

**REPORT ON
OVERSIGHT OF U.S. EPA REMEDIAL ACTIVITIES
NEWHALL NEIGHBORHOOD
HAMDEN, CONNECTICUT**

by

**Haley & Aldrich, Inc.
Glastonbury, Connecticut**

for

**Town of Hamden
Hamden, Connecticut**

**File No. 27892-406
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File No. 27892-406

Hamden Government Center - Office of the Mayor
2750 Dixwell Avenue
Hamden, CT 06518

Attention: Don Proto

Subject: Oversight of U.S. EPA Remedial Activities
Newhall Neighborhood
Hamden, Connecticut

Ladies and Gentlemen:

The following letter report provides a summary of the United States Environmental Protection Agency's (U.S. EPA) remedial activities and subsurface soil conditions observed at several residences in the Newhall Neighborhood area, Hamden, Connecticut. This work was done in accordance with our agreement dated 4 September 2001, amended on 21 September 2001.

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BACKGROUND

In January and February 2001 the Connecticut Department of Environmental Protection (CTDEP) conducted a right-of-way sampling investigation the Newhall Neighborhood in an attempt to delineate the limits of the landfill material disposed of in the area. Sampling was conducted within the public right-of-way, with the exception of two samples that were collected on residential and church properties.

Soil samples were collected at the surface from 0-6 inches and at a depth of 0-4 feet. Results of analyses were compared to the Remedial Standard Regulations (RSR) Residential Direct Exposure Criteria (RDEC) and Pollutant Mobility Criteria (PMC) for GA/GAA groundwater quality. Extractable total petroleum hydrocarbons (ETPH) exceeded pollutant criteria at two surface samples and at one deeper sample. Metals exceeded applicable RDEC in 13 samples. CTDEP suggested that arsenic concentrations may be a result of pesticide application since the highest levels were detected along the northeast corner of the intersection of Bryden Terrace and Wadsworth Street, where no fill materials were observed in borings.

Nineteen samples collected from 17 locations contained semi-volatile organic compounds (SVOCs) with concentrations exceeding RDEC. Twenty-one samples collected from 19 locations contained SVOCs with concentrations exceeding GA/GAA PMC. Pesticides exceeding the RDEC and/or GA/GAA PMC were detected in 11 samples collected at 9

locations. CTDEP concluded that fill material is present along parts of Newhall Street, Morse Street, Bryden Terrace, Newbury Street and Winchester Avenue and it appears that landfill materials may extend beneath residences located on the east side of Newhall Street across from the Hamden Community Center. CTDEP recognized limitations to sampling in the public right-of-way in that most of the roads were present in 1934, the exception of the section of Bryden Terrace between Winchester Avenue and Wadsworth Street. Fill materials may be present in the interior sections of blocks that were not sampled during the Right-of-way investigation. Therefore, CTDEP recommended additional investigation to confirm the presence of landfill materials as well as to further define the extent and degree of contamination that may be present in the surface and deep soils and groundwater.

Soil sample collection and field analysis were completed between 16 and 27 April 2001 by U.S. EPA personnel of the Response, Engineering and Analytical Contract (REAC) team. Soil samples were collected primarily from residential properties as well as along the southern property line of the Hamden Middle School. On each residential property soil samples were collected from 0-6 inches at 4-5 locations. Additional deep samples (approximately 18 inches below ground surface) were collected at properties where CTDEP identified lead concentrations greater than 1,200 mg/kg. A total of 422 soil samples were collected at 76 properties. Thirty-four samples contained lead concentrations greater than 1,200 mg/kg, 91 samples contained lead concentrations between 500 mg/kg and 1,200 mg/kg and the remaining samples contained lead concentrations below 500 mg/kg.

Lead concentrations greater than 1,200 mg/kg were also detected in surface samples collected at the Hamden Middle School. The highest lead levels were detected on Morse Street properties abutting Hamden Middle School property; and at the central portion of the area bounded by Wadsworth Street, Morse Street, Winchester Street and Bryden Terrace (most of the elevated lead levels were identified in this area). Arsenic was detected in eight samples and REAC suggested that arsenic appears to occur only in association with lead and in consistently lower concentrations. REAC concluded that lead is the primary contaminant of concern and that there was no spatial trend of lead concentrations observed from samples collected on the Hamden Middle School property.

In July 2001, the U.S. EPA determined that a removal action was appropriate for two main isolated areas in a residential neighborhood comprised of approximately ten properties with contamination in surface soils. One area, referred to as the Rosem Site, consists of properties on Morse Street west of Newhall Street and abutting Hamden Middle School. The other area, referred to as the Bryden Terrace and Morse Street Site, consists of affected residential properties within the investigation area east of Newhall Street. See Figure 2 for locations.

FIELD INVESTIGATION AND REMOVAL ACTION

In October 2001, Roy F. Weston, Inc. (Weston) began removal action activities under the direction of the U.S. EPA at the following residential properties:

- 115 Morse Street
- 249-255 Morse Street
- 259 Morse Street
- 263 Morse Street
- 267 Morse Street
- 118 Bryden Terrace
- 124 Bryden Terrace
- 131 Bryden Terrace
- 136 Bryden Terrace
- 33 Marlboro Street
- 127 Morse Street
- 1067 Winchester Avenue

In general, soils were removed from the ground surface to approximately 1.5-ft below the ground surface from the backyards of the above listed residences. A sandy ash fill containing coal, cinders, bottles, brick, metal, wire and clinkers (slag) was encountered at every location with the exception of 267 Morse Street, where the soils appeared to be natural. Upon completion of removal activities at each location, GZA GeoEnvironmental, Inc. (GZA), environmental consultants for the CTDEP, collected a series of soil samples throughout the excavations from 0 to 4.5-ft below ground surface. The samples were collected by GZA using a hand auger and submitted to a laboratory for chemical analyses. To date, the GZA analytical results have not been finalized or made available for our review. Site specific sketches, reports, and photographs are included in Appendices A through J. Haley & Aldrich did not observe removal activities at 127 Morse Street or 1067 Winchester Avenue.

LIMITATIONS

This report has been prepared for the exclusive use of the Town of Hamden, in connection with an evaluation of on-site environmental conditions. The conclusions provided by Haley and Aldrich, Inc., are based solely on the scope of work conducted and the sources of information referenced in this report. Any additional information that becomes available should be provided to Haley and Aldrich, Inc., so that our conclusions may be reviewed and modified as necessary.

We understand that this report is to be used and distributed exclusively for purposes connected with an evaluation of environmental conditions. This report may not be circulated or conveyed, in whole or in part, to any other party, nor used by any other party, without the

prior written permission of Haley & Aldrich, Inc. Such other parties must agree that they will not rely on the information provided in the report, recognizing the work was not performed for them, nor was it done with their specific needs, interest, risk tolerance, or expectations in mind.

We appreciate the opportunity to provide consulting services on this project. Please do not hesitate to call if you have any questions or comments.

Sincerely yours,
HALEY & ALDRICH, INC.

Chris G. Harriman, LEP
Senior Environmental Geologist

William F. Kay, Jr., PhD., PE, LEP
Vice President

Enclosures:

Figure 1 - Locus
Figure 2 - Site Plan
Appendix A - 115 Morse Street
Appendix B - 249-255 Morse Street
Appendix C - 259 Morse Street
Appendix D - 263 Morse Street
Appendix E - 267 Morse Street
Appendix F - 118 Bryden Terrace
Appendix G - 124 Bryden Terrace
Appendix H - 131 Bryden Terrace
Appendix I - 136 Bryden Terrace
Appendix J - 33 Marlboro Street

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NEWHALL NEIGHBORHOOD**

FIGURES

Figure 1 - Locus
Figure 2 - Site Plan

These figures are provided as separate PDF files from main document.

APPENDIX A

115 Morse Street

APPENDIX B

249-255 Morse Street

APPENDIX C

259 Morse Street

APPENDIX D

263 Morse Street

APPENDIX E

267 Morse Street

APPENDIX F

118 Bryden Terrace

APPENDIX G

124 Bryden Terrace

APPENDIX H

131 Bryden Terrace

APPENDIX I

136 Bryden Terrace

APPENDIX J

33 Marlboro Street