

**HEALTH CONSULTATION
KELLOGG-DEERING WELL FIELD
NORWALK, CT
CERCLIS NO. D980670814**

**Prepared by the
CONNECTICUT DEPARTMENT OF PUBLIC HEALTH AND ADDICTION SERVICES
ENVIRONMENTAL EPIDEMIOLOGY AND OCCUPATIONAL HEALTH
Under a Cooperative Agreement with the
AGENCY FOR TOXIC SUBSTANCES AND DISEASE REGISTRY**

BACKGROUND AND STATEMENT OF ISSUE

The Kellogg-Deering Well Field Superfund site is approximately 140 acres of light industrial, commercial and residential properties which include a municipal well field of approximately 10 acres. The site was placed on the National Priorities List (NPL) in 1984, for evaluation and cleanup of contaminated groundwater migrating into the well field.

During a pre-design field study, an unexpected release of contaminated groundwater occurred in a previously uncontaminated portion of the site. Approximately 10,000 gallons of groundwater were discharged onto railroad property when a pipeline fitting loosened during a long-term pump test on an extraction well. One and one-half hours after the spill, no standing water was observed. Damp soil was present in the swale in an area approximately 30 feet long by 1.5 feet wide. (See Appendix A-Site Map)

On December 27, 1993, ATSDR received a request from EPA Region I Project Manager, Leslie McVickar, for a Health Consultation on the soil sampling conducted at the spill area immediately after the release and 18 days after the release to evaluate the public health implications of exposure to the contaminated soil via direct contact and/or other appropriate pathways. On January 11, 1994, the request for a Health Consultation was forwarded to the Connecticut Department of Public Health and Addiction Services (CTDPHAS).

DOCUMENTS REVIEWED

The following documents were provided by EPA and were reviewed for the Health Consultation:

Letter, December 1, 1994 to Leslie McVickar, EPA from GZA, Inc.
RE: Incident on November 10, 1993, Kellogg-Deering Operable Unit No. 2, Norwalk, CT.

Field Sketch, Laboratory Analysis Reports

Letter, December 14, 1993 to Leslie McVickar, EPA from GZA, Inc. RE: Results of Laboratory Analyses, Incident of November 10, 1993, Kellogg-Deering Operable Unit No. 2, Norwalk, CT.

DISCUSSION

On November 10, 11 and 12, 1993, samples were collected in and around the spill area. One sample of water was collected from a transfer drum and five soil samples were collected. Three of these soil samples were collected from the swale within the spill area and two of these soil samples were outside the spill area. (See

Appendix B-Field Sketch) Soil samples were collected from 0-6 inch depths. Samples were analyzed for volatile organic compounds.

Four additional soil samples were collected on November 29, 1993, eighteen days after the original spill. Two of these samples were collected from the spill area. The remaining two samples were collected 300 feet north and 300 feet south of the spill area. These samples were also analyzed for volatile organic compounds.

Tables 1 and 2 present the results of soil sampling collected within the spill area and outside the spill area.

**Table 1
Volatile Organic Compounds Detected in Soil 0-6 Inch Depth
Within The Spill Area**

SAMPLE ID	SAMPLING DATE	cis-1,2-dichloroethene	tetrachloroethene	trichloroethene
RR1 S-1	11/10/93	.058 ppm	.0021 ppm	.110 ppm
RR3 S-1	11/11/93	.022 ppm	ND	.043 ppm
RR4 S-1	11/12/93	.0057 ppm	ND	.014 ppm
RR8 S-1	11/29/93	.0075 ppm	ND	.012 ppm
RR9 S-1	11/29/93	.028 ppm	ND	.017 ppm
	COMPARISON VALUES	600 ppm EMEG/pica child	200 ppm EMEG/pica child	1,000 ppm EMEG/pica child

ppm - parts per million

EMEG - ATSDR Environmental Media Evaluation Guide

**Table 2
Volatile Organic Compounds Detected In Soil 0-6 Inch Depth
Outside The Spill Area**

SAMPLE ID	SAMPLING DATE	cis-1,2-dichloroethene	tetrachloroethene	trichloroethene
RR2 S-1	11/11/93	ND	ND	.0056 ppm
RR5 S-1	11/12/93	ND	ND	.019 ppm
RR6 S-1	11/29/93	ND	ND	ND
RR7 S-1	11/29/93	ND	ND	ND
	COMPARISON VALUES	600 ppm EMEG/pica child	200 ppm EMEG/pica child	1,000 ppm EMEG/pica child

ppm - parts per million

EMEG - ATSDR Environmental Media Evaluation Guide

Comparison values are media-specific concentrations that are used by health assessors to select environmental contaminants for further evaluation. An EMEG is an Environmental Evaluation Guide set by ATSDR. EMEGs are calculated from Minimal Risk Levels which are an estimate of daily human exposure to a chemical that is likely to be without an appreciable risk of noncarcinogenic, adverse health effects. EMEGs are calculated for a number of different exposure parameters depending on the activities and characteristics of those exposed. For example, EMEGs set for a pica child, a child who eats soil, assume that the child weighs 10 kg and ingests 5,000 mg of soil a day. The EMEG for a pica child was selected here to represent the most sensitive population to environmental contamination in soil.

The highest concentrations of volatile organic compounds were detected in samples collected from the spill area immediately following the spill. The highest concentration of trichloroethene was .110 parts per million (ppm), tetrachloroethene was detected in only one sample within the spill area at .0021 ppm and the highest concentration of cis-1,2-dichloroethene was .058 ppm. The concentration of these contaminants are well below health based comparison values. Samples collected from the spill area eighteen days after the spill indicate nearly a ten fold decrease in contaminant concentrations.

The only contaminant detected in samples located outside the spill area was trichloroethene, the highest concentration was .019 ppm. Eighteen days after the spill, volatile organic compounds were not detected in any of the samples collected from outside the spill area.

CONCLUSIONS

The concentrations of volatile organic compounds detected in surface soil samples immediately following and eighteen days after the spill do not represent a health concern. This conclusion is reached based on the following: the concentrations of contaminants detected, the nature of the contamination and land use in and around the spill area.

The highest concentrations of volatile organic compounds, detected immediately following the spill, are well below health comparison values protective of sensitive populations including children who may eat soil. Samples taken eighteen days after the spill indicate a ten-fold decrease in concentration further reducing the risk of exposure. Volatile organic compounds will volatilize from the soil into the atmosphere over time, resulting in a reduction of these contaminants in surface soil. While the land near the spill is accessible to the public and children, land use in the area does

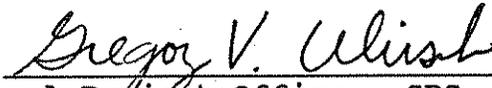
not support loitering or digging which would present the greatest risk of exposure.

RECOMMENDATIONS

No further actions are recommended at this time.

CERTIFICATION

The Health Consultation for the Kellog-Deering Well Field site was prepared by the Connecticut Department of Public Health and Addition Services 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.



Technical Project Officer, SPS, RPB, DHAC

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



Division Director, DHAC, ATSDR

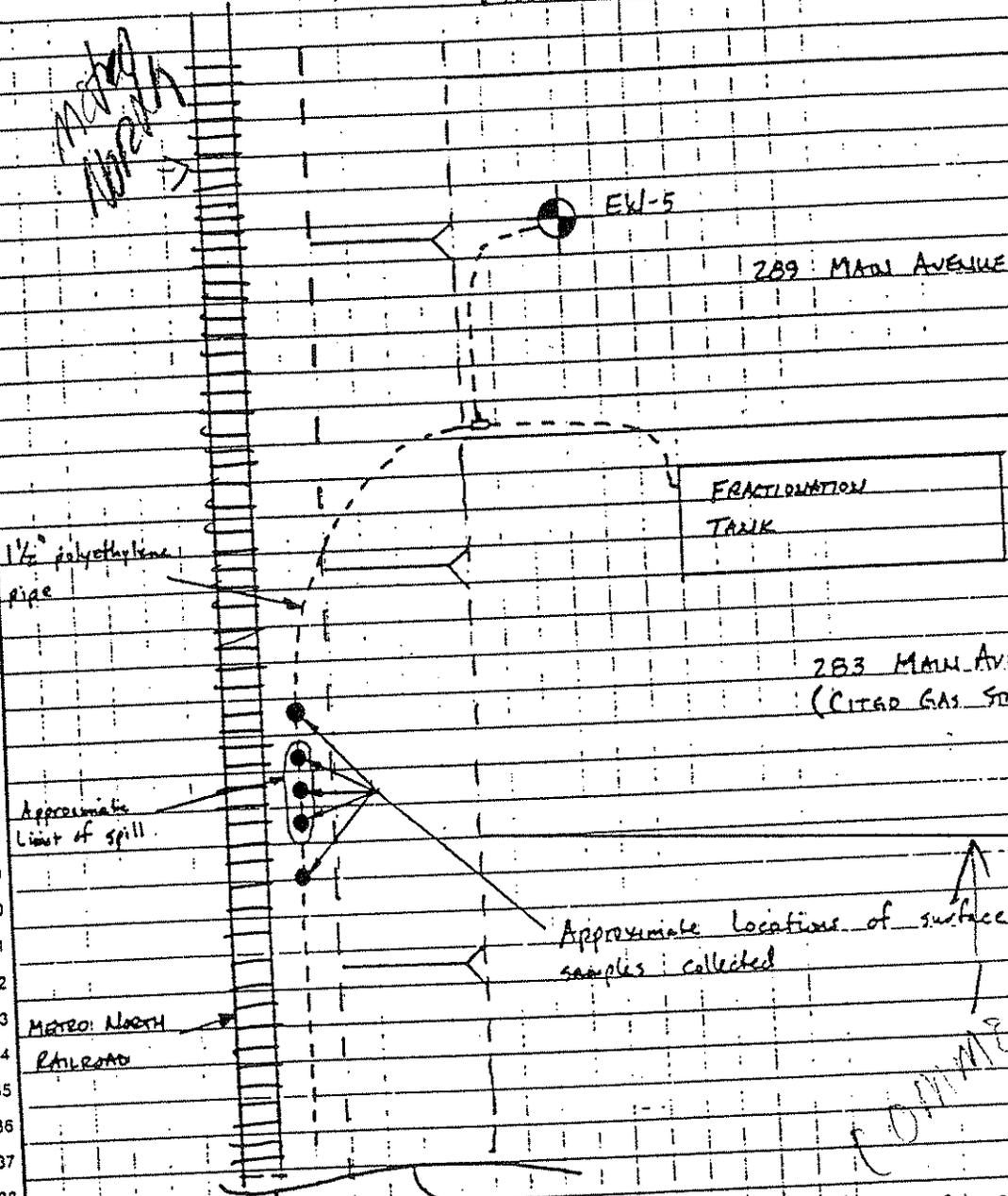
APPENDIX A
SITE MAP



File No. 13125.75

1	Project	Kellogg-Deering NPL SITE	Date	11/16/93	By	R. SULLIVAN
2	Location	NORWALK, CT	Checked		By	
3	Subject	SKETCH OF GROUNDWATER RELEASE (11/10/93)	Revised		By	
4	Based on	FIELD OBSERVATIONS				

↑ NORTH



REFER TO FIELD SKETCH A FOR CONTINUATION OF PIPING

NOT TO SCALE

