Raymark Bulletin #35

February 2001

EPA Continues Evaluation of Indoor Air Quality

This bulletin discusses the second phase of soil gas and indoor air quality sampling

Introduction

This fact sheet provides an update on indoor air investigations being conducted by the US Environmental Protection Agency (EPA) at the Raymark Superfund Site (Site). Groundwater in some parts of Stratford is affected by hazardous wastes originally produced at the Raymark Facility, including volatile organic compounds (VOCs). It is known that groundwater contaminated with volatile pollutants can act as a source of contaminated vapors. These vapors can migrate from the groundwater upward through the soil and into homes through cracks and holes in foundations, contaminating the air inside. People who live or work in these buildings could be exposed to contaminated vapors simply by breathing. Preliminary indoor air sampling in April 2000 found site-related contaminants in some of the homes sampled. Details of the results are discussed in Raymark Bulletin #34 found at the Stratford Library.

Results of April 2000 Indoor Air Quality Investigation

Of all the compounds analyzed in the indoor air, only three contaminants were identified as having likely originated from groundwater. These volatile organic compounds are 1,1-Dichloroethylene (1,1-DCE), Trichloroethylene (TCE), and 1,1,1-Trichloroethane (1,1,1-TCA). Each of these three contaminants is known to be present in the groundwater in this area. Other contaminants were also found in indoor air, but the data collected suggest a source other than the groundwater for these pollutants. Numerous sources of indoor air pollution exist such as home heating oil, cleaning solvents, building materials, and cigarettes. Health professionals from the EPA, CT Department of Environmental Protection (CTDEP), CT Department of Public Health (CTDPH), Agency for Toxic Substances and Disease Registry (ATSDR), and the Stratford Health Department collectively believe the indoor air results do not present an immediate danger to building occupants.

EPA plans second phase of indoor air sampling

Why? The April 2000 phase of air sampling indicated that VOCs in groundwater are moving into indoor air in some of the homes tested. Retesting is scheduled at this time, as it is winter and homes are closed up; if contaminants are present they will be detected in greater concentrations in the winter. Additional sampling is necessary to better understand the extent of contaminated vapors in the expanded area of interest, and to confirm the original findings (see map).

Who? EPA, in coordination with CTDEP, CTDPH, ATSDR, and the Stratford Health Department will perform the upcoming indoor air sampling. Homeowners in the expanded area of interest will be notified about the sampling, and participation is completely voluntary.

When? The next round of indoor air sampling will begin in late February and will continue through early March.

Where? Soil gas sampling is the first step to determine which homes will be targeted for indoor air testing. Initial samples will be collected from the soil on properties within the expanded area of interest as indicated on the map. Properties will be selected based on the presumed groundwater contamination beneath the area. Properties located above shallow groundwater with high levels of contamination will be the first priority; however, homes in areas with lower contaminant levels will also be sampled to provide a comparison.

How? EPA will begin collecting vapor samples from soil around home/building foundations using a tube and a pump to draw the vapors from the soil. The vapors will be collected in a sample bag that will be delivered to the mobile on-site laboratory for analysis. The homeowner does not need to be present during this sampling.

What Next? Properties found to have higher levels of soil vapor contaminants will then be sampled for indoor air. Again, participation is completely voluntary. Since the entry point of the vapors is the building foundation, contaminant levels are generally higher in basement air than on upper floors. Canisters will be placed in both the basement and first floor of the home for a period of 8 hours to collect a sample of indoor air. The canister will be sent to an off-site laboratory for analysis. A homeowner needs to be available at the beginning and end of the 8-hour test.

If high levels of contaminants are present in the indoor air sampling results, EPA, in coordination with CTDEP, CTDPH, ATSDR, and the Stratford Health Department will work with the homeowner to correct the problem.

Who should you contact for more information?

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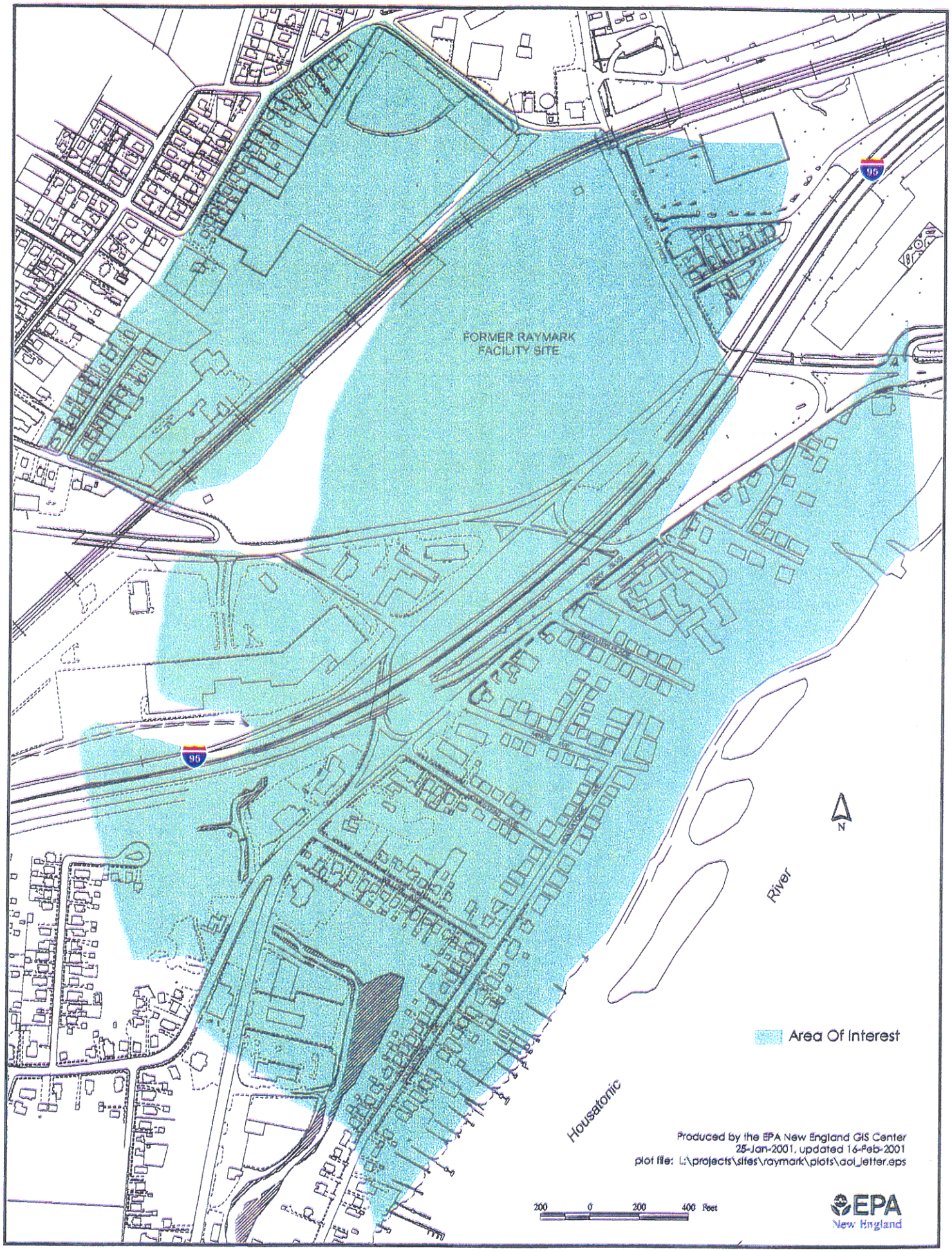
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