.

CERTIFICATION

This Health Consultation: Wrigley Charcoal, Hickman County, Tennessee, was prepared by the Tennessee Department of Health, Environmental Epidemiology, under a cooperative agreement with the Agency for Toxic Substances and Disease Registry (ATSDR). It is in accordance with approved methodology and procedures existing at the time the health consultation was begun.

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Technical Project Officer, SPS, SSAB, DHAC, ATSDR

The Division of Health Assessment and Consultation, ATSDR, has reviewed this public health consultation and concurs with the findings.

Lisa C. Hayes

for Chief, State Program Section, SSAB, DHAC, ATSDR