

Letter Health Consultation

February & March 2008 Soil Vapor Intrusion Sampling

ROWE INDUSTRIES SUPERFUND SITE

SAG HARBOR, NEW YORK

EPA FACILITY ID: NYD981486954

SEPTEMBER 30, 2008

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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LETTER HEALTH CONSULTATION

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Prepared By:

New York Department of State Health Services
Under Cooperative Agreement with the
U.S. Department of Health and Human Services
Agency for Toxic Substances and Disease Registry



STATE OF NEW YORK DEPARTMENT OF HEALTH

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Richard F. Daines, M.D.
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September 12, 2008

Ms. Pamela Tames, P.E.
EPA, NY Remediation Branch
290 Broadway
New York, NY 10007

Re: Letter Health Consultation for the
Rowe Industries Superfund Site
CERCLIS NO. NYD981486954
February & March 2008 Soil Vapor Intrusion
Sampling
Sag Harbor, New York

Dear Ms. Tames:

The Agency for Toxic Substances and Disease Registry (ATSDR) and the New York State Department of Health (NYS DOH) have evaluated the data generated during the February and March, 2008 soil vapor intrusion sampling conducted at residential properties near the Rowe Industries Superfund Site (Lockheed Martin, 2008). The purpose of this letter health consultation is to document our evaluation of these data and determine whether contaminants are entering homes through soil vapor intrusion and, if so, what the public health implications are of exposure to the contaminants.

Background and Statement of Issues

The Rowe Industries Ground Water Contamination National Priorities List (NPL) Site (the Site) is in the Village of Sag Harbor, Suffolk County, New York. The Site is eight acres in area, and contains a small factory building covering one acre, with the remainder covered by parking, woods, lawn area and a small pond. The Site was owned and operated by Rowe Industries, Inc. from 1953 through the early 1960s. During that time, the company manufactured small electric motors and transformers. Waste disposal, including outside storage of solvents and solvent disposal into dry wells is reported to have begun in 1961. Rowe Industries, Inc., and the site, were purchased by Aurora Plastics, Inc. in the late 1960's, and then by Nabisco, Inc. in the early 1970s. In 1980, the site was sold to Sag Harbor Industries, Inc., which currently uses the facility to manufacture electronic devices.

Ground water contamination by solvents was first discovered in the Sag Harbor area in 1983 by the Suffolk County Department of Health Services (SCDHS). Subsequent sampling of 46 private wells and

21 observation wells determined that the site related volatile organic compounds (VOC's) tetrachloroethene and trichloroethene had contaminated groundwater in an area approximately 500 feet wide by 2500 feet long that extended in a north-west direction from the site. Affected residences were connected to the local public water supply in 1985.

The Rowe Industries Site was added to the National Priorities List (NPL) in July of 1987. In January 1994 (ATSDR 1994) and December 1998 (ATSDR 1998), Public Health Assessments (PHA) for the Site were completed by ATSDR and NYS DOH. The 1994 PHA concluded that human exposure to contaminated groundwater had occurred in the past, and the site presented an indeterminate public health hazard because further exposure to contaminated groundwater through ingestion, dermal absorption and inhalation could occur if additional private wells or public water supply wells became contaminated. Another potential exposure source for people living in homes over the plume area was inhalation of contaminated soil vapors that volatilize from contaminated groundwater and enter homes through cracks and penetrations in basements. The 1994 PHA recommended that homes near the Site be evaluated to determine if this process, known as soil vapor intrusion, was occurring in homes downgradient from the site, and if necessary, actions be taken to mitigate exposures. The basement air of several homes located over the plume were sampled in 1996 and 1997. Based on the results of this sampling, ATSDR concluded in the 1998 PHA that "chemicals found in the basement air of homes above the groundwater contaminant plume, and in the basement air of the home near the former drum storage area are not at levels that would cause adverse health effects". In late 2002 installation of groundwater remediation systems was completed and made operational; since then it is reported that over 900 pounds of VOC's have been removed from the source area.

An increased understanding of soil vapor intrusion as an exposure pathway has led the EPA and the State of New York to re-evaluate hazardous waste sites that have undergone remediation of soil and groundwater volatile organic contamination. These evaluations are intended to determine if soil vapor intrusion at these "legacy" sites is impacting on and off-site structures. This Letter Health Consultation evaluates the results of soil vapor intrusion sampling conducted in February and March of 2008 at buildings located over the groundwater plume associated with the Rowe Industries legacy site.

Discussion

During February and March of 2008, at the request of the EPA, Response Engineering and Analytical Contract (REAC) personnel (Lockheed Martin) conducted soil vapor intrusion sampling at 21 homes located over the previously identified plume area. This initially involved collection of air samples from the sub-slab environment of the homes, and subsequent sampling of indoor air and re-sampling of sub-slab air at two of the homes. For sample identification purposes, Lockheed Martin assigned each home a number between 001-021. Samples were collected in 6 liter SUMMA canisters for a duration of twenty-four hours, and analysis was in accordance with modified EPA method TO-15, *Determination of Volatile Organic Compounds (VOC's) in Air Collected in Specially-Prepared Canisters and Analyzed by Gas Chromatography/Mass Spectrometry (GC/MS)*. Outdoor air was sampled each day that residential sampling was completed.

The following table shows the range of results for each compound detected in the sub-slab, indoor air, and outdoor air samples that were collected in February and March of 2008:

2008 Sampling Results for Detected Compounds (all values in $\mu\text{g}/\text{m}^3$)

	Sub-Slab n=24	Basement Indoor Air n=2	First Floor Indoor Air n=2	Outdoor Air n=6	Typical Indoor Air Levels *	
					25 th - 75 th Percentile	Upper Fence
Trichloroethene (TCE)	<1.07 - 4.19	<0.269	<0.269	<0.537	< 0.25 - < 0.25	0.5
Tetrachloroethene (PCE)	<0.678 - 26.4	<0.339 - 0.329	<0.339 - 0.653	<0.339 - 0.375J	< 0.25 - 1.1	2.5
1,1,1-Trichloroethane (1,1,1-TCA)	<0.546 - 47.3	<0.273	<0.273	<0.273	< 0.25 - 1.1	2.5
Carbon Tetrachloride	<0.629 - 0.330J	<0.315 - 0.478	<0.315 - 0.605	<0.315 - 0.475	<0.24 - 0.6	1.3
Methylene Chloride	<0.695 - 0.702	<0.174 - 0.841	<0.174 - 0.993	< 0.174 - 0.257	0.3 - 6.6	16

ND = Non Detect
 J = Estimated below the Reporting Limit
 $\mu\text{g}/\text{m}^3$ = Micrograms per cubic meter
 * = NYSDOH 2003
 Upper Fence = The upper fence is calculated as 1.5 times the interquartile range (difference between the 25th and 75th percentile values) above the 75th percentile value

The EPA sampled sub-slab soil vapor at 21 residences during February and March of 2008. At all 21 residences, carbon tetrachloride and methylene chloride were either detected at or below the laboratory reporting limit in the sub-slab samples. At 18 of the 21 residences sampled, TCE, PCE and 1,1,1-TCA were detected above the reporting limit in the sub-slab environment. Of these 18 residences, the EPA decided that further sampling was warranted at two residential units due to the TCE levels found in the sub-slab environment. These two residences, 002 with TCE at $4.19 \mu\text{g}/\text{m}^3$ and 006 with TCE at $3.66 \mu\text{g}/\text{m}^3$, were re-sampled in March. This re-sampling found that TCE at unit 002 was non-detect in both the sub-slab and indoor air, and in unit 006 was $1.09 \mu\text{g}/\text{m}^3$ in the sub-slab and non-detect in the indoor air. The indoor air levels for all detected VOC's at units 002 and 006 were at levels typically found in residential buildings as reported in the NYS DOH 2003 Study of VOC's in indoor air (NYS DOH 2003).

Conclusions

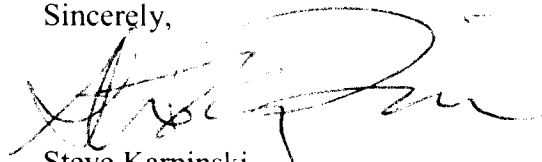
Evaluation of the results of the EPA soil vapor intrusion sampling conducted in February and March of 2008 could not identify soil vapor intrusion as a pathway of exposure. The concentrations of VOC's detected in sub-slab vapor are low and not expected to significantly affect indoor air quality. In indoor air, VOC's were not detected or were present at levels typically found in residential buildings. Additionally, since remedial activities have reduced contaminant levels in the original source area, the size of the plume and the contaminant concentrations in the plume have likely been reduced, thereby further minimizing the potential for soil vapor intrusion to impact homes in the area. Therefore, ATSDR and the NYS DOH conclude that there is no apparent health hazard from inhalation of site related chemicals by soil vapor intrusion in the homes that were sampled downgradient of the Site.

Recommendations

No additional actions are needed to address human exposures.

Thank you for the opportunity to review and evaluate this data.

Sincerely,



Steve Karpinski
Public Health Specialist
Bureau of Environmental Exposure Investigation
New York State Department of Health

cc: G. Litwin/D. Miles/file
A. Block, ATSDR, NY
G. Ulirsch, ATSDR, GA
V. Minei – SCDH

References:

Agency for Toxic Substances and Disease Registry (ATSDR)/New York State Department of Health (NYS DOH). January 1994. Public Health Assessment for Rowe Industries, Sag Harbor, Suffolk County, New York. U.S.

Agency for Toxic Substances and Disease Registry (ATSDR). 1998. Public Health Assessment for Rowe Industries Groundwater Contamination, Sag Harbor, Suffolk County, New York. U.S. Department of Health and Human Services. Atlanta, Georgia: U.S. Public Health Service.

Lockheed Martin Technology Services/Environmental Services/REAC, May 2, 2008, Rowe Industries Superfund Site, Sag Harbor, NY, February and March 2008 Soil Vapor Intrusion Sampling Work Assignment #EAC00302 – Final Trip Report

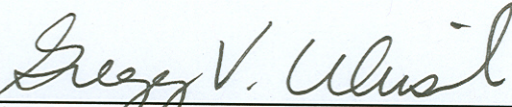
NYS DOH (New York State Department of Health). 1997. Tetrachloroethene Ambient Air Criteria Document. Final Report. Albany, NY: Center for Environmental Health, Bureau of Toxic Substance Assessment.

NYS DOH (New York State Department of Health). 2003. Study of Volatile Organic Chemicals in Air of Fuel Oil Heated Homes. http://www.health.state.ny.us/nysdoh/indoor/fuel_oil.htm.

US EPA (United States Environmental Protection Agency) 2008. Integrated Risk Information System. Office of Research and Development, National Center for Environmental Assessment. Agency Completion Date: 09/28/2007. Last revised: 09/28/2007.
<http://cfpub.epa.gov/ncea/iris/index.cfm?fuseaction=iris.showSubstanceList>.

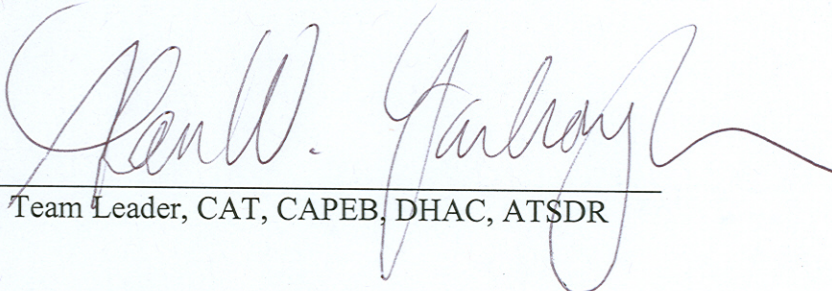
CERTIFICATION

The health consultation for the Rowe Industries Site was prepared by the New York State Department of Health 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 initiated. Editorial review was completed by the cooperative agreement partner.



Technical Project Officer, CAT, CAPEB, DHAC

The Division of Health Assessment and Consultation (DHAC), ATSDR, has reviewed this health consultation, and concurs with its findings.



Team Leader, CAT, CAPEB, DHAC, ATSDR